

OPERATOR'S MANUAL

TX62

TX63

TX64 Plus

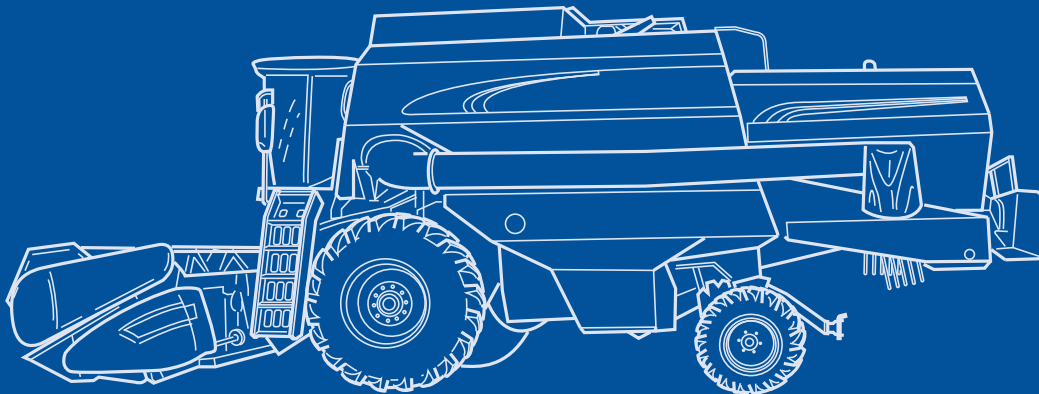
TX65 Plus

TX66

TX67

TX68

TX68 Plus



Print No. 604.63.021.00

3rd edition

English 09/98



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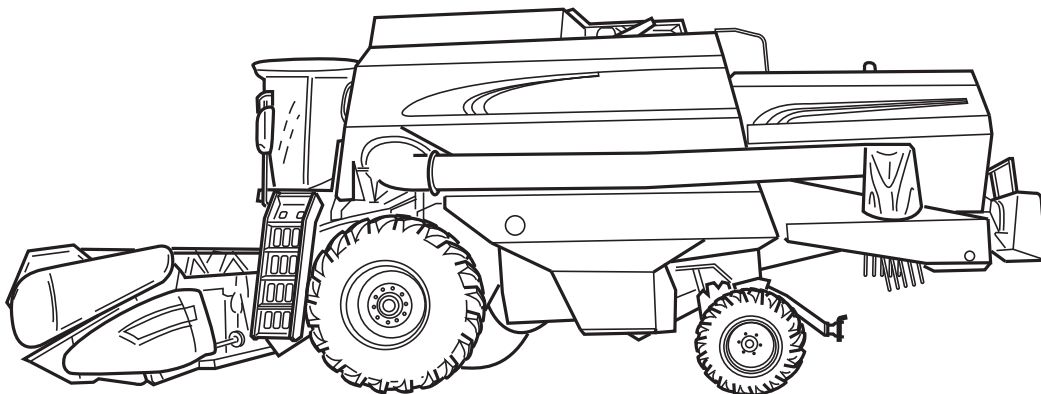
TX65 Plus

TX66

TX67

TX68

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SECTION QUICK REFERENCE

1 - Introduction

2 - Operation

3 - Lubrication

4 - Field Operation

5 - Adjustments and Maintenance

6 - Troubleshooting

7 - Storage

8 - Accessories

9 - Specification

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SECTION 1 INTRODUCTION

TO THE PURCHASER

FOREWORD

This manual has been prepared to assist you in the correct procedure for operation, adjustment and maintenance of your new machine.

This machine has been designed and built to give maximum performance, economy and ease of operation under a wide variety of crops and conditions.

Prior to delivery, your machine was carefully inspected both at the factory and by your dealer to ensure that it reaches you in optimum condition.

To maintain this condition and ensure trouble-free operation it is important that routine services, as specified in this manual, are carried out at the recommended intervals.

You cannot operate or maintain your machine properly without reading this manual attentively. Keep it within reach.

Before attempting to drive or operate your machine, read this manual carefully (especially the chapter covering the Safety Precautions).

“Left” and “right” used throughout this manual are determined from the rear, facing in the direction of travel of the machine during operation.

If at any time you require advice concerning your machine, do not hesitate to contact your authorised dealer. He has factory-trained personnel, genuine service parts and the necessary equipment to carry out your service requirements.

IMPORTANT:

- *This machine has been designed and built according to the European Directive EEC/89/392.
Always use genuine New Holland Service Parts when servicing and repairing your machine and do not modify your machine without a written permission of the manufacturer. Failure to do so will void the responsibility of the manufacturer.*
- *An EC Declaration of Conformity is separately delivered with your machine. Store this EC Declaration into the storage space for your Operator’s Manual (Refer to Section 2 - OPERATION).*
- *The maximum road speed of your combine is limited and sealed. Do not remove the seal.*
- *Check local road legislation before driving the combine on public roads.*
- *When operating interchangeable New Holland built equipment, ensure the equipment is CE approved.*
- *As this publication is distributed throughout our international network, the equipment illustrated, either as standard or as an accessory, may vary according to the country in which the equipment is to be used. Low cost configurations, as chosen by the customer, may deviate from the specifications given.*

- *Several figures in this manual show the safety guarding or the additional guards, legally required by certain countries, open or removed to illustrate better a particular feature or adjustment. **The machine must not be used in this condition.** For your own safety, **ensure that all guards are closed or replaced before operating the machine.***

IMPROVEMENTS AND CHANGES

The Company is continually striving to improve its products, and therefore reserves the right to make improvements and changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

ACCESSORIES AND OPTIONS

Your machine has been designed to operate in a wide variety of crops and conditions. Nevertheless additional equipment may, in certain cases, be required to improve the machine performance. A list of this additional equipment is given in Section 8 - ACCESSORIES in this manual.

SERVICE PARTS AND ACCESSORIES

Genuine service parts and accessories have been specifically designed for your machine.

We would like to point out that “nongenuine” parts and accessories have not been examined and released by the Company. The installation and/or use of such products could thus have negative effects upon the design characteristics of your machine and thereby affect its safety. The Company is not liable for any damage caused by the use of “nongenuine” parts and accessories.

Rely on your authorised dealer to supply you with genuine service parts only. These parts are covered by our warranty and will give you the best performance.

When ordering service parts, always quote the model and serial number of your machine (refer to chapter headed “Product identification”).

LUBRICANTS

Your dealer sells a selection of specially formulated lubricants based on own engineering specifications.

Recommended lubricants for your machine are listed on the inside rear cover of this manual.

WARRANTY

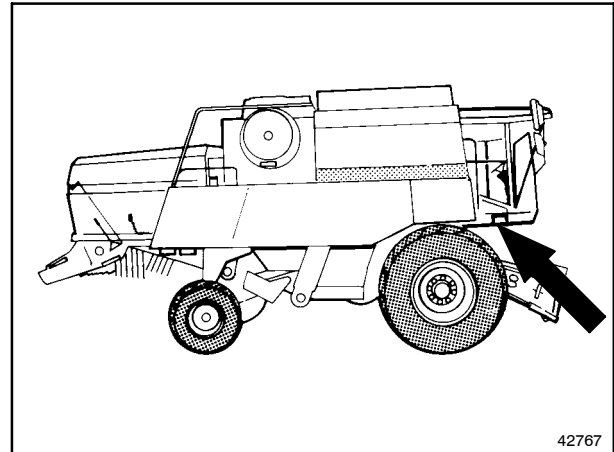
Your machine is warranted according to legal rights in your country and the contractual agreement with the selling dealer. No warranty shall, however, apply if the machine has not been used, adjusted and maintained according to the instructions given in the Operator's Manual.

PRODUCT IDENTIFICATION

The serial numbers of the combine, engine and attachments can be found in the following locations:

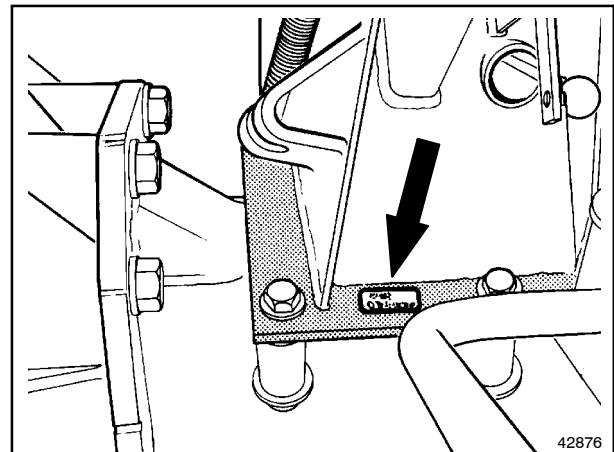
BASE UNIT - Figures 1 and 2

On a plate positioned on the right-hand side of the operator's platform.



1

On a plate positioned on the right-hand side of the combine above the front axle.

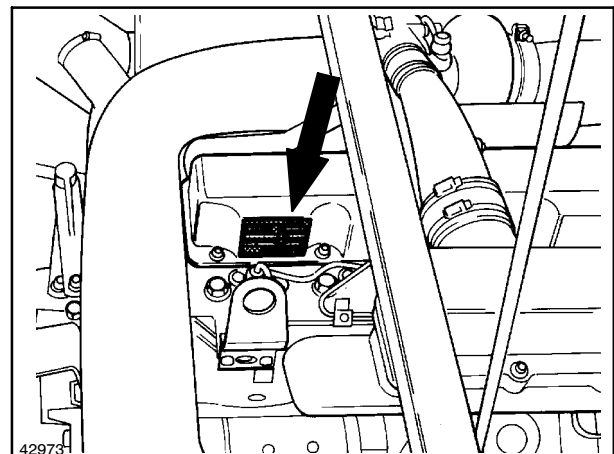


2

ENGINE

Models TX62-63-64^{PLUS}-65^{PLUS}-66-67 -
Figures 3 and 4

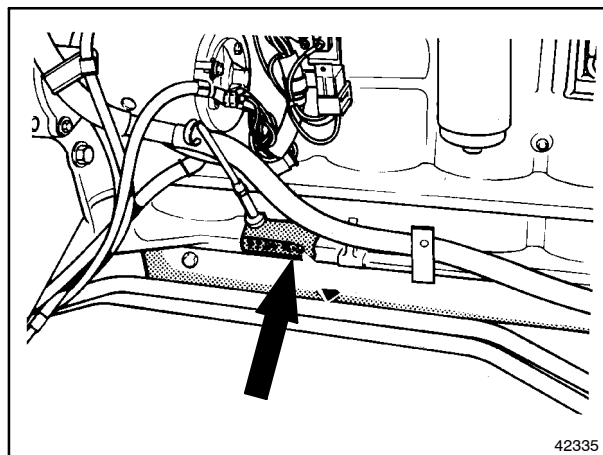
On a plate positioned on top of the rocker cover.



3

INTRODUCTION

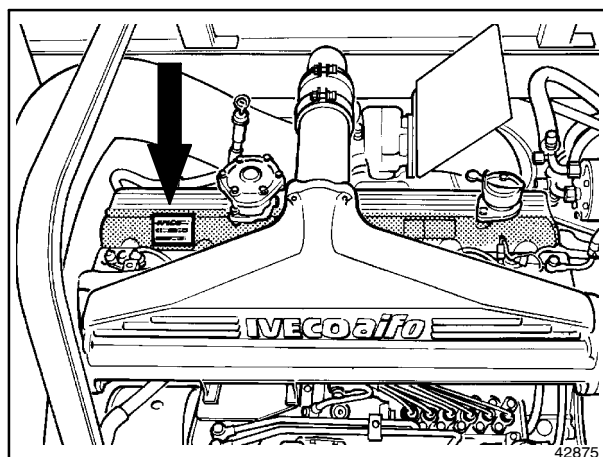
It is also stamped in the cylinder block.



4

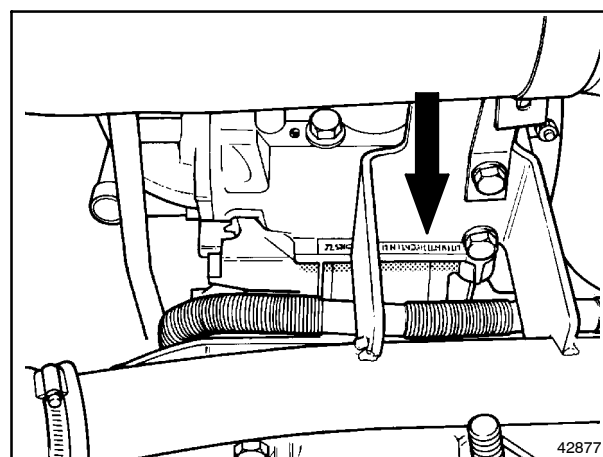
Model TX68-68^{PLUS} - Figures 5 and 6

On a plate positioned on top of the rocker cover.



5

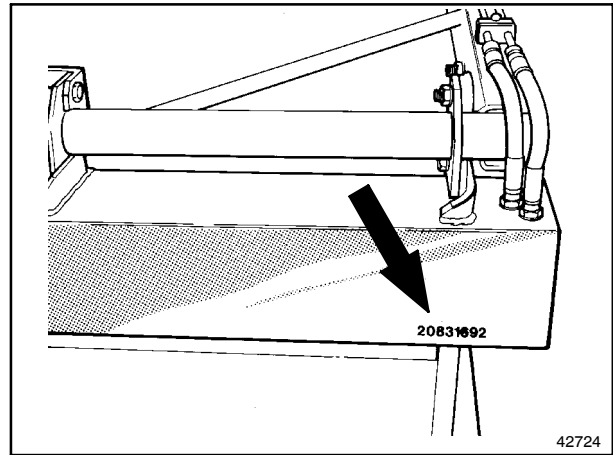
It is also stamped in the cylinder block.



6

GRAIN HEADER - Figure 7

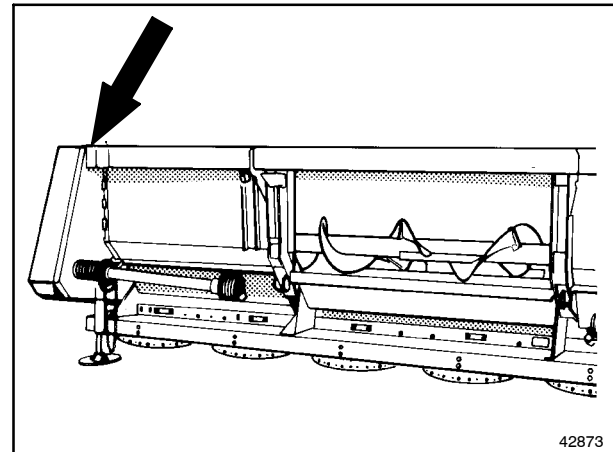
In the right-hand upper corner of the header.



7

MAIZE HEADER - Figure 8

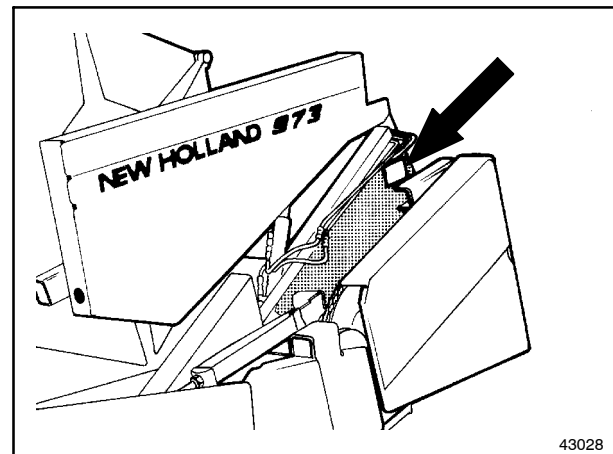
At the top of the left-hand corner.



8

FLEX HEADER - Figure 9

On the left rear corner of the main frame



9

Record below the serial numbers of your machine for quick reference:

Combine model
 Combine serial n°
 Engine serial n°
 Grain header serial n°
 Maize header serial n°
 Flex header serial n°
 Date machine first used
 Dealer's telephone n°

HEADER INFORMATION

The model TX combines can be equipped with the following headers:

HEADERS	TX62	TX63	TX64 ^{PLUS}	TX65 ^{PLUS}	TX66	TX 67	TX68	TX68 ^{PLUS}
Grain header								
12 ft	x	x						
13 ft	x	x	x	x				
15 ft	x	x	x	x				
17 ft	x	x	x	x	x	x	x	x
20 ft	x	x	x	x	x	x	x	x
24 ft					x	x	x	x
30 ft					x	x	x	x
Maize header (*)								
5-row	x	x	x	x	x	x	x	x
6-row	x	x	x	x	x	x	x	x
6-row FU (**)	x	x	x	x	x	x	x	x
8 row FU (**)				x	x	x	x	x
Flex header								
15 ft	x	x	x	x				
19 ft	x	x	x	x	x		x	x

- (*) Available with
- a) Knife stalk rolls or smooth stalk rolls
 - b) Row distances: 70 cm - 75 cm - 80 cm
 - c) Stalk chopper

(**) Flip-up

IMPORTANT ECOLOGICAL CONSIDERATIONS

Soil, air and water are vital factors of agriculture and of life in general. Where legislation does not yet rule the treatment of some of the substances which are required by advanced technology, common sense should govern the use and the disposal of the products of a chemical and a petrochemical nature.

The following are recommendations which may be of assistance:

- Become acquainted with and respect the relative legislation applicable in your country.
- Where no legislation exists, obtain information from suppliers of oils, fuels, antifreeze, cleaning agents, etc. for their effect on man and nature and for safe ways of storage, usage and disposal. Agricultural consultants will, in many cases, be able to help you as well.

Helpful hints:

1. Avoid filling fuel tanks using jerrycans or inappropriate pressurized fuel delivery systems which may cause considerable spillage.
2. In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of them contain substances which can be harmful to your health.
3. Use bio-degradable oils for chain lubrication where oils cannot be recuperated. In many countries rape seed oils or other agro-based lubricants have become available.
4. Modern oils contain additives. Do not burn contaminated fuels and/or waste oils in ordinary heating systems.
5. Avoid spillage when draining off used engine coolant mixtures, engine, gearbox and hydraulic

oils, brake fluids, etc. Do not mix drained brake fluids or fuels with lubricants. Store them safely until they can be disposed of in a proper way to comply with local legislation and available resources.

6. Modern coolant mixtures, i.e. antifreeze and other additives, should be replaced every two years. They should not be allowed to get into the soil but should be collected and disposed of safely.
7. Do not open the air-conditioning system yourself; it contains gases which should not be released into the air. Your dealer has a special extractor for this purpose and will have to do the recharging of the system anyway.
8. Repair any leaks or defects in the engine cooling or the hydraulic system immediately.
9. Do not increase the pressure in a pressurized circuit as this may lead to bursting of the components.
10. Protect hoses during welding as penetrating weld splatter may burn a hole or weaken them, causing the loss of oils, coolant, etc.
11. Battery recycling

Batteries and electric accumulators contain various components which can damage the environment if they are not properly recycled after usage. New Holland strongly recommends that you return all used batteries (starting batteries and small "dry" batteries which may be used in electric or electronic systems) to your New Holland dealer who will ensure proper disposal or re-cycling. In certain countries this is a legal requirement.

SAFETY

Farm accidents can be prevented with your help

No accident prevention programme can be successful without the wholehearted cooperation of the person who is directly responsible for the operation of the equipment.

To read of accident reports from all over the country is to be convinced that a large number of accidents can be prevented only by the operator anticipating the result before the accident is caused and doing something about it.

It is said that "The best kind of safety device is a careful operator who with care and mature consideration can save more lives and limbs than any accident prevention programme which is not adhered to".

Further in this chapter you will find a list of the most important safety precautions.



CAUTION:

- This symbol is used throughout this manual whenever your personal safety is involved.

TAKE TIME TO READ AND FOLLOW THE INSTRUCTIONS AND FURTHERMORE, BE CAREFUL!

- Some pictures in this manual may show the safety guarding open or removed to better illustrate a particular feature or adjustment.
ENSURE TO CLOSE OR REPLACE ALL GUARDS BEFORE OPERATING THE MACHINE.

PRECAUTIONARY STATEMENTS

Personal safety

Throughout this manual and on machine decals, you will find precautionary statements ("CAUTION", "WARNING", and "DANGER") followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.



CAUTION:

The word "CAUTION" is used where a safe behavioural practice according to operating and maintenance instructions and common safety practices will protect the operator and others from accident involvement.



WARNING:

The word "WARNING" denotes a potential or hidden hazard which could possibly cause serious injury. It is used to warn operators and others to exercise due care and attention to avoid a surprise accident with machinery



DANGER:

The word "DANGER" denotes a forbidden practice in connection with a serious hazard.

FAILURE TO FOLLOW THE "CAUTION", "WARNING", AND "DANGER" INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.

Machine safety

Additional precautionary statements ("ATTENTION" and "IMPORTANT") are followed by specific instructions. These statements are intended for machine safety.

ATTENTION:

The word "ATTENTION" is used to warn the operator of potential machine damage if a certain procedure is not followed.

IMPORTANT:

The word "IMPORTANT" is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.

SAFETY PRECAUTIONS

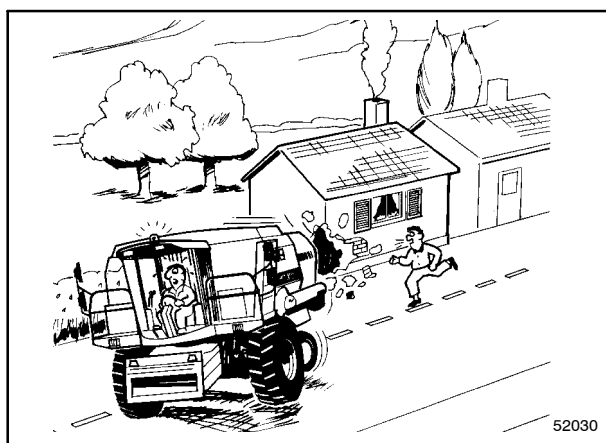
Most farm machinery accidents can be avoided by the observance of a few simple safety precautions.

General and Operating Safety

1. The machine must only be used by a skilled operator familiar with all the controls and harvesting techniques on cultivated land with slopes up to maximum 26% (15°) uphill and downhill, and maximum 36% (19°) sideways [provided good even ground and sufficient tyre adherence conditions exist].
2. When driving on public roads, observe traffic regulations, adapt your speed to road and traffic conditions and ensure that all lights and other safety mechanisms on the machine (if they are required) are fitted and work properly.

The grain tank must be empty when driving on the road. Ensure that the unloading tube is locked in its closed position.

3. Ensure that both brake pedals are locked together when travelling on public roads.

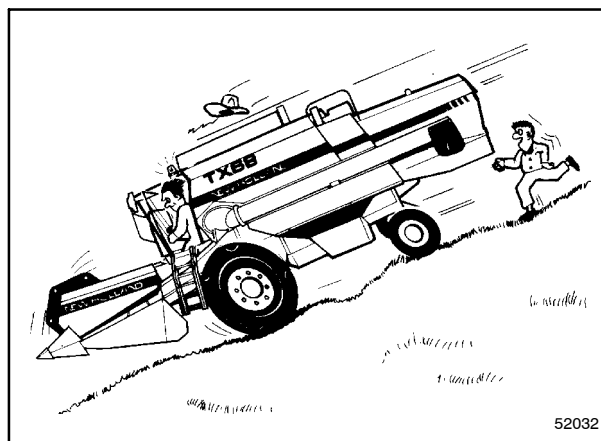


4. Ensure the hazard warning signs provided are installed at the front and the rear of the combine and use the rotating amber traffic warning beacon(s) when driving on public roads to indicate the vehicle is of abnormal size and is slow-moving.

5. Raise and lock the ladders when travelling on public roads. No-one should be standing on the ladders when the machine is moving.
6. Do not permit anyone other than the operator to ride on the combine.



7. Do not brake abruptly to avoid tipping of the machine.
8. Do not exceed 20 km/h when driving downhill. If necessary, change into a lower gear before starting the descent.



9. Before operating the combine ensure that all safety guards are installed.
10. Before starting the engine, ensure everyone is clear of the combine.

Warn bystanders by sounding the horn several times.

INTRODUCTION

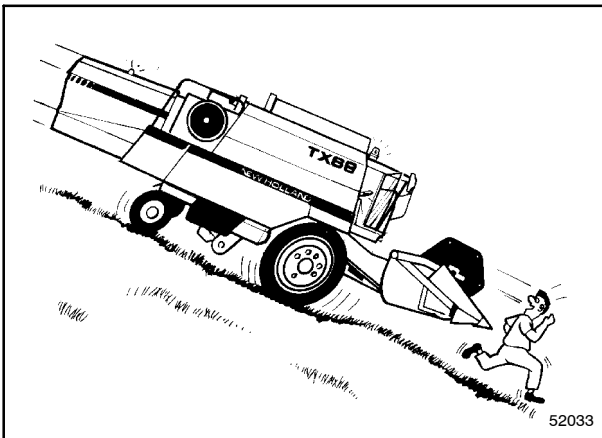
11. Keep children away from and off the combine at all times.

12. Check the wheel nuts torque as described in Section 5 - ADJUSTMENTS AND MAINTENANCE.

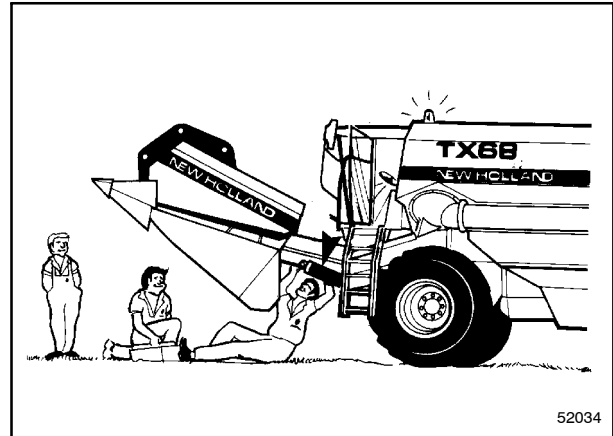
13. Do not enter the grain tank while the combine engine is running. Use a wooden clearing club should the grain tank unloading auger become clogged. Take utmost care not to be pulled into the grain tank in case unplugging is required.

14. Do not attempt to clean, lubricate or carry out any adjustments on the combine while it is in motion or while the engine is running.

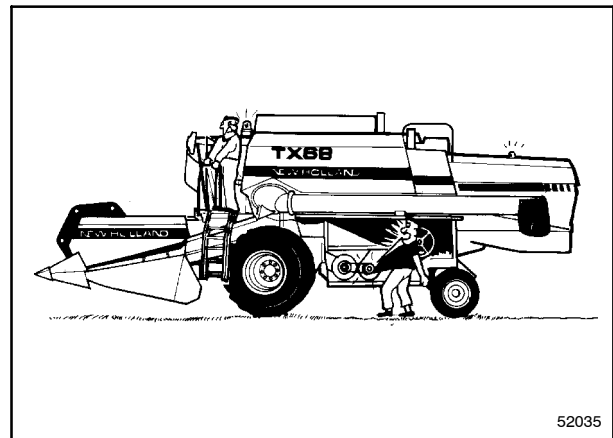
15. For safety's sake never leave the operator's platform without first disengaging the combine drive mechanism, lowering the header, stopping the engine, applying the handbrake and removing the ignition key.



16. Do not work under the combine header unless it is securely blocked and/or the header safety latch is engaged.



17. Do not work around the combine in loose clothing that might catch in any of the moving parts.



18. Keep hands away from moving parts of the combine.

19. Keep the fire extinguisher within easy reach of the operator. Ensure to replace it by a similar type of extinguisher or have it checked or refilled after every usage and/or date of expiry.

20. Do not step on the grain tank covers or the cab roof.

21. When driving on public roads, either with the grain header loaded on a trailer and attached to the rear of the combine, or with the grain header still attached to the combine (provided local legislation allows), the knife should be safeguarded by means of a knife guard, available as an accessory (refer to the Grain Header Operator's Manual).

22. Combine dust can cause "farmer's lung" disease. It may also contain nocive spraying residues. Keep the cab door and window closed during operation. Wear a dust mask when cleaning the air filters or accumulated dust in the combine.

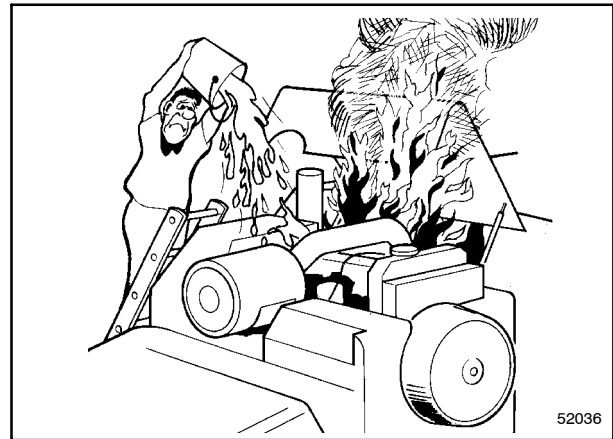
23. Danger of death by electrocution!
Pay special attention to the overhead power lines. Make sure the machine has sufficient clearance to pass in all directions (also with raised or opened machine components). Also think of the radio aerial(s) or any other factory-fitted accessory or parts which may have been added afterwards.

Should a contact between the machine and an electric power line occur, then the following precautions must be taken: Stop the machine movement immediately, stop the engine and apply the handbrake.

Check if you can safely leave the cab or your actual position without direct contact with electric wires. If not, stay in your position and call for help. If you can leave your position without touching the lines, jump off the last step or support position to ensure that there is no contact between any part of your body and the ground at any time. Do not touch the machine afterwards until power to the lines has been shut off. When people approach the machine, warn them not to touch the machine but to ask the electric power supply company to shut off the power to the lines.

Engine

1. Keep the engine area clean of dust, chaff and straw to prevent the possibility of fires.



2. Never idle the engine in an enclosed area as harmful exhaust gases may build up.
3. Wear a suitable hearing protective device, such as ear muffs or ear plugs, if you are exposed to noise which you feel is uncomfortable.
4. The cooling system operates under pressure which is controlled by the radiator cap. It is dangerous to remove the cap while the engine is hot.
 - Switch off the engine and wait until it has cooled. Even then use extreme care when removing the cap. Cover the cap with a rag and turn it slowly to the first stop to allow the pressure to escape before removing the cap completely. Stand clear of the radiator opening as hot coolant may splash out.
 - Never add cold water to a hot radiator.



Failure to follow these instructions may result in serious personal injury from hot coolant or steam blowout and/or damage to the cooling system or engine.

5. Antifreeze contains monoethylene glycol and other chemicals which are toxic if taken internally and can be absorbed in toxic amounts through repeated or prolonged skin contact. Follow these precautions when working with antifreeze:
 - Do not take antifreeze internally. If antifreeze is swallowed accidentally, obtain medical attention immediately.
 - Keep antifreeze in sealed containers out of reach of children, livestock or pets.
6. The fuel oil in the injection system is under high pressure and can penetrate the skin. Unqualified persons should not remove or attempt to adjust a fuel injection pump, injector, nozzle or any other part of the fuel injection system. Failure to follow these instructions may result in serious injury. If fuel is injected through the skin, medical assistance should be obtained.
7. Be very careful to avoid contact with hot engine oil. If the engine oil is extremely hot, allow the oil to cool to a moderately warm temperature for safe removal.

8. Do not handle a hot oil filter with bare hands.
9. Continuous and prolonged contact with used engine oil may cause skin cancer. Protect your skin by wearing heavy plastic gloves. If oil gets onto the skin, wash promptly with soap and water.

Diesel fuel

1. Under no circumstances should gasoline, alcohol or blended fuels be added to diesel fuel. These combinations can create an increased fire or explosive hazard. In a closed container, such as a fuel tank, such blends are more explosive than pure gasoline. **Do not use these blends.**
2. Never remove the fuel tank cap or refuel with the engine running or hot. Refuel the harvester only when the engine has been turned off. Do not smoke or use a naked flame when refuelling or when standing near fuel tanks.
3. Maintain control of the fuel filter pipe nozzle when filling the tank.
4. Do not fill the fuel tank to capacity. Allow room for expansion.
5. Wipe up spilled fuel immediately.
6. Always tighten the fuel tank cap securely.
7. If the original fuel tank cap is lost, replace it with an approved cap. A nonapproved, proprietary cap may not be safe.
8. Keep equipment clean and properly maintained.
9. Do not drive equipment near open fires.
10. Never use fuel for cleaning purposes.

BATTERY WARNING**CAUTION:**

The battery contains a sulphuric acid electrolyte which may cause severe burns and produce explosive gases. Avoid contact with the skin, eyes or clothing. Do not take internally.

The essential precautions listed below must be observed:

- Do not use a naked flame to check the electrolyte level. Keep sparks, flames and lighted tobacco away.
- Do not produce sparks with cable clamps when charging the battery or starting the engine with a slave battery.

- Wear eye protection when working near batteries.
- Provide ventilation when charging or using in an enclosed space.
- Ensure the vent plugs are correctly installed and tight.

If the electrolyte comes into contact with the skin, eyes or is taken internally, treat as follows:

Skin: Flush with cold water.

Eyes: Flush with cold water for 10 minutes and get prompt medical attention.

Internal: Call a doctor immediately.

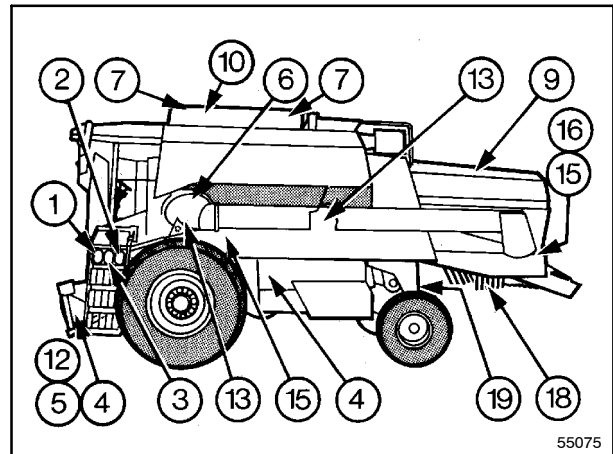
SAFETY DECALS

The following safety decals have been placed on your machine in the areas indicated. They are intended for the personal safety of you and those working with you.

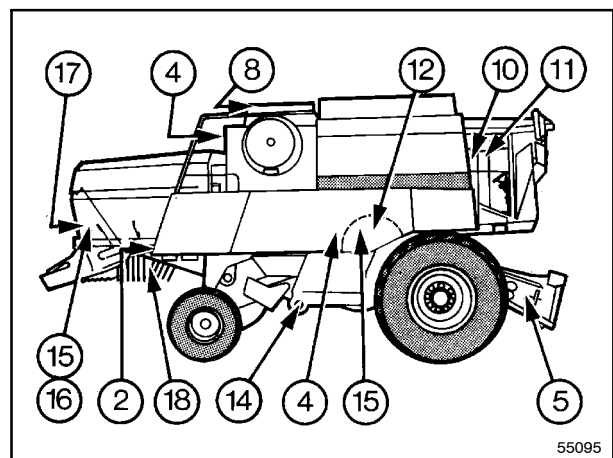
Please take this manual, walk around your machine and note the content and location of these warning signs.

Review these decals and the operating instructions in this manual with your machine operators.

Keep the decals legible. If they are not, obtain replacements from your dealer.

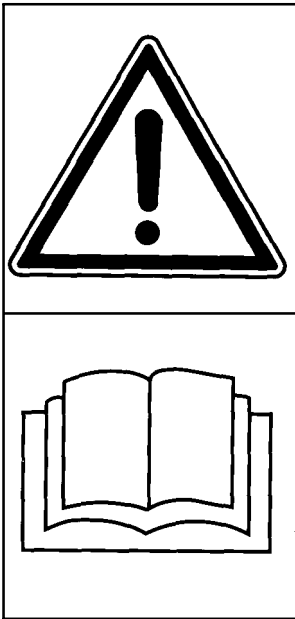


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11

Decal 1



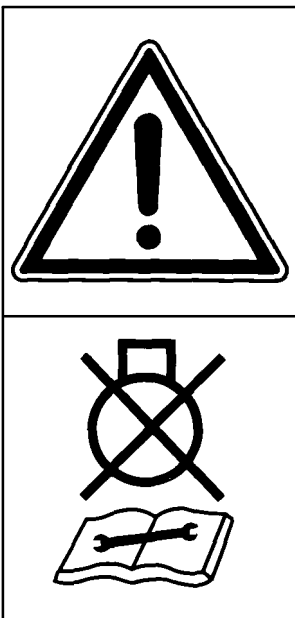
Carefully read the Operator's Manual before operating the machine. Observe instructions and safety rules when operating.

Decal 2



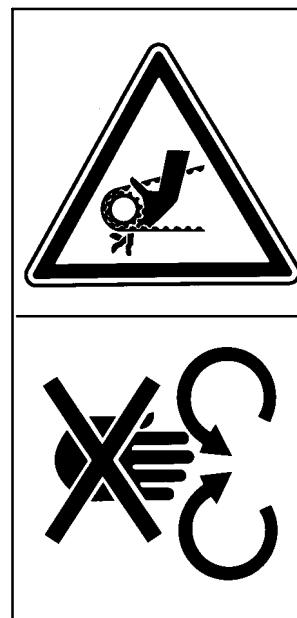
Do not ride on platform or ladder.

Decal 3



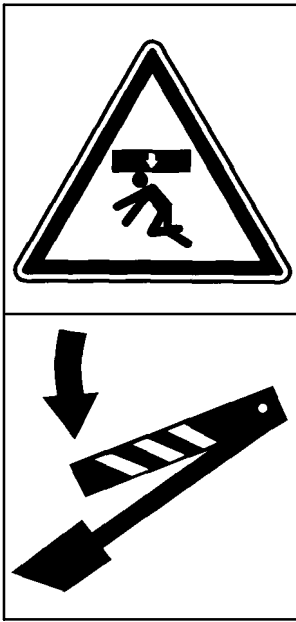
Disengage all drives, stop the engine and wait until moving parts have stopped before cleaning or servicing the machine.

Decal 4



Do not open or remove safety shield while engine is running.

Decal 5



Secure lift cylinder with locking device before getting in dangerous area.

Decal 6



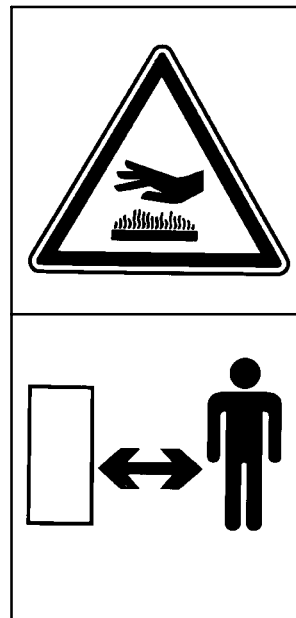
Never reach into rotating auger.

Decal 7



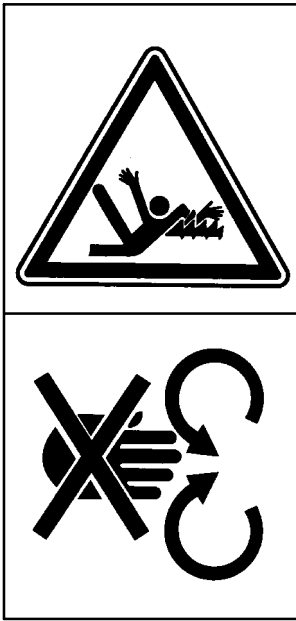
Never reach nor climb into grain tank while engine is running.

Decal 8



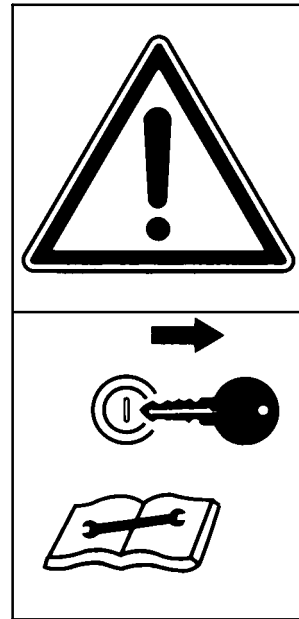
Stay clear of hot surface.

Decal 9



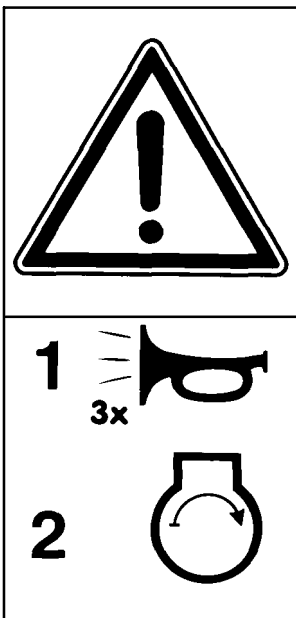
Do not reach into straw walkers while engine is running.

Decal 10



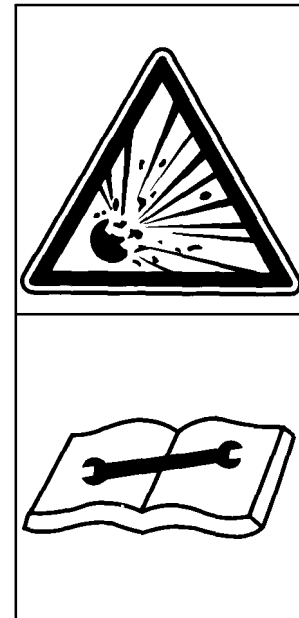
Shut off engine and remove ignition key before performing maintenance or repair work.

Decal 11



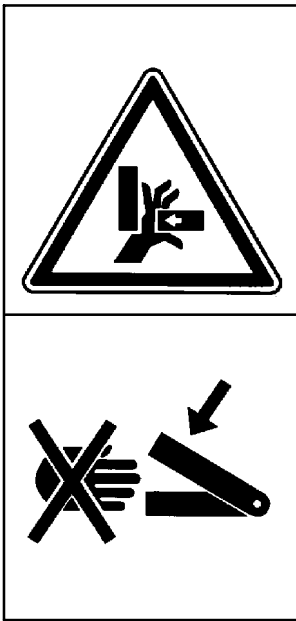
Sound the horn 3 times before starting the engine.

Decal 12



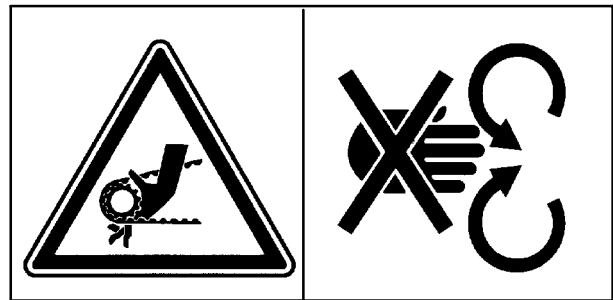
Hydraulic accumulator contains gas and oil under pressure. For removal and repair, contact your local New Holland dealer.

Decal 13



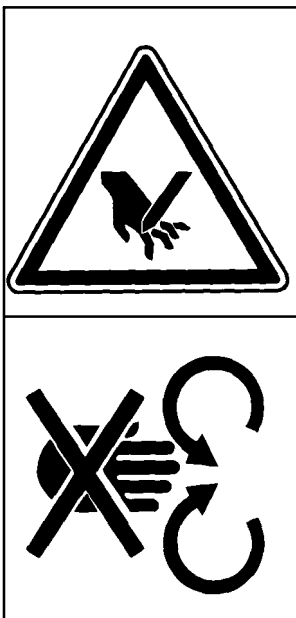
Never reach into the crushing danger area as long as parts may move.

Decal 14



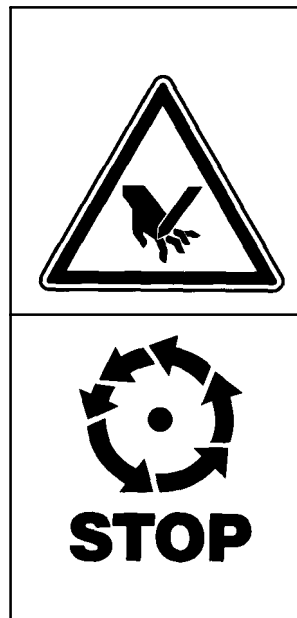
Do not open or remove safety guard while engine is running.

Decal 15



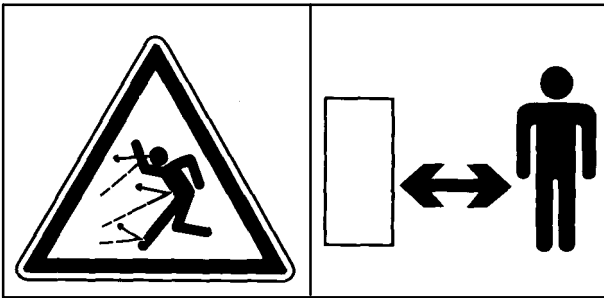
DANGER:
Stay clear of rotating machine parts.

Decal 16



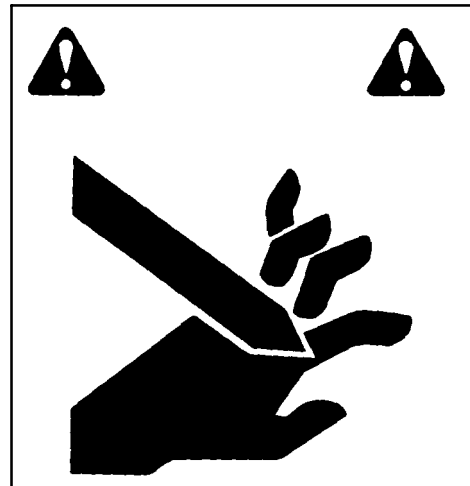
Wait until all machine components have stopped completely before touching them.

Decal 17



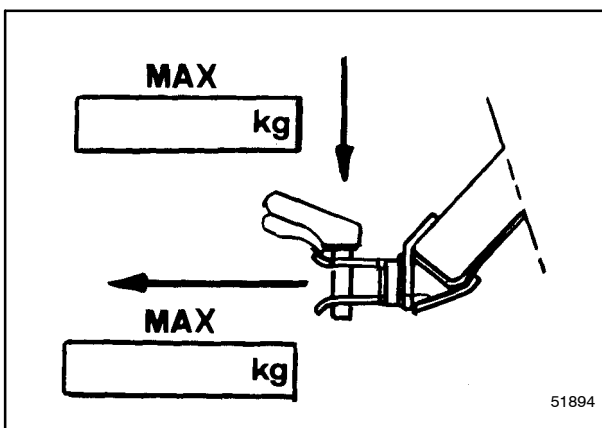
DANGER:
Stay clear while engine is running.

Decal 18



DANGER:
Stay clear while engine is running.

Decal 19



This plate indicates:

1. The maximum allowed vertical force.
2. The maximum allowed horizontal pull force of the hitch.

PROTECTIVE DEVICES

Header standard safety latch – Figure 12

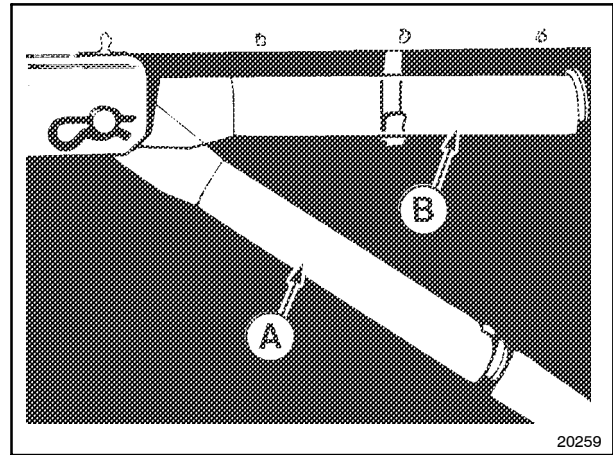
The left-hand header cylinder is standard fitted with a safety latch which must be lowered onto the cylinder rod to prevent accidental lowering of the header.

Whenever work is carried out underneath the header, the latch must be lowered onto the cylinder rod as shown at A.

When not in use the header safety latch must be stored as shown at B.

ATTENTION:

Do not use the safety latch A as a support for the header when travelling along public roads otherwise damage may occur to the cylinder.

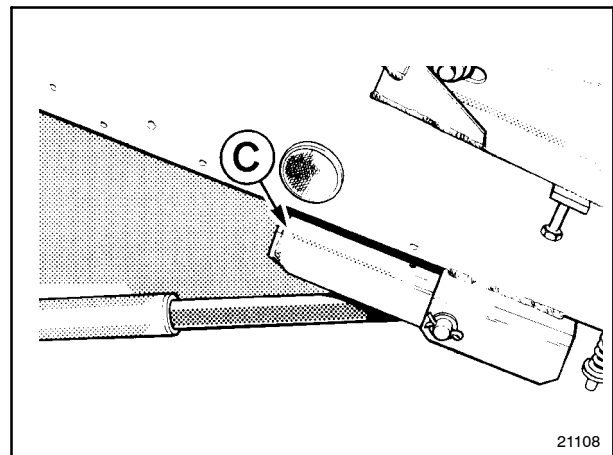


12

Header additional safety latch – Figure 13

For certain countries a small safety latch C is fitted onto the right-hand cylinder. It must be lowered onto the cylinder rod when driving on public roads to prevent accidental lowering of the straw elevator.

When a flip-up maize header is attached to the straw elevator, a special safety latch (provided with the machine) must be installed and lowered onto the cylinder rod when driving on public roads.



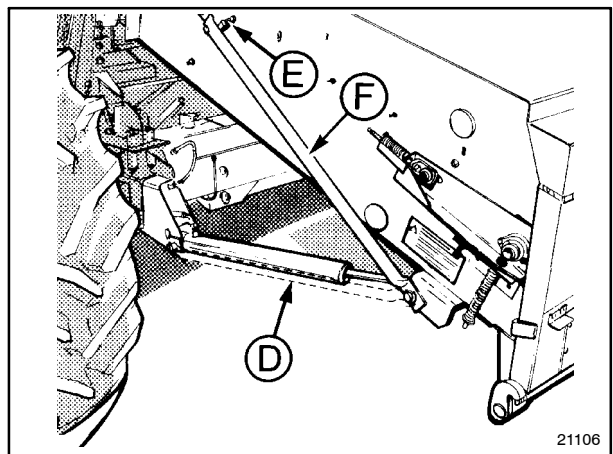
13

Straw elevator additional support – Figure 14

For certain countries there is a legal obligation to have an additional support F installed on the right-hand side of the straw elevator. This support must be placed in position D whenever the machine is driven on public roads.

When not in use, support F can be stored in bracket E.

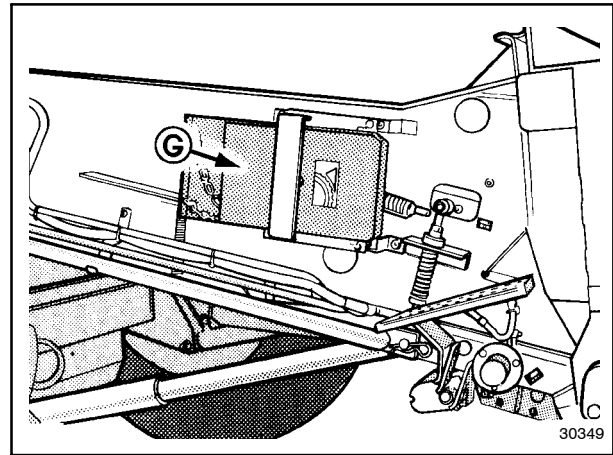
When a maize header is attached to the straw elevator, a special support F (provided with the machine) must be installed and used when driving on public roads.



14

Wheel chock - Figures 15 and 16

For some countries metal wedges G are stored on the right-hand side of the straw elevator.

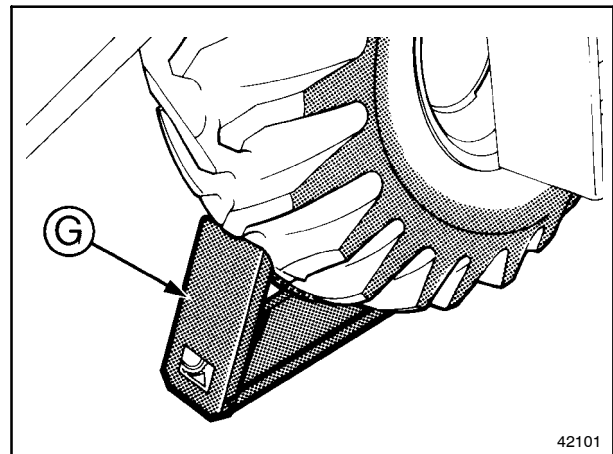


15

When the machine is parked on a nonlevel surface, the wedge G has to be placed at the lowest side, against the traction wheel.

**CAUTION:**

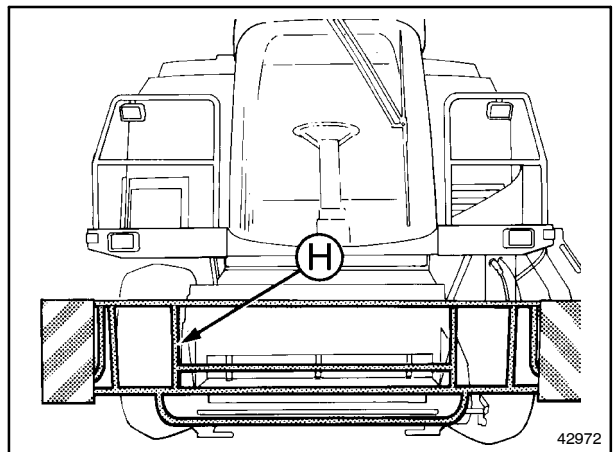
Do not place the wedges against the steering wheels.



16

Safety guard for straw elevator - Figure 17

For some countries, the safety railing H must be installed for road transport and secured to the front of the straw elevator.

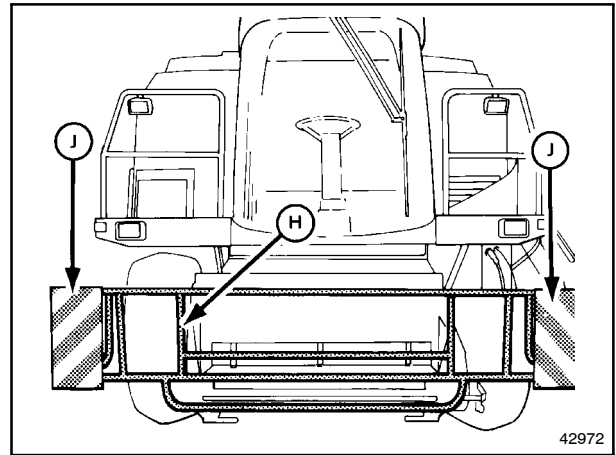


17

Signal plates

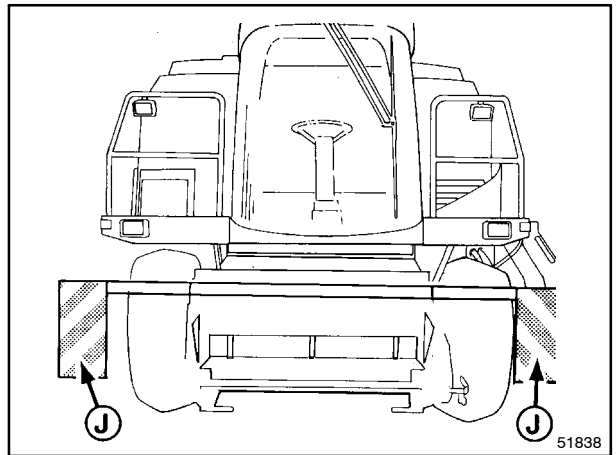
For some countries, signal plates J must be installed for road transport:

- Figure 18
At the front to the safety railing H, if installed.



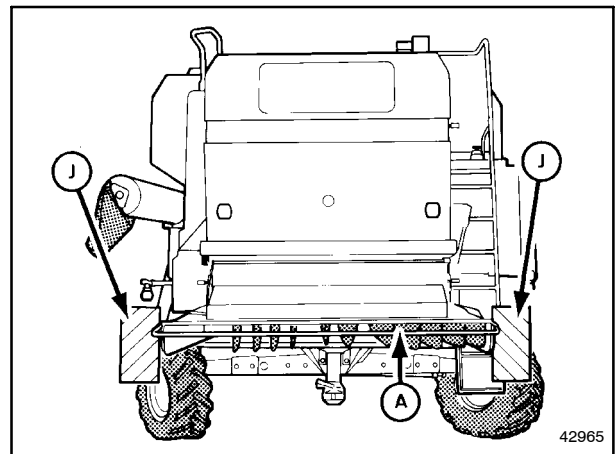
18

- Figure 19
To a profile fitted to the straw elevator.



19

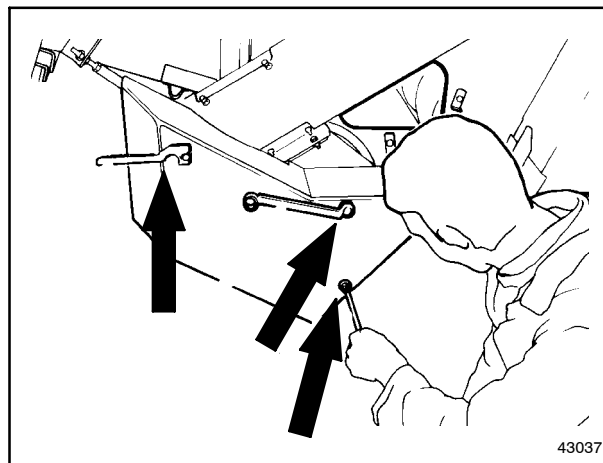
- Figure 20
At the rear to a frame fitted to the straw hood.



20

Safety guards - Figure 21

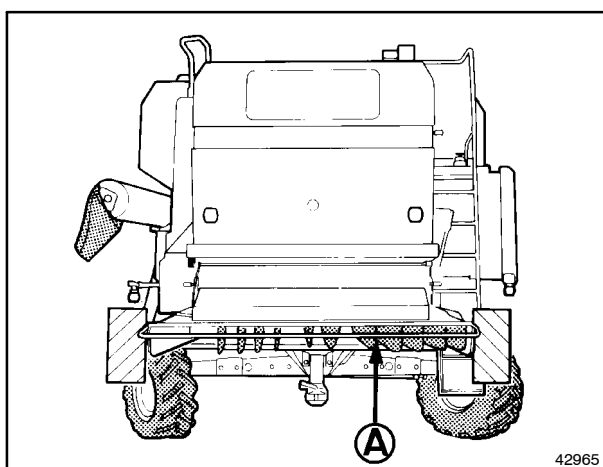
For safety's sake and according to European directives, safety guards now have locking devices which can only be opened by means of the special tool located on the left-hand side of the straw elevator, a wrench (key width 13 mm) or a screw driver.



21

Straw chopper spreader chute - Figure 22

The straw chopper spreader chute A must remain in the operating position (as shown) when driving on public roads when the combine is not pulling a header trailer.



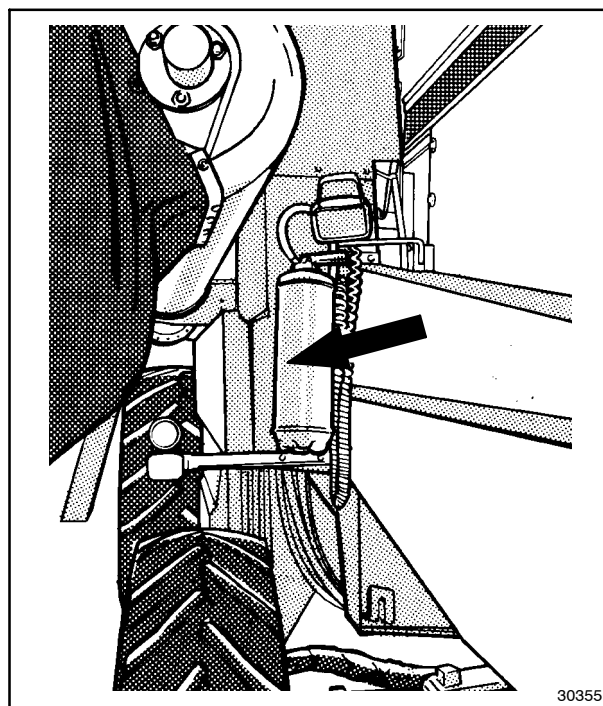
22

Fire extinguisher - Figure 23

The fire extinguisher is located on the left-hand side near the straw hood.

Check the operating instructions.

Once the extinguisher is discharged, no matter for how long, it must be recharged.



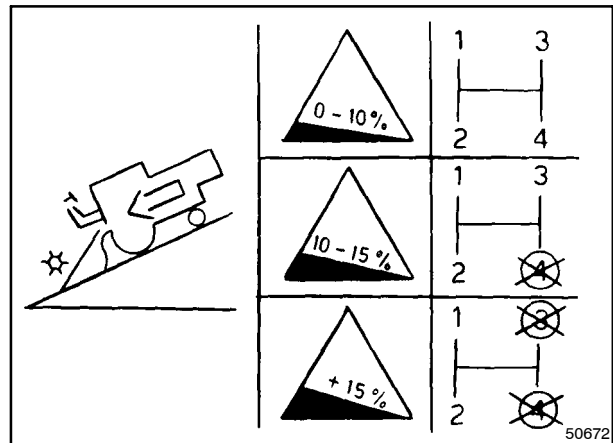
23

DRIVING DOWNHILL - Figures 24 to 26



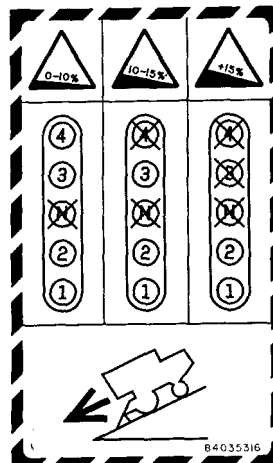
WARNING:

To prevent runaway of the combine (i.e. when the ground speed increases during downhill driving and it is impossible to reduce speed with the ground speed control lever), it is necessary to shift into a lower gear appropriate to the steepness of the hill before starting the descent. This information is given on a decal on plate A under the arm rest.



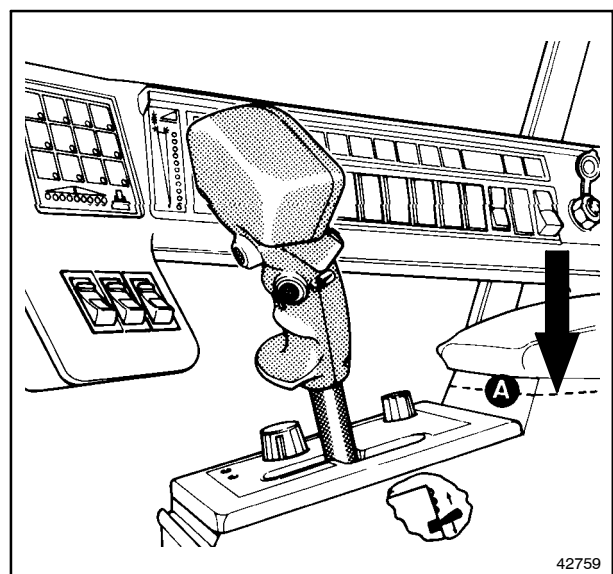
24

TX62-63-64PLUS-65PLUS-66-68-68PLUS



25

TX67



26

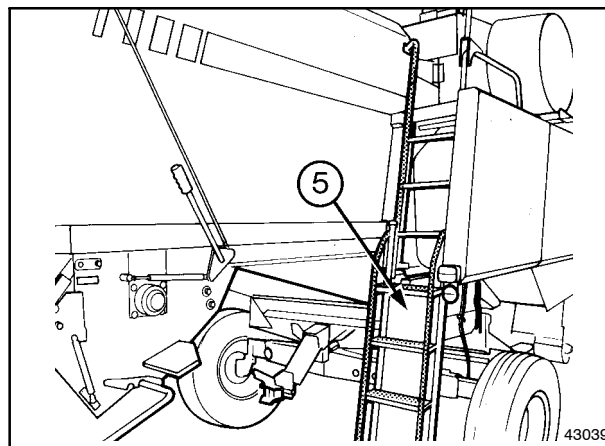
Access protection to engine compartment -

Figure 27

Lowering the ladder 5 while the engine is running will automatically cause the engine to be shut off. It is, however, possible to start the engine while the ladder is in the lowered position.

IMPORTANT:

Be aware that, if the engine is running with the ladder in the lowered position, the engine protection is not working.



27

INTENDED USE

The TX60 Series combine harvesters are designed as self-propelled units and are powered by an on-board diesel engine.

The machines are intended to be used for agricultural

purposes on cultivated land to harvest cereal crops, small seed crops, maize, soy beans, etc., by cutting or picking up from a swath, threshing and separating the grain from the straw and temporarily storing it until it is unloaded into vehicles for transport.

AIRBORNE NOISE EMISSION

In line with the European directive (EEC/86/188) and national legislation, listed below are the recommended noise levels at the operator's ear, measured in dBa, according to the ISO 5131 standard.

The noise is measured with the engine and all mechanisms engaged and running at normal operating speed for the specified use of the product and without crop flow through the machine. For machines with a cabin, the noise is measured with all windows and doors closed and also in the open position.

It should be noted that the noise level may exceed 85 dBa:

- (a) if the machine **is not** equipped with a cabin, or
- (b) if the machine **is** equipped with a cabin, but operating with doors and/or windows open.

In these cases, the use of ear protection gear is recommended. In several countries this is mandatory, so check local legislation.

Machine model	Engine model	Noise level (dBa) Cabin doors & windows closed
TX62	NH 675 TA/VR	76
TX63	NH 675 TA/VJ	76
TX64 ^{PLUS}	NH 675 TA/VK	76
TX65 ^{PLUS}	NH 675 TA/VP	76
TX66	NH 675 TA/VN/1	76
TX67	NH 675 TA/VN/1	76
TX68	IVECO AIFO 8460 SRI10A012	76
TX68 ^{PLUS}	IVECO AIFO 8460 SRI2100A0	76

ELECTROMAGNETIC COMPATIBILITY (EMC)

This product complies with the EEC directive 89/336 on Electromagnetic Interferences on electronic equipment if it is used in conjunction with equipment which bears the CE mark.

New Holland will take no liability for any problem arising as a result of its product working in an environment of other equipment which does not comply with the EEC directive.

Disturbances remain possible if added equipment does not meet the standards. As these interferences may result in serious malfunction of the machine and/or create unsafe situations the following instructions must be observed:

- Each element of non New Holland equipment ad-ded to this New Holland product must bear a CE mark.
- The maximum power of emission equipment (radio, telephones, etc.) must not exceed the limits imposed by the national authorities of the country of usage of the machine.
- The electromagnetic field generated by the added system must not exceed 24 V/m at any moment and at any location in the proximity of electronic components and the network between them over the entire machine.

SAFETY REQUIREMENTS FOR FLUID POWER SYSTEMS AND COMPONENTS - HYDRAULICS

(European standard pr EM 982)

Flexible hose assemblies must not be constructed from hoses which have been previously used as part of a hose assembly.

Do not weld hydraulic piping.

When flexible hoses or piping are damaged, replace them immediately.

It is forbidden to modify a hydraulic accumulator by machining, welding or any other means.

Before removing hydraulic accumulators for servicing, the liquid pressure in the accumulator must be reduced to zero.

Pressure check on hydraulic accumulators shall be carried out by method recommended by the accumulator manufacturer.

Care must be taken not to exceed the maximum allowable pressure of the accumulator. After any check of adjustment there must be no leakage of gas.

VIBRATION LEVEL INFORMATION

The vibration level for the arms to which the operator of this machine is exposed under normal operating conditions is below the 2.5 m/sec² weighted root mean square (RMS) value. The vibration level for the whole body is below the 0.5 m/sec² RMS value.

This information and measuring methods are in line with the European Machinery Directive 89/392 EEC paragraph 3.6.3.

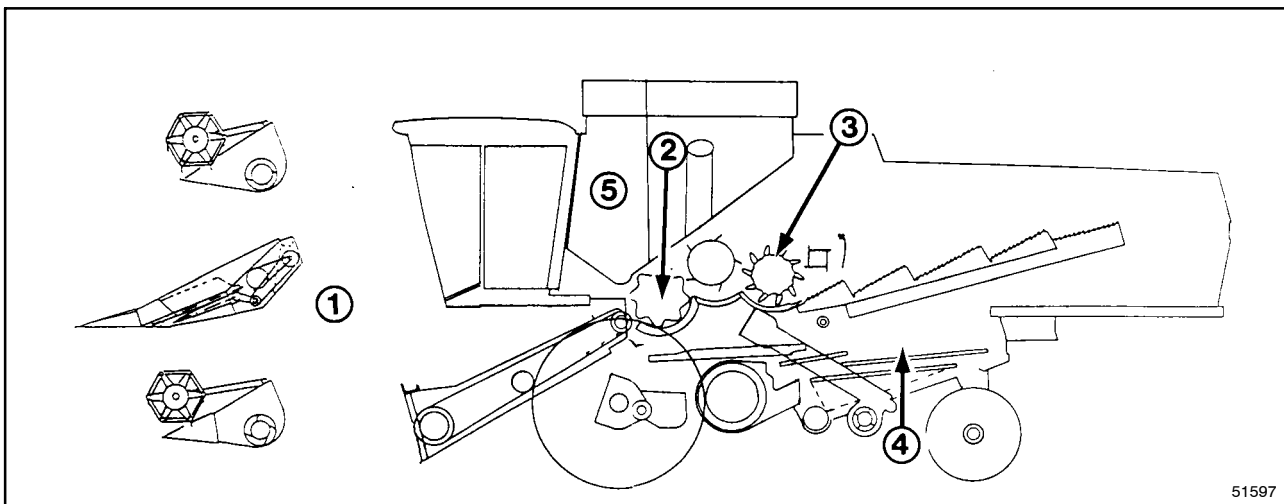
LEGAL OBLIGATIONS

Your machine may be equipped with special guarding or other devices in compliance with local legislation. Some of these require active use by the operator.

Therefore, check local legislation on the usage of this machine.

SECTION 2 OPERATION

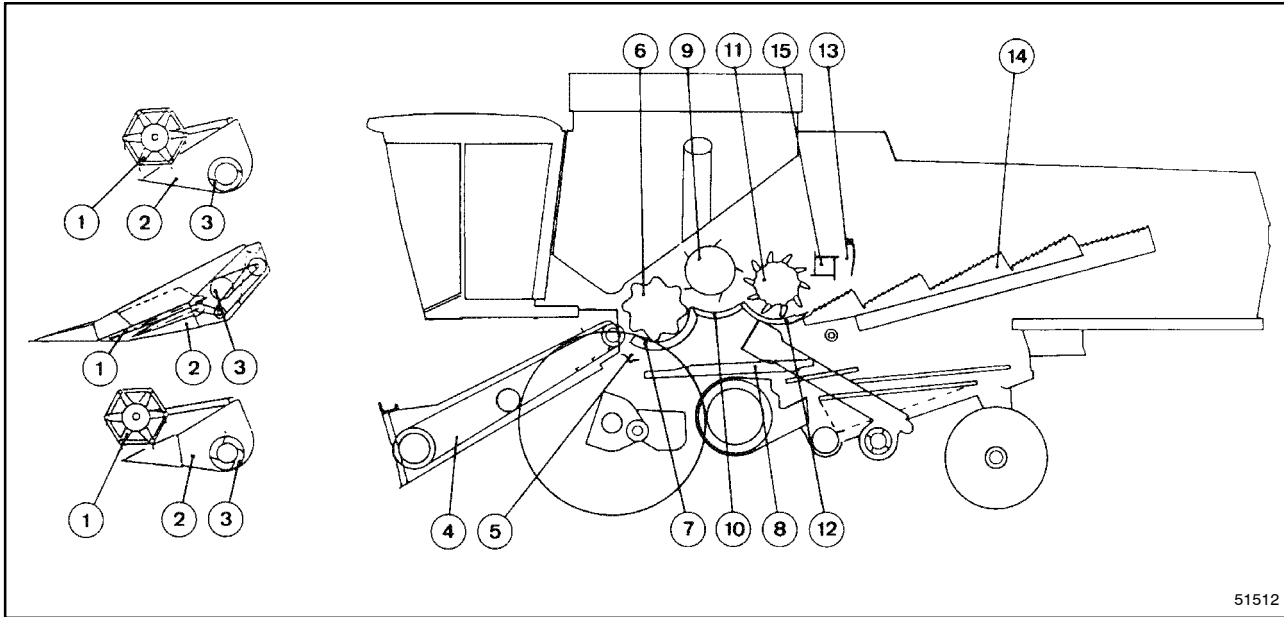
MACHINE FUNCTION



1

The combine harvester performs five basic functions - Figure 1:

1. Feeding
2. Threshing
3. Separation
4. Cleaning
5. Grain storage and unloading



2

1. FEEDING - Figure 2

The reel 1 (on the grain or flex header) or the gathering chain (on the maize header) feeds the crop/cobs into the header 2 towards the auger 3. The auger 3 feeds the crop into the front of the straw elevator 4.

Models with lateral flotation only:

The straw elevator head pivots on the elevator frame which enables the header to follow deviations in slope of up to 3° on either side, relative to the base unit position.

The crop is then carried up the straw elevator where it is fed over the stone trap 5 into the drum and concave area. At this point the feeding is complete and the threshing starts.

The stone trap 5 is designed to trap stones and other foreign objects which may cause damage to internal parts of the combine.

2. THRESHING - Figure 2

As the drum 6 rotates, it rubs the crop against the bars of concave 7. This rubbing action threshes approximately 90% of the grain from the straw.

- Clean grain falls onto the grain pan 8.
- Straw (and a little grain) are guided to the beater 9.
- **De-awning plates** can be swung up underneath the concave to increase the rubbing action when threshing winter barley or difficult-to-thresh crops.
- **Rasp bars** [accessory] can be installed on the front part of the concave to improve the threshing efficiency (especially important in wheat) and to avoid white caps.

3. SEPARATION - Figure 2

The beater 9, with beater concave 10, strips the straw from the drum and guides it to the rotary separator 11 and concave 12, which further separates the grain from the straw.

The straw retarding curtain 13 prevents the rotary separator from throwing the straw too far onto the straw walkers 14.

A Straw Flow beater 15 [if installed] improves the straw transport towards the straw walkers and enables a smoother flow of material in heavy crop conditions.

The straw walkers 14 oscillate, lift and tumble the straw, permitting the remaining grain to fall through the walkers and slide down the walker return pans onto the rear of the grain pan 8.

4. CLEANING - Figures 3 and 4

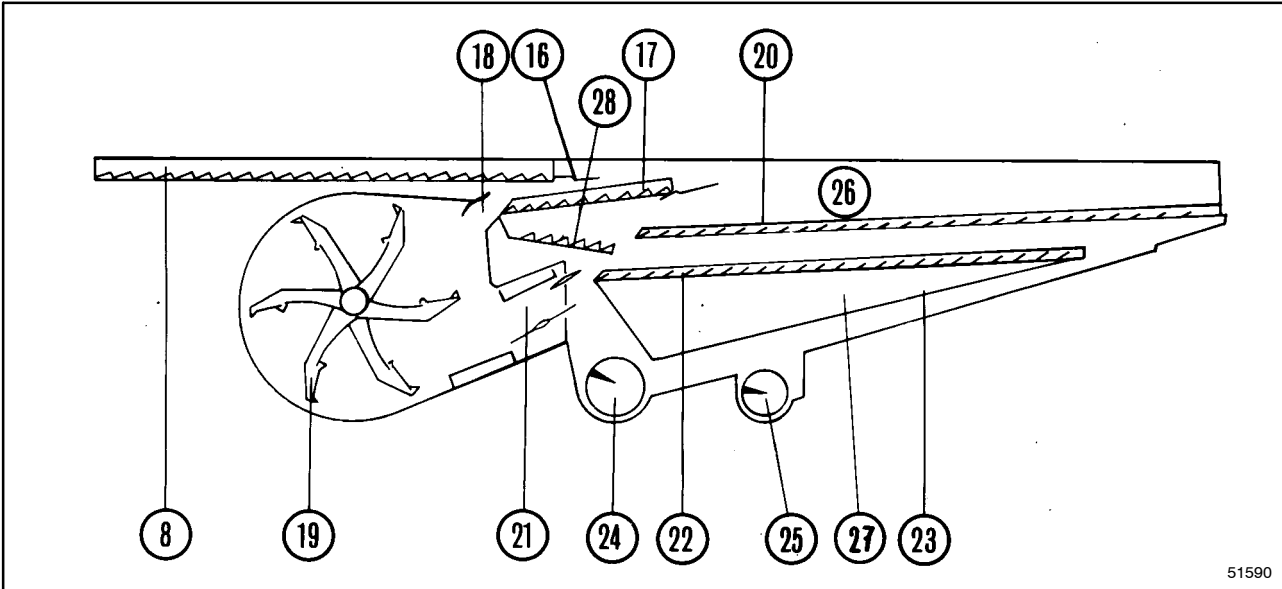
Units with self-levelling cleaning shoe

The grain and chaff on the grain pan 8 are transported to the rear by the reciprocating action of the exclusive self-levelling cleaning shoe. An electrical actuator ensures that the cleaning shoe automatically remains horizontal in the transverse axis of the machine, even when operating on side slopes up to 17%. This innovation increases the capacity of the cleaning shoe considerably when operating in hilly conditions.

Units with fixed cleaning shoe

As the cleaning shoe is not self-levelling, operation on slight slopes is made possible by the installation of hillside dividers on the grain pans and the upper sieve.

Hillside dividers are installed as standard equipment on the grain pan 8 where they ensure an even distribution of the material before it reaches the short grain pan 28.



3

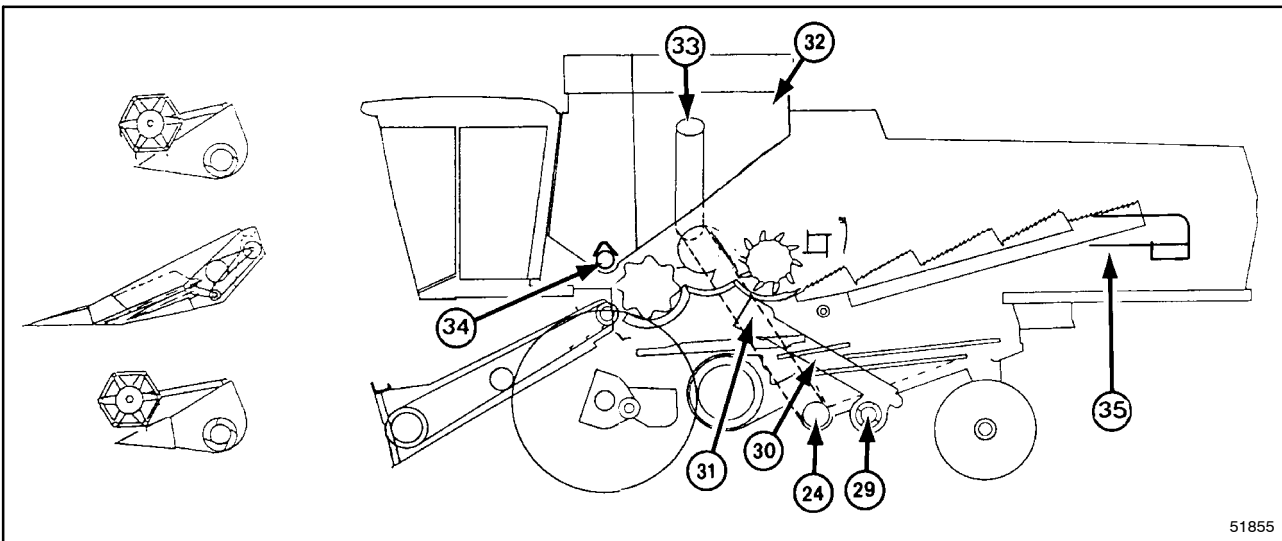
Hillside dividers can be installed as an accessory on the presieve 17 and upper sieve 20. They can be removed when operating in level field conditions.

The cleaning shoe is composed of an upper shoe 26 and a lower shoe 27 which move in opposite directions. A first separation takes place on the grain pan as the lighter chaff forms the top layer and the heavier grain the bottom layer. The material falls through the finger grate 16, installed at the rear of the grain pan, onto the presieve 17. The air coming from the secondary blow opening 18 of cleaning fan 19 blows the chaff over the presieve so that grain with a reasonably high degree of cleanliness falls through the presieve. This action will be repeated a second time between the presieve 17 and upper sieve 20.

The air coming from the main blow opening 21 of cleaning fan 19 blows the chaff over the upper sieve and out of the machine, while the grain, unthreshed heads and small volumes of chaff fall onto the lower sieve 22.

In addition, the grain separated by the presieve 17 is guided by the small grain pan 28 to the lower sieve. The installation of a presieve considerably increases the cleaning shoe capacity as the main separation of grain and chaff occurs at both finger grates. The lower sieve, or cleaning sieve, provides the final cleaning operation. Grain that passes through the cleaning sieve is carried over the grain plate 23 to the clean grain cross auger 24. Unthreshed heads which do not fall through the lower sieve are split into two streams and are transported by the returns auger 25 to the roto-threshers 29 for rethreshing.

From the roto-threshers this material is channelled by returns augers 30 to the grain pan for cleaning. Divider plates divide the returned material evenly over the grain pan where the exclusive self-levelling cleaning shoe takes over.



4

5. STORAGE - Figure 4

The clean grain is channelled into the grain tank 32 by the clean grain cross auger 24, grain elevator 31 and bubble-up auger 33. The grain tank is emptied by the grain tank unloading auger 34 and the unloading tube auger 35.

CONTROLS AND INSTRUMENTS

The following modules are described:

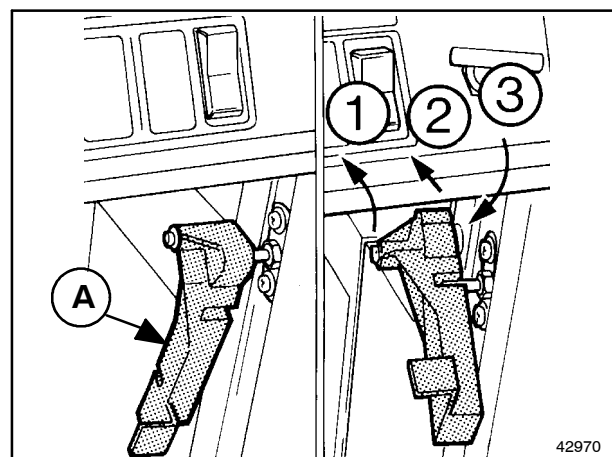
- Emergency exit
- Steering column and control pedals
- Arm rest module
- Instrument panel, comprising:
 - InfoView monitor
 - General module
 - Control module
- Console module
- Cab roof instruments
- Operator's seat
- Fuses and relays
- Other components

EMERGENCY EXIT - Figure 5

The right-hand door is the emergency exit.

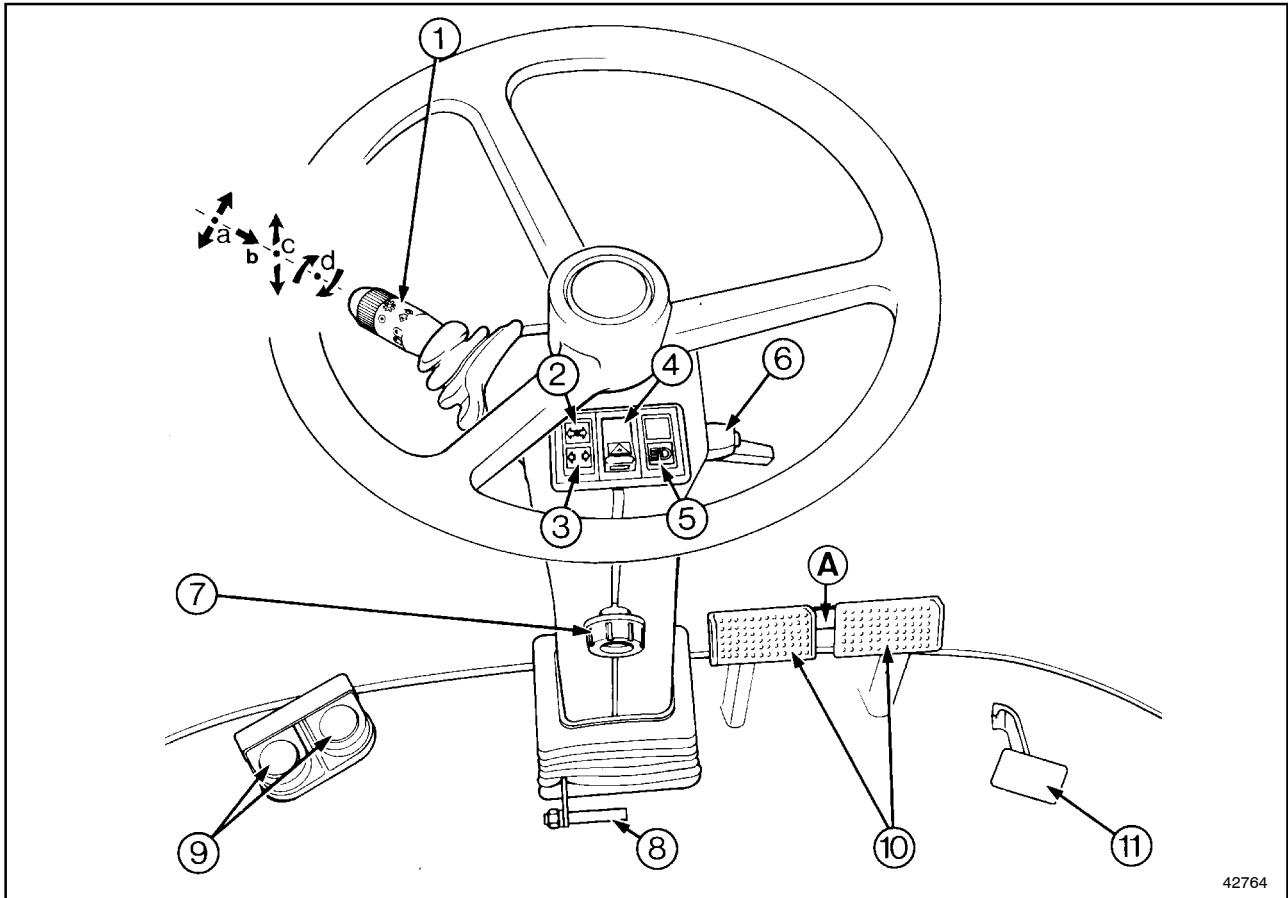
To escape from the cab through the emergency exit, proceed as follows :

1. Unlock the emergency exit door handle A in 3 steps, as shown, and open the door completely.
2. Pivot the InfoView monitor away from the emergency exit.
3. Step over the dashboard and leave the cab.
4. Use the railing and light beam as handholds, and the traction tyre and additional step along the straw elevator to step on.



5

STEERING COLUMN AND CONTROL PEDALS - Figure 6



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6

1 - a Direction indicator lever (linked up with buzzer)

- b Push button for horn

- c Headlights selector switch

- d Parking and dipped headlights switch and all outside 12-Volt DC plugs (portable light)

2 Direction indicator warning light

3 Header trailer direction indicator warning light (linked up with buzzer)

4 Hazard warning lights switch (linked up with buzzer)

5 Headlights control indication

6 Steering wheel tilt control (clamping screw)

7 Steering wheel height control (clamping screw)

8 Steering column tilt control (push pedal)



CAUTION:

Adjust the steering wheel only when the combine is stopped.

9 Reel fore and aft adjustment

- Right-hand pedal: forwards

- Left-hand pedal: rearwards

10 Foot brake pedals with pedal coupler A



CAUTION:

For safety reasons, always couple brake pedals by means of pedal coupler A when driving on public roads. This ensures the brakes are actuated together.

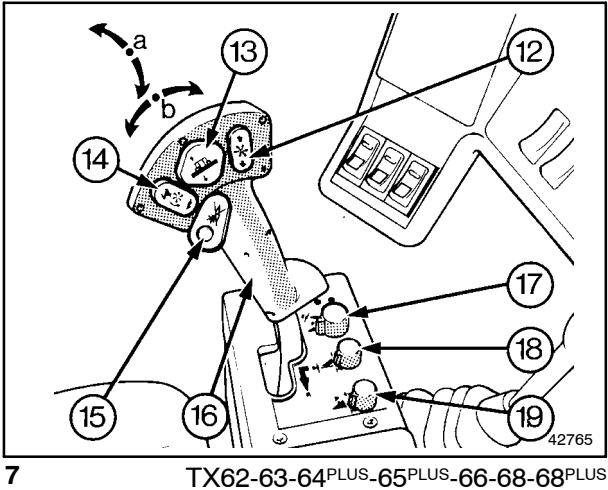
11 Differential lock pedal [if installed]

ARM REST MODULE - Figures 7 to 9

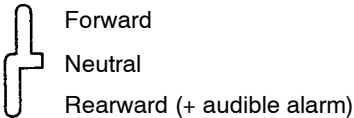
- 12 Reel height control rocker switch
- 13 -a 2-speed header height control rocker switch
- b Header lateral flotation control rocker switch
 - up = header up
 - down = header down
 - left = header tilting to left-hand side
 - right = header tilting to right-hand side

- 14 - Reel variator rocker switch
 - up = speed increase
 - down = speed slowdown
- Header and straw elevator reversing rocking control (if used in combination with 21)⁽¹⁾

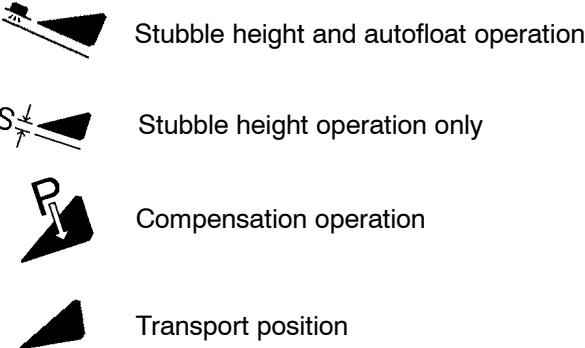
- 15 Header drive and unloading auger quick stop (one-pulse button)⁽¹⁾
 Use this quick stop to avoid crop blockage or combine damage.
 One pulse on the quick stop button will stop the header and unloading auger drive.



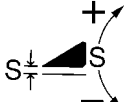
- 16 Ground speed control lever

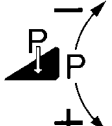


- 17 Header control selector switch⁽²⁾



⁽¹⁾ Not applicable for models TX62-63
⁽²⁾ Not applicable for model TX62 without automatic header compensation

18  Header stubble height control knob⁽²⁾

19  Header compensation control knob⁽²⁾

20 Automatic header height control switch⁽²⁾

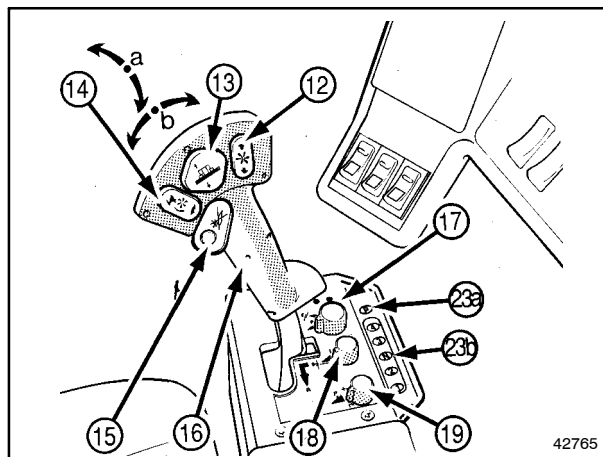
21 Header and straw elevator reversing button⁽¹⁾

22 Header compensation autodiagnostic control indicators⁽²⁾ (refer to Section 4 - FIELD OPERATION)

23 Arm rest cover: Access to emergency switch when ground speed control fails. Remove plate A and push the rocker switch B up to move the machine forwards, push the rocker switch B down to move the machine rearwards (switch is always operative).

23a Remote emergency and parking brake button (symbol P) [model TX67 only]

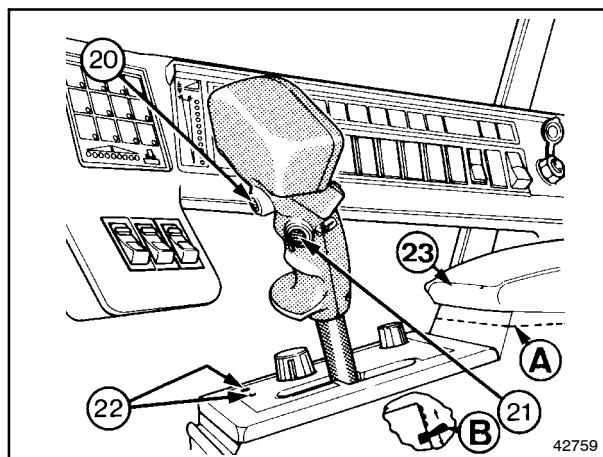
23b Remote gearshift panel (model TX67 only)



8

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TX67



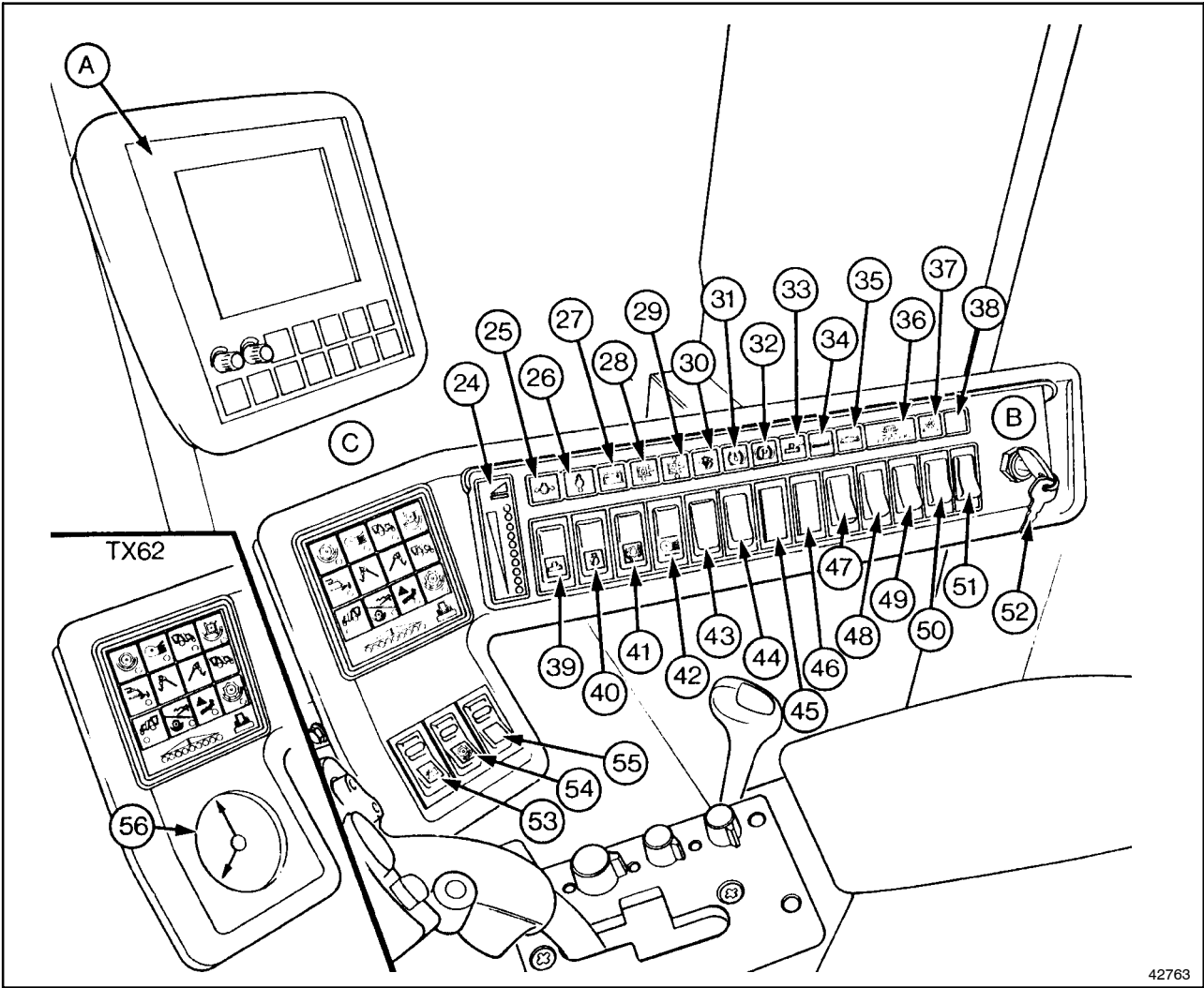
9

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(1) Not applicable for models TX62-63

(2) Not applicable for model TX62 without automatic header compensation

INSTRUMENT PANEL - Figure 10



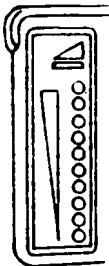
42763

10

A InfoView monitor (refer to Section 4 - FIELD OPERATION)

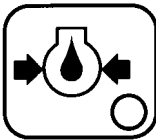
B General module

24



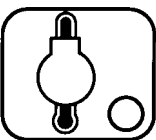
Stubble height indication. The minimum and maximum indication corresponds with the selected minimum and maximum stubble height (refer to Section 4 - FIELD OPERATION, paragraph 1.6 Calibration).

25



Low engine oil pressure warning light^(*)

26



Excessive engine oil and engine coolant temperature warning light^(*)

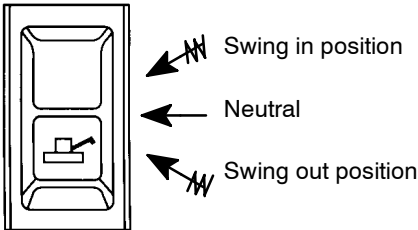
^(*) NOTE:
Warning lights 25, 26 and 29 will automatically shut off the engine to prevent damage of the engine or the hydrostatic system.

27		Battery no-charge warning light	33		Open unloading tube warning light
28		Excessive hydrostatic and hydraulic oil temperature warning light (linked up with buzzer)	34		Self-levelling cleaning system warning light (lights up when system does not work properly)
29		Low hydrostatic oil pressure warning light (*)	35		Full grain tank level warning light (linked up with buzzer)
30		Engine air filter obstruction warning light	36		Straw chopper deflector plates position indication (only when deflector electrical control is installed)
31		Brake linings replacement and low brake fluid level warning light	37		Air conditioning high and low pressure warning lights
32		Parking brake "ON" warning light (linked up with buzzer)	38		Not used

(*) NOTE:
Warning lights 25, 26 and 29 will automatically shut off the engine to prevent damage of the engine or the hydrostatic system.

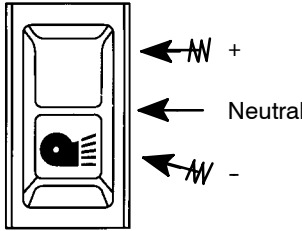
39

Unloading tube swing rocker switch



42

Cleaning fan speed rocker switch



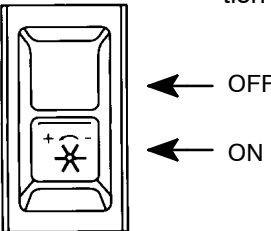
OPERATION:

Threshing mechanism NOT ENGAGED:
Press the switch two times and keep it depressed the third time to swing the unloading tube out or in.

Threshing mechanism ENGAGED:
Press the switch to swing the unloading tube out or in.
Press the opposite part of the switch to stop the movement.

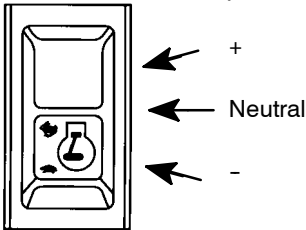
43

Reel speed synchronization tumbler switch



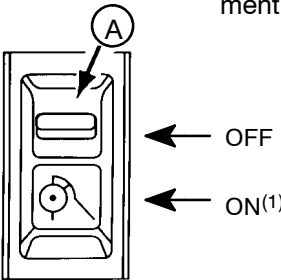
40

Engine throttle control rocker switch (with centre position)



44

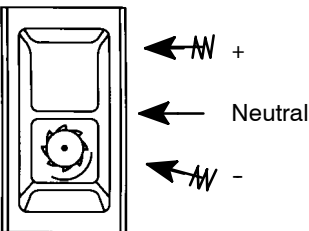
Straw chopper engagement tumbler switch



NOTE:
The engine rpm can only be increased minimum 5 seconds after starting the engine.

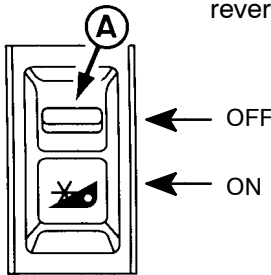
41

Threshing drum speed rocker switch



45

Models TX62-63 only
Header and straw elevator reversing switch



(1) To unlock, pull the spring-loaded lock A down and press the lower part of the switch.

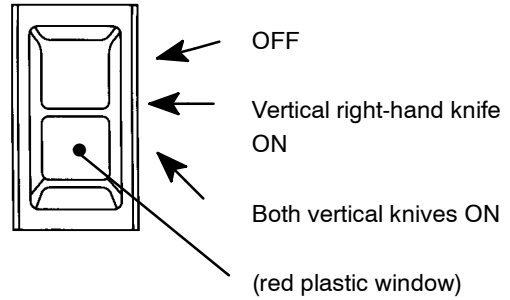


WARNING:

- **Model TX62**
When the ignition key is switched on, it is possible to reverse the straw elevator operation without the engine running (electrical motor).
- **Model TX63**
Ensure the header and straw elevator reversing switch is in the OFF position when starting the combine, otherwise the straw elevator would start reversing immediately after starting the combine.

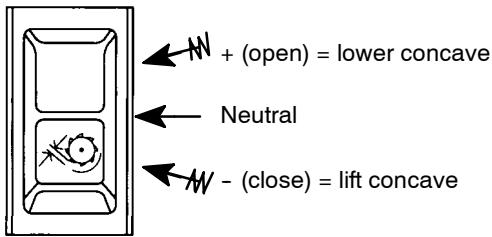
46

Header vertical knife tumbler switch [if installed]



45

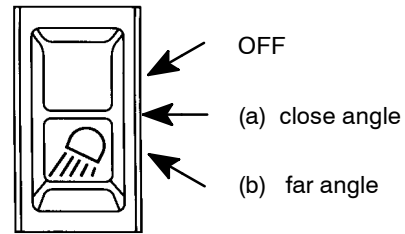
**Models TX64^{PLUS}-65^{PLUS},
66-67-68-68^{PLUS}**
Drum concave control
rocker switch



The concave clearance is shown on the InfoView monitor.

47

Operating lights tumbler switch



Operating lights tumbler switch summary

(only with ignition switch 52 on)

	Position (a)	Position (b)
Twin operating lights on front railing (ref. 123)	ON (inner & outer)	ON (only inner)
Operating lights on cab (ref. 122)	OFF	ON
Stubble lights (ref. 126) [if installed]	ON	OFF
Rear light (ref. 130a) [if installed]	ON	OFF
Adjustable spotlight on engine railing [if installed] (ref. 130) NOTE: Only when unloading tube is in open position.	ON	ON
Right-hand side operating light (ref. 124)	ON	OFF
Grain tank light (ref. 131)	ON	ON

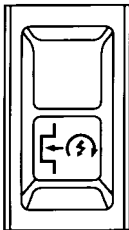


WARNING:

- Do not drive on public roads with the operating lights switched on.
- Avoid disturbing road users with long range operating lights (position b of switch 47).

51

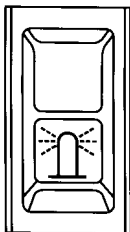
Engine reset rocker switch



- ← Engine stop with header and threshing mechanism engaged ("kill-stall")
- ← Neutral
- ← Reset function

48

Flashing light tumbler switch



- ← OFF - Flashing lights ON for 5 seconds when grain tank is 70% full (linked up with buzzer for 5 seconds)
- ← OFF - Flashing lights remain ON when grain tank is 70% full (linked up with buzzer for 5 seconds)
- ← ON (road transport)



CAUTION:

- Never press the upper part of the engine reset rocker switch during road transport !
- Press the reset rocker switch only after turning the ignition key into the ignition position and before starting the engine.

52

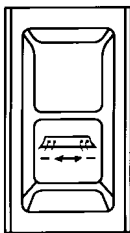
Ignition, engine start and stop switch



- Pos. 0 → Off
- Pos. 1 → Contact
- Pos. 2 → Contact
- Pos. 3 → Starter motor

49

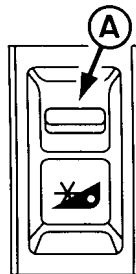
Straw chopper deflector plates adjustment rocker switch [if installed]



- ← Towards left-hand side
- ← Neutral
- ← Towards right-hand side

53

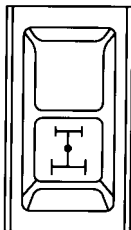
Header engagement tumbler switch



- ← OFF
- ← ON (1)

50

Rear-wheel drive engagement tumbler switch [if installed]

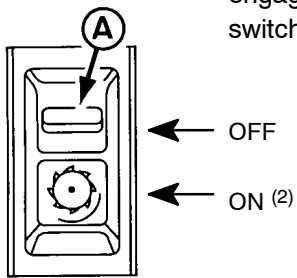


- ← OFF
- ← ON

(1) Not applicable to model TX62

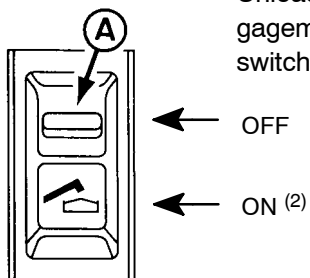
54

Threshing mechanism
engagement tumbler
switch (1)



55

Unloading system en-
gagement tumbler
switch (1)



56

Model TX62 without automatic header compensation

Instead of the switches 53 - 54 - 55, a header compensation gauge 56 is installed (Fig. 10, insert).

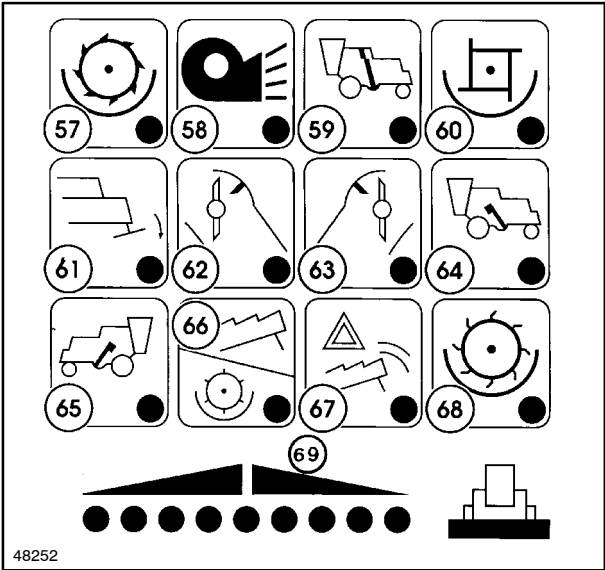
(1) Not applicable for model TX62

(2) To engage, pull the spring-loaded lock A down and press the lower part of the switch. To disengage, press the upper part of the switch

C Speed control module and header lateral float indicator - Figure 11

Low speed warning lights + audible signal (57-69)

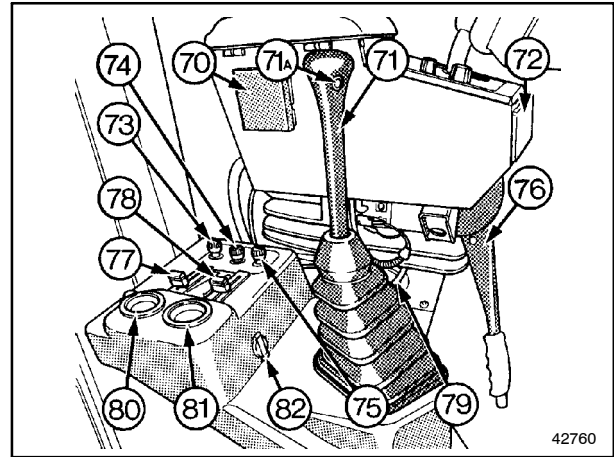
- 57 Threshing drum
- 58 Cleaning fan
- 59 Clean grain cross auger and elevator
- 60 Beater
- 61 Not used
- 62 Straw chopper [if installed]
- 63 Not used
- 64 Returns auger (left-hand side)
- 65 Returns auger (right-hand side)
- 66 Straw walkers
- 67 Straw walker blockage
- 68 Rotary separator
- 69 Header lateral float indicator [if applicable]



11

CONSOLE MODULE - Figure 12

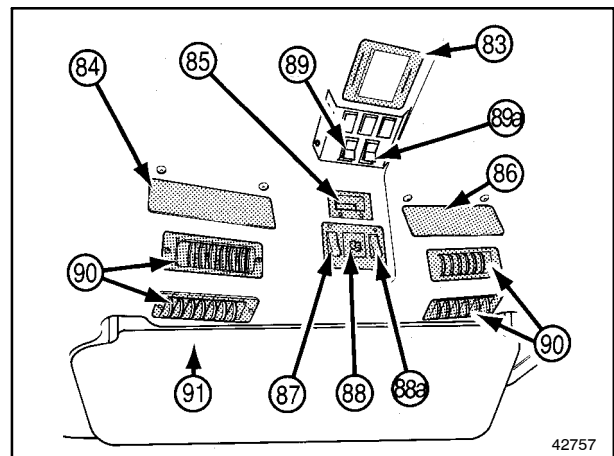
- 70 Drink storage space
- 71 Gearshift lever (All models, except TX67)
- 71A Hydrostatic oil pressure release button
(Push this button while shifting gears to take away the hydrostatic oil pressure on the gear-box)
(All models, except TX67)
- 72 Ashtray
- 73 Heater control switch [if installed]
- 74 Fan speed control switch (3-speed)
- 75 Air conditioning control switch
- 76 Parking brake (All models, except TX67)
- 77 Air recycling control lever
- 78 Air vent control lever
- 79 Adjustable air vent
- 80 Fuel gauge
- 81 Engine coolant temperature gauge
- 82 12-Volt DC socket (live at all times)



12

CAB ROOF INSTRUMENTS - Figures 13 to 16

- 83 Cab interior light
 - Left-hand side: ON/OFF switch
 - Right-hand side: beam direction control
- 84 CB radio location with 12-volt DC connection and CB antenna connection.
The CB antenna can be connected into the socket located outside the cab above the cab door.
- 85 Clock
Clock setting: H = hours, M = minutes

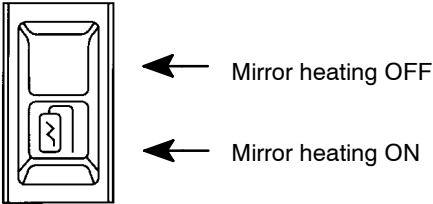


13

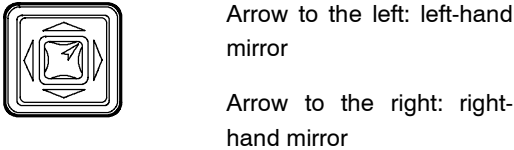
- 86 Radio location with
- 12-Volt DC connection
 - Loudspeaker connection
 - Antenna connection

NOTE:
The antenna is located on the left-hand side in the cab roof and is visible when removing the roof.

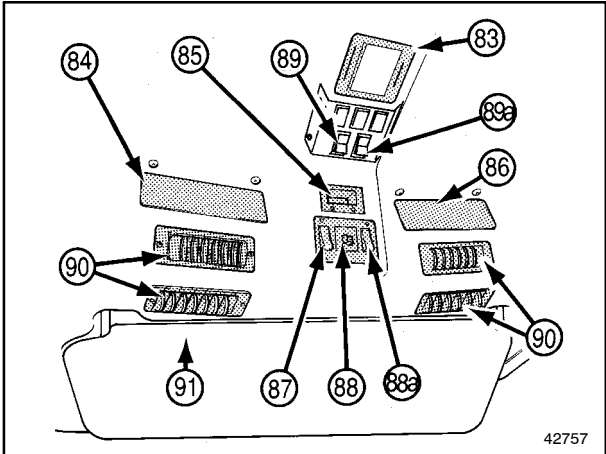
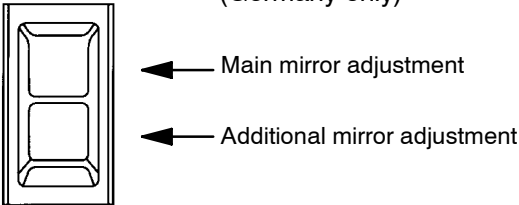
- 87 Mirror heating tumbler switch



- 88 Mirror adjustment switch

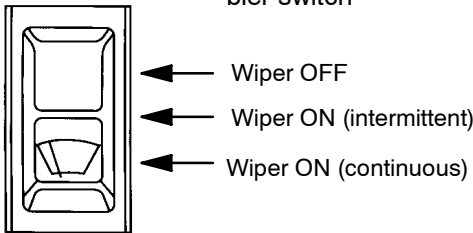


- 88a Tumbler selector switch for mirror adjustment (Germany only)



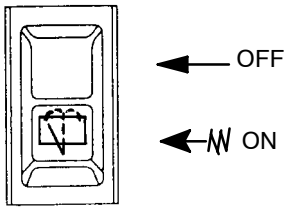
14

- 89 Windscreen wiper tumbler switch



OPERATION

89a Screen washer rocker switch
[if installed]

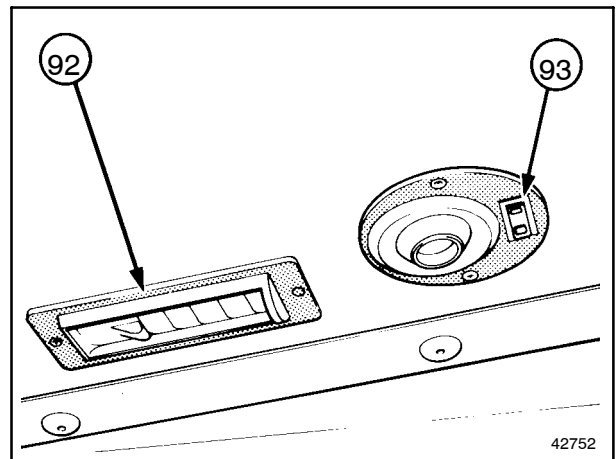


90 Adjustable air vents

91 Sunshade

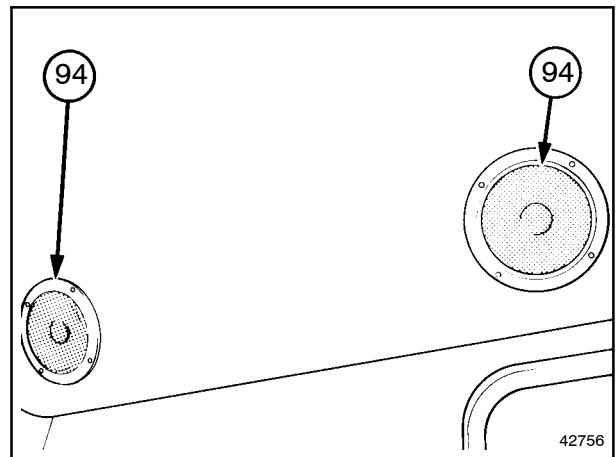
92 Adjustable air vent

93 Adjustable spotlight with ON/OFF switch



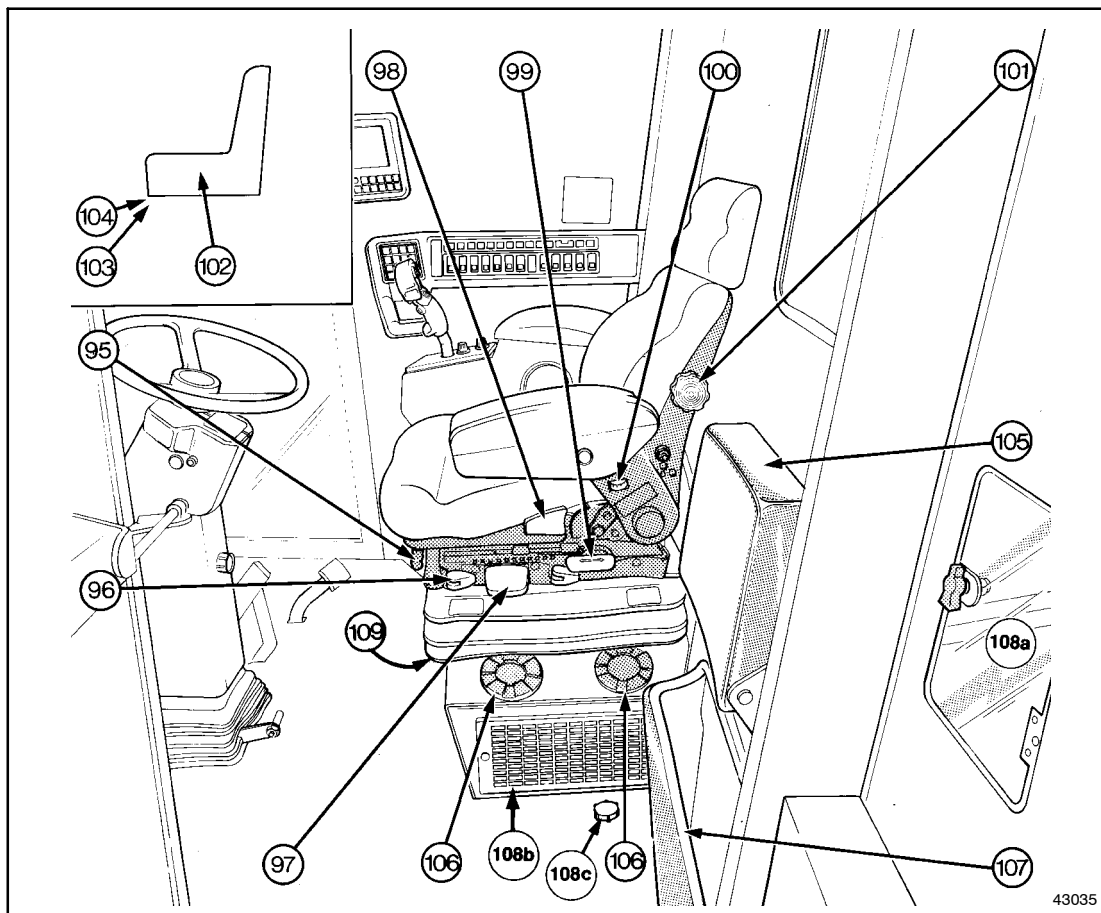
15

94 Loudspeakers (standard)



16

OPERATOR'S SEAT AND SURROUNDINGS - Figure 17



17

Air-suspended seat [if installed]

- 95 Seat bottom adjustment
- 96 Horizontal seat suspension adjustment
- 97 Weight and seat height adjustment
Lifting the lever briefly will adjust the seat automatically to the operator's weight.
Hold the lever up or down to adjust the seat height.
- 98 Seat back rest inclination adjustment
- 99 Fore and aft seat adjustment
- 100 Arm rest adjustment
- 101 Lumbar adjustment
Left-hand side: horizontal adjustment
Right-hand side: vertical adjustment

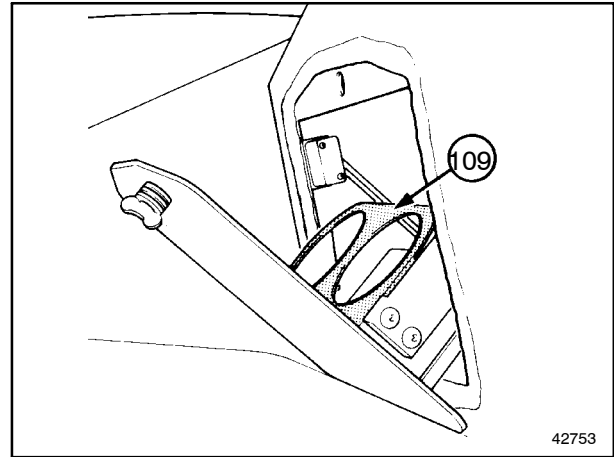
Standard seat [if installed]

- 102 Seat back rest inclination adjustment
- 103 Weight adjustment
- 104 Height adjustment
To lift: Lift seat to first or second audible stop.
To lower: First lift seat to the highest possible position so the seat automatically returns to its lowest position.
- 105 Buddy seat (not on models TX62-63)
- 106 Adjustable air vent
- 107 Storage space for operator's manual
- 108a Grain tank inspection door
This door allows to take a grain sample in a safe way.
- 108b Recirculation filter (paper element)
- 108c Reservoir for screen washer [if installed]

109 Drink storage space

NOTE:

If opened, the air conditioning and ventilation system are switched off.



18

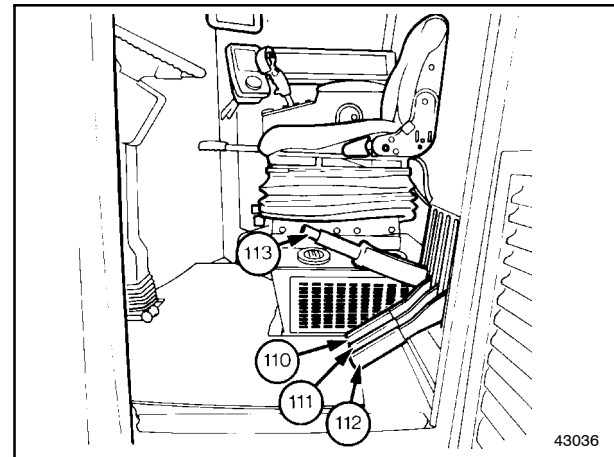
Models TX62-63 only - Figure 19

110 Header engaging lever

111 Threshing mechanism engaging lever

112 Unloading system engaging lever

113 Drum concave control lever

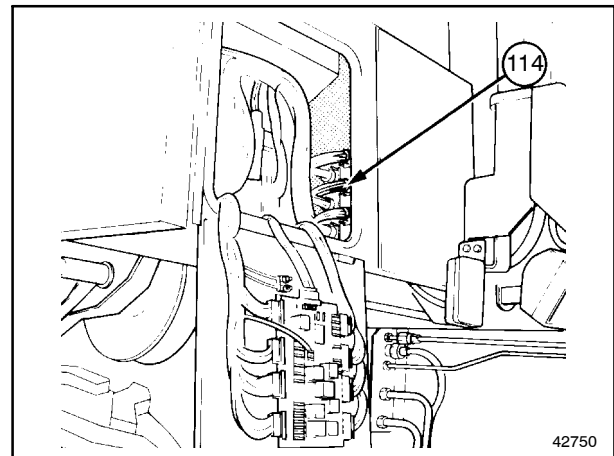


19

FUSES AND RELAYS - Figure 20

114 Access to fuses and relays

For more details, refer to Section 5 - ADJUSTMENTS AND MAINTENANCE.

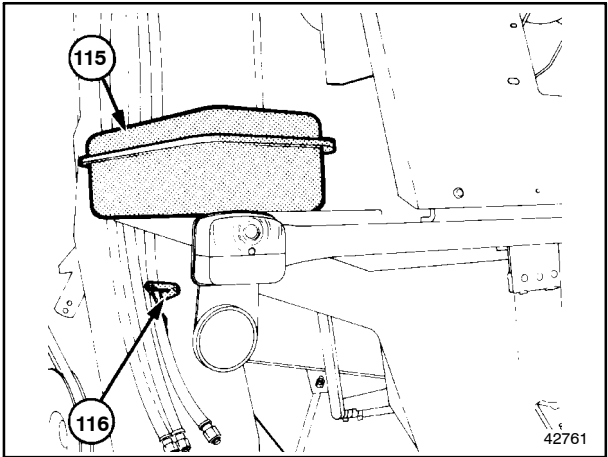


20

OTHER COMPONENTS [left-hand side] -
Figures 21 to 26

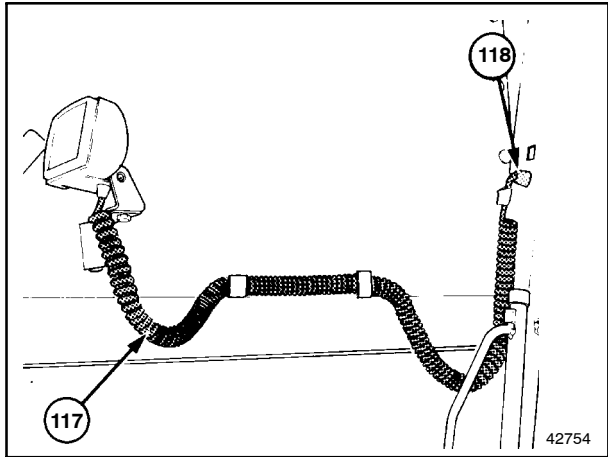
115 Toolbox

116 Battery key
Turn the key counterclockwise (1/4 turn) after having switched off the ignition.
Turn the key clockwise (1/4 turn) before switching on the ignition key in the cab.



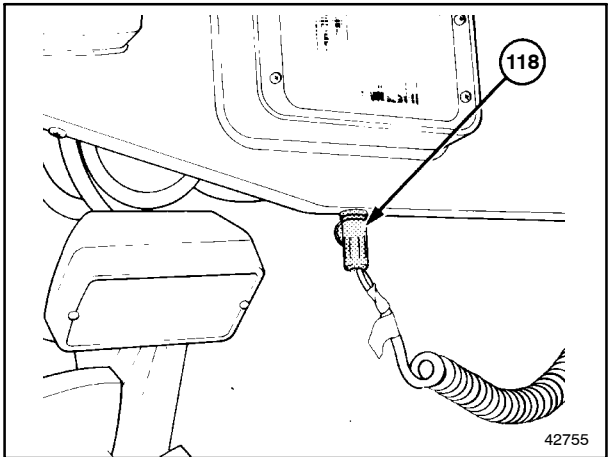
21

117 Portable operating light [if installed]
A second support is available on the inside of the straw hood.



22

118 12-Volt DC socket (left and right)
Current is available when parking lights are switched on.



23

OPERATION

119 Main electrically adjustable mirrors

120 Additional electrically adjustable mirror
(Germany only)

121 Manually adjustable mirror

Mirrors 119, 120 and 121 are mounted on a hinged support with fixed position.

122 Operating lights on cab

123 Twin operating lights on rails

124 Right-hand operating light

125 Dimmed lights and headlights

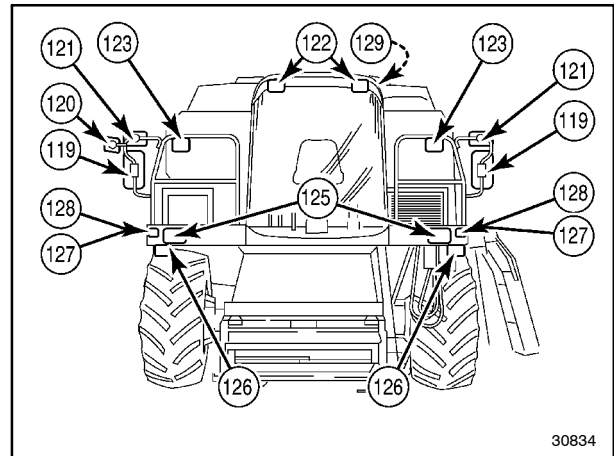
126 Stubble lights [if installed]

127 Parking lights

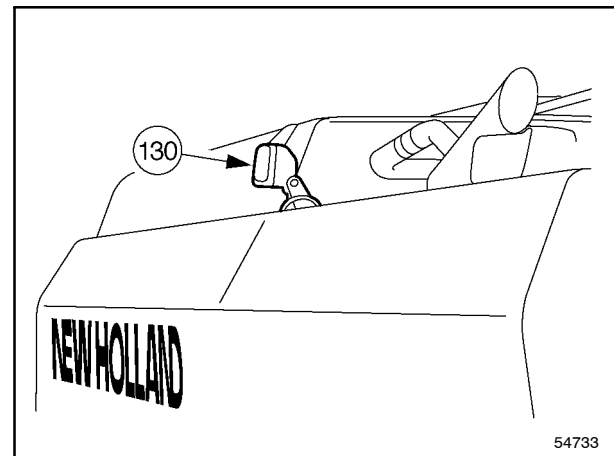
128 Direction indicators

129 Antenna: Standard, built in between roof and cab cover

130 Adjustable spotlight [if installed]

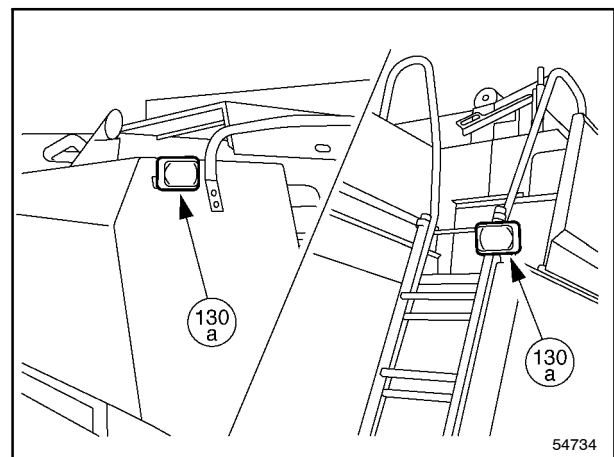


24



25

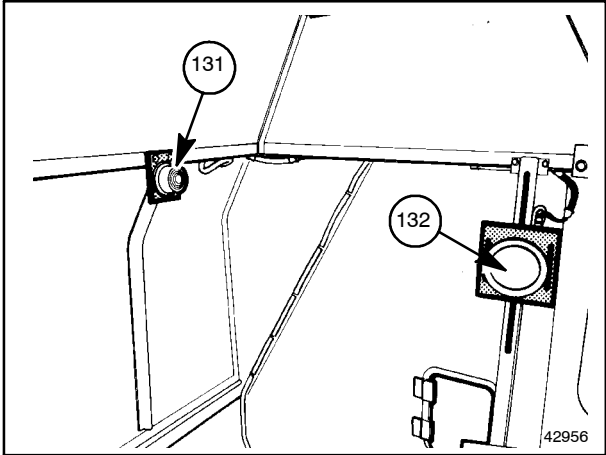
130a Rear lights [if installed]



26

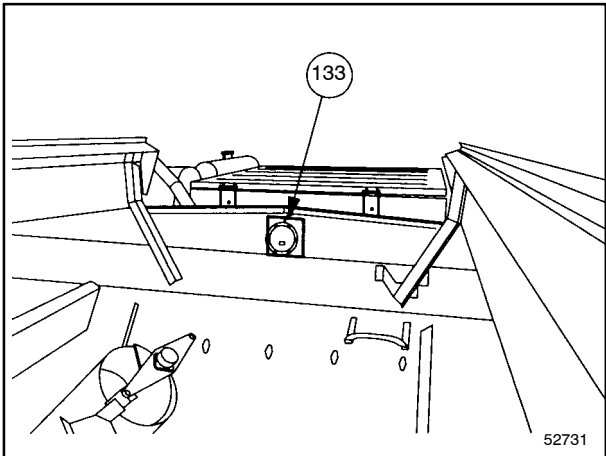
131 Grain tank light

132 Grain tank load sensor 70%



27

133 Grain tank load sensor 100%
Message of full grain tank appears on the Info-View monitor



28

ACCESS TO MACHINE COMPONENTS - Figures 29 to 35

1 Access to operator's platform



DANGER:

Never allow anyone to stand or hang on the combine access ways while the combine is in motion. These access ways are only provided for entering and servicing the (stopped) combine in a safe way.

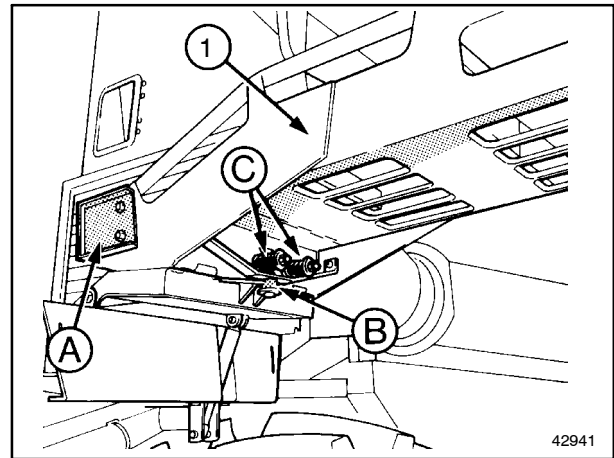


CAUTION:

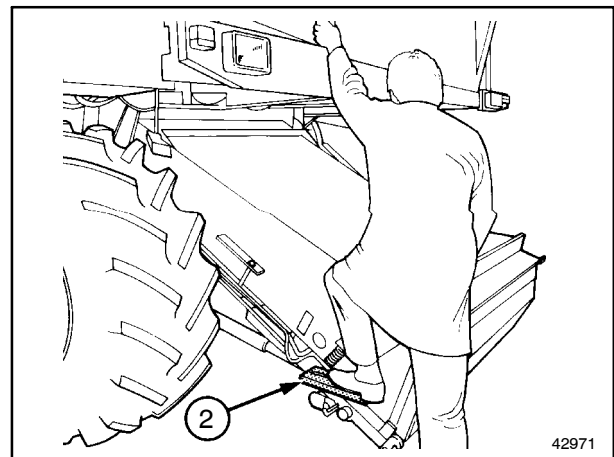
- Always mount and leave the combine in a safe way, i.e. use the steps and guard rails provided and maintain a 3-point contact at all times.
- Pull up the ladder for road transport.

Brackets A (on both sides) are adjusted so that the ladder stands vertical in the pulled-up position.

The ladder can pivot at B when the combine is advancing or reversing and the ladder contacts an obstacle. The pivoting force is adjusted with springs C. Spring length should be 63 mm.



29



30



DANGER:

- Make sure bystanders cannot be hit when lowering the ladder.
- Do not jump on the ladder when the combine is advancing as the ladder may pivot away.

2 Step fitted to the straw elevator to enable cleaning of the cab windscreen



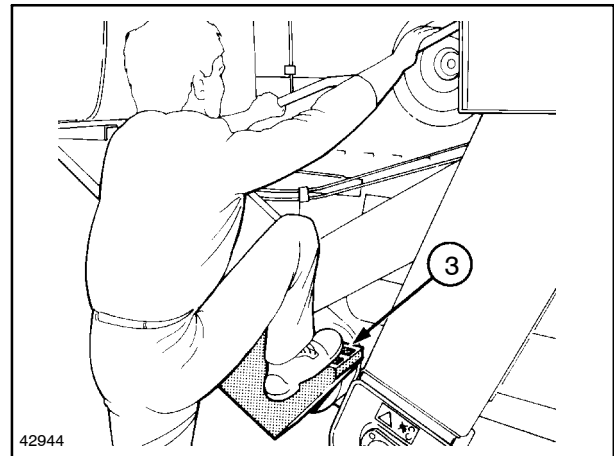
CAUTION:

Keep hand on rail.

- 3 Step provided to gain access to the presieve
- to allow change of the rotary separator rpm
 - to allow adjustment of the straw walker belt tension



CAUTION:
Keep hand on rail.

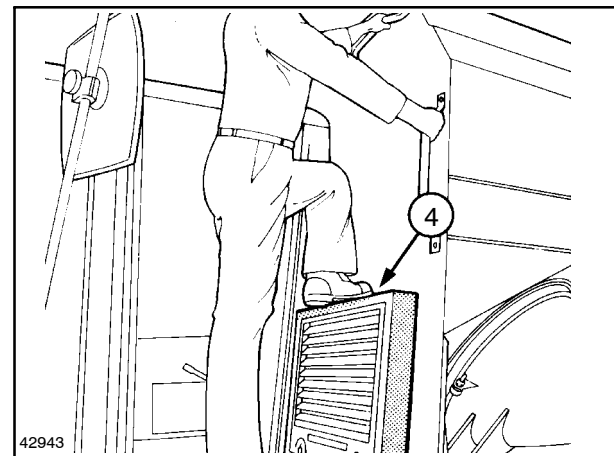


31

- 4 Step provided to allow opening of the grain tank covers at the front side



CAUTION:
Keep hand on rail.



32

- 5 Access to engine compartment and fuel tank filler cap

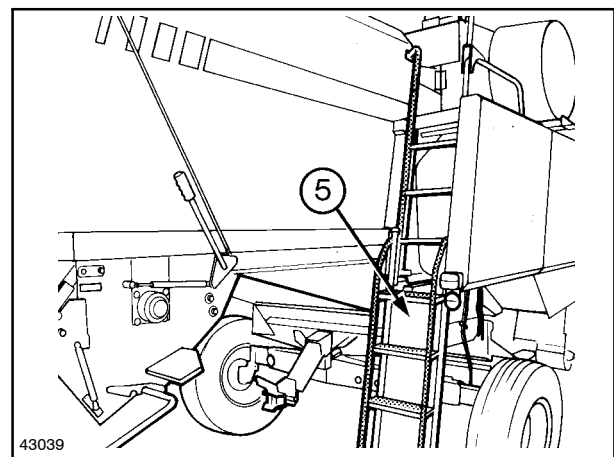
Lowering the ladder to the engine platform with the engine running will cause the engine to stop. It is, however, possible to start the engine while the ladder is in the lowered position.

IMPORTANT:

Be aware that, if the engine is running with the ladder in the lowered position, the engine protection is not working.



CAUTION:
Raise the ladder when travelling on public roads.



33

- 6 Step and antislip strips provided to allow opening of the grain tank covers at the rear side



CAUTION:

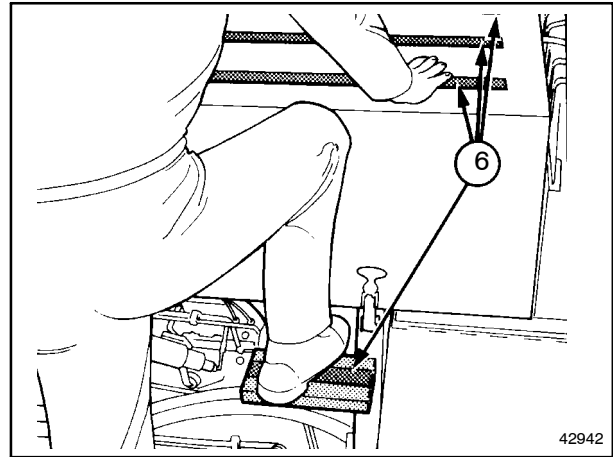
Do not stand up on the engine cover.

- 7 The grain tank is accessible through the open grain tank covers, described above, using steps 7 to climb inside.
Remove cover 8 to gain access to the rotary separator cover 9.

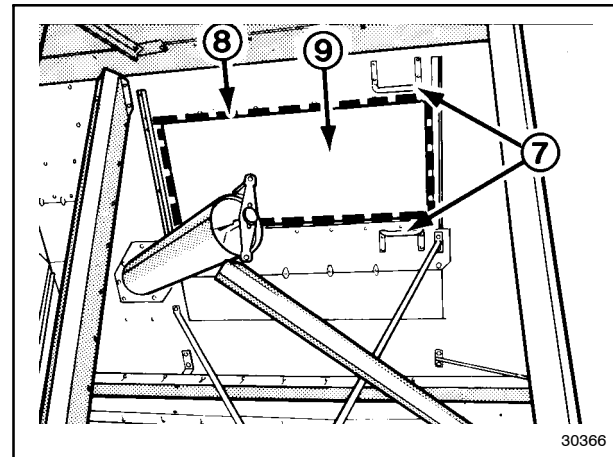


CAUTION:

- Shut off the engine and remove the ignition key before entering the grain tank.
- Do not climb in the grain tank from the front side.



34



35

BEFORE DRIVING THE COMBINE

1. Read this Operator's Manual carefully, especially the paragraphs headed "Safety Precautions" and "Starting the Engine".
2. Check all chain and belt tensions (refer to Section 5 - ADJUSTMENTS AND MAINTENANCE).
3. Check all pressures daily. Keep the tyres inflated to the pressures given in Section 9 - SPECIFICATION.
4. Check the **wheel nuts torque** daily during the first week of operation and thereafter on a weekly basis.
Refer to Section 9 - SPECIFICATION.
5. Check the engine oil and coolant level (ensure the machine is standing on level ground). Refer to Section 3 - LUBRICATION.
6. Check the hydraulic and hydrostatic oil reservoir level with all hydraulic cylinders retracted and the header lowered to the ground (machine standing on level ground). Add oil if necessary. Refer to Section 3 - LUBRICATION.
7. Lubricate the combine completely as described in Section 3 - LUBRICATION.
8. Sit down on the operator's seat and adjust it according to your weight and size.
9. Adjust the steering wheel to the desired position.
10. Adjust the rear-view mirrors, if necessary. See page 2-16.
11. Start the engine. Refer to the next paragraph headed "Starting the Engine".
12. Raise the ladders when driving on public roads.
13. Ensure the unloading tube is in the closed position.
14. Disengage the parking brake.
15. Move the throttle switch into the upper position (i.e. maximum speed).
16. Raise the header to its highest position.

IMPORTANT:

To prevent the hydraulic oil from overheating, do not hold the header height control switch in the operating position longer than is necessary. The same applies to the hydraulic controls for the reel height and the reel fore and aft adjustment.

STARTING THE ENGINE

Ensure you are thoroughly familiar with the instruments and controls before starting the engine for the first time.

To start the engine safely, follow the points as outlined below.



CAUTION:

Before starting the engine, ensure there is enough ventilation and everyone is standing clear of the combine.

DAILY START-UP PROCEDURE

Proceed as follows :

1. Carry out the routine engine service, i.e. check coolant, oil and fuel tank levels (refer to Section 5 - ADJUSTMENTS AND MAINTENANCE). Ensure the battery key is in the "ON" position.
2. Ensure the engaging tumbler switches for the header, threshing mechanism and unloading mechanism are in OFF position.

OPERATION

3. Check that both brake pedals are coupled together and that the parking brake is engaged.
4. Ensure the gearshift lever and the ground speed control lever are in the neutral position.
5. Press the throttle switch into the bottom position (i.e. minimum speed).
6. Insert the key into the ignition-and-stop switch and turn the key clockwise to the ignition position. Inspect engine oil pressure, hydrostatic oil pressure and battery charge warning lights for proper functioning.

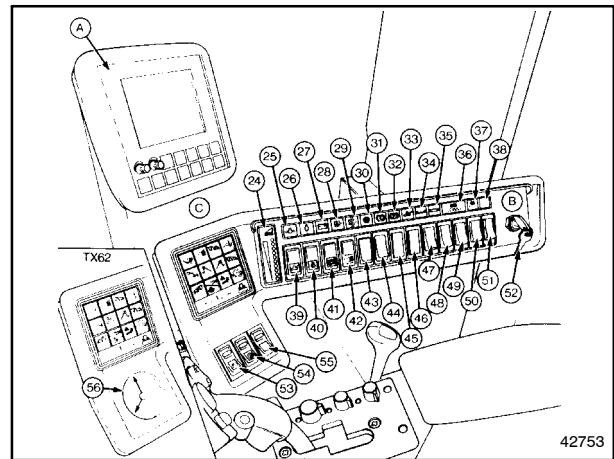
NOTE:

The audible signal will sound (indicating parking brake engaged).

7. Before starting the engine, warn bystanders by sounding the horn several times.
8. Press the engine reset rocker switch 51 (bottom position).
9. Turn the ignition key clockwise to engage the starter motor.
If the engine fails to start after 30 seconds, release the starter button for about 1 minute before re-engaging the starter motor.
10. As soon as the engine starts, release the starter switch.

ATTENTION :

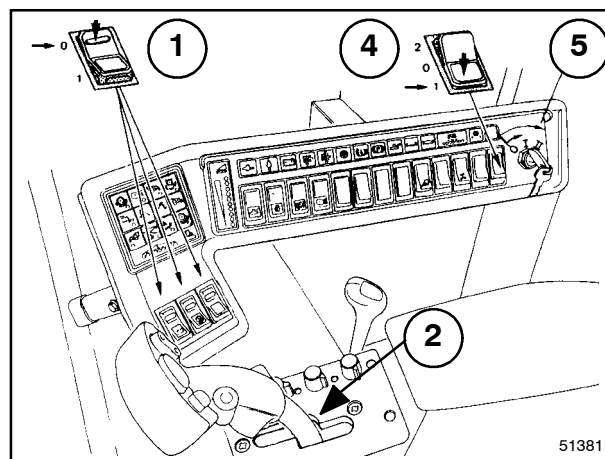
- Allow the engine to run for one minute at low idle before moving off, to ensure adequate lubrication of the turbocharger bearings.
- If the audible alarm does not cease functioning when the parking brake is disengaged, or if the warning lights for the engine oil pressure or hydrostatic charge pressure do not extinguish after the first few seconds of idling, stop the engine immediately and contact your dealer for assistance.



36

The table below shows a summary of the starting conditions (refer to Figure 37).

Sequence	Position
Battery key	ON
Header engagement tumbler switch 1	OFF
Threshing mechanism engagement tumbler switch 1	OFF
Unloading system engagement tumbler switch 1	OFF
Ground speed control lever 2	Neutral
Turn the ignition key to the contact position 5	Ignition ON
Reset the engine with the engine reset rocker switch 4	-



37

The engine can now be started by turning the ignition key clockwise to engage the starter motor.

STOPPING THE ENGINE

Proceed as follows :

1. Move the throttle switch to its bottom position and let the engine run at idling speed for one minute.
2. Turn the key counterclockwise to stop the engine.
3. Remove the key from the ignition-and-stop switch.
4. Apply the parking brake.

DRIVING THE COMBINE



CAUTION:

The combine rear end swings out when changing direction. Take care when taking turns.

1. Ensure that the ground speed control lever is in the neutral position.
2. Move the gearshift lever into the desired gear.
 - For field operation, use first, second or third gear, depending upon the circumstances.
 - For manoeuvring in confined spaces, use first gear.
 - For road transport, use third or fourth gear.
3. Release the handbrake.



CAUTION:

Keep brake pedals depressed while releasing the handbrake. Ensure not to touch the hydrostatic lever when releasing the handbrake.

4. Move the ground speed control lever slightly forward from the neutral position to advance, or from the neutral position rearwards to reverse.

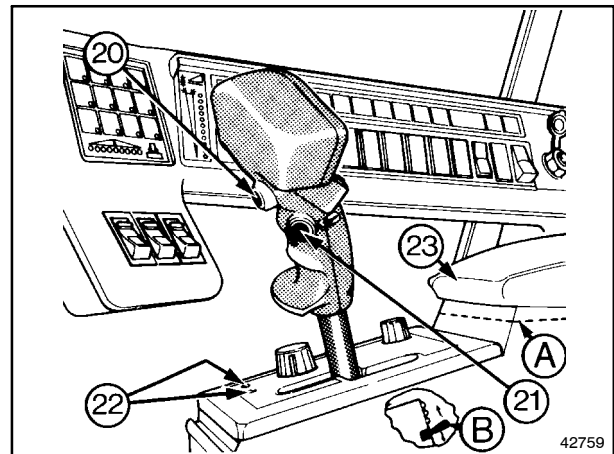
NOTE:

When reversing the combine, an audible alarm will automatically warn bystanders.

5. Familiarize yourself with the different steering and driving characteristics.

IMPORTANT:

In case of hydrostatic control failure, the emergency rocker switch B can be used. To move forward pull the switch up. To reverse push the switch down. Refer to item 23. However, use this switch only if really necessary to drive the machine off the road.

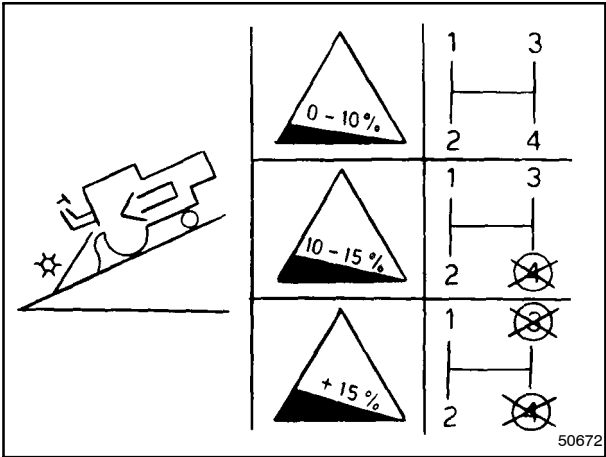




WARNING:

To prevent runaway of the combine (i.e. when the ground speed increases during downhill driving and it is impossible to reduce speed with the ground speed control lever), it is necessary to shift into a lower gear appropriate to the steepness of the hill.

This information is also given on a decal situated on plate A under the arm rest cover. See Figure 38.



39

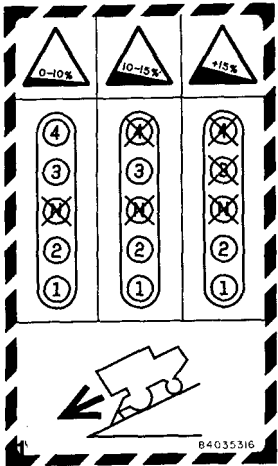
All models, except TX67



CAUTION:

Never drive on public roads with any of the mechanisms engaged.

The combine model TX67 is equipped with a remote emergency and parking brake, and with a remote gearshift system.



40

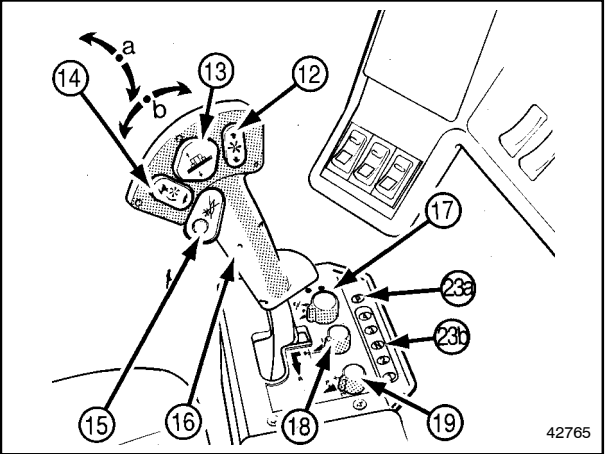
TX67

EMERGENCY AND PARKING BRAKE

The parking brake is operated by pressing button 23a [symbol P] (Fig. 41). A control light and an audible signal indicate the parking brake activation. The hydrostatic system will be disabled.

The emergency brake button has two positions:

- The first position brings the hydrostatic system into neutral.
- The second position (i.e. button fully pressed) operates the friction brake.



41

42765



WARNING:

Pressing the “P” button while driving the combine will cause the combine to stop abruptly (emergency stop).



CAUTION:

Do not press button P to actuate the handbrake during road transport unless it is required as an emergency stop!

After an emergency stop, bring the ground speed control lever to neutral and release the brake by pushing button P to reset the system.

GEARSHIFTING SYSTEM

A five-button console (1-2-N-3-4) with indicator lights indicates the selected gear.

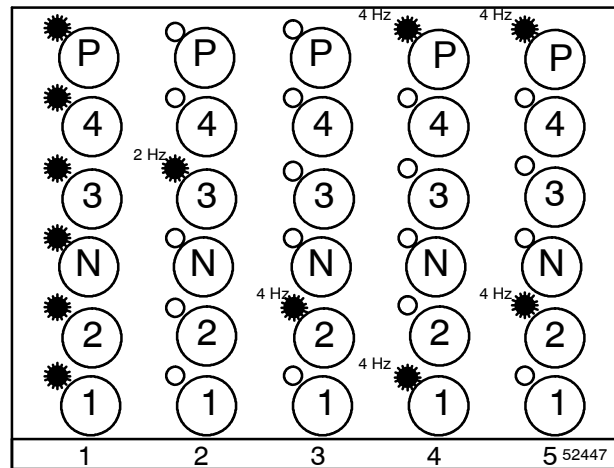
Selecting a gear is only possible with the ground speed control lever in neutral position. Press a button to select a gear. The parking brake is automatically engaged and the hydrostatic system will be disabled. An indicator light will start to flash and comes on steadily when the gearshifting is completed. The parking brake will reset to its previous state and the operator can take over hydrostatic control.

SELF-DIAGNOSTICS - Figures 42 and 43

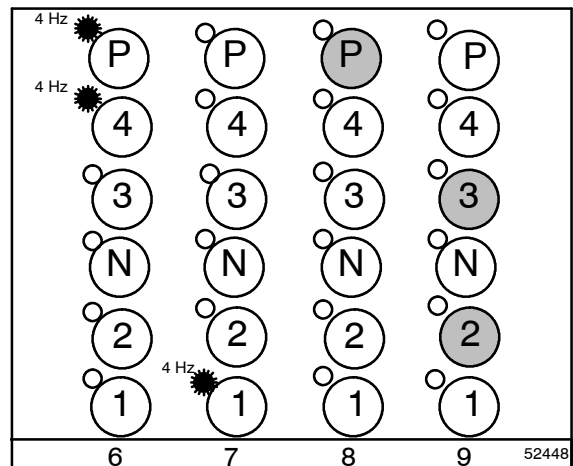
The blinking sequence of the LED's on the remote control console identifies a message/error report. Error reports can show up after switching on contact or after a gearshift. It is possible to clear the errors by pressing button P. If not, contact your local dealer. To reset the system, press the buttons of 2nd and 3rd gear simultaneously.

Message/Error report

1. Check all keyboard LED's after contact or reset (control lights will show up for ± 1 second).
2. Message: Searching for 3rd gear.
3. Error: Gear motor did not reach the selected gear.
4. Error: Pressure release valve problem.
5. Error: Parking brake valve problem.
6. Error: Gear motor problem.
7. Error: More than 1 microswitch activated.
8. Press "P" to clear all errors.
9. Press "2" and "3" to reset the system.



42



43

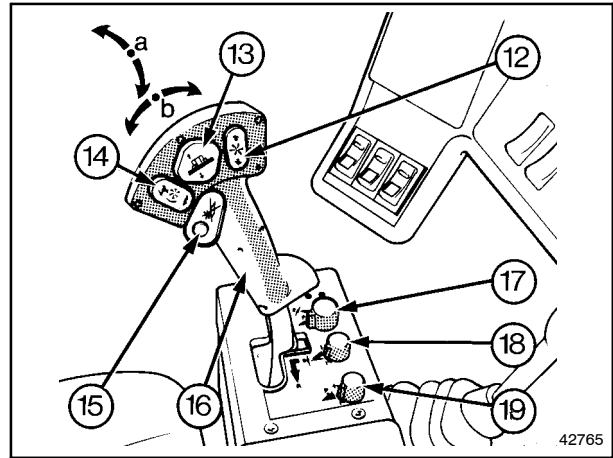
HEADER

ATTACHING THE HEADER TO THE COMBINE - Figures 44 to 48

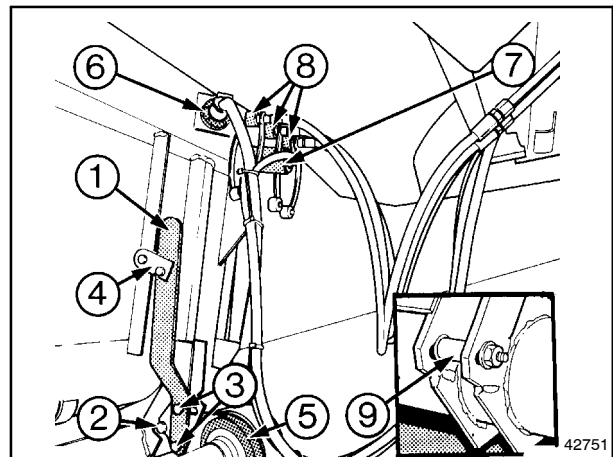
First, position selector switch 17 in the arm rest into the "manual control" (i.e. rear) position (not applicable for model TX62).

To attach the header to the combine, proceed as follows:

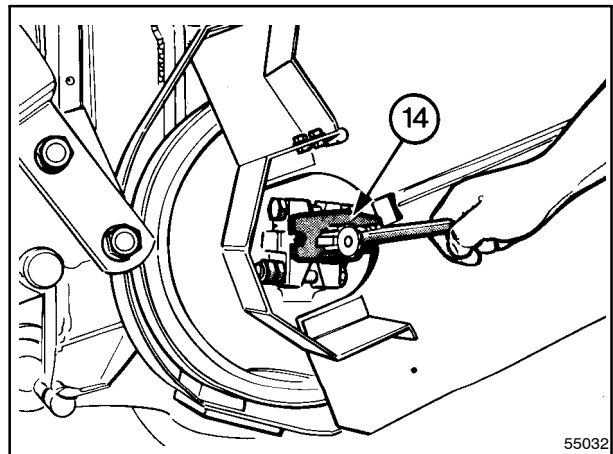
1. Position the combine to align the straw elevator with the header aperture.
2. Move the combine to position the straw elevator against the header. Hook on the header, and raise the straw elevator and header.
3. Attach the quick-attach lever 1 so that the hooks 2 are in full contact with pins 9. If not, adjust lever 1 with bolts 3 so that some resistance is felt when engaging latch 4 over lever 1.
4. Connect header drive coupling 5. Use the special tool 14 fitted to the right-hand side of the straw elevator bottom shaft in line with the splines of the header p.t.o. shaft.
5. Connect electrical plug 6 and plug 7 [accessory].



44



45



46

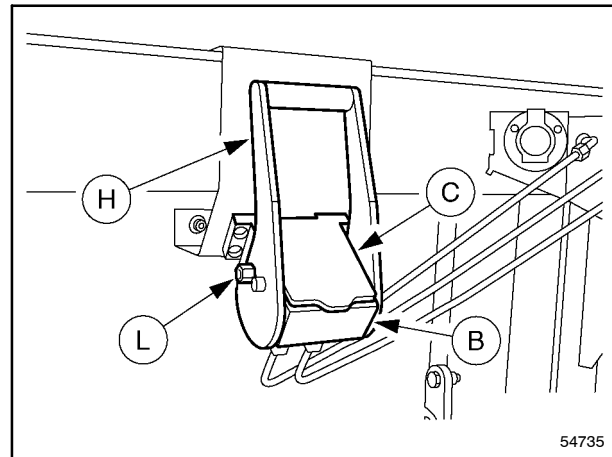
6. • Combine equipped with grain header only :
Connect the hydraulic hoses to the corresponding hydraulic couplings 8 on the header.

- Reel height adjustment : central coupling
- Reel fore and aft adjustment : coupling marked with white and black rings (as on the header)

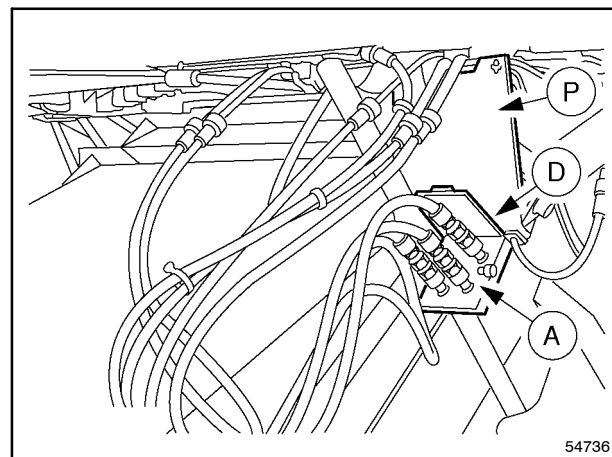
Fit the blanking plugs into each other.

- Combine equipped with grain header only and quick-release coupler:

Open cover C, bring hydraulic block A onto B and turn down handle H until lock L jumps into its security groove. Close cover D.



47



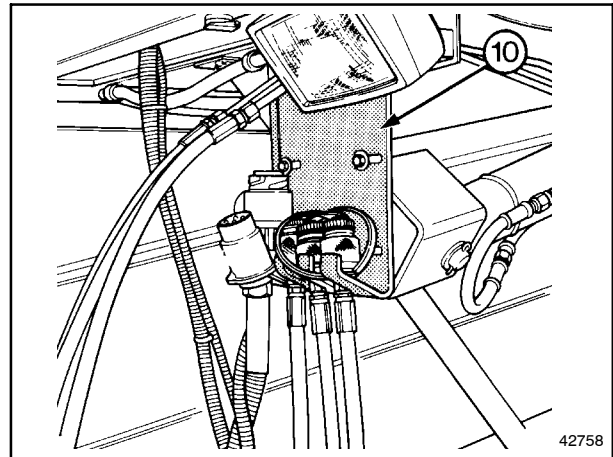
48

DETACHING THE HEADER FROM THE COMBINE

- Figure 49

Proceed as follows :

1. Combine equipped with grain header only :
Set the reel in its lowest and rearmost position.
2. Disconnect the following parts :
 - Header drive coupling
 - Electrical connection(s)
 - Hydraulic hoses or quick-release coupler [if installed]
3. • Fit the blanking plugs into the hydraulic couplings on the header and into the hydraulic hoses. Hook the hydraulic hoses onto the support plate 10.
 - If a quick-release coupler is installed (refer to Figures 47 and 48):
Release the hydraulic quick coupler by pressing lock L and turning over handle H. Close cover C, open cover D and hook hydraulic block A onto plate P.
4. Position selector switch 17 (Fig. 44) in the arm rest into the "manual control" (i.e. rear) position (not applicable on model TX62).
5. Release quick-attach lever 1 (Fig. 45).
6. Position the header on level ground.
7. With the engine running at idle speed, lower the straw elevator to release it from the header, then move the combine rearwards.



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IMPORTANT:

Avoid possible oil contamination by properly fitting the blanking plugs into the hydraulic quick-couplers or into each other during operation.

TOWING THE COMBINE

Towing the combine is not recommended, but if it must be towed, the following steps must be taken:

1. Move the hydrostatic lever into neutral and switch off the rear-wheel drive.
2. Select neutral gear.
Model TX67: If not possible with the remote gear-shifting, refer to Section 6 - TROUBLESHOOTING.
3. Release the handbrake.
Model TX67: If not possible with the remote parking brake button, refer to Section 6 - TROUBLESHOOTING.
4. Tow at a maximum speed of 16 km/h.
5. Provide adequate warning signals to make other road users aware that the combine is being towed.

ATTENTION:

Towing the combine with selected gear will immediately lead to irreparable hydrostatic damage.

IMPORTANT:

Should the combine become stuck in the mud, always tow the combine with a cable or chain attached to the traction axle.

*Do **not** tow the combine with a cable attached to the steering axle or to the frame.*



CAUTION:

Do not use a rope. Should the rope break, energy stored in it could cause bodily injury.

WHEELS AND TYRES

TYRE PRESSURE

The life and performance of the tyres depends largely upon maintaining the correct pressure. Keep the tyres inflated to the pressures given in Section 9 - SPECIFICATION.

Check the **wheel nuts torque** daily during the first week of operation and thereafter on a weekly basis.

The wheel nuts torques are given in Section 9 - SPECIFICATION.

SECTION 3

LUBRICATION

GENERAL INFORMATION

Your model TX combine is designed to require minimum lubrication. However, regular lubrication is the best insurance against delays and repairs and greatly increases the life of the machine.

Use only top grade lubricants stored in clean vessels.

Recommended lubricants and amounts are summarized at the end of this section.



CAUTION:

Always stop the machine before lubricating and observe the following precautions:

- **Disengage all drives.**
- **Lower the header to the ground, or raise the header and engage the cylinder safety latch.**
- **Switch off the combine engine, engage the parking brake and remove the ignition key before leaving the operator's platform.**

The service intervals are displayed on the InfoView monitor as described in Section 4 - FIELD OPERATION.

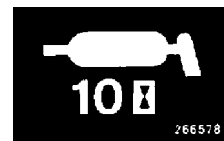
The hours shown are counted **engine** hours. The display starts to blink when the interval is exceeded. After having carried out the necessary service works as described, the hours can be cleared as explained in Section 4 - FIELD OPERATION.

GREASE FITTINGS AND LUBRICATION INTERVALS

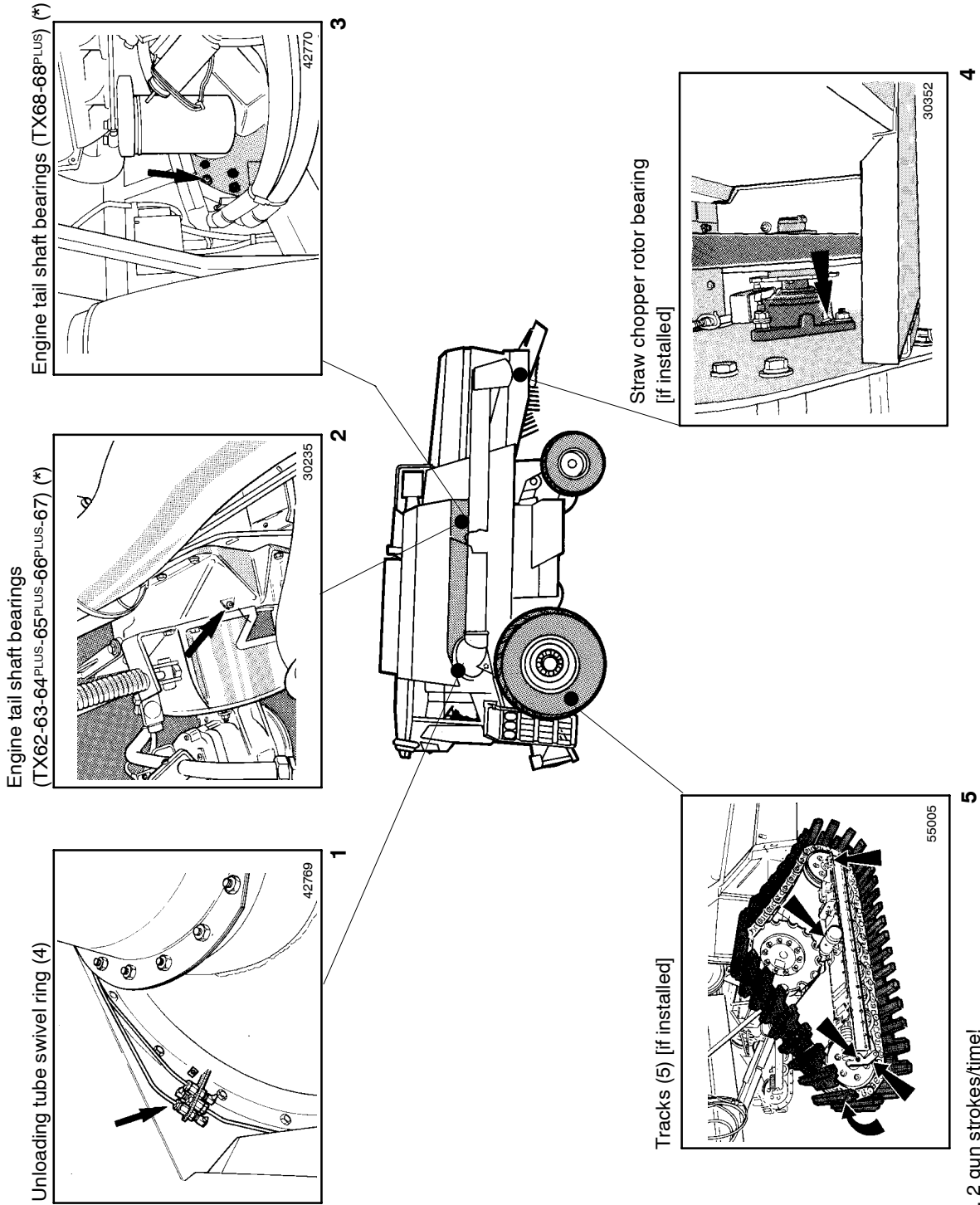
Before greasing the machine always wipe any dirt from the grease fittings and then apply a good grade of grease. Use Multipurpose grease AMBRA GR9 (ref. NH710A) or AMBRA GR75MD (ref. NH720A), or grease classified under NLGI 2.

All points, except those with special notations, should be lubricated until the grease is forced out around the bearings and then the excess grease should be wiped off.

All grease fittings on the machine are indicated with a grease decal on which the time interval is mentioned. See the Figure below.



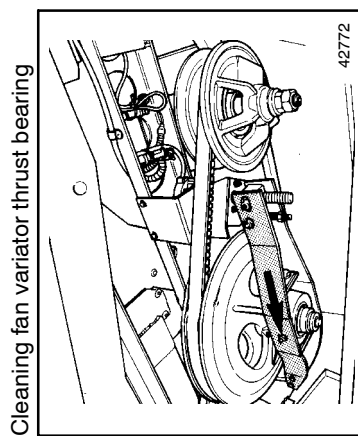
10 hour intervals (daily) - Left-hand side



(*): max. 2 gun strokes/time!



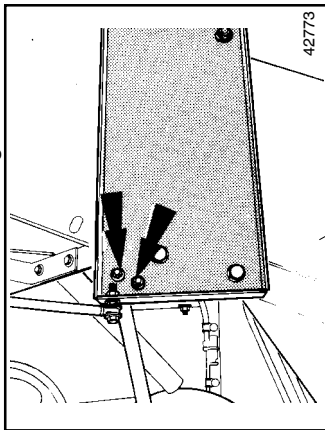
10 hour intervals (daily) - Right-hand side



Cleaning fan variator thrust bearing

42772

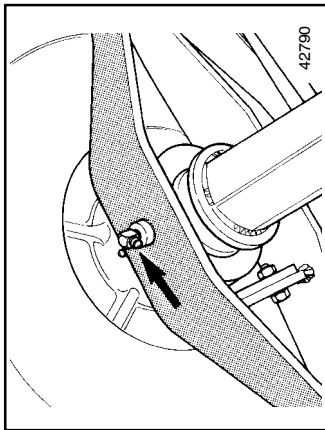
6



Drum variator:
Thrust bearing on intermediate shaft
Intermediate shaft bearing

42773

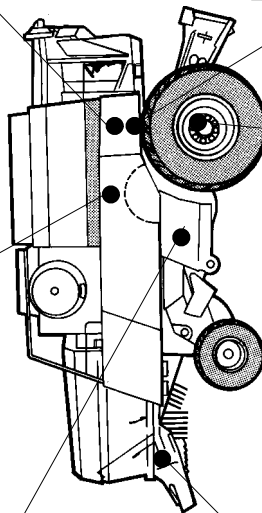
7



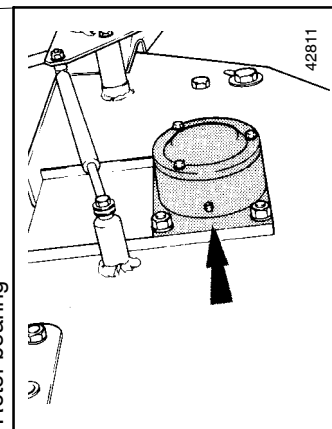
Drum variator:
Thrust bearing on drum shaft

42790

8



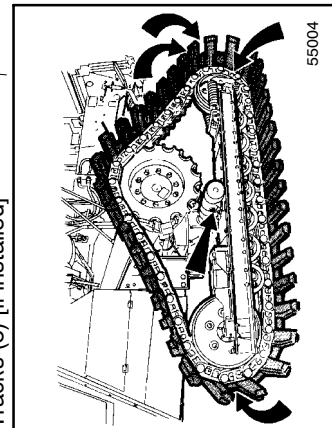
Straw chopper [if installed]:
Rotor bearing



42811

11

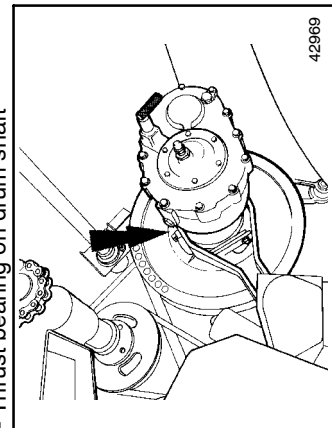
Tracks (5) [if installed]



55004

10

Drum variator with speed reducer
[if installed]
- Thrust bearing on drum shaft



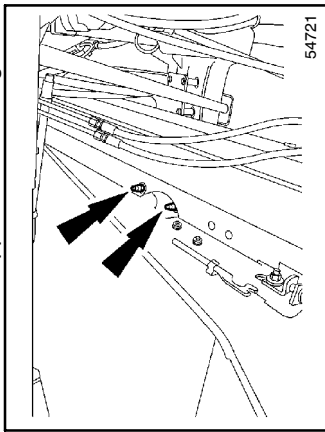
42969

9

50 hour intervals - Left-hand side

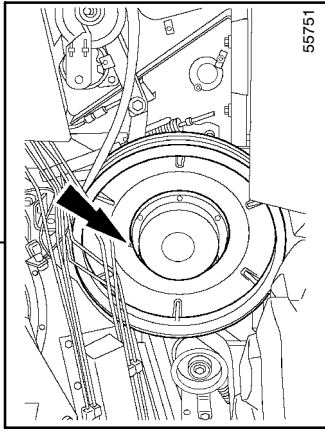


Straw elevator middle shaft bearing
Straw elevator upper shaft bearing



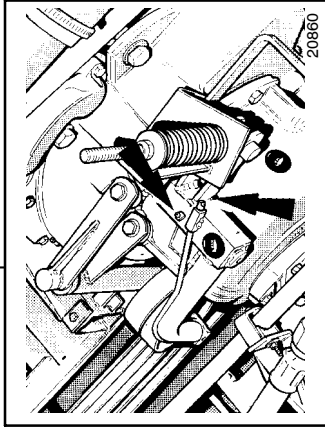
12

Straw elevator slip clutch

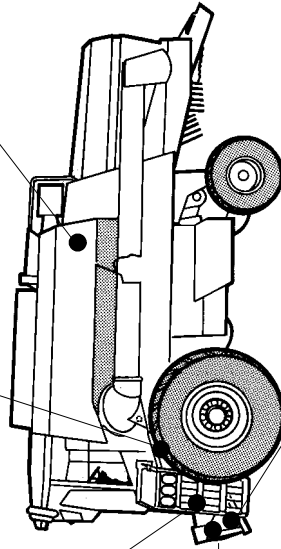


13

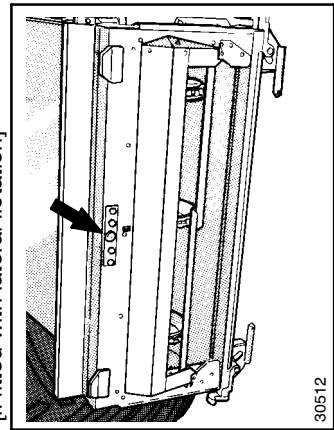
Main idler and pivot shaft



14

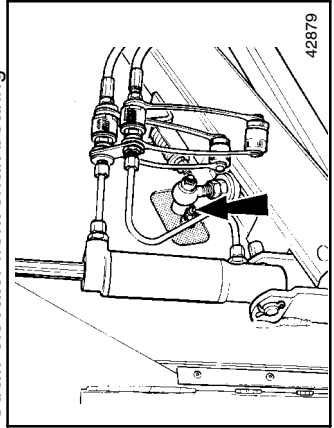


Straw elevator head pivot point
[if fitted with lateral flotation]



16

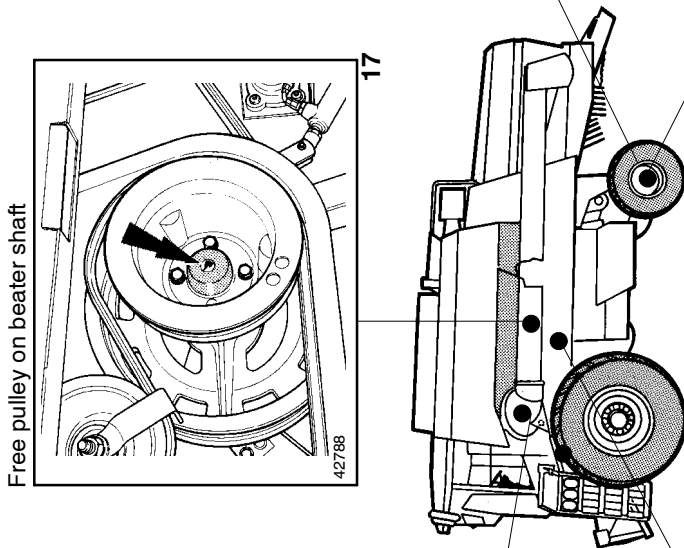
Straw elevator front shaft bearing



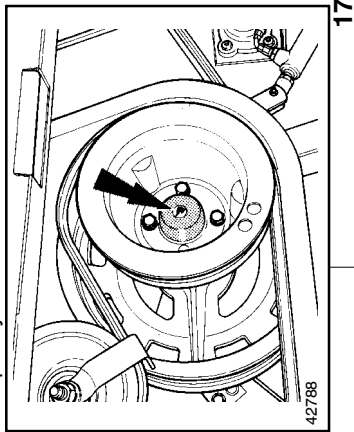
15



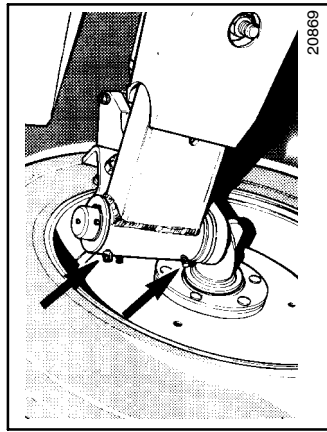
50 hour intervals - Left-hand side (Cont'd)



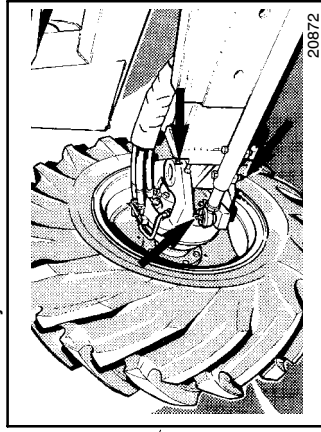
Free pulley on beater shaft



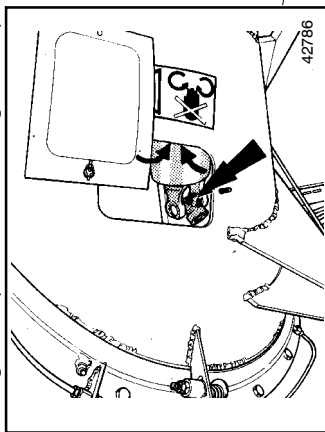
Steering wheel spindle (2)



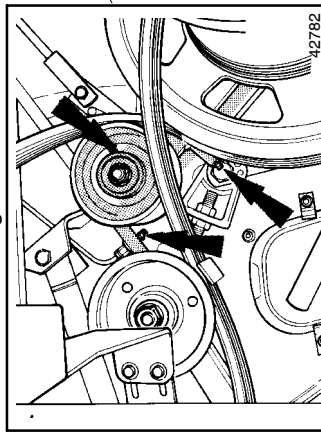
Units with rear-wheel drive only:
Steering wheel spindle (2) +
tie rod ball joints



Unloading auger universal joint (2) +
sliding shaft (accessible through cover)

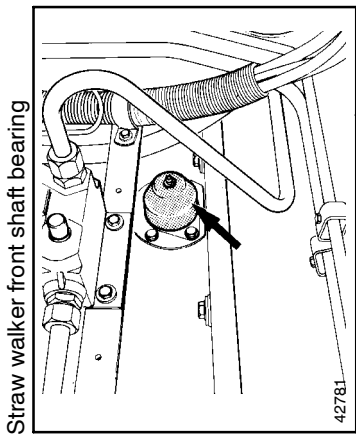


Main engaging idler + pivot
Beater shaft bearing





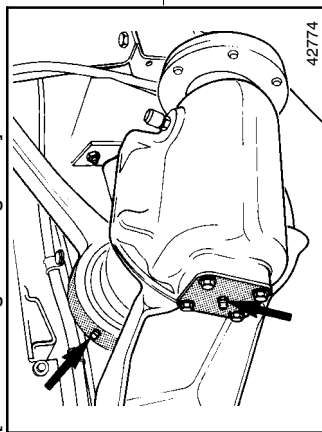
50 hour intervals - Left-hand side (Cont'd)



Straw walker front shaft bearing

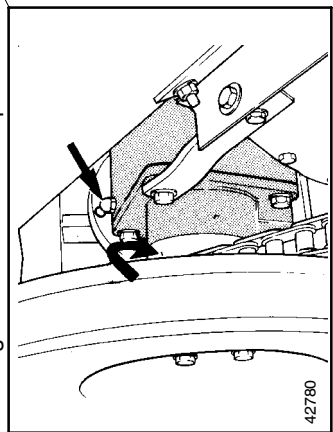
22

Eccentric shaft bearing
Cleaning shoe drive upper gearbox
[self-levelling cleaning shoe]

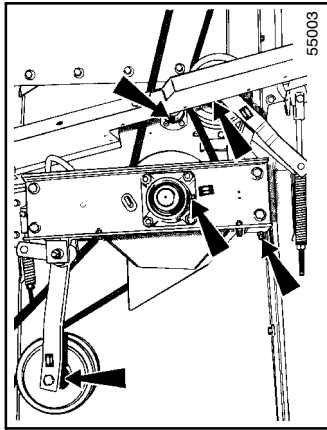


28

Cleaning shoe drive idler arm pivot

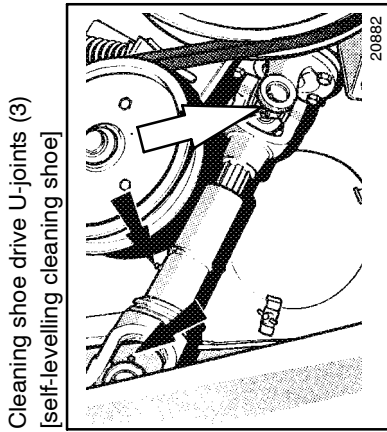
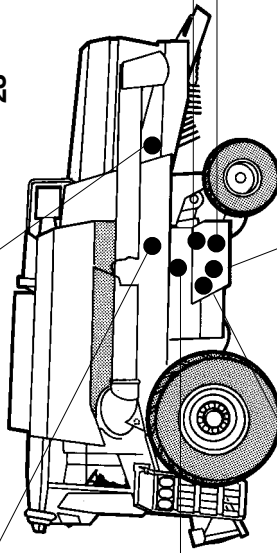


27



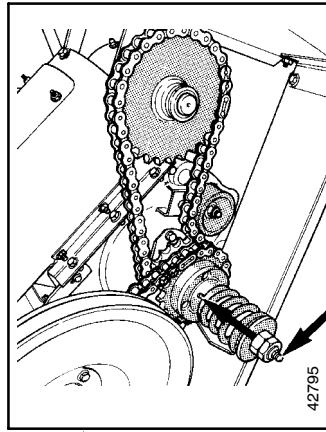
Straw walker rear shaft bearing
Straw chopper clutch bearings (2)
Straw chopper drive idlers (2)

23



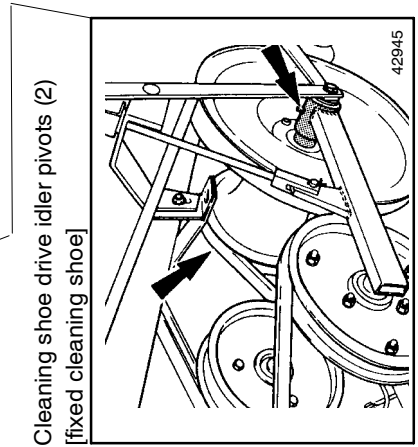
Cleaning shoe drive U-joints (3)
[self-levelling cleaning shoe]

24



Return drive slip clutch + bearing

25



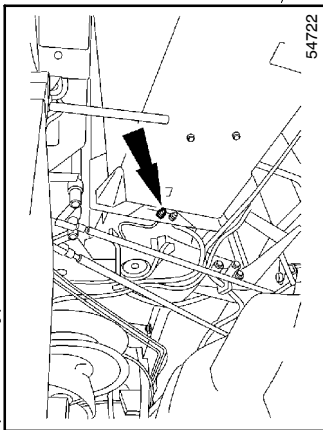
Cleaning shoe drive idler pivots (2)
[fixed cleaning shoe]

26



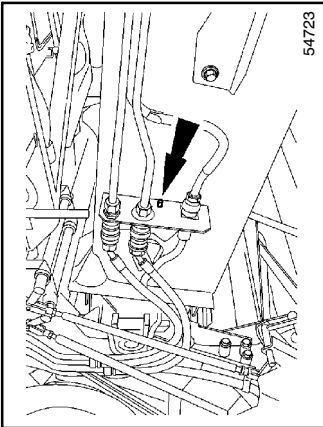
50 hour intervals - Right-hand side

Straw elevator upper shaft bearing
(TX62 only)



29

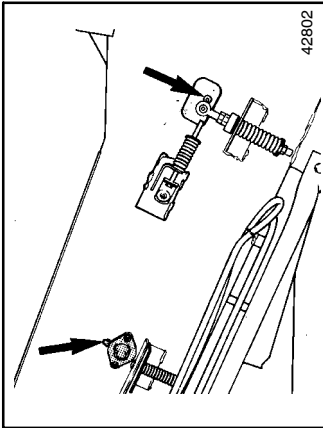
Straw elevator upper shaft bearing



30

With lateral flotation:

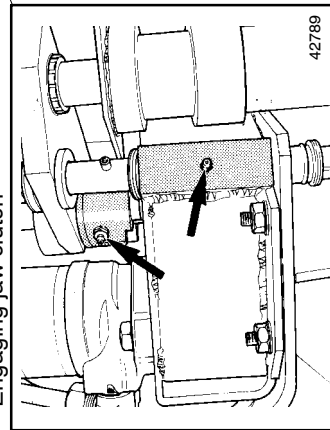
- Straw elevator front shaft bearing
- Straw elevator middle shaft bearing



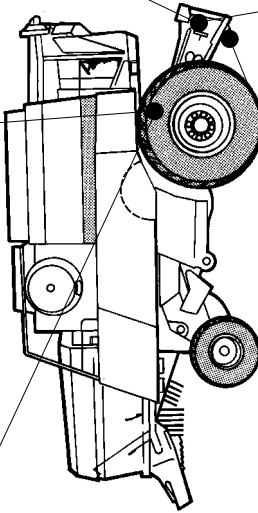
31

Reversing mechanism (units with hydraulic drive only)

- Guide shaft
- Engaging jaw clutch

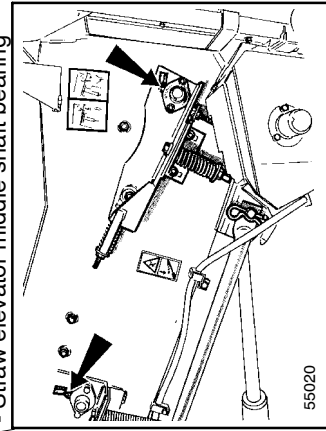


33



Without lateral flotation:

- Straw elevator front shaft bearing
- Straw elevator middle shaft bearing



32



50 hour intervals - Right-hand side (Cont'd)

Drum variator:
Floating disc on intermediate shaft

42794

34

Grain tank filling system gearbox
Grain tank filling system slip clutch

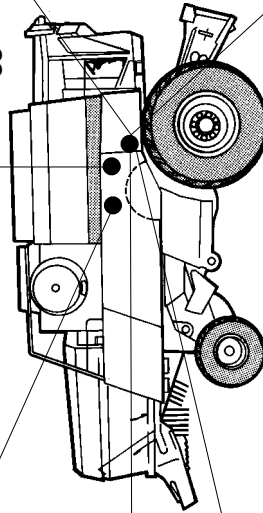
42777

35

Standard drum variator:
Floating disc on drum shaft

42790

36



Drum variator:
Nut on threaded rods (2)

42801

39

Drum variator (Positorque):
Floating disc on drum shaft

23291

38

Drum variator with speed reducer
(if installed)
- Floating disc of drum speed reducer
- Tapered bearing of drum speed reducer

42969

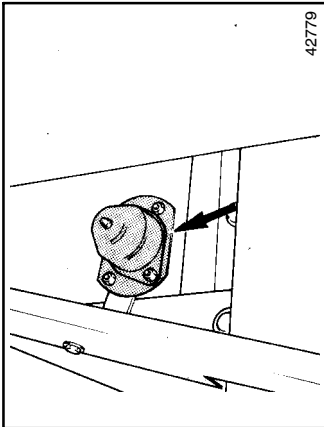
37



50 hour intervals - Right-hand side (Cont'd)

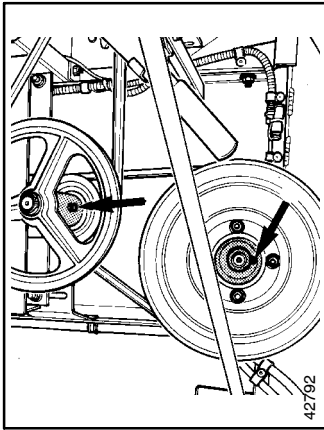
- Eccentric shaft bearing
Fan variator:
- Floating disc on fan shaft
- Floating disc on eccentric shaft
- Nut on threaded rods

Straw walker rear shaft bearing

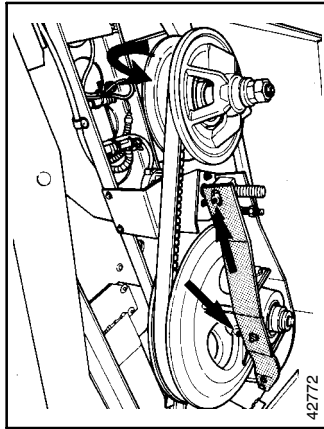


40

Straw walker front shaft bearing
Straw walker intermediate shaft bearings

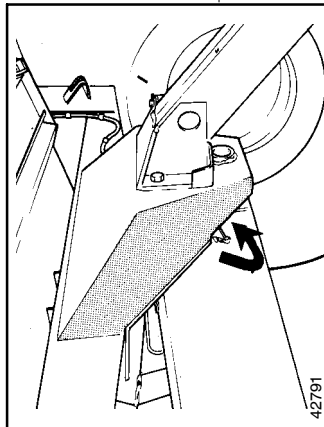


41



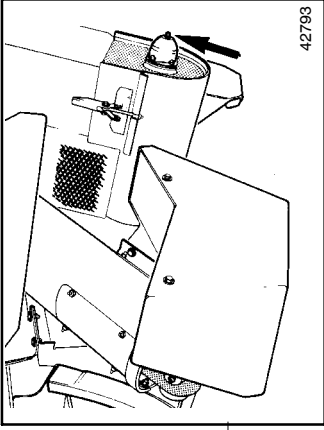
42

Steering axle pivot



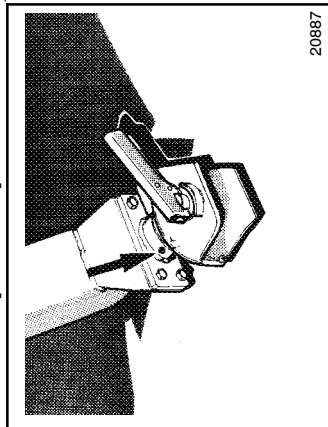
47

Grain cross auger bearing

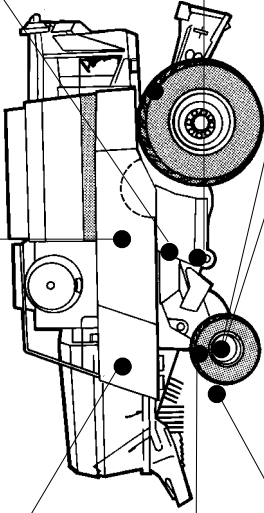


42

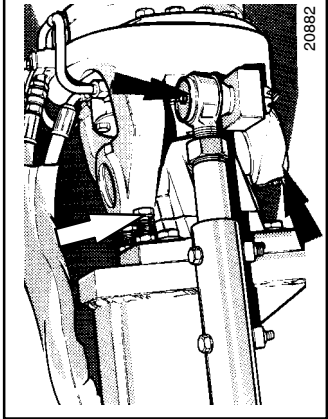
Trailer hitch [if installed]



46

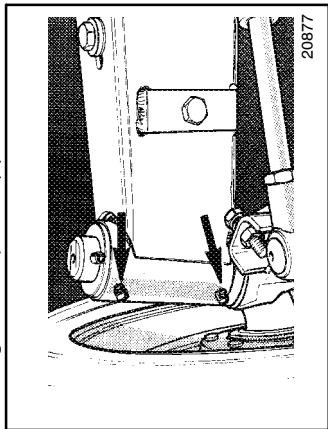


Units with rear-wheel drive only:
Steering wheel spindle + ball joint (3)



45

Steering wheel spindle (2)

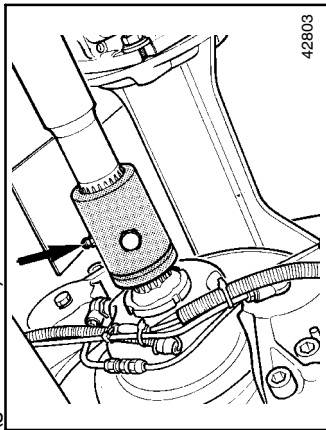


44



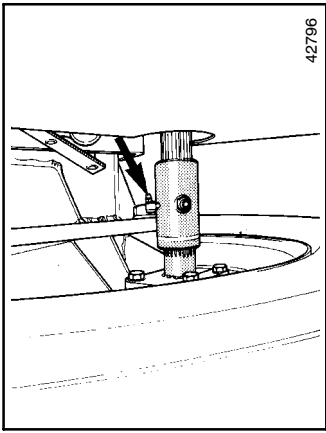
100 hour intervals - Left-hand side

Left-hand half-shaft coupling
(gearbox side)

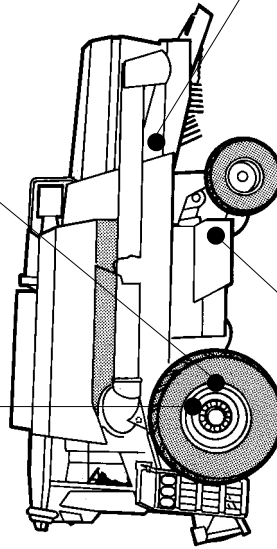


48

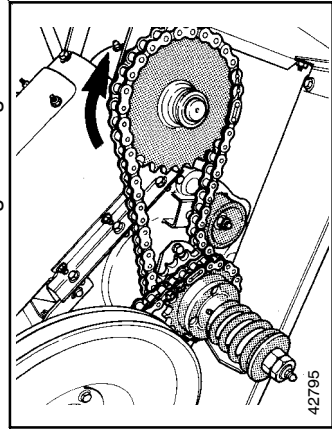
Left-hand half-shaft coupling (wheel side)



49

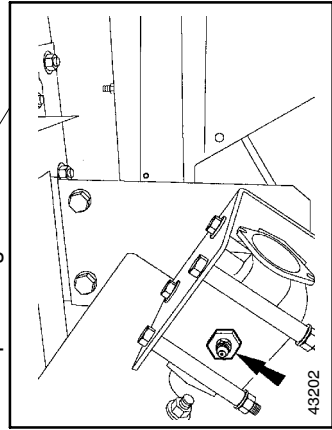


Left-hand returns auger drive gearbox



51

Chaff spreader gearbox

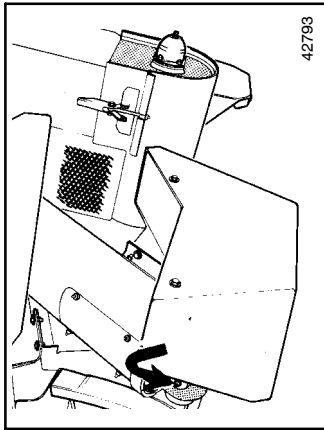


50



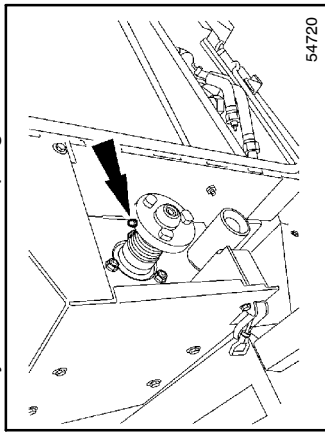
100 hour intervals - Right-hand side

Right-hand returns auger drive gearbox (TX66, TX67, TX68 and TX68^{PLUS})



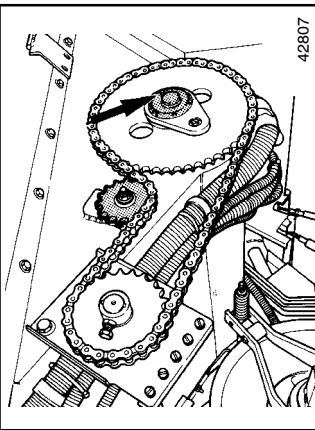
52

Rotary dust screen coupling

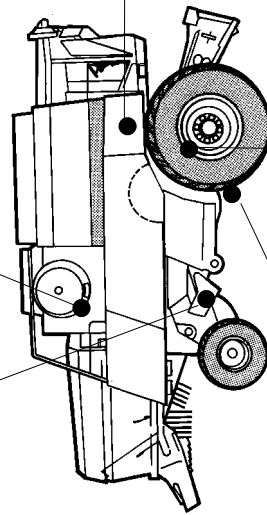


53

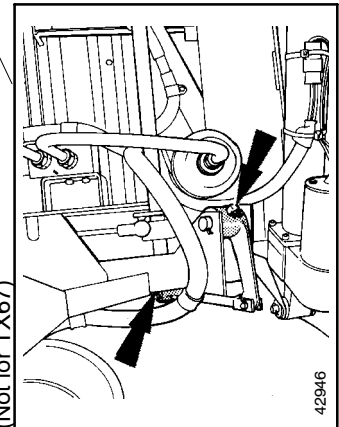
Unloading auger drive shearbolt bushing



54

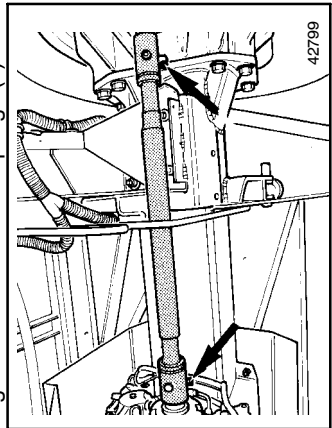


Gearshift linkage (2)
[View from underneath]
(Not for TX67)



56

Right-hand half-shaft couplings (2)



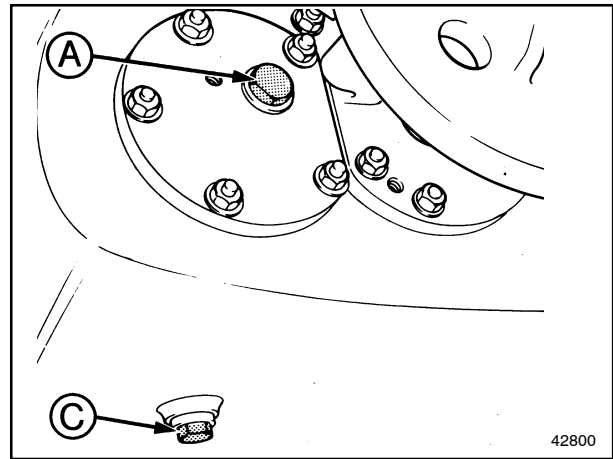
55

TRACTION GEARBOX - Figures 57 and 58

Oil level

With the combine standing on a level surface, the oil level should reach plug A on the right-hand side.

If necessary, add gear oil through the filler/breather plug B after removing the gearbox cover plate.



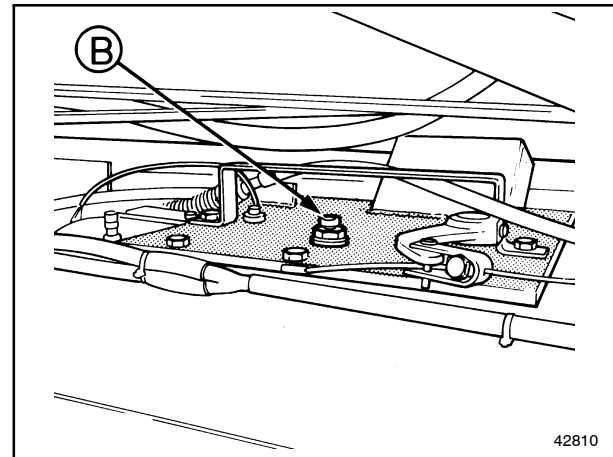
57

Oil change

- After the first 100 operating hours
- After 200 operating hours
- Thereafter, every 400 operating hours or annually.

Drain the oil through plug C.

Plug C is fitted with a magnet which should be cleaned at every oil change.



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Gearbox capacity

15 litres

Oil specification

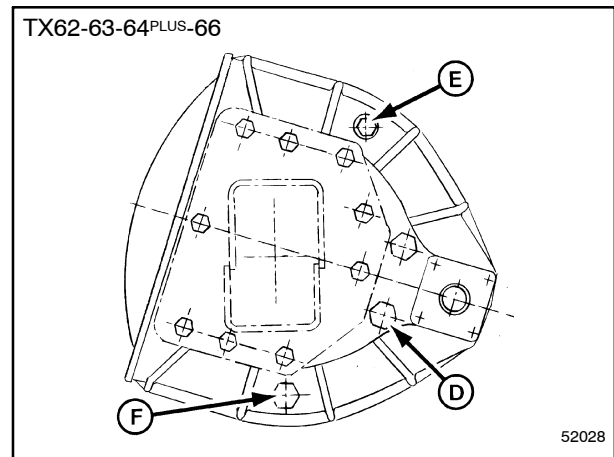
Use AMBRA HYPOIDE 90 gear oil (ref. NH520A) or an oil meeting the following specification:

- API GL5 or MIL-L 2105D
- Viscosity grade: SAE 80W90

FINAL DRIVE GEARBOXES – Figures 59 and 60**Oil level**

With the combine standing on a level surface, the oil should reach plug D.

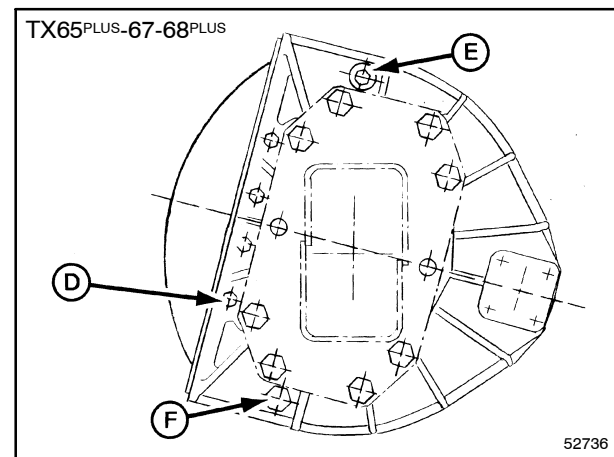
If necessary, add gear oil through the filler/breather plug E.

**59****Oil change**

- After the first 100 operating hours
- After 200 operating hours
- Thereafter, every 400 operating hours or annually.

The oil can be drained through plug F.

Plug F is fitted with a magnet which should be cleaned when changing the oil.

**60****Gearbox capacity**

Models TX62-63-64PLUS-66:
5 litres (each gearbox)

Models TX65PLUS-67-68-68PLUS:
6 litres (each gearbox)

Oil specification

Use AMBRA HYPOIDE 90 gear oil (ref. NH520A) or an oil meeting the following specification:

- API GL5 or MIL-L 2105 D
- Viscosity grade: SAE 80W90

ENGINE - Figures 61 to 64

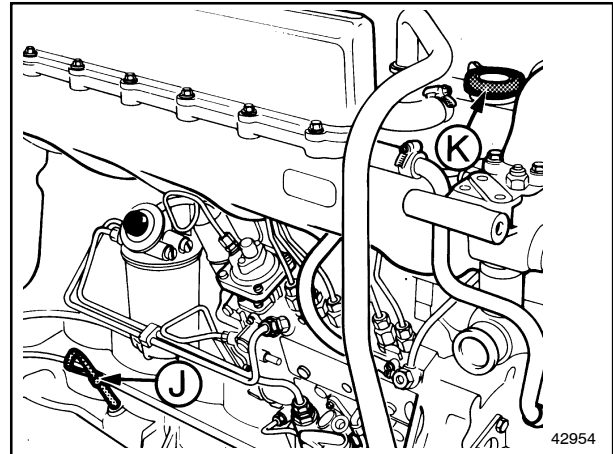
NOTE:

Fuel sulphur content

Use fuel with a sulphur content below 0.5%.
If not available, change oil and filter(s) as detailed below:

Fuel sulphur content	Oil filter change
0.5% - 1 %	100 hours
1% - 1.3 %	50 hours

Use of fuel with sulphur content above 1.3 % is not recommended.



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TX62-63-64^{PLUS}-65^{PLUS}-66-67

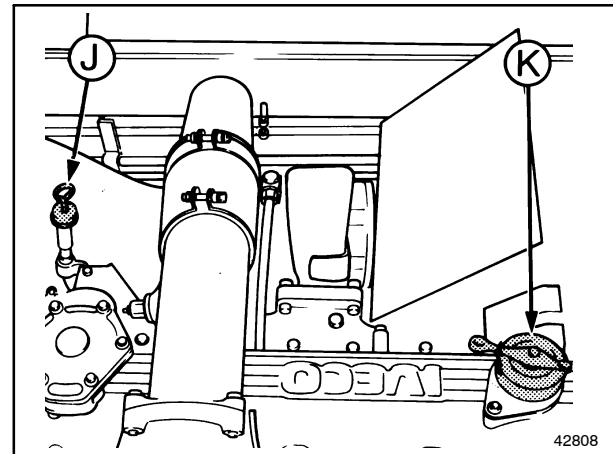
Oil level

Check the oil level daily on dipstick J.

If necessary, add oil through filler hole K until the oil reaches the maximum mark on dipstick J.

IMPORTANT:

At no time should the oil level be allowed to fall below the minimum level.



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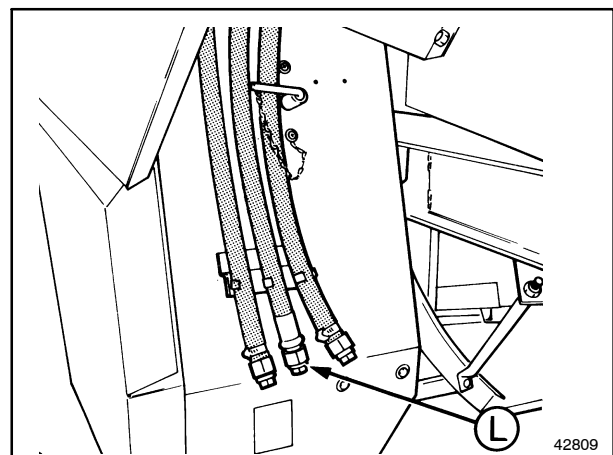
TX68-68^{PLUS}

Recommended oil and filter change intervals

- After the first 50 operating hours
- Every 200 operating hours when using API CD/SF oil (*) or
- Every 300 operating hours when using API CF-4/SG oil (*)

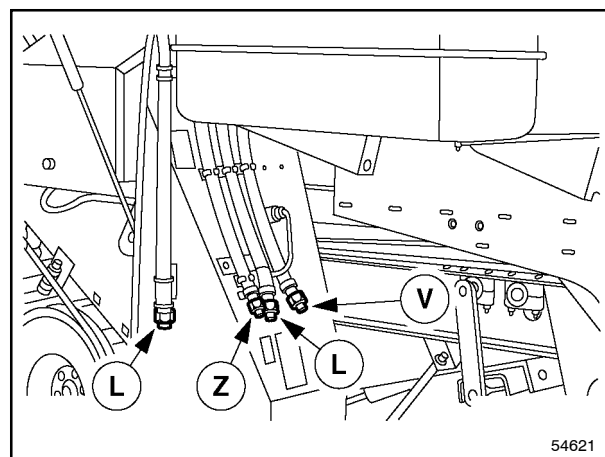
(*) See paragraph headed "Oil specification" below.

Drain the oil through hose L while the engine is moderately warm and refill through filler hole K. Refer to paragraph headed "Filter change" below. Check the oil level on dipstick J.



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TX62-63-64^{PLUS}-65^{PLUS}-66-67



64

TX68-68^{PLUS}

Engine sump and filter capacity (litres)

Model	Sump	Filters	Total (filters and tubes included)
TX62-63-64 ^{PLUS} 65 ^{PLUS} -66-67	21	1 x 1	23
TX68-68 ^{PLUS}	Min: 15 Max: 20	2 x 1.5	24.5

Oil specification

a) 200 hours interval

Use AMBRA PREMIUM MULTIGRADE engine oil (ref. NH330B) or an oil meeting the following specification:

- API CD/SF or MIL-L 2104D
- Viscosity grade: 15W40

b) 300 hours interval

Use AMBRA SUPERGOLD MULTIGRADE engine oil (ref. NH330G) or an oil meeting the following specification:

- API CF-4/SG, CCMC D4 or MIL-L 2104E
- Viscosity grade: 15W40

The engine is factory-filled with a “running-in” oil. This oil ensures that the engine components are allowed to “bed-in” correctly during the first 50 hours of operation. Failure to change the oil and filter after 50 hours may result in reduced engine durability.

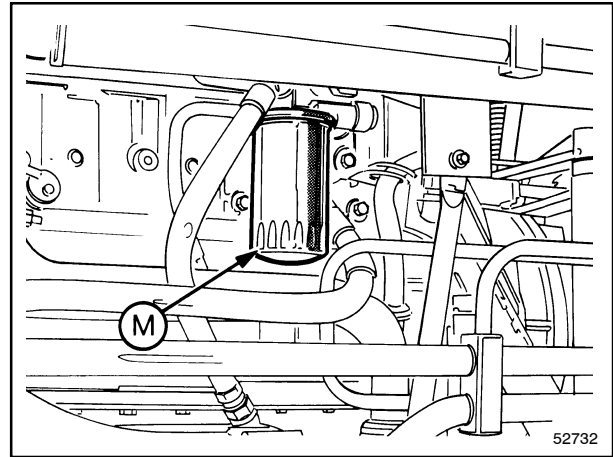
Filter change – Figures 65 and 66

The oil filters should be changed every time the oil is changed.

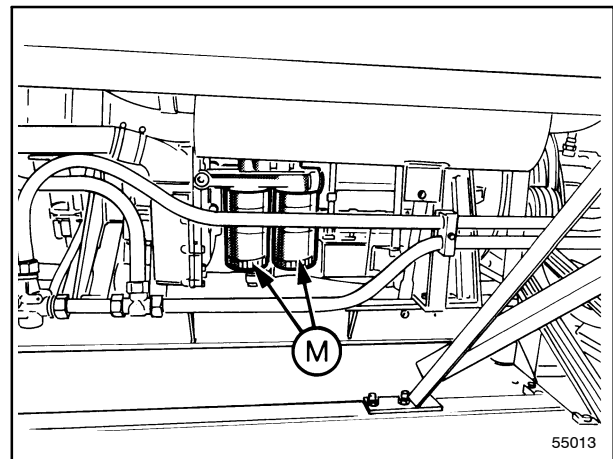
Access is gained through the grain tank.

Proceed as follows:

1. Remove the “spin-on” filter(s) M.
2. Fill up the new filters with oil and apply a film of oil to the seal ring.
3. Screw on the filters by hand. Tighten firmly but **DO NOT USE TOOLS!**
4. Renew the engine oil. Refer to the paragraph headed “Recommended oil and filter change intervals”.
5. Start the engine and check the oil filters for leaks.



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66

TX68-68^{PLUS}

CHAINS, THREADED RODS AND PIVOT POINTS

Chains

Lubricate the following chains **DAILY AND IMMEDIATELY AFTER WORK.**

In this way the oil will penetrate into the chains and provide excellent protection and lubrication. Use a special (biodegradable) chain oil or an SAE 90 gear oil. (Belt and chain charts are included in Section 5 - ADJUSTMENTS AND MAINTENANCE).

- Returns auger drive
- Grain elevator drive
- Unloading auger drive

Threaded rods

Lubricate the following rods every 200 operating hours:

- Drum variator
- Fan variator

Lubricate all threaded rods of the spring-loaded idlers and all other threaded rods where adjustments are carried out at least once a season.

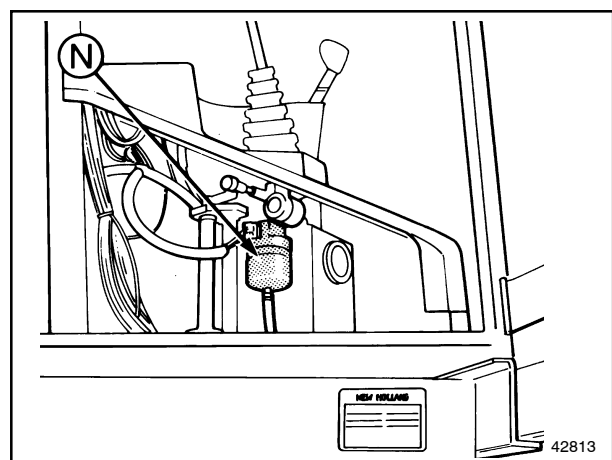
Pivot points

It is recommended to oil all pivot points (including guard pivot points) which may become stiff from corrosion or dirt every 200 operating hours.

BRAKE FLUID - Figure 67

Fluid level

The fluid level is electrically controlled. The warning light (Section 2, Fig. 10 - item 31) will illuminate whenever the fluid level is too low or the brake linings are worn. The reservoir is accessible from the outside of the cab after opening the right-hand cab door.



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Fluid change

The brake fluid has to be changed every two years.
Contact your New Holland dealer to carry out this job.

Capacity

Reservoir N: 0.5 litre
Entire brake system : 2 litres

Fluid specification

Use AMBRA SYNTFLUID 4 brake fluid (ref. NH800A)
or brake fluid meeting the NHTSA 116-DOT4 or ISO
4925 specification.



CAUTION:

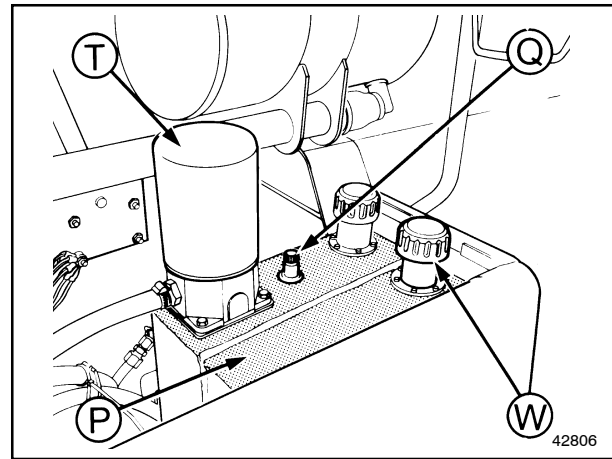
Brake fluid has a tendency to absorb moisture and break down over time. Therefore it should be replaced every two years.

As brake fluid contains substances which, when mixed with engine or other oils, create problems for recycling the oil, do not mix oils, but collect separately.

In the event of leakage or malfunction of the brake fluid system, contact your local dealer.

HYDRAULIC SYSTEM - Figures 68 to 71**Oil reservoir**

A single oil reservoir is fitted for the hydraulic and hydrostatic systems. A baffle in the tank separates the hydraulic and hydrostatic oils. The left-hand side P contains the oil for the hydrostatic system. The right-hand side Q contains the oil for the hydraulic system.

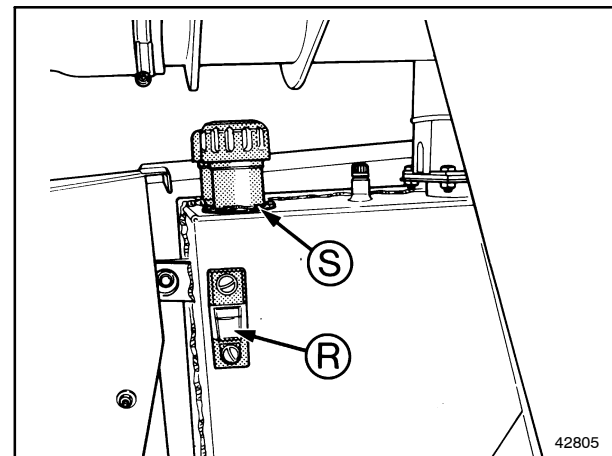


68

Oil level

ENSURE THAT ALL HYDRAULIC CYLINDERS ARE RETRACTED BEFORE CHECKING THE OIL LEVEL.

The oil level should be checked daily on the level gauge R and should be kept between the marks. If necessary, add oil through the filler opening S.



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Oil and oil filter change

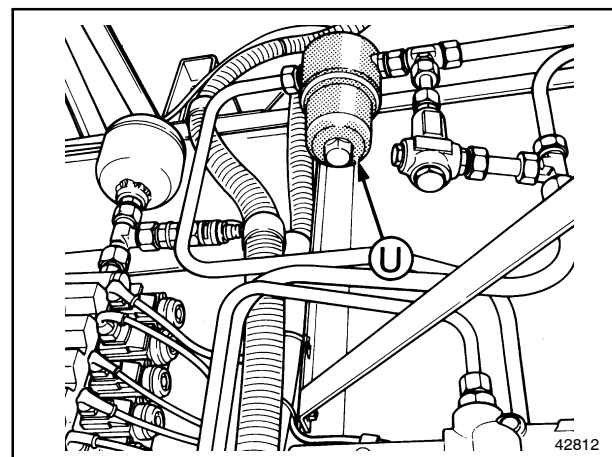
- After the first 100 operating hours
- Thereafter, every 400 operating hours, or annually.

IMPORTANT:

The return filter T (low pressure filter) and the high pressure filter U should be changed at each oil change.

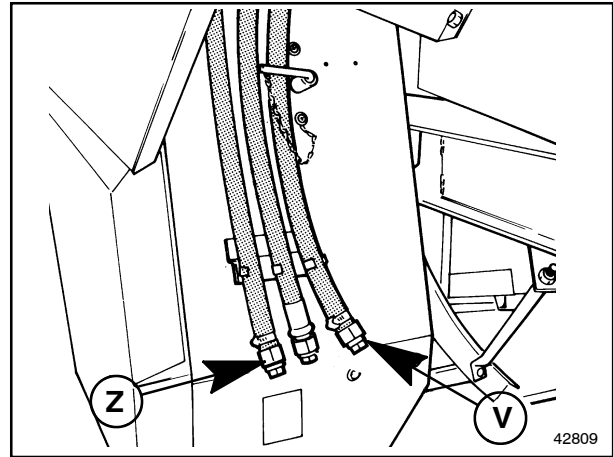
To change the oil and both filters, proceed as follows:

1. Clean the reservoir filler cap and surrounding area (with compressed air, if possible).
2. Drain the oil from the reservoir at hose V.
3. Remove the "spin-on" return filter T with a filter wrench.
4. Apply a film of oil to the gasket of the new return filter.
5. Screw on the new return filter by hand. Tighten firmly but **DO NOT USE TOOLS**.



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6. Remove the high pressure filter bowl U (spanner width: 32 mm).
7. Change the high pressure filter element.
8. Tighten the bowl with a spanner to a torque of 80 Nm.
9. Refill the reservoir with hydraulic oil.
10. Check the oil level on the level gauge R.



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IMPORTANT:

Always clean the reservoir filler cap and the surrounding area before removing the cap to top up or replace the oil.

Oil capacity

Reservoir: 20 litres

Entire system capacity: 32 litres

Oil specification

Use AMBRA HYDROSYSTEM 46 (ref. NH646), AMBRA HYDROSYSTEM 46 BIO-S (ref. NH646BS), AMBRA HYDROSYSTEM 46 BIO-V (ref. NH 646 BV) hydraulic oil or an oil meeting the following specification:

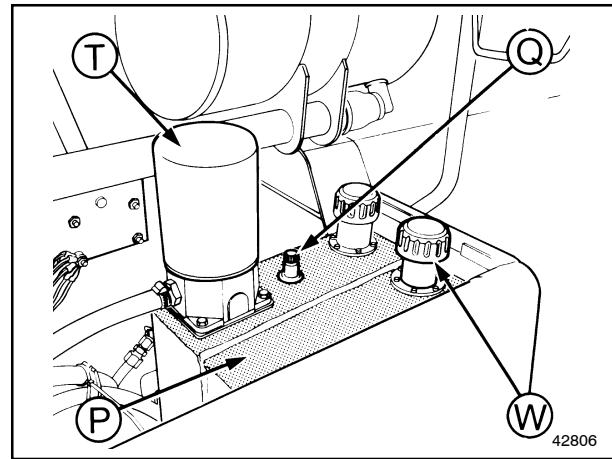
- DIN 51524 Part 2 or ISO VG 46
- Viscosity grade: HV 46

The hydraulic system is factory-filled with AMBRA HYDROSYSTEM 46 hydraulic oil (ref. NH646). This is a hydraulic oil with a high viscosity index, which means that the oil remains fluid at low temperatures.

HYDROSTATIC SYSTEM - Figures 72 and 73**Oil level**

The oil level should be checked daily on the oil dipstick fitted on the cap W.

Keep the oil level between the marks on the oil dipstick.



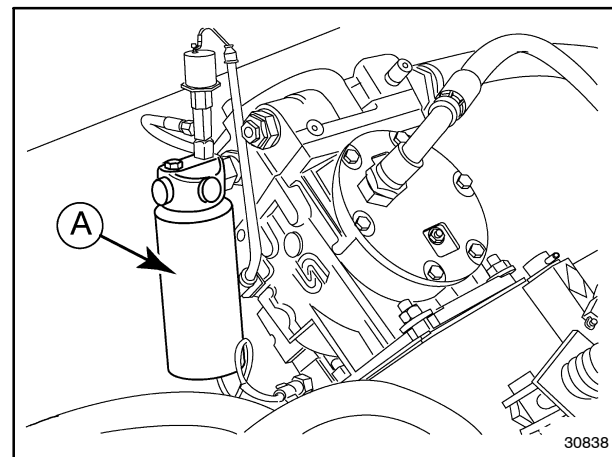
72

Oil and oil filter change

- After the first 100 operating hours
- Thereafter, every 400 operating hours, or annually.

To change the oil and filter, proceed as follows:

1. Thoroughly clean the surrounding area of the reservoir and filter (with compressed air, if possible).
2. Remove the filler cap/oil dipstick W.
3. Drain the oil from the reservoir through hose Z.
4. Remove filter A.
5. Apply a film of oil to the gasket and screw on the new filter by hand.
6. Fill the reservoir up to the maximum oil level on the oil dipstick.
7. Start the engine. The audible warning in the cab must cease functioning as soon as the engine starts. The low hydrostatic charge pressure warning light (Section 2, Fig. 10 - item 29) must extinguish as soon as the engine starts. If not, contact your dealer for assistance.



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Run the engine at idle speed for five minutes and move the ground speed control lever slowly forward and rearward with the gearshift lever in neutral and the rear-wheel drive [if installed] disengaged.

8. Check the oil level on the level gauge and, if necessary, add oil up to the maximum mark on the oil dipstick.

Oil capacity

Reservoir: 18 litres

Entire system capacity: \pm 32 litres

Oil specification

Use AMBRA HYDROSYSTEM 46 (ref. NH646), AMBRA HYDROSYSTEM 46 BIO-S (ref. NH646BS), AMBRA HYDROSYSTEM 46 BIO-V (ref. NH646BV) hydraulic oil or an oil meeting the following specification:

- DIN 51524 Part 2 or ISO VG 46
- Viscosity grade: HV 46

The hydrostatic system is factory-filled with AMBRA HYDROSYSTEM 46 hydraulic oil (ref. NH 646). This is a hydraulic oil with a high viscosity index, which means that the oil remains fluid at low temperatures.



ATTENTION:

Oil quality and cleanliness is of utmost importance for the reliability and life of the hydrostatic system. Deviation of the prescribed oil specification may lead to severe damage and void the warranty!

DRUM SPEED REDUCER [if installed] - Figure 74**Oil level**

Check the oil level daily through sight glass D. If necessary, add oil through the filler plug E. Plug F is the breather.

Oil change

- After the first 50 operating hours
- Thereafter, every 200 hours of operation.

Drain the oil through drain plug G and fill the gearbox with 1 litre of oil.

Gearbox capacity

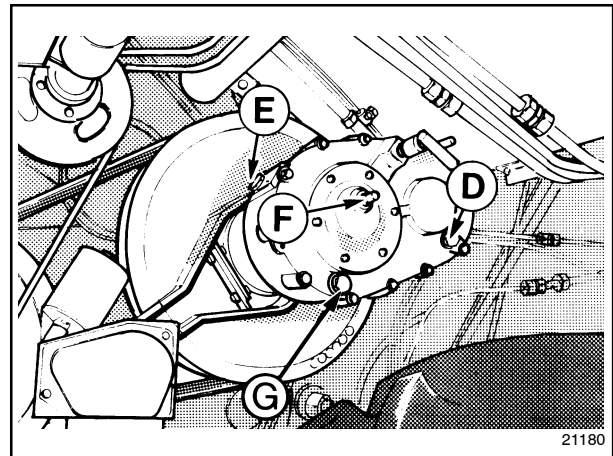
Approximately 0.15 kg of grease and 0.8 litre of oil.

Lubricant specification

Use AMBRA GR9 (ref. NH710A) or AMBRA GR75MD (ref. NH720A) multipurpose grease, or a grease meeting the NLGI 2 specification.

Use AMBRA HYPOIDE 90 gear oil (ref. NH520A) or an oil meeting the following specification:

- API GL5 or MIL-L 2105D
- Viscosity grade: SAE 80W90



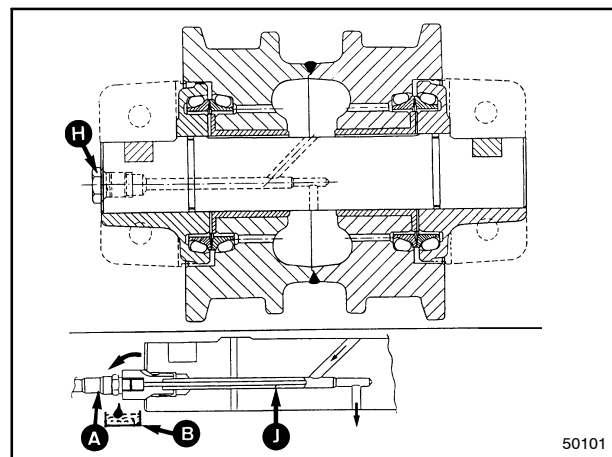
74

TRACKS [if installed] - Figure 75**Oil level**

With the combine standing on a level surface, the oil should reach level plug H.

Oil change

- Every 200 operating hours, or
- Annually (after the season), whichever comes first.



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50101

Oil capacity

Track roller: 0.35 litre
Guide wheel: 0.35 litre

Oil specification

Use AMBRA UNIVERSAL oil (ref. NH024C) or an oil meeting the following specification:

- API CE, MIL-L 2104E, MIL-L 2105, CCMC D4 or API GL4
- Viscosity grade: SAE 10W30

The track roller and guide wheels are factory-filled with AMBRA UNIVERSAL (ref. NH024C) oil.

Oil change

To change the oil, proceed as follows:

1. Remove the hexagonal plug H from the track roller/guide wheel and screw the special lubrication pipe J [delivered with the tracks] into the hole. The oil pump A should then be screwed onto the other end of the pipe.
2. Place a tray B underneath the pipe to collect the waste oil.
3. Pump oil into the track roller/guide wheel until the new oil starts running out of the pipe (rinsing principle).
4. Unscrew the oil pump, remove oil pipe J and reinstall hexagonal plug H .
5. Repeat the same procedure with the other track rollers/guide wheels.

LUBRICATION SCHEDULE

Item	Servicing interval	Amount/unit (litres)	NEW HOLLAND brand name	NEW HOLLAND specification	Lubricant grade	International specification
Grease nipples	10 h 50 h 100 h	- - -	AMBRA GR9 or AMBRA GR75MD	NH710A or NH720A	NLGI 2 NLGI 2	- -
Traction gearbox	Change - after first 100h - after first 200h - every 400h or annually	15	AMBRA HYPOIDE 90	NH520A	SAE 80W90	API GL5, MIL-L 2105D
Final drive gearboxes	Change - after first 100h - after first 200h - every 400h or annually	TX62-63-64 ^{PLUS} -66: 5 litres TX65 ^{PLUS} -67-68-68 ^{PLUS} : 6 litres	AMBRA HYPOIDE 90	NH520A	SAE 80W90	API GL5, MIL-L 2105D
Engine (sump without filter)	Check daily Change - after first 50h - every 200h, or - every 300h	TX62 to 67: 21-23 litres TX68-68 ^{PLUS} : 15-20 litres	AMBRA PREMIUM MULTIGRADE AMBRA SUPER GOLD MULTIGRADE	NH330B NH330G	SAE 15W40 SAE 15W40	API CD/SF MIL-L 2104D API CF-4/SG, CCMC D4, MIL-L 2104E
Chains Threaded rods Pivot points	Daily 200h 200h	-	AMBRA HYPOIDE 90	NH520A	SAE 80W90	API GL5, MIL-L 2105D
Brake system	Change every 2 years	0.5 (reservoir) 2 (system)	AMBRA SYNTFLUID 4	NH800A	-	NHTSA 116-DOT 4, ISO 4925
Hydraulic system (oil + filters)	Check daily Change - after first 100h - every 400h or annually	20	AMBRA HYDRO-SYSTEM 46	NH646 NH646BS NH646BV	HV 46	DIN 51524 Part 2, ISO VG 46
Hydrostatic system (oil + filters)	Check daily Change - after first 100h - every 400h or annually	18	AMBRA HYDRO-SYSTEM 46	NH646 NH646BS NH646BV	HV 46	DIN 51524 Part 2, ISO VG 46
Tracks (track rollers and guide wheels)	Service every 200h or annually	0.35/roller 0.35/wheel	AMBRA UNIVERSAL	NH024C	SAE 10W-30	API CE, MIL-L 2104E, MIL-L 2105, CCMC D4, API GL4
Drum speed reducer	Change - after first 50h - every 200h	0.15 0.8	AMBRA GR9 or AMBRA GR75MD AMBRA HYPOIDE 90	NH710A or NH720A NH520A	NLGI 2 NLGI 2 SAE 80W90	- - API GL5, MIL-L 2105D
Antifreeze	Change every 2 years	47.5 %	AGRIFLU	NH900A	-	-

SECTION 4

FIELD OPERATION

GENERAL INFORMATION



WARNING:

Some functional parts of the combine cannot have safety guards, therefore:

Ensure everyone is clear of the combine before starting the engine.

Be careful:

- **When engaging the grain header, for the rotating reel and moving knife**
When engaging the maize header, for the intake feed chains
- **When raising and lowering the header and the straw elevator**
- **When engaging the straw chopper.**

BEFORE STARTING OPERATION

1. Check the wheel nut torques (refer to Section 9 - SPECIFICATION).
2. Check the engine coolant level, engine oil level, hydraulic oil level, hydrostatic oil level and fuel level.
3. Check all belt and chain tensions (refer to Section 5 - ADJUSTMENTS AND MAINTENANCE).

4. Adjust the following according to the type of crop being harvested:

- Header
- Concave clearance and threshing drum speed
- Sieve openings and cleaning fan speed

5. Ensure the battery key is in the ON position.

6. Start the engine and let it warm up for one minute at idle speed.

7. Engage the threshing mechanism.

IMPORTANT:

- *Models TX62-63*

To increase belt life, always engage the threshing mechanism with the engine running at idle speed.

- *Models TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS}*

To increase belt life, an incorporated electronic belt protection system automatically brings the engine to idle speed when engaging the threshing mechanism or the straw chopper drive.

8. Press the throttle switch until maximum speed is reached.

9. Adjust the cleaning fan and drum rpm according to the type of crop being harvested. The cleaning fan and drum rpm can be observed on the InfoView monitor.

HEADER

Refer to the separate operator's manual for the header type attached to your combine.

HEADER HEIGHT CONTROLS - Figures 1 and 2

When changing the header, perform the header height control (refer to paragraph "Header height control calibrations" and "InfoView Monitor", subheading "7. Calibrations").

IMPORTANT:

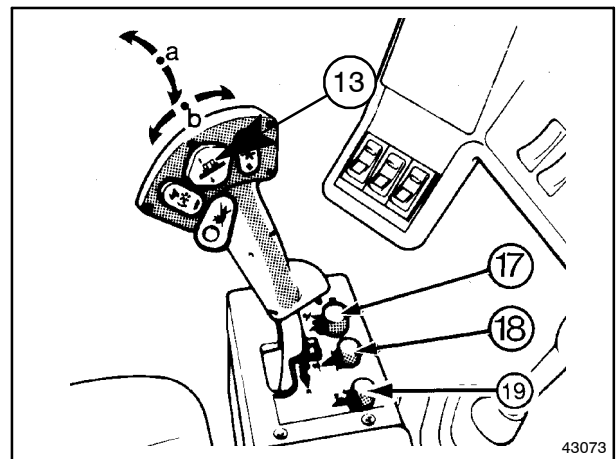
To enter an automatic header height control mode (compensation, autofloat or stubble height), proceed as follows:

1. Engage the threshing mechanism
2. Select a mode, and
3. Give a pulse on the automatic header height control switch 20.

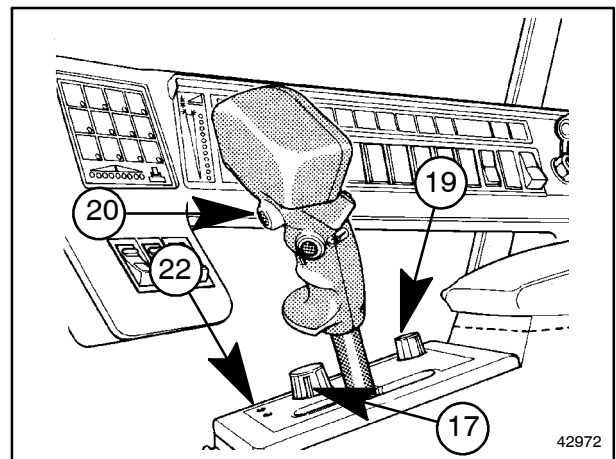
The green autodiagnostic indicator illuminates if the header is working in an automatic header height control mode with the preselected stubble height (autofloat and stubble height) or preselected pressure (compensation).

To switch from one automatic mode to another, select the required operation mode with selector switch 17 and give a pulse on automatic header height control switch 20 to enter the selected mode.

Manually operating header height control switch 13 always has priority of the selected automatic header height control mode (compensation, autofloat or stubble height) and will also disengage this automatic mode. Re-enter the automatic mode by giving a pulse on switch 20.



1



2

NOTE

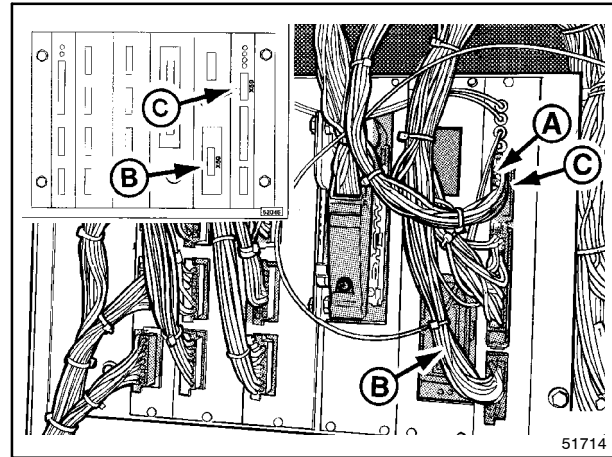
Figure 3:

When using a grain or maize header fitted with autofloat sensors, plug A must be plugged into socket B.

When using a flex header, plug A must be plugged into socket C, as shown.

NOTE:

- The header calibration must be performed when changing the header.
- To operate a flex header, the autofloat operation mode must be selected.



3

OPERATION MODES

With the header control selector switch 17 four different operation modes are possible:

- | | | |
|---|------------------------------|--|
| 1 | Transport operation = Manual | |
| 2 | Compensation operation | } = Automatic
header height
controls |
| 3 | Stubble height operation | |
| 4 | Autofloat operation | |

Transport operation – Figure 1

ALWAYS use this mode for road transport, attaching and detaching the header.

When the threshing mechanism is disengaged, this mode is automatically selected.

Turn selector switch 17 fully counterclockwise and raise the header by pushing on the upper part of rocker switch 13 (2-speed function).

Lower the header by pushing on the lower part of rocker switch 13 (2-speed function).

Tilt down the left-hand side of the header by pushing on the left part of button 13.

Tilt down the right-hand side of the header by pushing on the right part of button 13.

Compensation operation - Figures 4 and 5

Use this mode when harvesting peas and/or laid crops. In this operation mode the header slides over the ground with a preselected pressure.

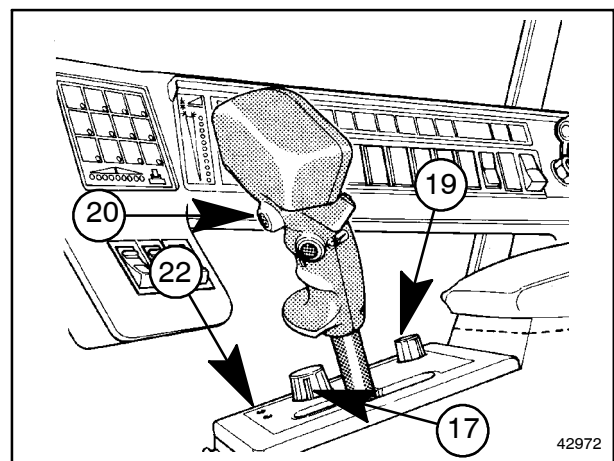
In this mode it is also possible to obtain an **automatic lateral flotation** if autofloat sensors are installed. The sensors should be connected to the combine and the outer header skids should be in pivoting position (i.e. hanging loose).

Turn selector switch 17 to the P-symbol.
Give a pulse on the automatic header height control switch 20 and the header will automatically lower to the preselected pressure when the threshing mechanism is engaged.
After pressing the automatic header height control switch 20, the green autodiagnostic indicator 22 will start blinking and remain so to show the compensation operation is engaged.

The preselected pressure can be adjusted during harvesting by means of the header compensation control knob 19.
Turn counterclockwise (+) to increase the pressure of the header onto the soil.
Turn clockwise (-) to reduce the pressure of the header onto the soil.

Operating the header height control rocker switch 13 [vertically] disengages the compensation system into the transport mode [priority]. The green autodiagnostic indicator 22 will extinguish.
A pulse on the automatic header height control switch 20 will bring the header back to the compensation operation.

When setting the compensation, it can maximum be set at 108% of the header weight, which means that the header will start to raise.
When setting this height, the header will not always follow the ground contours when passing an obstacle. In this case, it has to be set slightly heavier.



4

Stubble height operation – Figures 4 and 5

The header operates at a preselected stubble height. Use this mode when harvesting standing crops or when operating in stony conditions and at higher stubble height.

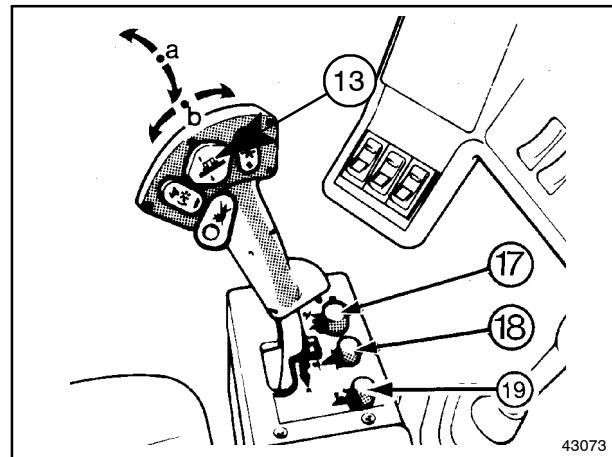
In this mode the autofloat sensors [if installed] are disengaged and the header can only be tilted manually with rocker switch 13.

An **automatic compensation** is built in when touching the ground. After the header clears the ground, it automatically returns to the preset stubble height.

Turn selector switch 17 to the S-symbol.

Give a pulse on the automatic header height switch 20 and the header will automatically lower to the preselected stubble height when the threshing mechanism is engaged.

The green autodiagnostic indicator 22 illuminates to show that the header is operating at the preselected stubble height.



5

The preselected stubble height can be adjusted during harvesting by means of the header stubble height control knob 18.

Turn knob 18 clockwise (+) to increase the preselected stubble height.

Turn knob 18 counterclockwise (-) to reduce the preselected stubble height.

Operating the header height control rocker switch 13 vertically lowers or lifts the header into the transport mode [priority]. The green autodiagnostic indicator 22 extinguishes. To reenter the stubble height mode, give a pulse on the automatic engagement switch 20.

Autofloat operation [if autofloat sensors are installed] – Figures 6 and 7

The header will follow the field contours at a preselected stubble height. Use this mode when a short stubble is required.

An **automatic compensation** is built in when touching the ground. Once the header clears the ground, it automatically returns to the preset stubble height.

Turn selector switch 17 fully clockwise. Give a pulse on the automatic header height control switch 20 and the header will automatically lower to the preselected stubble height when the threshing mechanism is engaged.

The green autodiagnostic indicator 22 illuminates to show that the header is operating at the preselected stubble height.

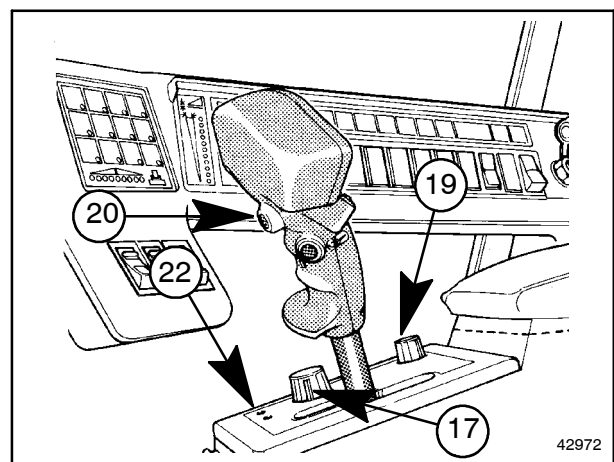
The preselected stubble height can be adjusted during harvesting by means of the header stubble height control knob 18.

Turn knob 18 clockwise (+) to increase the preselected stubble height.

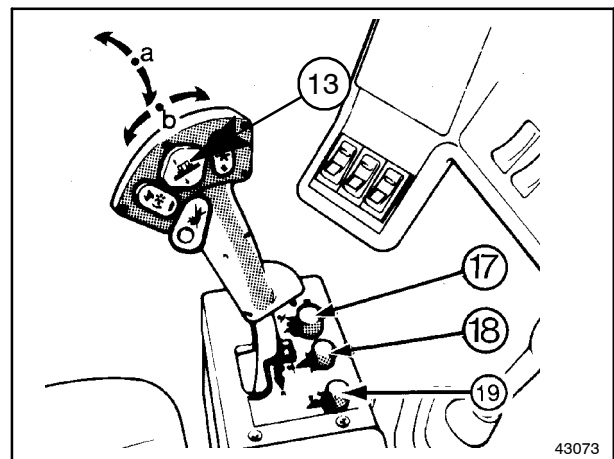
Turn knob 18 counterclockwise (-) to reduce the preselected stubble height.

Operating the header height control rocker switch 13 vertically or sideways (lateral float) disengages the autofloat system completely into the transport mode. The green autodiagnostic indicator 22 extinguishes.

To return to the preselected stubble height and inclination, give a pulse on the automatic header height control switch 20.



6



7

SYSTEM APPLICATION CHART

HEADER	CONDITIONS	COMPENSATION	STUBBLE	AUTOFLOAT
Grain header	Ground contact, Badly laid crops, Peas, Beans, etc.	X		
	Standing crops Undersown conditions Green undergrowth		X	(X)
	Standing crops Good conditions		X	X
	Rape seed (Direct cut)		X	
	Rice crop		X	
Maize header	All		X	X
Flex header	All			X

FLEX HEADER OPERATION (Italy only)

IMPORTANT:

For a correct flex header operation the stubble height control knob 18 has to be set in ONE SPECIFIC POSITION!

Proceed as follows - Figures 6 and 7:

1. Manually lower the header to the ground (with header height control switch 13).
2. Engage the threshing mechanism.
3. Turn selector switch 17 fully clockwise into the Autofloat position.
4. Turn stubble height control knob 18 fully counter-clockwise.
5. Give a pulse on the automatic header height control switch 20. The header will raise slowly.
6. Turn stubble height control knob 18 slowly clockwise until the header stops raising.
7. Turn stubble height control knob 18 slowly further clockwise until the header lowers into the flex header operation zone indicated on the header.

Maintain the position of knob 18!

HEADER HEIGHT CONTROL CALIBRATIONS

Purpose

To obtain a correct functioning of the automatic header height control modes (compensation / stubble height / autofloat, if installed), three calibrations have to be performed:

- Calibration of the ground level
- Calibration of the maximum cylinder pressure
- Calibration of the ground level through autofloat sensors (if the autofloat system is installed)

These calibrations have to be carried out:

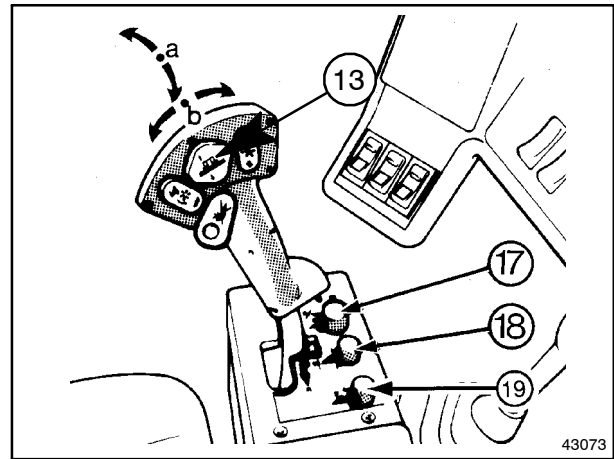
- At the first start-off (i.e. at the factory)
- When changing the wheel size or the header
- When adding one header lift cylinder
- When system components were replaced

To calibrate the automatic system, the appropriate header has to be attached and the combine has to be placed on a level surface.

Perform the two or three calibrations in sequence, except when operating a flex header: the calibration of the ground level through autofloat has to be made during the InfoView calibration (refer to paragraph headed "InfoView Monitor", subheading "7. Calibrations", further in this Section).

Calibration of the ground level - Figures 8 and 9

1. Start the engine.
2. Select the transport position with selector switch 17.
3. Lower and lift the header with the header height control rocker switch 13 at least once.
4. Lower the header to ground level by simultaneously pressing header height control rocker switch 13 and automatic header height control switch 20. Hold both switches until the green autodiagnostic indicator 22 has blinked 5 times.



8

Calibration of the maximum cylinder pressure - Figures 8 and 9

1. Start the engine.
2. Select the transport position with selector switch 17.

NOTE:

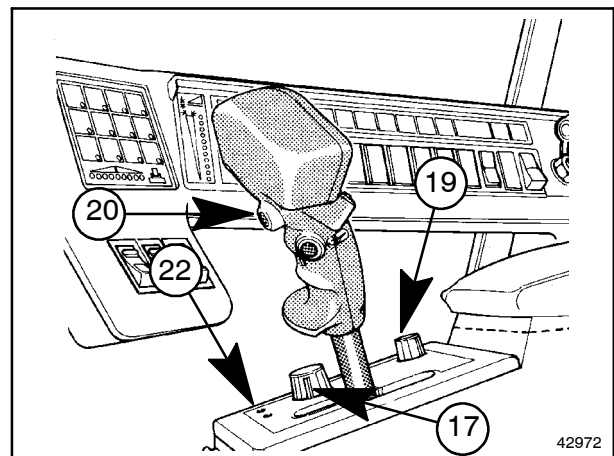
Steps 1 and 2 need not be carried out if this calibration is performed immediately after the ground level calibration.

3. Lower and lift the header with the header height control rocker switch 13 at least once.
4. Lower the header just above ground level (the header must not touch the ground).

NOTE:

The lowering of the header must be the last operation.

5. Push and hold the automatic header height switch 20 for 10 seconds without touching other switches until the green autodiagnostic indicator 22 has blinked 8 times.



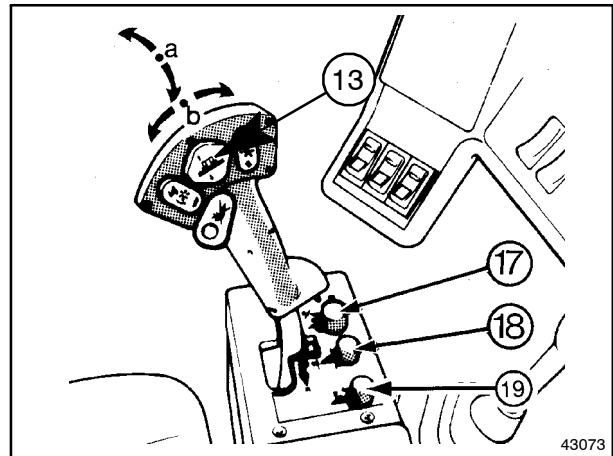
9

Calibration of the ground level through autofloat sensors – Figures 10 and 11

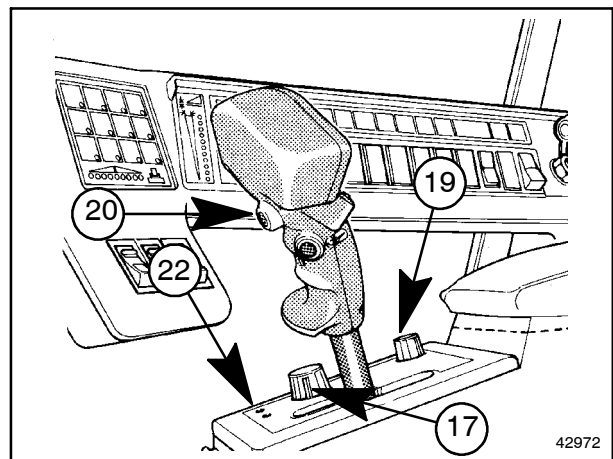
NOTE:

- Ensure the autofloat sensors are connected.
- If a flex header is installed, perform this calibration only during calibration of the InfoView Monitor. Refer to paragraph headed “InfoView monitor”, subheading 1.6, further in this Section.

1. Loosen the plastic fixation strips holding the outer header skids and ensure the skids are in pivoting position (i.e. hanging loose) [not applicable for flex header].
2. Start the engine.
3. Select the transport position with selector switch 17.
4. Lower and lift the header with the header height control rocker switch 13 at least once.
5. Lower the header onto the ground with the header height control rocker switch 13 and ensure the header rests flat onto the ground. If not, adjust the inclination with rocker switch 13.
6. Check if the autofloat sensors are operating (a buzzing noise is audible at the sensors) [not applicable for flex header].
7. Push the automatic header height switch 20 and simultaneously lift the header slowly (1st speed) with header height control rocker switch 13. Hold both switches (even with the header in the highest position) until the green autodiagnostic indicator 22 has blinked 10 times.
8. Secure the plastic fixation strips of the header skids [not applicable for flex header].



10



11

AUTODIAGNOSTICS - Figure 12

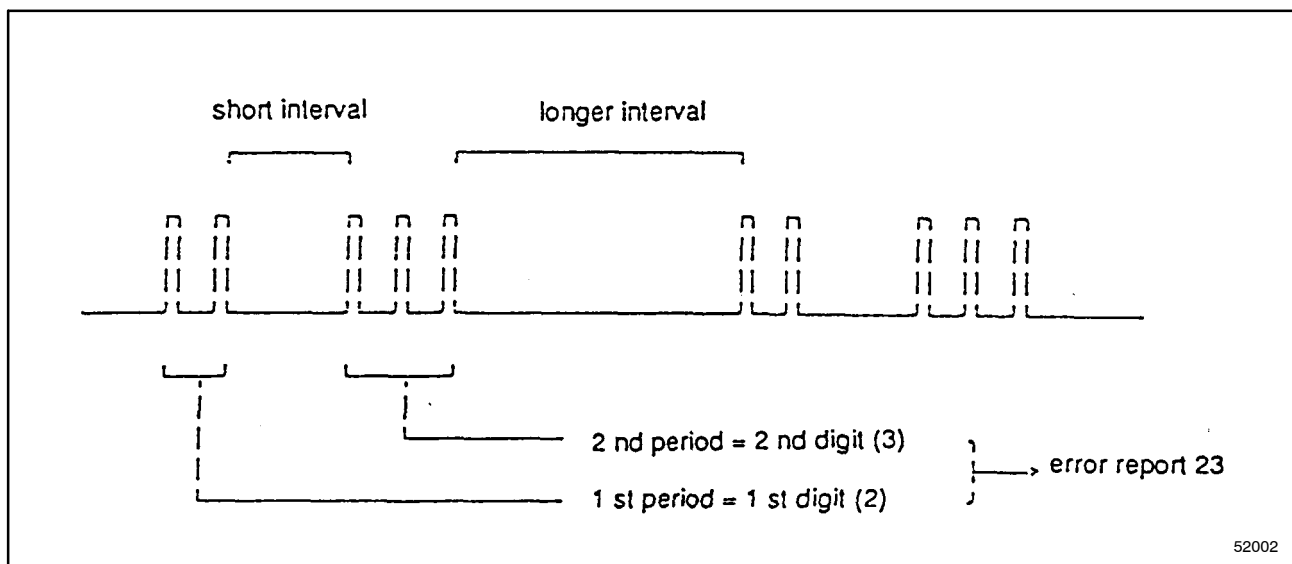
The blinking sequence of the red autodiagnostic control light 22 identifies an error report.

The blinking sequence always consists of two periods separated by a short interval. Then, after a longer interval, the blinking sequence will repeat again.

The first period indicates the first digit of the error report, the second period indicates the second digit.

Example

Error report 23



ERROR REPORTS

Error ref.	Description
11	Failure or interruption of the solenoid to raise the header
12	Failure or interruption of the solenoid to lower the header
13	Short circuit in the stubble height and compensation control wiring loom
14	Interruption of the stubble height and compensation control wiring loom
15	Failure or interruption of header height control switch
16	No power supply to the control switches
17	Battery voltage higher than 18 V
18	Failure of selector switch 17
21	Failure of wiring loom to the header height sensor
22	Incorrect stubble height signal
23	Failure or interruption of the header cylinder pressure sensor
24	Incorrect pressure sensor signal
25	Failure of header height control switch - section "Slow" or "Fast": OK - section "Lower" or "Raise": NOT OK
31	No signal or incorrect signal from left-hand autofloat sensor [accessory]
32	No signal or incorrect signal from right-hand autofloat sensor [accessory]
33	Failure of automatic header height control switch 20 wiring loom
35	Battery voltage lower than 12 V
36	Failure of the hydraulic header height control valve (electrical control: OK)

HEADER AND STRAW ELEVATOR REVERSING SYSTEM

The combine is equipped with a system to reverse the header reel (or the gathering chains, in case of a maize header), the auger and the straw elevator should a blockage occur.

If, during operation, a feed auger and/or a straw elevator blockage occurs which makes the slip clutch(es) slip, proceed as follows:

Model TX62

1. Stop the combine immediately and disengage the header engaging lever.
2. Reverse the combine a couple of metres.
3. Leave the throttle lever at maximum speed.
4. Pull the spring-loaded lock A down and press the reversing switch 45 (Fig.15).

IMPORTANT:

Hold the switch in the activated position.

This will activate the electric motor and thus reverse the straw elevator and header until the blockage has been expelled.

5. Release the reversing switch 45 (Fig.15).
6. Lift-up the reel and engage the header engaging lever.
7. Move the crop slowly towards the auger with the reel.
8. Continue operation.



CAUTION:

If the blockage can not be removed by the header reversing system, stop the engine before attempting to unplug the header manually.

Models TX63-TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS} -
 Figures 13 and 14

1. Stop the forward travel of the combine immediately and disengage the header drive with the emergency stop switch 15.

2. Reverse the combine a few metres.

3. a) Let the engine run at maximum speed and switch OFF the header engagement switch 53 (Fig.15) and the unloading auger engagement switch 55.

3. b) It is also possible to reverse the header, straw elevator and threshing drum.
 To do this, additionally switch OFF the threshing mechanism engagement switch, lower the drum concave and switch ON the chopper engagement switch.

4. Push and hold the reversing switch 21 to reverse the rotation of header and straw elevator.

NOTE:

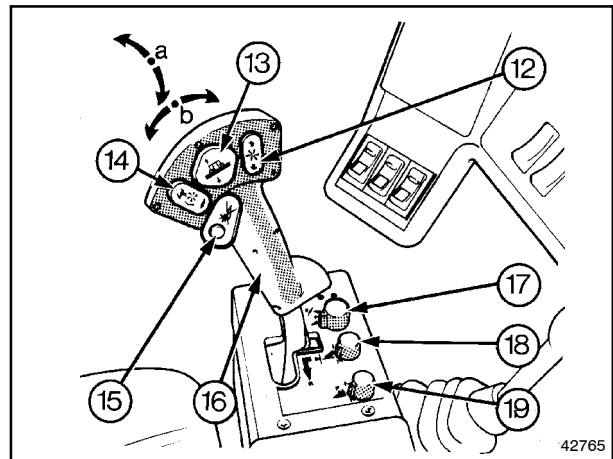
Pushing the lower part of the reel variator switch 14 while holding the reversing switch 21 will rotate the header and straw elevator forwards.

5. a) When the blockage has been expelled, lift up the reel and engage the header by switching ON the header engagement switch 53 (Fig.15).

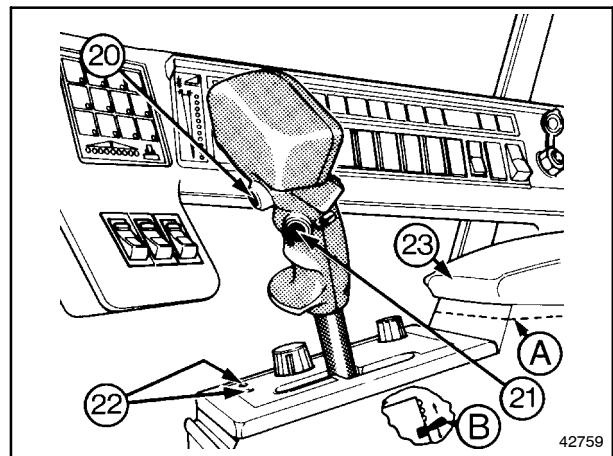
5. b) In case reversing of the header and threshing mechanism was needed, first switch OFF the chopper before switching ON the threshing mechanism, consequently the chopper (if required) and finally the header.

IMPORTANT:

It is not possible to remove all blockages using the reversing system. If necessary, remove the blockage manually. Refer to the next paragraph "Header and/or straw elevator blockage - manual clearing".



13



14

**CAUTION:**

If the blockage cannot be removed by the header reversing system, stop the engine before attempting to unplug the header manually.

6. Grain headers only
Slowly move the crop with the reel to the feed auger.
7. Continue operation.

HEADER AND/OR STRAW ELEVATOR BLOCKAGE - MANUAL CLEARING**CAUTION:**

If the blockage cannot be removed by means of the reversing system, disengage all engagement systems, shut down the engine and wait until all parts have come to a standstill.

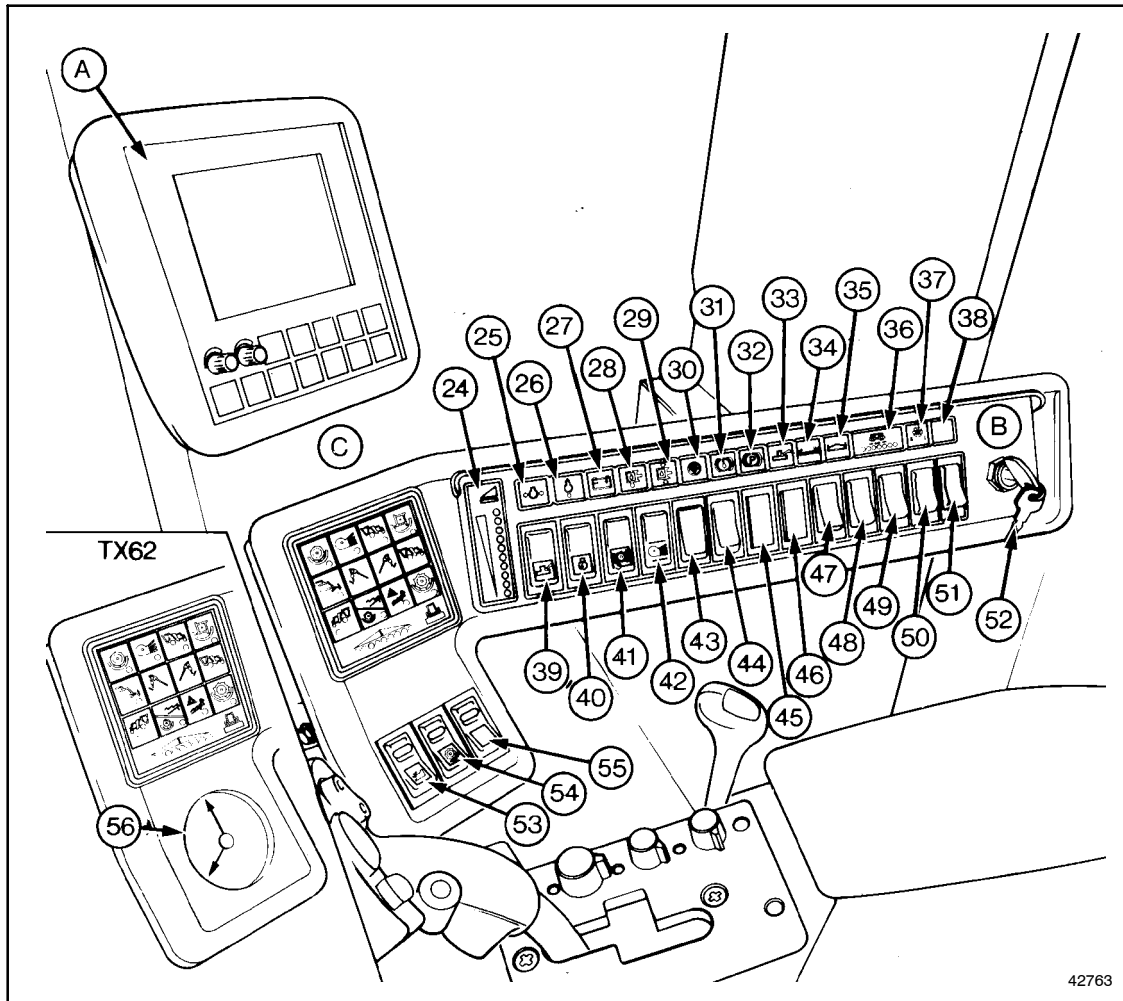
If the blockage is situated at the straw elevator upper shaft, gain access through the straw elevator bottom plate. Refer to the paragraph below.

If the blockage is situated at the straw elevator bottom shaft, it will be necessary to detach the header. Refer to Section 2, paragraph headed "Detaching the header from the combine".

REEL TO GROUND SPEED SYNCHRONIZATION

With switch 43 (Fig.15) in the ON position, the reel speed is synchronized to the ground speed. The basic ratio between the reel and the ground speed is memorized in the central processing unit (part of the fuse box). However, this ratio can be increased or decreased with the reel speed control switch 12 (Fig.13). The new ratio result will automatically be memorized, replacing the existing ratio (still with switch 43 in the ON position).

Reel synchro control - Figures 15 and 16

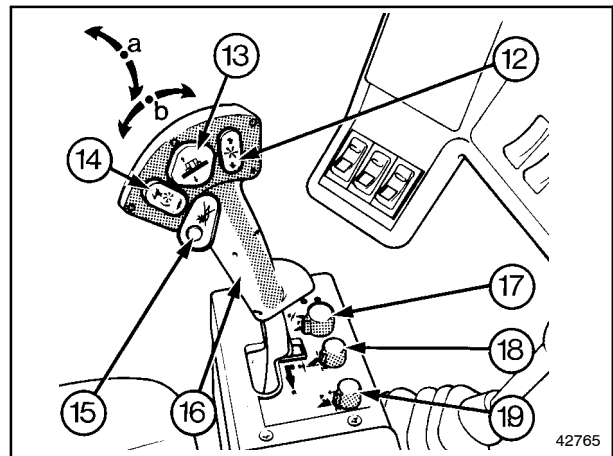


15

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To obtain a proper reel synchro control, proceed as follows:

1. Operate the combine in a section of the field that best represents the overall crop.
2. Switch the reel synchro switch 43 in the ON position, and adjust the reel speed with the reel variator switch 14 to match with the combine ground speed.



16

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NOTE:

- While activating the reel synchro by switching on the reel synchro switch 43, disregard the fact that the reel speed increases to its maximum speed or decreases to its minimum speed.
This happens to a previous reel synchro setting.
Adjust the reel speed with the reel variator switch 14.
 - As the electronic reel speed range is larger than the mechanical reel speed, it may take some seconds before the reel speed reacts to the reel variator switch (with the reel synchro ON).
3. Releasing the reel variator switch 14 will automatically introduce the new relationship between the reel speed and the combine ground speed in the electronic system.
 4. If you now change the combine ground speed, the reel speed will be related automatically.

NOTE:

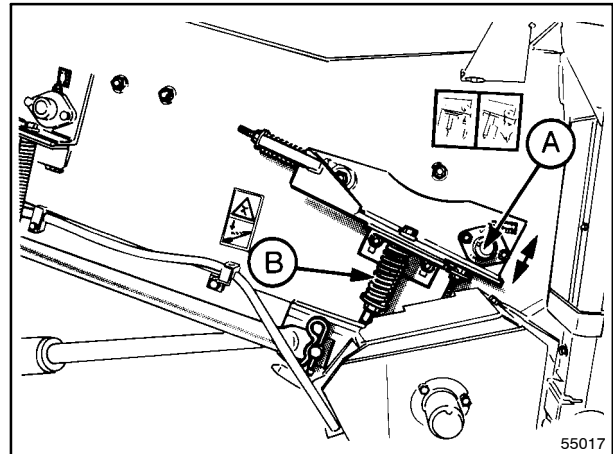
- If you now notice that the reel speed increases or decreases too fast in relation to the ground speed, change the “reel speed synchro gain” factor (refer to paragraph headed “InfoView Monitor”, subheading “7. Calibrations”, further in this Section).
After changing the gain factor, repeat steps 1, 2 and 3.
- On headlands or whenever lifting the header out of the operational zone (disengaging of hectare counter), the reel speed will be maintained until the header is lowered again.

STRAW ELEVATOR

STRAW ELEVATOR ADJUSTMENT - Figure 17

The straw elevator bottom shaft A is spring-tensioned so that it can float according to the amount of material being handled.

The spring tension B must be adjusted according to the crop being harvested.



17

- **Models without lateral flotation** - Figure 18

For all crops other than maize:

1. Stops C must be set in the lowest position on both sides:

Loosen nuts D and E and ease off bolt F until a minimum clearance of 1 mm is obtained between plate G and bolt F.
Tighten nuts D and E.

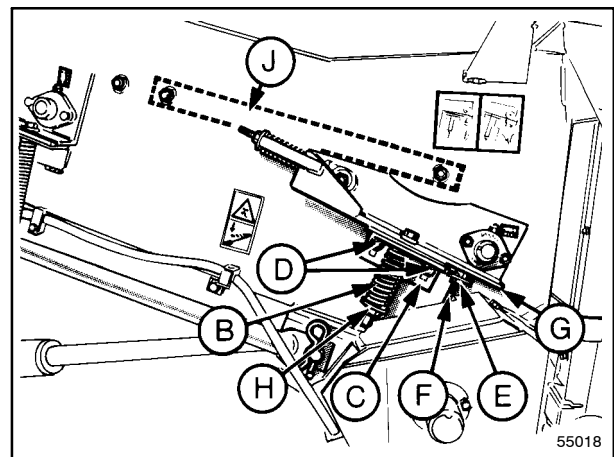
2. Adjust spring length B to 112 mm with nut H on both sides.

For maize crops:

1. Stops C must be set in the highest position on both sides:

Loosen nuts D and E and screw in bolt F until stop C is in its highest position.
Tighten nuts D.
Adjust bolt F until a minimum clearance of 1 mm is obtained between plate H and bolt F.
Tighten nut E.

2. Adjust spring length B to 89 mm with nut H on both sides.



18

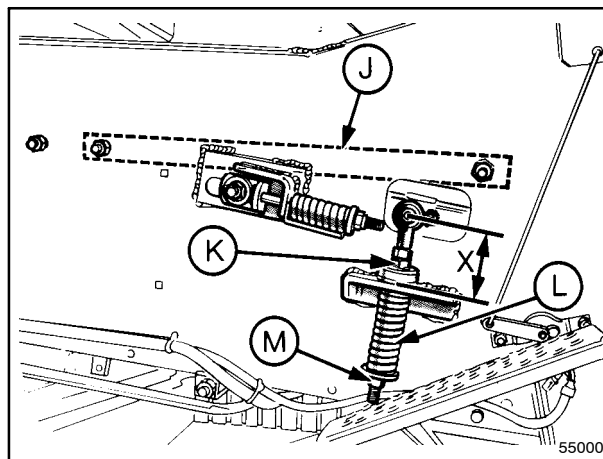
- **Models with lateral flotation** - Figure 19

For all crops other than maize:

1. Adjust special nut K on both sides until distance X measures 90 mm.
2. If necessary, adjust spring L to a length of 112 mm.
Adjust with nut M.

For maize crops:

1. Adjust special nut K on both sides until distance X measures 113 mm.
2. If necessary, adjust spring L to a length of 89 mm.
Adjust with nut M.



19

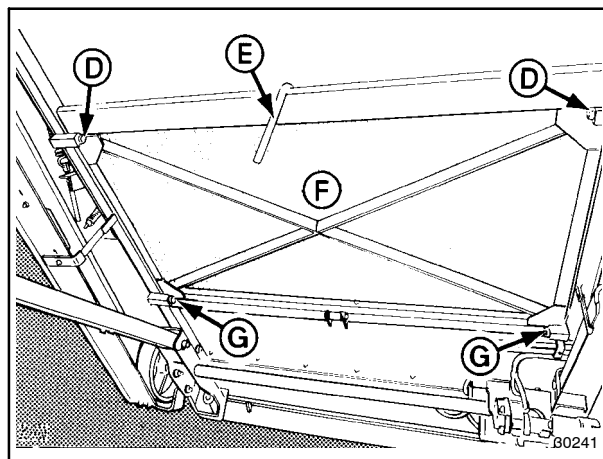
STRAW ELEVATOR BOTTOM PLATE - Figure 20

The bottom plate middle section can be replaced by a perforated access door [accessory] which is recommended when threshing beans, peas or maize in order to obtain a cleaner grain sample.

When the perforated access door is installed, it is possible to operate with or without the smooth bottom plate.

To install or remove this smooth plate, proceed as follows:

1. Remove bolts D.
2. Loosen bolts G.
3. Unscrew lever E and open the access door F.
4. Install or remove the smooth bottom plate on top of the perforated access door F.

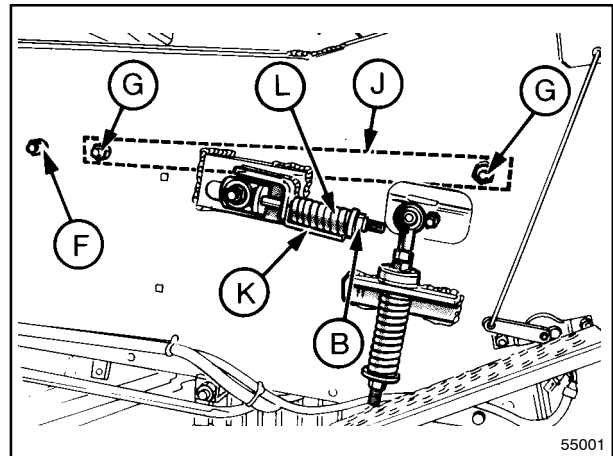


20

STRAW ELEVATOR INTERMEDIATE PLATE EXTENSION - Figures 21 to 25

For all crops other than maize, install the straw elevator intermediate plate extension J to avoid straw blockages.

When harvesting maize, the intermediate plate extension J should be removed.

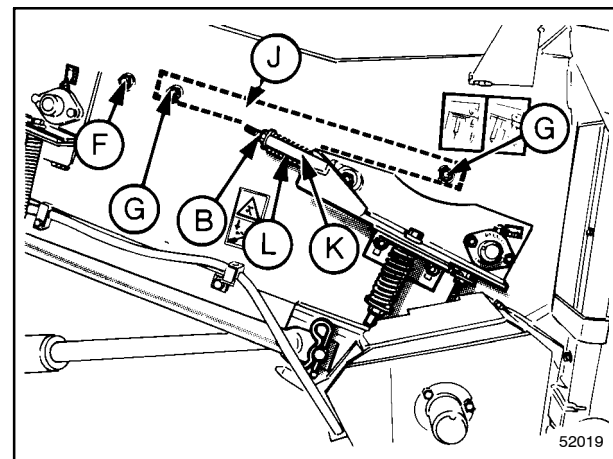


21

Lateral float straw elevator

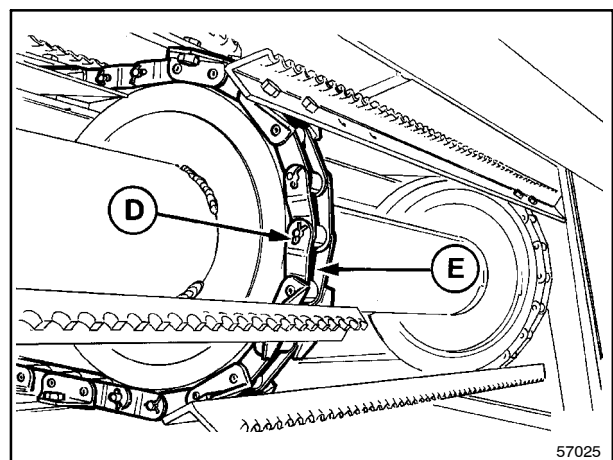
Proceed as follows:

1. Loosen nuts B on both sides to slacken the straw elevator chains.
2. Move the straw elevator bottom shaft to the rear.
3. Remove dust plates C at the front of the straw elevator.
4. Remove cotter pin D and open chains E.
5. Attach a rope to the upper end of the chains to facilitate reassembly afterwards.
6. Open the bottom access door M (refer to the previous paragraph).
7. Loosen nuts F on both sides.
8. Remove bolts G on both sides
9. Remove the small intermediate plate H, if applicable.



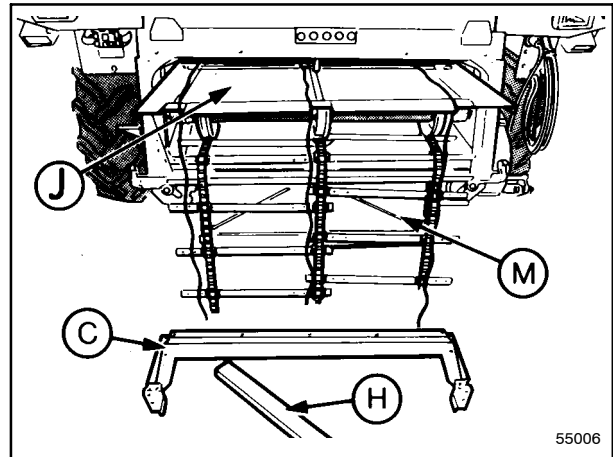
22

Fixed straw elevator

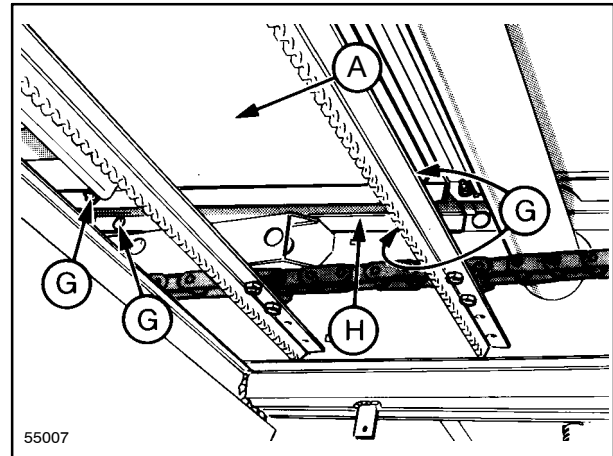


23

10. Remove intermediate plate extension J.
11. Close the bottom access door.
12. Reassemble chains E with the cotter pin as shown.
13. Tighten nuts F.
14. Readjust the chain tension (spring length L = indicator length K).
15. Reinstall dust plates C at the front of the straw elevator.



24



25

STRAW ELEVATOR REMOVAL - Figures 26 to 33



CAUTION:

Be careful when doing this job: the straw elevator weighs about 1,000 kg. The tractor must have a lift capacity of minimum 2,500 kg at approximately 1 m behind the linkages.

The straw elevator is fitted with 3 attaching points A which facilitate removal of the straw elevator by means of a tractor (minimum \pm 74 kW/100 hp).

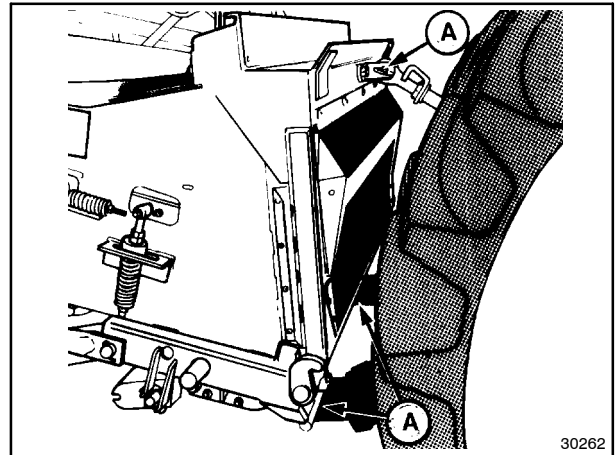
Proceed as follows:

1. Install the middle attaching point A, located behind the left-hand straw elevator guard, onto the straw elevator.
2. Models TX62-63
Disconnect the electric cables B from the reverser motor and remove it from the straw elevator. Disconnect the earth connection C.

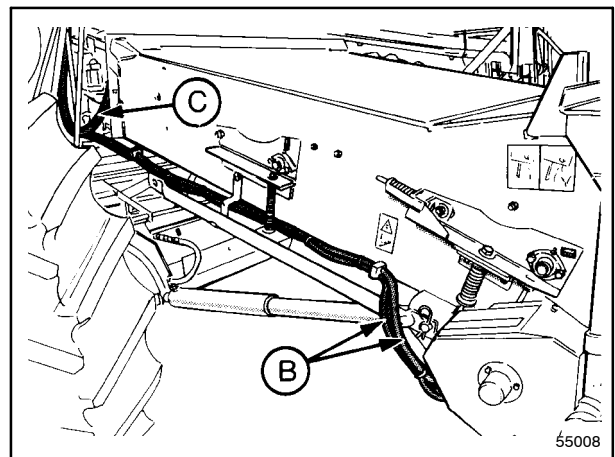
Models TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS}

Disconnect the hydraulic quick-couplers D of the hydraulic reverser and plug E on the left-hand side.
Disconnect the hydraulic quick-couplers F of the lateral float system [if installed] on the right-hand side.

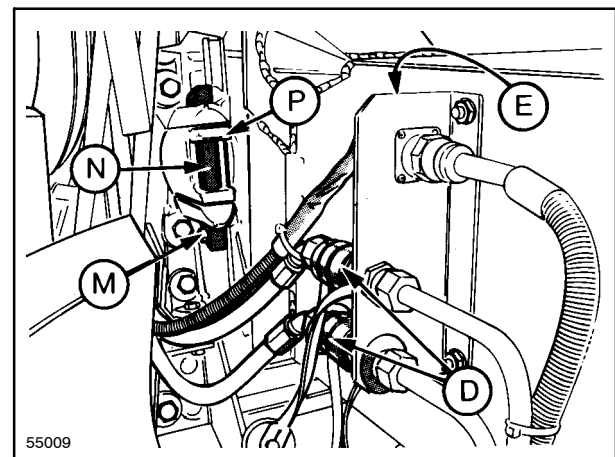
3. Disconnect electric wire S of the header height sensor.
4. Attach the straw elevator to the tractor with the three attaching points A and secure the pins with cotter pins.



26



27



28

5. Remove cotter pins H, pins J, the safety latch(es) and washers from both cylinders.

**CAUTION:**

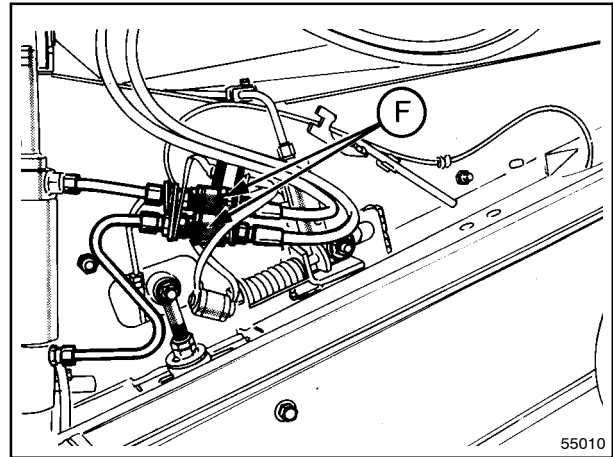
Be careful: the cylinder is heavy.

6. Remove the header drive belt K from drive pulley L.
7. Unscrew bolt M and remove keys N and bracket halves P on both sides.
8. Move the tractor slowly forward while slightly lowering the straw elevator on the tractor.

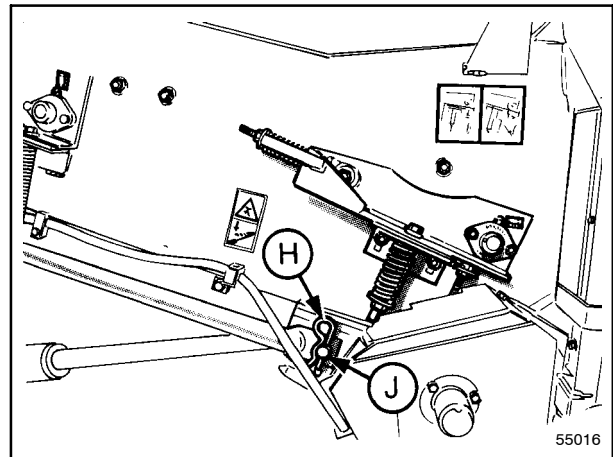
To attach the straw elevator to the combine, proceed in reverse order, but make sure to rest the header height sensor lever Q on roll R of the straw elevator.

IMPORTANT:

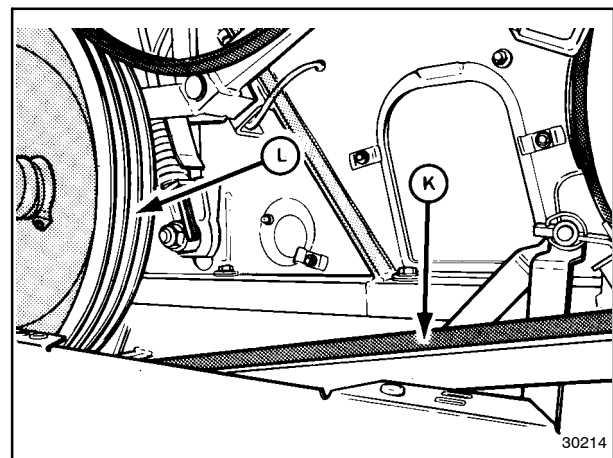
Avoid possible oil contamination by properly fitting the blanking plugs into the hydraulic quick-couplers.



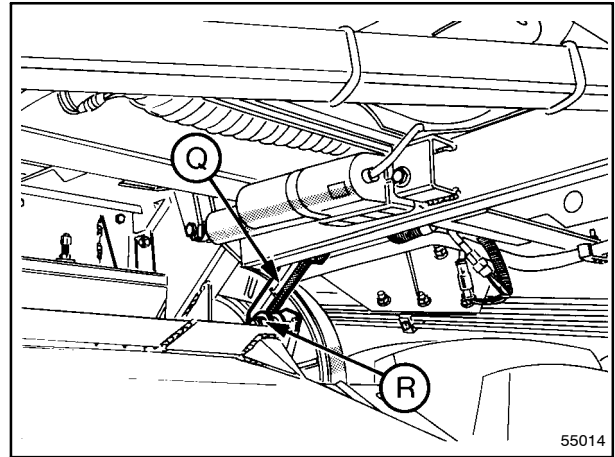
29



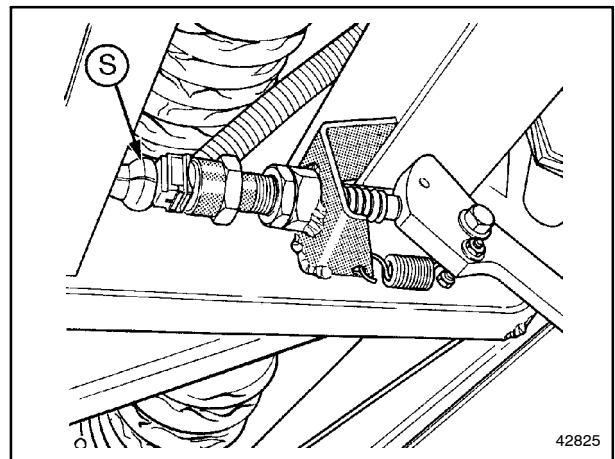
30



31



32



33

STONE TRAP – Figures 34 and 35

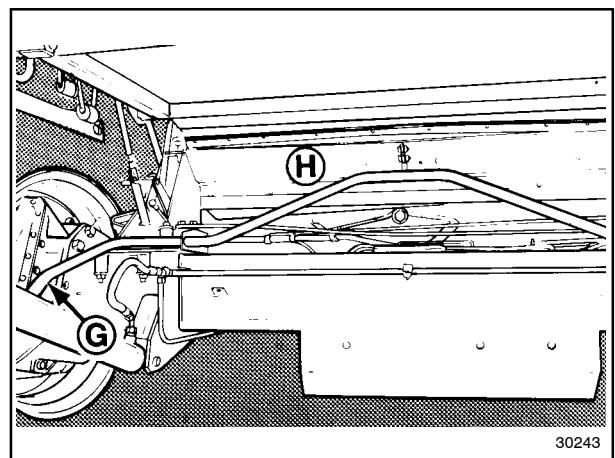
The stone trap must be cleaned out at least once a day, and more often in damp crop or stony conditions.



CAUTION:

Disengage the threshing mechanism, lift the header to its maximum height, place the header safety latch over the cylinder rod and stop the engine.

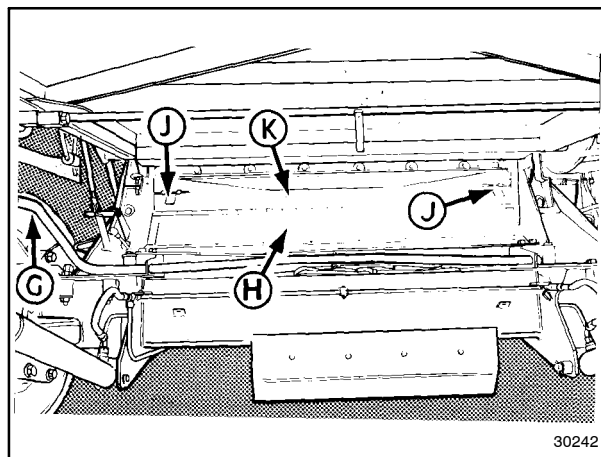
To clean out the stone trap, swing lever G upwards as shown. This will open the stone trap front cover H .



34

When the stone trap is completely clean, close it by moving lever G completely downwards.

When threshing maize or rice, the stone trap should be covered with a plate included in the maize or rice threshing equipment.



35

GRAIN PAN ACCESS – Figure 35

To gain access to the grain pan at the front, proceed as follows:

1. Open the stone trap as described in the previous paragraph.
2. Slide the levers J towards the centre of the stone trap.
3. Pivot plate K forwards.
4. Proceed in reverse order to reinstall plate K.
5. Close the stone trap.

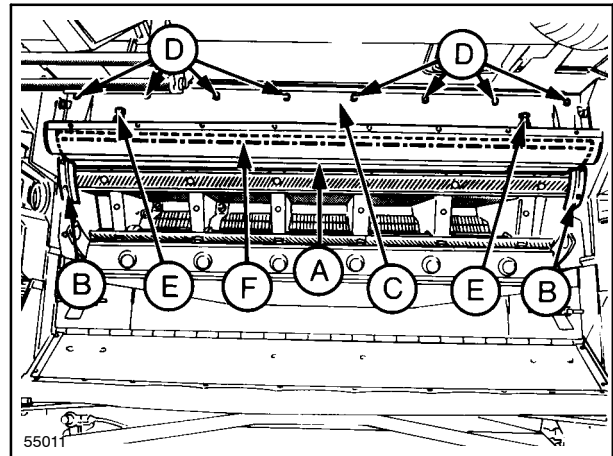
To gain access at the sides, refer to paragraph headed "Access to drum and concave".

ANTIDUST PLATE – Figures 36 and 37

Remove antidust plate A and antiwrap shields B when operating in maize.

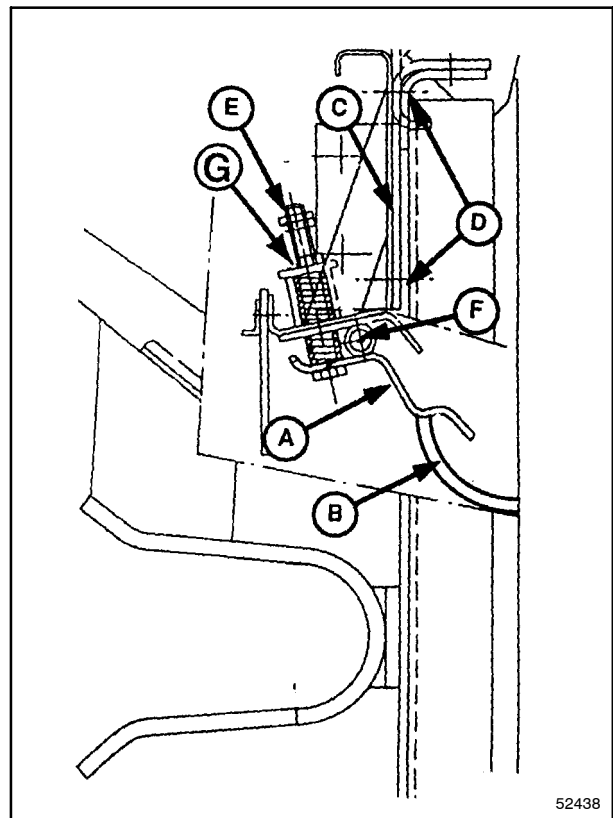
Proceed as follows:

1. Remove the straw elevator (refer to paragraph headed “Straw elevator removal”).
2. Unscrew bolts D and remove plate C to which anti-dust plate A is fitted.
3. Unscrew bolts E, remove rod F and antidust plate A.
4. Reinstall plate C.
5. Remove antiwrap shields B on both sides.



36

When reinstalling antidust plate A and antiwrap shields B, proceed in reverse order of the removal sequence and adjust nuts G until there is a clearance of 3 mm between the plate and the drum rasp bars.



37

DRUM AND CONCAVE

PARAMETERS

Parameters for selecting the drum speed and concave clearance are:

- Type of crop
- Crop maturity and variety
- Moisture content
- Volume of straw and grain
- Weed contamination

FUNDAMENTALS OF ADJUSTMENT

- Maximum drum speed and minimum concave clearance give maximum threshing efficiency.
- If grain is damaged or straw is chopped excessively, reduce the drum speed and/or increase the concave clearance.
- If grain is not fully separated from the ears, increase the drum speed and/or reduce the concave clearance.
- If plugging or wrapping occurs, increase the drum speed.

DRUM SPEED

The drum speed is adjustable electrically from the operator's platform and can be read from the InfoView monitor (see further).

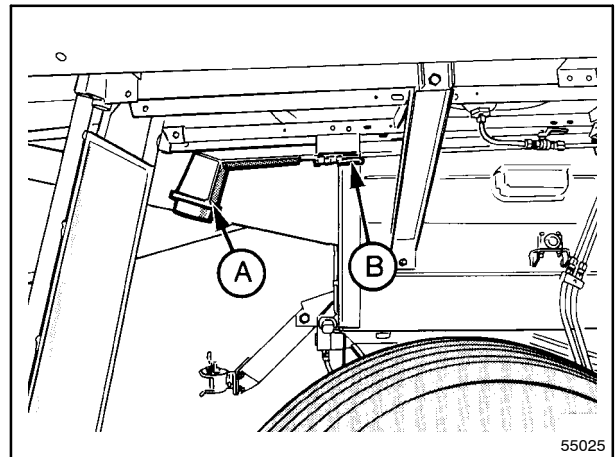
IMPORTANT:

Actuate the drum variator switch only with the threshing mechanism running.

DRUM BLOCKAGE - Figures 38 and 39

Should the drum become blocked, proceed as follows:

1. Lower the concave to its lowest position and try to unblock by engaging the threshing mechanism at low engine speed.
2. If this is ineffective, try to unblock the drum by using the drum socket wrench A (i.e. when the standard drum variator is fitted).
The drum socket wrench A is located under the fuel tank and is secured with latch B.



38

CONCAVE CLEARANCE

- Adjustment from the operator's seat:

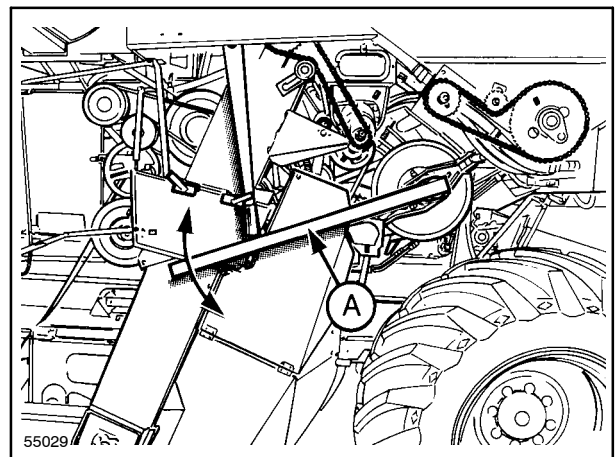
Models TX62-63:

Manual adjustment with the concave setting lever.

Models TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS}:

Electrical adjustment (refer to Section 2 - OPERATION)

- Mechanical adjustment:
Refer to paragraph headed "Changing the clearance mechanically" further in this section.



39

Basic settings - Figure 40

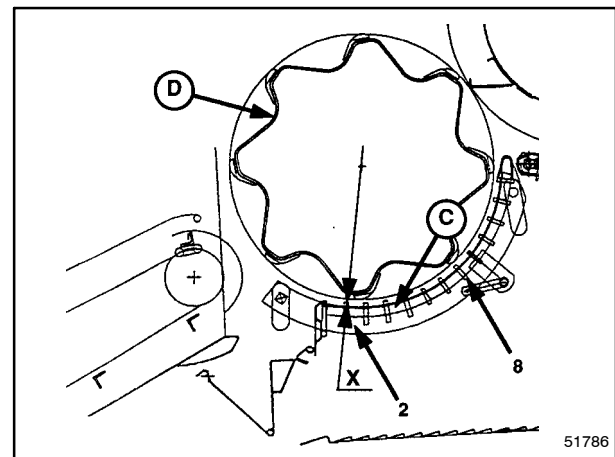
When the combine is shipped from the factory, concave C is set parallel to drum D (front and rear) with a clearance X of 10 mm.

Models TX62-63:

The concave clearance X of 10 mm is reached with the concave setting lever in position 2 on the quadrant, i.e. the second highest position.

Models TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS}:

The concave clearance can be read from the InfoView monitor when the rpm mode is selected. Refer to paragraph headed "InfoView monitor".



40

This concave setting will be satisfactory for most cereal crops. However, if greater threshing action is needed, the clearance at the rear can be reduced to 8 mm.

When harvesting maize, concave C can be set to a clearance of 25 mm at the second (2) concave bar and 30 mm at the eighth (8) concave bar.

For models TX62 and 63, this is measured with the concave setting lever in position 7 on the quadrant.

CROP	CONCAVE TYPE	LEVER POSITION (TX62-63)	RPM DISPLAY (TX64 ^{PLUS} -65 ^{PLUS} -66-67-68-68 ^{PLUS})	2ND BAR CLEARANCE	8TH BAR CLEARANCE
Cereal crops	Cereal	2	10 mm	10 mm	10 mm
Maize	Maize	7	25 mm	25 mm	30 mm

If excessive grain damage is experienced when harvesting maize, increase the concave clearance X.

IMPORTANT:

If the Combine was set up to harvest maize, concave C will be bolted in position and it will not be possible to adjust the concave clearance X neither manually (models TX62-63), nor electrically (models TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS}), unless the hardware is loosened first (see further).

Changing the concave clearance mechanically -
Figures 41 and 42

To change the concave clearance at the front or at the rear, adjust nuts E on both sides of the combine.

Figure 41: Right-hand side - Front adjustment.

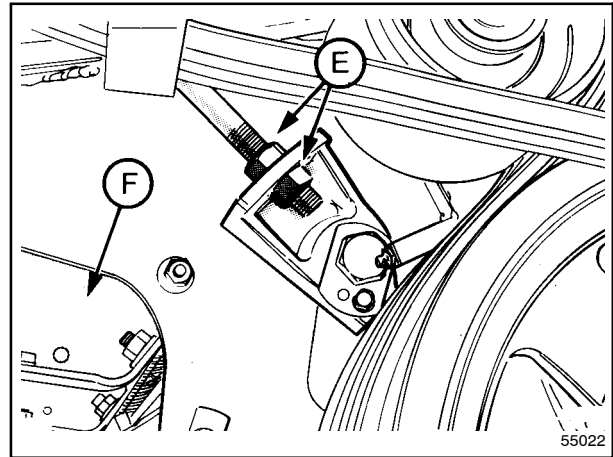
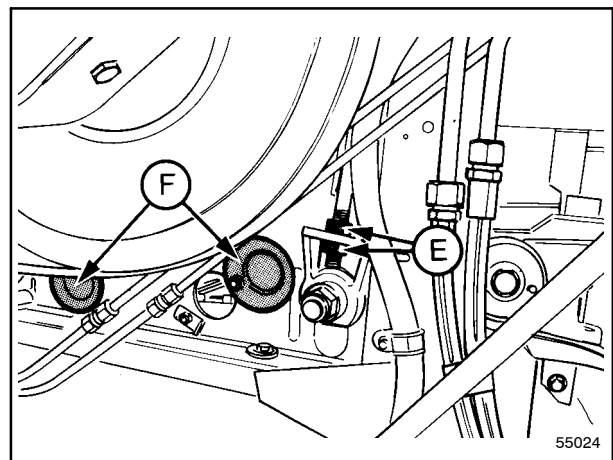


Figure 42: Left-hand side - Rear adjustment.

41

Check the clearance on the second and eighth concave bar. To gain access to the concave bar, open covers B.



42

IMPORTANT:

After carrying out any adjustments to the concave, ensure that the concave bars are set parallel to the drum rasp bars.

Securing the concave position - Figures 43 and 44

When harvesting maize, the concave has to be bolted in position after first adjusting the clearance to 25 mm at the front and 30 mm at the rear.

Proceed as follows:

1. Models TX62-63
Ensure that the concave setting lever is in position 7 on the quadrant on the operator's platform.

Models TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS}

Ensure the concave is adjusted until a read-out of 25 mm is obtained on the InfoView monitor.

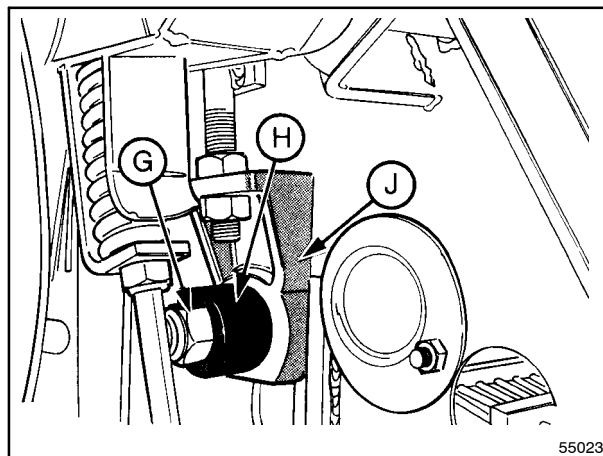
2. Check on the second bar if the 25 mm clearance and on the eighth bar if the 30 mm clearance is still valid. If not, adjust mechanically. Refer to the preceding paragraph.

3. Figure 43

At the front: Tighten lock nut G completely so that bushing H presses block J against the frame. Proceed in the same way on both sides.

4. Figure 44

At the rear: Remove lock plate K with bolt L. Tighten bolt M completely so that block N is pressed against the frame. Reinstall lock plate K and bolt L. Proceed in the same way on both sides.



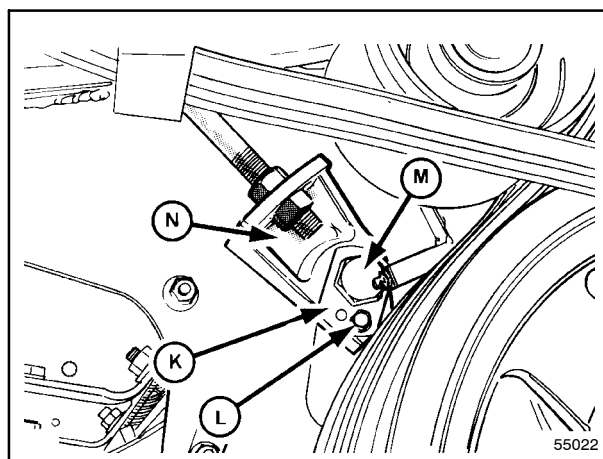
43

IMPORTANT:

For operation in cereal crops:

- *At the front, lock nut G should not be tightened completely and it should be possible to turn bushing H freely.*
- *At the rear, loosen bolt M one turn after tightening, before installing lock plate K.*

In this case, the concave is not bolted in position, but it is adjustable with the concave setting lever on the operator's platform (models TX62-63) or electrically (models TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS}).



44

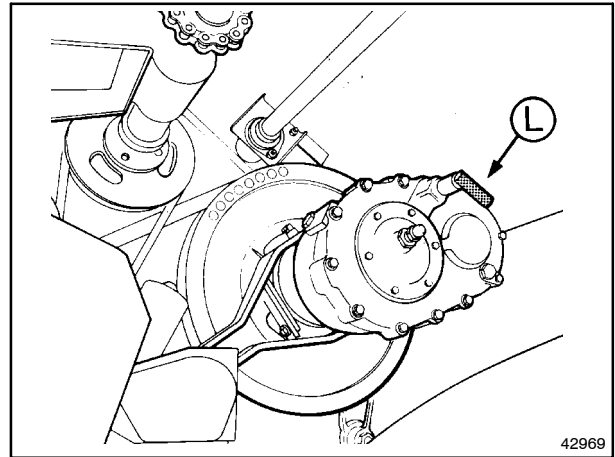
DRUM SPEED REDUCER [if installed] - Figure 45

Using the reduction gearbox, two speed ranges on the drum can be obtained:

- From 385 rpm to 1140 rpm (direct drive)
This high speed range is used when harvesting regular crops (i.e. cereal crops, maize, etc.). To engage this range, push lever L towards the gearbox.
- From 190 rpm to 560 rpm
This low speed range is used when harvesting crops with fragile grains (i.e. dry maize, beans, etc.). To engage this range, pull lever L outwards.

NOTE:

When changing speed with lever L, it is important to turn the drum variator sheaves manually to ensure proper engagement of the gears.



45

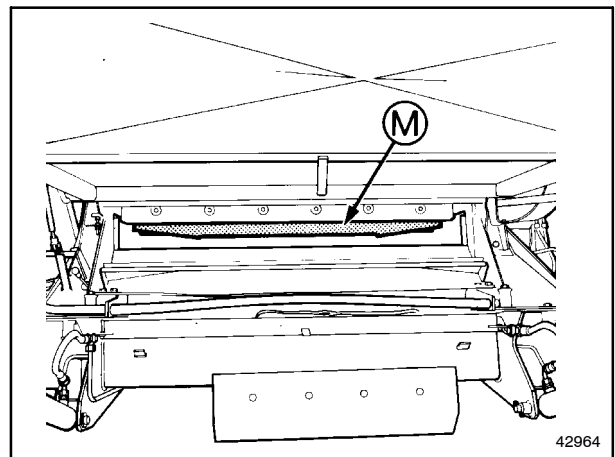
DE-AWNING PLATES - Figures 46 and 47

De-awning plates increase the rubbing action of the drum and concave when threshing winter barley or difficult to thresh crops.

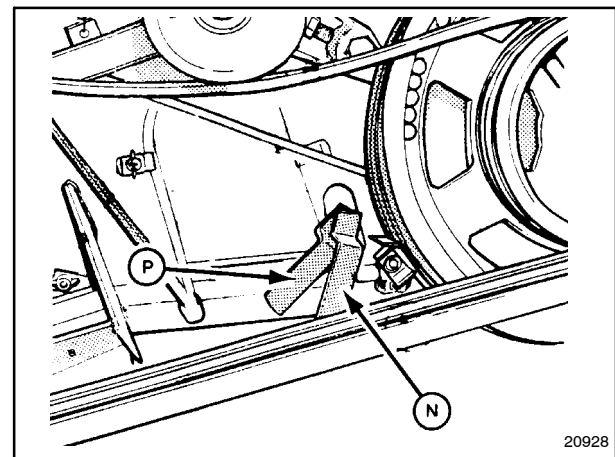
Two de-awning plates M are attached to the concave with hinges and can be locked in position with levers N and P.

Lever N operates the front de-awning plate and lever P operates the rear de-awning plate.

Only close the rear de-awning plate M if really necessary, as partially closing off the concave inevitably means loss of capacity.



46



47

DRUM AND CONCAVE TYPE USE

- When harvesting cereals, it is advisable to use a standard or universal drum and a cereals concave.
- When harvesting maize, a standard or universal drum and a maize concave should be installed.
- When harvesting rice, a universal drum with peg tooth bars and a rice concave should be installed.

If needed, the concave and/or universal drum can be converted for harvesting other crops (e.g. when switching from cereals to maize).

Have this job carried out by your New Holland dealer.

BEATER

The beater, which runs at $2/3$ of the drum speed, is accessible through the inspection opening S in the grain tank.

The beater can be equipped with either:

- 5 adjustable stripper plates for cereals, or
- 5 toothed bars for maize, or
- 10 toothed bars for rice

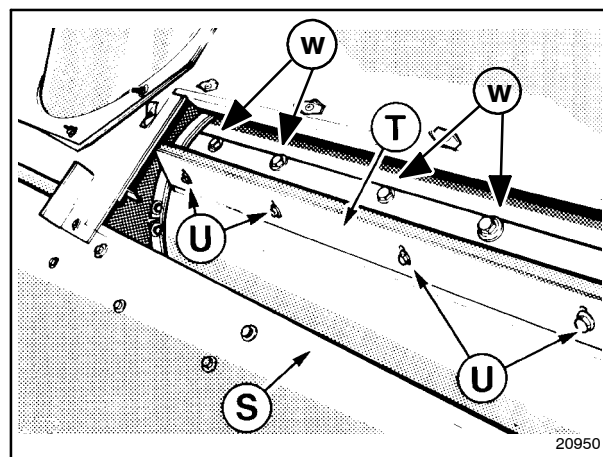
To change from one equipment to another, remove bolts W (Fig. 48), change the equipment and reinstall bolts W.

ADJUSTABLE STRIPPER PLATES - Figure 48

For correct adjustment of the beater stripper plates, the beater drive belt has to be removed.

Adjust the plates T by loosening bolts U and setting the stripper plates as close as possible to the drum rasp bars without touching them.

When carrying out this job, first search for the closest rasp bar. Retighten bolts U.



48

TOOTHED BEATER BARS (5 or 10) - Figure 49

The bars have to be installed in a certain sequence as shown.

Measure the right-hand side of the bars to know the correct sequence and use the bolts V to install the bars.

TX66-67-68-68 ^{PLUS}		A	B	C
①	15	81	183	
②	15	106.5	265	
③	15	132	290.5	
④	15	81	208.5	
⑤	81	157.5	316	

TX62-63-64 ^{PLUS} -65 ^{PLUS}		A	B	C
①	15	183	341.5	
②	15	106.5	265	
③	81	132	290.5	
④	15	81	208.5	
⑤	15	81	157.5	

MULTI-THRESH SYSTEM - Figures 50 to 52

With the multi-thresh system the beater and rotary separator concaves can be set in two positions.

Closed position (1): Lever P forwards.

This position is recommended for all crops as the rubbing effect is high.

Open position (2): Lever P rearwards.

In this position the rubbing is less aggressive which is recommended in brittle straw and rape seed.

If necessary, reduce the combining speed to avoid grain losses.

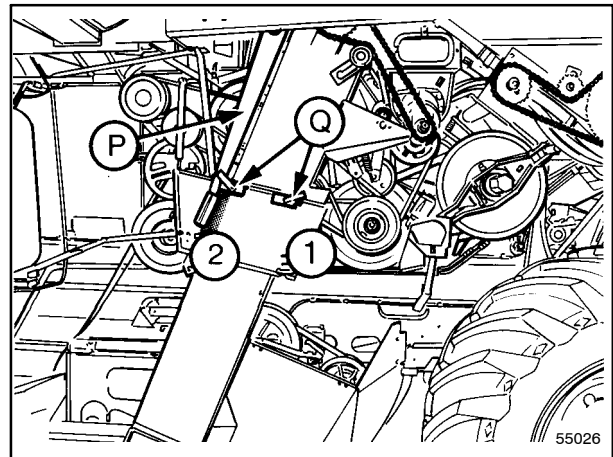
Secure lever P with latch Q.

For maize:

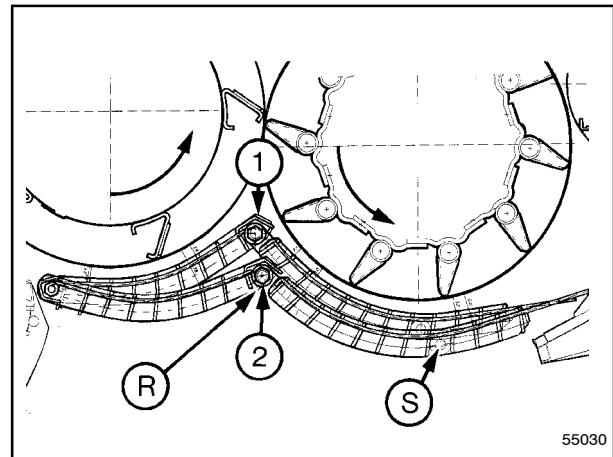
Set the concaves in closed position and tighten nuts R and S on both sides.

For cereals:

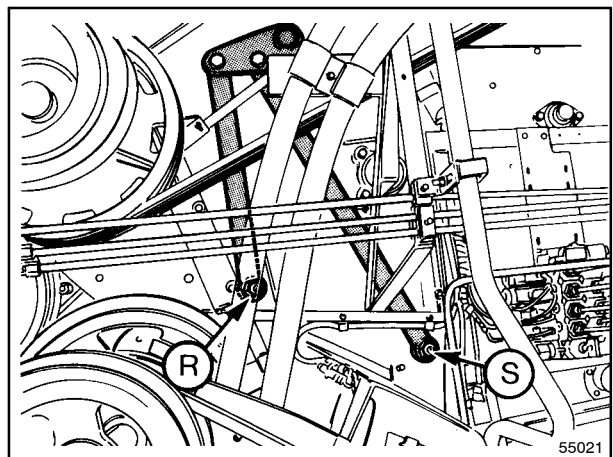
Loosen nuts R and S half a turn after tightening, so the concaves are adjustable with lever P.



50



51



52

ROTARY SEPARATOR

ROTARY SEPARATOR SPEED - Figures 53 and 54

The rotary separator is driven by pulley V which has a double groove for an alternative speed:

- 760 rpm is the factory-set speed which is suitable for most crops such as barley, oats, rye, wheat, rice, grass seed, etc.
- 400 rpm is for harvesting maize, beans, peas, soya, sunflower, oil seed rape, etc.

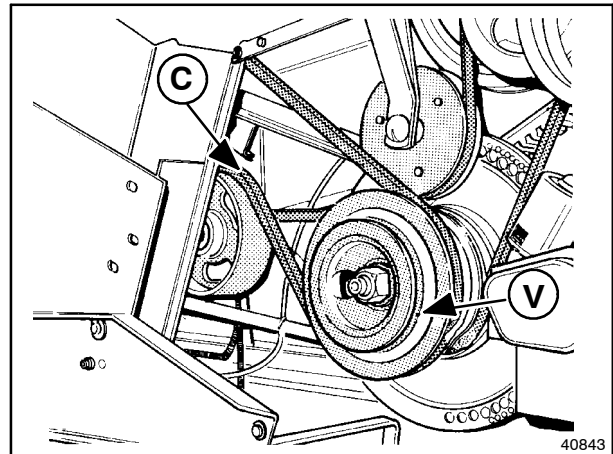
To change the speed, proceed as follows:

1. Move lever A out of hook B and upwards. This will move the idler C downwards and loosen the belt tension.
2. Install the belt in the other grooves of both pulleys.
3. Move lever A downwards and secure the lever in hook B as shown.
4. Check the belt tension and adjust, if necessary (refer to Section 5 - ADJUSTMENTS AND MAINTENANCE, paragraph headed "Belts and chains").

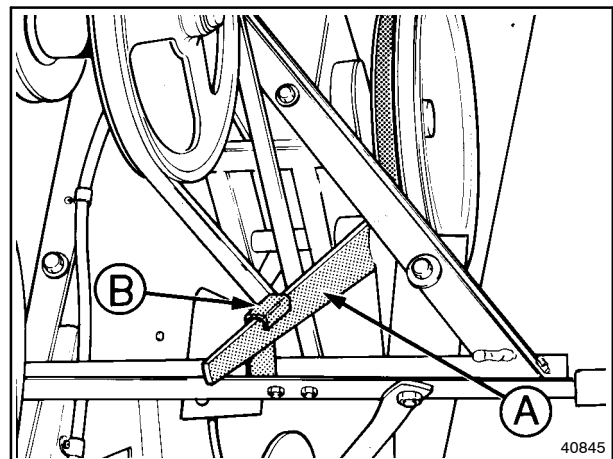
The rotary separator is accessible through the cover which is situated underneath the grain tank.

CONCAVE POSITION

Refer to paragraph headed "Multi-thresh system".



53

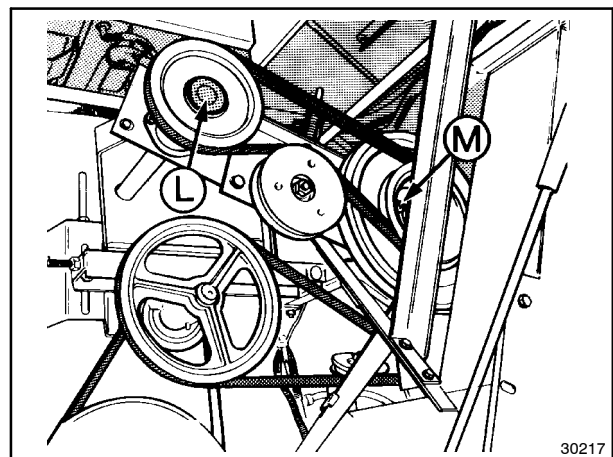


54

STRAW FLOW BEATER [if installed] - Figure 55

The function of the Straw Flow beater L is to improve the combine throughput capacity in specific conditions (heavy green, damp straw).

On combines equipped with a Straw Flow beater L and operating in severe crop conditions (very dry or brittle), the rotary separator M, and so the Straw Flow beater L, can be set on low rpm speed (400 rpm) if the straw breaks up too easily.

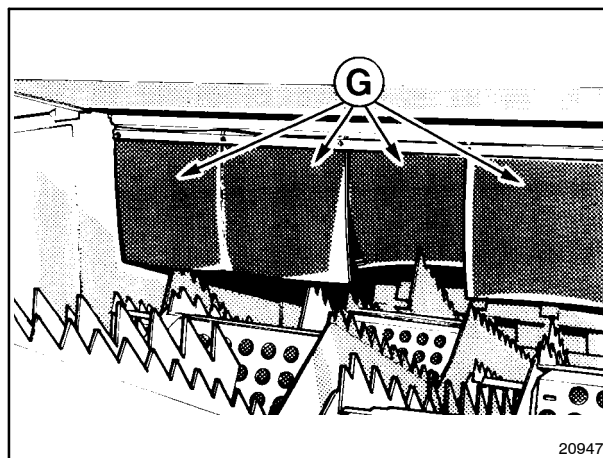


55

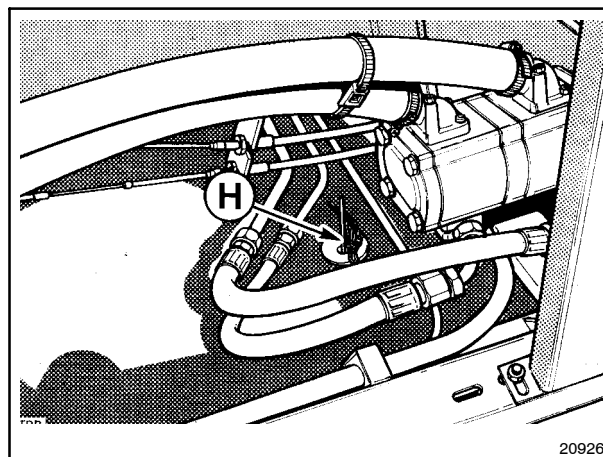
STRAW RETARDING CURTAIN - Figures 56 and 57

A straw retarding curtain G is positioned at the rear of the rotary separator and above the straw walkers to prevent the grain from being thrown out of the combine by the rotary separator.

Curtain G can be raised with chain H to improve the material flow in heavy crop conditions.



56

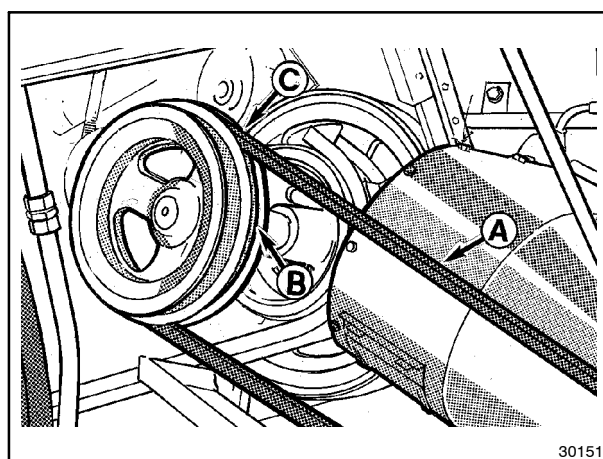


57

CLEANING SHOE - Figure 58

The complete cleaning shoe, consisting of shaker shoes with sieves, cleaning fan and returns system, is driven by belt A. The drive pulley has a double groove for an alternative speed of the cleaning shoe drive:

- 600 rpm (groove B) is the factory-set speed which is suitable for most crops.
- 540 rpm (groove C) is for harvesting brittle crops and all kinds of small seeds (rape seed, grass seed, sunflower, etc.)



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SIEVES

SIEVE OPENINGS - Figures 59 and 60

Adjust the opening of the presieve, according to the grain size, with the lever on the right-hand side of the sieve which is accessible after removing cover H.

The 6 mm opening is the recommended position for most cereal crops and sunflower.

When operating in damp conditions, a larger opening (9 or 12 mm) can be recommended to avoid plugging of the presieve.

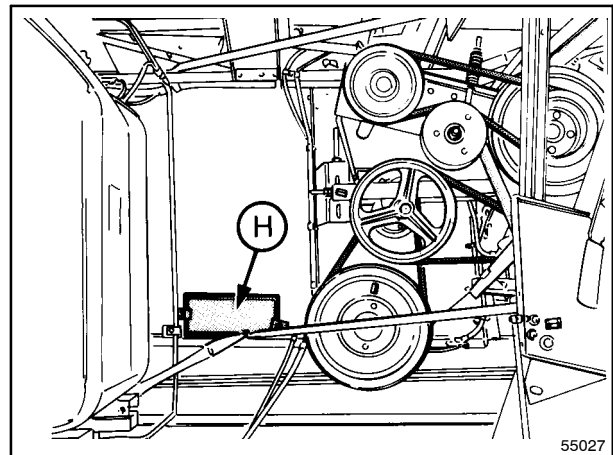
For small seeds, a 3 mm position can be chosen.
For high moisture maize, a presieve is available as an accessory.

Adjust the openings of the upper and lower sieve, according to the grain size, with the levers at the rear of the sieves. Operate with the sieves open as wide as possible, consistent with producing a clean sample.

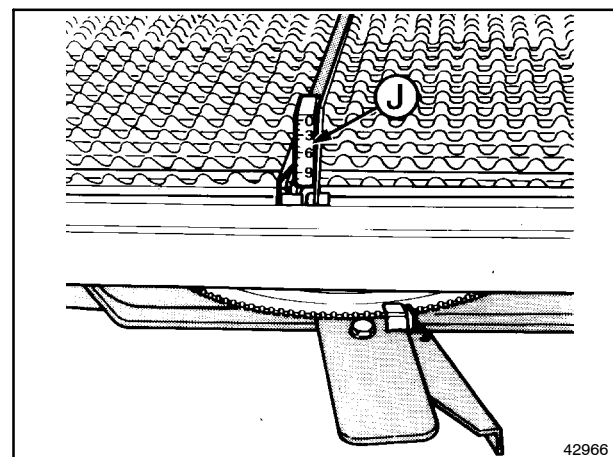
The lower sieve is equipped with a sieve opening indicator J.

The rear part of the upper sieve can be adjusted separately. It may be necessary for the rear part to be opened a few millimetres more than the upper sieve opening to prevent loss of the returns, particularly when harvesting wheat.

When harvesting maize, keep the upper sieve closed as much as possible to sieve all the grain and to prevent the maize cobs from passing through the sieve and entering the grain tank.



59



60

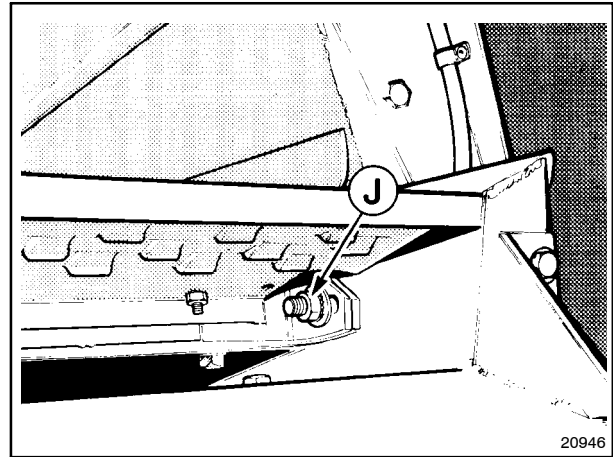
SIEVE POSITION

The upper sieve is normally fitted in the lower position. The upper position is recommended when harvesting maize.

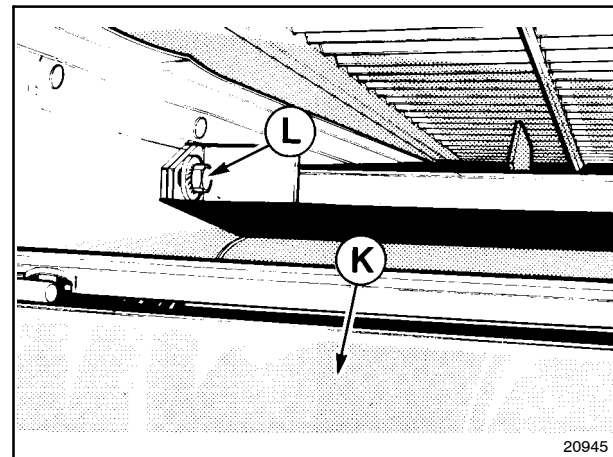
The lower sieve is set at the factory in the lower position. The upper position can be used if a higher capacity with less clean grain sample is required.

SIEVE REMOVAL - Figures 61 to 63

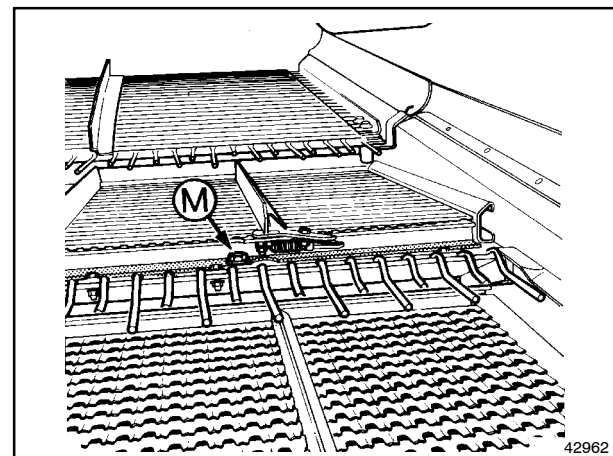
1. Remove bolts J on both sides and remove the upper sieve.
On models TX66-67-TX68-TX68^{PLUS}, the upper sieve consists of two sieve halves.
2. Open cover K, remove bolts L and remove the lower sieve. Adjust the sieve position by hand if the grain loss sensor prevents the removal of the sieve.
On models TX66-67-TX68-TX68^{PLUS}, the lower sieve consists of two sieve halves.
3. Remove bolts M and take out the presieve.



61



62



63

TYPES OF SIEVES AVAILABLE

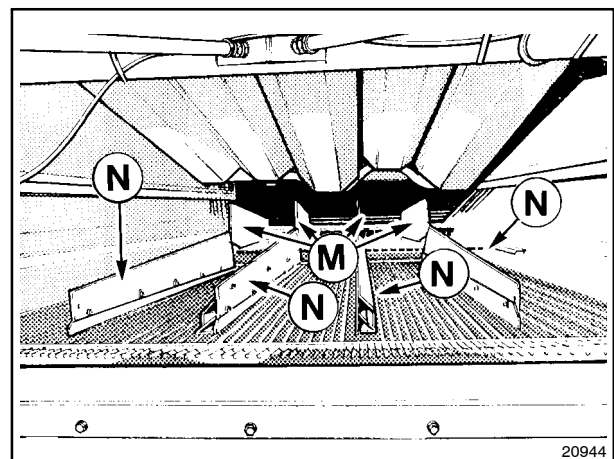
Sieves	Type	Crops	Positions	Opening
Presieve	Hart Carter 1- 5/8"	Cereals Maize	Fixed	Adjustable
	New Holland 1- 1/8"	Cereals Maize	Fixed	Adjustable
	Graepel sieve 52 mm	Corn Cob Mix	Fixed	Fixed
Upper sieve	Hart Carter 1- 1/8"	Cereals	Two ⁽¹⁾	Adjustable ⁽²⁾
	Hart Carter 1- 5/8"	Maize	Two	Adjustable
	Adjustable Peter- sen sieve 1-1/8"	Oil seed rape	Two	Adjustable
	Graepel sieve 80 mm	Corn Cob Mix	Two	Fixed
Lower sieve	Hart Carter 13/16"	Cereals Maize	Two ⁽¹⁾	Adjustable
	Hart Carter 1-1/8" ⁽³⁾	Maize	Two	Adjustable
	Round hole sieve 16 mm dia.	Maize	Two	Fixed
	Round hole sieve 18 mm dia.	Maize	Two	Fixed

- (1) The lower position is the factory-installed position.
- (2) The rear part is independently adjustable.
- (3) Upper sieve used as cleaning sieve.

HILLSIDE DIVIDERS (units with fixed cleaning shoe only) - Figure 64

When operating in hilly conditions, hillside dividers can be installed on the presieve M and on the upper sieve N to ensure an even distribution of the material.

When constantly working in flat field conditions, it is recommended not to use these divider plates.



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CLEANING FAN

The cleaning fan speed can be adjusted electrically from the operator's platform and can be read from the InfoView monitor.

Change the fan rpm **only when the machine is running** and adjust it to suit the nature of the crop, chaff load and moisture content. A grass seed variator kit can be installed to obtain a lower fan speed regulation when threshing small seeds

An insufficient air blast will reduce the "clean area" of the top sieve causing a dirty sample or grain loss (grain will shake over the end of the shaker shoe).

The best way to check whether the volume of air is satisfactory is to complete a "kill-stall", i.e. stopping the engine with the threshing mechanism engaged and checking the sieve coverage pattern. Refer to paragraph headed "Combine performance checks".

If this method of checking is used:

- The two rakes must be clean while the sieves must be evenly loaded. Little or no grain should be found on the rear part of the upper sieve.
- If the whole sieve is clear of grain and chaff, the volume of air is too high. The grain will be blown out of the machine and clean grain will be transported over the lower sieve into the returns cross auger.
- If the upper sieve is full of grain, the volume of air is too low, so that the wind does not blow through the chaff. Therefore grain will be shaken off the sieve together with the chaff.

Sieve operation can also be checked by collecting material coming from the rear of the cleaning shoe and checking the sample for grain loss.

IMPORTANT:

Do not remove or modify the cleaning fan guards as changes may influence the air flow in an unfavourable way.

RETURNS SYSTEM - Figures 65 to 67

Models TX62-63-64^{PLUS}-65^{PLUS}: Single returns auger

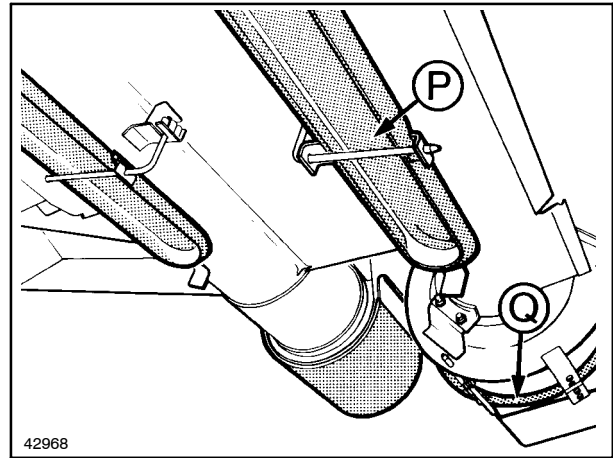
Models TX66-67-68-68^{PLUS}: Double returns auger

The returns cross auger can be cleaned by removing cover P.

Should the roto-threshers become blocked, they can be unblocked and cleaned through opening Q.

A blocked thrower can be unblocked through cover R.

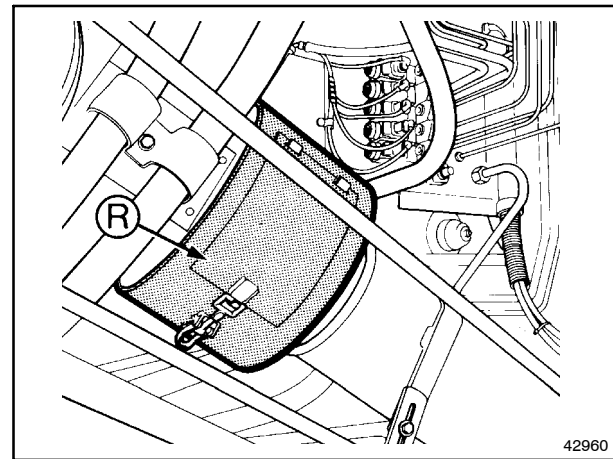
For maximum efficiency it is important to keep the amount of material in the returns auger to the absolute minimum.



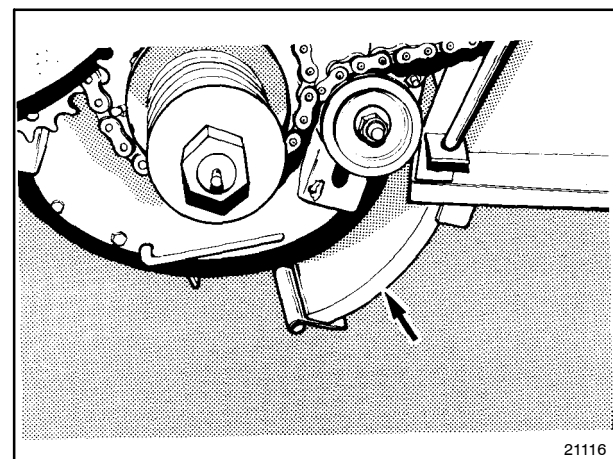
65

Excessive returns will:

- Increase the risk of grain damage.
- Produce grain loss through sieve overload.
- Increase the risk of blocking the returns components.



66



67

The quantity of returns can be limited by:

- Opening the lower sieve as wide as possible, consistent with producing a clean grain sample.
- Not opening the presieve and the upper sieve too wide (this will stop excessive chaff from getting onto the bottom sieve).
- Keeping the cleaning fan rpm high enough to blow the chaff out of the machine.
- Avoiding excessive cleaning fan rpm, so that clean grain is not blown over the lower sieve into the returns cross auger.

To adjust the roto-thresher drum, refer to Section 5 - ADJUSTMENTS AND MAINTENANCE.

When harvesting maize, rape seed and other crops with large and fragile grains (e.g. beans), a smooth roto-thresher cover (delivered with the machine - see arrow) should be installed to prevent grain damage.

GRAIN TANK

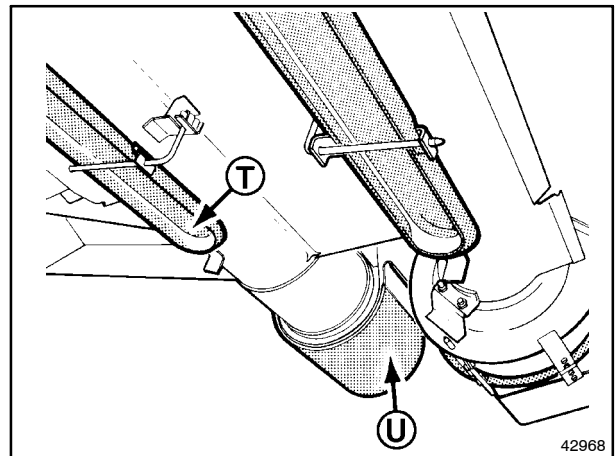
GRAIN TANK FILLING SYSTEM - Figures 68 to 71

1. The grain cross auger can be cleaned by removing covers S and T.
2. The grain elevator bottom side can be cleaned by removing cover U.
3. The grain elevator top side can be cleaned by removing cover W.
4. In damp crop conditions (e.g. wet maize), it may be necessary to regularly clean the passage between the grain elevator and the grain tank bubble-up auger. Access to this area can be obtained by removing covers V and W.
5. The grain tank bubble-up auger A can be easily removed to clean it thoroughly.

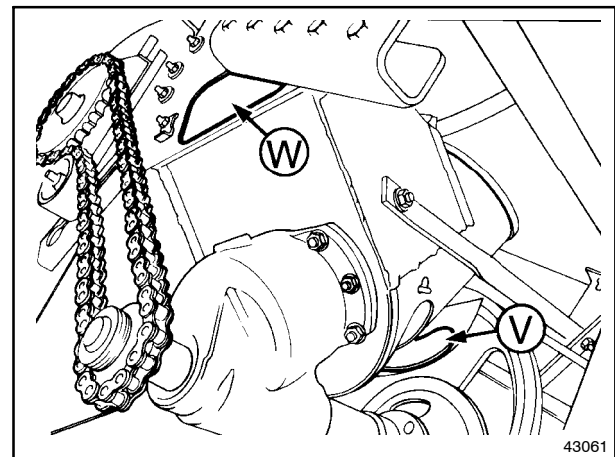
Proceed as follows:

Remove two bolts and nuts B and remove the bubble-up auger A.

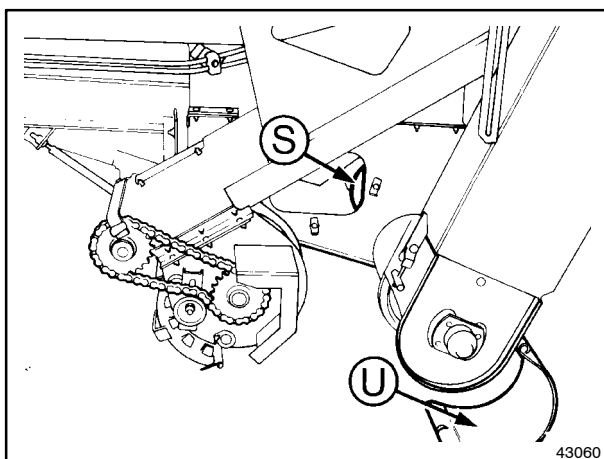
When harvesting soya beans it is recommended to perform this job every day.



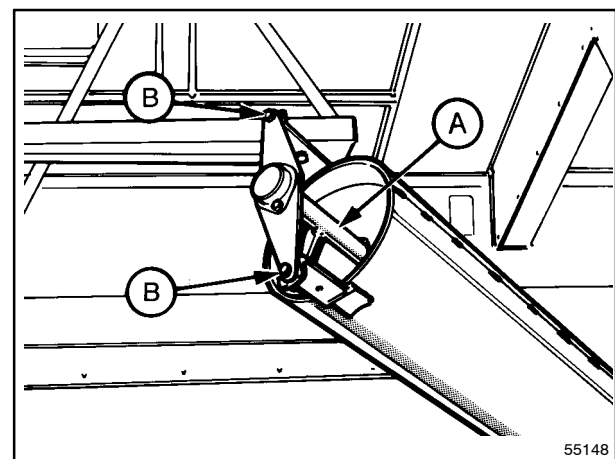
69



70



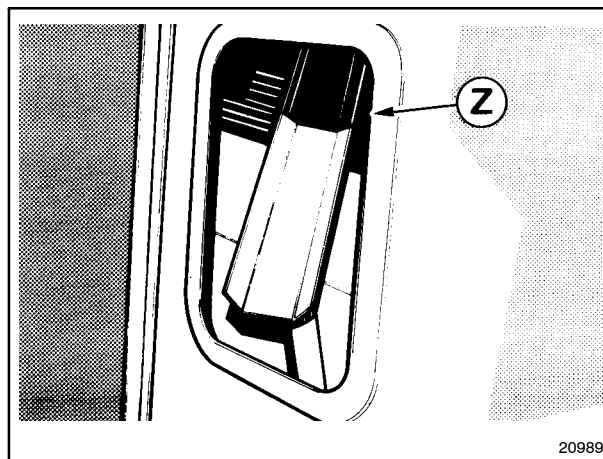
68



71

GRAIN SAMPLE ACCESS - Figure 72

The grain tank is provided with an inspection window Z where a grain sample can be taken when starting off in the field. A channel section in the grain tank brings the grain to the inspection window.



72

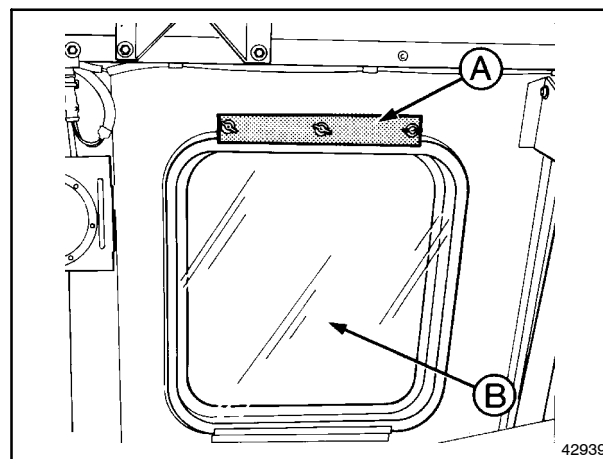
GRAIN TANK WINDOW - Figure 73

The window between the grain tank and the cab can be cleaned as follows :

**CAUTION:**

Shut off the engine and remove the ignition key before entering the grain tank.

1. Enter the grain tank at the rear over the engine cover and remove strip A. See Section 2, page 25.
2. Remove the grain tank window B to clean the area between the cab window and the grain tank.

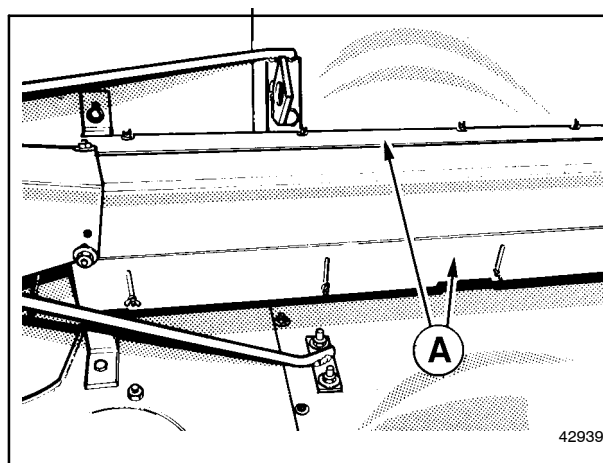


73

GRAIN TANK UNLOADING AUGER - Figure 74

A cover plate is fitted over the grain tank unloading auger. This cover plate is fitted with plates A which can be adjusted to regulate the unloading rate according to the nature and moisture content of the grain being handled.

Raise the plates to increase the unloading rate and lower them to reduce it.



74

GRAIN TANK COVERS – Figures 75 and 76

To open the covers, move the left-hand cover N as indicated by the arrow.

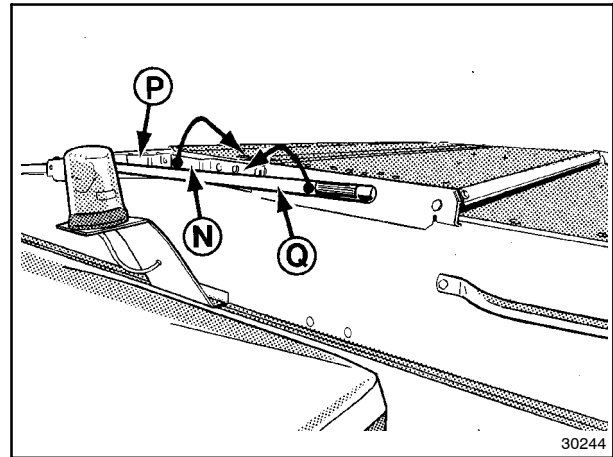
Open the right-hand cover P using lever Q.

The covers can also be opened from the engine cover platform using handles R.

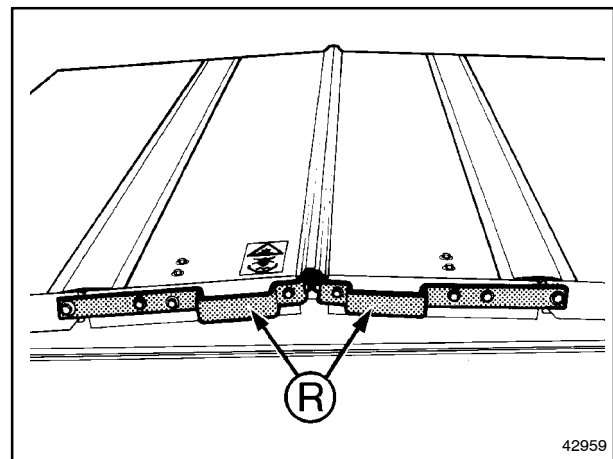


CAUTION:

- Do not step on the engine cover.
- Do not stand on the engine cover when opening the grain tank.



75



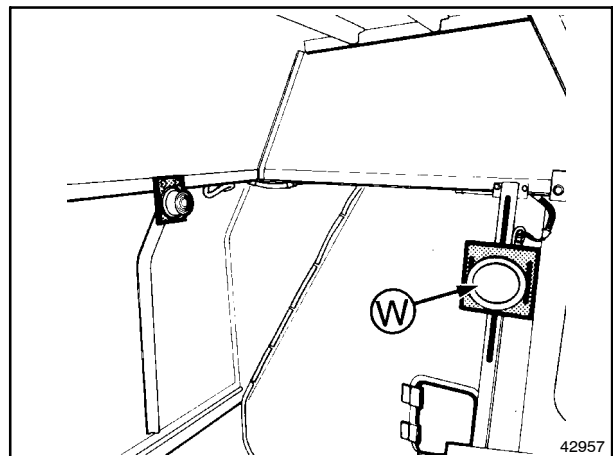
76

GRAIN TANK LEVEL SENSOR [if installed] -

Figures 77 to 80

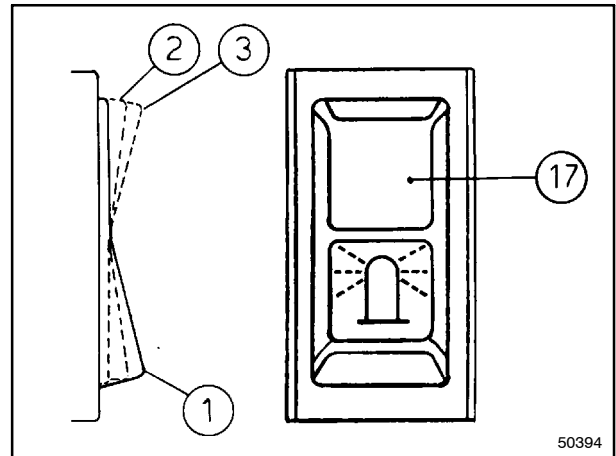
Adjust sensor W, located in the grain tank, according to the condition of the crop.

When the grain reaches the level sensor W, the following can be observed:



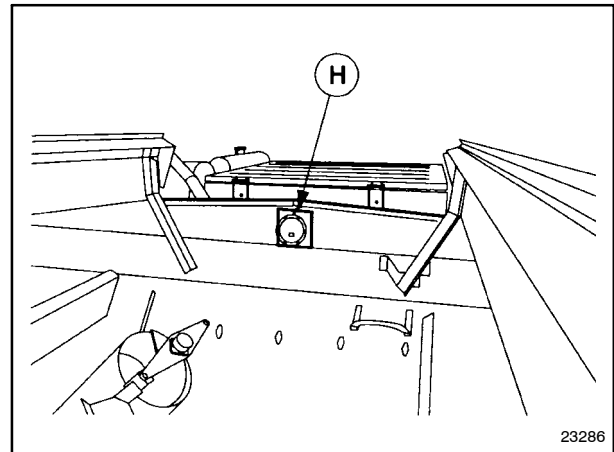
77

- The grain tank level warning light will illuminate.
- The audible signal will sound for 5 seconds.
- The flashing lights on the grain tank will be switched on and
 - will stop after 5 seconds when switch 17 is in position 2, or
 - will remain on when switch 17 is in position 3.

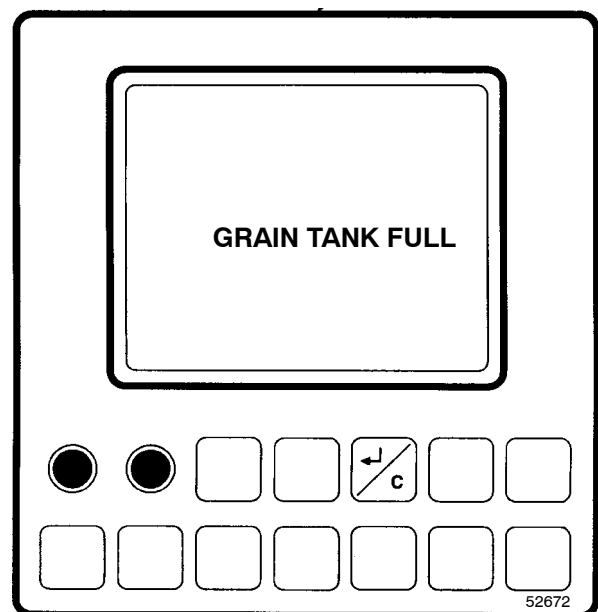


78

When the grain reaches level sensor H, a message of full grain tank appears on the InfoView monitor and an audible alarm sounds for two seconds.



79



80

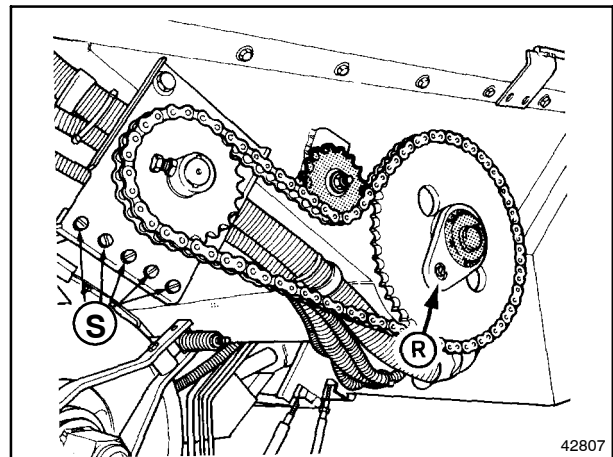
UNLOADING TUBE

A warning light is provided in the cab to alert the operator when the unloading tube is not in the fully closed position as this may be an operating hazard in fields with trees, high tension wire pylons, telegraph poles, etc.

SHEARBOLT ON THE UNLOADING SYSTEM DRIVE - Figure 81

The unloading system drive is protected by a shear-bolt R.

Spare shearbolts are located at S.



81

IMPORTANT:

- Tighten the bolt with a screwdriver holding the nut with a wrench.
- Use only genuine shear bolts.



DANGER:

When opening the unloading tube or driving with open unloading tube, ensure that the tube cannot touch electric wires.

AUDIBLE ALARM

An audible signal (buzzer) is linked to the following elements:

- Excessive hydrostatic and hydraulic oil temperature sensor (+ warning light)

NOTE:

If excessive oil temperature causes the alarm to function, try to locate the defect or contact your dealer for assistance.

- Handbrake (+ warning light)
- Straw chopper guide plate (no warning light)
- Grain tank level indicator 70% (5 seconds) (+ warning light)

- Grain tank level indicator 100% (2 seconds) (+ message on InfoView monitor)
- Direction indicators

A separate audible signal (buzzer) is linked to:

- The rpm control monitor (5 seconds)
- The “error report” system of the Infoview monitor (5 seconds)
- The straw walker protection (as long as the switch of the straw walker protection is being pressed)

NOTE:

When the alarm is functioning, try to locate the defect or contact your dealer for assistance.

AUTOMATIC ENGINE SHUT-OFF

In case of an emergency, in order to prevent engine or hydrostatic system damage, or to protect your personal safety, the engine will automatically be shut off by the following elements:

- Low engine oil pressure (+ warning light)
- Excessive engine oil and engine coolant temperature (+ warning light)
- Low hydrostatic oil pressure (+ warning light)
- Lowering the ladder to the engine platform in down position
However, the engine can be started with the ladder in down position.

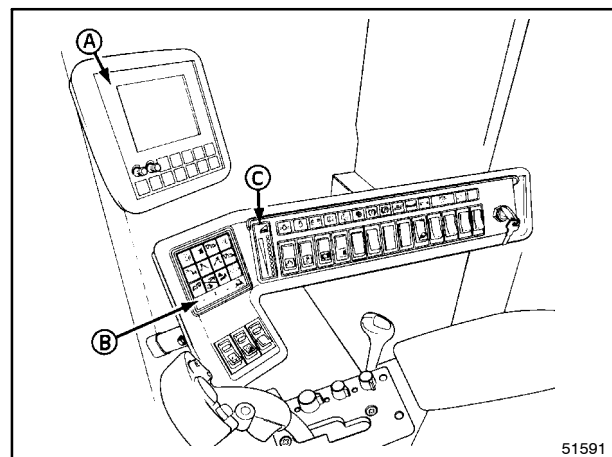
IMPORTANT:

Be aware that, if the engine is running with the ladder in down position, the engine protection system is not working.

INFOVIEW MONITOR

Refer to Figure 82

The combine is monitored in the cab by means of an InfoView monitor A and led indicators B and C. The monitoring on the InfoView monitor A, the lateral float bargraph indicator B and the header height bargraph indicator C are processed by electronics which are located in the central electrical box near the right-hand side of the cab.



82

1 - PANEL OVERVIEW - Figure 83

A Display

X Performance bargraph adjusting knobs



Entry to Memory mode



Header width correction button



Enter/Clear button



Entry to Service mode



Button to switch from rpm mode to hectare mode, or vice versa



Performance bargraph selector button



Returns bargraph selector button



Entry to Calibration mode (see paragraph headed "Calibration")



Ground speed selector button



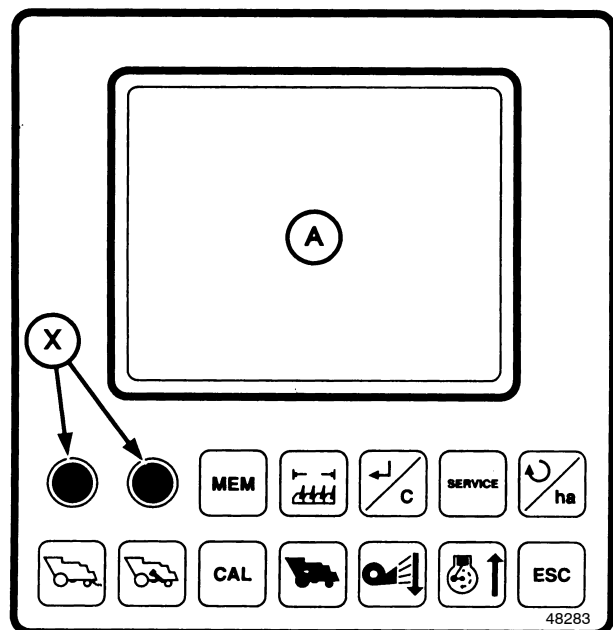
Fan speed selector button
Scroll-down button



Engine speed read-out button
Scroll-up button



Escape button (from any mode to the rpm mode, which is shown in Figure 83)




83

2 - OPERATION - Figure 84

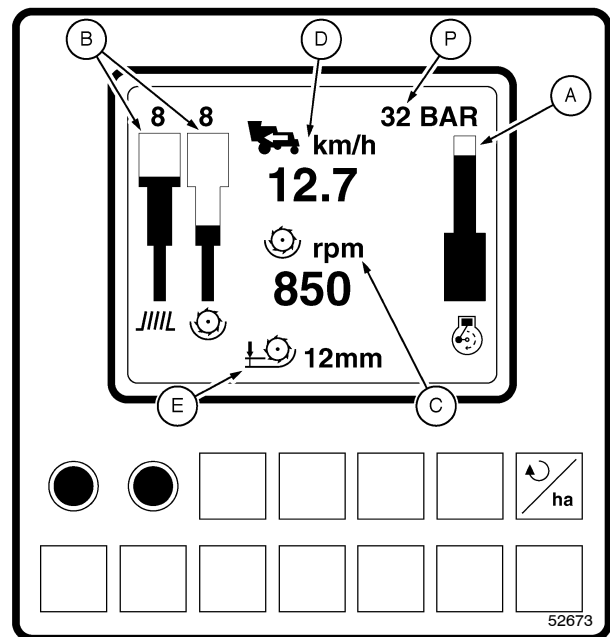
Through different modes, the InfoView monitor supplies the following information:

COMBINE OPERATION MODES

2.1 RPM mode - Figure 84



This mode automatically appears when the ignition key is turned on and can be selected from the area counter mode by pressing  .

- (A)** Engine load bargraph
- (B)** Performance bargraph or returns capacity
- (C)** Threshing drum speed
- (D)** Ground, cleaning fan or engine speed
- (E)** Concave clearance (not for models TX62-63)
- (P)** Header cylinder pressure indication

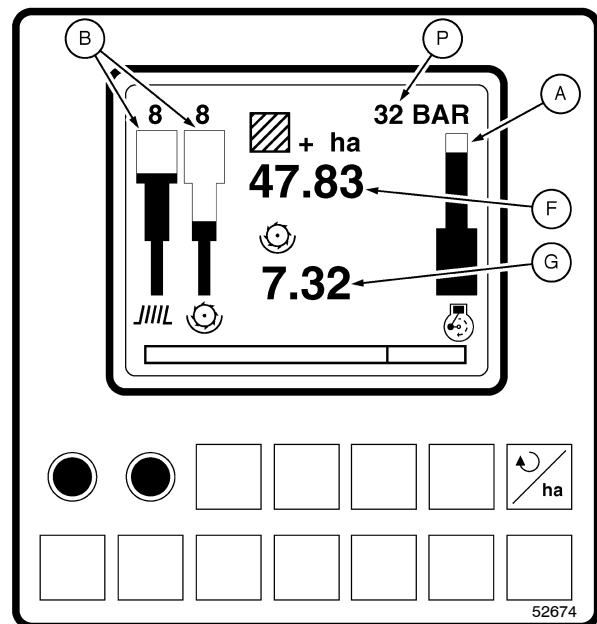


84

2.2 Area counter mode - Figure 85

This mode can be selected from the rpm mode by pressing  and can be left by pressing  .

- (A)** Engine load bargraph
- (B)** Performance bargraph or returns capacity
- (F)** Area counter
- (G)** Threshing drum hours
- (P)** Header cylinder pressure indication



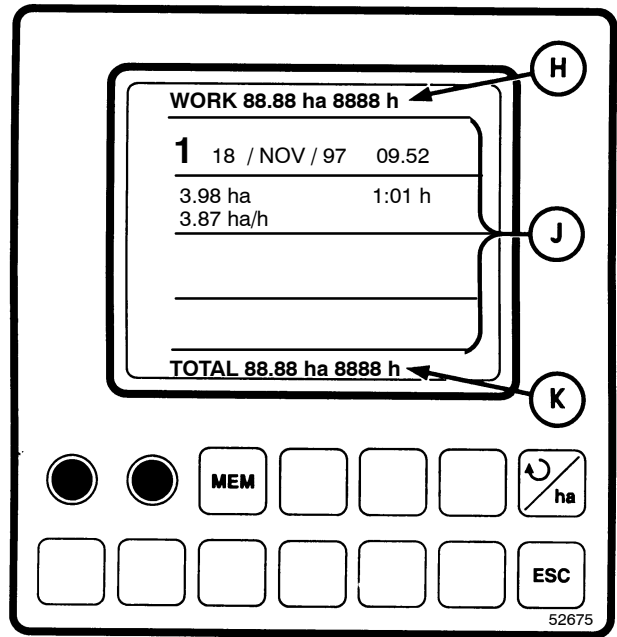
85

2.3 Memory mode - Figure 86

This mode can be selected after selecting the area counter mode by pressing **MEM** and can be left by

pressing .

- H** The latest threshed hectares and the latest threshing hours since the latest storage of results.
- J** 9 memories with separate results which contain:
 - Date and time of storage
 - Threshed area
 - Threshing hours
 - The average threshed area per hour
 - RDS information [if installed]
- K** Total threshed area and threshing hours of the combine



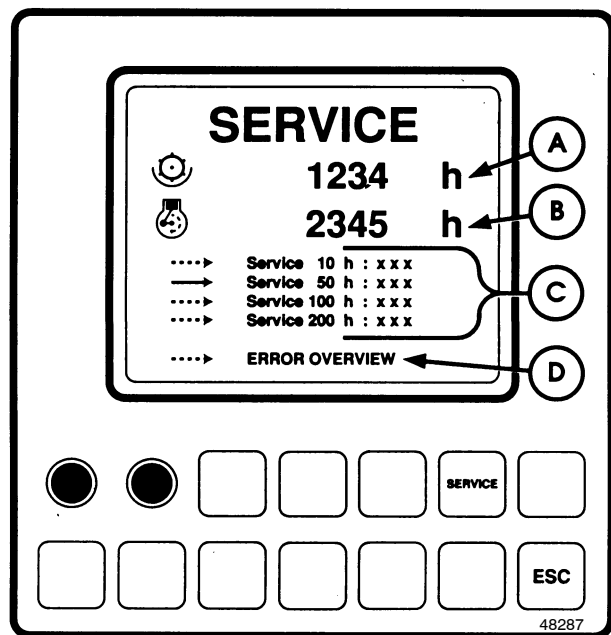
86

2.4 Service mode - Figure 87

This mode can be selected by pressing **CAL** and

can be left by pressing **ESC**.

- A** Total threshing hours
- B** Total engine hours
- C** The engine hours since the different services have been performed and the hour indications have been cleared
- D** Access to the error overview



87

2.5 Error reporting system

The error reporting system is appearing in the rpm mode as well as in the service mode.

The error reporting system is described further in this paragraph.

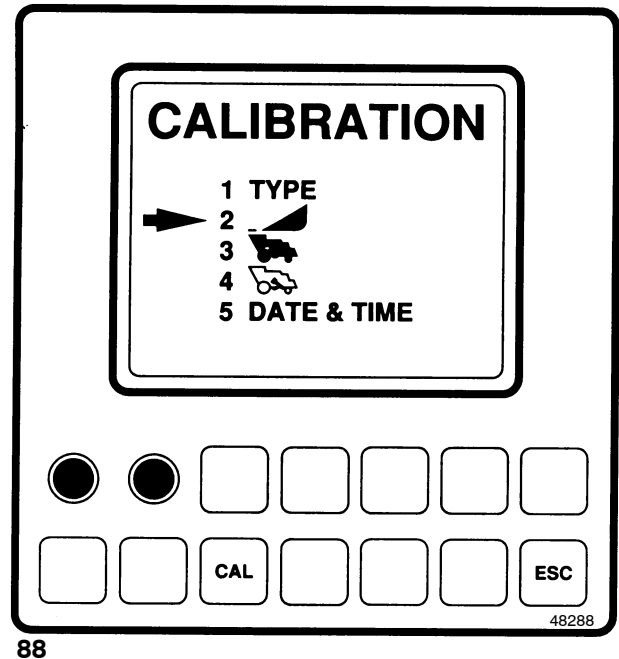
2.6 Calibration mode - Figure 88

This mode can be selected by pressing **CAL** and

can be left by pressing **ESC**.

Combine configuration input to ensure a correct set-up of the central process unit.

The different modes can be selected using the touch-sensitive keys which are located underneath the display.



3 - RPM MODE

The rpm mode is used during field operation or road transport.

NOTE:

As soon as the power is switched on by turning the ignition key, the InfoView monitor will automatically go through a self-diagnostic error reporting system.

If the monitor reports an error, refer to the paragraph headed "Error Summary", paragraph 5.2. in this Section.

If no errors are detected, the monitor will enter the combine operation mode.

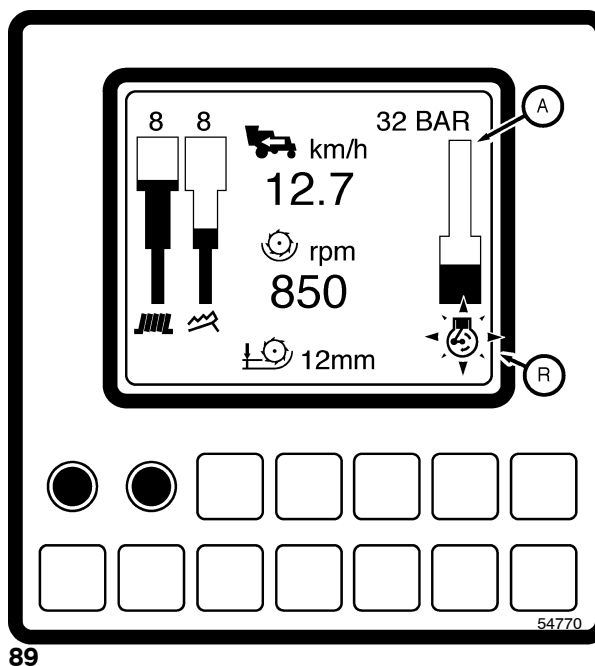
With the rpm mode selected, the following information will be provided:

3.1 Engine load bargraph A – Figure 89

The bargraph segments light up proportionally to the measured engine speed. All segments light up with the engine at maximum speed (without load).

Maximum engine speed minus 5%:
 Engine bargraph lower segment and symbol R start to blink.

Maximum engine speed minus 10%:
 Engine symbol R blinks and bargraph is empty.



89

3.2 Performance bargraph B – Figure 90

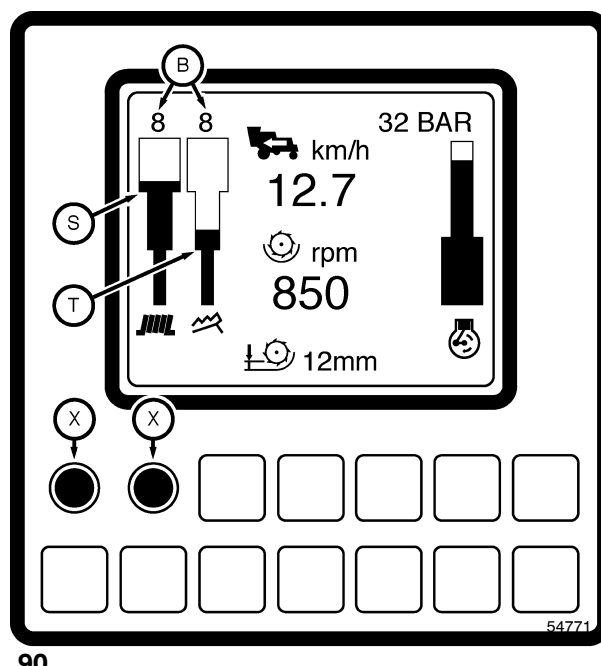
Two bargraphs are provided for displaying the sieves S and straw walker T losses.

The bargraph segments light up proportionally to the losses and to the potentiometer X setting (sensitivity).

The potentiometer setting is displayed from 1 to 10 above the bargraphs: the higher the number, the higher the sensitivity.

To set the combine performance monitor, proceed as follows:

1. Engage the threshing and the header drive.
2. Engage the first or second gear and enter the crop.
3. Adjust the reel height, the reel fore and aft setting and the reel speed, according to the type of crop being harvested.



90


4. Adjust the ground speed with the ground speed control lever. The ground speed in km/h can be observed on the InfoView monitor.
5. Stop the machine after a hundred metres and take a grain sample. Check also for grain losses in the swath. If the result is unsatisfactory, carry out the necessary adjustments.


Also refer to paragraph headed "Combine performance checks" further in this Section.

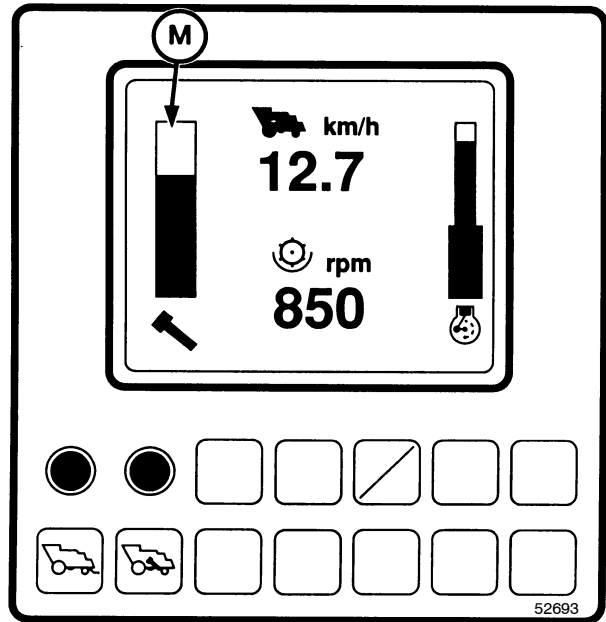
The setting of the combine performance monitor has to be performed or at least checked whenever changing from field or crop.

6. Select the highest ground speed consistent with obtaining good results.
7. Set the left-hand sensitivity knob X of the sieves sensor so that all segments on the sieve bargraph lower step illuminate.
8. Set the right-hand sensitivity knob X of the straw walker sensor so that all segments of the straw walker bargraph lower step illuminate.
9. Increase the ground speed until one of the bars glows into the upper step.
10. Stop the machine and check if the grain loss has clearly increased. If not, this means that the sensitivity of the bar with the most segments on, was set too high. Set the sensitivity knob corresponding with this bar so that it glows on a lower level at the speed selected under point 6. If the rate of loss increases, more segments will appear. If the rate decreases, segments will extinguish.

3.3 Returns capacity bargraph M - Figure 91

The performance bargraphs B are replaced by a returns capacity bargraph M when  is pressed for:

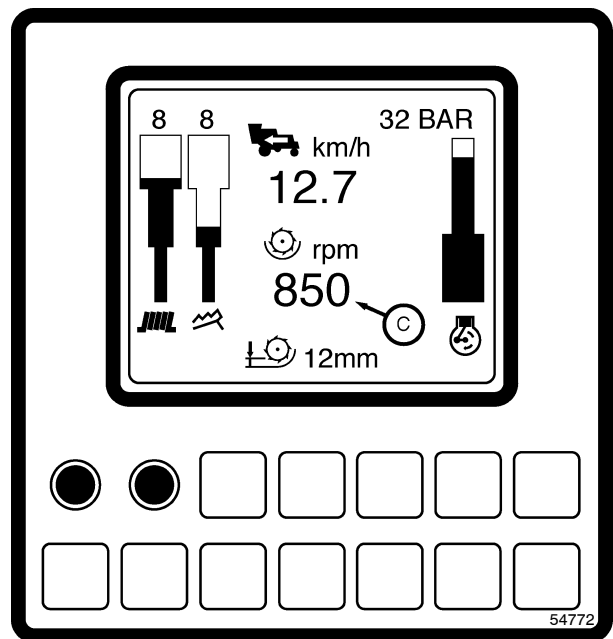
- Less than 3 seconds: The returns are displayed for 5 seconds. After that, the performance bargraphs are again displayed.
- More than 3 seconds: The returns are displayed until the performance bargraphs are selected again by pushing  .



91


3.4 Threshing drum speed C - Figure 92


This counter shows the current drum speed which can be changed with the drum speed rocker switch.




92

3.5 Ground, cleaning fan or engine speed D - Figure 93

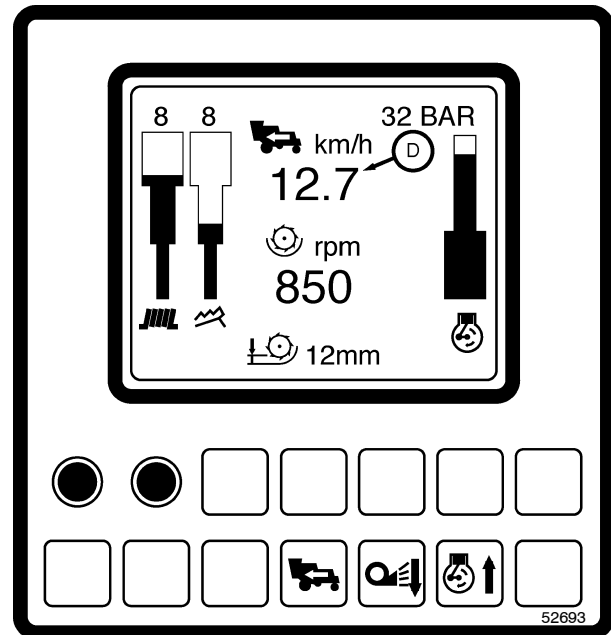
Press  to display the ground speed which is adjustable with the ground speed control lever and the gearshift lever.

Press  to display the cleaning fan speed which is adjustable with the cleaning fan rocker switch.

Press  to display the engine speed. Adjust with the engine speed rocker switch.

When starting up the InfoView monitor, the ground speed will be displayed.

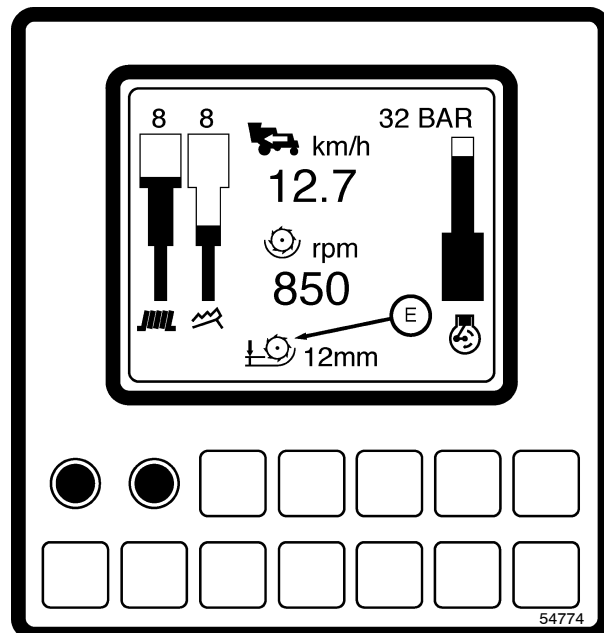
The ground speed will automatically be displayed when the combine ground speed is higher than 20 km/h for a period of 20 seconds.



93

3.6 Concave clearance E - Figure 94

The current concave clearance E is shown and can be adjusted with the concave clearance rocker switch (from 3 to 51 mm).



94


4 - AREA COUNTER MODE - Figure 95

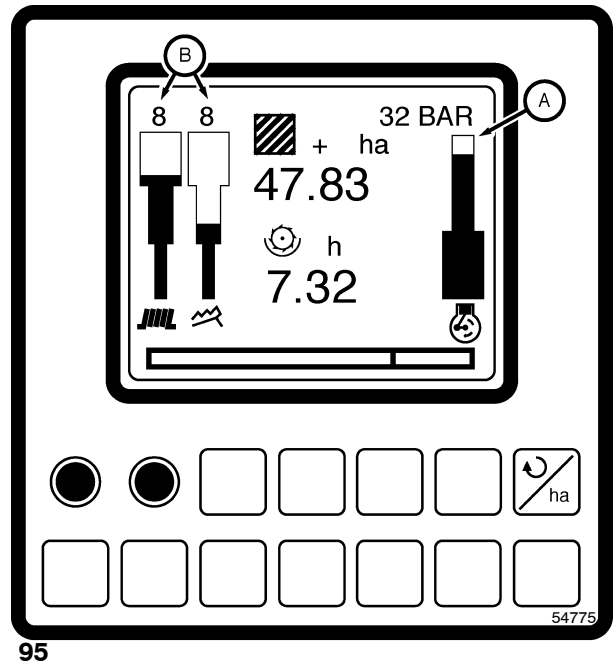
The area counter mode as well as the rpm mode is used during field operation to control the different combining parameters described below.

NOTE:

In the area counter mode the engine load bargraph A and the performance bargraph B (or returns capacity bargraph) are displayed as well.

Refer to paragraphs 3.1 to 3.3.

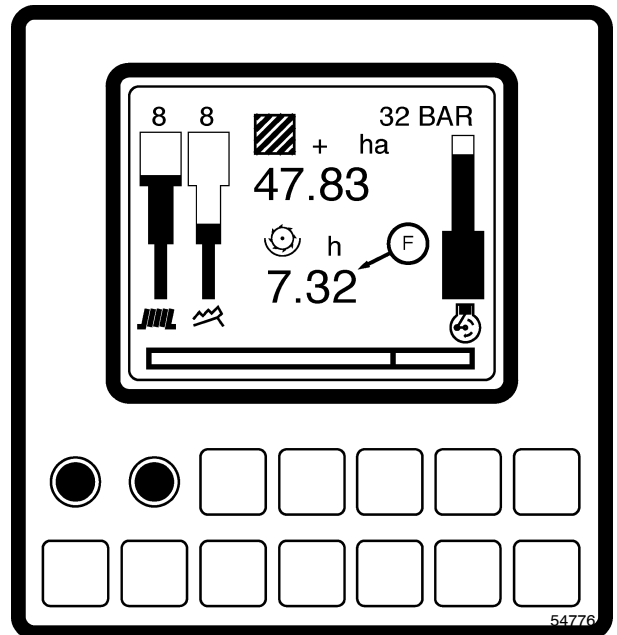
Press  to switch from rpm to area counter mode, or vice versa.



95

4.1 Threshing drum hours F - Figure 96

This counter shows the time the threshing mechanism has been engaged since the area counter mode was last cleared (Refer to paragraph 5 "Memory Mode").



96

4.2 Area count G - Figure 97

This counter shows the area which has been harvested since the area counter mode was last cleared (Refer to paragraph 5 "Memory mode").

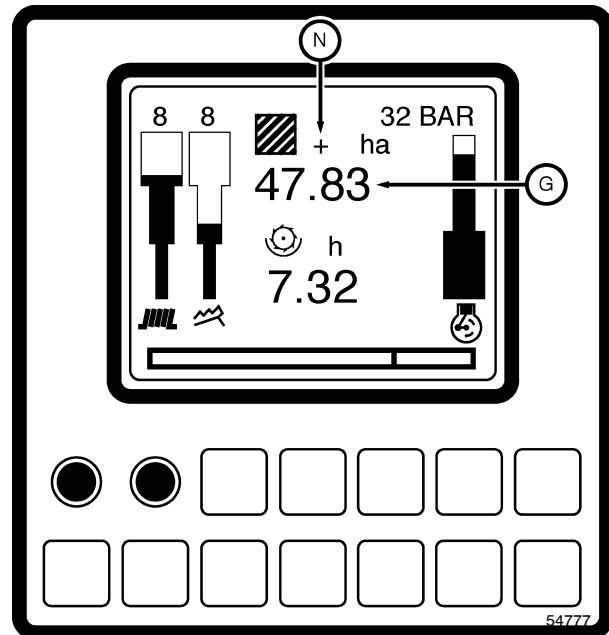
The area counter starts counting when:

- The threshing mechanism is engaged, and
- The header drive is engaged, and
- The header height is below the height calibration value (refer to paragraph "Calibration", subheading 2.6).

The monitor will display a "+" symbol N when the area counter is operating.

IMPORTANT:

The area counter only gives an approximate value. The accuracy depends on correct calibration of all parameters (wheel size, header type, ...) but also on the real cutting width. Never switch off the battery before switching off the ignition (with the key). This will avoid the risk of losing the latest information on area counting.




97

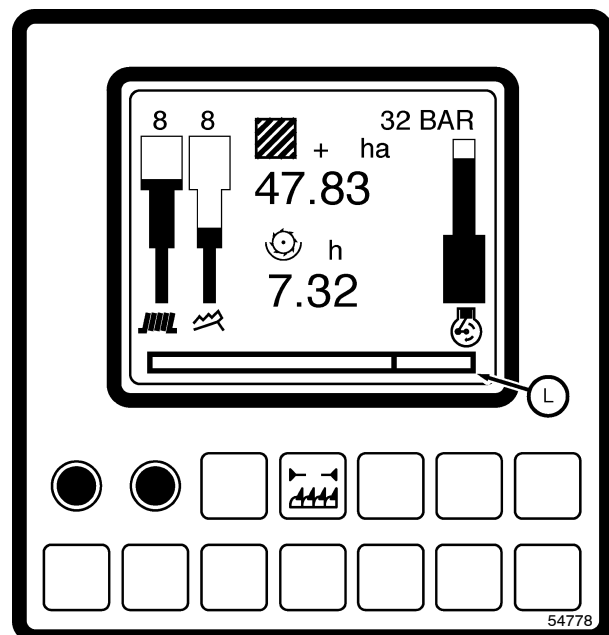
4.3 Bottom text line L - Figure 98

With the area counter mode selected, the text line provides the following information:

a) Header width correction (only when the threshing and header mechanisms are engaged).

- If the full header width is not used during harvesting, an area counter correction has to be made by pressing .

Each pulse (with audible signal) reduces the header width by one quarter. In case a maize header is fitted, each pulse reduces the header width with one row unit).



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- Each time the area counter is stopped by raising the header above the height calibration value (refer to paragraph “Calibration”, line 2, d), the full header width is restored.
- The header width correction is also possible and is shown in the rpm mode.

b) Instant area capacity (ha/hour)

The average of the last 5 seconds counted area capacity is displayed if the “+” symbol appears on the screen.

or,

c) Average area capacity (ha/hour)

The average area capacity since the area counter was last cleared (refer to paragraph “Memory mode”, subheading 5.1) is displayed if no “+” symbol appears.

d) Distance (km)

The accumulated distance travelled since the monitor was last cleared is displayed by pressing



5 - MEMORY MODE

Nine area counting results can be stored in the monitor memory.


5.1 Memorizing area counter results - Figure 99


Memory screen top line P


Drum hours and area values of the latest area counter result before memorizing.

After memorizing, the values turn to zero.

To memorize current area counter values, the area counter mode should be selected, with the ground speed at ZERO.

Press  to open the area counter mode

Press  to open the memory screen and

 to memorize.

All current area counter values (area, drum hours, area capacity, date and time) will then be stored in memory 1.

All other memorized results will then shift one memory towards memory 9.

When all memories are occupied, the message "Memories Full", alternated with the message "Clear Memory", appears on the bottom text line and an audible signal is generated. In this situation a new area counter result cannot be memorized.


To clear memories, refer to subheadings 5.2 and 5.3.

REMARK:

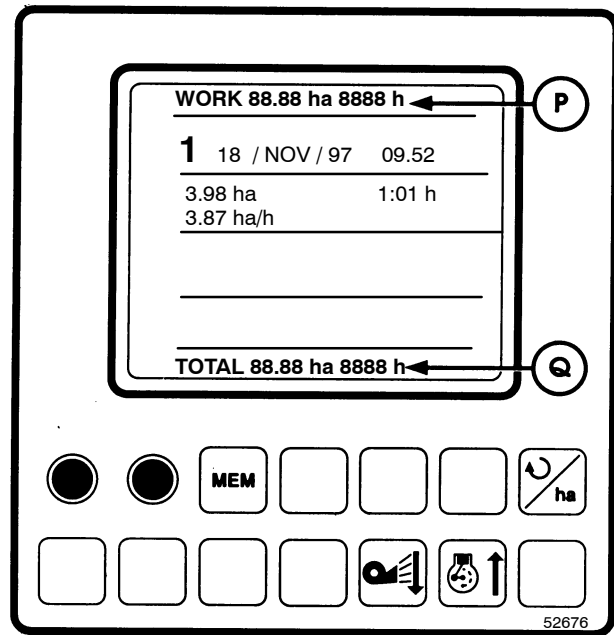
Area and drum hours values of ZERO cannot be memorized.

Memory screen bottom line Q

Total area and drum hours values.
These values are instrument life time totals and cannot be cleared.

Leave the memory mode by pressing .

The display automatically returns to the area counter mode.







99

5.2 Selecting memory values - Figure 100

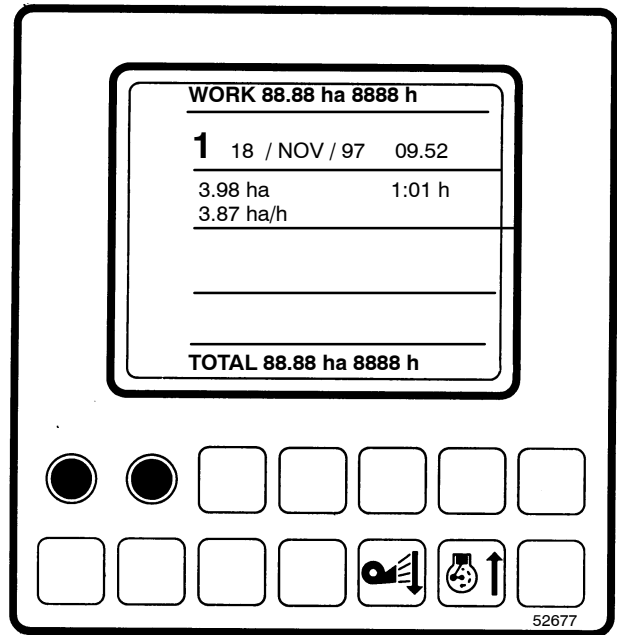
On the memory screen, a memory can be selected to display more information, such as:

- Memory reference : 1
- Area : 3.98 ha
- Threshing drum hours : 1.01 h
- Area capacity (ha/hour) : 3.87 ha/h
- Date and time : 18 Nov 97 09.52

Press  or  or  to select a memory, which will pop up on the screen.


Leave the memory by pressing  .

The display automatically returns to the area counter mode.




100

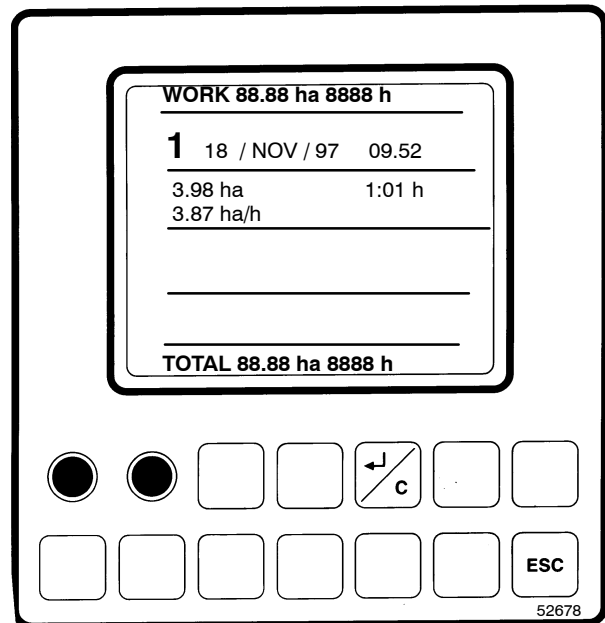
5.3 Clearing memories - Figure 101

A selected memory (refer to subheading 5.2) can be cleared by pressing  to bring the selected memory values to ZERO. This action can be repeated for each memory, **except for memory 1**.

All memories which are brought to ZERO are cleared


when leaving the memory mode by pressing  .

The display automatically returns to the area counter mode.




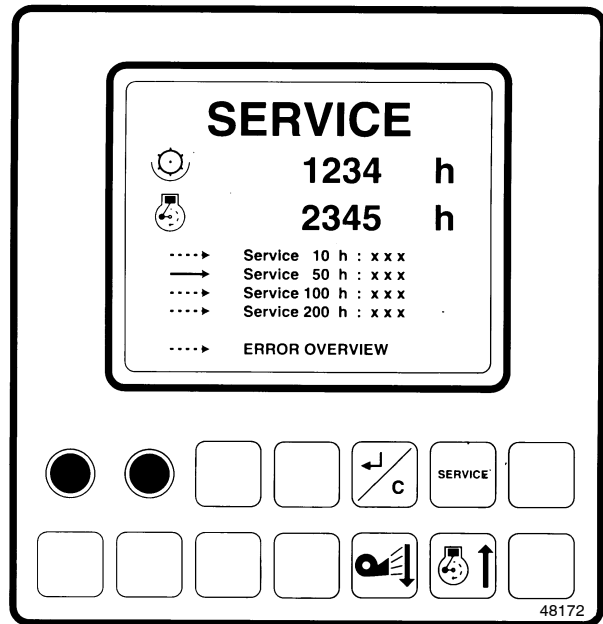
101

6 - SERVICE MODE - Figure 102

Press  to enter the service mode, which will display:

- Total threshing drum hours
- Total engine hours
- Engine hours service intervals
- Error view selector line

Leave the service mode by pressing .



102



6.1 Service intervals

The service intervals are displayed as follows:


- Service 10 h : W
- Service 50 h : X
- Service 100 h : Y
- Service 200 h : Z

W, X, Y and Z are counted engine hours. These values start to blink if the service interval is exceeded.


After servicing the combine, the related service interval has to be reset.

To reset a service interval, press  or  to

select the desired service interval (marked by an arrow next to the service interval) and then press

 to reset. This command returns the engine hours value of the related service interval to ZERO.

6.2 Error summary - Figure 103

Select the error summary by pressing  or

, and then  to confirm.

The error reporting system provides the following information:


- Error code:
 - 1 up to 99 : high importance level
 - 100 up to 499 : medium importance level
 - 500 up to 999 : low importance level

IMPORTANT:

Error 171 is not an error but a real time voltage measurement.

- Error frequency:

The error counter indicates the frequency of the related error.

After the error has been corrected, reset the counter, by pressing .

This will delete the error from the error summary.

- Error date and time of first occurrence.
- Error description.

The error reporting system informs the user in different ways:

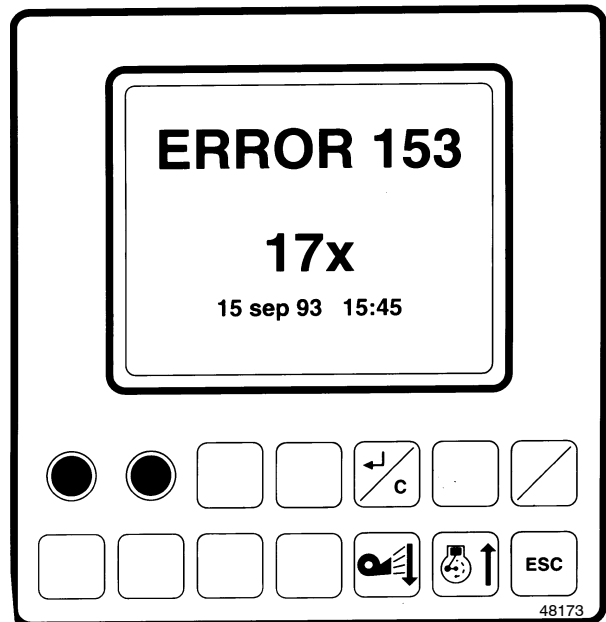
- All errors that can be detected when the ignition key is in the ON position, before starting the engine, are displayed at that moment.

These error reports can be cleared by pressing

 or by starting the engine.

- After starting the engine, the errors with high or medium importance levels are displayed whenever they occur (linked to an audible alarm).

The **high priority errors** are displayed continuously as long as the error exists, because the system cannot function as long as the error exists.






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NOTE:

Do **not** automatically assume that if an error message is displayed you need to stop the combine immediately.

The **medium priority errors** remain on the screen for 5 seconds.

The **low priority errors** can only be viewed through the error summary routine in the service mode or after power has been switched on.

- All errors can be viewed in the service mode by selecting the error summary, using  or, , and pressing  to enter the error summary.

If more than one error is to be displayed, they appear in order of priority and in numerical order, each error for 5 seconds, until all errors have been displayed.


With the  or  keys, the next error may be immediately displayed on the screen.

REMARKS:

1. "Error 100", which has a different screen layout, appears when the total engine hours stored in each different electrical component are not within 10 hours of each other (component replaced).

Contact your New Holland dealer as soon as possible to verify this. In the meantime you can continue to use the combine as it does not effect the function of the system.

2. "Error 171" is not an error indication, but the battery voltage indication.

- Press  to continue the error summary when on error 100 or 171.

- Leave the service mode by pressing



Error table

Code	Error description	Importance
000	(NO ERROR)	
001	"LCD NETWORK ERROR" Optical fibre failure.	HIGH
002	"OTHER NETWORK ERROR" Optical fibre failure.	HIGH
003	"NETWORK OVERLOAD" Too much traffic on the local network.	HIGH
004	"SOFTWARE ERROR" Software fault or failure has been detected.	HIGH
100	"TOTAL ENGINE HOURS =" Different total hours are detected in the nodes on the network. REMARK: This error is displayed in a special error page format. Refer to paragraph 6.2.	MEDIUM
113	"CHOPPER LEFT SENS. 0" Chopper rpm sensor disconnected.	MEDIUM
114	"CHOPPER LEFT SENS. -" Chopper rpm sensor shorted to ground.	MEDIUM
115	"CHOPPER LEFT SENS. +" Chopper rpm sensor shorted to +12 Volt.	MEDIUM
116	"CHOPPER ACTION FAULT" Malfunction of the chopper actuator, motor or clutch.	MEDIUM
120	"GROUND SPEED SENS. 0" Ground speed sensor disconnected.	MEDIUM
121	"GROUND SPEED SENS. -" Ground speed sensor shorted to ground.	MEDIUM
122	"GROUND SPEED SENS. +" Ground speed sensor shorted to +12 Volt.	MEDIUM
125	"ENGINE RPM SENSOR 0" Engine rpm sensor disconnected.	MEDIUM
126	"ENGINE RPM SENSOR -" Engine rpm sensor shorted to ground.	MEDIUM

Code	Error description	Importance
127	<p>“ENGINE RPM SENSOR +” Engine rpm sensor shorted to +12 Volt.</p>	MEDIUM
130	<p>“REEL SPEED SENSOR 0” Reel speed sensor disconnected (open) when the drum mechanism is on.</p> <p>REMARK: The error will only be valid if the drum mechanism is on and if the header is a grain header as it is disabled for maize headers and for road transport, when the header is usually disconnected.</p>	MEDIUM
131	<p>“REEL SPEED SENSOR -” Reel speed sensor shorted to ground when the drum mechanism is on.</p> <p>REMARK: The error will only be valid if the drum mechanism is on and if the header is a grain header as it is disabled for maize headers and for road transport, when the header is usually disconnected.</p>	MEDIUM
132	<p>“REEL SPEED SENSOR +” Reel speed sensor shorted to +12 Volt when the drum mechanism is on.</p> <p>REMARK: The error will only be valid if the drum mechanism is on and if the header is a grain header as it is disabled for maize headers and for road transport, when the header is usually disconnected.</p>	MEDIUM
133	<p>“REEL SPEED VARIATOR” The automatic reel speed control is not functioning due to open or shorted reel speed actuator.</p> <p>REMARK: The error will only be valid if the header is a grain header.</p>	MEDIUM
140	<p>“RETURN LEFT SENSOR 0” Left-hand returns sensor disconnected.</p>	MEDIUM
141	<p>“RETURN LEFT SENSOR -” Left-hand returns sensor shorted to ground.</p>	MEDIUM
142	<p>“RETURN LEFT SENSOR +” Left-hand returns sensor shorted to +12 Volt.</p>	MEDIUM

Code	Error description	Importance
145	"HEADER HEIGHT S. 0/-" Header height sensor or potentiometer disconnected or shorted to ground.	MEDIUM
146	"HEADER HEIGHT SENS. +" Header height sensor or potentiometer shorted to +12 Volt.	MEDIUM
153	"LOSS SENS WALKER R 0" Right-hand straw walker loss sensor disconnected.	MEDIUM
154	"LOSS SENS WALKER R -" Right-hand straw walker loss sensor shorted to ground.	MEDIUM
155	"LOSS SENS WALKER R +". Right-hand straw walker loss sensor shorted to +12 Volt.	MEDIUM
156	"LOSS SENSOR SIEVES 0" Sieves loss sensor disconnected.	MEDIUM
157	"LOSS SENSOR SIEVES -" Sieves loss sensor shorted to ground.	MEDIUM
158	"LOSS SENSOR SIEVES +" Sieves loss sensor shorted to +12 Volt	MEDIUM
170	"DISPLAYTEMP TOO HIGH" The monitor display temperature is too high (65° C < temperature < 70° C) REMARK: The display will become blank and the display backlighting intensity will decrease if the temperature > 70° C. If the temperature decreases below 70° C, then the display will be reactivated. At the same time this error will appear on the screen.	MEDIUM
171	"SUPPLY VOLT = XX.X V" The voltage is shown. This error will perform a real time voltage measurement.	MEDIUM
180	"CENTRAL PRINT FAULT1" Poor connection in flat cables at rear of printed circuit in central electrical box.	MEDIUM
181	"CENTRAL PRINT FAULT2" Poor connection in flat cables at rear of printed circuit in central electrical box.	MEDIUM
182	"CENTRAL PRINT FAULT3" Poor connection in flat cables at rear of printed circuit in central electrical box.	MEDIUM

Code	Error description	Importance
200	“LEVEL PRINT FAILURE” Electronics on levelling printed circuit not functioning.	MEDIUM
201	“LEVEL PRINT FAULT” Electronic steering of the actuator output on the printed circuit not functioning. The levelling printed circuit continues its work using relays only, but it will fail soon due to burned contacts.	MEDIUM
202	“LEVEL 2 END COURSE” 2 end-of-course sensors are detected at the same time.	MEDIUM
203	“LEVEL STILL AT END L” Power is delivered to the actuator motor but the left end-of-course sensor does not detect the expected action (departure of the levelling movement).	MEDIUM
204	“LEVEL STILL AT END R” Power is delivered to the actuator motor but the right end-of-course sensor does not detect the expected action (departure of the levelling movement).	MEDIUM
205	“LEVEL NOT ARRIVED L” Power is delivered to the actuator motor for 30 seconds to lift left side up and the end-of-course switch has not yet detected the levelling.	MEDIUM
206	“LEVEL NOT ARRIVED R” Power is delivered to the actuator motor for 30 seconds to lift right side up and the end-of-course switch has not yet detected the levelling.	MEDIUM
207	“NO LEVEL P. DIAGNOSE” The serial diagnose line from the levelling module to the central box is interrupted.	MEDIUM
505	“ROTARY SEPARATOR S. 0” Rotary separator rpm sensor disconnected (open).	LOW
506	“ROTARY SEPARATOR S. -” Rotary separator rpm sensor shorted to ground.	LOW
507	“ROTARY SEPARATOR S. +” Rotary separator rpm sensor shorted to +12 Volt.	LOW
510	“WALKER RPM SENSOR 0” Straw walker rpm sensor disconnected (open).	LOW
511	“WALKER RPM SENSOR -” Straw walker rpm sensor shorted to ground.	LOW
512	“WALKER RPM SENSOR +” Straw walker rpm sensor shorted to +12 Volt.	LOW

Code	Error description	Importance
515	“BEATER RPM SENSOR 0” Beater rpm sensor disconnected (open).	LOW
516	“BEATER RPM SENSOR -” Beater rpm sensor shorted to ground.	LOW
517	“BEATER RPM SENSOR +” Beater rpm sensor shorted to +12 Volt.	LOW
520	“GRAIN ELEVATOR S. 0” Grain elevator sensor disconnected (open).	LOW
521	“GRAIN ELEVATOR S. -” Grain elevator sensor shorted to ground.	LOW
522	“GRAIN ELEVATOR S. +” Grain elevator sensor shorted to +12 Volt.	LOW
525	“FAN RPM SENSOR 0” Fan rpm sensor disconnected (open).	LOW
526	“FAN RPM SENSOR -” Fan rpm sensor shorted to ground	LOW
527	“FAN RPM SENSOR +” Fan rpm sensor shorted to +12 Volt.	LOW
530	“DRUM RPM SENSOR 0” Drum rpm sensor disconnected (open).	LOW
531	“DRUM RPM SENSOR -” Drum rpm sensor shorted to ground.	LOW
532	“DRUM RPM SENSOR +” Drum rpm sensor shorted to +12 Volt.	LOW
535	“RETURN RIGHT SENS. 0” Right-hand returns sensor disconnected (open).	LOW
536	“RETURN RIGHT SENSOR -” Right-hand returns sensor shorted to ground.	LOW
537	“RETURN RIGHT SENSOR +” Right-hand returns sensor shorted to +12 Volt.	LOW

Code	Error description	Importance
540	“LATER. FLOAT S. 0/-” Lateral float sensor or potentiometer disconnected or shorted to ground.	LOW
541	“LATER. FLOAT IND.S.+ ” Lateral float sensor or potentiometer shorted to +12 Volt.	LOW

7 - CALIBRATION

When to calibrate

Calibration is carried out:

- During assembly of the combine (main portion of the calibration menu)
- Before the first start-off (and when installing important accessories afterwards)
- Whenever changing:
 - Traction wheels
 - Header
 - Header height setting
 - Cleaning shoe speed (returns sensor)
 - Time (e.g. from summer to winter time)
- After repair of:
 - Header height sensor


- Monitor
- Lateral float sensor
- Returns sensor

Access to the Calibration mode

1. When the power is switched on, by means of the ignition key, the monitor display will show the rpm operation mode.

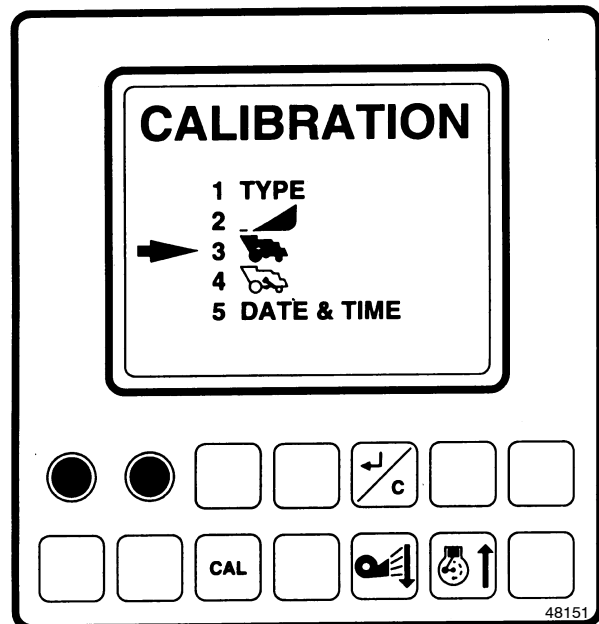
IMPORTANT:

As some calibration jobs require a running engine, it is advisable to start the engine before entering the calibration mode!



2. Enter the calibration mode by pressing  .


The display will show the **five calibration selection lines** - Figure 104:

- 1 Machine type and specifications
- 2 Header width and height
- 3 Ground speed
- 4 Returns indication
- 5 Date and time




104

3. The selection lines can be selected with the scroll keys  or  .

Press  to validate the choice.

Each selection line contains different items which are or are not applicable for the specific combine.

NOTE:

- All calibrations or steps made are to be **validated** by pressing  .

Then automatically the display will show the next step.

- At **the first start-off** it is advisable to go through all the items as explained below. Nevertheless, most will be calibrated before shipment.
- Every item of a specific selection line can be changed (calibrated) **separately** without having to recalibrate the other ones.

To arrive at a specific item in a selection line, proceed as follows:

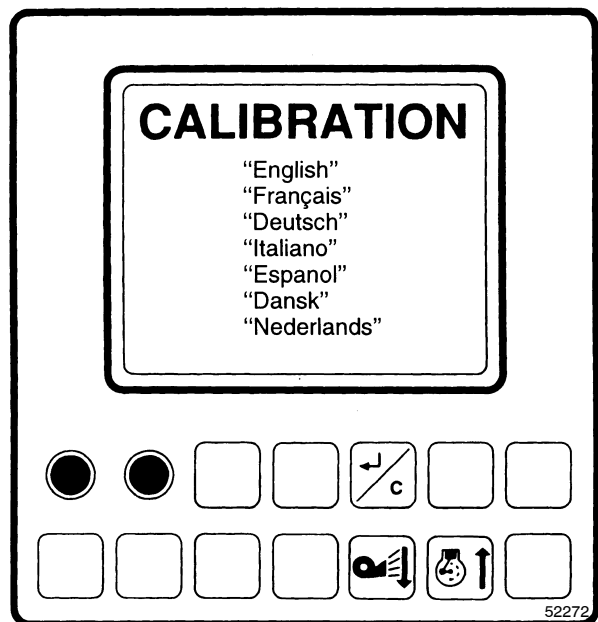
- a) Once arrived at a selection line, as described, press to go from one item to the next one. Press as many times as needed until the appropriate item is reached.
- b) When no further items need to be calibrated, it is not necessary to proceed to the end of a selection line, which is when "CAL/SET COMPLETE" is displayed.
- c) After the calibration of a specific item is validated by pressing , the calibration mode can be left by pressing .

Line 1 - TYPE

- 1. Select line 1 ("TYPE") in the calibration mode by pressing or , and to validate the choice.

a) Figure 105 - Appearing:




Select the correct language by pressing or , and to validate the choice.




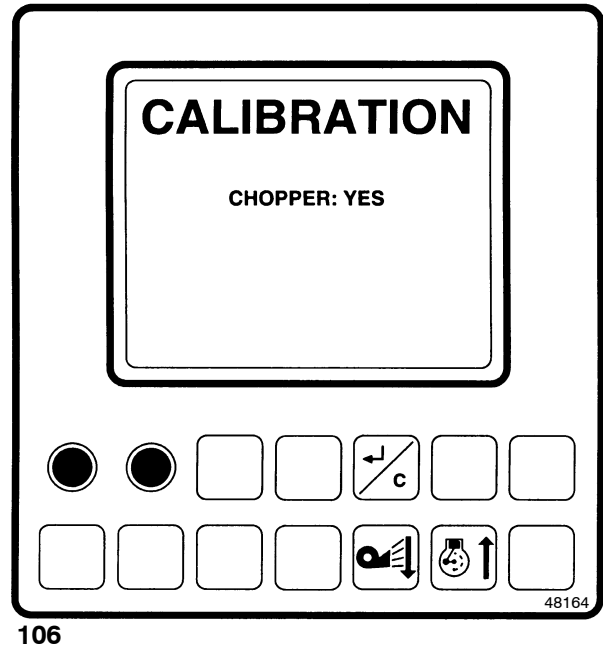
105

b) Figure 106 – Appearing:

“CHOPPER: YES” or “CHOPPER: NO”





- In case a straw chopper is installed, select “CHOPPER: YES” by pressing  or , and  to validate the choice.

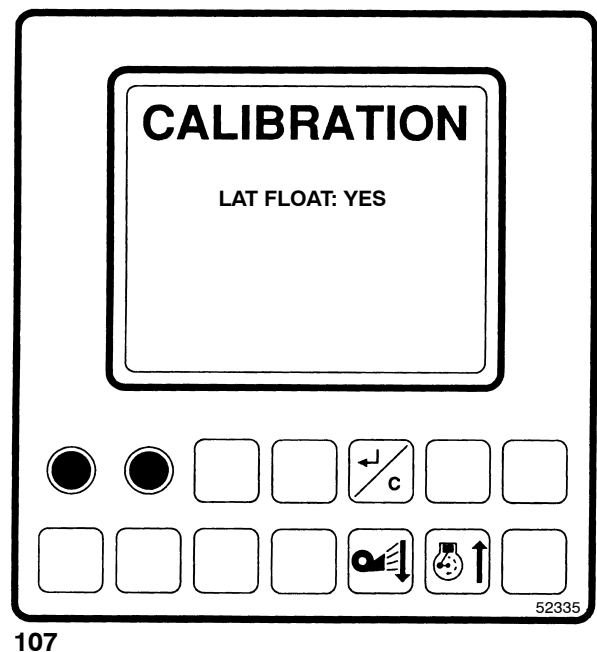
- In case no straw chopper is installed, select “CHOPPER: NO” by pressing .



c) Figure 107 – Appearing:





“LAT. FLOAT: YES” or “LAT. FLOAT: NO”

- In case the machine is equipped with header lateral flotation, select “LAT. FLOAT: YES” by pressing  or , and  to validate.
- If not, confirm “LAT. FLOAT: NO” by pressing .

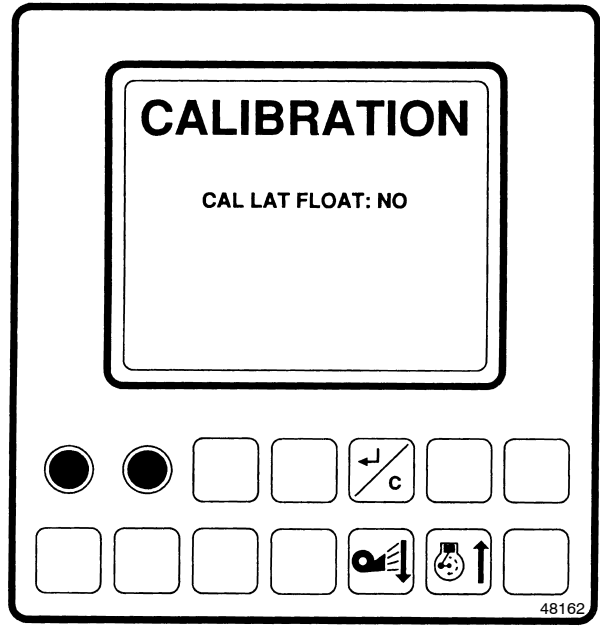


d) Figure 108 – Appearing:

“CAL LAT FLOAT: NO”


- In case the machine is equipped with lateral flotation (selected “LAT. FLOAT: YES” as described in c), and the lateral float bargraph indicator B (Fig. 82) should give a correct indication of the header position, select “CAL LAT. FLOAT: YES” by pressing  or , and  to validate the choice.
- If the lateral float bargraph indicator is already giving a correct indication of the header position, select “CAL LAT FLOAT: NO” by pressing .

When selecting “CAL LAT FLOAT: NO”, the calibration procedure will automatically continue with step f.




108

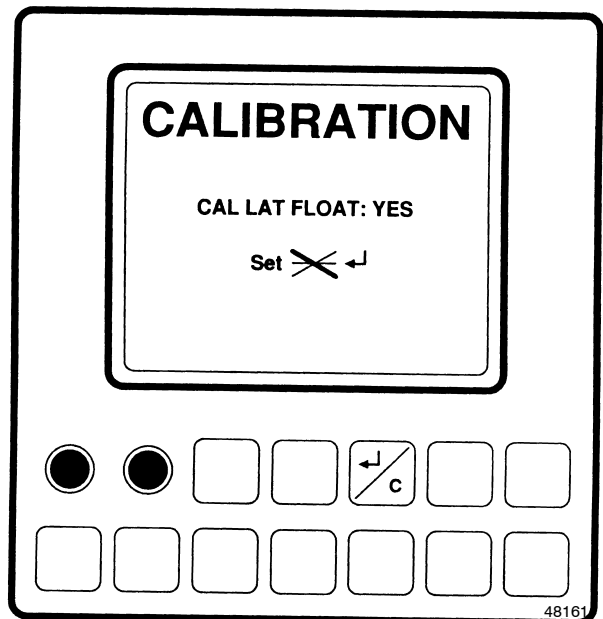
e) • Figure 109 – Appearing:

“CAL LAT FLOAT: YES - SET  ”

Tilt the header completely to the right-hand side (this side down) with the lateral float control switch in the lever.


At its end-of-stroke, release the lateral float control switch and press  to

validate this position.




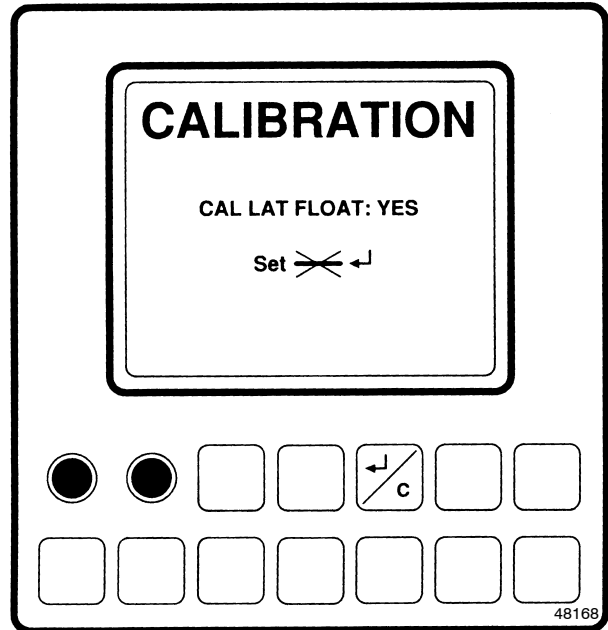
109

- Figure 110 – Appearing:

“CAL LAT FLOAT: YES - SET  ”


Now move the header to its mid-position.


Press  to validate this position.



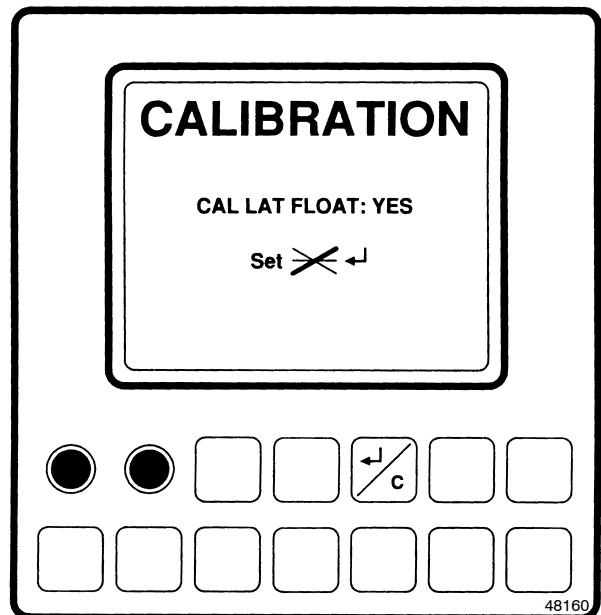
110

Figure 111 – Appearing:

- “CAL LAT FLOAT: YES - SET  ”

Now tilt the header completely to the left-hand side (this side down) until its end-of-stroke. Press  to validate this position.

Now the lateral float bargraph indicator B (Fig. 82) should show the correct header position.






111

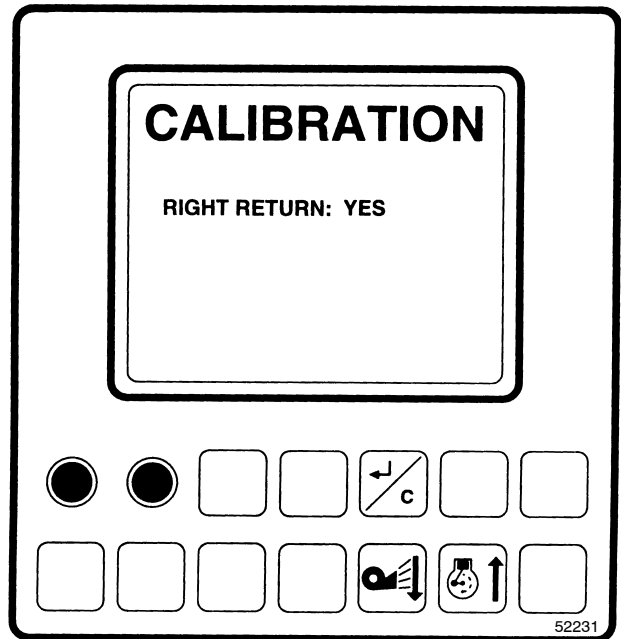
f) Figure 112 – Appearing:

“RIGHT RETURN : YES”

Models TX62, TX63, TX64^{PLUS} and TX65^{PLUS} do not have a right return, so select “RIGHT RETURN : NO”.

Models TX66, TX67, TX68 and TX68^{PLUS} do have a right return, so select “RIGHT RETURN : YES”.

Select by pressing  or , and  to validate.






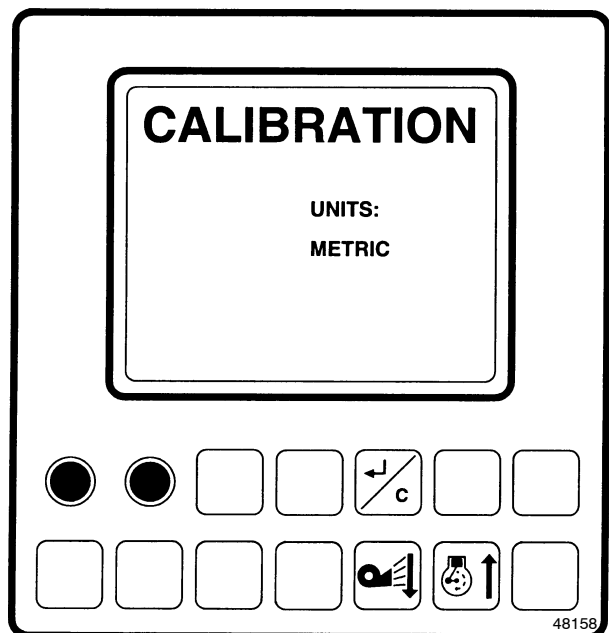
112

g) Figure 113 – Appearing:

“UNITS: METRIC” OR “UNITS: IMPERIAL”

This calibration offers the possibility to have a read-out of the data on the display in metric (km/h - ha) or imperial values (miles/h - acres).

Select by pushing  or  and  to validate the choice.



113



h) Figure 114 – Appearing:

“MAXIMUM ENGINE RPM XXXX”

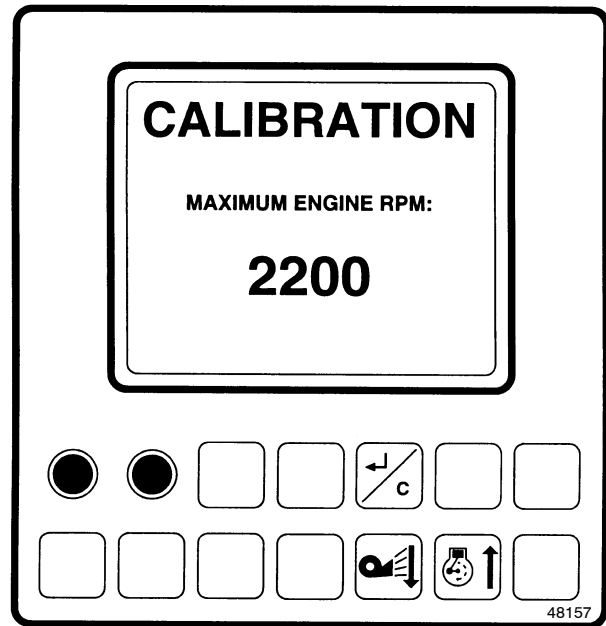
The four X’s should read: 2200

This is the engine high idle speed (under no load), which will be used as a reference for the engine speed bargraph and rpm monitor.

Select the correct number by pressing

 or , and validate by pressing



.



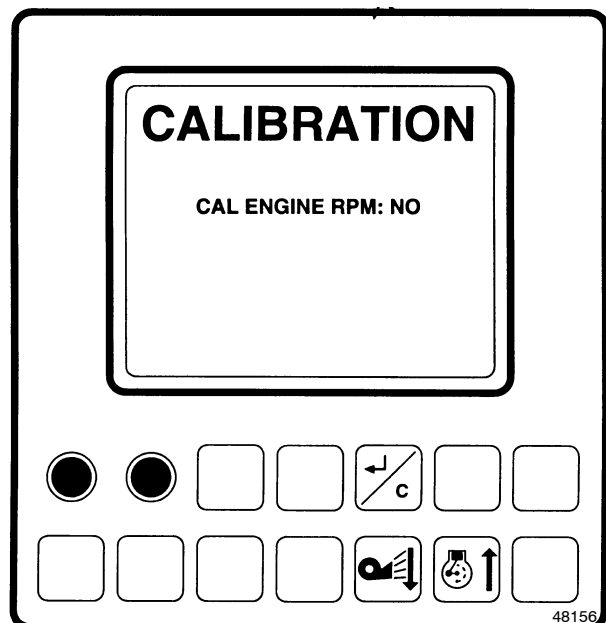
114

i) Figure 115 – Appearing:

“CAL ENGINE RPM: NO”


- In case an engine rpm calibration is required to give a correct indication on the engine speed bargraph and rpm monitor, select “CAL ENGINE RPM: YES” by pressing  or , and validate

by pressing .



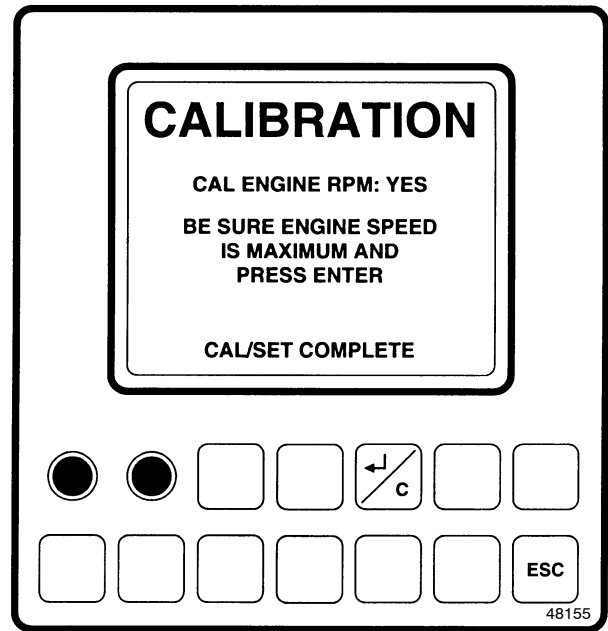
115

The display will show - Figure 116
 "BE SURE ENGINE SPEED IS MAXIMUM AND PRESS ENTER"

Run the engine at maximum speed without any mechanism being engaged and press  to confirm this speed.

The theoretical engine speed given before is now matched to the realistic one. The lights on the rpm monitor will blink for 5 seconds. The real engine high idle speed is now introduced as reference rpm.

- When selecting "CAL ENGINE RPM: NO", the calibration procedure will automatically continue with step j.





116

j) Figure 117 - Appearing:

"CLEANING SHOE
 SL: YES
 FS: NO"


- In case the machine is equipped with a fixed cleaning shoe, select:

"CLEANING SHOE
 SL: NO
 FS: YES"

by pressing  or  , and  to validate.

- In case the machine is equipped with a self-levelling cleaning shoe, select:

"CLEANING SHOE
 SL: YES
 FS: NO"

by pressing  or  , and  to validate.

On units equipped with a flex header control printed circuit, continue with step l.





117


k) Figure 118 – Appearing:

“DISPLAY CONCAVE : YES”

- Models TX64^{PLUS}, TX65^{PLUS}, TX66, TX67, TX68 and TX68^{PLUS}:

These combines are equipped with an electrical threshing concave adjustment. To continuously display the concave position on the main screen, select “DISPLAY CONCAVE: YES” by pressing



 or , and validate the choice


by pressing .

The calibration procedure will automatically continue with step l.

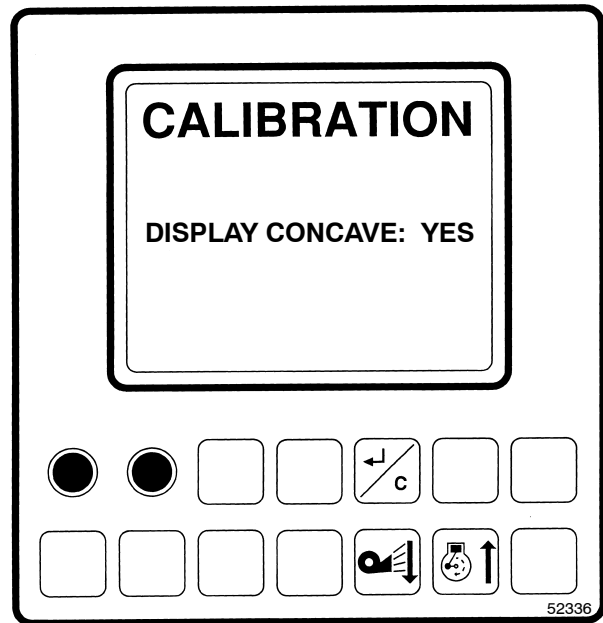
- Models TX62-TX63:

Select “DISPLAY CONCAVE : NO” by

pressing  or , and validate

the choice by pressing .





The calibration procedure will automatically continue with step o.

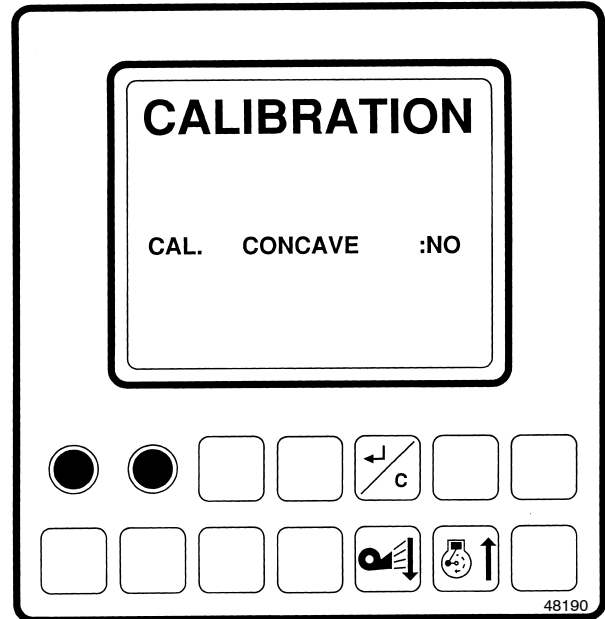


118

l) Figure 119 - Appearing:

“CAL CONCAVE :”

- In case a threshing concave actuator calibration is required to give a correct indication of the concave position, shown on the bottom line of the monitor rpm mode, select “CAL. CONCAVE: YES” by pressing  or , and  to validate the choice.
- If not, confirm “CAL. CONCAVE: NO” by pressing .




119

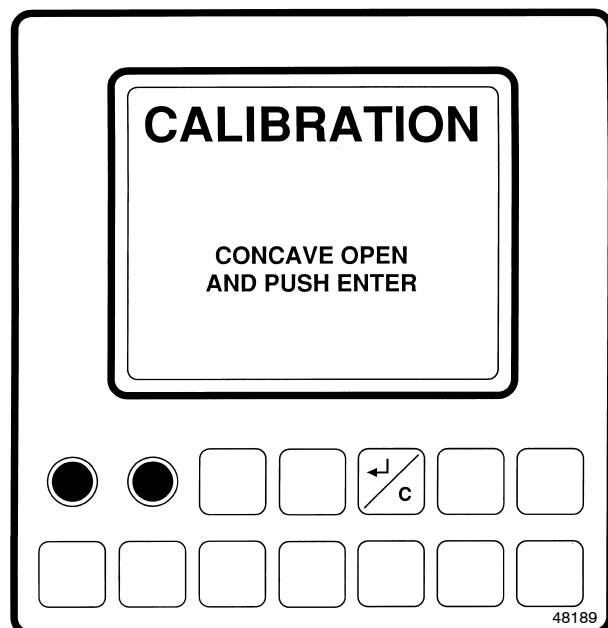
The calibration procedure will automatically continue with step o.

On units equipped with a flex header control printed circuit, continue with step r.

m) Figure 120 - Appearing:

“CONCAVE OPEN AND PUSH ENTER”

Lower the concave completely with the concave control switch on the dashboard. At its end-of-stroke, release the concave control switch. Press  to validate this position.




120

n) Figure 121 – Appearing:

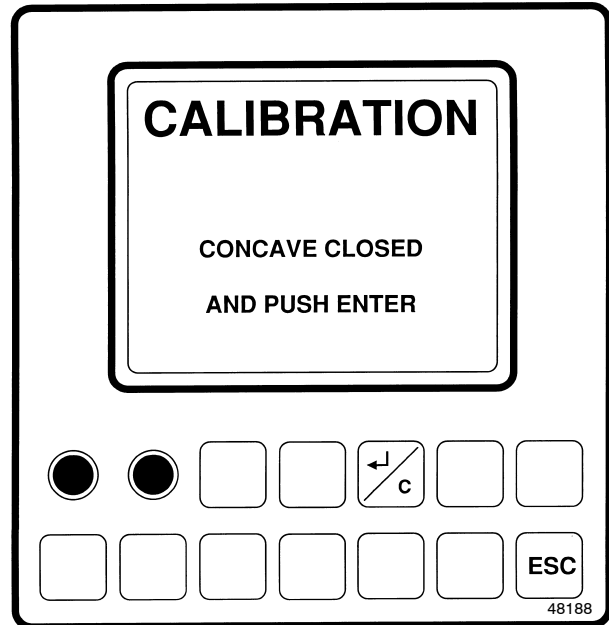
“CONCAVE CLOSED AND PUSH ENTER”

Now raise the concave completely.

At its end-of-stroke, press  to validate this position.

The calibration procedure will automatically continue with step o).

On units equipped with a flex header control printed circuit, continue with step r.






121

o) Figure 122 – Appearing:

“AUTOMATIC COMP.: YES”

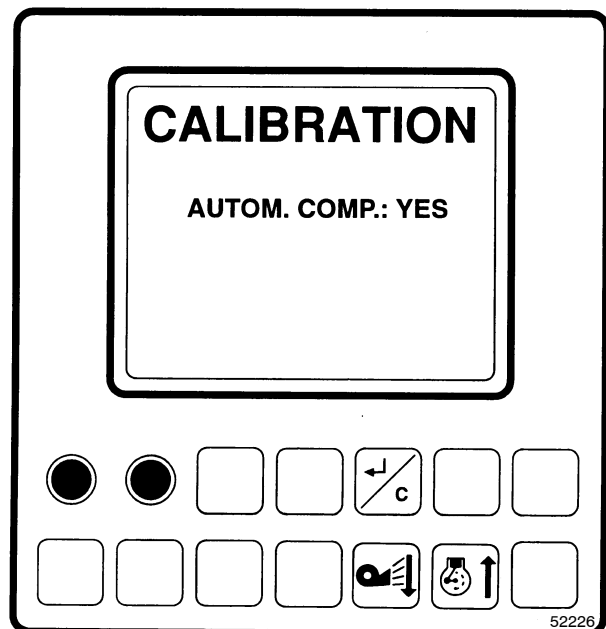
- When the combine is equipped with automatic header compensation, select :

“AUTOMATIC COMP.: YES” by pressing

 or , and  to validate.

The calibration procedure will automatically continue with step r.




- When selecting “AUTOMATIC COMP.: NO” (TX62 option), the calibration procedure will automatically continue with step p).



122

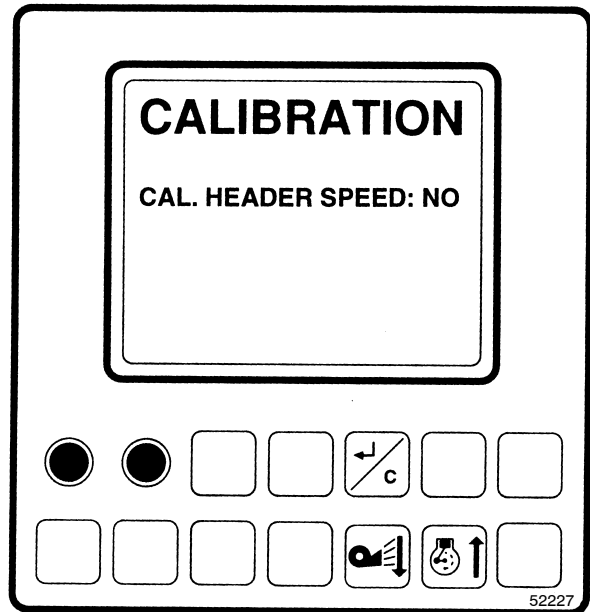
p) Figure 123 – Appearing:

“CAL. HEADER SPEED: NO”

- Select “CAL. HEADER SPEED: NO” by pressing  or , and validate by pressing .

The calibration procedure will automatically continue with step r.




- Select “CAL. HEADER SPEED: YES” when the settings of the header speed should be changed. The calibration procedure will automatically continue with step q.

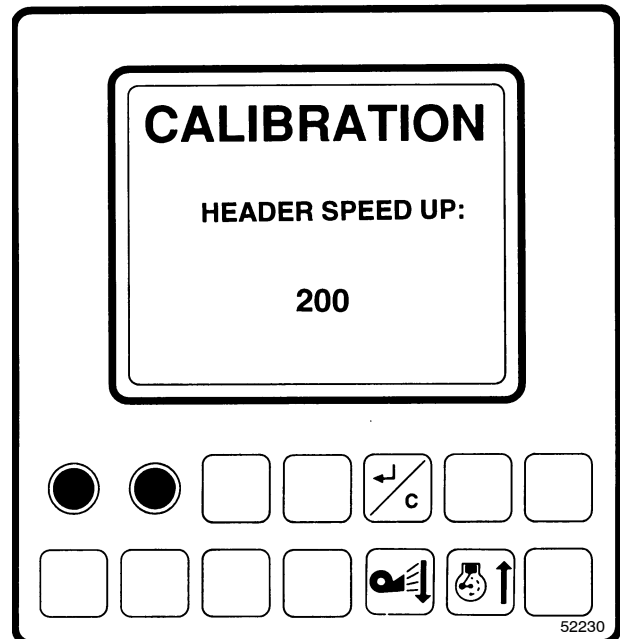


123

q) • Figure 124 – Appearing:

“HEADER SPEED UP: 200”

Now it is possible to change the header speed up constant into a new one between 0 and 200 by pressing  or , and  to validate the new value.






124

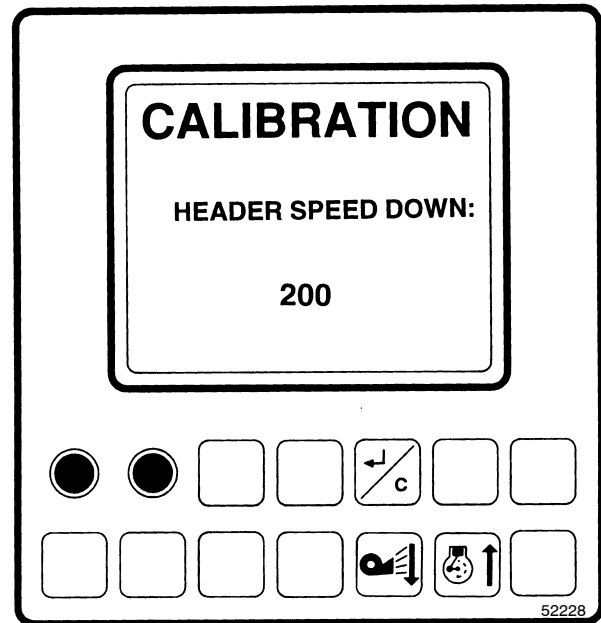
- Figure 125 - Appearing:

“HEADER SPEED DOWN: 200”

Now it is possible to change the header speed down (in the “slow” position of the button) constant into a new one between

0 and 200 by pressing  or ,

and  to validate the new value.






125

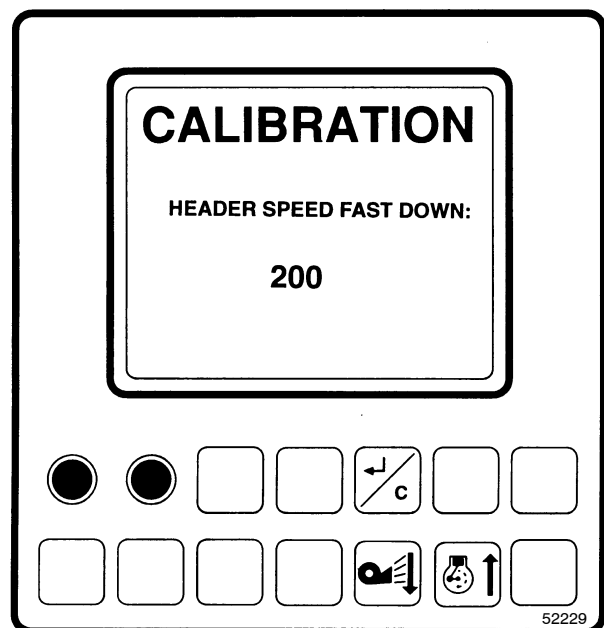
- Figure 126 - Appearing:

“HEADER SPEED FAST DOWN: 200”

Now it is possible to change the header speed fast down (in the “fast” position of the button) constant into a new one between

0 and 200 by pressing  or




, and  to validate the new value.




126







r) Figure 127 – Appearing:

“Set contrast LCD and push ENTER”

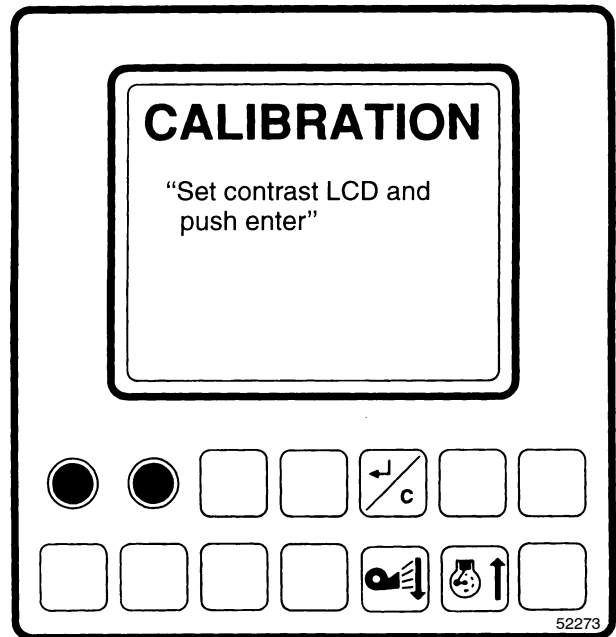
- Change the contrast of the display by pressing  or , and press  to validate the choice.

NOTE:

In case someone pressed the  button while the screen was completely dark or completely blank, press the following keys:

-  1x
-  1x
-  1x
-  A x.. (Fig. 128) for TX60 Series combines without flex header
 B x.. (Fig. 129) for TX60 Series combines equipped with a flex header control printed circuit.
-  or 

in that sequence until “SET CONTRAST LCD AND PUSH ENTER” becomes visible on the screen. Adjust and validate the contrast as explained above.



127

A	Lateral float	Concave display	Compensation
11	NO	NO	YES
12	NO	NO	NO
	NO	YES	YES
	YES	NO	YES
13	YES	YES	YES

128



B	Lateral float
10	NO
11	YES

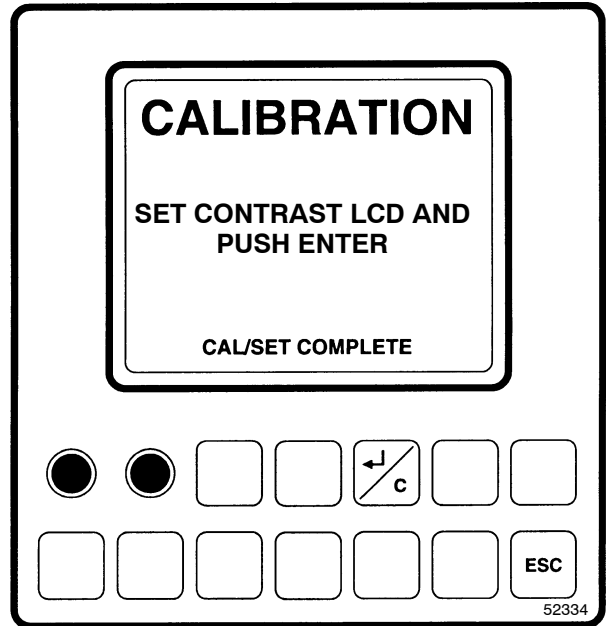
129

- At the bottom of the display appears - Figure 130: "CAL/SET COMPLETE".

This means line 1 is now completely calibrated. After 5 seconds the monitor will return to the rpm mode as shown in Figure 84.


NOTE:


This is the case after a complete calibration of each selection line (when "CAL/SET COMPLETE" is shown) or when pressing  after a specific item calibration is confirmed (by pressing ).



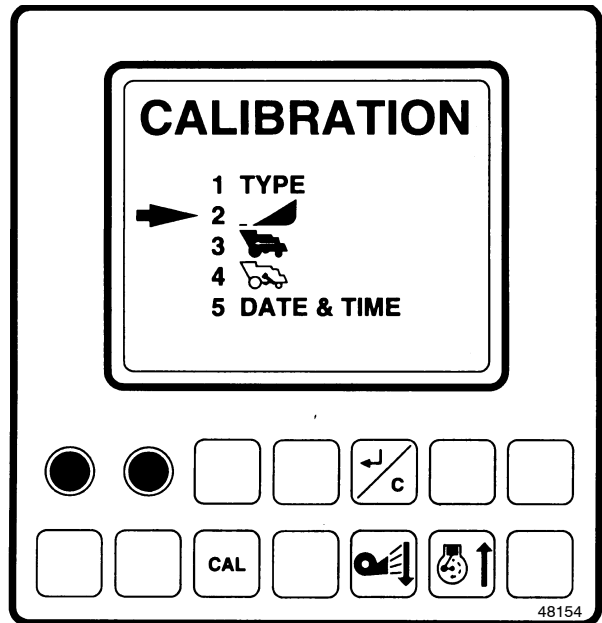
130

Line 2 - HEADER - Figure 131

- Enter the calibration mode by pressing .

- Select line 2 ("HEADER") by pressing  or

, and  to validate the choice.



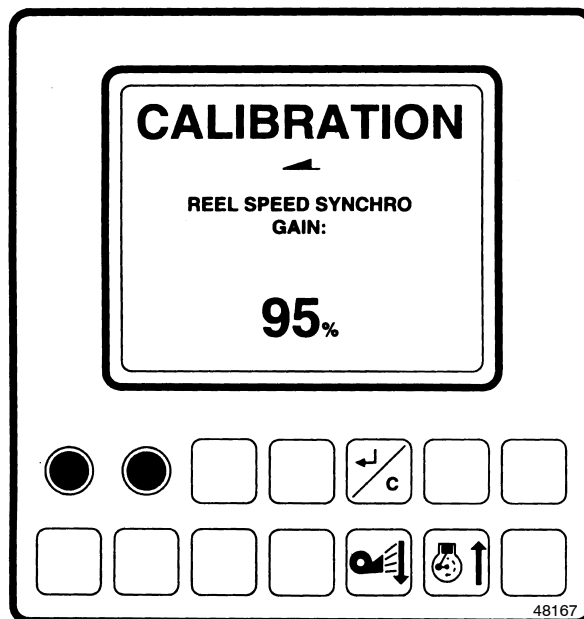
131

a) On the display will appear - Figure 132:

“REEL SPEED SYNCHRO GAIN: 95 %”

The reel speed synchronization system is an automatic system which, if switched on with switch 43 (Section 2, Fig. 10) in the instrument panel, creates a linear relationship of the reel speed (in m/sec) with the ground speed. The “gain factor” is the factor which controls the amount of increase of reel speed for a certain amount of increase of ground speed.

The smaller the factor (%) is, the smaller the increase of the reel speed will be versus the same ground speed increase.



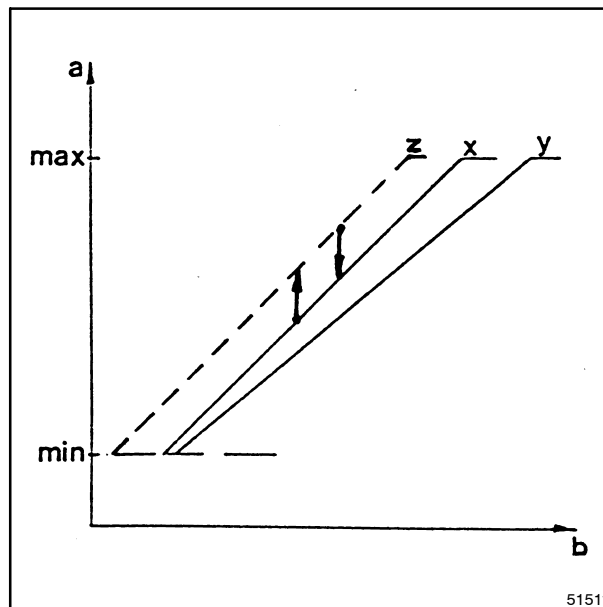
132

Refer to Figure 133:


- a Reel circumference speed (m/sec)
- b Ground speed (m/sec)
- x Relationship of reel speed to ground speed with a factor of 100 %
- y Relationship of reel speed to ground speed with a factor of 95 %


The “gain factor” can be selected between 0 and 1000:

- 0: The reel speed is constant and independent of the ground speed
- 100: When the ground speed increases 1 m/sec, then the reel speed increases 1 m/sec
- 1000: When the ground speed increases 1 m/sec, then the reel speed increases 10 m/sec



133

Select the number by pressing  or

, and then validate by pressing

.

NOTE:

Manual operation of the reel speed variator swith increases (↑) or decreases (↓) the reel speed versus the ground speed but the relationship remains the same (z), even if the battery key was turned off.

b) Figure 134 - Appearing:

“HEADER WIDTH: XXX cm”

NOTE:

In case Imperial values were chosen “HEADER WIDTH: XXftXXinch” will appear.

- In case a grain header is attached:

Select the correct header width by pressing

 (*) or  (*), and 

to validate.

This will give a correct hectare count.

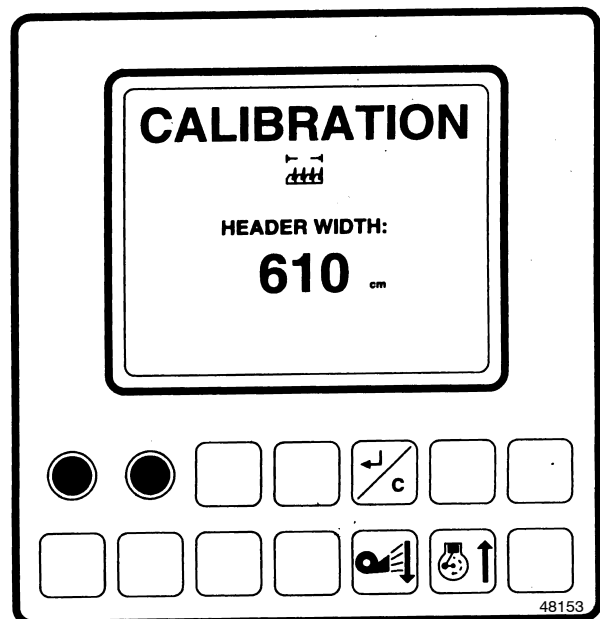
17 ft = 518 cm

20 ft = 610 cm

24 ft = 731 cm

A figure up to 1999 cm can be filled in.

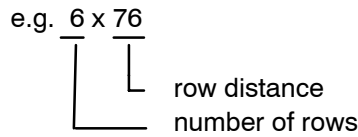
(*): If the key is held for more than 2 seconds, the speed of change increases!






134

- When a maize header is attached: increase the header width to a value higher than 1999.

Select: number of rows x row distance (always in cm!)




Select by pressing  or ,

and  to validate.

c) Figure 135 - Appearing:




“CALIBRATE HEIGHT: NO”

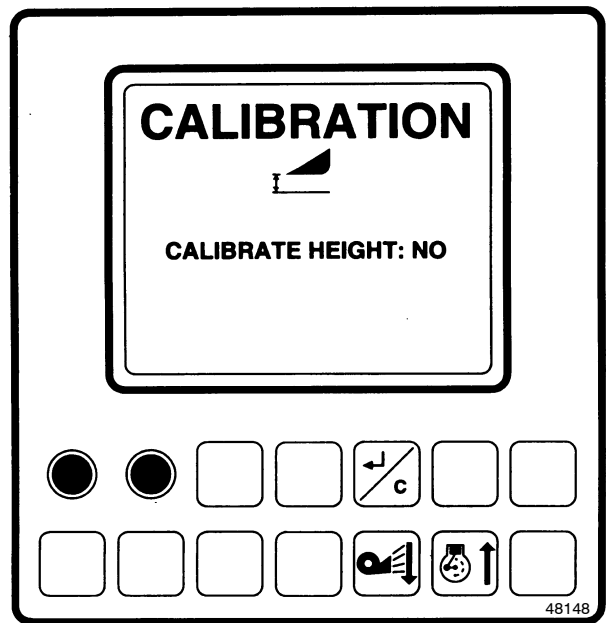
It can be necessary to calibrate the header height, e.g. when attaching a maize header or changing wheels. This will ensure a correct use of the header height bargraph indicator C (Figure 84).

- If not needed, validate the “NO” choice by pressing .

At the bottom of the display appears “CAL/SET COMPLETE”. This means line 2 is now completely calibrated (*). After 5 seconds the monitor will return to the rpm mode as shown in Figure 84.

(*): On units equipped with a flex header control printed circuit, continue with step f.

- If needed, select “CALIBRATE HEIGHT: YES” by pressing  or ,
- and  to validate.



135

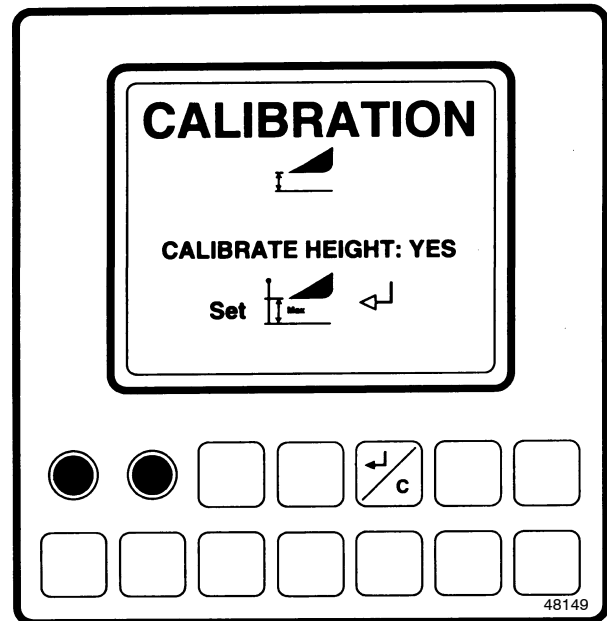
d) Figure 136 - Appearing:

“SET MAXIMUM STUBBLE” symbol

Bring the header in the maximum stubble height position (*) (own choice).

(*): This position is also the height above which the hectare counter will stop counting.


Press  to validate.



136

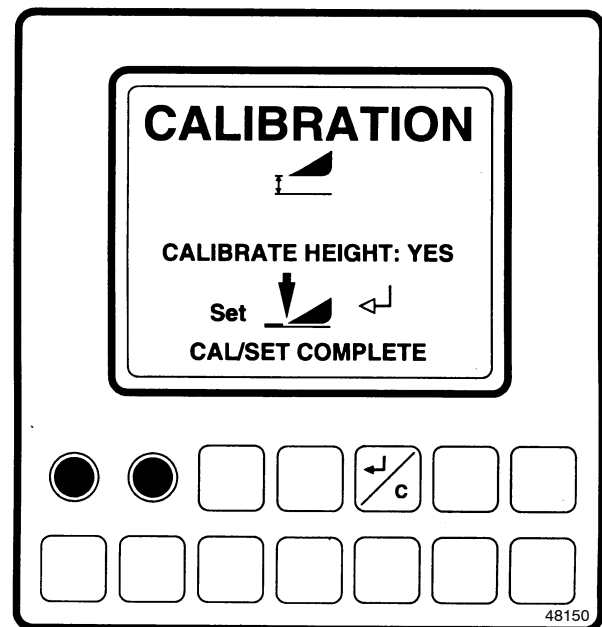
e) Figure 137 - Appearing:

“SET GROUND LEVEL” symbol

Lower the header to the ground or lowest level of operation and press  to validate.

At the bottom of the display appears “CAL/SET COMPLETE”. This means line 2 is now completely calibrated. (*)

After 5 seconds the monitor will return to the rpm mode as shown in Figure 84.



137

(*) On units equipped with a flex header control printed circuit, continue with step f.

f) Figure 138 - Appearing:




“FLEX HEADER INSTALLED: NO”

- If no flex header is installed, press



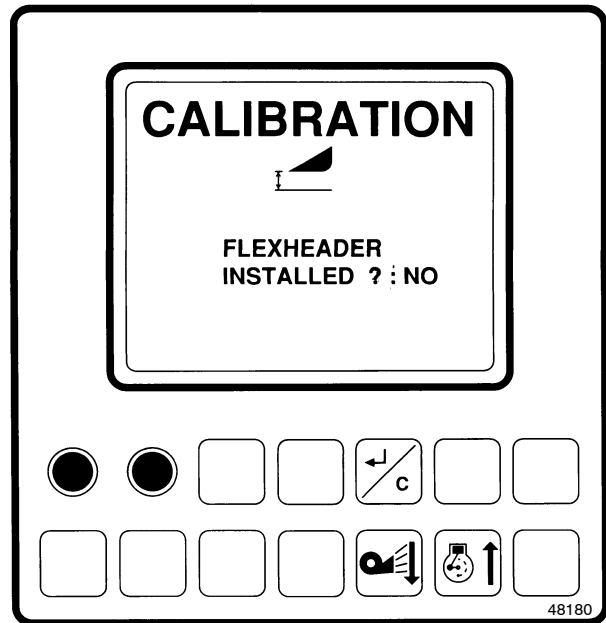
to validate.

- The display will show “CAL/SET COMPLETE” and the monitor will return, after 5 seconds, to the rpm mode as shown in Figure 84.

- If a flex header is installed, press  or  to select FLEX HEADER INSTALLED: YES”, and press  to validate.

NOTE:

Ensure that plug A (Fig. 3) is plugged into socket C!



138

g) Figure 139 - Appearing:

“FLEX HEADER SENS: X.XXX”

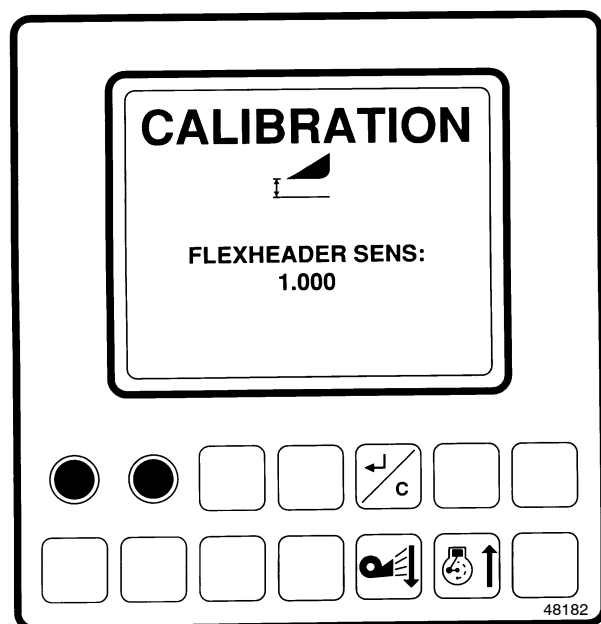
X.XXX is a constant which can be selected between 0.800 and 5.100 and allocates a certain sensitivity to the reaction of the flex header height control.

If too sensitive: lower the value.

If not sensitive enough: increase the value.

Press  or  to select a specific

constant. Press  to validate.






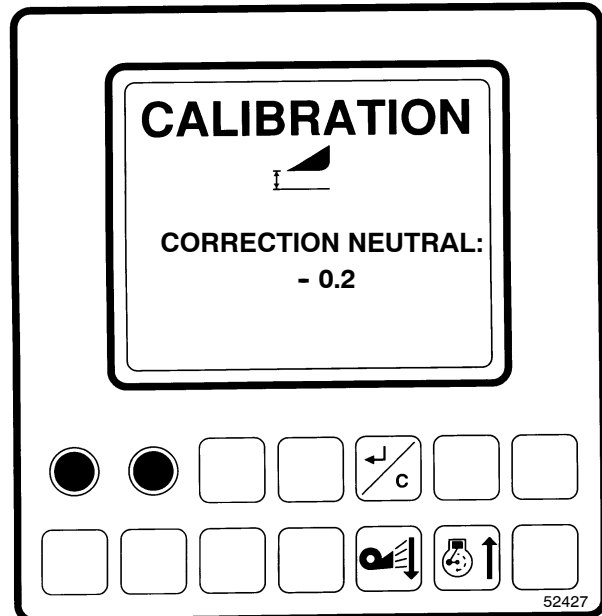
139

h) Figure 140 - Appearing:

“CORRECTION NEUTRAL: X.XX”

X.XX is a constant which can be selected between -1.5 and +1.5 to obtain a stable operating height.

Press  or  to select a specific constant. Press  to validate.




140

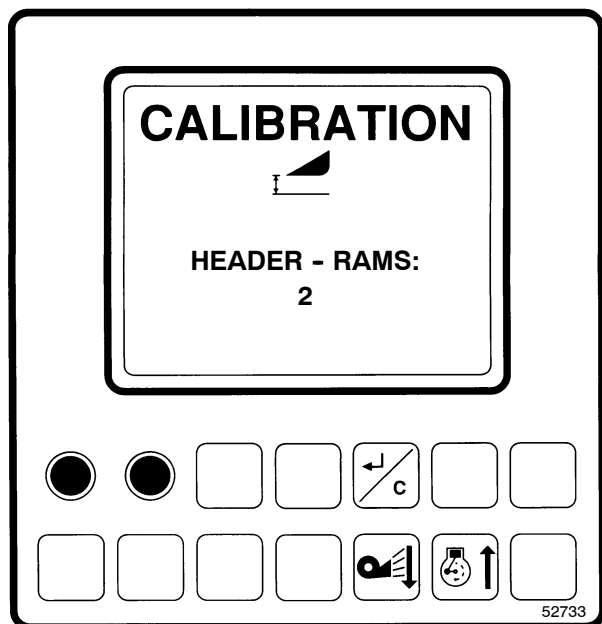
i) Figure 141 - Appearing:

“HEADER RAMS:”

The combine can be equipped with 2 or 3 header rams.

Press  or  to select.

Press  to validate.






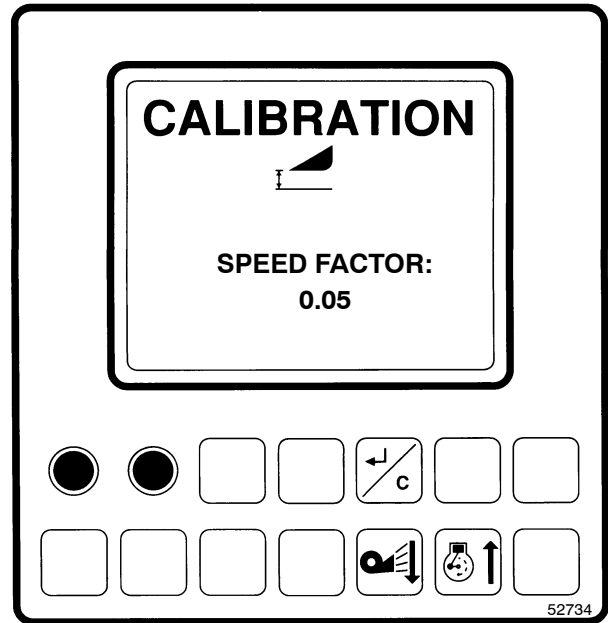
141

j) Figure 142 - Appearing:

“SPEED FACTOR”

X.XX is a constant which can be selected between 0.5 and 0.20 to obtain a good reaction speed of the flex header height control in relation to the forward speed of the combine.

Press  or  to select a specific constant. Press  to validate.




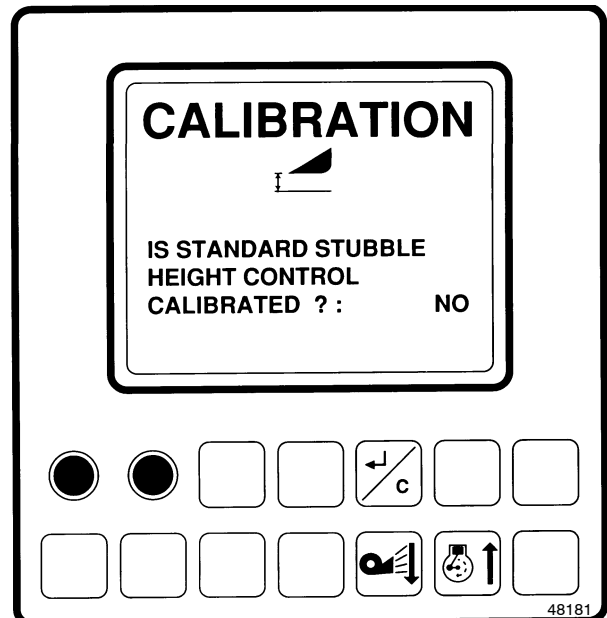
142

k) Figures 143 and 144 - Appearing:

“IS STANDARD STUBBLE HEIGHT CONTROL CALIBRATED?: NO”

Select “YES/NO” with  or .

- When selecting “NO”, press  to validate.
The message to calibrate first the normal header height control appears on the screen.




143

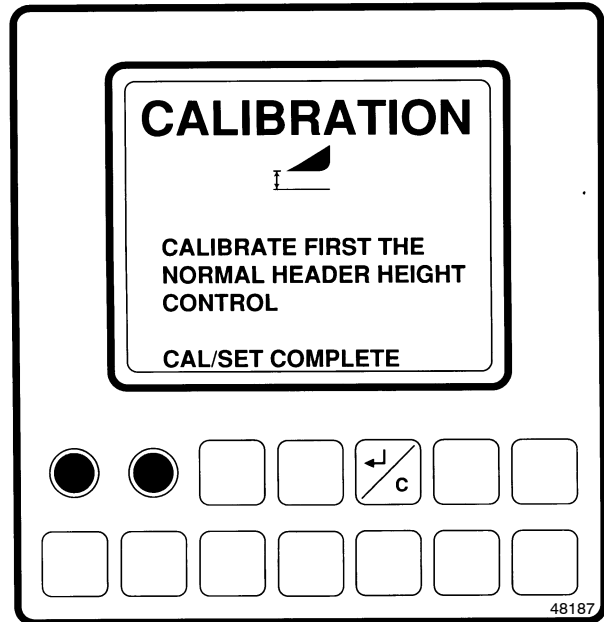
Figure 144 - Appearing:

“CALIBRATE FIRST THE NORMAL HEADER HEIGHT CONTROL CAL/SET COMPLETE”

After 5 seconds the monitor will return to the rpm mode as shown in Figure 84. First perform the header height control calibration.

Refer to paragraph headed “Header height control calibrations” at the beginning of this Section.

- When selecting “YES”, press  to validate. The calibration procedure will automatically continue with step I.




144

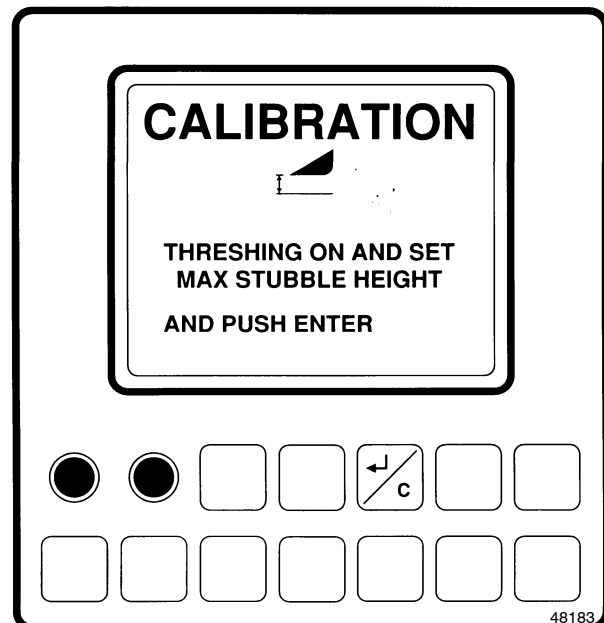
l) Figure 145 - Appearing:

“THRESHING ON AND SET MAX STUBBLE HEIGHT AND PUSH ENTER”

Select stubble height position with switch 17 (Fig.1).

Bring the header in the maximum stubble height position with switch 18 (Fig.1).

Press  to validate.




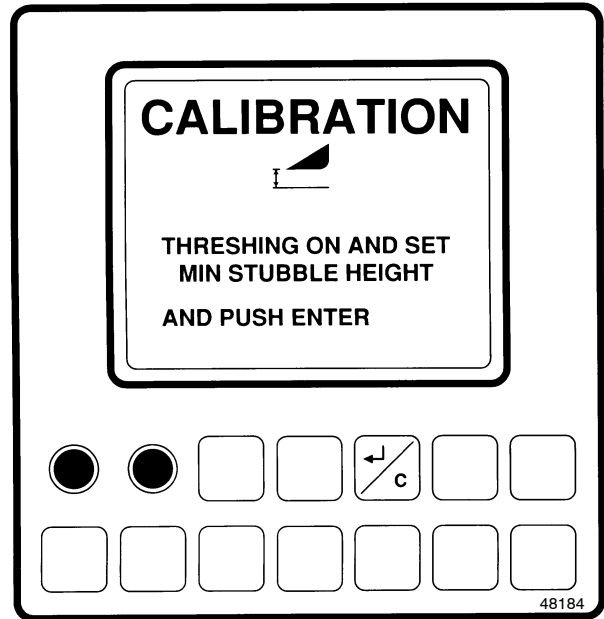
145

m) Figure 146 - Appearing:

“THRESHING ON AND SET MIN STUBBLE HEIGHT AND PUSH ENTER”

Bring the header in the minimum stubble height position with switch 18 (Fig.1).

Press  to validate.




146

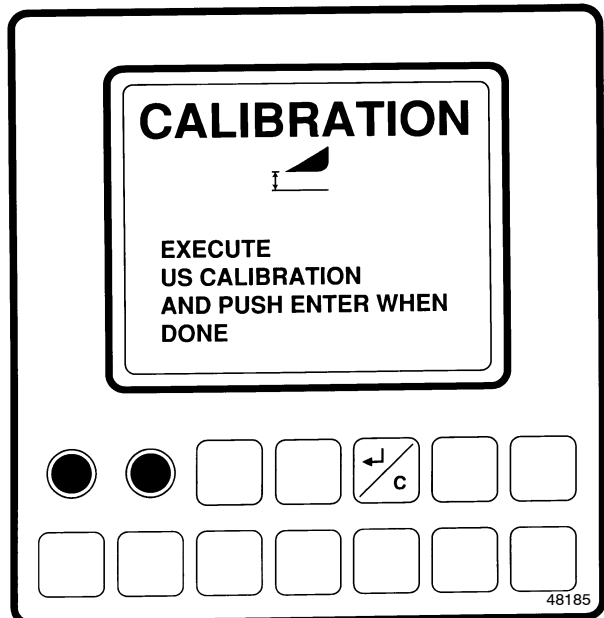
n) Figure 147 - Appearing:

“EXECUTE US CALIBRATION AND ENTER WHEN DONE”

Refer to paragraph headed “Calibration of the ground level through autofloat sensors” at the beginning of this Section.

NOTE:
Even if your combine is not fitted with the autofloat sensor device, it is necessary to perform this calibration.

Press  to validate.




147

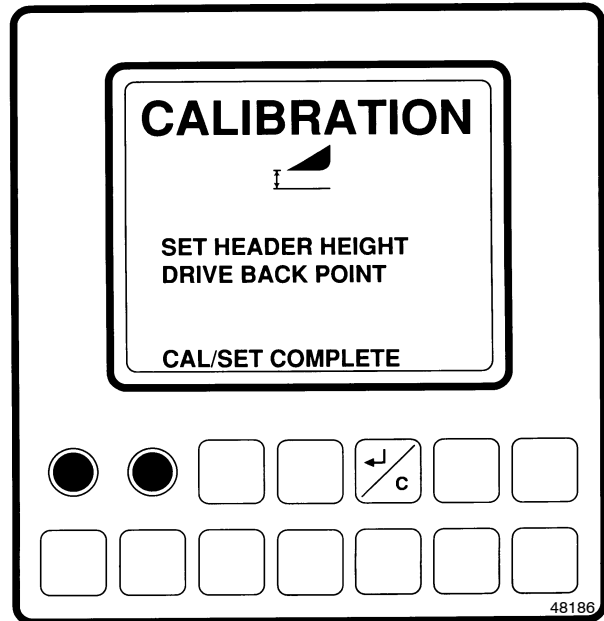
o) Figure 148 - Appearing:

“SET HEADER HEIGHT DRIVE BACK POINT”

This is the height to which the header rises when reversing the combine.
Select this header height with switch 18 (Fig.1).

Press  to validate.

At the bottom of the display appears “CAL/SET COMPLETE”. This means line 2 is now completely calibrated.
After 5 seconds the monitor will return to the rpm mode as shown in Figure 84.




148




Line 3 - GROUND SPEED

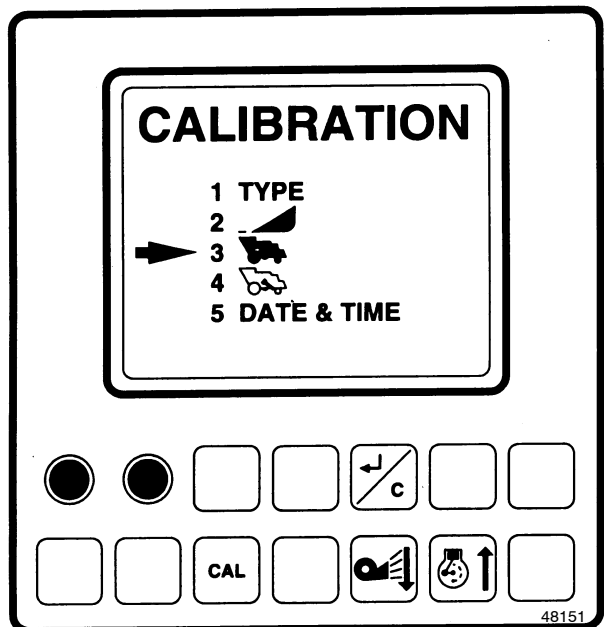


CAUTION:

The ground speed which appears on the screen can only be accurate if the parameters are correctly programmed. Ask your New Holland dealer to assist you, if necessary.

1. Enter the calibration mode by pressing  .

2. Select line 3 (“GROUND SPEED”) by pressing  or  , and  to validate the choice.

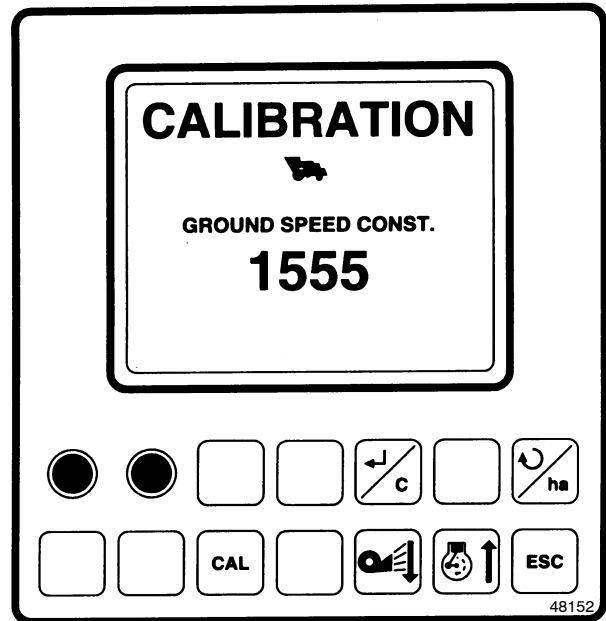


149

On the display will appear:

“GROUND SPEED CONST: XXXX”

XXXX is a **constant** = measured amount of pulses/min on the differential gear at a ground speed of 1 km/h.



150

Determination of constant: 3 different ways.

1) Taking into account the **tyre dynamic radius**:

GROUND SPEED CONSTANT

TYRE	R (m)	TX62	TX64 ^{PLUS}	TX65 ^{PLUS}	TX66	TX67	TX68
		TX63					TX68 ^{PLUS}
620/75R26-DT820	0.759	1365					
620/75R30-DT820	0.810	1280	1280				
620/75R34-DT820	0.859					1555	
650/75R32-DT820	0.863	1200	1200	1410	1200	1550	1550
800/65R32-STR	0.863	1200	1200	1410	1200	1550	1550
800/65R32-DT820	0.881	1170	1170	1375	1170	1515	1515
1050/50R32	0.875	1170	1170	1375	1170	1515	1515
Tracks	0.355	3425	3425	3425	3425		3770

$$\text{Constant} = \frac{25 \times a \times c}{3 \times \pi \times R \times b}$$

a: Teeth on large final drive gear

b: Teeth on small final drive gear

c: Teeth on differential gear

R: Traction tyre dynamic radius (m)
(For tracks: radius of the primary track roller)


	a	b	c
TX62	75	10	52
TX63	75	10	52
TX64^{PLUS}	75	10	52
TX65^{PLUS}	110	12	50
TX66	111	11	50
TX67	111	11	50
TX68	111	11	50
TX68^{PLUS}	111	11	50



2) Using **measured wheel rotation** over 100 metres


$$\text{Constant} = \frac{X \times a \times c}{6 \times b}$$


X: Traction wheel rotations over 100 metres

3) Driving a **determined distance** (e.g. 1 km)



a) Introduce a constant = 1000 (as described in this section) by pressing 

or , and  to validate.


b) Press  to leave the calibration mode and enter the rpm mode.




c) Press  to switch to the hectare counter mode as shown in Figure 152.

d) Position the combine at the first beacon of the distance to be driven (e.g. kilometre or mile stone on public road).

e) At the right-hand side of the bottom text line (position G) the distance (in km or in miles) since it was last cleared (by pressing ) will appear. Clear it to 0 by pressing .

f) Drive the determined distance and stop the combine (not the engine). Read the distance shown at G.

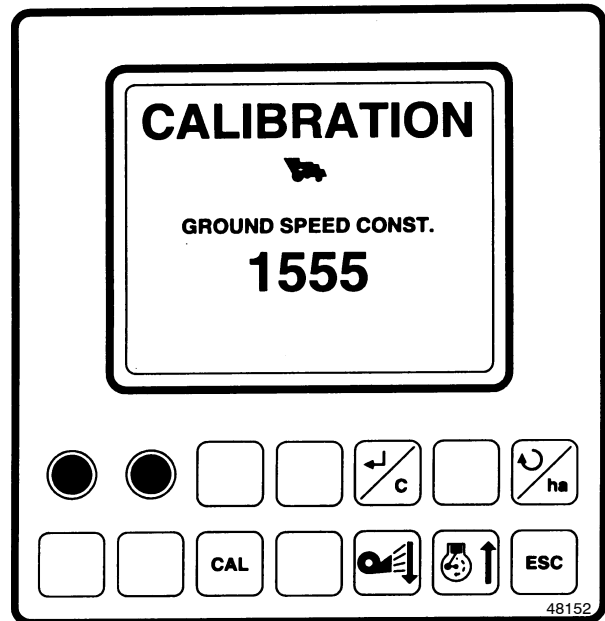
g) Return to the calibration mode by pressing .

h) Select selection line 3 ("GROUND SPEED") by pressing  or , and .

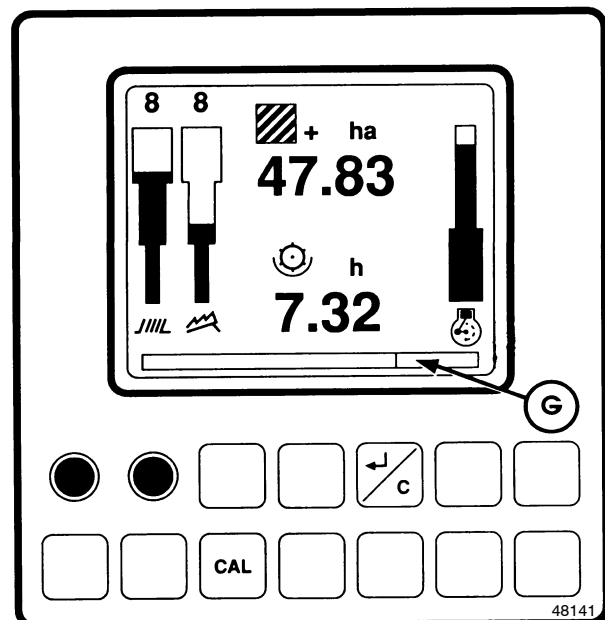
$$\text{Constant} = \frac{1000 \times z}{y}$$

z: Distance shown at G




y: Real distance



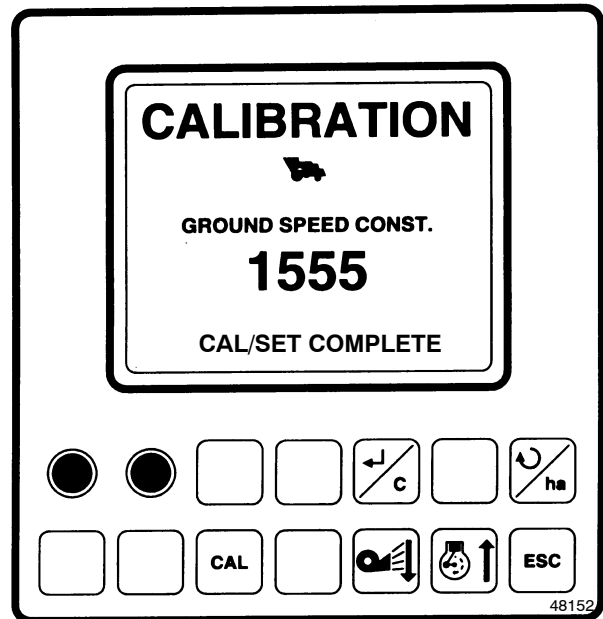
151



152





- i) To change this ground speed constant: press  or , and  to validate.

At the bottom of the display will appear “CAL/SET COMPLETE”. This means line 3 is now completely calibrated. After 5 seconds the monitor returns to the rpm mode (Figure 84).



153

Line 4 - RETURNS CONSTANT

1. Enter the calibration mode by pressing .
2. Select line 4 (“RETURNS CONSTANT”) by pressing  or , and  to validate the choice.

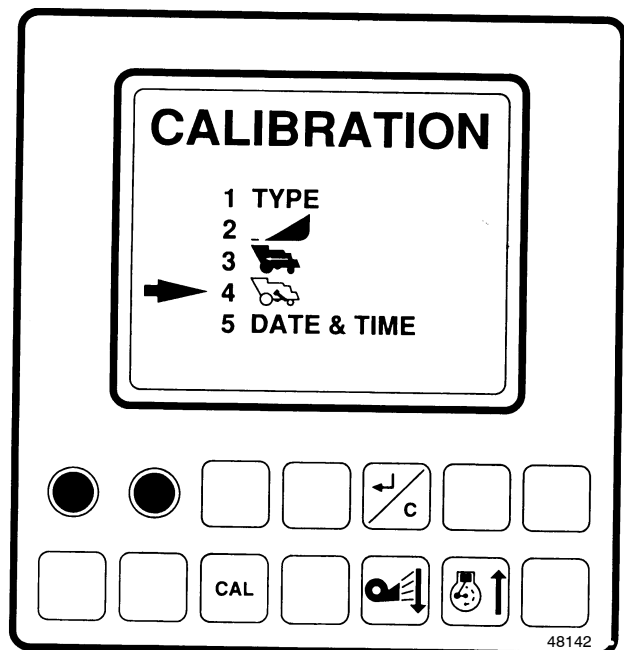
a) Figure 154 - Appearing:

“RETURN CAP CONSTANT: 200”

The **return capacity constant** is factory-programmed at 200 and can be varied between 5 and 5000 (5 units at a time).

The constant allocates a certain sensitivity to the returns monitoring.

- If too sensitive: lower the value.
- If not sensitive enough: increase the value.






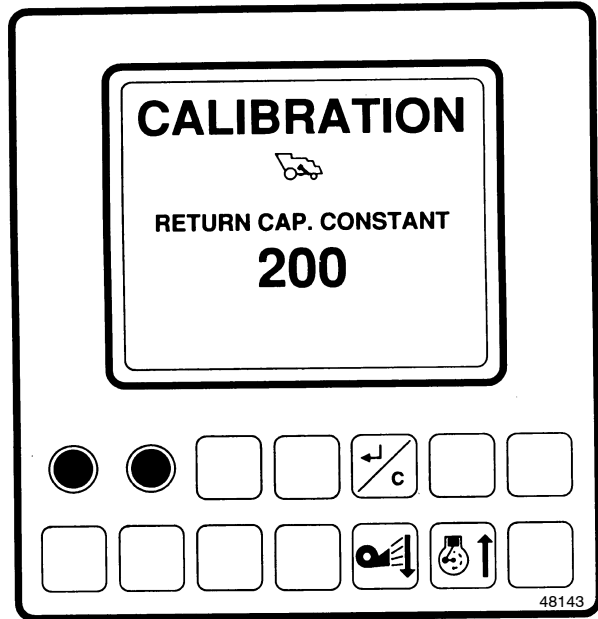
154

NOTE:

It is normally not advisable to change the factory-programmed value of 200.

In case change is required:

Press  or  to select a specific constant. Press  to validate.



155



b) Figure 156 - Appearing:

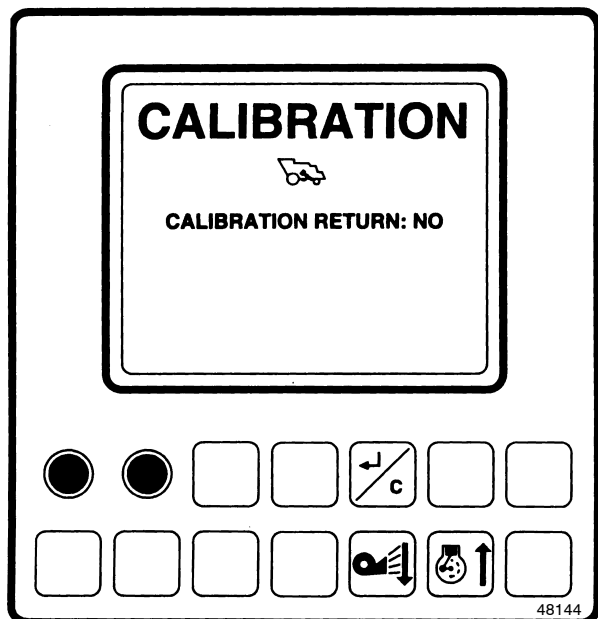
“CALIBRATE RETURN: NO”.

This calibration has to be carried out:

- At the first start-off
- Whenever changing the cleaning shoe speed.

Select “YES/NO” with  or  .

- When selecting “NO”, press  to validate and to complete the calibration. Proceed to step d.
- When selecting “YES”, press  to validate this choice. Proceed to step c.



156

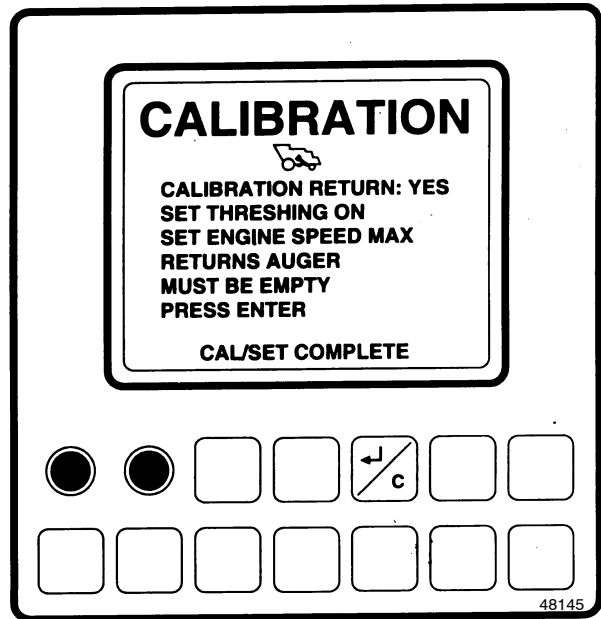
c) Figure 157 - Appearing:

“CALIBRATE RETURN: YES / SET THRESHING ON / SET ENGINE SPEED MAX / RETURNS AUGER MUST BE EMPTY / PRESS ENTER”.

This means, to calibrate the returns:

- The threshing mechanism must be engaged.
- The engine must be run on maximum.
- The returns auger must be empty.

Press  to confirm this.



157

d) Figure 157 - Appearing:

“CAL/SET COMPLETE” at the bottom of the display.


This means line 4 is now calibrated. After 5 seconds the monitor returns to the rpm mode (Figure 84).

Line 5 - DATE & TIME




The date and time is needed when memorizing data or when errors are shown.

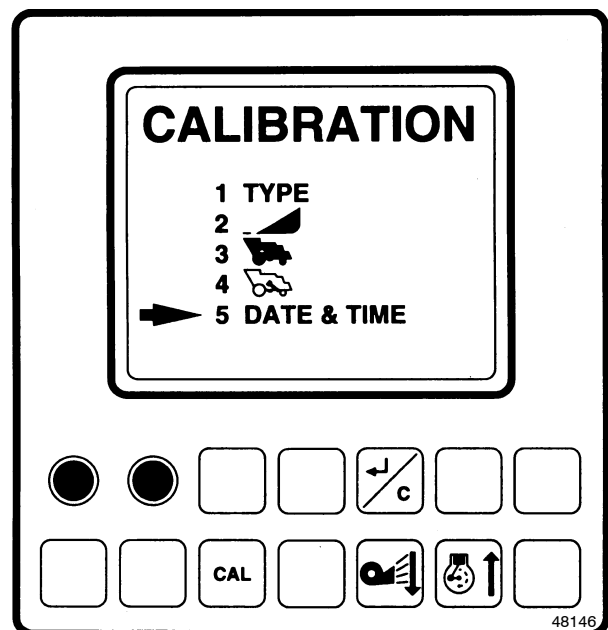
Changing can be needed:

- When changing from summer to winter time, or vice versa
- After carrying out repairs

1. Enter the calibration mode by pressing  .

2. Select line 5 (“DATE & TIME”) by pressing

 or  , and  to validate the choice.



158

a) Figure 159 - Appearing on the display:



“DATE TIME”

The date (day and month), the year and the time can be selected separately by pressing


each time  .

The selected item will start to blink.

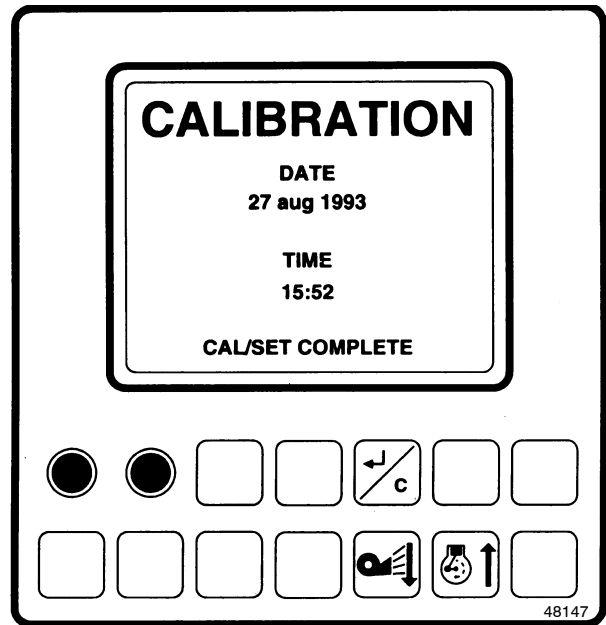
Change the selected item by pressing

 or  .

(If the key is held for more than 2 seconds, the speed of change increases).

Press  to validate.

b) After confirming the time, the monitor displays the message “CAL/SET COMPLETE”. After 5 seconds the monitor returns to the rpm mode (Figure 84).



159

Calibration schedule

Units without flex header

Type	Header	Ground speed	Returns	Date & Time
<ul style="list-style-type: none"> • Language • Chopper • Lateral float Cal. lateral float • Right return • Units • Max engine RPM • Cal. engine RPM • Cleaning shoe • Display concave Cal. concave • Cal. concave • Automatic compensation Header speed (TX62) • Set contrast LCD • Cal/Set Complete 	<ul style="list-style-type: none"> • Reel speed synchro gain • Header width • Cal. header height • Cal/Set Complete 	<ul style="list-style-type: none"> • Ground speed constant • Cal/Set Complete 	<ul style="list-style-type: none"> • Return cap constant • Cal return • Cal/Set Complete 	<ul style="list-style-type: none"> • Date & Time • Cal/Set Complete

Units with flex header control printed circuit


Type	Header	Ground speed	Returns	Date & Time
<ul style="list-style-type: none"> • Language • Chopper • Lateral float Cal. lateral float • Right return • Units • Max engine RPM • Cal. engine RPM • Cleaning shoe • Cal. concave • Set contrast LCD • Cal/Set Complete 	<ul style="list-style-type: none"> • Reel speed synchro gain • Header width • Cal. header height • Flex header installed • Cal/Set Complete 	<ul style="list-style-type: none"> • Ground speed constant • Cal/Set Complete 	<ul style="list-style-type: none"> • Return cap constant • Cal return • Cal/Set Complete 	<ul style="list-style-type: none"> • Date & Time • Cal/Set Complete

SPEED CONTROL MODULE

Channel	Function
A	Threshing drum
B	Cleaning fan
C	Clean grain cross auger and elevator
D	Beater
E	Not used
F	Not used
G	Straw chopper
H	Returns auger (left-hand side)
J	Returns auger (right-hand side)
K	Straw walkers
L	Straw walker blockage
M	Rotary separator

The determination of the maximum shaft speeds is based on a 5 seconds measuring period.

This period starts when:

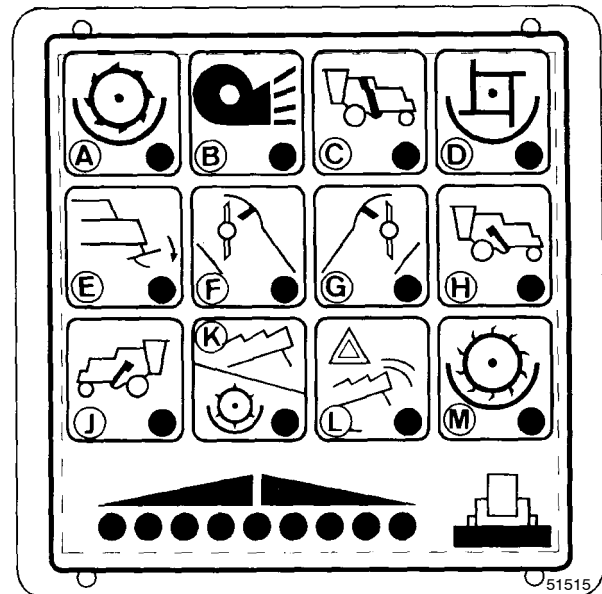
- after ignition, the engine runs for the first time at full throttle with the threshing mechanism engaged, or
- each time the engine runs at full throttle with the threshing mechanism engaged and pressing the  key of the Infoview monitor.

This speed determination has to be performed **each time the threshing drum and/or cleaning fan speed has been changed.**

All warning lights will blink as long as the automatic maximum shaft speed level determination is in operation (5 seconds).

If the combine is equipped with a straw chopper and the chopper is off during the automatic maximum shaft speed level determination, then the maximum speed of the straw chopper is determined the first time the chopper is engaged and the engine runs at full throttle.

If a warning light starts to glow during operation and the acoustic signal functions, the rpm of the corresponding shaft is no longer correct (i.e. slowdown of speed due to belt slippage, broken belt, etc.). In this case, stop the machine immediately and investigate the cause of the problem.



160

DIFFERENTIAL LOCK [if installed]

When operating in slippery or muddy ground conditions the differential lock may be engaged to provide better traction.

If one of the traction wheels starts spinning, immediately depress the differential lock pedal. Now both traction wheels will turn at the same speed. Keep the pedal depressed until the machine has passed the obstacle.

Release the pedal to disengage the differential lock.

IMPORTANT:

- Do not make turns with the differential lock pedal depressed.
- It may be necessary to slow down the combine to allow engagement of the differential lock.

STRAW CHOPPER [if installed]

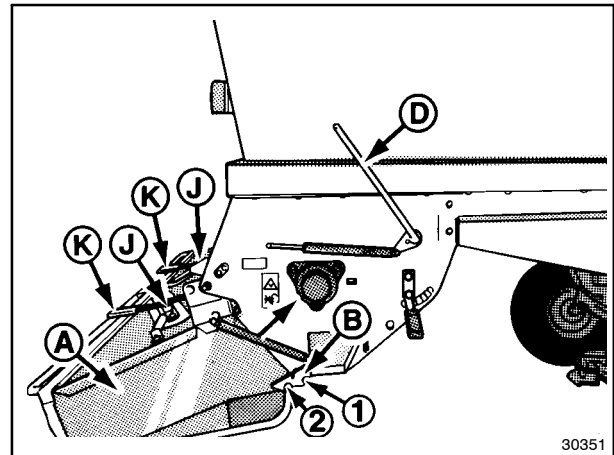
TRANSPORT POSITION - Figures 161 and 162

For road transport, the chopper chute A must remain in the operating position as shown, except when a header trailer is attached. In this case, chute A should be swung up completely.

To swing chute A up, disengage latch B, swing chute A completely up as shown and lock latch C.

CHOPPING POSITION - Figures 161 and 162

1. To change to the operation position, disengage latch C, swing chute A down and secure it with latch B.



161



CAUTION:

Never swing the chute up during or just after operation as the chopper continues to rotate for considerable time.

Never engage the chopper with the chute swung up!

NOTE:

Latch B has two positions to secure the spreader depending on the spread patterns required:

- Position 1: Narrow spread pattern
- Position 2: Wide spread pattern

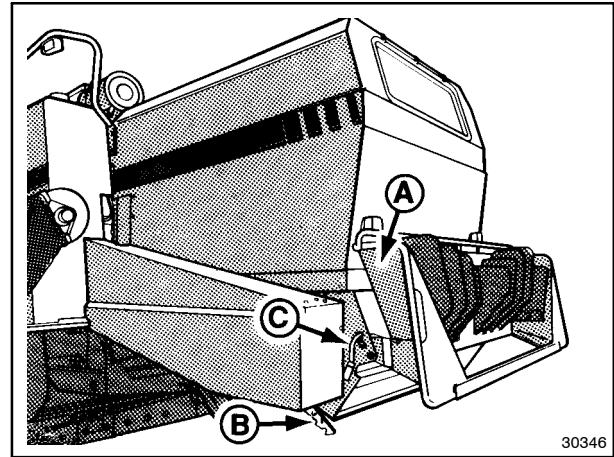
2. Move the straw guiding plate to the front (i.e. the chopping position) with lever D.

NOTE:

The lever position is parallel to the plate position.

3. Adjust the straw chopper chute deflector plates according to the header width.

Loosen bolts J and adjust with levers K.



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SWATH-FORMING POSITION - Figure 162

Move the straw guiding plate to the rear with lever D.

STRAW CHOPPER OPERATION**CAUTION:**

Keep yourself and other people away from the rear of the combine when the straw chopper is engaged and operating.

Do not use the straw chopper near the end of the field if there is a risk that crop or stones can be projected onto a public road.

With the engine running **at idle speed** and the threshing mechanism running, engage the chopper drive with switch 44 (Section 2, Fig.10).

NOTE:

- With the engine and the threshing mechanism running, straw guiding plate E in the chopping position and the straw chopper not yet engaged, the horn should sound!
- The chopper clutch is automatically disengaged when the threshing mechanism is disengaged.



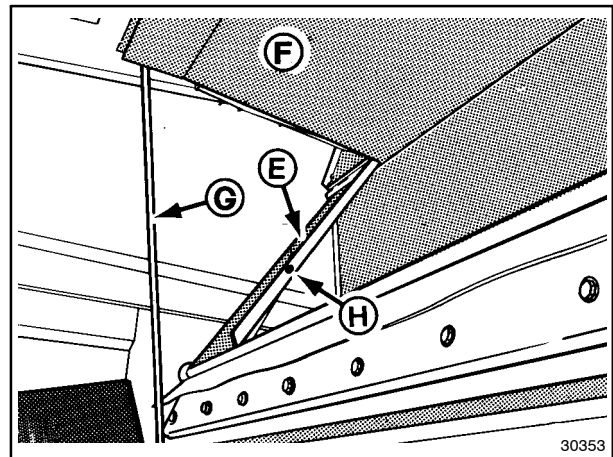
CAUTION:

Always stop the engine before working on the straw chopper.

ACCESS TO THE STRAW CHOPPER ROTOR -
Figures 161 and 163

In case a blockage occurs or repairs are needed, access to the straw chopper can be gained as follows:

1. Move the straw guiding plate E to the rear with lever D (Fig.161).
2. Open latch H on both sides, pivot access door F to the front and secure the door with rod G.



163

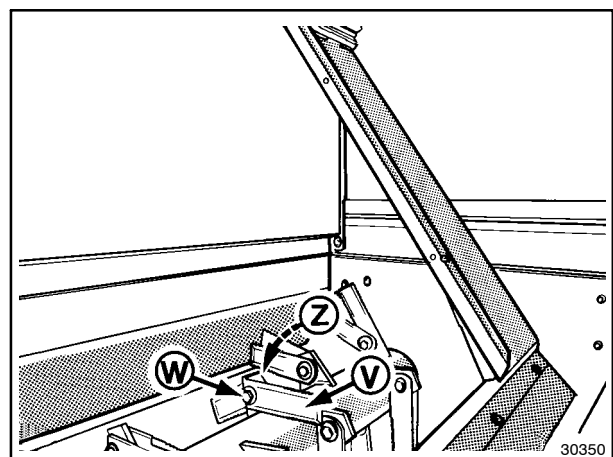
CHOPPER KNIVES - Figure 164

The knives V on the chopper rotor have two cutting edges.



CAUTION:

Do not operate with broken or damaged knives. This is unsafe and the imbalance may cause severe secondary damage to the chopper and the combine.



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Whenever needed, the knives can be reversed or exchanged.

Proceed as follows:

1. Remove bolt W, taking care not to lose the two spacers and washers.
2. Turn the knife or install a new one.
3. Insert bolt W from the right-hand side (facing the direction of travel).
4. Tighten nut Z to a torque of 64 Nm.

COUNTER KNIVES - Figure 165

The counter knives must be set as follows:

Crop and/or condition	Counter knife setting	Position
Dry straw	Fully advanced	1
Damp crop:	Towards the rear:	
• Heavy straw	• Approximately halfway	3
• Oil seed rape, peas and beans	• Fully retracted	5
Maize and sunflower	Remove knives completely (one by one)	-

To reposition the counter knives, loosen nuts A on both sides, move the counter knives bar to the desired position with lever B and retighten nuts A.

REPLACEMENT OR REMOVAL OF THE COUNTER KNIVES - Figures 165 and 166

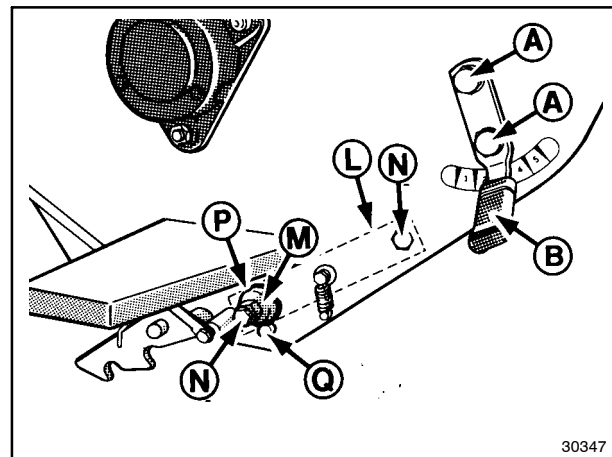
To remove the counter knives, proceed as follows:

1. Set the counter knives in position 1 using bolts A on both sides.
2. Remove nine bolts U and cover T.

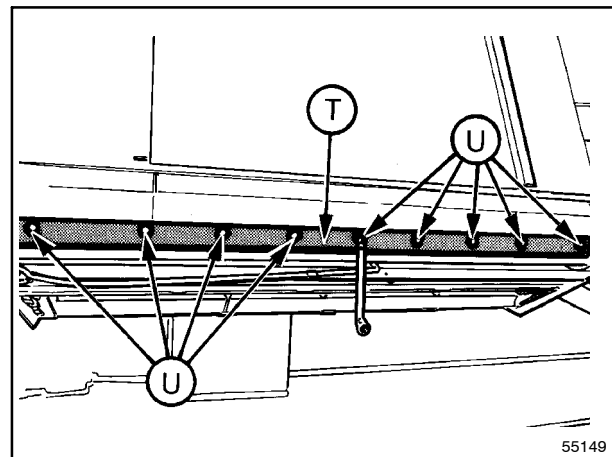
The counter knives can now be pulled out one by one for replacement or removal.

IMPORTANT:

Do not remove the counter knife **block** itself when chopping maize.



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166

30347

55149

CHOPPING QUALITY - Figure 165

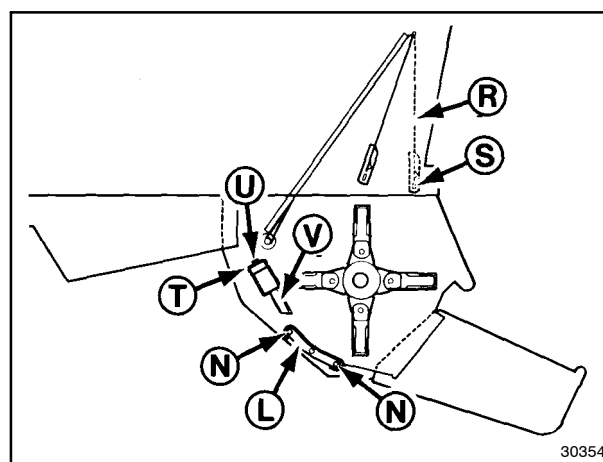
The chopping plate L can be set in three different positions with eccentric part M. The closer the plate L is set to the rotor, the shorter the chopped straw will be. Loosen bolts N on both sides, turn eccentric part M into the desired position and make sure notch P is onto stop Q.

Tighten bolts N.

CHOPPING MAIZE - Figure 167

For chopping maize, proceed as follows:

1. The rotor speed must be reduced by installing a larger pulley onto the hub of the rotor shaft. This pulley is part of the straw chopper slow down kit which is available as an accessory.
2. The chopping plate L must be turned 180° so that the flat side is on the inside. Remove bolts N on both sides and turn chopping plate L.
3. Set rear plate R into the forward position using bolts S on the inside.
4. Loosen bolts U and remove cover T. Remove counter knives V one by one.



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STRAW CHOPPER CLUTCH

When the clutch fails it must be repaired or replaced as soon as possible. Legislation no longer allows to temporarily lock the clutch in the engaged position because of the safety hazard created when the straw chopper knives rotate whenever the engine is running (even with the threshing mechanism disengaged).

CHAFF SPREADER [if installed] - Figures 168 to 173

OPERATING POSITIONS

The chaff spreader has four positions:

- Forward position: Spreading position
- Vertical position:
 - Control of grain losses
 - Maize harvesting position
- Rear position: Setting of sieve position
- Swing-up position to remove the sieves.

IMPORTANT:

The rear position and swung-up position are not allowed during field operation.

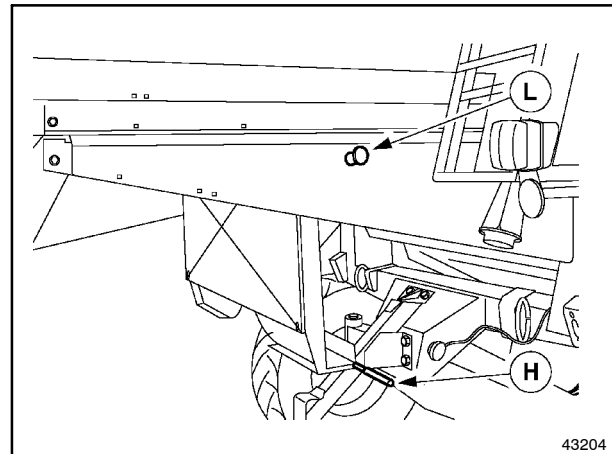
The vertical position is shown in Figure 168.



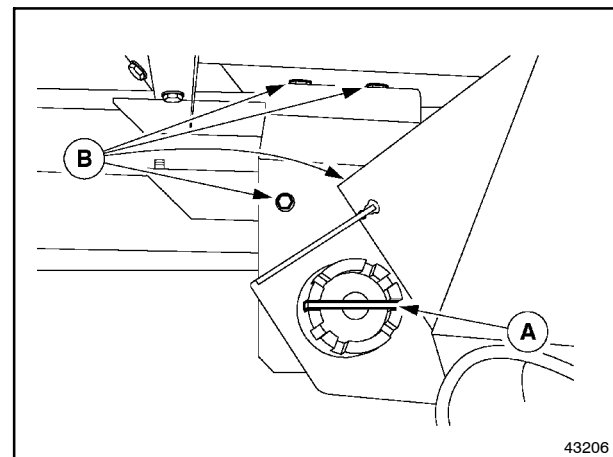
CAUTION:

When the combine engine is running, the chaff spreader is automatically engaged when the threshing mechanism is engaged.

Always disengage the threshing mechanism and stop the engine before working on the chaff spreader.



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169

To change position, proceed as follows:

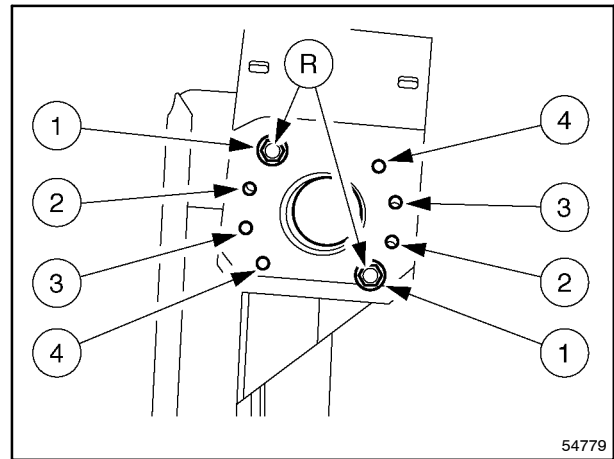
1. Press spring-loaded knob L.
2. Move the chaff spreader into the desired position with handle H.
3. Release spring-loaded lever L and move the chaff spreader until lock A jumps into the groove.

FIELD OPERATION

It is possible to adjust the distance between the sieves and the chaff spreader in the forward position. Four distances are available.

To change the distance, proceed as follows:

1. Set the chaff spreader into the vertical position.
2. Remove two bolts R.
3. Reinstall bolts R into position 1-1, 2-2, 3-3 or 4-4 (position 1-1 gives the closest position between the sieves and the chaff spreader).
4. Set the chaff spreader into the forward position.



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DISENGAGING AND REMOVING THE SPREADER

When not using the chaff spreader or when harvesting maize, remove belt T and leave the chaff spreader in the vertical operating position.

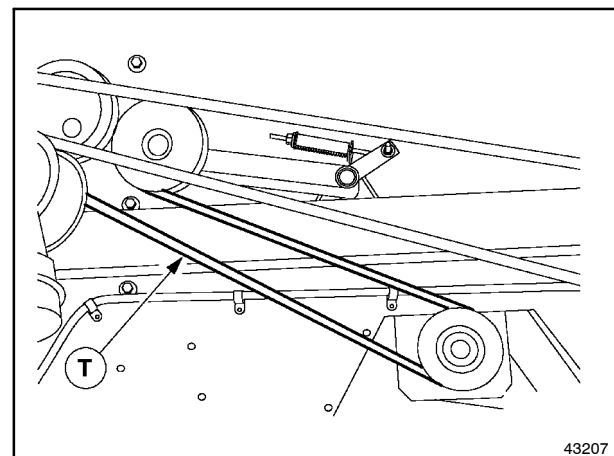
IMPORTANT:

*During field operation, the chaff spreader must **never be located in the swung-up position**, even when it is not being used, as chaff accumulation under the straw walkers may occur!*

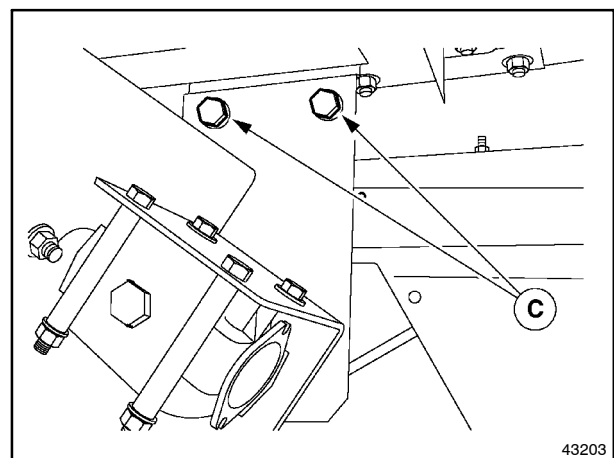
If too much chaff builds up, the spreader can be removed.

Proceed as follows:

1. Remove belt T (Fig.171).
2. Remove knob L (Fig.168).
3. Remove four bolts B (Fig.169) on the right-hand side.



171



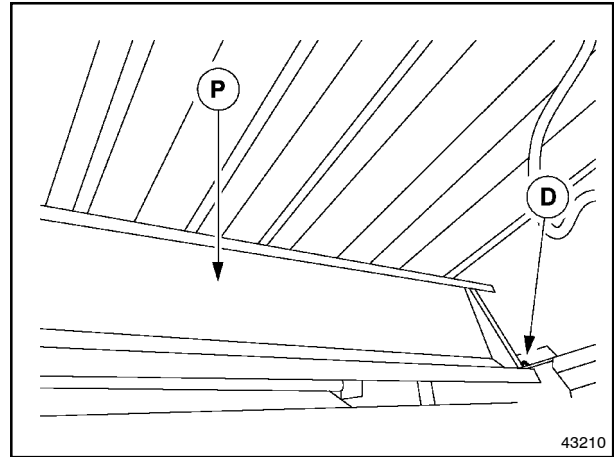
172

- Remove two bolts C (Fig.172) on the left-hand side.

**CAUTION:**

The chaff spreader is heavy, use a lifting device of adequate capacity.

- Remove chaff spreader plate P by loosening bolts D on both sides.



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AIR CONDITIONING

The air-conditioning system must only be operated after the combine engine is warm and the interior of the cab is 15° C minimum.

ATTENTION:

Ignoring this precaution may cause damage to the system.

NOTE:

If the ambient temperature is around 15° C, the low pressure warning light may light up. This warning is generated by the low ambient temperature and may be ignored.

COMBINE PERFORMANCE CHECKS

KILL-STALL

The only way to accurately check the performance of the combine is to complete a “kill-stall”.

1. Operate the combine in a section of the field that best represents the overall crop. Be sure the combine is at least 100 m into the crop and traveling at the normal operating ground speed.
2. Press the top part of the engine reset switch 51 (section 2, Fig.10), apply the brakes gently and allow the combine to stop. This will leave crop material as it was during actual harvesting.
3. Disengage the threshing and header engagement system clutch, move the hydrostatic speed control lever to neutral, move the throttle control to the low position and restart the engine immediately. This prevents the engine from overheating and from being damaged. Allow the engine to slow idle for five minutes before stopping the engine.
4. Check the grain tank sample for complete threshing, cleanliness and damage.
5. Walk out in front of the header and check the crop loss before the header has contacted the crop (preharvest loss).
6. Check the crop loss in an area where only the header has travelled (header loss).
7. Check the distribution of material on the grain pan.
8. Check the type, amount and distribution of material on the sieves.
9. Check the type and amount of returns.
10. Check the total loss in a 60 cm wide area across the width of the cleaning shoe. Subtract preharvest and header losses to determine the machine loss.

Use a drop screen to check the machine loss directly.

11. With all previous factors considered, readjust the combine.

NOTE:

Make only one adjustment at a time so that any change in combine performance can be attributed to that particular adjustment.

PERFORMANCE INDICATORS

There are four indicators which will tell you how well the combine is performing. These four indicators are:

- Grain tank sample
- Distribution of material on the grain pan and upper sieve
- Type and amount of returns
- Losses

By correctly reading these indicators and being familiar with the combine, you can make the necessary adjustments to correct any problem and improve the overall combine performance.

GRAIN TANK SAMPLE

A large amount of trash in the grain tank indicates the crop is being overthreshed and/or the cleaning fan speed is too slow. The first step to correct this problem is to increase the concave clearance and/or reduce drum speed. This reduces or eliminates the material break-up caused by overthreshing. Then increase the cleaning fan speed if the trash is heavier than the grain or close the upper sieve if the trash is larger than the grain.

Cracked or damaged grain can be caused by a concave setting that is too close to the drum. Increase the concave clearance and then reduce the drum speed to correct the problem.

Bunch feeding can cause grain damage in the straw elevator. An incorrect straw elevator chain tension can also cause grain damage.

Excessive returns will contribute to grain damage due to the additional pass(es) the grain must take through the drum/concave area. Plugged concaves can cause grain damage because the free grain cannot get out of the concave area.

Loose elevator chains can also cause grain damage. It is important to maintain the proper tension on these chains.

Unthreshed material in the grain tank can be caused by underthreshing or the lower sieve that is opened too wide. Increase the drum speed and reduce the concave clearance as needed to correct the problem. Also close the lower sieve slightly to obtain a cleaner grain tank sample.

GRAIN PAN / UPPER SIEVE DISTRIBUTION

The distribution of material on the grain pan affects the distribution of material on the sieve. The distribution on the grain pan should be level to slightly higher directly under the drum and taper slightly towards both sides.

The front third of the upper sieve should be completely clean. The middle third should have some grain but mostly residue. The rear third of the upper sieve should have only residue.

If there is some grain on the rear third of the upper sieve, returns will be increased and there is a possibility that grain will ride out the back of the combine. Open the upper sieve to allow more of the grain to fall onto the lower sieve.

If the material on the upper sieve is broken into small pieces, the crop is being overthreshed. This can plug the upper sieve and cause high losses. Increase the concave clearance and/or reduce drum speed to decrease the threshing action.

Unthreshed heads indicate the drum speed should be increased and/or the concave clearance should be reduced. Unthreshed heads can also be caused by worn rasp bars and worn concaves.

RETURNS SAMPLE

It is normal for the returns sample to contain a few unthreshed heads. The purpose of the returns system is to return unthreshed heads to the threshing area for another pass. However, a large quantity of unthreshed heads indicates the concave clearance is too great.

If the returns sample contains a large quantity of clean grain, the cleaning fan speed should be reduced and/or the lower sieve should be opened more.

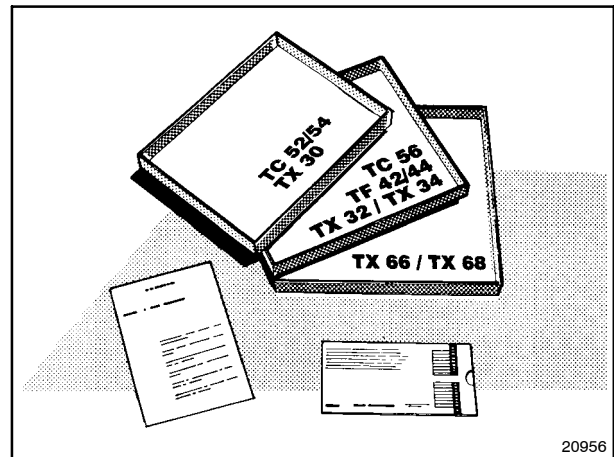
GRAIN LOSS MEASURING KIT – Figure 174

(Part number 80456667 - can be ordered from your local dealer).

LOSSES

Losses may occur at different stages:

- a) **Pre-combining losses** (i.e. losses found in front of the combine) are usually caused by adverse weather conditions, poor crop conditions and crop maturity.
- b) **Header losses:** (i.e. losses found behind the header and outside of the tyres) may be caused by improper header adjustments.
- c) **Leakage losses** may be caused by damaged seals or holes in bottom auger covers.
- d) **Shoe losses** may be caused by a poor sieve adjustment, or low cleaning fan speed, or when working on slopes (exceeding the capacity of the sieve levelling system [if fitted]).
- e) **Fan losses** are caused by an excessive cleaning fan speed.
- f) **Straw walkers losses.** These can be unthreshed ears (underthreshing) or grains, due to poor adjustment of drum and concave or excessive ground speed.



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Total losses caused by the machine:

$$L_t = (b + c) + (d + e) + f - a$$

Functional losses

$$L_f = d + e + f$$

To check **functional losses** [cleaning shoe, fan and/or straw walker loss(es)], the grain loss measuring kit can help in determining loss levels.

KIT CONTENTS

The grain loss measuring kit contains:

- 3 trays (according to machine width)
- A slide calculator
- An instruction booklet

HOW TO USE THE KIT

1. Walk beside the combine in operation and throw the tray under the centre of the cleaning shoe.



CAUTION:

When checking losses, the straw chopper or spreader drive must be disengaged.

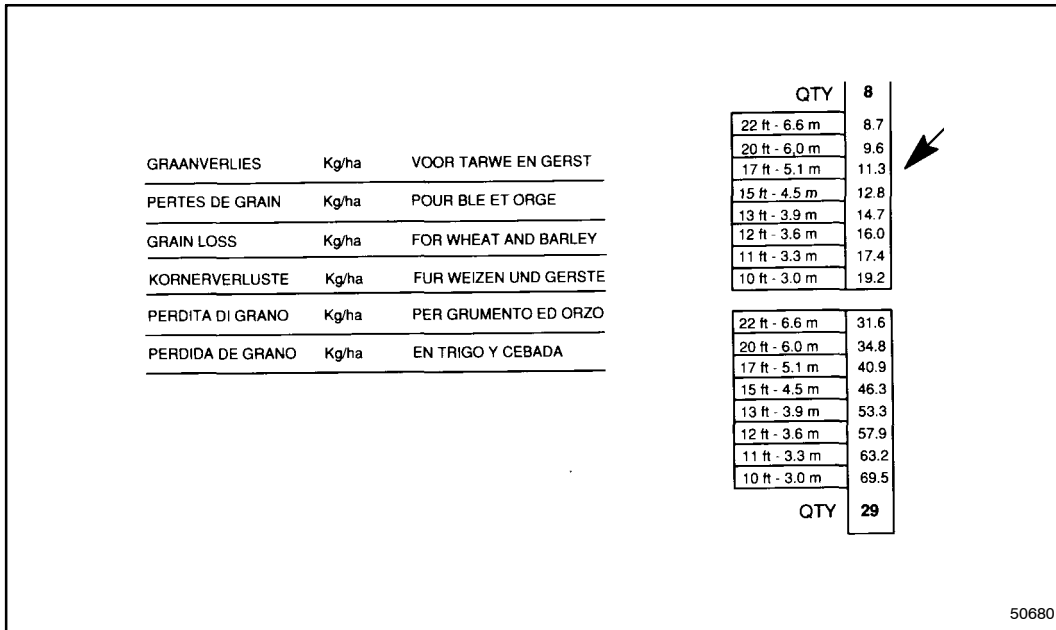
The person throwing the tray must make sure he cannot be trapped by the steering wheels.

2. After the combine has passed, take the tray and count the grains in the tray.
3. Use the slide calculator (Figure 175) to convert the quantity of grains into kilogrammes per hectare.
4. Estimate the harvest yield per hectare

$$\text{Loss percentage} = \frac{\text{Loss (kg/ha)}}{\text{Yield (kg/ha)}} \times 100$$

Example: Yield = 5000 kg/ha

$$\text{Loss} = \frac{11.3}{5000} \times 100 = 0.22 \%$$



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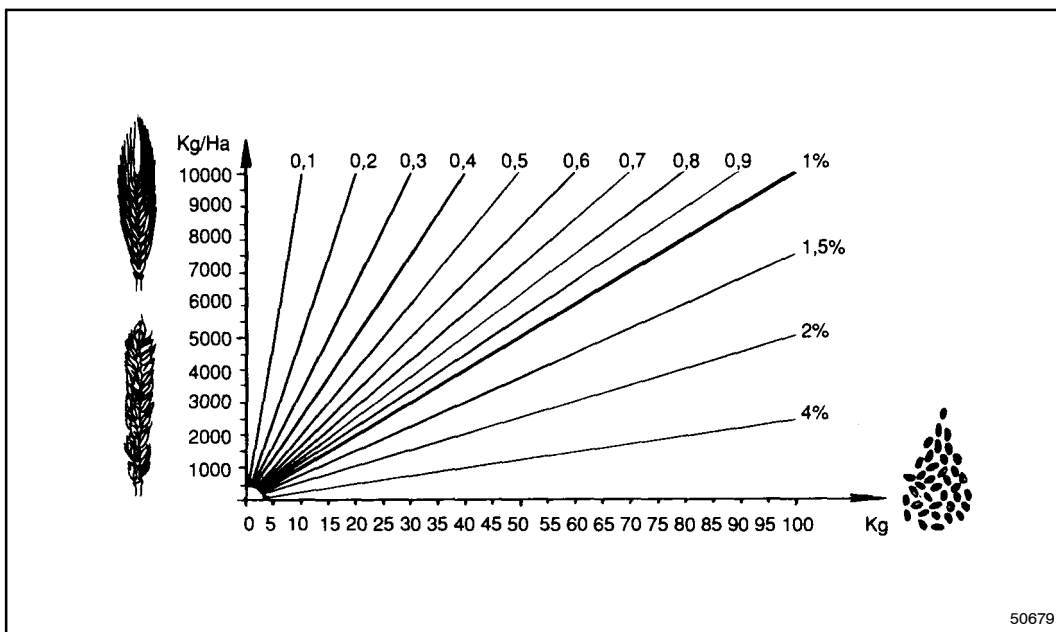
Example:

Model TX66 with 17 ft (5.10 m) grain header operating in wheat.

Refer to Figure 175:

8 grains in the tray means a loss of 11.3 kg/ha.

The diagram in Figure 176 will help you to determine the loss percentage.



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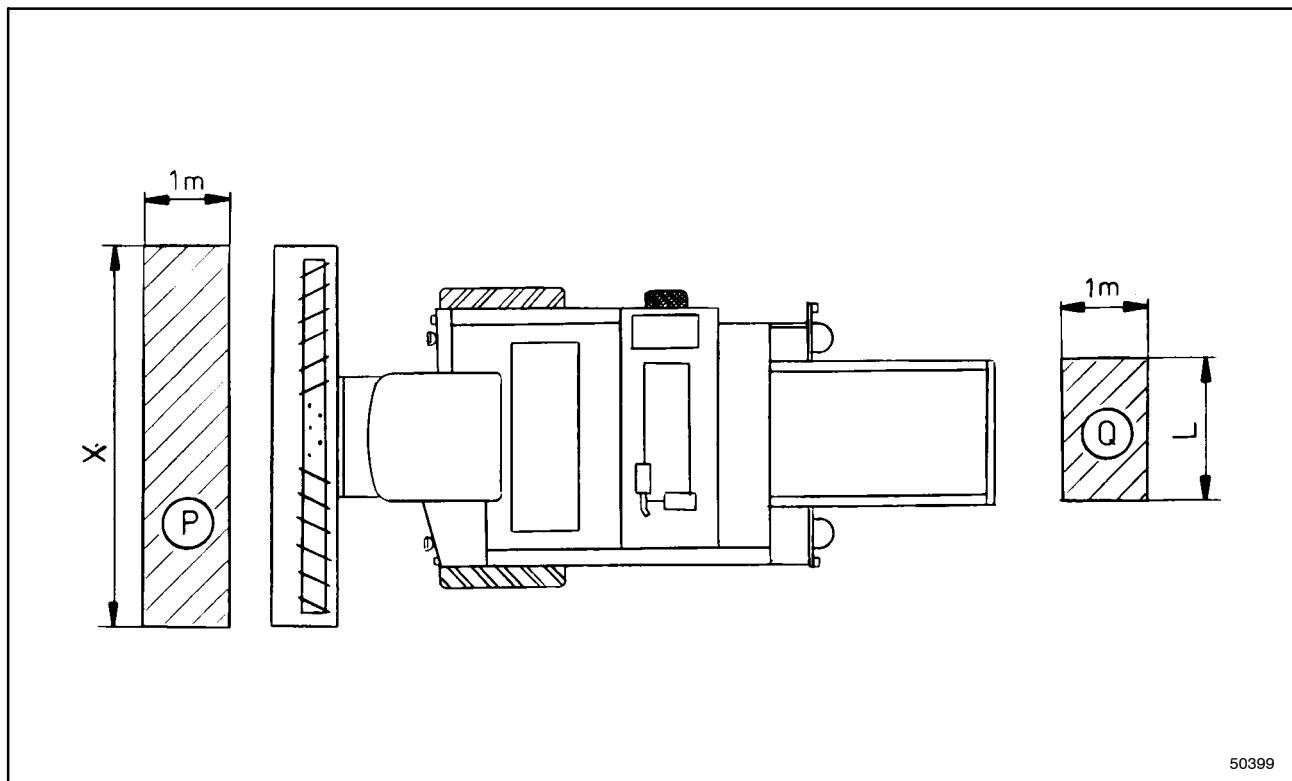
HOW TO OBTAIN AN IDEA ON LOSS LEVEL -

Figure 177

Example:

Model TX66 with 17 ft (5.10 m) grain header operating in wheat.

Average yield: 5000 kg/ha.



50399


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- Surface P = surface being harvested:
1 meter multiplied by X (header width) = 5.1 m².
- Surface Q = surface of the material being cut in surface P, behind the machine (i.e. swath):
1 meter multiplied by Y (drum width, i.e. 1.5 m) = 1.5 m².
- Consider a **loss level of 1%** = 50 kg/ha or 5 grams/m² crop.
Surface Q will then contain the functional losses (i.e. cleaning shoe, straw walker, fan) of surface P (5.1 m²), being 5 x 5.1 = 22.5 grams.
- Considering the average weight of wheat being 23,000 grains/kg, this means: 586 grains in surface Q (1 % loss level!).
- An average human hand with spread fingers covers a surface of approximately 0.03 m². This means that, if the grain loss is evenly spread, 18 grains can be found underneath the hand, representing 1% grain loss for a 5000 kg/ha yield.

SUMMARY OF THE MACHINE SETTINGS FOR DIFFERENT CROPS

TYPE OF CROP ↓	Optional equipment required	Drum speed	Concave position • TX62-63 • TX64 ^{PLUS} to TX68 ^{PLUS} • Clearance at 2nd and 8th bar
WHEAT	<ul style="list-style-type: none"> • De-awning plates • Rasp bar in front of concave (varieties with white caps) 	700-1100 rpm	<ul style="list-style-type: none"> • 2nd position • 10 mm • 10/10 mm
BARLEY	<ul style="list-style-type: none"> • De-awning plates (some varieties) 	800-1000 rpm	<ul style="list-style-type: none"> • 1st or 2nd position • 10 mm • 10/10 mm
WINTER BARLEY	<ul style="list-style-type: none"> • Idem Barley Close de-awning plates, if necessary. 	800-1000 rpm	<ul style="list-style-type: none"> • 1st or 2nd position • 10 mm • 10/10 mm
RYE		1000 rpm	<ul style="list-style-type: none"> • 2nd or 3rd position • 10 mm • 10/10 mm
TRITICALE		700-1000 rpm	<ul style="list-style-type: none"> • 2nd or 3rd position • 10 mm • 10/10 mm
OATS		800-1000 rpm	<ul style="list-style-type: none"> • 2nd position • 10 mm • 10/10 mm
RICE	<ul style="list-style-type: none"> • Stone trap cover plate • Antiwrap shields on straw elevator upper shaft • Spike tooth bars and concave • Tracks 	650-1000 rpm	<ul style="list-style-type: none"> • 4th position • 20 mm • 20/25 mm
MAIZE	<ul style="list-style-type: none"> • Maize header • Maize concave • Smooth roto-thresher covers 	400-500 rpm In dry conditions, use a speed reducer (250-400 rpm)	<ul style="list-style-type: none"> • 7th position • 25 mm • 25/30 mm
FLAX	Antiwrap shields on straw elevator upper shaft	800-1000 rpm	<ul style="list-style-type: none"> • 1st or 2nd position • 10 mm • 10/10 mm

Beater equipment	Rotary separator speed	Fan speed	Sieve openings		
			Upper	Lower	Presieve
Blades	760 rpm	900 rpm	Open	3 - 5 mm	6 mm
Blades	760 rpm	700 rpm	10 - 12 mm	3 - 5 mm	6 mm
Blades	760 rpm	750 rpm	10 - 12 mm	3 - 5 mm	6 mm
Blades	760 rpm	700 rpm	10 - 12 mm	3 - 5 mm	6 mm
Blades	760 rpm	700 rpm	10 - 12 mm	3 - 5 mm	6 mm
Blades	760 rpm	550-600 rpm	10 - 12 mm	3 - 5 mm	6 mm
Teeth (10 rakes)	760 rpm	650 -700 rpm	10 - 12 mm	3 - 5 mm	6 or 9 mm
Teeth (5 rakes)	400 rpm	800-920 rpm	Maize sieve (Hart Carter 1-5/8") 12 mm	Hart Carter 1-1/8" sieve 10 mm	9 or 12 mm
Blades	760 rpm	500-550 rpm	4 - 7 mm	2 - 4 mm	3 or 6 mm

TYPE OF CROP 	Optional equipment required	Drum speed	Concave position <ul style="list-style-type: none"> • TX62-63 • TX64^{PLUS} to TX68^{PLUS} • Clearance at 2nd and 8th bar
RAPE SEED	<ul style="list-style-type: none"> • Graepel sieve extension • Smooth roto-thresher covers 	600-650 rpm	<ul style="list-style-type: none"> • 3rd to 6th position • 24 mm • 24/24 mm
GRASS SEED		700 rpm	<ul style="list-style-type: none"> • 3rd position • 17 mm • 17/19 mm
BEANS/PEAS	<ul style="list-style-type: none"> • Perforated auger covers • Smooth roto-thresher covers • Perforated straw elevator bottom 	400-450 rpm	<ul style="list-style-type: none"> • 4th to 6 th position • Beans: 27 mm 27/27 mm • Peas: 20 mm 20/20 mm
CLOVER	Close de-awning plates, if necessary	Maximum	<ul style="list-style-type: none"> • 1st position • 3 to 5 mm • 3 to 5 mm, parallel with drum
SORGHUM	Special crop lifters on the header	800 rpm	<ul style="list-style-type: none"> • 2nd position • 10 mm • 10/10 mm
SAFFLOWER		300-550 rpm	<ul style="list-style-type: none"> • 4th to 6th position • 27 mm • 27/27 mm
SOYA BEANS	<ul style="list-style-type: none"> • Superflex header • Smooth roto-thresher covers • Maize concave • Perforated auger covers • Perforated straw elevator bottom shaft 	Minimum	<ul style="list-style-type: none"> • 4th or 5th position • 20 mm • 20/25 mm
SUNFLOWER	Smooth roto-thresher covers	300-550 rpm In dry conditions, speed reducer is necessary	<ul style="list-style-type: none"> • 4th to 6th position • 27 mm • 27/27 mm
MUSTARD		600-650 rpm	<ul style="list-style-type: none"> • 3rd to 5th position • 10 to 25 mm • 10/10 mm to 25/25 mm
BUCKWHEAT		600 rpm	<ul style="list-style-type: none"> • 2nd position • 10 mm • 10/10 mm

FIELD OPERATION

Beater equipment	Rotary separator speed	Fan speed	Sieve openings		
			Upper	Lower	Presieve
Blades	400 rpm	450 - 500 rpm Eccentric shaft low rpm	8 mm	2 mm	6 mm
Blades or teeth	760 rpm	400	5 mm	3.5 mm	6 mm
Teeth (5 rakes)	400 or 760 rpm Grate in lower position	Maximum	Beans: 15 mm Peas: 10 mm	8 - 12 mm	9 or 12 mm
Blades	760 rpm	Minimum	8 mm	2 to 3 mm	3 mm
Blades	760 rpm	750 - 800 rpm	10 mm	5 mm	3 or 6 mm
Blades	400 rpm	550 - 700 rpm	12 mm	7 mm	6 or 9 mm
Blades	400 or 760 rpm	750 rpm	Maize sieve Hart Carter 1-5/8" 10 mm	Hart Carter 1-1/8" 6 mm	9 or 12 mm
Blades	400 rpm If losses occur: 760 rpm Grate in lower position	600-650 rpm	10 - 12 mm	6 - 7 mm	12 mm
Blades	400 or 760 rpm	450 - 500 rpm Eccentric shaft low rpm	8 - 10 mm	0 - 5 mm	3 or 6 mm
Blades	400 or 760 rpm	550 rpm	12 mm	8 mm	6 mm

SECTION 5

ADJUSTMENTS AND MAINTENANCE



CAUTION:

Always stop the engine, unless otherwise instructed, before checking and/or adjusting any belt, chain or other component described in this Section.

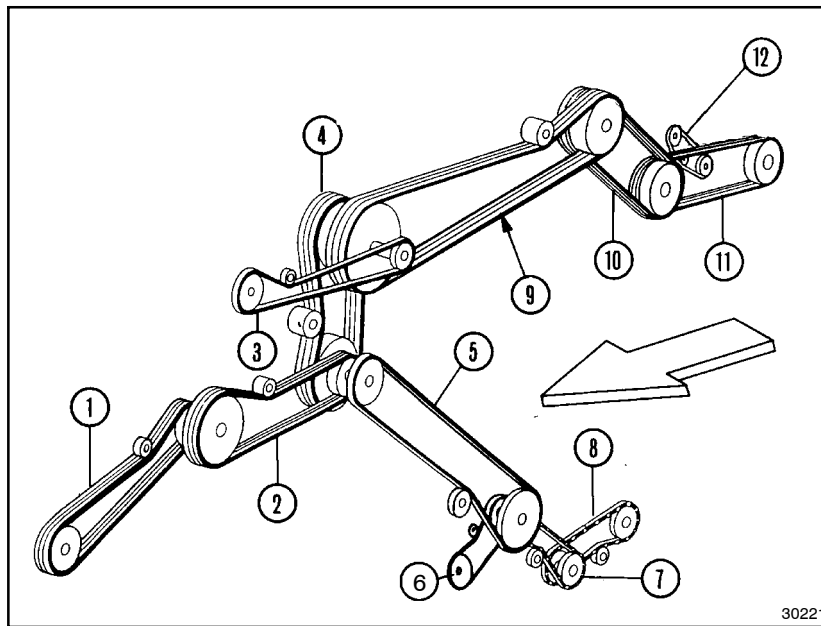
DRIVE BELTS AND CHAINS

[left-hand side] - Figure 1

IMPORTANT:

Daily check all belt and chain tensions to ensure optimum operation.

A maintenance schedule is mapped out at the end of this Section.



1

- | | |
|--|--|
| 1 Header drive belt | 8 Returns auger drive chain |
| 2 Straw elevator and header engaging belt | 9 Main drive belt |
| 3 Unloading system engaging belt | 10 Straw chopper front drive belt [if fitted] |
| 4 Main engaging belt | 11 Straw chopper rear drive belt [if fitted] |
| 5 Cleaning shoe drive belt | 12 Chaff spreader drive belt [if fitted] |
| 6 Eccentric shaft drive | 13 Chaff spreader discs drive belt (not shown) |
| Fixed cleaning shoe: belt drive | |
| Self-levelling cleaning shoe: p.t.o. drive | |
| 7 Roto-threshers and returns cross auger drive chain | |

NOTE:

Most belt idlers are spring-loaded and are fitted with an indicator plate to indicate the correct belt tension.

1 HEADER DRIVE BELT - Figure 2

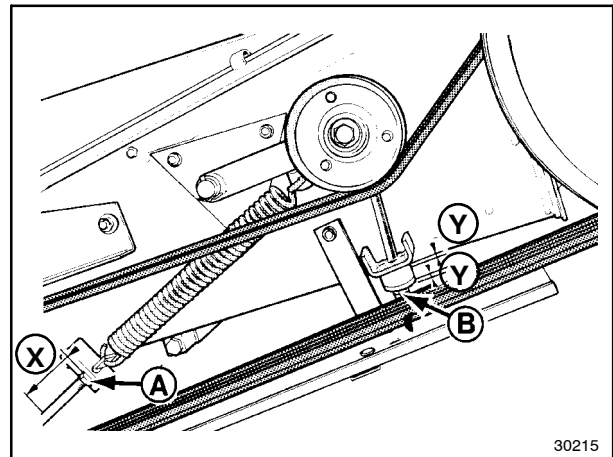
Correct belt tension:

X = 100 mm for 1HC belt

X = 155 mm for 4HB belt

Adjust with nuts A.

Y should be 0 mm. Adjust with nuts B.



2

2 STRAW ELEVATOR AND HEADER ENGAGING BELT

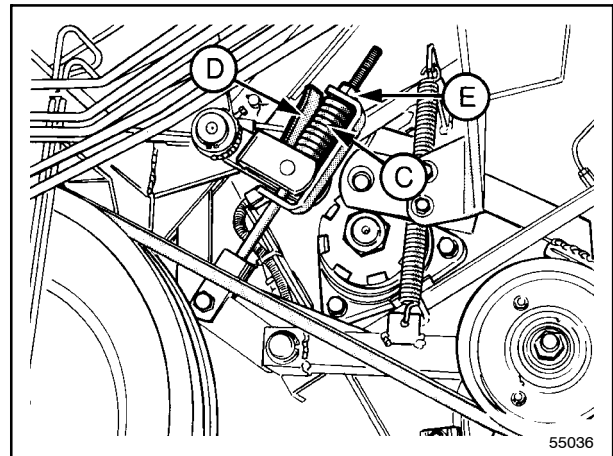
Models TX62-63 - Figure 3

Models TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS} - Figure 4

Correct belt tension (in engaged position):
Spring length C = indicator plate length D.

Adjust with nuts E.

Adjust the belt guide F so that it is at a maximum distance of 7 mm from the engaged belt, throughout the belt guide circumference.



3

TX62-63

Proceed as follows to check and adjust the tension of the straw elevator and header engaging belt, of the threshing mechanism engaging belt (item 4) and of the unloading system engaging belt (item 3).

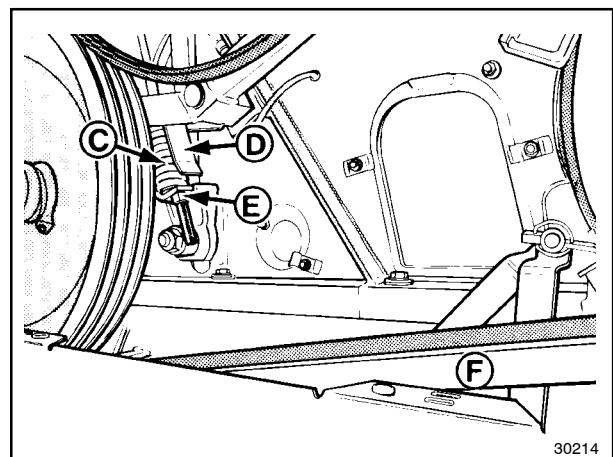


CAUTION:

For header, threshing and unloading system:

Make sure nobody is near the combine when disengaging the drive belt, even when the engine is not running!

Make sure nobody is near the combine when restarting the engine as some components may rotate for a while.



4

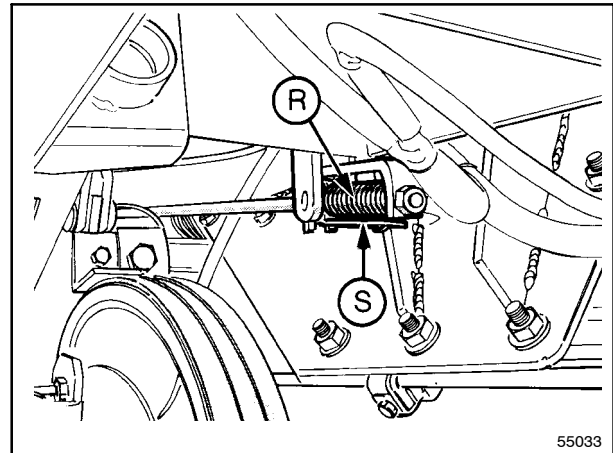
TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS}

Proceed as follows per drive belt:

NOTE:

For models TX62-63, only steps 5 to 7 are applicable.

1. Start the engine.
2. Run the engine at maximum speed for a short time.
3. Stop the engine.
4. Turn the key clockwise to the ignition position.
5. Only engage the drive belt to be checked (one belt at a time!)
6. Check belt tension and adjust, if necessary.
7. Disengage the drive belt.



5

55033
TX62-63

3 UNLOADING SYSTEM ENGAGING BELT

Proceed as described above.

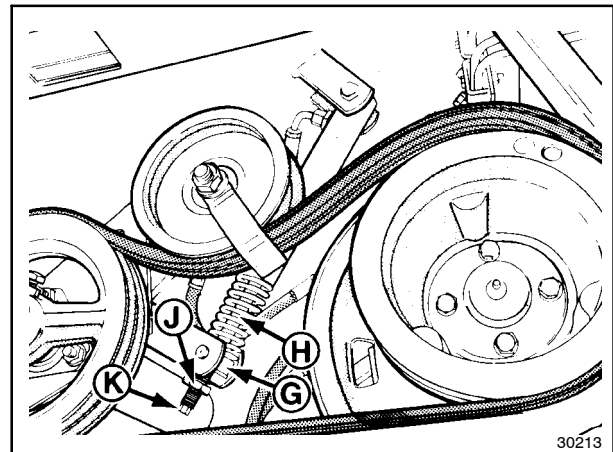
Models TX62-63 - Figure 5
(underneath steering platform)

Correct belt tension (in engaged position):
Spring length R = indicator plate length S.

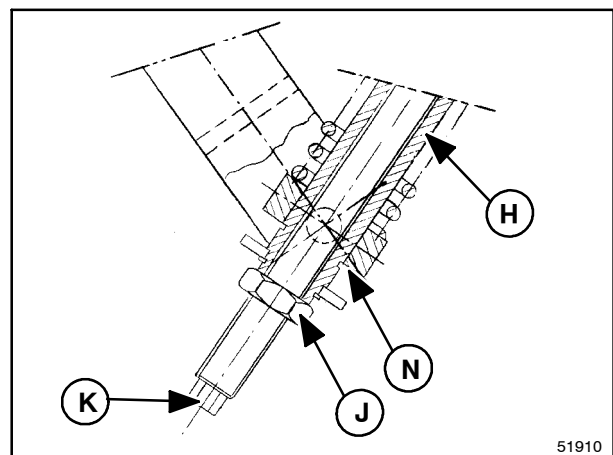
Models TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS} -
Figures 6 and 7
Correct belt tension (in engaged position):
Notch of part H is visible just underneath block G.

Adjustment

1. Loosen lock nut J.
2. Adjust the spring tension by turning rod K so that the notch in adjusting part H is just visible underneath block G.
3. Tighten lock nut J.



6

30213
TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS}

7

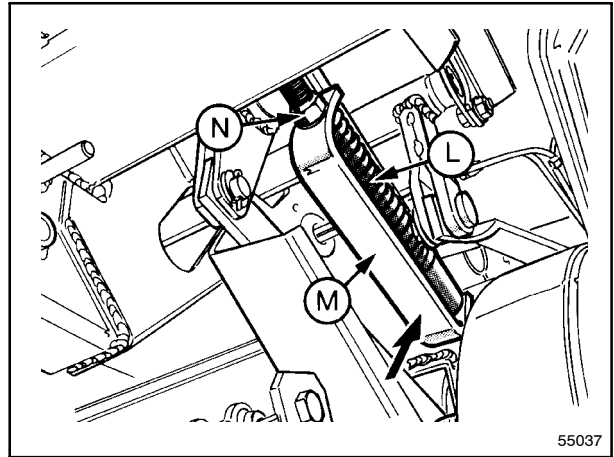
51910

4 MAIN ENGAGING BELT

Proceed as described in paragraph 2.

Models TX62-63 - Figure 8
(underneath steering platform)

Correct belt tension (in engaged position):
Spring length L corresponds with the notch in plate M.
Adjust with nut N.

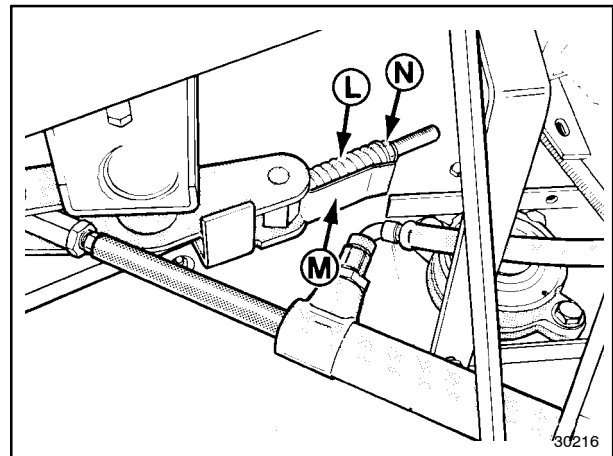


8

TX62-63

Models TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS} -
Figure 9

Correct belt tension (in engaged position):
Spring length L = indicator plate length M.
Adjust with nut N.

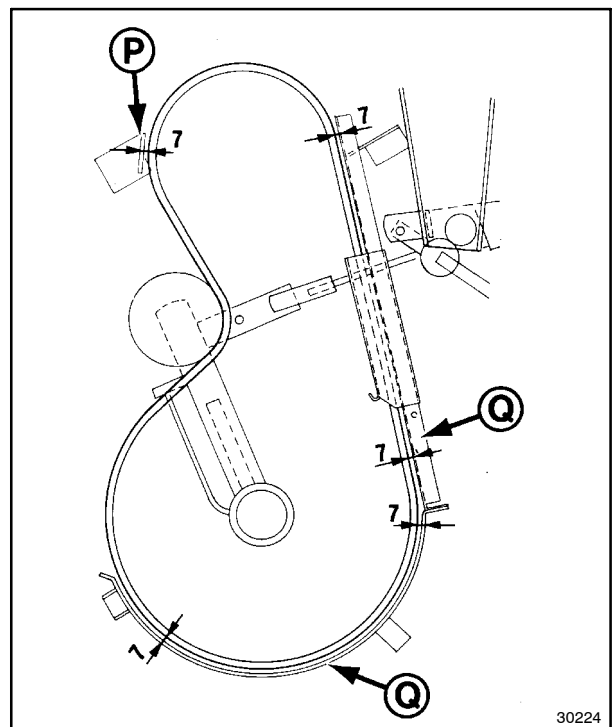


9

TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS}

All Models

Adjust the belt guides P and Q so that they are at a maximum distance of 7 mm from the engaged belt, throughout the belt guide circumference.



10

30224

5 CLEANING SHOE DRIVE BELT

- **Self-levelling cleaning shoe** - Figure 11

Correct belt tension:

Spring length R = indicator plate length S.

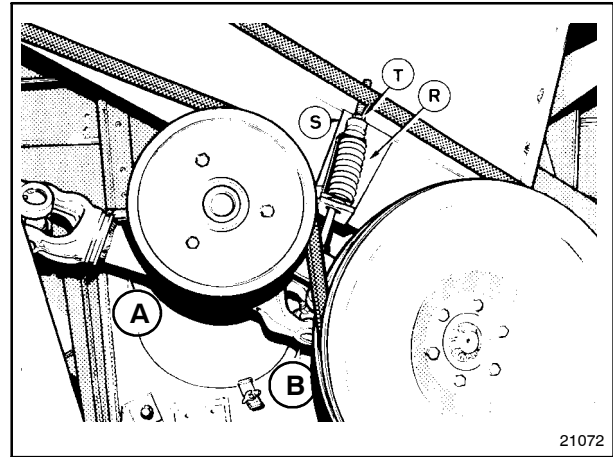
Adjust with nut T.

- **Fixed cleaning shoe** - Figure 12

Correct belt tension:

Spring length U = indicator plate length V.

Adjust with nut W.



11

6 ECCENTRIC SHAFT DRIVE

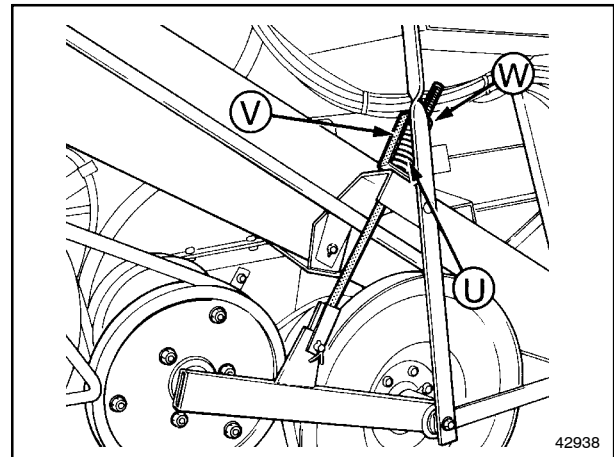
- **Self-levelling cleaning shoe** - Figure 11
Drive shaft halves A and B can only be connected together in one position of the splines.

- **Fixed cleaning shoe** - Figure 13

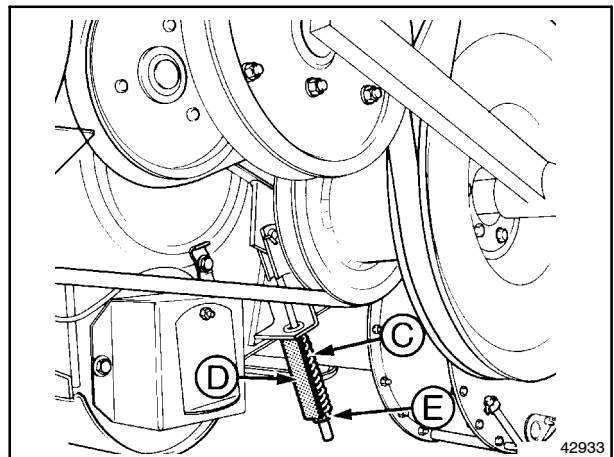
Correct belt tension:

Spring length C = indicator plate length D.

Adjust with nut E.



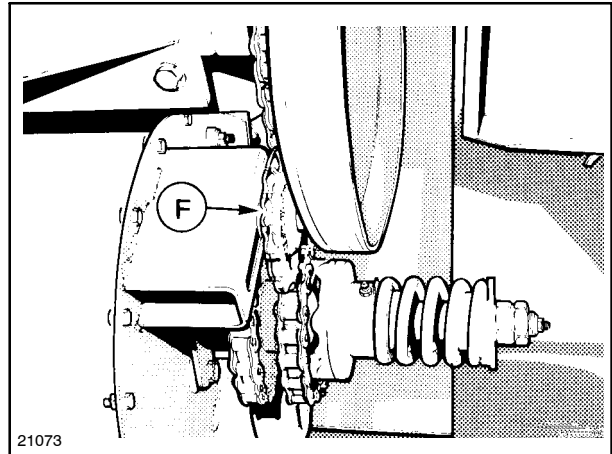
12



13

7 ROTO-THRESHER AND RETURNS CROSS AUGER DRIVE CHAIN - Figure 14

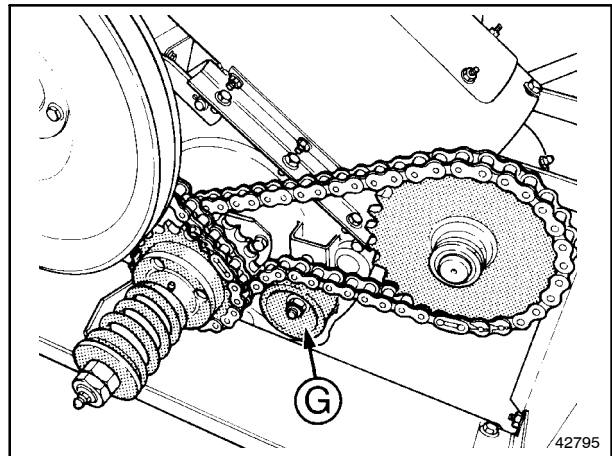
Tension the chain with idler sprocket F.



14

8 RETURNS AUGER DRIVE CHAIN - Figure 15

Tension the chain with idler G.

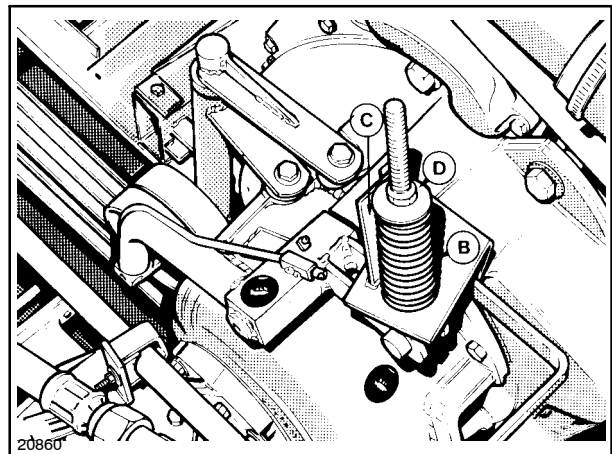


15

9 MAIN DRIVE BELT - Figure 16

Correct belt tension:
Spring length B = indicator plate length C.

Adjust with nut D.

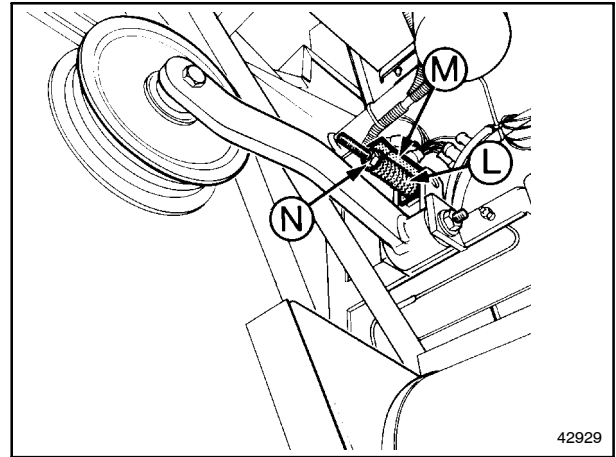


16

10 STRAW CHOPPER FRONT DRIVE BELT
[if fitted] - Figure 17

Correct belt tension:
Spring length L = indicator plate length M.

Adjust with nut N.

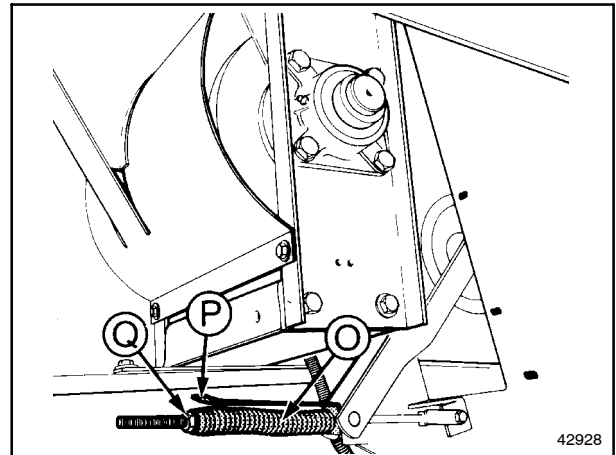


17

11 STRAW CHOPPER REAR DRIVE BELT
[if fitted] - Figure 18

Correct belt tension:
Spring length O = indicator plate length P.

Adjust with nut Q.

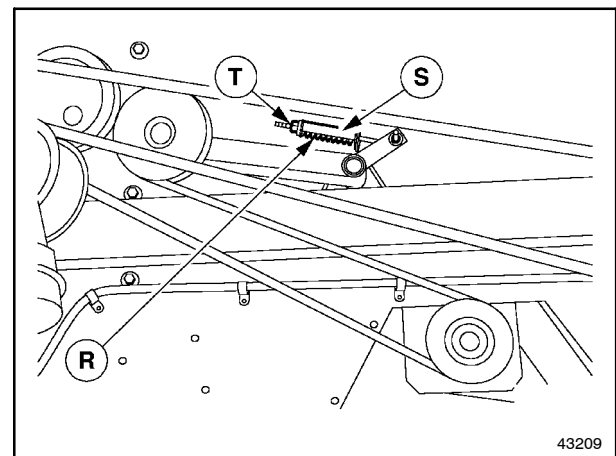


18

12 CHAFF SPREADER DRIVE BELT
[if fitted] - Figure 19

Correct belt tension:
Spring length R = indicator length S.

Adjust with nut T.



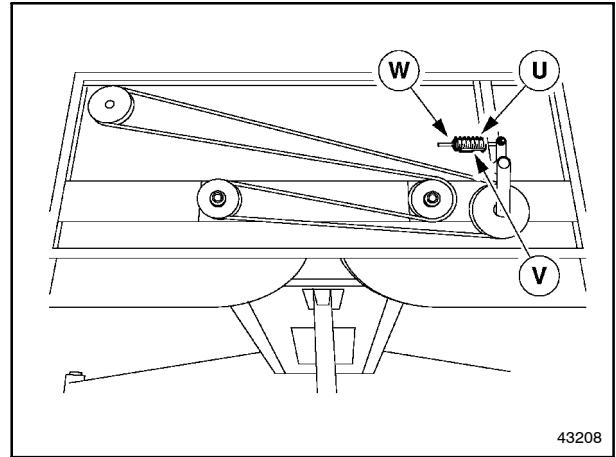
19

13 CHAFF SPREADER DISCS DRIVE BELT
[if fitted] - Figure 20

Correct belt tension:

Spring length U = indicator length V.

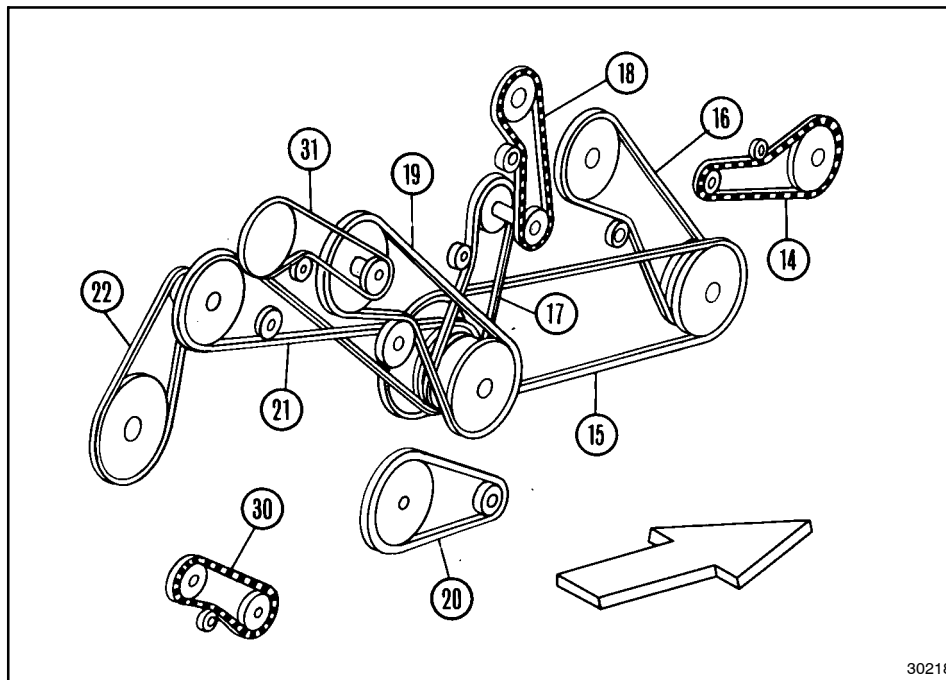
Adjust with nut W.



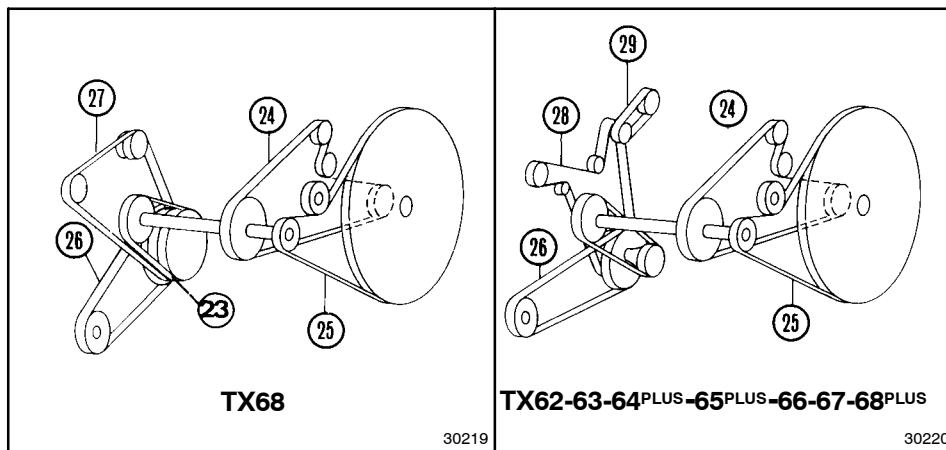
20

DRIVE BELTS AND CHAINS

[right-hand side] - Figure 21



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30220

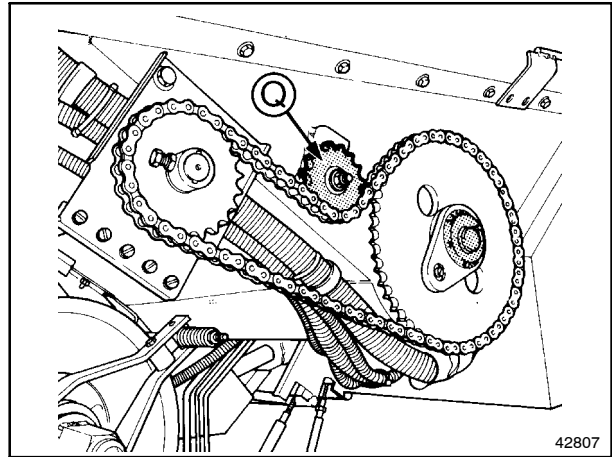
21

- | | |
|---|--|
| 14 Unloading system drive chain | 24 Cooling fan drive belt |
| 15 Drum vari-drive belt | 25 Rotary dust screen drive belt |
| 16 Beater drive belt | 26 Hydraulic pump drive belt |
| 17 Grain storage drive belt | 27 Alternator and air conditioning compressor drive belt (Model TX68) |
| 18 Grain elevator drive chain | 28 Alternator drive belt |
| 19 Rotary separator drive belt | 29 Air conditioning compressor drive belt (Models TX62-63-64 ^{PLUS} -65 ^{PLUS} -66-67-68 ^{PLUS}) |
| 20 Cleaning fan vari-drive belt | 30 Returns auger drive chain |
| 21 Straw walker intermediate shaft drive belt | 31 Straw Flow beater drive belt |
| 22 Straw walker drive belt | |
| 23 Cooling system intermediate shaft drive belt | |

14 UNLOADING SYSTEM DRIVE CHAIN -

Figure 22

Tension the chain with sprocket Q.



22

15 DRUM VARI-DRIVE BELT

a) Standard drum variator drive [if installed]

Figure 23

The tension of the drum vari-drive belt is correct when spring H is adjusted to the length of the indicator plate G.

Checking variator adjustment

Start the engine and engage the threshing mechanism. Move the drum variator to MINIMUM. Stop the engine.

Distance X should be minimum 1 mm (clearance measured between driven sheaves).

Move the variator to MAXIMUM.

Distance Y should be minimum 1 mm (clearance measured between drive sheaves).

Adjustment

a) Variator on MINIMUM position:

The variator arms J should be against the frame.

The factory setting of the (new) belt depth on the drive sheaves is 105 mm and an initial setting of eyebolt K is 56 mm.

If needed, i.e. if measurement X is less than 1 mm, adjustment can be carried out with the lock nut on eyebolt K (moving the variator arm J to the outside).

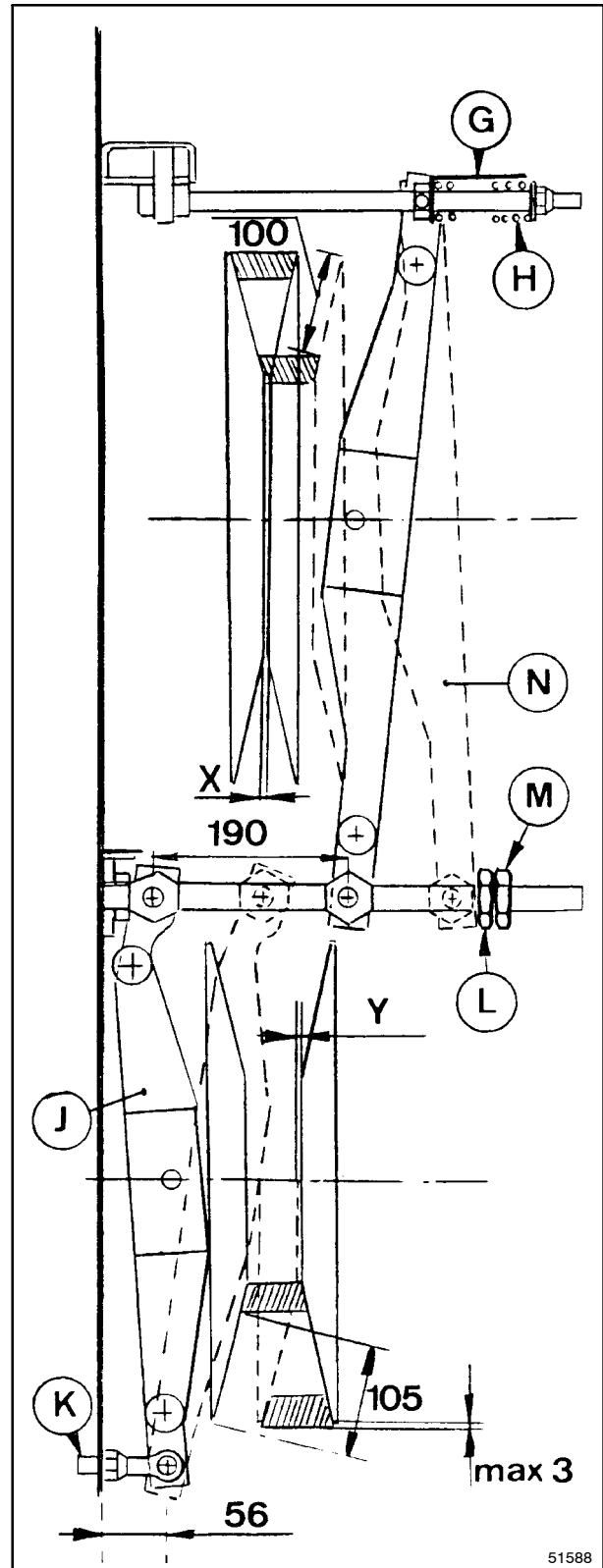
In the case of a stretched belt, the belt can be allowed to extend 3 mm beyond the edge of the driven sheaves.

b) Variator on MAXIMUM position:

The factory setting of the (new) belt depth on the driven sheaves is 100 mm.

If necessary, i.e. if measurement Y is less than 1 mm, adjust with nuts L and M (moving the variator arm N to the inside).

In the case of a stretched belt, the belt may be allowed to extend 3 mm beyond the edge of the drive sheaves.



b) Torque-sensing drum variator [if installed] - Figure 24

The drum variator belt is tensioned automatically according to the torque on the drum shaft ("Torque-sensing drum variator").

Checking variator adjustment

Start the engine and engage the threshing mechanism. Move the drum variator to MINIMUM. The variator arms J should be against the frame. Stop the engine.

Distance X, which is the clearance between the driven sheaves, should measure minimum 1 mm.

Move the drum variator to MAXIMUM.

Distance Y, which is the clearance between the drive sheaves, should measure minimum 1 mm.

NOTE:

In both minimum and maximum position the variator belt should not protrude more than 3 mm beyond the variator sheaves.

Adjustment

(i) Variator on MINIMUM position:

Move pivot block D against the frame.

Adjust nut K until a belt depth of 105 mm on the intermediate shaft pulleys is obtained or distance X measures minimum 1 mm. The initial setting of nut K is 56 mm.

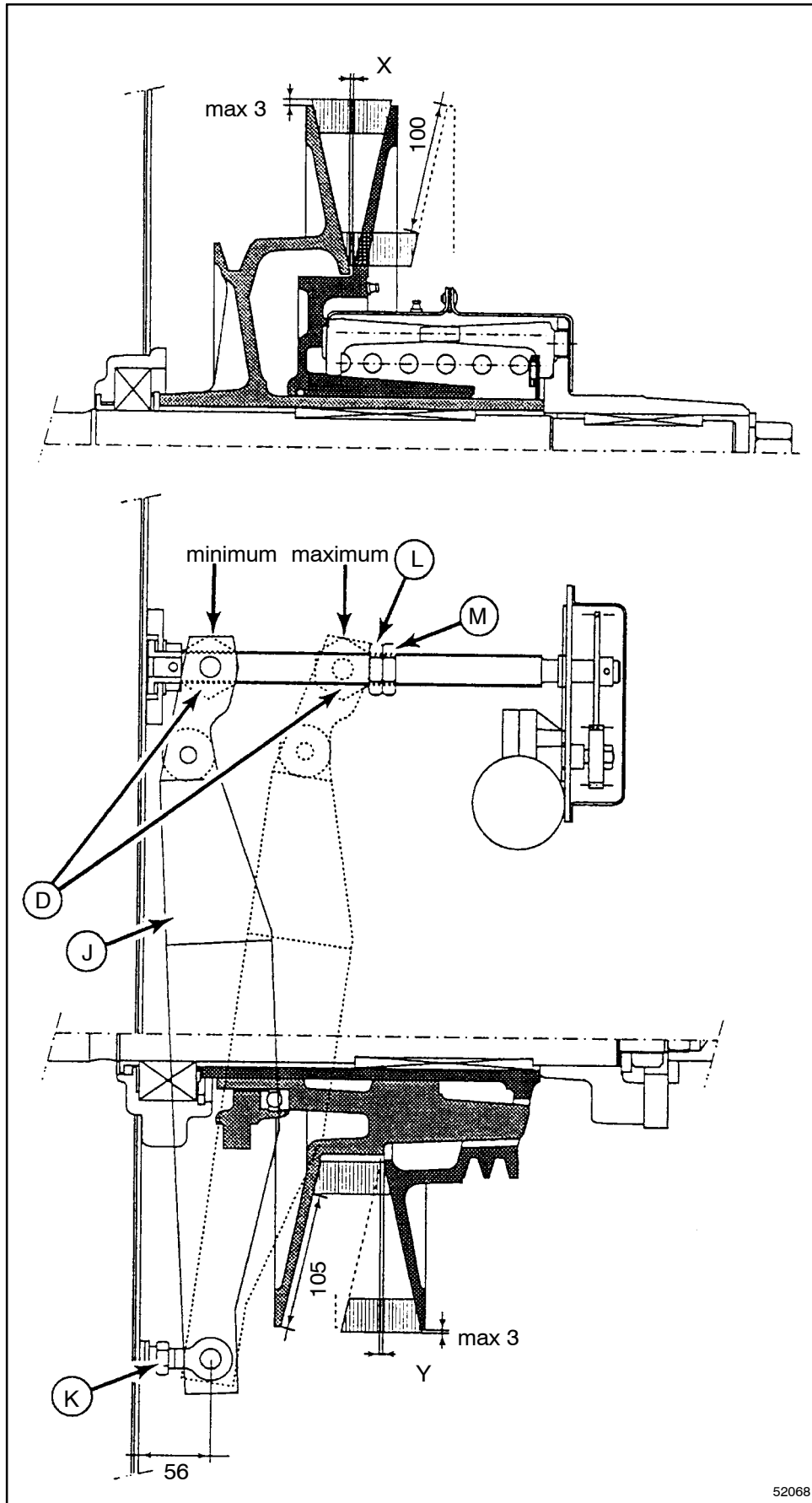
(ii) Variator on MAXIMUM position:

Move pivot block D towards nuts L and M until a belt depth of 100 mm on the drum shaft pulleys is obtained or distance Y measures minimum 1 mm.

Tighten nut L and jam nut M against pivot block D.

NOTE:

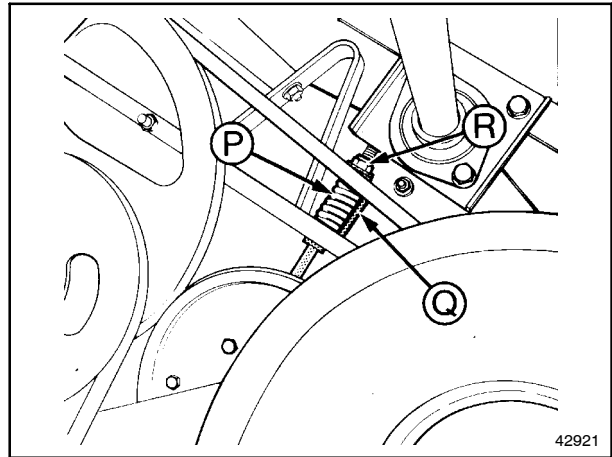
In both minimum and maximum position the variator belt should not protrude more than 3 mm beyond the variator sheaves.



16 BEATER DRIVE BELT - Figure 25

Correct belt tension:
Spring length P = indicator plate length Q.

Adjust with nut R.

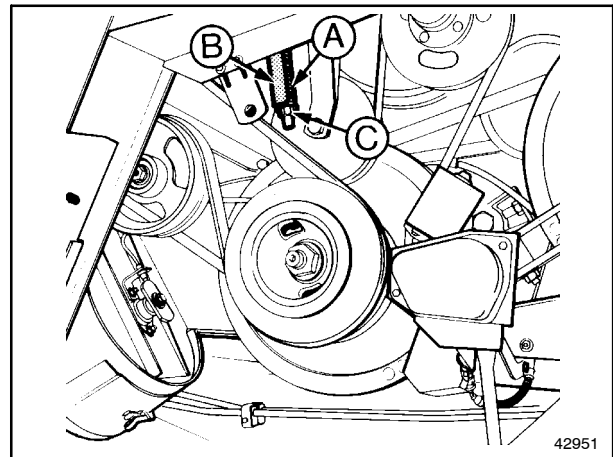


25

17 GRAIN STORAGE BELT - Figure 26

Correct belt tension:
Spring length A = indicator plate length B.

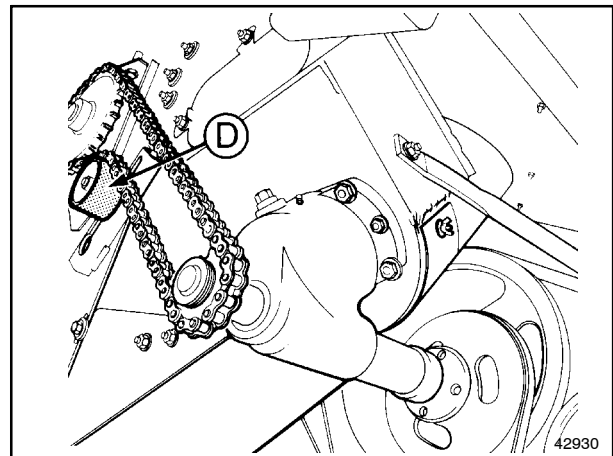
Adjust with nut C.



26

18 GRAIN ELEVATOR DRIVE CHAIN - Figure 27

Tension the chain with nylon idler D.



27

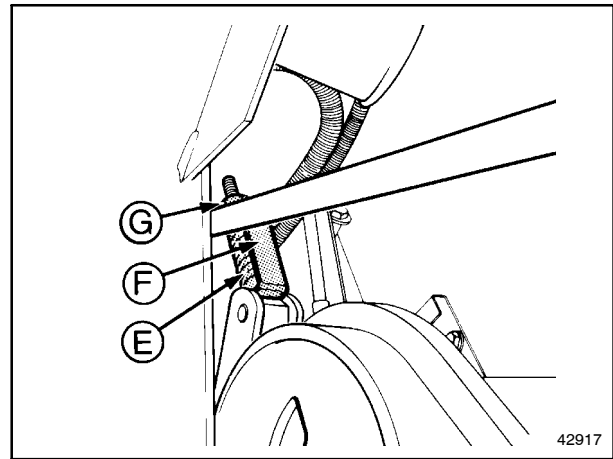
19 ROTARY SEPARATOR DRIVE BELT -

Figure 28

Correct belt tension:

Spring length E = indicator plate length F.

Adjust with nut G.



28

20 CLEANING FAN VARI-DRIVE BELT -

Figure 29

Checking

Start the engine and engage the threshing mechanism.

Move the fan variator to MINIMUM.

Stop the engine and check clearance X between the sheaves on the fan shaft.

Clearance X should be minimum 1 mm.

Move the fan variator to MAXIMUM.

Clearance Y should be minimum 1 mm.

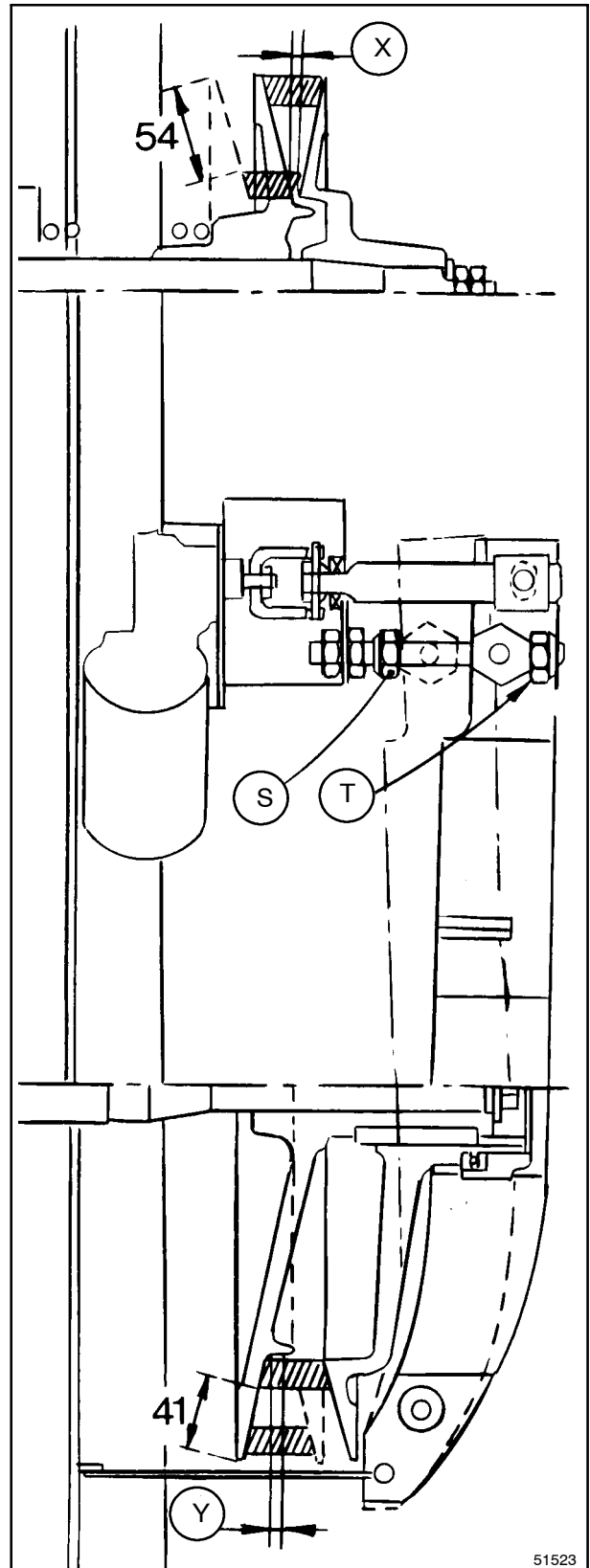
Adjustment

Adjust with nut S or T.

The factory setting is:

- Maximum 54 mm belt depth on the driven sheaves.
- Minimum 41 mm belt depth on the drive sheaves.

In the case of a stretched belt, the belt loop around the sheaves may be allowed to extend maximum 3 mm beyond the edge of the sheaves.



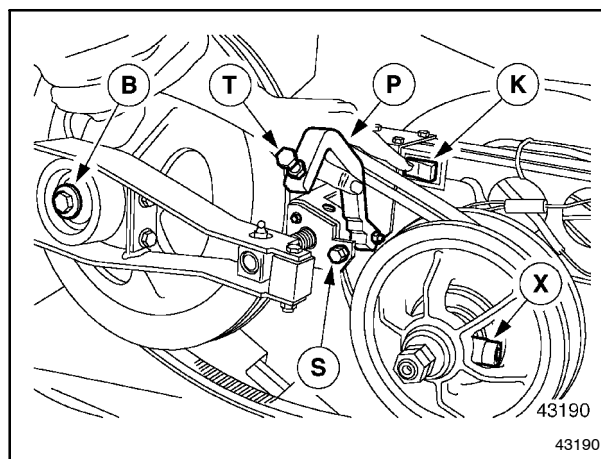
29

Low speed fan variator [if installed] -

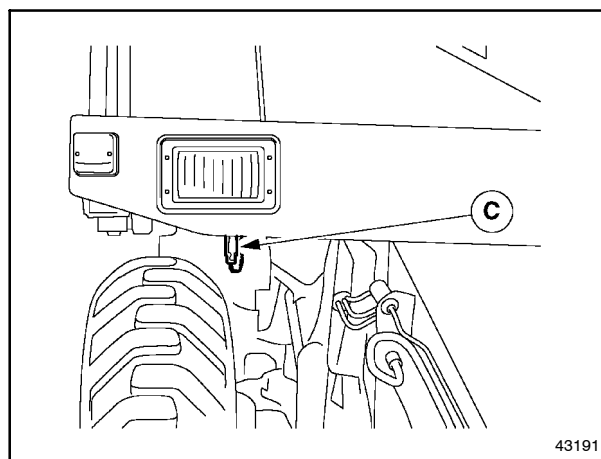
Figures 30 to 32

To change the variator sheaves and belt, proceed as follows:

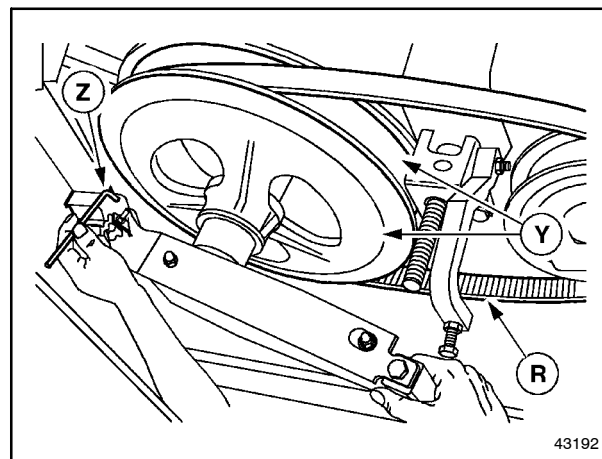
1. Start the engine and engage the threshing mechanism.
2. Set the fan variator on maximum speed.
3. Stop the engine.
4. Install a restrictor X so that the fan sheave, which is spring-loaded, cannot move back.
5. Plug in connector C at the front railing and switch on the parking lights.
6. Press switch K to open the variator and hold up pawl P until the variator arms are free.
7. Remove pin Z and bolt B.
8. Remove the two sheaves Y and belt R.
9. Install the other sheaves and the belt.
10. Tighten bolt B to 50 Nm.
11. Reinstall the variator arms and secure them in place with pin Z.
12. Press switch K to close the variator while turning the pulley by hand until it is possible to remove restrictor X.
13. Plug out connector C.
14. Adjust bolts T and S as explained above under subheadings "Checking" and Adjustment".



30



31

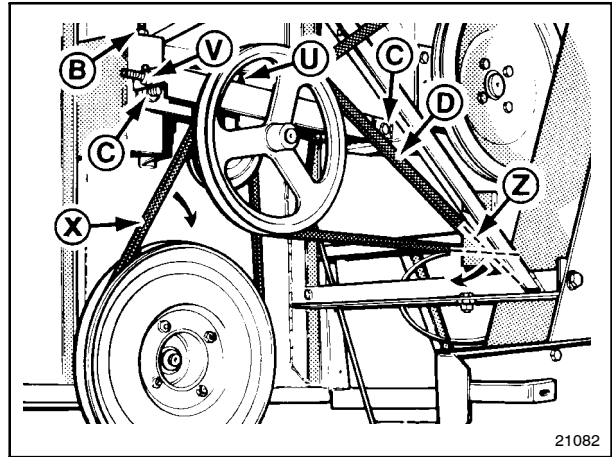


32

21 STRAW WALKER INTERMEDIATE SHAFT DRIVE BELT - Figures 33 and 34

The belt tension is correct when belt D can be deflected 14 mm at Z when applying a force of 17 N.

Adjust with rod V after loosening the three bolts U. Loosen bolts W and adjust pulley A and its support slightly downwards [forming an angle of approximately 35° with the straight line between the two pulleys - front pulley upper side and rear pulley lower side (view from the rear)], so that a clearance of 2 to 3 mm exists between both belt halves. Retighten bolts W. Retighten bolts V.



33

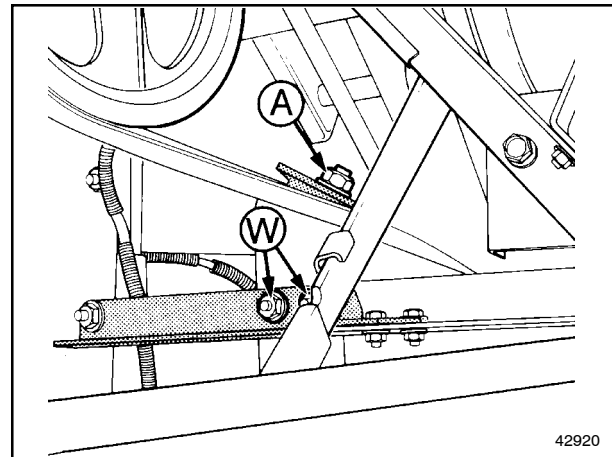
22 STRAW WALKER DRIVE BELT - Figure 33

The belt tension is correct when the belt can be deflected 5 mm when applying a force of 41 N halfway between the pulleys at X .

Adjust with rod B after loosening bolts C. Retighten bolts C.

NOTE:

Adjustments of the straw walker drive belt and the straw walker intermediate shaft drive belt should be carried out together.

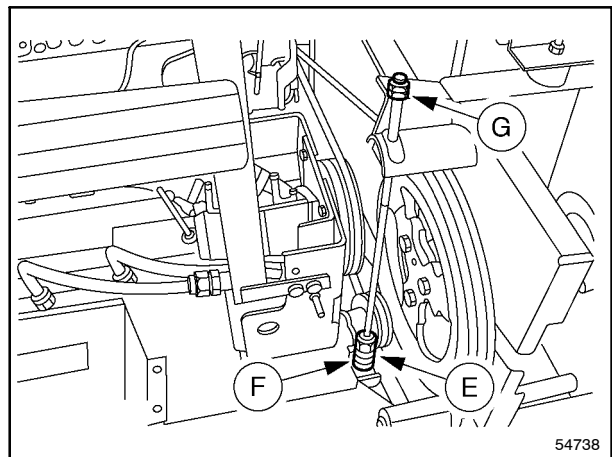


34

23 COOLING SYSTEM INTERMEDIATE SHAFT DRIVE BELT - Figure 35

Correct belt tension:
Spring length E = indicator plate length F.

Adjust with nut G.

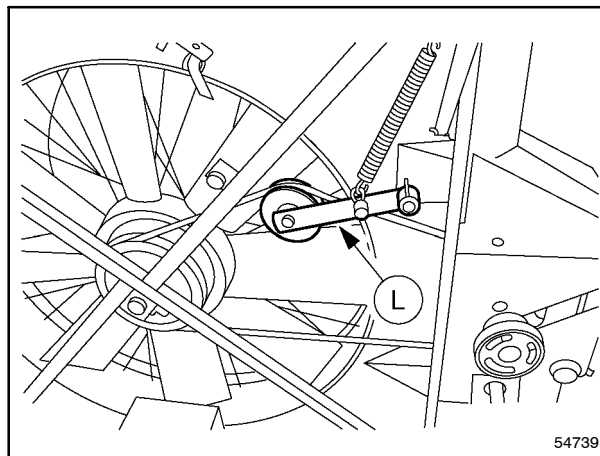


35

24 COOLING FAN DRIVE BELT - Figure 36

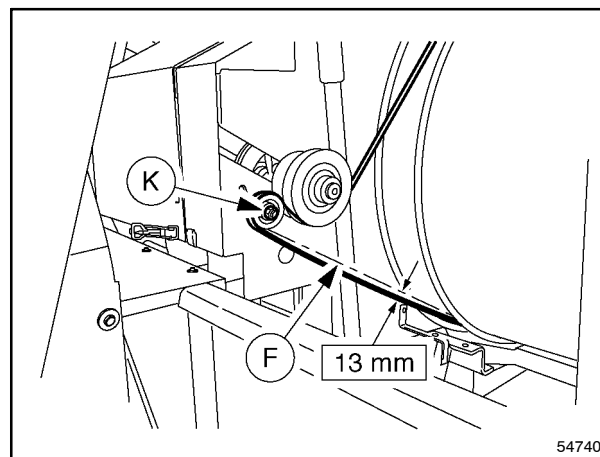
Spring-loaded idler L.

No adjustment needed.

**36****25 ROTARY DUST SCREEN DRIVE BELT - Figure 37**

Applying a force $F = 1.8$ to 3.5 N at the midpoint of the belt should deflect the belt 13 mm.

Loosen nut K to adjust.

**37****26 HYDRAULIC PUMP DRIVE BELT - Figure 38**

Correct belt tension:

Models TX62-63-64^{PLUS}-65^{PLUS}-66-67

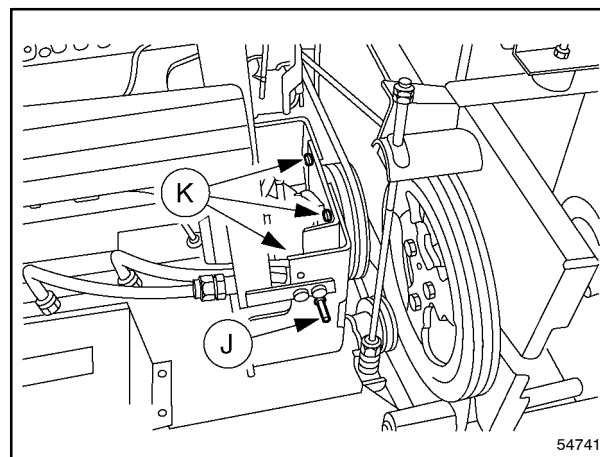
Applying a force of 3 daN at the midpoint of the belt should deflect the belt 7.6 mm.

Loosen three nuts K and adjust with threaded rod J.

Models TX68-68^{PLUS}

Applying a force of 2.7 daN at the midpoint of the belt should deflect the belt 6.7 mm.

Loosen three nuts K and adjust with threaded rod J.

**38**

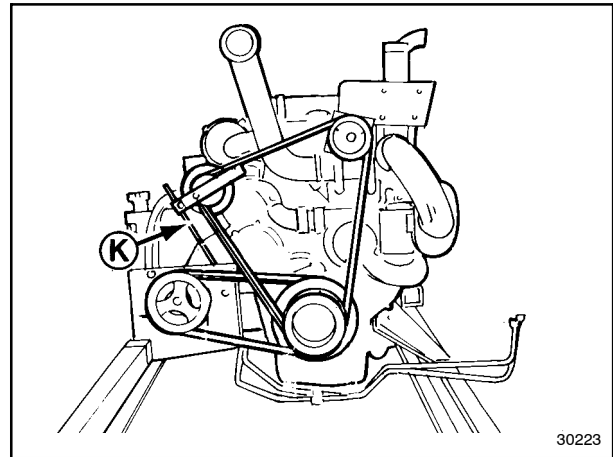
27 ALTERNATOR AND AIR CONDITIONING COMPRESSOR DRIVE BELT

[Models TX68-68^{PLUS}] - Figure 39

Correct belt tension:

Applying a force of 3 daN halfway the belt between the engine pulley and the alternator will deflect the belt 7 mm.

Adjust by moving the alternator held by two nuts on the threaded rod K.



39

TX68-68^{PLUS}

30223

28 ALTERNATOR DRIVE BELT

[Models TX62-63-64^{PLUS}-65^{PLUS}-66-67]

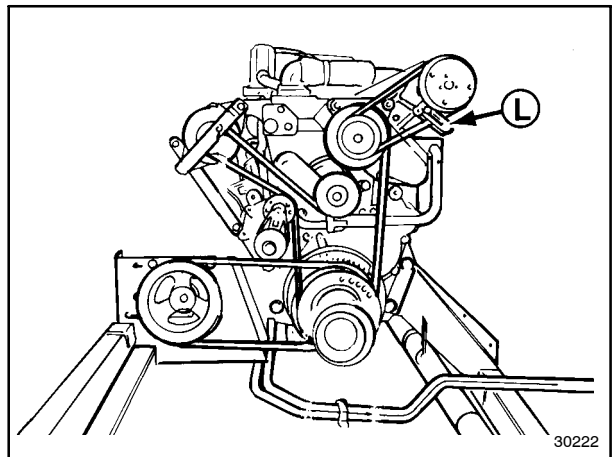
Self-adjusting idler, no adjustment needed.

29 AIR CONDITIONING COMPRESSOR DRIVE BELT [Models TX62-63-64^{PLUS}-65^{PLUS}-66-67] - Figure 40

Correct belt tension:

Applying a force of 2.3 daN at the midpoint of the belt between the two pulleys should deflect the belt 3 mm.

Adjust by moving the compressor in the slotted holes L.



40

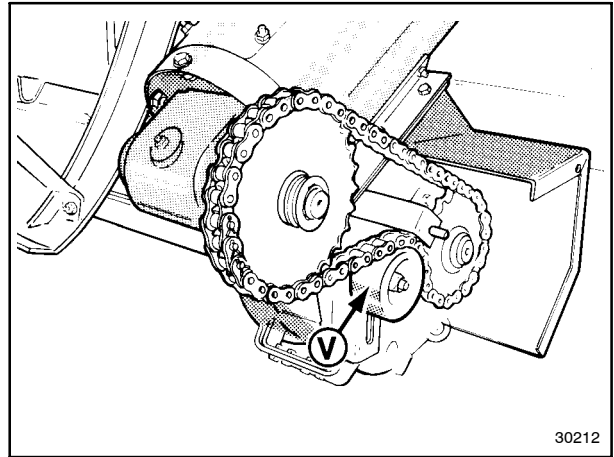
TX62-63-64^{PLUS}-65^{PLUS}-66-67

30222

30 RETURNS AUGER DRIVE CHAIN
[right-hand side] [Models TX66-67-68-68^{PLUS}]

Figure 41

Tension the chain with idler V.



41

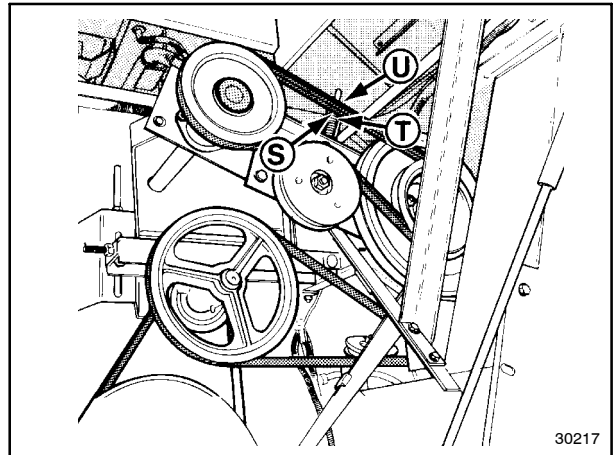
TX66-67-68-68^{PLUS}**31 STRAW FLOW BEATER DRIVE BELT -**

Figure 42

Correct belt tension:

Spring length S = indicator plate length T.

Adjust with nut U.



42

STRAW ELEVATOR

CHAIN TENSION - Figures 43 and 44

The tension of the straw elevator chain is kept constant by spring A which pushes the mounting supports of the lower shaft forwards.

Correct chain tension:

Spring length A = indicator plate length B (both sides).

Adjust with nut C.

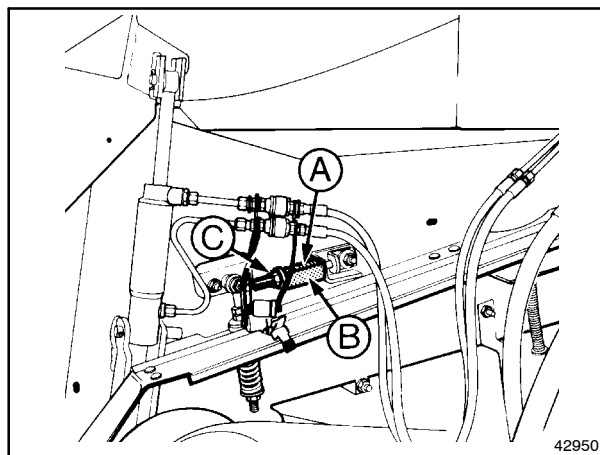
As the chain stretches, the supports will gradually move towards the end of the slots.

In this case, remove half a link of the three chains and readjust the chain tension.

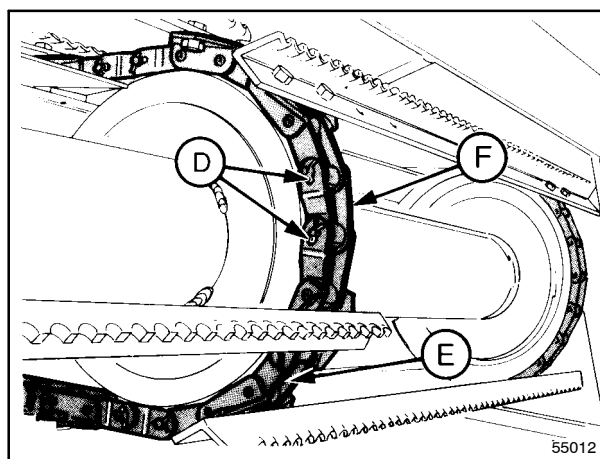
Proceed as follows:

1. Loosen nuts C on both sides to slacken the straw elevator chains.
2. Move the straw elevator lower shaft to the rear.
3. Remove cotter pins D and open chains E.
4. Remove half a link F.
5. Reassemble chains E with cotter pins D as shown.
6. Readjust the chain tension.
Spring length A = indicator plate length B (both sides).

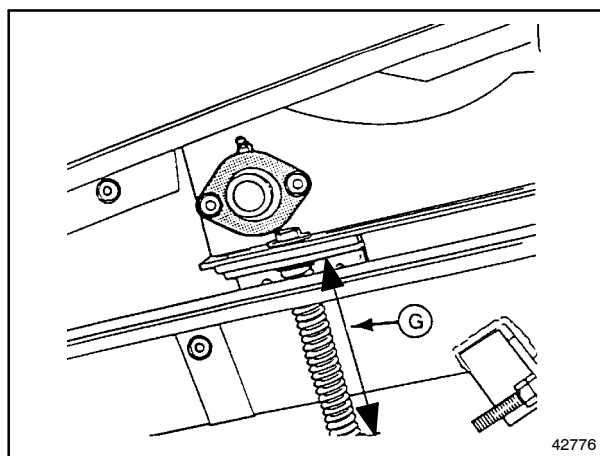
For correct functioning of the middle shaft, distance G between the two washers should be 175 ± 1 mm.



43



44

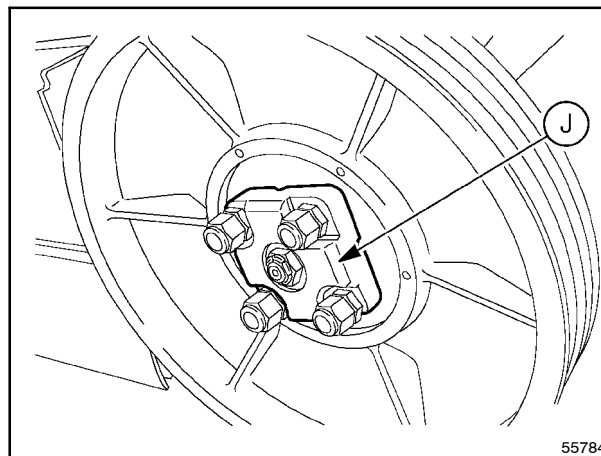


45

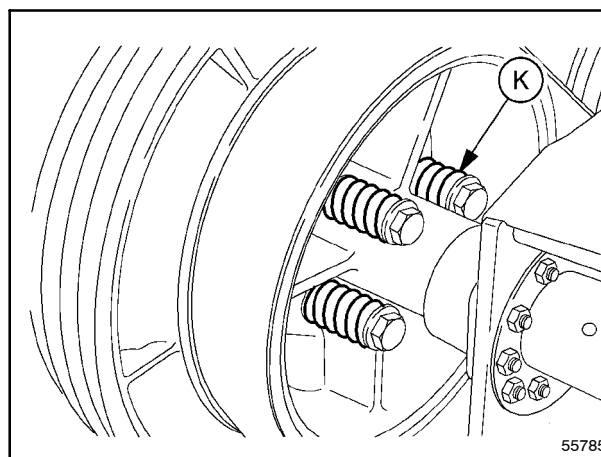
SLIP CLUTCH - Figures 46 and 47

The audible slip clutch J is factory-set for average conditions and must not be further tensioned.

Correct clutch tension (in case of disassembly):
The length of spring K should measure 75.5 mm (slip clutch torque is 600 Nm).



46

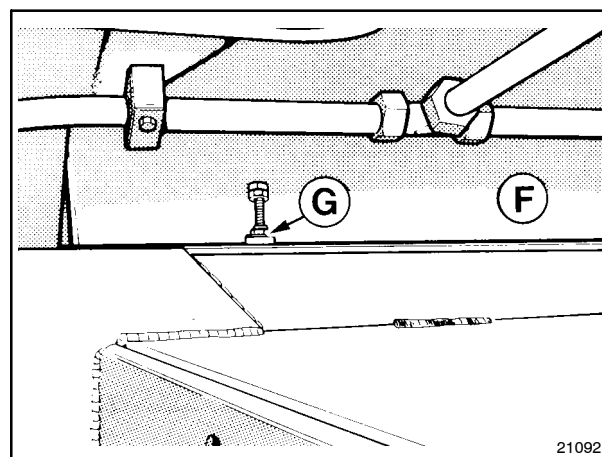


47

ANTIDUST PLATE - Figure 48

An antidust plate is fixed to the cover F in front of the drum. The lower part of the plate is adjustable. Adjust nuts G until there is a clearance of 3 mm between the plate and the drum rasp bars.

Remove the antidust plate when operating in maize.



48

FRONT FACE ADJUSTMENT [if installed] -

Figure 49

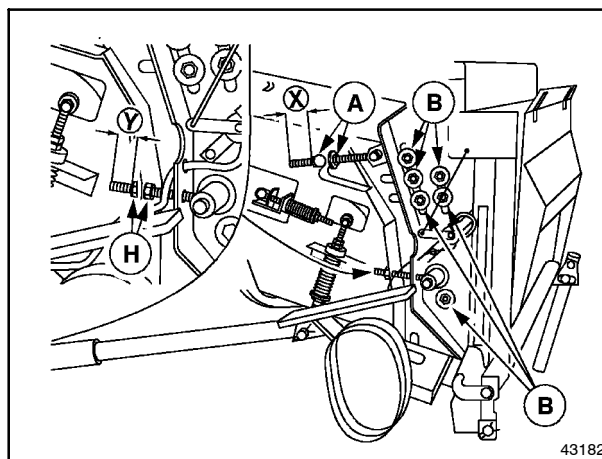
The operating angle of the header is adjustable to improve crop feeding. The angle of the straw elevator front face can equally be adjusted by changing distance X (factory-set to 72 mm) and distance Y (factory-set to 49 mm).

To adjust the angle of the front face, proceed as follows on both sides of the machine:

1. Loosen six nuts B.
2. Adjust distances X and Y between the header and the straw elevator with nuts H.
3. Adjust the front face angle with nuts A.
4. Tighten nuts A and H.
5. Tighten nuts B to 240 Nm.

ATTENTION:

Make sure the straw elevator slats do not interfere with the dust plates at the front part of the straw elevator.



43182

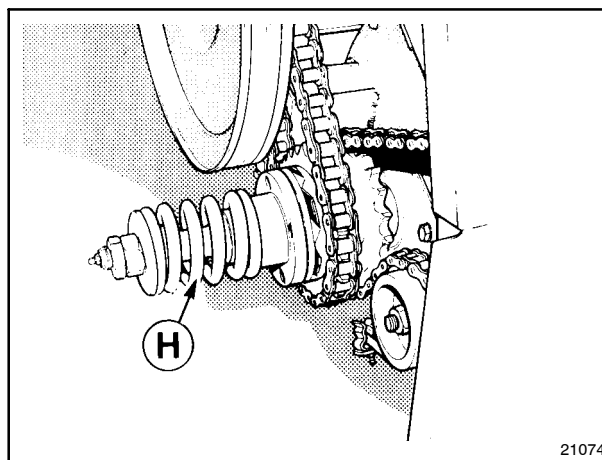
49

ROTO-THRESHERS

SLIP CLUTCH - Figure 50

The slip clutch on the roto-thresher shaft protects the returns drive line.

When correctly adjusted, the spring length H should measure 86 mm.



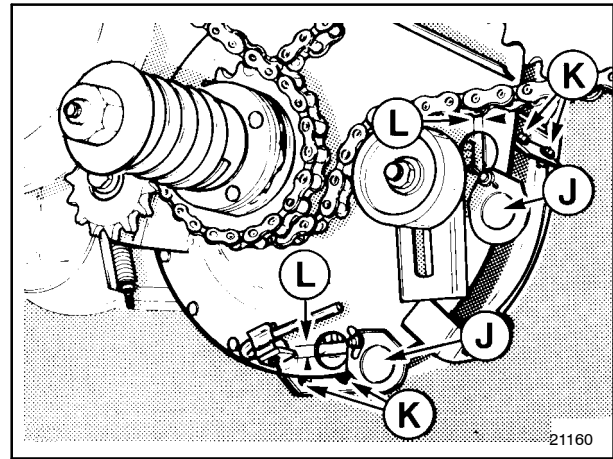
21074

50

CONCAVE ADJUSTMENT - Figure 51

Proceed as follows:

1. Open the covers above inspection holes J.
2. Loosen the four bolts K.
3. Move the roto-thresher concave to a minimum of 5 mm from the roto-thresher teeth (see L).
4. Check the adjustments through inspection holes J. If grain crackage is experienced, increase distance L.
5. Retighten the four bolts K.
6. Close the covers over the inspection holes J.
7. Models TX66-67-68-68^{PLUS} only:
Proceed in the same way on the opposite side.



51

GRAIN ELEVATOR**CHAIN TENSION** - Figure 52

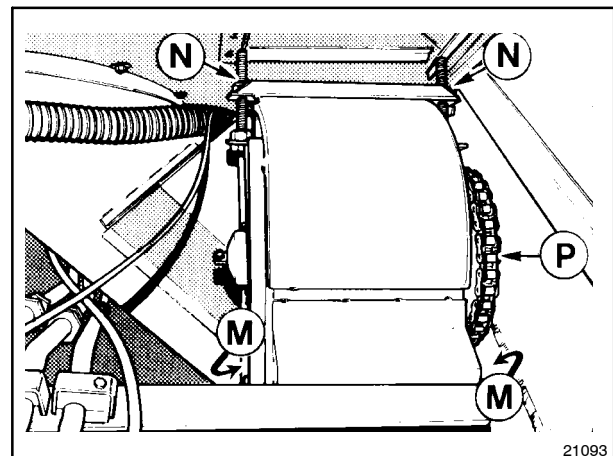
The tension of the grain elevator chain can be adjusted at the top of the elevator, accessible through the grain tank, after drive chain P has been slackened.

Loosen bolts M and adjust with nuts N on both sides of the elevator head.

ATTENTION:

To prevent bearing damage, ensure nuts N are tightened evenly.

The tension of the grain elevator chain is correct when it is just possible to move a link laterally across the lower sprocket by hand.

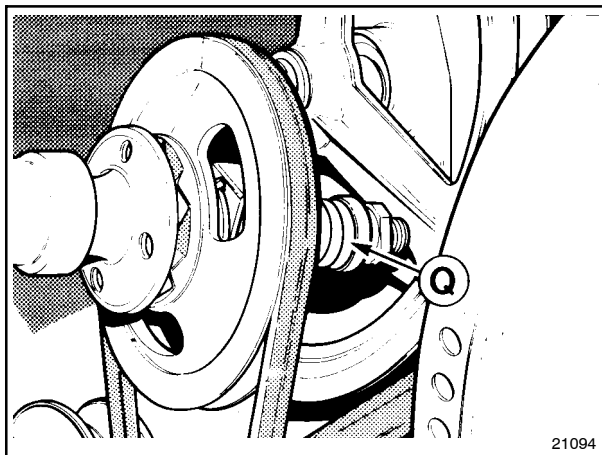


52

SLIP CLUTCH - Figure 53

To protect the clean grain drive line an audible slip clutch is fitted to the gearbox. The slip clutch is factory-set for average crop conditions.

To adjust, compress spring Q completely and then release the nut $5 \pm 1/4$ turns.



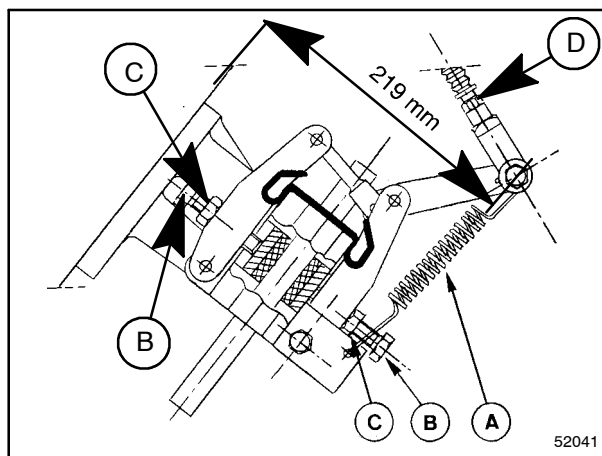
53

BRAKES

PARKING BRAKE ADJUSTMENT

All models, except TX67 - Figure 54

1. Disengage the handbrake in the cab. Do not remove spring A.
2. Loosen nuts C and bolts B.
3. Adjust dimension 219 mm with nuts D.
4. Turn bolts B by hand until they touch the brake blocks.
5. Loosen bolts B 1/6 of a turn and tighten screws C.



54

Model TX67 - Figures 55 to 57

Every 500 operating hours or once a year a clearance check and possible adjustment of the parking brake has to be carried out.

Proceed as follows:

1. Park the combine on level ground and block the wheels adequately (e.g. by means of wooden blocks).
2. Measure the piston travel of the parking brake in the following manner:
 - a) Remove rubber cap G.
 - b) Measure distance X.

- c) Remove cotter pin H, screw nut J against the end cap K and tighten to complete release of the parking brake disc. Measure distance X again. The difference between the two values is the piston travel. Piston travel should be between 1.5 and 3.5 mm.
3. If the piston travel exceeds 3.5 mm, one or more shim layers S have to be removed. Removing one layer of shims will reduce the piston travel by 2 mm. Each layer of shims consists of 3 sectional parts (3x120°).

To remove the shims, proceed as follows:

- a) Loosen the three screws L. Turn out one screw and remove the corresponding shim section(s) (one layer per 2 mm travel reduction). Reinstall the screw. Proceed in the same way for the two other sections.

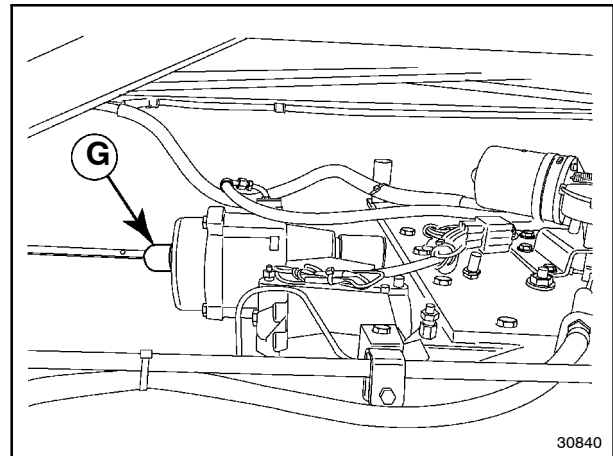
ATTENTION:

Install the removed shim between the end cap and the bolt head. This will prevent the shims from getting lost. The removed shims will be needed again when installing new brake pads later on.

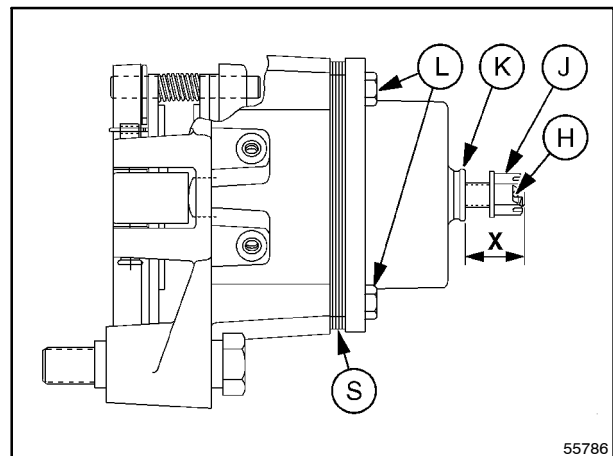
- b) Retighten the three screws L to 97 Nm torque.
4. Measure the piston travel again. If not correct, return to step 3. If correct, unscrew nut J to the end of the central rod. Secure nut J with the cotter pin H. Install rubber cap G.

REMARK:

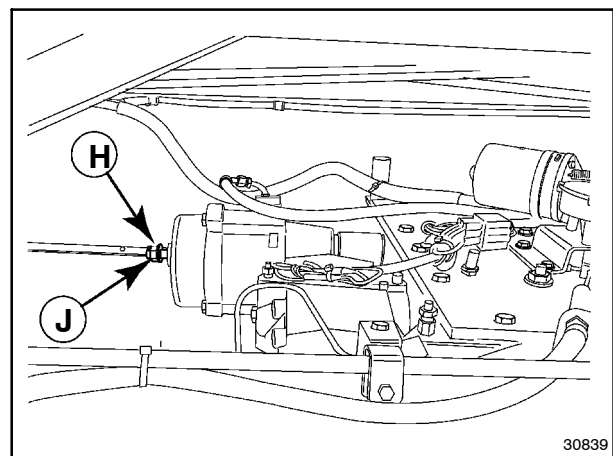
This procedure does not cover the checking of the friction lining wear. The brake pads have to be replaced if the remaining thickness is less than 1 mm. It is the operator's responsibility to check this on a regular basis. To bleed or to replace the brake linings, contact your local dealer.



55



56



57

FOOT BRAKES

To bleed or to replace the brake linings, contact your local dealer.

Have the linings checked:

- when the brake warning light comes on
- every 400 hours in normal conditions
- every 200 hours in heavy brake conditions (e.g. “spin turns” in maize, steep hills)

Clean the brakes every 200 hours with compressed air.

FLUID CHANGE

The brake fluid has to be changed every two years. Contact your dealer to carry out this job.



CAUTION:

- **In case of leakage or malfunction of the brake system, immediately contact your New Holland dealer.**
- **The seals of the brake slave cylinders contain fluoroelastomers which, when used under normal conditions, are perfectly safe. If, however, they are exposed to temperatures in excess of 315° C, the material will not burn, but decompose. An extremely corrosive acid is then formed which is almost impossible to remove once it has contaminated the skin.**

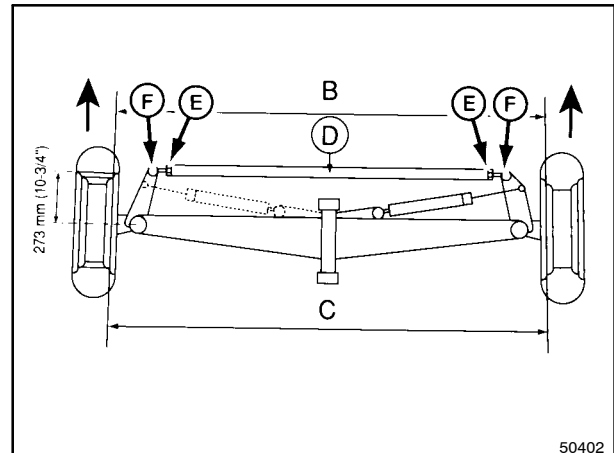
STEERING AXLE

TOE-IN ADJUSTMENT - Figure 58 (aerial view)

The steering wheels should have the correct amount of toe-in, otherwise premature tyre wear may occur. The distance between the steering wheels must be smaller at the front than at the rear (facing the direction of travel).

To check and adjust the toe-in, proceed as follows:

1. Apply the parking brake and support the steering axle so that the steering wheels are clear of the ground.



58



CAUTION:

Use suitable jack stands, securely positioned underneath the rear of the machine, before adjusting the steering axle. Steering ball joints, wheel spindles, tie rods and steering hydraulic components should be checked every 50 hours of operation.

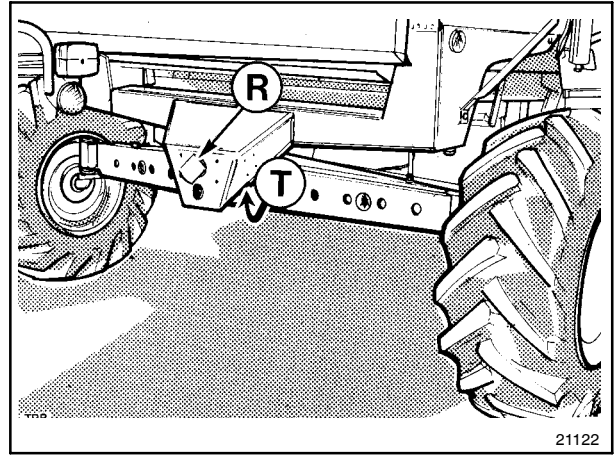
2. Set the steering wheels in the straight ahead position.
3. Mark spots at 273 mm from the centre on the front inside of the wheel rims at the centre-of-wheel height and measure distance B.
4. Turn the steering wheels 180° forward or rearward until the marks are at the centre-of-wheel height and measure distance C. Distance C must be 8 to 12 mm greater than distance B.
5. To adjust the toe-in, loosen jam nuts E, remove steering ball F out of the steering arm and turn the steering ball in or out rod D evenly on both sides. After adjustment, tighten the slotted nut of steering balls F and the jam nuts E (see further in this Section).

STEERING AXLE POSITION - Figures 59 and 60

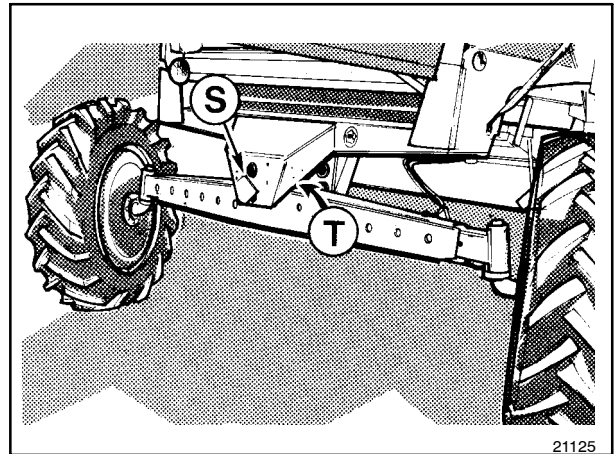
When operating on standard steering wheels, the steering axle should be installed in the upper hole R in the frame and, in the case of an adjustable steering axle, in the front position (long bushing T is fitted at the rear of the steering axle).

When operating on tracks and rice steering wheels or for the TX67 combine, the steering axle should be fitted in the lower hole S in the frame and, in the case of an adjustable steering axle, in the rear position (long bushing T is fitted at the front of the steering axle).

We recommend this job to be carried out by your New Holland dealer.



59



60

FIXED STEERING AXLE

Adjustment

Adjust the toe-in as described in the previous paragraph

Steering wheel stops - Figure 61

The steering wheel stops are factory-set and should normally not require further adjustment.

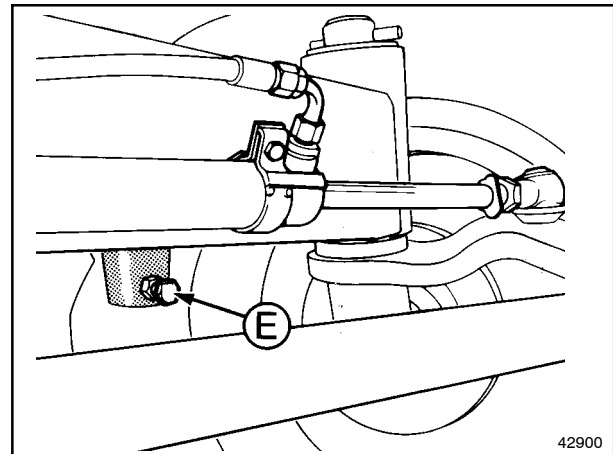
If, for any reason, the stops require adjustment, proceed as follows:

1. Turn bolt E completely in.
2. Rotate the steering wheel to the extreme left or right-hand position so that the steering cylinder is at the end of its stroke.
3. Retract the steering cylinder 2 mm.
4. Turn bolt E against the support and tighten the lock nut.
5. Proceed in the same way on the opposite side.

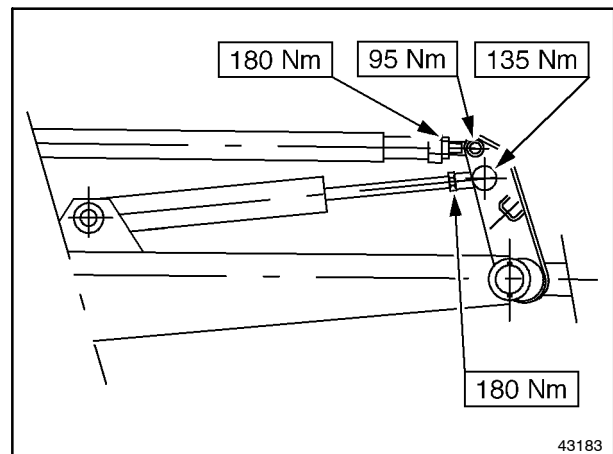
Steering ball joints - Figures 62 and 63

Check the steering ball joints of the steering axle every 50 hours of operation for correct nut torque or possible play.

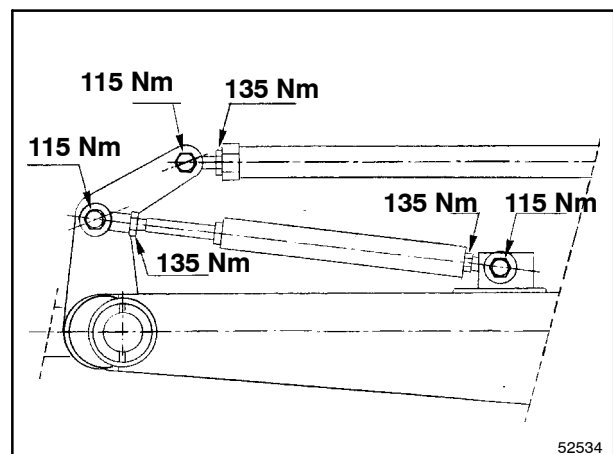
If, for any reason, the steering ball joints were disassembled, the nut torque should be as mentioned in Figure 62 for models TX62-63-64^{PLUS}-65^{PLUS}, or in Figure 63 for models TX67-68-68^{PLUS}.



61



62

TX62-63-64^{PLUS}-65^{PLUS}

63

TX67-68-68^{PLUS}

ADJUSTABLE STEERING AXLE [if fitted] -

Figures 64 and 65

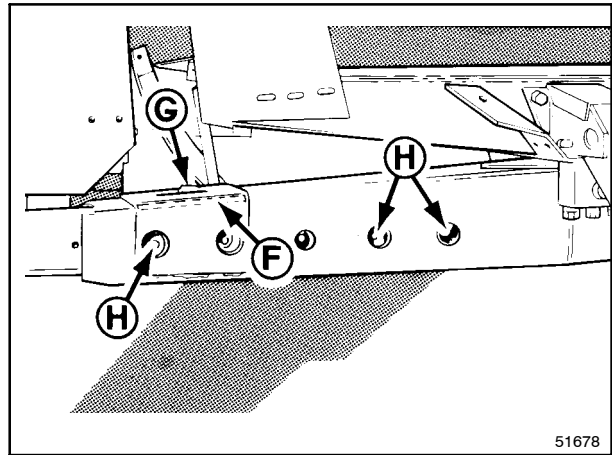
The adjustable steering axle has three positions:

- Narrow position

NOTE:

This position is mandatory in Germany for road transport

- Mid position
- Wide position



64

Adjustment

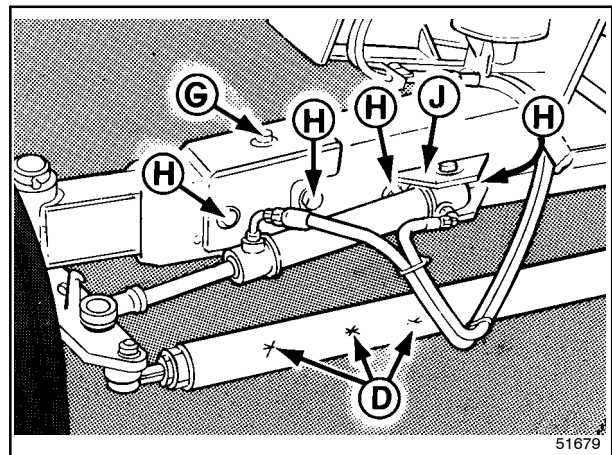


CAUTION:

Use suitable jack stands, securely positioned underneath the rear of the machine, before adjusting the steering axle.

Proceed as follows:

1. Apply the parking brake and support the steering axle on the left-hand side.
2. Loosen bolt G and hammer it towards the centre of the axle, so that key F is loose.
3. Remove the bolts from tie rod D and bolts H from the steering axle.
4. Adjust the steering axle on the left-hand side to the required width.
5. Reinstall bolts H.
6. Hammer bolt G to the outside, so that key F is fixed, and tighten bolt G to 137 Nm.
7. Tighten bolts H to 294 Nm.
8. Support the steering axle on the right-hand side and adjust, as outlined above.



65

9. Reinstall the steering cylinder support J in the correct position.
10. Reinstall the bolts in the tie rod.

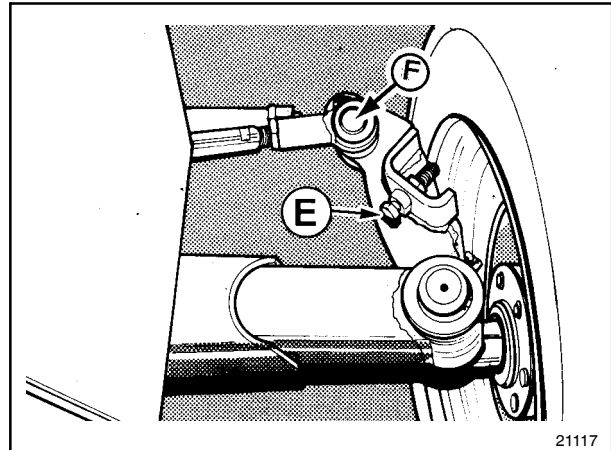
Adjust the toe-in as described in the previous paragraph.

Steering wheel stops - Figure 66

The steering wheel stops are factory-set and should normally not require further adjustment.

If, for any reason, the stops require adjustment, proceed as follows:

1. Turn bolt E completely in.
2. Rotate the steering wheel to the extreme left or right-hand position so that the steering cylinder is at the end of its stroke.
3. Retract the steering cylinder 2 mm.
4. Turn bolt E against the support and tighten the lock nut.
5. Proceed in the same way on the opposite side.

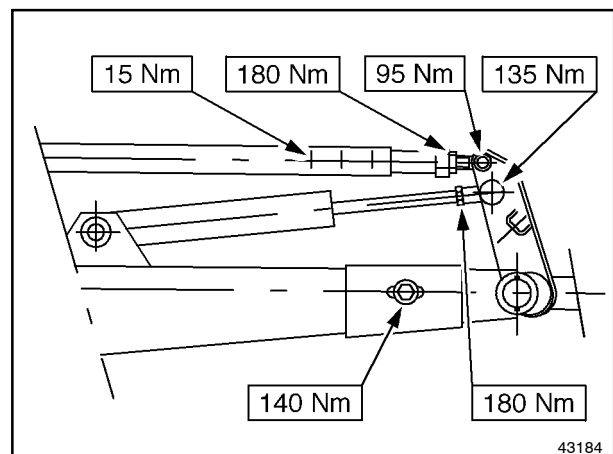


66

Steering ball joints - Figure 67

Check the steering ball joints of the steering axle every 50 hours of operation for correct nut torque or possible play.

If, for any reason, the steering ball joints were disassembled, the nut torque should be as mentioned in Figure 67.



67

HEAVY-DUTY ADJUSTABLE STEERING AXLE
 [if fitted] - Figure 68 to 70

The heavy-duty adjustable steering axle has 7 positions.

Adjustment



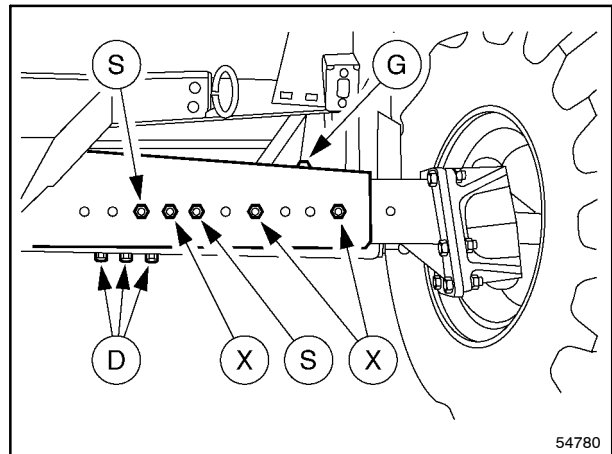
CAUTION:

Use suitable jack stands, securely positioned underneath the rear of the machine, before adjusting the steering axle.

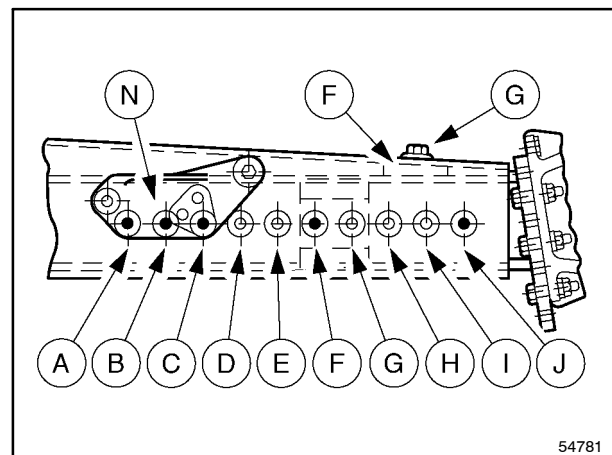
Proceed as follows:

1. Apply the parking brake and support the steering axle on the left-hand side.
2. Loosen bolt G and hammer it towards the centre of the axle, so that key F is loose.
3. Remove bolts D from the tie rod, and bolts S and X from the steering axle.
4. Adjust the steering axle on the left-hand side to the required width.
5. Reinstall bolts X. Refer to Figures 69 and 70.
6. Reinstall the steering cylinder support in the correct position with bolts S.
7. Hammer bolt G to the outside, so that the key F is fixed, and tighten bolt G to 140 Nm.
8. Tighten bolts S and X to 485 Nm.
9. Support the steering axle on the right-hand side and adjust, as outlined above.
10. Reinstall bolts D in the tie rod.

Adjust the toe-in as described previously.



68



69

Hole Posit.	A	B	C	D	E	F	G	H	I	J
0	S	X	S			X				X
1		S	X	S			X			X
2			S	X	S		X			X
3			X	S		S	X			X
4				X	S	X	S			X
5					X	S	X	S		X
6						X	S	X	S	X

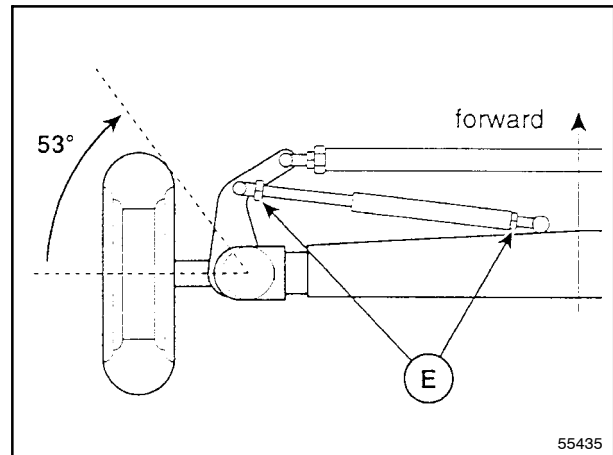
70

Steering wheel stops - Figure 71

The steering wheel stops, i.e. the minimum stroke length of the cylinders, are factory-set and need no further adjustment.

If, for any reason, the stops require adjustment, proceed as follows:

1. Rotate the steering wheel to the extreme right-hand position so that the steering cylinder is at its minimum stroke. Be sure the opposite cylinder is not blocking first.
2. Adjust 53° with nuts E.
3. Proceed in the same way on the opposite side.

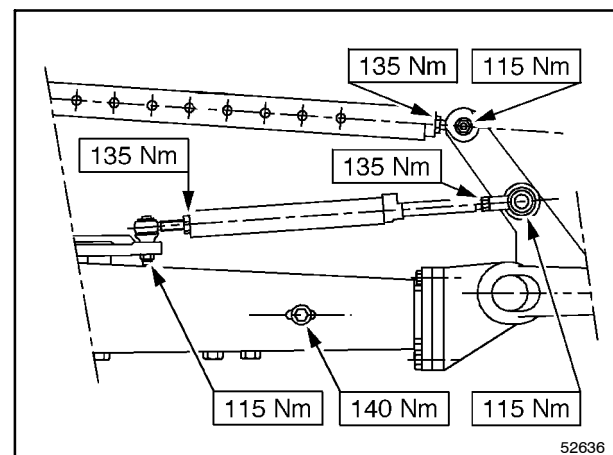


71

Steering ball joints - Figure 72

Check the steering ball joints of the steering axle every 50 hours of operation for correct nut torque or possible play.

If, for any reason, the steering ball joints were disassembled, the nut torque should be as mentioned in Figure 72.



72

Rear-wheel position - Figure 73

The complete steering wheel can be repositioned on the steering axle in order to lift the machine rear end to a level combine position.

Figure 73 shows the five different positions. Install steering cylinder support N in the correct position.

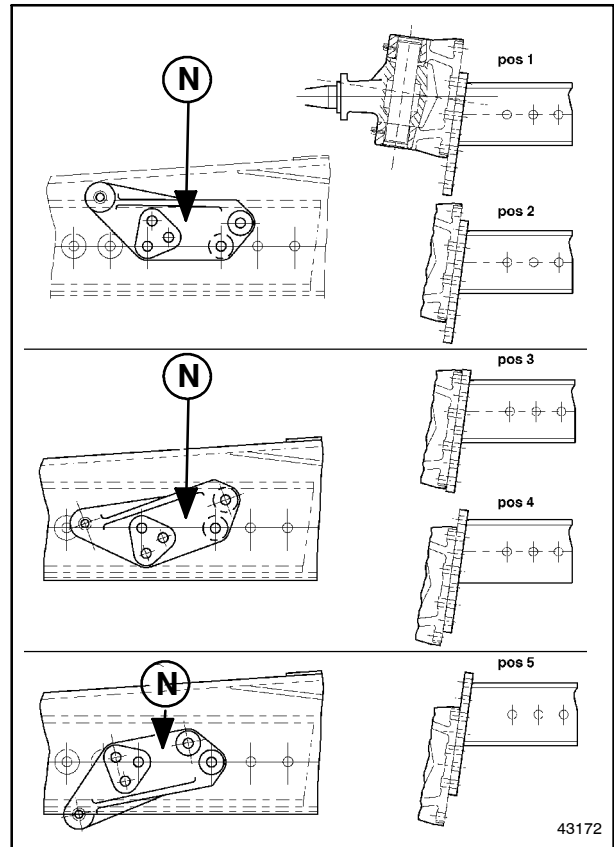


CAUTION:

Wheel drive assemblies are heavy. Use a lifting device of adequate capacity. Reposition one side at a time.

The bolts should be tightened to 485 Nm.

Adjust the toe-in as described previously.



73

ASSEMBLY POSITION OF STEERING ARM ASSEMBLY AND MINIMUM TRACK WIDTH POSITION

Models TX62-63-64^{PLUS}-65^{PLUS}

<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">Minimum track width position</div> <div style="border: 1px solid black; padding: 2px;">Height position detail No.</div> </div>	Steering tyre						
	Traction tyre		400/70R20	550/60-22.5	17.5LR24	540/65R24	16.5/85 x 28
						10/75	12/110
24.5R32-167A8-STR		5	4	4	3		
650/75R32-167A8-DT820(SQ)		0	1	1	2		
PIVOT STOP		0	0	0	40		
30.5LR32-167A8-STR		5	4	3	3		
800/65R32-172A8-STR		0	1	2	2		
PIVOT STOP		0	0	0	40		
VA73x44.00x32-NHS-STGXT-12PR		5	5	4	4		
1050/50R32-174A8-XM609		0	1	1	2		
PIVOT STOP		0	0	0	0		
Tracks • Cantone						5	4
• Gre cav						1	1
PIVOT STOP						90	90

ASSEMBLY POSITION OF STEERING ARM ASSEMBLY AND MINIMUM TRACK WIDTH POSITION

Models TX66-67-68-68^{PLUS}

<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">Minimum track width position</div> <div style="border: 1px solid black; padding: 2px;">Height position detail No.</div> </div>	Steering tyre				
	Traction tyre	400/70R20	550/60-22.5	17.5LR24	540/65R24
24.5R32-167A8-STR	5	4	4	3	
650/75R32-167A8-DT820(SQ)	1	3	3	4	
PIVOT STOP	0	40	0	40	
30.5LR32-167A8-STR	5	4	3	3	
800/65R32-172A8-STR	1	3	3	4	
PIVOT STOP	0	40	40	40	
VA73x44.00x32-NHS-STGXT-12PR	5	5	4	4	
1050/50R32-174A8-XM609	1	3	3	4	
PIVOT STOP	0	0	0	40	
Tracks • Cantone					4
• Grecav					3
PIVOT STOP					90

REAR-WHEEL DRIVEN STEERING AXLE [if fitted]

This steering axle has four positions – Figure 77

Adjustment – Figures 74 to 77



CAUTION:

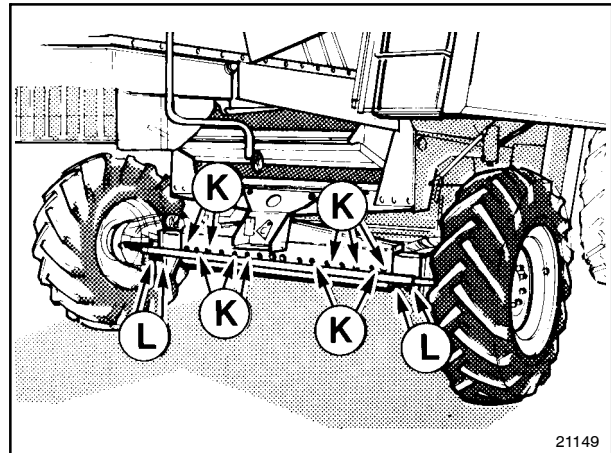
Use suitable jack stands, securely positioned underneath the rear of the machine, before adjusting the steering axle.

Proceed as follows:

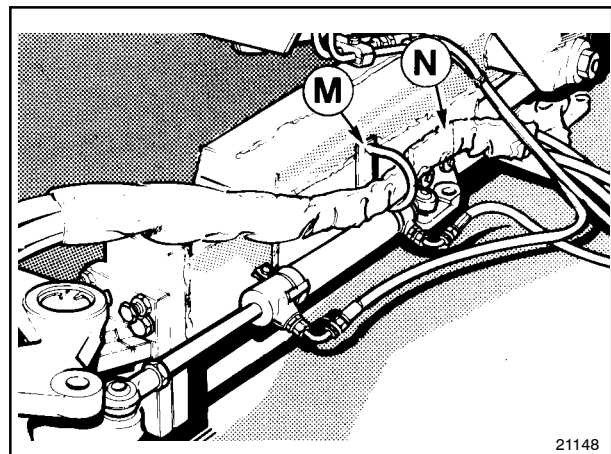
1. Apply the parking brake and support the steering axle on the left-hand side.
2. Remove the five left-hand bolts K and the four bolts L from the track rod.
3. Adjust the steering axle on the left-hand side to the required width.
4. Place the hydraulic hoses support M in the required position, as shown.
5. Reinstall bolts K and tighten them to 360 Nm.
6. Support the steering axle on the right-hand side and adjust, as outlined above.
7. Install the steering cylinder support N in the correct position.
8. Reinstall the bolts in track rod L.
9. Adjust the toe-in, as described previously.

NOTE:

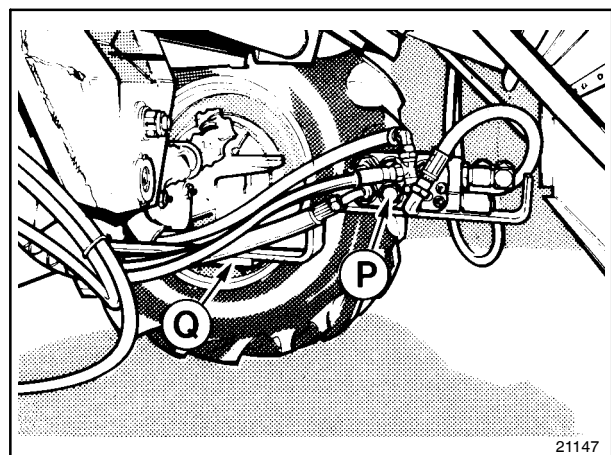
Check if the routing of the hydraulic hoses is satisfactory and reposition valve P on its support Q, as necessary.



74



75

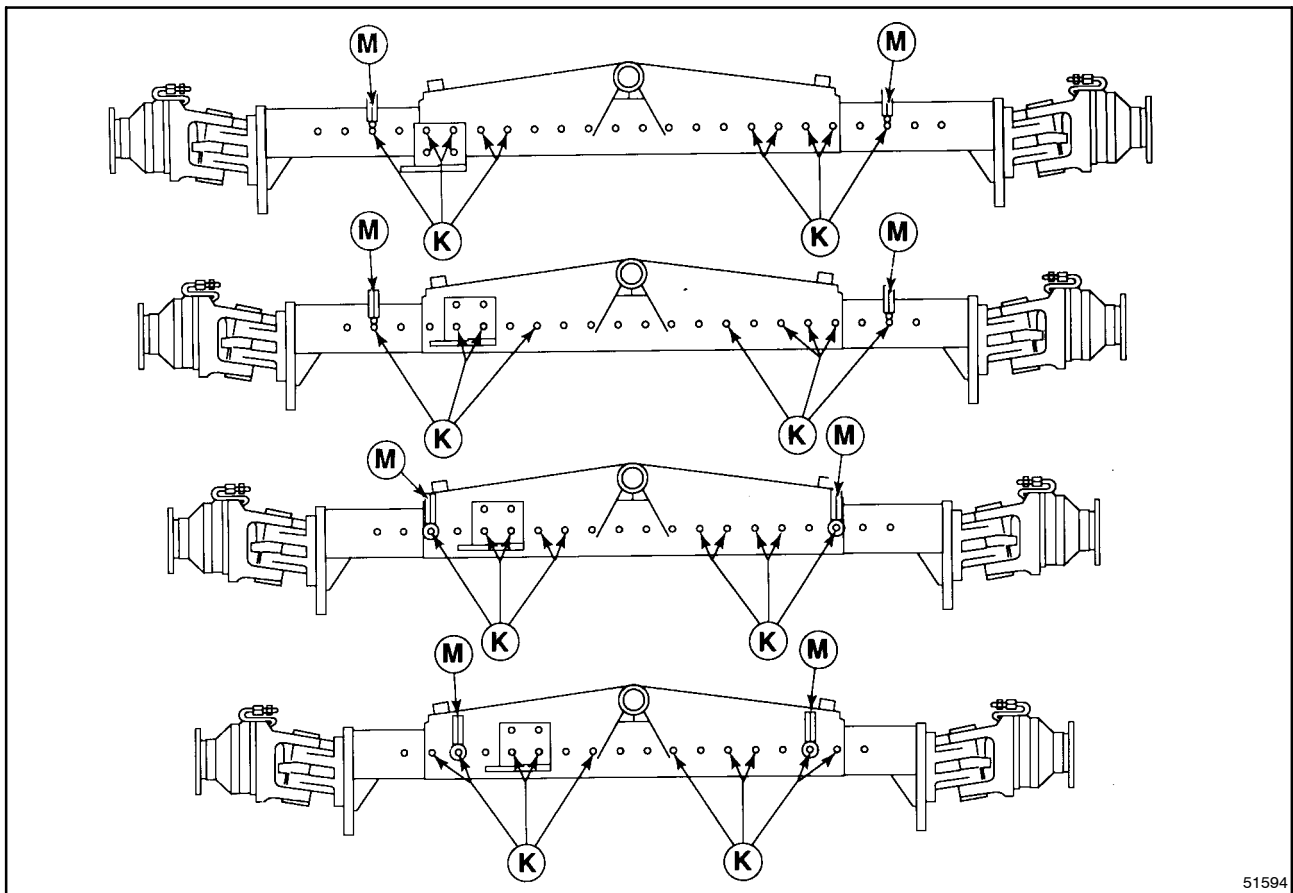


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77

Rear-wheel position - Figure 78

When operating on tracks, the complete steering wheel and hydrostatic motor can be repositioned on the steering axle in order to lift the machine rear end to a level combine position.

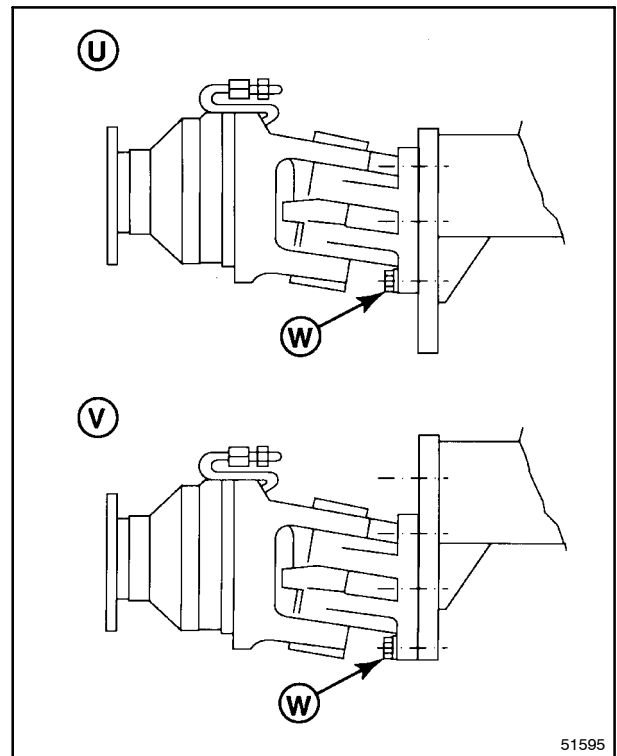
Figure 78 shows the standard clearance position U and the high clearance position V, when tracks are used.



CAUTION:

Wheel drive assemblies are extremely heavy. Use a lifting device of adequate capacity. Reposition one side at a time.

The bolts W should be tightened to 440 Nm.



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78

ENGINE

IMPORTANT:

Clean the engine area, the radiator compartment and, in particular, the exhaust system daily to prevent fire hazards. When operating in extremely dry crops and in heavy dust conditions, check these areas more often and clean, if necessary.

FUEL SYSTEM

Fuel level

The fuel level can be checked on the gauge in the instrument panel.

Filling the fuel tank

Before filling the fuel tank, clean away any dust and chaff from the filler neck and fill through a funnel with a fine gauze filter.

The best time to fill the tank is in the evening as this prevents overnight condensation from forming in the tank.

IMPORTANT:

The quality of fuel used is an important factor in obtaining dependable performance and satisfactory engine life. Many engine difficulties can be traced to dirty fuel, therefore the importance of using clean fuel, properly stored, cannot be stressed too strongly.

Fuel with a sulphur content below 0.5% is recommended.



CAUTION:

- Handle fuel with care.
- Never fill the tank when the engine is running.
- Smoking is strictly prohibited during filling.
- Always clean up spilled fuel.

IMPORTANT:

The fuel tank is vented through the filler cap. If a new filler cap is required, always replace it with an original vented cap.

Fuel tank capacity

Models TX62-63-64^{PLUS} : 450 litres
Models TX65^{PLUS}-66-67-68-68^{PLUS} : 600 litres

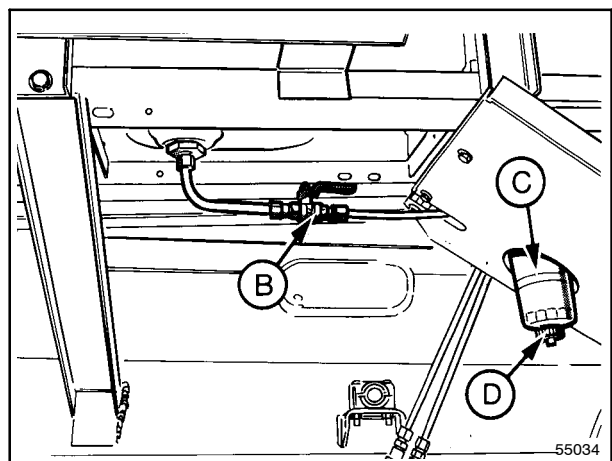
Fuel prefilter/ water separator - Figure 79

Drain the water from the filter housing daily by loosening screw D until fuel free of water runs out of the screw orifice. Collect the water/fuel mixture and dispose of according to regulations. Retighten screw D.

Change the fuel prefilter/water separator C every 400 hours of operation, or earlier, if a drop in engine performance is experienced.

To change the fuel prefilter/water separator, proceed as follows:

1. Shut off cock B.
2. Unscrew the “spin-on” prefilter/water separator.
3. Apply a film of oil to the gasket of the new prefilter/water separator.
4. Screw on the new prefilter/water separator by hand until it contacts the filter head. Tighten further maximum half a turn.
DO NOT USE TOOLS!



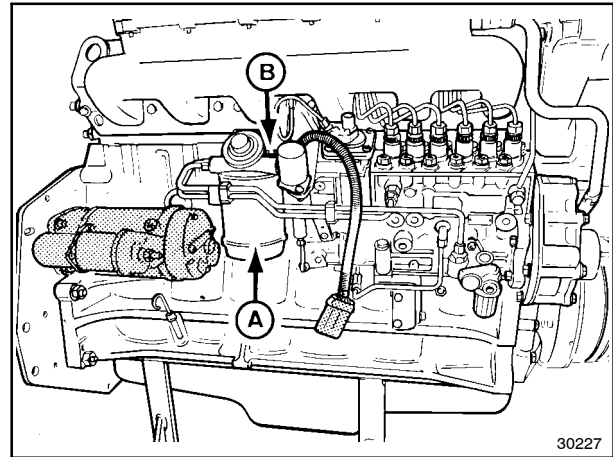
79

Fuel filters**Models TX62-63-64^{PLUS}-65^{PLUS}-66-67** – Figure 80**Models TX68-68^{PLUS}** – Figure 81

The fuel filter A is a paper element “spin-on” filter which must be replaced every 200 operating hours.

To change the fuel filter, proceed as follows:

1. Unscrew the fuel filter using a filter wrench.
2. Fill the new filter with clean fuel and coat the seal with fuel. Ensure the seal is properly seated.
3. Screw the filter on by hand and tighten it securely (firmly against the head and then an additional 1/4 to 1/2 turn).
4. Bleed the fuel system (refer to the next paragraph).
5. Models TX62-63-64^{PLUS}-65^{PLUS}-66-67:
The fuel filter contains a sediment bowl at its bottom side which collects large particles of dirt and water. This sediment bowl can be removed and cleaned.

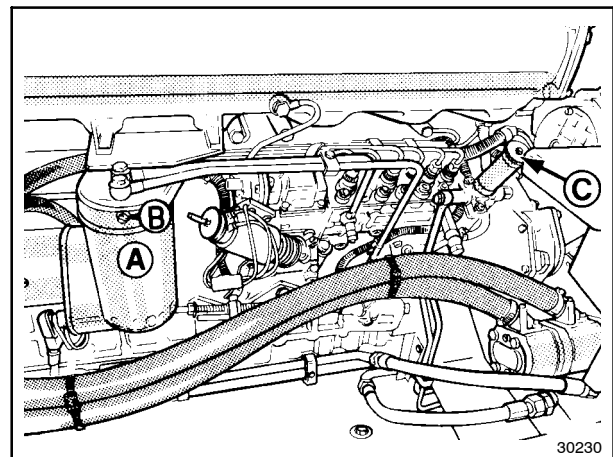


80

TX62-63-64^{PLUS}-65^{PLUS}-66-67**Bleeding the fuel system****Models TX62-63-64^{PLUS}-65^{PLUS}-66-67** – Figure 80**Models TX68-68^{PLUS}** – Figure 81

Proceed as follows:

1. Ensure there is fuel in the tank.
2. Loosen bleed screw B on the top of the fuel filter housing.
3. Models TX68-68^{PLUS} only:
Loosen knurled knob C of the fuel lift pump.
4. Operate the fuel lift pump piston by hand until the fuel escaping is free from air bubbles.
5. Retighten bleed screw B.



81

TX68-68^{PLUS}

6. Continue pumping until the force needed remains more or less constant. This allows the fuel to be drawn into the injection pump.
7. Models TX68-68^{PLUS} only:
Press the fuel lift pump piston down and firmly tighten knurled knob C.

NOTE:

If the engine does not start after performing the above procedure, it will be necessary to bleed the fuel injector lines while starting the engine.

This will allow any air to escape that may be in the high pressure part of the fuel system.

Take all necessary safety precautions when working on the engine. Do not bleed the lines when the engine is warm.

Fuel injection pump and injectors

As the fuel injectors and fuel injection pump have to be set very accurately on specialized equipment, we strongly recommend that any repairs on these parts are carried out by your New Holland dealer.

COOLING SYSTEM

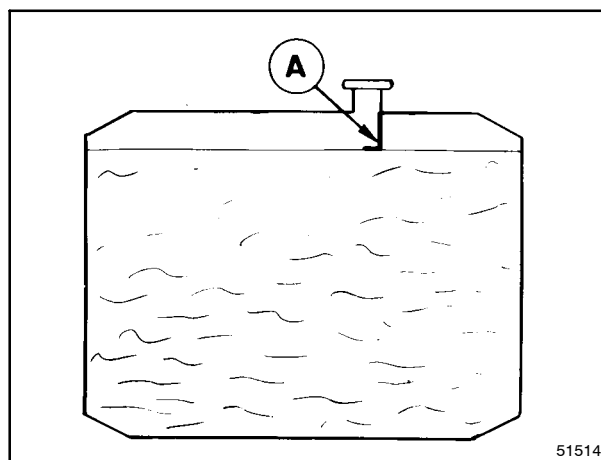
Coolant level - Figure 82

Daily check the radiator coolant level on the level indicator A when the engine is cold.

ATTENTION:

Under no circumstances should the engine be started without water in the cooling system.

If the temperature rises too high during operation, or if the audible alarm sounds, stop the engine immediately and locate the cause (coolant level, oil level, fan and rotary dust screen belt tension, dirty radiator or rotary dust screen, etc.). Refer to Section 6 - TROUBLESHOOTING.



82

**WARNING:**

- Take care if removing the radiator cap when the engine is hot. Cover the cap with a rag and turn slowly to release the pressure before removing the cap completely.
- Do not add cold water to a hot radiator.

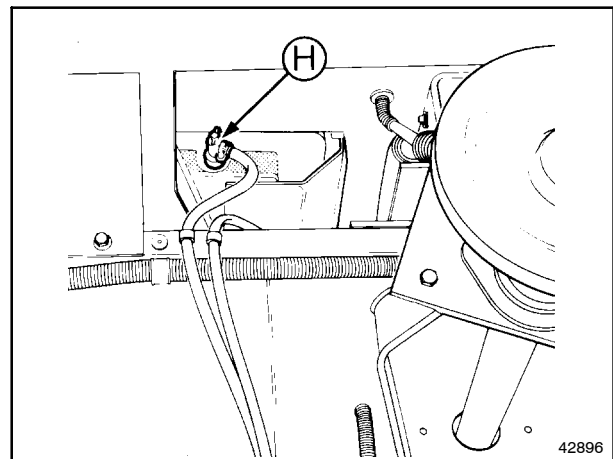
Coolant change - Figure 83

The coolant water/antifreeze mixture should be renewed:

- every 600 operating hours, or
- every 2 years, whichever comes first.

When replacing the coolant, proceed as follows:

1. Drain the cooling system by opening cock H.
2. Flush the cooling system by closing cock H and filling the system with clean water. Start the engine and bring it up to normal operating temperature. Stop the engine. Then open cock H.
3. Close cock H and fill the cooling system with coolant as specified.

**83****CAUTION:**

The engine and radiator are hot, so extreme care should be taken when filling the radiator and reinstalling the cap.

To remove air from the system, proceed as follows:

1. Fill the radiator to the bottom of the filler neck.
Leave the radiator cap off.
2. Start the engine and vary the rpm between low idle and 1500 rpm for 3 minutes.
3. Increase the rpm to maximum until the thermostat opens (upper radiator hose becomes hot), and then for a further 10 minutes to allow the air to escape.
4. Return to idle and stop the engine after 1 minute (turbocharger precaution!).
5. Fill the radiator to the level indicator A (Fig. 82) and reinstall the radiator cap.

Coolant system capacity

35 litres

Coolant specification

- 47.5 % water
- 47.5 % antifreeze
- 5% conditioner

The quality of water should not exceed the following limits:

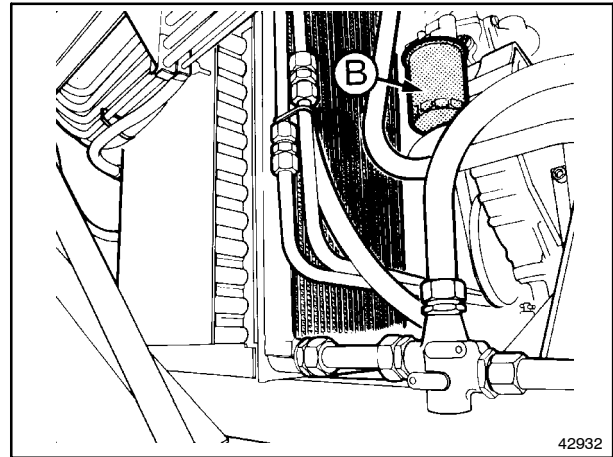
- Total hardness: 0.3 %
- Chlorides : 0.1 %
- Sulphates : 0.1 %

Antifreeze: AGRIFLU (ref. NH900A)

Conditioner: NALCOOL3000 ESE-M99B169-A

Water conditioner element B
[Model TX68-68^{PLUS} only] - Figure 84

Replace the element every 400 operating hours or once a year, whichever comes first.

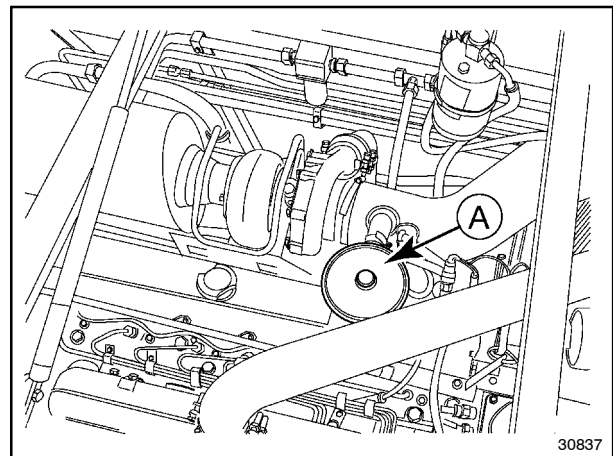


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CRANKCASE BREATHING SYSTEM - Figure 85

The crankcase is vented through the valve cover and housing A to the inlet tube.

The crankcase breathing system does not need to be serviced.



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CYLINDER HEAD BOLTS

The cylinder head bolts do **not** require retightening during normal service intervals.

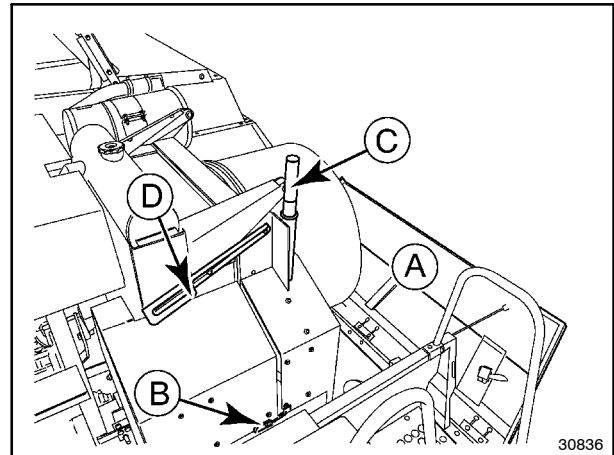
ROTARY DUST SCREEN AND COOLING SYSTEM – Figures 86 and 87

All TX Series models (except for TX68) have a hinged rotary dust screen door.

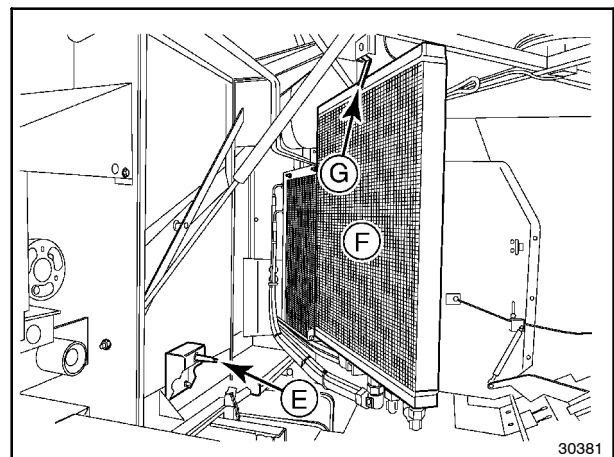
To gain access to clean the cooling system, proceed as follows:

1. Open safety guard A and lock B.
2. Pull out handle C and open the rotary dust screen door by pulling handle C until safety latch D is in position.
3. Remove lynch pin E.
4. Pull out the oil coolers and condenser door F.
5. Keep the radiator door open with lock G.

Clean the cooling system regularly, depending on combining conditions.



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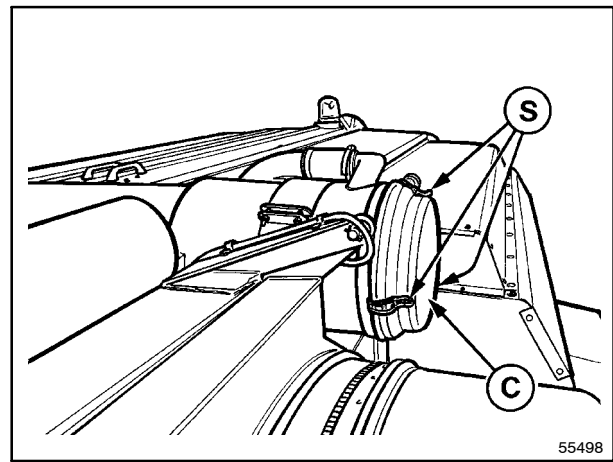
87

AIR INTAKE SYSTEM - Figures 88 and 89

The filter element Q should **only** be cleaned when the warning light in the combine cab illuminates and the audible alarm sounds (500 mm vacuum).

To remove the air cleaner element Q, remove cover C by loosening three clamps S and remove the air cleaner element.

To clean the element, hold the top and tap it against the palm of the other hand to remove the dust. **NEVER TAP IT ON A HARD SURFACE.**

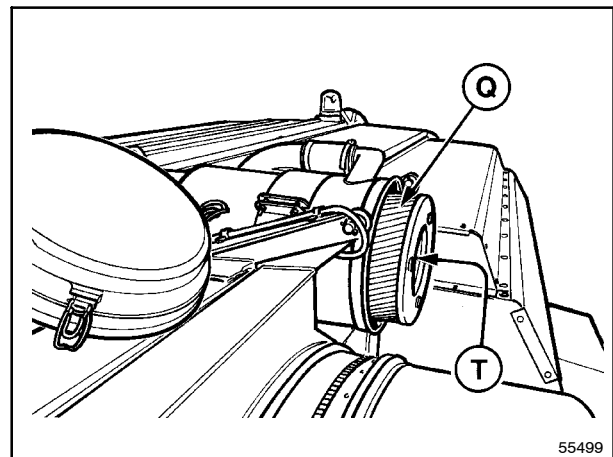


88

When tapping does not remove the dirt, direct compressed air through the element, from the inside towards the outside.

To prevent damage to the element when cleaning with compressed air, take the following precautions:

- Maximum air pressure must be 5 bar.
- Move the nozzle up and down while rotating the element.
- Keep the nozzle at least 25 mm from the pleated paper.



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WARNING:

Wear a dust mask when cleaning the air filter element.

If the element is soiled with oil or soot, it is possible to soak it for 15 minutes in a solution of 75 grammes of non-sudsy detergent and 10 litres of lukewarm water.

Rinse the element thoroughly in clean water until the water remains clear and leave the element to dry.

NEVER WASH THE AIR CLEANER ELEMENT IN PETROL OR DIESEL OIL.

Every time the element is cleaned, it should be examined for holes and cracks by holding an electric light bulb inside the element and looking through it. If any damage is noted, discard the element and fit a new one.

Replace the element after five cleanings or once a year, whichever comes first.

When fitting, make sure the element is seated properly and the sealing is in good condition.

A safety element T is fitted as an additional security to prevent dust from entering the engine when replacing the standard element. The safety element should normally not be cleaned.

Replace the safety element every two years.

CAB AIR FILTER – Figures 90 and 91

The cab air filter is located near the cab door on the left-hand side.

Clean the cab air filter regularly and, in extremely dusty conditions, daily.
Wear a suitable dust mask!

Proceed as follows:

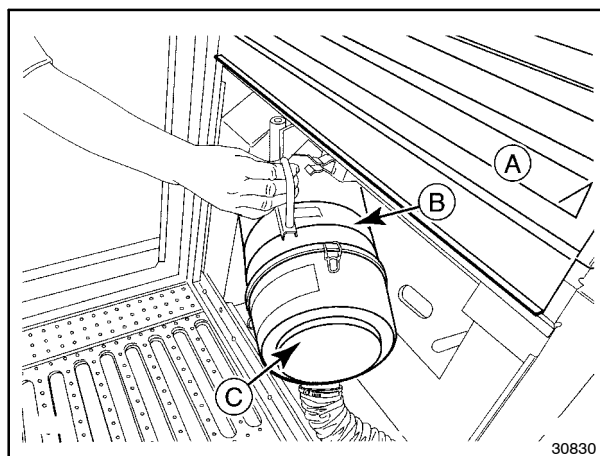
1. Open cover A.
2. Open filter housing B.
3. Remove cover C.
4. Remove the filter element D.
5. Clean with compressed air blown from the inside towards the outside.

It is advisable to replace the filter elements every year.

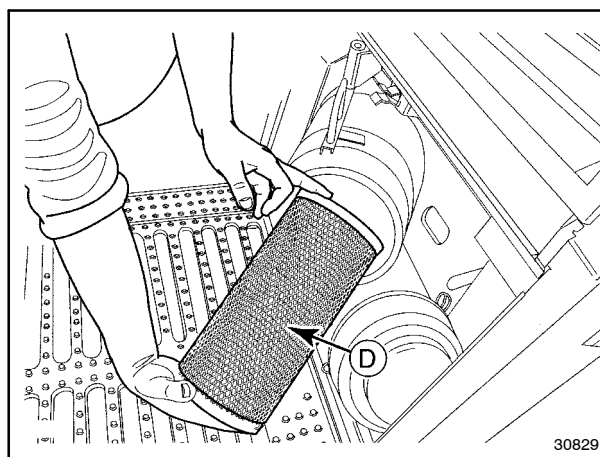
**CAUTION:****Dust protection**

The air filter in the cab does not protect against all substances (e.g. chemical residues on crops). Absolute protection against specific products can only be obtained when the nature of these products is known and adequate measures are purposely designed to counter the hazard created by these substances. Even the use of carbon filters cannot ensure complete protection.

It goes without saying that correct filter maintenance and keeping doors and windows closed is essential.



90

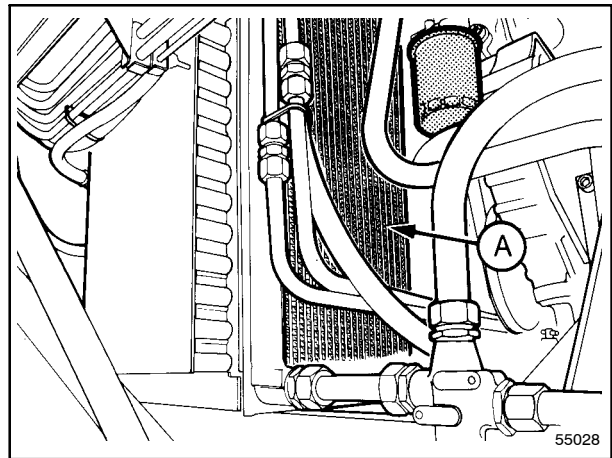


91

AIR CONDITIONING

CONDENSER - Figure 92

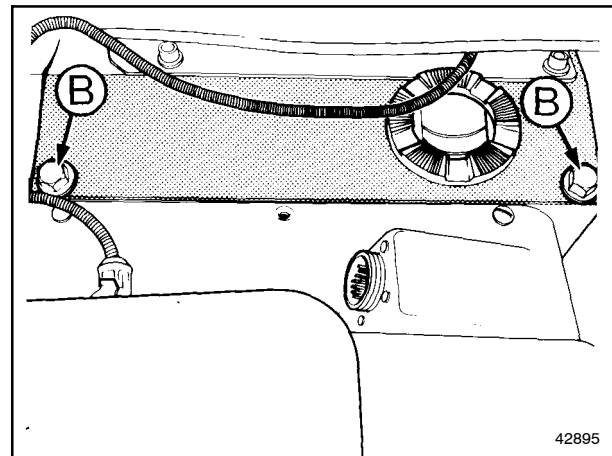
Regularly inspect and clean the condenser A with compressed air.



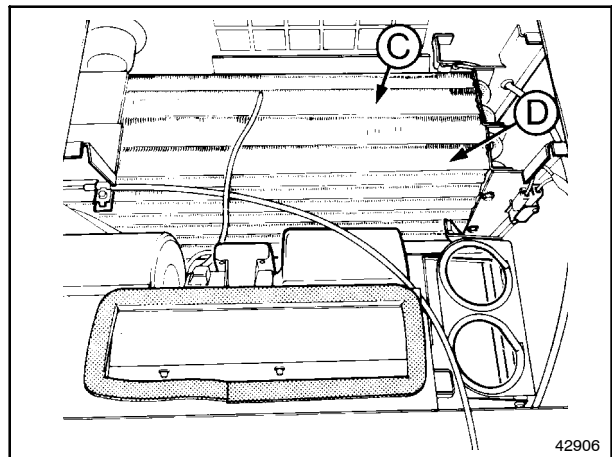
92

EVAPORATOR - Figures 93 and 94

Inspect and clean the evaporator, if necessary. Remove two bolts B and tip up the seat to gain access to evaporator C, heating radiator D [if installed] and the ventilation fans.



93



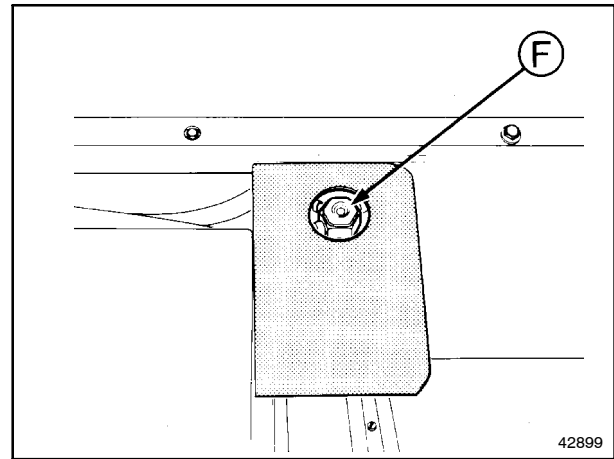
94

FILTER-DRIER - Figure 95

A sight glass and a ring-shaped moisture indicator F on the right-hand side of the engine cover serve for determining the condition of the R134a gas.

- If the refrigerant is without air bubbles, then the refrigerant condition is good.
- If the glass shows a milky refrigerant: satisfactory performance is ensured.
- If air bubbles are visible: lack of refrigerant.
- If the moisture indicator is blue: filter and refrigerant are in good condition.
- If the moisture indicator is red: this is an indication of too much moisture, the filter-drier has to be replaced.

If the filter-drier needs to be replaced or if the air conditioning system needs repair, contact your local dealer.



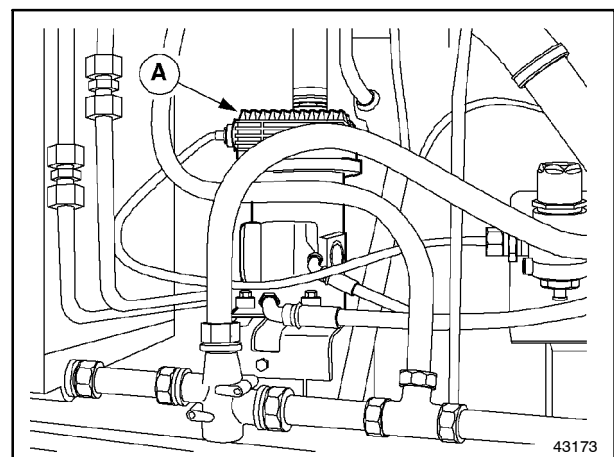
95

AIR COMPRESSOR [If installed]

Models TX66-67-68-68^{PLUS} - Figures 96 to 98

The combine is equipped with an air blowing system to keep the engine compartment clean.

The air compressor A is installed near the engine and needs no further maintenance.

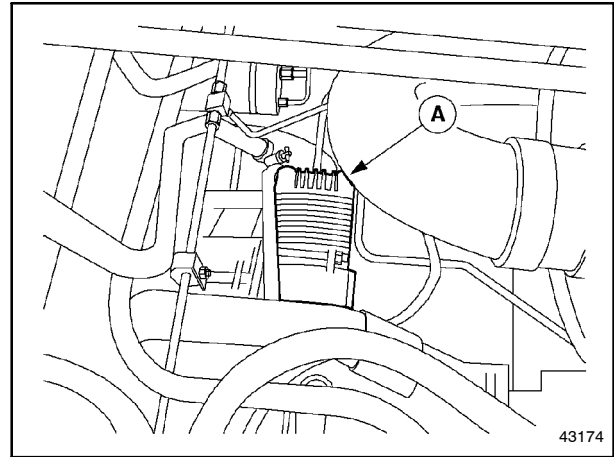


96

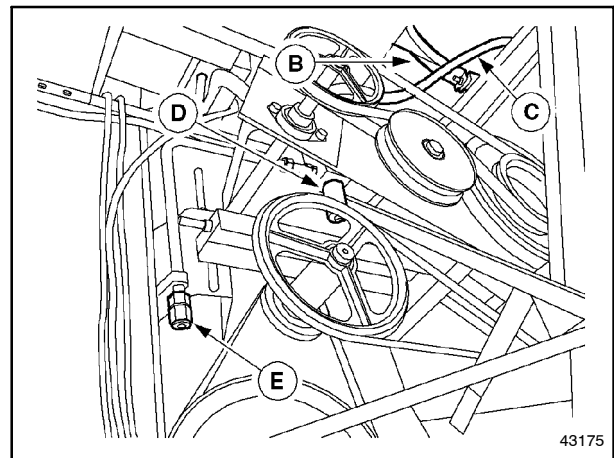
Every 50 operating hours, drain the condensed water from the air receiver B through cock C, and from the water separator D.

A union E is installed to attach pneumatic service tools and for cleaning purposes.

The inner thread of the union is 1/2 GAZ CYL.



97



98

Air reservoir specification

(according to European Directive 87/404/EEC)

- Trade mark: Wabco
- Type "60l"
- Maximum operating pressure: 10 bar
- Maximum operating temperature: +100°C
- Minimum operating temperature: -50°C
- Capacity: 60 litres

HYDRAULIC SYSTEM

HYDRAULIC HOSE REPLACEMENT

Hydraulic hoses are an important safety element in modern machinery. However, hose characteristics alter under pressure, thermal and UV light load over the years. Therefore, most hoses now have a production date printed on the metal clamp bushing which allows to determine the age.

Legislation in certain countries and good practice require that hydraulic hoses are replaced when they become 6 years old.



CAUTION:

- Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, call for a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours. If not, gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.

- Flexible hose assemblies must not be constructed from hoses which have been previously used as part of a hose assembly.
- Do not weld to the piping.
- If flexible hoses or piping are damaged, replace them immediately.
- It is forbidden to modify an accumulator by machining, welding or any other means.
- Before removing accumulators for servicing, the liquid pressure in the accumulator must be reduced to zero.
- Pressure check on accumulators must be carried out by the method recommended by the accumulator manufacturer. Care must be taken not to exceed the maximum allowable pressure of the accumulator. After any check of adjustment there shall be no leakage of gas.

IMPORTANT:

The hydraulic valves on the left-hand side always can be operated manually in case of electrical failure.

Push on the rubber caps of the solenoids to actuate the hydraulic valve.

Refer to Section 6 - TROUBLESHOOTING.

ELECTRICAL SYSTEM

FUSES AND RELAYS - Figures 99 and 100

All fuses and relays are situated in the box above the right-hand traction wheel, except for the start relay and the 12 - 24 V transformer (for these parts, refer to the Service Parts Catalogue).

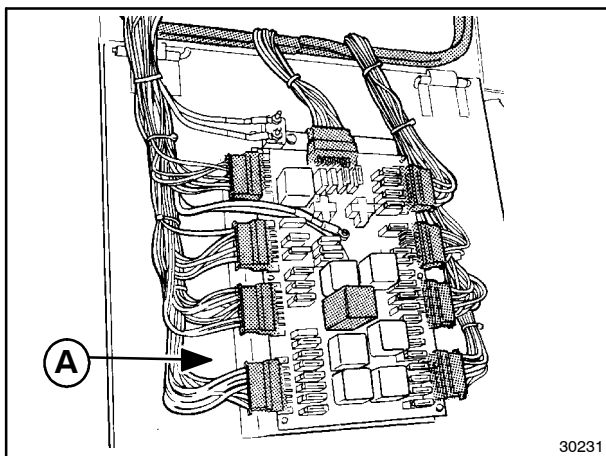
SUMMARY - Figures 99 and 100

Item	Description	Connectors	Relays	Fuses
A	Power module	X31 - X39	K1 - K10	F1 - F37
B	CPU monitor (Central process unit)	X44 - X46	-	-
C	Remote control printed circuit	X49 - X52	K32 - K48	-
D	Relay module	X53 - X56	K21 - K31	-
E	Header compensation control module	X57	-	-
F	Lateral float and (ultrasonic) autofloat module	X58 - X59A	-	-
G	Flex header reel speed printed circuit	X59B - X65	-	-

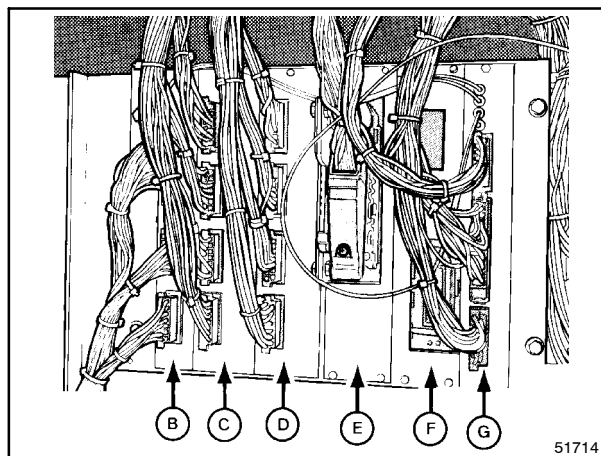
IMPORTANT:

1. When replacing a fuse, make sure the new fuse has the **same** ampere rating as the fuse being replaced.

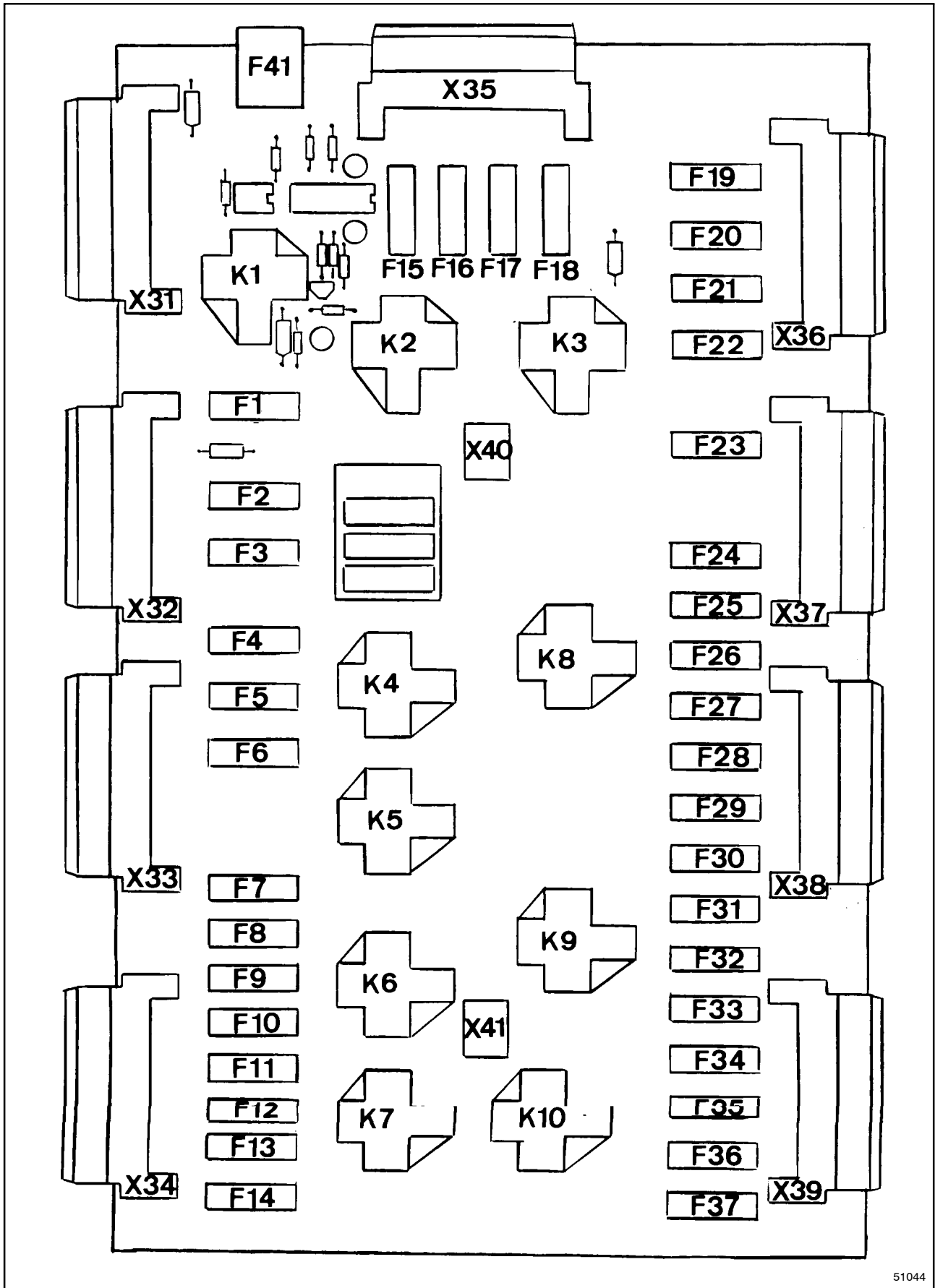
2. When replacing a relay, make sure the new relay has the same ampere rating **and** the same structure (visible on the relay housing).
Always use genuine parts.



99



100



51044

A. Power module - Figures 99 and 101

Fuse n°	Amperage	Function
F1	15A	Brush in rotary screen [if installed]
F2	25A	Light switch Sockets, left and right-hand side
F3	15A	Flashing warning lights
F4	10A	Socket on straw hood, right-hand side
F5	15A	Parking lights, right-hand side
F6	15A	Parking lights, left-hand side
F7	-	-
F8	15A	Operating lights on railing (outer side of light) /operating lights on cab
F9	25A	Wiper, mirrors
F10	10A	Direction indicator lights
F11	15A	Stop lights - Horn
F12	10A	Relay - Operating of lights on railing (inner side of light) - Light in grain tank - Stubble lights + side lights/operating light on unloading tube
F13	10A	Air conditioning compressor clutch
F14	25A	Air conditioning fan
F15	25A	Socket - vertical knife, right-hand side
F16	25A	Socket - vertical knife, left-hand side
F17	15A	Dipped headlights
F18	15A	Headlights
F19	10A	Header height control
F20	25A	Stubble lights + side light
F21	15A	Operating lights on railing (inner side of lights) + light in grain tank
F22	10A	Light on unloading tube
F23	15A	Sockets Radio CB Clock Light in cab
F24	10A	Threshing mechanism Central process unit Header height adjustment

Fuse n°	Amperage	Function
F25	10A	Levelling system
F26	25A	Drum variator Fan variator Spread plates on straw chopper
F27	10A	Central process unit
F28	25A	Powered rear axle Throttle mechanism Parking brake Reel synchronization Drum concave clearance
F29	10A	Valves for - Opening of unloading auger - Reel lift - Pilot valve
F30	10A	InfoView monitor display Lighting of dashboard switches
F31	15A	Engine protection Hydrostatic control Led indicators on dashboard Remote gearshift printed circuit, remote parking brake and quick stop
F32	25A	Reel variator motor
F33	15A	Traffic warning lights
F34	10A 25A	Engagement of threshing, unloading and header mechanism (Models TX64 to TX68 ^{PLUS}) Reversing mechanism (Model TX62)
F35	25A	Straw chopper clutch Reversing mechanism actuator Manual lateral float Header height control module Reel horizontal control
F36	10A	Relay to unloading and header mechanism Reel vertical movement switch Reel variator Engine kill stop
F37	10A	Ignition switch
F38	-	-
F39	-	-
F40	-	-
F41	10A	Automatic fuse for levelling system

The same information can be found on the two decals inserted at the front of this Manual. Adhere these decals to the electrical box access door, beside the power module.

Relay	Function
K1	Brush in rotary screen [if installed]
K2	Socket - vertical knife, left-hand side
K3	Socket - vertical knife, right-hand side
K4	Parking lights
K5	Flasher unit
K6	12V after contact switch engaged
K7	Air conditioning compressor
K8	12V after switching on contact (to threshing mechanism)
K9	12V after switching on contact (engaging straw chopper)
K10	12V after switching on contact (to ventilation and air conditioning system)

Three spare fuses FF are also stored in the power module.

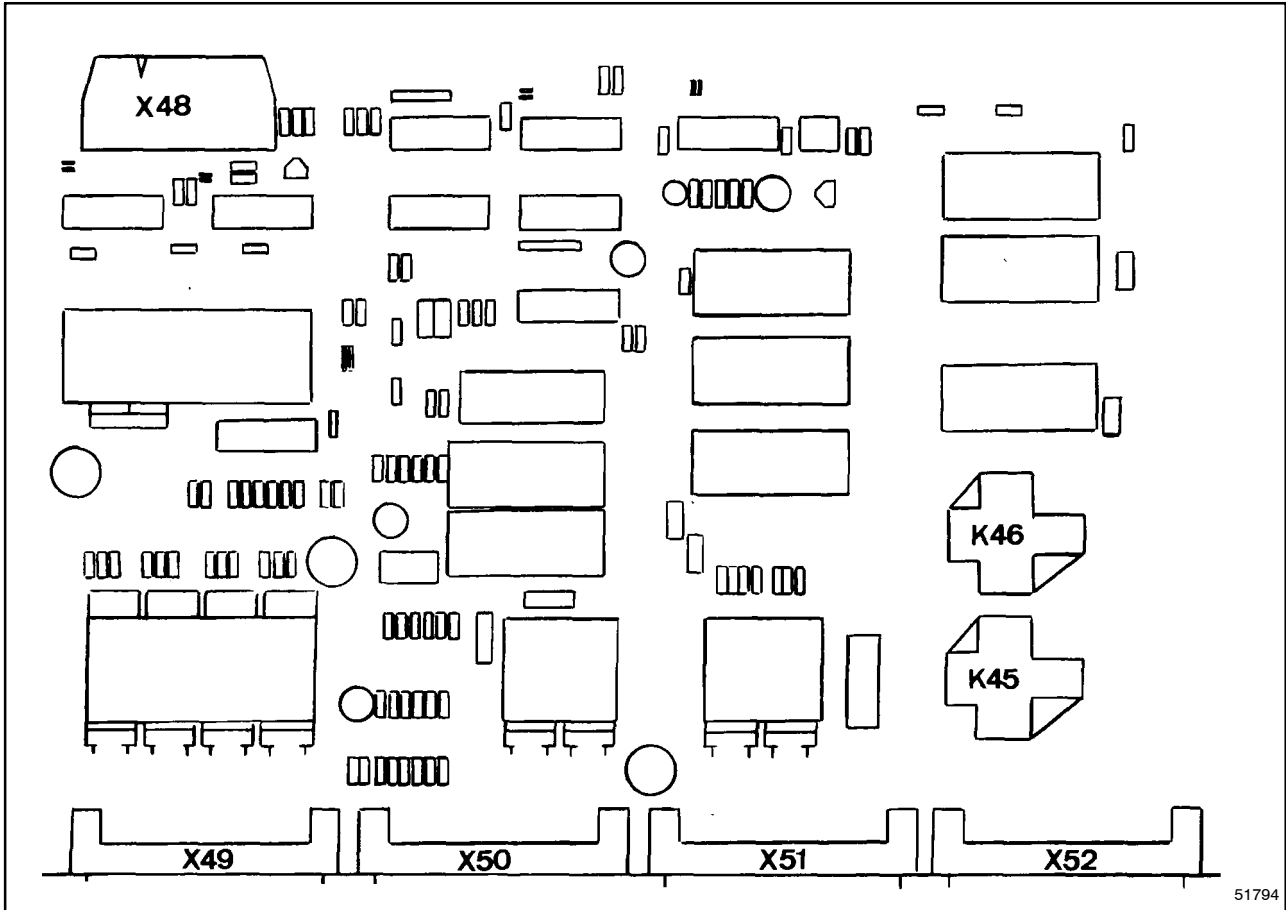
B. Central process unit - Figure 100

No fuses, no relays.

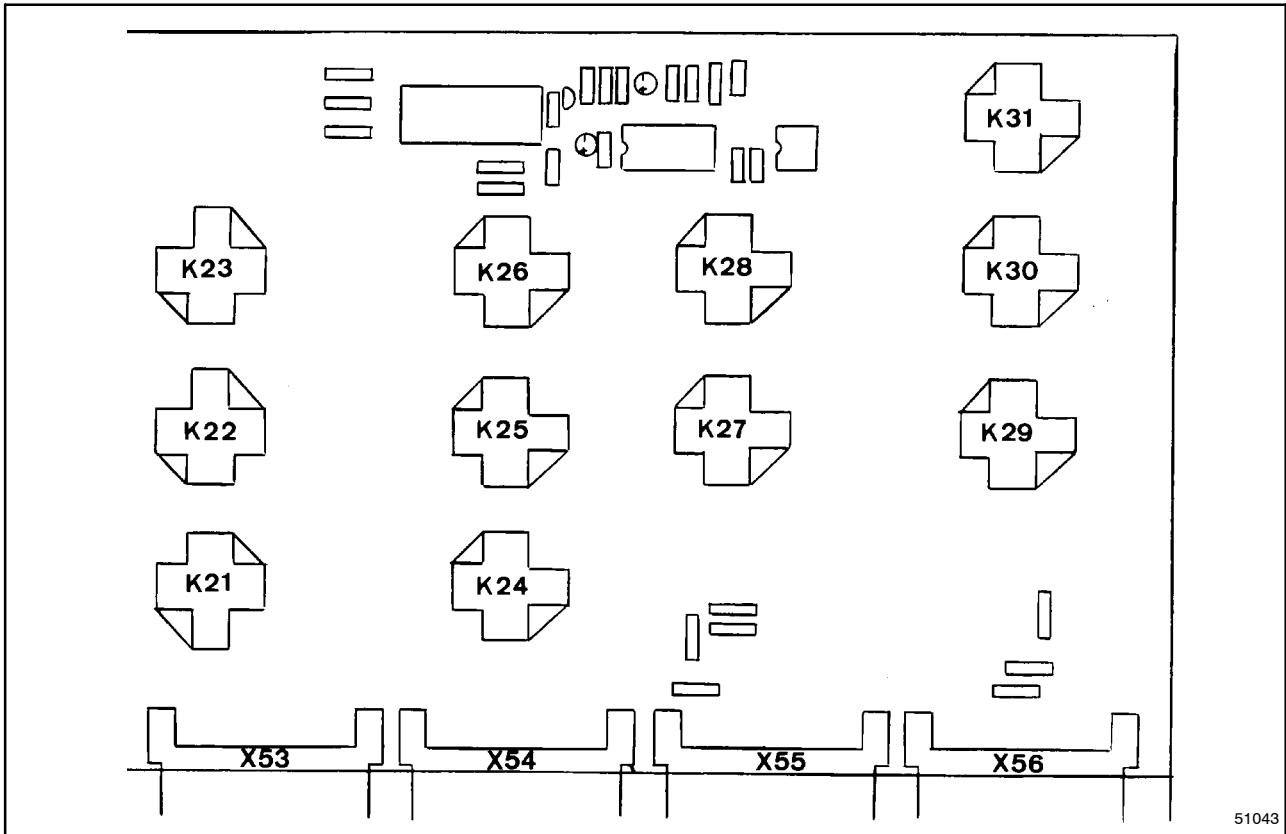
C. Remote controls printed circuit - Figures 100 and 102

No fuses.

Relay	Function
K45	Reversing actuator: engagement
K46	Reversing actuator: disengagement



102



103

D. Relay module – Figures 100 and 103

No fuses.

Relay	Function
K21	Engine protection
K22	Engine protection reset
K23	Traffic warning lights
K24	Reel up
K25	Reel down
K26	Neutral start
K27	-
K28	-
K29	Unloading tube light
K30	Operating lights
K31	Stubble lights/side light

NOTE:

Not all relays can be replaced as some are a fixed part of the printed circuit.

E. Header height module – Figure 100

No fuses, no relays.

F. Lateral flotation and autofloat – Figure 100

No fuses, no relays.

BATTERIES

The combine is equipped with two 12V batteries (92 Ah).

The earth cable is connected to the negative (-) battery terminals.

Check the acid level weekly (every 50 operating hours) and, if necessary, fill with distilled water until the separators are covered.

Batteries can be disconnected completely by means of the main battery switch.

IMPORTANT:

- To avoid loss of harvest data from the In-foView monitor, it is recommended not to stop the engine by using the battery switch.
- It is advisable to disconnect the batteries at the end of the day using the battery switch.

IMPORTANT TIPS

1. In cold weather, add water to the batteries just before starting the engine. By doing this, the water and the electrolyte will be mixed by the charging current, thus avoiding freezing.



CAUTION:

Keep sparks, lighted matches or an open flame away from the battery as battery gas can explode.

Never check the battery charge by placing a metal object across the terminals. Use a voltmeter or a hydrometer.

2. If the engine is reluctant to start, do not press the starter button for longer than 20 seconds, but try again after a few seconds.
3. The battery clamps must be cleaned regularly and covered with a layer of vaseline or petroleum jelly to prevent corrosion.
4. Make sure the vents in the filler plugs are kept clean.
5. The batteries must never be disconnected while the engine is running, or damage to the alternator may result.
6. Never switch off the ignition while the engine is running on full speed. This is to prevent running out of the turbocharger propeller without lubricant.

7. To safeguard battery life, switch off any lighting before starting the engine.
8. Under normal conditions, do not add sulphuric acid to the batteries.
9. The batteries should be stored in a fully charged condition.
10. The batteries should be charged every 8 to 10 weeks with 5 to 6 amperes current for a period of 24 hours.

**CAUTION:**

Do not charge a frozen battery as it may explode!

BATTERY CHARGE WARNING LIGHT

As soon as the ignition switch is turned on, the battery discharge warning light on the instrument panel will glow. When the engine has reached a certain speed, the light will go out.

If the light does not go out or if it flickers, the alternator or the voltage regulator may not be working properly.

Disconnect the batteries immediately using the battery switch and locate the cause of the problem or call your local dealer.

ALTERNATOR*ATTENTION:*

The engine is equipped with an alternator. Certain precautions must be observed to avoid serious damage to the alternator, batteries and wiring.

When carrying out any maintenance work, the following instructions must be observed:

1. Disconnect the batteries using the battery switch if any electric welding work is to be carried out on the combine.

Secure the negative (-) terminal of the welding apparatus as close as possible to the part to be welded.
2. The positive (+) lead of the batteries is live at all times. To prevent damage, always disconnect the battery earth lead (-) first.
3. Ensure the batteries are connected properly, i.e. negative (-) lead to the negative (-) terminal and positive (+) lead to the positive (+) terminal.
4. Always connect a booster battery in parallel, i.e. negative (-) to negative (-), and positive (+) to positive (+).
5. Disconnect the batteries using the battery switch before connecting a battery charger.

Ensure the battery charger is properly connected.
6. Never run the engine if the wiring between the alternator and the battery has been disconnected.

MAINTENANCE SCHEDULE

Service to be performed before the first start-off	Section	Page
1. Check wheel nut torques	Specification	9-2
2. Check all chain and belt tensions	Adjustments and Maintenance	5-1
3. Check all tyre pressures	Specification	9-3
4. Check brake fluid level	Lubrication	3-17
5. Check engine oil level	Lubrication	3-14
6. Check coolant level in radiator	Adjustments and Maintenance	5-44
7. Check hydraulic oil level	Lubrication	3-19
8. Check hydrostatic oil level	Lubrication	3-21
9. Check fuel level	Adjustments and Maintenance	5-41
10. Grease all nipples	Lubrication	3-1

Run-in period	Service to be performed	Section	Page
First week: daily	Check wheel nut torques	Specification	9-2
After first 50 hours	Change drum speed reducer oil	Lubrication	3-23
After first 100 hours	Change hydrostatic oil and oil filter	Lubrication	3-21
	Change hydraulic oil and oil filters	Lubrication	3-19
	Change traction gearbox oil	Lubrication	3-12
	Change final drive gearbox oil	Lubrication	3-13
	After first 200 hours	Change traction gearbox oil	Lubrication
	Change final drive gearbox oil	Lubrication	3-13

10 hour service to be performed	Section	Page
1. Perform the 10 hour grease nipple service	Lubrication	3-2
2. Lubricate all chains	Lubrication	3-16
3. Check all chain and belt tensions	Adjustments and Maintenance	5-1
4. Check engine oil	Lubrication	3-14
5. Check hydraulic oil level	Lubrication	3-19
6. Check hydrostatic oil level	Lubrication	3-21
7. Check coolant level	Adjustments and Maintenance	5-44
8. Clean cab air filter	Adjustments and Maintenance	5-51
9. Check fuel level	Adjustments and Maintenance	5-41
10. Clean stone trap	Field operation	4-24
11. Drain water from fuel system prefilter/water separator	Adjustments and Maintenance	5-42

50 hour service to be performed	Section	Page
1. Perform the 10 hour service (see above)	Adjustments and Maintenance	5-65
2. Perform the 50 hour grease nipple service	Lubrication	3-4
3. Change engine oil and oil filters	Lubrication	3-14
4. Check wheel nut torques	Specification	9-2
5. Check steering ball joints	Adjustments and Maintenance	5-31 5-33 5-35
6. Check and clean air conditioning condenser	Adjustments and Maintenance	5-52
7. Check and clean air conditioning evaporator	Adjustments and Maintenance	5-52
8. Check air conditioning filter-drier	Adjustments and Maintenance	5-53
9. Check tyre pressure	Specification	9-3
10. Check drum concave setting	Field operation	4-28
11. Check electrolyte level in batteries	Adjustments and Maintenance	5-62

ADJUSTMENTS AND MAINTENANCE

100 hour service to be performed	Section	Page
1. Perform the 10 hour service (see above)	Adjustments and Maintenance	5-65
2. Perform the 50 hour service (see above)	Adjustments and Maintenance	5-65
3. Perform the 100 hour grease nipple service	Lubrication	3-10
4. Change the batteries	Adjustments and Maintenance	5-62

200 hour service to be performed	Section	Page
1. Perform the 10 hour service (see above)	Adjustments and Maintenance	5-65
2 . Perform the 50 hour service (see above)	Adjustments and Maintenance	5-65
3 . Perform the 100 hour service (see above)	Adjustments and Maintenance	5-66
4 . Change engine oil and oil filters	Lubrication	3-14
5 . Lubricate threaded rods and pivot points	Lubrication	3-16
6 . Change drum speed reducer oil	Lubrication	3-23
7 . Change track roller/guide wheel oil	Lubrication	3-23
8 . Clean brakes	Adjustments and Maintenance	5-28
9 . Change fuel filter	Adjustments and Maintenance	5-43
10 . Check steering ball joints, wheel spindles, tie rods and steering hydraulic components	Adjustments and Maintenance	5-31 5-33 5-35

400 hour service to be performed	Section	Page
1. Perform the 10 hour service (see above)	Adjustments and Maintenance	5-65
2. Perform the 50 hour service (see above)	Adjustments and Maintenance	5-65
3. Perform the 100 hour service (see above)	Adjustments and Maintenance	5-66
4. Perform the 200 hour service (see above)	Adjustments and Maintenance	5-66
5. Change traction gearbox oil	Lubrication	3-12
6. Change final drive gearbox oil	Lubrication	3-13
7. Change hydraulic oil and oil filters	Lubrication	3-19
8. Change hydrostatic oil and oil filter	Lubrication	3-21
9. Change fuel prefilter/water separator	Adjustments and Maintenance	5-42
10. Replace air cleaner element of air intake system	Adjustments and Maintenance	5-49
11. Replace cab air filters	Adjustments and Maintenance	5-51
12. Change engine coolant conditioner element (models TX68-68 ^{PLUS} only)	Adjustments and Maintenance	5-47

2 year service to be performed	Section	Page
1. Perform the 10 hour service (see above)	Adjustments and Maintenance	5-65
2. Perform the 50 hour service (see above)	Adjustments and Maintenance	5-65
3. Perform the 100 hour service (see above)	Adjustments and Maintenance	5-66
4. Perform the 200 hour service (see above)	Adjustments and Maintenance	5-66
5. Perform the 400 hour service (see above)	Adjustments and Maintenance	5-67
6. Change brake fluid	Lubrication	3-17
7. Change coolant	Adjustments and Maintenance	5-46
8. Replace safety element of air intake system	Adjustments and Maintenance	5-51

4 to 6 year service to be performed	Section	Page
Replace all hydraulic hoses	Adjustments and Maintenance	5-55

SECTION 6

TROUBLESHOOTING

FEEDING AREA

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
Irregular feeding into the straw elevator.	Straw elevator chain set too high at the entrance.	Lower straw elevator chain.	4-18
The material is backed to the feed auger by the straw elevator chain.	Straw elevator chain badly adjusted.	Adjust chain tension.	5-22
	Stone trap clogged.	Clean stone trap.	4-24
	Drum rasp bars worn.	Replace rasp bars.	-

THRESHING AREA

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
Grain not properly threshed from heads.	Crop not ripe enough.	Wait until crop is in a fit condition to harvest.	-
	Drum speed too slow.	Increase drum speed.	4-27
	Clearance between drum and concave too wide.	Reduce concave clearance.	4-28
	Concave not parallel to drum.	Adjust concave so that it is parallel to the drum.	4-28
	Not enough material entering combine for proper threshing action.	Lower header and/or increase ground speed.	-
	Unthreshed heads passing through concave grate.	Close concave de-awning plates to blank off front portion of the concave.	4-32

NOTE:

Feeding and operation of the combine can be difficult in the first half hour of operation in short crops as new painted parts may cause a lot of friction.

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
	Rasp bars or concave damaged, bent or worn excessively.	Inspect all rasp bars and concave for excessive wear or damage.	-
	Losing rpm because of sluggish or malfunctioning engine governor.	Fuel injection pump should be checked by a specialist.	-
	Intermediate shaft speed incorrect.	Check speed of intermediate shaft. Correct speed is 800 rpm (with empty machine).	-
Material wrapping around the drum.	Drum speed too slow.	Increase drum speed.	4-27
	Beater stripper plates incorrectly adjusted.	Adjust stripper plates closer to the rasp bars.	4-33
	Drum rasp bars damaged or worn.	Replace rasp bars.	-
	Crop too wet or insufficiently ripe.	Wait until crop is in a fit condition to harvest.	-
Drum blockage.	Irregular feeding.	Adjust header and straw elevator for optimum feeding.	4-18 Separate Header Manual
	Drum speed too slow.	Increase drum speed.	4-27
	Crop too wet or insufficiently ripe.	Wait until crop is in a fit condition to harvest.	-
	Drum vari-drive belts slips.	Check drum variator for deformation or incorrect adjustment. Tighten tensioning spring, if necessary.	5-10
	Beater drive belt slipping.	Check belt tension and tighten, if necessary.	5-14

THRESHING, SEPARATION AND CLEANING

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
Excessive cracked grain in tank.	Drum speed too high.	Reduce drum speed and/or open concave slightly.	4-27
	Excessive tailings.	See the concern described under "Excessive tailings", below.	-
	Concave clogged, or openings blocked by de-awning plates.	Clean concave and open de-awning plates.	4-32
	Concave not parallel to drum.	Adjust concave parallel to the drum.	4-28
	Grain being cracked in elevator.	Adjust grain elevator chain tension.	5-25
	Clearance between drum and concave too small.	Increase concave clearance. Reduce drum speed slightly.	4-28
	Uneven feeding, or wads entering drum.	Adjust straw elevator chain. Check feed auger height and retractable finger adjustment.	4-18 Separate Header Manual
Grain loss over Twin Flow rotor.	Straw walkers running at incorrect speed.	Check speed of intermediate shaft. Correct speed is 800 rpm (with empty machine).	-
	Straw walkers overloaded due to excessive ground speed.	Reduce ground speed to decrease amount of material entering combine. Raise header. Increase concave-to-drum clearance if straw walkers have become clogged due to the straw being broken up excessively. (It may be necessary to reduce concave-to-drum clearance if overloading is the result of incomplete threshing. In this case, it may be desirable to increase the drum speed).	-

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
	<p>Crop too wet or contains excessive green material.</p> <p>Straw walker openings blocked so grain cannot drop through.</p> <p>Concave blocked allowing excessive grain to be thrown onto the straw walkers.</p>	<p>Wait until crop is in a fit condition to harvest.</p> <p>Clean straw walker openings.</p> <p>Clean concave thoroughly.</p>	<p>-</p> <p>-</p> <p>-</p>
<p>Grain is not properly cleaned.</p>	<p>Insufficient air blast from cleaning fan.</p> <p>Cleaning fan vari-drive belt slipping.</p> <p>Intermediate shaft speed incorrect.</p> <p>Lower sieve opening too wide, allowing trash to fall into the clean grain auger.</p> <p>Lower sieve overloaded or blocked.</p> <p>Upper sieve opened too wide, allowing excessive trash to fall onto lower sieve.</p> <p>Drum speed too high, or concave clearance too small, or a combination of both, resulting in chopped straw overloading the sieves .</p>	<p>Increase fan speed to the point that grain is being cleaned properly but not blown over the rear of the sieves.</p> <p>Check fan variator adjustment.</p> <p>Check speed of intermediate shaft. Correct speed is 800 rpm. Check also whether the cleaning shoe drive belt is slipping.</p> <p>Reduce lower sieve opening.</p> <p>Clean the sieve thoroughly.</p> <p>Close upper sieve so that only the clean grain falls onto the lower sieve and most of the trash moves out over the rear of the upper sieve.</p> <p>If closed too far, threshed grain will be lost over the rear of the sieve.</p> <p>Readjust drum speed and concave clearance so that threshing is carried out properly.</p>	<p>4-41</p> <p>5-16</p> <p>-</p> <p>4-38</p> <p>-</p> <p>-</p> <p>4-27</p>

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
Grain loss over the sieves.	Too much air blast from the cleaning fan.	Reduce air blast with fan variable speed control.	4-41
	Upper sieve not opened wide enough.	Open the upper sieve so that all the clean grain moves to the lower sieve.	4-38
	Upper sieve blocked.	Clean upper sieve.	4-38
	Lower sieve not opened wide enough or blocked, causing excessive grain to enter returns and be rethreshed.	Open the lower sieve and clean if it is blocked.	4-38
	Crop not in a fit condition to harvest, or contains too much green material.	Raise header to prevent as much green material as possible from entering the combine, or wait until crop is in a fit condition to harvest.	-
	Grain pan dirty.	Clean grain pan.	4-25
	Sieves overloaded.	See concern described under "Sieves overloaded", below.	-
	Cleaning shoe drive belt slipping.	Adjust cleaning shoe belt tension.	5-5
	Intermediate shaft speed incorrect.	Check speed of intermediate shaft. Correct speed is 800 rpm (with empty machine).	-
Cleaning shoe not level (self-levelling cleaning shoe only).	Check electric control. Contact your local dealer for assistance.	-	
Excessive tailings.	Lower sieve closed too much, or blocked.	Open lower sieve slightly and clean thoroughly, if blocked.	4-38
	Insufficient air blast from cleaning fan.	Increase the fan speed.	4-41
	Air blast too strong from the cleaning fan.	Reduce the fan speed.	4-41

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
	<p>Intermediate shaft speed incorrect.</p> <p>Overthreshing.</p>	<p>Check speed of intermediate shaft. Correct speed is 800 rpm (with empty machine).</p> <p>Check cleaning shoe drive belt tension.</p> <p>Reduce drum speed and/or increase drum and concave clearance to prevent straw from being chopped up excessively.</p>	<p>-</p> <p>5-5</p> <p>4-27</p>
<p>Sieves overloaded.</p>	<p>Intermediate shaft speed incorrect.</p> <p>Cleaning shoe drive belt slipping.</p> <p>Insufficient air blast from the fan.</p> <p>Upper sieve open too wide, or blocked.</p> <p>Overthreshing.</p>	<p>Check speed of intermediate shaft. Correct speed is 800 rpm (with empty machine).</p> <p>Check all belt drives and adjust tension, as required.</p> <p>Increase fan speed.</p> <p>Close sieve slightly and clean thoroughly, if blocked.</p> <p>Reduce drum speed and/or increase drum to concave clearance to reduce the amount of short straw on the upper sieve.</p>	<p>-</p> <p>5-1</p> <p>4-41</p> <p>4-38</p> <p>4-27</p>

GENERAL

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
Blockage of machine.	Intermediate shaft speed incorrect.	Check speed of intermediate shaft. Correct speed is 800 rpm (with empty machine).	-
	Crop not in a fit condition to harvest, or too much green material in crop.	Raise header to reduce amount of green material entering the combine, or wait until crop is in a fit condition to harvest.	-
	Threshing concave incorrectly adjusted.	Increase drum to concave clearance. Ensure concave is parallel to the drum.	4-28
	Rasp bars or concave damaged or worn excessively.	Inspect all rasp bars and concave for excessive wear or damage. Replace, if necessary.	-
	Irregular feeding.	Adjust ground speed to permit even feeding.	-
		Check straw elevator chain tension.	5-22
	Belts slipping.	Check all belt drives. Tighten belts, as required.	5-1
	Drum vari-drive belt slips.	Check drum variator for deformation or incorrect adjustment.	5-10
	Tighten tensioning spring, if necessary.	5-10	
Belt or chain broken.	Repair broken belt or repair chain.	-	

ENGINE

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
Engine will not start.	Insufficient fuel in tank.	Fill up fuel tank.	-
	Battery connections dirty or disconnected.	Connect, clean and coat with vaseline the battery connections.	-
	Battery partly run down.	Charge battery.	5-62
	Restricted fuel filters.	Replace fuel filter.	5-43
	Restricted prefilter/water separator.	Replace element.	5-42
	Air in fuel system.	Bleed fuel system.	5-43
	Polluted fuel.	Drain and clean fuel tank. Refill with clean fuel.	-
Engine does not give full power.	Dirty air cleaner.	Clean air cleaner.	5-49
	Restricted fuel filters.	Replace fuel filter.	5-43
	Restricted exhaust pipe.	Clean or replace exhaust pipe.	-
	Vent hole in fuel tank filler cap clogged.	Clean vent hole.	-
	Polluted fuel.	Drain and clean fuel tank. Refill with clean fuel.	-
Engine overheats.	Insufficient coolant.	Add coolant.	5-44
	Dirty radiator.	Clean radiator.	-
	Fan drive belts slack or broken.	Adjust belt(s) tension, or replace belt.	5-18
	Insufficient oil in engine sump.	Add oil.	3-14

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
Engine starts, then stops.	Air in fuel system.	Bleed fuel system.	5-43
	Fuel filters restricted.	Replace filters.	5-43
Insufficient oil pressure.	Insufficient oil.	Add oil.	3-14
	Sender unit defective.	Replace sender unit.	-
	Oil pressure gauge defective.	Replace oil pressure gauge.	-
Engine will not idle.	Air in fuel system.	Bleed fuel system.	5-43

STRAW CHOPPER

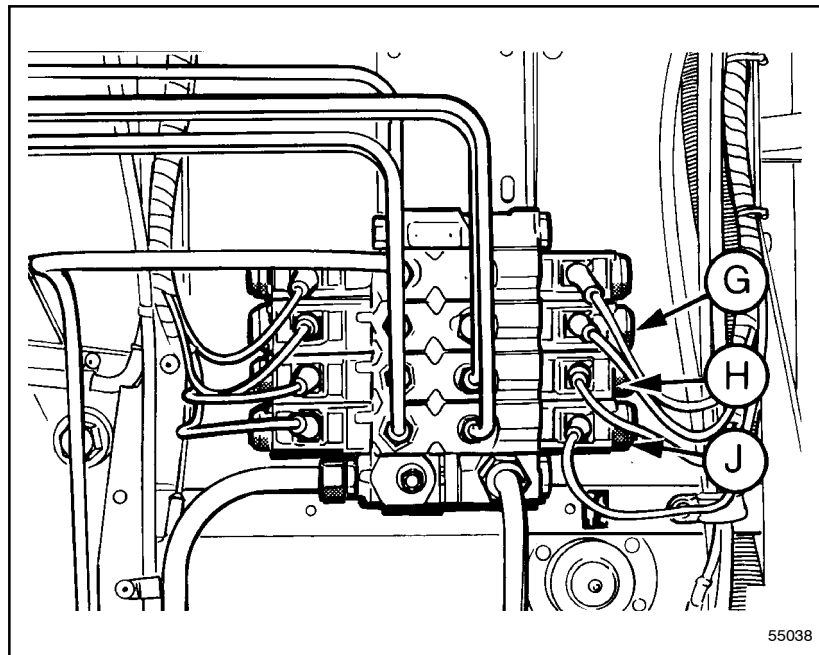
CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
Chopper vibrates during operation.	Rotor knife damaged or broken.	Replace damaged or broken rotor knife.	4-109
	Rotor bearing broken.	Contact your local dealer.	-
	Rotor out of balance.	Ensure all knives are swinging freely, are undamaged and equally worn. Clean rotor properly.	-
Poor chop quality, i.e. too long.	Damaged knife or knives on rotor and counter knives bar.	Replace damaged knives and sharpen counter knives.	4-110
	Dull rotor knives and counter knives.	Turn, or replace, rotor knives. Sharpen or replace counter knives.	4-109
	Incorrect rotor speed.	Rotor speed must be 3500 rpm minimum (on standard speed). Check belt tensions.	5-7

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
Spread pattern too wide, or too narrow.	Adjustment error.	Adjust spreaders fins for correct spread pattern.	4-108
Straw chopper gets blocked.	Dull knives. Belts slack. Straw spreader fins incorrectly installed, or damaged. Clutch slips. Incorrect belts used. Straw chopper incorrectly adjusted to the crop being harvested.	Sharpen or replace counter knives. Replace, or turn, rotor knives. Tension belts correctly. Install fins correctly, or repair. Contact your local dealer. Use correct belts. Adjust straw chopper, as described in this manual.	4-109 5-7 4-108 - - 4-110
Chopper will not engage.	Belts not tensioned. Electromagnetic clutch failure.	Tension belts. Contact your local dealer.	5-7 -
Chopper bearings run warm.	Bearings not greased regularly.	Grease bearings every 10 operating hours, or daily.	3-1
Belts flapping.	Belt guides and/or idler incorrectly adjusted.	Adjust belt guides and idler correctly.	-

POWERED REAR AXLE

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
Performance sluggish.	Using too low a gear.	Shift into a higher gear.	-
	Weak high pressure relief valve.	Have the system checked by your local dealer.	-
	Inadequate charge pressure.	Have the system checked by your local dealer.	-
System not functioning.	Fuse blown.	Replace fuse.	5-57
	Defective engaging switch.	Replace switch.	-
	Broken or disconnected wire.	Repair broken wire or reconnect.	-
Hazardous functioning of system.	Defective valve.	Have the valve repaired or replaced by your local dealer.	-

HYDRAULIC VALVE ELECTRICS - Models TX62-63 - Figure 1



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1

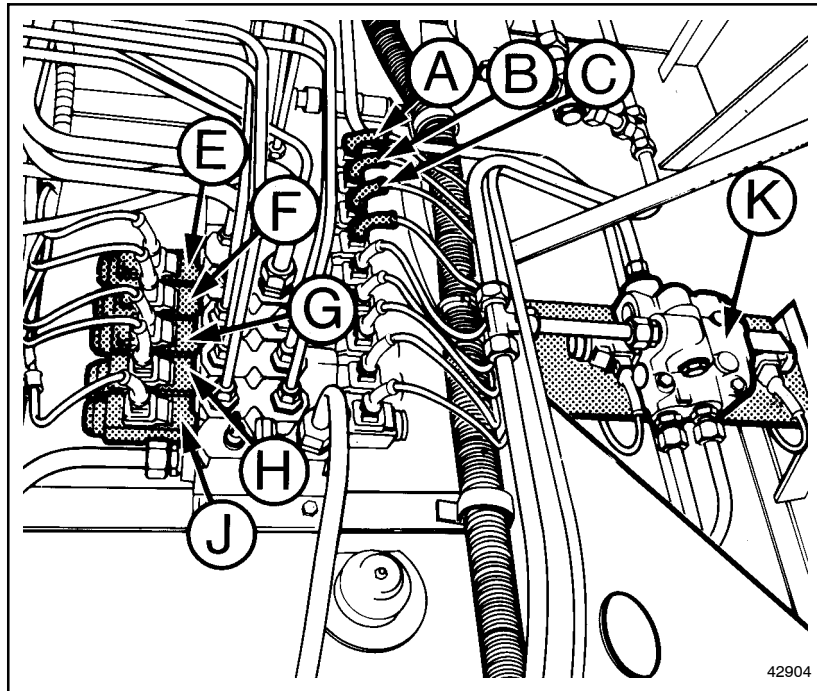
CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
<p>No reel vertical (G) or horizontal (J) control.</p>	<p>No current to spool.</p>	<p>Check fuse and replace, if needed.</p>	<p>5-57</p>
	<p>No hydraulic control.</p>	<p>Check oil level and top up, if needed.</p>	<p>3-19</p>
		<p>Check and tighten pump drive belt.</p>	<p>5-19</p>
		<p>Contact your local dealer.</p>	<p>-</p>

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
No unloading tube movement control H.	No current to spool.	Check fuse and replace, if needed.	5-57
	No hydraulic control.	Use both plugs of reel horizontal control valve (J) and control with pedal switches in cab. (*)	Fig. 1
		Check oil level and top up, if needed.	3-19
		Check and tighten pump drive belt.	5-19
Contact your local dealer.	-		
No header height control.	No current to spool.	Check fuse and replace, if needed.	5-57 5-58
		Contact your local dealer.	
	No hydraulic control.	Check oil level and top up, if needed.	3-19
		Check and tighten pump drive belt.	5-19
Contact your local dealer.	-		

(*) NOTE:

It is always possible to control the hydraulic valves manually by pushing the electrical spool (rubber cap) of the valve concerned.

HYDRAULIC VALVE ELECTRICS - Models TX64^{PLUS}-65^{PLUS}-66-67-68-68^{PLUS} - Figure 2



2

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
<p>Header/straw elevator (A), threshing mechanism (C) or unloading system (B) not engaging.</p>	<p>No current to spool.</p>	<p>Check and replace fuse, if needed.</p> <p>Open the unloading tube to $\pm 90^\circ$ position (should not be in contact with the end-of-stroke switch on the tube collar).</p> <p>Remove one plug of the tube position control valve (H) and plug in the engaging valve needed.</p> <p>Engage the unloading tube position switch in the required position (up or down).</p>	<p>5-57</p> <p>Fig. 2</p>

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
Header/straw elevator (A), threshing mechanism (C) or unloading system (B) not engaging.	No hydraulic control (can be checked when normally pushing on the electrical spool).	Check oil level and top up, if needed.	3-19
		Check and tighten pump drive belt.	5-19
		Check if valve D, which delivers the oil pressure to the engaging valves A, B and C, operates now and then (audible). If necessary, operate lateral float control/reversing mechanism, reel vertical or horizontal control, to have high pressure so that the engaging valves A, B or C can operate.	Fig. 1
		Contact your local dealer.	-
No lateral float control (E).	No current to spool.	Check and replace fuse, if needed.	5-57
	No hydraulic control.	Use plug of reel horizontal control valve (J) and the pedals to control the system. (*) Check oil level and pump drive. Contact your local dealer.	Fig. 2 3-19 5-19 -
No reversing mechanism control (F).	No current to spool.	Check fuse and replace, if needed. Contact your local dealer.	5-57 -
	No hydraulic control.	Check oil level and top up, if needed.	3-19
		Check and tighten pump drive belt.	5-19
		Contact your local dealer.	-

(*) NOTE:

It is always possible to control the hydraulic valves manually by pushing the electrical spool (rubber cap) of the valve concerned.

CONCERN	POSSIBLE CAUSE	CORRECTION	PAGE
<p>No reel vertical (G) or horizontal (J) control.</p>	<p>No current to spool.</p>	<p>Check fuse and replace, if needed.</p> <p>Use plug of lateral float control valve (E). [*]</p>	<p>5-57</p> <p>Fig. 2</p>
	<p>No hydraulic control.</p>	<p>Check oil level and top up, if needed.</p> <p>Check and tighten pump drive belt.</p> <p>Contact your local dealer.</p>	<p>3-19</p> <p>5-19</p> <p>-</p>
	<p>No current to spool.</p> <p>No hydraulic control.</p>	<p>Check oil level and replace, if needed.</p> <p>Use both plugs of reel horizontal control valve (J) and control with pedal switches in cab. (*)</p>	<p>3-19</p> <p>Fig. 2</p>
		<p>Check oil level and top up, if needed.</p> <p>Check and tighten pump drive belt.</p> <p>Contact your local dealer.</p>	<p>3-19</p> <p>5-19</p> <p>-</p>
<p>No header height control (K).</p>	<p>No current to spool.</p>	<p>Check fuse and replace, if needed.</p> <p>Contact your local dealer. (*)</p>	<p>5-57</p> <p>-</p>
	<p>No hydraulic control.</p>	<p>Check oil level and top up, if needed.</p> <p>Check and tighten pump drive belt.</p> <p>Contact your local dealer.</p>	<p>3-19</p> <p>5-19</p> <p>-</p>

(*) NOTE:

It is always possible to control the hydraulic valves manually by pushing the electrical spool (rubber cap) of the valve concerned.

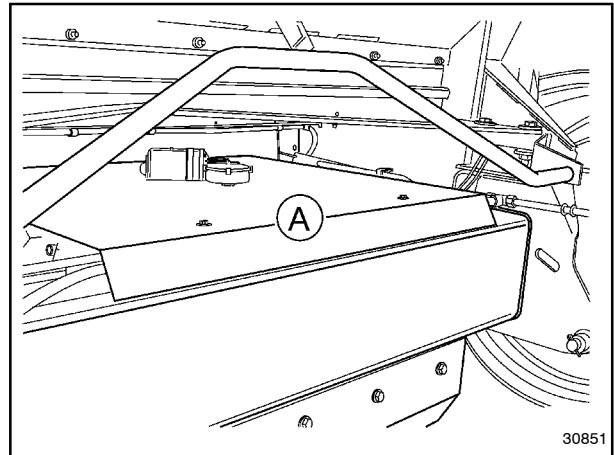
MODEL TX67 - GEARSHIFTING - Figures 3 to 6

If not possible to select gears electrically, it can be done manually proceeding as follows:

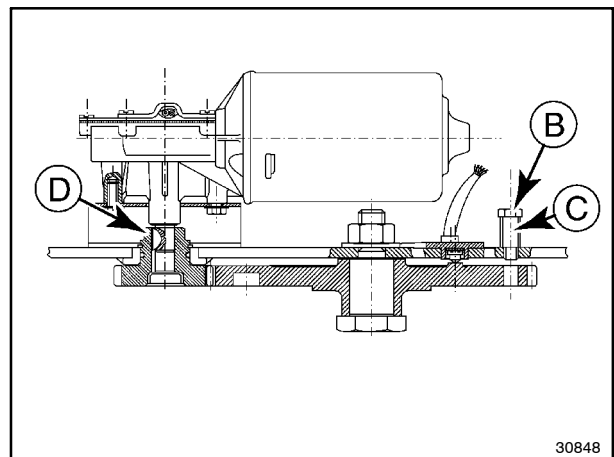
1. Remove cover plate A.
2. Open connector G.
3. Remove motor M by loosening four bolts F.
4. Remove bolt B and bushing C.
5. Turn bolt D, underneath motor M, with a 24 mm open end wrench until decal E indicates the desired position of the traction box. Fully screw in bolt B to lock the traction box gears.

**CAUTION:**

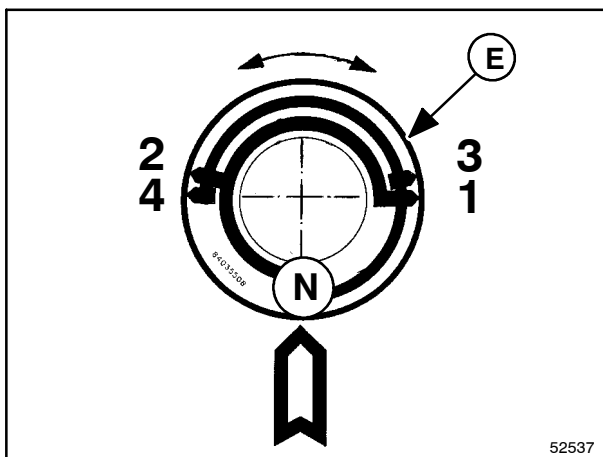
Raise the header and engage the header cylinder safety latch.



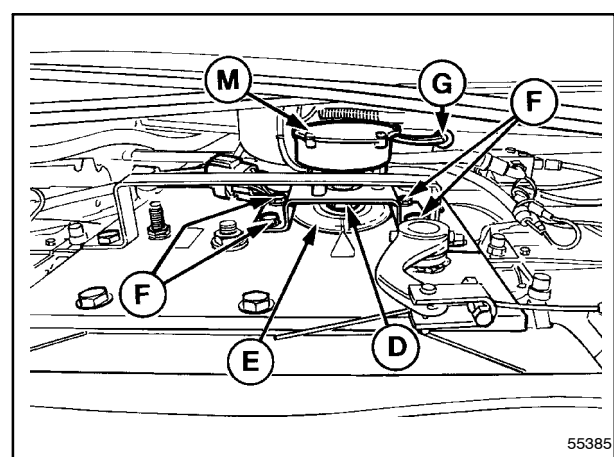
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4



5



6

MODEL TX67 - REMOTE PARKING BRAKE - Figures 7 and 8

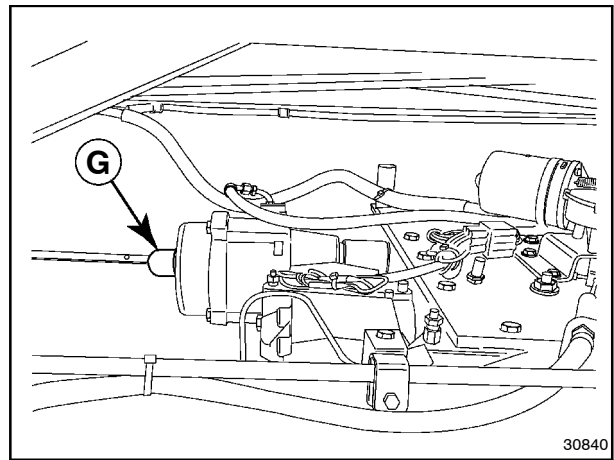
If not possible to release the handbrake electrically, it is possible to do it manually proceeding as follows:

1. Remove rubber cap G.
2. Remove cotter pin H and turn nut J until the release of the parking brake disc.

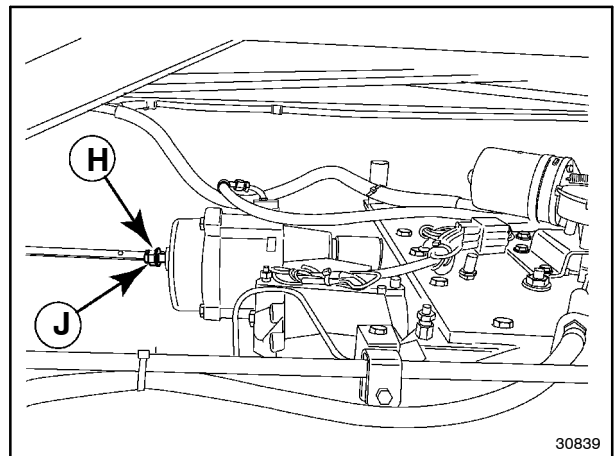


CAUTION:

- Raise the header and engage the header cylinder safety latch. Stop the engine.
- Be sure the combine is securely blocked to prevent runaway of the combine.
- Be aware that the emergency brake does not operate when the brake is manually disengaged.



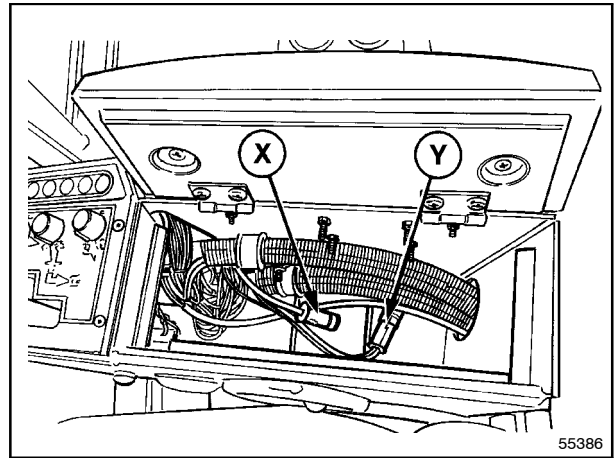
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8

MODEL TX67 - DRIVING THE COMBINE AFTER MANUAL RESET

If not possible to select gears or to release the handbrake, it is not possible to drive the combine as there is no power supply to the hydrostatic drive printed circuit. It is, however, possible to select gears and to release the handbrake manually (see above). To provide power to the hydrostatic drive printed circuit, plug connector X into connector Y.



9

SECTION 7

STORAGE

Your combine represents an important investment and its life depends upon how well you take care of it.

END-OF-SEASON SERVICE

Follow the steps outlined below at the end of each season's use or when the machine will not be used for an extended period of time. This will ensure the combine is kept in good condition and ready for the next season.

1. Remove the header and the straw elevator to facilitate cleaning.
2. Clean the interior and exterior of the combine thoroughly because any chaff and dirt left in the machine will attract moisture and cause rust.

NOTE:

PRESSURE WASHING

- Avoid pressure washing at ambient temperatures below 10° C or when the machine is wet. Place the machine in a heated workshop or dry barn for at least 24 hours, and clean it only when fully dried.
- Avoid to direct water jets onto electric equipment, bearings, seals, gearbox, oil tank or fuel tank filler caps, into the engine exhaust, engine and cab air filters...
- When using a high pressure washer:
 - Keep a minimum distance of 30 cm between the spray gun and the surface to be cleaned.
 - Spray under an angle of minimum 25° (do not spray in perpendicular direction).
 - Maximum water temperature: 60°C
 - Maximum water pressure: 60 bar.
 - Do not use chemicals.

- Legislation in certain countries and good practice requires special treatment of waste water through sedimentation and oil separation and controlled removal of residues.

Leave covers open at the bottom of the elevators to allow any moisture to drain out. Leave the unloading auger cleaning doors open.

3. Remove the sieves, clean them and coat with oil or a rust preventative.
4. Remove all chains. Clean and coat the chains with oil. Reinstall them, then adjust to the correct tension.
5. Dismantle all slip clutches. Check and lubricate with grease before reassembling. Adjust the springs to the correct tension.
6. Lubricate the machine thoroughly, as described in Section 3 - LUBRICATION.
7. Coat all bright parts (except the pulley and the variator discs) with paint, a rust preventative, oil or grease to protect them from rust.
8. Retract all hydraulic cylinders and coat exposed parts of the cylinder rods with grease.
9. Clean all belts, then check belt tension. Adjust if necessary.
10. Reinstall the straw elevator.
11. Clean the air filter element.

12. Use compressed air, or water under pressure, to clean out the engine radiator. Use a low-pressure water jet, or compressed air, to clean the air conditioner condenser fins.
13. Check the anti-freeze content in the engine cooling system.
14. Run the engine to bring it up to operating temperature. Drain the oil, then refill with rust preventative oil.
15. Fill the fuel tank completely.
16. Store the combine in a dry place, protected from the weather.
17. Close off all engine openings with plugs or greaseproof paper.
18. Support the combine on wooden blocks to relieve the weight from the tyres. Leave tyres inflated.
19. Disconnect the battery cables. Clean and charge the batteries in situ.

IMPORTANT:

The batteries should be charged every 8 to 10 weeks with a 5 to 6 amperes current for a period of 24 hours to a minimum of 12.6 volt.

NOTE:

Removing the batteries will not harm the storage of information in the InfoView monitor.

20. Straw chopper: Remove all knives and bushings, grease them thoroughly and reinstall them onto the rotor.
21. Every 4 weeks, remove the engine opening seals, start the engine and run at 3/4 throttle for 1 to 2 hours. Move all the variators from minimum to maximum, and vice versa, to ensure adequate lubrication to prevent rust.
22. Switch on the air conditioning while the engine is running, only if the ambient temperature is above 15°C minimum. This will ensure lubrication of the compressor parts. Operate the air conditioning system for at least 15 minutes.
23. Reinstall the engine opening seals.

Periodic checks will help to keep your combine maintenance and repairs to a minimum and avoid costly breakdowns during the season. Therefore, it is good practice to have the combine inspected at the end of the season. Your dealer will gladly quote a price for this work.

ORDERING PARTS AND/OR ACCESSORIES

When preparing the combine for storage, check thoroughly for any parts that may have become worn and need replacing.

Parts and/or Accessories should be ordered at once and fitted before the next harvesting season.

When ordering Parts and/or Accessories, always ensure to give your dealer the model number and serial number of your combine. See Section 1 - INTRODUCTION.

INSIST ON GENUINE "QUALITY" PARTS AS THEY WILL GIVE THE BEST PERFORMANCE AND ARE COVERED BY OUR WARRANTY.

FOR BEST PERFORMANCE YOUR COMBINE SHOULD BE SERVICED BY AN AUTHORISED DEALER.

PRESEASON SERVICE

Follow the steps outlined below at the beginning of each season to ensure the machine is in good condition and ready for use.

1. Remove the wooden blocks supporting the combine.
2. Check the tyre pressures and wheel nuts torque.
3. Lubricate the machine, as detailed in the "Lubrication Schedule".
4. Check all belt and chain tensions (including the straw elevator and grain elevator chain).
5. Remove the protective oil from the sieves and reinstall them in the machine.
6. Check the oil level of the following and add oil, if needed:
 - Traction gearbox
 - Final drive gearboxes
 - Brake fluid reservoir
 - Hydrostatic reservoir
 - Hydraulic reservoir
7. Check machine adjustments, as described in Section 5 - ADJUSTMENTS AND MAINTENANCE.
8. Remove the engine opening seals and reinstall the batteries. Run the engine to bring it up to operating temperature, then drain the rust preventative oil. Replace the oil filter(s) and fill with new engine oil.
Check the brake fluid level.
9. Run the engine at half speed, engage the threshing mechanism and the header, and check for problems.
10. Run the engine at full speed and check the speed on the intermediate shaft with a tachometer (800 rpm).
11. Drive the combine to check the operation of the hydraulic equipment and the brakes.
12. Stop the combine and replace the covers of the grain and returns cross auger, the bottom covers and the cleaning doors of the grain and returns elevator, and the unloading tube.
13. Lubricate the combine once again, but do not overgrease.
14. It is recommended to have your dealer or a refrigerant specialist check the entire air conditioning system for leakage at the beginning of each season.

SECTION 8

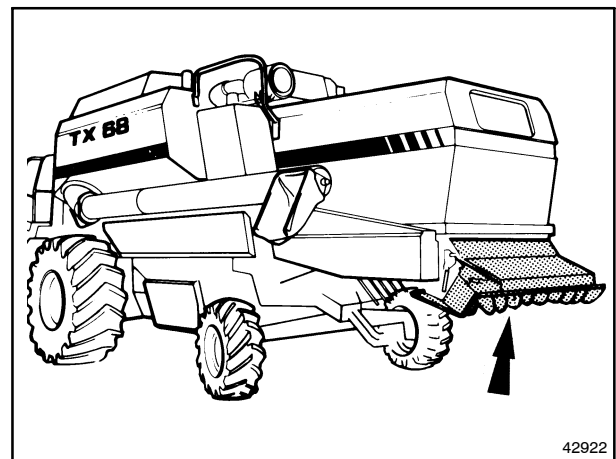
ACCESSORIES

NOTE:

- Accessories or optional equipment listed hereafter may be part of the standard equipment for certain countries.
- Some of these accessories or options may not be available in certain markets.

STRAW CHOPPER - Figure 1

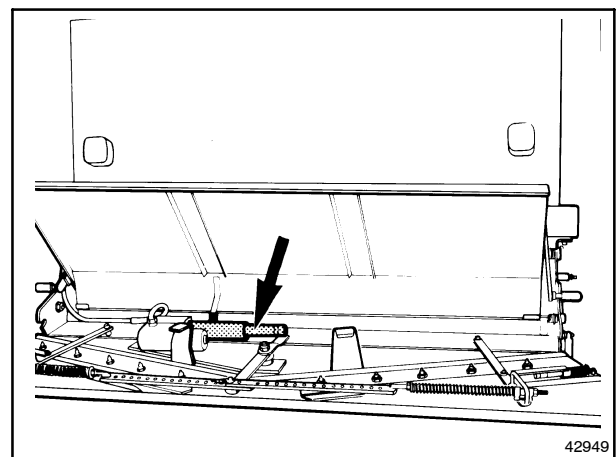
This equipment can be fitted on the machine if the straw has to be ploughed back into the soil.



1

ELECTRICAL STRAW CHOPPER DEFLECTOR CONTROL - Figure 2

This equipment enables the operator to better control the material distribution, e.g. in windy conditions.

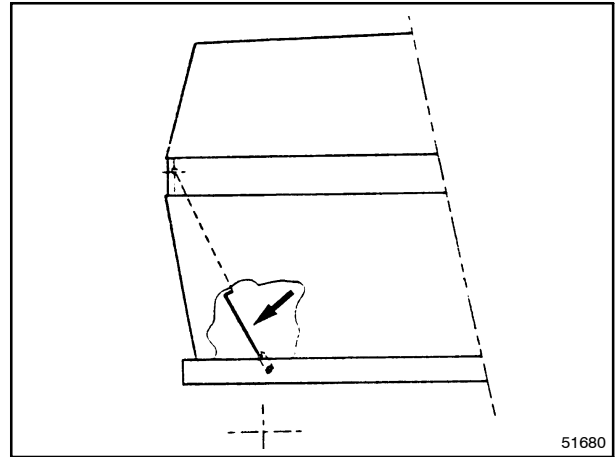


2

STRAW CHOPPER INTERMEDIATE PLATE -

Figure 3

This plate is recommended when harvesting maize to prevent cob parts from being projected against the straw hood.

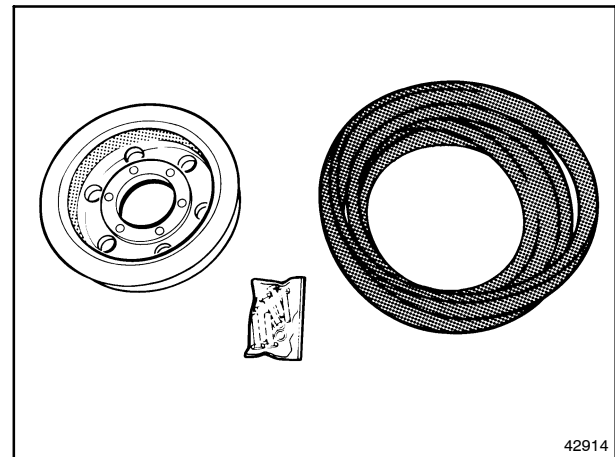


3

STRAW CHOPPER SLOW DOWN KIT - Figure 4

Rotor speed: 2100 rpm.

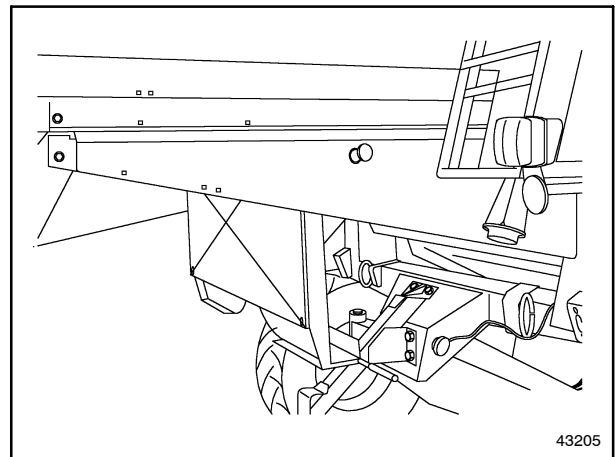
This equipment can be installed for operation in maize to protect the knives and to prevent the maize cob pieces from being projected too violently from the chopper.



4

CHAFF SPREADER - Figure 5

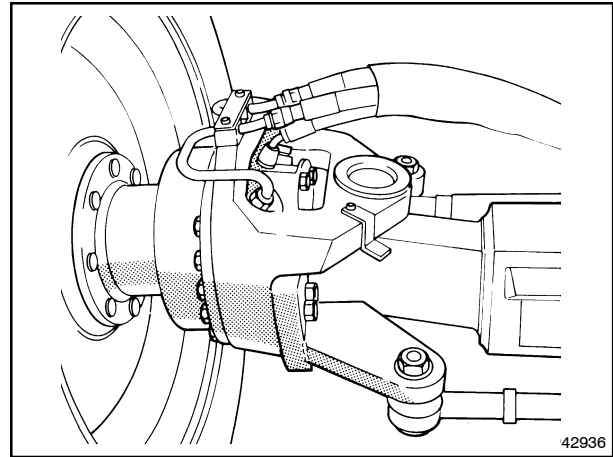
This equipment can be fitted when the chaff from the cleaning shoe is required to be spread.



5

POWERED REAR AXLE - Figure 6

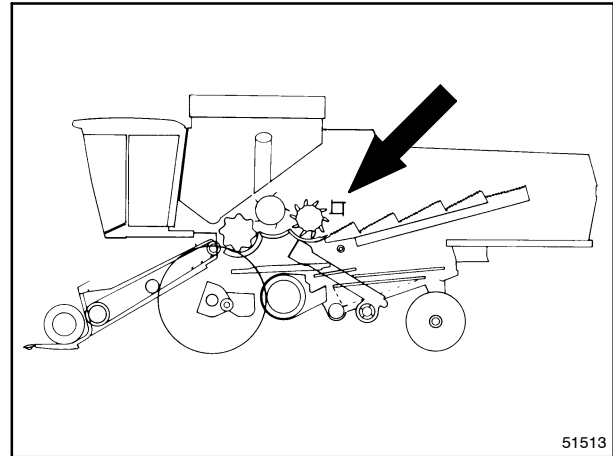
Can be installed if additional traction is required in muddy conditions.



6

STRAW FLOW BEATER - Figure 7

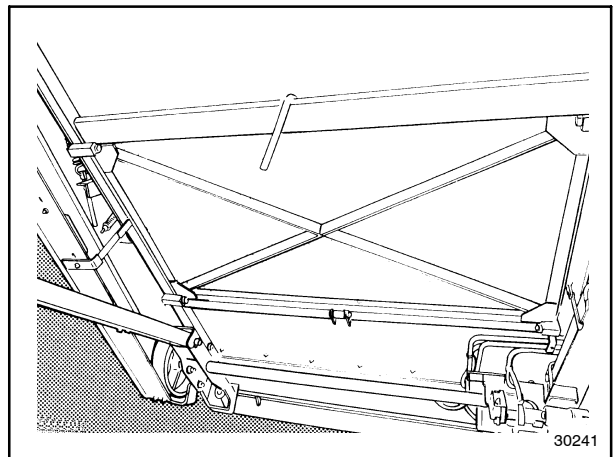
This beater, located behind the rotary separator, improves material throughput, especially when operating in heavy, tough straw crops.



7

STRAW ELEVATOR PERFORATED BOTTOM - Figure 8

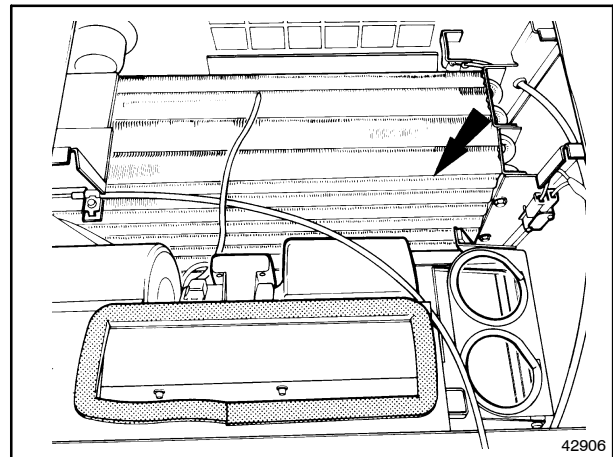
A perforated door can be installed in the straw elevator bottom to evacuate dirt and soil when operating in peas, soja, beans, etc.



8

CAB HEATING- Figure 9

Improved operator comfort when operating in cold weather.



9

MAIZE THRESHING EQUIPMENT

The following equipment for threshing maize is available:

- Kit containing:
 - Maize concave
 - Drum cover plates
 - Fan protection guard
 - Grain elevator high speed kit
 - 5 toothed beater bars
 - Stone trap cover plate
 - Rotary dust screen brush
- Hart Carter 1-5/8" upper sieve
- or
- Round hole sieve, 16 or 18 mm dia.
- Hart Carter 1-5/8" presieve
- 3rd header lift cylinder (only needed when stalk chopper is installed)

CORN COB MIX KIT

This kit can be fitted when harvesting maize to produce a corn cob mix sample.

It consists of:

- Graepel sieves
- Grain elevator high speed kit
- Modified unloading bottom auger

RICE THRESHING EQUIPMENT

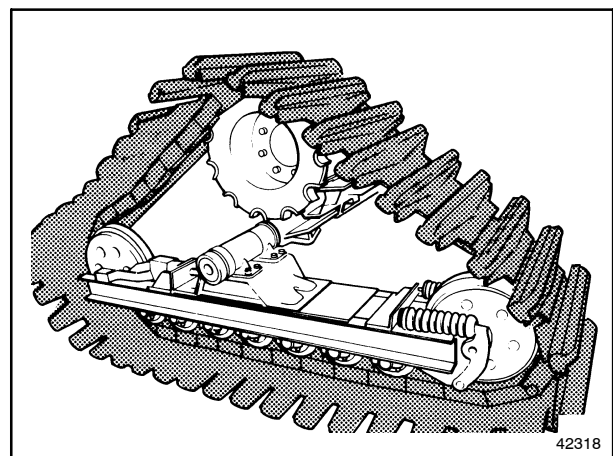
The following equipment for threshing rice is available (i.e. to modify from cereals/maize version to rice version):

- Peg tooth concave
- Beater toothed bars (5 or 10)
- Peg bars for universal drum
- Fan protection guard (*)
- Stone trap cover plate (*)

(*) Only needed when rebuilding from cereals version to rice version

TRACKS - Figure 10

Tracks can be fitted when operating in very muddy conditions is required (e.g. rice).



10

42318

CEREALS THRESHING EQUIPMENT

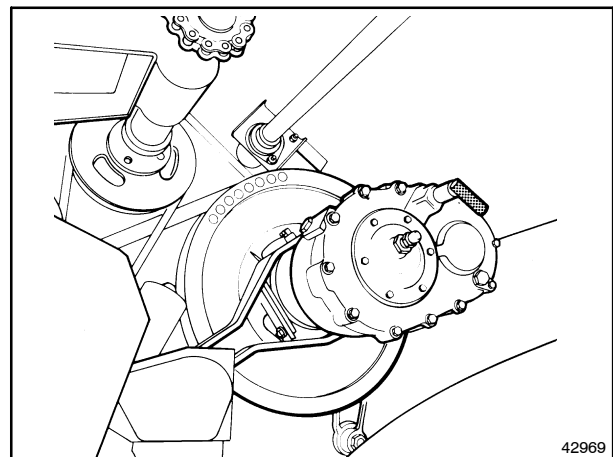
This equipment can be used to rebuild the harvester from rice version to cereals version.

It consists of:

- Cereals concave
- Beater plates (5)
- Standard rasp bars for universal drum

DRUM SPEED REDUCER - Figure 11

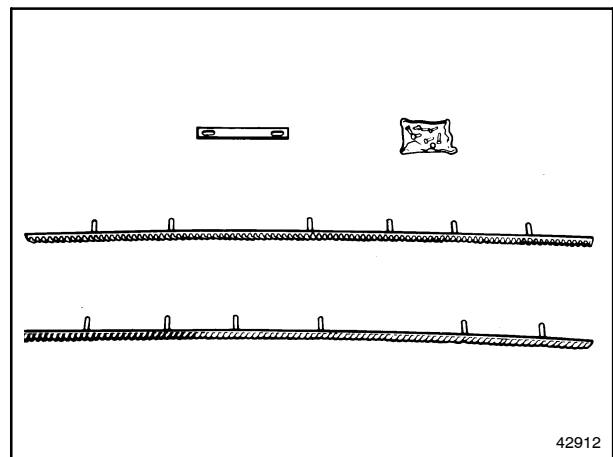
This equipment can be fitted when an additional low speed range of the drum is needed when operating in fragile grain crops, e.g. beans, peas, etc.



11

DRUM CONCAVE RASP BARS - Figure 12

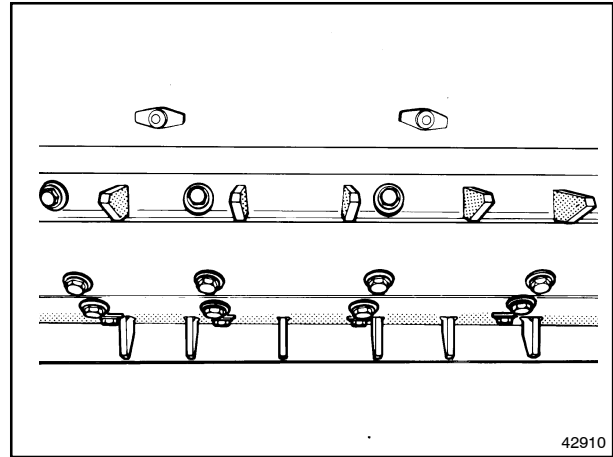
Two rasp bars can be fitted in the front section of the concave to improve threshing efficiency in difficult to thresh crops.



12

BEATER TOOTHED BARS (Set of 5) - Figure 13

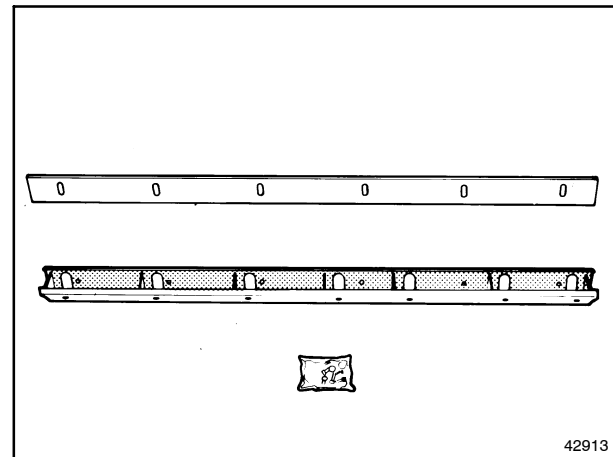
These can be installed instead of the beater plates or can be added to five plates or bars in difficult, tough straw crops to improve throughput and separation.



13

BEATER PLATES (Set of 5) - Figure 14

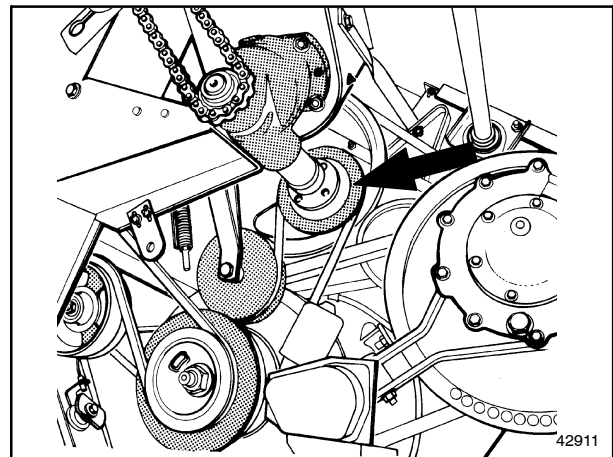
They can be installed instead of five beater bars or in addition to the original 5 plates in specific, difficult crops.



14

GRAIN ELEVATOR HIGH SPEED KIT - Figure 15

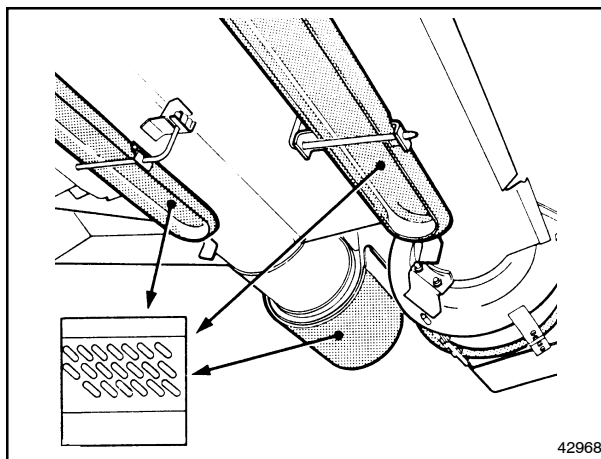
This kit increases the grain elevator capacity, especially when harvesting maize.



15

PERFORATED COVERS UNDER BOTTOM AUGERS AND GRAIN ELEVATOR - Figure 16

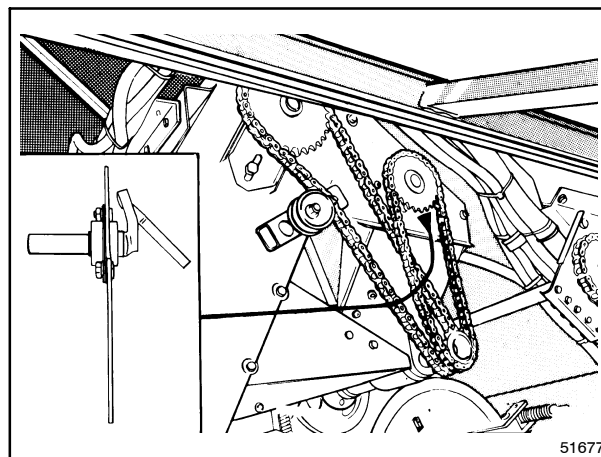
These covers are recommended when threshing beans, peas, soja or maize to obtain a cleaner grain sample.



16

AGITATOR IN GRAIN ELEVATOR TRANSITION AREA - Figure 17

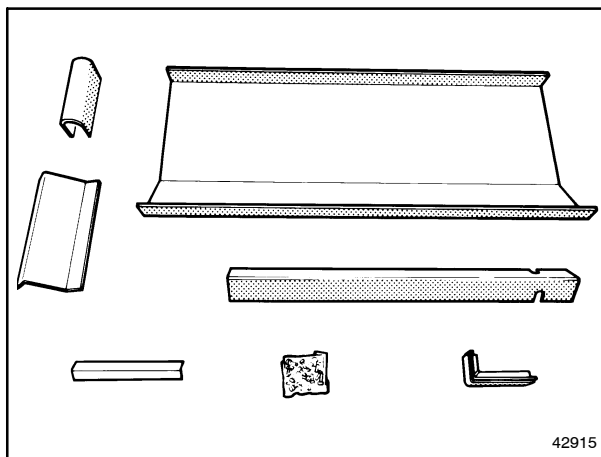
To avoid dirt build-up in damp or wet conditions when harvesting maize, peas, soja, beans, etc...



17

FAN BOTTOM GUARD - Figure 18

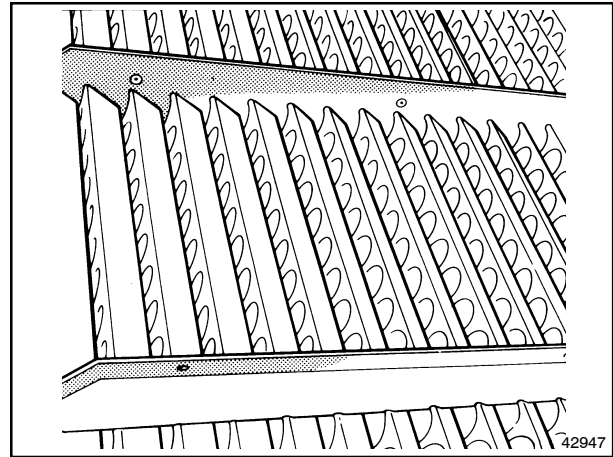
This guard can be fitted to protect the fan bottom and shoe levelling box when harvesting maize, sunflower, soja, beans, rice, etc...



18

PETERSEN SIEVE (1-1/8") - Figure 19

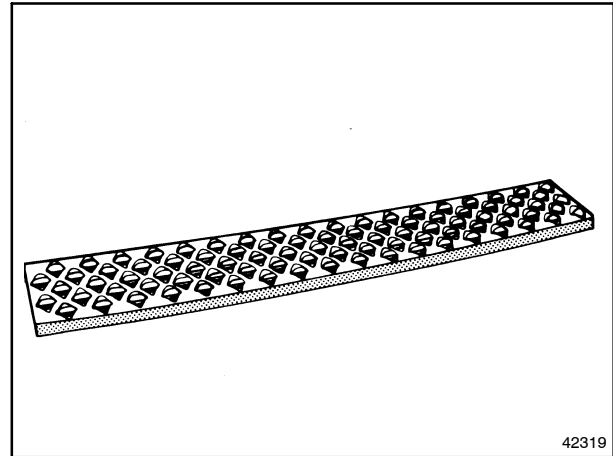
This sieve can be fitted as an upper or lower sieve to obtain a cleaner sample, especially in oil seed rape.



19

GRAEPEL SIEVE EXTENSION - Figure 20

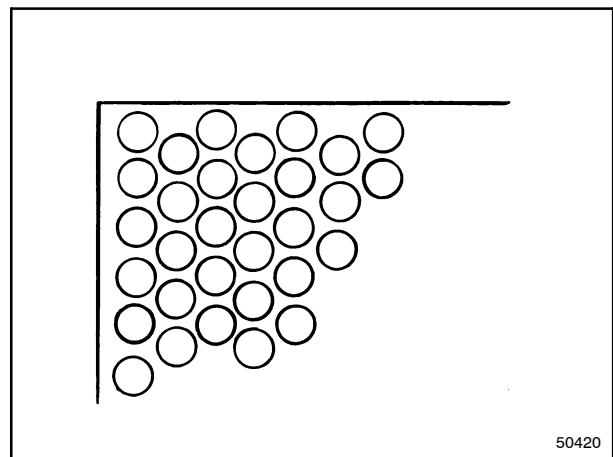
This extension can be fitted at the rear of the upper sieve, in place of the finger rake, to prevent short straw from passing into the returns auger.



20

ROUND HOLE SIEVE FRAME - Figure 21

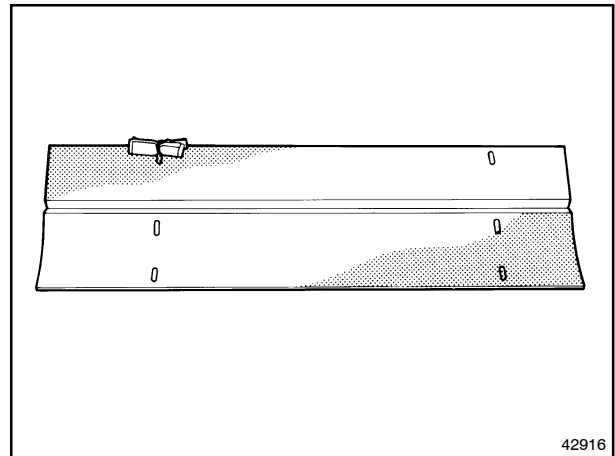
A frame can be obtained to locally adapt to a round hole sieve of your preferred hole size.



21

RAPE SEED PLATE - Figure 22

This plate can be installed on top of the fan to avoid seed losses in the fan area when operating in green rape seed crop.



22

GRASS SEED EQUIPMENT

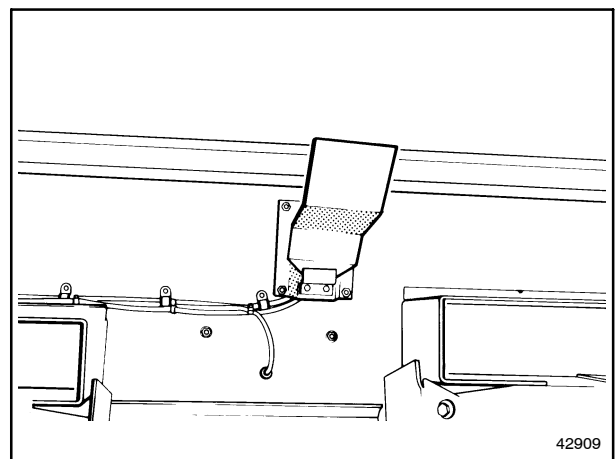
This equipment will improve the machine performance when threshing small seeds.

It consists of:

- Sweeper plates on unloading auger end
- Variator to obtain a lower fan speed adjustment

STRAW WALKER BLOCKAGE WARNING - Figure 23

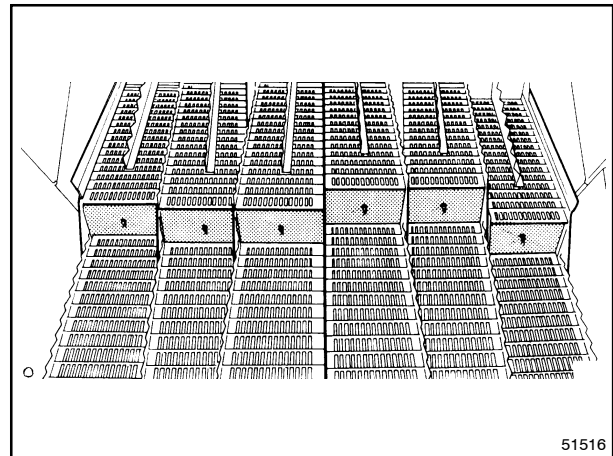
This device can be fitted in the straw hood to warn the operator in case of a build-up of straw on the straw walkers.



23

VERTICAL STRAW WALKER COVER PLATES - Figure 24

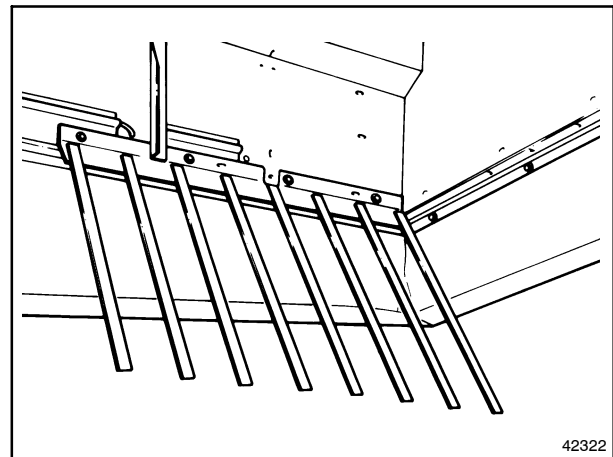
This equipment can be fitted to cover all the vertical apertures of the straw walkers in order to reduce the amount of material on the sieves when harvesting short brittle straw crops.



24

STRAW DEFLECTOR - Figure 25

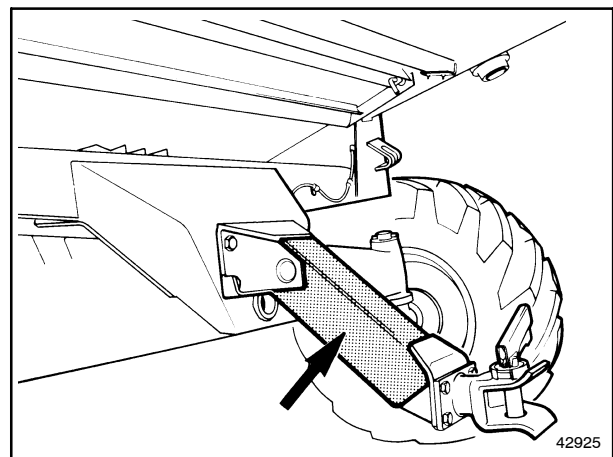
This deflector can be installed in the straw hood to reduce the swath width.



25

HEADER TRAILER HITCH - Figure 26

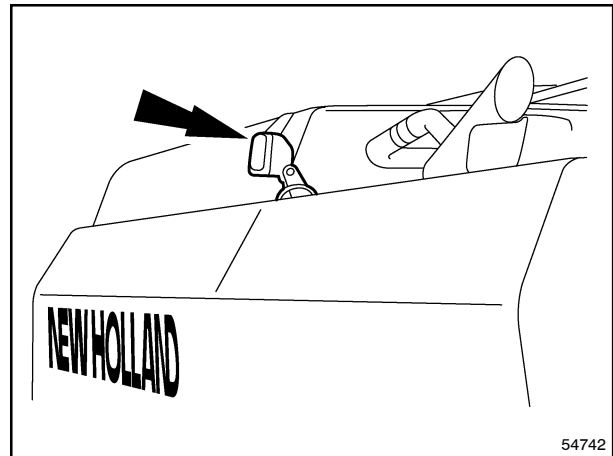
A hitch is available for towing the header trailer. Maximum static load on this hitch is 50 kg. Maximum allowed header trailer weight is 1850 kg (Germany) or 2000 kg (all other countries)



26

ADJUSTABLE SPOT LIGHT - Figure 27

An adjustable spot light can be installed on the railing on the left-hand side of the engine, to facilitate the unloading operation at night.



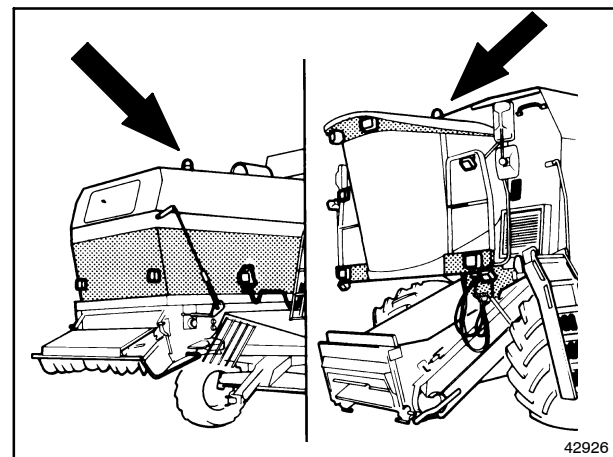
27

TRAFFIC WARNING BEACONS - Figure 28

Two traffic warning beacons can be fitted on the machine to provide advance warning to other road users, when travelling on public highways, that the vehicle is wide and slow-moving.

NOTE:

It depends on local legislation whether this equipment is mandatory or forbidden for road transport.



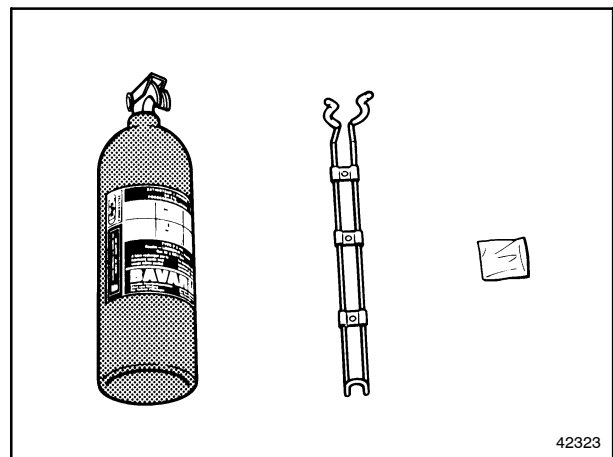
28

FIRE EXTINGUISHER - Figure 29

A 6 kg fire extinguisher can be installed in arm's reach of the operator.

NOTE:

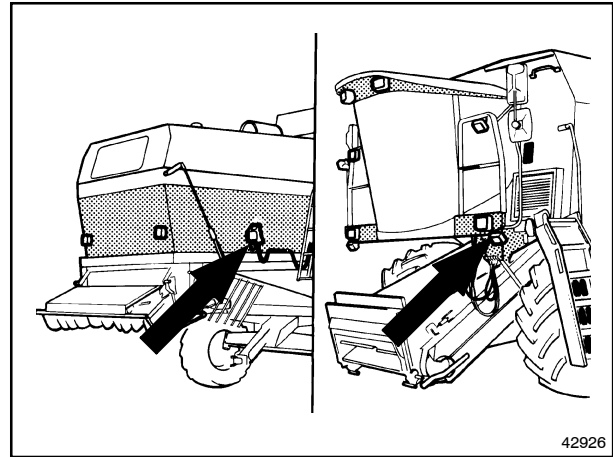
In some countries the fire extinguisher is mandatory.



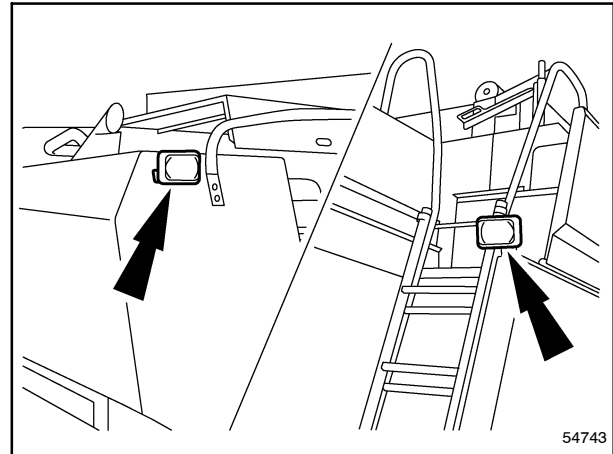
29

STUBBLE AND OPERATING LIGHTS KIT - Figures 30 and 31

This kit consists of two lights to illuminate the stubble behind the header, one light on the right-hand side of the straw hood and two lights on the rear of the combine to illuminate the rear of the machine. These lights must be extinguished for road travel.



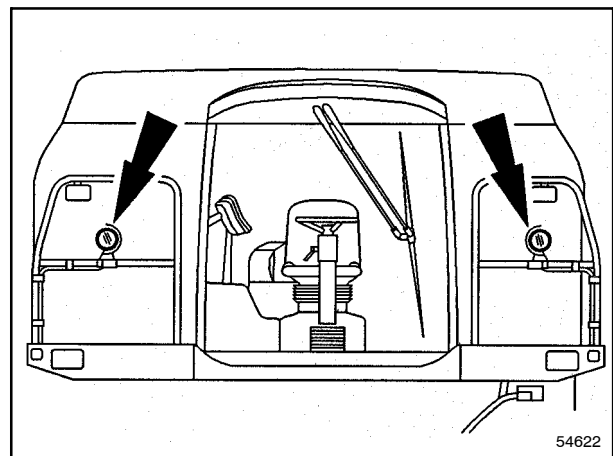
30



31

ADDITIONAL LIGHT KIT - Figure 32

To ensure safe road transport, additional headlights can be installed on the railing when a flip-up maize header is attached to the combine.

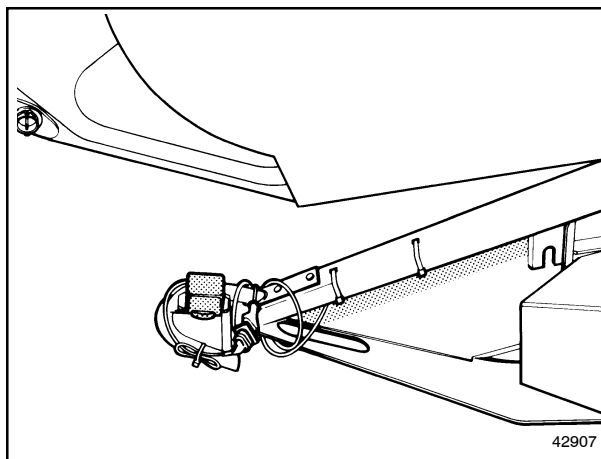


32

AUTOMATIC LATERAL FLOAT SENSORS -

Figure 33

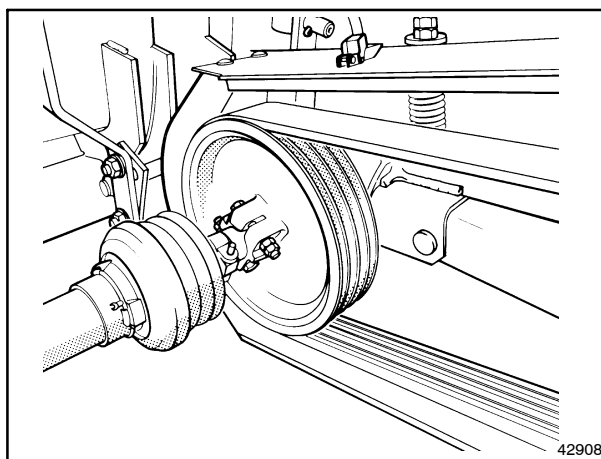
An additional set of autofloat sensors can be obtained to be fitted onto a maize header when the combine is equipped with the automatic lateral float system. This will avoid removal of the sensors on the grain header.



33

STRAW ELEVATOR/HEADER DRIVE BY 3HB/4HB BELTS - Figure 34

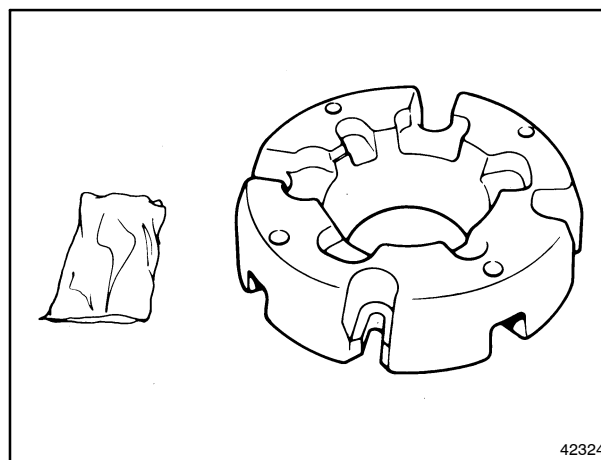
This belt can be installed if the combine is equipped with a 2HB/1HC straw elevator/header drive and a maize header or stripper header should be driven.



34

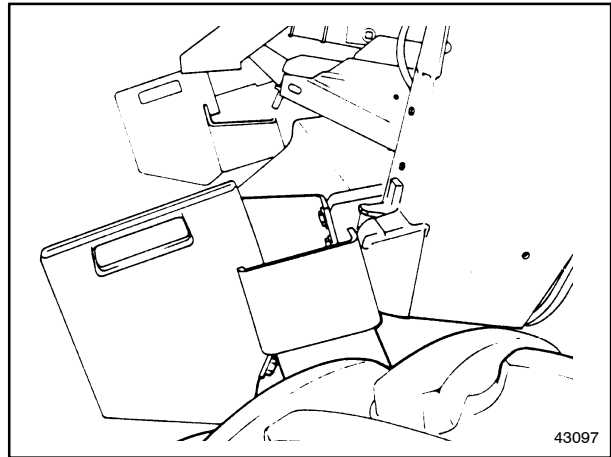
COUNTERWEIGHTS - Figures 35 and 36

Counterweights can be installed when attaching a heavy header, e.g. a maize header.



35

Frame counterweights can be fitted at the rear of the frame on special supports.



36

AIR BLOWING SYSTEM

Models TX66-67-68-68^{PLUS} only

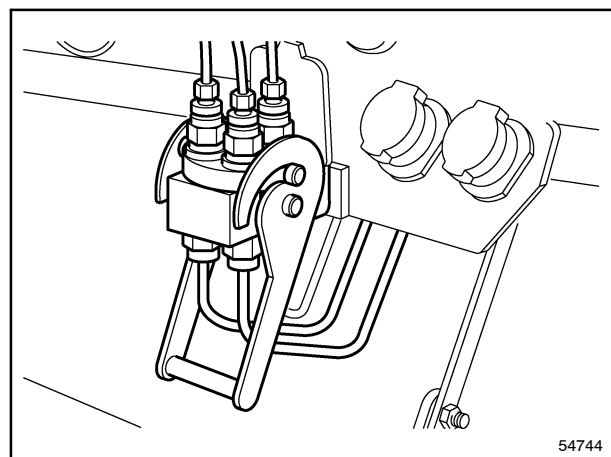
An air blowing system can be installed to keep the engine compartment clean.

ELECTRIC OVERRIDE CABLE

This override cable can be installed to control the stack valve and the header height control valve in case of an electrical breakdown.

QUICK-RELEASE COUPLER - Figure 37

To attach and detach the header on a frequent basis, the quick-release coupler allows all hydraulic lines to be connected simultaneously.



37

SECTION 9

SPECIFICATION

NOTE:

The specifications given below are only approximate and may vary slightly from machine and/or harvesting conditions.

Only original NEW HOLLAND wheel rims should be used in combination with the tyre sizes indicated. Only these tyre/wheel rim combinations have been homologated in relation to the machine weight, width and road speed limits.

The rims should be fitted in such a way that the maximum overall machine width permitted locally on public roads is adhered to.

WHEELS AND TYRES



WARNING:

The tyres specified by the manufacturer are the only tyres approved. If non-genuine or replacement tyres are used, these must be identical in size and strength [PR rating for diagonal tyres or Load Capacity for radial tyres (e.g. 166 A8)] to the specified tyres. The recommended tyre pressure has to be maintained at all times.



CAUTION:

Road travel in 4th gear with grain in the grain tank is not allowed.

WHEEL NUTS TORQUE

Check the wheel nuts torque daily during the first week of operation and thereafter on a weekly basis.

Torque (Nm)	min	max
Traction wheel nuts torque	610	730
Steering wheel nuts torque with fixed steering axle or adjustable steering axle	410	492
Steering wheel nuts torque with rear-wheel drive	406	435
Steering wheel nuts torque with heavy-duty adjustable steering axle	410	492

RECOMMENDED TYRES AND TYRE INFLATION PRESSURES

The recommend pressures are at the same time the **minimum** pressures allowed by the manufacturer.

The tables below list the recommended tyre inflation pressures to obtain maximum field performance, with a special header attached.

One column gives the maximum permitted inflation pressure. This maximum pressure is recommended when the machine is to be driven frequently on public roads to avoid excessive tyre wear.

Recommended traction tyres pressures

Tyre selection chart TX62-63

HEADERS															
GRAIN						MAIZE									
		FLEX						FLEX							
12ft	13ft	15ft	17ft	20ft	15ft	19ft	5R	6R	6F						
2.1	2.1	2.2	2.3	2.5	2.3	2.4	2.4	2.6	X	613	DW20A	37	2560	3173	3.0
1.7	1.7	1.8	1.9	2.0	1.9	1.9	1.9	2.0	2.0	633	DWW21A	-50	2734	3347	3.0
1.0	1.0	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	788	DWW27A	24	2586	3219	2.0
												-37	2708	3341	3.0
												24(*)	3086	3719	
												-37(*)	3208	3841	
												100(*)	2860	3648	2.0
												-113(*)	2934	3722	
1.0	1.0	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	768	DWW25A	-40	2714	3482	2.0
1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1112	DH86	0(*)	3134	4246	2.0

STEERING TYRES															
		FLEX						FLEX							
12ft	13ft	15ft	17ft	20ft	15ft	19ft	5R	6R	6F	Width	Rim	Offset	Track	Overall width	Pressure
										418	W14	-127	2557	3045	2.5
										416	W14	-127	2555	3036	2.5
										415	W14	15	2722	3208	3.2
										548	16.00	-10	2905	3532	1.5
										450	W15L	50	2918	3451	2.4
										533	W15L	50	2917	3536	2.0
										406	W13/W14L	40	2811	3311	2.0
										533	W15L	100	2906	3525	2.0
										450	W15L	100	2807	3440	2.4

STEERING AXLES

Fixed
Adjustable (+305)
Heavy-duty adjustable (+150)
Powered rear axle (+200)

(x) not allowed
 (*) mounted with axle extensions (2 x 250)

9 Recommended traction tyres pressures

Tyre selection chart TX64PLUS

HEADERS														
GRAIN				FLEX			MAIZE			TRACTION TYRES				
13ft	15ft	17ft	20ft	15ft	19ft	5R	6R	6F	Width	Rim	Offset	Track	Overall width	Max. Pressure
2.1	2.2	2.3	2.5	2.3	2.4	2.4	2.6	x	613	DW20A	37	2560	3173	3.0
1.7	1.8	1.9	2.0	1.9	1.9	1.9	2.0	2.0	633	DWW21A	24	2586	3219	3.0
1.0	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	788	DWW27A	-113	2860	3648	2.0
1.0	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	768	DWW25A	-40	2714	3482	2.0
1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1112	DH36	0(*)	3134	4246	2.0
STEERING TYRES														
	Width	Rim	Offset	Track	Overall width	Pressure								
16.0/70x20-10PR-I1-SRI	418	W14	-127	2557	3045	2.5								
16.0/70x20-10PR-I3-SGI	416	W14	-127	2555	3036	2.5								
400/70R20-145A8-FS24	415	W14	15	2722	3208	3.2								
550/60-22.5-12PR-I3-TI	548	16.00	-10	2905	3532	1.5								
17.5LR24-150A8-STR	450	W15L	50	2918	3451	2.4								
540/65R24-146A8-DT820	533	W15L	50	2917	3536	2.0								
16.5/85x28-10PR-SGI	406	W13/W14L	40	2811	3311	2.0	Only with tracks							
540/65R24-146A8-DT820	533	W15L	100	2906	3525	2.0								
17.5LR24-150A8-STR	450	W15L	100	2807	3340	2.4								

STEERING AXLES

Fixed
Adjustable (+305)
Heavy-duty adjustable (+150)
Powered rear axle (+200)

(x) not allowed
 (*) mounted with axle extensions (2 x 250)

Tyre selection chart TX65PLUS

Recommended traction tyres pressures

HEADERS									
GRAIN					MAIZE				
FLEX		FLEX			FLEX			FLEX	
13ft	15ft	17ft	20ft	15ft	19ft	5R	6R	6F	8F
1.7	1.8	1.9	2.0	1.9	1.9	1.9	2.0	2.0	X
1.3	1.4	1.5	1.6	1.5	1.6	1.6	1.7	1.7	X
1.3	1.4	1.5	1.6	1.5	1.6	1.6	1.7	1.7	1.9
1.1	1.2	1.3	1.4	1.3	1.4	1.3	1.4	1.4	1.6

(x) not allowed

(*) mounted with axle extensions (2 x 163)

TRACTION TYRES		Width	Rim	Offset	Track	Overall width	Max. pressure
650/75R32-167A8-DT820	DWW21A	633	DWW21A	100	2578	3211	3.0
				-115	3008	3641	
				100(*)	2904	3537	
				-115(*)	3334	3967	
800/65R32-167A8-STR	DWW27A	788	DWW27A	42	2694	3482	2.0
				-57	2892	3680	
800/65R32-172A8-STR	DWW27A	788	DWW27A	42	2694	3482	2.0
				-57	2892	3680	
				42(*)	3020	3808	
				-57(*)	3218	4006	
1050/50R32-174A8-XM609	DH36	1112	DH36	0(*)	3104	4216	2.0

STEERING TYRES		Width	Rim	Offset	Track	Overall width	Pressure
16.0/70X20-10PR-I3-SGI	W14	416	W14	-127	2555	3036	2.5
400/70R20-145A8-FS24	W14	415	W14	15	2722	3208	3.2
550/60-22.5-12PR-I3-TI	16.00	548	16.00	-10	2905	3532	1.5
17.5LR24-150A8-STR	W15L	450	W15L	50	2918	3451	2.4
540/65R24-146A8-DT820	W15L	533	W15L	50	2917	3536	2.0
16.5/85X28-10PR-SGI	W13/W14L	406	W13/W14L	40	2797	3297	2.0
17.5LR24-150A8-STR	W15L	450	W15L	100	2807	3340	2.4
540/65R24-146A8-DT820	W15L	533	W15L	100	2906	3525	2.0

STEERING AXLES

Fixed
Adjustable (+305)
Heavy-duty adjustable (+150)
Powered rear axle (+200)

9 Recommended traction tyres pressures

Tyre selection chart TX66

HEADERS									
GRAIN					MAIZE				
FLEX					MAIZE				
17ft	20ft	24ft	30ft	19ft	5R	6R	6F	8F	
2.3	2.4	2.5	2.8	2.4	2.4	2.6	2.6	x	650/75R32-167A8-DT820
									633
									DWW21A
									100
									2848
									3481
									3278
									3911
									-115
									100(*)
									3174
									3807
									100(*)
									3174
									3807
									-115(*)
									3604
									4237
									3.0
1.5	1.6	1.6	1.9	1.6	1.6	1.7	1.7	x	800/65R32-167A8-STR
									788
									DWW27A
									42
									2964
									3752
									3158
									3946
									-55
									42(*)
									3290
									4078
									-55(*)
									3484
									4272
									2.0
1.5	1.6	1.6	1.9	1.6	1.6	1.7	1.7	1.9	800/65R32-172A8-STR
									788
									DWW27A
									42
									2964
									3752
									3158
									3946
									-55
									42(*)
									3290
									4078
									-55(*)
									3484
									4272
									2.0
1.3	1.4	1.4	1.6	1.4	1.3	1.4	1.4	1.6	1050/50R32-174A8-XM609
									1112
									DH36
									0(*)
									3374
									4486
									2.0

STEERING TYRES					
Width	Rim	Offset	Track	Overall width	Pressure
418	W14	-127	2862	3350	2.5
416	W14	-127	2853	3341	2.5
415	W14	15	2872	3358	3.2
548	16.00	-10	3205	3832	1.5
450	W15L	50	3218	3751	2.4
533	W15L	50	3367	3986	2.0
406	W13	40	3097	3596	2.0
450	W15L	100	3107	3640	2.4
533	W15L	100	3106	3725	2.0

STEERING AXLES

Adjustable (+305)
Heavy-duty adjustable (+150)
Powered rear axle (+200)

(x) not allowed
 (*) mounted with axle extensions (2 x 163)

Recommended traction tyres pressures

Tyre selection chart TX67

HEADERS									
GRAIN					MAIZE				
17ft	20ft	24ft	30ft	5R	6R	6F	8F		
2.3	2.4	2.5	2.8	2.4	2.6	2.6	2.6	x	
1.5	1.6	1.6	1.9	1.6	1.7	1.7	1.7	x	
1.5	1.6	1.6	1.9	1.6	1.7	1.7	1.7	x	
1.5	1.6	1.6	1.9	1.6	1.7	1.7	1.9		
1.5	1.6	1.6	1.9	1.6	1.7	1.7	1.9		
1.3	1.3	1.4	1.6	1.3	1.4	1.4	1.6	1.6	

TRACTION TYRES	Width	Rim	Offset	Track	Overall width	Max. pressure
650/75R32-167A8-DT820	633	DH21	100	2862	3495	3.0
			-115	3292	3925	
800/65R32-167A8-STR	788	DWW27A	42	2978	3766	2.0
			-57	3176	3964	
800/65R32-167A8-STR	788	DWW27A	100	2862	3650	2.0
			-115	3292	4080	
800/65R32-172A8-STR	788	DWW27A	42	2978	3766	2.0
			-57	3176	3964	
800/65R32-172A8-STR	788	DWW27A	100	2862	3650	2.0
			-115	3292	4080	
620/75R34-170A8-DT820	608	DWW21A	196	2670	3278	4.0
1050/50R32-174A8-XM609	1112	DH36	0(*)	3238	4350	2.0

(x) not allowed
 (*) mounted with axle extensions (2 x 163)

STEERING TYRES	Width	Rim	Offset	Track	Overall width	Pressure
16.0/70x20-10PPR-13-SGI	409	W14	-127	2695	3175	2.5
400/70R20-145A8-FS24	415	W14	15	2872	3358	3.2
550/60-22.5-12PR-13-TI	548	16.00	-10	3205	3832	1.5
17.5LR24-150A8-STR	450	W15L	50	3218	3751	2.4
540/65R24-146A8-DT820	533	W15L	50	3367	3986	2.0
17.5LR24-150A8-STR	450	W15L	100	3107	3640	2.4
540/65R24-146A8-DT820	533	W15L	100	3106	3725	2.0

STEERING AXLES

Fixed
Heavy-duty adjustable (+150)
Powered rear axle (+200)

HEADERS									
GRAIN					MAIZE				
FLEX					MAIZE				
17ft	20ft	24ft	30ft	19ft	5R	6R	6F	8F	
2.6	2.7	2.8	3.0	2.7	2.7	2.8	2.8	x	
1.7	1.8	1.9	2.0	1.8	1.8	1.9	1.9	x	
1.7	1.8	1.9	2.0	1.8	1.8	1.9	1.9	2.0	
1.5	1.6	1.6	1.8	1.6	1.6	1.6	1.8	1.8	

TRACTION TYRES	Width	Rim	Offset	Track	Overall width	Max. pressure
650/75R32-167A8-DT820	633	DWW21A	100 -115 100(*) -115(*)	2848 3278 3174 3604	3481 3911 3807 4237	3.0
800/65R32-167A8-STR	788	DWW27A	42 -55 42(*) -55(*)	2964 3162 3290 3488	3752 3950 4078 4276	2.0
800/65R32-172A8-STR	788	DWW27A	42 -55 42(*) -55(*)	2964 3162 3290 3488	3752 3950 4078 4276	2.0
1050/50R32-174A8-XM609	1112	DH36	0(*)	3374	4486	2.0

(x) not allowed
(*) mounted with axle extensions (2 x 163)

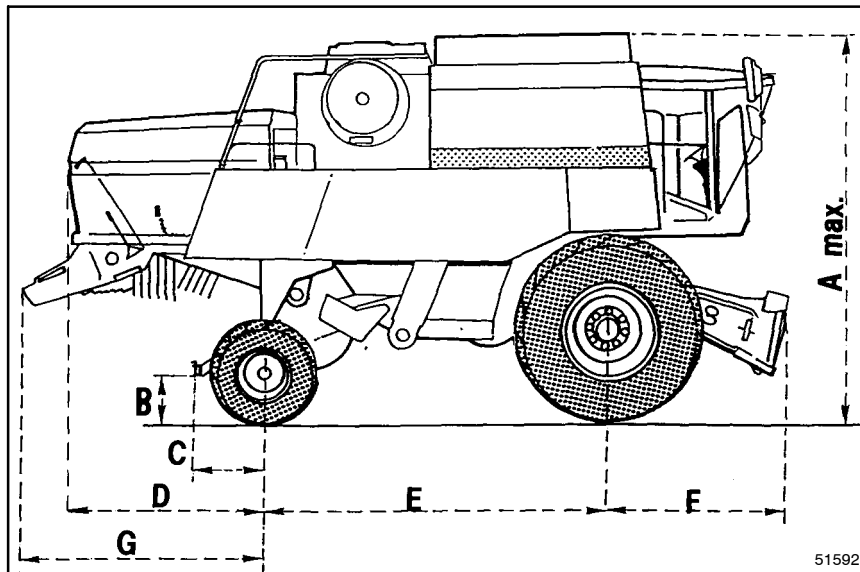
STEERING TYRES	Width	Rim	Offset	Track	Overall width	Pressure
16.0/70x20-10PR-I3-SGI	416	W14	-127	2899	3380	2.5
400/70R20-145A8-FS24	415	W14	15	2872	3358	3.2
550/60-22.5-12PR-I3-TI	548	16.00	-10	3205	3832	1.5
17.5LR24-150A8-STR	450	W15L	50	3218	3751	2.4
540/65R24-146A8-DT820	533	W15L	50	3367	3986	2.0
16.5/85x28-10PR-SGI	406	W13	40	3097	3596	2.0
17.5LR24-150A8-STR	450	W15L	100	3107	3640	2.4
540/65R24-146A8-DT820	533	W15L	100	3106	3725	2.0

STEERING AXLES

Fixed
Heavy-duty adjustable (+150)
Powered rear axle (+200)

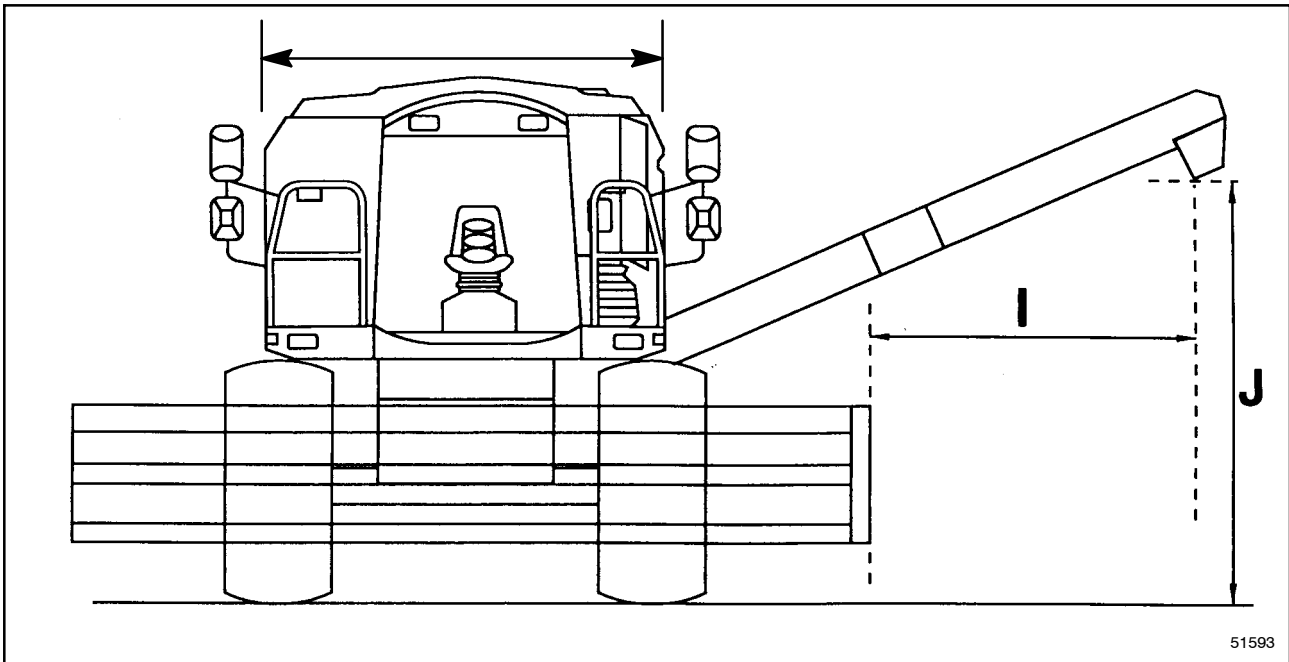
Tracks only

DIMENSIONS [m]



Traction tyres	A	B	C	D	E	F	G
TX62-63-64^{PLUS}							
620/75R26	3.87	0.47	0.725	2.52	3.435	2.22	3.175
620/75R30	3.93	0.53	0.725	2.52	3.435	2.22	3.175
650/75R32	3.98	0.58	0.725	2.52	3.435	2.22	3.175
800/65R32	3.98	0.58	0.725	2.52	3.435	2.22	3.175
VA73x44.00x32	3.99	0.59	0.725	2.52	3.435	2.22	3.175
TX65^{PLUS}							
650/75R32	3.98	0.58	0.725	2.52	3.435	2.22	3.175
800/65R32	3.98	0.58	0.725	2.52	3.435	2.22	3.175
VA73x44.00x32	3.99	0.59	0.725	2.52	3.435	2.22	3.175
TX66							
650/75R32	3.77	0.47	0.86	2.44	3.53	2.15	2.89
800/65R32	3.79	0.49	0.86	2.44	3.53	2.15	2.89
VA73x44.00x32	3.79	0.49	0.86	2.44	3.53	2.15	2.89
TX67							
650/75R32	3.98	0.60	0.89	2.45	3.53	2.20	3.13
800/65R32	3.99	0.61	0.89	2.45	3.53	2.20	3.13
620/75R34	3.97	0.59	0.89	2.45	3.53	2.20	3.13
VA73x44.00x32	3.99	0.61	0.89	2.45	3.53	2.20	3.13
TX68- 68^{PLUS}							
650/75R32	3.98	0.48	0.86	2.44	3.53	2.15	2.89
800/65R32	3.99	0.49	0.86	2.44	3.53	2.15	2.89
VA73x44.00x32	3.99	0.49	0.86	2.44	3.53	2.15	2.89

UNLOADING TUBE POSITION



1
DIMENSION I [m]

a) Grain headers

Header size	TX62 TX63	TX64 ^{PLUS} TX65 ^{PLUS}		TX66			TX67		TX68 TX68 ^{PLUS}		
	3.85 m	3.85 m	4.65 m	3.85 m	4.65 m	5.20 m	4.65 m	5.20 m	3.85 m	4.65 m	5.20 m
12ft	2.88										
13 ft	2.73	2.73	3.42								
15 ft	2.42	2.42	3.11								
17 ft	2.12	2.12	2.81	2.36	3.05	3.52	2.94	3.41	2.36	3.05	3.52
20 ft	1.66	1.66	2.35	1.90	2.59	3.06	2.48	2.95	1.90	2.59	3.06
24 ft				1.29	1.98	2.45	1.87	2.34	1.29	1.98	2.45
30 ft						1.54	0.96	1.43	0.38	1.07	1.54

b) Maize headers

Header size	TX62 TX63	TX64 ^{PLUS} TX65 ^{PLUS}		TX66			TX67		TX68 TX68 ^{PLUS}		
	3.85 m	3.85 m	4.65 m	3.85 m	4.65 m	5.20 m	4.65 m	5.20 m	3.85 m	4.65 m	5.20 m
5-row											
Row distance 700-750											
Row distance 750-800											
6-row											
Row distance 700-750											
Row distance 750-800											
6-row FU											
Row distance 700-750	2.69	2.69	3.38	2.93	3.62	4.09	3.51	3.98	2.93	3.62	4.09
Row distance 750-800	2.54	2.54	3.23	2.78	3.47	3.94	3.36	3.83	2.78	3.47	3.94
8-row FU											
Row distance 750-800	-	-	-				2.56	3.03	-	2.67	3.14

DIMENSIONS J [m]

Traction tyres	R (mm)	TX62 TX63	TX64 ^{PLUS} TX65 ^{PLUS}		TX66			TX67		TX68 TX68 ^{PLUS}		
		3.85 m	3.85 m	4.65 m	3.85 m	4.65 m	5.20 m	4.65 m	5.20 m	3.85 m	4.65 m	5.20 m
620/75R26	759	3.70	-	-	-	-	-	-	-	-	-	-
620/75R30	811	3.75	3.75	4.16	-	-	-	-	-	-	-	-
620/75R34	859	-	-	-	-	-	-	4.31	4.72	-	-	-
650/75R32	863	3.80	3.80	4.21	3.80	4.21	4.49	4.31	4.72	3.80	4.21	4.49
800/65R32-STR	863	3.80	3.80	4.21	3.80	4.21	4.49	4.31	4.72	3.80	4.21	4.49
800/65R32-DT820	881	3.82	3.82	4.23	3.82	4.23	4.51	-	-	3.82	4.23	4.51
VA73x44.00x32	883	3.82	3.82	4.23	3.82	4.23	4.51	4.33	4.74	3.82	4.23	4.51

COUNTERWEIGHTS

For some attachments counterweights are a legal requirement to ensure a safe road transport.

First weigh the combine with attachment (total weight), then weigh the combine only with the steering wheels standing on a weighbridge (rear weight).



CAUTION:

Do not use liquid weight (ballast) in wheels as this is not recommended and forbidden practice in some countries.

$$\frac{\text{rear weight}}{\text{total weight}} \times 100 \geq 20 \%$$

A general rule is to have 20% of the total weight of the combine (with empty grain tank) on the rear axle to ensure a safe road transport of the combine. This can easily be checked on a weighbridge:

Available [as accessory]:

- Frame counterweights (to be attached to the rear frame): 34 kg/element
- Steering wheel counterweights (to be installed on the steering wheel rim): 50 kg/element

ATTACHMENTS	STRAW CHOPPER		TX62/64/65		TX66		TX68	
	YES	NO	YES	NO	YES	NO	YES	NO
Grain header								
17 ft	0	0	0	0	0	0	0	0
24 ft	-	-	0	0	0	0	0	0
Foldable (*)	(1)	(2)	0	-	0	-	0	-
Maize header								
6-row (up to 2250 kg)	0	(1)	0	-	0	-	0	-
6/8-row (*) (2000 to maximum 2750 kg)	(2)	(2)	(2)	(2)	(2)	(2)	(4)	(2)

(*) = Not offered

0 = No counterweights required

- = Not applicable

(1) = 14 frame counterweights + 6 steering wheel counterweights required

(2) = Not allowed!

(3) = 6 frame counterweights + 6 steering wheel counterweights required

(4) = 8 frame counterweights or 6 steering wheel weights

TECHNICAL DATA

	TX62	TX63	TX64 ^{PLUS}	TX65 ^{PLUS}	TX66	TX67	TX68	TX68 ^{PLUS}
HEADER								
Grain header								
Cutting width	12-13-15-17-20 ft	12-13-15-17-20 ft	13-15-17-20 ft	13-15-17-20 ft	17-20-24-30 ft	17-20-24-30 ft	17-20-24-30 ft	17-20-24-30 ft
Cutting height	0 to 1460 mm	0 to 1460 mm	0 to 1460 mm	0 to 1460 mm	0 to 1460 mm	0 to 1460 mm	0 to 1460 mm	0 to 1460 mm
Maize header								
Number of rows	5R - 6R - 6F	5R - 6R - 6F	5R - 6R - 6F	5R - 6R - 6F-8F	5R - 6R - 6F-8F	5R - 6R - 6F-8F	5R - 6R - 6F-8F	5R - 6R - 6F-8F
Flex header								
	15-19 ft	15-19 ft	15-19 ft	15-19 ft	19 ft	-	19 ft	19 ft
STRAW ELEVATOR								
Number of chains	3	3	3	3	4	4	4	4
Number of slats	38	38	38	38	57	57	57	57
Protection	Spring-loaded slip clutch	Spring-loaded slip clutch	Spring-loaded slip clutch	Spring-loaded slip clutch	Spring-loaded slip clutch	Spring-loaded slip clutch	Spring-loaded slip clutch	Spring-loaded slip clutch

SPECIFICATION

	TX62	TX63	TX64^{PLUS}	TX65^{PLUS}	TX66	TX67	TX68	TX68^{PLUS}
Speed	158 m/min	158 m/min	158 m/min	158 m/min	158 m/min	158 m/min	158 m/min	158 m/min
Straw elevator drive	2HB (optional 3HB for maize)	2HB (optional 3HB for maize)	2HB (optional 3HB for maize)	2HB (optional 3HB for maize)	2HB (optional 3HB for maize)	2HB (optional 3HB for maize)	2HB (optional 3HB for maize)	2HB (optional 3HB for maize)
Header drive	1HC (optional 4HB for maize)	1HC (optional 4HB for maize)	1HC (optional 4HB for maize)	1HC (optional 4HB for maize)	1HC (optional 4HB for maize)	1HC (optional 4HB for maize)	1HC (optional 4HB for maize)	1HC (optional 4HB for maize)
Number of lift cylinders	2 (3 with maize header with in- tegrated stalk chopper)	2 (3 with maize header with in- tegrated stalk chopper)	2 (3 with maize header with in- tegrated stalk chopper)	2 (3 with maize header with in- tegrated stalk chopper)	2 (3 with maize header with in- tegrated stalk chopper)	2 (3 with maize header with in- tegrated stalk chopper)	2 (3 with maize header with in- tegrated stalk chopper)	2 (3 with maize header with in- tegrated stalk chopper)
STONE TRAP								
Type	Pivotable	Pivotable	Pivotable	Pivotable	Pivotable	Pivotable	Pivotable	Pivotable
Intermediate shaft speed	800 +20 rpm -10	800 +20 rpm -10	800 +20 rpm -10	800 +20 rpm -10	800 +20 rpm -10	800 +20 rpm -10	800 +20 rpm -10	800 +20 rpm -10
THRESHING DRUM								
Standard threshing drum								
Diameter	606 mm	606 mm	606 mm	606 mm	606 mm	606 mm	606 mm	606 mm
Width	1300 mm	1300 mm	1300 mm	1300 mm	1560 mm	1560 mm	1560 mm	1560 mm
Number of rub bars	8	8	8	8	8	8	8	8

	TX62	TX63	TX64 ^{PLUS}	TX65 ^{PLUS}	TX66	TX67	TX68	TX68 ^{PLUS}
Universal threshing drum (with rasp bars)								
Diameter	606 mm	606 mm	606 mm	606 mm	606 mm	606 mm	606 mm	606 mm
Width	1300 mm	1300 mm	1300 mm	1300 mm	1560 mm	1560 mm	1560 mm	1560 mm
Number of bars	8	8	8	8	8	8	8	8
Universal drum (with peg teeth)								
Diameter	603 mm	603 mm	603 mm	603 mm	603 mm	603 mm	603 mm	603 mm
Width	1294 mm	1294 mm	1294 mm	1294 mm	1560 mm	1560 mm	1560 mm	1560 mm
Number of bars	8	8	8	8	8	8	8	8
Tooth spacing	56 or 84 mm	56 or 84 mm	56 or 84 mm	56 or 84 mm	56 or 84 mm	56 or 84 mm	56 or 84 mm	56 or 84 mm
Number of teeth:								
- 56 mm spacing	4 x 22 or 4 x 23	4 x 22 or 4 x 23	4 x 22 or 4 x 23	4 x 22 or 4 x 23	8 x 27	8 x 27	8 x 27	8 x 27
- 84 mm spacing	8 x 15	8 x 15	8 x 15	8 x 15	8 x 18	8 x 18	8 x 18	8 x 18

SPECIFICATION

	TX62	TX63	TX64PLUS	TX65PLUS	TX66	TX67	TX68	TX68PLUS
Threshing drum speed								
Speed range:								
- Standard	385 to 1140 rpm	385 to 1140 rpm	385 to 1140 rpm	385 to 1140 rpm	385 to 1140 rpm	385 to 1140 rpm	385 to 1140 rpm	385 to 1140 rpm
- With speed reducer	190 to 560 rpm	190 to 560 rpm	190 to 560 rpm	190 to 560 rpm	190 to 560 rpm	190 to 560 rpm	190 to 560 rpm	190 to 560 rpm
Speed read-out	On InfoView monitor	On InfoView monitor	On InfoView monitor	On InfoView monitor	On InfoView monitor	On InfoView monitor	On InfoView monitor	On InfoView monitor
Drive	Variator belt from the intermediate shaft	Variator belt from the intermediate shaft	Variator belt from the intermediate shaft	Variator belt from the intermediate shaft	Variator belt from the intermediate shaft	Variator belt from the intermediate shaft	Variator belt from the intermediate shaft	Variator belt from the intermediate shaft
DRUM CONCAVE								
Width	1317 mm	1317 mm	1317 mm	1317 mm	1577 mm	1577 mm	1577 mm	1577 mm
Setting	Mechanical: 12 positions	Mechanical: 12 positions	Electrical: Read-out on InfoView monitor	Electrical: Read-out on InfoView monitor	Electrical: Read-out on InfoView monitor	Electrical: Read-out on InfoView monitor	Electrical: Read-out on InfoView monitor	Electrical: Read-out on InfoView monitor
Fine adjustments	At suspension points	At suspension points	At suspension points	At suspension points	At suspension points	At suspension points	At suspension points	At suspension points
De-awning plates	2 (fitted to concave) - adjustment from the outside	2 (fitted to concave) - adjustment from the outside	2 (fitted to concave) - adjustment from the outside	2 (fitted to concave) - adjustment from the outside	2 (fitted to concave) - adjustment from the outside	2 (fitted to concave) - adjustment from the outside	2 (fitted to concave) - adjustment from the outside	2 (fitted to concave) - adjustment from the outside

	TX62	TX63	TX64 ^{PLUS}	TX65 ^{PLUS}	TX66	TX67	TX68	TX68 ^{PLUS}
Standard concave (cold climate)								
Wrap angle	101°	101°	101°	101°	101°	101°	101°	101°
Concave area	0.72 m ²	0.72 m ²	0.72 m ²	0.72 m ²	0.86 m ²	0.86 m ²	0.86 m ²	0.86 m ²
Number of bars	13	13	13	13	13	13	13	13
Distance between wires (centre to centre)	14 mm	14 mm	14 mm	14 mm	14 mm	14 mm	14 mm	14 mm
Wire diameter	3.5 mm	3.5 mm	3.5 mm	3.5 mm	3.5 mm	3.5 mm	3.5 mm	3.5 mm
Maize concave								
Wrap angle	101°	101°	101°	101°	101°	101°	101°	101°
Concave area	0.72 m ²	0.72 m ²	0.72 m ²	0.72 m ²	0.86 m ²	0.86 m ²	0.86 m ²	0.86 m ²
Number of bars	9	9	9	9	9	9	9	9
Distance between wires (centre to centre)	26 mm	26 mm	26 mm	26 mm	26 mm	26 mm	26 mm	26 mm
Wire diameter	6 mm	6 mm	6 mm	6 mm	6 mm	6 mm	6 mm	6 mm
Rice concave								
Wrap angle	101°	101°	101°	101°	101°	101°	101°	101°
Number of bars	3	3	3	3	3	3	3	3
Number of teeth: - 56 mm spacing - 84 mm spacing	66 43	66 43	66 43	66 43	80 52	80 52	80 52	80 52

SPECIFICATION

	TX62	TX63	TX64PLUS	TX65PLUS	TX66	TX67	TX68	TX68PLUS
BEATER								
Drive	1 HC belt from drum shaft	1 HC belt from drum shaft	1 HC belt from drum shaft	1 HC belt from drum shaft	1 HC belt from drum shaft	1 HC belt from drum shaft	1 HC belt from drum shaft	1 HC belt from drum shaft
Speed	2/3 of drum speed 1300 mm	2/3 of drum speed 1300 mm	2/3 of drum speed 1300 mm	2/3 of drum speed 1300 mm	2/3 of drum speed 1560 mm	2/3 of drum speed 1560 mm	2/3 of drum speed 1560 mm	2/3 of drum speed 1560 mm
Width	608 mm	608 mm	608 mm	608 mm	608 mm	608 mm	608 mm	608 mm
Diameter								
Beater concave								
Width	1317 mm	1317 mm	1317 mm	1317 mm	1577 mm	1577 mm	1577 mm	1577 mm
Concave area	0.5 m ²	0.5 m ²	0.5 m ²	0.5 m ²	0.6 m ²	0.6 m ²	0.6 m ²	0.6 m ²
Number of bars	9	9	9	9	9	9	9	9
Distance between wires (centre to centre)	Cereals/maize: 32 mm Rice: 65 mm	Cereals/maize: 32 mm Rice: 65 mm	Cereals/maize: 32 mm Rice: 65 mm	Cereals/maize: 32 mm Rice: 65 mm	Cereals/maize: 32 mm Rice: 65 mm	Cereals/maize: 32 mm Rice: 65 mm	Cereals/maize: 32 mm Rice: 65 mm	Cereals/maize: 32 mm Rice: 65 mm
Wire diameter	6 mm	6 mm	6 mm	6 mm	6 mm	6 mm	6 mm	6 mm
Beater drum-to-concave clearance								
2nd bar: Closed	24 mm	24 mm	24 mm	24 mm	24 mm	24 mm	24 mm	24 mm
Open	38 mm	38 mm	38 mm	38 mm	38 mm	38 mm	38 mm	38 mm
8th bar: Closed	24 mm	24 mm	24 mm	24 mm	24 mm	24 mm	24 mm	24 mm
Open	78 mm	78 mm	78 mm	78 mm	78 mm	78 mm	78 mm	78 mm

	TX62	TX63	TX64 ^{PLUS}	TX65 ^{PLUS}	TX66	TX67	TX68	TX68 ^{PLUS}
ROTARY SEPARATOR								
Number of teeth	10 x 7	10 x 7	10 x 7	10 x 7	5 x 8 and 5 x 9	5 x 8 and 5 x 9	5 x 8 and 5 x 9	5 x 8 and 5 x 9
Width	1300 mm	1300 mm	1300 mm	1300 mm	1560 mm	1560 mm	1560 mm	1560 mm
Diameter	605 mm	605 mm	605 mm	605 mm	605 mm	605 mm	605 mm	605 mm
Speed	760 or 400 rpm	760 or 400 rpm	760 or 400 rpm	760 or 400 rpm	760 or 400 rpm	760 or 400 rpm	760 or 400 rpm	760 or 400 rpm
Drive	1 HC belt over intermediate shaft	1 HC belt over intermediate shaft	1 HC belt over intermediate shaft	1 HC belt over intermediate shaft	1 HC belt over intermediate shaft	1 HC belt over intermediate shaft	1 HC belt over intermediate shaft	1 HC belt over intermediate shaft
Rotary separator concave								
Wrap angle	88° + 151 mm	88° + 151 mm	88° + 151 mm	88° + 151 mm	88° + 151 mm	88° + 151 mm	88° + 151 mm	88° + 151 mm
Width	1317 mm	1317 mm	1317 mm	1317 mm	1577 mm	1577 mm	1577 mm	1577 mm
Concave area	0.66 m ²	0.66 m ²	0.66 m ²	0.66 m ²	0.79 m ²	0.79 m ²	0.79 m ²	0.79 m ²
Number of bars	12	12	12	12	12	12	12	12
Distance between wires (centre to centre)	32 mm	32 mm	32 mm	32 mm	32 mm	32 mm	32 mm	32 mm
Wire diameter	6 mm	6 mm	6 mm	6 mm	6 mm	6 mm	6 mm	6 mm
Rotary separator drum-to-concave clearance								
2nd bar: Closed	22 mm	22 mm	22 mm	22 mm	22 mm	22 mm	22 mm	22 mm
Open	60 mm	60 mm	60 mm	60 mm	60 mm	60 mm	60 mm	60 mm
10th bar: Closed	32 mm	32 mm	32 mm	32 mm	32 mm	32 mm	32 mm	32 mm
Open	60 mm	60 mm	60 mm	60 mm	60 mm	60 mm	60 mm	60 mm

SPECIFICATION

	TX62	TX63	TX64^{PLUS}	TX65^{PLUS}	TX66	TX67	TX68	TX68^{PLUS}
“STRAW FLOW” BEATER [accessory]								
Width	1300 mm	1300 mm	1300 mm	1300 mm	1560 mm	1560 mm	1560 mm	1560 mm
Diameter	315 mm	315 mm	315 mm	315 mm	315 mm	315 mm	315 mm	315 mm
Speed	760 or 400 rpm	760 or 400 rpm	760 or 400 rpm	760 or 400 rpm	760 or 400 rpm	760 or 400 rpm	760 or 400 rpm	760 or 400 rpm
Drive	1 HB belt over rotary separator shaft	1 HB belt over rotary separator shaft	1 HB belt over rotary separator shaft	1 HB belt over rotary separator shaft	1 HB belt over rotary separator shaft	1 HB belt over rotary separator shaft	1 HB belt over rotary separator shaft	1 HB belt over rotary separator shaft
STRAW WALKERS								
Number	5	5	5	5	6	6	6	6
Number of steps	5	5	5	5	5	5	5	5
Length	3226 mm	3226 mm	3226 mm	3226 mm	3226 mm	3226 mm	3226 mm	3226 mm
Separation area	4.36 m ²	4.36 m ²	4.36 m ²	4.36 m ²	5.23 m ²	5.23 m ²	5.23 m ²	5.23 m ²
Speed	220 rpm	220 rpm	220 rpm	220 rpm	220 rpm	220 rpm	220 rpm	220 rpm

	TX62	TX63	TX64PLUS	TX65PLUS	TX66	TX67	TX68	TX68PLUS
CLEANING SHOE								
Type	Self-levelling or fixed	Self-levelling or fixed	Self-levelling or fixed	Self-levelling or fixed	Self-levelling or fixed	Self-levelling or fixed	Self-levelling or fixed	Self-levelling or fixed
Cleaning shoe drive speed	600 rpm	600 rpm	600 rpm	600 rpm	600 rpm	600 rpm	600 rpm	600 rpm
Eccentric shaft speed	320 rpm	320 rpm	320 rpm	320 rpm	320 rpm	320 rpm	320 rpm	320 rpm
Drive:								
- Self levelling	Intermediate shaft - 1 HC belt - gearboxes - U-joint - gearbox - eccentric shaft	Intermediate shaft - 1 HC belt - gearboxes - U-joint - gearbox - eccentric shaft	Intermediate shaft - 1 HC belt - gearboxes - U-joint - gearbox - eccentric shaft	Intermediate shaft - 1 HC belt - gearboxes - U-joint - gearbox - eccentric shaft	Intermediate shaft - 1 HC belt - gearboxes - U-joint - gearbox - eccentric shaft	Intermediate shaft - 1 HC belt - gearboxes - U-joint - gearbox - eccentric shaft	Intermediate shaft - 1 HC belt - gearboxes - U-joint - gearbox - eccentric shaft	Intermediate shaft - 1 HC belt - gearboxes - U-joint - gearbox - eccentric shaft
- Fixed	Intermediate shaft - 1 HC belt (2X) - eccentric shaft	Intermediate shaft - 1 HC belt (2X) - eccentric shaft	Intermediate shaft - 1 HC belt (2X) - eccentric shaft	Intermediate shaft - 1 HC belt (2X) - eccentric shaft	Intermediate shaft - 1 HC belt (2X) - eccentric shaft	Intermediate shaft - 1 HC belt (2X) - eccentric shaft	Intermediate shaft - 1 HC belt (2X) - eccentric shaft	Intermediate shaft - 1 HC belt (2X) - eccentric shaft
Upper shaker shoe								
Horizontal stroke	45 mm	45 mm	45 mm	45 mm	45 mm	45 mm	45 mm	45 mm
Throwing angle:								
- Front	27°	27°	27°	27°	27°	27°	27°	27°
- Rear	27°	27°	27°	27°	27°	27°	27°	27°
Grain pan width	1320 mm	1320 mm	1320 mm	1320 mm	1580 mm	1580 mm	1580 mm	1580 mm

SPECIFICATION

	TX62	TX63	TX64PLUS	TX65PLUS	TX66	TX67	TX68	TX68PLUS
Grain pan length	1598 mm	1598 mm	1598 mm	1598 mm	1601 mm	1601 mm	1601 mm	1601 mm
Grain pan rake surface	0.211 m ²	0.211 m ²	0.211 m ²	0.211 m ²	0.253 m ²	0.253 m ²	0.253 m ²	0.253 m ²
Presieve width	1320 mm	1320 mm	1320 mm	1320 mm	1580 mm	1580 mm	1580 mm	1580 mm
Presieve length	901 mm	901 mm	901 mm	901 mm	901 mm	901 mm	901 mm	901 mm
Presieve area	1.190 m ²	1.190 m ²	1.190 m ²	1.190 m ²	1.424 m ²	1.424 m ²	1.424 m ²	1.424 m ²
Presieve openings	3 - 6 - 9 - 12	3 - 6 - 9 - 12	3 - 6 - 9 - 12	3 - 6 - 9 - 12	3 - 6 - 9 - 12	3 - 6 - 9 - 12	3 - 6 - 9 - 12	3 - 6 - 9 - 12
Upper sieve width	1320 mm	1320 mm	1320 mm	1320 mm	1580 mm	1580 mm	1580 mm	1580 mm
Upper sieve length	1445 mm	1445 mm	1445 mm	1445 mm	1445 mm	1445 mm	1445 mm	1445 mm
Upper sieve area	1.908 m ²	1.908 m ²	1.908 m ²	1.908 m ²	2.284 m ²	2.284 m ²	2.284 m ²	2.284 m ²
Upper sieve positions	2	2	2	2	2	2	2	2
Upper sieve grate surface	0.198 m ²	0.198 m ²	0.198 m ²	0.198 m ²	0.237 m ²	0.237 m ²	0.237 m ²	0.237 m ²
Upper sieve Graepel surface	0.211 m ²	0.211 m ²	0.211 m ²	0.211 m ²	0.253 m ²	0.253 m ²	0.253 m ²	0.253 m ²
Lower shaker shoe								
Horizontal stroke	40 mm	40 mm	40 mm	40 mm	40 mm	40 mm	40 mm	40 mm
Throwing angle	15°	15°	15°	15°	15°	15°	15°	15°
Lower sieve length	1445 mm	1445 mm	1445 mm	1445 mm	1445 mm	1445 mm	1445 mm	1445 mm
Lower sieve width	1320 mm	1320 mm	1320 mm	1320 mm	1580 mm	1580 mm	1580 mm	1580 mm

	TX62	TX63	TX64 ^{PLUS}	TX65 ^{PLUS}	TX66	TX67	TX68	TX68 ^{PLUS}
Lower sieve area	1.908 m ²	1.908 m ²	1.908 m ²	1.908 m ²	2.284 m ²	2.284 m ²	2.284 m ²	2.284 m ²
Lower sieve positions	2	2	2	2	2	2	2	2
Total sieve area under wind control	5.4 m ²	5.4 m ²	5.4 m ²	5.4 m ²	6.5 m ²	6.5 m ²	6.5 m ²	6.5 m ²
CLEANING FAN								
Speed range								
- Standard	From 480 to 950 rpm	From 480 to 950 rpm	From 480 to 950 rpm	From 480 to 950 rpm	From 480 to 950 rpm	From 480 to 950 rpm	From 480 to 950 rpm	From 480 to 950 rpm
- Slowdown kit	From 260 to 540 rpm	From 260 to 540 rpm	From 260 to 540 rpm	From 260 to 540 rpm	From 260 to 540 rpm	From 260 to 540 rpm	From 260 to 540 rpm	From 260 to 540 rpm
Drive	Variator belt over eccentric shaft	Variator belt over eccentric shaft	Variator belt over eccentric shaft	Variator belt over eccentric shaft	Variator belt over eccentric shaft	Variator belt over eccentric shaft	Variator belt over eccentric shaft	Variator belt over eccentric shaft
Number of blades	6	6	6	6	6	6	6	6
RETURNS SYSTEM								
Type	Cross auger and roto-threshers	Cross auger and roto-threshers	Cross auger and roto-threshers	Cross auger and roto-threshers	Cross auger and roto-threshers	Cross auger and roto-threshers	Cross auger and roto-threshers	Cross auger and roto-threshers
Cross auger and roto-thresher speed	Single left 800 rpm	Single left 800 rpm	Single left 800 rpm	Single left 800 rpm	Double 800 rpm	Double 800 rpm	Double 800 rpm	Double 800 rpm
Returns auger speed	600	600	600	600	600	600	600	600

SPECIFICATION

	TX62	TX63	TX64^{PLUS}	TX65^{PLUS}	TX66	TX67	TX68	TX68^{PLUS}
Number of teeth on roto-thresher	12	12	12	12	2 x 12	2 x 12	2 x 12	2 x 12
Number of teeth on cover	11	11	11	11	2 x 11	2 x 11	2 x 11	2 x 11
GRAIN TRANSPORT								
Type	Grain elevator and central filling auger	Grain elevator and central filling auger	Grain elevator and central filling auger	Grain elevator and central filling auger	Grain elevator and central filling auger	Grain elevator and central filling auger	Grain elevator and central filling auger	Grain elevator and central filling auger
Drive	1 HB belt over intermediate shaft	1 HB belt over intermediate shaft	1 HB belt over intermediate shaft	1 HB belt over intermediate shaft	1 HB belt over intermediate shaft	1 HB belt over intermediate shaft	1 HB belt over intermediate shaft	1 HB belt over intermediate shaft
Grain elevator top shaft speed:	376 rpm	376 rpm	376 rpm	376 rpm	376 rpm	376 rpm	376 rpm	376 rpm
- Standard	451 rpm	451 rpm	451 rpm	451 rpm	451 rpm	451 rpm	451 rpm	451 rpm
- Accessory								
GRAIN TANK								
Capacity	7200 litres	7200 litres	7200 litres	8000 litres	8000 litres	8500 litres	9500 litres	9500 litres

	TX62	TX63	TX64 ^{PLUS}	TX65 ^{PLUS}	TX66	TX67	TX68	TX68 ^{PLUS}
UNLOADING SYSTEM								
Drive	2 HB belt and chain with shearbolt protection	2 HB belt and chain with shearbolt protection	2 HB belt and chain with shearbolt protection	2 HB belt and chain with shearbolt protection	2 HB belt and chain with shearbolt protection	2 HB belt and chain with shearbolt protection	2 HB belt and chain with shearbolt protection	2 HB belt and chain with shearbolt protection
Unloading tube length	3.85 m	3.85 m	3.85 m	3.85 m	3.85 m	4.65 m	3.85 m	3.85 m
Unloading capacity	72 litres/s	72 litres/s	72 litres/s	72 litres/s	72 litres/s	72 litres/s	72 litres/s	72 litres/s
HYDRAULIC SYSTEM								
Reservoir capacity	20.5 litres	20.5 litres	20.5 litres	20.5 litres	20.5 litres	20.5 litres	20.5 litres	20.5 litres
Pump capacity (dual)	19 + 8 cc/rev (at 2564 rpm)	19 + 8 cc/rev (at 2564 rpm)	19 + 8 cc/rev (at 2564 rpm)	19 + 8 cc/rev (at 2564 rpm)	19 + 8 cc/rev (at 2564 rpm)	19 + 8 cc/rev (at 2564 rpm)	19 + 8 cc/rev (at 2564 rpm)	19 + 8 cc/rev (at 2564 rpm)
Maximum pressure	160 bar	160 bar	160 bar	160 bar	160 bar	160 bar	160 bar	160 bar
Steering valve								
- Type	OSPC 160	OSPC 160	OSPC 160	OSPC 160	OSPC 160	OSPC 160	OSPC 160	OSPC 160
- Maximum pressure	100 bar	100 bar	100 bar	100 bar	100 bar	100 bar	140 bar	140 bar
- Shock valve setting	150 bar	150 bar	150 bar	150 bar	150 bar	150 bar	200 bar	200 bar
HYDROSTATIC SYSTEM								
Pump capacity	130 cc/rev	130 cc/rev	130 cc/rev	130 cc/rev	130 cc/rev	130 cc/rev	130 cc/rev	130 cc/rev
Motor capacity	100 cc	100 cc	100 cc	100 cc	100 cc	100 cc	100 cc	100 cc

SPECIFICATION

	TX62	TX63	TX64^{PLUS}	TX65^{PLUS}	TX66	TX67	TX68	TX68^{PLUS}
ENGINE								
Type	NH 675TA/VR	NH 675TA/VJ	NH 675TA/VK	NH 675TA/VP	NH 675TA/VN/1	NH 675TA/VN/1	NH 675TA/VY	IVECO AIFO 8460 SRI20.00.A.001
High idle engine rpm	2200	2200	2200	2200	2200	2200	2200	2200
Gross power (ISO TR14396)	154kW/206hp	168kW/225hp	183kW/246hp	195kW/261hp	202kW/271hp	202kW/271hp	213kW/286hp	243kW/326hp
Cylinder capacity	7500 cc	7500 cc	7500 cc	7500 cc	7500 cc	7500 cc	7500 cc	9500 cc
Bore	112 mm	112 mm	112 mm	112 mm	112 mm	112 mm	112 mm	120 mm
Stroke	127 mm	127 mm	127 mm	127 mm	127 mm	127 mm	127 mm	140 mm
Crankcase capacity without filter(s)	21 litres	21 litres	21 litres	21 litres	21 litres	21 litres	21 litres	21 litres
Oil filter capacity	1 x 2 litres	1 x 2 litres	1 x 2 litres	1 x 2 litres	1 x 2 litres	1 x 2 litres	2 x 1.5 litres	2 x 1.5 litres
Battery	2 x 12V - 92 Ah	2 x 12V - 92 Ah	2 x 12V - 92 Ah	2 x 12V - 92 Ah	2 x 12V - 92 Ah	2 x 12V - 92 Ah	2 x 12V - 92 Ah	2 x 12V - 92 Ah
Starter motor	12 V - 4.5 kW (Delco Rémy)	12 V - 4.5 kW (Delco Rémy)	12 V - 4.5 kW (Delco Rémy)	12 V - 4.5 kW (Delco Rémy)	12 V - 4.5 kW (Delco Rémy)	12 V - 4.5 kW (Delco Rémy)	24V - 5.4 kW (Bosch)	24V - 5.4 kW (Bosch)
Alternator	130 Ah	130 Ah	130 Ah	130 Ah	130 Ah	130 Ah	130 Ah	130 Ah
Fuel tank	450 litres	450 litres	450 litres	600 litres	600 litres	600 litres	600 litres	600 litres

	TX62	TX63	TX64PLUS	TX65PLUS	TX66	TX67	TX68	TX68PLUS
TRACTION								
Gears	4	4	4	4	4	4	4	4
Ground speed (km/h)								
- 1st gear (forw./rev.)	3.4/1.7	3.4/1.7	3.4/1.7	3.2/1.6	3.4/1.7	2.7/1.4	2.7/1.4	2.7/1.4
- 2nd gear (forw./rev.)	7.4/3.7	7.4/3.7	7.4/3.7	6.9/3.4	7.4/3.7	6.3/3.2	6.3/3.2	6.3/3.2
- 3rd gear (forw./rev.)	13.4/6.7	13.4/6.7	13.4/6.7	12.6/6.3	13.4/6.7	11.4/5.7	11.4/5.7	11.4/5.7
- 4th gear (forw./rev.)	25/12.5	25/12.5	25/12.5	25/12.5	25/12.5	25/12.5	25/12.5	25/12.5
Oil capacity	15 litres	15 litres	15 litres	15 litres	15 litres	15 litres	15 litres	15 litres
Differential ratio	10/52	10/52	10/52	11/50	11/50	11/50	11/50	11/50
Final drive:								
- Ratio	10/75	10/75	10/75	12/110	11/111	11/111	11/111	11/111
- Oil capacity/gearbox	5 litres	5 litres	5 litres	6 litres	6 litres	6 litres	6 litres	6 litres
		All countries, exc. Germany: max. 20 km/h	All countries, exc. Germany: max. 20 km/h	All countries, exc. Germany: max. 20 km/h	All countries, exc. Germany: max. 20 km/h	All countries, exc. Germany: max. 20 km/h	All countries, exc. Germany: max. 20 km/h	All countries, exc. Germany: max. 20 km/h

SPECIFICATION

	TX62	TX63	TX64PLUS	TX65PLUS	TX66	TX67	TX68	TX68PLUS
STEERING AXLE								
Type	Fixed Adjustable H.D.A.S.A. (1) P.R.A. (2)	Fixed Adjustable H.D.A.S.A. (1) P.R.A. (2)	Fixed Adjustable H.D.A.S.A. (1) P.R.A. (2)	Fixed Adjustable H.D.A.S.A. (1) P.R.A. (2)	Adjustable H.D.A.S.A. (1) P.R.A. (2)	Fixed H.D.A.S.A. (1) P.R.A. (2)	Fixed H.D.A.S.A. (1) P.R.A. (2)	Fixed H.D.A.S.A. (1) P.R.A. (2)
WEIGHT (Standard configuration, empty grain tank)								
Self-levelling cleaning shoe	9750 kg	9750 kg	9800 kg	9800 kg	11160 kg	11160 kg	11980 kg	11980 kg
Fixed cleaning shoe	9400 kg	9400 kg	9450 kg	9450 kg	11130 kg	11130 kg	11950 kg	11950 kg

(1) Heavy-duty adjustable steering axle

(2) Powered rear axle

SECTION 10

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FUSES

The two following decals explain the use and amperage of each fuse.

Please cut out both decals and adhere them to the inner side of the access door to the electric box on each side of the print containing the fuses.

This will facilitate troubleshooting.

Fuse	Amp.	Function	Fuse	Amp.	Function
F1	15A	Brush in rotary screen [if installed]	F13	10A	Air conditioning compressor clutch
F2	25A	Light switch Sockets, left and right-hand side	F14	25A	Air conditioning fan
F3	15A	Flashing warning lights	F15	25A	Socket-vertical knife, right-hand side
F4	10A	Socket on straw hood, right-hand side	F16	25A	Socket-vertical knife, left-hand side
F5	15A	Parking lights, right-hand side	F17	15A	Dipped headlights
F6	15A	Parking light, left-hand side	F18	15A	Headlights
F7	-	-	F19	10A	Header height control
F8	15A	Operating lights on railing (outer side of light)/ operating lights on cab	F20	25A	Stubble light + side light
F9	25A	Wiper, mirrors	F21	15A	Operating lights on railing (inner side of lights) + light in grain tank
F10	10A	Direction indicator lights	F22	10A	Light on unloading tube
F11	15A	Stop lights - Horn	F23	15A	Plugs, Radio, CB, Clock, Light in cab
F12	10A	Relay: - Operating lights on railing (inner side of light) - Light in grain tank - Stubble lights + side lights/ operating light on unloading tube	F24	10A	Threshing mechanism Central process unit Header height adjustment

Fuse	Amp.	Function	Fuse	Amp.	Function
F25	10A	Levelling system	F34	10A 25A	Engagement of threshing, unloading and header mechanism (models TX64 to TX68 ^{PLUS}) Reversing mechanism actuator (Model TX62)
F26	25A	Drum variator Fan variator Spread plates on straw chopper	F35	25A	Straw chopper clutch Reversing mechanism actuator (not for model TX62) Manual lateral float Header height control module Reel horizontal control
F27	10A	Central process unit	F36	10A	Relay to unloading and header mechanism Reel vertical movement switch Reel variator Engine kill stop
F28	25A	Powered rear axle Throttle mechanism Parking brake Reel synchronization	F37	10A	Ignition switch
F29	10A	Valves for: - Opening unloading auger - Reel lift - Pilot valve	F38	-	-
F30	10A	InfoView monitor display Lighting of dashboard switches	F39	-	-
F31	15A	Engine protection Hydrostatic control Led indicators on dashboard Remote gearshift printed circuit, remote parking brake and quick stop	F40	-	-
F32	25A	Reel variator motor	F41	40A	Automatic fuse for levelling system
F33	15A	Traffic warning lights			

LUBRICATION SCHEDULE

Your dealer sells a selection of new brand AMBRA lubricants for NEW HOLLAND product lines based on their own engineering specifications.

For this combine we recommend:

Item	Amount/ unit (litres)	NEW HOLLAND brand name	NEW HOLLAND specification	Lubricant grade	International specification
Grease nipples	-	AMBRA GR9	NH710A	NLGI 2	-
	-	or AMBRA GR75MD	or NH720A	NLGI 2	-
Traction gearbox	15	AMBRA HYPOIDE 90	NH520A	SAE 80W90	API GL5, MIL-L 2105D
Final drive gearboxes	TX62-63-64 ^{PLUS} -66: 5 litres	AMBRA HYPOIDE 90	NH520A	SAE 80W90	API GL5, MIL-L 2105D
	TX65 ^{PLUS} -67-68-68 ^{PLUS} : 6 litres				
Engine (sump without filter)	TX62 to 67: 21-23 litres	AMBRA PREMIUM MULTIGRADE	NH330B	SAE 15W40	API CD/SF MIL-L 2104D
	TX68-68 ^{PLUS} : 15-20 litres	AMBRA SUPER GOLD MULTIGRADE	NH330G	SAE 15W40	API CF-4/SG, CCMC D4, MIL-L 2104E
Chains Threaded rods Pivot points	-	AMBRA HYPOIDE 90	NH520A	SAE 80W90	API GL5, MIL-L 2105D
Brake system	0.5 (reservoir) 2 (system)	AMBRA SYNTFLUID 4	NH800A	-	NHTSA 116-DOT 4, ISO 4925
Hydraulic system (oil + filters)	20	AMBRA HYDRO-SYSTEM 46	NH646 NH646BS NH646BV	HV 46	DIN 51524 Part 2, ISO VG 46
Hydrostatic system (oil + filters)	18	AMBRA HYDRO-SYSTEM 46	NH646 NH646BS NH646BV	HV 46	DIN 51524 Part 2, ISO VG 46
Tracks (track rollers and guide wheels)	0.35/roller 0.35/wheel	AMBRA UNIVERSAL	NH024C	SAE 10W-30	API CE, MIL-L 2104E, MIL-L 2105, CCMC D4, API GL4
Drum speed reducer	0.15	AMBRA GR9 or AMBRA GR75MD	NH710A or NH720A	NLGI 2 NLGI 2	- -
	0.8	AMBRA HYPOIDE 90	NH520A	SAE 80W90	API GL5, MIL-L 2105D
Antifreeze	47.5 %	AGRIFLU	NH900A	-	-



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