

**JX60, JX70, JX80
JX90, JX95
Tractors**

Operator's Manual



AllTractorManuals.com

Mod 6-62550

CASE 

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JX90, JX95
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CAUTION



THIS WARNING SYMBOL POINTS OUT IMPORTANT MESSAGES CONCERNING YOUR SAFETY. READ THE FOLLOWING SAFETY REGULATIONS CAREFULLY AND FOLLOW THE RECOMMENDATIONS IN ORDER TO AVOID POTENTIAL HAZARDS AND SERIOUS OR FATAL ACCIDENTS. SAFEGUARD YOUR HEALTH AND SAFETY AND THAT OF OTHERS BY ALWAYS TAKING THE UTMOST CARE.

In this Manual and on the decals attached to the tractor, the symbol is accompanied by the following key-words:

I CAUTION – When the warning is to prevent potential damage to the machine, which could also put the operator's safety at risk.

I DANGER – This warning specifically indicates a potential danger to the user or to any other person directly involved.

Failure to observe the instructions preceded by the aforementioned key words (**CAUTION** and **DANGER**) may result in severe or fatal injury to the persons involved.

Furthermore, this Manual also contains instructions in italics preceded by the terms **NOTE** and **WARNING**, with the following relevance in relation to machine protection:

I NOTE – Underlines the correct procedure or technique to be followed by the operator.

I WARNING – Informs the operator of the danger of damaging the machine if the specified procedure is not followed.

IMPORTANT WARNINGS

The machine is designed and produced exclusively for agricultural and forestry use. Any other use may lead to serious accidents.

All other use will be considered to be contrary to the use specified by CASE IH, who cannot be held liable for damage to property or the machine, or for personal injuries which may result.

Persons who risk improper use will therefore assume the responsibility for any consequences arising from such use.

Compliance with the instructions for use, maintenance and repairs described in this Manual, are the essential preconditions for the use specified by CASE IH.

The machine must only be used, serviced or repaired by personnel trained in the relevant working methods and safety regulations and who have been authorised to work on the machine.

The driver must also observe the rules concerning general safety and accident prevention, including the Highway Code when driving on public highways.

Any arbitrary modifications made to this machine will release CASE IH from any liability resulting from damage or injury.

CASE IH and all distribution organisations, inclusive of, but not restricted to, national, regional or local distributors, cannot be held liable for damage resulting from the malfunction of parts and/or components not approved by CASE IH.

Under no circumstances will a guarantee be issued for products made or sold by CASE IH that are damaged as a result of the malfunction of parts and/or components not approved by CASE IH.

TRACTOR NOISE LEVEL INFORMATION SHEET

In compliance with **DPR no. 212 enclosure 8 section II** incorporating directive **77/311/CEE**, the noise levels for tractors fitted with tyres covered by the Use and Maintenance Manual are as specified below.

TRACTORS WITH ROLL BARS 2/4WD

Model	Maximum noise level at driver's ear dB (A)	
	30 km/h (19 mph)	40 km/h (25 mph)
JX60	85	
JX70	85	
JX80	86	
JX90	85	
JX95	84	

TRACTORS WITH CABS 2/4WD

Model	Maximum noise level at driver's ear with cab doors and windows closed	
	dB (A)	
	30 km/h (19 mph)	40 km/h (25 mph)
JX60	84	
JX70	86	
JX80	85	
JX90	85	
JX95	86	

TRACTORS WITH CABS 2/4WD

Model	Maximum noise level at driver's ear with cab doors and windows open	
	dB (A)	
	30 km/h (19 mph)	40 km/h (25 mph)
JX60	85	
JX70	86	
JX80	86	
JX90	86	
JX95	85	

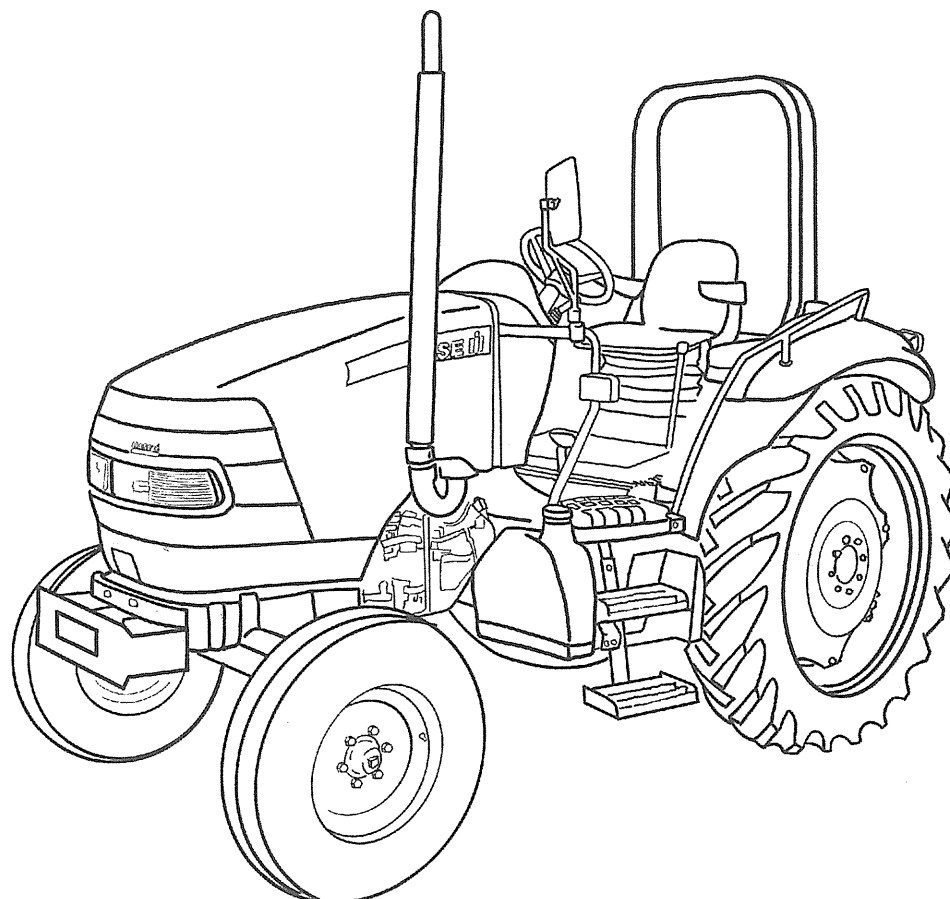
WARNING – If the noise level during continuous use reaches or exceeds **85 dB (A)**, the user must adopt the precautions.

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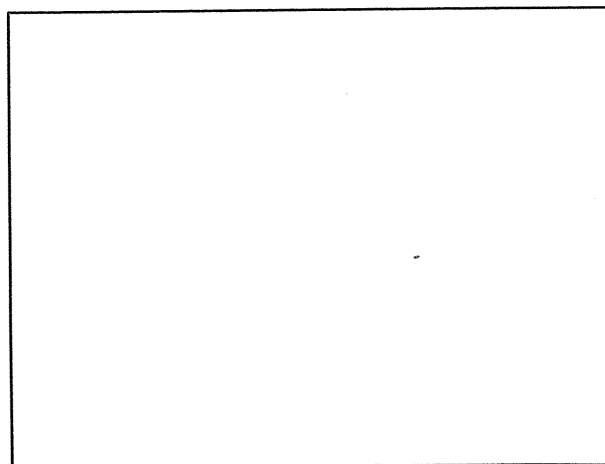
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JX SERIES 1



TRE0065A

Dealer's stamp



INTRODUCTION 2

This Use and Maintenance Manual provides information, documents and a practical guide for the user with regard to running-in, use and maintenance of the tractor.

considered approximate figures and the illustrations do not necessarily show tractors with standard fittings.

Read and refer to this Manual carefully, and always keep it in a convenient place so that you can refer to it whenever necessary.

For precise information on specific tractor models and versions, please contact your authorised dealer.

This Manual is a part of your tractor. If the tractor is sold or hired-out, this Manual must be presented to the new user.

The manufacturer is engaged in a continuous process of product development and improvement and therefore reserves the right to change the specifications, components and prices of the product itself at any time, without prior notice.

If you have any doubts in the future about tractor use, contact your CASE IH dealer.

In this Manual, the "left-hand" and "right-hand" parts of the tractor are as seen from the driver's seat facing forward.

The dealer can provide skilled personnel, original spare parts and the necessary equipment to carry out your service requirements.

All the data provided in this Manual is subject to product modifications. Weights and measures are to be

All necessary precautions to guarantee the safety of the operator or bystanders are listed and described in the «Working safely» section, at the start of the Manual. Read and follow this information provided **BEFORE** using the tractor.

USING THIS MANUAL

In order to find information easily, the Manual is subdivided into single chapters, according to the index. Information regarding the tractor is included in the following chapters:

SAFETY NORMS – Working safely.

CONTROLS AND INSTRUMENTS – Location and operation of all controls.

OPERATING INSTRUCTIONS – General information regarding daily use, e.g.: starting and stopping the tractor, using the gears etc.

FIELD USE – This chapter deals with specific agricultural use e.g.: three point linkage, PTO etc.

TYRES/WHEELS/TRACKS/BALLAST – Various adjustments for agricultural use, e.g.: track variations, ballast types and use, etc.

TROUBLESHOOTING – This information is used to identify and correct any eventual tractor faults or malfunctions.

Maintenance operations are divided into two chapters:

LUBRICATION/MAINTENANCE – Maintenance periods.

ELECTRICAL SYSTEM – Electrical system maintenance.

When looking for a specific tractor part use Index at the end of the Manual.

Make sure that the Manual is kept in good condition.

If you want to know more about your tractor ask your CASE IH dealer for ulterior manuals and information. The Service Manual, Spare Parts Catalogue and Use and Maintenance Manual are also available. Your dealer employs skilled technicians who are specifically trained to service and maintain your tractor.

COMMUNICATION FOR THE USER

GENERAL GUIDELINES

The tractor is a power and drive—propulsion generator for normal and traditional use in agriculture and forestry work. The main tractor functions are: towing, pushing, transporting, lifting, operating machines or determined implements.

Do not use the tractor for other purposes than those described in this Manual.

The tractor is designed and constructed to provide the best performance economically, safely and is easy to use in a wide range of working conditions. Prior to delivery, all machines are carefully inspected by both the Manufacturer and your local authorised dealer, to make sure that they reach the user in perfect condition. To maintain the tractor in this condition and ensure trouble-free operation, the routine maintenance operations described in the Lubrication/Maintenance chapter of this Manual must be carried out at the specified intervals.

SAFETY

Safety precautions for the operator and bystanders are shown on page 11 to page 17, inclusive. Read the safety instructions and follow recommendations and hints **before** starting to use the tractor.



CAUTION: *It is the tractor owner's responsibility to apply the laws and relevant directives and all CASE IH instructions with regard to tractor work and maintenance.*

CLEANING THE TRACTOR

Care must be taken when cleaning the tractor, especially if a pressurised water cleaner is used.

I Never stand too close to the tractor or direct the water jet on electrical components, seals or intake openings, etc.

I Never direct jets of cold water at the hot engine or exhaust. See also "Recommendations for bodywork maintenance" in section "Lubrication and Maintenance".

SPARE PARTS

"Non-original" spare parts have not been tested or authorised by the Manufacturer. Installment and/or use of such products may adversely affect the tractor's design specifications, thereby compromising operational safety. The manufacturer cannot be held responsible for any damage resulting from the use of "non-original" spare parts.

No modifications may be made to the tractor without written authorisation from the Manufacturer.

WARRANTY

The tractor is guaranteed in accordance with current legislation in your country and in line with contractual agreements reached with the dealer at the time of sale. However, the warranty is no longer valid if the rules and instructions for the use and maintenance of the tractor, described in this Manual, are not observed.

The manufacturer must authorize any special fittings that may be required by the user. Non authorised fittings terminate the tractor warranty conditions.

IMPORTANT ECOLOGICAL CONSIDERATIONS

Soil, air and water are essential elements for agriculture and for life in general. If local legislation does not control the treatment of certain substances, the production of which is necessitated by advanced technologies, products derived from chemical and petrochemical products must be used and disposed of according to the rules of common sense.

The following recommendations may be of help:

I Find out what the relevant legislation in your country stipulates.

I Ask your suppliers of lubricants, oils, fuels, antifreeze, detergents, etc. for information on the effects of these products on humans and the environment and for instructions concerning their use, storage and disposal. In many CASE IHs, local agricultural consultants will be able to provide assistance.

SUGGESTIONS

1. Avoid using unsuitable, pressurised filling systems or fuel cans when filling tanks, as these may cause considerable spillage and leakage of liquids.

2. As a general rule, do not allow liquid fuels, lubricants, acids, solvents, etc., to come into contact with the skin. The majority of these products contain substances that are potential health hazards.

3. Modern lubricants contain additives. Do not burn contaminated fuel oils and/or oils used in conventional heating systems.

4. Avoid spillage when transferring used engine cooling liquids, engine and transmission lubricants, hydraulic oils, brake fluids, etc. Never mix used brake oil with fuel oil, or fuel oil with lubricants. Store safely until suitable disposal can be arranged according to national legislation or local regulations.

5. Modern antifreeze liquids and solutions, e.g. antifreeze and other additives, must be replaced every two years. They must not be left to be absorbed into the ground, but must be collected and disposed of in a suitable manner.

6. Do not open the air conditioning systems to carry out work. These systems contain gas that must not be released into the atmosphere. Contact your dealer who are equipped with the appropriate equipment and are authorised to refill the system.

7. Any leakage or defect in the engine cooling or hydraulic systems must be repaired immediately.

8. Do not increase the pressure in pressurised systems, as this may cause component parts to burst.

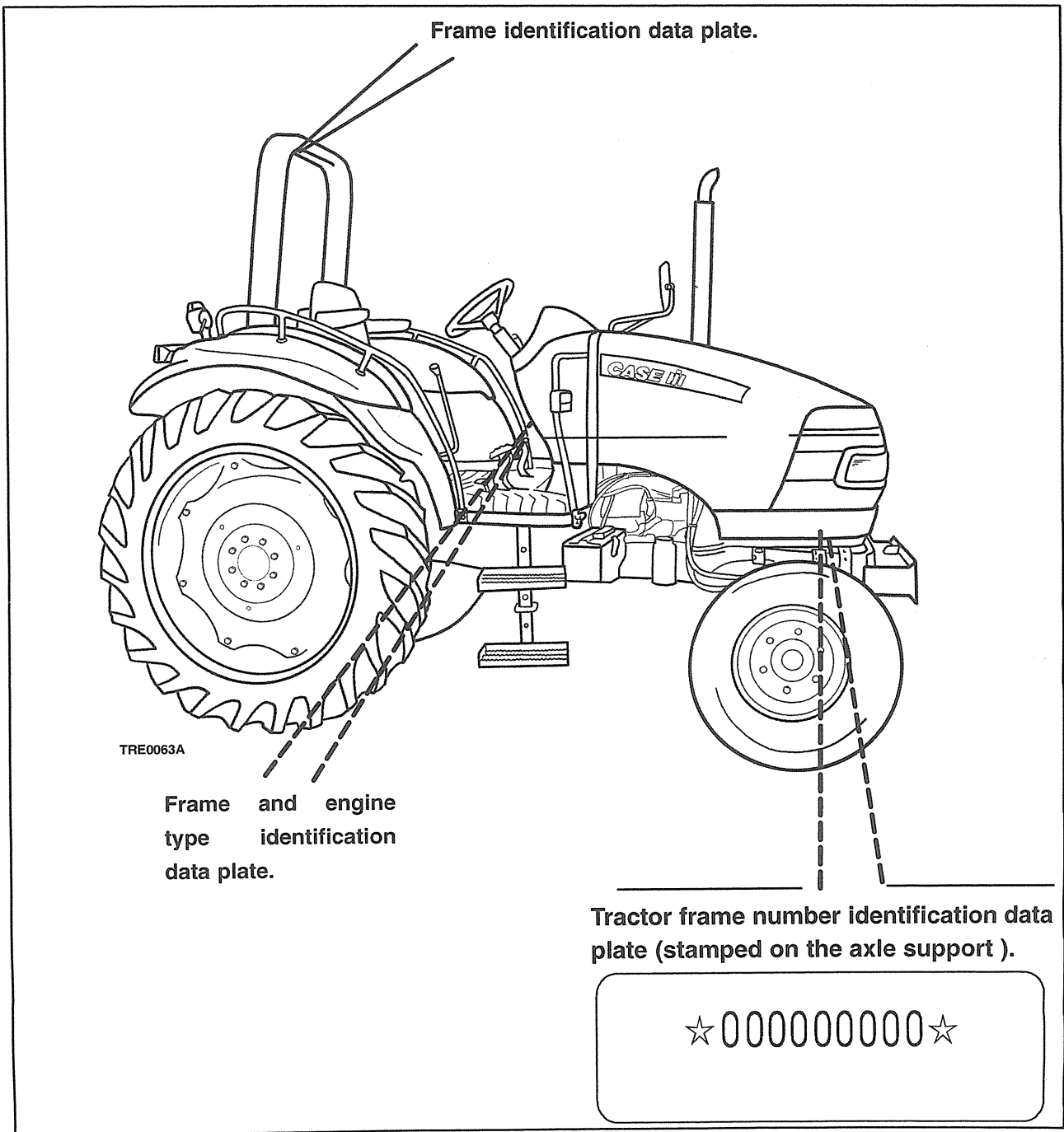
9. When welding, make sure that hoses are properly protected as sparks or molten material may puncture or weaken the tubes and sleeves, resulting in leakage of oil, cooling liquid, etc.

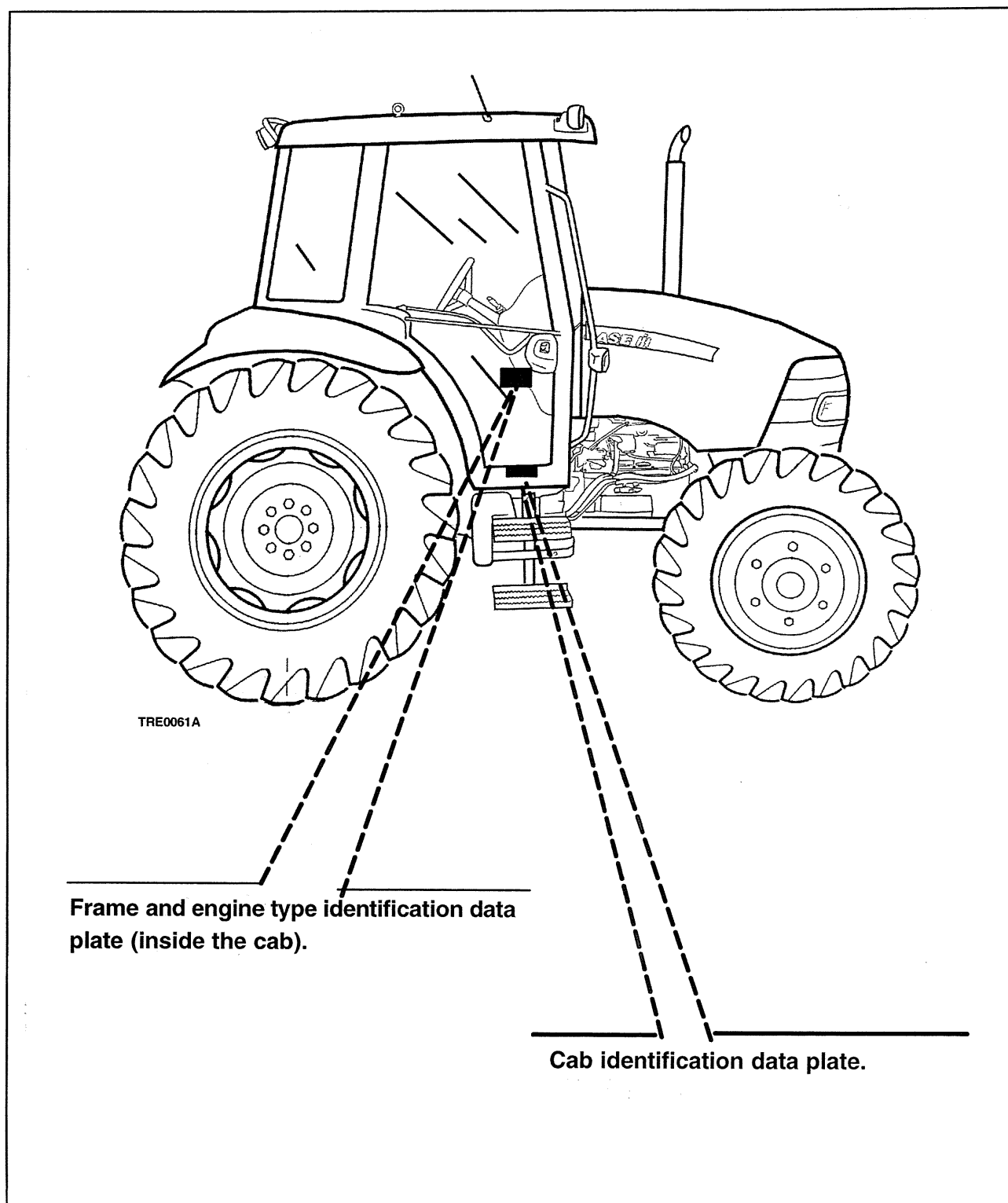
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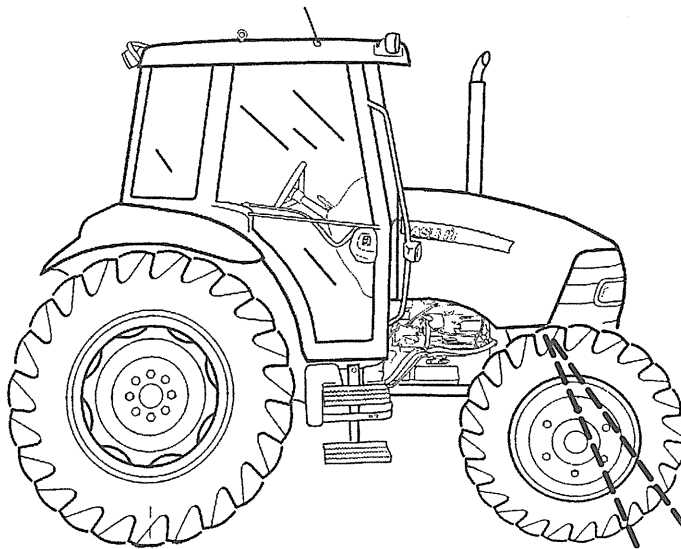
This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

TRACTOR IDENTIFICATION

Serial numbers identify the tractor and its main components. The identification data must be supplied by the dealer for requests for spare parts or service operations. Identification data is of fundamental importance in the event of theft of the tractor. The location of the various identification data is shown below.



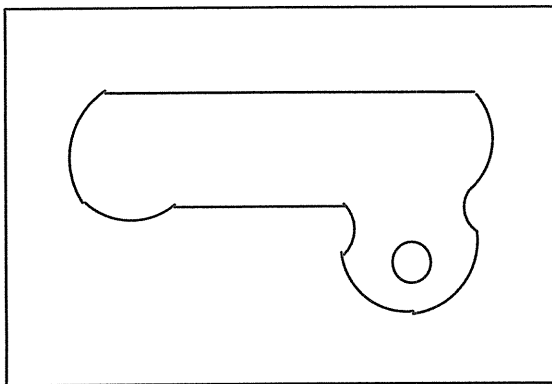




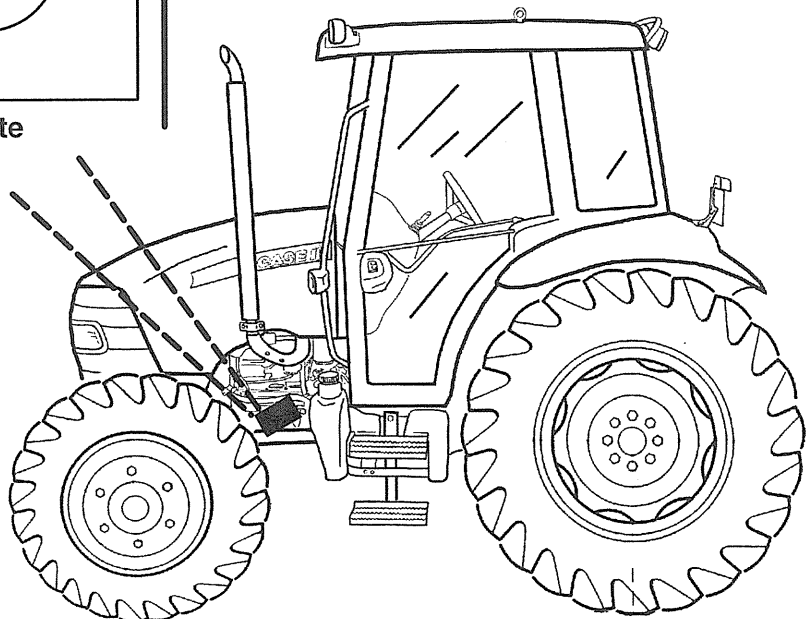
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Tractor frame number identification data plate (stamped on the axle support).

☆000000000☆



Engine identification data plate (stamped on engine body).



TRE0059A

NOTES

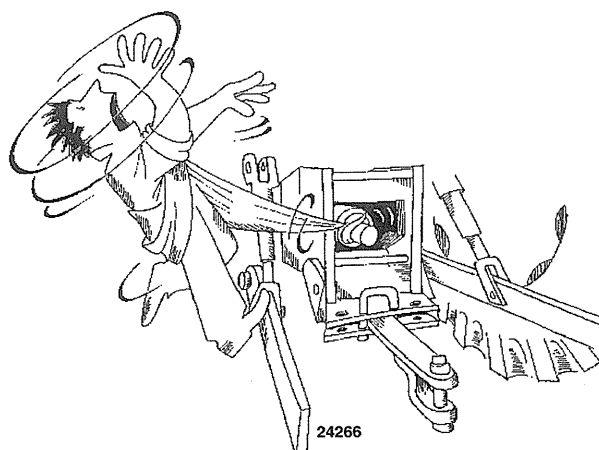
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WORKING SAFELY

GENERAL INFORMATION

- I During the manufacturing of this tractor, every step has been taken to ensure safe operation. However, the best way to avoid accidents is to exercise caution at all times. Once the accident has already happened it is too late to remember what steps should have been taken.
- I Read this Manual carefully before starting, using, carrying out maintenance, refuelling or performing any other type of operation on the tractor.
- I The time spent reading this Manual will allow you to get to know your tractor, thereby saving time and effort. This will also help prevent accidents from taking place.
- I Read all the safety decals on the machine and follow the instructions thereon before starting, operating, refuelling or carrying out maintenance on the machine. Promptly replace any decals that are damaged, lost or illegible.
Clean the decals if they are covered by mud or debris.
- I Remember that the tractor is exclusively designed for agricultural use. Any other use will require prior authorisation from CASE IH.
- I It is advisable to keep a first aid kit on hand.
- I The tractor must only be used by responsible personnel, trained in tractor use and authorised to operate the machine.
- I Do not alter the injection system calibration in an attempt to increase maximum engine speed.
- I Do not wear loose clothing that may be trapped in moving parts.
Check that all rotating parts connected to the power take-off are correctly protected.



! Do not alter the calibration of the pressure relief valves in the various hydraulic circuits (hydrostatic steering, hydraulic lift, auxiliary distributors, etc.).

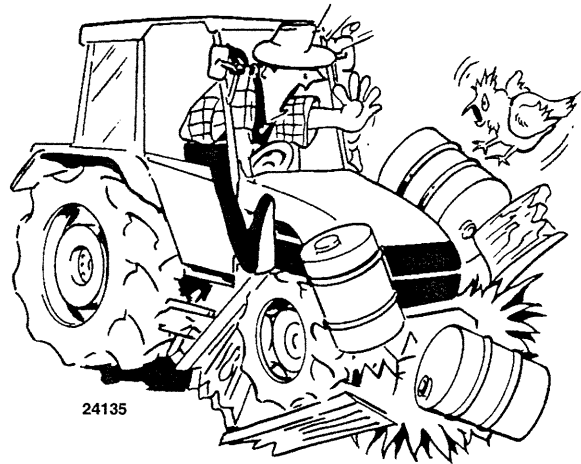
! Avoid using the tractor in unsuitable physical conditions, stop work instead.

! Enter and leave the tractor carefully, using the steps and handles provided. Keep these fittings free of mud and debris.

! Always operate with the cab or roll bar correctly and securely fitted on the tractor: periodically check that the fittings are not loose and that all parts of the structure are free from any damage and deformation. Do not modify the roll bar by welding parts, drilling holes, etc., as this could adversely affect the rigidity of the structure.

side panels, power take-off guard, front axle transmission shaft cover, etc.).

! Never start or manoeuvre the tractor unless seated in the driving position.



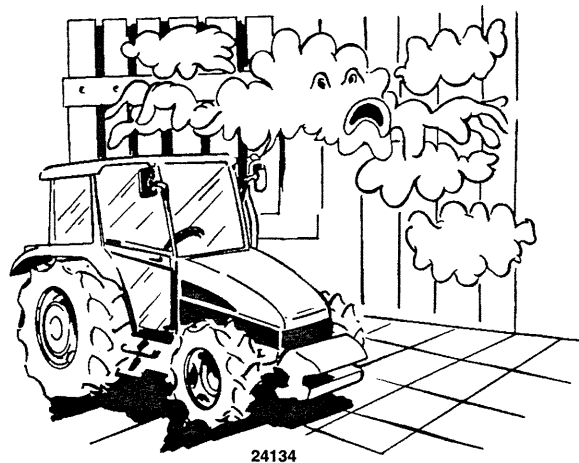
! Before moving the tractor, always check that the area is free of persons or obstacles.

STARTING THE TRACTOR

! Before starting the engine, check that the hand-brake is on and that the gears and power take-off are disengaged, even if the tractor is fitted with a start-up safety device. Never disconnect the start-up safety switch. If the switch does not work correctly, contact your local dealer for eventual repair operations.

! Before starting the engine, make sure that all attached implements are lowered to the ground.

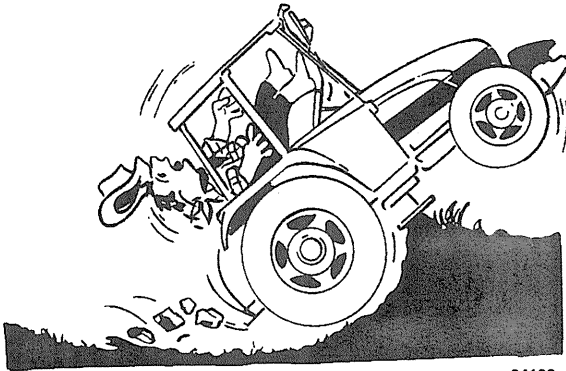
! Before starting the engine, check that all covers and guards are correctly in position (roll bar, bonnet



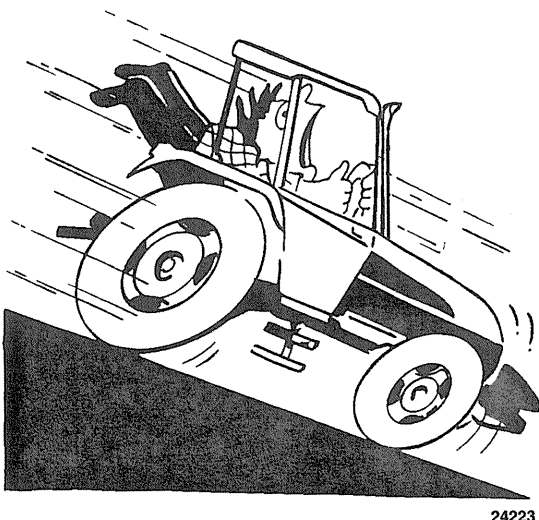
! Never run the engine in a closed space without ensuring adequate ventilation. Exhaust fumes are damaging to the health and can be lethal.

USING THE TRACTOR

! Select the most suitable wheel setting for the work in hand, i.e.: the setting that provides the best stability.



! Engage the clutch slowly: if engaged too quickly, especially when the tractor is getting out of a hole, ditch or operating on muddy ground or steep slopes, the tractor may overturn. Fully press down the clutch pedal immediately if the front wheels start to lift.



! When travelling downhill, keep the tractor in gear. Never release the clutch and never leave the gears in neutral.

! When the tractor is moving, the operator must remain correctly seated in the driving position.

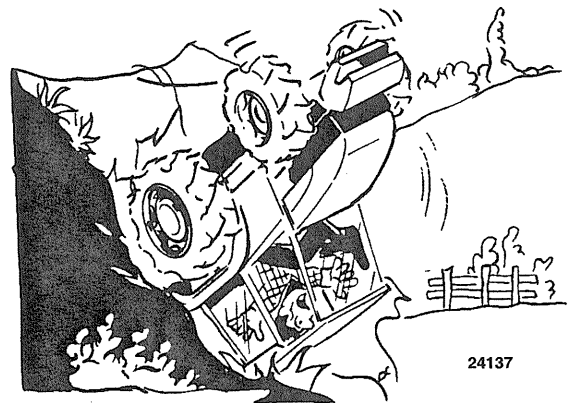
! Never get on or off the tractor while in movement.

! When using the brakes, press the pedal down slowly.

! Avoid curving at high speeds.

! Always use the tractor at a speed that will guarantee safe operation on the type of land being worked. When working on uneven ground, use maximum care to ensure proper stability.

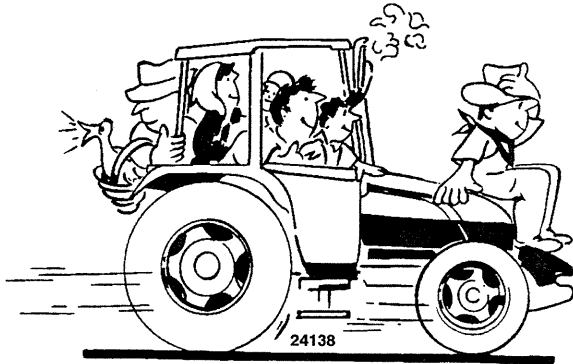
! If you have to work with the tractor on a gradient, for example on hillsides, drive at moderate speed especially when taking curves.



! Proceed with maximum caution when working with the wheels near the edge of ditches or slopes.

! When driving on public highways, observe the Highway Code.

! When driving, do not rest your feet on the brake or clutch pedals.



! Never carry passengers, not even inside the cab, unless the tractor is fitted with an approved extra seat.

! When driving on roads, connect the brake pedals using the plate provided. Braking when the pedals are not connected could cause the tractor to skid. Avoid excessive wear on the brakes by using engine braking.

TOWING AND TRANSPORT

! To guarantee tractor stability when moving, adjust the hitching device according to the trailer or implement to be used.

! Drive slowly when towing extremely heavy loads.

! For your own safety, do not tow trailers that are not fitted with an independent braking system.

! If the tractor is used to tow heavy loads, always use the hitching device and never hitch loads onto the

lower arms or the top link of the three-point linkage. This may result in tipping or overturning.



! When towing, do not negotiate curves with the differential lock engaged as this may prevent you from steering the tractor.

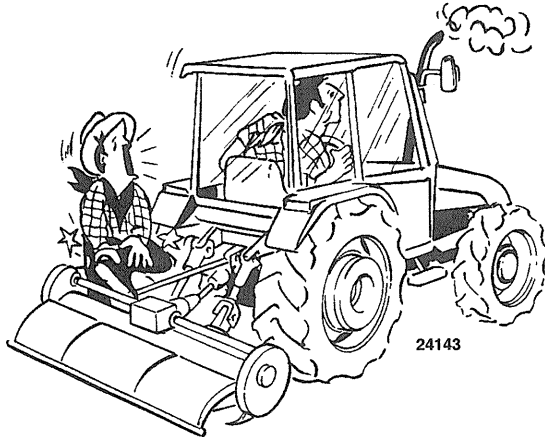
USING IMPLEMENTS AND AGRICULTURAL MACHINERY

! Do not connect implements or machinery that require more power than can be generated by your tractor model.

! Never negotiate sharp curves with the power take-off under a heavy load; this may damage the universal joints on the transmission shaft connected to the power take-off.

! Never stand between the reversing tractor and the implement when hitching.

When using implements that require the tractor to be stationary with the engine running, keep the gear and range levers in the neutral position, apply the handbrake and use suitable wheel chocks.



Do not operate machines connected to the power take-off without first ensuring that the operating range of the machine is free of bystanders. Also check that all rotating parts connected to the power take-off shaft are correctly protected.

Add rear ballast when using lifting equipment fitted to the front of the tractor.

STOPPING THE TRACTOR

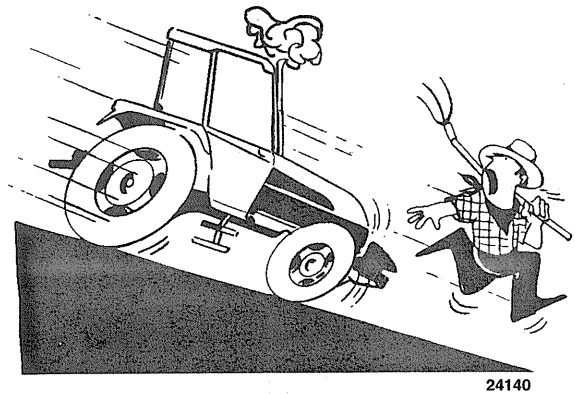
When the tractor is stationary, never leave connected implements in the raised position. All implements must be lowered before stopping the engine.

Before leaving the driving position, move the gear lever to the neutral position, disengage the power take-off, apply the handbrake, stop the engine and engage the central clutch. Always remove the ignition key from the dashboard and close the cab door when leaving the tractor unattended.

Park on flat surfaces, where possible, put the tractor into gear and apply the handbrake. On slopes, in addition to applying the handbrake, put the tractor in first gear when facing downhill. As an additional safety measure, use wheel chocks (available as an optional); this procedure is compulsory when parking with a trailer hitched.



CAUTION: When using the 2 speed power shuttle transmission with the tractor parked and the engine switched off, the shuttle lever must be moved to the reverse position.



TRACTOR MAINTENANCE



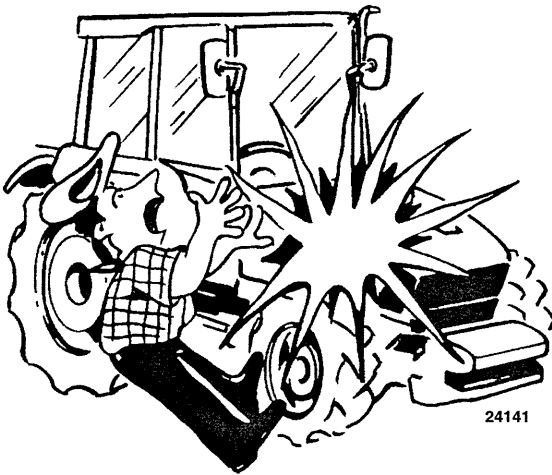
CAUTION: In this Manual, some illustrations show panels or covers removed in order to facilitate explanations.

Never use the tractor without the panels or guards in place.

Do not work on the tyres with unsuitable equipment or without the necessary experience. Incorrect tyre fitting may put your safety at risk. If in doubt, contact skilled personnel.

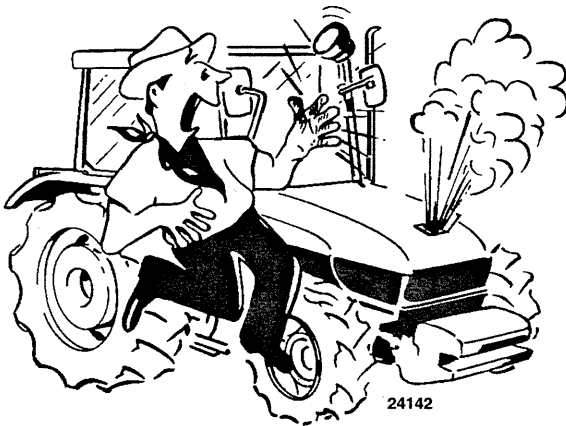
When changing or storing tyres, make sure they are stacked correctly and cannot roll or topple over causing personal injury.

I Before removing any hydraulic lines, check that the system is not pressurised.

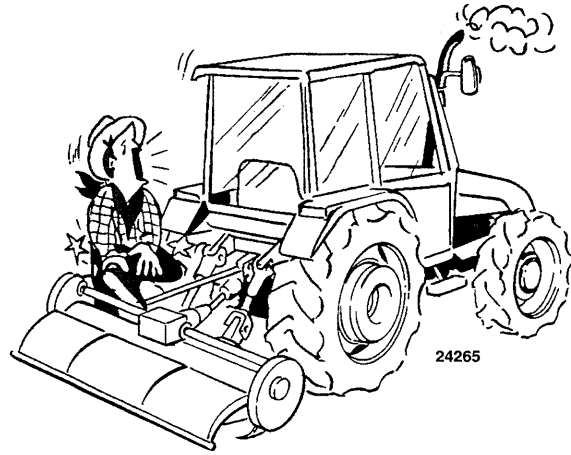


I Leaks of pressurised oil can cause serious injuries. When looking for leaks use the appropriate safety equipment: screens, safety glasses and gloves.

I Before touching any electrical components, disconnect the ground lead from the battery.

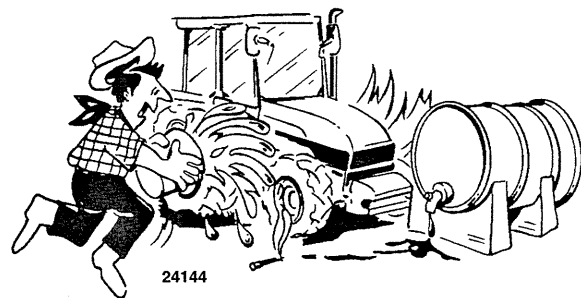


I Only remove the radiator cap after the engine has been allowed to cool. With the engine switched off, use a cloth to slowly unscrew the cap and release the pressure before completely removing the cap.



I Before inspecting, cleaning or carrying out maintenance on the tractor (or any implement connected to the tractor), always ensure that the engine is switched off, the gears are in neutral, the brakes are on, the power take-off is disengaged and that all moving parts are stationary.

I Do not fill up the fuel tank completely if the tractor is to work in extremely sunny conditions, as the fuel may expand and escape. If this occurs, dry up the spillage immediately.



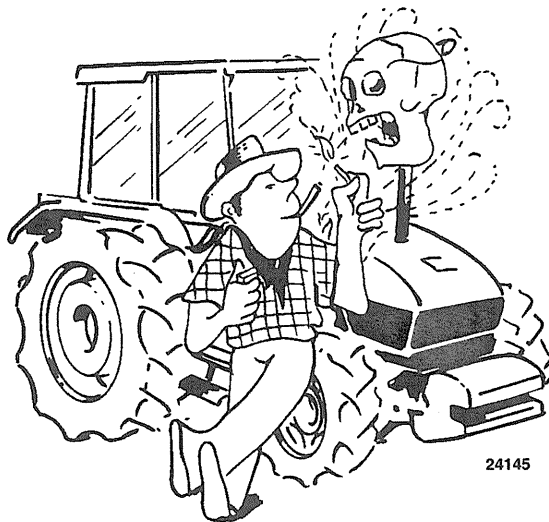
I Always keep a fire extinguisher at hand.

AIR-CONDITIONER

! The air conditioning system is safe and can be used continuously without any risk. However, it is important to observe a few simple precautions, listed below, to avoid any risk of accident.

! It is advised never to personally attempt to adjust the system; any repair work should be carried out by your dealer.

! Never allow naked flames near the air conditioning system, as if the refrigerant is leaking, a lethal gas – **phosgene** – could be produced.



! The oil and coolant mixture is pressurised inside the air conditioning system. The loosening of any connections or handling of lines is therefore strictly forbidden. For the same reason, never unscrew the compressor oil level inspection cap for any reason.

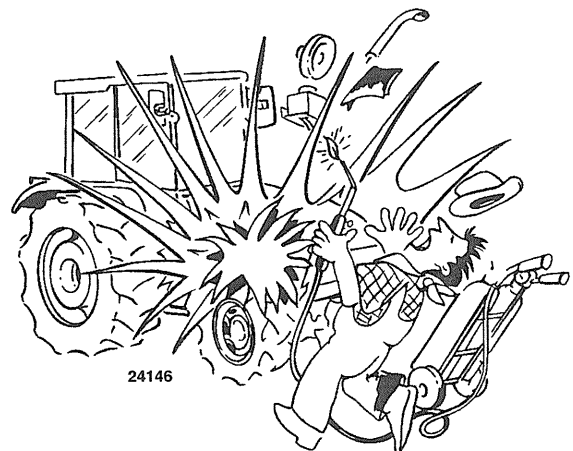


! Coolant can freeze the skin and, above all, the eyes.

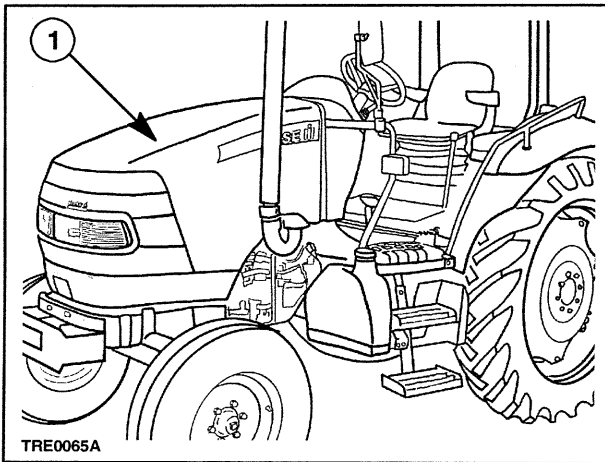
If an accident should occur, proceed as follows:

- if coolant comes into contact with the eyes, wash immediately with a few drops of mineral oil, then continue washing thoroughly with a solution of boric acid and water (one teaspoon of acid in $\frac{1}{4}$ of a cup of water) and consult a doctor at once;
- freezing caused by coolant can be treated by gradually unfreezing the injured zone with cold water and then applying a grease based cream. Consult a doctor promptly.

! Do not allow the air conditioning system to approach any heat source, in order to prevent an explosion risk.



SAFETY COVERS AND GUARDS



1

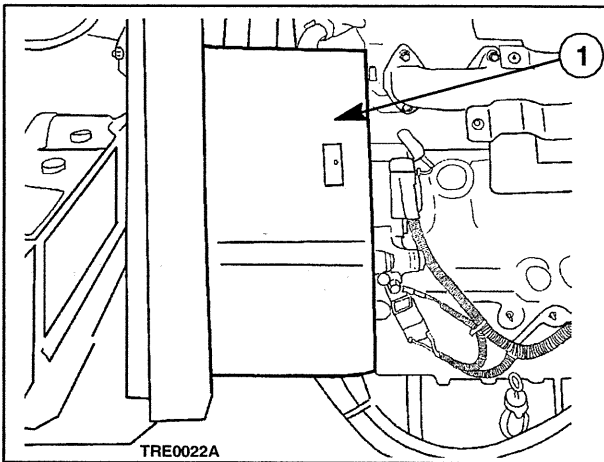
The tractor is fitted with covers and guards for the personal safety of the operator and others when working.



CAUTION: Before starting the engine or using the tractor, check that all covers and guards are correctly in position.

BONNET (HOOD)– Fig. 1

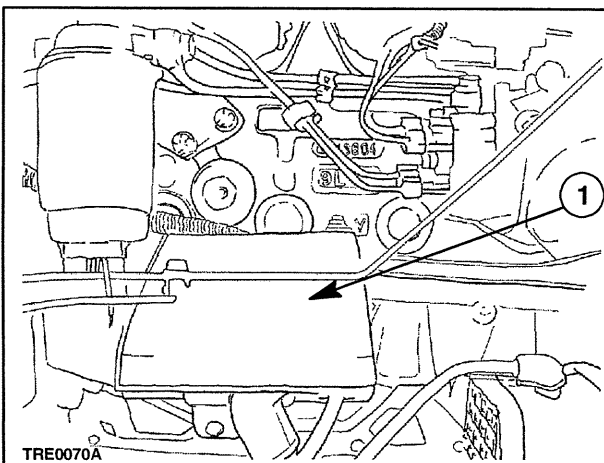
The bonnet (1) covers the engine's moving parts. It must be closed before the engine is started and the tractor is used.



2

FAN GUARD – Fig. 2

Both sides of the fan have covers (1). The cover shown in the drawing protects the left-hand side of the fan.



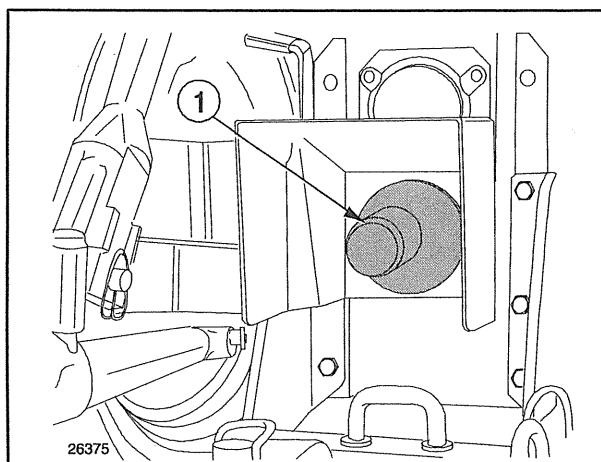
3

STARTER MOTOR COVER – Fig. 3

Cover (1) protects the electro-magnetic contacts of the starter motor from accidental contact. It must always be in place when the batteries are connected to the electrical system.

POWER TAKE-OFF GUARD – Fig. 4

The cover (1) must always be fitted on the power take-off shaft when it is not connected to the implement or machine in use. Replace the cover correctly when not in use.



4

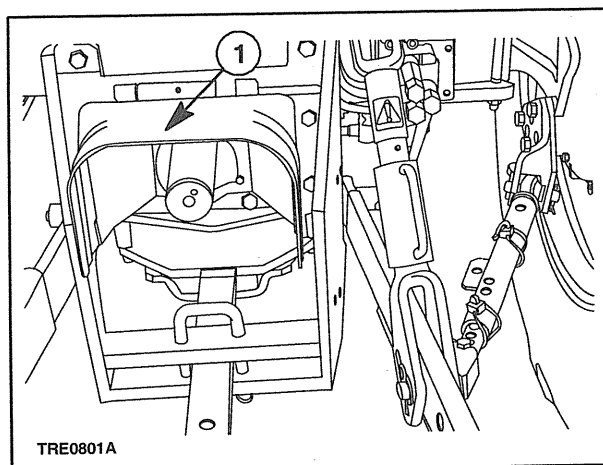
PIVOTING POWER TAKE-OFF GUARD – Fig. 5

The guard (1) protects the power take-off shaft.

NOTE: To facilitate connection of the tractor transmission shaft / implement, lift the guard (1). Once connected, return the guard to the safety position.



CAUTION: The guard must never be removed when the tractor is being used and must never be modified.



5

NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

SAFETY DECALS

The safety decals on the following pages are positioned on your tractor in the locations shown in the drawings below.

These decals are important both for your safety and that of personnel working with you.

We recommend that you study these pages and find the positions of the safety decals on the tractor, checking that their meanings are clear.

Read the instructions below with the tractor drivers

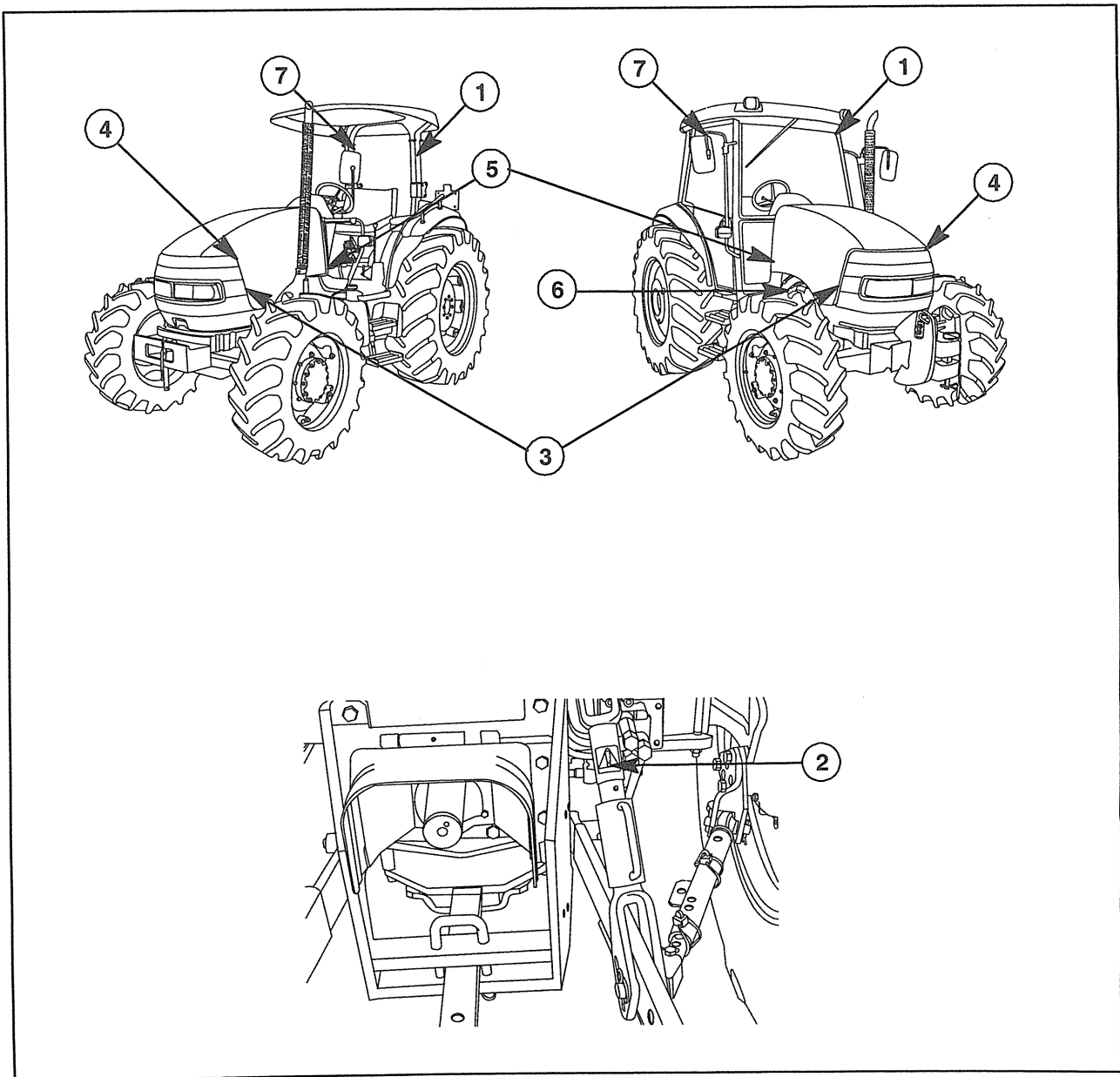
that will operate the machine.

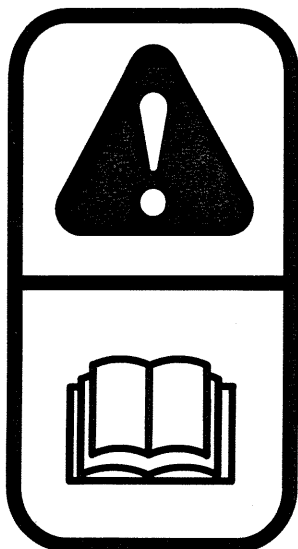
When replacing a part with a safety decal attached, make sure that a new (and identical) decal is positioned on the newly fitted part.

Keep the safety decals clean and legible with a clean cloth, soap and water.

NOTE – If damaged, order replacements from your dealer.

LOCATION OF THE DECALS ON YOUR TRACTOR





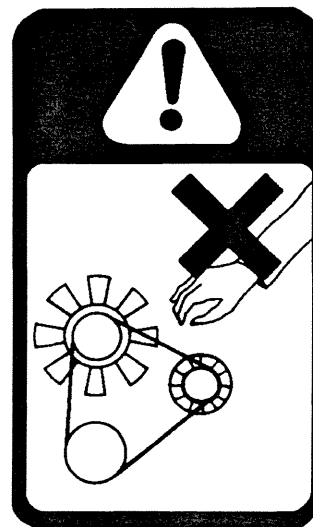
1. Location: on the left-hand upright inside the cab.

Non-compliance with the instructions provided in this Manual can lead to serious injury to the operator or bystanders.



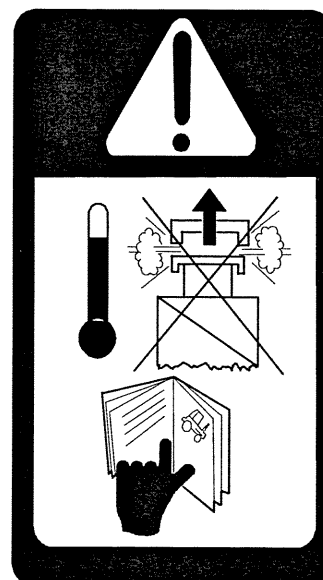
2. Location: on the right hand lift rod .

GENERAL WARNING: observe and respect the indications on the safety decals when this symbol is present.



3. Location: left and right-hand sides of the radiator.

To avoid serious injury, keep hands and clothing away from the rotating fan, belts and any other rotating parts.

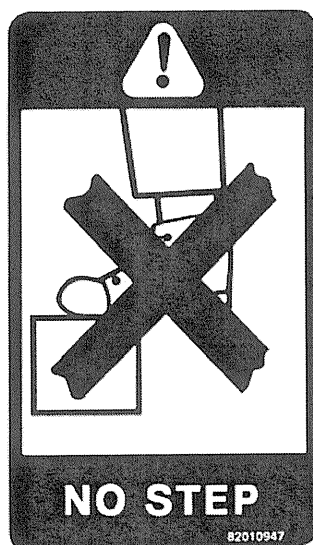


4. Location: left and right-hand side of the radiator.

WARNING: Pressurized cooling system. Allow to cool then remove cap carefully. Use a cloth to slowly unscrew the cap and release the pressure before completely removing the cap.



5. Location: on left and right hand side of rear hood.



6. Location: on toolbox lid.



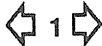
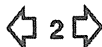
7. Location: on the right-hand upright inside the cab.

If the tractor should overturn, hold the steering wheel tightly. Do not attempt to jump out of the cab.

NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

STANDARDISED SYMBOLS

	Auxiliary starter device		Horn		Power take-off		Hydraulic lift – operating in position control
	Alternator charging		Radio		Gears in neutral		Hydraulic lift – operating in draft control
	Fuel level		Memory		Creeper speed		Accessory power socket
	Automatic fuel cut-off device		Indicator lights		Slow or low speed adjustment		Implement power socket
	Engine speed (rpm x 100)		Indicator lights on first trailer		Fast or high speed adjustment		Hydraulic lift disconnected
	Total hours worked		Indicator lights on second trailer		Tractor ground speed		% slipping of rear wheels
	Engine oil pressure		Windscreen washer/wiper		Differential lock		Caution, under pressure! Open carefully
	Engine coolant temperature		Rear windscreen washer/wiper		Rear transmission oil temperature		Arms raised
	Lights		Heated air temperature		Transmission oil pressure		Arms lowered
	Front headlights on full beam		Heated fan		4WD engaged		Maximum lifting height
	Front headlights dipped		Air conditioning temperature		4WD disengaged		Transmission oil filter
	Brake lights (STOP)		Dry air filter		Caution!		Hydraulic jack extended
	Front work lights		Parking brake		Hazard warning lights		Hydraulic jack retracted
	Rear work lights		Rotating beacon on cab roof		Caution! Corrosive substances		Hydraulic jack floating
	Engine coolant level		Intercooler temperature		Adjustment control		Fault! Refer to Use and Maintenance Manual

NOTES

CONTROLS AND INSTRUMENTS

POSITION AND FUNCTION

The position and function of the controls and instruments on your tractor are described in the following pages.

The controls have been sub-divided into groups and are described as follows:

- Instrument panel and console controls
- Instrument console (rear hood) controls
- Operating controls, right-hand side.
- Operating controls, left-hand side.
- Foot pedal and foot plate controls.
- Cab controls.

**CAUTION**

Do not use the tractor if you are not fully acquainted with the position and operation of all the tractor controls.

DRIVER'S SEAT

We advise you to adjust the seat for safe driving even under difficult conditions. To avoid danger, follow the instructions below:

- do not adjust the seat when the tractor is moving;
- the driver's seat must be fitted and repaired by specialist personnel only;
- check periodically that the securing screws are tight and that the adjustment controls are working properly, to ensure safety and stability when working.

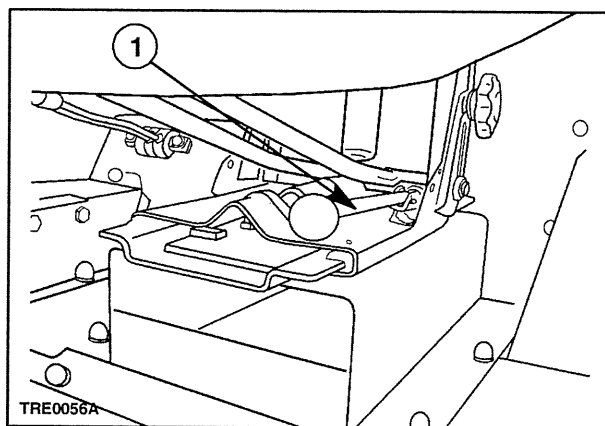
NOTE: Dirt may effect seat operation. Keep the seat clean.

STANDARD SEAT – Fig. 1

The driver's seat has adjusters for its suspension, height and distance from the controls.

You can therefore select the most suitable position for driving, and even change it while working.

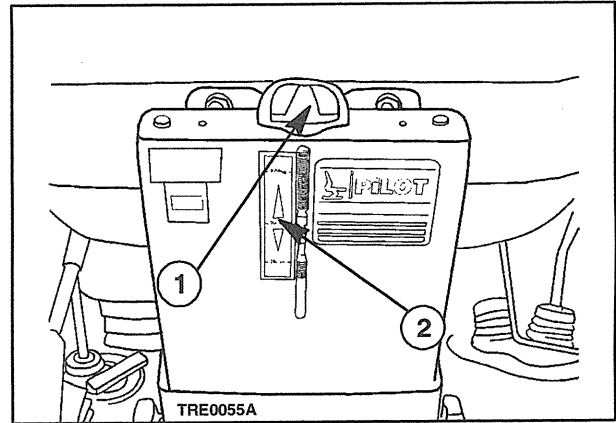
- To move the seat forward or back, pull the lever (1) sideways.
- After moving the seat, release the lever, ensuring that the seat is locked in the chosen position.



1

SEAT SUSPENSION ADJUSTMENT – Fig. 2

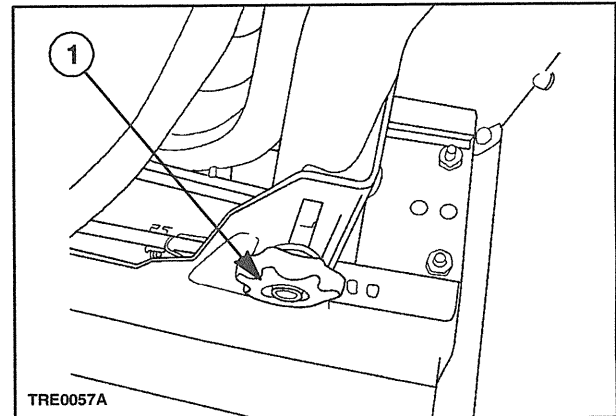
For correct adjustment, turn knob (1) clockwise or counter-clockwise until, with the driver seated, the indicator aligns with the centre of the arrows (2).



2

SEAT HEIGHT ADJUSTMENT – Fig. 3

To raise the seat, loosen knobs (1) (one on each side) and position the seat at the most suitable height. Tighten the knobs after adjustment.



3

SEAT (OPTIONAL) – Fig. 4**Adjustment of distance from controls**

From the driver's seat, pull lever (2) sideways and move the seat forwards or backwards.

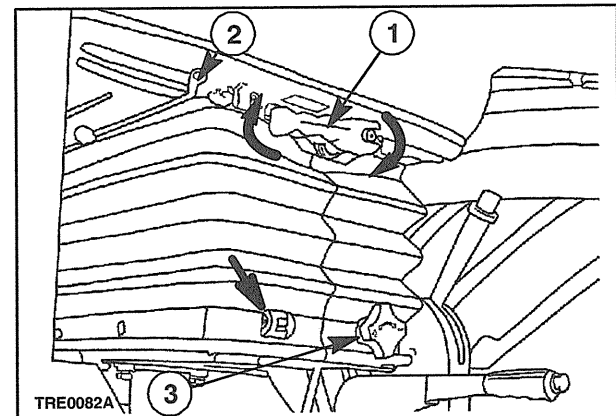
After moving the seat, release the lever and check that the seat is locked in the correct position.

Seat height adjustment

To raise or lower the seat, turn the handle (1) clockwise or counter-clockwise, as shown in the illustration.

Seat suspension adjustment

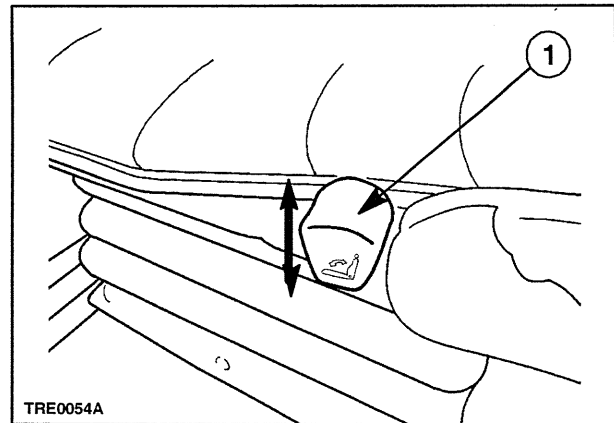
For correct suspension adjustment, turn knob (3) clockwise or counter-clockwise until your weight appears in the port indicated by the arrow in the illustration.



4

Seat backrest adjustment – Fig. 5

Push the lever (1) down to adjust the backrest. Release the lever to lock the backrest in the selected position.



5

SEAT BELT (OPTIONAL)

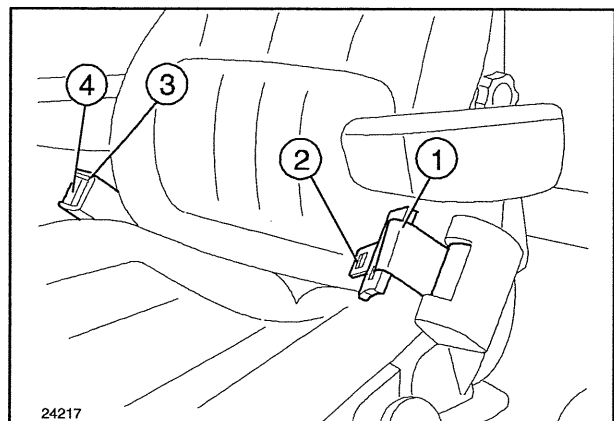
Two types of seat belt are available : static type for standard seats and with inertia-reel device for De-Luxe seats and for air-sprung seats.

INERTIA-REEL SEAT BELT – Fig. 6

To fasten belt (1) pull it from the inertia-reel device and insert tongue (2) into slot (3).

NOTE: The belt adjusts automatically to the driver's body.

To unfasten it, press and then release button (4). The belt reels in automatically.



6

STEERING COLUMN ADJUSTMENT**– Fig. 7**

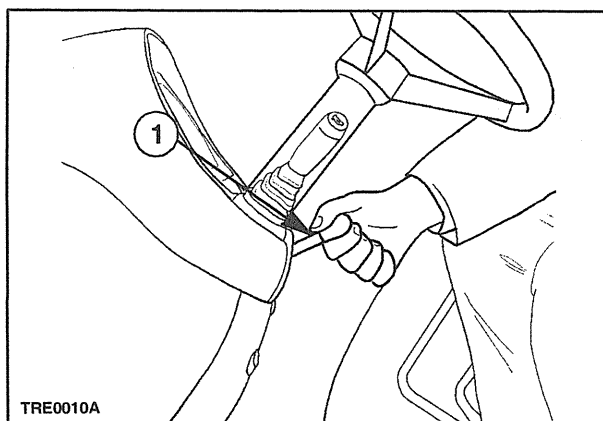
The steering is fitted with a lever for tilt adjustment.

To adjust the steering wheel, use lever (1) fig. 7.

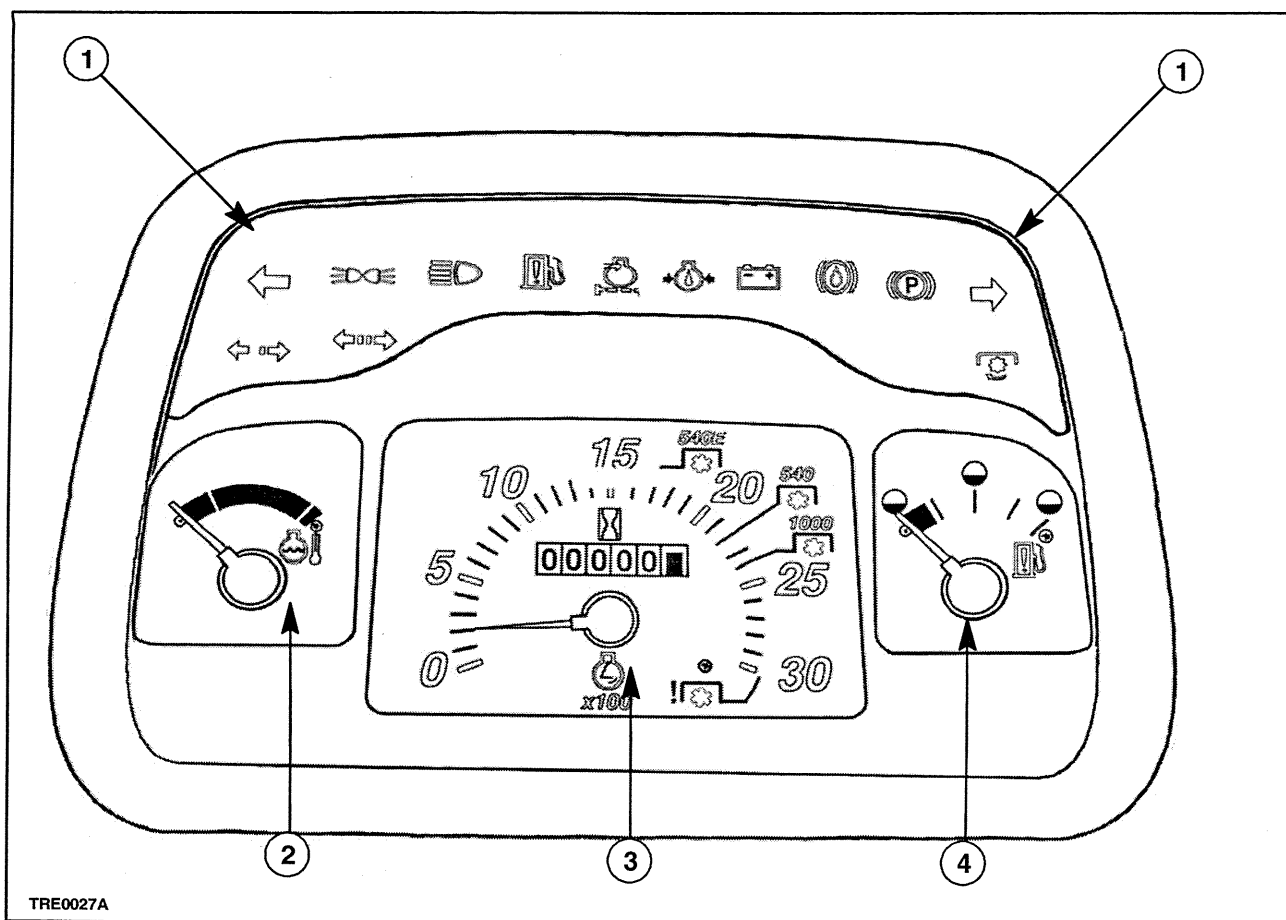
When adjusted satisfactorily, lock the lever by pushing it upwards.

1. Steering wheel tilt adjustment

- Lever down, steering column released;
- Lever up, steering column locked in position.



INSTRUMENT PANEL



8

1. Warning and indicator lights

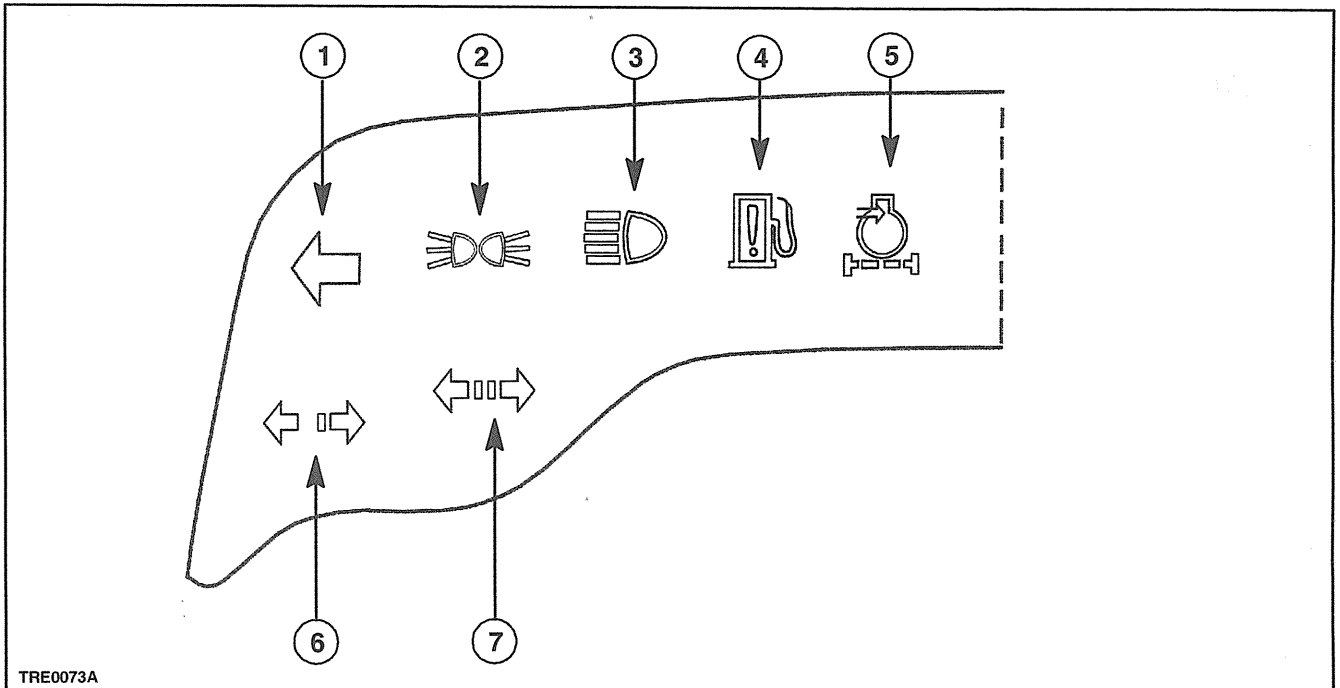
These lights illuminate to indicate a particular operation or to attract your attention.

2. Engine coolant temperature gauge

3. Proofmeter / tachometer

Hourmeter, engine speed counter, tachometer.

4. Fuel gauge



9

1. Tractor left turn indicator (green)

Flashes in unison with the tractor left turn indicators.

2. Side lights indicator (green)

Lights up when the sidelights are switched on.

3. Main beam indicator (blue)

The light illuminates when the headlights are on main beam.

4. Water in fuel indicator (green)

The light illuminates to indicate that the fuel in the filter bowl is clogged. Clean the filter, as described in section "Lubrication and Maintenance", operation 8.

5. Dry air filter clogged warning light (yellow)

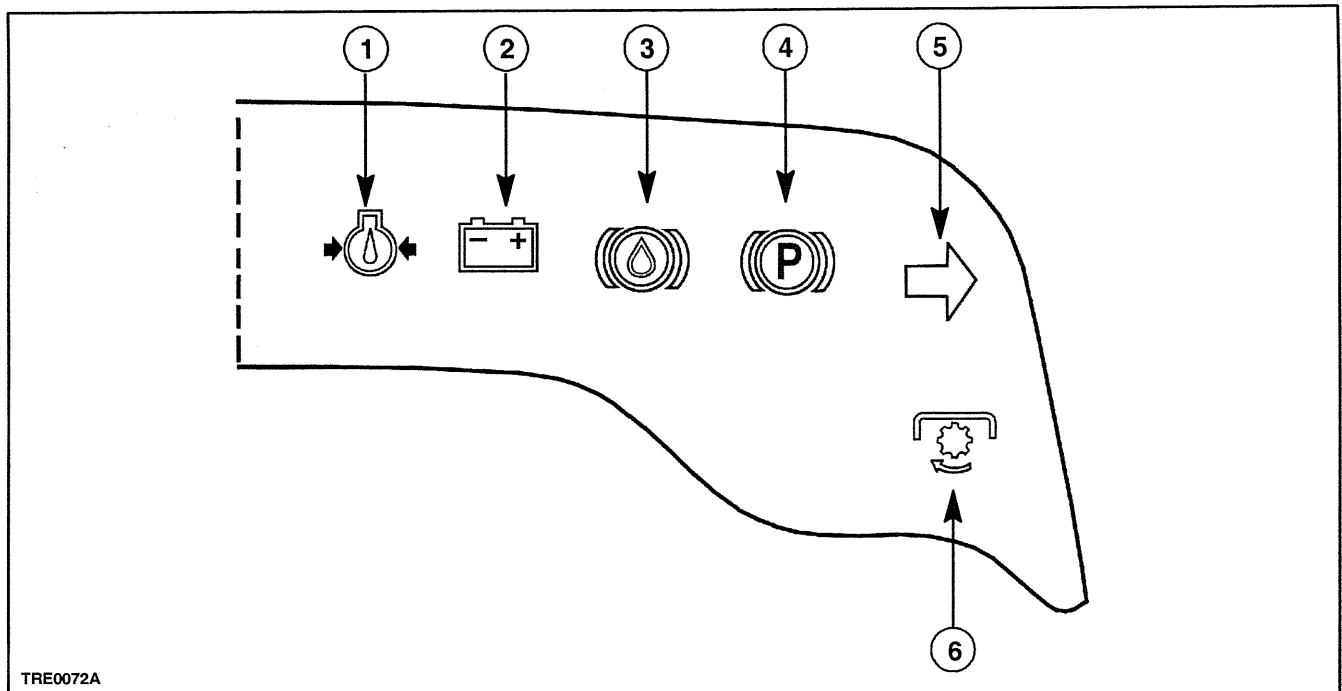
The light comes on when the air filter cartridge is partially or totally clogged. Clean the filter, as described in section "Lubrication and Maintenance", operation 6.

6. First trailer turn indicator lights (green)

Flashes in unison with the tractor turn indicators, if connected.

7. Second trailer turn indicator lights (green)

Flashes in unison with the tractor turn indicators, if connected.



10

1. Low engine pressure indicator (red)

The light should go out a few seconds after the engine is started.

If it stays on when the engine is running, switch off the engine and look for the cause of the problem. If the light remains on, particularly when the tractor is moving, contact your Case IH dealer. When the engine is warmed up and running at minimum speeds, with the tractor stationary, the light may illuminate, even if no faults are present.

2. Battery charging system malfunction light (red)

It should go out once the engine starts.

3. Low front brake fluid level indicator.

Comes on when the fluid drops below "MIN" level. Check periodically that the light is working properly. With the ignition key in the first position, press the lid on the brake fluid reservoir; the indicator should light up.

4. Handbrake ON light (red)

With the ignition key turned on, the light comes on when the handbrake is applied.

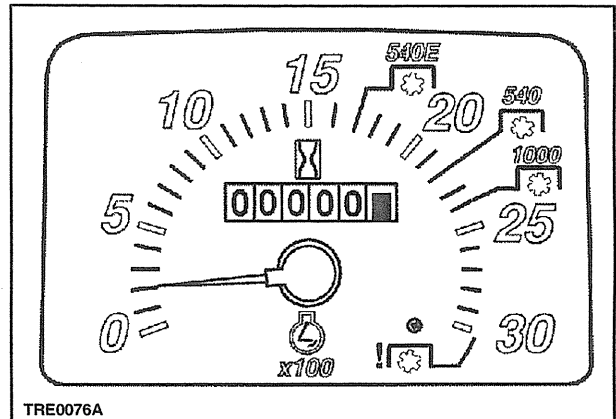
5. Tractor right turn indicator (green)

Flashes in unison with the tractor right turn indicators.

6. Not used on this tractor range.

1. Proofmeter / tachometer – Fig. 11

This shows engine speed and total time to a maximum of six digits. The figures on the black background show total working hours and those on the red background (extreme right) tenths of an hour. The green and blue sectors show the engine rev/min reached at standard power take-off speeds of 540, 540E and 1000 rev/min.

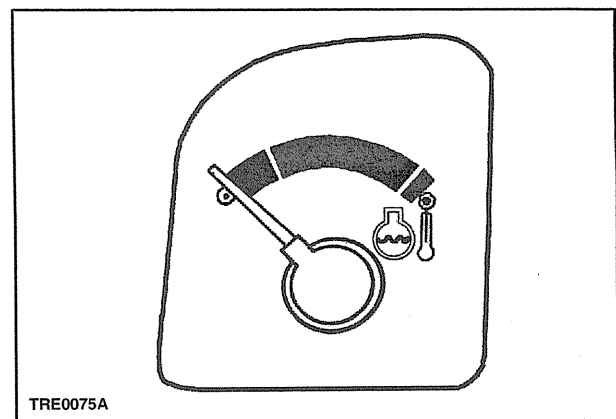


11

2. Engine coolant temperature gauge – Fig. 12

- Green area = normal temperature.
- White area = temperature too low.
- Red area = engine overheating

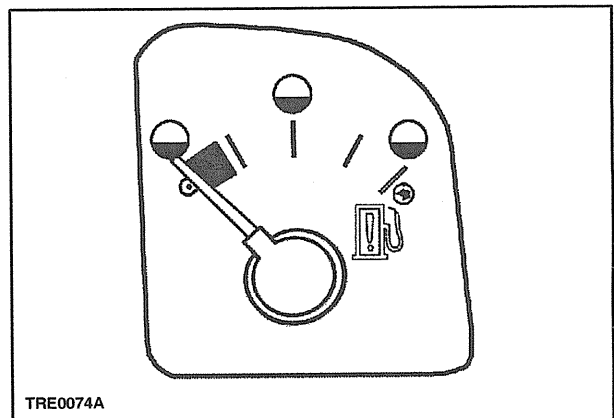
In this case, slow the engine to minimum revs (do not stop it) and, if the light stays on, have the cooling system checked.



12

3. Fuel gauge – Fig. 13

It shows the fuel level in the tank. When the tank is full, the needle is at the extreme right. When the fuel level falls below $\frac{1}{4}$, the needle moves into the red area.



13

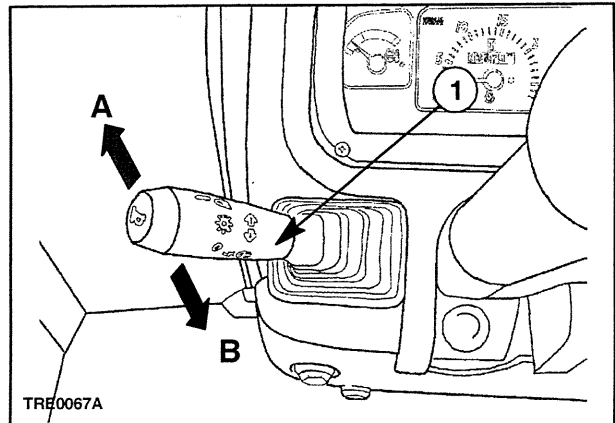
MULTI-FUNCTION CONTROL

The multi-function stalk controls the lights, horn, turn indicators and headlight flasher and is also used to switch from dipped to main beam front headlights.

Direction indicators

To indicate a right turn, push the stalk (1) fig. 14 forward to position A.

To indicate a left turn, pull the stalk back to position B.



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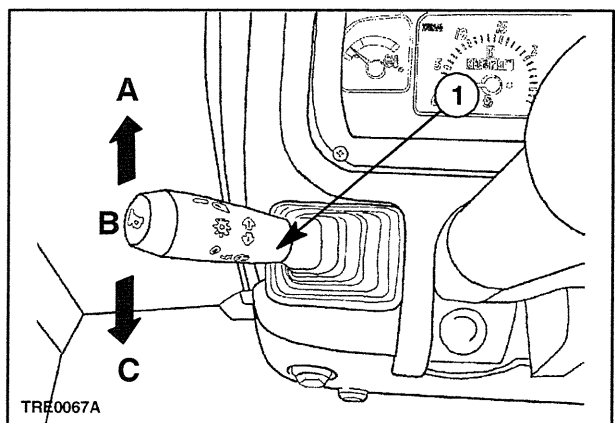
Flashing front headlights

With the lights off or on, move the stalk up to position A fig. 15 to flash the main beam headlights. When the stalk is released, it automatically returns to its original position.

NOTE: The stalk switch (1) fig. 15 will only operate with ignition key in position B fig. 57, page 61.

Side lights

With the stalk (1) fig. 15 in position B, rotate the outer end of the stalk so that the indicator (1) fig. 16 aligns with symbol (2), the side lights 'on' symbol.



15

Dipped headlights

With the stalk (1) fig. 15 in position B, rotate the outer end of the stalk so that the indicator (1) fig. 16 aligns with symbol (3), the headlights ON symbol.

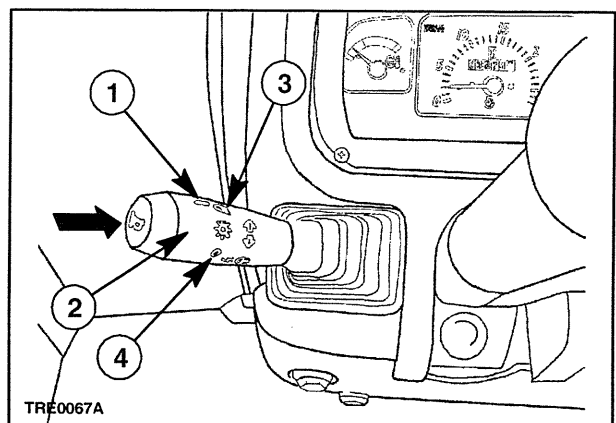
Main beam headlights

With the indicator (1) fig. 16 aligned with symbol (3), the headlights 'on' symbol, move the stalk down to position C, as shown in fig. 15. The main beam warning light on the instrument panel will illuminate with the main beam headlights.

Horn

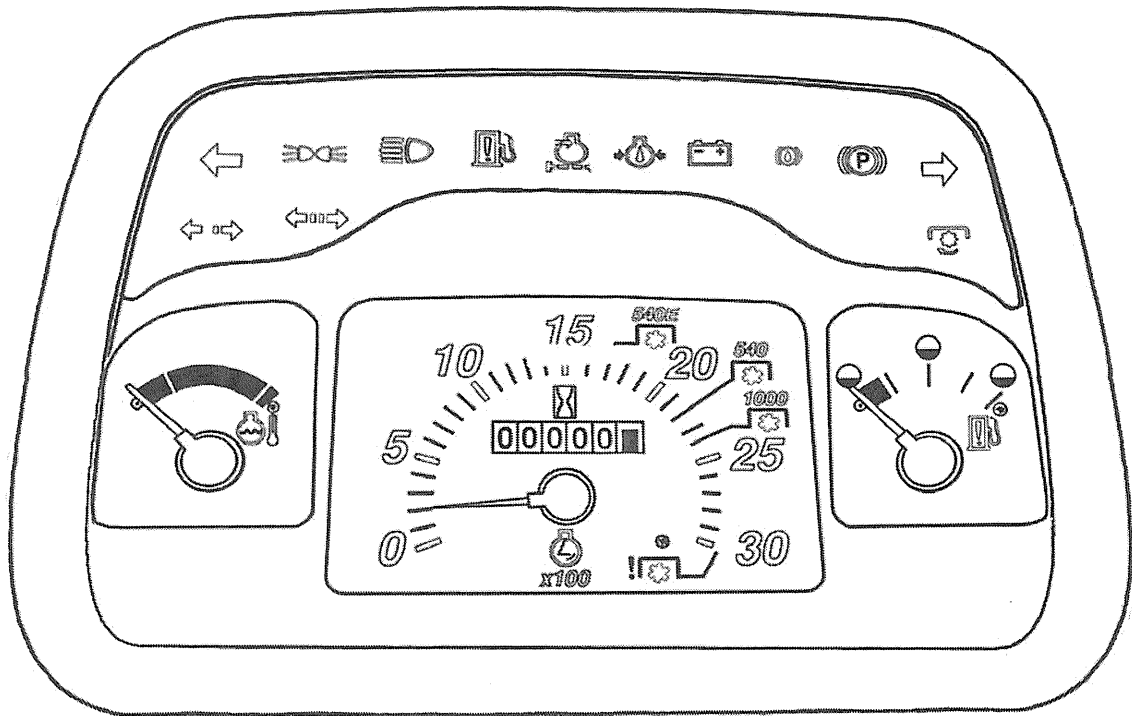
Press the end of control (2) on the stem as shown by the arrow in fig. 16.

NOTE: When the indicator (1) fig. 16 is aligned with symbol (4) all the lights are off. Only the direction indicators and the horn are still functional.



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INSTRUMENT CONSOLE CONTROLS



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17

INSTRUMENT CONSOLE CONTROLS—
Fig. 18**1. Lights control lever**

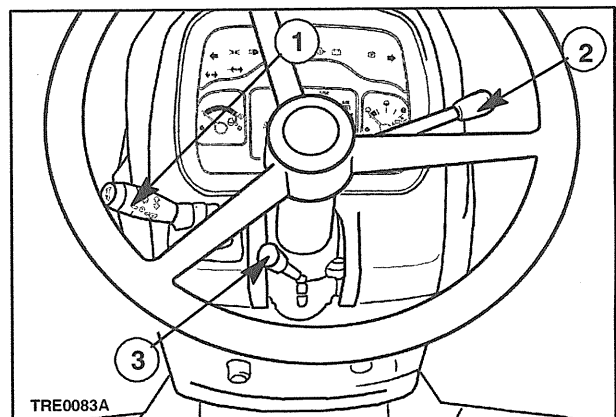
The lever operates external lights, horn and the direction indicators.

2. Hand throttle lever:

- Pushed fully forward; min. engine speed
- Pulled fully backward; max. engine speed

3. Steering wheel position lever.

Push lever (3) to release the steering wheel lock. Move the steering wheel up or down to find the best position for comfortable and safe driving. Pull the lever to lock the steering wheel in the required position.



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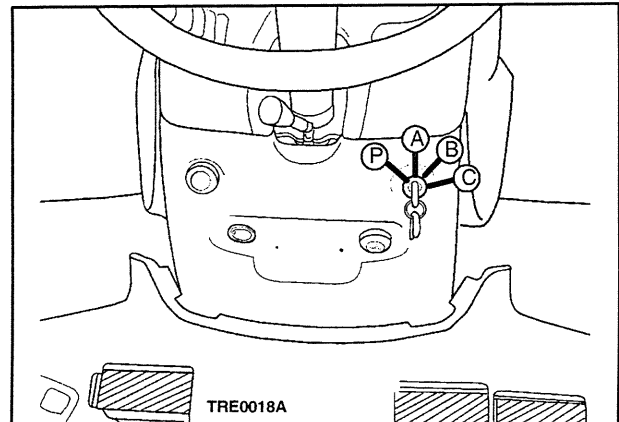
18

INSTRUMENT CONSOLE CONTROLS

IGNITION KEY – Fig. 19

To operate the four key functions, turn the key (1) through the following positions:

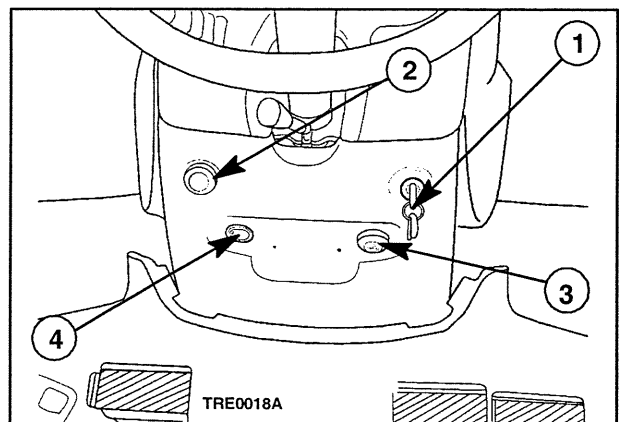
- A. No power to circuits (key can be removed).
Engine stopped: automatic activation of fuel injection cut-off.
- B. Engine start presetting. Operation of panel lights and instruments. Power supplied to various circuits.
- C. Starting the engine: when released, the key returns automatically to position (B).
- P. Parking lights on, instrument panel lighted (key removable)



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CONSOLE CONTROLS – Fig. 20

- 1– Ignition key.
- 2– Thermostart.
- 3– Hazard warning light switch.
- 4– Cigarette lighter.

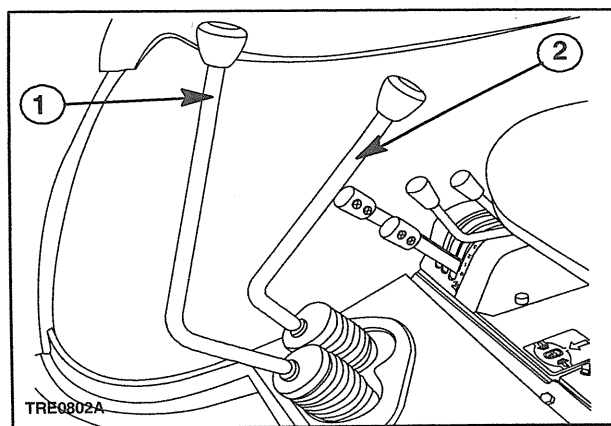


20

RIGHT-HAND SIDE OPERATING CONTROLS

Fig. 21

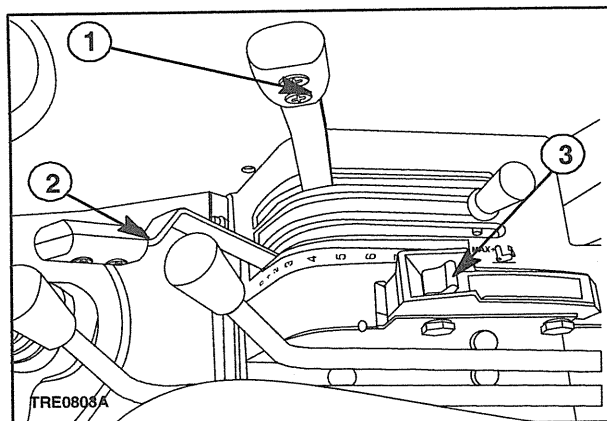
1. Main shift lever
2. Range lever



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Fig. 22

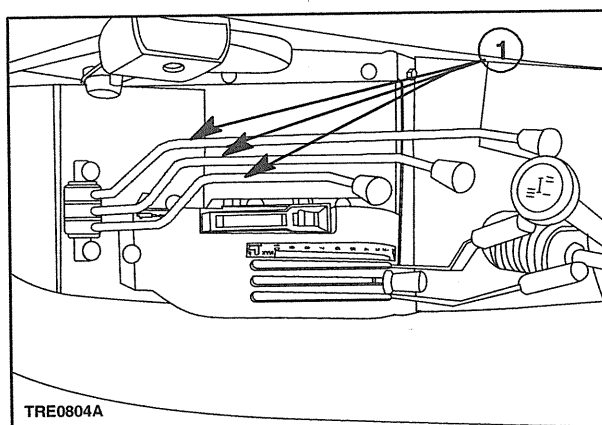
1. Hydraulic lift operating (position control) lever
2. Hydraulic lift operating (draft control) lever
3. Fast hydraulic lift up/down control (Fast Raise / Lower Switch).



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Fig. 23

1. Remote control valve levers

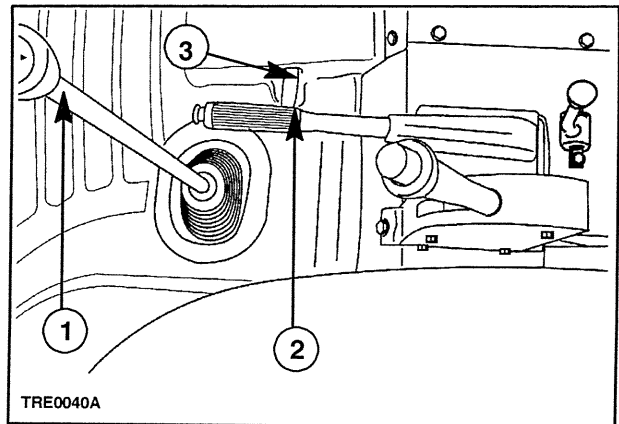


23

LEFT-HAND SIDE OPERATING CONTROLS

Fig. 24

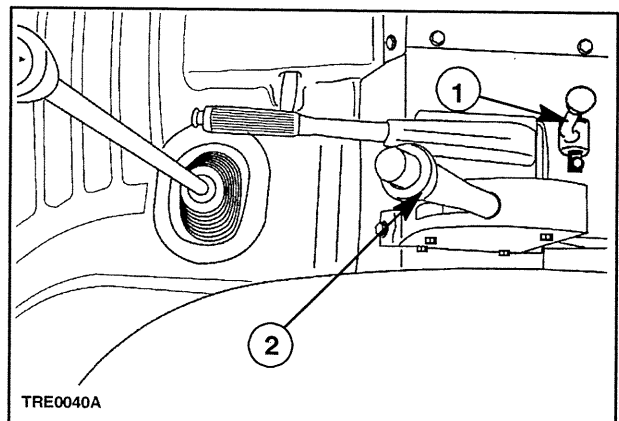
1. Shuttle lever
2. Handbrake lever (with push button release)
 - up = brake on;
 - down (horizontal) = brake off.
3. Mechanically controlled four-wheel drive lever
 - pulled upwards: engaged
 - pushed downwards: disengaged



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Fig. 25

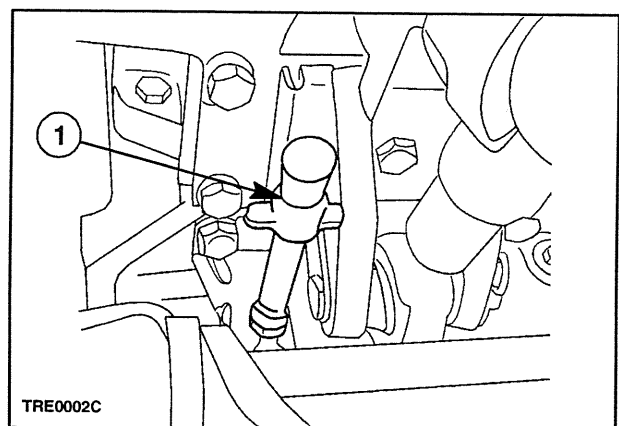
1. Standard power take-off operation selector lever
2. Power take-off engagement lever



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Fig. 26

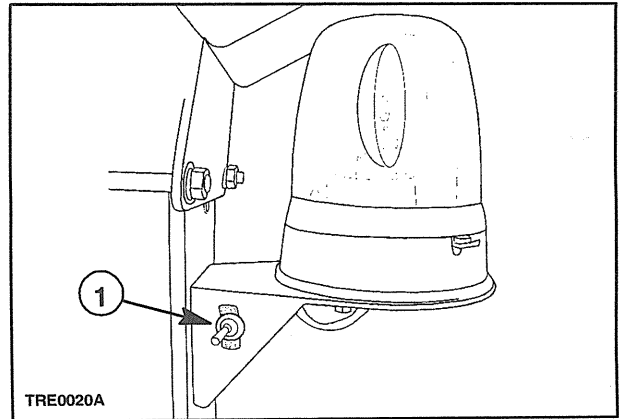
1. Power take-off speed selector lever



26

ROTATING BEACON – Fig. 27

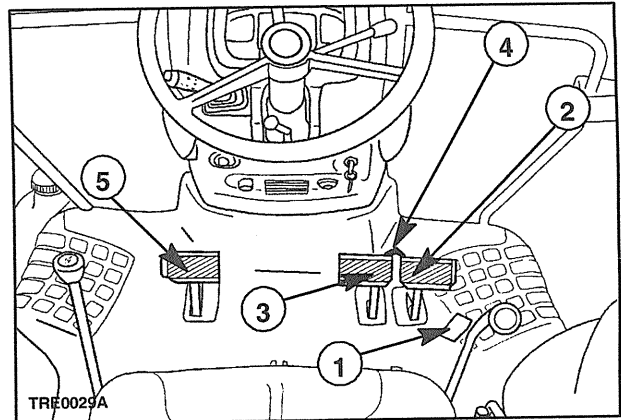
1. Beacon on/off switch (less cab models)



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PEDAL CONTROLS – Fig. 28

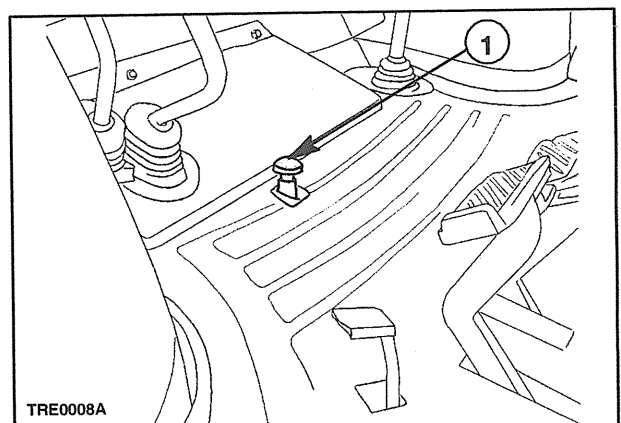
1. Foot throttle.
2. Right brake control pedal.
3. Left brake control pedal.
4. Brake pedal lock pin.
5. Transmission clutch pedal.



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Fig. 29

1. Rear mechanical differential lock

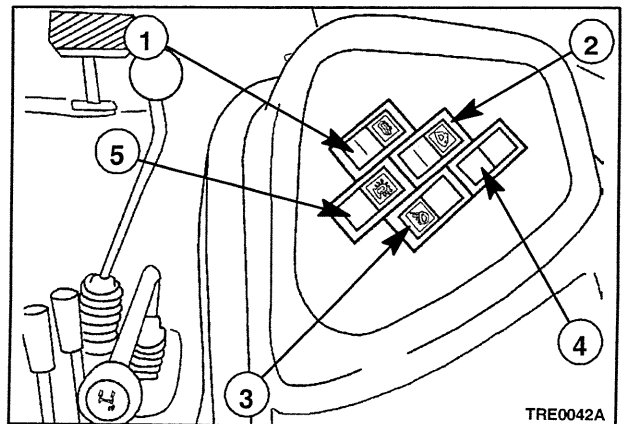


29

CAB CONTROLS

RIGHT-HAND MUDGUARD CONTROLS – Fig. 30

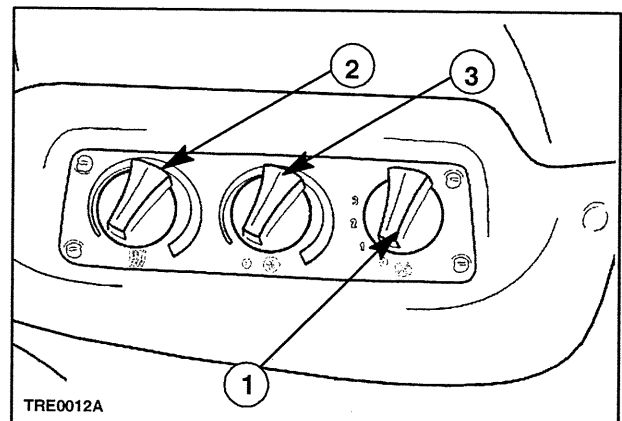
1. Windscreen washer switch
2. Windscreen wiper switch
3. Rear work lights switch
4. Front work lights switch
5. Roof beacon switch (with cab)



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HEATING AND AIR-CONDITIONING CONTROLS – Fig. 31

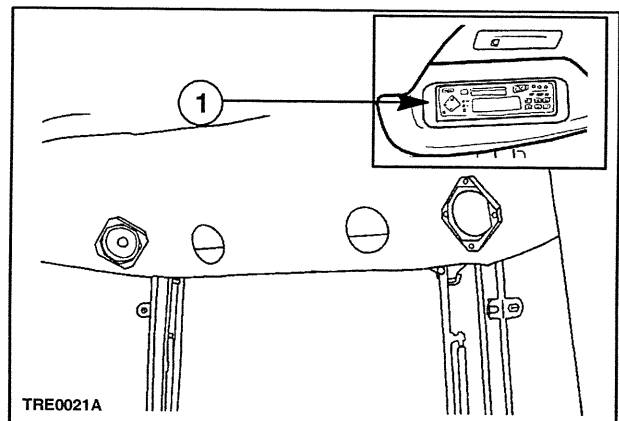
1. Heater/air-conditioner fan speed control
2. Heat temperature control
3. Air-conditioning temperature control



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RADIO/CASSETTE PLAYER (OPTIONAL) – Fig. 32

1. Radio / Cassette player



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TOWING THE TRACTOR

TOWING THE TRACTOR

NOTE: The tractor must only be towed for short distances, for example from inside a building to the outside. It must never be towed for long distances on the road in heavy traffic.

NOTE: For transport purposes, haul the tractor with all four wheels on a flat bed trailer or truck.

Use a strong chain when towing the tractor. Tow the tractor from the rear using only the drawbar, rear tow hitch or the three-point hitch.

Tow the tractor from the front using the tow pin on the front support.

Have an operator steer and brake the tractor.

To avoid damaging the transmission or other components that turn but are not lubricated during towing, observe the following:

1. Only tow for short distances.
2. Keep the speed below 8 km/h (5 mph).
3. If possible, run the engine to provide lubrication and power steering.



WARNING



Never use ropes or cables to tow the tractor. If a cable or rope breaks or slips, it may cause serious injury. When using a chain, connect the hook with the open end upwards so that in the event of the hook slipping, it will drop down instead of flying up.



CAUTION



Do not tow the tractor faster than 8 km/h (5 mph). Steering is much slower and steering wheel effort is much greater without the engine running.

LOADING THE TRACTOR ONTO A TRANSPORTER

TRANSPORTING THE TRACTOR

Load the tractor complete with all four wheels onto the vehicle or trailer platform.

Secure the tractor on the transporter with suitable chains.

Use the towing hook fitted on the front of the tractor for this purpose.

Use the towbar or its supports for the rear hitch point on the tractor.



WARNING



Do not hook or connect chains around the front axle transmission shaft, the power steering cylinders, the front axle itself or other parts of the tractor which could be damaged either by the chains or excessive strain.



WARNING



On models JX70, JX90 and JX95 cover the silencer outlet to prevent the turbocharger from turning in the wind and damaging the bearings. The turbocharger turbine must be prevented from rotating freely with the engine off, as the shaft bearings will not be lubricated.

CHECKS BEFORE USING THE TRACTOR

Before using the tractor, check that you are familiar with the position and function of all the tractor controls.

Ensure that the maintenance and lubrication operations described inside the Manual are fully carried out.

After daily maintenance, carry out a visual inspection of the outside of the tractor, paying particular attention to the following points:

1. Signs of cracking on the fan belt.

2. Accumulation of dirt around the engine.

3. Signs of leaks or damaged components connected to pressure tubes, sleeves and connectors.

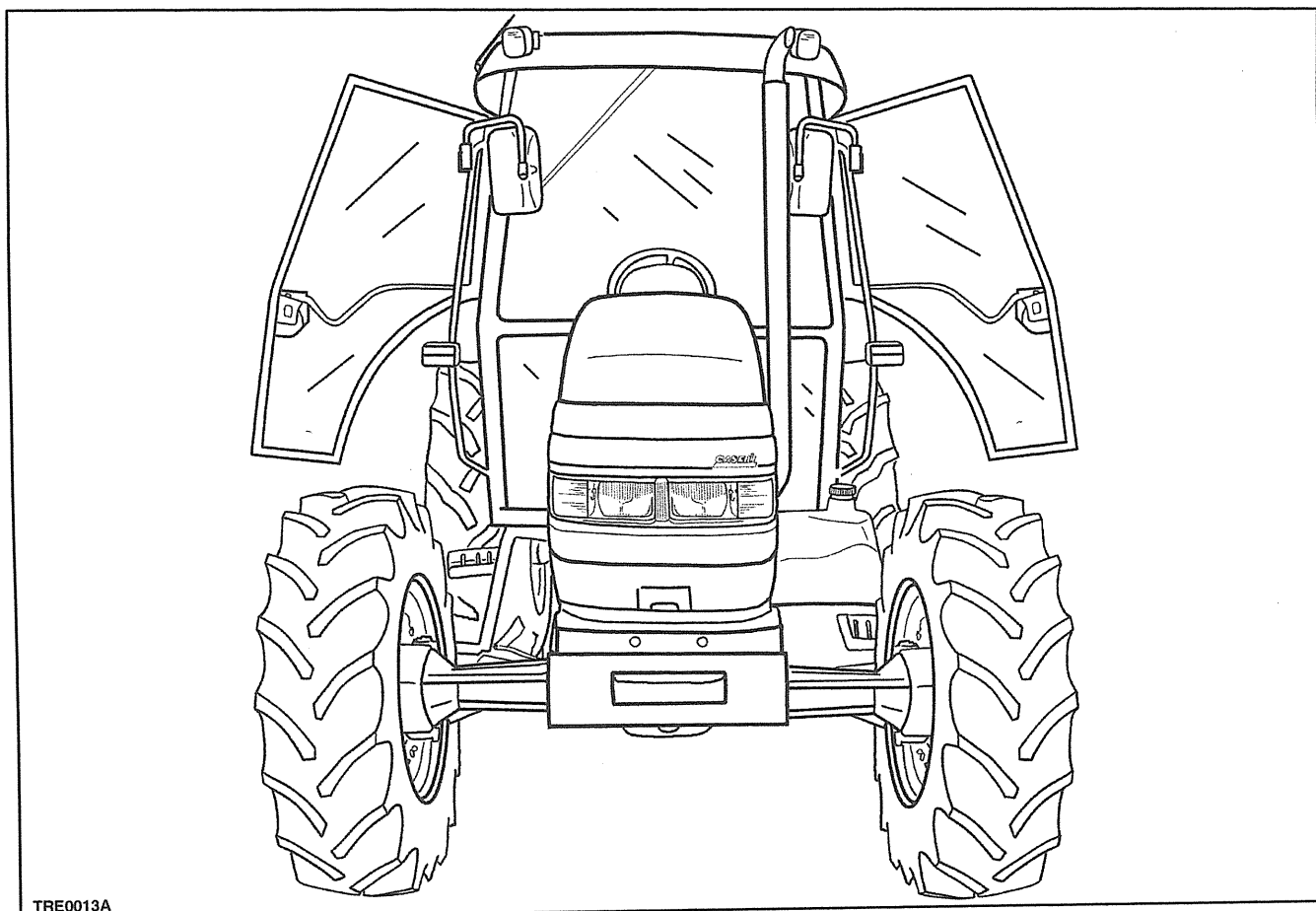
4. Damaged tyres.

5. Loose fasteners.

6. Accumulation of dirt on or leaks from the hydraulic pump and connected parts.

Always carry out any necessary repairs before using the tractor again.

CAB



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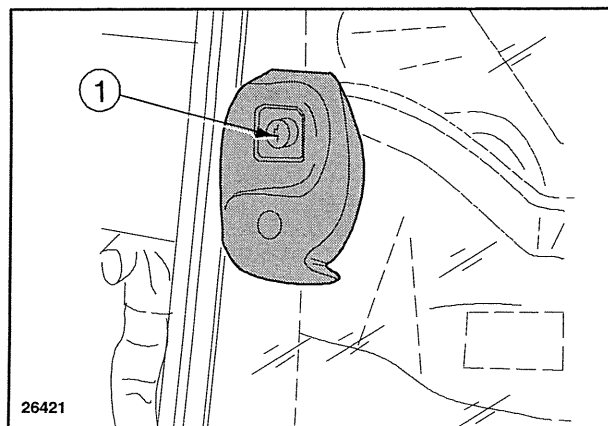
33

This section of the Manual deals only with the use of the heated and ventilated cab.

DOORS

Opening the door from outside – Fig. 34

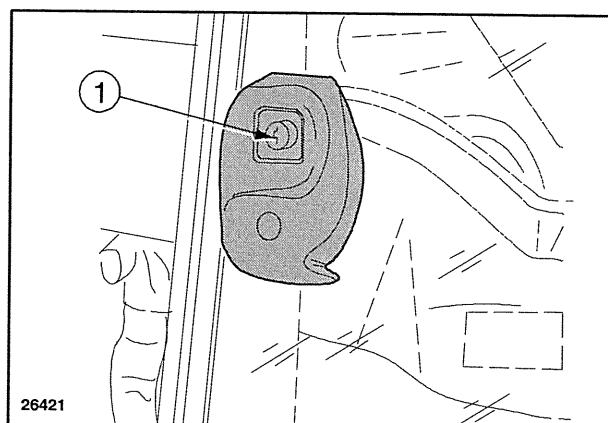
With the door unlocked, press button (1) and pull the door towards you.



34

Locking the door from outside – Fig. 35

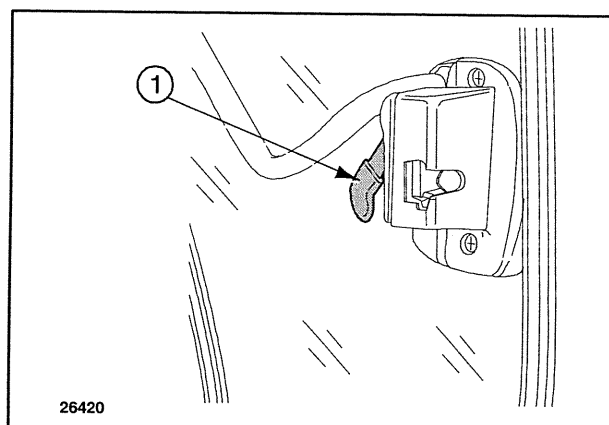
The doors both have locks, which can be locked with a key, and the cab can therefore be closed from either the left or the right hand side.



35

Opening the door from inside – Fig. 36

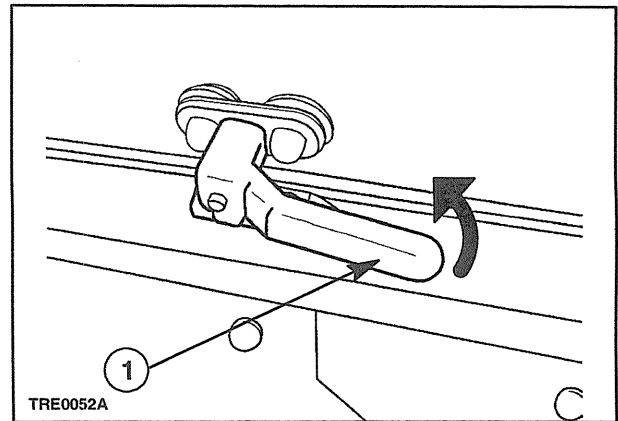
Pull lever (1) upwards.



36

REAR WINDOW – Fig. 37

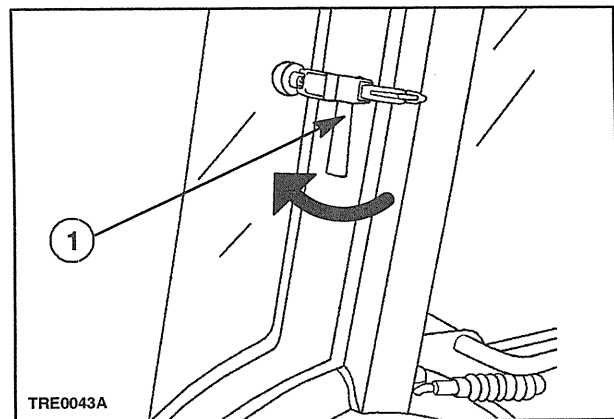
To open, pull handle (1) upwards and push forward. The window is held open by gas struts. Alternatively, the window can be held slightly open by locating the tang on the lever (1) in the slot provided in the lower frame.



37

SIDE WINDOWS – Fig. 38

To open side window, first pull handle (1) towards you and then push forward, to secure the window in the open position, as shown.

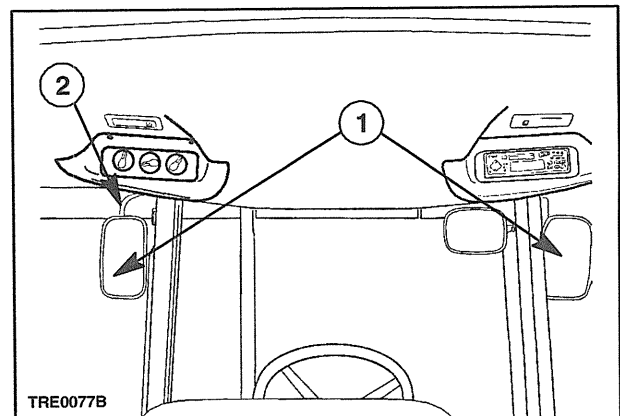


38

EXTERNAL REAR VIEW MIRROR – Fig. 39

To adjust the mirror (1), turn the support arm (2) to adjust the angle of vision

NOTE: The mirror (1) can be adjusted to any required angle.

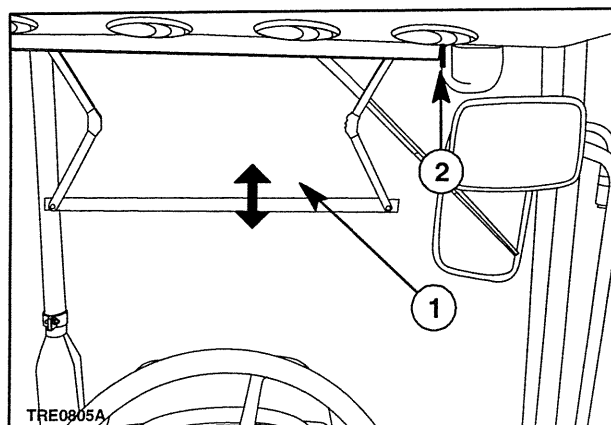


39

SUN VISOR – Fig. 40

To use the sun visor (1), pull downwards as shown by the arrow in the illustration.

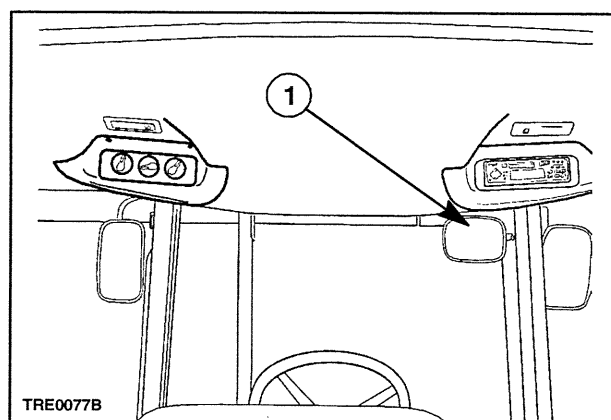
Push the visor up, when not required by pressing the button (2).



40

INTERNAL REAR VIEW MIRROR – Fig. 41

The mirror (1) can be adjusted by rotating it on its support bracket.



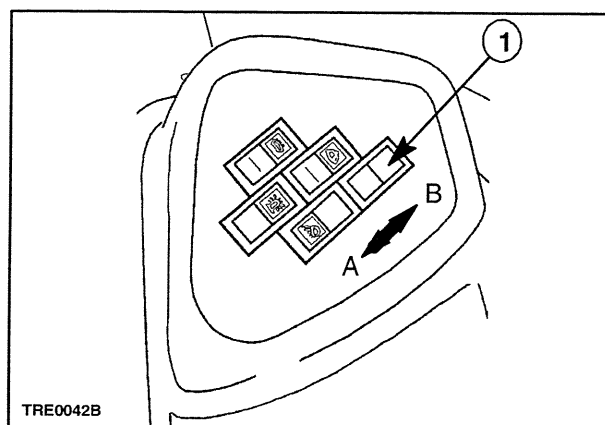
41

FRONT WORK LIGHTS – Fig. 42

1. Front work lights ON/OFF rocker switch.

Position A: ON

Position B: OFF



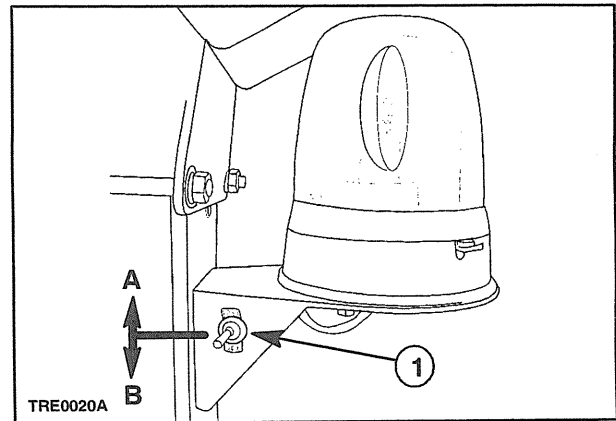
42

BEACON LAMP (WITHOUT CAB) (OPTIONAL) – Fig. 43

1. Beacon lamp ON/OFF rocker switch.

Position A: ON

Position B: OFF



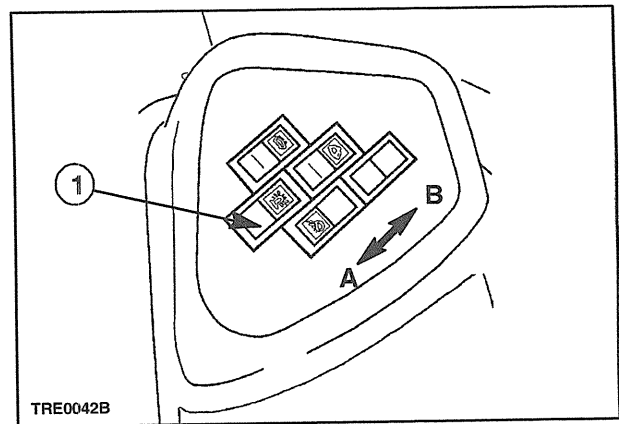
43

BEACON LAMP (WITH CAB) (OPTIONAL) – Fig. 44

1. Beacon lamp ON/OFF rocker switch.

Position A: ON

Position B: OFF



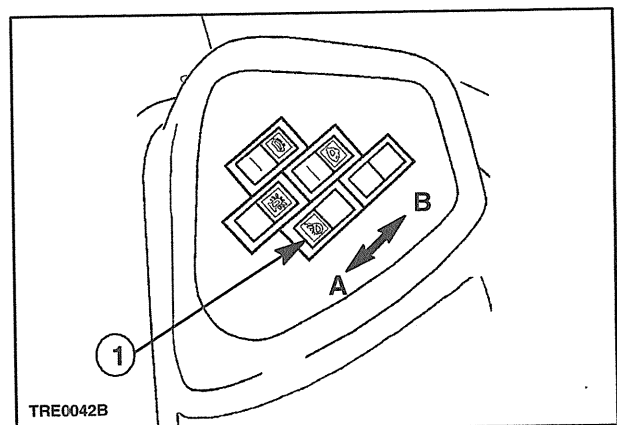
44

REAR WORKING LIGHTS – Fig. 45

1. Rear working lights ON/OFF rocker switch.

Position A: ON

Position B: OFF



45

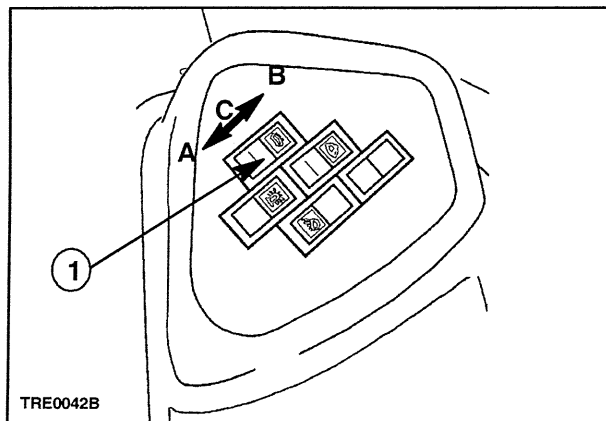
FRONT WINDSCREEN WASHER – Fig. 46

1. Front windscreen washer rocker switch.

Position B: ON

(The switch is spring-loaded. For continuous washing, hold the switch down)

Position A: OFF



46

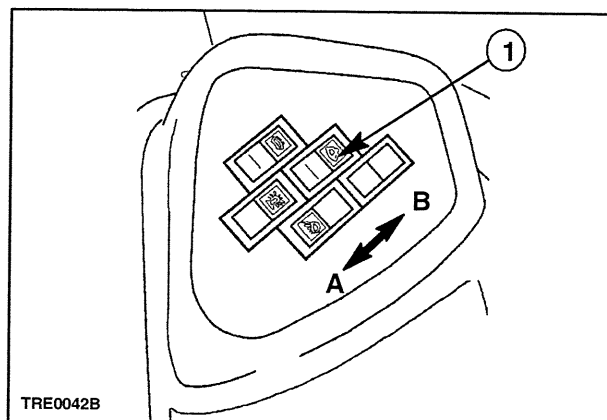
FRONT WINDSCREEN WIPER – Fig. 47

1. Front windscreen wiper switch.

Position A: OFF

Central position: ON-STANDARD SPEED

Position B: FAST SPEED



47

REAR WINDSCREEN WASHER-WIPER Fig. 48 (OPTIONAL)

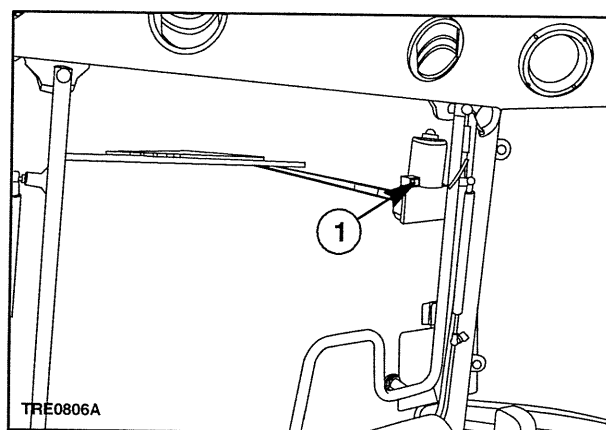
To operate the rear windscreen wiper press the switch (1) Fig. 48.

Washer switch (1) Fig. 46. has 3 positions:

Position B: FRONT WASHER OPERATES

Position C: OFF

Position A: REAR WASHER OPERATES



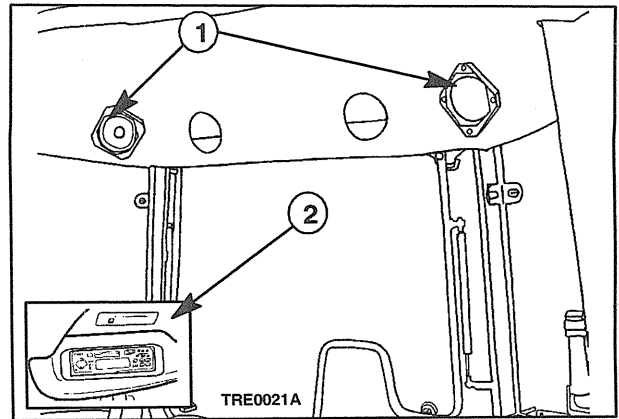
48

RADIO (OPTIONAL) – Fig. 49

To add to driver comfort, the cab can be equipped ready for radio installation.

The equipment comprises:

- two stereo speakers (1);
- housing (2) for the radio;
- aerial and the relative connections.

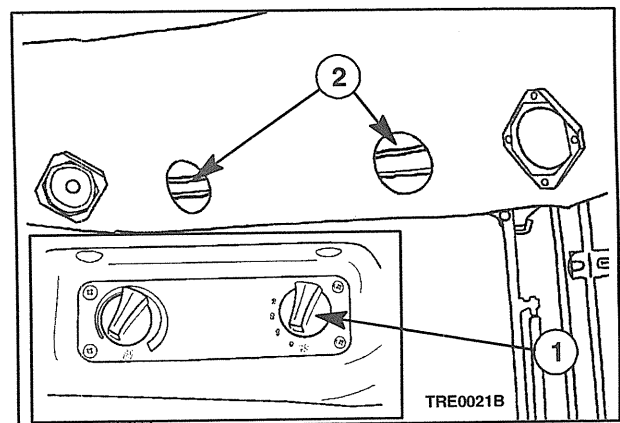


49

VENTILATION – Fig. 50

Actuate the ventilation with switch (1) and direct the air flow by adjusting the rear swivel vents (2) and the front swivel vents (3) fig. 52.

When the electric fan is operating, and with the doors and windows closed, air can only enter the cab via the filters mounted either side of the roof. Consequently, the pressure inside the cab is higher than that outside, which will help reduce the amount of unwanted dust and other pollutants that might enter the cab.

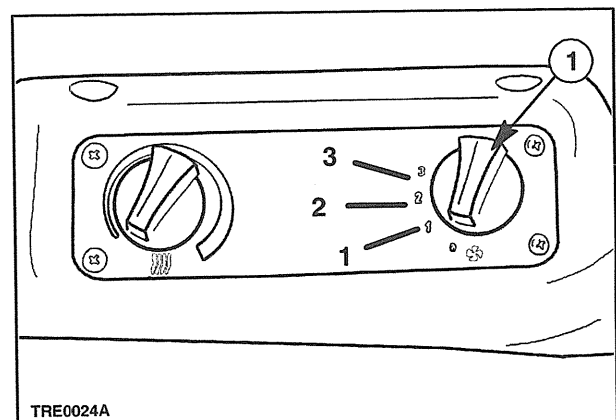


50

ELECTRIC FAN – Fig. 51

The electric fan switch (1) figs. 50 and 51 will only operate when the ignition key (fig 19) is in position B. The switch, shown in the **off** position, has three further settings:

1. Low speed.
2. Medium speed.
3. High speed.



51

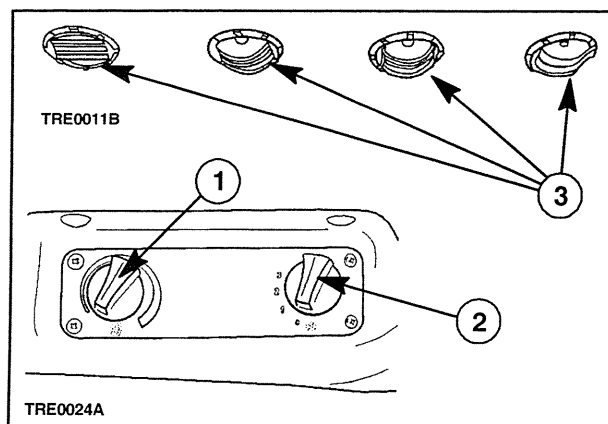
HEATING – Fig. 52

Adjust the air temperature using control (1) to reduce or increase the circulation of coolant from the engine. With the electric fan control (2) you can change the volume of air entering the cab through front vents (3) and the rear vents (2) fig. 50.

To adjust the air temperature use the control knob (1). Turn the control to the left (counter-clockwise) to reduce the air temperature circulating in the cab.

Temperature control knob (1)

- Fully counter-clockwise = minimum temperature
- Fully clockwise = maximum temperature



AIR FILTERS

**DANGER**

Remember that the cab air filters do not generally protect against pesticides. Total protection against these substances can therefore only be ensured by taking the necessary precautions according to the properties of individual products. The cab air filter is designed to remove dust from the air but may not exclude chemical vapour. Follow the chemical manufacturer's directions regarding protection from hazardous chemicals.

CAB AIR CONDITIONING SYSTEM

This section of the Manual describes the operation and use of the Supercomfort cab, which is fitted with an air conditioning system.

This system, in addition to ensuring optimum temperatures inside the cab, reduces the air humidity, which might otherwise be a nuisance to the operator, compromising tractor handling safety.

The cab is also fitted with windows, which reduce the effects of the sun's rays inside the cab – something which, in hot weather, creates particularly unpleasant conditions for the operator.

SAFETY RULES

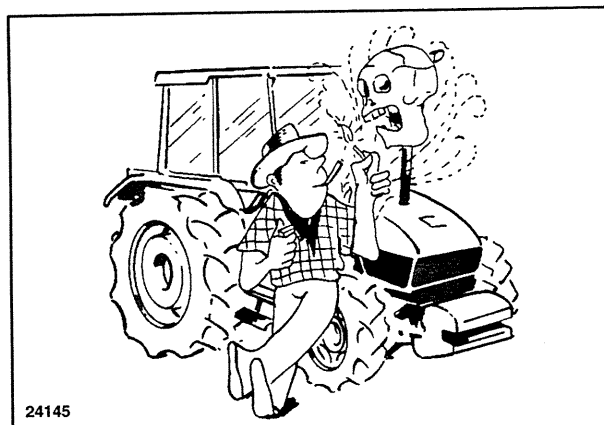
The air conditioning system is safe and can be used continuously without any risk. However, it is important to observe a few simple precautions, listed below, to avoid any risk of accident.

- We recommend that you should never personally attempt to adjust the system; any work should instead be carried out by the highly experienced Company service network.
- Never allow naked flames near the air conditioning system. If the refrigerant is leaking, a lethal gas –**phosgene**– could be produced.



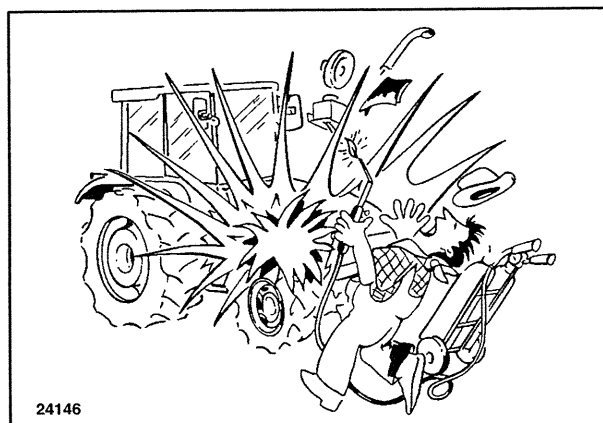
53

- The oil and refrigerant mixture is pressurised inside the air conditioning system. The loosening of any connections or handling of tubing is therefore strictly forbidden. For the same reason, never unscrew the compressor oil level inspection cap for any reason.



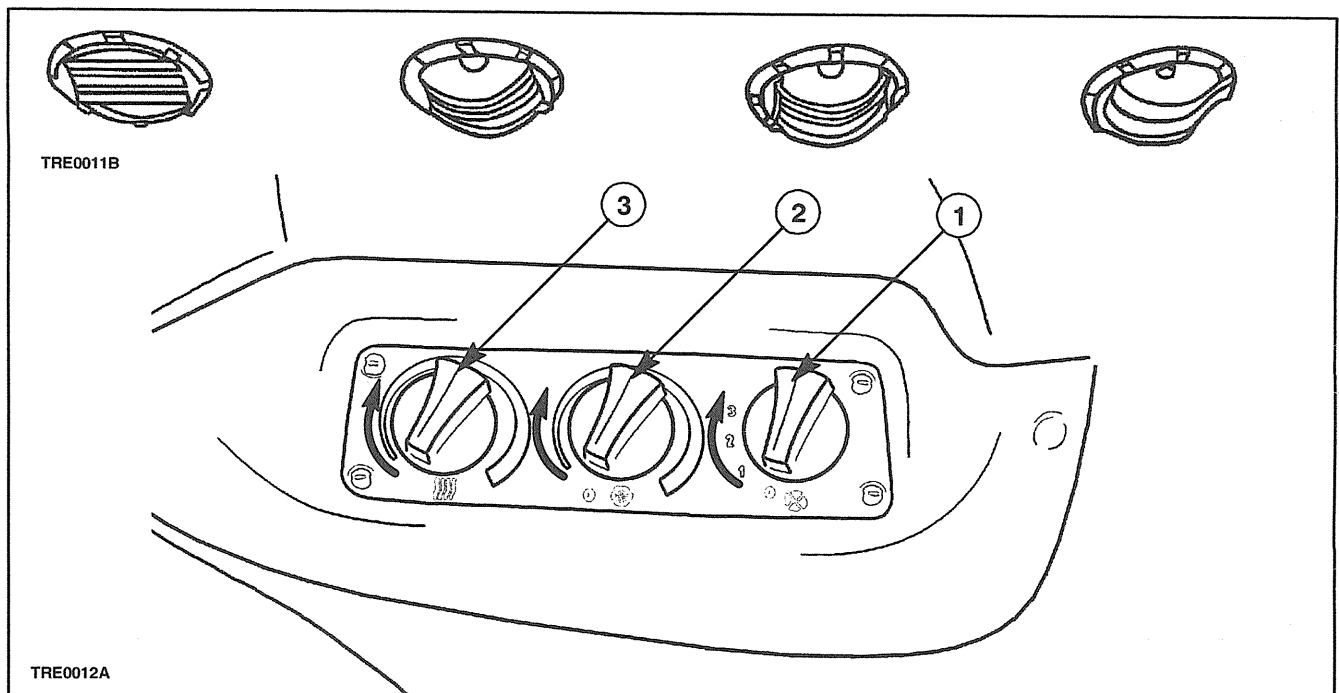
54

- The refrigerant can freeze the skin and especially the eyes causing permanent serious injury. If an accident should occur, proceed as follows:
 - if refrigerant splashes into the eyes, wash immediately with a few drops of mineral oil, then continue to wash thoroughly with a solution of boric acid and water (one teaspoon of acid in 1/4 of a cup of water) and consult a doctor immediately;
 - the freezing caused by the refrigerant can be treated by gradually unfreezing the damaged area with cold water and then applying a fatty cream. Consult a doctor promptly.
- Do not let the air conditioning system approach any heat source too closely in order to prevent any risk of explosion.



55

CAB AIR CONDITIONING SYSTEM



56

AIR CONDITIONING AND TEMPERATURE CONTROL – Fig. 56

Air conditioner control (2)

The system operates with the ignition key switched on.

With the fan control (1) in positions 1 - 2 or 3, turn the control (2) to switch on the air conditioner.

Heater control (3)

With fully control (3) in the counter-clockwise position the heater is turned off.

Three-speed electric fan control (1)

The fan operates with the ignition key in the starting position.

1. Low speed.
2. Medium speed.
3. High speed.

NOTE: For cab pressurisation see the heading **Ventilation** on page 51 in this section.

55

AIR CONDITIONING SYSTEM – INSTRUCTIONS FOR USE

The air conditioning system provides dehumidified cool air or dehumidified hot air.
It is operated as follows:



When the engine is not running the air conditioner will not work because the compressor is driven by the engine.

STARTING

With the engine running and the electric fan on, turn the control knob (2) fig. 56 to start the air conditioning system.



Always switch the electric fan on before the air conditioning.
The air conditioning cannot work when the electric fan is off.



If the air conditioner has been out of use for more than 30 days, run the engine at idle speed for at least 3 minutes after switching on the air conditioner.

After for a few minutes, the inspection glass on the top of the dryer filter should be clear and not contain any bubbles. If this is not the case, stop the system and contact your dealer.



Before starting the engine, check that the air conditioning is off.

ADJUSTMENT

NOTE: When working in a very dusty environment, the cab pressure may have to be increased, by increasing fan speed to prevent dust from entering the cab. Doors and windows should be kept closed.

Under certain conditions, it may be desirable to operate both the air conditioner and heater together e.g. to demist the windscreen and side windows on a cold morning. (The air conditioner, as well as cooling, also removes humidity from the cab air). Run the engine to normal operating temperature, turn the heater control (3) fig. 56 and fan control (1), to the maximum settings (fully clockwise). Adjust the swivelling air vents to direct the airflows, as required.

To restore the temperature in the cab after a prolonged halt in the sun, start the tractor, switch on the air conditioning and after about a minute open the rear window to let the hot air escape.

STOPPING

Before stopping the engine, always switch off the air conditioning by turning the knob (2) counter-clockwise and moving fan control (1) to the off position.

REGULAR INSPECTIONS

At least once every three months:

- remove any foreign matter from the condenser and evaporator fins;
- check the tension of the compressor belt;
- run the engine at 1500 speed and check the dryer filter inspection glass: it should be transparent and not contain any air bubbles or white liquid;
- check the condition of the tubing, connections and mounting of brackets;
- check that the discharge pipes are working properly and remove any condensation from the evaporator;
- check that the pulley and compressor retaining screws and nuts are correctly tightened.

MAINTENANCE

During long periods of inactivity, run the air conditioning system for a few minutes every month to circulate the oil in the system and keep the seals in good condition.

Run the system only when the engine is warm and the temperature inside the cab has reached 20° C.

ANNUAL MAINTENANCE

At the beginning of the working season, have the following operations carried out by your authorised dealer:

- check the oil level in the compressor, fill-up if necessary;
- check the sealing on the system with a leakage detector, fill-up with HFC 134a gas, or:
- replace the dryer filter, only if absolutely necessary;

- a functional check of the overall system.

GENERAL CAB MAINTENANCE (ALL MODELS)

After completing external cab maintenance, carry out the following inspections:

1. Check from time to time that there is no leftover water in areas covered with mats or padding.
2. Protect the hinges and locks on the doors and opening windows with lubricants and water-repellents.
3. Use suitable detergents or, if necessary, sulphuric ether to clean the windows.
4. Remove the windscreen wiper blade and sprinkle talc on the rubber.
5. Leave the doors or side windows partially open.

SPECIFICATIONS

Refrigerant HFC134a

– Quantity 1.6 kg

Compressor SANDEN SD 7H15

– Capacity 155 cc/rev

– Oil type SANDEN PAG SP-20

– Oil quantity 185 cc

Cooling capacity at 22° C – 49° C (75° F – 120° F)
ambient temperature :.....3873 kcal/h
(Actual capacity dependent on system control
operator setting)

Airflow with electric fan on speed 3 ... 8.3 m³/min

NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

OPERATING INSTRUCTIONS

BEFORE USING THE TRACTOR

Read this section of the Operator's Manual carefully before using the tractor. This is particularly important if the tractor is to be used correctly as it contains all the information required on the layout and use of the tractor controls.

Even if you already have experience in using other makes of tractor, this section of the Manual especially must be studied carefully and thoroughly.

After reading this section in full, ensure that you are fully familiar with the layout and use of the controls. Ensure too that you know the specifications of the tractors in question.

Never start the engine and tractor if you have not already familiarised yourself with all the controls.

Finding out once the tractor is moving may be too late.

If you have any doubts about any functional aspect of the tractor, contact your dealer.

Particular attention needs to be paid to the tractor's running-in period, to obtain the best operating reliability and service life for which it is designed and built.

With regard to the reliability and service life of your tractor, study section "Lubrication and Maintenance" carefully.

Section "Lubrication and Maintenance" contains details of all the lubrication and general maintenance operations to be carried out on the tractor.

Tractor data and specifications are noted in section "Specification".

OPERATION

CAUTION

Before starting the engine and moving the tractor, follow the instructions written below.

- Do not start or operate the tractor in an enclosed area.
- Before starting the engine, check that all controls are in neutral.
- All controls must be actuated only from the driver's seat.
- Stop the engine before carrying out any service or maintenance operations on the tractor.
- Use the steps provided for entering and leaving the tractor.
- Keep the guards properly fitted.
- When moving on the roads, signal your intention to stop, turn or slow down.
- Use the appropriate warning devices to indicate a slow-moving vehicle.

STARTING THE ENGINE

- a. If the tractor has not been used for some time, or if started up for the first time at a low surrounding temperature, actuate the fuel pump starting lever around twenty times.
- b. Ensure that both gear levers are in neutral position.
- c. Move the throttle lever to around the half way position.
- d. Turn the ignition key to position **C**, fig. 57. Release the key as soon as the engine starts.

HOW TO START AND STOP

STARTING IN A LOW EXTERNAL TEMPERATURE

WARNING

When the external temperature is low and the engine is cold, cover the radiator before starting so that the engine coolant can quickly reach operating temperature.

Then remove the cover. Note the following warnings:

— Any single engine starting attempt should not last longer than 15 seconds; if, however, the engine fires but does not start, repeat up to a maximum time of 30 seconds.

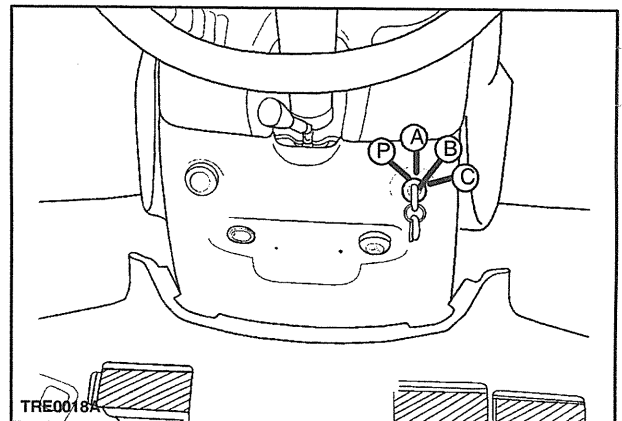
— Wait at least one minute between attempts to start the engine.

— It is advisable not to make more than six attempts to start the engine to avoid excessive battery run-down.

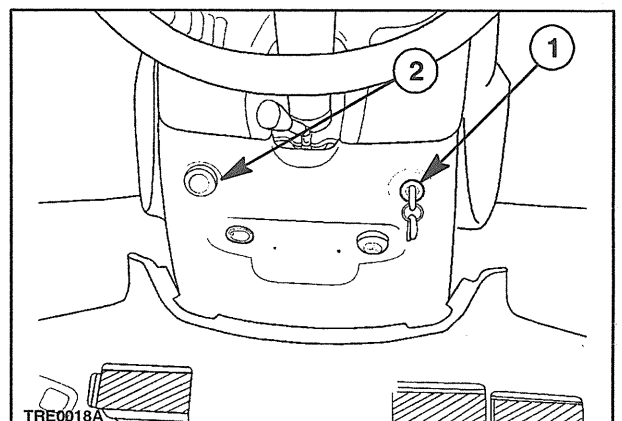
STARTING WITH THERMOSTART

Start as follows:

- carry out the operations **a**, **b**, **c**, as previously described.
- turn the ignition key to position **B** (1) fig. 57.
- activate the thermostart by pressing switch (2) fig. 58 and keep it pressed for 25 seconds.
- move the ignition key to position **(C)** while continuing to hold down switch (2) fig. 58 until the engine starts.
- when the engine starts, release both the key and the thermostart switch. If, after two or three attempts, the engine has not started and you notice black smoke coming from the exhaust, start the engine without using the thermostart.



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58

— **CAUTION** —

When starting the engine after the tractor has been out of use for some time, avoid using the hydraulic system immediately, as all the moving parts need to be lubricated properly before they are subjected to full load, especially when the external temperature approaches 0°C. Run the engine at 1300–1500 speeds for around 5 minutes to bring the oil in the rear transmission up to working temperature.

— **CAUTION** —

Before accelerating or starting JX70, JX90 and JX95 turbocharged tractor models, let the engine idle at 1000 speed for 30 seconds to ensure that the turbocharger is fully lubricated.

— **CAUTION** —

If one of the warning lights illuminates to signal a fault, stop the engine and investigate the problem. If the warning light continues to signal a fault, have the machine checked by your authorised dealer.

— **CAUTION** —

To prevent separation of the paraffin components in the diesel fuel, when the external temperature falls below freezing – leading to a reduction in fluidity and consequent fuel supply problems (especially when starting the engine), **use only Winter grade diesel or mix the diesel with a proprietary cold weather additive** in the proportions stated on the container. Winter additive must be mixed with the diesel fuel before there is any sign of paraffin separation; adding it later will have no effect on an engine if the cold has already caused the engine to stop running or prevent it being started. Put the additive in the tank first, followed by the diesel fuel. The additive will ensure that there is an optimum fuel supply to the engine without reducing performance, even when the external temperature drops below –20° C.

STARTING THE TRACTOR

- Press the clutch pedal and move the main gear lever and creeper lever to the desired settings (see pages 109 and 65).
- Accelerate the engine as necessary.
- Release the handbrake lever and engage the clutch, releasing the pedal slowly.

— **WARNING** —

To extend the service life of the tyres and the transmission components, it is advisable not to use the tractor continuously at full power when working at speeds of less than 7 km/h (4.35 mph), particularly when the tractor is excessively ballasted.

It is not advisable to ballast the tractor too heavily when towing heavy loads and travelling at low speeds. Follow the instructions given in the chapter on ballast and hitch components.

STOPPING THE TRACTOR

- Reduce engine speed.
- Depress the transmission clutch pedal and brake.

With the tractor stationary, move the main shift and range gear levers to neutral, release the clutch pedal and engage the handbrake.

STOPPING THE ENGINE

— **CAUTION** —

On models JX70, JX90 and JX95, before stopping the engine, let it idle at 1000 speed for at least three minutes.

- Turn the ignition key to the STOP position (A) fig. 57.

TRANSMISSION WITH RANGE GEAR – 30 km/h (19 mph) (12 FORWARD GEARS + 4 REVERSE GEARS – SYNCRO COMMAND) (NOT AVAILABLE IN ALL MARKETS)



With the engine running and with just one gear lever in neutral, the tractor could be started accidentally if the lever is knocked, with consequent accident risk. To prevent this happening, move both levers fig. 59 to neutral, disengage the power take-off, lower any attached equipment and stop the engine before leaving the tractor.

The transmission and range gears are controlled by two separate levers.

The main shift lever (1) fig. 59 selects four gear ratios (1, 2, 3, 4).

The range lever (1) fig. 60 provides three forward gear ranges and one reverse range R for each gear ratio.

Range lever positions – Fig. 60

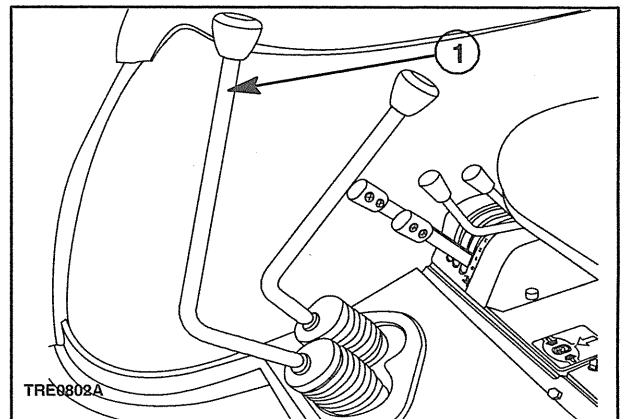
- I = low
- II = medium
- III = high
- R = reverse

There are **twelve** forward and **four** reverse gears.

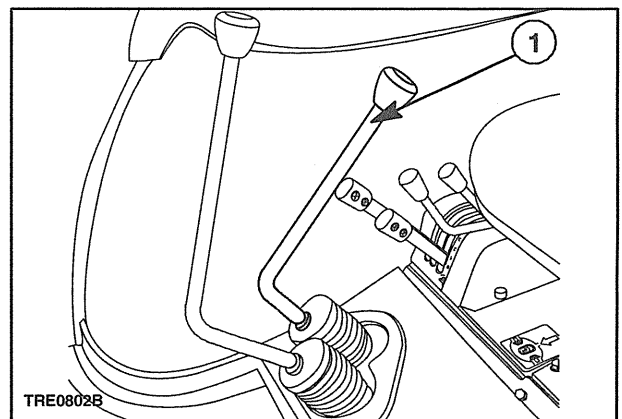
To change from a medium gear to a lower or higher one, stop the tractor, move the range lever to the right and shift it forwards for lower gears or backwards for higher gears.

To engage reverse R, stop the tractor and move the range lever to the left and then shift back.

To change from one speed to another in the same range, shift the main shift lever after releasing the clutch. (The tractor does not have to be halted as the gears are Synchro-engaged).



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60

SPEEDS AT MAXIMUM POWER

Transmission and range gear 30 km/h (19 mph) version (12 forward gears + 4 reverse gears – Synchronesh)

RANGE	GEAR	REAR TYRES km/h (mph)		
		JX 60 14.9–28 (RI:640)	JX 70 14.9–30 (RI:665)	JX 80 16.9–30 (RI:695)
I 	1	1.6 (1.0)	1.7 (1.1)	1.7 (1.1)
	2	2.5 (1.6)	2.6 (1.6)	2.5 (1.6)
	3	3.1 (1.9)	3.2 (2.0)	3.1 (1.9)
	4	4.9 (3.0)	5.1 (3.2)	5.0 (3.1)
II 	1	3.8 (2.4)	4.0 (2.5)	3.9 (2.4)
	2	5.9 (3.7)	6.1 (3.8)	5.9 (3.7)
	3	7.2 (4.5)	7.5 (4.7)	7.3 (4.5)
	4	11.5 (7.2)	12.0 (7.5)	11.6 (7.2)
III 	1	9.0 (5.6)	9.4 (5.8)	9.1 (5.7)
	2	13.9 (8.6)	14.5 (9.0)	14.0 (8.7)
	3	17.1 (10.6)	17.7 (11.0)	17.1 (10.6)
	4	27.1 (16.8)	28.2 (17.5)	27.3 (17.0)
R 	1	4.2 (2.6)	4.4 (2.7)	4.3 (2.7)
	2	6.5 (4.0)	6.8 (4.2)	6.6 (4.1)
	3	8.0 (5.0)	8.3 (5.2)	8.1 (5.0)
	4	12.8 (8.0)	13.3 (8.3)	12.8 (8.0)

TRANSMISSION WITH RANGE GEAR AND SHUTTLE – 30 km/h (19 mph)

(12 FORWARD GEARS + 12 REVERSE GEARS – SYNCHRO SHUTTLE)

⚠ CAUTION ⚠

With the engine running and with just one gear lever in neutral, the tractor could be started accidentally if the lever is knocked, with consequent accident risk. To prevent this happening, move both levers fig. 61 to neutral, disengage the power take-off, lower any attached equipment and stop the engine before leaving the tractor.

The transmission, range gear and shuttle are independently controlled by three levers.

The main shift lever (1) fig. 61 selects four speed ratios (1, 2, 3, 4).

The range lever (1) fig. 62 provides three forward ranges:

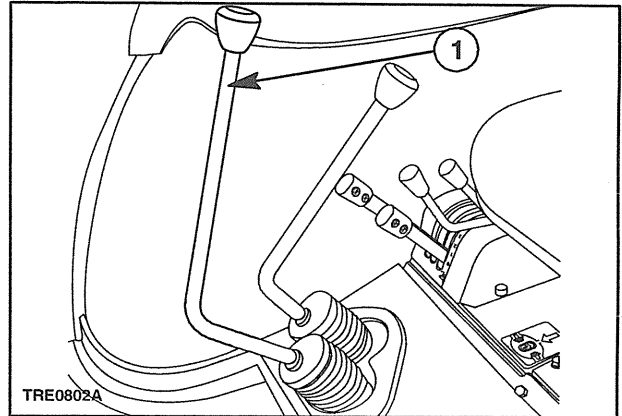
- I = low
- II = medium
- III = high

There are **twelve** forward and **twelve** reverse gears.

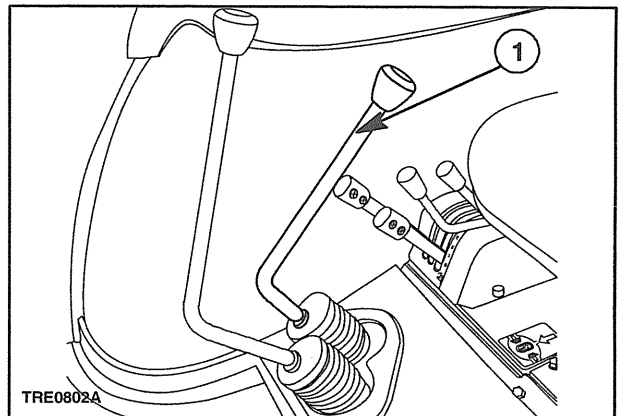
To change from a medium gear to a lower or higher one, stop the tractor, move the range lever to the right and shift it forwards for lower gears or backwards for higher gears.

To change from one speed to another in the same range (including reverse), shift the main shift lever after disengaging the clutch (the tractor does not have to be halted as the gears are Synchro-engaged).

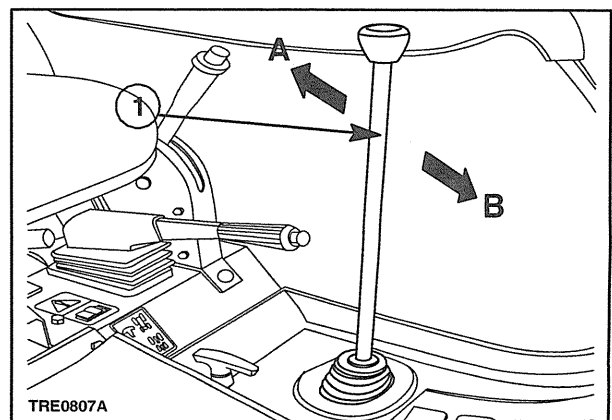
To reverse the direction of travel, slow the tractor almost to a halt, move the shuttle lever (1) fig. 63 rearwards, to position (A) to obtain reverse gears or forwards (B) to disengage the shuttle and obtain forward gears. (The tractor does not have to be halted as the gears are Synchro-engaged).



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62



63

SPEED AT MAXIMUM POWER

Shuttle transmission 30 km/h (19 mph) version (12 forward gears + 12 reverse gears – Synchro Shuttle)



Forward gears

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX 60 14.9–28	JX 70 14.9–30	JX 80 16.9–30	JX 90 18.4–30	JX 95 18.4–34
I	1	1.6 (1.0)	1.7 (1.1)	1.7 (1.1)	1.7 (1.1)	1.8 (1.1)
	2	2.5 (1.6)	2.6 (1.6)	2.5 (1.6)	2.6 (1.6)	2.6 (1.6)
	3	3.4 (2.1)	3.6 (2.2)	3.5 (2.2)	3.6 (2.2)	3.8 (2.4)
	4	4.9 (3.1)	5.1 (3.2)	5.0 (3.1)	5.1 (3.2)	5.4 (3.4)
II	1	3.8 (2.4)	4.0 (2.5)	3.9 (2.4)	4.0 (2.5)	4.2 (2.6)
	2	5.9 (3.7)	6.1 (3.8)	5.9 (3.7)	6.2 (3.9)	6.1 (3.8)
	3	8.0 (5.0)	8.4 (5.2)	8.1 (5.0)	8.4 (5.2)	8.8 (5.5)
	4	11.5 (7.2)	12.0 (7.5)	11.6 (7.2)	12.0 (7.5)	12.6 (7.8)
III	1	9.0 (5.6)	9.4 (5.9)	9.1 (5.7)	9.4 (5.9)	9.9 (6.2)
	2	13.9 (8.7)	14.5 (9.0)	14.0 (8.7)	14.5 (9.0)	14.4 (9.0)
	3	18.9 (11.8)	19.7 (12.2)	19.0 (11.8)	19.7 (12.2)	20.8 (12.9)
	4	27.1 (16.9)	28.2 (17.5)	27.3 (17.0)	28.3 (17.6)	29.8 (18.5)



Reverse gears

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX 60 14.9–28	JX 70 14.9–30	JX 80 16.9–30	JX 90 18.4–30	JX 95 18.4–34
I	1	1.6 (1.0)	1.7 (1.1)	1.7 (1.1)	1.7 (1.1)	1.8 (1.1)
	2	2.5 (1.6)	2.6 (1.6)	2.5 (1.6)	2.6 (1.6)	2.6 (1.6)
	3	3.4 (2.1)	3.6 (2.2)	3.5 (2.2)	3.6 (2.2)	3.8 (2.4)
	4	4.9 (3.1)	5.1 (3.2)	5.0 (3.1)	5.1 (3.2)	5.4 (3.4)
II	1	3.8 (2.4)	4.0 (2.5)	3.9 (2.4)	4.0 (2.5)	4.2 (2.6)
	2	5.9 (3.7)	6.1 (3.8)	5.9 (3.7)	6.2 (3.9)	6.1 (3.8)
	3	8.0 (5.0)	8.4 (5.2)	8.1 (5.0)	8.4 (5.2)	8.8 (5.5)
	4	11.5 (7.2)	12.0 (7.5)	11.6 (7.2)	12.0 (7.5)	12.6 (7.8)
III	1	9.0 (5.6)	9.4 (5.9)	9.1 (5.7)	9.4 (5.9)	9.9 (6.2)
	2	13.9 (8.7)	14.5 (9.0)	14.0 (8.7)	14.5 (9.0)	14.4 (9.0)
	3	19.0 (11.8)	19.8 (12.3)	19.1 (11.8)	19.8 (12.2)	20.9 (12.9)
	4	27.2 (16.8)	28.4 (17.5)	27.4 (16.9)	28.4 (17.5)	29.9 (18.5)

SPEED AT MAXIMUM POWER

Shuttle transmission 40 km/h (25 mph) version (12 forward gears + 12 reverse gears – Synchro Shuttle)

**Forward gears**

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
I	1	2.0 (1.2)	2.1 (1.3)	2.0 (1.3)	2.1 (1.3)	2.2 (1.4)
	2	3.1 (1.9)	3.2 (2.0)	3.1 (1.9)	3.2 (2.0)	3.2 (2.0)
	3	4.2 (2.6)	4.4 (2.7)	4.2 (2.6)	4.4 (2.7)	4.6 (2.9)
	4	6.0 (3.7)	6.3 (3.9)	6.1 (3.8)	6.3 (3.9)	6.6 (4.1)
II	1	4.7 (2.9)	4.9 (3.0)	4.7 (2.9)	4.9 (3.0)	5.1 (3.2)
	2	7.2 (4.5)	7.5 (4.7)	7.3 (4.6)	7.5 (4.7)	7.5 (4.7)
	3	9.8 (6.1)	10.2 (6.4)	9.9 (6.1)	10.2 (6.4)	10.8 (6.7)
	4	14.1 (8.8)	14.6 (9.1)	14.2 (8.8)	14.7 (9.1)	15.5 (9.6)
III	1	11.1 (6.9)	11.5 (7.1)	11.1 (6.9)	11.5 (7.1)	12.1 (7.5)
	2	17.0 (10.6)	17.7 (11.0)	17.1 (10.6)	17.7 (11.0)	17.6 (10.9)
	3	23.2 (14.4)	24.1 (14.9)	23.3 (14.5)	24.1 (15.0)	25.4 (15.8)
	4	33.2 (20.6)	34.5 (21.4)	33.3 (20.7)	34.5 (21.5)	36.4 (22.6)

**Reverse gears**

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
I	1	2.0 (1.2)	2.1 (1.3)	2.0 (1.3)	2.1 (1.3)	2.2 (1.4)
	2	3.1 (1.9)	3.2 (2.0)	3.1 (1.9)	3.2 (2.0)	3.2 (2.0)
	3	4.2 (2.6)	4.4 (2.7)	4.2 (2.6)	4.4 (2.7)	4.6 (2.9)
	4	6.0 (3.7)	6.3 (3.9)	6.1 (3.8)	6.3 (3.9)	6.6 (4.1)
II	1	4.7 (2.9)	4.9 (3.0)	4.7 (2.9)	4.9 (3.0)	5.1 (3.2)
	2	7.2 (4.5)	7.5 (4.7)	7.3 (4.6)	7.5 (4.7)	7.5 (4.7)
	3	9.8 (6.1)	10.2 (6.4)	9.9 (6.1)	10.2 (6.4)	10.8 (6.7)
	4	14.1 (8.8)	14.6 (9.1)	14.2 (8.8)	14.7 (9.1)	15.5 (9.6)
III	1	11.1 (6.9)	11.5 (7.1)	11.1 (6.9)	11.5 (7.1)	12.1 (7.5)
	2	17.1 (10.6)	17.8 (11.0)	17.2 (10.6)	17.8 (11.0)	17.7 (10.9)
	3	23.3 (14.4)	24.2 (14.9)	23.4 (14.4)	24.2 (14.9)	25.5 (15.7)
	4	33.3 (20.6)	34.6 (21.4)	33.4 (20.6)	34.6 (21.4)	36.5 (22.6)

TRANSMISSION WITH CREEPER AND SHUTTLE – 30 km/h (19 mph)

(20 FORWARD GEARS + 12 REVERSE GEARS – SYNCHRO SHUTTLE)



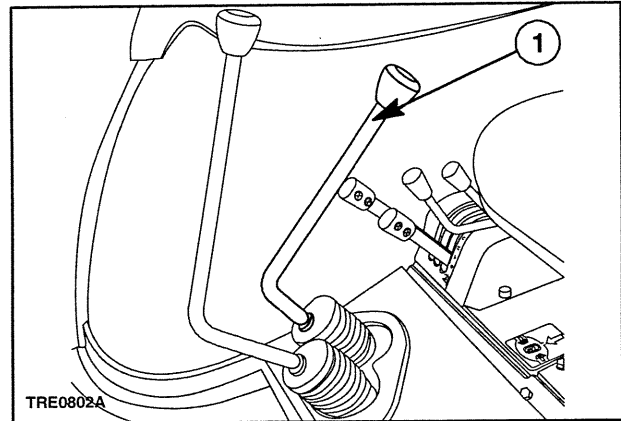
With the engine running and with just one gear lever in neutral, the tractor could be started accidentally if the lever is knocked, with consequent accident risk. To prevent this happening, move both levers fig. 64 to neutral, disengage the power take-off, lower any attached equipment and stop the engine before leaving the tractor.

The main shift, range gear (1) fig. 64 and shuttle levers are identical in operation to the shuttle transmission described on page 65

An additional creeper lever (1) fig. 65 is used to select the creeper gear which is effective in the low and medium ranges to provide 8 additional forward speeds.

The creeper operates only in low (I) fig. 64 and medium (II) ranges.

There is a mechanical interlock that prevents engagement of creeper lever (1) fig. 65 in position C with the range lever (1) fig. 64 in position (III) (high range) and vice versa.



64

CREEPER LEVER – Fig. 65

By moving the lever upwards to position D or downwards to position C, the creeper lever (1) fig. 65 selects between normal gears and creeper gears.

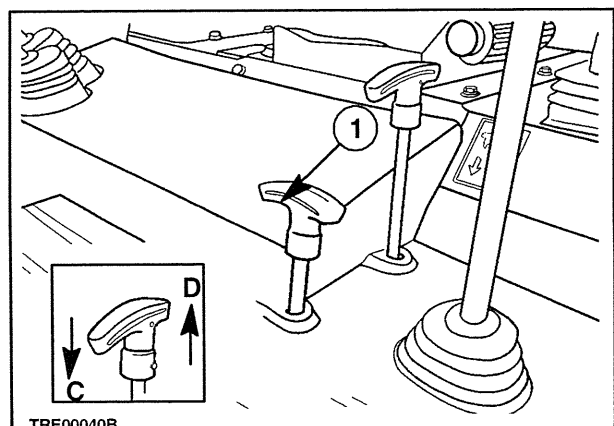
Combined use of the two levers (1) figs. 64 and 65 provides 20 forward and 12 reverse gears.

Creeper lever positions

- Lever 1 downwards (position C) = creeper gear engaged and effective in low or medium ranges.
- Lever 1 upwards (position D) = creeper gear disengaged, allowing selection of low, medium or high ranges.



Before engaging the creeper, lever (1) fig 65 in position C, ensure that the range lever (1) fig. 64 is not in position (III).



65

SPEED AT MAXIMUM POWER

Creeper transmission 30 km/h (19 mph) version (20 forward gears + 12 reverse gears – Synchro Shuttle)

**Forward gears**

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
	1	0.3 (0.2)	0.3 (0.2)	0.3 (0.2)	0.3 (0.2)	0.3 (0.2)
	2	0.5 (0.3)	0.5 (0.3)	0.5 (0.3)	0.5 (0.3)	0.5 (0.3)
	3	0.6 (0.4)	0.6 (0.4)	0.6 (0.4)	0.6 (0.4)	0.7 (0.4)
	4	0.9 (0.6)	0.9 (0.6)	0.9 (0.6)	0.9 (0.6)	1.0 (0.6)
	1	0.7 (0.4)	0.7 (0.4)	0.7 (0.4)	0.7 (0.4)	0.8 (0.4)
	2	1.1 (0.7)	1.1 (0.7)	1.1 (0.7)	1.1 (0.7)	1.2 (0.6)
	3	1.5 (0.9)	1.5 (0.9)	1.5 (0.9)	1.5 (0.9)	1.6 (0.9)
	4	2.1 (1.3)	2.2 (1.4)	2.1 (1.3)	2.2 (1.4)	2.3 (1.4)
I	1	1.6 (1.0)	1.7 (1.1)	1.7 (1.1)	1.7 (1.1)	1.8 (1.1)
	2	2.5 (1.6)	2.6 (1.6)	2.5 (1.6)	2.6 (1.6)	2.8 (1.7)
	3	3.4 (2.1)	3.6 (2.2)	3.5 (2.2)	3.6 (2.2)	3.8 (2.4)
	4	4.9 (3.1)	5.1 (3.2)	5.0 (3.1)	5.1 (3.2)	5.4 (3.4)
II	1	3.8 (2.4)	4.0 (2.5)	3.9 (2.6)	4.0 (2.5)	4.2 (2.6)
	2	5.9 (3.7)	6.1 (3.8)	5.9 (3.7)	6.2 (3.9)	6.5 (4.0)
	3	8.0 (5.0)	8.4 (5.2)	8.1 (5.0)	8.4 (5.2)	8.8 (5.5)
	4	11.5 (7.2)	12.0 (7.5)	11.6 (7.2)	12.0 (7.5)	12.6 (7.8)
III	1	9.0 (5.6)	9.4 (5.8)	9.1 (5.7)	9.4 (5.8)	9.9 (6.2)
	2	13.9 (8.7)	14.5 (9.0)	14.0 (8.7)	14.5 (9.0)	15.3 (9.5)
	3	18.9 (11.8)	19.7 (12.2)	19.0 (11.8)	19.7 (12.2)	20.8 (12.9)
	4	27.1 (16.9)	28.2 (17.5)	27.3 (17.0)	28.3 (17.6)	29.8 (18.5)

**Reverse gears**

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
I	1	1.6 (1.0)	1.6 (1.0)	1.6 (1.0)	1.6 (1.0)	1.6 (1.0)
	2	2.4 (1.5)	2.5 (1.6)	2.4 (1.5)	2.5 (1.6)	2.6 (1.6)
	3	3.3 (2.1)	3.4 (2.1)	3.3 (2.1)	3.4 (2.1)	3.6 (2.2)
	4	4.7 (2.9)	4.9 (3.1)	4.7 (2.9)	4.9 (3.1)	5.1 (3.2)
II	1	3.6 (2.2)	3.8 (2.4)	3.7 (2.3)	3.8 (2.4)	4.0 (2.5)
	2	5.6 (3.5)	5.8 (3.6)	5.6 (3.5)	5.9 (3.7)	6.2 (3.9)
	3	7.6 (4.7)	7.9 (4.9)	7.7 (4.8)	8.0 (5.0)	8.4 (5.2)
	4	11.0 (6.9)	11.4 (7.1)	11.0 (6.9)	11.4 (7.1)	12.0 (7.5)
III	1	8.6 (5.3)	8.9 (5.6)	8.6 (5.3)	8.9 (5.6)	9.4 (5.9)
	2	13.2 (8.2)	13.8 (8.6)	13.3 (8.3)	13.8 (8.6)	14.5 (9.0)
	3	18.0 (11.2)	18.7 (11.6)	18.1 (11.3)	18.7 (11.6)	19.7 (12.2)
	4	25.8 (16.0)	26.8 (16.7)	25.9 (16.1)	26.8 (16.7)	28.3 (17.6)

SPEED AT MAXIMUM POWER

Creeper transmission 40 km/h (25 mph) version (20 forward gears + 12 reverse gears – Synchro Shuttle)



Forward gears

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
	1	0.4 (0.2)	0.4 (0.2)	0.4 (0.2)	0.4 (0.2)	0.4 (0.2)
	2	0.6 (0.4)	0.6 (0.4)	0.6 (0.4)	0.6 (0.4)	0.6 (0.4)
	3	0.8 (0.5)	0.8 (0.5)	0.8 (0.5)	0.8 (0.5)	0.8 (0.5)
	4	1.1 (0.7)	1.1 (0.7)	1.1 (0.7)	1.1 (0.7)	1.2 (0.7)
	1	0.8 (0.5)	0.9 (0.5)	0.9 (0.5)	0.9 (0.5)	0.9 (0.5)
	2	1.3 (0.8)	1.4 (0.9)	1.3 (0.8)	1.4 (0.9)	1.4 (0.9)
	3	1.8 (1.1)	1.9 (1.1)	1.8 (1.1)	1.9 (1.1)	2.0 (1.2)
	4	2.6 (1.6)	2.7 (1.6)	2.6 (1.6)	2.7 (1.6)	2.8 (1.7)
I	1	2.0 (1.2)	2.1 (1.1)	2.0 (1.2)	2.1 (1.1)	2.2 (1.4)
	2	3.1 (1.9)	3.2 (2.0)	3.1 (1.9)	3.2 (2.0)	3.4 (2.1)
	3	4.2 (2.6)	4.4 (2.7)	4.2 (2.6)	4.4 (2.7)	4.6 (2.9)
	4	6.0 (3.7)	6.3 (3.9)	6.1 (3.8)	6.3 (3.9)	6.6 (4.1)
II	1	4.7 (2.9)	4.9 (3.0)	4.7 (2.9)	4.9 (3.0)	5.1 (3.2)
	2	7.2 (4.5)	7.5 (4.7)	7.3 (4.5)	7.5 (4.7)	7.9 (4.9)
	3	9.8 (6.1)	10.2 (6.3)	9.9 (6.1)	10.2 (6.3)	10.8 (6.7)
	4	14.1 (8.8)	14.6 (9.1)	14.2 (8.8)	14.7 (9.1)	15.5 (9.6)
III	1	11.1 (6.9)	11.5 (7.1)	11.1 (6.9)	11.5 (7.1)	12.1 (7.5)
	2	17.0 (10.6)	17.7 (11.0)	17.1 (10.6)	17.7 (11.0)	18.7 (11.6)
	3	23.2 (14.4)	24.1 (14.9)	23.3 (14.5)	24.1 (14.9)	25.4 (15.8)
	4	33.2 (20.6)	34.5 (21.4)	33.3 (20.7)	34.5 (21.4)	36.4 (22.6)



Reverse gears

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
I	1	1.9 (1.2)	2.0 (1.2)	1.9 (1.2)	2.0 (1.2)	2.1 (1.3)
	2	2.9 (1.8)	3.1 (1.9)	3.0 (1.9)	3.1 (1.9)	3.2 (2.0)
	3	4.0 (2.5)	4.2 (2.6)	4.0 (2.5)	4.2 (2.6)	4.4 (2.7)
	4	5.7 (3.6)	6.0 (3.7)	5.8 (3.6)	6.0 (3.7)	6.3 (3.9)
II	1	4.5 (2.8)	4.6 (2.9)	4.5 (2.8)	4.6 (2.9)	4.9 (3.0)
	2	6.9 (4.3)	7.1 (4.4)	6.9 (4.3)	7.2 (4.5)	7.5 (4.7)
	3	9.3 (5.8)	9.7 (6.0)	9.4 (5.8)	9.7 (6.0)	10.2 (5.0)
	4	13.4 (8.3)	13.9 (8.6)	13.4 (8.3)	13.9 (8.6)	14.7 (9.1)
III	1	10.5 (6.5)	10.9 (6.8)	10.5 (6.5)	10.9 (6.8)	11.5 (7.2)
	2	16.2 (10.1)	16.8 (10.4)	16.3 (10.1)	16.8 (10.4)	17.7 (11.0)
	3	22.0 (13.7)	22.9 (14.2)	22.1 (13.7)	22.9 (14.2)	24.1 (15.0)
	4	31.5 (19.6)	32.7 (20.3)	31.7 (19.7)	32.8 (20.4)	34.6 (21.5)

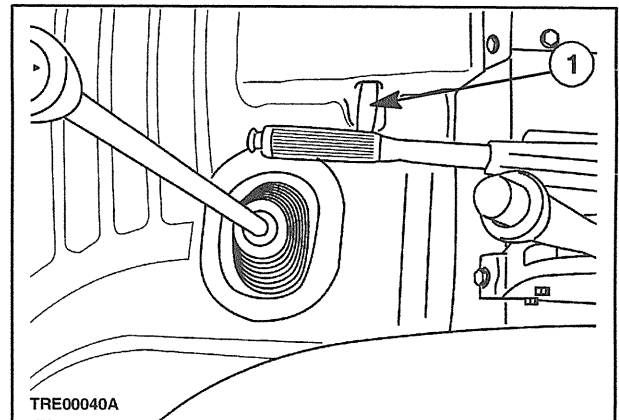
MECHANICALLY CONTROLLED FOUR-WHEEL DRIVE

USING FOUR-WHEEL DRIVE

Front-wheel drive can increase the tractor's grip on the surface; the benefits of this are particularly noticeable when working on uneven, muddy or slippery surfaces, on ploughed ground or in difficult conditions.

Front-wheel drive engagement and disengagement is carried out by means of lever (1) fig. 66 when the tractor moving slowly and preferably at the low speeds of the engine.

Avoid carrying out this operation under stress. If the manoeuvre proves to be difficult with the tractor moving in a straight line, keeping the lever in engaged position, slightly turn the steering wheel in both directions until the control mechanism engaged.



66



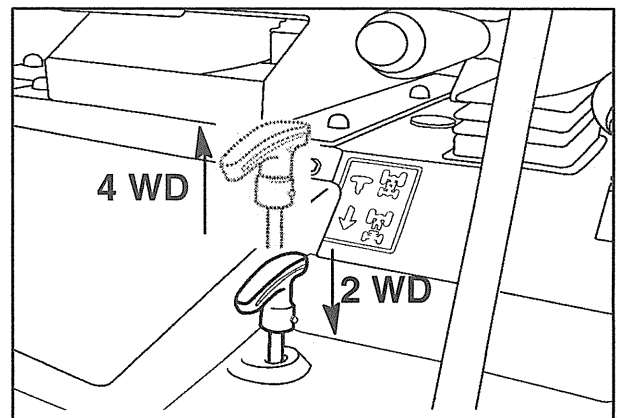
CAUTION

Do not use front wheel drive on hard surfaces to prevent premature wear to the front tyres. Abnormal tyre wear can also be caused by incorrect tyre pressures.

To engage front-wheel drive pull the lever (1) fig. 66 upwards fig. 67.

In this position, the front-wheel drive will stay permanently on.

To disengage it, push the lever downwards fig. 67.



67

MECHANICALLY CONTROLLED DIFFERENTIAL LOCK

DIFFERENTIAL LOCK CONTROL – Fig. 68

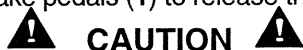
The differential allows the drive wheels to rotate at different speeds when the tractor is turning.

The differential has a locking device, controlled by a foot pedal (1) fig. 68. It is advisable to lock the differential in the following situations:

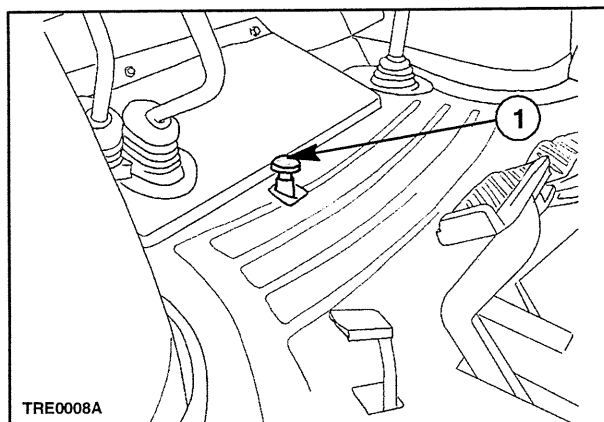
- in ploughed fields, to prevent the wheel which is out of the furrow from slipping.
- if one of the drive wheels is on uneven, muddy or slippery ground, and tends to skid.

To lock the differential, reduce tractor speed and press pedal (1) fig. 68. The differential will remain locked.

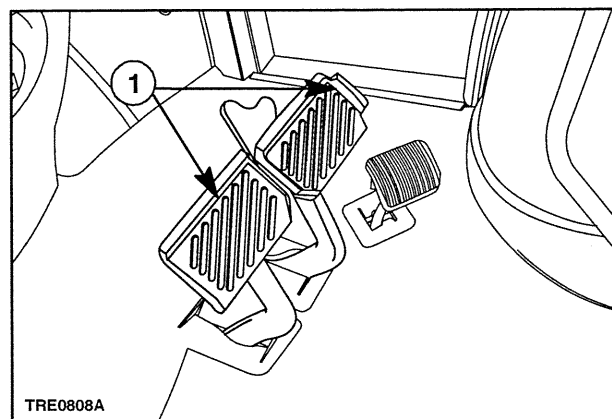
Press the brake pedals (1) to release the lock fig. 69.



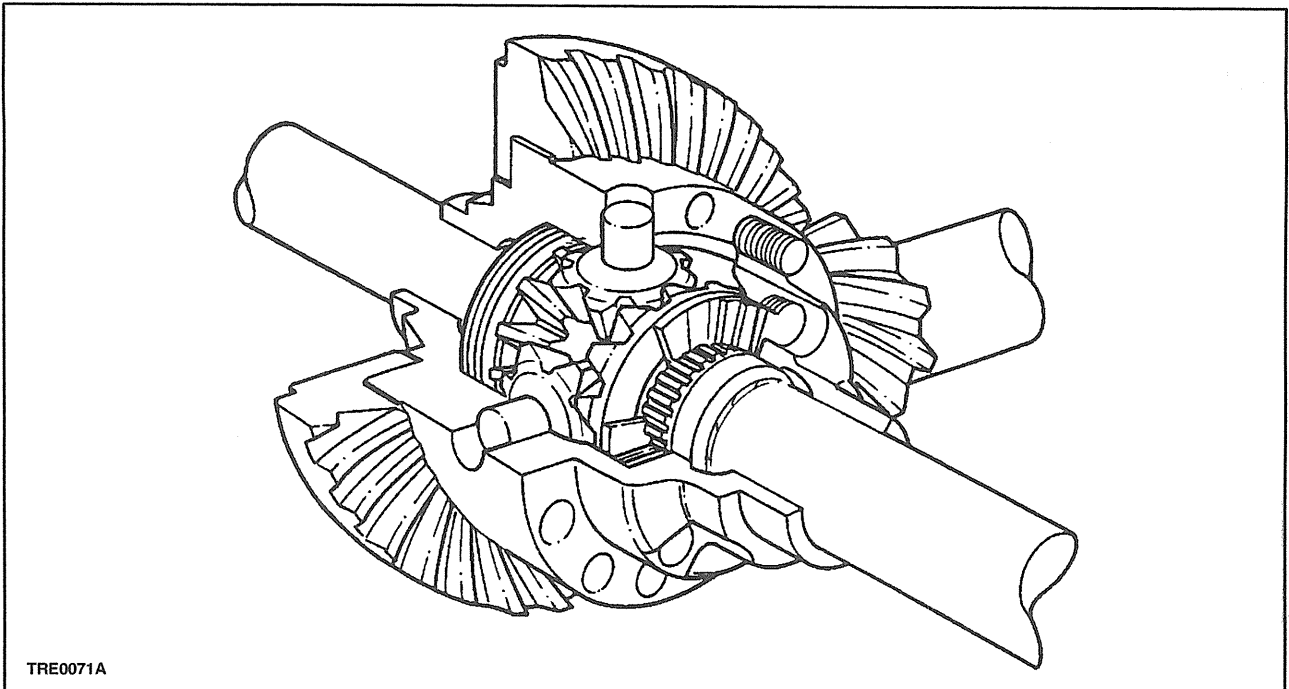
Do not keep the differential locked unnecessarily as this wastes power and can cause damaging stresses in the transmission system, tyre wear and steering problems.



68



69

LIM-SLIP DIFFERENTIAL LOCK (OPTIONAL)

70

The limited slip differential lock (LIM-SLIP) is a two planetary pinion type, complete with two multi-disc clutch blocks fitted between the planetary pinions and the differential box.

This differential lock device is totally automatic, requires no manual operation and notably reduces (without completely eliminating) wheel slipping that may result from tractor grip loss.

The difference in revolutions between the planetary pinions and the differential box, when a wheel begins

to slip as a result of grip loss, is obstructed by the clutch blocks that are compressed by axial thrust from the torque transmitted to the planetary pinions by the bevel gear pairs, by means of the teeth on the two planetary pinions.

The torque may differ according to the condition of the ground, thereby proportionally varying the axial thrust on the clutch blocks, consolidating the planetary pinions with the differential box which results in the axle being able to successfully overcome the difficult ground conditions.

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NOTES

This image shows a single page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, typical of notebook paper. There is no handwriting or other markings on the page.

FIELD USE

POWER TAKE-OFF

GENERAL INSTRUCTIONS

The power take-off fitted on your tractor is used to transfer power from the engine directly to the implement. It can be controlled directly from the engine, or by the tractor's transmission drive gears.

All tractors are fitted as standard with a power take-off at 540 rev/min.

The power take-off comes in 3 versions:

- standard single-speed – 540 rev/min
- optional two-speed – 540/750 (540E) rev/min
- optional two speed – 540/1000 rev/min



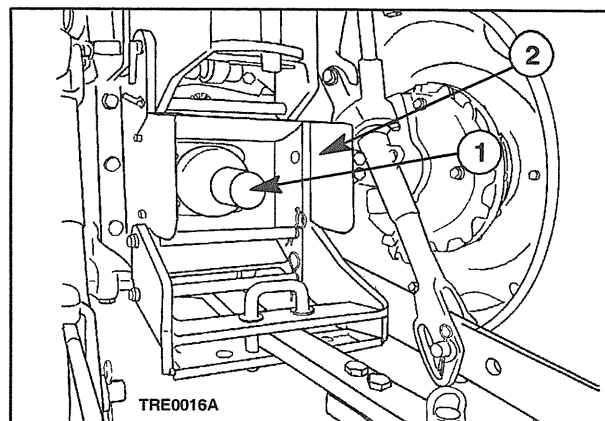
When the power take-off is not being used or when, with an implement connected to the power take off shaft, it has been switched off by means of the selection lever, ensure that the control lever or the control knob are disengaged. When the power take-off is not connected to an implement, keep the control handle in the disengaged position.



When you are not using the power take-off and particularly when changing from one speed to another, always check that the shaft fitted on the tractor is the right one for the speed selected. When using any implement requiring a speed of 540 rev/min, never select 1000 rev/min, and vice versa.



Never stand on the guard (2) fig. 71 when the power take-off is operating.



71

When not using the power take-off, always keep safety cover (1) fig. 71 fitted over the splined output shaft.



Before operating any implement driven by the power take-off, check that the safety clutch (if fitted) on the machine transmission shaft is working properly, i.e.: it slips if overloaded.



Never operate any implement connected to the power take-off at a speed faster than that specified.



Always check that the plastic guards on the drive shaft are in perfect condition.



Always shut off the engine when working on an implement connected to the power take-off.

POWER TAKE-OFF OPERATION

**INDEPENDENT POWER TAKE-OFF –
Figs. 72 and 73**

To operate the power take-off, proceed as follows:

- disengage the power take-off clutch by moving the lever (1) fig. 72 to the **UP** position;
- move operation selector lever (1) fig. 73 rearward to position **B**;
- engage the clutch slowly by moving lever (1) fig. 72 to the **DOWN** position so as to start the splined output shaft turning.

In this case, operation is totally independent of the tractor ground speed, and you can therefore:

- stop the tractor without stopping the power take-off;
- stop the power take-off without stopping the tractor (by disengaging the power take-off clutch).

The shaft rotates clockwise, as seen from the rear of the tractor.

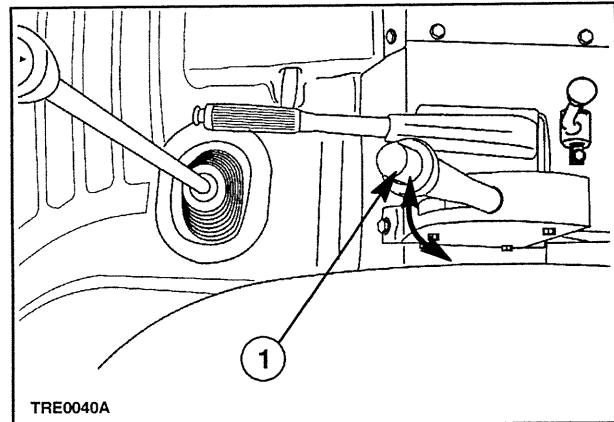
To disengage the power take-off, move the selector lever (1) fig. 72 to the **UP** position.

⚠ **WARNING** ⚠

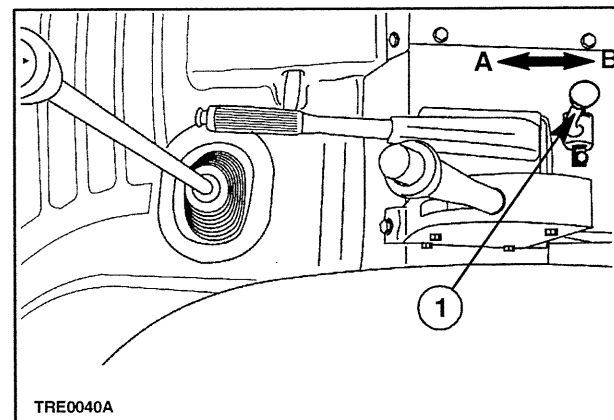
When the power take-off is not in use, keep the clutch control lever (1) fig. 72 in the disengaged position (**UP**).

⚠ **DANGER** ⚠

Always check that the plastic guards on the drive shaft are in perfect condition.



72



73

GROUND SPEED POWER TAKE-OFF (OPTIONAL) – Figs. 74 AND 75

Proceed as follows to operate the power take-off:

- move the clutch control lever (1) fig. 74 to the **UP** position;
- fully depress the clutch pedal;
- after a few seconds, move the selector lever (1) fig. 75 forward to position **A** and release the clutch pedal.

In this case, the power take-off receives power directly from the transmission. When the tractor is stationary, the ground speed power take-off does not turn. Reverse the direction of rotation of the output shaft by moving from forward gear to reverse.

CAUTION

Do not engage the ground speed power take-off when the tractor is moving.

When using a trailer with a drive axle, it is advised to select the 1000 rev/min power take-off.

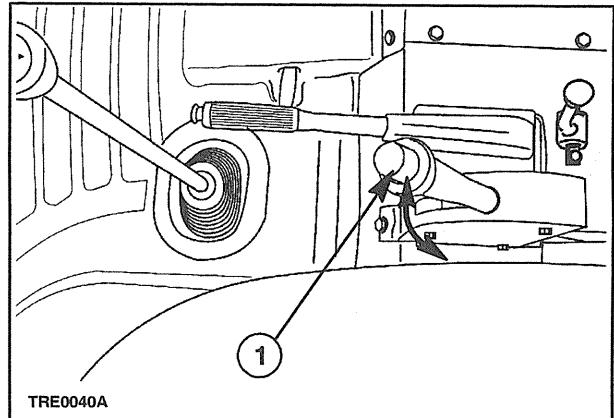
In any gear, the number of revolutions of the splined output shaft **for one revolution of the rear wheels is as follows:**

540 rev/min power take-off:

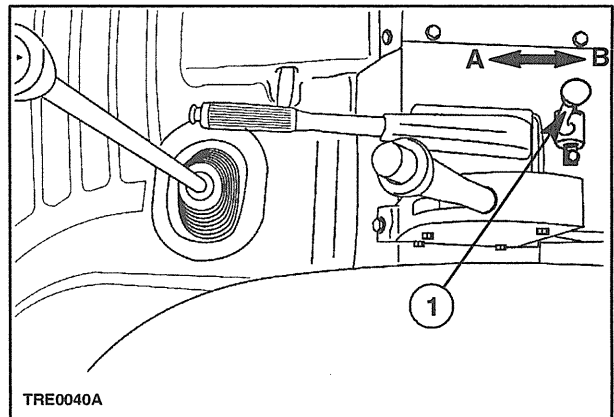
- | | |
|------------------------------|------|
| – JX60 and JX70 models | |
| 30 km/h (19 mph) | 8.2 |
| 4WD 40 km/h (25 mph) | 6.73 |
| – JX80, JX90 and JX95 models | |
| 30 km/h (19 mph) | 8.9 |
| 4WD 40 km/h (25 mph) | 7.25 |

1000 rev/min power take-off:

- | | |
|------------------------|-------|
| – JX60 and JX70 models | |
| 30 km/h (19 mph) | 14.1 |
| 4WD 40 km/h (25 mph) | 11.51 |



74



75

WARNING

When the power take-off is not in use, keep the clutch control lever (1) fig. 74 in the disengaged position (UP).

750 (540E) rev/min power take-off:

- | | |
|------------------------------|-------|
| – JX60 and JX70 models | |
| 30 km/h (19 mph) | 10.51 |
| 4WD 40 km/h (25 mph) | 8.59 |
| – JX80, JX90 and JX95 models | |
| 30 km/h (19 mph) | 11.4 |
| 4WD 40 km/h (25 mph) | 9.36 |
| – JX80, JX90 and JX95 models | |
| 30 km/h (19 mph) | 15.3 |
| 4WD 40 km/h (25 mph) | 12.4 |

POWER TAKE-OFF SPEED

540 rev/min power take-off

The 540 rev/min power take-off is equipped with a six-splined $1\frac{3}{8}$ in. output shaft (1) fig. 76 (standard).

540/750 rev/min power take-off

The version is available as an option.

The six-splined output shaft (1) fig. 71 is $1\frac{3}{8}$ in. in diameter, the same as for 540 rev/min power take-off.

To obtain a speed of 540 or 750 rev/min, use the speed selector lever (1) fig. 78.

540/750/1000 rev/min power take-off

It has two interchangeable output shafts (2) fig. 77: one $1\frac{3}{8}$ in. diameter with six splines for speeds of 540 and 750 rev/min and one $1\frac{3}{8}$ in. diameter with twenty-one splines for speeds of 1000 rev/min. To change the output shaft, remove the bolts (1) fig. 77 for power take-off.



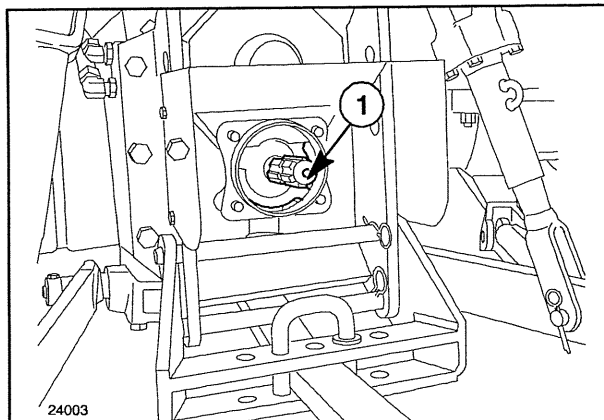
CAUTION



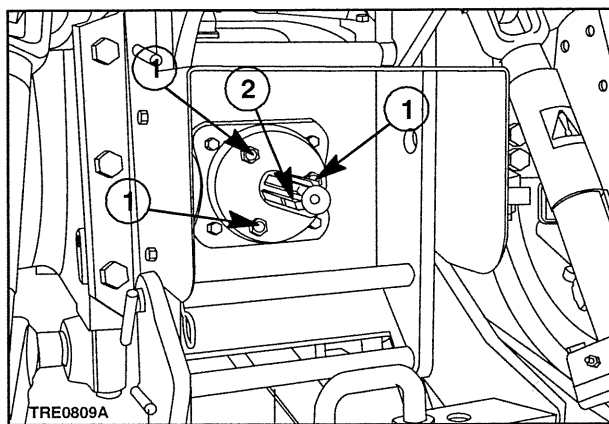
Use the power take-off at 1000 rev/min only after fitting the appropriate $1\frac{3}{8}$ in. diameter, 21-splined output shaft from the accessories kit.

Power take-off speeds:

– 540 rev/min with engine at:	2199
614 rev/min with engine at:	2500
– 750 rev/min with engine at:	2380
787 rev/min with engine at:	2500
540 rev/min with engine at:	1715



76



77

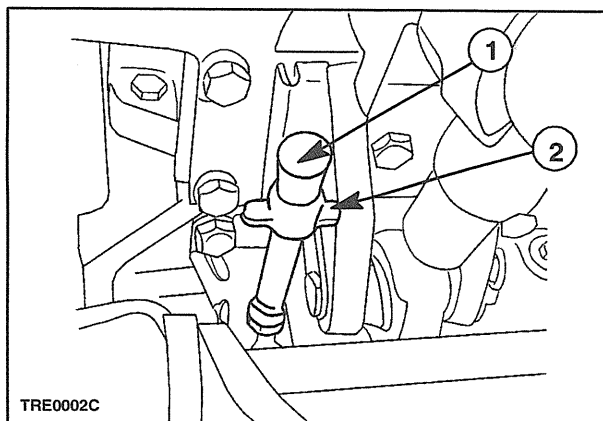
– 1000 rev/min with engine at:	2380
1050 rev/min with engine at:	2500

NOTE: (*) With the power take-off speed selector lever set to 750 rev/min, 540 rev/min can also be obtained on the output shaft with the engine at 1715 rev/min.

POWER TAKE-OFF SPEED SELECTION

To select power take-off speeds, proceed as described below:

- lift the spring-loaded collar (2) fig. 78 upward;
- position the lever (1) fig. 78 to the required speed, as indicated by the decal at the base of the lever. Release the spring-loaded collar.



78

2-SPEED POWER TAKE-OFF (OPTIONAL)

For 540/1000 rev/min versions an interchangeable PTO shaft is supplied.

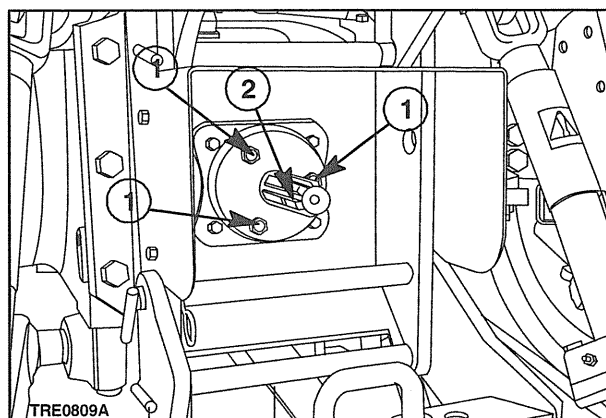
The speed can be selected simply by replacing splined output shaft (1) fig. 79.

To replace splined output shaft (2) fig. 79 remove the bolts (1) and fit the $1\frac{3}{8}$ in. diameter six-splined shaft for a speed of 540 rev/min, or the $1\frac{3}{8}$ in. diameter 21-splined shaft for a speed of 1000 rev/min.



CAUTION

Use the power take-off at 1000 rev/min only after fitting the appropriate $1\frac{3}{8}$ in. 21-splined output shaft from the accessories kit.



79

JX60, JX70, JX80, JX90 and JX95 MODELS**TRACTOR SPEED IN km/h WITH POWER TAKE-OFF RUNNING AT STANDARD SPEEDS**

Transmission and range gear 30 km/h (19 mph) version in forward gear (12 forward gears + 4 reverse gears)



Power take-off at 540 rev/min, with engine at 2199 rev/min.

RANGE	GEAR	REAR TYRES km/h (mph)		
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30
		540 rev/min		
I	1	1.4 (0.9)	1.5 (0.9)	1.5 (0.9)
	2	2.2 (1.4)	2.3 (1.4)	2.2 (1.4)
	3	3.0 (1.9)	3.2 (2.0)	3.0 (1.9)
	4	4.3 (2.7)	4.5 (2.8)	4.4 (2.7)
II	1	3.4 (2.1)	3.5 (2.2)	3.4 (2.1)
	2	5.2 (3.2)	5.4 (3.4)	5.2 (3.2)
	3	7.1 (4.4)	7.4 (4.6)	7.1 (4.4)
	4	10.1 (6.3)	10.5 (6.5)	10.2 (6.3)
III	1	8.0 (5.0)	8.3 (5.2)	8.0 (5.0)
	2	12.3 (7.6)	12.7 (7.9)	12.3 (7.6)
	3	16.7 (10.4)	17.3 (10.8)	16.8 (10.4)
	4	23.9 (14.9)	24.8 (15.4)	24.0 (14.9)
R	1	3.7 (2.3)	3.9 (2.4)	3.8 (2.4)
	2	5.8 (3.6)	6.0 (3.7)	5.8 (3.6)
	3	7.8 (4.8)	8.1 (5.0)	7.9 (4.9)
	4	11.2 (7.0)	11.7 (7.3)	11.3 (7.0)



Power take-off at 750/1000 rev/min, with engine at 2380 rev/min.

RANGE	GEAR	REAR TYRES km/h (mph)		
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30
		750/1000 rev/min		
I	1	1.6 (1.0)	1.6 (1.0)	1.6 (1.0)
	2	2.4 (1.5)	2.5 (1.6)	2.4 (1.5)
	3	3.3 (2.1)	3.4 (2.1)	3.3 (2.1)
	4	4.7 (2.9)	4.9 (3.1)	4.7 (2.9)
II	1	3.7 (2.3)	3.8 (2.4)	3.7 (2.3)
	2	5.6 (3.5)	5.9 (3.7)	5.7 (3.5)
	3	7.7 (4.8)	8.0 (5.0)	7.7 (4.8)
	4	11.0 (6.8)	11.4 (7.1)	11.0 (6.8)
III	1	8.6 (5.3)	8.9 (5.5)	8.6 (5.3)
	2	13.3 (8.3)	13.8 (8.6)	13.3 (8.3)
	3	18.0 (11.2)	18.7 (11.6)	18.1 (11.2)
	4	25.8 (16.0)	26.8 (16.7)	26.0 (16.2)
R	1	4.0 (2.5)	4.2 (2.6)	4.1 (2.5)
	2	6.2 (3.9)	6.5 (4.0)	6.3 (3.9)
	3	8.5 (5.3)	8.8 (5.5)	8.5 (5.3)
	4	12.1 (7.5)	12.6 (7.8)	12.2 (7.6)

JX60, JX70, JX80, JX90 and JX95 MODELS**TRACTOR SPEED IN km/h WITH POWER TAKE-OFF RUNNING AT STANDARD SPEEDS**

Transmission and range gear 30 km/h (19 mph) version in forward gear (12 forward gears + 12 reverse gears – synchro command)



Power take-off at 540 rev/min, with engine at 2199 rev/min.

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4.34
		540 rev/min				
I	1	1.4 (0.9)	1.5 (0.9)	1.5 (0.9)	1.5 (0.9)	1.6 (1.0)
	2	2.2 (1.4)	2.3 (1.4)	2.2 (1.4)	2.3 (1.4)	2.3 (1.4)
	3	3.0 (1.9)	3.2 (2.0)	3.0 (1.9)	3.2 (2.0)	3.3 (2.1)
	4	4.3 (2.7)	4.5 (2.8)	4.4 (2.7)	4.5 (2.8)	4.8 (3.0)
II	1	3.4 (2.1)	3.5 (2.2)	3.4 (2.1)	3.5 (2.2)	3.7 (2.3)
	2	5.2 (3.2)	5.4 (3.4)	5.2 (3.2)	5.4 (3.4)	5.4 (3.4)
	3	7.1 (4.4)	7.4 (4.6)	7.1 (4.4)	7.4 (4.6)	7.8 (4.9)
	4	10.1 (6.3)	10.5 (6.5)	10.2 (6.3)	10.6 (6.6)	11.1 (6.9)
III	1	8.0 (5.0)	8.3 (5.2)	8.0 (5.0)	8.3 (5.2)	8.7 (5.4)
	2	12.3 (7.7)	12.7 (7.9)	12.3 (7.7)	12.8 (8.0)	12.7 (7.9)
	3	16.7 (10.4)	17.3 (10.8)	16.8 (10.4)	17.4 (10.8)	18.3 (11.4)
	4	23.9 (14.9)	24.8 (15.4)	24.0 (14.9)	24.9 (15.5)	26.2 (16.3)



Power take-off at 750/1000 rev/min, with engine at 2380 rev/min.

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4.34
		750/1000 rev/min				
I	1	1.6 (1.0)	1.6 (1.0)	1.6 (1.0)	1.6 (1.0)	1.7 (1.1)
	2	2.4 (1.5)	2.5 (1.6)	2.4 (1.5)	2.5 (1.6)	2.5 (1.6)
	3	3.3 (2.1)	3.4 (2.1)	3.3 (2.1)	3.4 (2.1)	3.6 (2.2)
	4	4.7 (2.9)	4.9 (3.1)	4.7 (2.9)	4.9 (3.1)	5.2 (3.2)
II	1	3.7 (2.3)	3.8 (2.4)	3.7 (2.3)	3.8 (2.4)	4.0 (2.5)
	2	5.6 (3.5)	5.9 (3.7)	5.7 (3.5)	5.9 (3.7)	5.8 (3.6)
	3	7.7 (4.8)	8.0 (5.0)	7.7 (4.8)	8.0 (5.0)	8.4 (5.2)
	4	11.0 (6.8)	11.4 (7.1)	11.0 (6.8)	11.4 (7.1)	12.0 (7.5)
III	1	8.6 (5.3)	8.9 (5.5)	8.6 (5.3)	9.0 (5.6)	9.4 (5.8)
	2	13.3 (8.3)	13.8 (8.6)	13.3 (8.3)	13.8 (8.6)	13.7 (8.5)
	3	18.0 (11.2)	18.7 (11.6)	18.1 (11.3)	18.8 (11.7)	19.8 (12.3)
	4	25.8 (16.0)	26.8 (16.7)	26.0 (16.2)	26.9 (16.7)	28.3 (17.6)

JX60, JX70, JX80, JX90 and JX95 MODELS**TRACTOR SPEED IN km/h WITH POWER TAKE-OFF RUNNING AT STANDARD SPEEDS**

Transmission and range gear 40 km/h (25 mph) version in forward gear (12 forward gears + 12 reverse gears – synchro command)



Power take-off at 540 rev/min, with engine at 2199 rev/min.

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4.34
		540 rev/min				
I	1	1.8 (1.1)	1.8 (1.1)	1.8 (1.1)	1.8 (1.1)	1.9 (1.2)
	2	2.7 (1.7)	2.8 (1.7)	2.7 (1.7)	2.8 (1.7)	2.8 (1.7)
	3	3.7 (2.3)	3.9 (2.4)	3.7 (2.3)	3.9 (2.4)	4.1 (2.5)
	4	5.3 (3.3)	5.5 (3.4)	5.3 (3.3)	5.5 (3.4)	5.8 (3.6)
II	1	4.1 (2.5)	4.3 (2.7)	4.2 (2.6)	4.3 (2.7)	4.5 (2.8)
	2	6.4 (4.0)	6.6 (4.1)	6.4 (4.0)	6.6 (4.1)	6.6 (4.1)
	3	8.7 (5.4)	9.0 (5.6)	8.7 (5.4)	9.0 (5.6)	9.5 (5.9)
	4	12.4 (7.7)	12.9 (8.0)	12.5 (7.8)	12.9 (8.0)	13.6 (8.5)
III	1	9.7 (6.0)	10.1 (6.3)	9.8 (6.1)	10.1 (6.3)	10.7 (6.6)
	2	15.0 (9.3)	15.6 (9.7)	15.1 (9.4)	15.6 (9.7)	15.5 (9.6)
	3	20.4 (12.7)	21.2 (13.2)	20.5 (12.7)	21.2 (13.2)	22.4 (13.9)
	4	29.2 (18.1)	30.3 (18.8)	29.3 (18.2)	30.4 (18.9)	32.0 (19.9)



Power take-off at 750/1000 rev/min, with engine at 2380 rev/min.

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4.34
		750/1000 rev/min				
I	1	1.9 (1.2)	2.0 (1.2)	1.9 (1.2)	2.0 (1.2)	2.1 (1.3)
	2	2.9 (1.8)	3.1 (1.9)	3.0 (1.9)	3.1 (1.9)	3.1 (1.9)
	3	4.0 (2.5)	4.2 (2.6)	4.0 (2.5)	4.2 (2.6)	4.4 (2.7)
	4	5.7 (3.5)	6.0 (3.7)	5.8 (3.6)	6.0 (3.7)	6.3 (3.9)
II	1	4.5 (2.8)	4.6 (2.9)	4.5 (2.8)	4.7 (2.9)	4.9 (3.0)
	2	6.9 (4.3)	7.2 (4.5)	6.9 (4.3)	7.2 (4.5)	7.1 (4.4)
	3	9.4 (5.8)	9.7 (6.0)	9.4 (5.8)	9.7 (6.0)	10.3 (6.4)
	4	13.4 (8.3)	13.9 (8.6)	13.5 (8.4)	14.0 (8.7)	14.7 (9.1)
III	1	10.5 (6.5)	10.9 (6.8)	10.6 (6.6)	11.0 (6.8)	11.5 (7.1)
	2	16.2 (10.1)	16.8 (10.4)	16.3 (10.1)	16.9 (10.5)	16.8 (10.4)
	3	22.0 (13.7)	22.9 (14.2)	22.1 (13.7)	22.9 (14.2)	24.2 (15.0)
	4	31.6 (19.6)	32.8 (20.4)	31.7 (19.7)	32.9 (20.4)	34.6 (21.5)

JX60, JX70, JX80, JX90 and JX95 MODELS TRACTOR SPEED IN km/h WITH POWER TAKE-OFF RUNNING AT STANDARD SPEEDS

Creeper transmission 30 km/h (19 mph) version (20 forward gears + 12 reverse gears – Synchro Shuttle)



Forward gears

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
		540 rev/min				
	1	0.3 (0.2)	0.3 (0.2)	0.3 (0.2)	0.3 (0.2)	0.3 (0.2)
	2	0.4 (0.2)	0.4 (0.2)	0.4 (0.2)	0.4 (0.2)	0.4 (0.2)
	3	0.5 (0.3)	0.6 (0.4)	0.6 (0.4)	0.6 (0.4)	0.6 (0.4)
	4	0.8 (0.5)	0.8 (0.5)	0.8 (0.5)	0.8 (0.5)	0.8 (0.5)
	1	0.6 (0.4)	0.6 (0.4)	0.6 (0.4)	0.6 (0.4)	0.7 (0.4)
	2	0.9 (0.6)	1.0 (0.6)	0.9 (0.6)	1.0 (0.6)	1.0 (0.6)
	3	1.3 (0.8)	1.3 (0.8)	1.3 (0.8)	1.3 (0.8)	1.4 (0.9)
	4	1.8 (1.1)	1.9 (1.2)	1.8 (1.1)	1.9 (1.2)	2.0 (1.2)
I	1	1.4 (0.9)	1.5 (0.9)	1.5 (0.9)	1.5 (0.9)	1.6 (1.0)
	2	2.2 (1.4)	2.3 (1.4)	2.2 (1.4)	2.3 (1.4)	2.3 (1.4)
	3	3.0 (1.9)	3.2 (2.0)	3.0 (1.9)	3.2 (2.0)	3.3 (2.1)
	4	4.3 (2.7)	4.5 (2.8)	4.4 (2.7)	4.5 (2.8)	4.8 (3.0)
II	1	3.4 (2.1)	3.5 (2.2)	3.4 (2.1)	3.5 (2.2)	3.7 (2.3)
	2	5.2 (3.2)	5.4 (3.4)	5.2 (3.2)	5.4 (3.4)	5.4 (3.4)
	3	7.1 (4.4)	7.4 (4.6)	7.1 (4.4)	7.4 (4.6)	7.8 (4.9)
	4	10.1 (6.3)	10.5 (6.5)	10.2 (6.3)	10.6 (6.6)	11.1 (6.9)
III	1	8.0 (5.0)	8.3 (5.2)	8.0 (5.0)	8.3 (5.2)	8.7 (5.4)
	2	12.3 (7.6)	12.7 (7.9)	12.3 (7.6)	12.8 (8.0)	12.7 (7.9)
	3	16.7 (10.4)	17.3 (10.8)	16.8 (10.4)	17.4 (10.8)	18.3 (11.4)
	4	23.0 (14.3)	24.8 (15.4)	24.0 (14.9)	24.9 (15.5)	26.2 (16.3)



Reverse gears

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
		540 rev/min				
I	1	1.4 (0.9)	1.4 (0.9)	1.4 (0.9)	1.4 (0.9)	1.5 (0.9)
	2	2.1 (1.3)	2.2 (1.4)	2.1 (1.3)	2.2 (1.4)	2.2 (1.4)
	3	2.9 (1.8)	3.0 (1.9)	2.9 (1.8)	3.0 (1.9)	3.2 (2.0)
	4	4.1 (2.5)	4.3 (2.7)	4.1 (2.5)	4.3 (2.7)	4.5 (2.8)
II	1	3.2 (2.0)	3.3 (2.1)	3.2 (2.0)	3.3 (2.1)	3.5 (2.2)
	2	4.9 (3.0)	5.1 (3.2)	5.0 (3.1)	5.1 (3.2)	5.1 (3.2)
	3	6.7 (4.2)	7.0 (4.4)	6.8 (4.2)	7.0 (4.4)	7.4 (4.6)
	4	9.6 (6.0)	10.0 (6.2)	9.7 (6.0)	10.0 (6.2)	10.6 (6.6)
III	1	7.6 (4.7)	7.9 (4.9)	7.6 (4.7)	7.9 (4.9)	8.3 (5.2)
	2	11.6 (7.2)	12.1 (7.5)	11.7 (7.3)	12.1 (7.5)	12.1 (7.5)
	3	15.8 (9.8)	16.5 (10.3)	15.9 (9.9)	16.5 (10.3)	17.4 (10.8)
	4	22.7 (14.1)	23.6 (14.7)	22.8 (14.2)	23.6 (14.7)	24.9 (15.5)

JX60, JX70, JX80, JX90 and JX95 MODELS TRACTOR SPEED IN km/h WITH POWER TAKE-OFF RUNNING AT STANDARD SPEEDS (continued)

Creeper transmission 30 km/h (19 mph) version (20 forward gears + 12 reverse gears – Synchro Shuttle)


Forward gears

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
		750/1000 rev/min				
	1	0.3 (0.2)	0.3 (0.2)	0.3 (0.2)	0.3 (0.2)	0.3 (0.2)
	2	0.4 (0.2)	0.5 (0.3)	0.4 (0.2)	0.5 (0.3)	0.5 (0.3)
	3	0.6 (0.4)	0.6 (0.4)	0.6 (0.4)	0.6 (0.4)	0.7 (0.4)
	4	0.9 (0.6)	0.9 (0.6)	0.9 (0.6)	0.9 (0.6)	0.9 (0.6)
	1	0.7 (0.4)	0.7 (0.4)	0.7 (0.4)	0.7 (0.4)	0.7 (0.4)
	2	1.0 (0.6)	1.1 (0.7)	1.0 (0.6)	1.1 (0.7)	1.1 (0.7)
	3	1.4 (0.9)	1.4 (0.9)	1.4 (0.9)	1.4 (0.9)	1.5 (0.9)
	4	2.0 (1.2)	2.1 (1.3)	2.0 (1.2)	2.1 (1.3)	2.2 (1.4)
I	1	1.6 (1.0)	1.6 (1.0)	1.6 (1.0)	1.6 (1.0)	1.7 (1.1)
	2	2.4 (1.5)	2.5 (1.6)	2.4 (1.5)	2.5 (1.6)	2.5 (1.6)
	3	3.3 (2.1)	3.4 (2.1)	3.3 (2.1)	3.4 (2.1)	3.6 (2.2)
	4	4.7 (2.9)	4.9 (3.0)	4.7 (2.9)	4.9 (3.0)	5.2 (3.2)
II	1	3.7 (2.3)	3.8 (2.4)	3.7 (2.3)	3.8 (2.4)	4.0 (2.5)
	2	5.6 (3.5)	5.9 (3.7)	5.7 (3.5)	5.9 (3.7)	5.8 (3.6)
	3	7.7 (4.8)	8.0 (5.0)	7.7 (4.8)	8.0 (5.0)	8.4 (5.2)
	4	11.0 (6.8)	11.4 (7.1)	11.0 (6.8)	11.4 (7.1)	12.0 (7.5)
III	1	8.6 (5.3)	8.9 (5.5)	8.6 (5.3)	9.0 (5.6)	9.4 (5.8)
	2	13.3 (8.3)	13.8 (8.6)	13.3 (8.3)	13.8 (8.6)	13.7 (8.5)
	3	18.0 (11.2)	18.7 (11.6)	18.1 (11.2)	18.8 (11.7)	19.8 (12.3)
	4	25.8 (16.0)	26.8 (16.7)	26.0 (16.2)	26.9 (16.7)	28.3 (17.6)


Reverse gears

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
		750/1000 rev/min				
I	1	1.5 (0.9)	1.5 (0.9)	1.5 (0.9)	1.5 (0.9)	1.6 (1.0)
	2	2.3 (1.4)	2.4 (1.5)	2.3 (1.4)	2.4 (1.5)	2.4 (1.5)
	3	3.1 (1.9)	3.2 (2.0)	3.1 (1.9)	3.2 (2.0)	3.4 (2.1)
	4	4.5 (2.8)	4.6 (2.9)	4.5 (2.8)	4.6 (2.9)	4.9 (3.0)
II	1	3.5 (2.2)	3.6 (2.2)	3.5 (2.4)	3.6 (2.2)	3.8 (2.4)
	2	5.4 (3.4)	5.6 (3.5)	5.4 (3.4)	5.6 (3.5)	5.8 (3.6)
	3	7.3 (4.5)	7.6 (4.7)	7.3 (4.5)	7.6 (4.7)	8.0 (5.0)
	4	10.4 (6.5)	10.8 (6.7)	10.5 (6.5)	10.9 (6.8)	11.4 (7.1)
III	1	8.2 (5.1)	8.5 (5.3)	8.2 (5.1)	8.5 (5.3)	9.0 (5.6)
	2	12.6 (7.8)	13.1 (8.1)	12.7 (7.9)	13.1 (8.1)	13.7 (8.5)
	3	17.1 (10.6)	17.8 (11.1)	17.2 (10.7)	17.8 (11.1)	18.8 (12.3)
	4	24.5 (15.2)	25.5 (15.8)	24.7 (15.3)	25.5 (15.8)	26.9 (16.7)

JX60, JX70, JX80, JX90 and JX95 MODELS TRACTOR SPEED IN km/h WITH POWER TAKE-OFF RUNNING AT STANDARD SPEEDS

Creeper transmission 40 km/h (25 mph) version (20 forward gears + 12 reverse gears – Synchro Shuttle)



Forward gears

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
		540 rev/min				
	1	0.4 (0.2)	0.3 (0.2)	0.3 (0.2)	0.3 (0.2)	0.4 (0.2)
	2	0.5 (0.3)	0.5 (0.3)	0.5 (0.3)	0.5 (0.3)	0.5 (0.3)
	3	0.7 (0.4)	0.7 (0.4)	0.7 (0.4)	0.7 (0.4)	0.7 (0.4)
	4	1.0 (0.6)	1.0 (0.6)	1.0 (0.6)	1.0 (0.6)	1.1 (0.7)
	1	0.7 (0.4)	0.8 (0.5)	0.8 (0.5)	0.8 (0.5)	0.8 (0.5)
	2	1.2 (0.7)	1.2 (0.7)	1.2 (0.7)	1.2 (0.7)	1.2 (0.7)
	3	1.6 (1.0)	1.6 (1.0)	1.6 (1.0)	1.6 (1.0)	1.7 (1.1)
	4	2.2 (1.4)	2.3 (1.4)	2.3 (1.4)	2.3 (1.4)	2.5 (1.6)
I	1	1.8 (1.1)	1.8 (1.1)	1.8 (1.1)	1.8 (1.1)	1.9 (1.2)
	2	2.7 (1.7)	2.8 (1.7)	2.7 (1.7)	2.8 (1.7)	2.8 (1.7)
	3	3.7 (2.3)	3.9 (2.4)	3.7 (2.3)	3.9 (2.4)	4.1 (2.6)
	4	5.3 (3.3)	5.5 (3.4)	5.3 (3.3)	5.5 (3.4)	5.8 (3.6)
II	1	4.1 (2.5)	4.3 (2.7)	4.2 (2.6)	4.3 (2.7)	4.5 (2.8)
	2	6.4 (4.0)	6.6 (4.1)	6.4 (4.0)	6.6 (4.1)	6.6 (4.1)
	3	8.7 (5.4)	9.0 (5.6)	8.7 (5.4)	9.0 (5.6)	9.5 (5.9)
	4	12.4 (7.7)	12.9 (8.0)	12.5 (7.8)	12.9 (8.0)	13.6 (8.5)
III	1	9.7 (6.0)	10.1 (6.3)	9.8 (6.1)	10.1 (6.3)	10.7 (6.7)
	2	15.0 (9.3)	15.6 (9.7)	15.1 (9.4)	15.6 (9.7)	15.5 (9.6)
	3	20.4 (12.7)	21.2 (13.2)	20.5 (12.7)	21.2 (13.2)	22.4 (13.9)
	4	29.2 (18.1)	30.3 (18.8)	29.3 (18.2)	30.4 (18.9)	32.0 (19.9)



Reverse gears

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
		540 rev/min				
I	1	1.7 (1.1)	1.7 (1.1)	1.7 (1.1)	1.7 (1.1)	1.8 (1.1)
	2	2.6 (1.6)	2.7 (1.7)	2.6 (1.6)	2.7 (1.7)	2.7 (1.7)
	3	3.5 (2.2)	3.7 (2.3)	3.5 (2.2)	3.7 (2.3)	3.9 (2.4)
	4	5.0 (3.1)	5.2 (3.2)	5.1 (3.2)	5.2 (3.2)	5.5 (3.4)
II	1	3.9 (2.4)	4.1 (2.5)	3.9 (2.4)	4.1 (2.5)	4.3 (2.7)
	2	6.0 (3.7)	6.3 (3.9)	6.1 (3.8)	6.3 (3.9)	6.3 (3.9)
	3	8.2 (5.1)	8.5 (5.3)	8.3 (5.2)	8.6 (5.3)	9.0 (5.6)
	4	11.8 (7.3)	12.2 (7.6)	11.8 (7.3)	12.3 (7.6)	12.9 (8.0)
III	1	9.2 (5.7)	9.6 (6.0)	9.3 (5.8)	9.6 (6.0)	10.1 (6.3)
	2	14.2 (8.8)	14.8 (9.2)	14.3 (8.9)	14.8 (9.2)	14.7 (9.1)
	3	19.4 (12.1)	20.1 (12.5)	19.5 (12.1)	20.2 (12.6)	21.2 (13.2)
	4	27.7 (17.2)	28.8 (17.9)	27.9 (17.3)	28.9 (18.0)	30.4 (18.9)

JX60, JX70, JX80, JX90 and JX95 MODELS TRACTOR SPEED IN km/h WITH POWER TAKE-OFF RUNNING AT STANDARD SPEEDS

Creeper transmission 40 km/h (25 mph) version (20 forward gears + 12 reverse gears – Synchro Shuttle)



Forward gears

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
		750/1000 rev/min				
	1	0.3 (0.2)	0.4 (0.2)	0.3 (0.2)	0.4 (0.2)	0.4 (0.2)
	2	0.5 (0.3)	0.6 (0.4)	0.5 (0.3)	0.6 (0.4)	0.6 (0.4)
	3	0.7 (0.4)	0.8 (0.5)	0.7 (0.4)	0.8 (0.5)	0.8 (0.5)
	4	1.0 (0.6)	1.1 (0.7)	1.0 (0.6)	1.1 (0.7)	1.1 (0.7)
	1	0.8 (0.5)	0.8 (0.5)	0.8 (0.5)	0.8 (0.5)	0.9 (0.6)
	2	1.2 (0.7)	1.3 (0.8)	1.3 (0.8)	1.3 (0.8)	1.3 (0.8)
	3	1.7 (1.1)	1.8 (1.1)	1.7 (1.1)	1.8 (1.1)	1.9 (1.2)
	4	2.4 (1.5)	2.5 (1.6)	2.4 (1.5)	2.5 (1.6)	2.7 (1.7)
I	1	1.9 (1.2)	2.0 (1.2)	1.9 (1.2)	2.0 (1.2)	2.1 (1.3)
	2	2.9 (1.8)	3.1 (1.9)	3.0 (1.9)	3.1 (1.9)	3.1 (1.9)
	3	4.0 (2.5)	4.2 (2.6)	4.0 (2.5)	4.2 (2.6)	4.4 (2.7)
	4	5.7 (3.5)	6.0 (3.7)	5.8 (3.6)	6.0 (3.7)	6.3 (3.9)
II	1	4.5 (2.8)	4.6 (2.9)	4.5 (2.8)	4.7 (2.9)	4.9 (3.0)
	2	6.9 (4.3)	7.2 (4.5)	6.9 (4.3)	7.2 (4.5)	7.1 (4.4)
	3	9.4 (5.8)	9.7 (6.0)	9.4 (5.8)	9.7 (6.0)	10.3 (6.4)
	4	13.4 (8.3)	13.9 (8.6)	13.5 (8.4)	14.0 (8.7)	14.7 (9.1)
III	1	10.5 (6.5)	10.9 (6.8)	10.6 (6.6)	11.0 (6.8)	11.5 (7.1)
	2	16.2 (10.1)	16.8 (10.4)	16.3 (10.1)	16.9 (10.5)	16.8 (10.4)
	3	22.0 (13.7)	22.9 (14.2)	22.1 (13.7)	22.9 (14.2)	24.2 (15.0)
	4	31.6 (19.6)	32.8 (20.4)	31.7 (19.7)	32.9 (34.6)	34.6 (21.5)



Reverse gears

RANGE	GEAR	REAR TYRES km/h (mph)				
		JX60 14.9–28	JX70 14.9–30	JX80 16.9–30	JX90 18.4–30	JX95 18.4–34
		750/1000 rev/min				
I	1	1.8 (1.1)	1.9 (1.2)	1.8 (1.1)	1.9 (1.2)	2.0 (1.2)
	2	2.8 (1.7)	2.9 (1.8)	2.8 (1.7)	2.9 (1.8)	2.9 (1.8)
	3	3.8 (2.4)	4.0 (2.5)	3.8 (2.4)	4.0 (2.5)	4.2 (2.6)
	4	5.5 (3.4)	5.7 (3.5)	5.5 (3.4)	5.7 (3.5)	6.0 (3.7)
II	1	4.2 (2.6)	4.4 (2.7)	4.3 (2.7)	4.4 (2.7)	4.7 (2.9)
	2	6.5 (4.0)	6.8 (4.2)	6.6 (4.1)	6.8 (4.2)	6.8 (4.2)
	3	8.9 (5.5)	9.2 (5.7)	8.9 (5.5)	9.3 (5.8)	9.8 (6.1)
	4	12.7 (7.9)	13.2 (8.2)	12.8 (8.0)	13.3 (8.3)	14.0 (8.7)
III	1	10.0 (6.2)	10.4 (6.5)	10.0 (6.2)	10.4 (6.5)	11.0 (6.8)
	2	15.4 (9.6)	16.0 (9.9)	15.5 (9.6)	16.0 (9.9)	15.9 (9.9)
	3	20.9 (13.0)	21.8 (13.6)	21.0 (13.0)	21.8 (13.6)	23.0 (14.3)
	4	30.0 (18.6)	31.2 (19.4)	30.1 (18.7)	31.2 (19.4)	32.9 (20.4)

HYDRAULIC LIFT

The hydraulic lift circuit uses transmission lubrication oil which is supplied by a gear pump driven by the engine shaft by means of the engine timing gears.

This lift, which can sense the forces on the lower link arms via a torsion bar, enables the following operations to be performed:

- position control;
- draft control;
- float;
- mixed control.

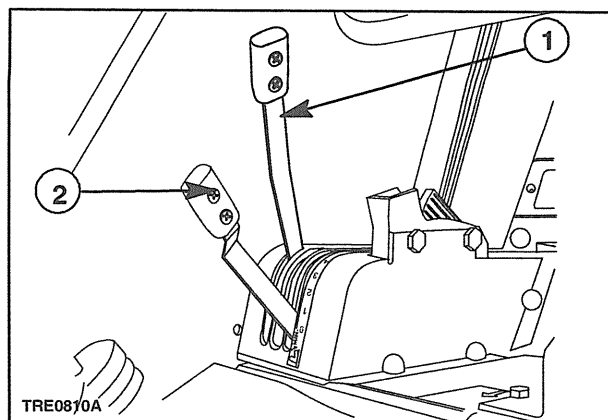
With the combined use of levers (1) and (2) fig. 80, the user can select and operate the most suitable mode for the implement and conditions in hand.

Fast Raise / Lower Switch for fully raising and lowering the lift arms – Fig. 81– 82

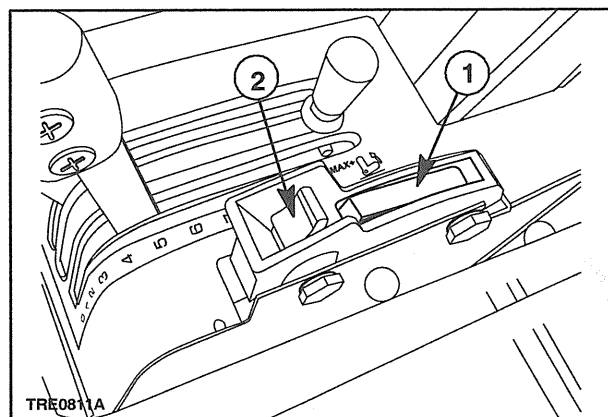
1. Down switch
2. Up switch

To lower the implement, press switch (1) fig. 82 fully down and the link arms will descend to the limit previously set using the position control lever (1) fig. 80.

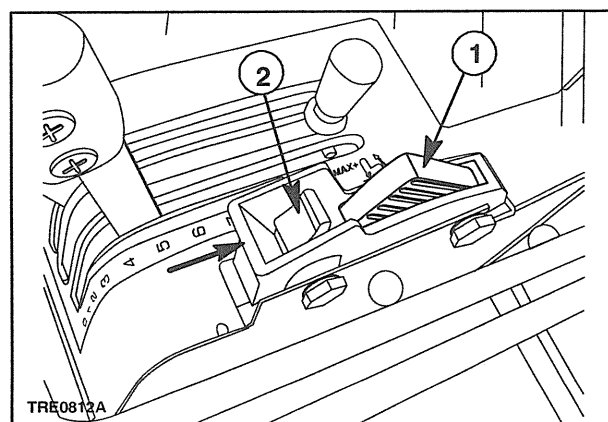
To raise the implement, move the latch (2) fig. 82 back, in the direction of the arrow, to release the switch (1) from its catch. The link arms will raise to full height.



80



81



82



CAUTION

When working with mounted implements which are connected to the power take-off, extend the lift rods to their maximum length to avoid damaging the PTO shaft when lifting using the Fast Raise / Lower Switch.

EXTERNAL LIFT LEVER – Fig. 83

For operations controlled from ground level use the external control lever (1) fig. 83, lifting the lever from its housing.

- move the lever in the direction of arrow **A** to lower the link arms;
- move in direction to arrow **B** to raise the link arms.

CAUTION: before leaving the tractor seat to operate the external control lever (1), check that:

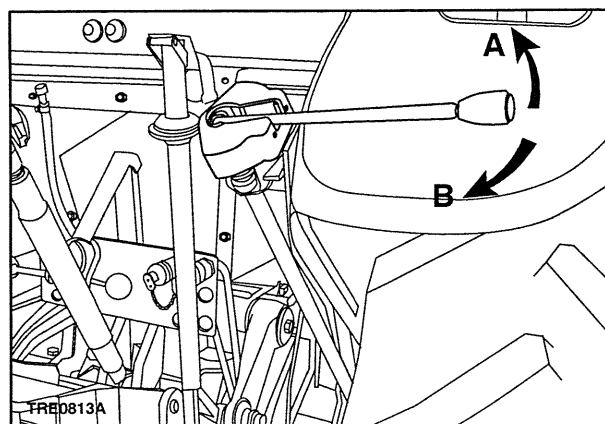
- the parking brake is applied;
- the gear shift and range levers are in neutral;
- the PTO is disengaged;
- the engine is running at idle speed;
- the draft control lever (2) fig. 84 is fully forward.



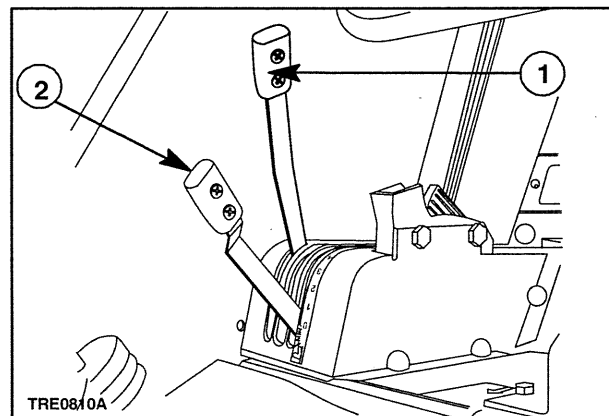
DANGER: when using lever 1, ensure no-one is within the operating range of the implement connected to the lift. Never stand between the implement and the rear of the tractor.

POSITION CONTROL

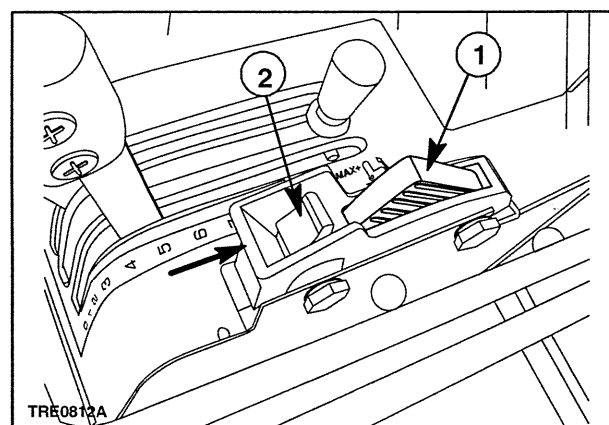
- Move draft control lever (2) fig. 84 fully forward.
- Set the position of the implement, either in or above the ground, by moving the position control lever (1) fig. 84 forward to lower and rearwards to raise. The movement of the implement will be proportional to the movement of the lever.
- Press latch (2) fig. 85 in the direction of the arrow to raise the implement at the headland. Fully press switch (1) fig. 85 on the Fast Raise / Lower Switch, to lower the implement, when required, without having to use the lift control lever.



83



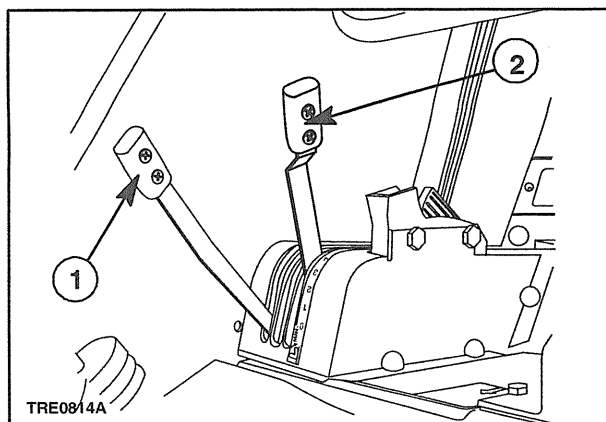
84



85

DRAFT CONTROL

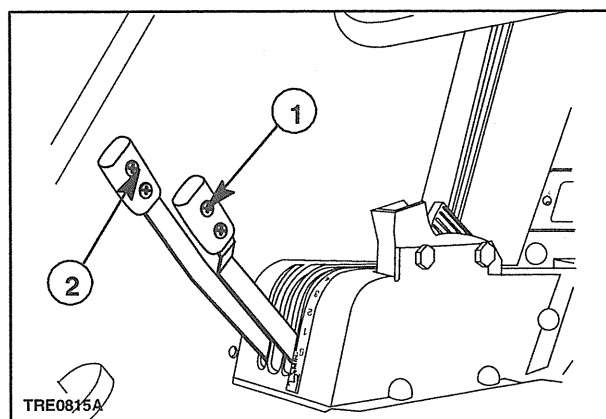
- Move position control lever (1) fig. 86 fully forward.
- Set the desired implement depth in the ground by gradually moving the draft control lever (2) fig. 86 forward. Forward movement of the lever will increase implement depth and rearward movement will reduce the depth. Changes in draft loading are sensed through the lower link arms. The hydraulic system responds by raising or lowering the implement to restore the original draft setting.



86

FLOAT OPERATION

- To operate the lift in float mode, i.e. to enable the link arms to float freely, move both levers (1) and (2) fig. 87 fully forward.
- Always use the Fast Raise / Lower Switch controls (1) and (2) fig. 85 to raise and lower implements at the headland.

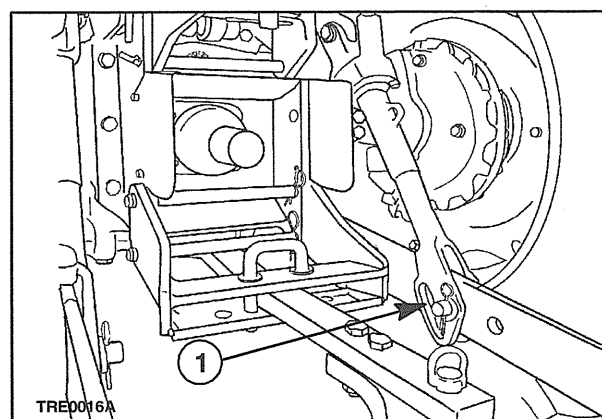


87

⚠ WARNING ⚠

When working in float mode, with an implement connected to the power take-off and using the lift, to avoid damaging the universal joint:

The lift rods must be connected to the lower arms by inserting the pins in the slots (1) fig. 88, thereby allowing free movement of the implement.

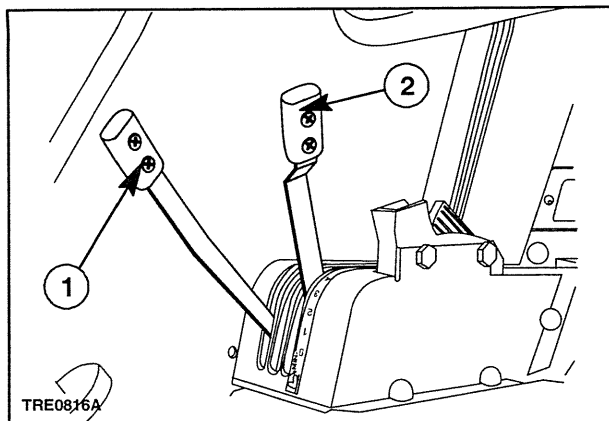


88

MIXED CONTROL

- Set the desired implement depth in the ground and find the working depth required, as described for draft control.
- When the implement is set at the desired depth, gradually move the position control lever (1) fig. 89, until the link arms start to raise. The lift operates in draft control, but at the same time prevents the implement, if soil with less resistance is encountered, from going too deep. This avoids the risk of bringing soil, which is unsuitable for crop-growing, to the surface.
- To lift and lower the implement in and out of work at the headland, always use switches (1) and (2) fig. 85.

NOTE: Do not use levers (1) and (2) fig. 87 to raise and lower implements as this will change the previously set operating conditions. Use only Fast Raise / Lower Switch controls (1) and (2) fig. 85.

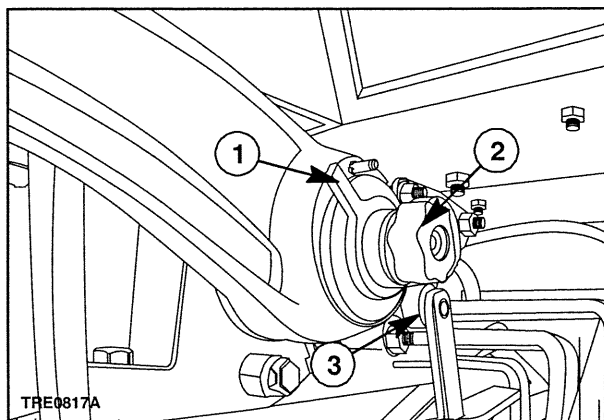


89

LINK UPPER LIMIT ADJUSTMENT– Fig. 90

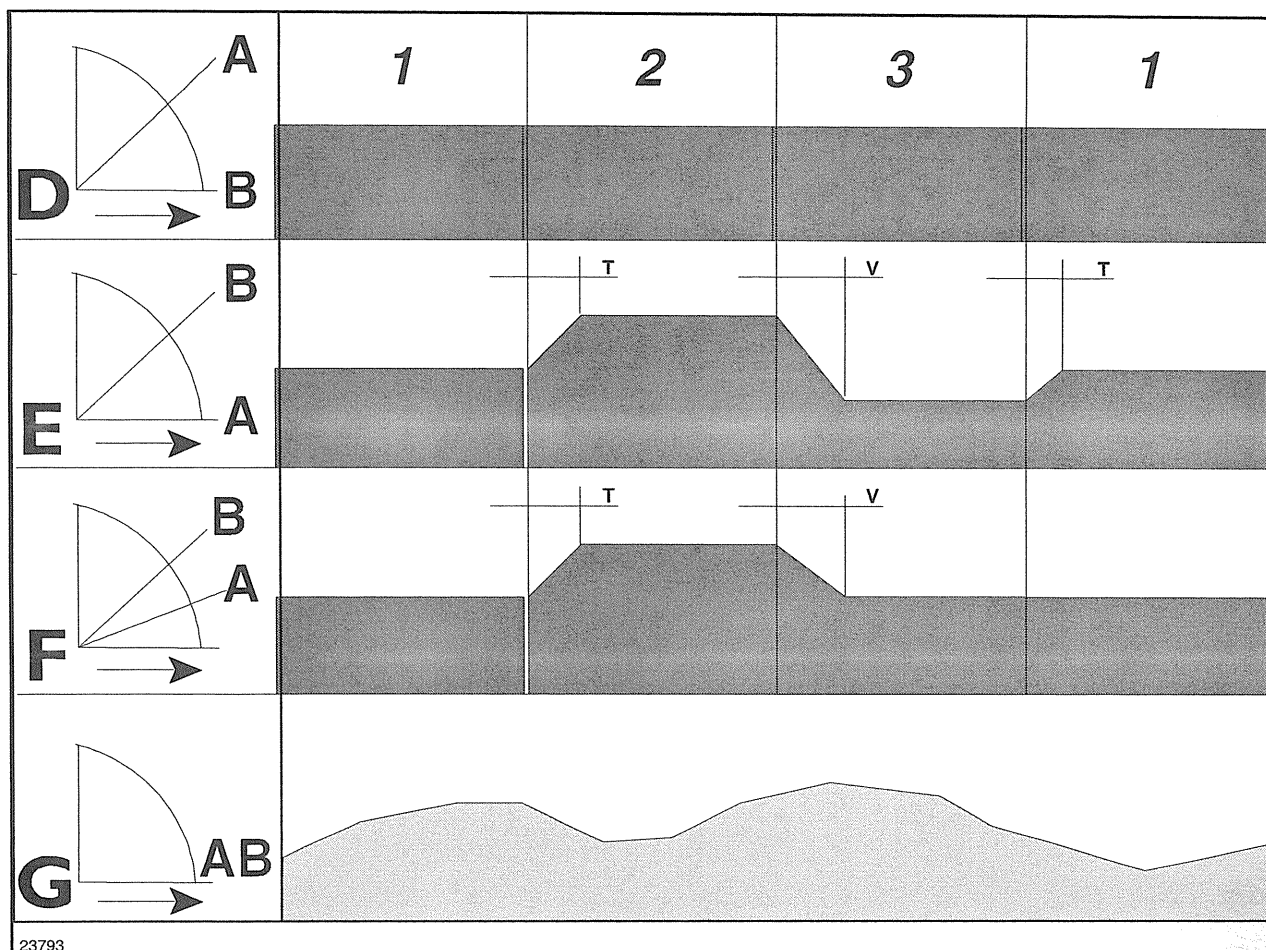
Adjust the lift link travel as follows:

1. connect the implement to the lift arm swivel bushings;
2. increase engine speed to 1200 : 1500 rev/min;
3. press the Lift-O-Matic push button (1) fig. 85 to the fully lowered position;
4. move levers (1) and (2) fig. 89 fully forward;
5. using the position control lever, raise the implement to the required height;
6. switch off the engine;
7. slacken knob (2) fig. 90 and turn the quadrant (1) fig. 90 until it touches the roller (3) fig. 90;
8. on completion of the adjustments, lock the quadrant (1) by tightening the knob (2).



90

HYDRAULIC LIFT – CONDITIONS OF USE



23793

91

A Position control lever.

B Draft control lever.

D Position control operation.

E Draft control operation.

F Mixed control.

G Float function.

1 Medium consistency soil.

2 Sticky soil.

3 Loose soil.

T Constant action time.

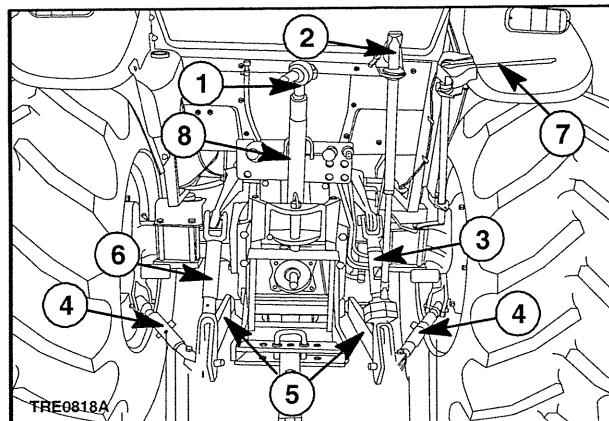
V Constant descent speed.

THREE – POINT LINKAGE

(CATEGORY – I AND CATEGORY – II)

Tractors without cabs – Fig. 92

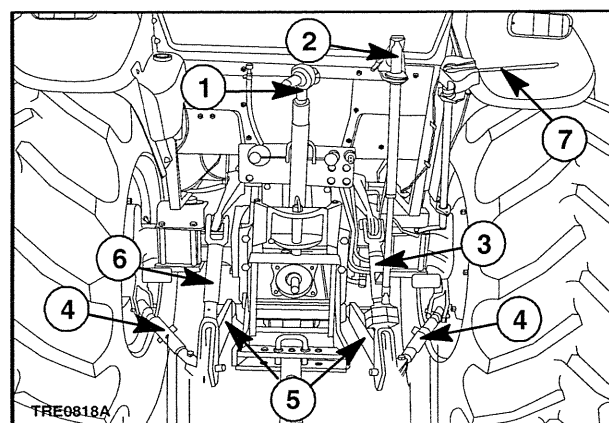
1. Adjustable length top link.
2. Right-hand lift rod adjuster, with return spring.
3. Right-hand lift rod.
4. Telescopic lateral stabilisers.
5. Lower links.
6. Left-hand lift rod.
7. Top link attachment bracket.



92

Tractors with cabs – Fig. 93

1. Adjustable length top link.
2. Right-hand lift rod adjuster, with return spring.
3. Right-hand lift rod.
4. Telescopic lateral stabilisers.
5. Lower links.
6. Left-hand lift rod.



93

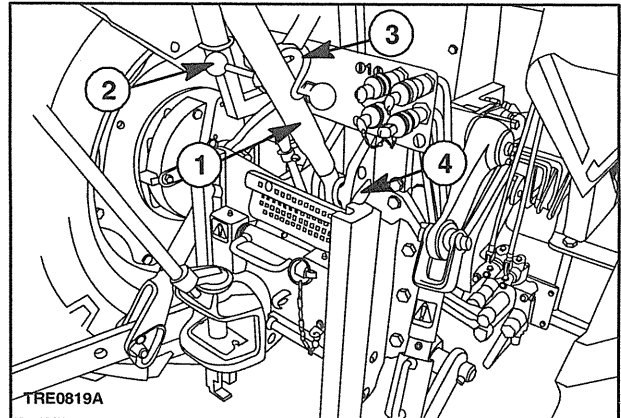
Adjustable top link – Fig. 94

The top link (1) can be connected to the attachment bracket via one of two holes. Select the most suitable hole for attaching the implement.

Use the upper hole for maximum lift capacity and the greatest implement to cab clearance. Use the lower hole for the best ground penetration.

To adjust the top link, rotate the sleeve using the tommy bar (2). Top link length must not exceed 870 mm (34.25 in).

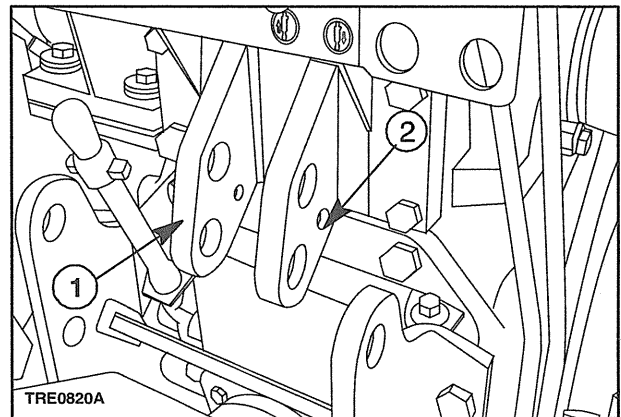
The top link can be removed or held by catch (3) when it is not in use.



94

Top link attachment bracket – Fig. 95

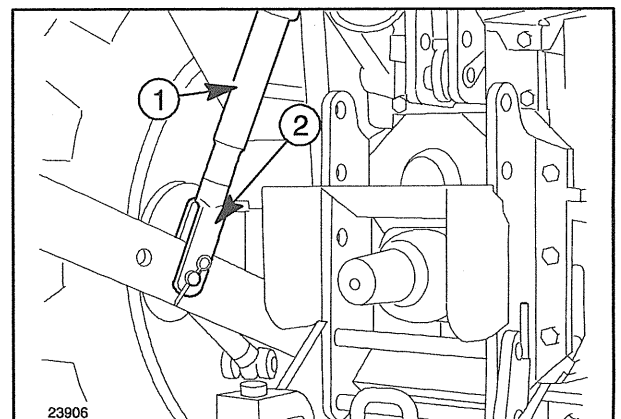
NOTE: When the top link retaining pin (4) fig. 94 is inserted, ensure that the safety tang on the end of the retaining pin is in the smaller hole (2) fig. 95.



95

Left-hand lift rod – Fig. 96

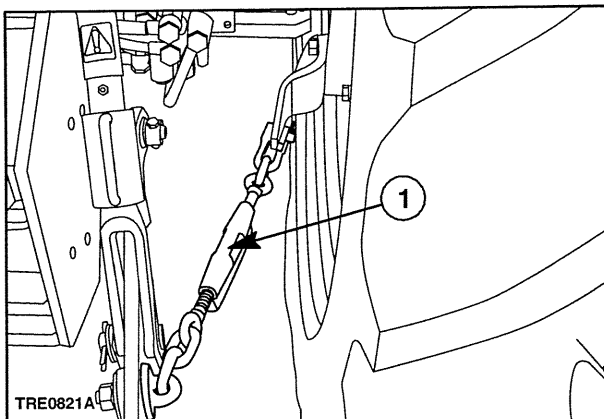
Adjust the length of lift rod (1) by tightening or unscrewing the lower end (2). Adjust the rod length as necessary so that the implement can be set in its working position parallel to the ground.



96

Chain type stabilisers – Fig. 97

Rotate the sleeve (1) to adjust the stabiliser length.

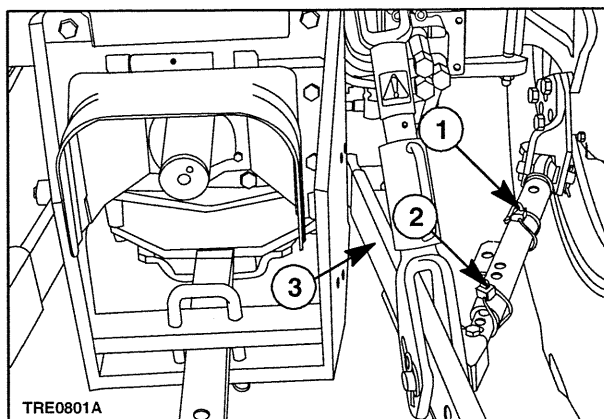


97

Telescopic stabilisers – Fig. 98– 99

To adjust the stabiliser length, proceed as follows:

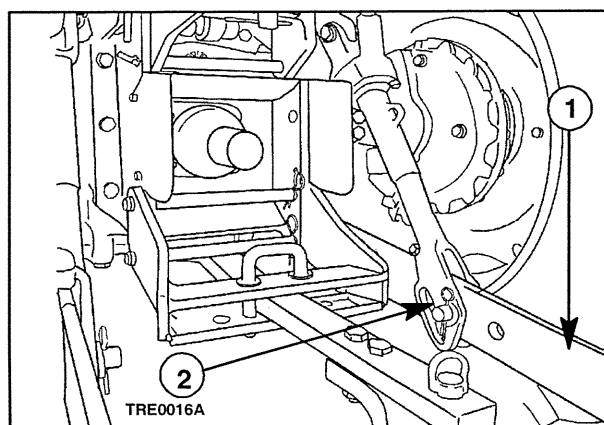
- remove pin (1) to allow free lateral swing of the arms (3);
- adjust the opening of the arms (3) by positioning the pin (2) in one of the free holes on the sleeve.



98

NOTE: Adjust the lateral stabiliser struts, fig. 98, so that the lateral movement of the lower links (1) fig. 99, does not exceed 120 mm (4.72 in) each side.

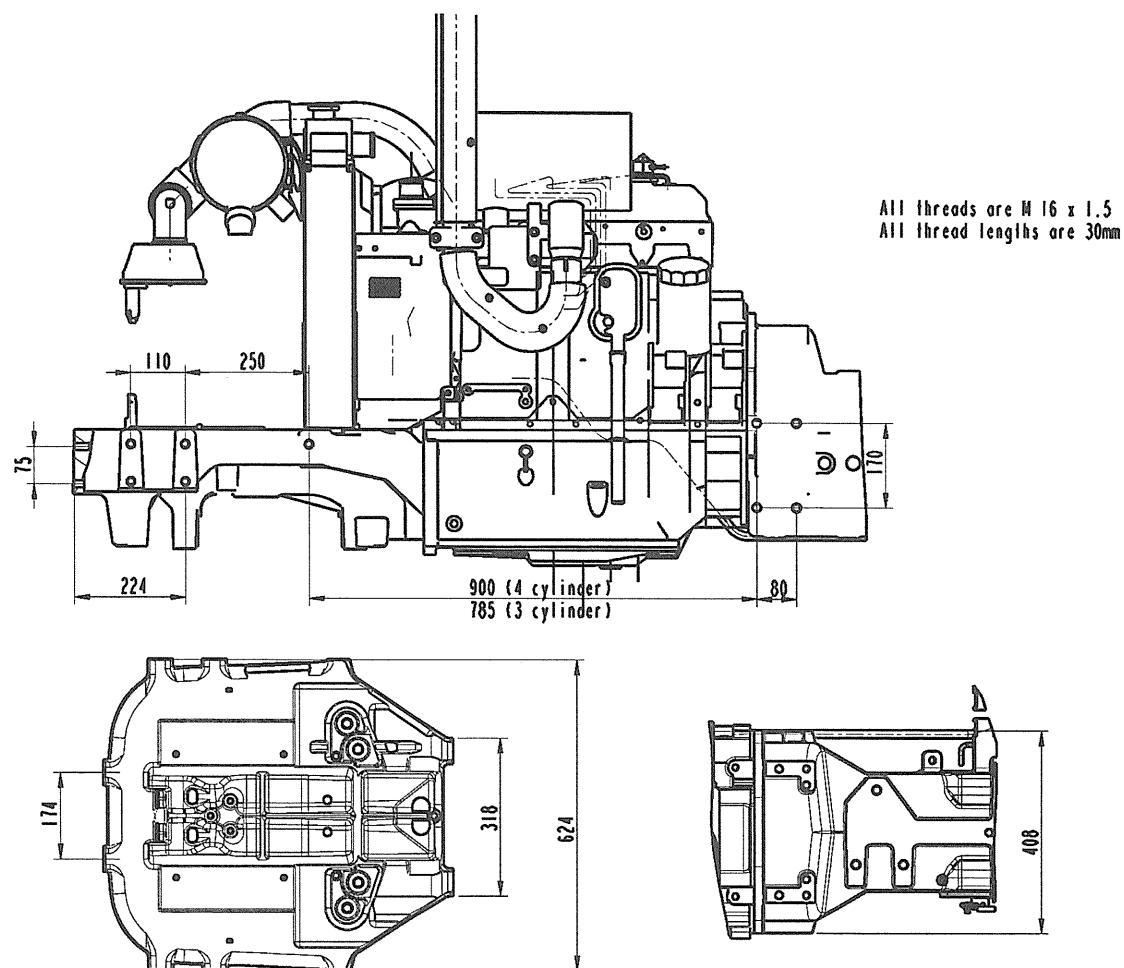
NOTE: Limited free movement of the lower links (1) fig. 99 can be obtained by connecting the retaining pins through the slots (2) fig. 99. This is particularly useful when working with wide implements (harrows, cultivators, etc.).



99

EQUIPMENT MOUNTING POINTS

JX 60, JX 70, JX 80 and JX 90 Models



TRE0859A

100

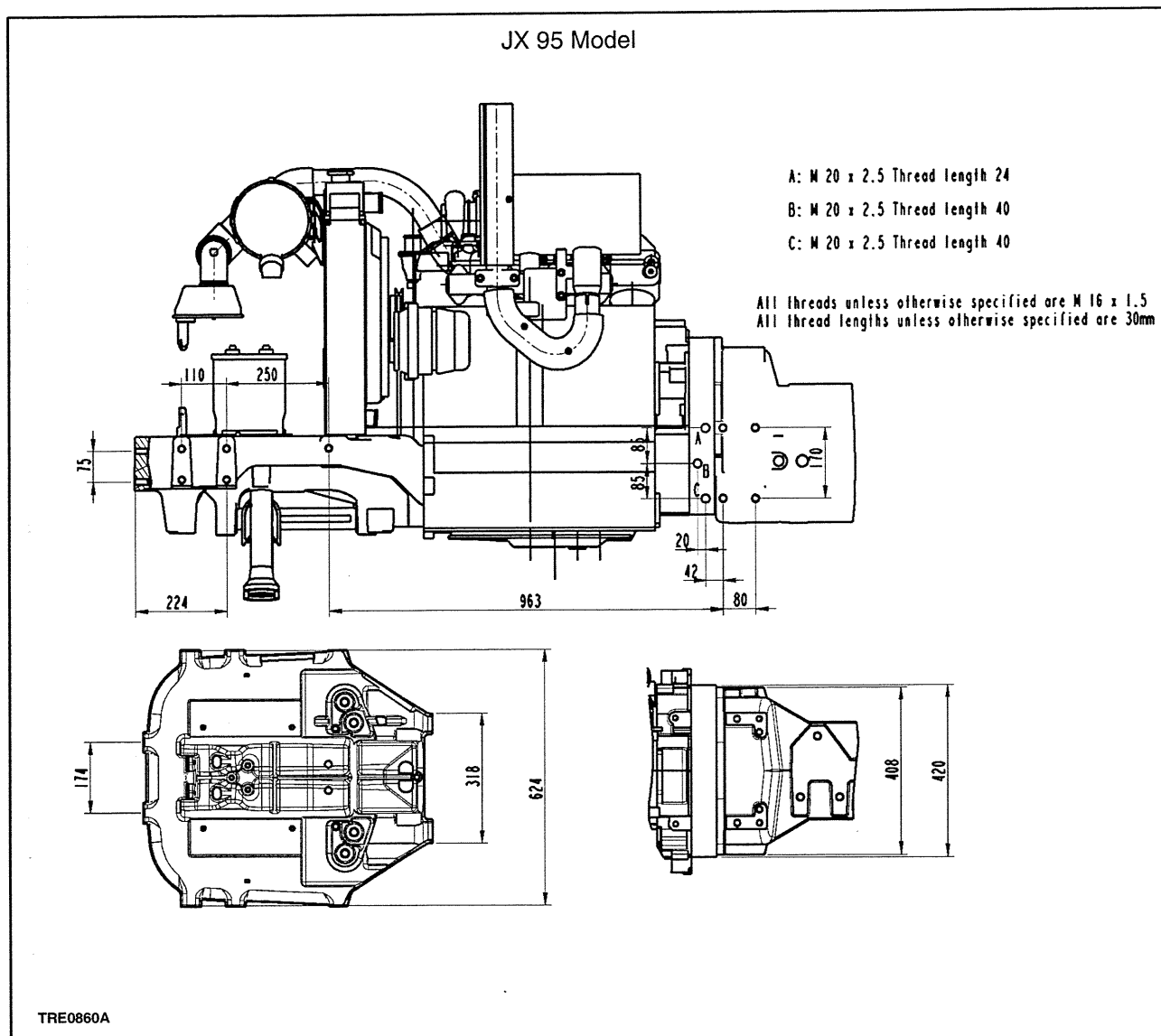
Both sides of the tractor are equipped with threaded holes for connecting implements and auxiliary equipment.

The figure shows the free fixing holes on the left-hand side of the tractor, which are identical and symmetrical to the fixing holes on the right-hand side.

NOTE: Use exclusively the holes specified in fig. 100 when mounting auxiliary equipment. .

The use of different holes for auxiliary applications automatically exonerates New Holland from all liability in relation to damage vehicle or injury to persons, resulting from failure to observe the relative regulations.

EQUIPMENT MOUNTING POINTS



101

Both sides of the tractor are equipped with threaded holes for connecting implements and auxiliary equipment.

The figure shows the free fixing holes on the left-hand side of the tractor, which are identical and symmetrical to the fixing holes on the right-hand side.

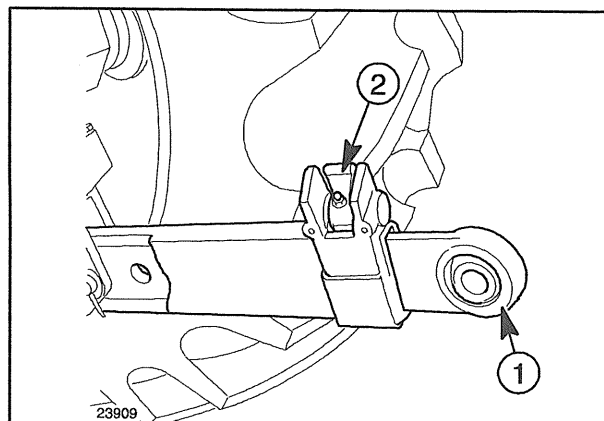
NOTE: Use exclusively the holes specified in fig. 101 when mounting auxiliary equipment. .

The use of different holes for auxiliary applications automatically exonerates New Holland from all liability in relation to damage vehicle or injury to persons, resulting from failure to observe the relative regulations.

Lower link arms with telescopic ends (optional) – Fig. 102

To adjust, proceed as follows:

- release the sliding ends (1) by turning retaining blocks (2) inwards;
- extract the ends (1) fig. 102 and connect to the implement;
- reverse the tractor: the telescopic ends slot into their respective seatings and the retaining blocks (2) snap shut automatically.



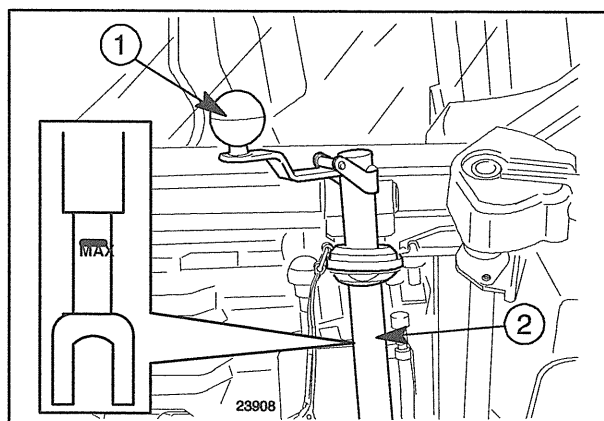
102

Right-hand vertical lift rod adjustment (on-board adjustment) – Fig. 103

The right-hand vertical lift rod (1) fig. 102 can be adjusted using knob (1) fig. 103 which can also be operated from the driving seat.



When extending the length of the right hand lift rod do not increase length beyond the MAX mark. The weight of the implement could forcibly pull the sleeve (2) fig. 103 from the rod. The length limit is shown by the **MAX** mark that corresponds with the maximum extension point on the rod.

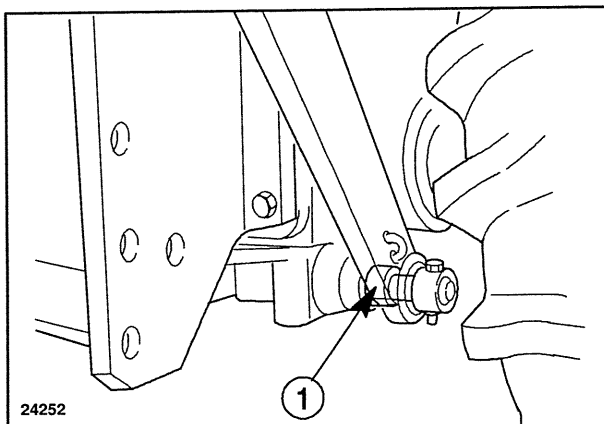


103

LOWER LINK ATTACHMENT

For light work – Fig. 104

When operating the tractor in draft or mixed control, install the lower links (5) figs. 92 and 93 with the spacers (1) fig. 104 fitted to the inner face of the lower links. This will provide greater lift sensitivity when working with light equipment or light draft loads.



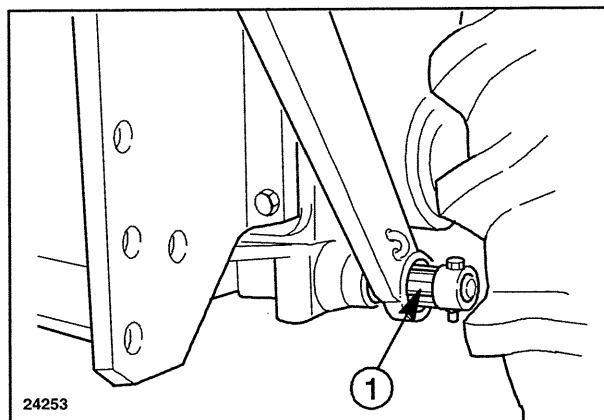
104

For normal and heavy work – Fig. 105

When operating the tractor in draft or mixed control, fit the spacers (1) to the outer face of the lower links for normal or heavy work.

This position, which reduces lift sensitivity, is recommended for medium to heavy implements or draft loads.

The figures illustrate the most suitable positions for the above operations.

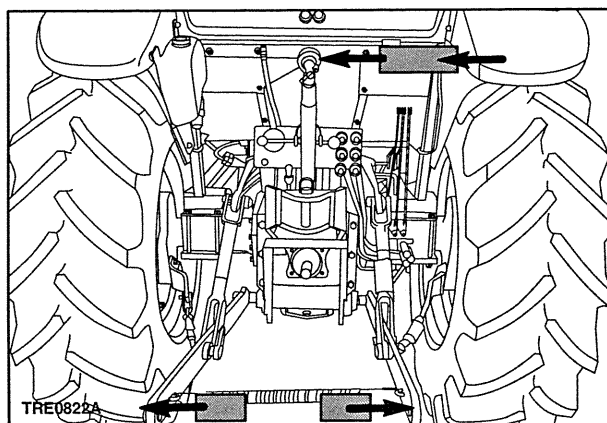


105

Conversion Category I to Category II – Fig. 106

To allow both Cat I and Cat II categories equipment to be used, the three-point linkage has:

- one 7.4 inches (19 mm) inside diameter bushing (1) for Cat I implements, to be inserted in the spherical bushing at the end of the top link;
- a series of 8.6 inches (22 mm) inside diameter bushings (2) for Cat I implements, to be inserted in the spherical bushings at the ends of the lower lift arms.
- For Cat II equipment given values are namely 10 inches (25.4 mm) and 11 inches (28 mm) approximately.



106

TOWING EQUIPMENT

SWINGING DRAWBAR – Figs. 107 and 108

Use the swinging drawbar for implements, agricultural machinery and trailers with two axles.

Do not, on the other hand, use it for single-axle trailers as they apply excessive weight to the bar, which will risk tipping the tractor.

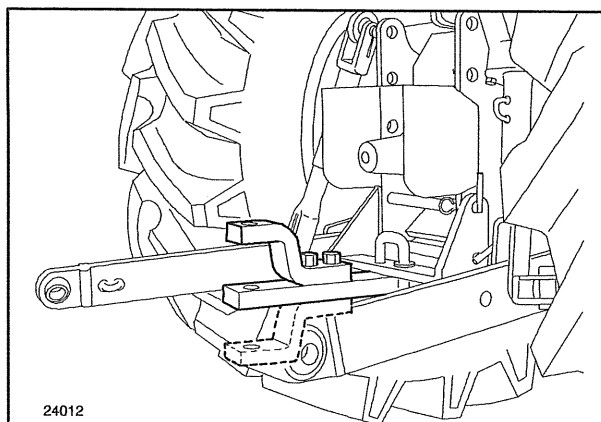
The wide horizontal trajectory of the bar is extremely useful for implements and machines requiring lateral freedom of movement, such as balers.

This equipment can be supplied:

- with suitable brackets to fit either a rigid towing hook or a Rockinger hitch;
- with a bracket designed to fit only to a towing bar.

The following adjustments can be made to the bar:

- height adjustment, by turning the fork to face upward or downward fig. 107;
- prevention of lateral swing by inserting limiter fork (1) fig. 108.

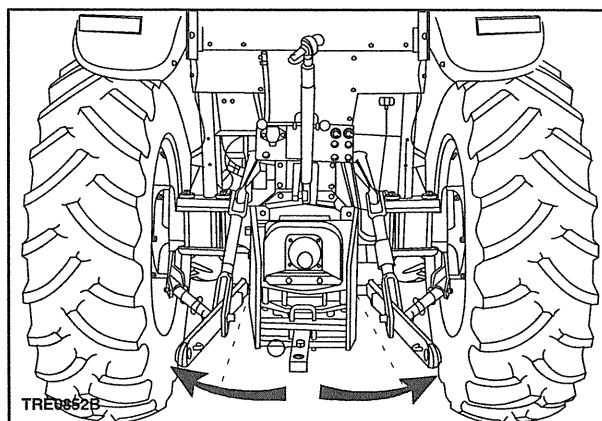


107

⚠ CAUTION ⚠

The towing equipment should be selected on the basis of the type of trailer or implement to be towed and should comply with current legislation.

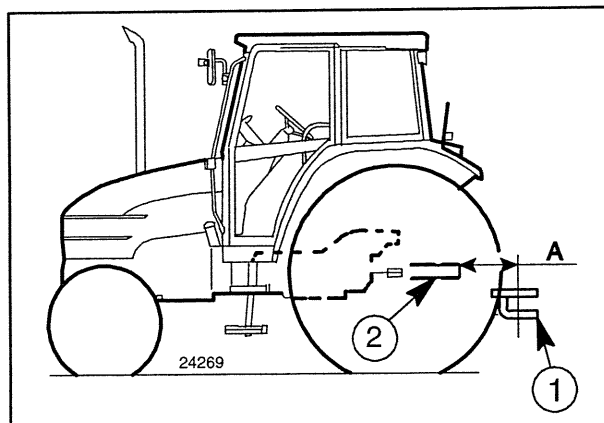
- *The ease of handling and driving safety of the tractor depends on correct towing adjustment.*
- *A towing device fitted high up increases towing capacity but also means that the tractor has a tendency to tip back. Therefore ensure that the trailer shaft is not at too great an upward angle.*
- *When using four-wheel drive, the towing bracket should be in its lower position with the shaft almost horizontal.*
- *Avoid towing excessively heavy trailers or loads.*
- *Do not start suddenly as this considerably increases the risk of tipping backwards.*
- *Always brake the trailer first and then the tractor.*



108

By carrying out the adjustments previously described, the distance **A** of fork (1) on the swinging drawbar will be between 297 mm (11.69 in) minimum and 455 mm (17.9 in) maximum from the power take-off shaft (2).

To connect implements to the power take-off correctly, fit the towing bracket facing downwards fig. 107.



109

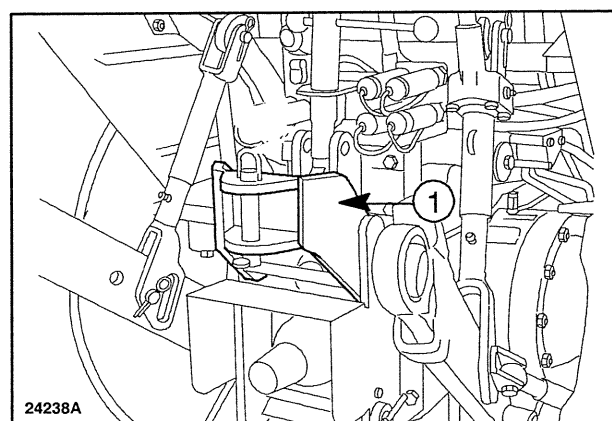
HEIGHT ADJUSTABLE RIGID HITCH – Figs. 110 and 111

With rigid hitch (1) fig. 110 all types of trailer can be towed, even those with only one axle.

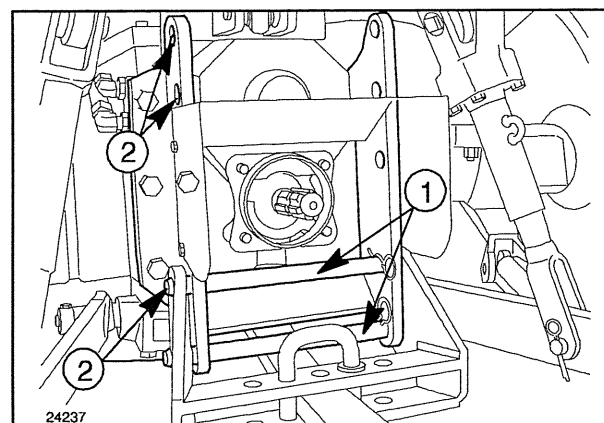
The hitch can be set both above and below the power take-off, with a total of six positions.

It can also be fitted with the towing bar.

Fix the hitch to holes (2) fig. 111 using pins (1) fig. 111



110



111



WARNING

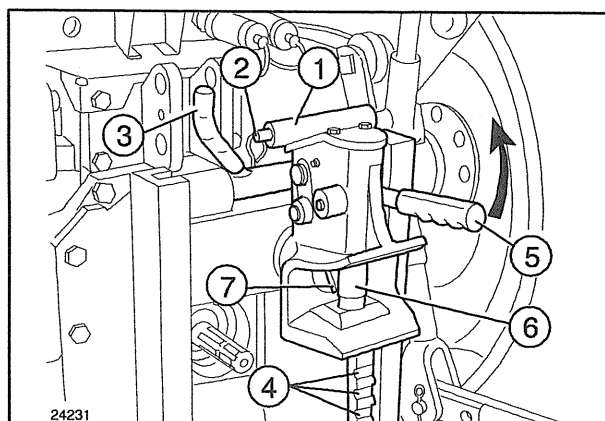
Use the front towing fork for possible emergency trailer manoeuvres or for towing the tractor.

CATEGORY C HITCH (OPTIONAL) – Fig. 112

This device is height-adjustable and can be fitted with the towing bar.

To adjust, proceed as follows:

- with the right hand, grasp handle (1) and press button (2);
- with the left hand, pull handle (3) down to a horizontal position to release the hitch and position it at the desired height;
- a few seconds before you reach the desired height, press button (2) again, and push handle (3) into a vertical position to allow the hitch to fit firmly into one of the notches (4).



112



CAUTION

Do not hitch the trailer with the hitch resting free on the power take-off or on the lower check pins. The hitch must always be firmly secured in the notches.

To hitch the trailer, proceed as follows:

- push handle (5) upwards into a vertical position to raise hitching pin (6);
- get into the tractor, engage reverse gear, and move back until lever (7) is engaged by the trailer towing eye and hitching pin (6) is automatically dropped into position;

When this has been done, lever (5) should be in a horizontal position, and pin (6) inserted in the trailer towing eye.

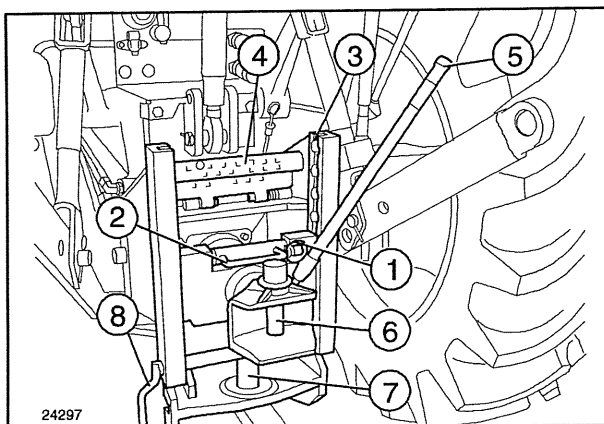
**CATEGORY C HITCH (OPTIONAL)–
Fig. 113**

This device is height-adjustable and can be fitted with the towing bar.

To adjust, proceed as follows:

- unscrew safety pin (1);
- pull handle (2) upwards and position the hitch at the desired height;
- fix it in one of the notches (3) by pushing handle (2) down;
- reinsert the safety pin and pull guard (4) down.

to remove hitching pin (6), pull rod (5) upwards and unscrew.



113

**HITCH FOR SEMI-TRAILERS (OPTIONAL)–
Fig. 113**

Supplied together with the towing bar.

Semi-trailers are hitched to pin (7) fixed on the towing bar bracket.

**WARNING**

After hitching the trailer to the pin, do not forget to fit safety pin (8).

OPERATION OF AUTOMATIC PICK-UP HITCH (OPTIONAL)

This system makes it possible to tow trailers, implements and agricultural machinery with a ring type drawbar. All hitching and unhitching operations can be performed without leaving the driving seat.

Hitching

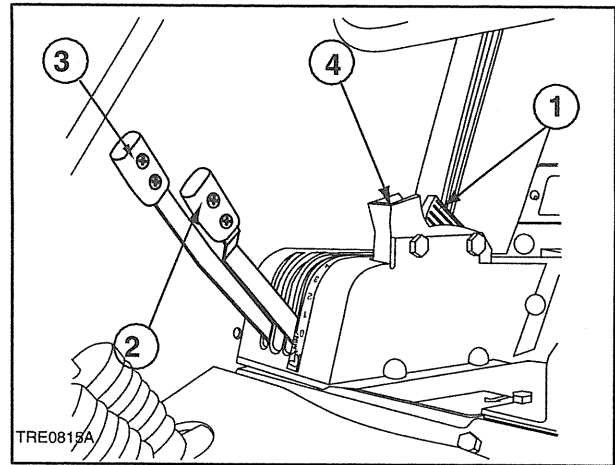
To lower the hook and couple the implement, proceed as follows:

- remaining seated in the driving seat, move the position control lever (3) fig. 114 fully rearward and draft control lever (2) fig. 114 fully forward.
- press Fast Raise/Lower Switch (1) fig. 114;
- pull and hold the release lever (1) fig. 115 upwards to disengage the locking hooks, at the same time gradually move the position control lever (3) fig. 114 forward until the hitch hook has lowered;
- release lever (1) fig. 115;
- reverse the tractor and align the hitch hook under the trailer drawbar ring;
- raise the hook by moving the position control lever (3) fig. 114 slowly rearward; the hook will engage the ring and the implement will be automatically hitched as confirmed by the audible click made by locking hooks (1) and (4) fig. 116 on the pins (2) and (3);
- when the implement is hitched, move the position control lever (3) fig. 114 slightly forward so that the weight of the hitch is supported by the locking hooks (1) and (4) fig. 116;
- press Fast Raise/Lower Switch (4) fig. 114 to prevent inadvertent lowering of the hitch if lever (3) fig. 114 is moved accidentally.

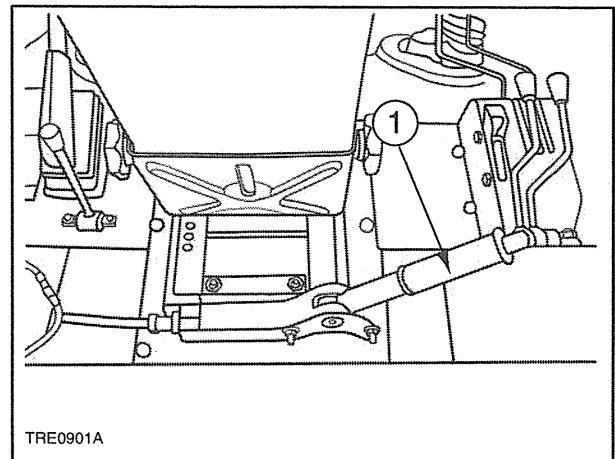


CAUTION

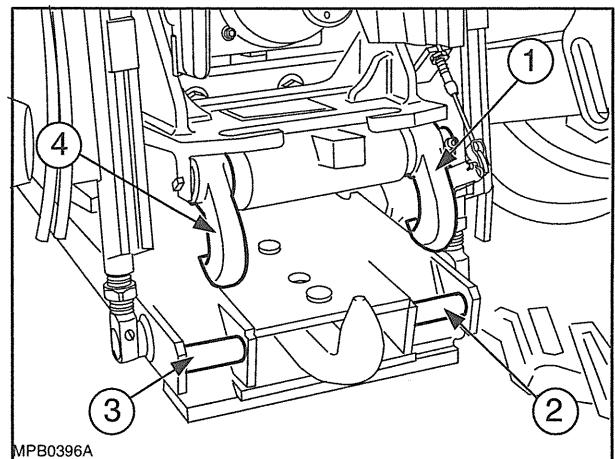
Before moving, check that the hooks (1) and (4) fig. 116 are correctly locked on the pins (2) and (3).



114



115



116

Unhitching

To unhitch the trailer or implement, proceed as follows:

- position the tractor on flat, level ground;
- press the Fast Raise/Lower Switch (1) fig. 114;
- move position control lever (3) fig. 114 fully rearward to take the weight off the locking hooks (1) and (4) fig. 116;
- pull release lever (1) fig. 115 upward and gradually move the position control lever (3) fig. 114 forward to lower the hitch hook and implement to the ground.
- move tractor forward away from drawbar ring.
- raise the hitch and lock into position before continuing with work.

To change from hitch hook mode to drawbar, proceed as follows:

- remove drawbar (1) fig. 118 from its holder;
- lower the pick-up hitch as previously described;
- remove securing pins (2) and (3) fig. 117;
- extract the hook (4) fig. 117, and refit the bar (1) fig. 118, reinserting the pins in their holes.
- place hook in the storage holder.

In drawbar mode it is possible to have two different distances from the PTO, by inserting the pins in holes (1) and (5) or (2) and (3) fig. 117.

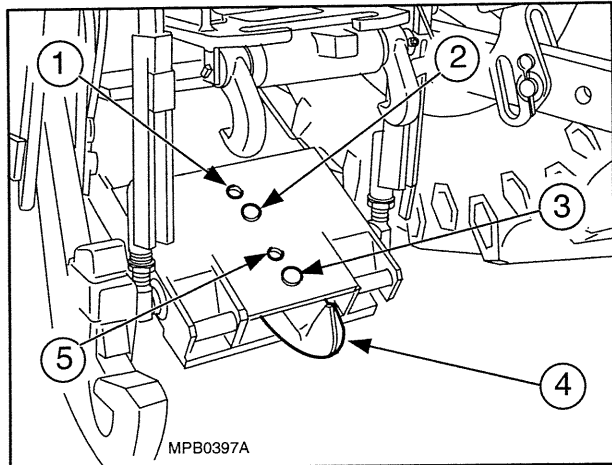
When towing equipment exerting high static downward loads, such as two-wheeled trailers etc., always use the close-coupled drawbar position.

⚠ WARNING ⚠

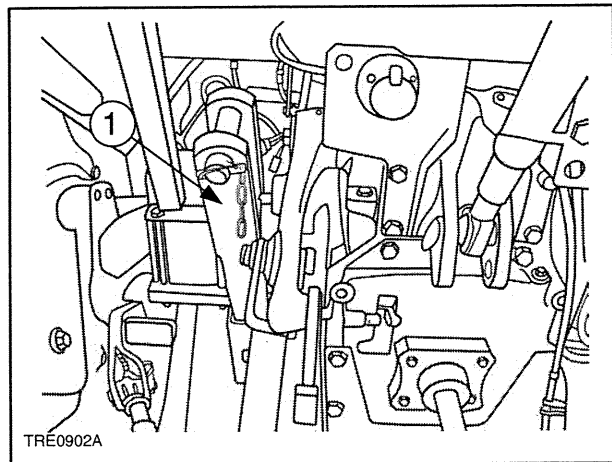
Never raise or lower the pick-up hitch when in drawbar mode with a trailer attached.

⚠ CAUTION ⚠

When supporting equipment on the drawbar or pick-up hitch, ensure that the total weight on the rear axle does not exceed the maximum static downward load and rear tyre load capacity.



117



118

FOLDING ROLL BAR

The roll bar (optional) is of the folding type and can be folded backwards when working in areas with limited headroom.

! WARNING !

When not working in areas with limited headroom, always work with the roll bar raised, as shown in the figure.

! CAUTION !

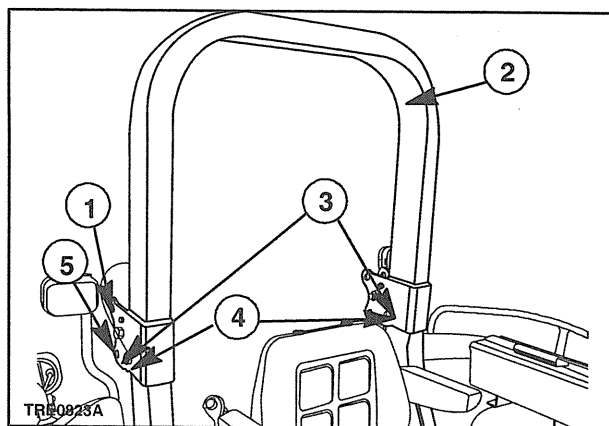
If used incorrectly, the tractor may overturn.

The roll bar may only be lowered when working in areas with limited headroom.

With the roll bar lowered the driver is unprotected, therefore it is essential that the roll bar is raised after working in areas with limited headroom.

When the roll bar is raised, always use the seat belt.

Do not use the seat belt when the roll bar is lowered.



119

To lower the roll bar, proceed as follows:

- release securing pins (3) and extract the locking pins (4) on both sides fig. 119;
- fold the roll bar (2) fig. 119, backwards;
- align holes (1) and (5), and insert the pins (4) to secure the roll bar in the lowered position.

! CAUTION !

Do not attach chains or cables to the roll bar as this may cause the tractor to tip backwards.

Only tow using the specific devices provided on the tractor.

REMOTE CONTROL VALVES

QUICK-FIT COUPLERS – Fig. 120

One, two or three control valves (which use the same oil circuit as the hydraulic lift), can be fitted to your tractor for remote control of single-acting and double-acting cylinders.

Each valve has two quick-fitting female “Push-Pull” $\frac{1}{2}$ in. couplers which can be connected to pressurised male couplers (optional). You can thus connect the control cylinder lines with just one hand.

Valves and their colours are shown at Figures: 120 and 123.

Valve no:	Colour
1.	Green
2.	Blue
3.	Brown

Remote outlets shown in Fig. 120 on left side (line B) is used to retract the cylinder, on right side (line A) is used to extend the cylinder.

Push them in to fit them and pull them out to release them from the female couplers, but only after first:

- switching off the engine;
- lowering any implements connected to the lift;
- thoroughly cleaning the two parts to be connected.



WARNING

When not using the female couplers, protect them with plastic caps (A) fig. 120.

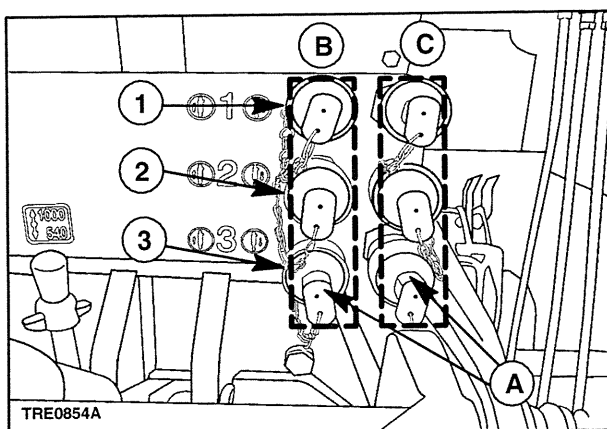
SINGLE-ACTING/DOUBLE-ACTING SWITCHING – Fig. 121

To switch the control valves to:

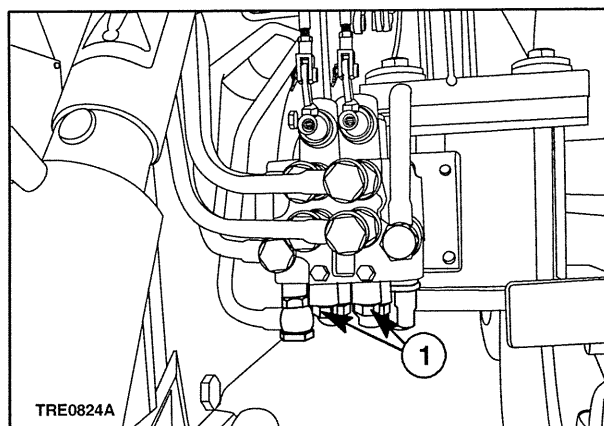
- **Single-acting**, slacken screw 1 fig. 121 near to the valve control lever pivot until it stops.
- **Double-acting**, fully tighten 1 fig. 121.

When using single acting, in order to accelerate the identification of the coupler to which the implement is to be connected, actuate the valve lever and observe the two lines to which the couplers are connected: the line carrying the oil should move.

For greater safety, check that the line to which the implement is connected using single acting is that on the valve body connected furthest from the change over screw.



120

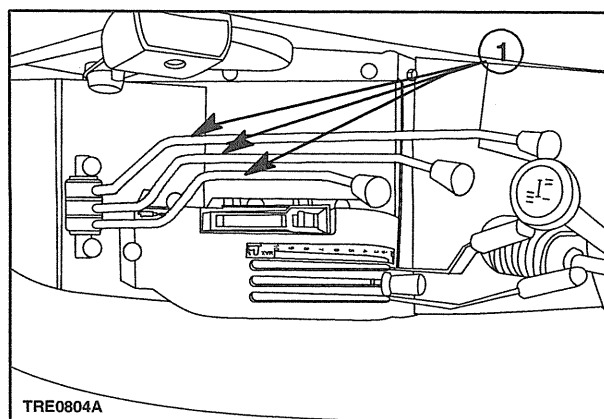


121

1, 2, 3. Valve control levers for single-acting or double-acting cylinders – Fig. 122

These levers can be used in two positions or in the central neutral position:

- forward = down;
- back = up.



122

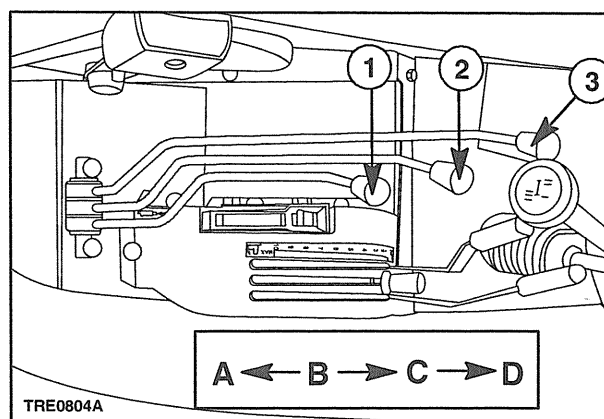
VALVES WITH FLOAT SETTING (OPTIONAL)

Your tractor can be fitted with valves with a float setting for implements requiring this function.

To select the float setting, push the relevant valve lever fully forward, past the first detent.

A mechanical detent will keep the lever engaged in the float setting.

To release the control lever from the float setting, simply pull it up into its rest position.



123

CONTROL VALVE LEVERS FOR SINGLE OR DOUBLE-ACTING CYLINDERS WITH KICK-OUT (not for all markets) – Fig. 123

All positions are available on fig. 123 for kick-out applications.

- position **A** = lever (1) back (lower implement);
- position **C** = lever (1) forward (raise implement);

Neutral position **B** and position **D** are the same as explained previously.

Valves with the kick-out feature, the lever will automatically return to neutral position (B) when the hydraulic cylinder has reached the end of its stroke.

CONTROL VALVE LEVERS FOR SINGLE OR DOUBLE-ACTING CYLINDERS—Fig. 123

There are four possible positions :

- position **A** = lever (1) back (raise implement);
- position **B** = neutral position;
- position **C** = lever (1) forward (lower implement);
- position **D** = lever (1) fully forward in float setting. In this position the cylinder can extend or retract freely, allowing the implement to follow the land contours (not for all markets). Lever remains in position that used.



CAUTION: leaks of pressurised hydraulic fluid can penetrate the skin and cause severe injuries:

- **Never** use your hands to locate a leak – use cardboard or paper.
- Switch off the engine and bleed the pressure before connecting or disconnecting pressurised lines.
- Tighten all connectors before starting the engine or pressurising the hydraulic system.

If fluid penetrates the skin, seek medical assistance immediately to prevent serious injury.

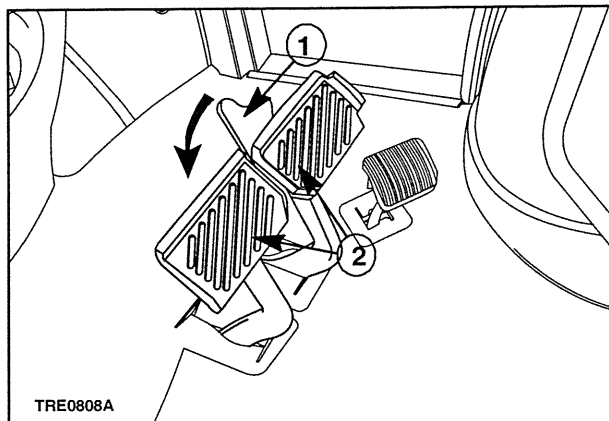
HYDRAULIC TRAILER BRAKES (not available on all markets)

⚠ CAUTION ⚠

To use the hydraulic trailer braking system correctly, follow the instructions below. In addition to the correct operation of the braking system, following these instructions will help you avoid dangerous situations which can cause injuries or damage to property.

⚠ DANGER ⚠

To brake both the tractor and the trailer simultaneously, always connect the pedals together with the locking pin (1) fig. 124, as required when driving on roads.



124

The remote control valve for trailer hydraulic braking is controlled by the tractor brakes hydrostatic circuit oil, when pressurised by the relevant control pedals (2). The trailer braking function uses the same oil as the hydraulic lift circuit.

TRACTOR-TRAILER COUPLING

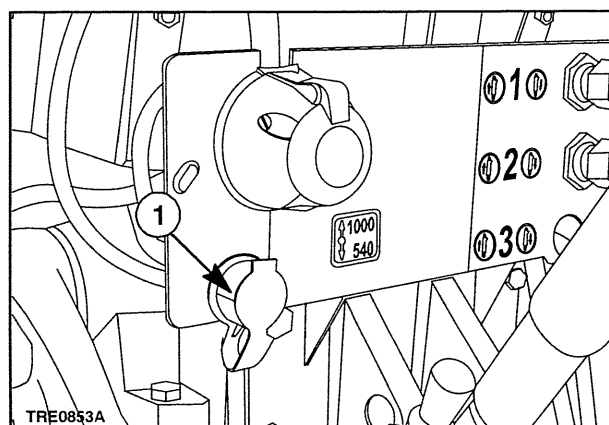
First hitch the trailer to the tractor towing bracket and then, with the engine shut off, connect the trailer brake line to coupler (1) fig. 125 on the tractor.

⚠ CAUTION ⚠

Before connecting the trailer, check that the handbrake is applied and the tractor is in gear.

STARTING THE TRACTOR

Start the engine and press the brake pedals to reduce the time taken to release the trailer brake.



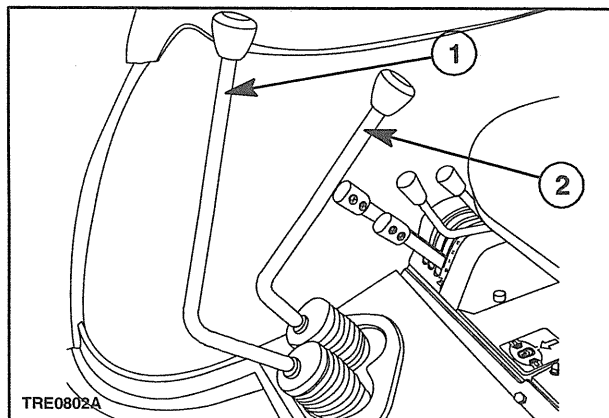
125

STOPPING THE TRACTOR

When the tractor is stopped with a trailer connected and the engine running, move the shift lever (1) and range lever (2) fig. 126 to neutral. At this point, pull handbrake lever (1) fig. 127 to engage the trailer parking brake.

⚠ DANGER ⚠

When the tractor is stationary, apply the handbrake lever and wait for at least **10 seconds** before switching off the engine to ensure that the trailer parking brake is engaged.



126

UNHITCHING A TRAILER FROM THE TRACTOR

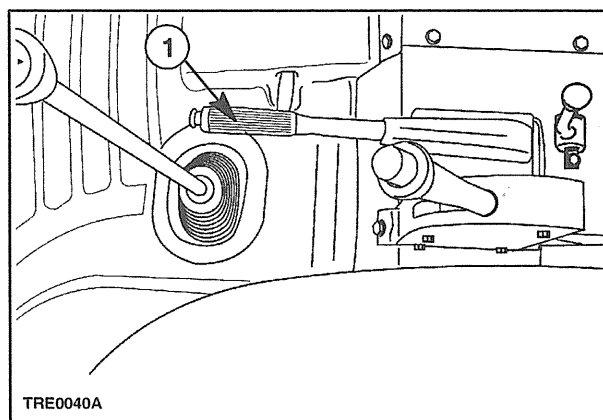
To disconnect the trailer from your tractor, proceed as follows:

- stop the tractor as previously described;
- switch off the engine, as described above;
- disconnect the trailer brake line from the tractor coupler.

If the trailer is on a slope, place chocks behind the wheels for greater safety.

⚠ CAUTION ⚠

If there should be any marked irregularity in the operation of the braking system, contact your authorised dealer immediately to have the problem put right.



127

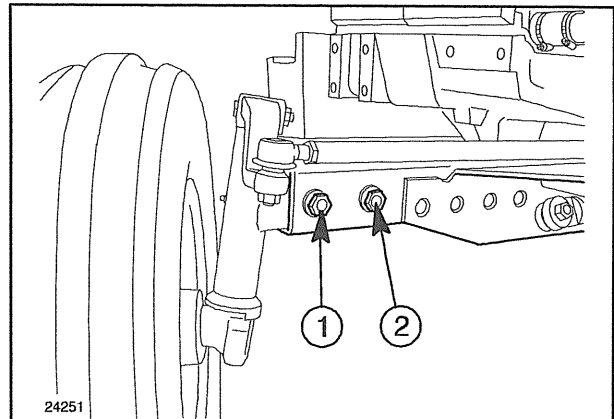
This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

WHEEL TRACK ADJUSTMENT

FRONT WHEEL TRACKS 2WD

To adjust the front wheel track, proceed as follows:

- raise the front of the tractor using a jack positioned in the middle of the axle;
- release the sliding ends after removing the retaining bolts and nuts (1) and (2) fig. 128, two on each side (tightening torque: 220 Nm - 22.5 kgm);
- adjust the length of the steering rods connecting the two wheels by removing the locking screws (3) fig. 130 (tightening torque: 39 Nm - 4 kgm);
- this provides six possible wheel tracks, as illustrated in fig. 131.



128

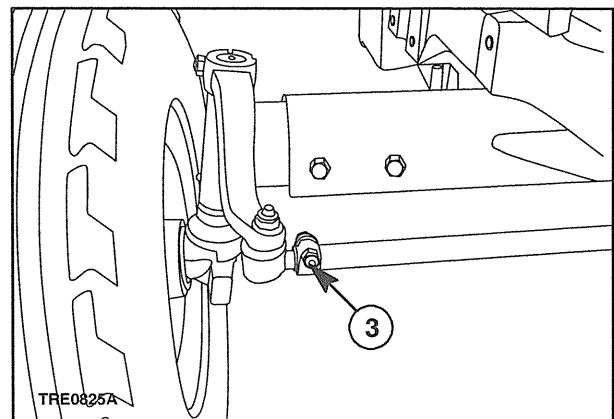
A further larger track width (maximum track) can be obtained by reversing the wheels on their hubs. Only use this maximum track where absolutely necessary.

The tightening torque of the wheel to hub locknuts is 115 Nm (11.7 kgm).

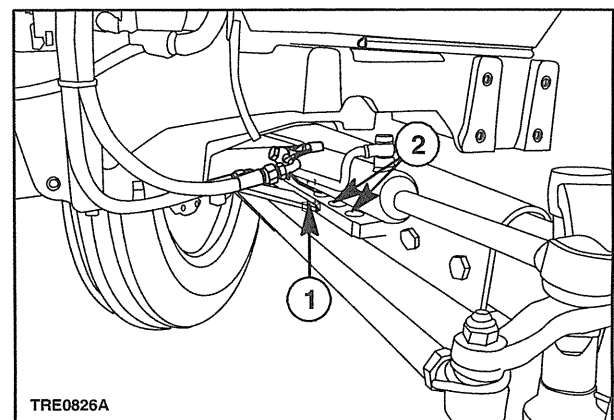


If the tractor has hydrostatic steering, proceed as described above for the left-hand wheel. For the right-hand wheel, however, after releasing the sliding end of the axle, you must change the hydraulic cylinder's internal angle, as appropriate, in the following way:

- slacken the cylinder hose connectors;
- keep screw (3) fig. 129 loosened;
- insert angle adjuster pin (1) fig. 130 in one of the corresponding holes (2) fig. 130.
- tighten the pin (tightening torque: 294 Nm - 30 kgm)
- tighten screw (3) fig. 130 (tightening torque: 39 Nm - 4 kgm).
- check that the hoses are not twisted and tighten the connectors.

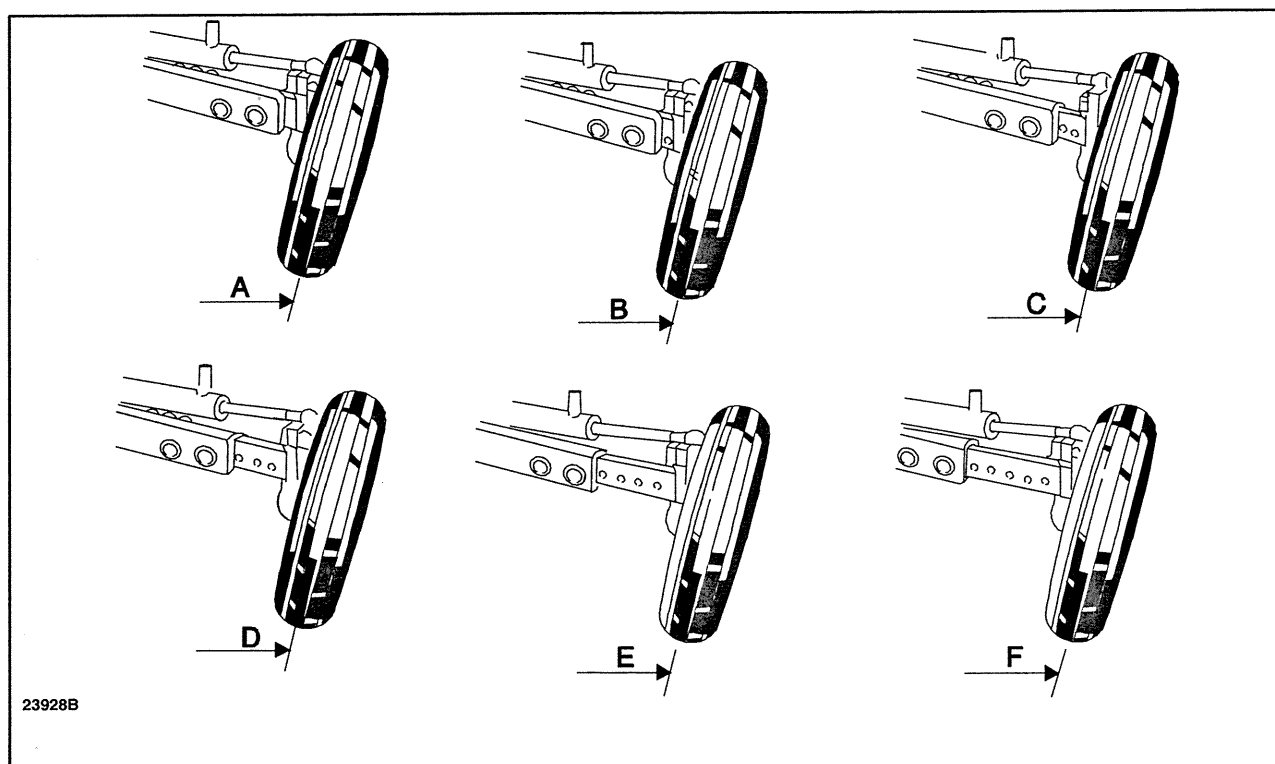


129



130

Wheel illustration of front tracks, 2-wheel drive



131

Model	Tyre dimensions	Standard wheel track mm (in)	Wheel tracks mm (in)					
			A	B	C	D	E	F
JX60 JX70	6.00-16 7.50-16	1500 (59)	1400 (55)	1500 (59)	1600 (63)	1700 (67)	1800 (71)	1900 (75)
JX80 JX90 JX95	7.50-16 7.50-18 7.50-18	1510 (59)	1410 (56)	1510 (59)	1610 (63)	1710 (67)	1810 (71)	1910 (75)

WHEEL TRACK ADJUSTMENT FRONT WHEEL TRACKS, 4-WHEEL DRIVE AND REAR WHEEL TRACKS, 2 AND 4-WHEEL DRIVE

The front wheels can be fitted with the concave surface of the disc facing inwards or outwards (see fig. 132).

Tracks of different sizes can be obtained using both these disc positions, as illustrated in figs. 133 and 134.

When adjusting the wheel track, ensure that the points of the tyre treads are still facing the direction of forward travel, indicated by an arrow on the tyre walls.

Always check that the front and rear wheels are symmetrically aligned in relation to the tractor's longitudinal axis.

Front wheels 4WD

The tightening torque of the hub disc locknuts is 255 Nm – 26 kgm (187.98 lb.ft), and the torque of the rim disc locknuts is 216 Nm – 22 kgm (159.06 lb.ft).

Rear wheels 2/4WD

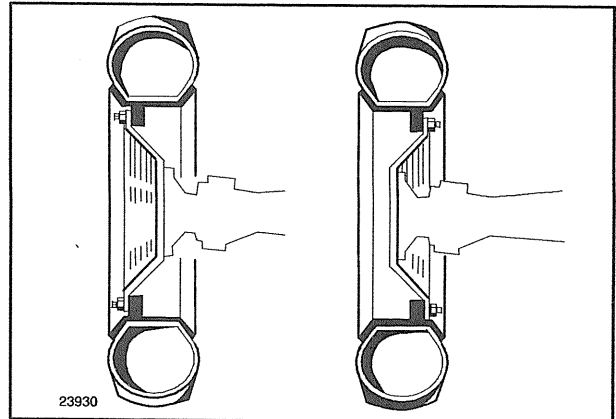
The tightening torque of the hub disc locknuts is 255 Nm – 26 kgm (187.98 lb.ft), and that for the rim disc locknuts is 245 Nm – 25 kgm (180.75 lb.ft).

Always check that the front and rear wheels are symmetrically aligned relative to the tractor's longitudinal axis.



WARNING

Select the appropriate rear track before changing the front one.



132



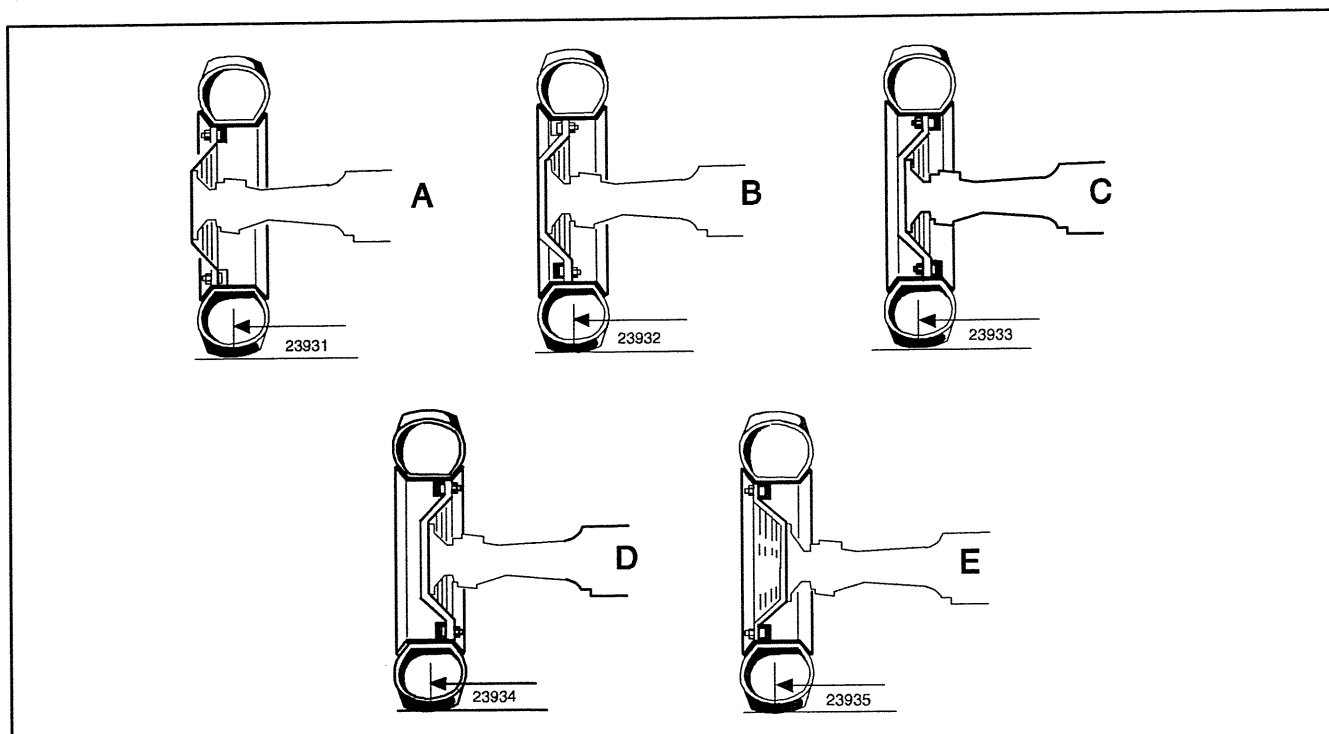
DANGER



When removing the wheels, proceed with extreme caution, use suitable means to lift the tractor and specified equipment to move heavy parts.

NOTE: Under the EC regulations, the maximum permissible overall width for tractors equipped with standard tail-lights is 2150 mm. With wheels set at maximum track width, the maximum overall width obtainable is 2315 mm for machines with ROPS, and 2510 mm for machines with cab. If these wider settings are adopted, the tail-lights must be mounted to special extendible arms (available on request) so that they can be adjusted to indicate the overall width of the tractor.

WHEEL TRACK DIAGRAM FRONT 4WD

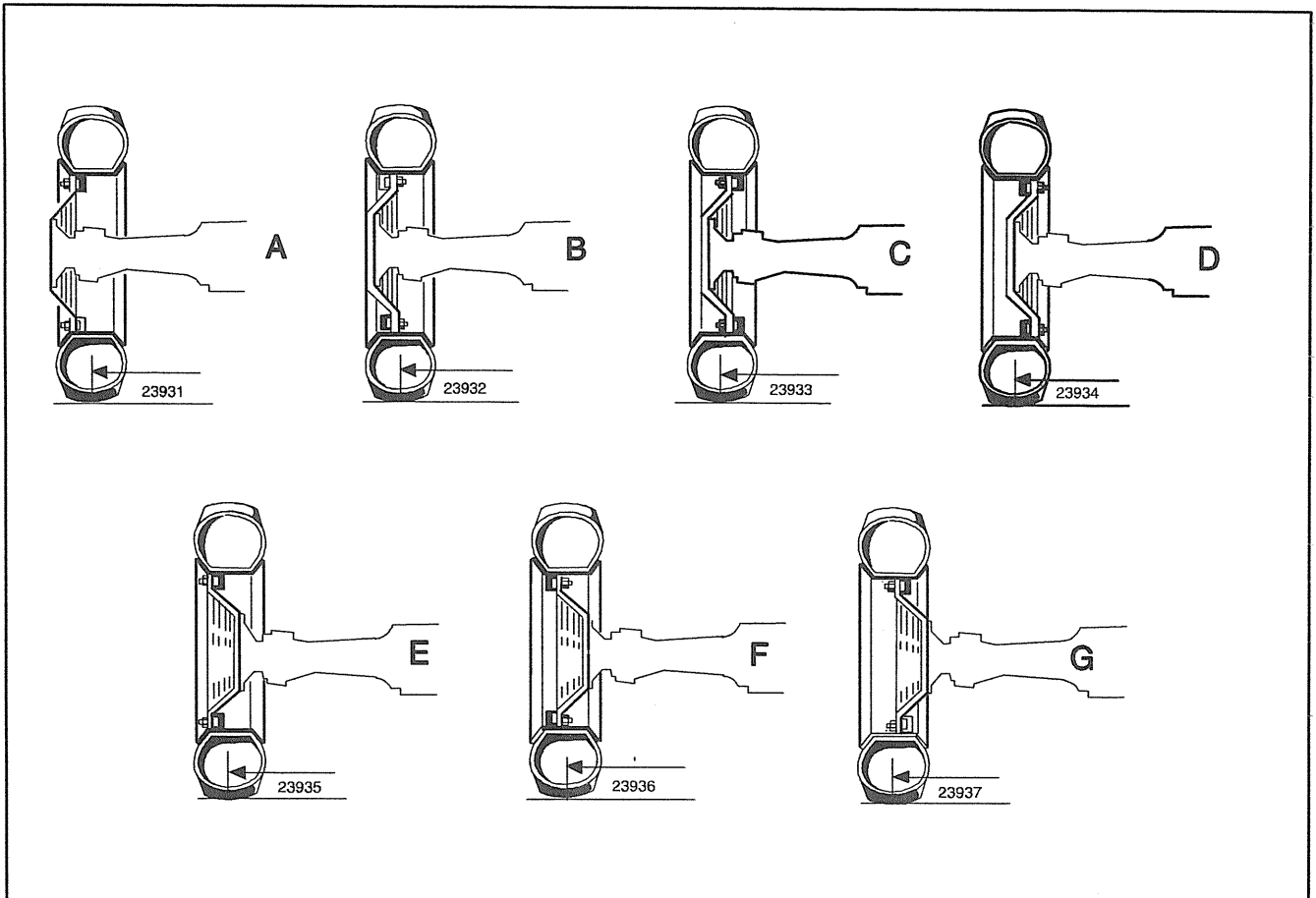


133

Model	Tyre dimensions	Standard wheel track mm (in)	Wheel tracks mm (in)				
			A	B	C	D	E
JX60 JX70	11.2-20 9.50-24	1450 (57)	1450 (57)	1550 (61)	1650 (65)	1750 (69)	1880 (74)
JX80 JX90	11.2-24 12.4-24	1550 (61)	1550 (61)	1650 (65)	1750 (69)	1850 (73)	1980 (78)
JX95	13.6-24 14.9-24	1650 (65)	—	1650 (65)	1750 (69)	1850 (73)	1980 (78)

NOTE: Under the EC regulations, the maximum permissible overall width for tractors equipped with standard tail-lights is 2150 mm. With wheels set at maximum track width, the maximum overall width obtainable is 2315 mm for machines with ROPS, and 2510 mm for machines with cab. If these wider settings are adopted, the tail-lights must be mounted to special extendible arms (available on request) so that they can be adjusted to indicate the overall width of the tractor.

WHEEL TRACK DIAGRAM REAR 2WD OR 4WD



134

Model	Tyre dimensions	Standard wheel track mm (in)	Wheel tracks mm (in)						
			A	B	C	D	E	F	G
JX60 JX70	14.9 – 28 14.9 – 30 16.9 – 30	1425 (56)	1425 (56)	1525 (60)	1625 (64)	1725 (68)	1825 (72)	1925 (76)	–
JX80 JX90	13.6 – 38 16.9 – 34 18.4 – 30	1420 (56)	1420 (56)	1520 (59)	1620 (64)	1720 (67)	1820 (72)	1920 (75)	2020 (80)
JX95	16.9 – 34 18.4 – 30 18.4 – 34	1525 (60)	–	1525 (60)	1625 (64)	1725 (68)	1825 (72)	1925 (76)	2025 (80)

115

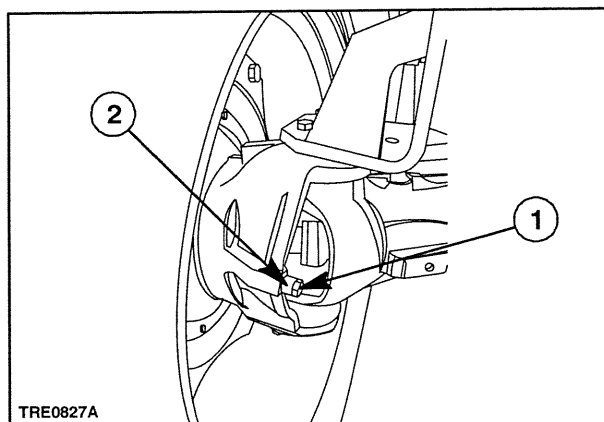
STEERING ANGLE ADJUSTMENT

When using the narrowest tracks, the tyres may touch the tractor with the wheels on full lock and when the front axle is at maximum pivot position – for example, in deep ploughing when enter and exit the furrows.

To avoid this problem, the axle has a steering stop screw and a spacer which can be adjusted so as to obtain the optimum steering angle for each wheel track.

Turning angle can be adjusted between 40° – 45° and 50° by removing screw (1) and spacer (2) fig. 135, on the front axle of all models.

According to tire size and track width, adjustment possibilities are shown at table below:



135

Tyre Size	Track Width (mm)	Steering Angle (°)	Positions*
11.2R-28	1560	40	A
	1671	50	C
12.4R-24	1562	40	A
	1674	50	C
13.6R-24	1674	45	B
	1760	50	C
360/70R-24	1624	50	C

* Position A: Both screw and spacer installed.

* Position B: Only screw installed, without spacer.

* Position C: Both screw and spacer removed.

STEERING ANGLE ADJUSTMENT (Models with 2nd steering cylinder)

When using the narrowest tracks, the tyres may touch the tractor with the wheels on full lock and when the front axle is at maximum pivot position – for example, in deep ploughing when enter and exit the furrows.

To avoid this problem, the axle has a steering stop screw which can be adjusted so as to obtain the optimum steering angle for each wheel track.

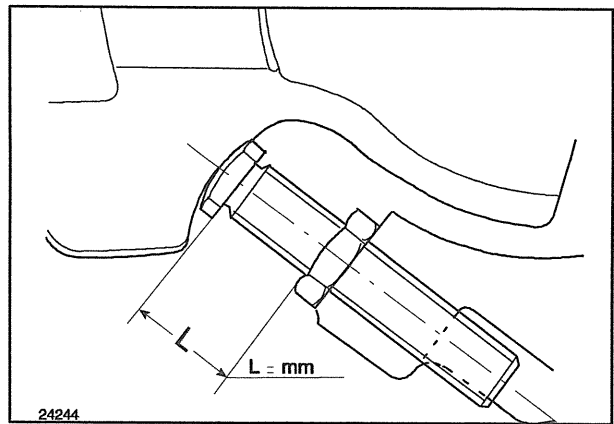
To adjust the steering angle, refer to figs. 136 and 137 and proceed as follows :

- Turn the wheels;
- Slacken the locknut (2) and adjust the projection of stop screw (1) as shown;
- After adjustment, secure the stop screw (1) with the locknut (2).

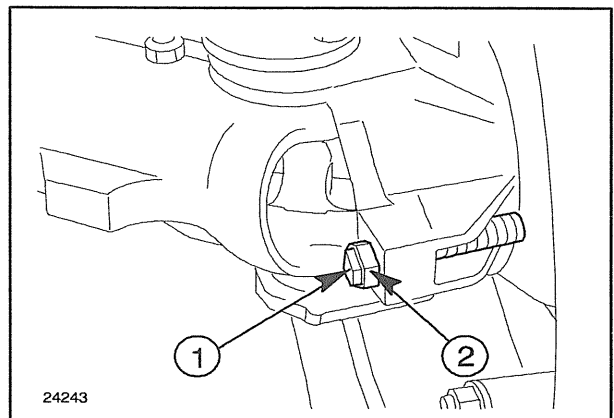
NOTE: Subsequent to adjustment of the steering angle make sure that, with the wheels at full lock, there is at least 20 mm (0.8 in) clearance between the tractor fairing and the tyre (or the mudguard, if fitted).

Refer to table below for optimum steering angles :

Steering angles (°)	JX 60, JX 70, JX 80 models	JX 90, JX 95 models
	L (mm)	
25	57	63
30	47	53
35	37	42
40	28	32
45	19	21
50	9	11
55	0	0



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FRONT MUDGUARDS 4WD – Fig. 138 (optional)

The following adjustments can be made to the front mudguards, to suit the tyres and track setting:

Horizontal adjustment :

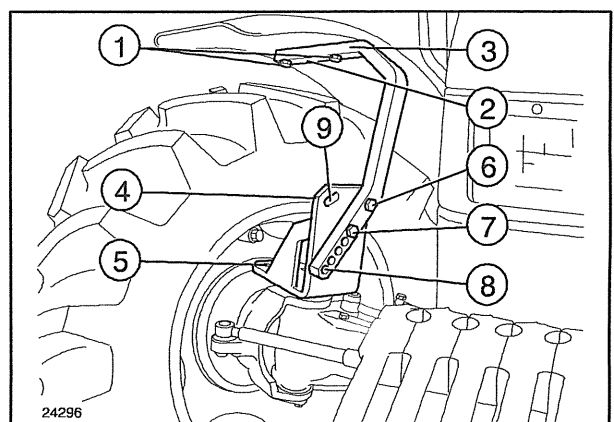
- loosen screws (1) and attach to holes (2) on support bracket (3). Alternatively, relocate the bolts (5) securing the base (4) to the front axle.

Vertical adjustment :

- loosen screws (6) and (7) and adjust the height, attaching the mudguard to the holes (8).

Rotation :

- loosen screw (7), remove screw (6) and insert in one of the two slots (9).



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TYRES

USE, MAINTENANCE AND REPLACEMENT

- When changing tyres, select suitable tyres for the actual tractor use, taking account of the recommended combinations on pages 122 and 127.
- Do not exceed the permitted load shown on the tyres themselves.
- Do not exceed the speeds shown on the tyres, as in addition to overheating, this causes premature wear of the tyres.
- Do not fit used tyres where their previous use is unknown.
Ask your authorised dealer or a tyre specialist for advice.
- After fitting tyres, check that the wheel nuts for tightness after **100 km** (60 miles) or **3 hours** in operation.
Thereafter, check that they are tight on a regular basis.
- Do not stand tyres on hydrocarbons (oil, diesel, grease, etc.).
- The tyres fitted on your tractor must be checked periodically, paying particular attention to:
 - the tread, which should wear uniformly;
 - the walls, which must not have cracks, bulges or abrasions.
- Have the tyres checked by a specialist if one or more of the above problems should occur.
- Consult an expert if a tyre is subject to violent shocks even if there are no visible signs of damage.
- Tyres age even if little used or not used at all. Cracks on the walls, sometimes accompanied by bulges, are a sign of ageing.
- Tyres fitted on tractors which are not used for extended periods tend to age more rapidly than those used more often. In this event, it is advisable to raise the tractor from the ground and protect the tyres from direct sunlight.



WARNING



Tyres must be changed by skilled personnel who have the right equipment and technical knowledge. If tyres are replaced by unskilled personnel, serious physical injuries can result, serious damage to the tyres can be caused and the actual wheel rim can be distorted..

LOADING INFORMATION

The loading index (LI) is a numerical index indicating the maximum permissible load on the tyre for the speed indicated by the relevant speed code in the conditions specified by the tyre manufacturer.

Loading index per wheel											
LI	kg	lbs	LI	kg	lbs	LI	kg	lbs	LI	kg	lbs
100	800	1768	120	1400	3094	140	2500	5525	160	4500	9945
101	825	1823	121	1450	3204	141	2575	5691	161	4625	10221
102	850	1878	122	1500	3315	142	2650	5856	162	4750	10497
103	875	1934	123	1550	3425	143	2725	6022	163	4875	10774
104	900	1989	124	1600	3536	144	2800	6188	164	5000	11050
105	925	2045	125	1650	3646	145	2900	6409	165	5150	11381
106	950	2099	126	1700	3757	146	3000	6630	166	5300	11731
107	975	2155	127	1750	3867	147	3075	6796	167	5450	12044
108	1.000	2210	128	1800	3978	148	3150	6961	168	5600	12376
109	1.030	2276	129	1850	4088	149	3250	7182	169	5800	12818
110	1.060	2343	130	1900	4199	150	3350	7403	170	6000	13260
111	1.090	2409	131	1950	4309	151	3450	7624	171	6150	13591
112	1.120	2475	132	2000	4420	152	3550	7842	172	6300	13923
113	1.150	2541	133	2060	4553	153	3650	8066	173	6500	14365
114	1.180	2608	134	2120	4685	154	3750	8287	174	6700	14807
115	1.215	2685	135	2180	4818	155	3875	8564	175	6900	15249
116	1.250	2762	136	2240	4950	156	4000	8840	176	7100	15691
117	1.285	2840	137	2300	5083	157	4125	9116	177	7300	16133
118	1.320	2917	138	2360	5216	158	4250	9392	178	7500	16575
119	1.360	3006	139	2430	5370	159	4375	9669	179	7750	17127

SPEED CODE

The speed code indicates the speed at which the tyre can transport a load corresponding to its loading index in the conditions specified by the manufacturer:

Speed code		
SYMBOL	km/h	mph
A1	5	3
A2	10	6
A3	15	9
A4	20	12
A5	25	16
A6	30	19
A7	35	22
A8	40	25
B	50	31
C	60	37
D	65	40



WARNING



Respecting the limits in the tables will ensure that the tyres both perform well and are long-lasting. Overloading tyres substantially reduces their service life.

NOTE: The values in these tables are also marked on the walls of the tyres themselves.

TYRE DATA AND PRESSURES

FRONT WHEELS 2WD

(X)= AVAILABLE (NA) = NOT AVAILABLE

Tyres	PR (Ply Rating)	Rim	Model				
	8		JX60	JX70	JX80	JX90	JX95
6.00-16	X	W4.5-16	X	X	NA	NA	NA
7.50-16	X	W5.50-16	X	X	X	NA	NA
7.50-18	X	W5.50-18	NA	NA	X	X	X
7.50-20	X	W5.50-20	NA	NA	NA	X	X
9.00-16	X	W8.00-16	NA	NA	X	X	X
10.00-16	X	W8.00-16	X	X	X	X	X

REAR TYRES 2/4WD

Tyres	Rim size	Speed code	Max. pressure bar (Psi)	Model				
				JX60	JX70	JX80	JX90	JX95
14.9R-28	W13-28	A8	1.6 (23.2)	X	X	NA	NA	NA
14.9R-30	W13-30	A8	1.6 (23.2)	X	X	X	NA	NA
12.4R-32	W11-32	A8	1.6 (23.2)	X	X	NA	NA	NA
13.6R-36	W11-36	A8	1.6 (23.2)	NA	NA	X	NA	NA
16.9R-28	W15-28	A8	1.6 (23.2)	X	X	NA	NA	NA
16.9R-30	DWW15L-30	A8	1.6 (23.2)	X	X	X	NA	NA
480/70R-30	DWW15L-30	A8	1.6 (23.2)	NA	NA	X	NA	NA
420/70R-28	DWW13-28	A8	1.6 (23.2)	X	NA	NA	NA	NA
18.4R-30	DWW15L-30	A8	1.6 (23.2)	NA	NA	X	X	X
13.6R-38	DWW12-38	A8	1.6 (23.2)	NA	NA	X	X	X
16.9R-34	DWW15L-34	A8	1.6 (23.2)	NA	NA	X	X	X
480/70R-34		A8	1.6 (23.2)	NA	NA	NA	X	X
18.4R-34		A8	1.6 (23.2)	NA	NA	NA	NA	X

FRONT TYRES 4WD MODELS

Tyres	Rim size	Speed code	Loading index	Max. pressure bar (Psi)	JX60	JX70	JX80	JX90	JX95
11.2R-20	W9-20	A8	116	1.4 (20.3)	X	X	NA	NA	NA
11.2R-24	W10-24	A8	119	1.4 (20.3)	X	X	X	NA	NA
12.4R-20	11X20	A8	116	1.4 (20.3)	X	X	NA	NA	NA
360/70R-20	11X20	A8	120	1.6 (23.2)	X	X	NA	NA	NA
11.2R-28	W10X28	A8	116	1.6 (23.2)	NA	NA	X	X	X
13.6R-24	W12-24	A8	121	1.6 (23.2)	NA	NA	X	X	X
360/70R-24	W10-24	A8	122	1.6 (23.2)	NA	NA	X	X	X
320/70R-24	W10X24	A8	116	1.4 (20.3)	NA	NA	X	NA	NA
12.4R-24	W10-24	A8	119	1.6 (23.2)	NA	NA	X	X	X

TYRE COMBINATIONS

RECOMMENDED COMBINATIONS 2WD

(X) = AVAILABLE

(NA) = NOT AVAILABLE

Front tyres	Rear tyres	Model				
		JX60	JX70	JX80	JX90	JX95
6.00-16	14.9R-28	X	X	NA	NA	NA
6.00-16	12.4R-32	X	X	NA	NA	NA
7.50-16	14.9R-28	X	X	NA	NA	NA
7.50-16	12.4R-32	X	X	NA	NA	NA
7.50-16	12.4R-36	X	X	X	NA	NA
7.50-16	14.9R-30	NA	NA	X	NA	NA
7.50-16	16.9R-28	X	X	NA	NA	NA
7.50-16	16.9R-30	X	X	X	NA	NA
7.50-16	420/70R-30	X	X	NA	NA	NA
7.50-18	13.6R-36	NA	NA	X	NA	NA
7.50-18	18.4R-30	NA	NA	X	X	X
7.50-18	480/70R-30	NA	NA	X	NA	NA
7.50-18	13.6R-38	NA	NA	X	X	X
9.00-16	16.9R-34	NA	NA	X	X	X
7.50-20	480/70R-34	NA	NA	NA	X	X
9.00-16	480/70R-34	NA	NA	NA	X	X
7.50-20	18.4R-34	NA	NA	NA	NA	X
9.00-16	18.4R-34	NA	NA	NA	NA	X

SPECIFIED COMBINATIONS 4WD

(X) = AVAILABLE

(NA) = NOT AVAILABLE

Front tyres	Rear tyres	Model				
		JX60	JX70	JX80	JX90	JX95
11.2R-20	14.9R-28	X	X	NA	NA	NA
11.2R-20	12.4R-32	X	X	NA	NA	NA
11.2R-24	12.4R-36	X	X	NA	NA	NA
12.4R-20	16.9R-28	X	X	NA	NA	NA
11.2R-24	16.9R-30	X	X	X	NA	NA
360/70R-20	420/70R-30	X	X	NA	NA	NA
12.4R-24	18.4R-30	NA	NA	X	X	X
360/70R-24	18.4R-30	NA	NA	X	X	X
320/70R-24	480/70R-30	NA	NA	X	NA	NA
11.2R-28	13.6R-38	NA	NA	X	X	X
13.6R-24	16.9R-34	NA	NA	X	X	X
380/70R24	480/70R34	NA	NA	NA	X	X
12.4R-20	14.9R-30	X	X	NA	NA	NA
12.4R-24	13.6R-36	NA	NA	X	NA	NA
13.6R-24	18.4R-34	NA	NA	NA	NA	X

TYRE PRESSURES FOR FOUR-WHEEL DRIVE MODELS

NOTE – pressures are expressed in bar (Psi)

JX60 AND JX70 MODEL

Tyre combinations		Tyre pressures 30/40 km/h (19 and 25 mph)	
Front	Rear	GOOD YEAR	
		Front	Rear
11.2R-20	14.9R-28	1.4(20.3)	1.4(20.3)
11.2R-20	12.4R-32	1.4(20.3)	1.4(20.3)
11.2R-24	12.4R-36	1.5(21.8)	1.4(20.3)
12.4R-20	14.9R-30	1.4(20.3)	1.4(20.3)
12.4R-20	16.9R-28	1.4(20.3)	1.4(20.3)
11.2R-24	16.9R-30	1.5(21.8)	1.4(20.3)
360/70R20	420/70R30	1.4(20.3)	1.2(17.4)

JX80 MODEL

Tyre combinations		Tyre pressures 30/40 km/h (19 and 25 mph)	
Front	Rear	GOOD YEAR	
		Front	Rear
11.2R-24	16.9R-30	1.5 (21.8)	1.4 (20.3)
12.4R-24	13.6R-36	1.4 (20.3)	1.5 (21.8)
12.4R-24	18.4R-30	1.4 (20.3)	1.4 (20.3)
360/70R24	18.4R-30	1.4 (20.3)	1.4 (20.3)
320/70R24	480/70R30	1.2 (17.4)	1.2 (17.4)
11.2R-28	13.6R-38	1.4 (20.3)	1.4 (20.3)
13.6R-24	16.9R-34	1.2 (17.4)	1.6 (23.2)

TYRE PRESSURES FOR FOUR-WHEEL DRIVE MODELS

NOTE – pressures are expressed in bar (Psi)

JX90 MODEL

Tyre combinations		Tyre pressures 30/40 km/h (19 and 25 mph)	
Front	Rear	GOOD YEAR	
		Front	Rear
360/70R24	18.4R-30	1.4 (20.3)	1.2 (17.4)
11.2R-28	13.6R-38	1.4 (20.3)	1.4 (20.3)
12.4R-24	18.4R-30	1.4 (20.3)	1.4 (20.3)
13.6R-24	16.9R-34	1.5 (21.8)	1.5 (21.8)
360/70R24	480/70R34	1.2 (17.4)	1.4 (20.3)

JX95 MODEL

Tyre combinations		Tyre pressures 30/40 km/h (19 and 25 mph)	
Front	Rear	GOOD YEAR	
		Front	Rear
12.4R-24	18.4R-30	1.4 (20.3)	1.4 (20.3)
360/70R24	18.4R-30	1.4 (20.3)	1.4 (20.3)
11.2R-28	13.6R-38	1.2 (17.4)	1.6 (23.2)
360/70R24	480/70R34	1.2 (17.4)	1.4 (20.3)
14.9R-24	18.4R-34	1.4 (20.3)	1.4 (20.3)
13.6R-24	16.9R-34	1.5 (21.8)	1.5 (21.8)

TYRES (NOT AVAILABLE ON ALL MARKETS)**(X) = AVAILABLE****(NA) = NOT AVAILABLE****FRONT TYRES 2WD**

Tyres	Ply Rating	Model				
		JX60	JX70	JX80	JX90	JX95
9.5L-15 F2	6	X	X	X	NA	NA
10.00-16 F2	8	NA	NA	X	X	X

FRONT TYRES 4WD

Tyres	Ply Rating	Model				
		JX60	JX70	JX80	JX90	JX95
8.3-24	6	X	X	NA	NA	NA
11.2-24	6	X	X	X	NA	NA
12.4-24	6	NA	NA	X	X	X
13.6-24	8	NA	NA	NA	X	NA
14.9-24	8	NA	NA	NA	NA	X

TYRE COMBINATIONS (NOT AVAILABLE ON ALL MARKETS)

(X) = AVAILABLE

(NA) = NOT AVAILABLE

RECOMMENDED COMBINATIONS 2WD

Front tyres	Rear tyres	Model				
		JX60	JX70	JX80	JX90	JX95
9.5L-15 F2	14.9-28	X	X	NA	NA	NA
	16.9-30	X	X	X	NA	NA
10.00-16 F2	18.4-30	NA	NA	X	X	X
	18.4-34	NA	NA	NA	NA	X
	16.9-34	NA	NA	NA	X	NA

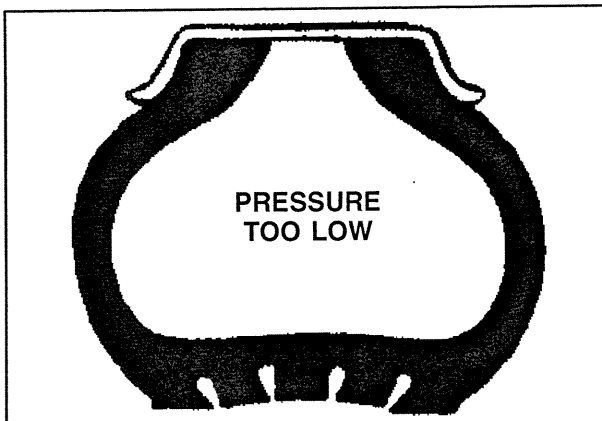
RECOMMENDED COMBINATIONS 4WD

Front tyres	Rear tyres	Model				
		JX60	JX70	JX80	JX90	JX95
8.3-24	14.9-28	X	X	NA	NA	NA
11.2R-24	16.9-30	X	X	X	NA	NA
12.4 R-24	18.4-30	NA	NA	X	X	X
14.9-24	18.4-34	NA	NA	NA	NA	X
13.6-24	16.9-34	NA	NA	NA	X	NA

TYRE INFLATION ADVICE

For safe use of tyres with a long service, it is extremely important to observe the following instructions.

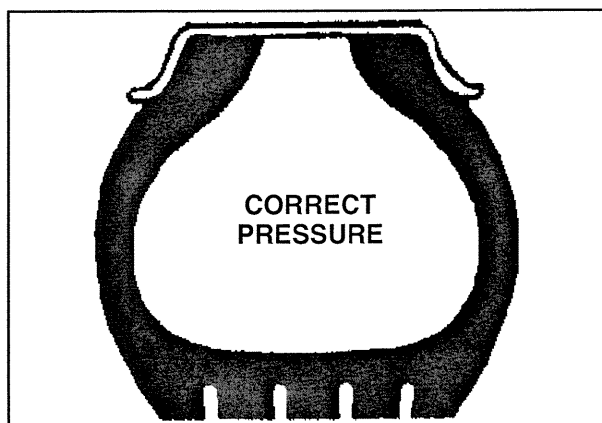
- Ensure the correct pressures for each axle and for the type of use planned.
- Ensure tyre pressures are not lower than the correct values, to prevent overheating of the tyres, which can lead to:
 - tyre wear;
 - beading wear;
 - internal damage;
 - irregular wear and short service life.
- Do not over-inflate the tyres as this can make them more susceptible to damage in the event of impact and, in extreme conditions, the tyre rim can be deformed or the tyre can burst.
- At least once every two weeks, check the tyre pressures, especially when liquid ballast is used. Tyre pressures should be checked only when the tyres are cold, as pressures rise during use, as a result of the tyres heating up. Tyres can be assumed to be cold if they have not been used for at least one hour, or have not covered more than two to three kilometres. Never reduce tyre pressures when the tyres are hot.
- When you check tyre pressures, never leave any part of the body in the path of the valve mechanism or cap.



139



140

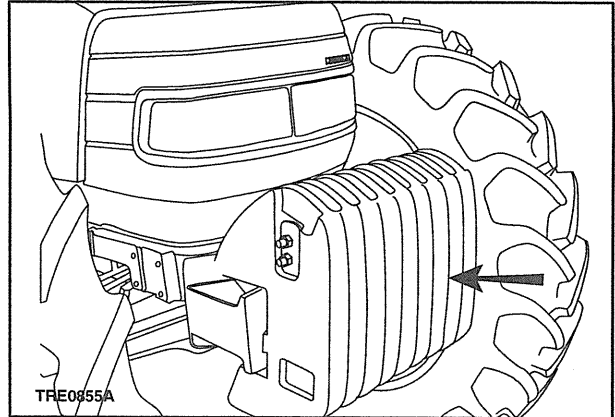


141

BALLASTING

CAST IRON BALLASTING

If your tractor requires high traction power, the drive wheels may slip due to insufficient grip on the ground, causing loss of power and speed, increased fuel consumption and premature tyre wear. We therefore advise fitting cast-iron rings as ballast on the drive wheels, or ballasting wheels with cast-iron discs or water as described on page 132 and 133. When using very long and heavy implements which could affect the longitudinal stability of the tractor, ballast the front axle by fitting the appropriate cast-iron counterweights.



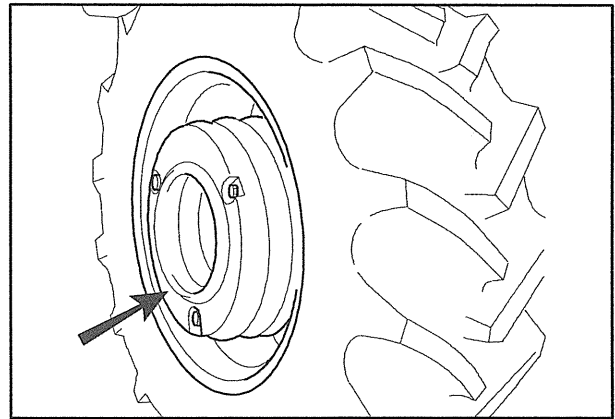
142

Front end weights – Fig. 142

6 or 10 cast-iron counterweights with handles, each weighing **40 kg (88 lbs)** and support bracket weighing **80 kg (176 lbs)**, for a total of **320 kg (705 lbs)** or **480 kg (1058 lbs)**.

Rear wheel weights – Fig. 143

4 or 6 cast-iron rings, each weighing **50 kg (110 lbs)**, for a total of **200 kg (440 lbs)** or **300 kg (660 lbs)**.



143

LIQUID BALLASTING

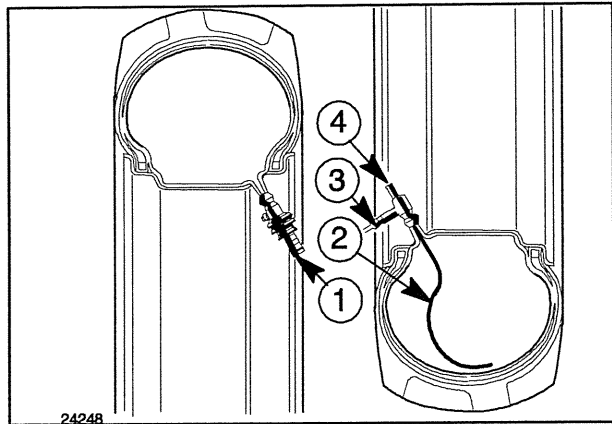
CONNECTORS FOR FILLING UP AND DRAINING WATER – Fig. 144

Connector for filling up water.

Water drainage tube.

Air line attachment.

Water drainage tube.



144

Water can be used to ballast the rear tyres if there is no danger of freezing.



CAUTION

Water pressure filled-up must never exceed 4 bar (kg/cm²).

HOW TO FILL-UP THE TYRES WITH WATER:

- raise the wheel off the ground and move the tyre valve to its highest position;
- slacken the valve inner and wait for the tyre to deflate;
- lower the wheel until the tyre is around 30% flat to prevent the weight of the water damaging the inner tube;
- screw connector CASE IH No. **291885** onto the valve seat and fit the water tube to connector (1) remembering to disconnect it when the tyre starts to swell in order to let air out;
- when water escapes from connector (1) the tyre is 75% full.
If you wish to fill-up less water, or achieve a lower weight, position the wheel so that the valve is lower;
- remove connector (1), tighten up the tyre valve and inflate with air to the specified pressure.

HOW TO DRAIN WATER FROM THE TYRES:

- raise the wheel off the ground and move the tyre valve to its lowest position;
- unscrew the valve seal and drain the water;
- screw connector CASE IH No. **291886** onto the valve seat, tubes (2) and (4) will come into contact with the inner tube;
- fill-up pressurised air through attachment (3), the remaining water will escape through tubes (2) and (4)
- remove the connector and replace it with the valve seal, then inflate the tyre to the specified pressure.

Front tyres 4WD

Tyres	Water ⁽¹⁾	
	kg (litres)	lbs
12.4R-20	120	265
11.2-24	90	198
12.4-24	115	253
360/70R-24	100	220
360/70R-20	90	198
11.2-28	100	220
13.6-24	120	264
380/70R-24	130	286
320/70R-24	70	154
420/70R-24	166	365
14.9-24	150	330

(1) The quantities of water for each tyre shown in the table may differ depending on the tyre manufacturer

Rear tyres 4WD

Tyres	Water ⁽¹⁾	
	kg (litres)	lbs
14.9-30	205	451
12.4-36	150	330
13.6-36	180	396
16.9-30	250	551
420/70R-30	200	440
480/70R-30	255	562
18.4-30	320	705
13.6-38	190	418
16.9-34	280	617
480/70R-34	285	628
18.4-34	360	793

(1) The quantities of water for each tyre shown in the table may differ depending on the tyre manufacturer

FILLING WITH WATER

The quantity of water required for each tyre is only approximate.

FILLING TYRES WITH ANTIFREEZE SOLUTIONS

To prevent freezing water damaging the tyres, use a solution of neutralised calcium chloride (in flakes) instead of pure water.

Prepare the solution by pouring the water required into a container and adding the calcium chloride a little at a time, stirring continuously.

The quantities of water and chloride required to make sufficient antifreeze solution to fill each tyre to 75% are shown in the tables on the next page.

**DANGER**

Always add the calcium chloride flakes to the water. Pouring water into chloride can be dangerous.

**CAUTION**

You are advised to contact your tractor tyre manufacturer's specialist to ensure that you fill the tyres correctly.

FILLING FRONT TYRES WITH ANTIFREEZE SOLUTION, FOUR-WHEEL DRIVE MODELS

The figures given in the table below are for information only as they may vary depending on the make of tyres used.

You are therefore advised to contact your local tyre specialist.

TYRE DIMENSIONS	Highest minimum temperatures									
	-5°C (23°F)		-10°C (14°F)		-15°C (5°F)		-20°C (-4°F)		-25°C (-13°F)	
	Water kg (litres) (lbs)	Calcium chloride kg (lbs)	Water kg (litres) (lbs)	Calcium chloride kg (lbs)	Water kg (litres) (lbs)	Calcium chloride kg (lbs)	Water kg (litres) (lbs)	Calcium chloride kg (lbs)	Water kg (litres) (lbs)	Calcium chloride kg (lbs)
12.4R-20	82 (181)	9 (20)	78 (172)	16 (35)	76 (168)	21 (46)	75 (165)	26 (57)	73 (161)	29 (64)
11.2-24	86 (190)	10 (22)	83 (183)	17 (37)	87 (192)	22 (48)	79 (174)	27 (59)	77 (170)	31 (68)
12.4-24	110 (243)	12 (27)	106 (234)	22 (48)	104 (230)	28 (62)	101 (223)	34 (75)	100 (221)	39 (86)
320/70R-20	67 (148)	8 (18)	64 (141)	13 (28)	63 (139)	18 (39)	61 (134)	21 (46)	60 (132)	24 (53)
360/70R-24	96 (212)	11 (24)	92 (203)	19 (42)	90 (199)	25 (55)	88 (194)	30 (66)	86 (190)	34 (75)
360/70R-20	86 (190)	10 (22)	82 (181)	17 (38)	81 (179)	22 (48)	79 (174)	27 (59)	77 (170)	31 (68)
11.2-28	96 (213)	11 (24)	92 (203)	19 (42)	90 (199)	25 (55)	88 (194)	30 (66)	86 (190)	34 (75)
13.6-24	115 (254)	13 (29)	110 (243)	23 (51)	108 (238)	30 (66)	106 (234)	41 (90)	103 (227)	41 (90)
380/70R-24	125 (276)	14 (31)	120 (265)	25 (55)	117 (258)	32 (70)	114 (252)	39 (86)	112 (247)	44 (97)
440/65R-24	144 (318)	16 (35)	138 (304)	28 (62)	135 (298)	37 (81)	132 (291)	45 (99)	129 (285)	51 (112)
420/70R-24	159 (352)	18 (40)	152 (335)	31 (68)	149 (329)	41 (90)	146 (322)	49 (108)	142 (313)	56 (123)
14.9-24	144 (318)	16 (35)	138 (304)	28 (62)	135 (298)	37 (81)	132 (291)	45 (99)	129 (285)	51 (112)

FILLING REAR TYRES WITH ANTIFREEZE SOLUTION, TWO AND FOUR-WHEEL DRIVE MODELS

The figures given in the table below are for information only as they may vary depending on the make of tyres used.

You are therefore advised to contact your local tyre specialist.

TYRE DIMENSIONS	Highest minimum temperatures									
	-5°C (23°F)		-10°C (14°F)		-15°C (5°F)		-20°C (-4°F)		-25°C (-13°F)	
	Water kg (litres) (lbs)	Calcium chloride kg (lbs)	Water kg (litres) (lbs)	Calcium chloride kg (lbs)	Water kg (litres) (lbs)	Calcium chloride kg (lbs)	Water kg (litres) (lbs)	Calcium chloride kg (lbs)	Water kg (litres) (lbs)	Calcium chloride kg (lbs)
14.9-28	173 (381)	20 (44)	164 (362)	34 (75)	162 (357)	45 (99)	158 (348)	54 (119)	155 (342)	61 (135)
14.9-30	197 (434)	23 (51)	189 (417)	39 (86)	185 (408)	52 (115)	180 (397)	62 (137)	176 (388)	70 (154)
12.4-36	144 (318)	16 (35)	138 (304)	28 (62)	135 (298)	37 (82)	132 (291)	45 (99)	129 (284)	51 (112)
13.6-36	173 (381)	20 (44)	166 (366)	34 (75)	162 (357)	45 (99)	158 (348)	54 (119)	155 (342)	61 (135)
16.9-30	240 (529)	28 (62)	230 (507)	48 (106)	225 (496)	63 (139)	220 (485)	75 (165)	215 (474)	85 (187)
420/70R-30	192 (423)	22 (49)	184 (406)	38 (84)	180 (397)	50 (110)	176 (388)	60 (132)	172 (379)	68 (150)
480/70R-30	245 (540)	28 (62)	235 (518)	48 (106)	162 (357)	48 (230)	230 (507)	77 (170)	224 (494)	87 (192)
18.4-30	307 (677)	35 (77)	294 (648)	61 (135)	288 (635)	80 (176)	282 (622)	96 (212)	275 (606)	109 (240)
13.6-38	182 (401)	21 (46)	175 (386)	36 (79)	171 (377)	48 (106)	167 (368)	57 (126)	163 (360)	65 (143)
16.9-34	269 (593)	31 (68)	258 (569)	53 (117)	252 (556)	70 (154)	246 (542)	84 (185)	241 (532)	95 (210)
480/70R-34	274 (604)	31 (68)	262 (578)	54 (119)	257 (567)	71 (157)	251 (553)	86 (190)	245 (540)	97 (214)
18.4-34	345 (761)	39 (86)	331 (730)	68 (150)	324 (714)	90 (198)	316 (697)	108 (238)	309 (681)	122 (269)

MAXIMUM PERMITTED WEIGHT

Correct static weight distribution guarantees maximum tractor efficiency and productivity, and extends the service life of tractor components.



CAUTION



The total weight of the tractor, including all types of ballast and the weight of the implements carried, must not exceed the limits given in the table below.

Working with the tractor fitted with excessive ballast can cause:

- reduction in available power to operate the implement connected and reduced productivity as a consequence;
- increased fuel consumption;
- excessive compacting of the soil;
- damaging overload of the transmission components with a consequent increase in running costs.

When using the tractor in the field, it is extremely important to have the maximum power available for using implements; therefore avoid losing power through excessive ballast.

Maximum permissible weights on axle without limitations

Model	Maximum permissible axle weight		
	Front axle 2WD kg (lbs)	Front axle 4WD kg (lbs)	Rear axle kg (lbs)
JX60	2400* (5291)	2650* (5842)	4000 (8819)
JX70	2400* (5291)	2650* (5842)	4000 (8819)
JX80	2500* (5512)	2800* (6173)	4150 (9149)
JX90	2500* (5512)	2900* (6393)	4150 (9149)
JX95	2600* (5732)	3000* (6614)	4250 (9370)

(*) At max speed and max track.

The admissible static rear axle weights given are for tractors with ballast including carried equipment raised from the ground.

Maximum permissible weights on axle with limitations

Model	Maximum permissible axle weight		
	Front axle 2WD kg (lbs)	Front axle 4WD kg (lbs)	Rear axle kg (lbs)
JX60	3000* (6614)	3500** (7716)	3500 (7716)
JX70	3000* (6614)	3500** (7716)	3500 (7716)
JX80	3000* (6614)	4000** (8819)	4000 (8819)
JX90	3000* (6614)	4000** (8819)	4000 (8819)
JX95	3000* (6614)	4000** (8819)	4000 (8819)

(*) For low speed (10 km/h) and at min track.

(**) For low speed (10 km/h) and at medium track; (use with front loader, not permitted on road).

**WARNING**

Do not use ballast systems other than those indicated.

Do not ballast the tractor unnecessarily; not only is it superfluous, it can also damage the tractor.

**WARNING**

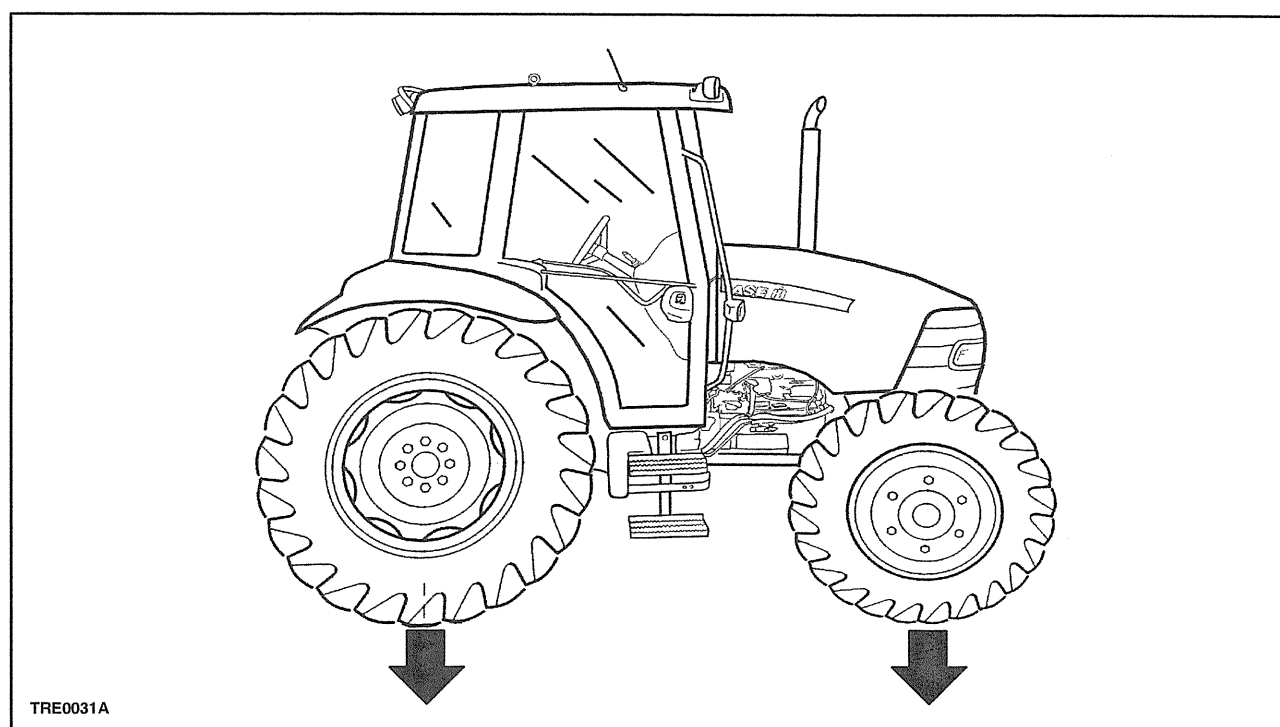
With mounted implements fitted to the rear of the tractor, it is a good idea to fit a minimum **20%** extra weight on the front axle.

STATIC WEIGHT DISTRIBUTION ON THE TRACTOR – Fig. 145

Add or remove ballast from the tractor once it is fully equipped, until a balanced static weight distribution is achieved for the implement actually used, taking care not to exceed the maximum operating weights given on page 134.

The weight distribution percentages given for the four-wheel drive models are *indicative only* and relate to the total weight of the fully equipped tractor complete with ballast.

FOUR WHEEL DRIVE MODELS



145

REAR AXLE
60%

FRONT AXLE
40%

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NOTES

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LUBRICATION AND MAINTENANCE

INTRODUCTION

This section gives full details of the maintenance procedures required to keep your tractor in optimal working conditions. The lubrication and maintenance table on pages 143 and 144 can be used for rapid reference for this purpose. All operations are numbered to facilitate use.

In addition to the normal maintenance operations listed, the following parts must be checked during flexible maintenance or during the first 50 hours of operation:

- Wheel nut tightness;
- Oil levels in hub and front axle casing - four-wheel drive only.



WARNING

Park the tractor on level ground and, where possible, ensure all hydraulic cylinders are fully extended before checking oil levels.

SAFETY PRECAUTIONS

Read and follow all the safety precautions listed in "Tractor maintenance", in Section "Safety Regulations".

NOTE: Dispose of any filters and liquids used in an appropriate and with respect to the environment.



CAUTION

Do not carry out any inspections, lubrication, maintenance or adjustments on the tractor with the engine running.

HOW TO PREVENT CONTAMINATION OF THE SYSTEM

To avoid contamination when changing oil, filters, etc, always clean the area around the fill points, inspection and drain plugs, dipsticks and filters.

Before connecting external cylinders, make sure that the oil inside is clean, that it has not deteriorated after prolonged storage and that it is of the type specified. To prevent dirt entering, clean the lubricating fittings before lubrication. *Clean excess lubricant from the fittings after lubrication.*

MAINTENANCE INTERVALS

The intervals suggested in the lubrication and maintenance table are those to be followed under normal working conditions.

Intervals should be in line with working and environmental conditions. The intervals should be shortened in adverse working conditions (wet, mud, sand, high dust levels).

LUBRICATION AND MAINTENANCE TABLES – Pages 143 and 144

The tables list the intervals at which routine checks, lubrication, maintenance and/or adjustments should be carried out. Use the table as a quick reference guide when carrying out maintenance on the tractor. The operations follow the order in the table.

RUNNING-IN PERIOD

During the running-in period (approximately 50 hours of work), in addition to carrying out the operations we recommend the following:

- Run the engine for a few minutes at low revs and let it idle after every cold start;
- Do not let the engine run at minimum speeds for a long time;
- Do not use the tractor continually for heavy work;
- Follow the above recommendations after replacement of major parts.

— **CAUTION** —

After the first 50 hours of work, replace the oil in the engine (operation no. 26) together with the relevant filter (operation no. 30) and the oil filter cartridge for the hydraulic lift (operation no. 29).

— **CAUTION** —

Carry out the operations illustrated in this section at the specified intervals to ensure that your tractor functions properly. Remember, however, to carry out inspections and adjustments as and when experience and common sense dictates, (frequency can vary depending on working and environmental conditions).

TRACTOR REFUELLING

— **CAUTION** —

When using diesel fuel, pay attention to the following: Do not smoke when near diesel fuel. Under no circumstances must petrol, alcohol, or a mixture of diesel or alcohol be added to the diesel, as it increases the risk of fire or explosion considerably. In a closed container, such as a jerry can, they are more explosive than pure petrol. Do not use these mixtures. Furthermore, a mixture of diesel and alcohol is not recommended as it does not lubricate the fuel injection system adequately. Clean the area around the fill point and keep it clean. Fill the tank at the end of every day to reduce overnight condensation. Never remove the cap or add fuel when the engine is running. While the tank is being filled, keep control of the filler nozzle. Do not fill the tank completely. Leave room for an expansion. If the original tank cap is lost, replace it with a genuine cap and screw it on tight. Mop up any fuel spillage immediately.

- Store fuel in black iron drums, not zinc drums as the zinc coating reacts with the fuel and forms compounds which contaminate the injection pump and injectors.
- Protect the storage drums from direct sunlight and tilt them slightly so that sediment inside can be removed through a suitable drainage point.
- To facilitate removal of damp and sediment, fit a drainage plug at the lowest point on the opposite end to the outlet pipe.
- If the fuel is not filtered from the storage drum, use a funnel with a fine mesh filter when pouring the fuel into the tractor tank.
- Organise your fuel purchases so that summer fuel is not kept for too long and then used in winter.

FUEL SPECIFICATIONS

The quality of fuel used is an important factor for the engine's subsequent performance and satisfactory service life. Fuel must be clean, properly refined and must not corrode the fuel system parts. Ensure that good quality fuel is used from a reliable source.

FUEL STORAGE

Take all necessary precautions to ensure that stored fuel is not contaminated by dirt, water or any other substance.

REFUELLING

Before refuelling, clean the area around the tank fill point to prevent foreign matter entering the tank. After refuelling replace the cap and tighten it fully.

NOTE: The fuel tank holds 92 litres (24.3 US. gal.)

NOTE: If the fuel tank cap should be lost or damaged, replace it with a genuine replacement part.

MISCELLANEOUS CHECKS

Check the following components regularly and, if any faults are detected, contact your dealer and replace the damaged parts as necessary:

- Steering linkage ball joints: check that there is no play in the ball joints and that the conical ends are securely in place; also check that no grease is escaping from the protective covers to the ball joint and that the covers themselves are in good condition and not cracked;
- Hydrostatic steering cylinder lines: the lines must not show any signs of crimping, cracking or swelling of the external sheath and likewise there must be no traces of oil between the pipe and the connector;
- Handbrake lever: check that the ratchet locks securely.

WARNING LIGHTS

Your tractor is fitted with warning lights to inform you of the operational condition of your tractor. Some of these signal faults which should be corrected immediately, e.g.: engine oil level, brake fluid level, coolant level, windscreen wash liquid, air filter clogging, etc.

FUEL INJECTION PUMP

During the warranty period, any work carried out on the injection pump must be carried out exclusively by your local dealer. If the seal on the fuel pump is removed, the Company cannot be held responsible under the terms of the warranty.

ENVIRONMENTAL CONSIDERATIONS

When it is necessary to refill the fuel tank, or top up or change the oil, always place a container under the component to collect any spillage. The products used are pollutants and we must therefore prevent them from contaminating the environment in which we live.

ENGINE COOLING SYSTEM

It is advisable to replace the coolant every two years or 1200 hours of service, whichever occurs first.

RADIATOR

If the cooling circuit is to work properly, it is important that the radiator fins are not clogged.

Clean them regularly, even several times a day if the environment in which you are working is particularly dusty.

TYRES

Always fit and remove tyres in perfectly clean conditions. Avoid working in soil. To help when fitting or removing tyres, never use grease as a lubricant. Use a soap and water solution instead.

When fitting a new or used tyre, inflate it to 3.5 bar (kg/cm²) (50 Psi) to ensure the correct positioning of the bead. Then inflate the tyre to its service pressure.

TYRE PRESSURES

Tyre pressures are given in Section 3. Remember that the values given may differ depending on the following factors: tyres different from those fitted by the manufacturer, tractor ballast type, different conditions of use, etc. The tyre manufacturer should be able to help you decide on the most suitable pressures.

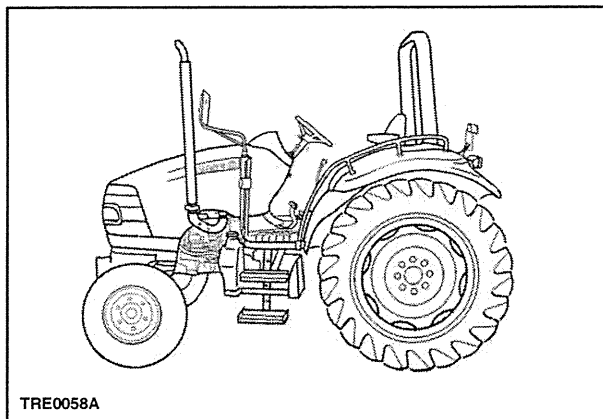
Do not forget to check the tyre working pressures regularly. The frequency of such inspection will vary depending on operational and climatic conditions.

ACCESS FOR INSPECTION AND MAINTENANCE

INTRODUCTION

To access the engine components and carry out inspection, lubrication and maintenance operations, the bonnet (hood) must be opened.

The following instructions describe the procedure to be followed.

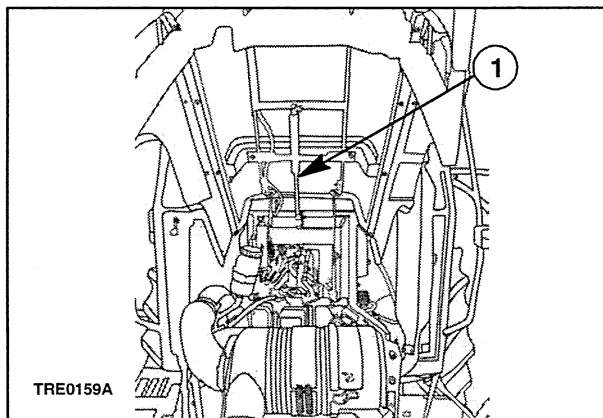


146

BONNET (HOOD)

The bonnet is hinged at the rear to allow easy and safe access to the various engine components.

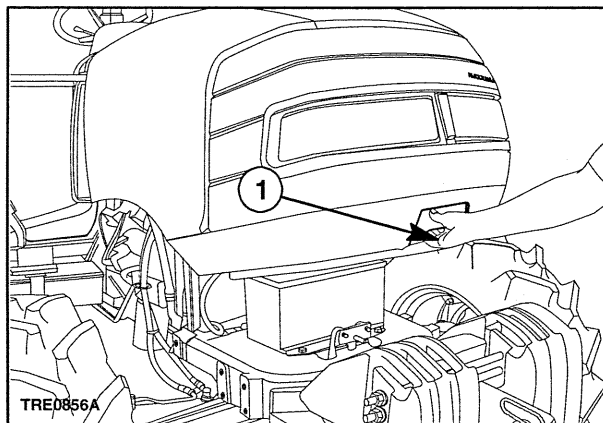
One gas strut (1) fig. 147 holds the engine bonnet in one of the two possible positions.



147

OPENING THE BONNET (HOOD)

Pull the lever upwards (1) fig. 148, lift from the front, and allow the bonnet to raise. The gas strut (1) fig. 147 will maintain the bonnet in the raised position.



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NOTE: To close the bonnet, simply pull it down and press the top lightly to ensure it engages.

PRODUCTS AND QUANTITIES FOR REFILLING

COMPONENT TO BE FILLED OR TOPPED UP	QUANTITY litres/dm ³ (US gal)	RECOMMENDED PRODUCTS	INTERNATIONAL SPECIFICATION
Cooling system: without cab : JX60 and JX70 JX80, JX90 and JX95 with cab : JX60 and JX70 JX80, JX90 and JX95	12 (3.2) 14 (3.7) 14 (3.7) 16 (4.2)	Water and antifreeze liquid 50% + 50% AKCELA PREMIUM ANTIFREEZE (MS 1710)	—
Windscreen washer bottle	2 (0.5)	Water and windscreen wash fluid	—
Fuel tank	92 (24.3)	Decanted and filtered diesel fuel	—
Engine sump: without filter : JX60 and JX70..... JX80, JX90 and JX95..... with filter : JX60 and JX70 HP models JX80, JX90 and JX95models.....	6.8(1.8) 10.7 (2.8) 7.5 (2.0) 11.4 (3.0)	AKCELA No 1 Engine Oil MS 1121	API CH-4 ACEA E5
Brake control circuit	0.4 (0.1)	AKCELA LHM Fluid	ISO 7308
Hydrostatic steering circuit	2.0 (0.5)	Oil AKCELA NEXPLORE MAT 3525	—
Front axle : axle housing : JX60 and JX70 JX80, JX90 and JX95 final drives (each): JX60 and JX70 JX80, JX90 and JX95	4.5 (1.2) 7.0 (1.8) 0.8 (0.2) 1.25 (0.3)		
Rear transmission (bevel drive, final drives and brakes), gearbox, hydraulic lift, PTO and hydraulic steering : JX60 and JX70 JX80, JX90 and JX95 — with synchro-reverser : JX60, JX70, JX80, JX90 and JX95	49 (12.9) 55 (13.1) 55 (13.1)		
Front wheel hubs	—		
Grease fittings	—	AKCELA Multi-Purpose Grease 251 H EP	NLGI 2

WARNING: In order to correctly fill the oil and water tanks observe the existing level indications (e.g.: the level on the oil dip-stick). Park the tractor on level ground and, where possible, ensure that all of the hydraulic cylinders are fully extended before checking oil levels.

Refer to the chart on the right when selecting the oil grade for your tractor engine.

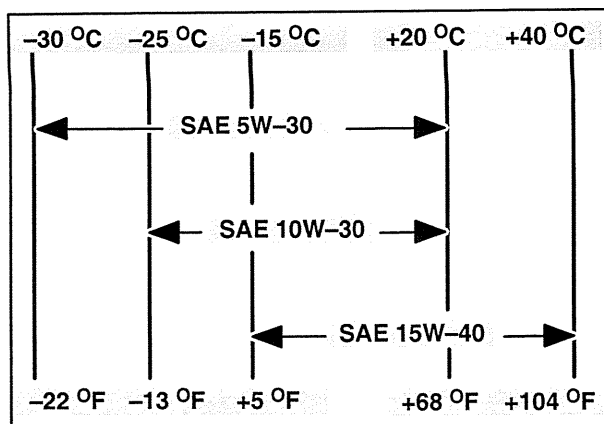
NOTE: In areas where prolonged periods of extreme temperatures are encountered, local lubricant practices are acceptable; such as the use of SAE 5W in extreme low temperatures or SAE 50 in extreme high temperatures.

Sulphur in Fuel

The engine oil change period is shown in Operation 26 on page 157. However, locally available fuel may have a high sulphur content, in which case the engine oil change period should be adjusted as follows:

Sulphur Content %	Oil Change Period
less than 0.5	normal
0.5 to 1.0	half the normal
above 1.0	one quarter normal

The use of fuel with a sulphur content above 1.3% is not recommended.



149

LUBRICATION AND MAINTENANCE TABLE

The numbers in the second column are with reference to the operations and illustrations in the following pages of this section.

Hours of work	Operation number	Maintenance operation	Functional check	Top up	Clean	Grease	Adjust	Replace	Page
Flexible maintenance	1	Engine clutch					•		145
	2	Brake pedals					•		145
	3	Fan belt					•		146
	4	Air conditioner compressor belt					•		146
	5	Outlet valve, dry air filter			•				147
With warning light ON	6	Main cartridge, dry air filter			•				147
	7	Brake fluid reservoir	•	•					148
	8	Fuel sedimenter (condensation drain)			•				148
Every 10 hours	9	Engine oil	•	•					149
	10	Battery	•	•					150
	11	Hydrostatic steering reservoir	•	•					150
	12	Radiator expansion tank	•	•					151
	13	Windscreen washer bottle	•	•					151
	14	Cab air filters			•				152
	15	Air conditioner condenser			•				152
	16	Air-conditioning	•						153
Every 50 hours	17	Hydraulic lift and linkage				•			154
	18	Steering cylinder 4WD				•			154
	19	Front axle rear pivots 4WD				•			155
	20	Front axle front pivots 4WD				•			155
	21	Steering cylinder 2WD				•			155
	22	Right hand stub axle 2WD				•			156
	23	Left hand stub axle 2WD				•			156
	24	Front axle pivot 2WD				•			156
	25	Fuel filter (condensation drain)			•				157

Hours of work	Operation number	Maintenance operations	Functional check	Top up	Clean	Grease	Adjust	Replace	Page
Every 300 hours	26	Engine oil							157
	27	Fuel filter							158
	28	Fuel pump filter							158
	29	Oil filter, hydraulic lift							158
	30	Engine oil filter							159
	31	Oil filter, hydrostatic steering (separate tank)							159
	32	Final reduction gears							159
	33	Dry air filter (external cartridge)							160
	34	Rear transmission and hydraulic lift							160
	35	Front axle housing 4WD							160
	36	Handbrake							161
	37	Front axle reduction hubs 4WD							162
	38	Front wheels 2WD							162
	39	Front axle swivel bearings 4WD							162
Every 600 hours	40	Fuel sedimenter							163
Every 900 hours	41	Engine valves							163
Every 1200 hours or annually	42	Cab air filter							164
	43	Dry air filter (cartridges: internal and external)							164
	44	Fuel tank							165
	45	Hydrostatic steering oil (independent tank)							165
	46	Drive shaft sleeve for 4WD axle connection							166
Every 1200 hours or every 2 years	47	Injectors							166
	48	Front axle housing oil, 4WD							167
	49	Front axle reduction hubs oil, 4WD							167
	50	Engine cooling system							168
	51	Transmission and hydraulic oil							170
	52	Final reduction oil							153
General maintenance	Bleeding the fuel system								171
	Bleeding the hydraulic brake system								171
	Electrical system								174
	Bodywork maintenance								181
	Products and quantities for refilling								141

FLEXIBLE MAINTENANCE

OPERATION 1

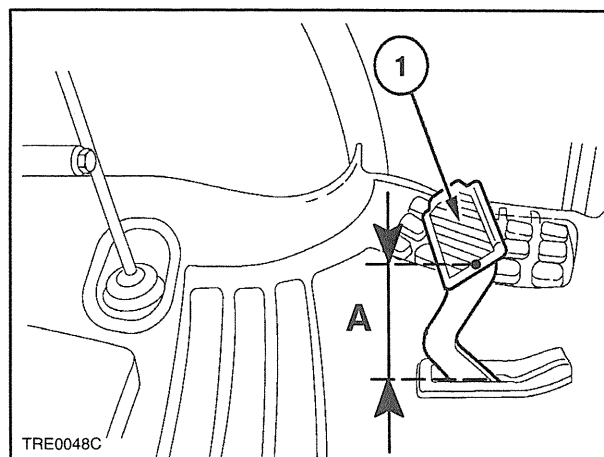
CLUTCH ADJUSTMENT – Figs. 150 and 151

If the clutch pedal position is uncomfortable (too high) or it will not reach its upper rest position (to prevent the clutch slipping) check that distance **A**, on clutch pedal (1) fig. 150 is 40 mm (1.6 in) if not, adjust the pedal as follows:

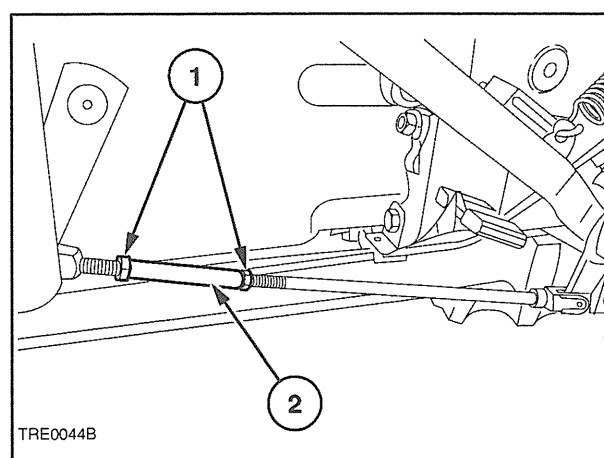
- Release lock nuts (1) fig. 151 and turn hexagon sleeve (2) anti-clockwise;
- Check that distance **A** corresponds with the value given above;
- Tighten lock nut (1) fig. 151;
- Recheck that the pedal travel is as specified.



The distance must be measured from the pedal centre as shown in figure 150.



150



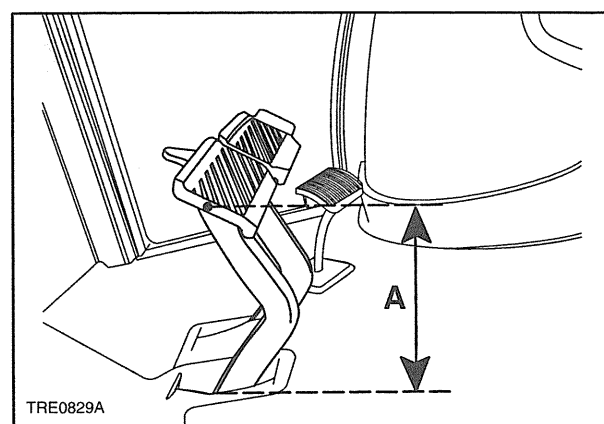
151

OPERATION 2

BRAKE PEDAL ADJUSTMENT – Fig. 152– 153

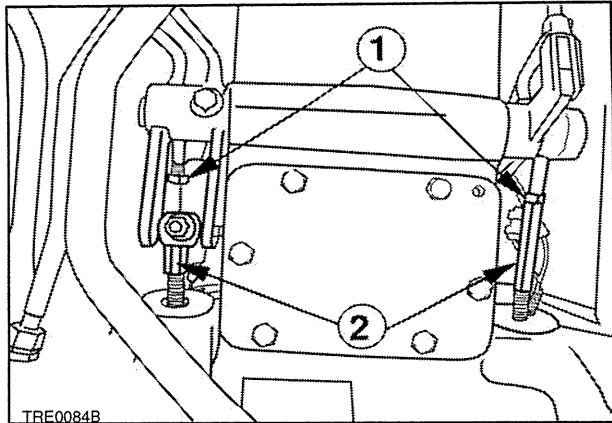
Adjusting height of service brake pedals

- With the brake pedals connected to their respective forks and the pedal connecting pin released, check pedal adjustment.
- Check that pedal free travel (**A**) is the same for each pedal and does not exceeds 80 mm.



152

- If adjustment is required, fully release the handbrake (lever down). Slacken the lock nuts (1) and turn the hexagon sleeves (2) until brake pedal free travel is 45 mm. Finally, tighten the lock nuts (1).



153

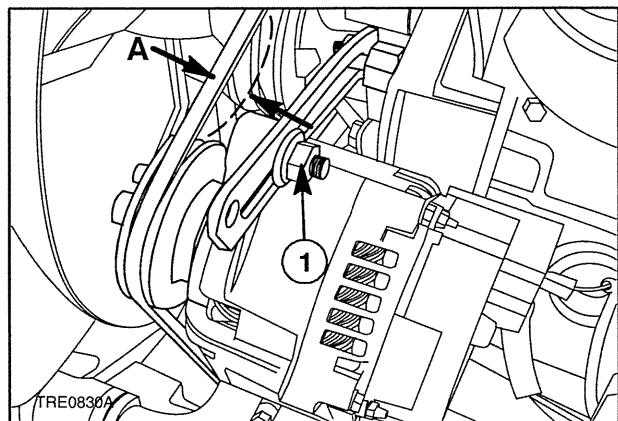
OPERATION 3

FAN BELT (ALL VERSIONS WITHOUT AIR-CONDITIONING) – Fig. 154

Check that tension (**A**) at the centre of the belt run, as shown in the figure, is 10 – 11 mm (0.39 – 0.43 in) with an applied load of 78 – 98 N (8 – 10 kg or 17.7 – 22.1 lbs).

To adjust, slacken screw (1) and reset the tension to the values indicated above.

NOTE: If the belt is cracked or frequent adjustment is necessary, it needs to be replaced.



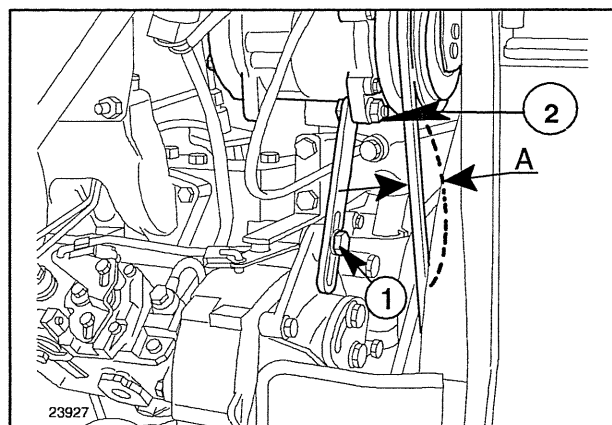
154

OPERATION 4

COMPRESSOR BELT – Fig. 155

Check that tension (**A**) of the belt shown in the figure, is 12 to 13 mm (0.47 – 0.51 in) with a load of 78 – 98 N (8 – 10 kg or 17.7 – 22.1 lbs), measured in the centre of the belt run, as illustrated in the figure. To adjust, slacken screw (1) and adjust belt tensioner (2).

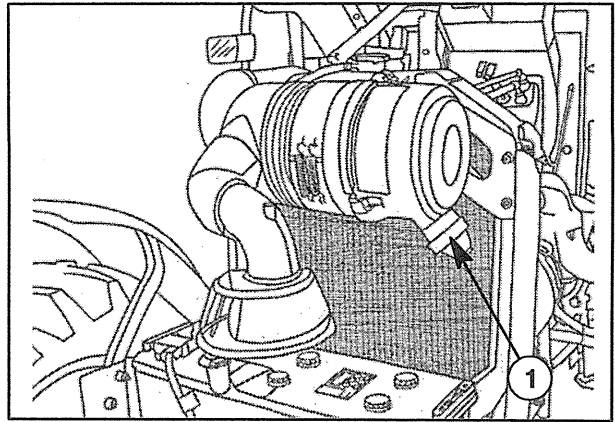
NOTE: If the belt is cracked or frequent adjustment is necessary, it needs to be replaced.



155

OPERATION 5**AIR FILTER VALVE – Fig. 156**

Check if the outlet valve (1) is clogged by squeezing the rubber end cap to allow accumulated dust to escape.

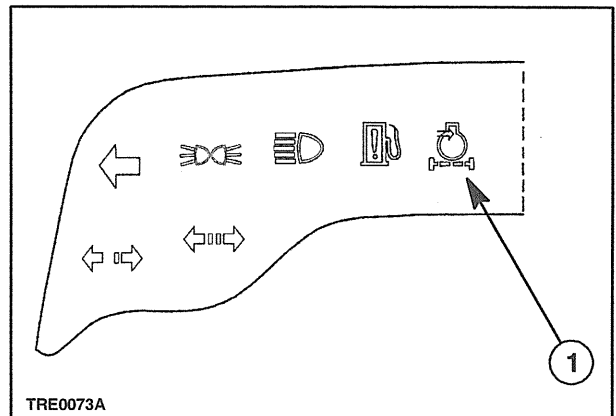


156

WHEN THE WARNING LIGHT IS ON**DRY AIR FILTER MAINTENANCE – Fig. 157**

NOTE: Always take corrective action, as follows in Operation 6, when the red indicator light (1) illuminates, indicating that the airflow through the filter is restricted.

Replace the external element every year, or when pin holes appear (visible by placing a light inside). Do not clean the **internal** safety element (by blowing or washing) but replace annually or whenever the external element is replaced.



157

OPERATION 6**MAIN DRY AIR FILTER CARTRIDGE – Fig. 158**

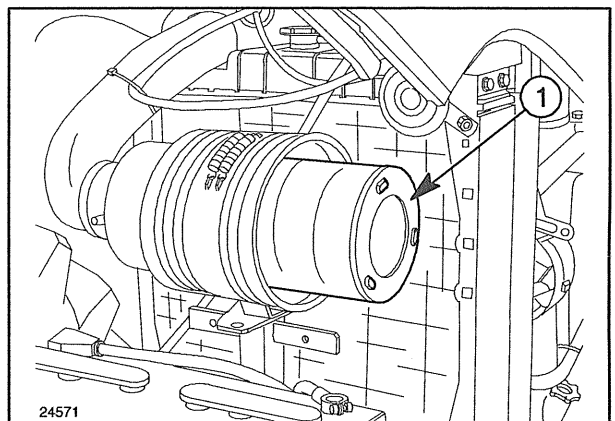
When the red indicator light in the instrument panel illuminates, remove the cover, extract the outer element (1) and clean as follows :

- with a jet of compressed air at less than 5.9 bar (6 kg/cm²) (85 Psi), insert the air line nozzle inside the element and blow dust from the inside through the element to the outside;
- or
- with water and non-foaming detergent, rinse with a water jet at less than 2.9 bar (3 kg/cm²) (42 Psi) and dry with dry air at a temperature of less than 50° C. Do not re-install the element unless it is perfectly dry. A damp air cleaner element will rupture when the engine is started.

Never clean the element by tapping it on a hard surface. Instead, tap it on the palm of your hand.

Clean the whole of the inside of the container carefully with a damp cloth.

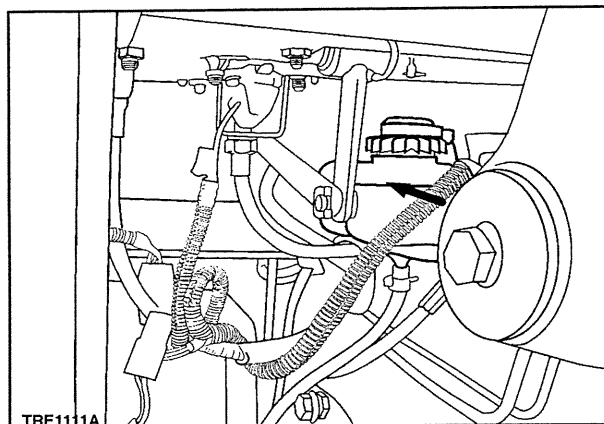
Do not disturb the inner safety element.



158

OPERATION 7**BRAKE FLUID LEVEL – Fig. 159**

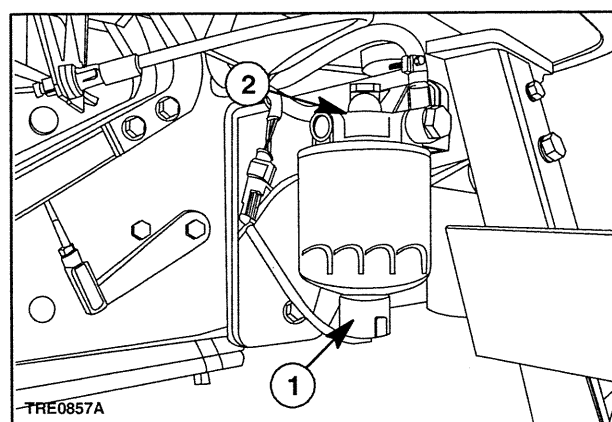
Check that the fluid level is not below the indicator arrow on the reservoir. Top up as necessary.



159

OPERATION 8**FUEL SEDIMENTER – Fig. 160**

With the reservoir completely full, partially unscrew the drain plug (1) until all the water is drained off. To ensure complete discharge, also unscrew the bleed screw (2). Tighten screw (1) when the fuel coming out no longer contains air bubbles, then tighten screw (2).



160

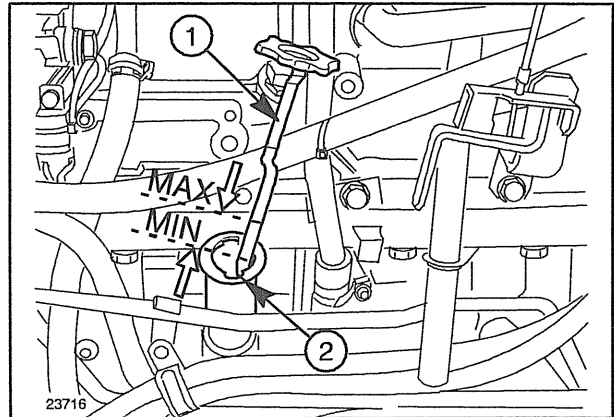
EVERY 10 HOURS

OPERATION 9

ENGINE OIL LEVEL – Fig. 161 and 162

Check the level with the tractor on a level surface with the engine switched off. Allow at least five minutes for the oil to settle in the sump:

- Remove dipstick (1) fig. 161, clean it with a cloth and replace it in its hole.
- Remove the dipstick again and check that the oil level is between the “MIN” and “MAX” marks.
- If necessary, add oil through fill points (2) fig. 161 or (1) fig. 162 until the correct level is reached.



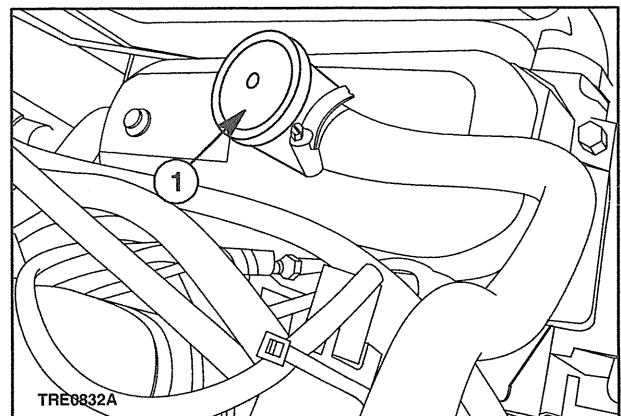
161

NOTE: A red warning light on the panel shows when the oil level is low.



WARNING

Never run the engine when the oil level is below the “MIN” mark.

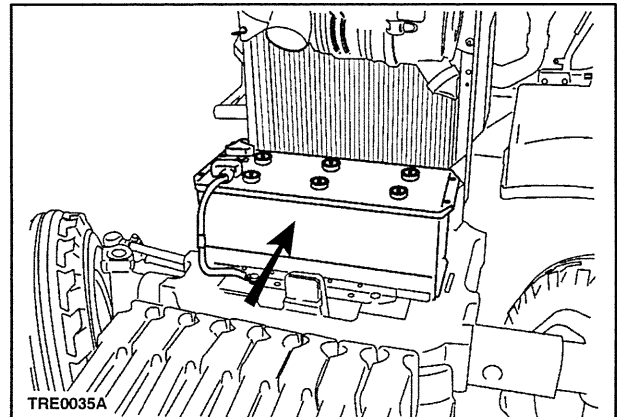


162

OPERATION 10

BATTERY CAPACITY 105 Ah. – Fig. 163

NOTE: The 105 Ah capacity battery is located within the front axle support.
To access the battery, lift the bonnet as described on page 140 of this section.



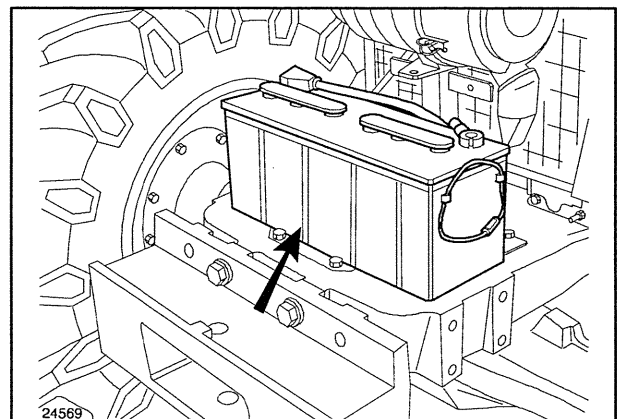
163

BATTERY CAPACITY 120 Ah – Fig. 164

NOTE: The 120 Ah capacity battery is located on top of the front axle support.
To access the battery, lift the bonnet as described on page 140 of this section.

The electrolyte level must be checked with the engine shut off, the tractor on a level surface and the battery cold.

If the battery needs to be topped up frequently or tends to run down, have the electrical system checked by your dealer.

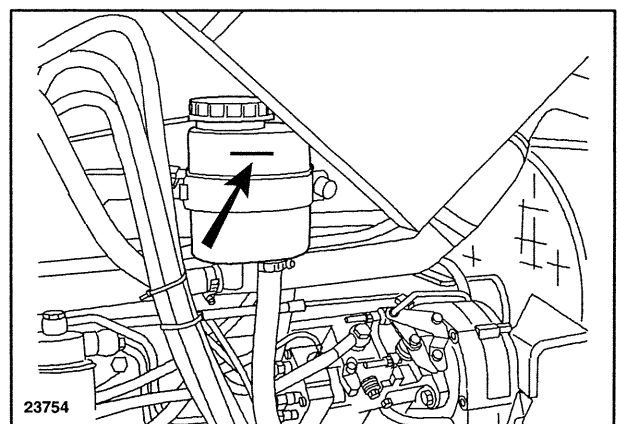


164

OPERATION 11

HYDROSTATIC STEERING OIL LEVEL – Fig. 165

Check the oil level and top up as necessary.

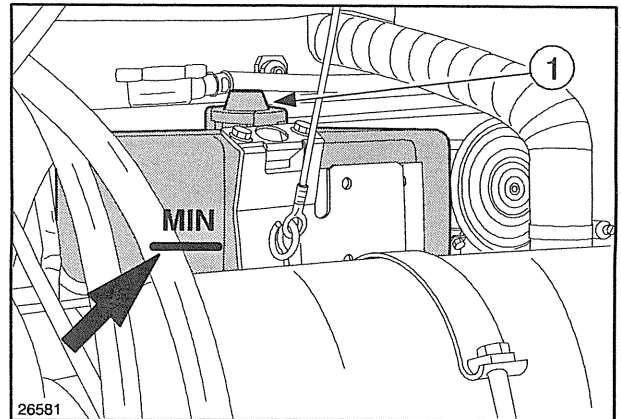


165

OPERATION 12**RADIATOR EXPANSION TANK LEVEL – Fig. 166**

The level must always be above the “MIN” mark shown in the figure.

If necessary top up through the fill point (1)



166

OPERATION 13**WINDSCREEN WASHER BOTTLE – Fig. 167**

To add liquid to the windscreen washer bottle:

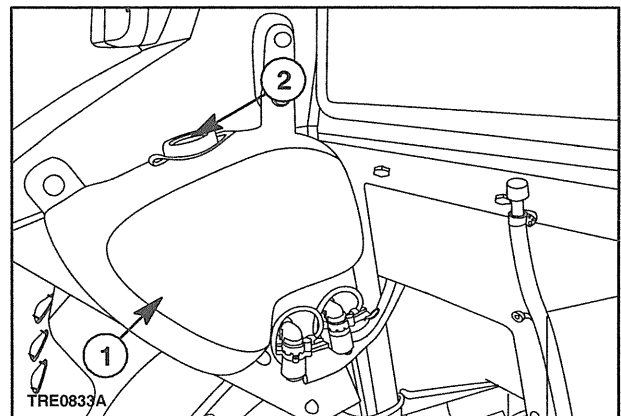
Remove the filler cap (1);

Add washer fluid to fill the bottle (2);

Replace the cap.

**WARNING**

In winter use water mixed with an antifreeze product.



167

OPERATION 14

CAB AIR FILTER – Fig. 168 – 169

Unscrew the cover (4) retaining knobs (1), extract the element (2) and clean:

- by tapping gently on a flat surface with the outward-facing part downwards;

or

- with a jet of compressed air at less than 6.9 bar (7 kg/cm²) (100 Psi);

or

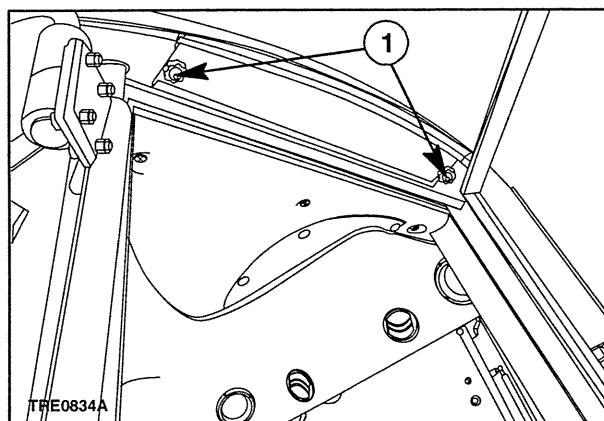
- by immersing the filters in a solution of water and non-foaming detergent for 15 minutes;

or

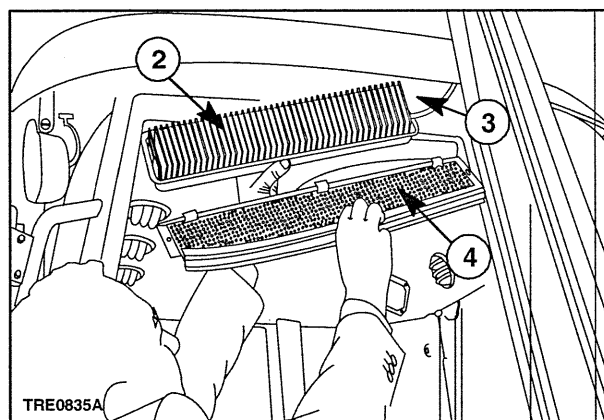
- rinsing with a jet of water at less than 2.7 bar (2.8 kg/cm²) (39 Psi) and drying with dry, non-compressed air.

Do not re-install the elements until they are thoroughly dry. A damp air filter will rupture when the heater/air conditioner is operated.

Clean filter seats (3) with a cloth. When refitting the elements, the arrow on the label must face the inside of the cab.



168

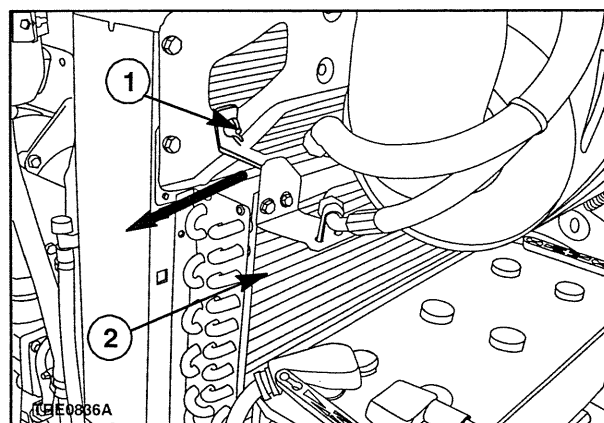


169

OPERATION 15

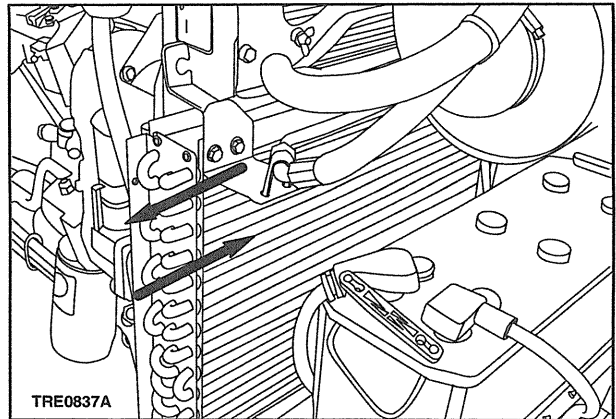
AIR CONDITIONER CONDENSER – Fig. 170– 171

Slacken the retaining screw (1) on the condenser (2). Slide the condenser sideways, in the direction of the arrow and clean off any dirt accumulated between the cooling fins. Check that they are not deformed and, if necessary, restore them to proper working condition.



170

Slide the condenser back to its working position and tighten the retaining screw (1).



171

OPERATION 16

CAB AIR CONDITIONING SYSTEM – Figs. 172 and 173

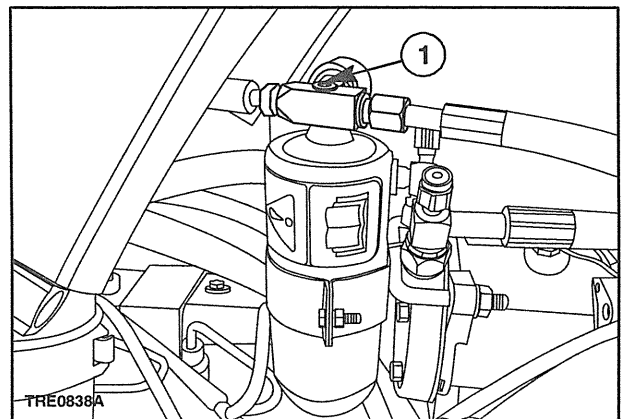
At the start of a period of use, check that the filter is working properly as follows:

- Turn the knob (3) fig. 173 clockwise to switch on the air-conditioning;
- Turn the temperature control knob (2) fig. 173 fully counter-clockwise;
- Turn the electric fan control (1) fig. 173 to the low-speed, first setting;
- Place a thermometer next to the vents (arrowed in the fig. 173) and check that the temperature measured is around 15° C less than the external temperature.

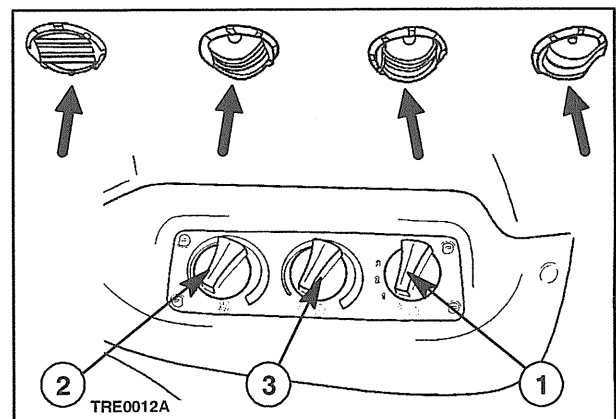
or

- Check, with the air-conditioning on, that inspection glass (1) fig. 172, on top of the filter, is transparent; if white liquid or air bubbles can be seen, the filter needs to be replaced.

NOTE: The filter must always be replaced when work is carried out on the air-conditioning system. Also, take this opportunity to check the oil level in the compressor.



172



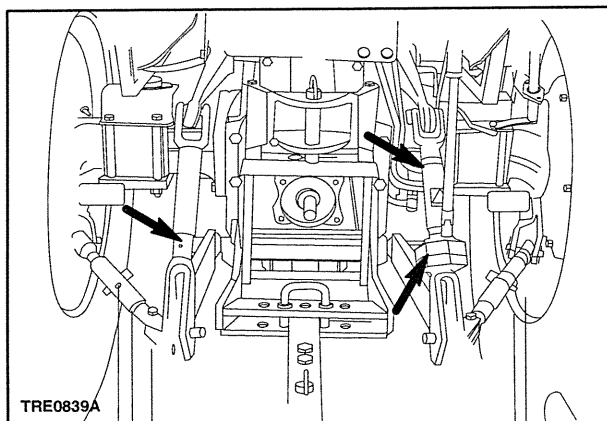
173

EVERY 50 HOURS

OPERATION 17

HYDRAULIC LIFT AND LINKAGE – Fig. 174

Using a grease gun, pump CASE 251 HEP grease into the three grease points shown.

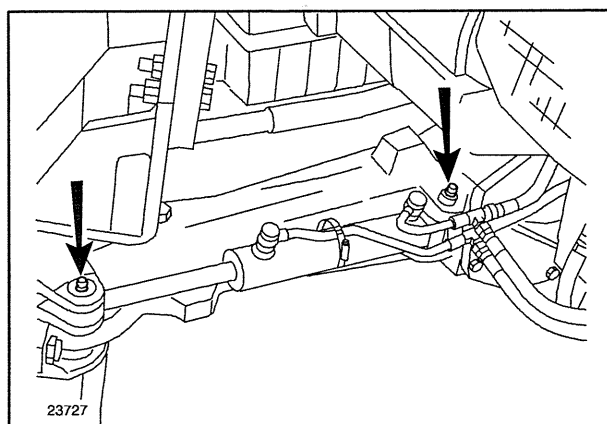


174

OPERATION 18

STEERING CYLINDERS 4WD – Fig. 175

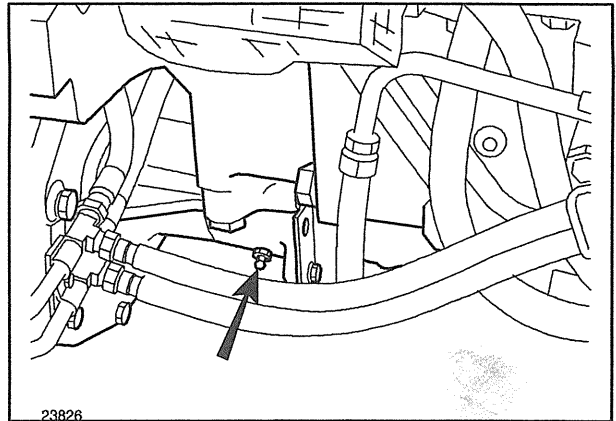
Using a grease gun, pump CASE IH 251 HEP grease into the two lubrication fittings shown.



175

OPERATION 19**FRONT AXLE REAR PIVOT 4WD – Fig. 176**

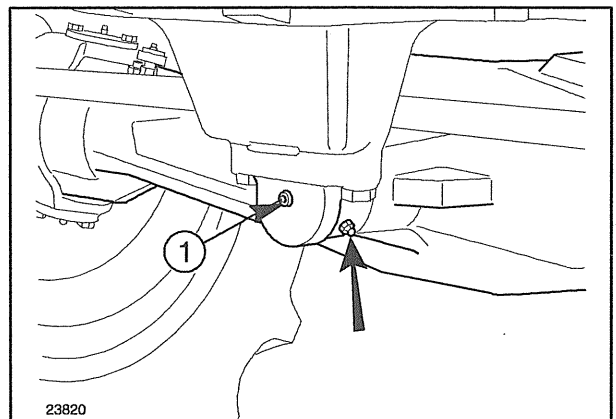
Using a grease gun, pump CASE IH 251 HEP grease into the lubrication fitting shown.



176

OPERATION 20**FRONT AXLE FRONT PIVOT 4WD – Fig. 177**

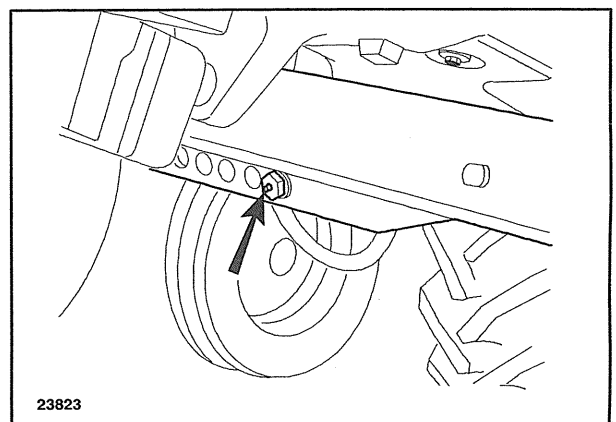
Using a grease gun, pump CASE IH 251 HEP grease into the lubrication fitting (arrowed) until grease escapes through outlet (1).



177

OPERATION 21**STEERING CYLINDER 2WD – Fig. 178 and 179**

Using a grease gun, pump CASE IH 251 HEP grease into the lubrication fitting shown.

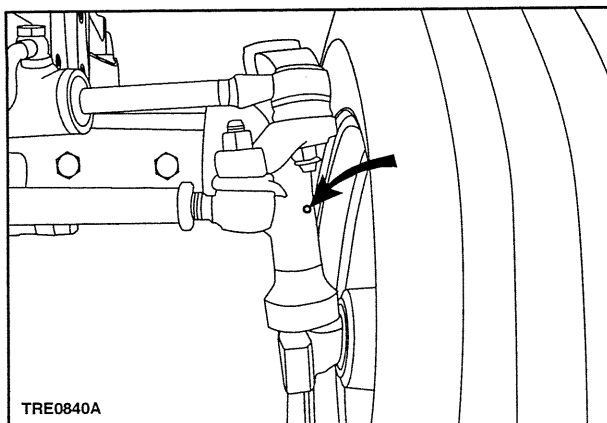


178

OPERATION 22

RIGHT-HAND STUB AXLE 2WD – Fig. 179

Using a grease gun, pump CASE IH 251 HEP grease into the lubrication fittings shown.

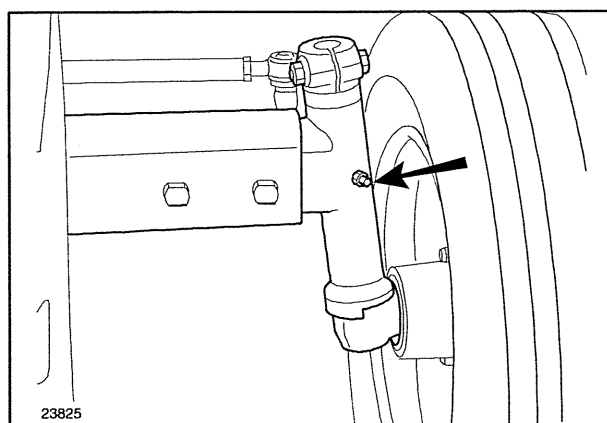


179

OPERATION 23

LEFT-HAND STUB AXLE 2WD – Fig. 180

Using a grease gun, pump CASE IH 251 HEP grease into the lubrication fitting shown.

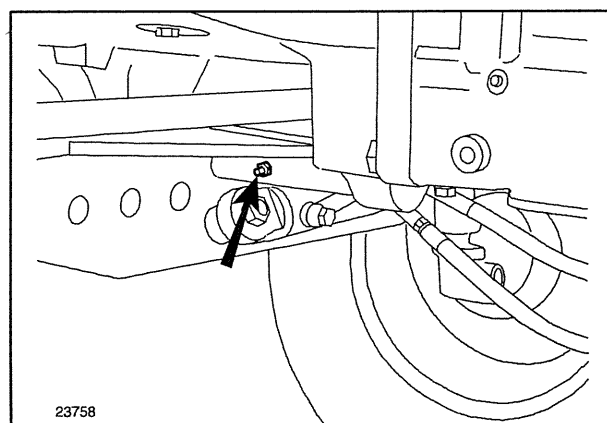


180

OPERATION 24

FRONT AXLE PIVOT 2WD – Fig. 181

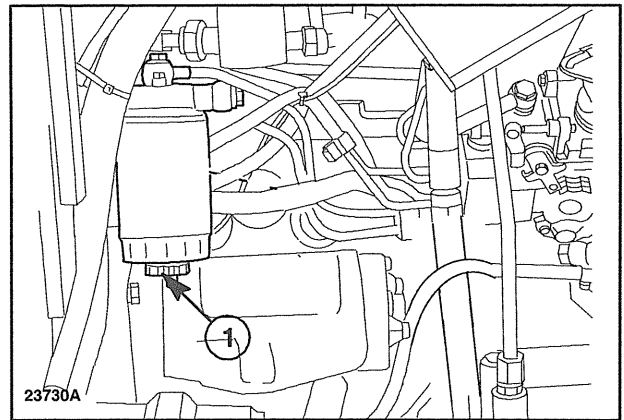
Using a grease gun, pump CASE IH 251 HEP grease into the lubrication fitting shown.



181

OPERATION 25**FUEL FILTER – Fig. 182**

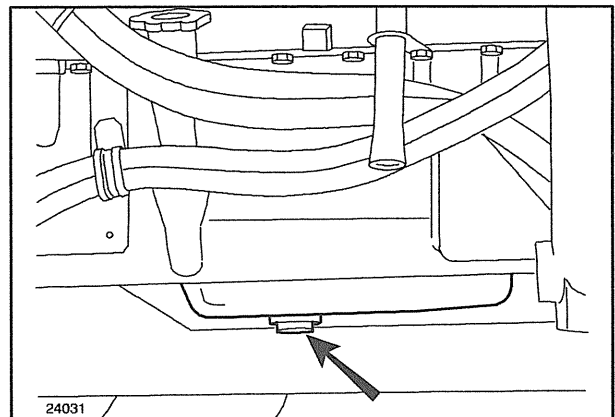
Loosen the drain plug (1) approximately $\frac{3}{4}$ of a turn, then operate the fuel pump primer lever to force condensed water and sediment from the filter. When only clean fuel drains from the filter, tighten the drain plug.



182

EVERY 300 HOURS OF WORK**OPERATION 26****ENGINE OIL – Fig. 183**

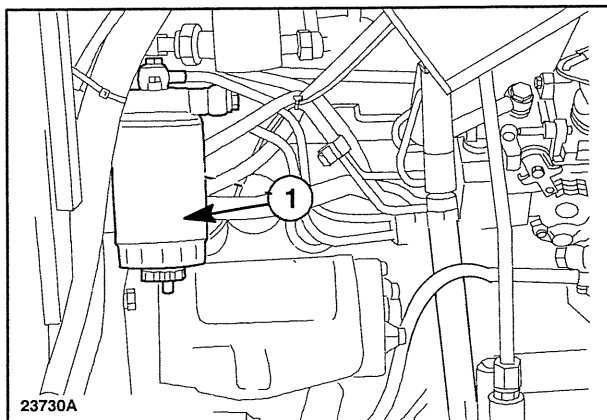
Drain off all the oil via the sump plug shown and refill with fresh oil using fill points (2) fig. 161 or (1) fig. 162 page 149.



183

OPERATION 27**FUEL FILTER – Fig. 184**

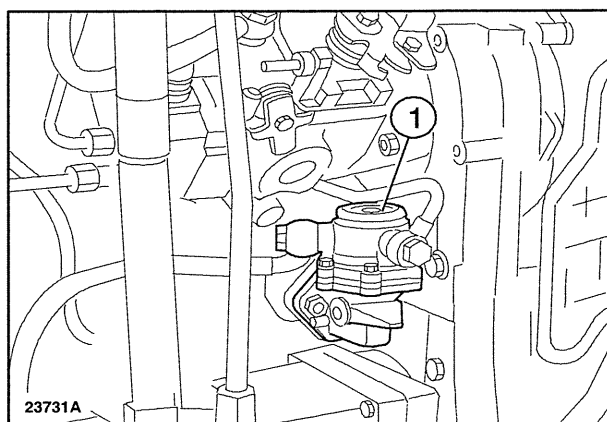
Unscrew and remove the filter cartridge (1). Install a new filter cartridge.
Bleed air from the fuel system as described on page 171 in this section.



184

OPERATION 28**FUEL PUMP FILTER – Fig. 185**

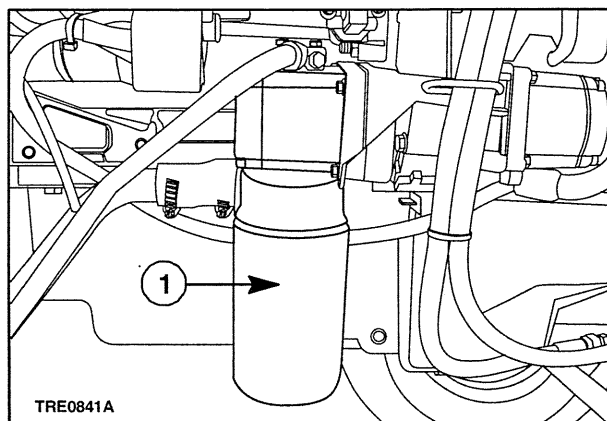
Remove cover (1) and clean the internal filter screen.



185

OPERATION 29**HYDRAULIC LIFT OIL FILTER – Fig. 186**

Unscrew and remove the filter (1). Oil the rubberseal then screw on and tighten the cartridge $\frac{3}{4}$ of a turn by hand. Top up the oil with fresh oil. (see operation no. 34 page 160).

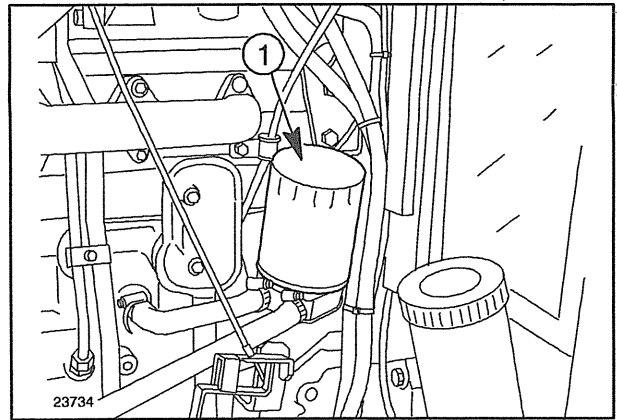


186

OPERATION 30

ENGINE OIL FILTER – Fig. 187

Unscrew and remove the filter (1). Oil the rubberseal then screw on and tighten the cartridge $\frac{3}{4}$ of a turn by hand. Top up the oil with fresh oil. (see operation. no. 9 fig. 161 and 162).



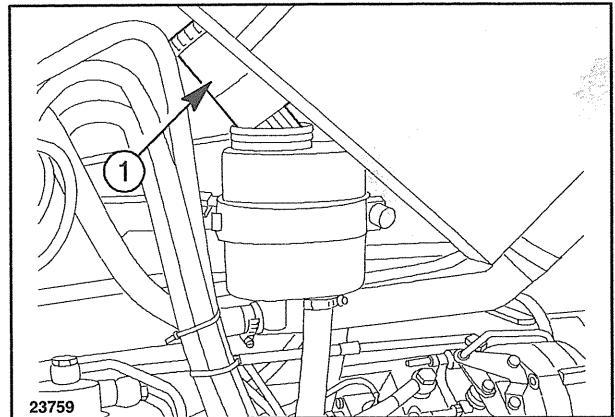
187

OPERATION 31

HYDROSTATIC STEERING – Fig. 188

Remove the filter (1) (press downwards and move sideways) and wash the filter, together with the filler cap in mineral oil.

NOTE: For oil grades, see the lubrication chart on pages 141.



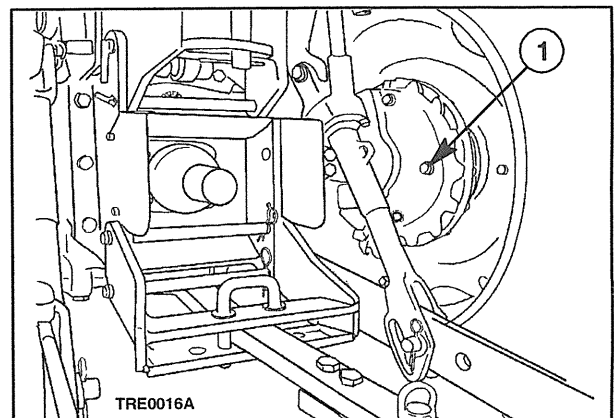
188

OPERATION 32

FINAL REDUCTION GEARS – Fig. 189

Check the oil level as follows:

- Park the tractor on a level surface.
- Remove the plug (1). Some oil should flow out of the plug hole. If necessary, top up via same plug hole until the oil overflows.

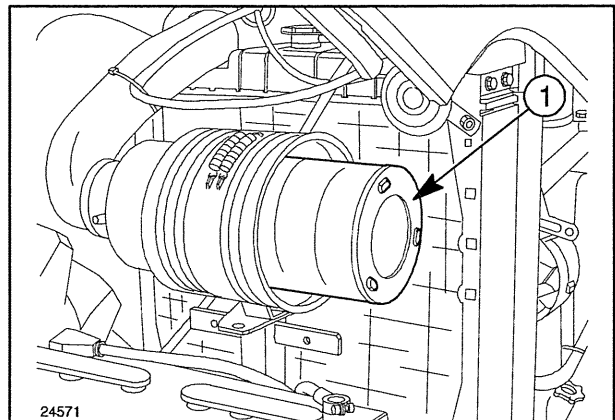


189

OPERATION 33

DRY AIR FILTER, EXTERNAL CARTRIDGE – Fig. 190

Remove the cover, take out external cartridge (1) and clean as described in operation 158, on page 147 of this section.



190

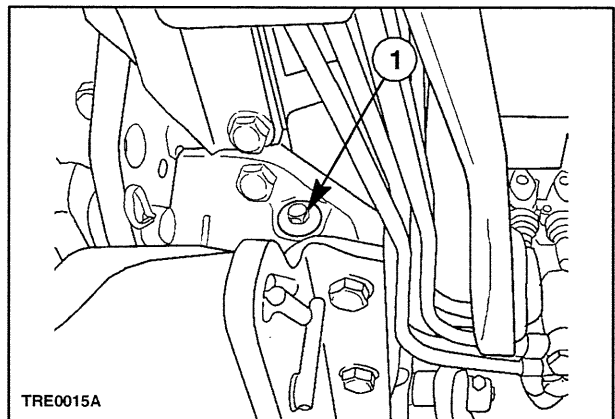
OPERATION 34

TRANSMISSION AND HYDRAULIC LIFT – Fig. 191

With the tractor on a level surface, the engine shut off and the hydraulic lift linkage fully lowered, check that the oil level reaches the "MAX" mark on the combined filler plug/dipstick (1).

If necessary, add oil through the fill point and replace the plug.

NOTE: For oil grades, see the lubrication chart on page 141.



191

OPERATION 35

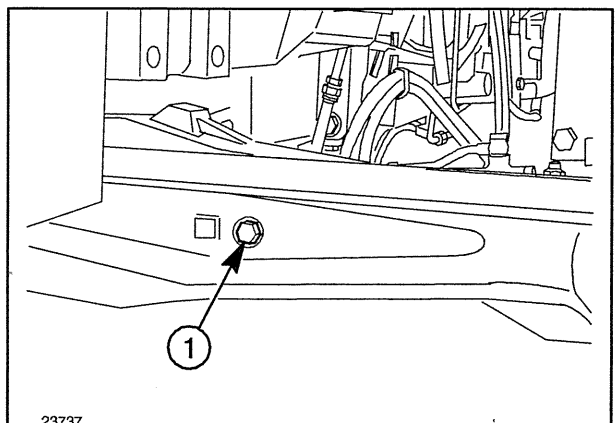
FRONT AXLE HOUSING 4WD – Fig. 192

Check the oil level as follows:

- Park the tractor on a level surface;
- Remove the plug (1). Some oil should flow out of the plug hole.

If necessary, top up via plug hole (1) until the oil overflows.

NOTE: For oil grades, see the lubrication chart on pages 141.



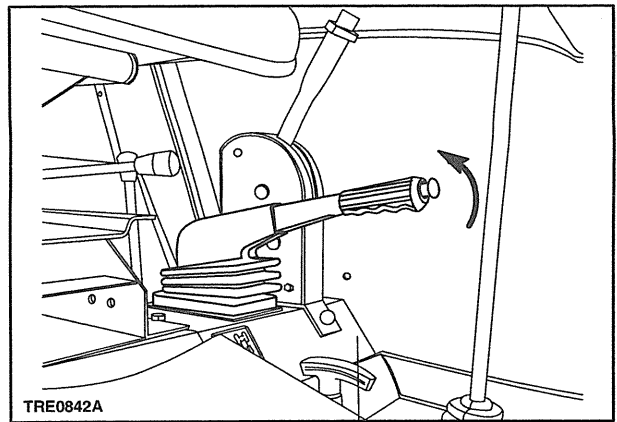
192

OPERATION 36**HANDBRAKE – Fig. 193– 194– 195**

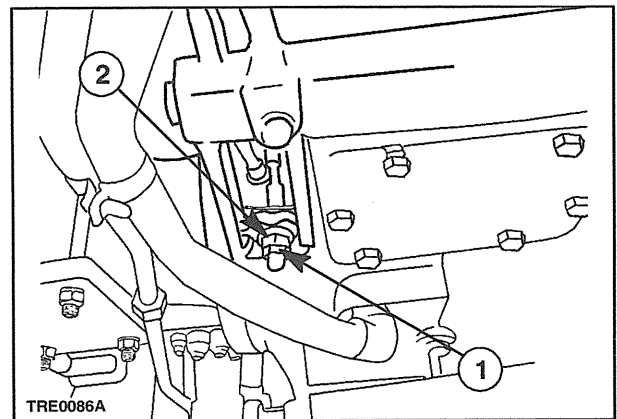
The handbrake lever must be adjusted whenever work is carried out on the unit or when the lever does not engage with the third notch of the sector gear when the handbrake is applied.

For 2WD models (Fig. 194) proceed as follows:

- Slacken the lock nut (1)
- Tighten or slacken the adjusting screw (2) until the lever is engaged with the third notch, when the handbrake is applied.
- Tighten the lock nut (1).



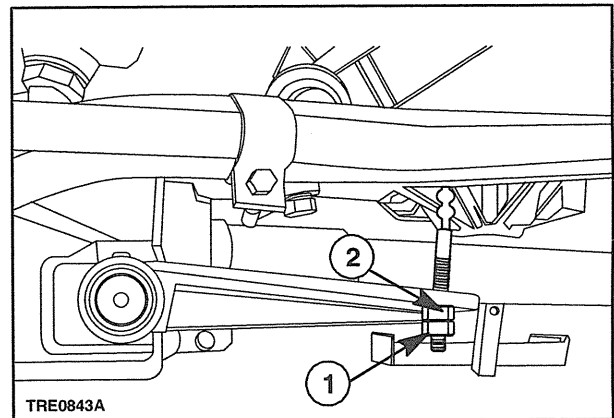
193



194

For 4WD models (Fig. 195) proceed as follows:

- Slacken the lock nut (1)
- Tighten or slacken the adjusting screw (2) until the lever is engaged with the third notch, when the handbrake is applied.
- Tighten the lock nut (1).



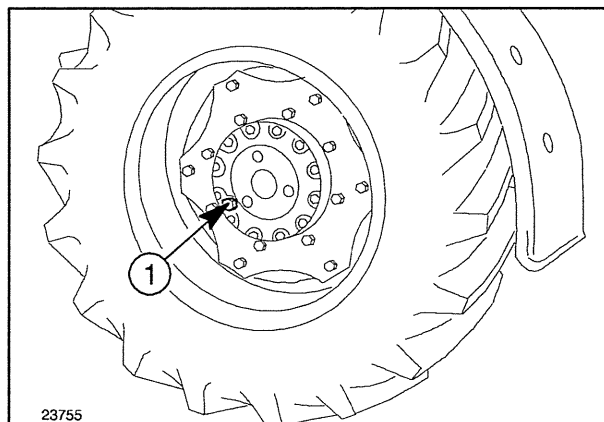
195

OPERATION 37

FRONT AXLE REDUCTION HUBS 4WD – Fig. 196

Check the oil level by rotating the wheel until the plug (1) is at the horizontal position. If oil does not overflow when the plug is removed, top up through the opening and replace the plug.

NOTE: For oil grades, see the lubrication chart on page 141.

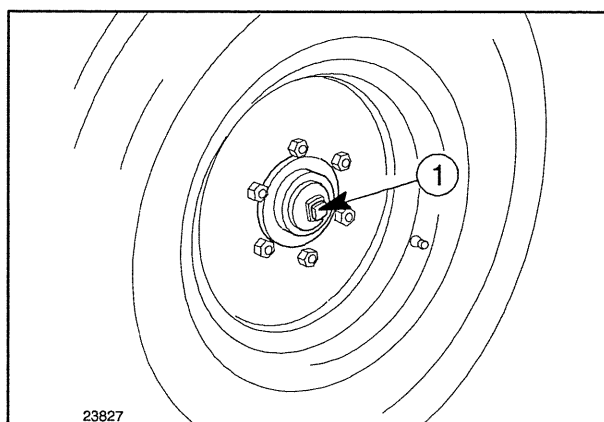


196

OPERATION 38

FRONT WHEELS 2WD – Fig. 197

Remove covers (1) from both hubs. Fill them with CASE IH 251 HEP grease and replace.

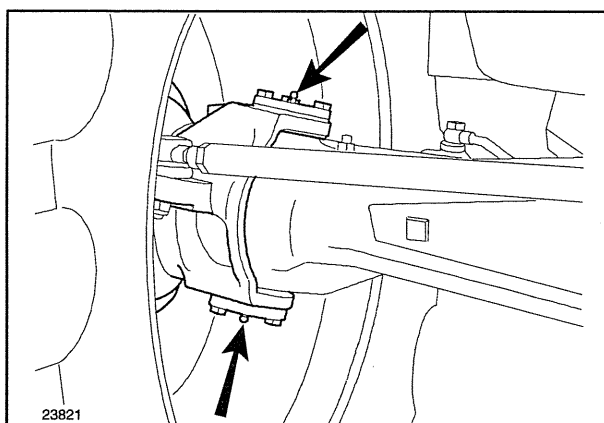


197

OPERATION 39

FRONT AXLE SWIVEL BEARINGS 4WD – Fig. 198

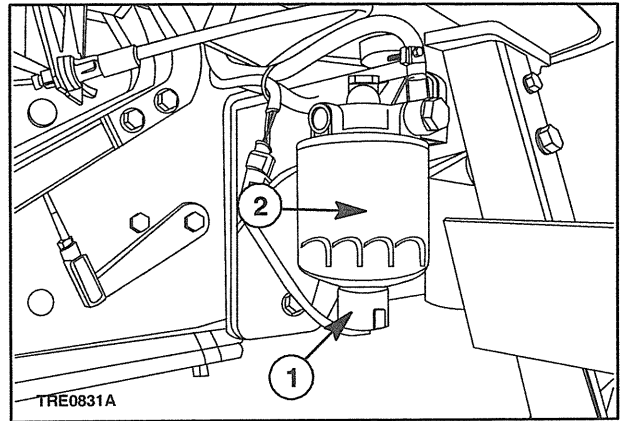
At least twice a year, pump CASE IH 251 HEP grease into the two lubrication fittings shown (two on each side).



198

EVERY 600 HOURS OF WORK**OPERATION 40****FUEL SEDIMENTER– Fig. 199**

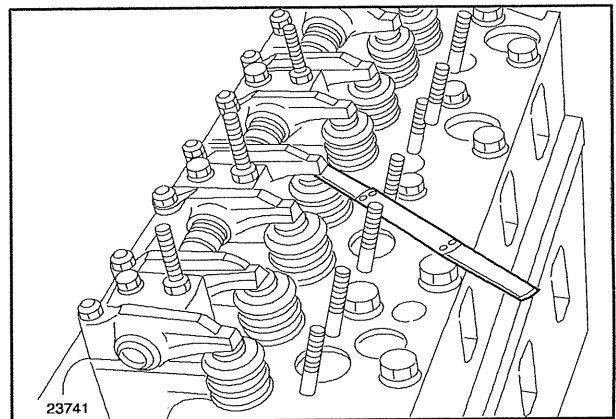
Unscrew the drain plug (1) fig. 199. Turn the sedimenter element (2) completely to remove. Replace the fuel sedimenter with new one. Install the drain plug and tighten it carefully .



199

EVERY 900 HOURS OF WORK**OPERATION 41****ENGINE VALVES – Fig. 200**

Contact your dealer to check the clearance between the valves and the rocker arms (0.35 ± 0.05 mm; 0.012 ± 0.002 in). The inspection must be carried out when the engine is cold.



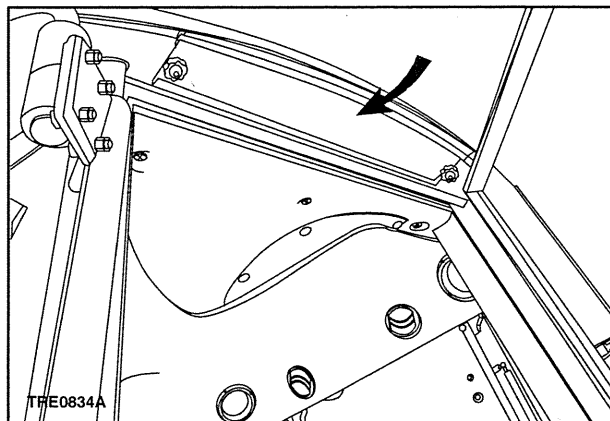
200

EVERY 1200 HOURS OF WORK

OPERATION 42

CAB AIR FILTER – Fig. 201

Remove the grill shown by arrow, and replace the filter element.



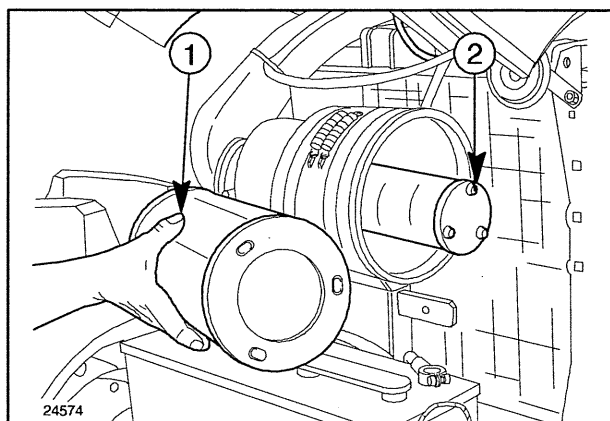
201

OPERATION 43

DRY AIR FILTER – Fig. 202

Remove the outer element (1), together with the inner safety element (2).

Clean the inside of the casing with a damp, lint-free cloth and install two new filters.



202

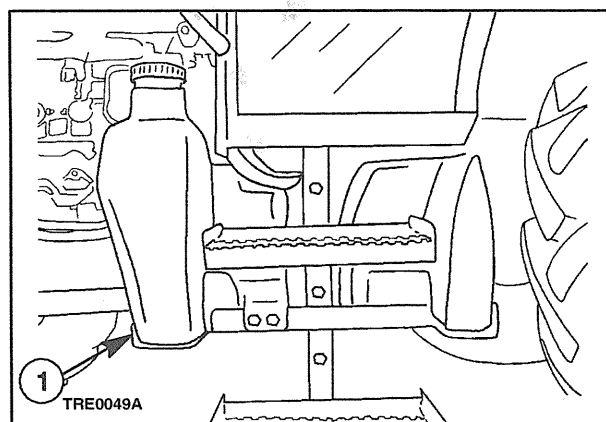
OPERATION 44

FUEL TANK – Fig. 203

With the tractor on a level surface and the engine off, drain the fuel as described below:

- Place a container under the tank;
- Remove plug (1) and drain the fuel to remove any impurities in the tank.

Refill the tank with clean fuel and bleed the system as described on page 171 in this section.



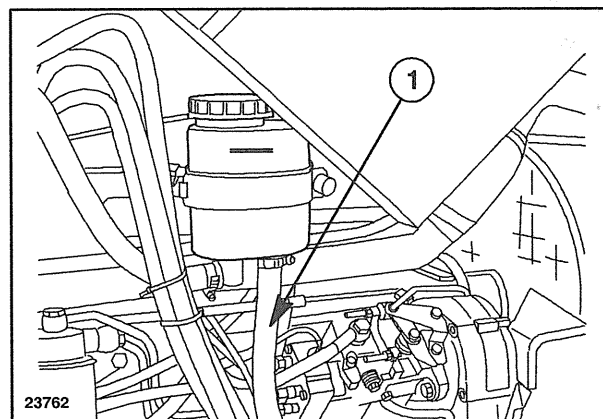
203

OPERATION 45

DRAINING THE HYDROSTATIC STEERING OIL – Fig. 204

Place a container under the reservoir, remove tube (1) and drain the oil. Refit the tube and clean the internal filter before filling with new oil.

NOTE: For oil grades, see the lubrication chart on page 141.



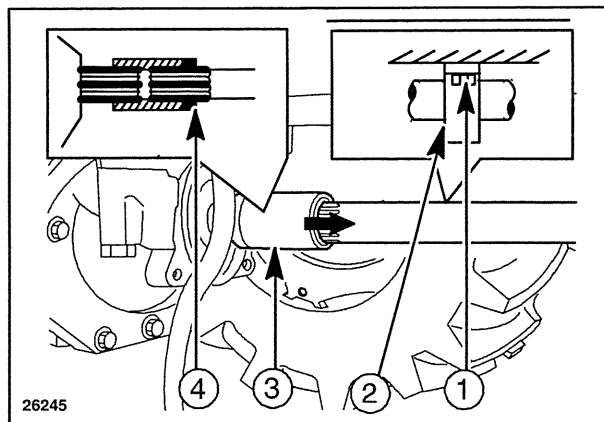
204

OPERATION 46

DRIVE SHAFT SLEEVE FOR 4WD FRONT AXLE CONNECTION – Fig. 205

Check as follows:

- Disassemble the front axle drive shaft guard;
- Loosen screws (1), to disconnect the support (2) from the drive housing;
- Remove circlip (4);
- Move the sleeve (3) as shown by the arrow, lower the drive shaft until the sleeve can be removed and check that the inner groove does not show signs of excessive wear.



205

**WARNING**

If the sleeve inner groove should prove excessively worn, refer to your dealer for a possible replacement.

EVERY 1200 HOURS OR EVERY 2 YEARS

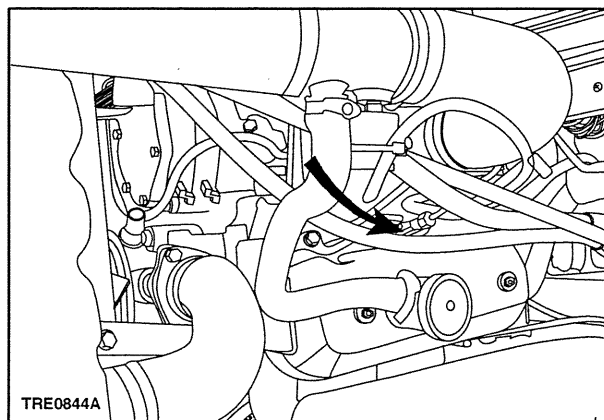
OPERATION 47

INJECTORS – Fig. 206

Have your dealer check the pressure settings (see page 196). To remove the injectors from the engine, detach the lines and remove the connectors.

NOTE: Before loosening or disconnecting any part of the injection system, thoroughly clean the area in which you are going to work.

NOTE: Cover all injector lines and apertures to prevent any dirt ingress.

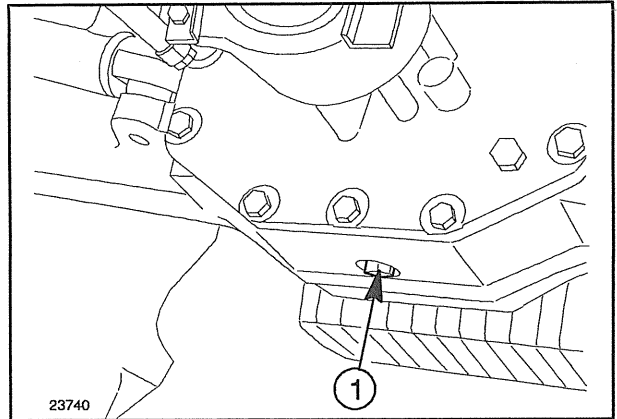


206

OPERATION 48**FRONT AXLE HOUSING – 4WD – Fig. 207**

Place a container under the axle housing, unscrew plug (1), let all the oil drain out. Refill with new oil through the filler/level plug hole (1) fig 192.

NOTE: For oil grades, see the lubrication chart on page 141.

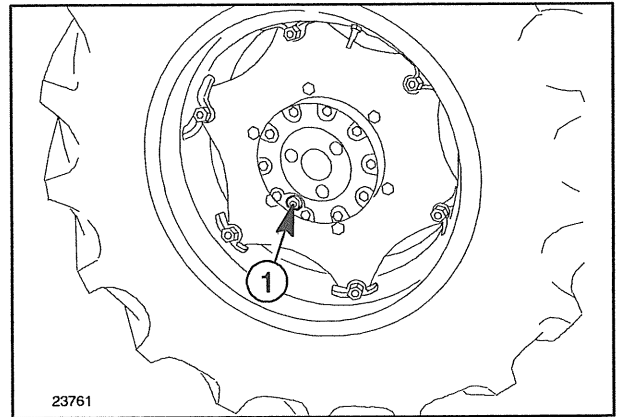


207

OPERATION 49**DRAINING THE OIL FROM THE FRONT AXLE FINAL DRIVES – 4WD – Fig. 208**

Position plug (1) to its lowest point, place a container under the plug hole and drain the oil. Rotate the wheel so that the plug hole is in a horizontal position and fill with new oil.

NOTE: For oil grades, see the lubrication chart on page 141.



208

OPERATION 50

ENGINE COOLING SYSTEM

– Figs. 209, 210 and 211

The system uses a mixture of **PREMIUM ANTIFREEZE MS 1710** and water. This liquid has anti-oxidant, anti-corrosive, anti-foaming and anti-crusting properties. It is also non-freezing down to temperatures of:

Degrees (° C)	–8	–15	–25	–30
% in volume of PREMIUM ANTIFREEZE MS 1710 to water	20	30	40	50

Your tractor is supplied with the cooling system filled with an **PREMIUM ANTIFREEZE MS 1710** solution appropriate to your climatic conditions. This will guarantee the system down to the temperature shown on the plate attached to the bonnet.

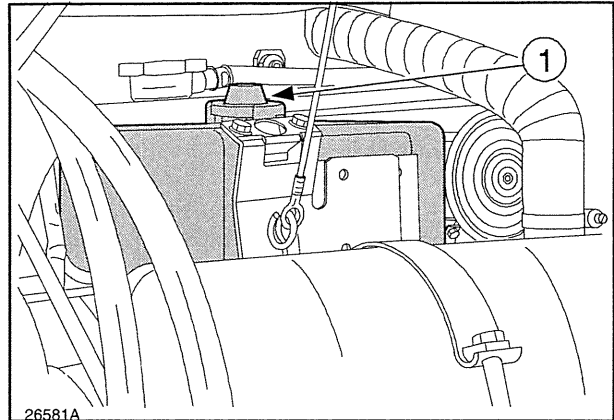
This mixture will protect the cooling system for a period of **2 years** provided that during this time the tractor has not been used for more than **1200 hours** in total. Flush the system and replace the anti-freeze mixture when either of these limits have been reached.

In emergencies, to prevent overheating, fill the system by pouring water into the radiator opening (1) fig. 211.

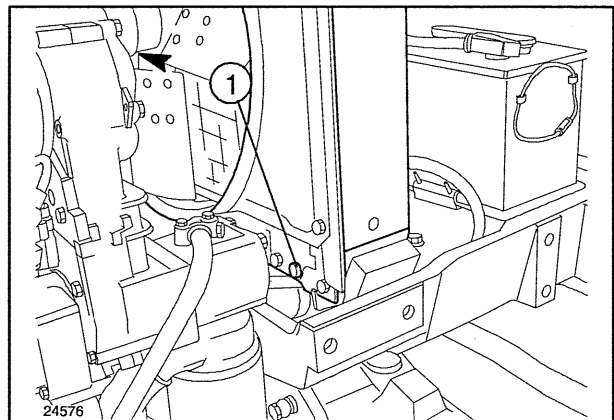


WARNING

Repair any damage and top up the mixture as soon as possible, referring to the table above.



209



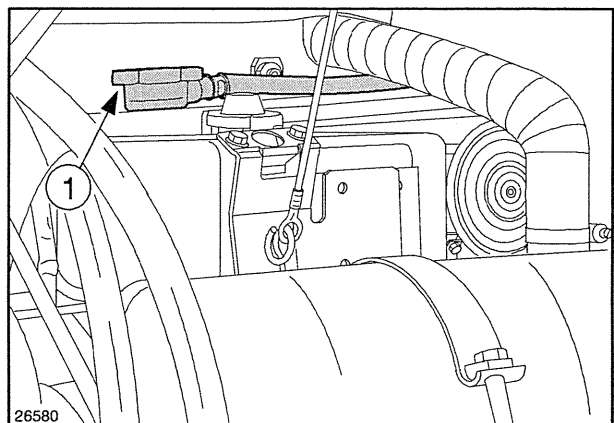
210

FLUSHING THE SYSTEM (MODELS WITHOUT CABS)

Flush at least every **1200 service hours** or every **2 years**, and whenever changing the anti-freeze in the system.

Proceed as follows :

- Remove the expansion tank cap (1) fig. 209. Remove the radiator plug (1) fig. 210 and drain the water while the engine is hot;



211

**CAUTION**

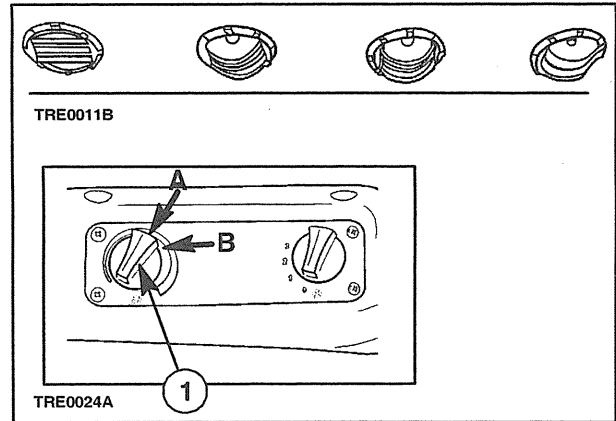
The engine must be switched off when draining the water.

- Once the engine has cooled, fill the radiator with a filtered solution of Solvay soda and water at a ratio of **250 grams** (8.8 oz.) of soda to **10 litres** (2.20 Imp gal. – 2.70 US gal.) of water;
- Run the tractor for approximately one hour and then drain the flushing solution;
- Wait for the engine to cool down, then circulate pure water by pouring it into the radiator and allowing it to drain from radiator drain plug (1) fig. 210.
- Replace the radiator plug, fill with water, run the engine for a few minutes and drain the system;
- Leave the engine to cool and top up to the normal level.

THERMOSTAT

There is a thermostat in the cooling circuit to prevent the water circulating in the radiator until the water reaches a high enough temperature to allow the engine to operate correctly (approximately 85° C).

If you think the thermostat may not be working properly, remove it and have it checked by your dealer.



212

FLUSHING THE HEATING SYSTEM (MODELS WITH CAB)

The heating system uses fluid from the engine cooling system drawn off between the engine and the radiator.

Flush the cooling system as described for models without cab, bearing in mind that the heating system can be completely drained by turning temperature adjustment control (1) fig. 212 to the vertical position **A**.

Fill the engine cooling system and cab heating system as follows:

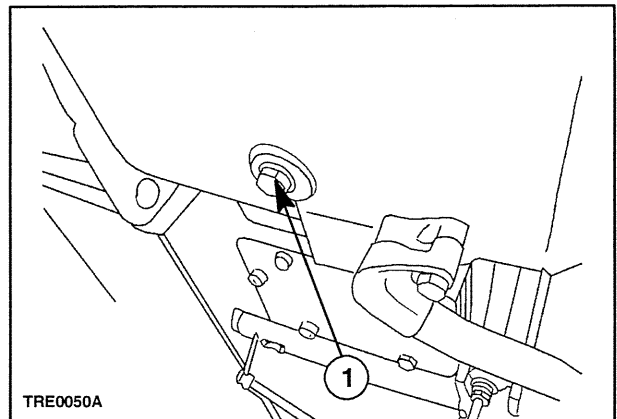
- fill the radiator with a mixture of **PREMIUM ANTIFREEZE MS 1710** and water and fit the radiator filler cap;
- Turn heating control (1) to red, (horizontal position **B**), start the engine and run it for approx. 5 to 10 minutes. (This operation is necessary to warm the coolant in the engine cooling system);
- Remove the upper radiator cap, turn the heating control (1) to a vertical position and run the engine at maximum power for around five minutes;
- Fill the radiator with the engine running at high speeds until it is completely full, and fit the cap.

OPERATION 51

TRANSMISSION AND HYDRAULIC LIFT OIL – Figs. 213 and 214

Transmission housing

Place a container under the left side of the housing, close to the fuel tank, and drain the oil via the plug hole (1) fig. 213.



213

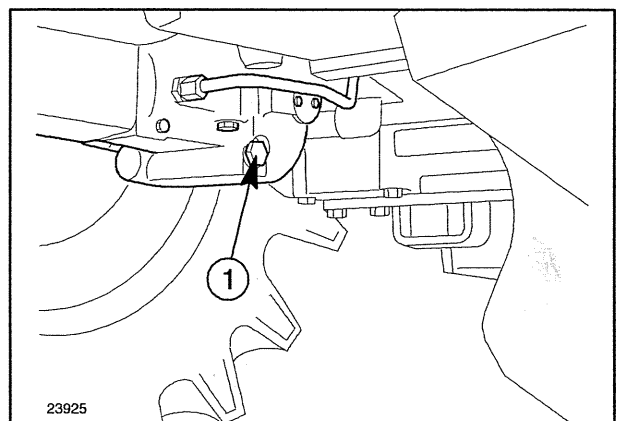
Final drive, 4-wheel drive

Place a container under the final drive housing and drain oil via plug hole (1) fig. 214.

Oil filters

Replace the hydraulic lift oil filter cartridge (operation 29) and hydrostatic steering and auxiliary systems filter (operation 31).

When you have drained the oil, replace and tighten the plugs and fill with new oil via fill point (1) Operation 34.



214

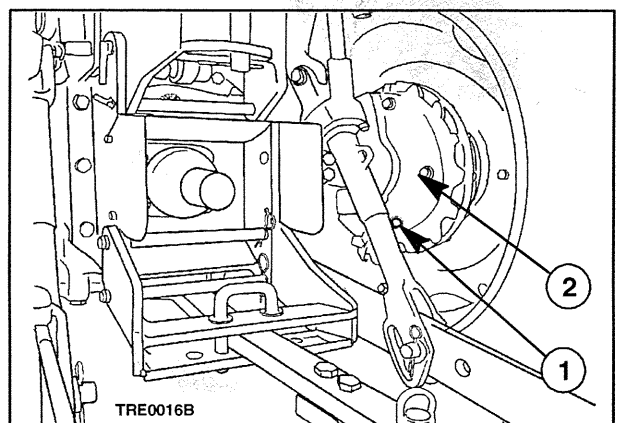
NOTE: For oil grades, see the lubrication chart on page 125.

OPERATION 52

FINAL REDUCTION OIL – Fig. 215

Place a container under the final housing and drain oil via hole (1) fig. 215.

When you have drained the oil, replace and tighten the plugs and fill with new oil via fill point (2) fig. 189.



215

NOTE: For oil quantity, see the lubrication chart on page 125.

GENERAL MAINTENANCE

BLEEDING THE FUEL SYSTEM

Bleeding procedure – Figs. 216 and 217

During long periods when the tractor is not used, when the filter and fuel lines are removed or when there is no fuel in the tractor, air may enter the fuel system.

The presence of air makes it difficult to start the engine and it therefore needs to be bled as follows when the fuel tank is refilled:

Unscrew the bleed plug (1) fig. 216 by approximately two turns.

Actuate lever (1) fig. 217 until fuel without air bubbles spurts from the bleed hole.

Tighten plug (1) fig. 216.

After tightening the bleed plug (1) fig. 216, actuate lever (1) fig. 217 a few times.

Turn the ignition key to position **C**, as shown in Section 2, fig. 19, page 38. As soon as the engine starts, release the key.

NOTE: Your engine is fitted with a rotary injection pump, whose internal components must be protected from rusting if not used for over a month. Therefore, before stopping the tractor, mix **PROT 10 W/M oil** with the fuel in the tank in a proportion of 10% and run the engine for approximately half an hour.

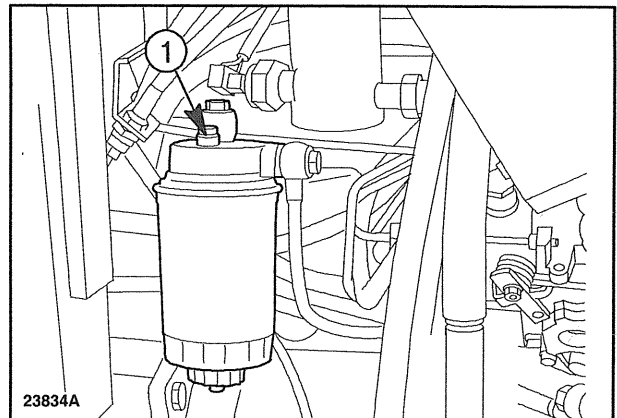
BLEEDING THE HYDRAULIC BRAKE SYSTEM

Bleeding procedure – Figs. 218 to 221

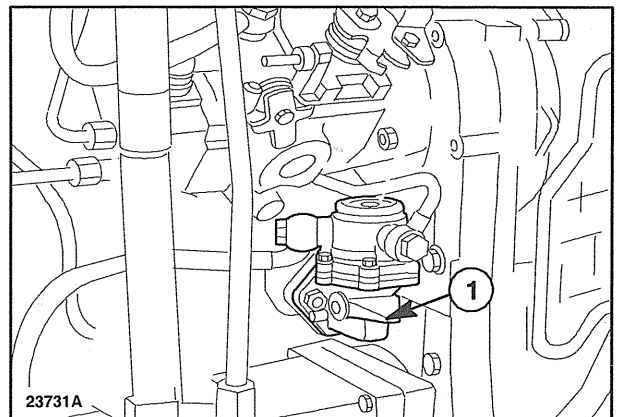
Whenever work is carried out on the front brake hydraulic system, the air must be bled from the system. Proceed as follows.

1. Thoroughly clean the external parts of the unit around the hydraulic fluid tank cap (2) fig. 218 and the bleed screws (1–2) fig. 219.
2. Make sure that the hydraulic fluid in the tank (1) 218 is maintained up to the full mark both before and during the bleeding operations.

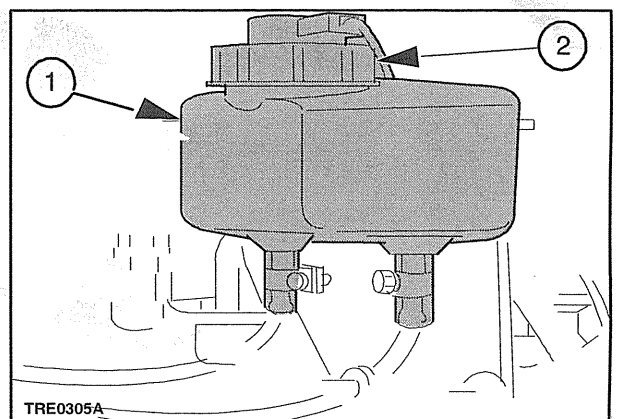
NOTE: Filter all drained oil before reusing.



216

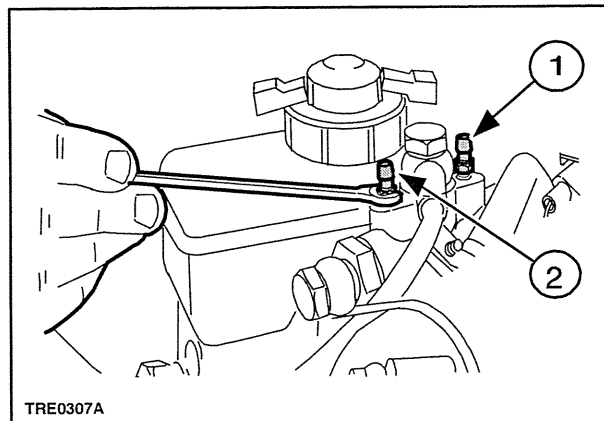


217

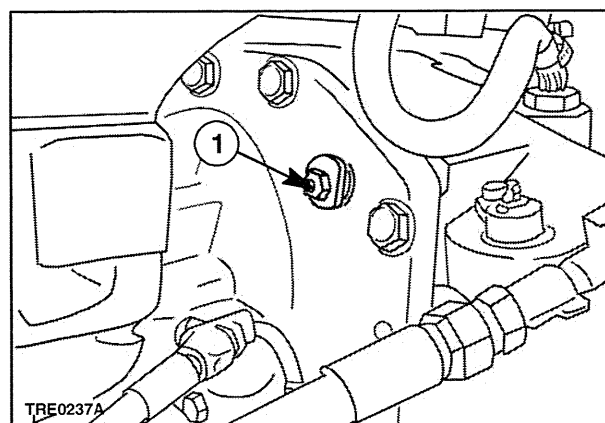


218

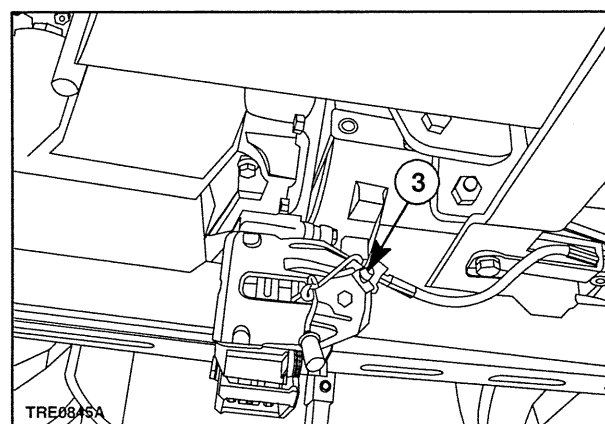
3. Depress the LH brake pedal, **slowly and to the end of its travel**, so that the fluid is placed under pressure.
4. Keeping the pedal depressed, loosen the bleed screw (1) fig. 219 by half a turn and allow the fluid mixed with air bubbles to flow out.
5. Retighten the screw (1) fig. 219 and repeat the above operations until the fluid that comes out is free of air bubbles.
6. Depress the LH brake pedal again to place the circuit under pressure. This occurs when the travel of the pedal returns to normal.
7. Repeat the above operations for the RH brake pedal by tightening or loosening bleed screw (2) fig. 219.
8. Depress the **LH** and **RH** brake pedal, slowly and to the end of the travel, so that the fluid is placed under pressure.
9. Keeping the pedals depressed, loosen the bleed screw (1) fig. 220 and (3) fig. 221 (optional for TD 60 and TD 70 models) by half a turn and allow the fluid mixed with air bubbles to flow out.
10. Retighten the screw (1) fig. 220 and (3) fig. 221 (optional for TD 60 and TD 70 models) and repeat the above operations until the fluid that comes out is free of air bubbles.
11. When the operation has been completed, replenish the fluid in the tank (1, fig. 218).



219



220



221

TRACTOR STORAGE

Take the following precautions if your tractor is going to remain unused for a prolonged period.

- 1 The engine is fitted with a rotary injection pump; follow the instructions provided in this section.
 - 1 Protect the engine as follows:
 1. For storage periods of approximately one month: no steps are necessary if the engine oil has not yet exceeded 100 hours of work. Otherwise, proceed as described in the paragraph below.
 2. For storage periods of over one month, drain the oil from the engine while hot, fill up the reservoir with **CASE IH No 1 oil** and run the engine for a few minutes at medium rpm.
 3. Remove the external air filter cartridge and clean according to the instructions provided in this section.
 4. Do not empty the engine cooling system. During winter, however, ensure that the proportions of the water-liquid mixture **ANTIFREEZE**, are as specified. To this end, follow the instructions on page 141 in this section.
 - 1 Clean the tractor and especially the bodywork. Protect painted parts by applying silicone wax, and unpainted metal parts with protective lubricants; always keep the tractor in a covered, dry and, if possible, ventilated place.
- 1 Check that all controls are left in neutral (including electrical switches and the parking brake control).
- 1 Do not leave the ignition key in the switch.
- 1 Ensure that the operating cylinder rods (hydrostatic steering, lift, etc) are closed up to protect them.
- 1 Fill the fuel tank up with diesel.
- 1 For tractors fitted with cabs, see page 181 in this section.
- 1 Remove the battery, clean the cover and smear the terminals and lead ends with petroleum jelly; next, place the battery in a ventilated spot not exposed to temperatures less than 50° F (10° C) and away from direct sunlight;
- 1 Check the battery charge condition using a voltmeter as described on page 174.
- 1 Fit stands or other suitable supports under the axles to raise the wheels off the ground. While the tractor is in a raised position, we recommend you let the air out of the tyres. Otherwise, raise the tractor and check the tyre pressure from time to time.
- 1 Cover the tractor with a non-plastic non-water-proof sheet.



CAUTION



When the engine is to be re-started at the end of the storage period, closely follow the instructions shown on page relating to starting the engine.

ELECTRICAL SYSTEM

BATTERY – Fig. 222

The tractors are fitted with maintenance-free batteries.

Keep the top part clean and dry.

Check that the level of electrolyte reaches the top mark and never falls below the lower mark.

If necessary lift covers (1) and add distilled water.



CAUTION

Never top up the battery with SULPHURIC ACID.

Never use rapid "boost" battery chargers to recharge the battery.

Check the charge with a digital voltmeter in the following way:

- connect the voltmeter to the battery's two terminals, matching the terminal symbols (negative to negative and positive to positive) and read the value from the instrument;
- compare the figure with the values in the table below to establish the charge in the battery.

Voltage (V)	Charge level (%)
12.66	100
12.45	75
12.30	50
12.00	25

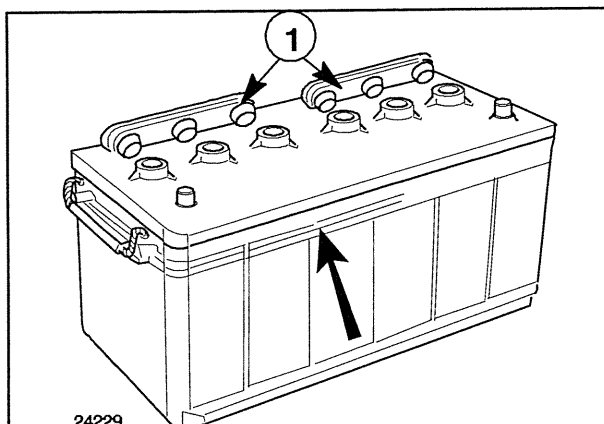
If the voltage is around 12.30 V or lower, immediately recharge the battery with a current equivalent to $\frac{1}{10}$ of the capacity in **Ah** a **50 Ah** battery is to be charged at **5 Amp**).

NOTE: If the battery frequently needs to be topped up or if it should tend to run down, have the electrical system of your tractor checked by your dealer.



CAUTION

Before recharging the battery, always disconnect the cables. The battery should be removed from its location and recharged at a safe distance from the tractor.



222



DANGER

When recharging the battery, keep the premises well ventilated and keep naked flames or cigarettes well away.

NOTE: Batteries and storage batteries contain components that may be damaging to the environment if incorrectly disposed of after use. The manufacturer strongly advises that all "dry" batteries, used in electrical or electronic systems, are returned to your authorised dealer. The dealer will dispose of (or recycle) the batteries correctly. This procedure is a legal requirement in certain countries.

NOTE: If it is necessary to replace the old battery with a new one proceed as follows:

- First disconnect the lead end marked with a negative sign (–), then the lead end with the positive sign (+);
- Fit the new battery in the correct position. Do not over-tighten the retaining screws;
- Clean the lead ends and connect them to the battery terminals, ensuring that the negative terminal (–) is connected last;
- Fully tighten the lead ends on the terminals and smear them with petroleum jelly.

ADVICE ON STARTING THE ENGINE WITH A FLAT BATTERY OR NO BATTERY

To prevent damage to the alternator and its incorporated voltage regulator follow the procedure below:

When *the tractor battery is partially discharged*, and an auxiliary battery has to be used to start the engine, connect the auxiliary battery to the tractor battery ensuring that *the terminal symbols match* (positive to positive and negative to negative). Connect the positive lead first followed by the negative lead.

Start the engine using the key start switch. When the engine starts, allow it to run at idle speed, turn on all electrical equipment (lights, etc.). This will help protect the alternator from possible damage due to extreme load changes. Now disconnect the auxiliary battery leads. Remove the negative lead first, followed by the positive lead.

If you have to start the engine with *a totally flat battery* or where the tractor *does not have a battery* remember that:

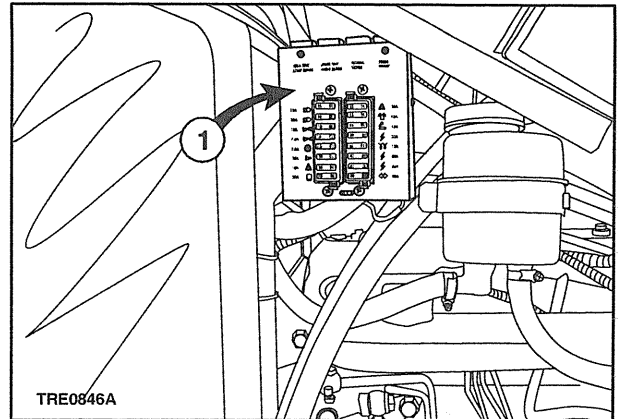
- *it is not possible* to start the tractor by towing as the electro-magnetically operated injection pump cut-off will prevent the engine from starting;
- *it is however necessary* to connect a 12 V auxiliary battery capable of starting the tractor

Under normal conditions, the engine must never be run unless plug *D+*, terminal *B+* and the condenser are disconnected from the alternator.

When recharging the tractor battery, it must be removed from the tractor to avoid possible damage to the alternator and related circuits. Observe the rule relating to lead connection (positive to positive and negative to negative).

MAIN FUSE AND RELAY BOX-**Fig. 223**

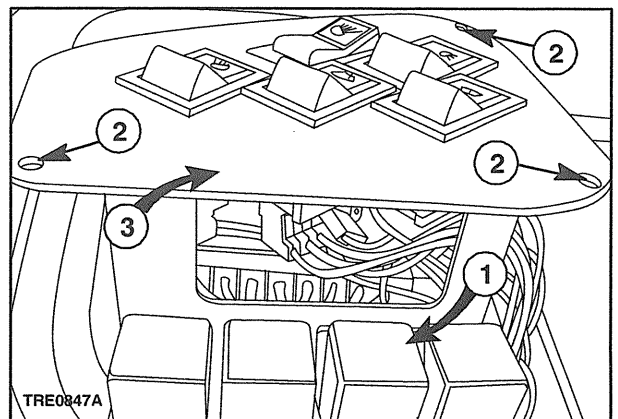
On all models, the fuse box (1) is located on the right-hand side of the engine compartment under the bonnet.



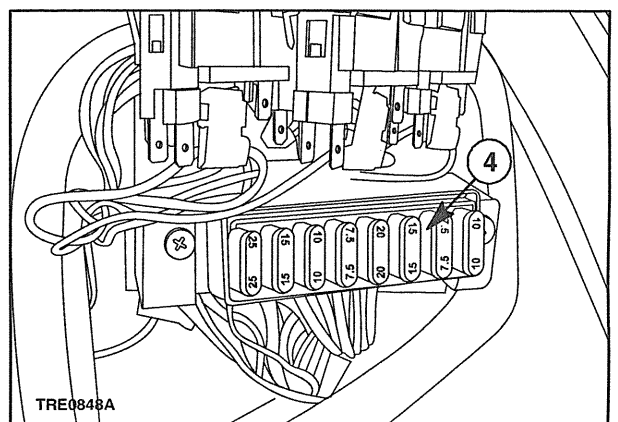
223

FUSES AND RELAYS (Inside cab) **Fig. 224– 225**

On tractors fitted with a cab, the fuses (1) and relays (4) are located inside the cab, beneath the right-hand console. To access the fuses and relays, remove the screws (2) and take off the cover (3).

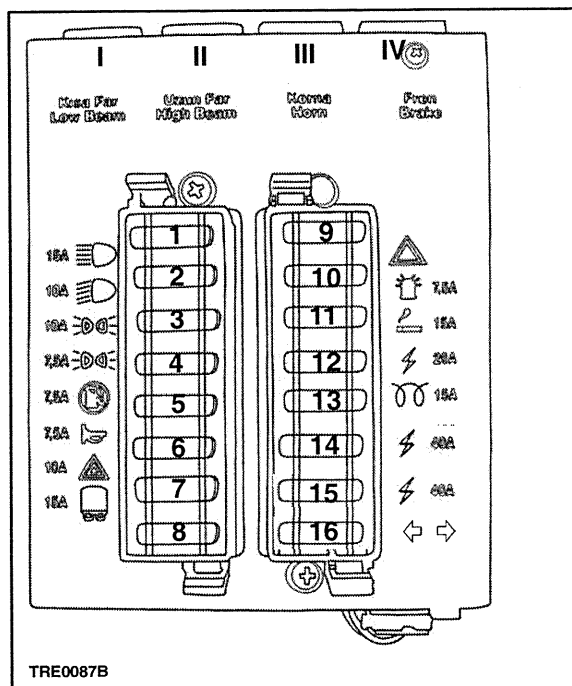


224



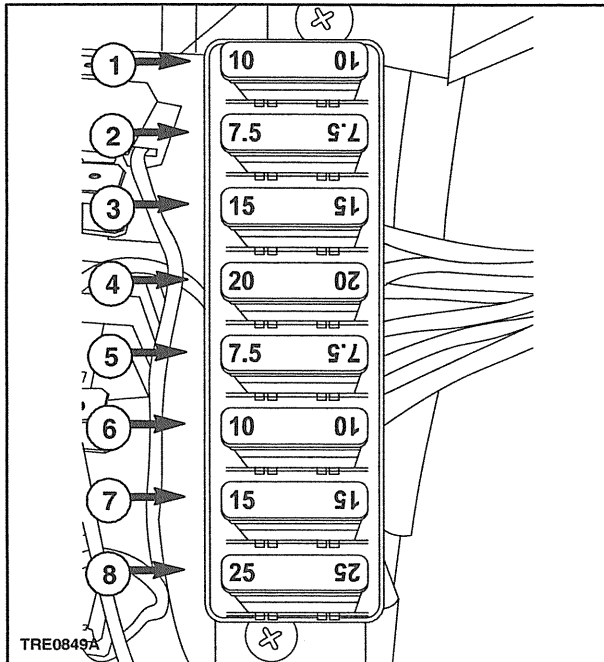
225

FUSES AND RELAYS MAIN BOX



226

<i>Fuses</i>	<i>PROTECTED CIRCUITS</i>	<i>Amps</i>
1	Main beam headlights	15
2	Dipped beam headlights	10
3	Front right and rear left side lights	10
4	Front left and rear right side lights	7,5
5	Engine shut-down solenoid	7.5
6	Instruments, turn signal switch, horn	10
7	Hazard warning switch, fuel sedimentor	10
8	Relays	20
9	Hazard warning switch	15
10	Beacon lamp, (radio, interior lamps- with cab models)	15
11	Cigarette lighter	15
12	Power for cab (with cab models)	30
13	Thermostart	15
14	Power socket (with cab models)	40
15	Power for cab (with cab models)	30
16	Turn signal switch	20
I	Dipped beam relay	-
II	Main beam relay	-
III	Horn relay	-
IV	Brake relay	-

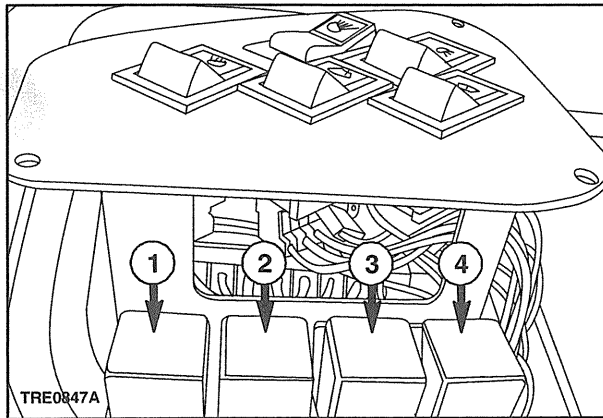
FUSES AND RELAY BOX (INSIDE CAB)**FIG- 227 – 228**

227

Fuses and protected circuits are listed below:

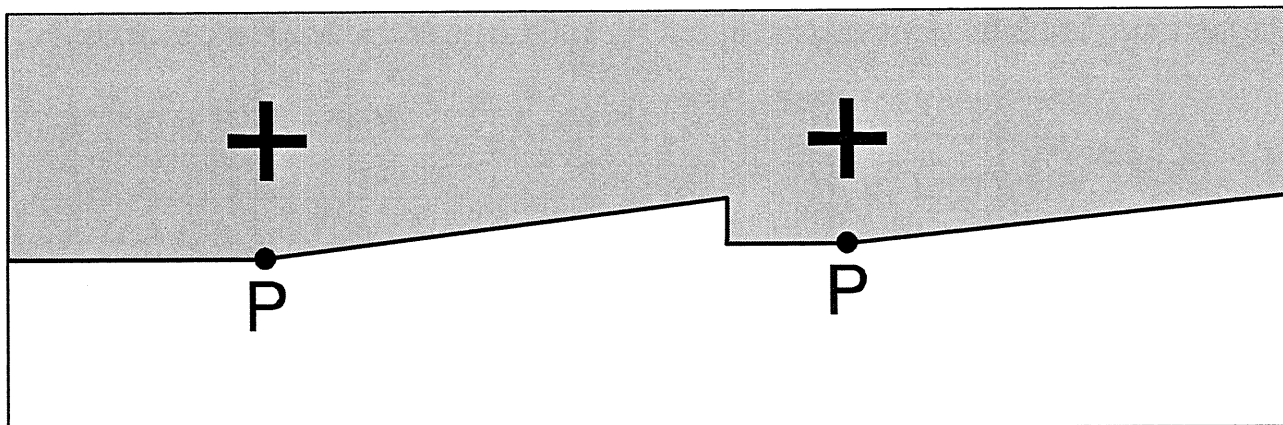
Fuses	PROTECTED CIRCUITS	Amps
1.	Front wiper	10
2.	Washer	7.5
3.	Beacon lamp, interior lamps, radio	15
4.	Heater/Air Conditioning	20
5.	Rear wiper	7.5
6.	Working lamps switches	10
7.	Front working lamps	15
8.	Rear working lamps	25

Relays and related circuits are listed below:



228

Relays	CIRCUITS
1.	Front work lights
2.	Rear work lights
3.	Power supply
4.	Power supply



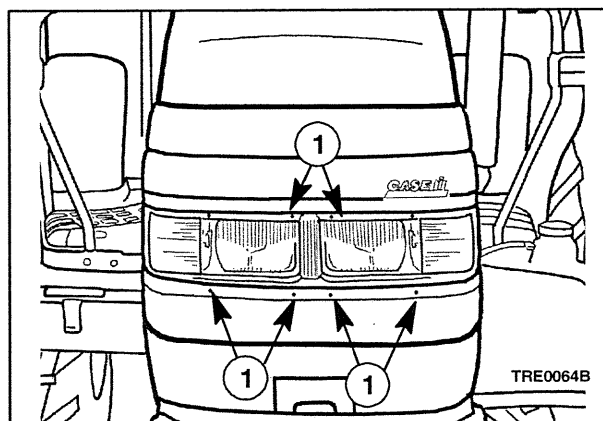
229

FRONT HEADLIGHT ADJUSTMENT – Figs. 229 and 230

Adjust the headlights as follows:

- Unload the tractor and inflate the tyres to the specified pressure on level ground in front of – if possible – a shaded white wall.
- Mark two crosses on the wall corresponding to the middle of the headlamps.
- Reverse the tractor about 5 metres (5.5 yards) and switch on the main beam headlights.
- Points **P – P** should be **5 cm** below the crosses.
- To adjust the light beams, turn the screws **(1)** to deflect the beams horizontally or vertically.

Replace bulbs which have blown by bulbs of the same power (55/60 W).



230

NOTE: Under the EC regulations, the maximum permissible overall width for tractors equipped with standard tail-lights is 2150 mm. With wheels set at maximum track width, the maximum overall width obtainable is 2315 mm for machines with ROPS, and 2510 mm for machines with cab. If these wider settings are adopted, the tail-lights must be mounted to special extendible arms (available on request) so that they can be adjusted to indicate the overall width of the tractor.

REPLACING THE FRONT HEADLIGHT BULBS – Fig. 231



WARNING

When handling halogen bulbs never touch the bulb. Touch only the metal part.

If the bulb comes into contact with your fingers, it will reduce the intensity of the light emitted and adversely affect service life. In the event of contact, clean the bulb with a cloth soaked in alcohol and leave to dry.

Replace blown bulbs as follows:

Unscrew the connector (1);

Remove the rubber protector (2);

Unclip the retaining spring (3) and unscrew the bulb counter-clockwise.

Replace the old bulb with another halogen one of the same power (55/60 W).

REPLACING THE REAR SIDE, STOP AND INDICATOR LIGHT BULBS – Fig. 233

Remove the transparent cover (1), press the defective bulb in, twist a $\frac{1}{4}$ turn counter-clockwise and remove it. Replace it with a bulb of the same power:

(2) Indicator light – 21 W;

(3) Brake lights and side lights – double filament, 21W/5W.

NOTE: The transparent amber cover must be fitted over the outer edge of the mudguard.

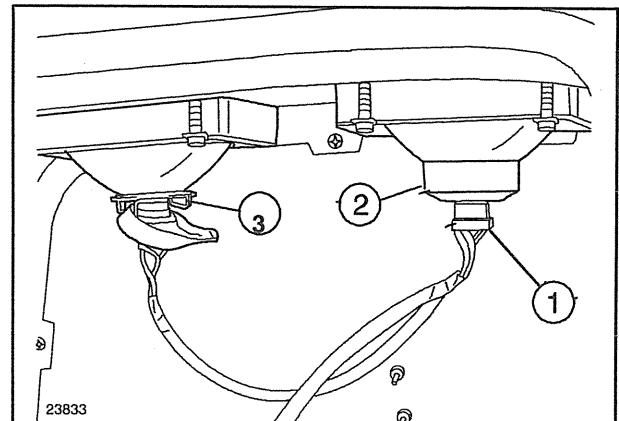
REPLACING THE FRONT SIDE, STOP AND INDICATOR LIGHT BULBS – Fig. 232

Remove the transparent cover (1), press the defective bulb in, twist a $\frac{1}{4}$ turn counter-clockwise and remove it. Replace it with a bulb of the same power:

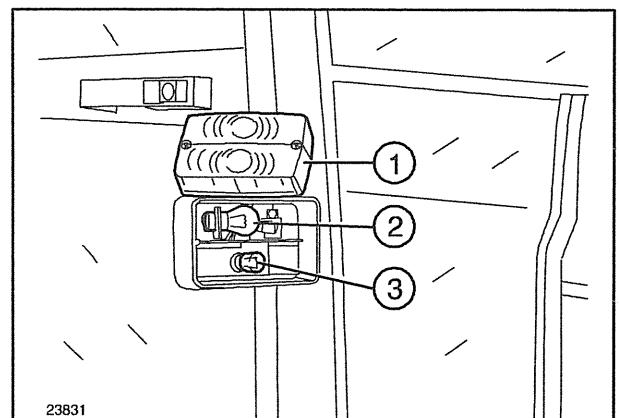
(2) Indicator light – 21 W;

(3) Side lights – 5 W.

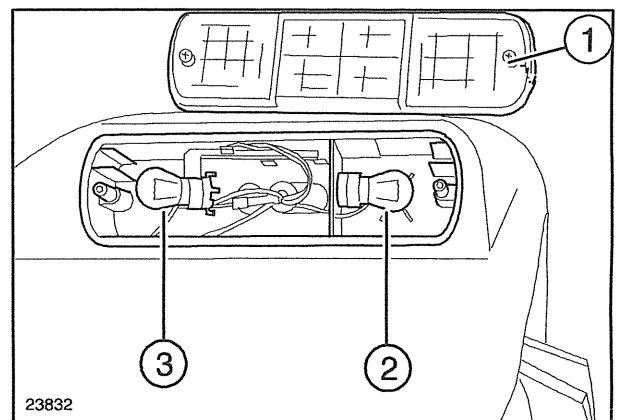
NOTE: The transparent cover must be fitted with the amber section above the clear section.



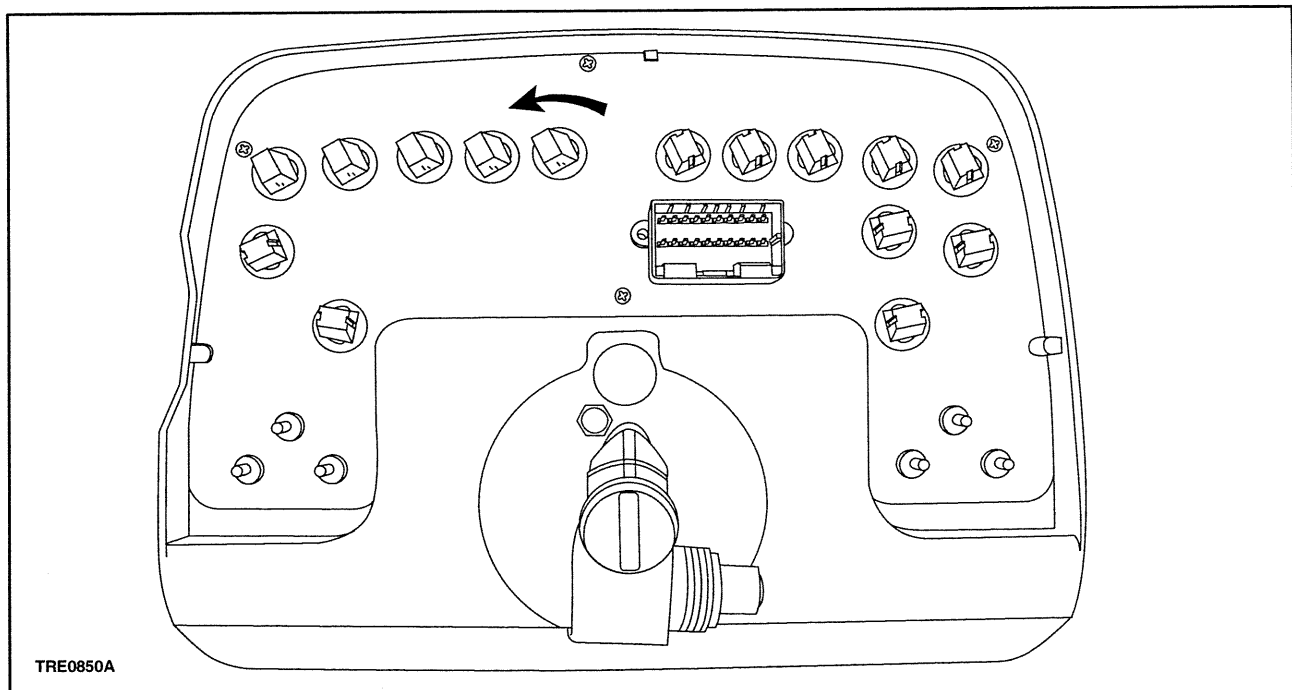
231



232



233

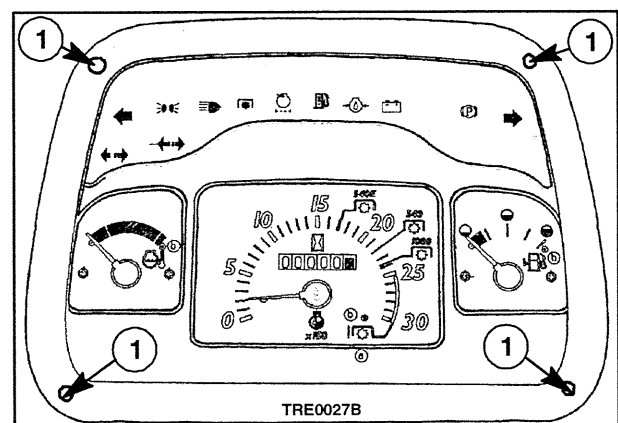


234

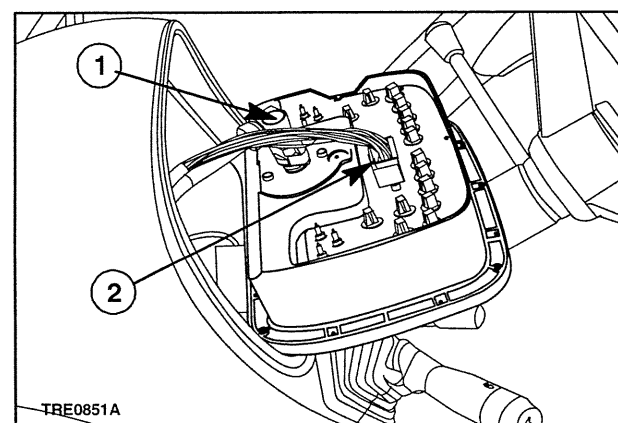
REPLACING THE WARNING LIGHTS IN THE INSTRUMENT PANEL

Replace warning/indicator bulbs as follows:

- Unscrew the four screws (1) fig. 235;
- Remove the instrument panel from its seat and disconnect terminal (1) fig. 236 from the tachometer;
- Disconnect connector (2) fig. 236 and remove the instrument;
- Unscrew the defective bulb, fig. 234, counter-clockwise by $\frac{1}{4}$ of a turn, remove and replace with a bulb of the same power.
- Alternator charge indicator – 3 W;
- All other bulbs – 2 W.



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RECOMMENDATIONS FOR BODYWORK MAINTENANCE

Protection against atmospheric agents

Over the years, the Company has introduced a series of measures to protect the tractor from the deterioration and corrosion which can be caused by various external elements, such as those listed below:

- salinity and humidity in the atmosphere;
- atmospheric pollution (industrial areas);
- abrasive action of solid substances;
- using tractor in the presence of aggressive chemical and/or organic substances;
- physical damage such as dents, abrasions or deep scratches.

The technical response to these problems was:

- highly corrosion-resistant zinc plating;
- paint systems and paints which help the tractor resist corrosion and abrasion;
- application of suitable hardened plastic-coatings to points which are particularly exposed to corrosion (edges, projections and sheet-metal welded joints);

Unfortunately, external agents act in various ways depending on environmental conditions and tractor use; if the user takes enough care, however, his tractor can be maintained in substantially better condition.

The following information is provided to help achieve this aim.

BODYWORK AND CAB

Where there are abrasions or deep scratches, which expose the underlying metal, they need to be retouched immediately with genuine products as follows:

- rub down the area thoroughly;

- apply the primer;
- leave to dry and then rub down lightly;
- apply the paint;
- lastly, polish.

The paint can normally be maintained by washing at intervals which vary depending on the conditions of use and the environment. In areas prone to atmospheric pollution and in coastal areas, wash more frequently, whereas if organic or chemical substances are present, wash *immediately* after the tractor is used. Use a low-pressure water spray, sponge down with a solution of 2 to 4% shampoo in water, rinsing the sponge frequently, rinse the tractor thoroughly and dry it, if possible, with an air jet.

Avoid washing the tractor after it has been standing in the sun and when the engine is still hot in order to protect the shine on the paint.

It is good practice to protect the paint by polishing it with specialised products (silicone waxes) from time to time and, when the paint starts to dull, you can use wax polish which has a slight abrasive action.

CAB MAINTENANCE

After carrying out the external maintenance of the cab, proceed as follows:

Periodically check that no water remains in areas covered with mats or padding.

Protect the hinges and locks on the doors, roof hatch and opening windows with lubricants and water-repellents.

Use suitable detergents or, if necessary, sulphuric ether to clean the windows.

Remove the windscreen wiper blade and sprinkle the rubber with talc.

Leave the door or a window partially open.

NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

TROUBLESHOOTING

LOCATING AND IDENTIFYING PROBLEMS

INTRODUCTION

The following information is intended to help in the identification and correction of any tractor faults or malfunctions.

PROBLEM CODES – AREAS AFFECTED

The following information lists problems which could arise, the reasons for them and appropriate corrective action. The areas affected are dealt with in the following order:

Engine	Hydraulic System	Brakes
Electrical system	Hydraulic lift	Cab

ENGINE

PROBLEM	POSSIBLE CAUSE	SOLUTION
The engine will not start or is difficult to start.	Incorrect starting procedure.	See starting procedure.
	Fuel level low or empty.	Check fuel level.
	Air in fuel system.	Bleed fuel system.
	Engine oil viscosity not right.	Use oil of right viscosity.
	Fuel not suitable for ambient temperature.	Use correct type of fuel for temperature conditions.
	Fuel system contaminated.	Clean system.
	Fuel filter clogged.	Replace filter element.
	Fuel injector fault.	Contact your dealer.
The engine does not run properly and/or cuts out.	Fuel system contaminated.	Clean system.
	Fuel injector fault.	Contact your dealer.
Engine does not reach maximum power.	Engine overload.	Change to lower gear or reduce load.
	Air filter clogged.	Carry out maintenance on air filter.
	Incorrect fuel type.	Use the right fuel.
	Low engine operating temperature.	Check thermostat.
	Fuel injector fault.	Have your dealer check the injectors.
	Implement incorrectly set.	See equipment manual.

ENGINE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine does not reach maximum power (cont.).	Valve clearance wrong.	Check and adjust.
	Idling speed too low.	Contact your dealer.
Abnormal engine knocking.	Oil level low.	Top up oil.
	Oil pressure low.	Contact your dealer.
Low engine operating temperature.	Thermostat malfunction.	Replace thermostat.
Oil pressure low.	Oil level low.	Add oil as required.
	Oil grade or viscosity wrong.	Drain and refill with oil of correct grade and viscosity.
Excessive oil consumption.	Oil level too high.	Reduce oil level.
	Oil viscosity wrong.	Use oil of correct viscosity.
	Oil leaking.	Repair leaks.
	Breather pipe filter clogged.	Replace breather pipe filter.
Engine overheating.	Radiator core clogged.	Clean.
	Engine overload.	Change to lower gear or reduce load.
	Engine oil level low.	Top up oil level.
	Coolant level low.	Top up fluid level in expansion tank; check system for leaks.
	Radiator cap defective.	Replace cap.
	Fan belt slipping or worn.	Check tensioning device; replace belt if worn.

ENGINE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine overheating.	Cooling system clogged.	Flush cooling system.
	Thermostat malfunction.	Check thermostat.
	Hoses leaking.	Tighten hose connectors.
	Temperature indicator or gauge malfunction.	Contact your dealer.
Excessive fuel consumption.	Wrong fuel type.	Use right fuel type.
	Air filter dirty or clogged.	Carry out maintenance on air filter.
	Engine overload.	Change to lower gear or reduce load.
	Valve clearance wrong.	Check and adjust.
	Equipment wrongly adjusted.	Refer to equipment manual for correct operation.
	Engine temperature too low.	Check thermostat.
	Too much ballast.	Adjust ballast to correct weight.
	Fuel injection nozzles clogged.	Have your dealer service the injectors.

ELECTRICAL SYSTEM

PROBLEM	POSSIBLE CAUSE	SOLUTION
The electrical system does not work.	Battery terminals loose or corroded. Sulphated battery.	Clean and tighten terminals. Check that battery charge is at least 12.6 volts; check electrolyte level and specific gravity.
Low starter motor speed and difficulty in starting engine.	Connections loose or corroded. Battery Engine oil viscosity wrong.	Clean and tighten loose connections. Check that battery charge is at least 12.6 volts; check electrolyte level and specific gravity. Use oil of viscosity specified for temperature conditions.
Starter motor does not work.	Gear lever engaged. Connections loose or corroded. Battery totally flat.	Move gear lever to neutral. Clean and tighten loose connections. Charge or replace battery.
Battery charge light stays on when engine is running.	Engine idling speed is low. Alternator belt loose. Battery fault. Alternator fault.	Increase idling speed. Check belt tensioning device. Check that battery charge is at least 12.6 volts; check electrolyte level and specific gravity. Have the alternator checked by your dealer.
Battery not charging.	Terminals loose or corroded. Battery. Belt loose or worn.	Clean and tighten terminals. Check that battery charge is at least 12.6 volts; check electrolyte level and specific gravity. Check belt tensioning device. If necessary, replace the belt.
The battery charge light flashes to indicate excessive charge voltage.	Alternator fault.	Have the alternator checked by your dealer.

HYDRAULIC SYSTEM

PROBLEM	POSSIBLE CAUSE	SOLUTION
The hydraulic system is not working properly.	Oil level low.	Top up system.
	Hydraulic filter clogged.	Replace hydraulic filter.
	Hydraulic system fault.	Contact your dealer.
Hydraulic fluid overheating.	Fluid level too high or too low.	Top up fluid level.
	Fluid filter element clogged.	Replace filter.
	Incorrect flow regulation.	Set to lower capacity.
Hoses not joined together properly.	Wrong male seals.	Replace seals with standard ISO $\frac{1}{2}$ in. connectors available from your dealer.
Automatic control valve pin release mechanism triggered too soon.	Automatic release pressure incorrectly set.	Adjust automatic release pressure setting.
Remote control does not work.	Hoses not connected correctly.	Connect hoses correctly.
	Check oil flow in half seals.	Actuate control levers; if problems persist, replace male half seals.
	System overload.	Reduce load or use a suitable cylinder.

HYDRAULIC LIFT AND 3-POINT EQUIPMENT COUPLING

PROBLEM	POSSIBLE CAUSE	SOLUTION
The linkage does not move when the control lever is actuated.	Linkage cylinder tubes not connected correctly	Connect linkage cylinder tubes correctly.
	Linkage overload.	Reduce load.
Linkage does not lift fully.	Link arm top limiter incorrectly set.	Adjust link arm top limiter.
The linkage lowers slowly.	Lowering speed control incorrectly set.	Have valves checked.
The hydraulic lift operates slowly in draft control.	Mixed control incorrectly set.	Adjust mixed control.
	Lowering speed too slow.	Have valves checked.
	Implement not working properly.	Adjust implement settings.
The hydraulic lift operates too fast in draft control.	Mixed control incorrectly set.	Have valves checked.

BRAKES

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pedals soft when engine off.	Air in braking system.	Contact your dealer.
Pedal depresses fully with engine off.	Brake piston seals leaking.	Contact your dealer.
	Brake discs worn.	Contact dealer.
	Brake release leaking.	Contact dealer.
	Brake valve(s) leaking.	Contact dealer.
Excessive pedal travel or resistance with engine running.	Brake valve(s) leaking.	Contact your dealer.
	Air in braking system.	Contact dealer.
	Brake piston seals leaking.	Contact dealer.
	Brake pipes leaking.	Contact dealer.

CAB

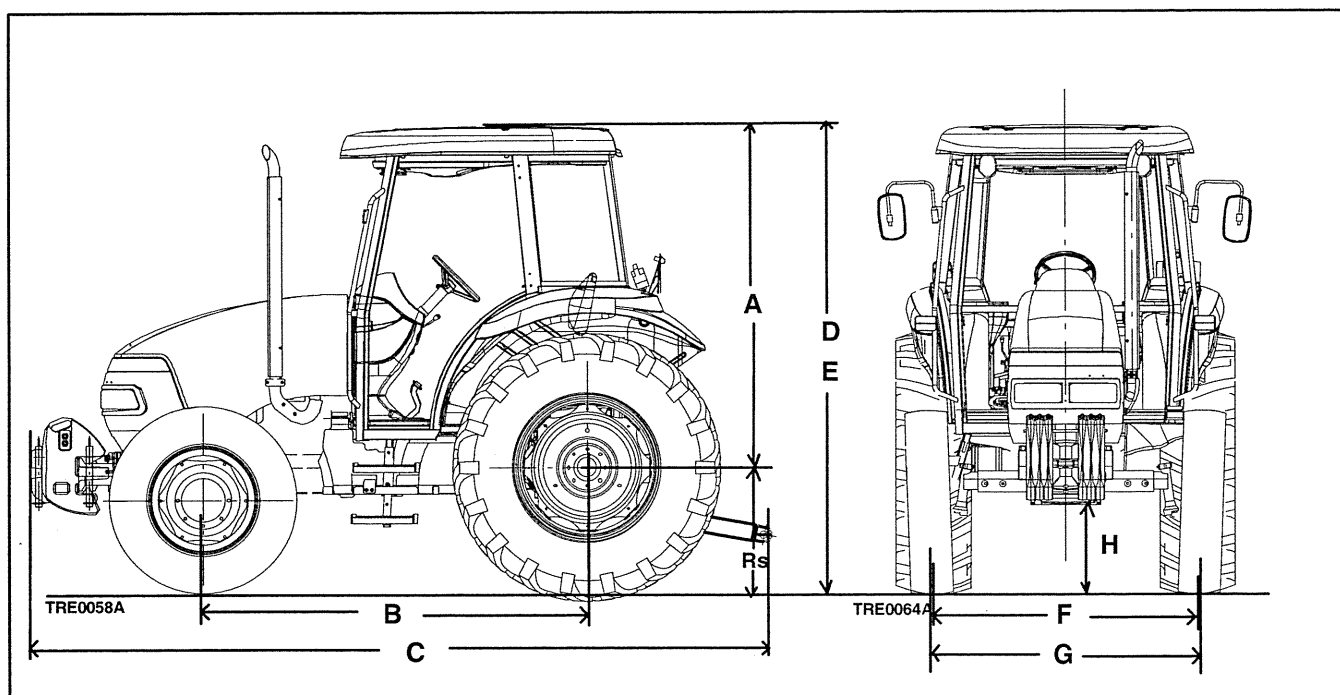
PROBLEM	POSSIBLE CAUSE	SOLUTION
Dust in cab.	Filter seal ineffective.	Check condition of filter seal.
	Filter clogged.	Clean or replace filter.
	Filter defective.	Replace filter.
	Excessive ventilation.	Close off ventilation.
Inadequate air circulation.	Filter clogged or air circulation filter clogged.	Clean or replace filter(s).
	Heater or humidifier radiator core clogged.	Contact your dealer.
Air-conditioning not cooling properly.	Condenser clogged.	Clean the radiator, oil exchanger and condenser.
	Refrigerant low.	Check the glass port to see if there are bubbles visible. Contact your dealer.
	Compressor belt slips or is damaged.	Check the automatic belt-tensioning device and condition of the belt.
	Heating on.	Turn the heater temperature control fully anti-clockwise for maximum cooling.

SPECIFICATIONS AND DATA

The specifications on the following pages are given for your information and guidance. For further information concerning the tractor, please consult your authorised dealer.

DIMENSIONS OF 2WD MODELS WITH STANDARD TYRES

Tyre Combinations	JX60	JX70	JX80	JX90	JX95
FRONT	7.50-16	7.50-16	7.50-16	7.50-18	7.50-18
REAR	14.9/13-30	14.9/13-30	16.9/14-30	18.4/15-30	18.4/15-34

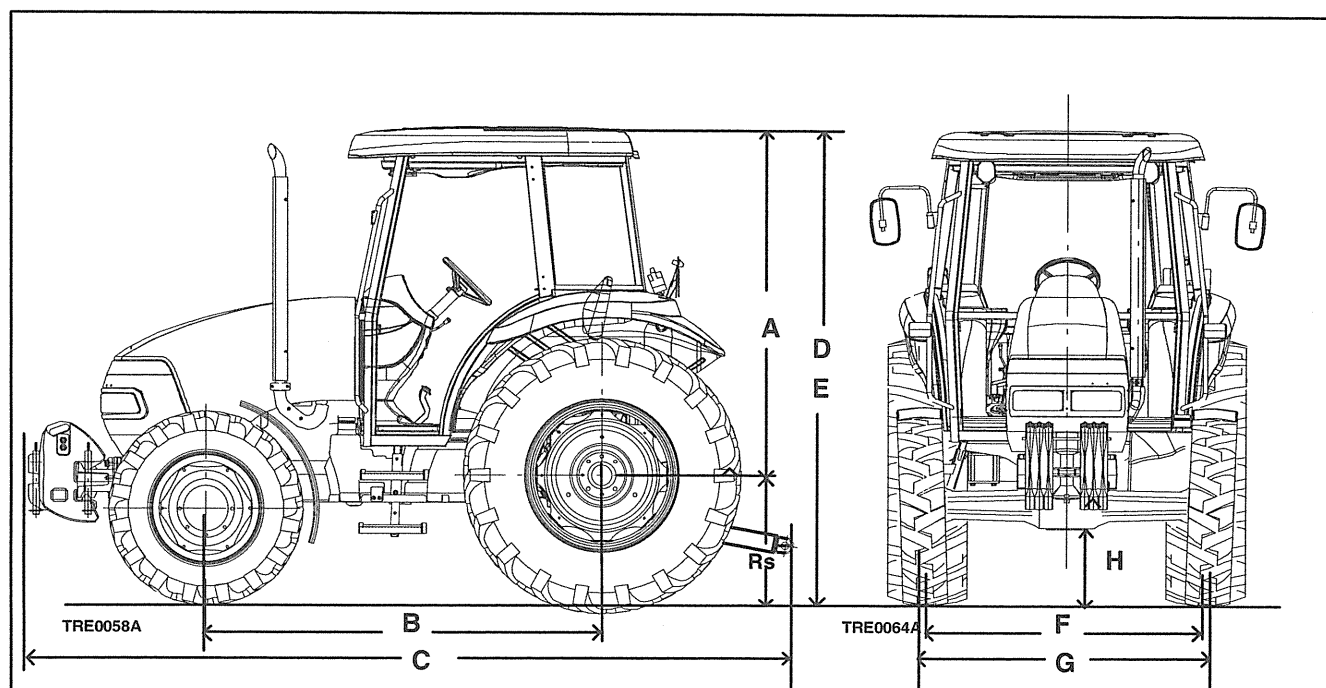


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Dimensions mm (in)		JX60	JX70	JX80	JX90	JX95
Tyre radius under load (Rs)		665 (26.13)	665 (26.13)	695 (27.31)	720 (28.30)	770 (30.30)
A	Cab	1878 (73.81)				
	ROPS	1896 (74.51)				
B		2175 (85.48)	2175 (85.48)	2305 (90.59)	2305 (90.59)	2388 (93.85)
C		3918 (153.98)	3918 (153.98)	4032 (158.46)	4032 (158.46)	4115 (161.72)
D (Cab)		$A_{cab} + R_s$				
E (ROPS)		$A_{rops} + R_s$				
F (front)		1400 –1900 (55–75)			1410 –1910 (56–75)	
G (rear)		1425–1925 (56–76)		1420–2025 (56–80)		
H		275 (10.83)	275 (10.83)	285 (11.22)	346 (13.62)	390 (15.35)

DIMENSIONS OF 4WD MODELS WITH STANDARD TYRES

Tyre Combinations	JX60	JX70	JX80	JX90	JX95
FRONT	9.50-24	9.50-24	11.2-24	12.4-24	12.4-24
REAR	14.9/13-30	14.9/13-30	16.9/14-30	18.4/15-30	18.4/15-34



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Dimensions mm (in)		JX60	JX70	JX80	JX90	JX95
Tyre Radius under load (Rs)		665 (26.13)	665 (26.13)	695 (27.31)	720 (28.30)	770 (30.30)
A	Cab	1878 (73.81)				
	ROPS	1896 (74.51)				
B		2119 (83.28)	2119 (83.28)	2249 (88.39)	2249 (88.39)	2332 (91.65)
C		3862 (151.78)	3862 (151.78)	3976 (156.26)	3976 (156.26)	4059 (159.52)
D (Cab)		$A_{cab} + R_s$				
E (ROPS)		$A_{rops} + R_s$				
F (front)		1450-1880 (57-74)			1550-1980 (61-78)	
G (rear)		1425-1925 (56-76)			1420-2025 (56-80)	
H		265 (10.43)	265 (10.43)	292 (11.50)	333 (13.11)	375 (14.76)

WEIGHTS (kg)

MODEL	Front support	Front end weights	Rear wheel weights	TOTAL
JX60	80	4x40 = 160	4x50 = 200	440
JX70	80	4x40 = 160	4x50 = 200	440
JX80	80	6x40 = 240	6x50 = 300	620
JX90	80	8x40 = 320	6x50 = 300	700
JX95	80	10x40 = 400	6x50 = 300	780

TRACTOR WEIGHT WITH ROPS

MODEL	without weights		with weights	
	2WD	4WD	2WD	4WD
JX60	2650	2920	3090	3360
JX70	2650	2920	3090	3360
JX80	2940	3420	3560	4040
JX90	2940	3420	3640	4120
JX95	3150	3580	3930	4360

TRACTOR WEIGHT WITH CAB

MODEL	without weights		with weights	
	2WD	4WD	2WD	4WD
JX60	2840	3080	3280	3520
JX70	2840	3080	3280	3520
JX80	3170	3600	3790	4220
JX90	3170	3600	3870	4300
JX95	3340	3770	4120	4550

ENGINE SPECIFICATIONS

Model	JX60	JX70	JX80	JX90	JX95
Engine type	IVECO				
	8035.05D.939	8035.25C.939	8045.05R.939	8045.25.939	8045.25L.939
BOSCH Injection pump	NA L976	TC L977	NA L985	LTC L982	TC L952
	4–stroke diesel, direct injection				
Naturally aspirated	YES	NO	YES	NO	
Turbocharged	NO	MITSUBISHI –GARRET	NO	MITSUBISHI–GARRET	
Number of cylinders	3		4		
Bore and stroke mm (in)	104 x 115 (4.1 x 4.5)	104 x 115 (4.1 x 4.5)	104 x 115 (4.1 x 4.5)	104 x 115 (4.1 x 4.5)	104 x 115 (4.1 x 4.5)
Total displacement cm ³ (cubic in)	2931 178.85	2931 178.85	3908 238.47	3908 238.47	3908 238.47
Compression ratio	18±0.5:1				
Engine max.2000/25 EC Power kW/rev/min HP/rev/min	43.5/2500 59.0/2500	50.5/2500 69.0/2500	58.5/2500 80.0/2500	65.5/2500 89.0/2500	69.0/2500 94.0/2500
Engine max. ECE R 24 Power kW/rev/min HP/rev/min	41.0/2500 56.0/2500	48.0/2500 65.0/2500	56.0/2500 76.0/2500	63.0/2500 86.0/2500	66.5/2500 91.0/2500
Maximum torque Nm / rev/min	207 / 1500	250 / 1500	279 / 1500	320 / 1500	337 / 1500
Dynamic equalizer with counter–rotating weights	N/A		YES		

TIMING

With overhead valves

Timing data

Inlet:

- start before TDC
- end after BDC

12°
31°

Exhaust:

- start before TDC
- end after BDC

50°
16°

Valve clearance:
..... mm (in)

0.45 (0.018)

Valve clearance, engine cold:

- inlet and exhaust mm (in)

0.35 ± 0.05 (0.012 ± 0.002)

FUEL SYSTEM

Double-diaphragm fuel pump on injection pump supply line.

Rotary injection pump with centrifugal speed governor operating at all speeds and incorporating automatic advance BOSCH VE-type

Fuel filtration:

- mesh filter in the fuel pump;
- replaceable cartridge filter in the injection pump feed line with water separator.

Fuel sediment filter (optional).

Double cartridge dry air filter, with centrifugal pre-filter and automatic dust extractor.
Optional: air filter with self-cleaning device (Donaspin).

MODELS	JX60	JX70	JX80	JX90	JX95
Engine injection pump, number of orifices :	3		4		
Before TDC of cylinder No. 1 on compression stroke (°) :	4±0.5	0±0.5	4±0.5	1±0.5	0±0.5
Injectors:	3 cyl.		4 cyl.		
– firing order	1–2–3		1–3–4–2		
– number of injection nozzles:	5				
– calibration: bar (Psi) kg/cm ²	260–272 (3770 to 3945) 265–277				

LUBRICATION

Pressurised, by gear pump. Oil filtration: pressurised through pump intake mesh and replaceable cartridge filter on engine intake.

Lubrication pressure with engine hot and at max. speed (Models JX60, JX70, JX80 and JX90): 2.9 – 3.9 bar (42.06 – 56.57 Psi) (3 – 4 kg/cm²). On JX95 model lubrication pressure : 5.0–6.0 bar (72.534–87.0408 Psi) (5.1–6.1 kg/cm²).

Engine oil cooled by a heat exchanger using engine coolant.

COOLING SYSTEM

Water, pressurised circulation by centrifugal pump.

Radiator with 3 lines of vertical copper pipes for JX60, JX70, JX80 and JX90 models, or 4 lines of vertical copper pipes for JX95 models.

Cooling fan fitted on same shaft as water pump.

Water circulation from engine to radiator thermostatically controlled.

TRANSMISSION

Clutch

Dry, double-plate, with separate controls: pedal operation for gearbox and hand lever for power take-off.

Disk material and diameter (inches):

MODEL		JX60	JX70	JX80	JX90	JX95
Engine	Organic	11”		—		—
	Cerametallic	—		11”		12”
PTO	Organic	11”				12”

GEARS

Permanently engaged helical mesh with 4 gear ratios.

Full synchromesh for all gears.

Range gear cascade connection with three forward gear ranges and one reverse gear range.

Speed	Gearbox	Model
30 km/h	12x4	Opt.
	12x12	Std.
	20x12	Opt.
40 km/h	12x12	Opt.
	20x12	Opt.

REAR TRANSMISSION

Bevel-gear ratio	30 km/h – 2WD	30 km/h – 4WD	40 km/h – 4WD
	9/43	9/43	11/43

Differential with pedal controlled locking device and automatic release.

Final drive : Pinion – gear type

POWER TAKE-OFF

Fully independent, in three versions: 540 rpm; 540, 750 and 1000 rev/min; (540 and 1000 rev/min not for all markets).

with engine running at :

PTO, rev/min	Engine, rev/min
540	2200
750 (540 Economy)	2380 (1715)
1000	2380

Ground speed pto (see page 77).

Manual control : clutch control lever, take-off engage lever and speed selector lever.

Direction of rotation, viewed from rear of tractor : clockwise.

HYDRAULIC SYSTEM

Operates in the following modes :

- draft control;
- position control;
- mixed control;
- float mode.

Draft control is through the link arms by means of a torsion bar.

The link-arms are raised and lowered using a pushbutton-operated device **Fast Raise / Lower Switch**.

Oil supply is from the transmission by gear pump operated directly by the engine:

type	C 31
– pump speed with engine at maximum power (rev/min) :	2328
– corresponding nominal flow: dm ³ /min / l/min (gal/min) :	40.1 (10.8)
– corresponding nominal flow (Mega Flow Pump*): dm ³ /min / l/min (gal/min) :	51.7 (13.6)
– pressure relief valve calibration (bar (Psi)) :	190 (2756)
(kg/cm ²)	194

* Optional

Maximum lift capacity

With lift rods located in rear holes of horizontal arms and upper hole of top link attachment bracket :

Model	JX60	JX70	JX80	JX90	JX95
at link ends of horizontal arms (kg)	3000		3565		
with center of gravity at 610 mm (24 in) from link ends (kg)	2260		2700		

THREE-POINT LINKAGE

Category I and Category II three-point linkage device.

Stabiliser device :

- Telescopic stabilisers (standard).

Single or double-acting rear remote control valves: up to three, one with float and automatic release.

FRONT AXLE

Central pivoting, telescopic, inverted "U" structure.

Track adjustment : by extending the axle.

FRONT WHEELS 2WD

Rims with integral steel wheel discs.

FRONT WHEELS 4WD

Wheels in two parts : steel wheel disc and rim.

Track adjustment : by interchanging rims to discs and to wheel hubs.

REAR WHEELS

Wheels in two parts: steel wheel disc and rim.

Track adjustment: by interchanging rims to discs and to wheel hubs.

NOTE: Tyre specifications are shown in section "Tyres/Wheels/Wheel tracks/Ballast".

STEERING

Hydrostatic control, independent circuit.

Metallic cartridge oil filter, fitted in oil reservoir.

Gear pump operated directly by the engine :

- pump type : C25*RP
- pump speed with engine at maximum power : rev/min 2328
- corresponding flow: dm³/min / l/min (gal/min) 26.5 (5.8)
- pressure relief valve calibration :

..... All 2WD models : 100 bar (1450 Psi, 102 kg/cm²)

..... All 4WD models : 125 bar (1813 Psi, 127 kg/cm²)

- minimum turning radius, two-wheel drive models : (without brakes)

..... JX60, JX70 models : 3.8 m (12.5 ft)

..... JX80, JX90 and JX95 models : 3.9 m (12.8 ft)

4-WD FRONT AXLE

Central pivoting axle and coaxial transmission shaft on the longitudinal axis of the tractor. No universal joints on transmission shaft. Differential with two planetary pinions.

Bevel gear pair ratios:

- JX60 and JX70 : 9/38
- JX80, JX90 and JX95 : 9/39

Minimum turning radius (m):

	JX60 and JX70	JX80, JX90 and JX95
4WD engaged		
brake assisted	3.6	4.1
without brakes	5.3	5.6
4WD disengaged		
brake assisted	4.2	4.5
without brakes	4.9	5.1

BRAKES

Rear service brakes

Oil-immersed disc brakes, fitted on differential axle shafts.

Hydrostatically operated with independent hydraulic circuits for right and left-hand brakes, operated by separate pedals.

Pedals are connected for simultaneous braking when driving on roads.

Front service brakes

Disc brake, hydrostatically controlled, mounted on front final drive.

Pedals are connected for simultaneous braking.

Parking brake on transmission

Disk brake, fully independent, mounted beneath gearbox and connected to pinion shaft. Mechanically operated by hand lever.

BODYWORK AND DRIVING POSITION

– With ROPS

Platform, instrument console and mudguards form a single, modular structure, suspended on 4 rubber blocks.

Pre-lined sheet metal mudguards with partially shaped galvanised layer.

Mounting structure for roll bar.

Fuel tank located on left-hand side under the platform.

Bonnet hinged at rear and held open by gas strut.

– With Cab

Mudguards and cab form a single integrated structure. Fuel tank located on left-hand side under the cab module.

Bonnet hinged at rear and held open by gas strut.

Seat

Padded, with parallelogram suspension, adjustable springing and position.

TOWING DEVICES

– Rear swinging drawbar.

– Rear height-adjustable rigid hook.

– Front pull-type hook.

ELECTRICAL SYSTEM

Voltage

12 V

Alternator

65 A for models JX60, JX70, JX80 and JX90. 85A for model JX95 .

Max. power with engine running at 2500 rpm – approximately; 540 W

Integral electronic voltage regulator

Battery

105 Ah (w/o cab) and 120 Ah (w/cab)

Starter motor

2.5 kW for JX60 and JX70 models

3.5 kW for JX80, JX90 and JX95 models

Lights

Two asymmetrical front headlamps using 55 W bulbs (white or yellow).

Two front light clusters including :

- side lights (5 W bulb) with white transparent cover;
- direction indicator (21 W bulb) with amber transparent cover.

Two rear light clusters including:

- side lights (5 W bulb) with red transparent cover;
- direction indicator (21 W bulb) with amber transparent cover;
- brake light (STOP) (21 W bulb) with red transparent cover;
- numberplate light, 5 W.

Red rear reflectors.

Instruments and accessories

- Multi-function instrument panel
- 7-pin DIN power socket.
- Thermostart
- Flashing hazard warning light indicator for tractor and trailer.
- Work lamps (55 W bulb).
- Beacon 55 W

NOTE: Under the EC regulations, the maximum permissible overall width for tractors equipped with standard tail-lights is 2150 mm. With wheels set at maximum track width, the maximum overall width obtainable is 2315 mm for machines with ROPS,

and 2510 mm for machines with cab. If these wider settings are adopted, the tail-lights must be mounted to special extendible arms (available on request) so that they can be adjusted to indicate the overall width of the tractor.

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