

ORIGINAL INSTRUCTIONS

OPERATOR'S MANUAL

T4.75F

T4.85F

T4.95F

T4.105F

Tractor

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EVERY 50 HOURS

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EVERY 100 HOURS

Transmission oil cooler	7-27
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EVERY 300 HOURS

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EVERY 500 HOURS

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EVERY 600 HOURS

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EVERY 1200 HOURS OR ANNUALLY

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EVERY 1200 HOURS OR EVERY 2 YEARS

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1 - GENERAL INFORMATION

Note to the Owner

This manual contains information concerning the adjustment and maintenance of your new equipment. You have purchased a dependable machine, but only by proper care and operation can you expect to receive the performance and long service built into this equipment. Please have all operators read this manual carefully and keep it available for ready reference.

Your NEW HOLLAND dealer will instruct you in the general operation of your new equipment. Your dealer's staff of factory-trained service technicians will be glad to answer any questions that may arise regarding the operation of your machine.

New Holland Top Service is also available. Call 1-866-NEWHLND (1-866-639-4563) or email: na.topservice@cnh.com.

Your NEW HOLLAND dealer carries a complete line of genuine NEW HOLLAND service parts. These parts are manufactured and carefully inspected to insure high quality and accurate fitting of any necessary replacement parts. Be prepared to give your dealer the model and product identification number of your new equipment when ordering parts. Locate these numbers now and record them below. Refer to the 'General Information' section of this manual for the location of the model and product identification numbers of your machine.

PLEASE RECORD THE FOLLOWING INFORMATION
Model:
Product Identification Number (PIN):



This is the safety alert symbol. It is used with and without signal words to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

WARNING

**Illustrations in this manual may show protective shielding open or removed to better illustrate a particular feature or adjustment.
Replace all shields before operating the machine.
Failure to comply could result in death or serious injury.**

W0012A

Engine tampering statement:

NOTICE: The fuel system and engine on your machine are designed and built to government emissions standards. Tampering by dealers, customers, operators and users is strictly prohibited by law. Failure to comply could result in government fines, rework charges, invalid warranty, legal action and possible confiscation of the machine until rework to original condition is completed. Engine service and/or repairs must be done by a certified technician only!

Improvements

CNH America LLC is continually striving to improve its products. We reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

Proposition 65

CALIFORNIA Proposition 65 Warning
Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm. Battery posts, terminals and related accessories contain lead and lead compounds. Wash hands after handling.

International symbols

TYPICAL APPLICATIONS	RECOMMENDED SI (METRIC) UNITS		IMPERIAL UNIT	
	NAME	SYMBOL	NAME	SYMBOL
AREA				
	hectare	ha	acre	ha
	square meter	m ²	square foot	ft ²
			square inch	in ²
	square millimetre	mm ²	square inch	in ²
ELECTRICITY				
	ampere	A	ampere	A
	volt	V	volt	V
	microfarad	μF	microfarad	μF
	ohm	Ω	ohm	Ω
FORCE				
	kilonewton	kN	pound	lb
	newton	N	pound	lb
FORCE PER LENGTH				
	Newton metres	Nm	pound inch	lb in
FREQUENCY				
	megahertz	MHz	megahertz	MHz
	kilohertz	kHz	kilohertz	kHz
	hertz	Hz	hertz	Hz
FREQUENCY - ROTATIONAL				
	revolution per minute	r/min	revolution per minute	r/min ^a
		rpm		rpm
LENGTH				
	kilometre	km	mile	mi
	meter	m	foot	ft
	centimetre	cm	inch	in
	millimetre	mm	inch	in
	micrometer	μm		
MASS				
	kilogram	kg	pound	lb
	gram	g	ounce	oz
	milligram	mg		
POWER				
	kilowatt	kW	horsepower	Hp
	watt	W	Btu/hour	Btu/hr
			Btu/minute	Btu/min
PRESSURE or STRESS (FORCE PER AREA)				
	kilopascal	kPa	pound per square inch	psi
			inch of mercury	inHg
	pascal	Pa	inch of water	inH2O
	megapascal	MPa	pound per square inch	psi

1 - GENERAL INFORMATION

TYPICAL APPLICATIONS	RECOMMENDED SI (METRIC) UNITS		IMPERIAL UNIT	
	NAME	SYMBOL	NAME	SYMBOL
TEMPERATURE (other than THERMODYNAMIC)				
	degrees Celsius	°C	degrees Fahrenheit	°F
TIME				
	hour	h	hour	h
	minute	min	minute	min
	second	s	second	s
TORQUE (includes BENDING MOMENT, MOMENT OF FORCE, and MOMENT OF A COUPLE)				
	newton meter	N m	feet-pounds	lb ft
			inch-pound	lb in
VELOCITY				
	kilometre per hour	km/h	mile per hour	mph
	meter per second	m/s	foot per second	ft/s
	millimetre per second	mm/s	inch per second	in/s
	meter per minute	m/min	foot per minute	ft/min
VOLUME (includes CAPACITY)				
	cubic meter	m ³	cubic yard	yd ³ (cu yd)
	litre	l	cubic inch	in ³
	litre	l	US gallon	US gal
			U.K. gallon	UK gal
			US quart	US qt
			U.K. quart	UK qt
	millilitre	ml	fluid ounce	fl oz
VOLUME PER TIME (includes DISCHARGE and FLOW RATE)				
	cubic meter per minute	m ³ /min	cubic foot per minute	ft ³ /min
	litre per minute	l/min	US gallon per minute	US gal/min
	millilitre per minute	ml/min	UK gallon per minute	UK gal/min
SOUND POWER LEVEL and SOUND PRESSURE LEVEL				
	decibel	dB	decibel	dB

Introduction

About this manual

⚠ DANGER

Improper operation or service of this machine can result in an accident.

Do not operate this machine or perform any lubrication, maintenance, or repair on it until you have read and understood the operation, lubrication, maintenance, and repair information.

Failure to comply will result in death or serious injury.

D0010A

This manual gives information for use of your machine, as intended and under the conditions foreseen by the manufacturer during normal operation and routine service and maintenance. Read and understand; keep it in good conditions and always safely store it in the provided pocket in the back of your seat for later easy retrieval. This manual does not contain all the information related to periodical service, converting and repairs to be carried out by professional service personnel. The Table of Contents page(s) are provided to have an overview of main manual's topics. A detailed alphabetic index is available at the end of this manual for locating specific items.

Normal operation

- Normal operation means the use of the tractor for the purpose intended by the manufacturer by an operator familiar with the tractor and the mounted or towed equipment and complying with the information for operation and safe practices, as specified by the manufacturer in this manual and by the decals on the tractor and the equipment.
- Normal operation includes the preparation and storage of the tractor, swinging components into work position and vice versa, adding or removing ballast and picking up and setting off attachments.
- Normal operation includes the adjustment and setting of the tractor and equipment, for the specific condition of the field and/or the crop.

Routine service

Routine service and maintenance means activities that must be done daily by an operator familiar with the tractor characteristics and complying with the information for routine service and safe practices, as specified by the manufacturer in this manual and by decals on the tractor, in order to maintain its proper function. Routine service includes activities such as fueling, cleaning, washing, topping up fluid levels, greasing, replacing of consumable articles such as lamp bulbs.

Converting, periodical service and repair

- Periodical service means activities that must be done at defined intervals by trained personnel familiar with the tractor characteristics and which are complying with the information for periodical service and safe practices, as

partly specified by the manufacturer in this manual and in other Company literature, in order to maintain the expected life time of the tractor.

- Converting means activities that must be done by professional service personnel familiar with the tractor characteristics and complying with the information for converting, as partly specified by the manufacturer in this manual, in assembly instructions or in other Company literature, in order to fit the tractor to a specific configuration.
- Repair means activities that must be done by professional service personnel only familiar with the tractor characteristics and complying with the information for repair, as specified by the manufacturer in the dealer's workshop manual, in order to restore the proper function of the tractor after a failure or degradation of performance.

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.

Cleaning the tractor

Your tractor is an advanced machine, fitted with an electrohydraulic control system. Care must be taken when cleaning the tractor, especially if a pressurized water cleaner is used.

Never stand too close to the tractor or direct the water jet on electrical components, seals or intake openings, etc. Never direct jets of cold water at the hot engine or exhaust.

Tractor intended use

NOTE: *Your tractor is designed according to European directives related to health and safety risks; though it has been designed to minimize all the potential risks it is mandatory to carefully read, understand and observe all the decals and labels and to always refer to information and prescriptions outlined in this manual to prevent all residual potential risks. If you need further assistance please do not hesitate to contact your dealer.*

Your tractor is designed and made to pull, carry and power a variety of mounted or towed equipment, although within some physical limits. The working speed and performance may depend on various factors, such as weather and terrain conditions. Though the tractor is designed to perform in combination with a variety of equipment, there may be a number of combinations of the above parameters for which there is severe degradation of performance of the tractor and/or its mounted or trailed equipment. If you notice degradation of performance, contact your dealer for assistance, he may have useful information for improvements, or a kit may be available to enhance the performance.

Please carefully read and consider the following precautions:

- Do not use the tractor for purposes other than those intended by the manufacturer and outlined in this manual.
- Do not use the tractor beyond its limits of terrain gradient and stability. Using the tractor beyond these limits may result in roll-over or tip-over. Observe the recommendations in this manual.
- Do not use the tractor at higher speeds than those allowed by the load and the environment. A wet surface or other low adherence conditions may increase the braking distance or result in vehicle instability. Always adapt your travelling speed according to the load of the vehicle and the characteristics of the road.
- Do not use the tractor near or on soft verges of canals and brooks or banks and verges that are undermined by rodents. The tractor may sink sideways and roll over.
- Do not use the tractor on unstable crossings or bridges and/or on soft surfaces or ones that are not strong enough. These constructions may collapse and cause roll-over of the tractor. Always inspect the condition and carrying capacity of bridges and ramps before crossing.
- Do not use equipment mounted on the tractor which is not correctly matching and firmly fixed. The use of implements or accessories that have not been approved or are not correctly connected may increase the risk of roll-over of the tractor if they come loose. Ensure that the dimensions of the three-point linkage interface of both the tractor and the equipment comply with the categories defined in ISO 730. Ensure that the dimensions and speed of the PTO shaft on the tractors match those of the equipment.
- Do not use the tractor in combination with equipment without having consulted the specific Operator's Manual provided with the equipment. The tractor is a universal tool to carry, tow and drive a variety of equipment. This manual alone cannot provide you with all the information required for the safe operation of the combination.
- Do not use the tractor for pulling work, in cases where you do not know whether the load will yield, for instance when pulling stumps; the tractor may flip over when the stump is not yielding.
- Be cautious that the centre of gravity of the tractor may increase when loads on the front-end loader or the three-point linkage are raised. In these conditions, the tractor may roll over earlier than expected.
- Do not step down from the tractor without shutting down the PTO, shifting the transmission to park or neutral and applying the park brake, unless continued PTO operation is required for some equipment, such as pumps or wood chippers. The latter equipment may have an emergency stop device on the equipment itself, as human intervention is needed during operation. But other equipment, engaged and driven by the tractor will have no means to stop the power transmission, other than the PTO clutch of the tractor.
- You must take the necessary precautions (e.g. assistance) to always be aware of the possible presence of bystanders, especially when manoeuvring in confined areas, such as the farm yard and sheds. Keep people away from the tractor during work. Ask bystanders to leave the field. There is not only the risk of being run over by the tractor, but objects ejected by some equipment mounted on the tractor, such as a rotary mower, may cause harm. Stones may be thrown further than the mowed crop. Pay the necessary attention while operating next to public roads or footpaths. Thrown objects can be projected outside the field and hit unprotected people such as cyclists or pedestrians. Wait to cut the edge of the field till it is clear of bystanders.
- Do not allow riders on the tractor; do not allow people to stand on the access step to the cab when the tractor is moving. Your view to the left will be obstructed and a rider risks falling from the tractor during unexpected or abrupt movements.
- Always stay clear from the implements operating area and especially do not stand between the tractor and the implement or the trailed vehicle when operating lift controls; ensure no bystanders are near these operating areas.
- Certain functions of your tractor are controlled by software and some of them are safety-related. Do not attempt to modify or download software not certified and distributed by the manufacturer. Electronic settings and logics may be destroyed and seriously affect the functioning of the tractor. This may result in unpredictable and unsafe behaviour of the tractor. Always refer to your dealer; he has the appropriate tools and data sets

- and owns the officially released software versions and updates for your tractor.
- Your tractor may be equipped with a number of sensors to control safety functions. Tripping these sensors will result in a safe operation mode. Do not attempt to bypass any function on the tractor. You will be exposed to serious hazards, and moreover, the behaviour of the tractor may become unpredictable.
 - The tractor has only one operator station and this is a one man operated vehicle. There is no need for other people on or around the tractor during normal operation. Do not allow riders on the tractor; do not allow people to stand near the access to the cab or on the step when the tractor is moving. Your view to the left will be obstructed and a rider risks falling from the tractor during unexpected or abrupt movements.

Ecology and the Environment

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:

- Find out what the relevant legislation in your country stipulates.
- 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 cases, 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 anti-freeze liquids and solutions, e.g. anti-freeze 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 or specialised personnel, who are equipped with the appropriate equipment and are authorised to re-fill 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.
10. Do not adjust the setting of the fuel delivery system as this will alter the emission of exhaust fumes.

NOTICE: *The fuel system and engine on your machine are designed and built to government emissions standards. Tampering by dealers, customers, operators and users is strictly prohibited by law. Failure to comply could result in government fines, rework charges, invalid warranty, legal action and possible confiscation of the machine until rework to original condition is completed. Engine service and/or repairs must be done by a certified technician only!*

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.

FRAME IDENTIFICATION DATA PLATE

ROPS FRAME IDENTIFICATION DATA PLATE

FRAME AND ENGINE TYPE IDENTIFICATION SUMMARY DATA PLATE

STANDARD FRONT AXLE IDENTIFICATION PLATE

ENGINE IDENTIFICATION DATA PLATE

The plate with the engine data installed on the tractor is fitted on the right or left hand side of the engine (depending on the model).



1 - GENERAL INFORMATION

(A)

FRAME IDENTIFICATION DATA PLATE

The tractor's frame number is stamped over the front support. It gives the safety frame identification data.

(B)

CAB IDENTIFICATION PLATE

The cab identification plate is located at the rear on the left-hand side as shown in the figure.

(C)

FRAME AND ENGINE TYPE IDENTIFICATION SUMMARY DATA PLATE

The plate groups the identification data with your machine's frame number and engine number.

(D)

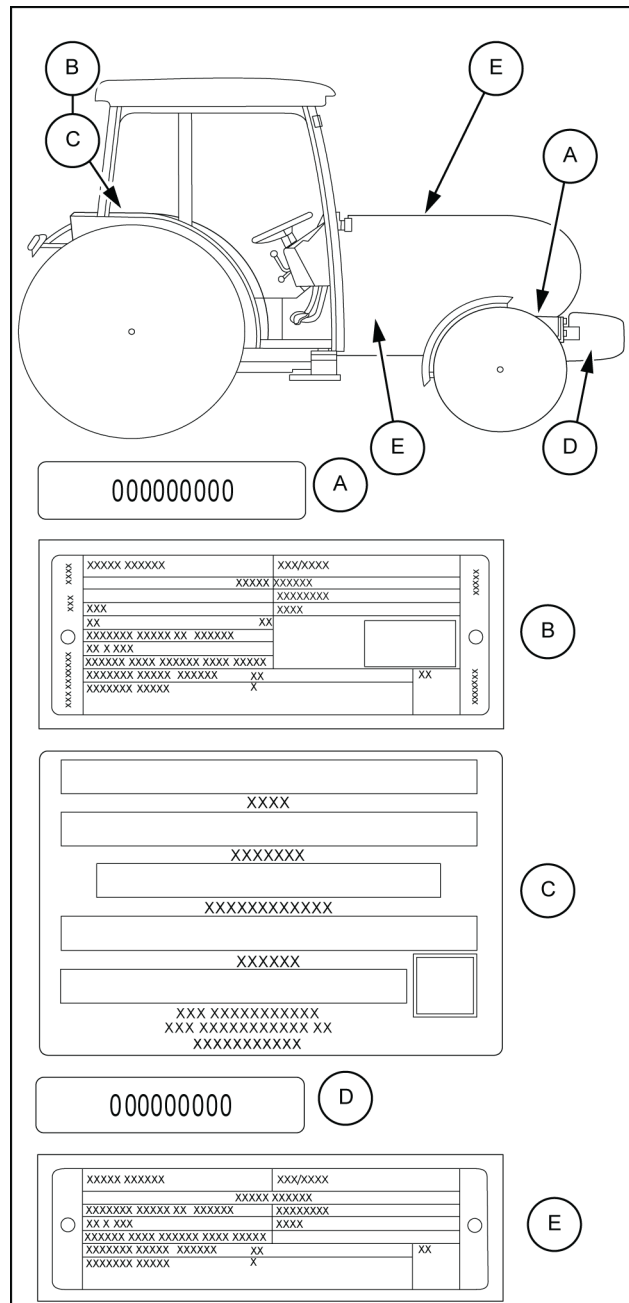
STANDARD FRONT AXLE IDENTIFICATION PLATE

The plate is located on the component and gives the identification data for the axle fitted on the machine.

(E)

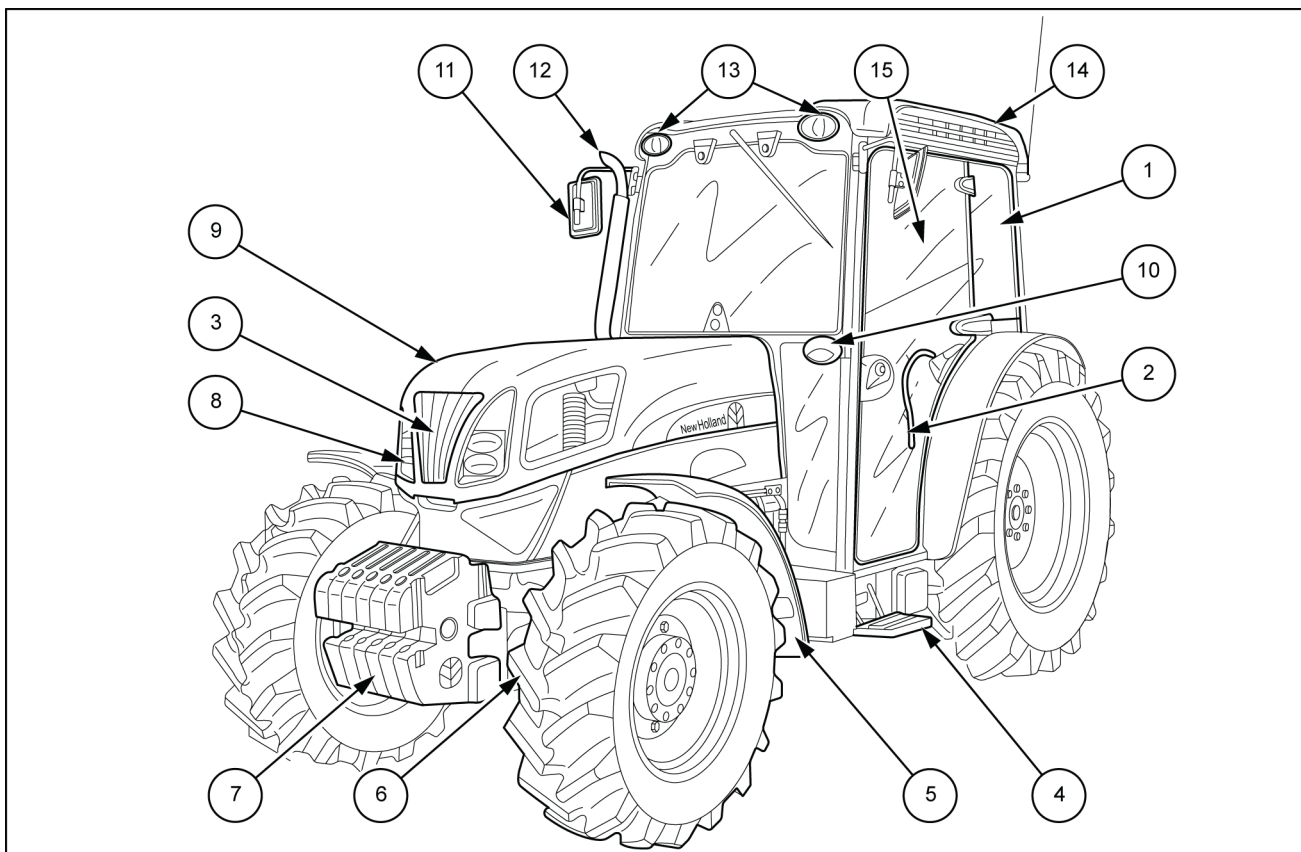
ENGINE IDENTIFICATION DATA PLATE

The plate with the engine data installed on the tractor is fitted on the right or left hand side of the engine (depending on the model).



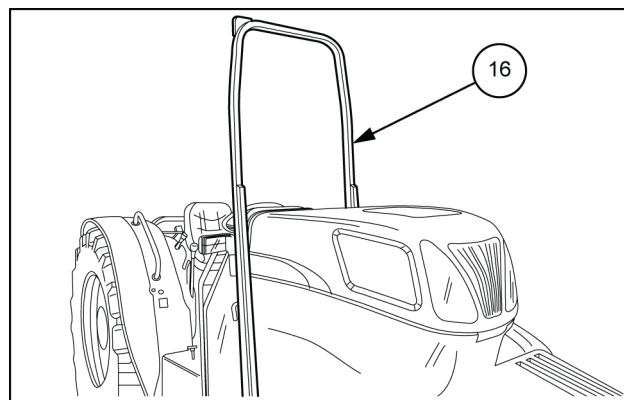
MOIL13TR00764CA 2

Component Identification



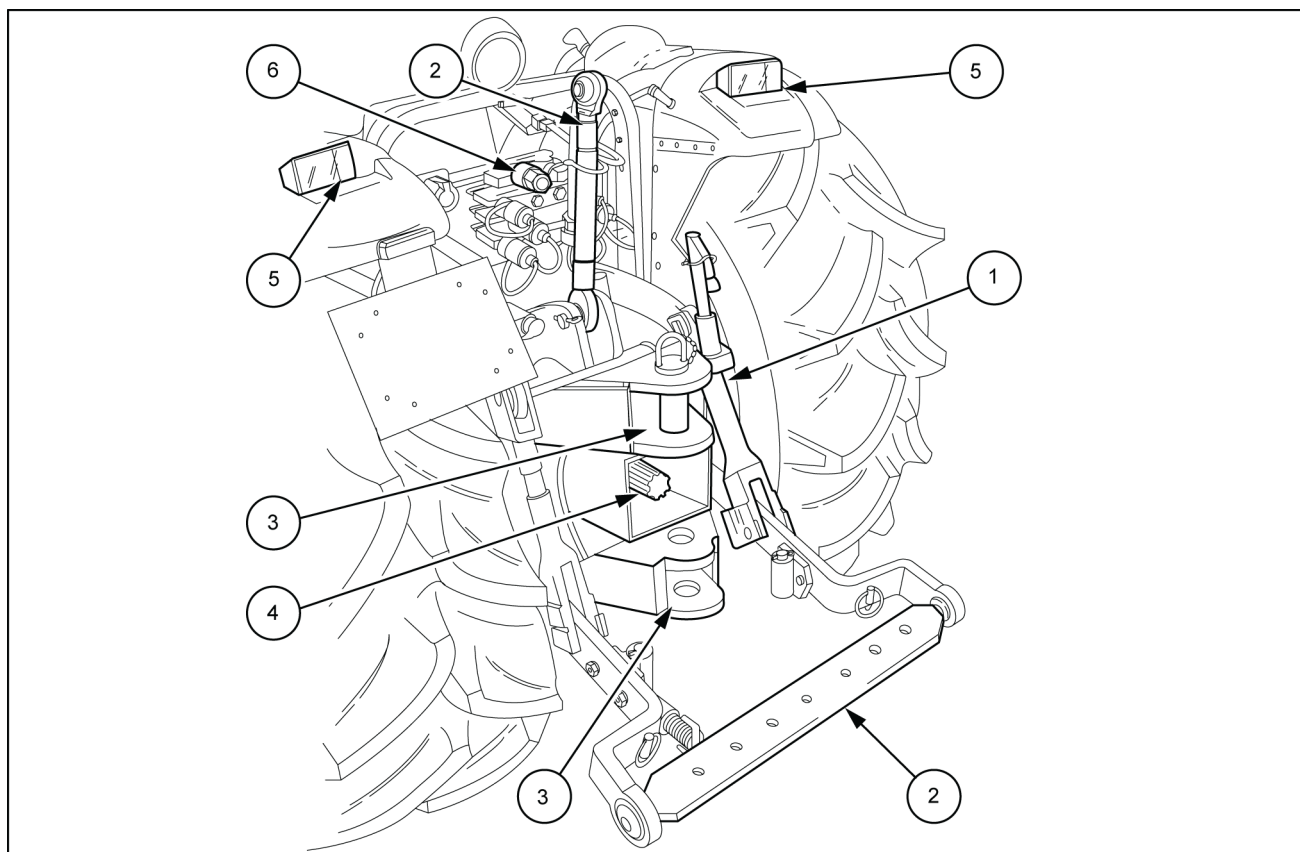
MOIL13TR00772FA 1

1. Cab
2. Hand rail
3. Fuel tank
4. Steps
5. Transmission
6. Front axle
7. Ballast
8. Front light
9. Hood/Engine
10. Indicator light
11. Rear view mirror
12. Exhaust stack
13. Front work lights
14. Rear work lights
15. Rear widow emergency exit
16. R.O.P.S. (Roll Over Protective Structure)



MOIL13TR00756AA 2

1 - GENERAL INFORMATION



MOIL13TR00771FA 3

1. Rear axle
2. Three point linkage
3. Hitch
4. Power take off
5. Rear lights
6. Remote control valves

2 - SAFETY INFORMATION

Safety rules and signal word definitions

Personal safety



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual and on machine decals, you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

 **DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury. The color associated with DANGER is RED.

 **WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury. The color associated with WARNING is ORANGE.

 **CAUTION**, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. The color associated with CAUTION is YELLOW.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: Notice indicates a situation which, if not avoided, could result in machine or property damage. The color associated with Notice is BLUE.

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

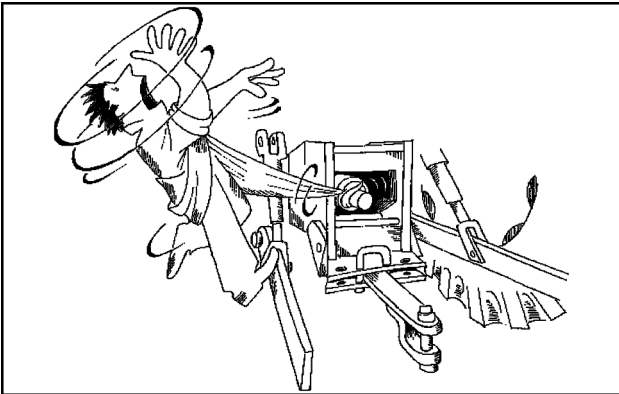
Information

NOTE: Note indicates additional information which clarifies steps, procedures, or other information in this manual.

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

Safety information

1. 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.
2. Read this manual carefully before starting, using, carrying out maintenance, refuelling or performing any other type of operation on the tractor.
3. 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.
4. 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.
5. Remember that the tractor is exclusively designed for agricultural use. Any other use will require prior authorisation from NEW HOLLAND.
6. It is advisable to keep a first aid kit on hand.
7. The tractor must only be used by responsible personnel, trained in tractor use and authorised to operate the machine.
8. Do not alter the injection system calibration in an attempt to increase maximum engine speed set by the Manufacturer.



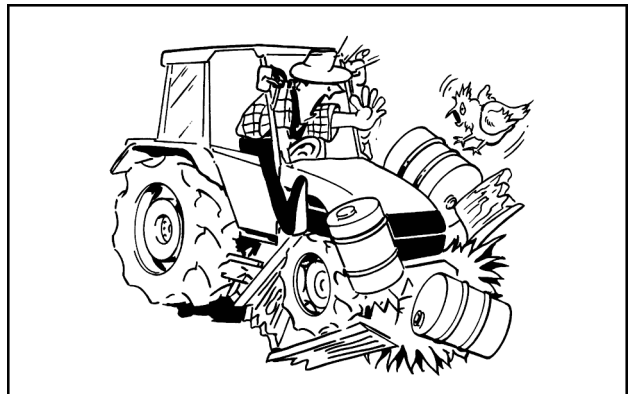
DCSFTNEGB001S1A 1

9. 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.
10. Do not alter the calibration of the pressure relief valves in the various hydraulic circuits (hydrostatic steering, hydraulic lift, auxiliary distributors, etc.).
11. Avoid using the tractor in unsuitable physical conditions, stop work instead.
12. Enter and leave the tractor using the steps and handles provided. Keep these fittings free of mud and debris.

13. 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.

Starting the tractor

1. Before starting the engine, check that the handbrake 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.
2. Before starting the engine, make sure that all attached implements are lowered to the ground.
3. Before starting the engine, check that all covers and guards are correctly in position (roll bar, bonnet side panels, power take-off guard, front axle transmission shaft cover, etc.).
4. Never start or manoeuvre the tractor unless seated in the driving position.



DCSFTNEGB002S1A 2

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

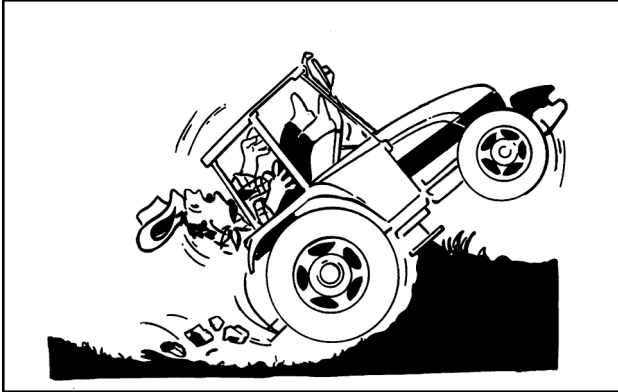


DCSFTNEGB003S1A 3

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

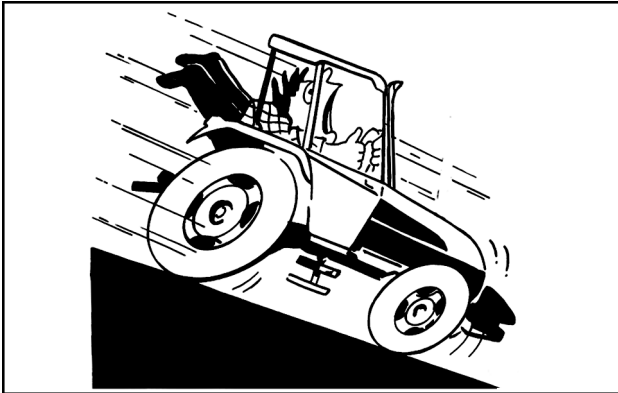
Use of the tractor

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



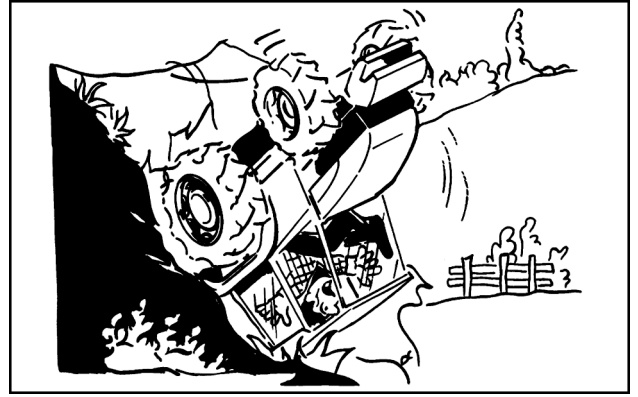
DCSFTNEGB004S1A 4

2. 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. Release the clutch immediately if the front wheels start to lift.



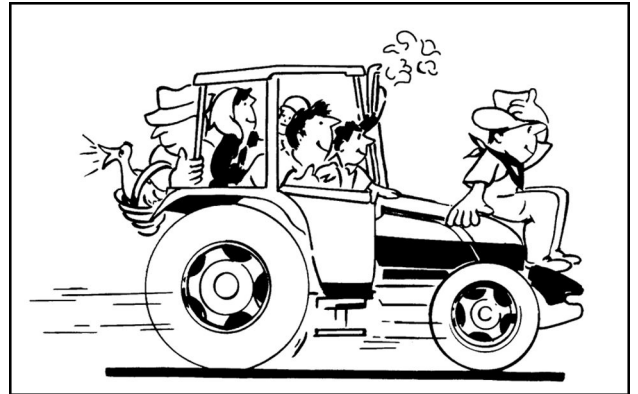
DCSFTNEGB005S1A 5

3. When travelling downhill, keep the tractor in gear. Never release the clutch and never leave the gears in neutral.
4. When the tractor is moving, the operator must remain correctly seated in the driving position.
5. Never get on or off the tractor while in movement.
6. When using the brakes, press the pedal down slowly.
7. Avoid taking bends at high speeds.
8. 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.
9. If you have to work with the tractor on a gradient, for example on hillsides, drive at moderate speed especially when taking bends.



DCSFTNEGB006S1A 6

10. Proceed with maximum caution when working with the wheels near the edge of ditches or slopes.
11. When driving on public highways, observe the Highway Code.
12. When driving, do not rest your feet on the brake or clutch pedals.



DCSFTNEGB007S1A 7

13. Never carry passengers, not even inside the cab, unless the machine is fitted with an approved extra seat.
14. 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

1. To guarantee tractor stability when moving, adjust the hitching device according to the trailer or implement to be used.
2. Drive slowly when towing extremely heavy loads.
3. For your own safety, do not tow trailers that are not fitted with an independent braking system.
4. 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, since in the latter case there is a danger of rearing up or overturning.

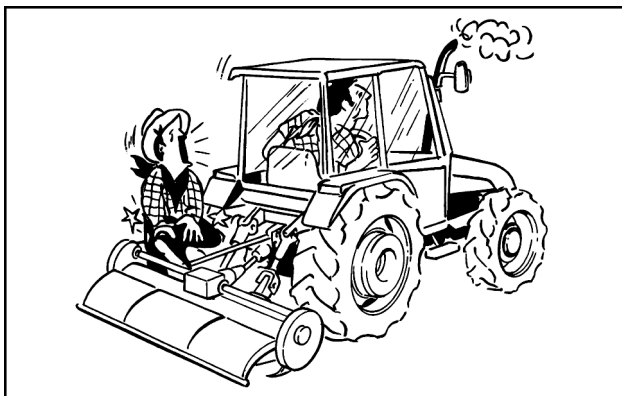


DCSFTNEGB008S1A 8

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

Use of implements and agricultural machinery

1. Do not connect implements or machinery that require more power than can be generated by your tractor model.
2. Never negotiate sharp bends 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.
3. Never stand between the reversing tractor and the implement when hitching.
4. 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.

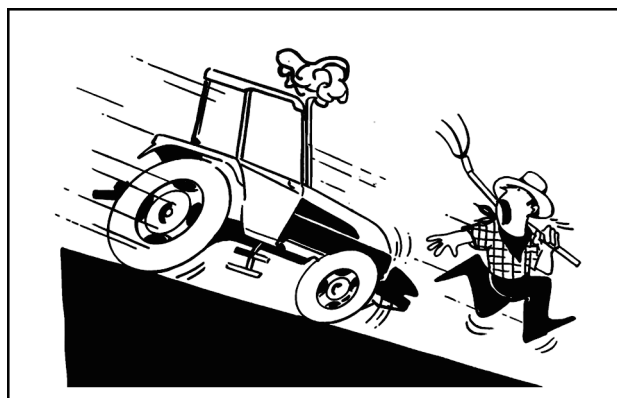


DCSFTNEGB009S1A 9

5. 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.
6. Add rear ballast when using lifting equipment fitted to the front of the tractor.

Stopping the tractor

1. When the tractor is stationary, never leave connected implements in the raised position. All implements must be lowered before stopping the engine.
2. Before leaving the driving position, move the gear lever to the neutral position, disengage the power take-off, apply the handbrake and stop the engine. Always remove the ignition key from the dashboard when leaving the tractor unattended.
3. Park on flat surfaces, where possible, and apply the handbrake before leaving the tractor. On sloping ground, besides applying the hand brake, as an additional safety measure, use wheel chocks (available as an optional); this procedure is compulsory when parking with a trailer hitched.



DCSFTNEGB010S1A 10

Servicing the tractor

1. **⚠ WARNING**

Illustrations in this manual may show protective shielding open or removed to better illustrate a particular feature or adjustment.

Replace all shields before operating the machine.

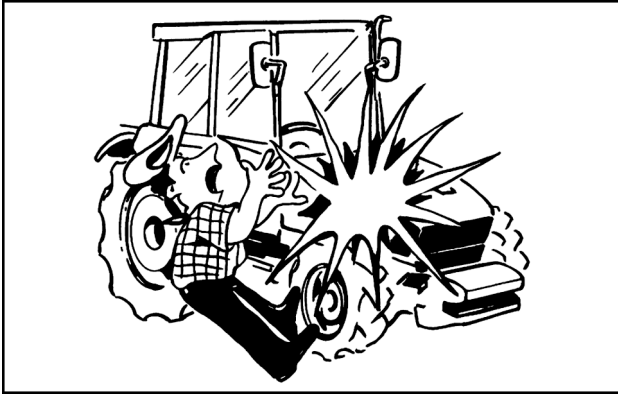
Failure to comply could result in death or serious injury.

W0012A

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

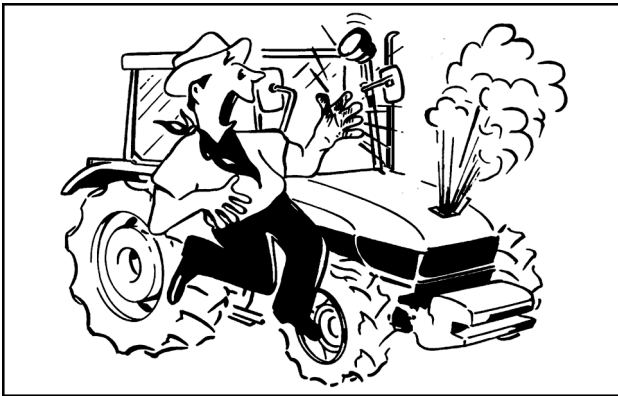
2. When changing or storing tyres, make sure they are stacked correctly and cannot roll or topple over causing personal injury.
3. Before removing any hydraulic tubing, check that the system is not pressurised.

2 - SAFETY INFORMATION



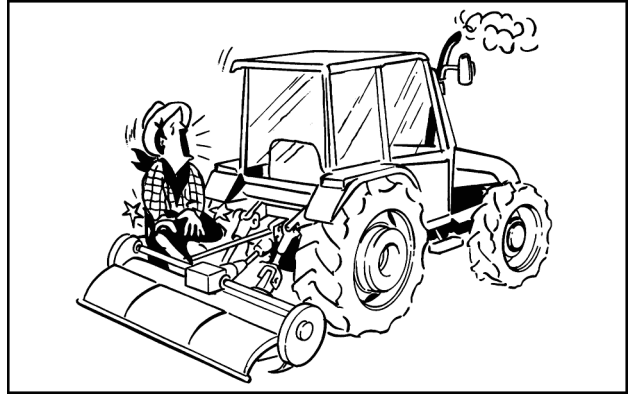
DCSFTNEGB011S1A 11

4. Oil under pressure getting out can cause serious injuries. When looking for leaks use the appropriate safety equipment: screens, safety glasses and gloves.
5. Before touching any electrical components, disconnect the ground lead from the battery.



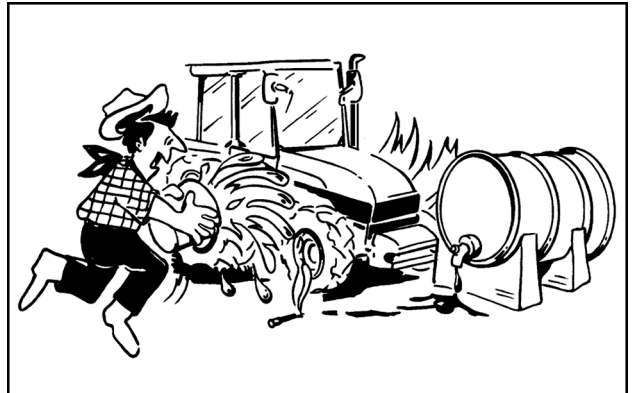
DCSFTNEGB012S1A 12

6. 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.



DCSFTNEGB013S1A 13

7. 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.
8. 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.



DCSFTNEGB014S1A 14

9. Always keep a fire extinguisher at hand.

Air conditioning safety regulations

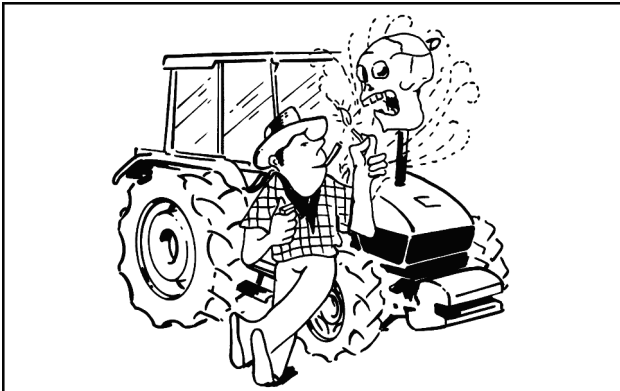
The air conditioning system is safe and can be used continuously without any risk. However, it is important to observe a few simple precautions, listed below, to avoid any risk of accident.

1. It is advised never to personally attempt to adjust the system; any repair work should be carried out by the experienced technicians of the NEW HOLLAND Service Network.



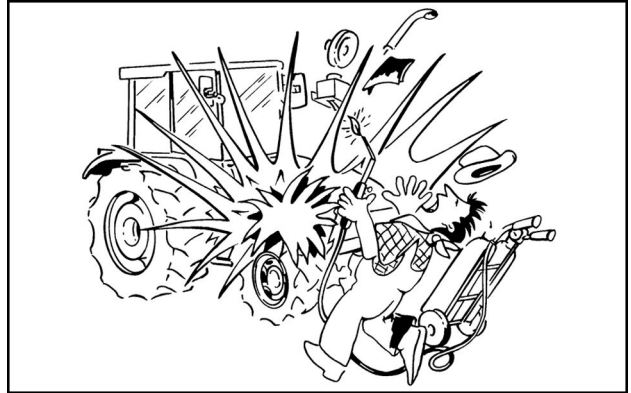
DCSFTNEGB015S1A 1

2. Never allow open flames near the air conditioning system, as if there is a leak of coolant, a lethal gas: phosgene.



DCSFTNEGB016S1A 2

3. The oil and coolant mixture is pressurised in the air-conditioning circuit. 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.
4. Do not allow heat sources near the air-conditioning system, as this may cause explosions.



DCSFTNEGB017S1A 3

5. 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 them 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 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. In any event, consult a doctor as quickly as possible

Cab guard

Comfort and safety inside the cab

Definition of Cab Category 1

Cab is meeting the requirements defined in **EN 15695-1**. This means that the air delivery and filtration system does not provide a specified level of protection against hazardous substances but only from external atmospheric conditions (e.g. rain, wind, snow, etc).

Definition of Cab Category 2

Cab is meeting the requirements defined in **EN 15695-1**. This means that the air delivery and filtration system provides protection against dust and that the minimum differential pressure is ensured. Necessary filtered fresh air flow rate can be obtained using the A/C system and setting the fan on maximum speed, provided that doors, windows and hatches are closed.

ATTENTION: *The cab category 1 does not guarantee a full protection against dust, aerosols and vapours. The cab category 2 provides protection against dust. For application of plant protection products (e.g. pesticides, fungicides, herbicides.....), please refer to the instructions provided by the supplier of the chemical agent as well as instructions provided by the sprayer's manufacturer. Use the special devices and Personal Protective Equipment (PPE) also when inside the cab and, particularly, on tractors without a cab. Although the air delivery system cannot offer full protection, partial protection can be achieved by following some basic rules:*

- Personal Protective Equipment (PPE) and clothing required.
- Keep doors, windows and hatches closed during the spraying operation.
- Keep the cab interior clean.
- Do not enter the cab with contaminated shoes and/or clothing.
- Keep all used personal protective equipment outside the cab.
- Bring the wire harness of the remote sprayer control box into the tractor cab.
- Use only genuine filters and ensure that the filter is correctly installed.
- Check the condition of the sealing material and filters, replacing them if damaged.

Operator Protection

Roll Over Protective Structure (ROPS)

This tractor is provided with either a ROPS structure or a ROPS cab, offering protection against roll over related hazards, all the same please consider the following precautions:

- Do not use the tractor beyond its limits of terrain gradient and stability. Using the tractor beyond these limits may result in a roll over or a tip over. Observe the recommendations in this manual and pay particular attention when going down steep hills in a loaded condition.
- Do not use the tractor near or on soft verges of canals and brooks or banks and verges that are undermined by rodents. The tractor may sink sideways and roll – over.
- Do not use the tractor on unstable bridge – heads and poor bridge floors. These constructions may collapse and cause roll - over of the tractor. Always inspect the condition and carrying capacity of bridges and ramps prior to crossing.
- Always fasten the seatbelt when using the tractor. The ROPS cab or ROPS structure will only be fully effective when the driver remains attached to his seat.
- Do not use the tractor beyond its limits of dynamic stability. High speed, abrupt maneuvers and fast and tight cornering will increase the risk of roll over.
- Do not use the tractor for pulling work, in cases where you do not know whether the load will yield, for instance when pulling stumps. The tractor may flip over backwards when the stump is not yielding.
- Be extremely cautious when working with the tractor on forage silos without side concrete walls. To increase the tractor's side stability, it is possible to mount twin wheels or increase its track setting.
- Be cautious that the centre of gravity of the tractor may increase when loads on the front – end loader or the three-point linkage are raised. In these conditions, the tractor may roll – over earlier than expected.

Falling Objects Protective Structure FOPS

FOPS certified cab is providing protection against falling objects according to OECD code 10 standard; it is recommended to use a certified FOPS structure when working with front- end loaders or in forestry applications; a cab not FOPS certified is offering insufficient protection against falling rocks, bricks or pieces of concrete.

FOPS level on your tractor cab is certified according to **OECD CODE 10**.

Installation and working with front loader on tractors equipped with cab

ATTENTION: *Do not use the front- end loader without taking precautions against falling objects. Please consider following precautions when working with a front end loader:*

- Do not lift the front - end loader to a height from which objects may fall or roll on the driver.

- Always use the correct implement (grab forks, buckets, etc) for the specific task to ensure that the load is securely kept in place.
- It is recommended to install a front loader provided with a parallel guide system and to use it always; this system keeps the load in the bucket horizontal, irrespective of the lift height of the arms.

Installation and working with front loader on tractors without cab

ATTENTION: *It is not recommended to install a front - end loader on a tractor without cab, which cannot offer a minimum protection against falling objects.*

Strictly observe the following precautionary warnings:

- Do not lift the front - end loader to a height from which objects may fall or roll on the driver.
- Always use the correct implement (grab forks, buckets, etc) for the specific task to ensure that the load is securely kept in place.
- It is recommended to install a front loader provided with a parallel guide system and to use it always; this system keeps the load in the bucket horizontal, irrespective of the lift height of the arms.
- If available install a FOPS structure or ask the supplier of the loader to install either a FOPS certified structure on main ROPS structure or at least a minimal structure offering partial protection from falling objects (e.g. a "Suncanopy").

General precautions to be followed when working with a front - end - loader

- Do not allow bystanders in the manoeuvring zone of the tractor equipped with a front-end loader. Do not allow

bystanders to stand near or under the lifted bucket of a front – end loader.

- Do not use the front – end loader as a lift for persons for activities that must be done at a certain height (for example, cleaning eaves).
- Do not use the front- end loader in an area with overhead power lines. In case of contact with overhead power lines, jump from the tractor without making instant contact between tractor and ground. When possible, disconnect the power lines from the grounds.

Operators Protection Structure OPS.

This tractor is not provided with an OPS certified structure; please carefully read the following important information especially when working in a forestry environment.

Forestry Applications

ATTENTION: *This tractor is not designed for heavy forestry applications; usage is prohibited unless a certified FORESTRY KIT is installed; contact your dealer to verify whether a forestry kit exists for this tractor model. Only a forestry specific kit will provide necessary protection against falling trees.*

Protection against penetrating objects (OPS) can be obtained only fitting a specific KIT, contact your dealer to verify whether an OPS certified KIT is available for your tractor.

Roll over protective structure (ROPS)

OPERATOR PROTECTIVE STRUCTURE

DANGER

Crushing hazard!

DO NOT operate the machine with the Roll-Over Protective Structure (ROPS) removed. Remove the ROPS only for service or replacement.

Failure to comply will result in death or serious injury.

D0032A

DANGER

Crushing hazard!

Do not change the Roll Over Protective Structure (ROPS) in any way. Unauthorized changes such as welding, drilling, or cutting will weaken the ROPS and decrease your protection. Have an authorized dealer replace the ROPS if damage of any kind occurs. DO NOT TRY TO REPAIR THE ROPS.

Failure to comply will result in death or serious injury.

D0037A

WARNING

Roll-over hazard!

After an accident, fire, tip over, or roll over, a qualified technician MUST replace the Roll-Over Protective Structure (ROPS) before returning the machine to the field or job site operation.

Failure to comply could result in death or serious injury.

W0134A

Your machine is equipped with an operator Protective Structure, such as: a Rollover Protective Structure (ROPS) or Falling Object Protective Structure (FOPS) or Cab with ROPS. A ROPS may be a cab frame or a two-posted or four-posted structure used for the protection of the operator to minimize the possibility of serious injury. The mounting structure and fasteners forming the mounting connection with the machine are part of the ROPS.

The Protective Structure is a special safety component of your machine. The Protective Structure and interconnecting components are a certified system.

The mounting or suspension for the Protective Structure, operator seat and suspension, seat belts and mounting

components and wiring within the operator's protective system **MUST** be carefully inspected for damage. All damaged parts **MUST** be replaced.

NOTICE: The ROPS can be folded down when working in areas with limited headroom. Unless strictly necessary, always work with the roll bar in the raised position, as shown in the figure.

If used incorrectly, the tractor may tip over. When the tractor is used with the roll bar in the lowered position, the driver is **UNPROTECTED**. Always raise the roll bar after terminating work in areas with low headroom.

Personal protective equipment (PPE)

⚠ WARNING

Personal Protective Equipment (PPE) required.

When assembling, operating, or servicing the machine, wear protective clothing and PPE necessary for the particular procedure. Some PPE that may be necessary includes protective shoes, eye and/or face protection, hard hat, heavy gloves, filter mask, and hearing protection.

Failure to comply could result in death or serious injury.

W0353A

Personal protective equipment (PPE) is any equipment intended to be put on and kept by the worker for protection against one or more risks at work, liable to threaten safety or health during work, as well as all the complements or accessories intended for this purpose.

PPE must be used when, in spite of the risk being reduced to a minimum at source, there are however risks that cannot be eliminated and therefore it becomes necessary and obligatory when there are so-called "residual" risks.



DCAPLT5NE020S2A 1

Tractor jacking points

⚠ WARNING

Equipment failure could cause accident or injury!

Only use rigging equipment that has the capacity to lift the loads that you are moving. Always check the rigging equipment each day for damaged or missing parts. Make sure other workers or bystanders are not under the load while it is moving.

Failure to comply could result in death or serious injury.

W0205A

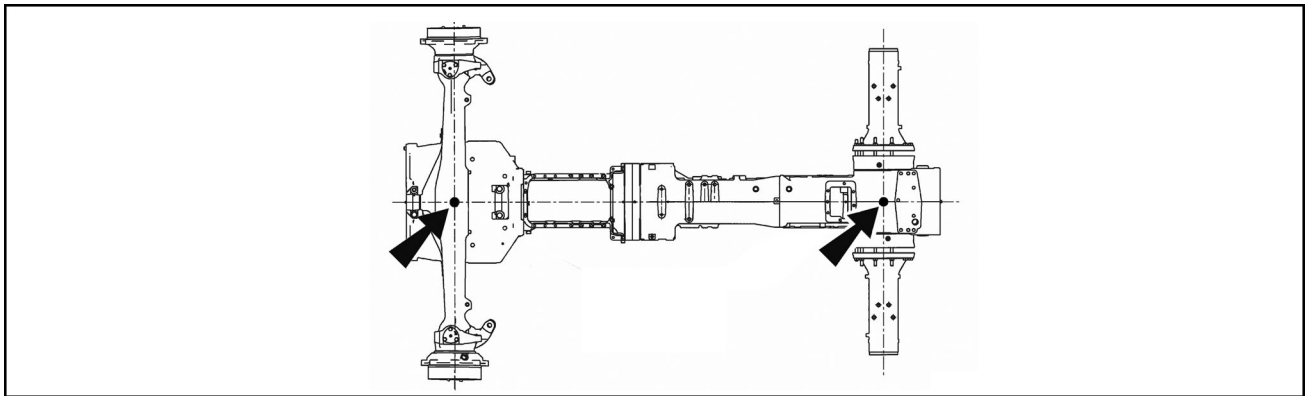
⚠ WARNING

Jack stands can slip or fall over. Dropping, tipping, or slipping of machine or its components is possible.

DO NOT work under a vehicle supported by jack stands only. Park machine on a level surface. Block wheels. Support machine with safety stands.

Failure to comply could result in death or serious injury.

W0069A



DCAPLT5NE019S2E 1

To lift the tractor use only the points shown in the figure.

ALWAYS raise only the back or the front, NEVER both together.

ALWAYS put chocks in front of or behind the wheels of the axle that is not to be lifted.

Hazardous chemicals

Exposure to or contact with hazardous chemical substances can cause serious injuries. The fluids, lubricants, paints, adhesives, coolants, etc. required for the machine's operation can be harmful. In addition, they can attract domestic animals and people creating dangerous situations for health.

The materials safety data sheets (MSDS) provide information on the chemical substances contained in a product, on the methods of safe storage and handling and on the first aid procedures to follow should such a product get accidentally spilled.

Before doing any maintenance work, read the materials safety data sheets (MSDS) for each single lubricant, liquid, etc. used on the machine. The information given on the sheets signals the associated risks and enables carrying out the maintenance work safely. To perform maintenance work, follow the information given on the MSDS sheets, the information provided by the manufacturer on the containers of the products and the information given in this manual.

Dispose of all the fluids, filters and containers in an environment friendly manner, respecting the current regulations and laws on the subject of environmental protection. For correct information on disposal, contact your local differentiated waste collection centre or your dealer.

Store fluids and filters according to the local regulations and laws. To store chemical or petrochemical substances, use appropriate containers only.

Keep the batteries out of the reach of children or of other unauthorised people.

Further precautions are necessary for the applied chemical substances. Before using chemical substances, ask the producer or retailer for detailed information.

Burn prevention

WARNING

Hot surface possible!
Wait for all components to cool before performing any operation.
Failure to comply could result in death or serious injury.

W0251A

CAUTION

Hot area!
Use care when working near hot components. Wear protective gloves.
Failure to comply could result in minor or moderate injury.

C0034A

WARNING

Burn hazard!
Be very careful to avoid contact with hot fluids. If fluid is extremely hot, allow it to cool to a moderately warm temperature before proceeding.
Failure to comply could result in death or serious injury.

W0362A



There are parts on the tractor whose outside surfaces reach high temperatures with the consequent danger of burns by contact with the skin.

The hot parts of farm tractors that may pose a potential burn risk comprise:

1. The exhaust system (manifold, silencer, etc.).
2. Parts of the engine.
3. The gearbox and clutch housing.
4. The hydraulic distributors.
5. Pipes carrying hot fluids.

Wherever possible, guards have been installed to prevent direct contact between the operator and the hot areas. For other parts that for reasons of construction and operation cannot be protected, it is necessary to take the due safety precautions and use the appropriate personal protective equipment for the type of work to be carried out.

Fire or explosion prevention

Remove all litter or debris from the machine each day; especially check the engine area and exhaust system.

A spark or a naked light can cause the hydrogen in a battery to explode. To prevent an explosion carry out the following: •

- When disconnecting the battery cables, disconnect the negative (–) cable first; when connecting the battery cables, connect the negative (–) cable last.
- When connecting jumper cables to start the engine, use the procedure shown in this manual (see Auxiliary Battery connections in this manual).
- Do not weld, grind or smoke near a battery. Sparks from the electrical system or engine exhaust can cause an explosion and fire. Before you operate the machine in an area with flammable dust or vapors, use good ventilation to remove the flammable dust or vapors.
- Do not short circuit the battery posts with metal items.
- Use nonflammable cleaning solvent to clean parts.
- Keep the cooling system clean and maintain the correct coolant level.
- Make sure that you DO NOT store oily rags or other flammable materials on the machine.
- Engine fuel can cause an explosion or fire. Do not fill the fuel tank with the engine running, if you are near an open fire, or if you are welding, smoking, etc.
- If the machine has an oil, fuel or hydraulic leak, always repair the leak and clean the area before operating.
- Check the electrical system for loose connections or frayed insulation.

Fire Extinguisher

Only operate your tractor when an approved fire extinguisher is installed. The fire extinguisher designed location is identified on your tractor with the decal shown in the accompanying image.

NOTICE: Please ensure to install an appropriate and certified fire extinguisher.

Never alter its position or remove it.

Ensure to replace it or have it checked or refilled after every usage and/or date of expiry according to manufacturer's maintenance prescriptions.

It is not intended for use on an out-of-control fire, such as one which has reached the ceiling, or the operator ; it is meant only to help you

To check if the extinguisher is still under pressure, proceed as follows:

1. Unscrew the pressure gauge from the valve.
 2. The needle will go from the green area to "0" in the red area.
 3. Rescrew the pressure gauge on the valve. The needle will go from "0" in the red area to the green area.
- Operate the extinguisher from a safe distance.
 - Pull the Pin at the top of the extinguisher.
 - Aim at the base of the fire, not the flames.
 - Squeeze the lever slowly. This will release the extinguishing agent; If the handle is released, the discharge will stop.
 - Sweep from side to side. Using a sweeping motion, move the fire extinguisher back and forth until the fire is completely out.
 - Check for re-ignition of fire.



DCAPLNEGB125S2A 1

Getting in and out of the machine

⚠ WARNING

Fall hazard!

Jumping on or off the machine could cause an injury. Always face the machine, use the handrails and steps, and get on or off slowly. Maintain a three-point contact to avoid falling: both hands on the handrails and one foot on the step, or one hand on the handrail and both feet on the steps.

Failure to comply could result in death or serious injury.

W0141A

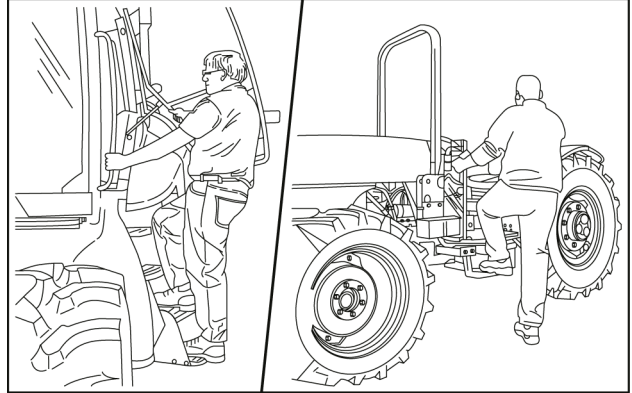
Get on and off the machine only by using the specific accesses equipped with a handrail, steps or ladder.

Do not jump off the machine.

Check that the steps, ladders and platforms remain clean and clear of debris and foreign matter. Slippery areas can be a cause of accidents.

Never get on or off the machine while in movement.

Do not use the steering wheel or any other controls or accessories as a handrail when getting into or out of the cab.



MOIL13TR00855AA 1

Safety signs

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

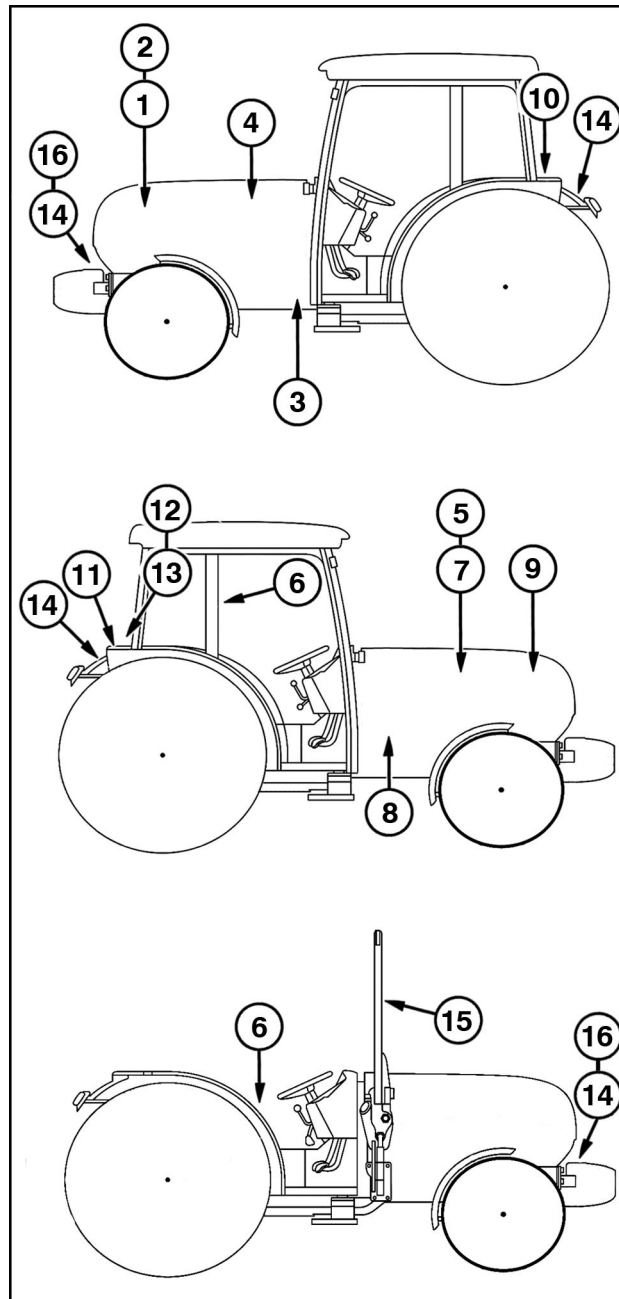
⚠ WARNING

Avoid injury!

Make sure decals are perfectly legible. Clean decals regularly. Replace all damaged, missing, painted over, or illegible decals. See your dealer for replacement decals. When replacing parts bearing decals, be sure to put new decals on each new part.

Failure to comply could result in death or serious injury.

W0229A



DCSPFNAGB001S2D 1

(A)

Positioned in several places on the tractor
General Warning: Read and understand all the warning notes printed in this Operator's Manual with regards to the relevant part where the decal is applied.

(B)

Positioned in several places on the tractor
General Warning: danger due to mechanical moving parts.

(1)

Location: internal portion of the conveyor:
Air-conditioning system warning.

(2)

Location: left hand side on the fan shield.
To avoid serious injury, keep hands and clothing away from the rotating fan, belts and any other rotating parts.

(3)

Location: lefthand side on the cab window.
Do not climb onto the tank or use it as a step, it is not designed to sustain weight.

(4)

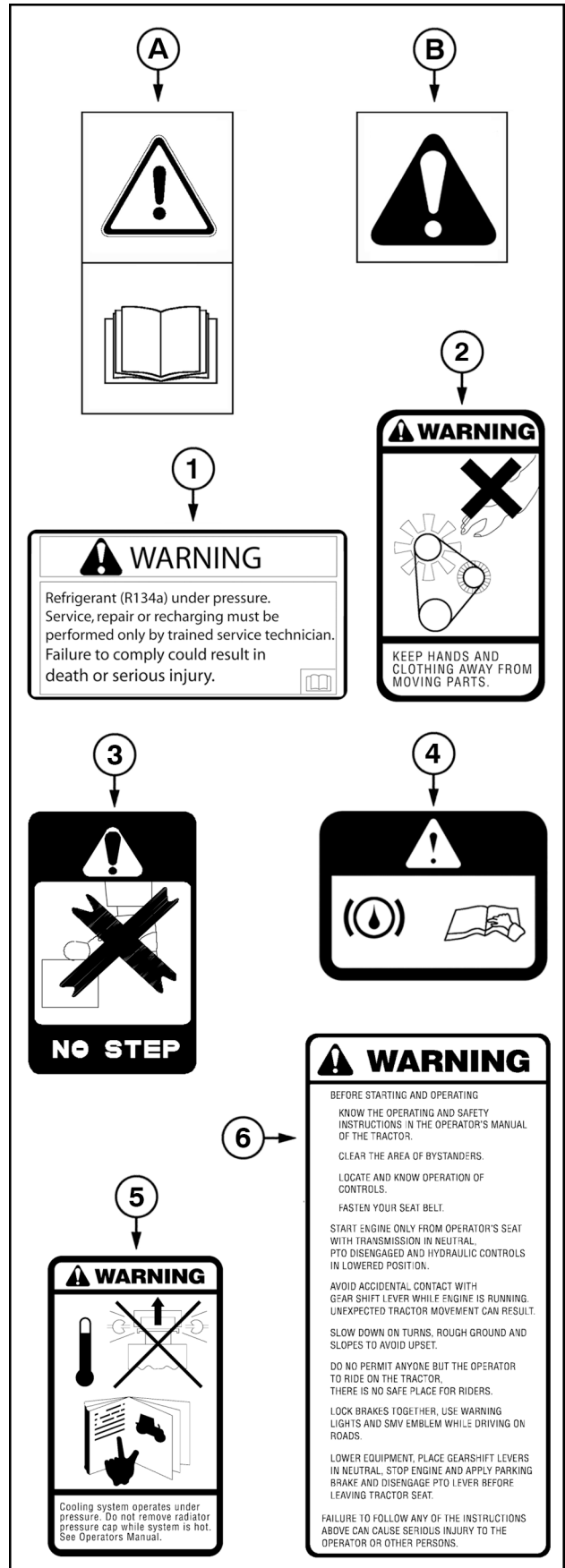
Location: right-hand side of brake system fluid container.
To keep the braking system in good working order, refer to the Use and Maintenance Manual. If the red warning light on the instrument panel illuminates, there is a fault in the braking system.

(5)

Location: Front on the radiator.
Pressurised cooling system. Leave to cool and then carefully take off the cap. Use a cloth to slowly unscrew the cap and release the pressure before completely removing the cap..

(6)

Location: Inside cab on right-hand side window.



2 - SAFETY INFORMATION

(7)

Location: On the intake manifold.
Do not use ether on the cooling system.

(8)

Location: Right-hand side on the starter motor.

(9)

Location: right-hand side on the radiator.
To avoid serious injury, keep hands and clothing away from the rotating fan, belts and any other rotating parts.

(10)

Location: On the internal part of the left-hand rear fender: do not operate on the power take-off with the engine running.

(11)

Location: On the inside of the right-hand fender.

(12) (13)

Location: Applied at the front on the battery.

(14)

Location: rear part on the mud flaps of the right and left-hand mudguard with electronic lift and on front part.
To prevent injury, do not stand on the implement or between the implement and the tractor while the external lift controls are in use.

(15)

Location: under the upper upright of the roll bar.

(16)

Location: front part. Danger! To prevent injury, do not stand close to rotating mechanical parts.

7



WARNING

Do not use ether. Engine equipped with electric start aid. Use of ether may cause explosion. See operators manual.

8

DANGER

- Start engine only from operators seat, if safety start switch is bypassed engine can start with transmission in gear.
- Do not connect or short across terminals on starter solenoid.
- Attach booster cables as shown on battery decal.

Starting in gear causing runaway can result in serious injury.

9

WARNING



KEEP HANDS AND CLOTHING AWAY FROM MOVING PARTS.

10

WARNING

DO NOT OPERATE 540 PTO ABOVE RATED ENGINE SPEED. OPERATING PTO ABOVE RATED ENGINE SPEED MAY CAUSE FAILURE OF CERTAIN PTO EQUIPMENT WHICH MAY RESULT IN PERSONAL INJURY.

11

WARNING

- Pull only from drawbar. Pulling from any other point can cause rear overturn.
- Do not operate with unshielded PTO.
- Disengage PTO and stop engine before servicing tractor or implements or attaching and detaching implements.
- Position drawbar at 14" from end of PTO shaft to drawbar hole for 540 and 16" for 1000 PTO RPM.
- When towing equipment use a safety chain.

FAILURE TO FOLLOW ANY OF THE INSTRUCTIONS ABOVE CAN USE SERIOUS INJURY TO THE OPERATOR OR OTHER PERSONS.

12

DANGER

EXPLOSIVE CAN CAUSE BLINDNESS OR SEVERE INJURY. PROTECT EYES. SPARKS, FLAMES, CIGARETTES CAN CAUSE EXPLOSION. TOOLS AND CABLE CLAMPS CAN CAUSE SPARKS. DO NOT USE WITHOUT INSTRUCTION. KEEP VENTS TIGHT AND LEVEL.

ACID-POISON CAUSES SEVERE BURNS. CONTAINS SULPHURIC ACID. IN THE EVENT OF CONTACT, FLUSH WITH WATER AND SEE A DOCTOR. KEEP OUT OF REACH OF CHILDREN.

16

ATTENTION

Before doing anything on the PTO shaft, you must stop the engine and disconnect the PTO with the coupling lever on the front right-hand side of the tractor.

13

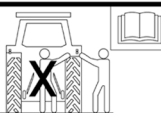
WARNING

TO JUMP START (Negative Grounded Battery)

- Shield eyes.
- Connect end of one cable to positive (+) terminals of each battery.
- Connect one end of other cable to negative (-) terminal of "Good" battery.
- Connect other end to engine block of vehicle being started. TO PREVENT DAMAGE to other electrical components on vehicle being started, make certain that engine is at idle speed before disconnecting jumper cables.

14

DANGER



ENTANGLEMENT / CRUSH HAZARD

- DO NOT STAND between tractor and implement or on implement while operating external controls.
- Stand clear of all moving parts.

Failure to comply will result in death or serious injury.

15

DANGER



- WHEN IMPROPERLY OPERATED A TRACTOR CAN ROLLOVER OR UPSET.
- FOR LOW CLEARANCE USE ONLY, THE ROPS CAN BE LOWERED. NO PROTECTION IS PROVIDED IN THE LOWERED POSITION.
- RAISE ROPS AND INSERT LOCKING PINS IMMEDIATELY AFTER LOW CLEARANCE USE, OR FOR TRANSPORT.
- WHEN ROPS IS LOWERED, USE OF SEAT BELT IS NOT RECOMMENDED.
- DO NOT ATTACH ROPES OR CHAINS TO ROPS FOR PULLING PURPOSES.
- DO NOT OPERATE VEHICLE WITHOUT ROPS LOCKING PINS IN POSITION.
- DO NOT ATTEMPT TO FOLD ROPS WHEN A CANOPY IS FITTED.
- USE OF ROPS AND SEAT BELT REDUCE THE CHANCE OF INJURY OR DEATH IF ROLLOVER OR UPSET OCCURS.

3 - CONTROLS/INSTRUMENTS

ACCESS TO OPERATOR'S PLATFORM

Cab

⚠ WARNING

Misuse hazard!

The cab is an integral part of the machine's structure. **DO NOT** repair, weld, or straighten the cab. Contact your Dealer and follow their instructions to avoid reducing the structural integrity of the machine.

Failure to comply could result in death or serious injury.

W0045B

The cab has been designed for operator comfort and convenience. Inside, the side trim panels, roof and floor are insulated to reduce noise to a minimum. The cab is available in two versions:

- With heating and ventilation.
- With air conditioning.

The cab must be replaced in the event of overturning.

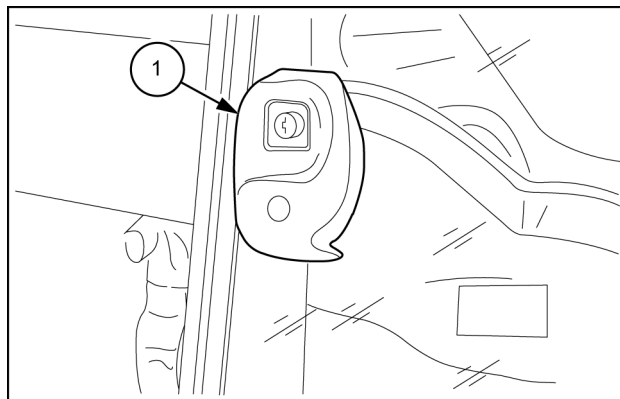
All the internal parts, such as the driver seat, including any seat belts supplied on request, must be carefully checked and must show no sign of any damage whatsoever.

All damaged parts must be replaced.

Opening doors from outside

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

Both opening buttons **(1)** are equipped with a lock for locking both cab doors.

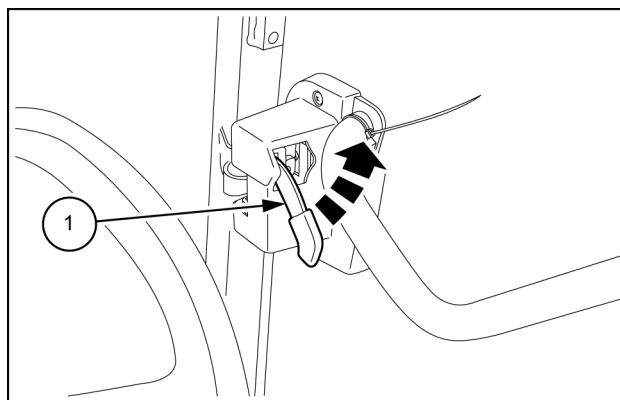


MOIL13TR00490AA 1

Opening doors from inside

Pull the lever **(1)** towards yourself.

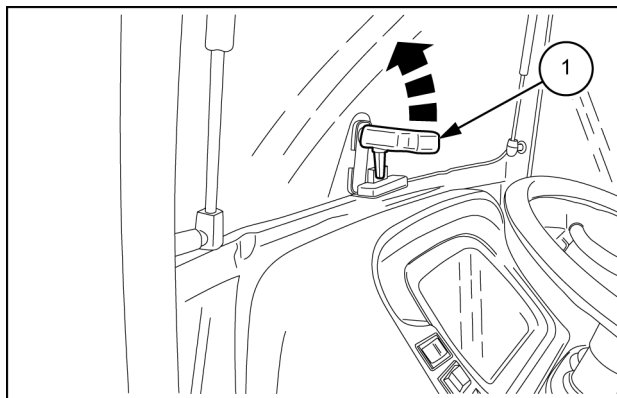
When pressed downwards, the lever is held by a mechanical catch that prevents opening the door from the outside.



MOIL13TR00491AA 2

Opening Front Windscreen

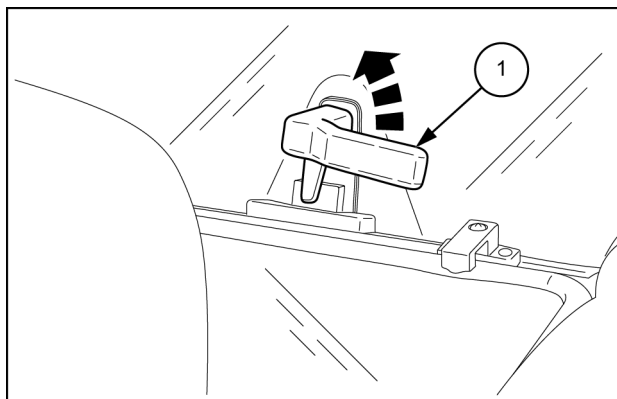
To open, pull handle **(1)** upwards and push forward. The window will be held in position by special struts.



MOIL13TR00492AA 3

Rear Window

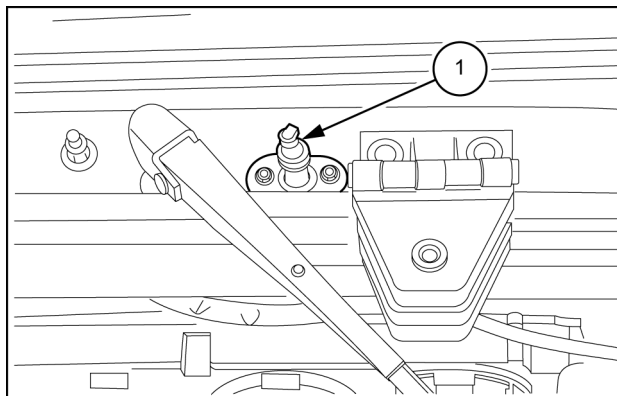
To open, pull handle **(1)** upwards and push forward. The window will be held in position by special struts.



MOIL13TR00493AA 4

Windscreen washer spray nozzle

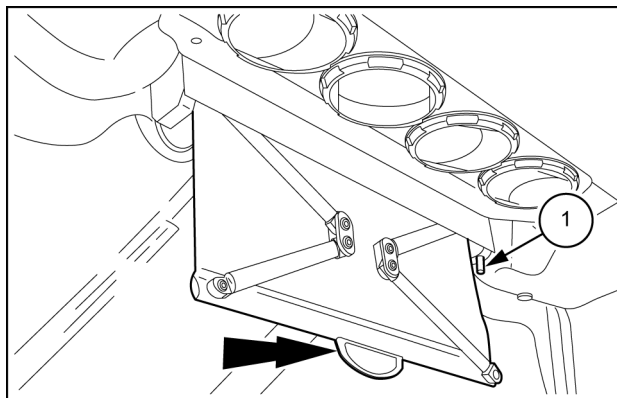
For better windscreen cleaning, adjust the angle of the spray nozzle **(1)** using a screwdriver. If the orifice of the spray nozzle is obstructed, clear it with a pin.



MOIL13TR00495AA 5

Sun shade

Pull the tab of the sun blind down to open it, as indicated by the arrow in the figure. To rewind the sun blind, press button **(1)**.

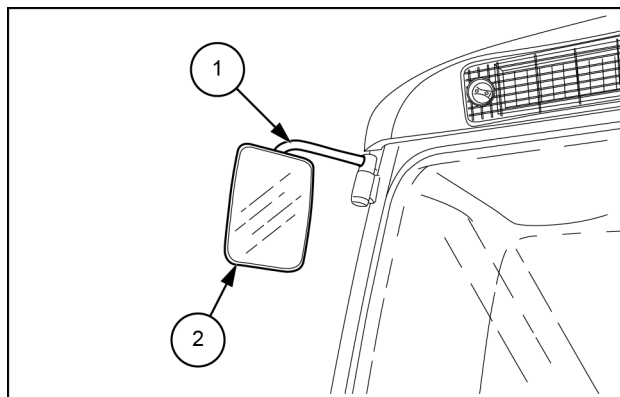


MOIL13TR00547AA 6

Rear view mirror external

The mirror can be adjusted in two ways, as described below:

- turn the support bracket **(1)** on its axis to adjust the angle of the mirror;
- turn the mirror **(2)** into the position that provides the best rear view.



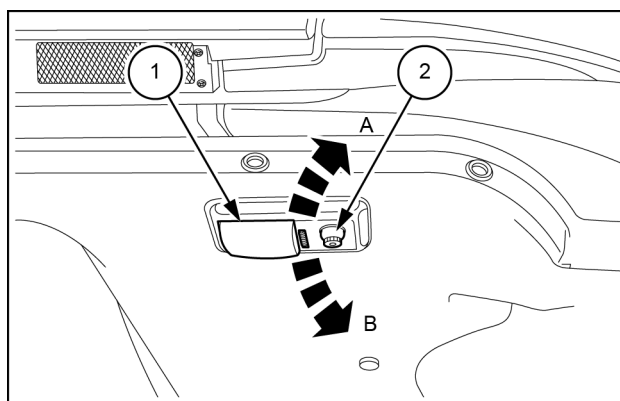
MOIL13TR00494AA 7

Interior cab light

The ceiling lights unit comprises a courtesy light **(1)** and a reading light **(2)**, both are powered with the key on.

The internal lights are controlled by a three-position switch:

- **A** = courtesy light **(1)** on
- central position = lights OFF
- **B** = courtesy light **(1)** off and reading light **(2)** on.

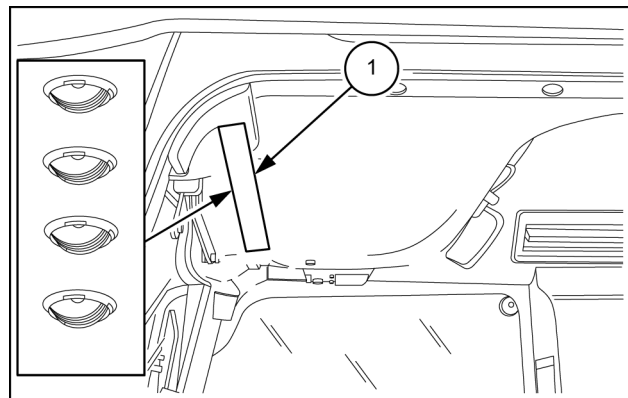


MOIL13TR00496AA 8

Heating system

Adjustable vents

On the roof inside the cab there are four adjustable vents (1). The vents can be adjusted independently to direct hot or cold air on the windscreen and side windows inside the cab. To open, press on one side and turn the vent to direct the air flow where required.



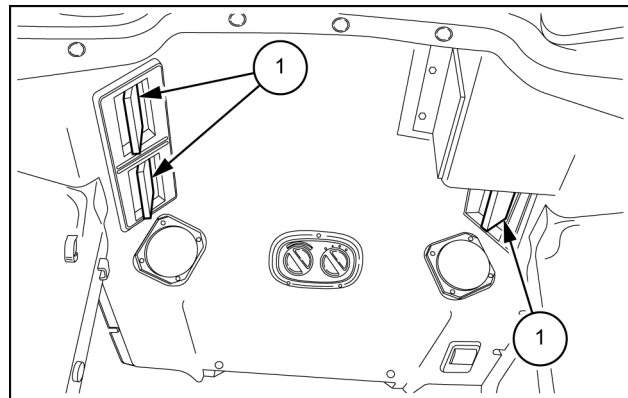
MOIL13TR00497AA 1

Air re-circulation vents

Air may be selected from inside or outside the cab by adjusting the side recirculation vents (1) which can be placed in two positions:

- Vents closed: air is drawn from outside the cab through the lateral filters. Fresh air drawn into the cab from outside is always filtered.
- Vents open: the greater part of the air is drawn from inside the air through the vents.

NOTE: With the fan in operation and doors, windows, and recirculation vents closed, the pressure inside the cab is greater than the external pressure. Consequently, air can only enter the cab through the lateral filters, after suitable filtering.



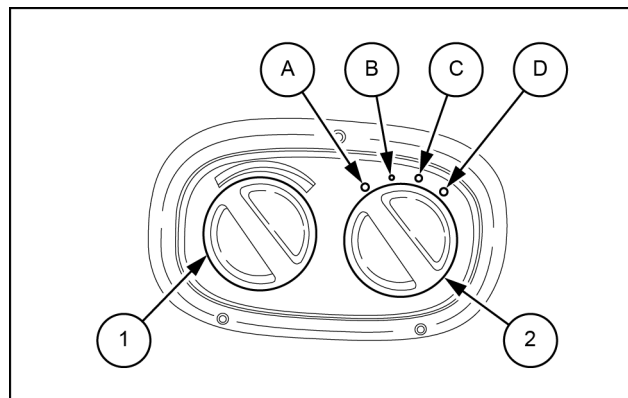
MOIL13TR00498AA 2

Ventilation and heating

By turning the temperature adjustment knob (1) counter clock-wise (fully to the left), the circulation of hot air in the cab is interrupted; by turning the knob clockwise (fully to the right), maximum cab air temperature is selected. With the electric fan (2) is possible change the quantity of air leaving by the adjustable vents.

The electric fan switch is powered up when the starter key is ON position.

- A Electric fan OFF.
- B Low speed.
- C Medium speed.
- D High speed.



MOIL13TR00499AA 3

Heating, ventilation or air-conditioning control

The air-conditioning system can supply either cool or warm dehumidified air.

To use the system, proceed as follows.

NOTICE: 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 knob **(2)** clockwise to start the air conditioner.

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

After running for a few minutes, the inspection glass on the top of the dehydrating filter should be clear and not contain any bubbles.

If this does not occur, switch off the air-conditioning and seek specialist help at your dealer.

Adjustment

For a correctly air conditioned cab, open the re-circulation vents when the air conditioning is running, and keep the doors, roof and rear window closed. To lower the temperature in the cab and, at the same time, reduce the air humidity, turn the knob **(3)** counter-clockwise until the desired temperature is obtained.

NOTICE: Before starting the engine, check that the air conditioning is OFF.

NOTE: When working in very dusty environments, the cab pressure may have to be increased to prevent dust

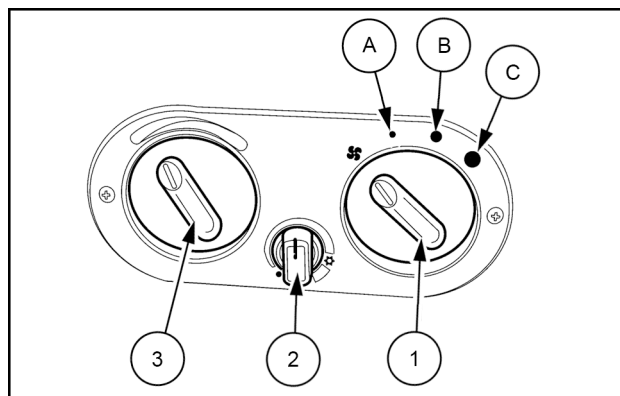
from entering the cab; it is also advised to close the re-circulation vents.

If only the dehumidification function on the air conditioning system is required, without lowering the air temperature, turn the knob **(3)** clockwise until the desired temperature is obtained.

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 fanlight or the roof to let the hot air escape.

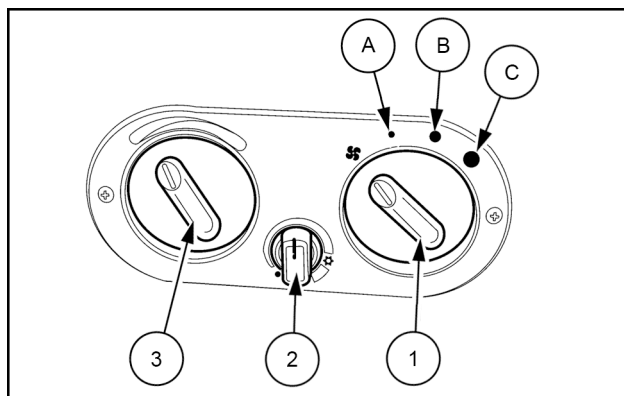
Stopping

Before stopping the engine, always turn the electric fan knob **(1)** and the air-conditioner knob **(2)** anticlockwise into the OFF position.



MOIL13TR00469AA 1

Cab air conditioning controls



3-speed electric fan control knob (1)

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

- A** Low speed.
- B** Medium speed.
- C** High speed.

Air conditioning and temperature control knob (2)

The system operates with the ignition key switched on. With the electric fan knob (1) in positions **A** - **B** or **C**, turn the knob (2) clockwise and pass the first click to turn on the air-conditioner. To lower the temperature of the air coming into the cab, turn the knob (2) clockwise.

Heater control knob (3)

Turn knob (3) fully clockwise (to the right) for maximum heat. To shut off the water supply to the heater and switch off the heater, turn the knob (3) fully counter-clockwise.

Periodical inspections

At least once every three months:

- Remove any foreign matter from the condenser and evaporator fins.
- Check the tension of the compressor belt.
- Check the condition of the tubing, connections and mounting brackets.
- Check that the fixing screws and nuts, pulleys and compressor are correctly tightened.

Annual maintenance

At the start of the season, have the specialist personnel from the NEW HOLLAND service network carry out the following operations:

- Check the oil level in the compressor
- Check system pressure and, if necessary, fill the system with **HFC R134A**
- Drain the air conditioning system and replace the dehydration filter, only if strictly necessary.
- Fill the system with **HFC R134A**
- Check operation of system.

SPECIFICATIONS	
Coolant	HFC R134A
Quantity	1.2 kg (2.6 lb)
Compressor	SANDEN SD - 5H11 - 6332
Number of cylinders	5
Capacity	155 cm³ (9.5 in³)
Oil type	SANDEN SP20
Quantity of oil	180 g (6.3 oz)

Cab air filter

⚠ DANGER

Chemical hazard!

The cab air filters are designed to remove dust from the air, but will not keep out chemical vapor. Extended periods of exposure to pesticides could cause death or personal injury. Follow the chemical manufacturer's directions for protection from dangerous chemicals.

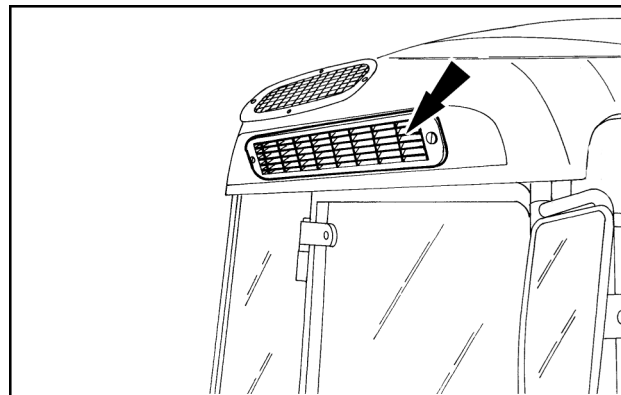
Failure to comply will result in death or serious injury.

D0060A

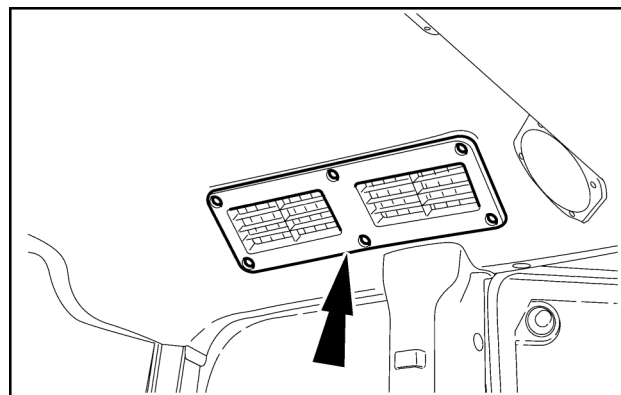
The cab ventilation system has four filters, two pollen filters for fresh air drawn into the cab from outside fig. 1, and two for recirculated air fig. 2.

NOTICE: The cab air filters are designed to remove dust from the air, but they are not effective against chemical vapours. Follow the chemical manufacturer's directions regarding the precautions to take.

NOTICE: Remember that the cab air filters do not generally protect against pesticides. Protection against these products can only be obtained by taking the specific precautions required for each individual product. These precautions must be taken for all types of filter, in strict accordance with the instructions for use and maintenance.



DCSPVNEGB080S3A 1



DCSPVNEGB081S3A 2

Active-Carbon Air Filter

DANGER

Chemical hazard!

When replacing the filter, pay attention to the sticker on the filter. For correct operation, the specified anti-pollen or active carbon filter must be used and cannot be interchanged.

Failure to comply will result in death or serious injury.

D0007A

NOTICE: *the active carbon air filters do not guarantee full protection against all pesticides. As a result, using them does not relieve you from having to comply with the safety rules recommended for using each single product.*

Even though it is possible to pressurize the inside of the cab to restrict entry of chemical vapours, you must anyhow always follow the safety procedures set down by the chemicals manufacturer and use appropriate Personal Protective Equipment (PPE).

The use of active carbon filters ensures a comfortable and clean work environment and provides suitable protection against dust. However, do not use active carbon air filters

when working in very dusty areas; they could get clogged very quickly and become ineffective.

When replacing the active carbon filters at the end of the job, return them to the original packaging, making sure they are carefully sealed.

The filters must never be cleaned. Their durability is stated on the label applied by the manufacturer. They must in any case be replaced every **200 h** or 2 years.

Old filters must be disposed of in compliance with the laws in force.

OPERATOR'S SEAT

Operator seat

⚠ DANGER

Loss of control hazard!

DO NOT make seat or steering adjustments while the machine is in motion. Ensure all adjustments are locked prior to use. Check the tightness of the securing screws and that the adjustment controls are working properly. Fitting and/or repairing the seat should only be performed by skilled personnel. Failure to comply will result in death or serious injury.

D0008A

Before operating the tractor, it is important to adjust the seat to the most comfortable position. See the following text and illustrations for details.

Mechanical seat

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.

Adjustment of distance from controls

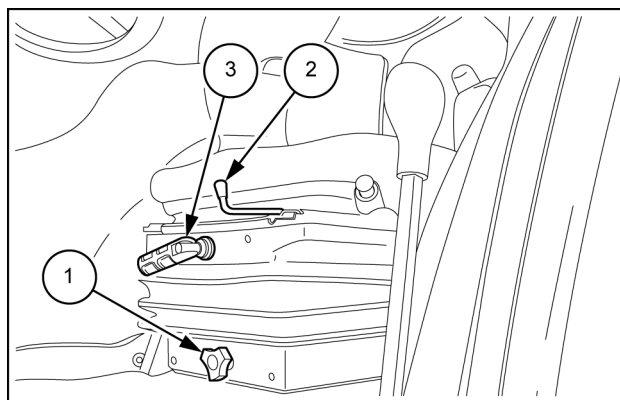
From the driver's seat, pull the lever **(1)** sideways and move the seat forwards or backwards. After moving the seat, release the lever, ensuring that the seat is locked in the chosen position.

Adjusting the seat suspension

Seat suspension can be adjusted by means of a handle **(2)**. Turn the handle until your approximate weight is shown on the scale in the window **(3)** (where applicable).

Seat height adjustment

Turn the knob **(4)** to one of the three marked positions.



MOIL13TR00479AA 1

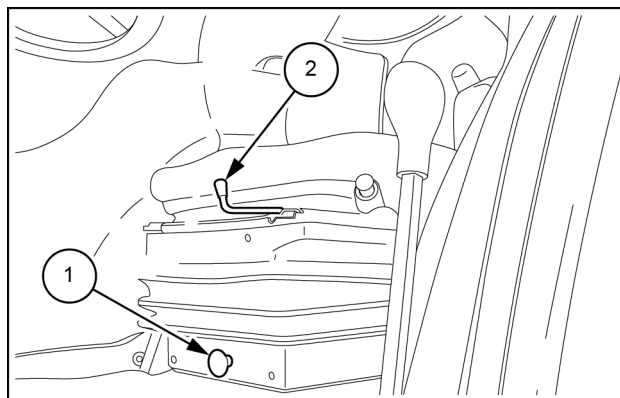
Air suspension seat (on request)

Adjusting the seat suspension

Adjustments to the air suspension are made by operating the air compressor control button **(1)**. To set the suspension and ride height, fully lower the seat. Pull the control button **(1)**, until all the air has been discharged. Turn the ignition switch "ON" (first click). Sitting in the seat, push-in and hold the control **(1)**, the air compressor will start to pressurise the suspension. Let go of the control when the seat has reached the desired height. To make further height adjustments, operate the air compressor control, as required, to raise or lower the seat.

Adjustment of distance from controls

From the driver's seat, pull the lever **(2)** sideways and move the seat forwards or backwards. After moving the seat, release the lever, ensuring that the seat is locked in the chosen position.



MOIL13TR00481AA 2

Safety belts

⚠ WARNING

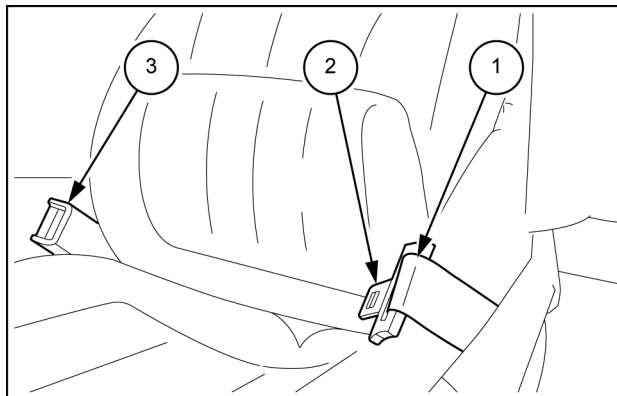
Equipment failure could cause accident or injury!

Always fasten seat belt securely before operating the machine. Inspect seat belt parts for wear and/or damage. To ensure operator safety, replace any and all damaged parts of the seat belt prior to operation.

Failure to comply could result in death or serious injury.

W0046A

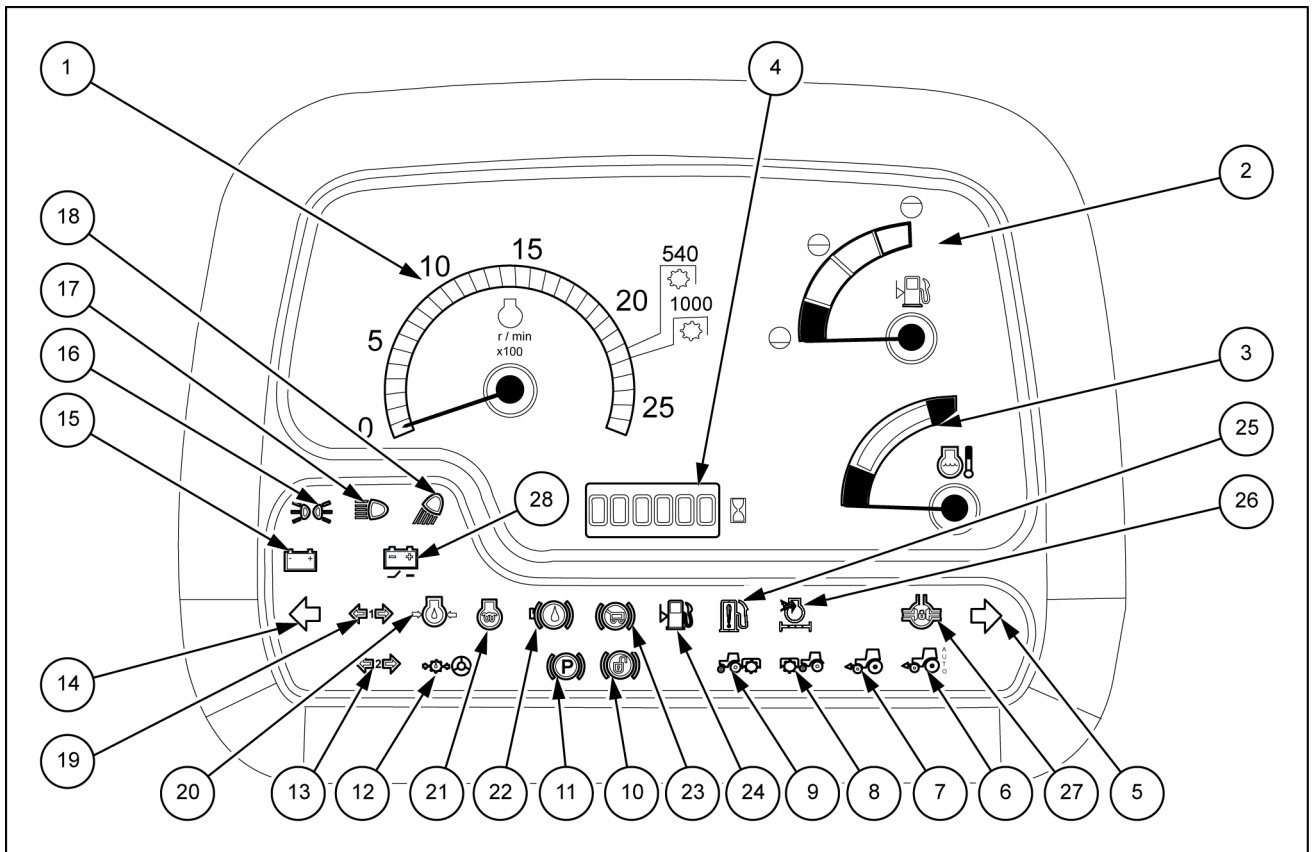
To fasten the safety belt (1), insert the tongue (2) into the slot in the buckle (3).



MOIL13TR00480AA 3

FORWARD CONTROLS

Analogue dashboard



MOIL13TR00381FA 1

The indicator lights on the control panel inform you of the operational condition of the machine. Some of these indicate faults arising during operation. An indicator light coming on may be followed by a continuous or intermittent buzzer. Depending on the severity of the trouble, the alarm will sound.

- 1 **Tachometer**
- 2 **Fuel gauge**
- 3 **Engine coolant temperature gauge**
- 4 **Hours worked counter**
- 5  **Right direction indicator (green)**
Flashes at the same time as the right-hand turn lamps.
- 6  **Automatic four-wheel drive (green)**
Lights up when permanent four-wheel drive is selected by means of the relevant push button.
- 7  **Four-wheel drive (green)**
Lights up when front-wheel drive is engaged automatically.
- 8  **Front power take-off (amber)**
Lights up when the power take-off is engaged (if fitted).

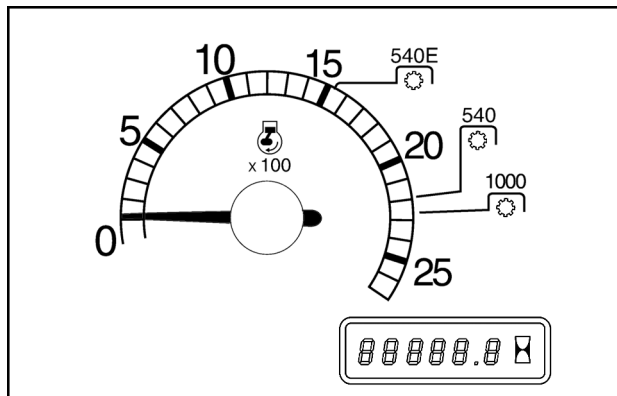
- 9  **Rear power take-off (amber)**
Lights up when the power take-off is engaged.
- 10  **Brake pedals not latched (red)**
The indicator lights up to signal when brake pedal latching is not blocked. This warning light is only active for markets that require signaling failed brake pedal latching.
- 11  **Handbrake (red)**
Indicates that the handbrake is on (with starter key inserted).
- 12  **Power steering oil pressure (red)**
The light should go out a few seconds after the engine is started. If the light remains on, particularly when the tractor is moving, contact your dealer. With the engine running at minimum revs and the tractor stationary, the light may come on without indicating a problem.
- 13  **Second trailer direction indicator (green)**
Flashes at the same time as the tractor turn indicators, if connected.
- 14  **Left direction indicator (green)**
Flashes at the same time as the left-hand turn indicators.
- 15  **Abnormal battery charging system operation (red)**
It should go out once the engine starts. If the light stays on when the engine is running, stop and find the cause of the problem. May light up when the engine is idling, but does not necessarily indicate a fault.
- 16  **Side lights (green)**
Lights up when the sidelights are switched on.
- 17  **Full-beam headlights (blue)**
The light illuminates when the headlights are on main beam.
- 18  **Work lights (amber)**
Lights up when the working lights are switched on (cab models only).
- 19  **First trailer direction indicator (green)**
Flashes at the same time as the tractor turn indicators, if connected.
- 20  **Engine oil pressure (red)**
The light should go out a few seconds after the engine is started. If the light stays on when the engine is running, stop and find the cause of the problem. If the light remains on, particularly when the tractor is moving, contact your 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.
- 21  **Grid Heater (amber)**
The indicator lights up when the grid thermostarter is turned on by the ignition key.
- 22  **Brake fluid level (amber)**
The light comes on when the brake fluid pressure is low.

- 23  **Trailer brake (red)**
Comes on, with the engine running, when the brakes are applied with the tractor brakes coupled together for road driving. The light comes on whenever the handbrake is on or when the brake fluid pressure is low.
- 24  **Fuel level low (amber)**
The light comes on when the tractor needs refuelling.
- 25  **Water in fuel (amber)**
- 26  **Engine inlake air filter blocked (amber)**
The light comes on when the engine air filter cartridge is totally or partially clogged and needs servicing. Stop the tractor and service it as described in maintenance section.
- 27  **Differential lock (amber)**
Lights up when the differential lock is ON.
- 28  **Battery cut-out (amber)**
It lights up whenever the battery is disconnected from the electric system with the specific control.

Speedometer/tachometer

Engine rev counter and six-figure hour meter: the figures on the black background count the hours of work and that on the red background (last figure on the right) show the tenths of an hour. The green and blue sectors show the number of engine rpm required to reach standard power take-off speed.

- Green mark = PTO at **540 RPM**
- Blue mark = PTO at **1000 RPM**

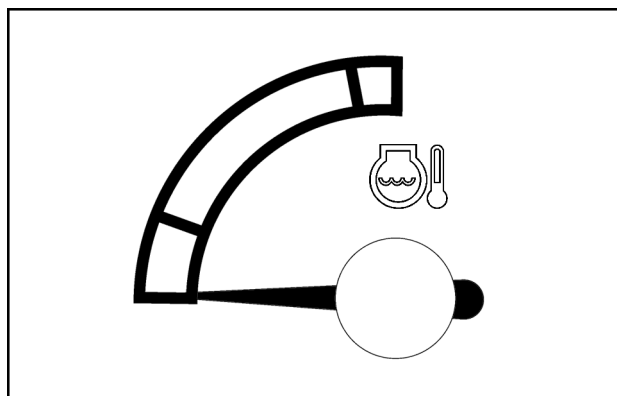


DCSPVNEGB008S3A 2

Engine coolant temperature gauge

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

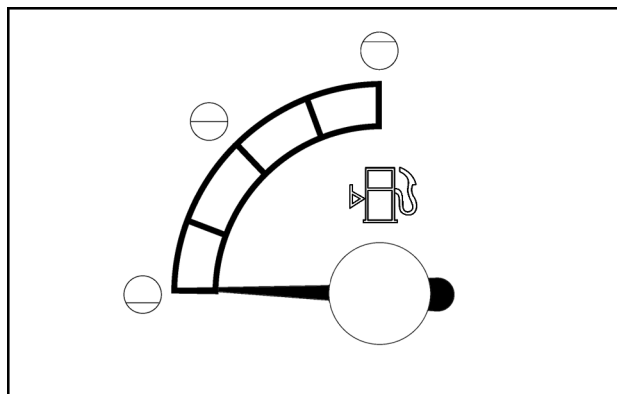
In this case, slow the engine to idling speed (without stopping the engine) and, if the light stays on, have the cooling system checked.



DCSPVNEGB009S3A 3

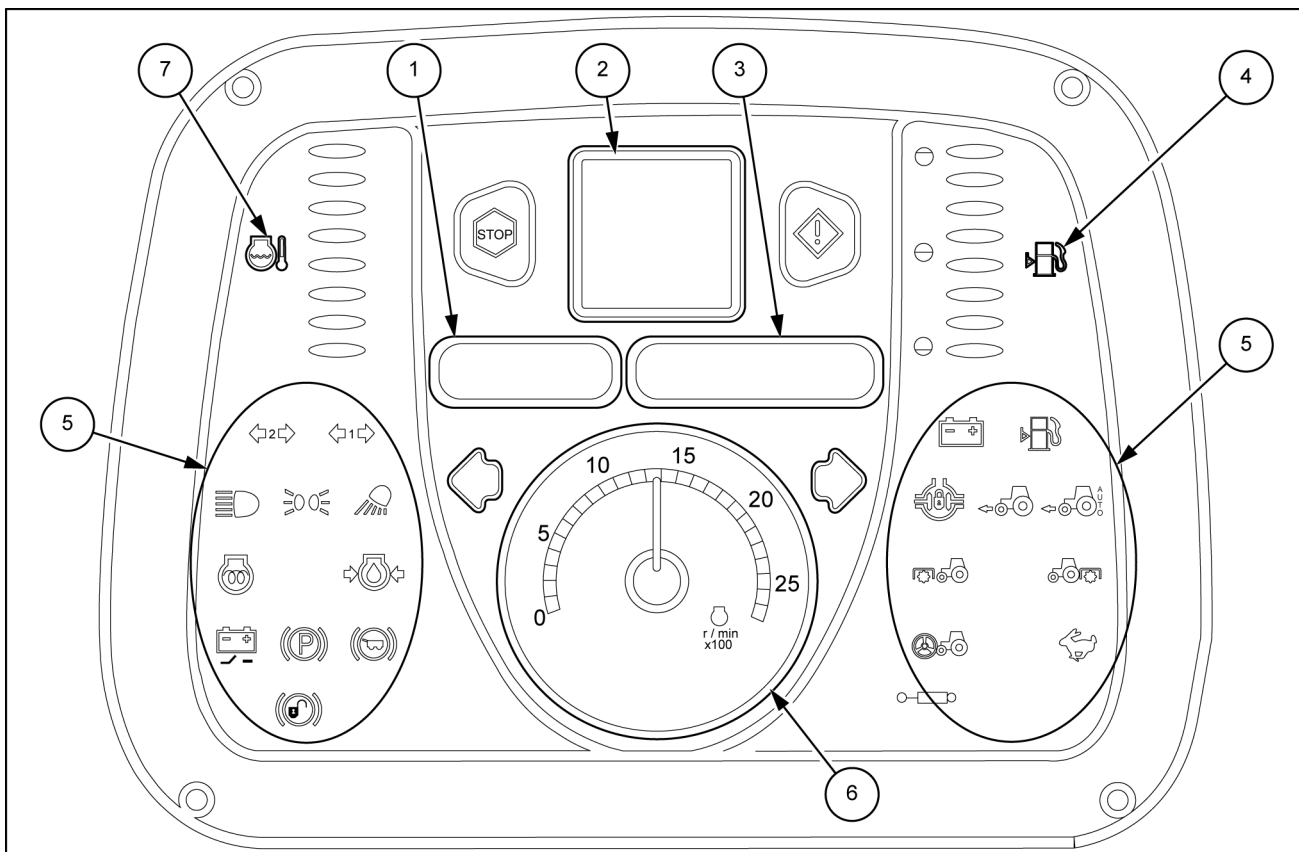
Fuel gauge

Shows fuel level in the tank. When the tank is full, the pointer moves completely to the right. When the fuel level falls below 1/4, the needle moves into the red area.



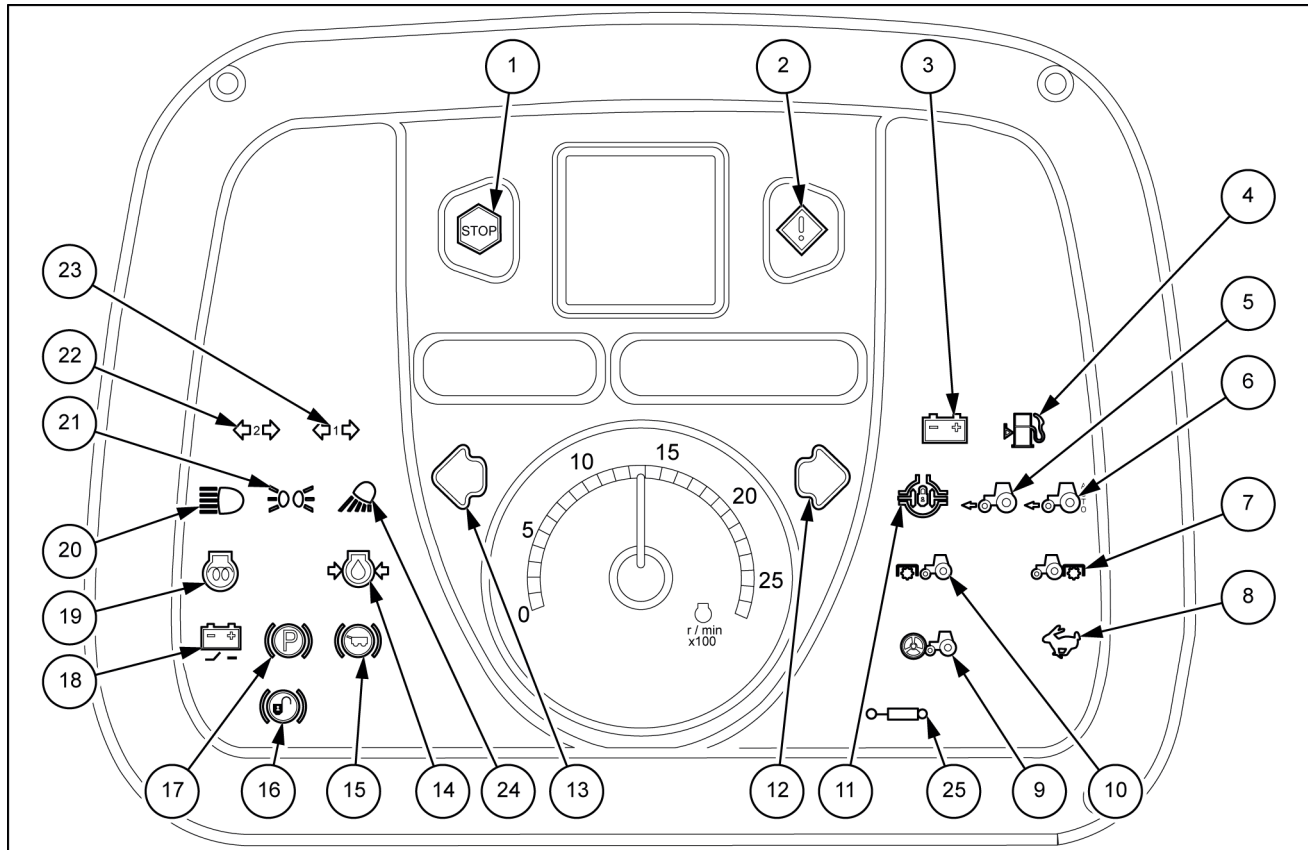
DCSPVNEGB010S3A 4

Digital dashboard



MOIL13TR00299FA 1

1. Left-hand digital display – This display shows the tractor ground speed in - **km/h (- mph)**
2. Information display - The display shows information on the operational condition of the machine in the form of symbols or code numbers.
3. Right-hand digital display - This display provides the following information:
 - Rear PTO speed or, where applicable, the front one.
 - Clock.
 - Position of the rear lift or, where applicable, of the front one.
4. Fuel level histogram
5. Warning lights
6. Tachometer/rev-counter
7. Engine coolant temperature indicator histogram



MOIL13TR00298FA 2

- 1**  **Stop warning light (red)**
If the red "Stop" warning light comes on, switch off the tractor immediately and look for the cause. A warning symbol will appear on the display confirming the location of the fault.
- 2**  **Indicator lamp (amber)**
This indicator light comes on and the display shows a warning symbol. The light blinks for 4 seconds, after which the symbol on the display disappears and the indicator light stays on steady. To display the fault, you need to go to the menu. Stop the tractor and investigate the cause of the trouble.
- 3**  **Battery charging system failure (red)**
This warning light should switch off as soon as the engine starts. If the light stays on when the engine is running, switch off the engine and find the cause of the problem.
- 4**  **Fuel gauge (amber)**
The light comes on when the tractor needs refuelling.
- 5**  **Four-wheel drive (green)**
This warning light comes on when the four-wheel drive is automatically engaged.
- 6**  **Four-wheel drive automatic control (green)**
This warning light comes on when with the respective button you select the automatic four-wheel drive engagement mode.
- 7**  **Power take-off (amber)**
This warning light comes on when the engine is running and the power take-off is engaged.

-
- | | | |
|----|---|---|
| 8 |  | High (HI) gear range indicator light (green)
Lights up when the high gear range is selected (tractors with Power-Shuttle/Dual Command (2 Speed Power Shift) transmission only). |
| 9 |  | Front lift (amber)
This warning light comes on when the front lift is deactivated, or it briefly illuminates when starting the engine (even if the tractor is not equipped with the front lift). |
| 10 |  | Front power take-off (amber)
This warning light comes on when engaging the front power take-off (if installed). |
| 11 |  | Differential lock (amber)
Lights up when the differential lock is ON. |
| 12 |  | Right direction indicator (green)
The indicator light flashes together with the tractor's right direction indicators. |
| 13 |  | Left direction indicator (green)
The indicator light flashes together with the tractor's left direction indicators. |
| 14 |  | Engine oil pressure (red)
This warning light should go out a few seconds after starting the engine. If the light stays on when the engine is running, switch off the engine and find the cause of the problem. If the light remains on, particularly when the tractor is moving, contact your dealer. When the engine is warmed up and idling, with the tractor stationary, the warning light may illuminate even if no faults are present. |
| 15 |  | Trailer brakes (red)
This warning light illuminates when, with the engine running, the tractor's brakes are applied with the respective paired pedals for driving and transport on roads. The warning light comes on every time the hand brake is applied or there is low brake fluid pressure. |
| 16 |  | Not used |
| 17 |  | Handbrake (red)
This warning light signals that the hand brake is on (with the key start switch ON). It flashes with the start switch in the STOP position and the hand brake off. |
| 18 |  | Battery cut-off switch warning light (amber)
This indicator light comes on when the battery cut-off switch is on. |
| 19 |  | Cold start aid (grid heater) (amber)
Lights up when the grid heater (thermostarter) is turned on by the key start switch. |
| 20 |  | Full-beam headlights (blue)
This indicator light comes on when the tractor lights are switched to main beam. |
-

- 21  **Side lights (green)**
This warning light comes on when the position lights are switched on.
- 22  **Second trailer direction indicators indicator light (green)**
This indicator light flashes together with the tractor/trailer direction indicators, if the second trailer is connected.
- 23  **First trailer direction indicators indicator light (green)**
This indicator light flashes together with the tractor/trailer direction indicators, if the second trailer is connected.
- 24  **Work lights (amber)**
This indicator light comes on when the work lights are switched on (models with cab only).
- 25  **Electronic side distributors indicator light (green)**
This indicator light comes on when the side distributors are operated.

Tachometer/rev-counter (1)

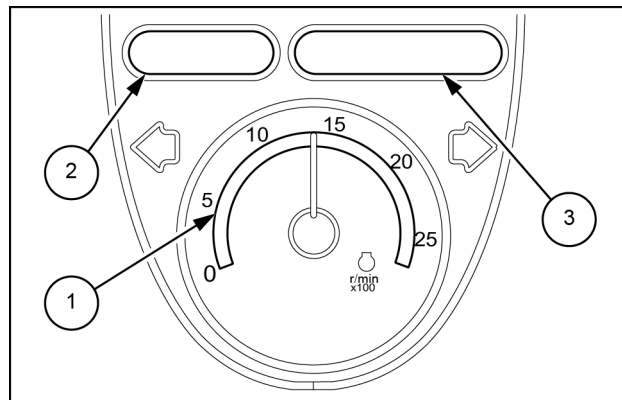
Engine rev counter. To obtain the engine rpm, multiply the number indicated by the pointer by 100.

Digital display (2)

When the engine switches on, the digital display passes automatically to show the tractor ground speed, in km/h or MPH, depending on the set unit of measurement.

Digital display (3)

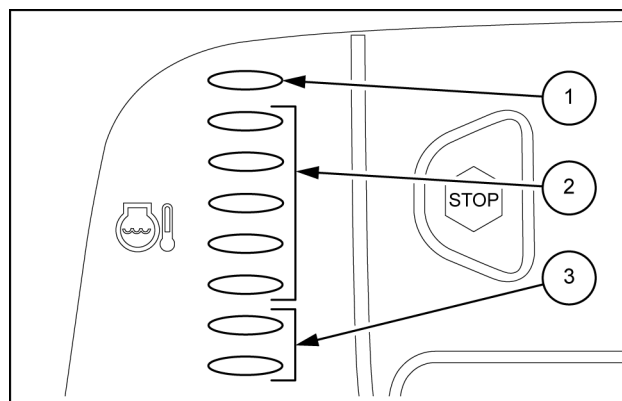
- Rear PTO speed (displayed automatically on starting the engine).
- Clock.
- Rear lift position.



MOIL13TR00485AA 3

Engine temperature displays

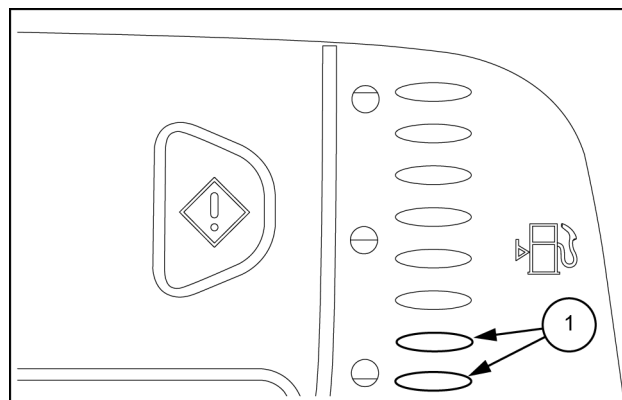
1. Red area = engine overheating.
In this case, slow the engine to idling speed (without stopping the engine) and, if the light stays on, have the cooling system checked.
2. Green area = normal temperature.
3. Blue area = temperature too low.



MOIL13TR00486AA 4

Fuel gauge

Shows the fuel level in the tank. When the tank is full, all the sections are illuminated. Whereas if the two bottom sections (1) remain illuminated it means that the fuel level is below 1/4 (reserve).

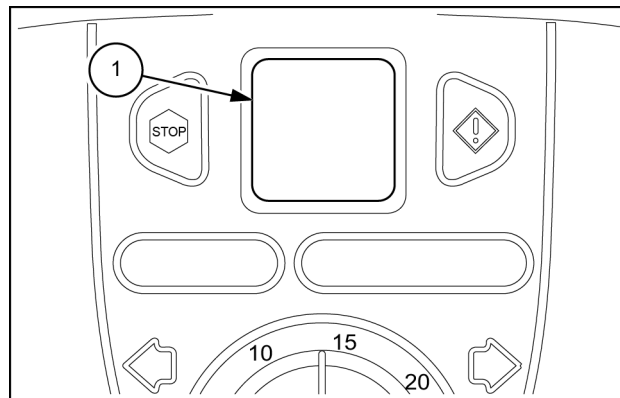


MOIL13TR00487AA 5

Multi-function display

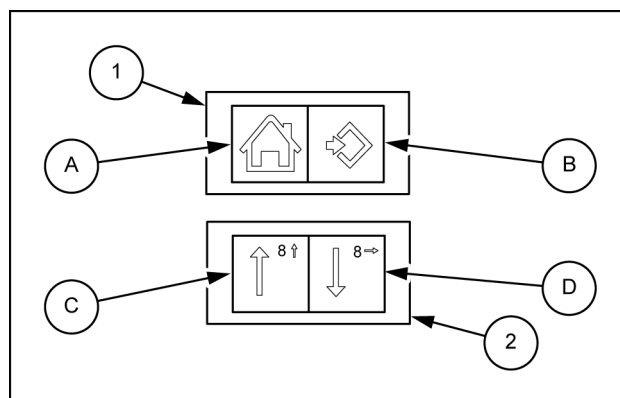
The liquid crystal multi-function display **(1)** can show useful and necessary information for the driver and a menu that supports the following setting functions:

- Tractor ground speed calibration
- Instrument cluster dimming
- Buzzer on/off on pressing the buttons
- Speed indication selection in km/h or MPH
- Time display setting with 12 or 24 hour format
- Error code presentation.



MOIL13TR00488AA 6

The menu is navigated through by using the rocker switches **(1)** and **(2)**. Each switch has two control positions, depending on the side on which it is pressed. To access the SETUP MENU, turn the key start switch ON and keep the switch **(1)** pressed for more than three seconds in position **(B)**.



MOIL13TR00489AA 7

Switch (1)

(A) Exit/Cancel. Use this button (and that means this switch position) to cancel or quit the setting and programming modes.

(B) Return = See the MENU/RETURN or confirm button. Press this key to select the programming setting and setting confirmation mode.

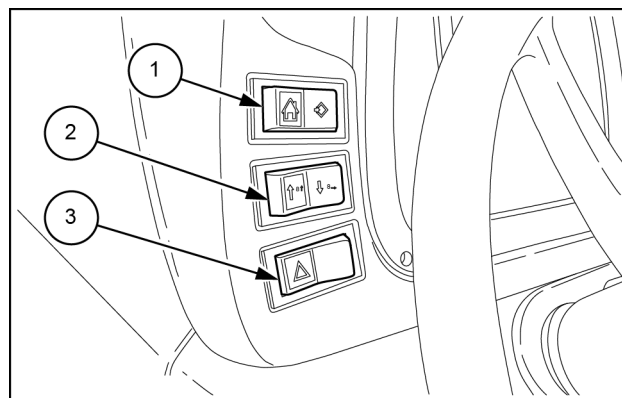
Switch (2)

(C) Up arrow = scrolling up through the menu or numerical value. Press this button (and that means this switch position) repeatedly to scroll forwards in the menu or change the value of a number.

(D) Down arrow = scrolling down through the menu or numerical value. Press this button (and that means this switch position) to scroll backwards in the menu or to move to the right of a position.

Front controls

1. Menu navigation button
2. Scroll and selection button
3. Hazard lights switch
Press the left side (with the symbol) of the switch (3) to turn on the hazard light flashers; when pressed, the switch starts blinking. The panel light flashes at the same time as the direction indicators.

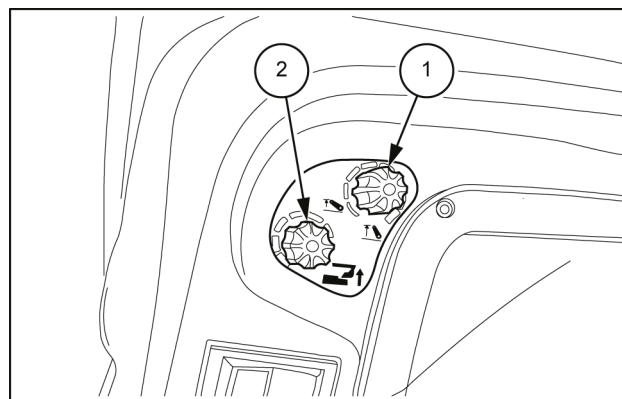


MOIL13TR00501AA 1

Potentiometers for selecting the functions of the front lift

Version with cab and **SuperSteer™** axle

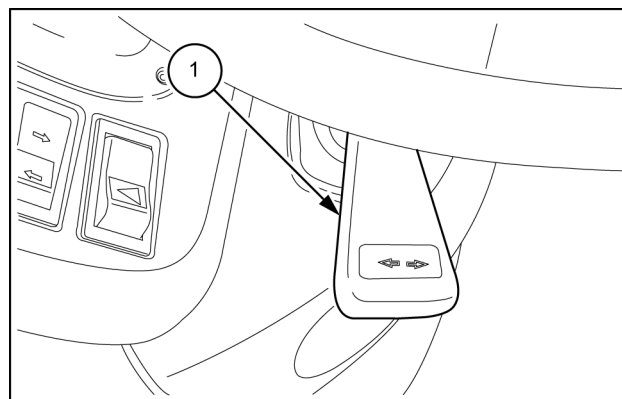
1. Arm lifting limit adjustment control.
2. Working depth control potentiometer.



MOIL13TR00796AA 2

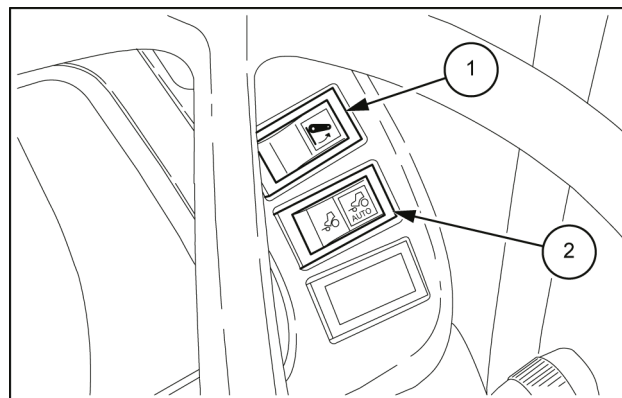
Power shuttle (Electro-hydraulic shuttle control lever)

1. The shuttle lever (1), located to the left of the steering wheel, is used to select forward or reverse when a gear ratio is engaged.
To select the drive direction, lift the lever and move it forward for forward drive, or backward for reverse drive. Drive direction can be selected without pressing down the clutch pedal.
To change the drive direction keep the lever raised and move it either forwards or backwards. Drive direction can be changed without pressing down the clutch pedal.



MOIL13TR00505AA 3

1. Switch to raise/lower front lift
This switch is used only to lower or raise the implement at each headland.
2. Four-wheel drive electro-hydraulic control switch.
Front-wheel drive increases the tractor's grip on the ground; the advantages are evident when working on uneven, muddy or slippery ground, when ploughing or working in difficult conditions.



MOIL13TR00788AA 4

Front power take-off

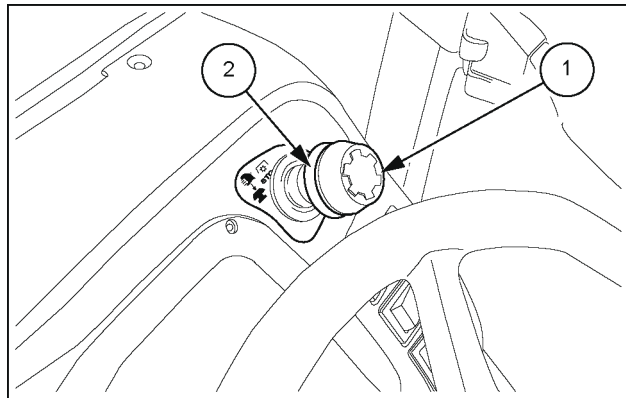
NOTE: Only for models with **SuperSteer™** axle

To engage the power take-off, lightly press the knob **(1)** and raise the collar **(2)**.



The warning light on the instrument cluster will come on to signal the PTO has engaged.

To disengage the PTO, simply press the knob **(1)** downwards.



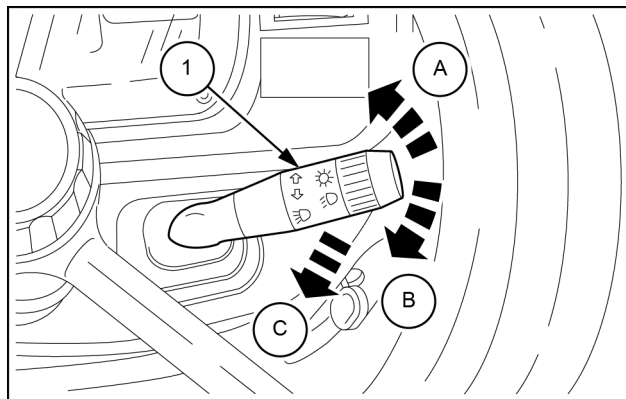
MOIL13TR00798AA 5

Direction indicators

To indicate turning to the left, push the stalk **(1)** forward to position **(A)**. To indicate turning to the right, pull the stalk back to position **(B)**.

Flashing lights

With the lights off or dipped, pull the stalk upwards into position **(C)** to flash full beam lights. When the lever is released, it automatically returns to its original position.



MOIL13TR00503AA 6

Side lights

Turn the knob **(5)** to set the pointer **(4)** onto the symbol **(2)**. The position lights/taillights and instrument cluster lights will come on.

Dipped beam headlights

Move the mark **(4)** on the knob **(5)** onto the symbol **(6)**.

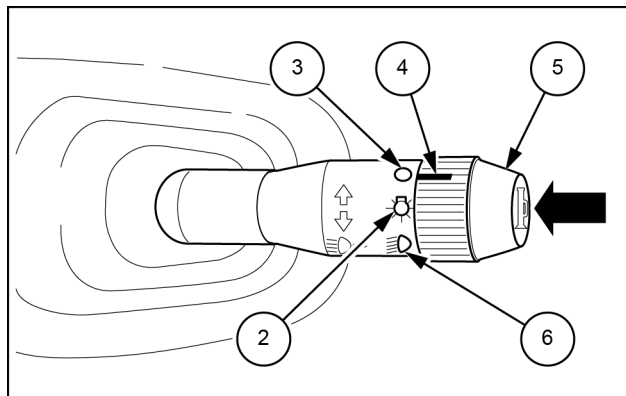
Horn

To sound the horn, press the button on the tip of the stalk **(5)**, as shown in the figure.

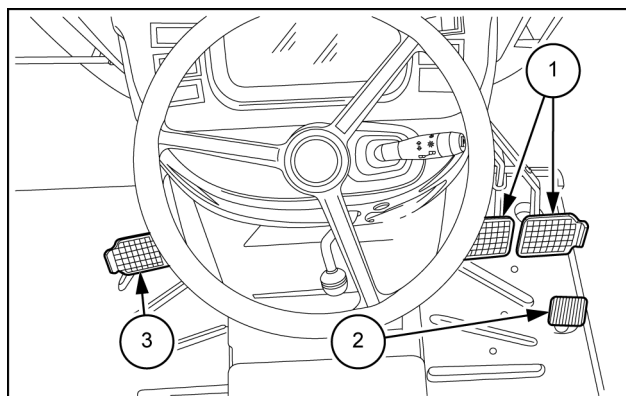
NOTE: When the mark **(4)** on the knob is aligned with symbol **(3)**, all the lights are off. Only the direction indicators and the horn are still functional.

Pedal controls

1. Brake pedals.
2. Foot throttle.
3. Transmission clutch pedal.



MOIL13TR00504AA 7



MOIL13TR00542AA 8

Footbrakes

⚠ WARNING

Loss of control hazard!
Uneven brake force exists on left-hand and right-hand brakes. Always use brake pedal coupler when traveling on public roads to ensure brakes are actuated together. Failure to comply could result in death or serious injury.

W0081A

The brakes can be operated independently ONLY to facilitate manoeuvres in confined spaces.

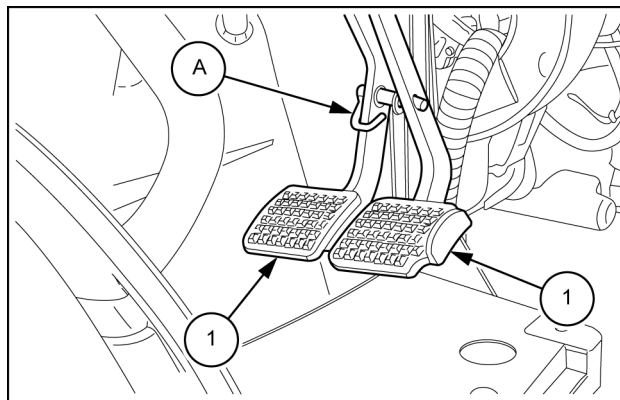
NOTICE: When travelling on the road and towing trailers with hydraulically operated brakes, always join the brake pedals (1) together using the pin (A), as shown in the figure.

NOTE: On four-wheel drive models, front axle transmission is automatically engaged when the brakes are applied on all four wheels. With automatic engagement of 4WD, the brakes function much more efficiently, therefore care must be taken when braking sharply.

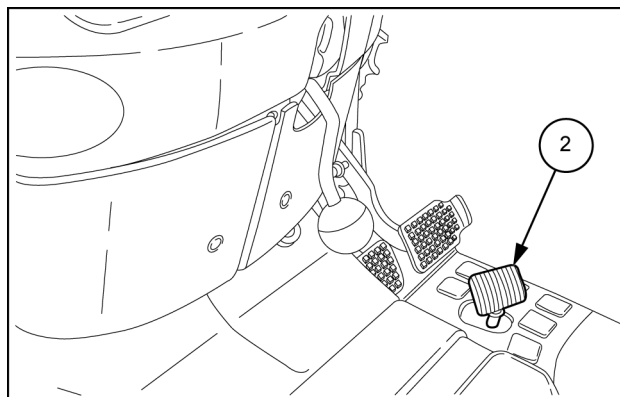
Foot throttle

The foot throttle (2) may be used independently of the hand throttle to control the speed of the tractor. It is recommended that you use the foot throttle when driving on the highway.

NOTE: When the foot throttle is released, engine speed will reduce to the level set by the hand throttle. When using the foot throttle, set the hand throttle onto the idle speed position.



MOIL13TR00507AA 9



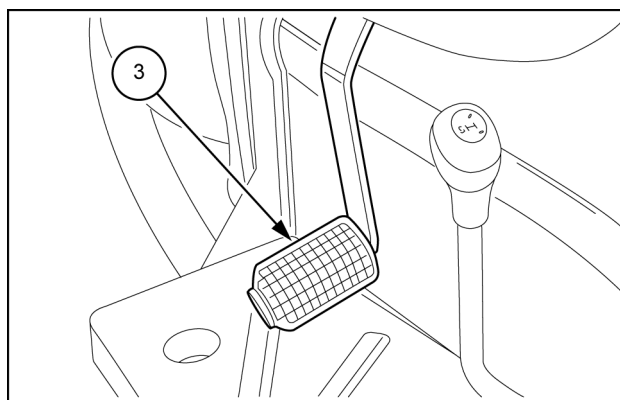
MOIL13TR00508AA 10

Transmission clutch pedal.

When the clutch pedal (1) is pressed on models with mechanical transmissions, drive is disengaged and the gear ratio, range and forward or reverse travel can be selected. On models fitted with the Power Shuttle electro-hydraulic reverser, the clutch pedal is used to gradually transfer engine horsepower to the driving wheels when starting to move from a standstill.

NOTICE: Before starting the engine, fully depress the clutch pedal (1).

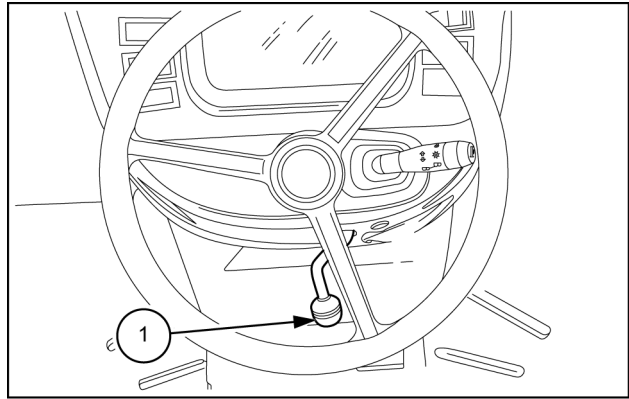
NOTE: To prevent premature wear of clutch components, do not use the clutch pedal as a foot rest.



MOIL13TR00509AA 11

1. Power take-off engagement lever.

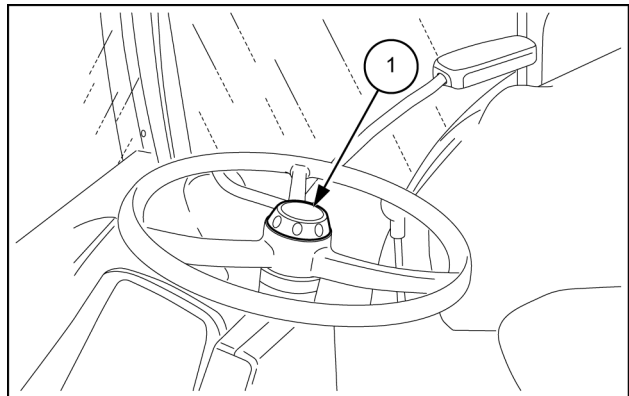
To activate the power take-off, engage the clutch by setting the respective control lever (1) in the completely raised position.



MOIL13TR00540AA 12

Adjusting the steering wheel

The steering wheel is fitted with a height adjustment knob. To adjust, loosen the knob (1) and move the steering wheel to the desired height. Then screw the knob (1) back on to lock the steering wheel in position.



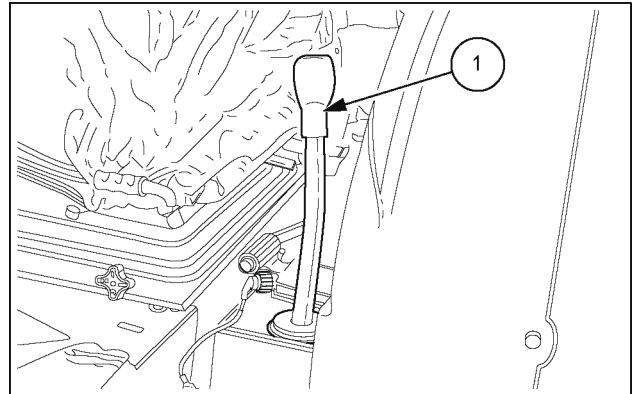
MOIL13TR00541AA 13

LEFT-HAND SIDE CONTROLS

Console Left-hand console - Control identification

1. Shuttle (mechanical shuttle control lever)

NOTE: On the dual command (2 speed power shift) version of the Power Shuttle the lever (1) governs engagement/disengagement of the parking brake.

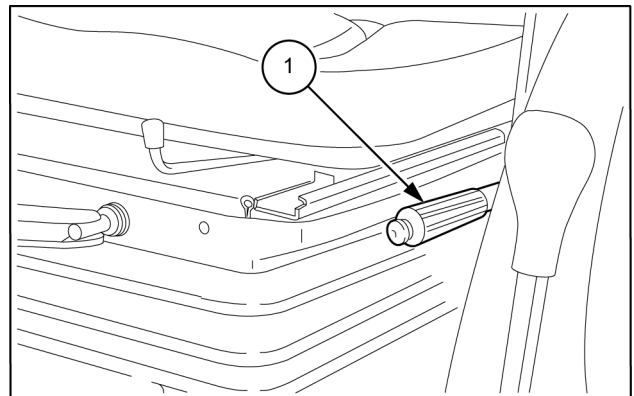


MOIL13TR00998AA 1

Handbrake

To apply the handbrake, press the red button on the end of the lever (1) and pull upwards. The handbrake should lock on the third catch of the ratchet. If the handbrake exceeds the third catch it will need to be adjusted, as described in Chapter 7 "Maintenance". To release the handbrake, pull the lever slightly upwards, press the red button and then fully lower the lever.

NOTICE: Whenever leaving the tractor switch off the engine and apply the handbrake.

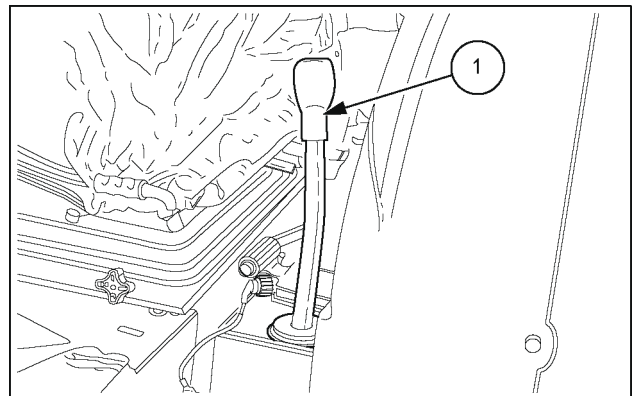


MOIL13TR00513AA 2

Shuttle (mechanical shuttle control lever)

The lever (1) is used to select forward or reverse when a gear ratio is engaged. To select the drive direction, move the lever (1) forwards, for forward drive, or backwards, for reverse, as shown on the knob of the lever. Slow down almost until stopping before reversing direction when the tractor is in motion.

NOTE: To start the engine, set the shuttle lever (1) on the central neutral position. In addition, it is recommended to press the clutch pedal fully down.



MOIL13TR00998AA 3

Parking brake for hydraulic transmissions

Parking lock

NOTICE: On models with **Power Shuttle** and **HI-LO** when leaving the machine, besides applying the hand brake you must engage the parking brake **Parking lock**.

Figure 1 configuration with **HI-LO**, **Power shuttle**.

Figure 2 configuration with **HI-LO**, **Power shuttle** and creeper unit.

Besides the hand brake (1) there is the parking brake controlled by the lever (2). Its operation is as follows:

Engagement

With the tractor stationary, move the lever from the central neutral position on the left, then forwards in the direction (P) and subsequently to the right as shown on the plate on the lever.



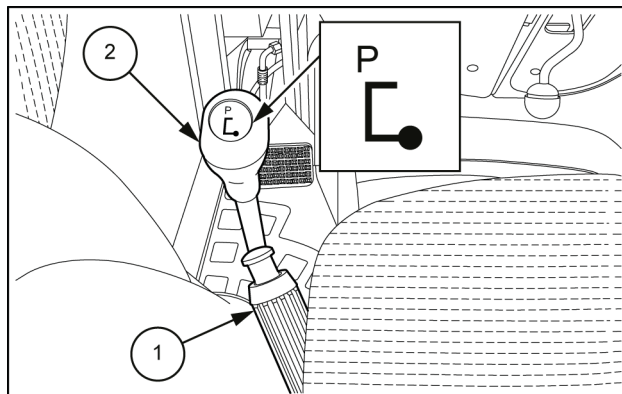
To check proper engagement, engage a gear and a direction and then try moving: the following warning light will come on, accompanied by a sound signal, to indicate correct engagement.

Disengagement

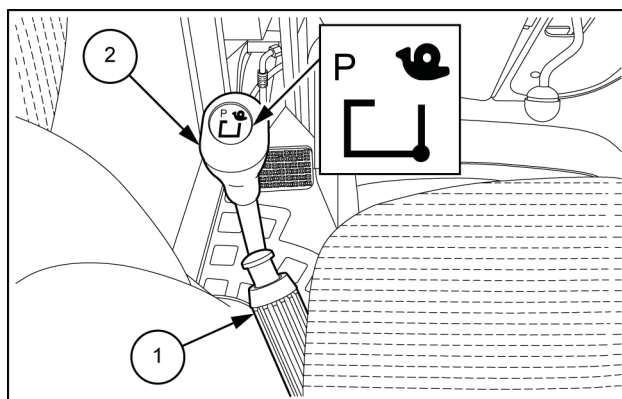
Before setting off with the tractor it is necessary to disengage the brake. With the tractor stationary, move the lever to the left, then backwards as shown on the plate on the lever.



If the warning light stays on and there is a sound signal while moving, it means that the brake has not been disengaged and therefore do not try moving the machine.



MOIL13TR00956AA 1

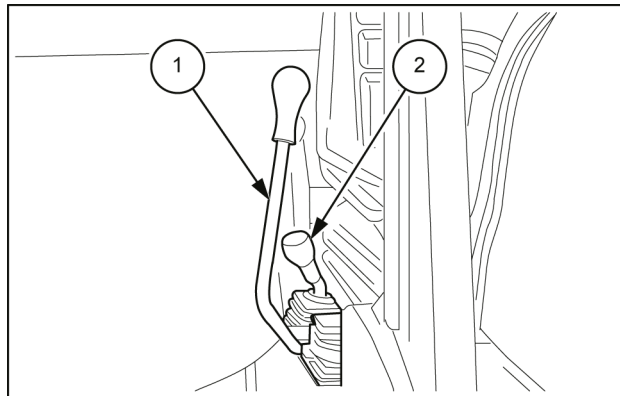


MOIL13TR00957AA 2

RIGHT-HAND SIDE CONTROLS

Console Right-hand console - Control identification

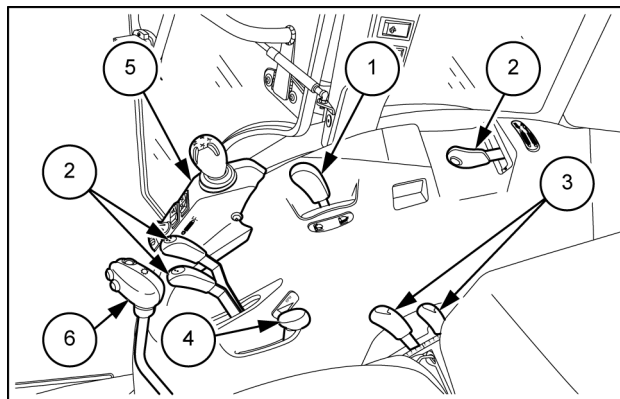
1. Gear lever.
2. Range gear lever.



MOIL13TR00799AA 1

Version with mechanically-operated lift

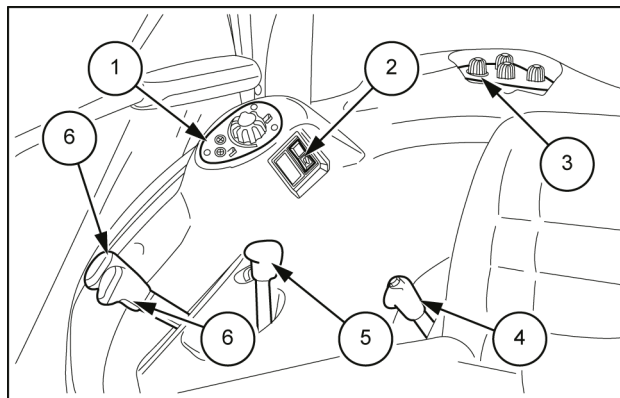
1. **Lift-O-Matic™** - Mechanically-operated hydraulic lift.
2. Auxiliary control valve levers.
3. Hydraulic lift control levers.
4. Hand throttle lever; regulates engine RPM. Press it forward to increase the engine RPM, pull it backwards to decrease the speed.
5. Controls for side electro-hydraulic distributor operation.
6. Gear lever.



MOIL13TR00373AA 2

Version with electronically-operated lift

1. Lower arms up/down adjustment knob
2. Fast raise/lower switch rear lift
3. Hydraulic lift controls
4. Auxiliary control valve levers
5. Hand throttle lever; regulates engine RPM. Press it forward to increase the engine RPM, pull it backwards to decrease the speed.
6. Auxiliary control valve levers

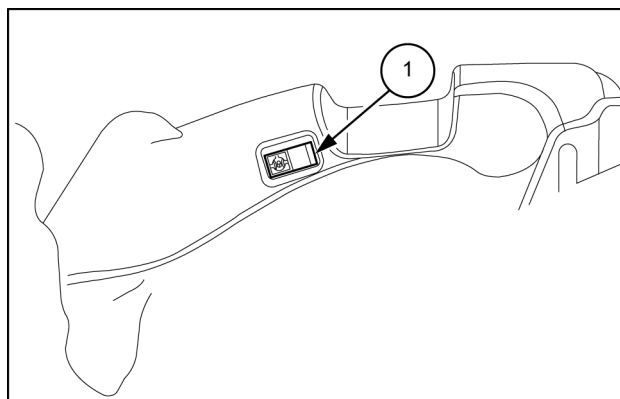


MOIL13TR00795AA 3

Electrohydraulic differential lock

Version without cab

1. Differential Lock Switch



MOIL13TR00860AA 4

(1) Rotating beacon switch

- Position **(A)** = beacon on.
- Position **(B)** = beacon off.

(2) Work lights switch

- Position **(A)** = front and rear work lights on.
- Position **(C)** = rear work lights on, front work lights off.
- Position **(B)** = work lights off.

(3) Front windscreen wiper switch

- Position **(A)** = second speed.
- Position **(C)** = first speed.
- Position **(B)** = off.

(4) Front windscreen washer switch

- Position **(A)** = windscreen washer on.
On release, the switch will return to the off position.

(5) Rear window washer switch

- Position **(A)** = rear washer on; when released, the switch returns to position **(C)**.
- Position **(C)** = rear wiper on.
- Position **(B)** = off.

(6) Electrohydraulic differential lock

- Position **(A)** = on. When released the switch returns to position **(C)**
- Position **(B)** = off.

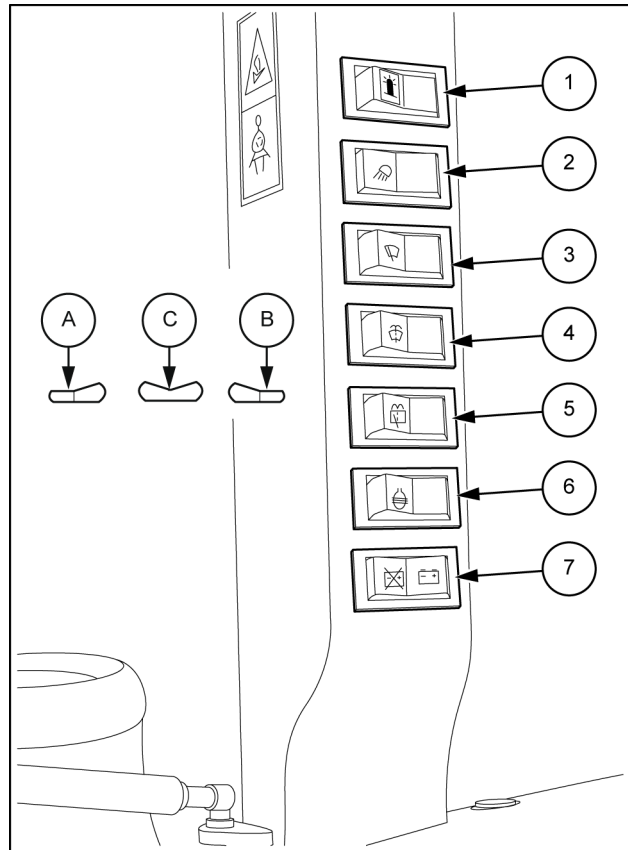
(7) Battery cut-off button

- Position **(A)** = battery cut off from the electric system.
- Position **(B)** = battery connected to the electric system

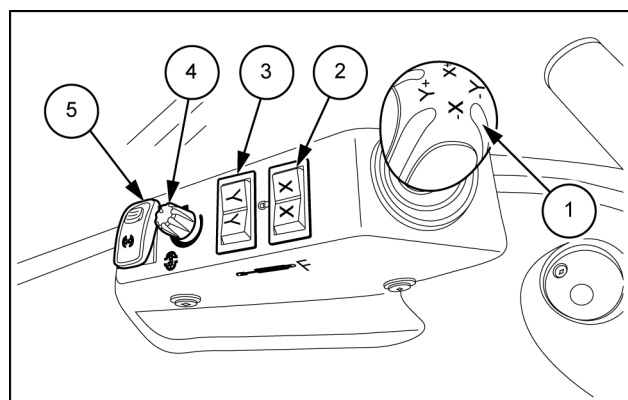
Electro-hydraulic distributor controls

Available only for cab models, they are located on the right mudguard.

1. Joystick for side distributor operation
2. Distributor activation switch on line **X**
3. Distributor activation switch on line **Y**
4. Potentiometer for oil flow control to the hydraulic motor.
5. Hydraulic motor ON/OFF switch



MOIL13TR00303BA 5



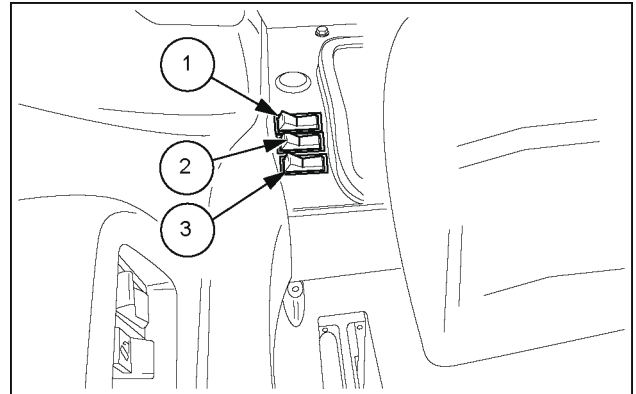
MOIL13TR00380AA 6

REARWARD CONTROLS

Console - Control identification

Switches governing stabilizers and right hand lift rod

1. Switch governing right-hand lift rod adjustment
2. Push-button governing right and left hydraulic stabilizer extension.
3. Push-button for locking hydraulic stabilizers

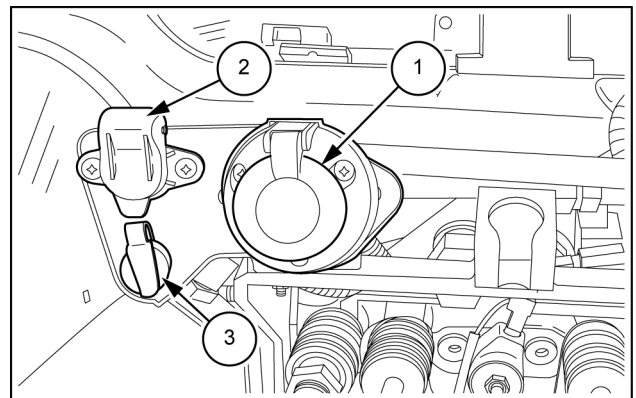


MOIL13TR00999AA 1

EXTERIOR CONTROLS

Console - Control identification

- 1 7 pin power socket **40 A**
- 2 Two pole power socket **25 A**
- 3 One pole power socket **8 A**



MOIL13TR00377AA 1

DISPLAY SETTINGS

Instrument cluster - Program

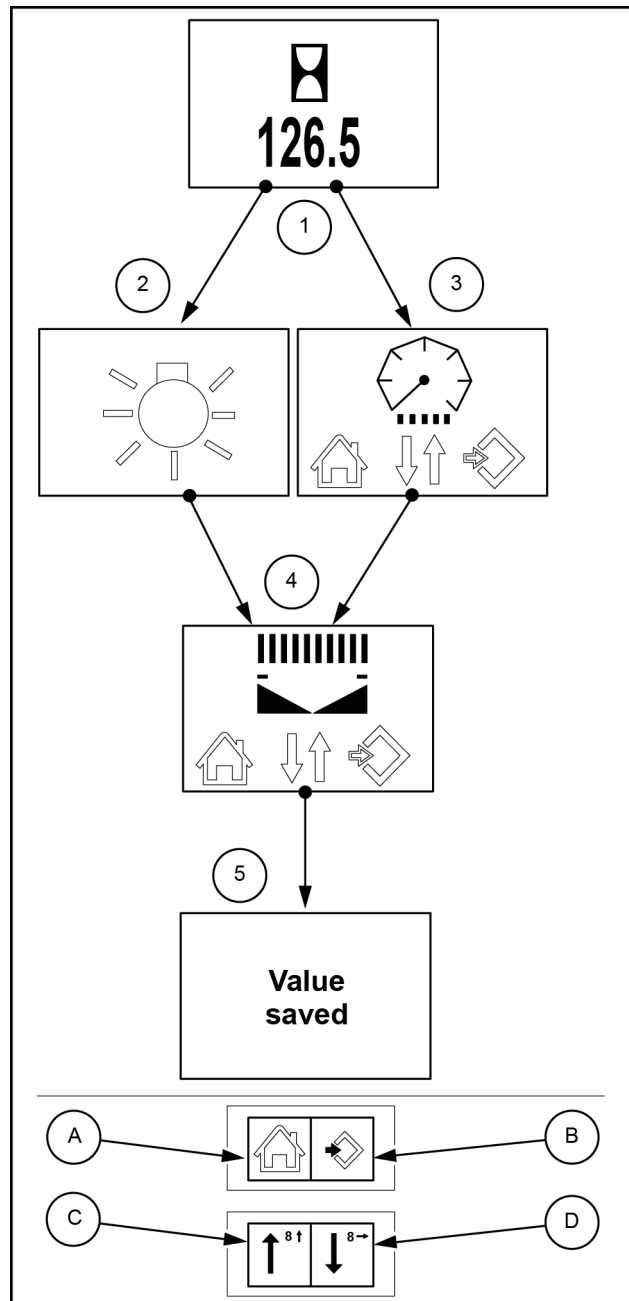
Information display or indicator brightness calibration

If you want to change the instrument's brightness, starting from the display (1), proceed as follows:

- Turn the ignition key onto the first click, press the arrow (C) on the switch for at least 3 seconds and the display will show a symbol as in detail (2), to change the brightness of the indicators, or the arrow (D) to view the detail (3) to change the brightness of the liquid crystal display
- To change the brightness of the indicators, press and release the arrow (C) on the switch or to change the brightness of the information display, press and release the arrow (D) on the switch. In both cases the display will show a symbol as in detail (4).
- Now press the arrow (D) on the switch to decrease the brightness or the arrow (C) to increase it.
- Press the symbol (B) again to save the set brightness level and after approximately 2 seconds the display must show "Value saved", as in detail (5).

NOTE: If you want to stop the display, press the symbol (A) to exit the programming menu.

When starting to change the brightness with the arrows, each time they are pressed, both the brightness and decreasing or increasing the number of bars of the diagram of detail (4) must change at the same time.



MOIL13TR00556CA 1

Changing clock hours/minutes

If you want to change the hour, proceed as follows.

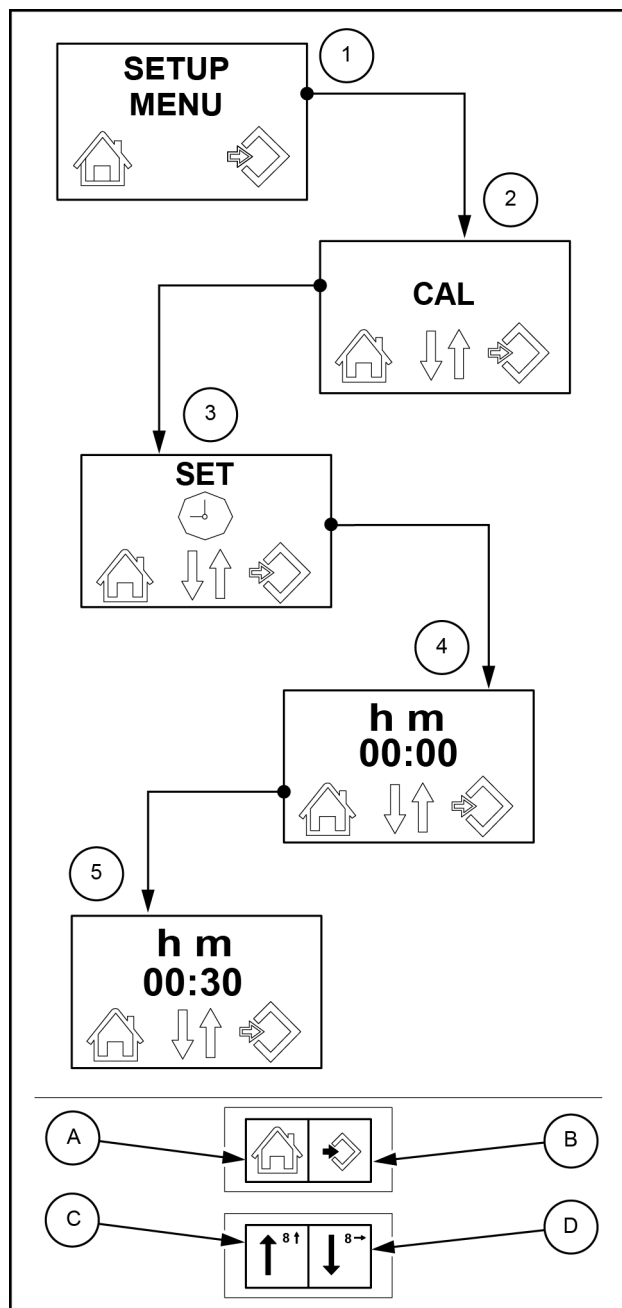
Turn the ignition key onto the first click, holding down the symbol **(B)** on the switch for more than three seconds.

- The central display shows **"SETUP MENU"** as in detail **(1)**. Release the symbol **(B)** to go to detail **(2) "CAL"**.
- Press the symbol **(B)** on the switch to go to the display **"SET"** as in detail **(3)**.
- Press the symbol **(B)** on the switch again and you display the hour set at that time with the first digit of the hours **"h"** blinking. Clock setting can now begin.
- Use the arrow **(C)** on the switch to change the value that increases by one unit each time it is pressed.

NOTE: If you hold down the switch continuously without releasing it, the digit will move forward continuously to 12 and recommence from 0, if the setting has been made in the 12 hour mode, or up to 24 to recommence from 0 if vice versa it has been made in the 24 hour mode.

- To save the setting, press the switch on the symbol **(B)**.
- Use the arrow **(D)** to move to the right. If you want to change, repeat the instructions just described or press the arrow down again, to move to the right. Repeat the same steps until the last digit of minutes **"m"**. See the example in detail **(5)**.
- To save, press the switch on the symbol **(B)**.

NOTE: If you want to stop the display, press the symbol **(A)** on the switch. This will automatically take you back to the display as in detail **(4)**. Press the same symbol again to exit the programming menu.

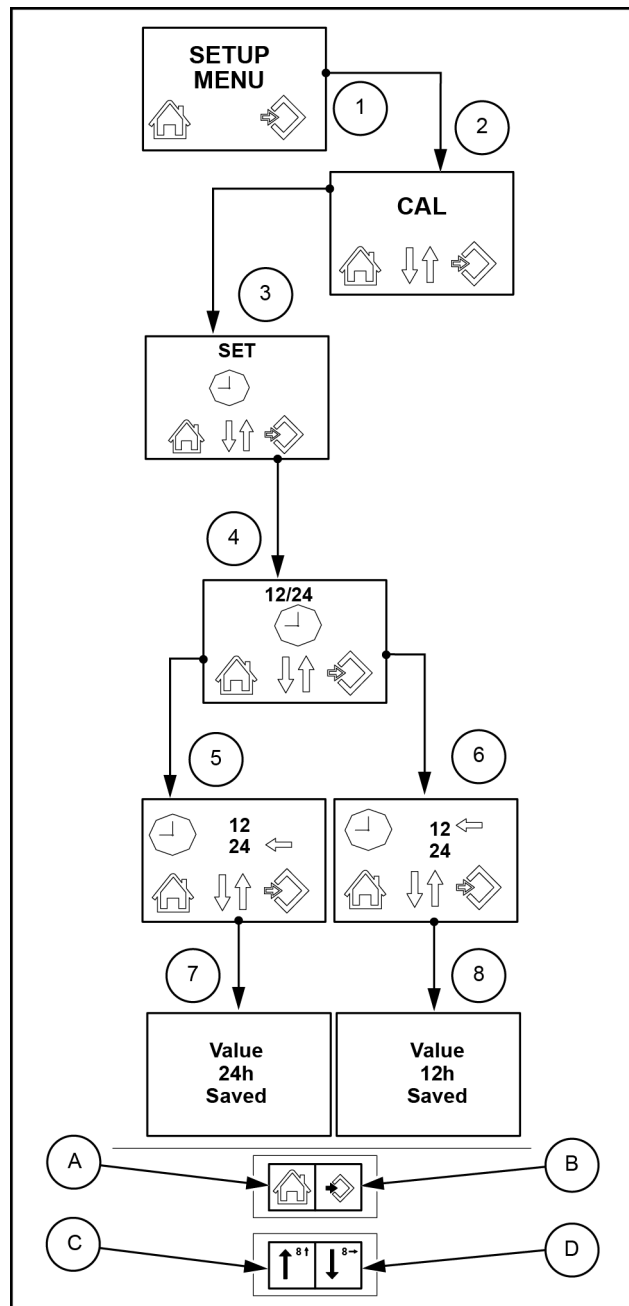


MOIL13TR00555CA 2

If you want to display the set time in **12** or **24** hour mode, follow these instructions:

Turn the ignition key onto the first click, holding down the symbol **(B)** on the switch for more than three seconds.

- The central display shows “**SETUP MENU**” as in detail (1). Release the symbol (B) to go to detail (2) **CAL**. Press the arrow (D) to reach the word “**SET**” as on the screen of detail (3).
- Press the arrow (C) or (D) and the display will show “**12/24**” as in detail (4).
- Press the symbol (B) and the display will show the last setting made, with one arrow in the direction of 12 or 24 as shown in details (5) and (6). If you want to stop the selection, press the symbol (A) on the switch to go back automatically to the view as in detail (4). Press the same symbol again to exit the programming menu. If you want to proceed, press the arrow (C) on the switch to pass from “**24**” to “**12**” or on the arrow (D) to pass from “**12**” to “**24**” as shown in details (7) and (8).
- In both cases, press the symbol (B) and the display will show the selection blinking, as shown in details (7) or (8). Wait approximately two seconds to save the setting. the blinking will stop to confirm saving.



MOIL13TR00554CA 3

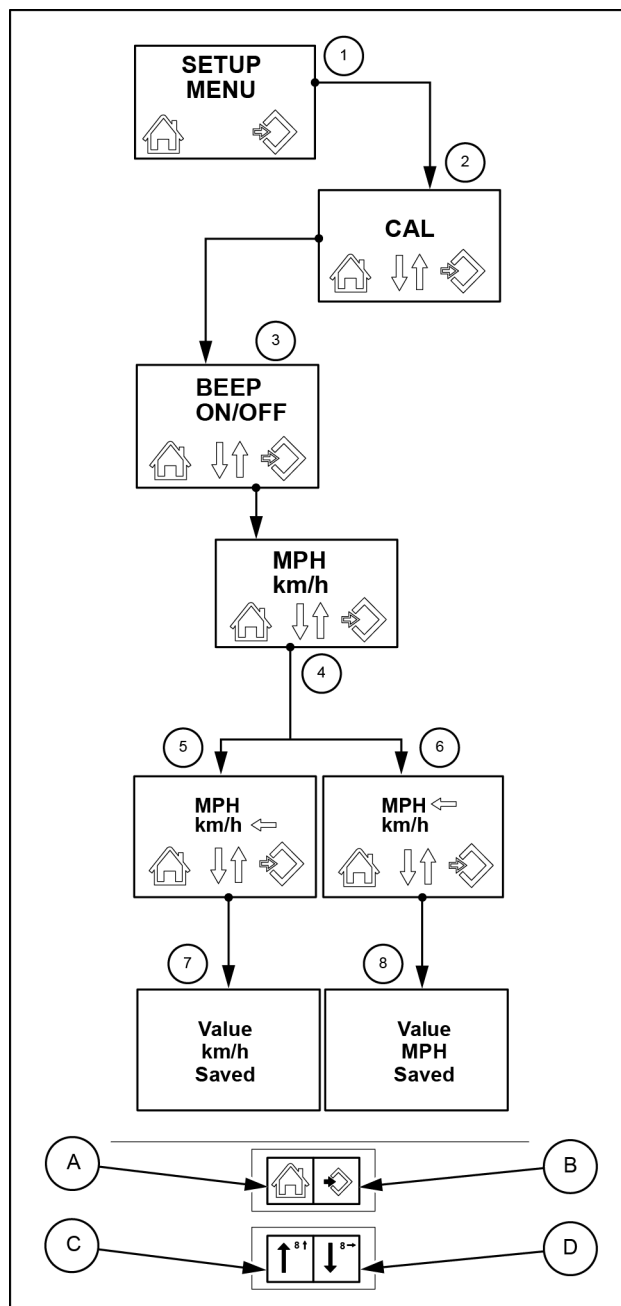
Changing unit of measurement

If you want to turn audible warning on or off each time a button is pressed, proceed as follows:

Turn the ignition key onto the first click, holding down the symbol **(B)** on the switch for more than three seconds.

- The central display shows **"SETUP MENU"** as in detail **(1)**. Release the symbol **(B)** to go to detail **(2) (CAL)**.
- Now press the arrow **(D)** on the switch and the display will show the screens in sequence as illustrated in details **(2)** and **(3)**.
- From viewing the detail **(3)** press the arrow **(D)** again and the display will show **"MPH km/h"** as in detail **(4)**.
- Press the symbol **(B)** and the display will show the last setting made, **"km/h"** indicated by the arrow as in detail **(5)** or **"MPH"** indicated by the arrow as in detail **(6)**. Press on the arrow **(C)** on the switch to pass from **"km/h"** to **"MPH"** or on the arrow **(D)** to pass from **"MPH"** to **"km/h"**.
- From the condition of detail **(5)** press **(B)** to save ON, the display will show **"Value km/h Saved"** as in detail **(7)** or from the condition of detail **(6)** to save OFF, the display will show **"Value MPH Saved"** as in detail **(8)**.

NOTE: If you want to stop the display, press the symbol **(A)** on the switch. This will automatically take you back to the display as in detail **(4)**. Press the same symbol again to exit the programming menu.



MOIL13TR00553CA 4

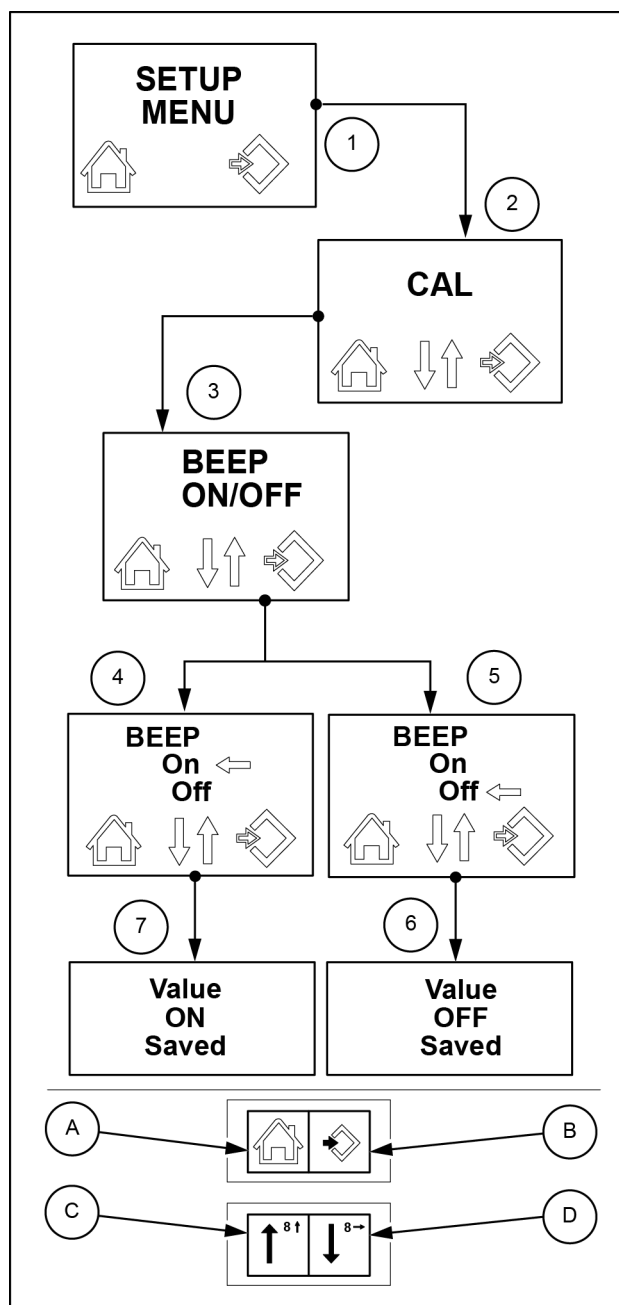
Audible warning ON/OFF

If you want to turn audible warning on or off each time a button is pressed, proceed as follows.

Turn the ignition key onto the first click, holding down the symbol **(B)** on the switch for more than three seconds.

- The central display shows **"SETUP MENU"** as in detail **(1)**. Release the symbol **(B)** to go to detail **(2) (CAL)**.
- Now press the arrow **(D)** on the switch until the display shows **"BEEP ON/OFF"** as in detail **(3)**.
- Press the symbol **(B)** and the display will show the last setting made, **"BEEP ON"** as in detail **(4)** or **"BEEP OFF"** as in detail **(5)**. Press on the arrow **(D)** on the switch to pass from **"ON"** to **"OFF"** or on the arrow **(C)** to pass from **"OFF"** to **"ON"** as in details **(4)** and **(5)**.
- From the condition of detail **(4)** press **(B)** to save ON, the display will show **"Value ON Saved"** as in detail **(6)** or from the condition of detail **(5)** to save OFF, the display will show **"Value OFF Saved"** as in detail **(7)**.

NOTE: If you want to stop the display, press the symbol **(A)** on the switch. This will automatically take you back to the display as in detail **(3)**. Press the same symbol **(A)** again to exit the programming menu.



MOIL13TR00552CA 5

Speed calibration

If rear tyres of a different size are to be fitted, with a difference in radius of more than **13 mm (0.5 in)** compared to the standard ones, it will be necessary to recalibrate the electronic control module so as to get the display of a specific ground speed. For resetting, proceed as follows.

Select a dry, compact and level surface (preferably concrete) and measure out a section exactly **100 m (328.1 ft)** long. Mark the start and finish of this measured distance with a bold chalk line.

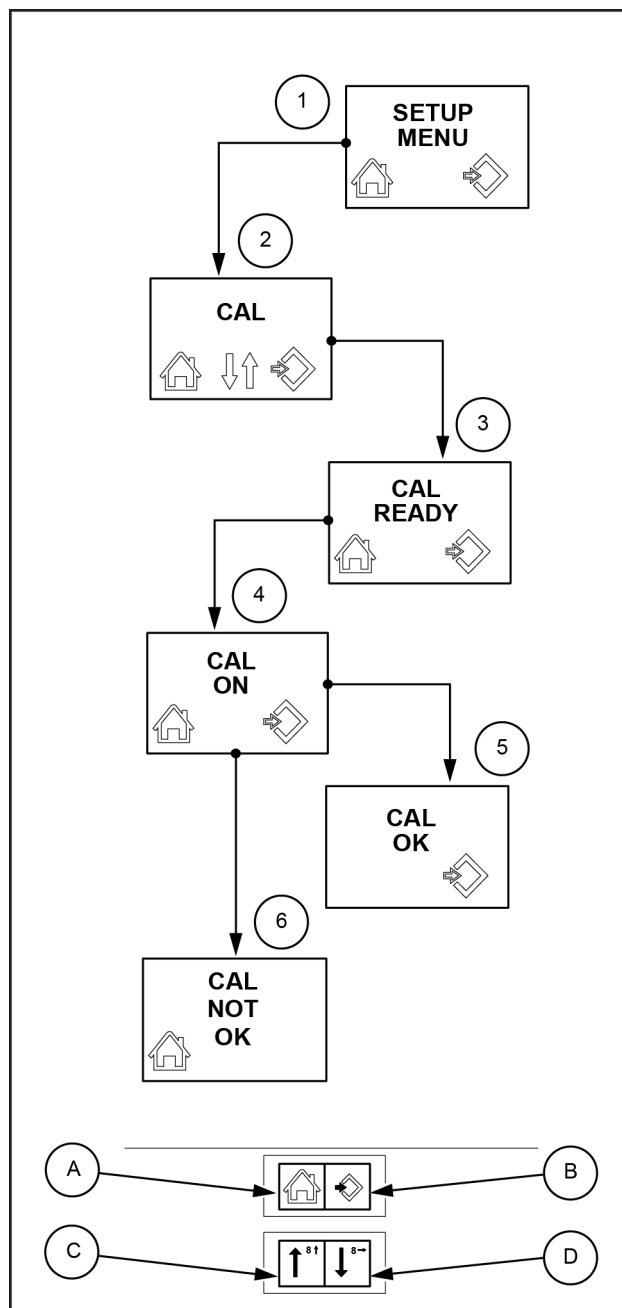
Turn the ignition key onto the first click, holding down the symbol **(B)** on the switch for more than three seconds.

- The central display shows **"SETUP MENU"** as in detail (1). Release the symbol **(B)** to go to detail (2) **(CAL)**.
- Press the symbol **(B)** on the switch and the display will show **"CAL READY"**, as in detail (3).
- Select a suitable gear and provide a speed above **2 km/h (1.2 mph)** and at the start of the line drawn beforehand, press the pushbutton and the display will show **"CAL ON"** blinking, as in detail (4).

NOTE: The ground speed must not drop under **2 km/h (1.2 mph)**. If the speed is less than as prescribed, calibration will stop.

- When the central portion of the front tyres passes over the end line, press the button on the symbol **(B)** again and the display will show **"CAL OK"** as in detail (5). Now press the symbol **(B)** again to save the setting. If on the contrary the procedure has not been performed correctly the display will show **"CAL NOT OK"**, as in detail 6.

NOTE: If you want to stop the display, press the symbol **(A)** on the switch. Press the same symbol again to exit the programming menu.



MOIL13TR00551CA 6

Active fault codes display

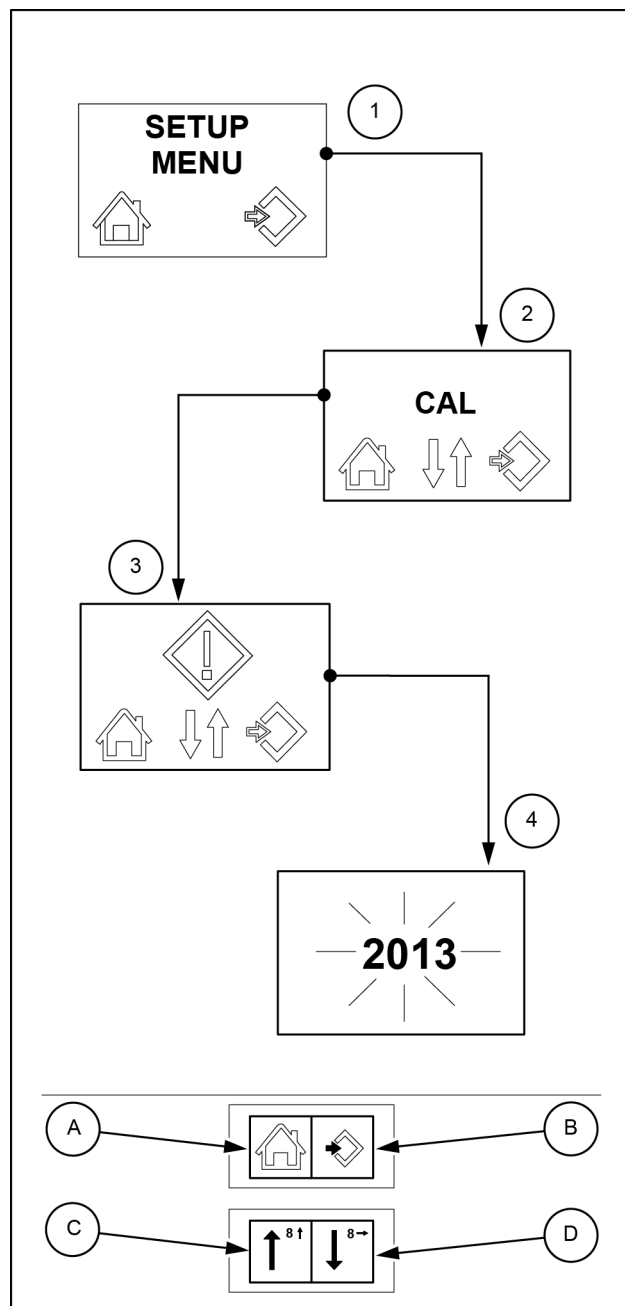
If you want to display the active fault codes, proceed as follows.

Turn the ignition key onto the first click, holding down the symbol **(B)** on the switch for more than three seconds.

- The central display shows “**SETUP MENU**” as in detail **(1)**. Release the symbol **(B)** and after approximately two seconds the display will show “**CAL**”, as in detail **(2)**.
- Now press the arrow **(C)** on the switch to display the symbol as in detail **(3)**.
- Press the symbol **(B)** on the switch to display the active fault codes

NOTE: The current fault codes are displayed in sequence. Each code is displayed blinking for 4 seconds as in detail **(4)**.

If you want to stop the display, press the symbol **(A)** on the switch. This will automatically take you back to the display as in detail **(3)**. Press the same symbol again to exit the programming menu.



MOIL13TR00550CA 7

TRANSMISSION

Transmission - Operating 4WD models

By adopting different bevel gear pairs, all of the listed mechanical transmissions can develop a speed of **40 km/h (24.85 mph)**.

Models with standard front axle:

FRONT	REAR
11/28	11/36

With **20 "** rear tires the bevel gear pair for all models is as follows:

FRONT	REAR
10/29	11/32

As a consequence of the use of the high pinion set, the synchronised power take-off has a different ratio between the wheel speed and the take-off shaft speed.

With the previously noted bevel gear pairs, the new ratios expressed in power take-off per rear wheel revolution, are listed below:

With all tires except for 380/70 R 20

revs 11.55	PTO 540 RPM
revs 16.23	PTO 1000 RPM

With tire **380/70 R 20**

revs 8,09	PTO 540 RPM
revs 12,73	PTO 1000 RPM

NOTE: If the tires are changed, make sure that the new equipment bears the "**A8**" code on the side. Always observe the inflation pressures as specified on tables.

Transmission with gear reducer and mechanical reversing mechanism

30 km/h (18.6 mph) - 40 km/h (24.9 mph) - 16FWD + 16REV

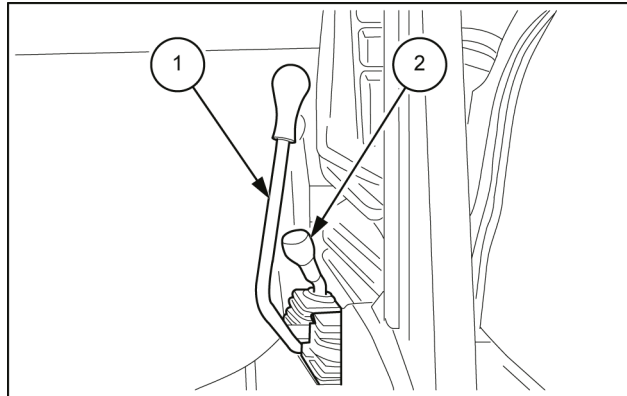
⚠ WARNING

Unexpected machine movement!

With the engine running and only the gear lever in neutral, the machine can engage and move suddenly if someone accidentally operates this lever. Place all levers in neutral, disengage the power take-off, lower any implements, and set the parking brake before exiting the machine. Use wheel chocks when parking on slopes.

Failure to comply could result in death or serious injury.

W0057B



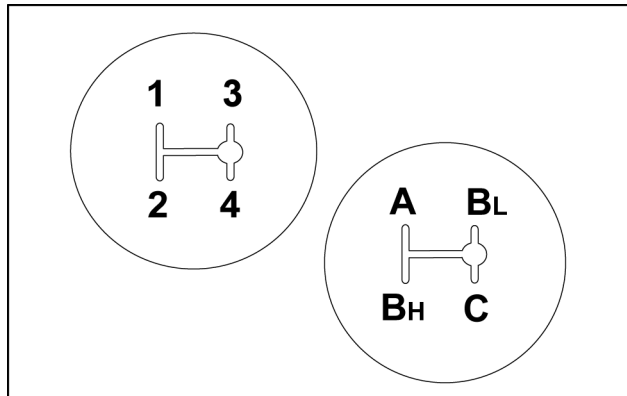
MOIL13TR00799AA 1

The gear lever (1) selects four gear ratios (1 - 2 - 3 - 4).
The range lever (2) provides four ranges:

A	slow
BL	medium slow
BH	medium fast
C	fast

Separate use of gear levers (1) and (2) fig. 1 and lever (1) fig. 3 allows 16 forward gears and 16 reverse gears to be selected.

The tractor must always be stopped to change from one range to another. To change from one speed to another within the same range, disengage the clutch and move the gear lever (the tractor does not need to be stationary as the gears are synchro-engaged).

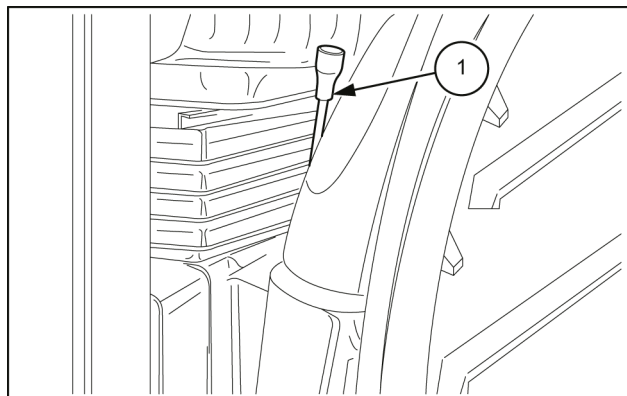


MOIL13TR00518AA 2

Mechanical shuttle lever

The lever (1) located to the left of the driver's seat, is used to select forward or reverse when a gear ratio is engaged. To select the direction of travel, move lever (1) forwards for forward movement or backwards for reverse, as shown on the top of the gear lever knob. To change direction of travel whilst in movement, slow down the tractor (almost to a standstill).

NOTE: In order to start the engine, move the shuttle control lever (1) to the central neutral position. In addition, it is recommended to press the transmission clutch pedal fully down.



MOIL13TR00852AA 3

SPEED AT MAXIMUM POWER

Transmission 30 km/h (18.6 mph) version 16 FWD + 16 REV

FORWARD SPEED

RANGE	GEAR	REAR TIRES											
		380/70 R 20		380/70 R 24		420/70 R 24		13.6 R 28 340/85 R 28 380/70 R 28 19.5L - 24		14.9 R 28 380/85 R 28 420/70 R 28		420/70 R 30	
		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A	1	0,64	0.40	0,54	0.34	0,57	0.35	0,59	0.37	0,62	0.38	0,64	0.40
	2	0,96	0.59	0,81	0.50	0,85	0.53	0,88	0.55	0,92	0.57	0,95	0.59
	3	1,41	0.87	1,19	0.74	1,24	0.77	1,30	0.81	1,35	0.84	1,4	0.87
	4	2,80	1.74	1,77	1.10	1,84	1.15	1,92	1.19	2,0	1.24	2,07	1.29
BL	1	2,69	1.67	2,29	1.42	2,39	1.48	2,49	1.54	2,59	1.61	2,69	1.67
	2	4,02	2.50	3,41	2.12	3,56	2.21	3,71	2.30	3,85	2.39	4,0	2.49
	3	5,90	3.67	5,01	3.11	5,23	3.25	5,45	3.38	5,67	3.52	5,88	3.66
	4	8,75	5.43	7,42	4.61	7,75	4.81	8,07	5.01	8,39	5.22	8,72	5.42
BH	1	3,30	2.05	2,8	1.74	2,92	1.82	3,04	1.89	3,62	2.25	3,29	2.04
	2	4,92	3.05	4,17	2.59	4,36	2.71	4,54	2.82	4,72	2.93	4,9	3.04
	3	7,23	4.49	6,14	3.81	6,4	3.98	6,67	4.14	6,94	4.31	7,2	4.48
	4	10,71	6.65	9,09	5.65	9,48	5.89	9,88	6.14	10,27	6.38	10,67	6.63
C	1	9,52	5.92	8,08	5.02	8,43	5.24	8,79	5.46	9,14	5.68	9,49	5.90
	2	14,19	8.82	12,05	7.49	12,57	7.81	13,10	8.14	13,62	8.46	14,15	8.79
	3	20,86	12.96	17,71	11.01	18,48	11.48	19,25	11.96	20,02	12.44	20,79	12.92
	4	30,91	19.21	26,24	16.31	27,38	17.01	28,52	17.72	29,66	18.43	30,80	19.14

REVERSE SPEED

RANGE	GEAR	REAR TIRES											
		380/70 R 20		380/70 R 24		420/70 R 24		13.6 R 28 340/85 R 28 380/70 R 28 19.5L - 24		14.9 R 28 380/85 R 28 420/70 R 28		420/70 R 30	
		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A	1	0,62	0.39	0,53	0.33	0,55	0.34	0,57	0.36	0,60	0.37	0,62	0.38
	2	0,93	0.58	0,79	0.49	0,82	0.51	0,85	0.53	0,89	0.55	0,92	0.57
	3	1,36	0.85	1,16	0.72	1,21	0.75	1,26	0.78	1,31	0.81	1,36	0.84
	4	2,02	1.25	1,71	1.06	1,79	1.11	1,86	1.16	1,93	1.20	2,01	1.25
BL	1	2,61	1.62	2,22	1.38	2,31	1.44	2,41	1.50	2,5	1.56	2,6	1.62
	2	3,89	2.42	3,30	2.05	3,45	2.14	3,59	2.23	3,73	2.32	3,88	2.41
	3	5,72	3.55	4,86	3.02	5,01	3.11	5,28	3.28	5,49	3.41	5,7	3.54
	4	8,47	5.26	7,19	4.47	7,51	4.66	7,82	4.86	8,13	5.05	8,44	5.25
BH	1	3,2	1.99	2,71	1.69	2,83	1.76	2,95	1.83	3,07	1.91	3,18	1.98
	2	4,76	2.96	4,04	2.51	4,22	2.62	4,4	2.73	4,57	2.84	4,75	2.95
	3	7,00	4.35	5,94	3.69	6,2	3.85	6,46	4.01	6,72	4.17	6,98	4.34
	4	10,37	6.44	8,81	5.47	9,19	5.71	9,57	5.95	9,95	6.18	10,34	6.42
C	1	9,22	5.73	7,83	4.87	8,17	5.08	8,51	5.29	8,85	5.50	9,19	5.71
	2	13,75	8.54	11,67	7.25	12,18	7.57	12,69	7.88	13,2	8.20	13,7	8.52
	3	20,21	12.56	17,16	10.66	17,91	11.13	18,65	11.59	19,4	12.05	20,14	12.52
	4	29,94	18.61	25,42	15.80	26,53	16.48	27,63	17.17	28,74	17.86	29,84	18.54

SPEED AT MAXIMUM POWER

Transmission 40 km/h (24.9 mph) version 16 FWD + 16 REV

FORWARD SPEED

RANGE	GEAR	REAR TIRES											
		380/70 R 20		380/70 R 24		420/70 R 24		13.6 R 28 340/85 R 28 380/70 R 28 19.5L - 24		14.9 R 28 380/85 R 28 420/70 R 28		420/70 R 30	
		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A	1	0,83	0.52	0,70	0.44	0,73	0.46	0,76	0.47	0,79	0.49	0,82	0.51
	2	1,24	0.77	1,41	0.87	1,09	0.68	1,14	0.71	1,18	0.74	1,23	0.76
	3	1,82	1.13	1,54	0.96	1,61	1.00	1,67	1.04	1,74	1.08	1,81	1.12
	4	2,7	1.68	2,28	1.42	2,38	1.48	2,48	1.54	2,58	1.60	2,68	1.66
BL	1	3,5	2.17	2,95	1.83	3,08	1.91	3,21	1.99	3,34	2.07	3,46	2.15
	2	5,21	3.24	4,4	2.73	4,59	2.85	4,78	2.97	4,97	3.09	5,16	3.21
	3	7,66	4.76	6,47	4.02	6,75	4.19	7,03	4.37	7,31	4.54	7,59	4.72
	4	11,35	7.05	9,58	5.95	10	6.21	10,41	6.47	10,83	6.73	11,24	6.99
BH	1	4,28	2.66	3,61	2.24	3,77	2.34	3,93	2.44	4,08	2.54	4,24	2.63
	2	6,38	3.97	5,38	3.35	5,62	3.49	5,85	3.64	6,09	3.78	6,32	3.93
	3	9,38	5.83	7,92	4.92	8,26	5.13	8,60	5.35	8,95	5.56	9,29	5.77
	4	13,9	8.64	11,73	7.29	12,24	7.60	12,75	7.92	13,26	8.24	13,77	8.55
C	1	12,36	7.68	10,43	6.48	10,88	6.76	11,34	7.04	11,79	7.33	12,24	7.61
	2	18,42	11.45	15,55	9.66	16,22	10.08	16,9	10.50	17,57	10.92	18,25	11.34
	3	27,08	16.83	22,85	14.20	23,85	14.82	24,84	15.43	25,83	16.05	26,83	16.67
	4	40,12	24.93	33,85	21.04	35,33	21.95	36,80	22.87	38,27	23.78	39,74	24.70

REVERSE SPEED

RANGE	GEAR	REAR TIRES											
		380/70 R 20		380/70 R 24		420/70 R 24		13.6 R 28 340/85 R 28 380/70 R 28 19.5L - 24		14.9 R 28 380/85 R 28 420/70 R 28		420/70 R 30	
		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A	1	0,81	0.50	0,68	0.42	0,71	0.44	0,74	0.46	0,77	0.48	0,79	0.49
	2	1,20	0.75	1,01	0.63	1,06	0.66	1,10	0.68	1,15	0.71	1,19	0.74
	3	1,77	1.10	1,49	0.93	1,56	0.97	1,62	1.01	1,69	1.05	1,75	1.09
	4	2,62	1.63	2,21	1.37	2,3	1.43	2,40	1.49	2,50	1.55	2,59	1.61
BL	1	3,39	2.11	2,86	1.78	2,98	1.85	3,11	1.93	3,23	2.01	3,36	2.08
	2	5,05	3.14	4,26	2.65	4,45	2.76	4,63	2.88	4,82	2.99	5,00	3.11
	3	7,42	4.61	6,26	3.89	6,54	4.06	6,81	4.23	7,08	4.40	7,35	4.57
	4	11,00	6.83	9,28	5.77	9,68	6.02	10,09	6.27	10,49	6.52	10,89	6.77
BH	1	4,15	2.58	3,5	2.17	3,65	2.27	3,80	2.36	3,96	2.46	4,11	2.55
	2	6,18	3.84	5,22	3.24	5,44	3.38	5,67	3.52	5,90	3.66	6,12	3.80
	3	9,09	5.65	7,67	4.76	8,00	4.97	8,33	5.18	8,67	5.39	9,00	5.59
	4	13,46	8.37	11,36	7.06	11,85	7.37	12,35	7.67	12,84	7.98	13,34	8.29
C	1	11,97	7.44	10,1	6.28	10,54	6.55	10,98	6.82	11,42	7.10	11,86	7.37
	2	17,85	11.09	15,06	9.36	15,71	9.76	16,37	10.17	17,02	10.58	17,68	10.99
	3	26,24	16.30	22,14	13.76	23,1	14.35	24,06	14.95	25,03	15.55	25,99	16.15
	4	38,87	24.15	32,8	20.38	34,22	21.27	35,65	22.15	37,07	23.04	38,50	23.92

Transmission with gear reducer and electrohydraulic reversing mechanism

30 km/h (18.6 mph) - 40 km/h (24.9 mph) - 16FWD + 16REV

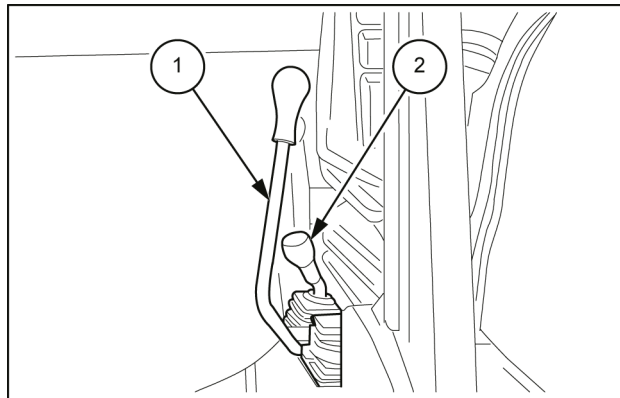
⚠ WARNING

Unexpected machine movement!

With the engine running and only the gear lever in neutral, the machine can engage and move suddenly if someone accidentally operates this lever. Place all levers in neutral, disengage the power take-off, lower any implements, and set the parking brake before exiting the machine. Use wheel chocks when parking on slopes.

Failure to comply could result in death or serious injury.

W0057B



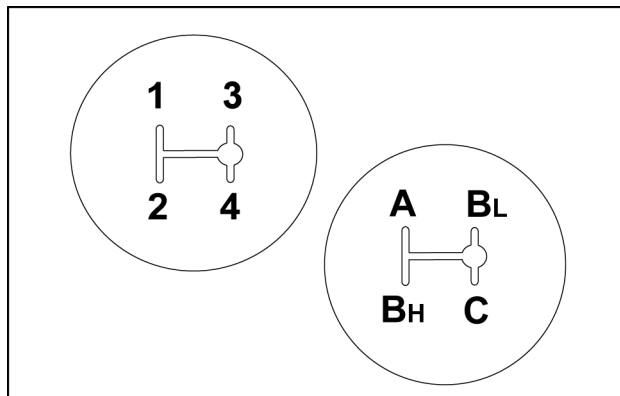
MOIL13TR00799AA 1

The gear lever (1) selects four gear ratios (1 - 2 - 3 - 4). The range lever (2) provides four ranges:

A	slow
BL	medium slow
BH	medium fast
C	fast

Separate use of the gear lever (1), the range lever (2) fig. 1 and the shuttle lever (1) fig. 3 allows 16 forward gears and 16 reverse gears to be selected.

The tractor must always be stopped to change from one range to another. To change from one speed to another within the same range, disengage the clutch and move the gear lever (the tractor does not need to be stationary as the gears are synchro-engaged).

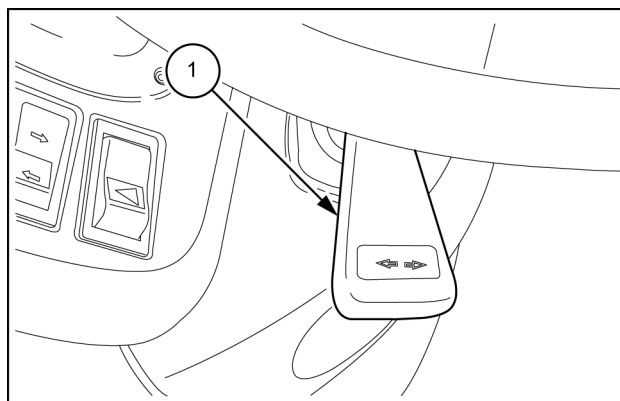


MOIL13TR00518AA 2

Power shuttle lever

The lever (1), located to the left of the driver's seat, is used to select forward or reverse when a gear ratio is engaged. To select the drive direction, lift the lever and move it forward for forward drive, or backward for reverse drive. Drive direction can be selected without pressing down the clutch pedal. To change the drive direction keep the lever raised and move it either forwards or backwards. Drive direction can be changed without pressing down the clutch pedal.

NOTE: In order to start the engine, move the shuttle control lever (1) to the central neutral position. In addition, it is recommended to press the transmission clutch pedal fully down.



MOIL13TR00505AA 3

SPEED AT MAXIMUM POWER

Transmission 30 km/h (18.6 mph) version 16 FWD + 16 REV

FORWARD SPEED

RANGE	GEAR	REAR TIRES											
		380/70 R 20		380/70 R 24		420/70 R 24		13.6 R 28 340/85 R 28 380/70 R 28 19.5L - 24		14.9 R 28 380/85 R 28 420/70 R 28		420/70 R 30	
		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A	1	0,64	0.40	0,54	0.34	0,57	0.35	0,59	0.37	0,62	0.38	0,64	0.40
	2	0,96	0.59	0,81	0.50	0,85	0.53	0,88	0.55	0,92	0.57	0,95	0.59
	3	1,41	0.87	1,19	0.74	1,24	0.77	1,30	0.81	1,35	0.84	1,4	0.87
	4	2,80	1.74	1,77	1.10	1,84	1.15	1,92	1.19	2,0	1.24	2,07	1.29
BL	1	2,69	1.67	2,29	1.42	2,39	1.48	2,49	1.54	2,59	1.61	2,69	1.67
	2	4,02	2.50	3,41	2.12	3,56	2.21	3,71	2.30	3,85	2.39	4,0	2.49
	3	5,90	3.67	5,01	3.11	5,23	3.25	5,45	3.38	5,67	3.52	5,88	3.66
	4	8,75	5.43	7,42	4.61	7,75	4.81	8,07	5.01	8,39	5.22	8,72	5.42
BH	1	3,30	2.05	2,8	1.74	2,92	1.82	3,04	1.89	3,62	2.25	3,29	2.04
	2	4,92	3.05	4,17	2.59	4,36	2.71	4,54	2.82	4,72	2.93	4,9	3.04
	3	7,23	4.49	6,14	3.81	6,4	3.98	6,67	4.14	6,94	4.31	7,2	4.48
	4	10,71	6.65	9,09	5.65	9,48	5.89	9,88	6.14	10,27	6.38	10,67	6.63
C	1	9,52	5.92	8,08	5.02	8,43	5.24	8,79	5.46	9,14	5.68	9,49	5.90
	2	14,19	8.82	12,05	7.49	12,57	7.81	13,10	8.14	13,62	8.46	14,15	8.79
	3	20,86	12.96	17,71	11.01	18,48	11.48	19,25	11.96	20,02	12.44	20,79	12.92
	4	30,91	19.21	26,24	16.31	27,38	17.01	28,52	17.72	29,66	18.43	30,80	19.14

REVERSE SPEED

RANGE	GEAR	REAR TIRES											
		380/70 R 20		380/70 R 24		420/70 R 24		13.6 R 28 340/85 R 28 380/70 R 28 19.5L - 24		14.9 R 28 380/85 R 28 420/70 R 28		420/70 R 30	
		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A	1	0,62	0.39	0,53	0.33	0,55	0.34	0,57	0.36	0,60	0.37	0,62	0.38
	2	0,93	0.58	0,79	0.49	0,82	0.51	0,85	0.53	0,89	0.55	0,92	0.57
	3	1,36	0.85	1,16	0.72	1,21	0.75	1,26	0.78	1,31	0.81	1,36	0.84
	4	2,02	1.25	1,71	1.06	1,79	1.11	1,86	1.16	1,93	1.20	2,01	1.25
BL	1	2,61	1.62	2,22	1.38	2,31	1.44	2,41	1.50	2,5	1.56	2,6	1.62
	2	3,89	2.42	3,30	2.05	3,45	2.14	3,59	2.23	3,73	2.32	3,88	2.41
	3	5,72	3.55	4,86	3.02	5,01	3.11	5,28	3.28	5,49	3.41	5,7	3.54
	4	8,47	5.26	7,19	4.47	7,51	4.66	7,82	4.86	8,13	5.05	8,44	5.25
BH	1	3,2	1.99	2,71	1.69	2,83	1.76	2,95	1.83	3,07	1.91	3,18	1.98
	2	4,76	2.96	4,04	2.51	4,22	2.62	4,4	2.73	4,57	2.84	4,75	2.95
	3	7,00	4.35	5,94	3.69	6,2	3.85	6,46	4.01	6,72	4.17	6,98	4.34
	4	10,37	6.44	8,81	5.47	9,19	5.71	9,57	5.95	9,95	6.18	10,34	6.42
C	1	9,22	5.73	7,83	4.87	8,17	5.08	8,51	5.29	8,85	5.50	9,19	5.71
	2	13,75	8.54	11,67	7.25	12,18	7.57	12,69	7.88	13,2	8.20	13,7	8.52
	3	20,21	12.56	17,16	10.66	17,91	11.13	18,65	11.59	19,4	12.05	20,14	12.52
	4	29,94	18.61	25,42	15.80	26,53	16.48	27,63	17.17	28,74	17.86	29,84	18.54

SPEED AT MAXIMUM POWER

Transmission 40 km/h (24.9 mph) version 16 FWD + 16 REV

FORWARD SPEED

RANGE	GEAR	REAR TIRES											
		380/70 R 20		380/70 R 24		420/70 R 24		13.6 R 28 340/85 R 28 380/70 R 28 19.5L - 24		14.9 R 28 380/85 R 28 420/70 R 28		420/70 R 30	
		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A	1	0,83	0.52	0,70	0.44	0,73	0.46	0,76	0.47	0,79	0.49	0,82	0.51
	2	1,24	0.77	1,41	0.87	1,09	0.68	1,14	0.71	1,18	0.74	1,23	0.76
	3	1,82	1.13	1,54	0.96	1,61	1.00	1,67	1.04	1,74	1.08	1,81	1.12
	4	2,7	1.68	2,28	1.42	2,38	1.48	2,48	1.54	2,58	1.60	2,68	1.66
BL	1	3,5	2.17	2,95	1.83	3,08	1.91	3,21	1.99	3,34	2.07	3,46	2.15
	2	5,21	3.24	4,4	2.73	4,59	2.85	4,78	2.97	4,97	3.09	5,16	3.21
	3	7,66	4.76	6,47	4.02	6,75	4.19	7,03	4.37	7,31	4.54	7,59	4.72
	4	11,35	7.05	9,58	5.95	10	6.21	10,41	6.47	10,83	6.73	11,24	6.99
BH	1	4,28	2.66	3,61	2.24	3,77	2.34	3,93	2.44	4,08	2.54	4,24	2.63
	2	6,38	3.97	5,38	3.35	5,62	3.49	5,85	3.64	6,09	3.78	6,32	3.93
	3	9,38	5.83	7,92	4.92	8,26	5.13	8,60	5.35	8,95	5.56	9,29	5.77
	4	13,9	8.64	11,73	7.29	12,24	7.60	12,75	7.92	13,26	8.24	13,77	8.55
C	1	12,36	7.68	10,43	6.48	10,88	6.76	11,34	7.04	11,79	7.33	12,24	7.61
	2	18,42	11.45	15,55	9.66	16,22	10.08	16,9	10.50	17,57	10.92	18,25	11.34
	3	27,08	16.83	22,85	14.20	23,85	14.82	24,84	15.43	25,83	16.05	26,83	16.67
	4	40,12	24.93	33,85	21.04	35,33	21.95	36,80	22.87	38,27	23.78	39,74	24.70

REVERSE SPEED

RANGE	GEAR	REAR TIRES											
		380/70 R 20		380/70 R 24		420/70 R 24		13.6 R 28 340/85 R 28 380/70 R 28 19.5L - 24		14.9 R 28 380/85 R 28 420/70 R 28		420/70 R 30	
		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A	1	0,81	0.50	0,68	0.42	0,71	0.44	0,74	0.46	0,77	0.48	0,79	0.49
	2	1,20	0.75	1,01	0.63	1,06	0.66	1,10	0.68	1,15	0.71	1,19	0.74
	3	1,77	1.10	1,49	0.93	1,56	0.97	1,62	1.01	1,69	1.05	1,75	1.09
	4	2,62	1.63	2,21	1.37	2,3	1.43	2,40	1.49	2,50	1.55	2,59	1.61
BL	1	3,39	2.11	2,86	1.78	2,98	1.85	3,11	1.93	3,23	2.01	3,36	2.08
	2	5,05	3.14	4,26	2.65	4,45	2.76	4,63	2.88	4,82	2.99	5,00	3.11
	3	7,42	4.61	6,26	3.89	6,54	4.06	6,81	4.23	7,08	4.40	7,35	4.57
	4	11,00	6.83	9,28	5.77	9,68	6.02	10,09	6.27	10,49	6.52	10,89	6.77
BH	1	4,15	2.58	3,5	2.17	3,65	2.27	3,80	2.36	3,96	2.46	4,11	2.55
	2	6,18	3.84	5,22	3.24	5,44	3.38	5,67	3.52	5,90	3.66	6,12	3.80
	3	9,09	5.65	7,67	4.76	8,00	4.97	8,33	5.18	8,67	5.39	9,00	5.59
	4	13,46	8.37	11,36	7.06	11,85	7.37	12,35	7.67	12,84	7.98	13,34	8.29
C	1	11,97	7.44	10,1	6.28	10,54	6.55	10,98	6.82	11,42	7.10	11,86	7.37
	2	17,85	11.09	15,06	9.36	15,71	9.76	16,37	10.17	17,02	10.58	17,68	10.99
	3	26,24	16.30	22,14	13.76	23,1	14.35	24,06	14.95	25,03	15.55	25,99	16.15
	4	38,87	24.15	32,8	20.38	34,22	21.27	35,65	22.15	37,07	23.04	38,50	23.92

Parking brake for hydraulic transmissions

Parking lock

NOTICE: On models with **Power Shuttle** and **HI-LO** when leaving the machine, besides applying the hand brake you **MUST** engage the parking brake **Parking lock**.

Figure 1 configuration with **HI-LO**, **Power shuttle**.

Figure 2 configuration with **HI-LO**, **Power shuttle** and creeper unit.

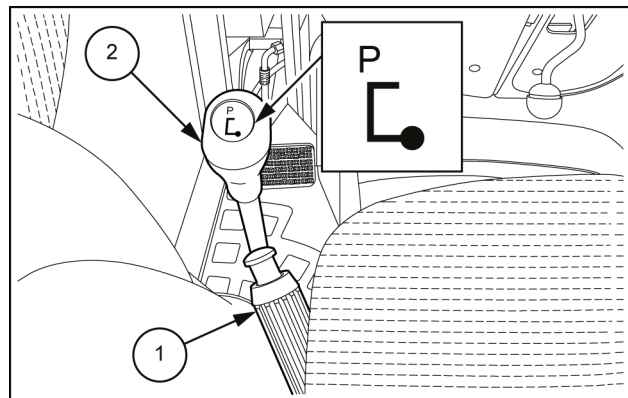
Besides the hand brake **(1)** there is the parking brake controlled by the lever **(2)**. Its operation is as follows:

Engagement

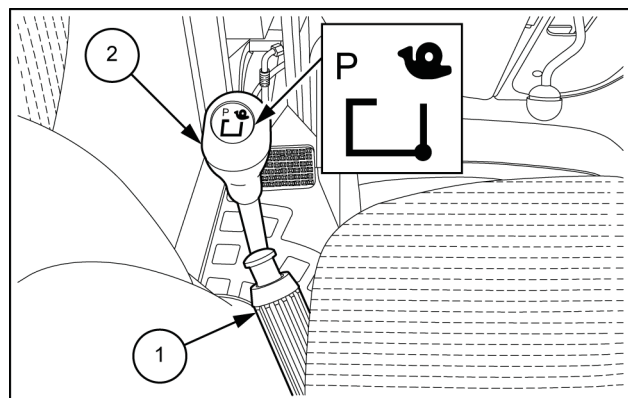
With the tractor stationary, move the lever from the central neutral position on the left, then forwards in the direction **(P)** and subsequently to the right as shown on the plate on the lever.

Disengagement

Before setting off with the tractor it is necessary to dis-engage the brake. With the tractor stationary, move the lever to the left, then backwards as shown on the plate on the lever.



MOIL13TR00956AA 1



MOIL13TR00957AA 2



If you try and move the machine with the parking brake **Parking lock** engaged, the following warning light will light up on the central display accompanied by an acoustic signal. Never try moving the machine in this situation to avoid mechanical damage.

Transmission with gear reducer, electrohydraulic reversing mechanism and HI-LO control

30 km/h (18.6 mph) - 40 km/h (24.9 mph) - 32 FWD + 16 REV

⚠ WARNING

Unexpected machine movement!

With the engine running and only the gear lever in neutral, the machine can engage and move suddenly if someone accidentally operates this lever. Place all levers in neutral, disengage the Power Take-Off (PTO), lower any implements, set the handbrake and parking brake before exiting the machine.

Failure to comply could result in death or serious injury.

W1158B

The operation of the gear levers, range gear and electrohydraulic shuttle is the same as that previously described on the "Transmission with gearbox and shuttle" pages for the **16FWD+16REV** version

The gear lever (1) in fig. 1 is moreover equipped with control buttons for the functions **HI- LO** (2) and (3), that enable doubling the forward gear ratios, for a total of **32** available gears. It is possible to pass from position **HI** (2) to position **LO** (3) by pressing the two buttons without using the clutch pedals.

With the shuttle lever (1) fig. 2 in the reverse position (backwards), position (**HI**) is automatically excluded, thus reducing the number of available reverse gears to **16**. To reverse the direction of travel, lift and move the lever forwards or backwards. Drive direction can be changed without pressing down the clutch pedal.

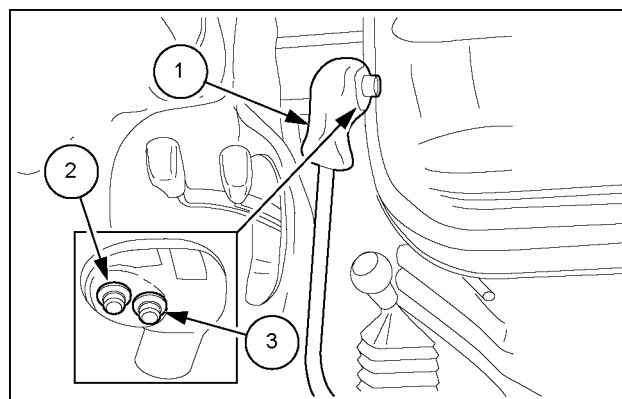
Operation

With the tractor moving it is possible to invert the drive direction without stopping and without pressing down the clutch pedal.

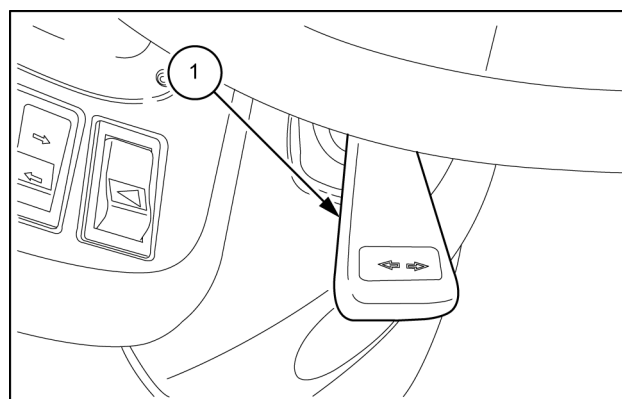
When driving forward in range **HI** and you move the shuttle lever (1) fig. 2 into reverse position, when the tractor begins to reverse, the indicator (1) fig. 3 will illuminate to signal the move into range **LO**.

When you move the shuttle lever (1) fig. 2 back into the forward position, the indicator will illuminate (1) and the indicator (2) fig. 3 will start flashing to indicate the automatic passage from range **LO** to range **HI** set previously. On completing the change, the indicator (1) will turn off, while the indicator (2) will stay on to signal that range **HI** is selected.

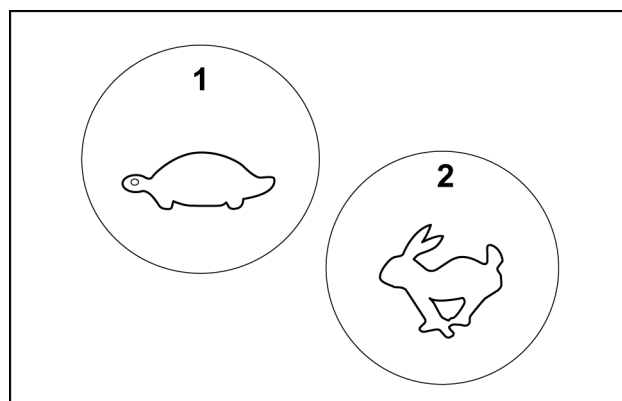
NOTE: The indicator (1) fig. 3 is present only in configurations with an analogue instrument cluster.



MOIL13TR00838AA 1



MOIL13TR00505AA 2



MOIL13TR00523AA 3

SPEED AT MAXIMUM POWER

30 km/h (18.6 mph) transmission 32 FWD + 16 REV version

FORWARD SPEED

RANGE	GEAR		REAR TIRES											
			380/70 R 20		380/70 R 24		420/70 R 24		13.6 R 28 340/85 R 28 380/70 R 28 19.5L - 24		14.9 R 28 380/85 R 28 420/70 R 28		420/70 R 30	
			km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A	1	LO	0,53	0.33	0,45	0.28	0,47	0.29	0,49	0.31	0,51	0.32	0,53	0.33
		HI	0,64	0.40	0,54	0.34	0,57	0.35	0,59	0.37	0,62	0.38	0,64	0.40
	2	LO	0,80	0.49	0,68	0.42	0,71	0.44	0,74	0.46	0,76	0.47	0,79	0.49
		HI	0,96	0.59	0,81	0.50	0,85	0.53	0,88	0.55	0,92	0.57	0,95	0.59
	3	LO	1,17	0.73	0,99	0.62	1,04	0.64	1,08	0.67	1,12	0.7	1,17	0.72
		HI	1,41	0.87	1,19	0.74	1,24	0.77	1,30	0.81	1,35	0.84	1,40	0.87
	4	LO	1,73	1.08	1,47	0.91	1,54	0.95	1,60	0.99	1,66	1.03	1,73	1.07
		HI	2,08	1.29	1,77	1.10	1,84	1.15	1,92	1.19	2,00	1.24	2,07	1.29
BL	1	LO	2,25	1.40	1,91	1.18	1,99	1.24	2,07	1.29	2,15	1.34	2,24	1.39
		HI	2,69	1.67	2,29	1.42	2,39	1.48	2,49	1.54	2,59	1.61	2,69	1.67
	2	LO	3,35	2.08	2,84	1.77	2,96	1.84	3,09	1.92	3,21	2.0	3,34	2.07
		HI	4,02	2.50	3,41	2.12	3,56	2.21	3,71	2.30	3,85	2.39	4,00	2.49
	3	LO	4,92	3.06	4,18	2.59	4,36	2.71	4,54	2.82	4,72	2.93	4,90	3.05
		HI	5,90	3.67	5,01	3.11	5,23	3.25	5,45	3.38	5,67	3.52	5,88	3.66
	4	LO	7,29	4.53	6,19	3.84	6,46	4.01	6,73	4.18	6,99	4.35	7,26	4.51
		HI	8,75	5.43	7,42	4.61	7,75	4.81	8,07	5.01	8,39	5.22	8,72	5.42
BH	1	LO	2,75	1.71	2,33	1.45	2,43	1.51	2,54	1.58	2,64	1.64	2,74	1.70
		HI	3,30	2.05	2,80	1.74	2,92	1.82	3,04	1.89	3,62	2.25	3,29	2.04
	2	LO	4,10	2.55	3,48	2.16	3,63	2.26	3,78	2.35	3,93	2.44	4,08	2.54
		HI	4,92	3.05	4,17	2.59	4,36	2.71	4,54	2.82	4,72	2.93	4,90	3.04
	3	LO	6,02	3.74	5,11	3.18	5,34	3.32	5,56	3.45	5,78	3.59	6,00	3.73
		HI	7,23	4.49	6,14	3.81	6,40	3.98	6,67	4.14	6,94	4.31	7,20	4.48
	4	LO	8,92	5.54	7,57	4.71	7,90	4.91	9,88	6.14	8,56	5.32	8,89	5.52
		HI	10,71	6.65	9,09	5.65	9,48	5.89	9,88	6.14	10,27	6.38	10,67	6.63
C	1	LO	7,93	4.93	6,74	4.19	7,03	4.37	7,32	4.55	7,61	4.73	7,91	4.91
		HI	9,52	5.92	8,08	5.02	8,43	5.24	8,79	5.46	9,14	5.68	9,49	5.90
	2	LO	11,83	7.35	10,05	6.24	10,48	6.51	10,91	6.78	11,35	7.05	11,79	7.32
		HI	14,19	8.82	12,05	7.49	12,57	7.81	13,10	8.14	13,62	8.46	14,15	8.79
	3	LO	17,39	10.8	14,76	9.17	15,40	9.57	16,04	9.97	16,69	10.37	17,33	10.77
		HI	20,86	12.96	17,71	11.01	18,48	11.48	19,25	11.96	20,02	12.44	20,79	12.92
	4	LO	25,76	16.01	21,87	13.59	22,82	14.18	23,77	14.77	24,72	15.36	25,67	15.95
		HI	30,91	19.21	26,24	16.31	27,38	17.01	28,52	17.72	29,66	18.43	30,80	19.14

NOTE: With the creeper switched off, the forward and reverse gear ratios are the same as indicated for the 16 FWD + 16 REV transmissions.

SPEED AT MAXIMUM POWER

40 km/h (24.9 mph) transmission 32 FWD + 16 REV version

FORWARD SPEED

RANGE	GEAR		REAR TIRES											
			380/70 R 20		380/70 R 24		420/70 R 24		13.6 R 28 340/85 R 28 380/70 R 28 19.5L - 24		14.9 R 28 380/85 R 28 420/70 R 28		420/70 R 30	
			km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A	1	LO	0,69	0.43	0,59	0.36	0,61	0.38	0,64	0.40	0,66	0.41	0,69	0.43
		HI	0,83	0.52	0,70	0.44	0,73	0.46	0,76	0.47	0,79	0.49	0,82	0.51
	2	LO	1,03	0.64	0,87	0.54	0,91	0.57	0,95	0.59	0,99	0.61	1,02	0.64
		HI	1,24	0.77	1,05	0.65	1,09	0.68	1,14	0.71	1,18	0.74	1,23	0.76
	3	LO	1,52	0.94	1,28	0.80	1,34	0.83	1,39	0.87	1,45	0.90	1,51	0.94
		HI	1,82	1.13	1,54	0.96	1,61	1.00	1,67	1.04	1,74	1.08	1,81	1.12
	4	LO	2,25	1.40	1,90	1.18	1,98	1.23	2,06	1.28	2,15	1.33	2,23	1.39
		HI	2,70	1.68	2,28	1.42	2,38	1.48	2,48	1.54	2,58	1.60	2,68	1.66
BL	1	LO	2,92	1.81	2,46	1.53	2,57	1.59	2,67	1.66	2,78	1.73	2,89	1.79
		HI	3,50	2.17	2,95	1.83	3,08	1.91	3,21	1.99	3,34	2.07	3,46	2.15
	2	LO	4,34	2.7	3,67	2.28	3,83	2.38	3,98	2.48	4,14	2.57	4,30	2.67
		HI	5,21	3.24	4,40	2.73	4,59	2.85	4,78	2.97	4,97	3.09	5,16	3.21
	3	LO	6,39	3.97	5,39	3.35	5,62	3.49	5,59	3.47	6,09	3.78	6,33	3.93
		HI	7,66	4.76	6,47	4.02	6,75	4.19	7,03	4.37	7,31	4.54	7,59	4.72
	4	LO	9,46	5.88	7,98	4.96	8,33	5.18	8,68	5.39	9,02	5.61	9,37	5.82
		HI	11,35	7.05	9,58	5.95	10,00	6.21	10,41	6.47	10,83	6.73	11,24	6.99
BH	1	LO	3,57	2.22	3,01	1.87	3,14	1.95	3,27	2.03	3,40	2.11	3,53	2.20
		HI	4,28	2.66	3,61	2.24	3,77	2.34	3,93	2.44	4,08	2.54	4,24	2.63
	2	LO	5,32	3.30	4,49	2.79	4,68	2.91	4,88	3.03	5,07	3.15	5,27	3.27
		HI	6,38	3.97	5,38	3.35	5,62	3.49	5,85	3.64	6,09	3.78	6,32	3.93
	3	LO	7,82	4.86	6,60	4.1	6,88	4.28	7,17	4.45	7,46	4.63	7,74	4.81
		HI	9,38	5.83	7,92	4.92	8,26	5.13	8,60	5.35	8,95	5.56	9,29	5.77
	4	LO	11,58	7.20	9,77	6.07	10,20	6.34	10,62	6.60	11,05	6.86	11,47	7.13
		HI	13,90	8.64	11,73	7.29	12,75	7.92	12,75	7.92	13,26	8.24	13,77	8.55
C	1	LO	10,30	6.40	8,69	5.40	9,07	5.63	9,45	5.87	9,82	6.10	10,20	6.34
		HI	12,36	7.68	10,43	6.48	10,88	6.76	11,34	7.04	11,79	7.33	12,24	7.39
	2	LO	15,35	9.54	12,95	8.05	13,52	8.40	14,08	8.75	14,64	9.10	15,21	9.45
		HI	18,42	11.45	15,55	9.66	16,22	10.08	16,90	10.5	17,57	10.92	18,25	11.34
	3	LO	22,57	14.02	19,04	11.83	19,87	12.35	20,70	12.86	21,53	13.38	22,35	13.89
		HI	27,08	16.83	22,85	14.2	23,85	14.82	24,84	15.43	25,83	16.05	26,83	16.67
	4	LO	33,44	20.78	28,21	17.53	29,44	18.29	30,66	19.05	31,89	19.82	33,12	20.58
		HI	40,12	24.93	33,85	21.04	35,33	21.95	36,80	22.87	38,27	23.78	39,74	24.70

NOTE: With the creeper switched off, the forward and reverse gear ratios are the same as indicated for the 16 FWD + 16 REV transmissions.

Transmission with gear reducer, electrohydraulic reversing mechanism, HI-LO control and electrohydraulic clutch

30 km/h (18.6 mph) - 40 km/h (24.9 mph) - 32 FWD + 16 REV

⚠ WARNING

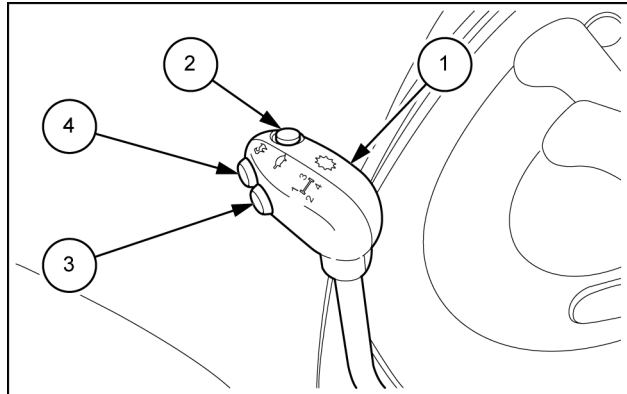
Unexpected machine movement!

With the engine running and only the gear lever in neutral, the machine can engage and move suddenly if someone accidentally operates this lever. Place all levers in neutral, disengage the Power Take-Off (PTO), lower any implements, set the handbrake and parking brake before exiting the machine. Failure to comply could result in death or serious injury.

W1158B

The operation of the gear levers, range gear and electro-hydraulic shuttle is the same as that previously described on the "Transmission with gearbox and shuttle" pages for the **16FWD+16REV** version

There are three buttons on the gear lever (1). Buttons (3) and (4) govern the dual command (2-speed power shift) functions. By using the two buttons you can obtain two speeds in the same gear ratio without having to use the clutch pedal (1) fig. 2.

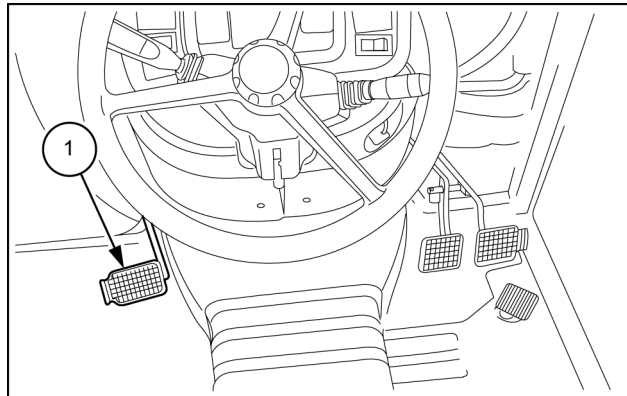


MOIL13TR00524AA 1

The button (2) fig. 1 governs the electro-hydraulic clutch. By pressing the button it is possible to pass from one gear to another without using the clutch pedal (1).

NOTE: To start from a standstill it is necessary to press the clutch pedal. When the tractor is in motion, use the button (2) fig. 2 to pass from one gear to another.

You can then pass from position **HI** to position **LO** or vice versa, without operating the clutch pedal as engagement is aided by hydraulic clutches governed electrically by three push-buttons (2), (3) and (4). To select the tractor's direction of travel, use the shuttle lever.



MOIL13TR00525AA 2

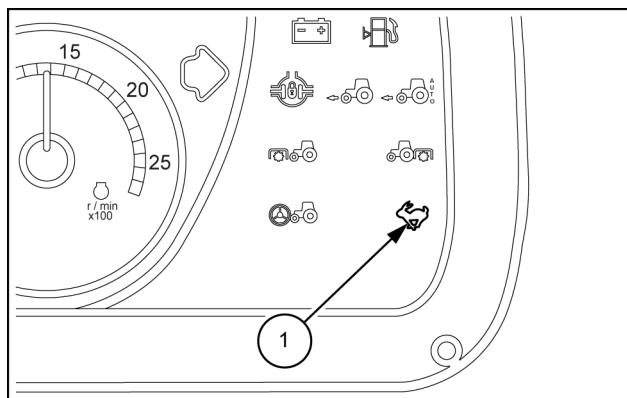
Dual Command (2 Speed Power Shift) Push-Buttons

To select the **LO** or **HI** position, use the buttons (3) and (4) fig. 1.

(3) Range selection button **LO**. No indicator lights up when the **LO** range is engaged.

(4) Range selection button **HI**. With the **HI** range engaged, the indicator (1) (with the hare symbol) is illuminated.

NOTE: To start the engine, set the shuttle lever on the central neutral position. In addition, it is recommended to press the clutch pedal fully down.

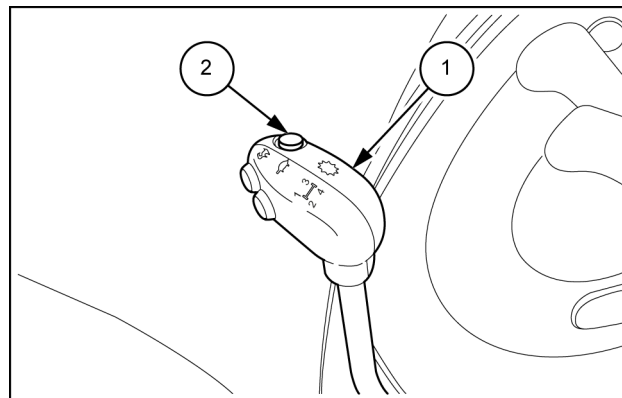


MOIL13TR00526AA 3

Electro-hydraulic clutch

The electro-hydraulic operation of the clutch allows the operator to control the movement of the tractor without using the clutch pedal by simply moving the gear lever from one gear to another, whether forwards or in reverse, without using the clutch pedal (1) fig. 2.

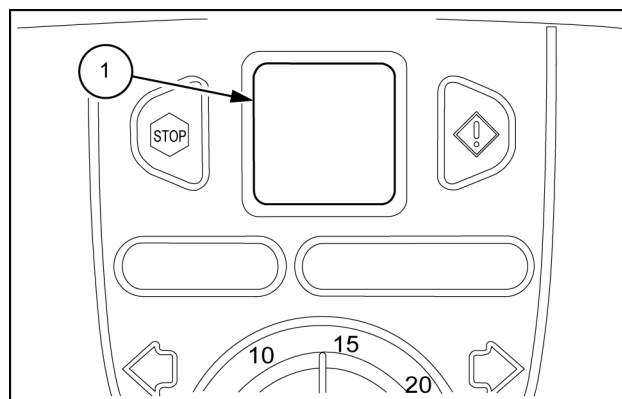
After selecting the required range, move the shuttle lever into the forward or reverse gear position, press the push button (2), without pressing the clutch pedal move the gear lever (1) onto the required gear and release the button to set the tractor in motion.



MOIL13TR00527AA 4

NOTE: The function is disabled when you keep button (2) fig. 4 pressed for longer than 10 seconds or if you get up out of the driving seat with the tractor in motion. Cancelling the function is highlighted by an audible warning, followed by a message on the performance monitor showing CP (1).

To reactivate this function you can move the shuttle control lever into neutral or momentarily press the clutch pedal.



MOIL13TR00528AA 5

Dual Command (2 Speed Power Shift) disabling indicator

The transmission can be disabled in one of three ways:

1. Initial test
2. Temporary disabling of the transmission
3. Permanent disabling of the transmission.

Initial test

During the tractor start-up phase, the control unit can detect conditions that block operation, for example:

- excessive oil viscosity at low temperatures;
- problems of a hydraulic or mechanical nature.

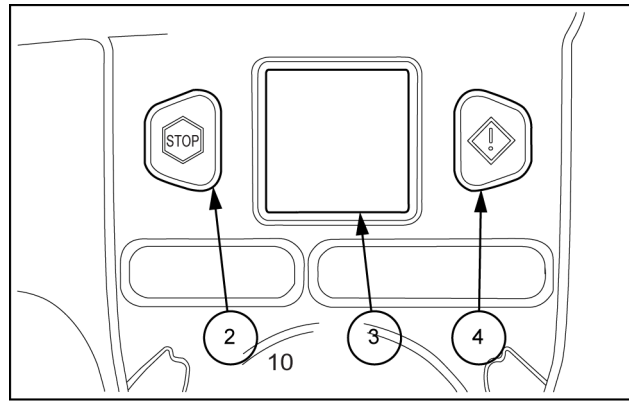
If the oil temperature is low because of the weather conditions, the test performed automatically by the control unit can take several seconds. In this case, wait for the automatic test to end and leave the engine idling until the oil reaches its normal operating temperature.

Transmission disabled

If the control unit detects an improper sequence of operator controls, or problems in the system, it disables the transmission.

If the red “**Stop**” warning light **(2)** comes on, switch off the tractor immediately and look for the cause. A warning symbol will appear on the display **(3)** confirming the location of the fault.

Amber indicator **(4)** – This indicator light comes on and the display shows a warning symbol **(3)**. The light blinks for **4** seconds, after which the symbol on the display disappears and the indicator light stays on steady. To display the trouble it is necessary to enter the menu, stop the tractor and search for the cause.



MOIL13TR00529AA 6

SPEED AT MAXIMUM POWER

30 km/h (18.6 mph) transmission 32 FWD + 16 REV version

FORWARD SPEED

RANGE	GEAR		REAR TIRES											
			380/70 R 20		380/70 R 24		420/70 R 24		13.6 R 28 340/85 R 28 380/70 R 28 19.5L - 24		14.9 R 28 380/85 R 28 420/70 R 28		420/70 R 30	
			km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A	1	LO	0,53	0.33	0,45	0.28	0,47	0.29	0,49	0.31	0,51	0.32	0,53	0.33
		HI	0,64	0.40	0,54	0.34	0,57	0.35	0,59	0.37	0,62	0.38	0,64	0.40
	2	LO	0,80	0.49	0,68	0.42	0,71	0.44	0,74	0.46	0,76	0.47	0,79	0.49
		HI	0,96	0.59	0,81	0.50	0,85	0.53	0,88	0.55	0,92	0.57	0,95	0.59
	3	LO	1,17	0.73	0,99	0.62	1,04	0.64	1,08	0.67	1,12	0.7	1,17	0.72
		HI	1,41	0.87	1,19	0.74	1,24	0.77	1,30	0.81	1,35	0.84	1,40	0.87
	4	LO	1,73	1.08	1,47	0.91	1,54	0.95	1,60	0.99	1,66	1.03	1,73	1.07
		HI	2,08	1.29	1,77	1.10	1,84	1.15	1,92	1.19	2,00	1.24	2,07	1.29
BL	1	LO	2,25	1.40	1,91	1.18	1,99	1.24	2,07	1.29	2,15	1.34	2,24	1.39
		HI	2,69	1.67	2,29	1.42	2,39	1.48	2,49	1.54	2,59	1.61	2,69	1.67
	2	LO	3,35	2.08	2,84	1.77	2,96	1.84	3,09	1.92	3,21	2.0	3,34	2.07
		HI	4,02	2.50	3,41	2.12	3,56	2.21	3,71	2.30	3,85	2.39	4,00	2.49
	3	LO	4,92	3.06	4,18	2.59	4,36	2.71	4,54	2.82	4,72	2.93	4,90	3.05
		HI	5,90	3.67	5,01	3.11	5,23	3.25	5,45	3.38	5,67	3.52	5,88	3.66
	4	LO	7,29	4.53	6,19	3.84	6,46	4.01	6,73	4.18	6,99	4.35	7,26	4.51
		HI	8,75	5.43	7,42	4.61	7,75	4.81	8,07	5.01	8,39	5.22	8,72	5.42
BH	1	LO	2,75	1.71	2,33	1.45	2,43	1.51	2,54	1.58	2,64	1.64	2,74	1.70
		HI	3,30	2.05	2,80	1.74	2,92	1.82	3,04	1.89	3,62	2.25	3,29	2.04
	2	LO	4,10	2.55	3,48	2.16	3,63	2.26	3,78	2.35	3,93	2.44	4,08	2.54
		HI	4,92	3.05	4,17	2.59	4,36	2.71	4,54	2.82	4,72	2.93	4,90	3.04
	3	LO	6,02	3.74	5,11	3.18	5,34	3.32	5,56	3.45	5,78	3.59	6,00	3.73
		HI	7,23	4.49	6,14	3.81	6,40	3.98	6,67	4.14	6,94	4.31	7,20	4.48
	4	LO	8,92	5.54	7,57	4.71	7,90	4.91	9,88	6.14	8,56	5.32	8,89	5.52
		HI	10,71	6.65	9,09	5.65	9,48	5.89	9,88	6.14	10,27	6.38	10,67	6.63
C	1	LO	7,93	4.93	6,74	4.19	7,03	4.37	7,32	4.55	7,61	4.73	7,91	4.91
		HI	9,52	5.92	8,08	5.02	8,43	5.24	8,79	5.46	9,14	5.68	9,49	5.90
	2	LO	11,83	7.35	10,05	6.24	10,48	6.51	10,91	6.78	11,35	7.05	11,79	7.32
		HI	14,19	8.82	12,05	7.49	12,57	7.81	13,10	8.14	13,62	8.46	14,15	8.79
	3	LO	17,39	10.8	14,76	9.17	15,40	9.57	16,04	9.97	16,69	10.37	17,33	10.77
		HI	20,86	12.96	17,71	11.01	18,48	11.48	19,25	11.96	20,02	12.44	20,79	12.92
	4	LO	25,76	16.01	21,87	13.59	22,82	14.18	23,77	14.77	24,72	15.36	25,67	15.95
		HI	30,91	19.21	26,24	16.31	27,38	17.01	28,52	17.72	29,66	18.43	30,80	19.14

NOTE: With the creeper switched off, the forward and reverse gear ratios are the same as indicated for the 16 FWD + 16 REV transmissions.

SPEED AT MAXIMUM POWER

40 km/h (24.9 mph) transmission 32 FWD + 16 REV version

FORWARD SPEED

RANGE	GEAR		REAR TIRES											
			380/70 R 20		380/70 R 24		420/70 R 24		13.6 R 28 340/85 R 28 380/70 R 28 19.5L - 24		14.9 R 28 380/85 R 28 420/70 R 28		420/70 R 30	
			km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A	1	LO	0,69	0.43	0,59	0.36	0,61	0.38	0,64	0.40	0,66	0.41	0,69	0.43
		HI	0,83	0.52	0,70	0.44	0,73	0.46	0,76	0.47	0,79	0.49	0,82	0.51
	2	LO	1,03	0.64	0,87	0.54	0,91	0.57	0,95	0.59	0,99	0.61	1,02	0.64
		HI	1,24	0.77	1,05	0.65	1,09	0.68	1,14	0.71	1,18	0.74	1,23	0.76
	3	LO	1,52	0.94	1,28	0.80	1,34	0.83	1,39	0.87	1,45	0.90	1,51	0.94
		HI	1,82	1.13	1,54	0.96	1,61	1.00	1,67	1.04	1,74	1.08	1,81	1.12
	4	LO	2,25	1.40	1,90	1.18	1,98	1.23	2,06	1.28	2,15	1.33	2,23	1.39
		HI	2,70	1.68	2,28	1.42	2,38	1.48	2,48	1.54	2,58	1.60	2,68	1.66
BL	1	LO	2,92	1.81	2,46	1.53	2,57	1.59	2,67	1.66	2,78	1.73	2,89	1.79
		HI	3,50	2.17	2,95	1.83	3,08	1.91	3,21	1.99	3,34	2.07	3,46	2.15
	2	LO	4,34	2.7	3,67	2.28	3,83	2.38	3,98	2.48	4,14	2.57	4,30	2.67
		HI	5,21	3.24	4,40	2.73	4,59	2.85	4,78	2.97	4,97	3.09	5,16	3.21
	3	LO	6,39	3.97	5,39	3.35	5,62	3.49	5,59	3.47	6,09	3.78	6,33	3.93
		HI	7,66	4.76	6,47	4.02	6,75	4.19	7,03	4.37	7,31	4.54	7,59	4.72
	4	LO	9,46	5.88	7,98	4.96	8,33	5.18	8,68	5.39	9,02	5.61	9,37	5.82
		HI	11,35	7.05	9,58	5.95	10,00	6.21	10,41	6.47	10,83	6.73	11,24	6.99
BH	1	LO	3,57	2.22	3,01	1.87	3,14	1.95	3,27	2.03	3,40	2.11	3,53	2.20
		HI	4,28	2.66	3,61	2.24	3,77	2.34	3,93	2.44	4,08	2.54	4,24	2.63
	2	LO	5,32	3.30	4,49	2.79	4,68	2.91	4,88	3.03	5,07	3.15	5,27	3.27
		HI	6,38	3.97	5,38	3.35	5,62	3.49	5,85	3.64	6,09	3.78	6,32	3.93
	3	LO	7,82	4.86	6,60	4.1	6,88	4.28	7,17	4.45	7,46	4.63	7,74	4.81
		HI	9,38	5.83	7,92	4.92	8,26	5.13	8,60	5.35	8,95	5.56	9,29	5.77
	4	LO	11,58	7.20	9,77	6.07	10,20	6.34	10,62	6.60	11,05	6.86	11,47	7.13
		HI	13,90	8.64	11,73	7.29	12,75	7.92	12,75	7.92	13,26	8.24	13,77	8.55
C	1	LO	10,30	6.40	8,69	5.40	9,07	5.63	9,45	5.87	9,82	6.10	10,20	6.34
		HI	12,36	7.68	10,43	6.48	10,88	6.76	11,34	7.04	11,79	7.33	12,24	7.68
	2	LO	15,35	9.54	12,95	8.05	13,52	8.40	14,08	8.75	14,64	9.10	15,21	9.45
		HI	18,42	11.45	15,55	9.66	16,22	10.08	16,90	10.5	17,57	10.92	18,25	11.34
	3	LO	22,57	14.02	19,04	11.83	19,87	12.35	20,70	12.86	21,53	13.38	22,35	13.89
		HI	27,08	16.83	22,85	14.2	23,85	14.82	24,84	15.43	25,83	16.05	26,83	16.67
	4	LO	33,44	20.78	28,21	17.53	29,44	18.29	30,66	19.05	31,89	19.82	33,12	20.58
		HI	40,12	24.93	33,85	21.04	35,33	21.95	36,80	22.87	38,27	23.78	39,74	24.70

NOTE: With the creeper switched off, the forward and reverse gear ratios are the same as indicated for the 16 FWD + 16 REV transmissions.

4 - OPERATING INSTRUCTIONS

COMMISSIONING THE UNIT

Basic operating safety rules

⚠ WARNING

Inhalation/asphyxiation hazard!
Make sure there is proper ventilation before starting the engine.
Failure to comply could result in death or serious injury.

W0091A

⚠ WARNING

Unexpected machine movement!
Before starting the engine, move all operating controls to neutral or park lock position. This prevents accidental movement of the machine or start up of power-driven equipment.
Failure to comply could result in death or serious injury.

W0302A

⚠ WARNING

Hazard to bystanders!
ALWAYS make sure the work area is clear of bystanders and domestic animals before starting this procedure. Know the full area of movement of the machine. Do not permit anyone to enter the area of movement during this procedure.
Failure to comply could result in death or serious injury.

W0245A

⚠ WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE DEATH OR SERIOUS INJURY.
MAKE SURE THAT EVERY OPERATOR:
-is instructed in the safe and proper use of this machine.
-reads and understands the operator's manual for this machine.
-reads and understands **ALL** safety signs on the machine.
Failure to comply could result in death or serious injury.

W0188A

⚠ WARNING

Avoid injury!
Carefully read and observe all the precautionary advice contained in this manual.
Failure to comply could result in death or serious injury.

W0044A

⚠ WARNING

Misuse hazard!
Before starting the engine, make sure you are fully aware of the location and the function of each control.
Failure to comply could result in death or serious injury.

W0226A

The purpose of this Operator's Manual is to provide the user with information, documents and practical instructions.

Read 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 manual must be studied carefully and thoroughly.

Do not start the engine or attempt to drive or operate the tractor until you are fully accustomed with all controls. It is too late to learn once the tractor is moving.

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

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

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.

All the data provided in this Manual is subject to product modifications. Weights and measures are to be considered approximate figures and the illustrations do not necessarily show tractors with standard fittings.

For precise information on specific tractor models and versions, please contact your authorised 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 7 carefully. Section 7 contains details of all the lubrication and general maintenance operations to be carried out on the tractor.

Tractor specifications are listed in Section 9.

In this manual, any references to the left and right sides of the tractor are intended as seen from the driver's seat facing forward.

STARTING THE UNIT

Starting the engine

Your tractor will guarantee reliable service if care is taken during the running-in period (first 50 hours of work), and if the maintenance recommendations in section 7 (Maintenance) are carefully followed.

Before operating the tractor, ensure that you are thoroughly familiar with the location and operation of the controls.

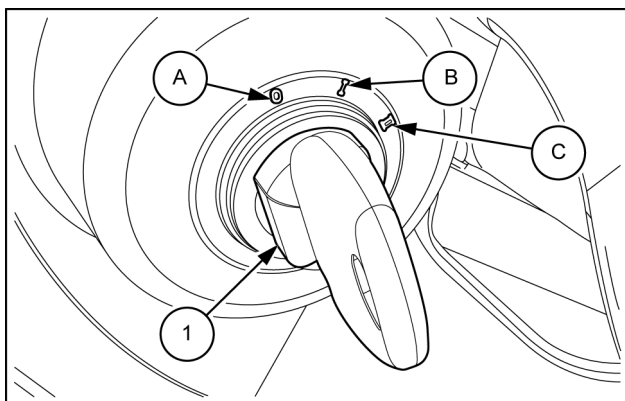
Starter switch

To obtain the three starter key-switch (1) functions, press the key and turn it to the following positions:

A No power supply to any of the circuits (key can be removed). Engine stopped: automatic activation of fuel injection cut-off.

B Standby for engine start up. Operation of indicators and instrument cluster. Power supplied to various circuits.

C Engine starting: if released, the key returns automatically to position (B).



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Starting the engine

1. To start the engine it is first necessary to connect the battery to the electric system with the specific device (external mechanical isolator or push-button inside the cab).
2. If the tractor has not been used for some time, or is started up for the first time in low outside temperature conditions, operate the fuel pump starting lever approximately twenty times and allow the engine to run for **5 ÷ 10** seconds with the injection pump in the "stop" position.
3. Press down the clutch pedal, place the shuttle control lever in neutral to close the starting safety device switch.
4. Move the throttle lever to around the half way position.

5. Turn the starter key to position (C) figure 1. Release the key as soon as the engine starts.

NOTICE: If one of the warning lights illuminates to signal a fault, check and repair the faulty part. If the warning light continues to signal a fault, have the machine checked by your dealer.

Before accelerating or starting the tractor, allow the engine to idle at **1000 RPM** for 30 seconds to ensure that the turbocharger is correctly lubricated.

When starting the engine after extended periods of non-use, avoid using the hydraulic system immediately. All the moving parts need to be lubricated properly before they are subjected to full load.

Especially when the external temperature approaches **0 °C (32.0 °F)**, run the engine at **1300 - 1500 RPM** for approximately 5 minutes in order to heat the oil in the rear transmission to working temperature.

Starting in low outside temperature

When the outside temperature is low and the engine is cold, cover the radiator before starting so that the engine coolant can quickly reach the correct temperature. Then remove the cover. Note too the following warnings:

- To avoid running down the battery, any single engine starting attempt should not last longer than **15 s**; if, however, the engine fires but does not start, continue the attempt up to a maximum of **30 s**.
- Wait at least one minute between attempts to start the engine.
- To avoid excessively running down the battery, do not make more than six attempts to start the engine.

With outside temperatures below **0 °C (32.0 °F)**, in order to prevent separation of the paraffin components in the diesel fuel, leading to a reduction in fluidity and subsequent fuel supply problems (especially when starting the engine), mix the diesel fuel with the antifreeze (or a similar product) in the proportions described on the container.

The antifreeze 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 antifreeze in the tank first, followed by the diesel fuel.

The antifreeze will ensure that there is an optimum fuel supply to the engine without reducing performance, even where the external temperature drops below **-20 °C (-4.0 °F)**.

Starting with grid heater (on request)

⚠ WARNING

Explosion hazard!
DO NOT use ether starting fluid. Explosion, death, serious personal injury, or serious engine damage could occur.
Failure to comply could result in death or serious injury.

W0148B

The grid heater, effective down to temperatures of **-30 °C (-22 °F)**, is installed in the intake manifold. It automatically comes into operation when the temperature drops to **10 °C (50.0 °F)**.

The thermostarter automatically switches on, heating the intake air when the ignition key is in position **(B)** figure 1.



The indicator on the control panel comes on to indicate that the thermostarter has switched.

Checks to be carried out before using the tractor

Before operating the tractor, ensure that you are thoroughly familiar with the location and operation of the controls.

Ensure that the maintenance and lubrication operations described in Section 7 of this 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 :

- Signs of cracking on the fan belt.
- Accumulation of dirt around the engine.
- Signs of leaks or damaged components connected to pressure tubes, sleeves and connectors.
- Damaged tires.
- loose fasteners.
- Accumulation of foreign matter or leaks on the hydraulic pump and relative hoses.

Always carry out any necessary repairs before using the tractor again

STOPPING THE UNIT

Stopping the engine

Stopping the tractor

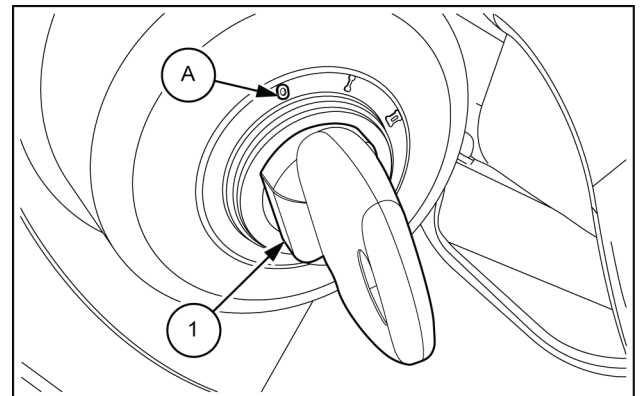
- Reduce engine speed.
- Depress the transmission clutch pedal and brake.

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

Stopping the Engine

NOTE: Before stopping the engine, allow it to idle at **1000 RPM** for at least **3 minutes**. This allows the turbocharger and manifold to cool, preventing deformation of the components.

Turn the starter key to the STOP position (**A**).
Disconnect the battery from the electric system with the specific device (external mechanical isolator or push-button inside the cab).



DCUTLBRNE002S4A 1

5 - TRANSPORT OPERATIONS

ROAD TRANSPORT

Transporting the machine

⚠ WARNING

Transport hazard!

The machine can slip or fall from a ramp or trailer. Make sure the ramp and trailer are not slippery. Remove all oil, grease, ice, etc. Move the machine on or off the trailer with machine centered on the trailer or ramp.

Failure to comply could result in death or serious injury.

W0152A

⚠ WARNING

Transport hazard!

Collision of high speed road traffic and slow moving machines can cause death or personal injury. On roads use transport lighting according to local laws. Make sure the Slow Moving Vehicle (SMV) emblem is visible.

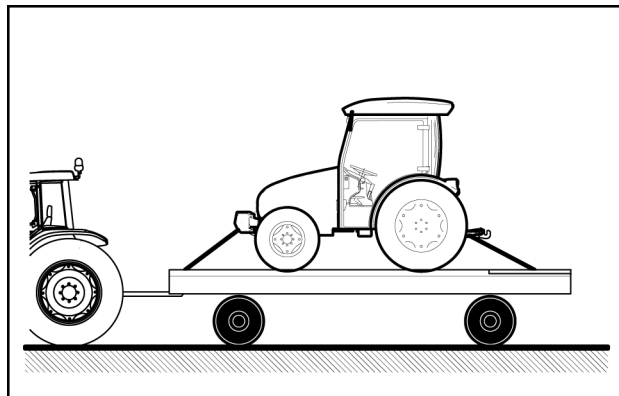
Failure to comply could result in death or serious injury.

W0244A

To transport the tractor it is necessary to load it onto a suitable means of transportation; platform of the truck or trailer equipped with a double axle.

Engage the Parking Brake.

Secure the tractor on the vehicle with suitable anchoring belts or chains. Secure the rear of the tractor using the tow bar or tow bar supports and the front of the tractor using the towing hook.



DCUTLNEIT012S5A 1

NOTICE: Do not hook or connect chains around the front axle drive 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.

resulting in possible damage to the bearings. The turbocharger turbine must be prevented from rotating freely (with the engine off), as the shaft bearings will not be lubricated.

On models fitted with the turbocharger, cover the exhaust outlet to prevent the turbocharger rotating in the wind,

RECOVERY TRANSPORT

Towing the tractor

WARNING

Loss of control!

**Only tow at safe speeds. Use caution when making corners or meeting traffic.
Failure to comply could result in death or serious injury.**

W0126A

WARNING

Hazard to bystanders!

**The operator must be the only person on the machine when towing. Make sure that nobody else is on the machine or within its working range.
Failure to comply could result in death or serious injury.**

W0259A

WARNING

Roll-over hazard!

**Attempting to free a stuck machine can involve safety hazards: the stuck machine or the towing vehicle may tip or overturn, or the tow bar may fail. Always use the proper towing equipment to free a stuck machine.
Failure to comply could result in death or serious injury.**

W0327A

WARNING

Flying object!

**Do not use chains, cables, or rope to pull the machine. If the chain, cable, or rope breaks or slips, it may whip with great force. Use only rigid drawbars or tow bars to pull your machine.
Failure to comply could result in death or serious injury.**

W0328A

The tractor must only be towed for short distances, for example from inside a building to the outside. It must not be towed for long distances on roads with heavy traffic.

Tow the tractor from the rear, using only the drawbar, the rear tow hitch or the three-point linkage device.

Tow the tractor from the front using the tow pin in the front ballast weights or front support.

Have an operator steer and brake the tractor when necessary.

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

- position the gear and range levers in neutral;
- only tow for short distances;
- keep speed below **8 km/h (5.0 mph)**;
- if possible, run the engine to lubricate the power steering components.

6 - WORKING OPERATIONS

FOUR WHEEL DRIVE (4WD)

Four-wheel drive with electro-hydraulic control

Only SuperSteer™ axle

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.

Manual engagement

Engage four-wheel drive by pressing button **(1)** fig. 1 onto **(A)**. When released, the button returns automatically to position **(B)**.

In this position, front-wheel drive will be permanently engaged; indicator **(1)** fig. 1 will illuminate to show that front-wheel drive is engaged. To disengage, press the button to position **(A)** once more.

Automatic engagement

By switching button **(1)** fig. 1 to position **(C)** indicator **(3)** will illuminate, signalling that automatic four-wheel drive has been selected. When released, the button returns automatically to position **(B)**. Four-wheel drive engagement will be signalled by indicator **(2)** on the control panel. This automatic function disengages four-wheel drive under the following conditions:

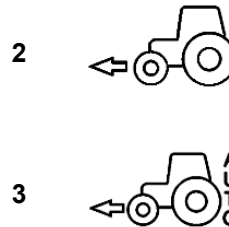
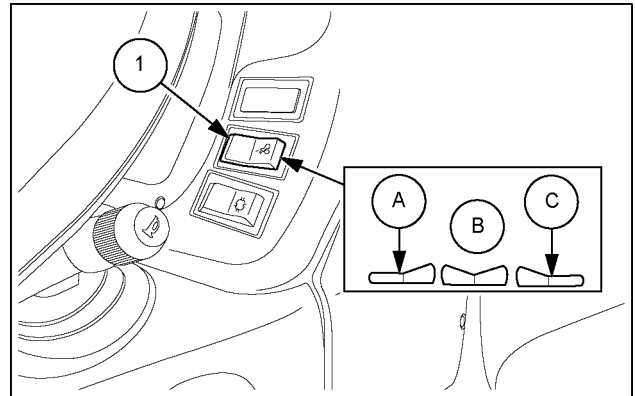
- with speed above **15 km/h (9.3 mph)**;
or
- with steering angle greater than **30 °**

To disengage automatic operation, press the push- button to position **(C)**. Indicator **(3)** will switch off.

NOTE: It is recommended to use automatic four- wheel drive when present.

NOTICE: Four-wheel drive is engaged automatically whenever the brake pedals are operated at the same time, irrespective of the selection made with both versions. In this case only the indicator **(2)** stays on.

NOTE: Do not use four-wheel drive when driving on roads, as this increases wear on the front tires.



DIFFERENTIAL LOCK

Electrohydraulic differential lock

⚠ DANGER

Steering is difficult with the differential lock engaged. An accident could result. During field operation, use the differential lock for traction improvement but release for turning at row end. Do not drive at high speeds or on roads with the differential lock engaged. Failure to comply will result in death or serious injury.

D0023A

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

The differential is fitted with an electro-hydraulic locking device, operated by switch (1);

- Figure 1 models without cab
- Figure 2 models with cab.

To activate differential locking, put the switch (1) into position (A). When the switch is released, it returns to the middle position B.

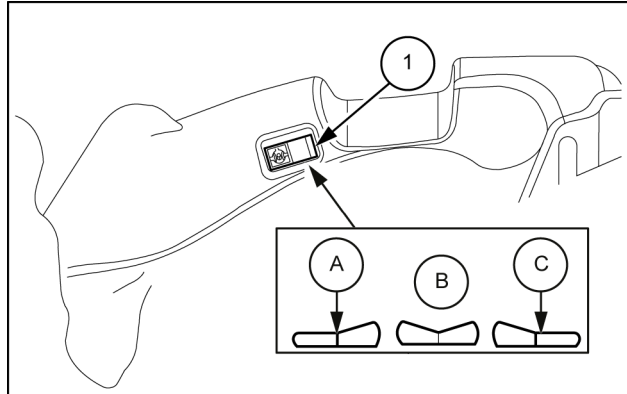
NOTE: If the switch is in position (C), to activate the differential lock it is necessary to move onto the middle position (B) and put it into position (A).



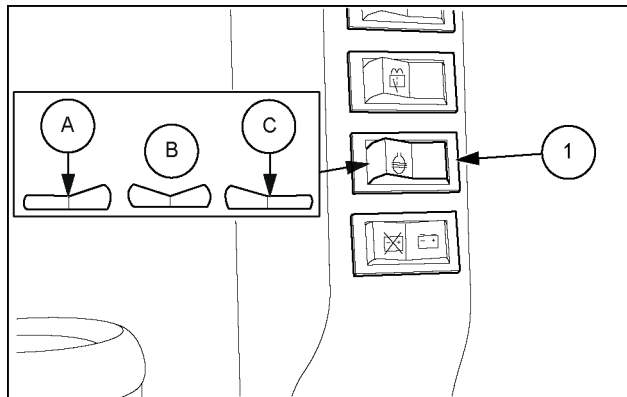
Differential lock engagement is highlighted with the amber warning light on the instrument panel coming on.

To disengage the differential lock, reduce the tractor speed and put the switch (1) into position (C). The switch remains held in position (C).

The differential lock is also disengaged when pressing the brake pedals.



MOIL13TR01001AA 1



MOIL13TR00466AA 2

It is advisable to lock the differential in the following situations:

- When ploughing, to prevent the wheel that is not in the furrow from slipping.
- When one of the drive wheels is on uneven, muddy or slippery ground and tends to slip.

NOTICE: If the differential fails to disengage, momentarily press the footbrake that acts on the outside directional wheel.

NOTE: Only lock the differential in the event of one of the two wheels slipping excessively. 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.

Mechanical differential lock

⚠ DANGER

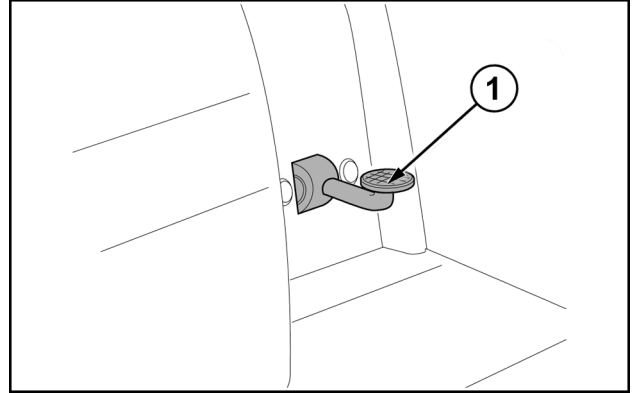
Steering is difficult with the differential lock engaged. An accident could result. During field operation, use the differential lock for traction improvement but release for turning at row end. Do not drive at high speeds or on roads with the differential lock engaged. Failure to comply will result in death or serious injury.

D0023A

The differential allows the drive wheels to rotate at different speeds when the tractor is on a bend.

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

- when ploughing, to prevent the wheel that is not in the furrow from slipping;
- when one of the drive wheels is on uneven, muddy or slippery ground and tends to slip.



DCSPNEGB046S3A 1

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

To release the lock, press one of the two brake pedals.

REMOTE VALVES

General safety rules

WARNING

Unexpected movement!

When starting the machine engine, make sure the remote valve levers are in the correct position **BEFORE** you operate the key switch. This prevents an attached implement from moving unintentionally. Failure to comply could result in death or serious injury.

W0433A

WARNING

Escaping fluid!

Do not disconnect hydraulic quick coupler under pressurized conditions. Make sure all hydraulic pressure is removed from the system before disconnecting hydraulic quick coupler. Failure to comply could result in death or serious injury.

W0095A

WARNING

Pressurized system!

Before disconnecting the couplers, you must:

- lower the connected attachments,
 - stop the engine,
 - move the control levers forward and backward to discharge pressure from the hydraulic system.
- Failure to comply could result in death or serious injury.

W0389A

WARNING

Pressurized fluid can penetrate the skin and cause severe injuries.

Keep hands and body away from any pressurized leak. **DO NOT** use your hand to check for leaks. Use a piece of cardboard or paper. If fluid penetrates the skin, seek medical attention immediately. Failure to comply could result in death or serious injury.

W0158A

The main causes for poor operation or breakage of the quick couplers are:

- dirt
- type of male quick coupler not compatible, or damaged (dents, for instance)

Rear remote control valve(s)

Before removing the protective caps for connecting the male couplings, remove all the debris that has accumulated on the pressure points to avoid contaminating the hydraulic system.

Quick coupler

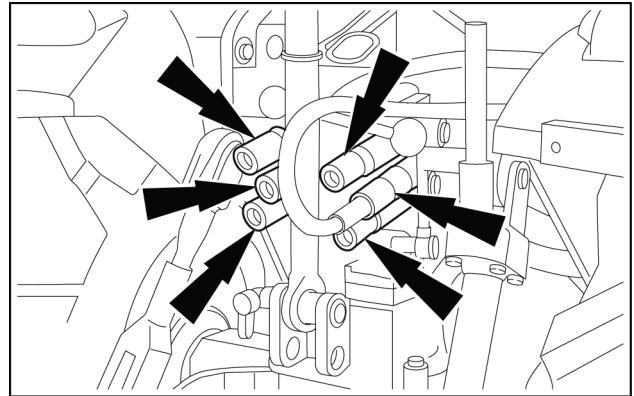
One, two or three control valves using the same oil as the hydraulic lift circuit to which they are connected can be fitted to your tractor for remote control of single-acting and double-acting cylinders.

Each valve has two 1/2" quick-fitting female "Push-Pull" couplers which can be connected to pressurised male couplers, available as an optional. You can thus connect the control cylinder lines with two hands.

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

- stopping the engine
- lowering any implements connected to the lift;
- thoroughly cleaning the two mating parts.

NOTE: When not using the female couplers, protect them with the plastic caps.



MOIL13TR00839AA 1

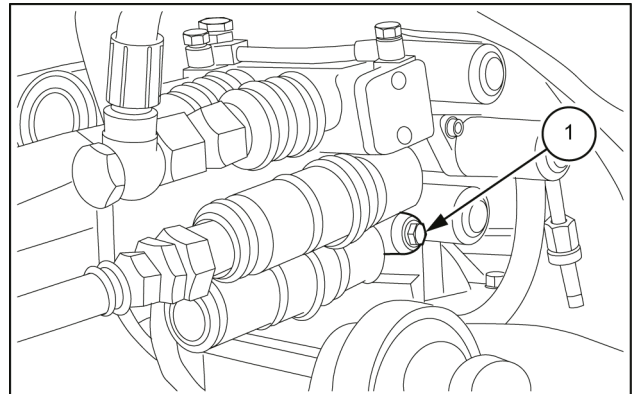
Single/double-acting switching

To switch the control valves to:

- single-acting, slacken screw (1) near to the valve control lever pivot until it stops.
- Double-acting, fully tighten the screw (1).

When using single-acting, in order to quickly identify the coupler to which the implement is to be connected, actuate the distributor 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 the line on the valve body connected furthest from the change-over screw.



MOIL13TR00841AA 2

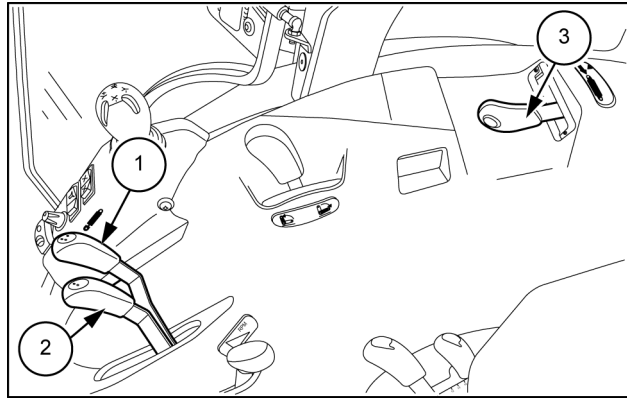
Auxiliary control valve levers for models with mechanically controlled hydraulic lift

Control levers (1) and (2) have two positions, as well as the central neutral position:

- forward = down;
- back = up.

The control lever (3) can be in two positions, excluding the central neutral position:

- to the right = lowering
- to the left = lifting

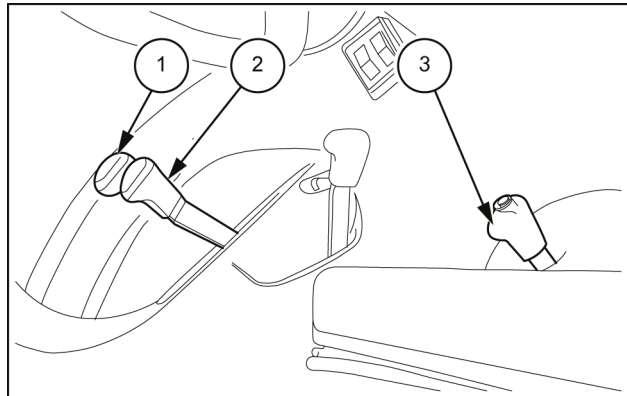


MOIL13TR00453AA 3

Auxiliary control valve levers for models with electronically controlled hydraulic lift

Control levers (1), (2) and (3) have two positions, as well as the central rest position:

- forward = down;
- back = up.



MOIL13TR00848AA 4

Distributors with automatic release

When operated, the lever is held in position by a mechanical catch that enables having the implement make the required movement without it being necessary to hold the lever on that working position manually. In this way it is possible to perform other operations with both hands. When the pressure set in the hydraulic system is reached, the control lever is automatically released from the mechanical catch and returns to the neutral position.

Control valves with float setting

The tractor can be fitted with float setting valves for implements that require this function. To select the float setting, push the relevant valve lever fully forward, past the first detent, and then push fully forward. A catch will keep the lever hooked in the float position. To release the control lever from the float setting, pull upward to return it to the neutral position.

NOTE: Each control lever is provided with a coloured plastic plug that enables identifying the coupling to which it is connected (with a plastic plug of the same colour).

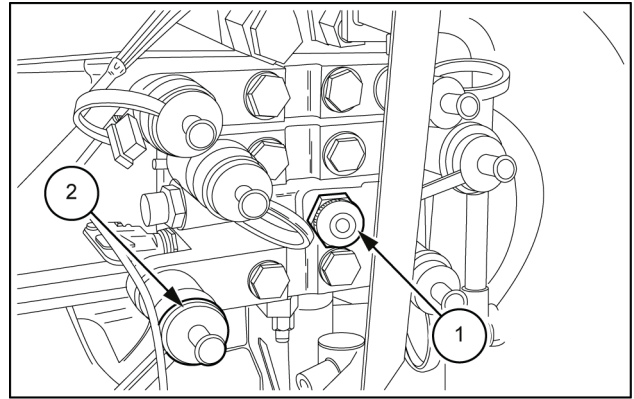
NOTICE: Leaks of pressurized hydraulic fluid can penetrate the skin and cause severe injuries:

- Never use hands to locate a leak, use cardboard or paper.
- Switch off the engine and discharge 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

Flow divider

Version with one flow control knob

The knob **(1)** is used to control the oil flow rate of the remote valve **(2)**, the remaining (excess) flow rate will be diverted to the other valves.

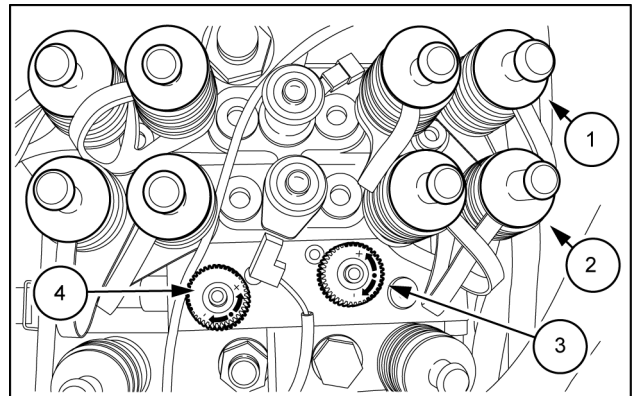


MOIL13TR00594AA 5

Version with two flow control knobs

The knob **(3)** is used to control the oil flow rate of the top group of remote valves **(1)** or the lift. The remaining (excess) oil flow from the top remote valves or the lift will be diverted to the return line.

The knob **(4)** is used to control the oil flow rate of the bottom group of remote valves **(2)**. The remaining (excess) oil flow will be diverted to the top remote valves **(1)** or to the lift.



MOIL13TR02160AB 6

Split control spool valves (with switch)

On all the models, the control levers **(2)** and **(3)** for models with a mechanical lift or **(4)** and **(5)** with an electronic lift can be equipped with a button **(6)** so that each of them can control two spool valves.

Mechanical Lift

lever **(2)**;

- When the lever is moved forwards and backwards, it commands the implement connected to the spool valves **(5)** and **(8)** fig. 9;
- Press the button **(6)** on the lever and move it forwards or backwards to command the implement connected to the spool valves **(6)** and **(7)** fig. 9;

lever **(3)**;

- When the lever is moved to the right or left, it commands the implement connected to the spool valves **(1)** and **(4)** fig. 9;
- Press the button **(6)** on the lever and move it to the right or left to command the implement connected to the spool valves **(2)** and **(3)** fig. 9;

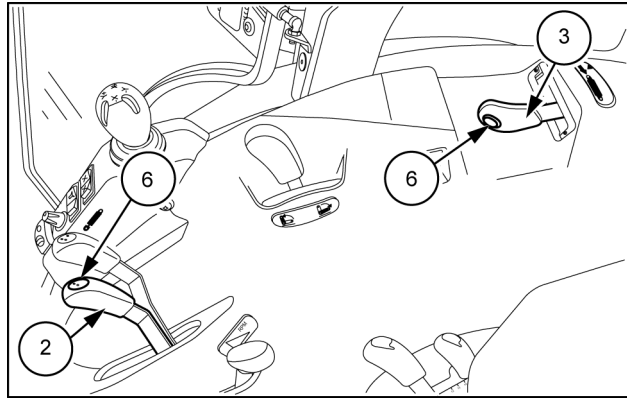
Electronically controlled lift

Handle **(4)**

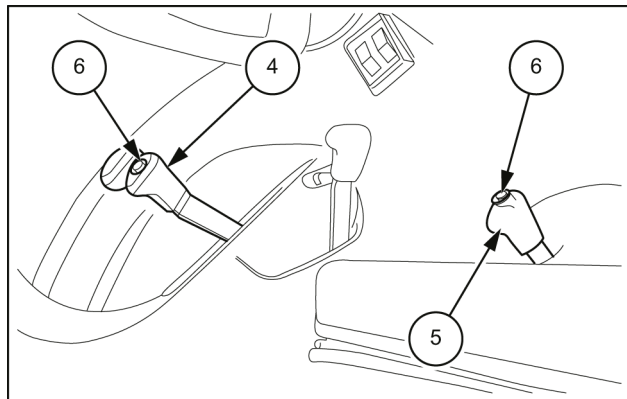
- When the lever is moved forwards and backwards, it commands the implement connected to the spool valves **(5)** and **(8)** fig. 9;
- Press the button **(6)** on the lever and move it forwards or backwards to command the implement connected to the spool valves **(6)** and **(7)** fig. 9;

Handle **(5)**

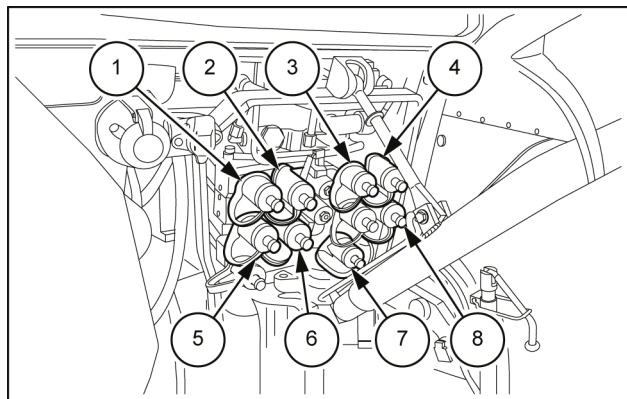
- When the lever is moved forwards and backwards, it commands the implement connected to the spool valves **(1)** and **(4)** fig. 9;
- Press the button **(6)** on the lever and move it forwards or backwards to command the implement connected to the spool valves **(2)** and **(3)** fig. 9.



MOIL13TR00452AA 7

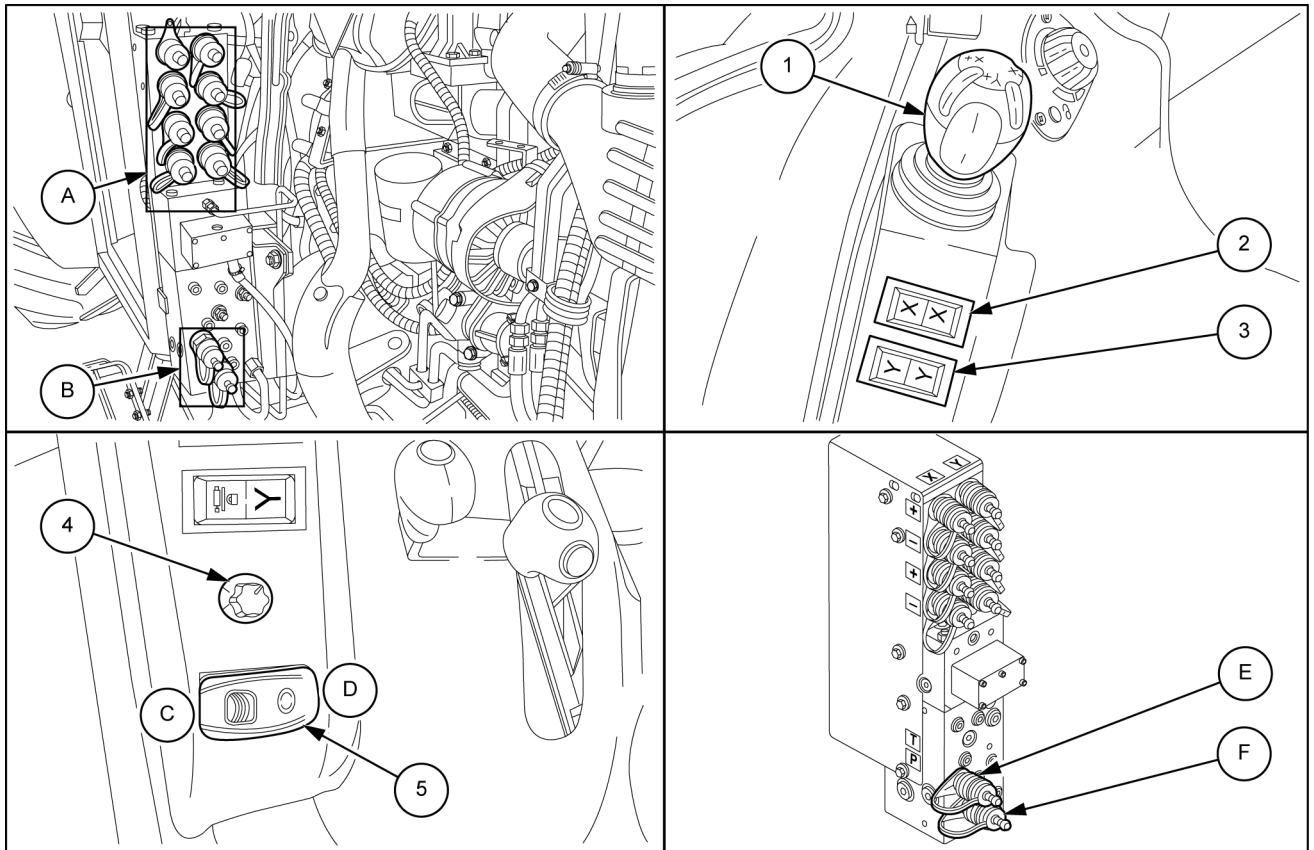


MOIL13TR00850AA 8



MOIL13TR00851AA 9

Electrohydraulically controlled side hydraulic valves



MOIL13TR01009FA 1

Machines equipped with a cab have a block of distributors for remote controls fixed on the right-hand side of the driver's seat, controlled electronically.

The block of distributors is split into two sections:

- Section **(A)** is composed of four pairs of distributors with a controlled flow rate.
- Section **(B)** is composed of a pair of distributors for connecting hydraulic motors with a maximum flow rate of **33 l/min (5 US gpm)** controlled by a potentiometer.

The set of controls is secured inside the cab on the right-hand mudguard.

1. Joystick for controlling the distributors of section **(A)**.
2. Distributor activation switch on line **(X)**.
3. Distributor activation switch on line **(Y)**.

Both switches, when pressed on a certain colour, activate the corresponding pair of distributors marked with the same colour.

On the bottom of the console, there are the controls **(4)** and **(5)** for managing the hydraulic motors connected to the pressure taps **(B)**.

4. Flow control potentiometer for the oil to the sockets **(B)** from **0 to 33 l/min (5 US gpm)**.
5. Hydraulic motor control switch.
Press the switch onto position **(D)** to turn on the hydraulic motor, or position **(C)** to turn it off.

NOTE: For the pair of distributors for connecting hydraulic motors, the distributor **(E)** is for delivery and the distributor **(F)** for the return line.

Operation

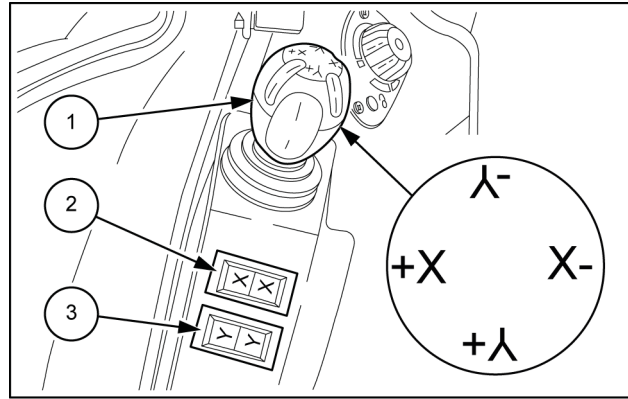
When the joystick (1) is operated with a crosswise movement, it operates the distributors on axis (X) and on axis (Y) .

The same lever (1) when operated diagonally enables simultaneous operation of two variable flow rate distributors.

Underneath the joystick there are the switches (2) and (3) that activate the distributors on the line (X) or (Y). Press the switch (2) to the right or left on a specific colour to activate the pair of distributors marked with the same colour on the line (X)

Press the switch (3) to the right or left on a specific colour to activate the pair of distributors marked with the same colour on the line (Y)

Operation of the distributors of the corresponding line is inhibited in the central position.



MOIL13TR01011AA 2

Connecting the Implement

Press the buttons (2) or (3) on a specific colour to activate the corresponding pair of distributors of the same colour on the line (X) or (Y) .

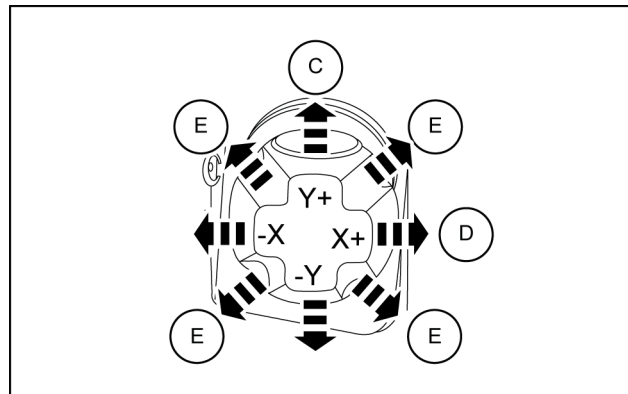
Connect the oil supply tube to the distributor marked (+) and the return line on the distributor of the same colour on the mark (-).

Joystick operation

To operate the connected implements observe the following instructions:

- Switch (2) pressed to the right or left: line distributors (X) on.
- Move the lever (1) to the right (X+) to lift, or to the left (X-) to lower the connected implements. When the lever is all to the right in position (D) it is held by a catch to enable the float position.
- Switch (2) in the middle position: line distributors (X) off.
- Switch (3) pressed to the right or left: line distributors (Y) on.
- Move the lever (1) forwards (Y+) to lift, or to the left (Y-) to lower the connected implements. When the lever is all forward in position (C) it is held by a catch to enable the float position.
- Switch (3) in the middle position: line distributors (Y) off.

NOTE: A diagonal movement in the directions (E) together with a crosswise movement enables carrying out multiple controls.

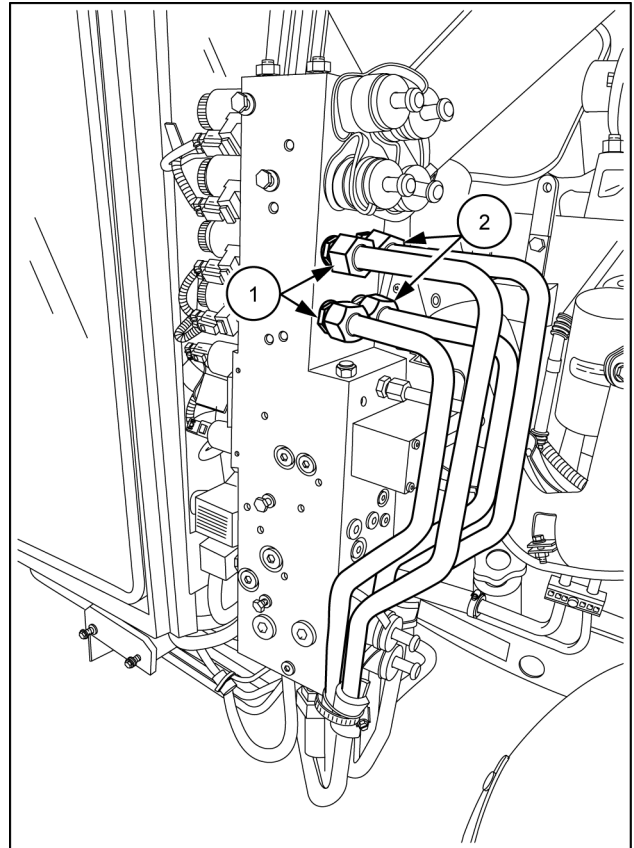


MOIL13TR01010AA 3

Electrohydraulically controlled rear remote control valves

On request, two pairs of electro-hydraulically controlled side spool valves can be used to supply the same number of auxiliary rear hydraulic control valves.

1. Line control valves **X**, yellow
2. Line control valves **Y**, black



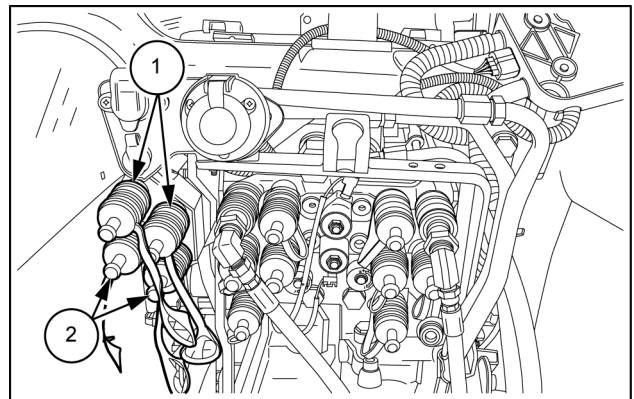
MOIL13TR00302BA 1

To work the two rear control valves, press the corresponding colour on the relative line switch.

1. Yellow
2. Black

NOTE: Depending on the colors selected by the two switches, the joystick controls simultaneously side and rear remote control valves.

For joystick operation, see the previous chapter, "Electro-hydraulically controlled side spool valves".



MOIL13TR00376AA 2

Side hydraulic valves

Only models with roll bars ROPS

⚠ WARNING

Pressurized system!

Before disconnecting the couplers, you must:

- lower the connected attachments,
 - stop the engine,
 - move the control levers forward and backward to discharge pressure from the hydraulic system.
- Failure to comply could result in death or serious injury.

W0389A

⚠ WARNING

Pressurized fluid can penetrate the skin and cause severe injuries.

Keep hands and body away from any pressurized leak. DO NOT use your hand to check for leaks. Use a piece of cardboard or paper. If fluid penetrates the skin, seek medical attention immediately.

Failure to comply could result in death or serious injury.

W0158A

There are two distributors (1) figure 2 for fitting side or front implements.

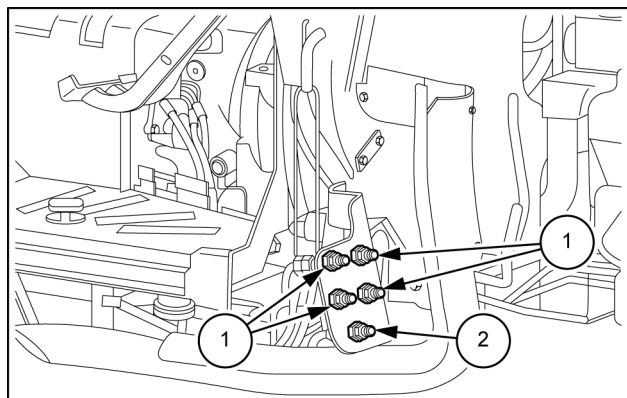
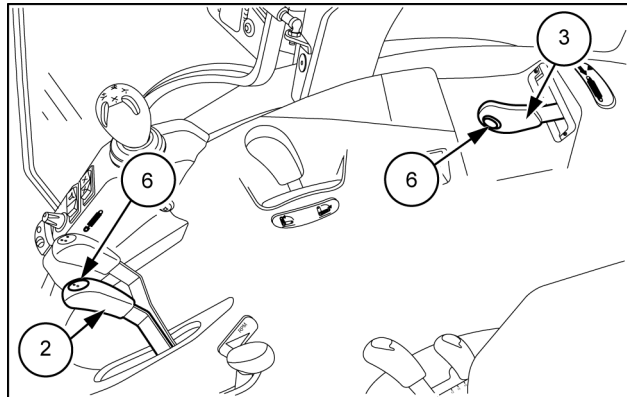
The distributors are controlled by the levers (2) and (3) that command the rear distributors with the "DIVERTER" function, that is to say by pressing the button (6).

With connected implements working with their own hydraulic motor, connect the outlet pipe to the socket (2) figure 2 for rapid oil discharge.

Operation

The levers shown in the figure, equipped with buttons (6), can separately govern a number of implements connected as described below:

- Move the levers forwards to lower or backwards to raise the implements connected to the rear distributors without using the buttons (6).
- Press the buttons (6) and move the levers forwards to lower or backwards to raise the implements connected to the side distributors.



REAR POWER TAKE-OFF (PTO)

Power take off (PTO)

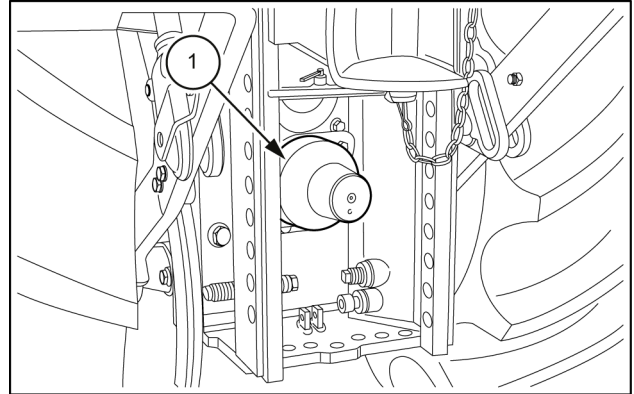
The power take-off fitted on the tractor is used to transfer power from the engine directly to the implement. It can be controlled directly by the engine, or by the tractor's transmission. All tractors are fitted as standard with an independent power take-off at **540 RPM**.

The power take-off is available in the following versions:

- Independent, **540 RPM**;
- Independent, **540/1000 RPM**

When the power take-off is not in use, always fit the safety cover (1) on the splined output shaft.

NOTICE: 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 is in the disengaged position. When the power take-off is not connected to an implement, keep the control lever in the disengaged position.



MOIL13TR00562AA 1

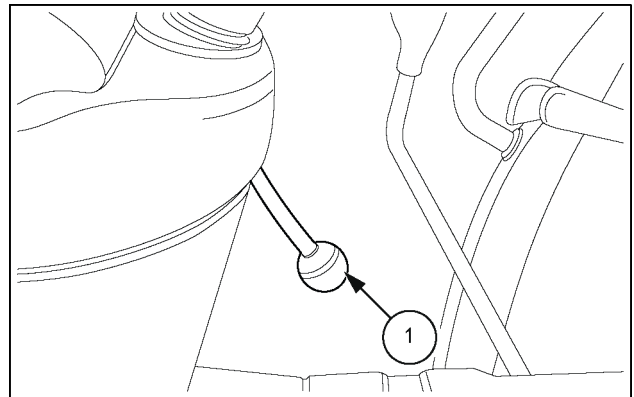
Independent PTO

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).

To operate the Power Take-Off, proceed as follows:

- Check that the control lever (1) is completely lowered.
- Start the engine.
- Move the control lever (1) to the left and then up (completely raised).



MOIL13TR00563AA 2

To disengage the Power Take-Off move the control lever (1) completely lowered.

NOTICE: When the Power Take-Off is not in use, keep the control lever (1) completely lowered (disengaged position).

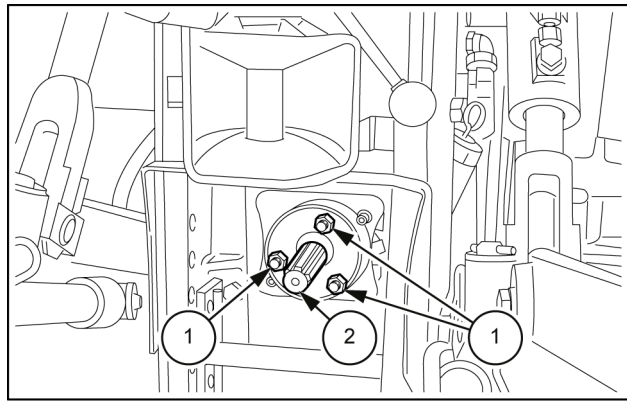
540/1000 RPM Power Take-Off speed

Speed selection by changing output shaft

Passing from one speed to the other takes place automatically by simply replacing the splined output shaft (2);

- the speed of **540 RPM** is obtained by fitting the 1 3/8 " output shaft with **6** splines;
- the speed of **1000 RPM** is obtained by fitting the 1 3/8 " output shaft with **21** splines.

NOTE: When using the power take-off, and especially when changing speeds, always make sure that the tractor is fitted with the correct shaft for the speed selected. When using any implement requiring a speed of **540 RPM**, never select **1000 RPM**, and vice versa.



MOIL13TR00566AA 3

Selected power take-off: 540 RPM

540 RPM with engine running at 2196 RPM	565 RPM with engine running at 2300 RPM
---	---

Selected power take-off: 1000 RPM

1000 RPM with engine running at 2260 RPM	1017 RPM with engine running at 2300 RPM
--	--

FRONT POWER TAKE-OFF (PTO)

Front Power Take-Off (PTO) - Safety rules

⚠ WARNING

Entanglement hazard!

The Power Take-Off (PTO) guard must be installed when operating PTO-driven equipment.
Failure to comply could result in death or serious injury.

W0322A

⚠ WARNING

Entanglement hazard!

Do not wear loose clothing when operating Power Take-Off (PTO) driven equipment.
Failure to comply could result in death or serious injury.

W0337A

⚠ WARNING

Flying objects!

Do not use the implement at a higher Power Take-Off (PTO) RPM than recommended. Machine damage due to vibration may occur, resulting in loose parts and flying debris.
Failure to comply could result in death or serious injury.

W0192A

⚠ WARNING

Moving parts!

Disengage the Power Take-Off (PTO), turn off the engine, and remove the key. Wait for all movement to stop before leaving the operator's position. Never adjust, lubricate, clean, or unplug machine with the engine running.
Failure to comply could result in death or serious injury.

W0112A

⚠ WARNING

Unexpected movement!

Disengage the Power Take Off (PTO) after each use. This prevents an attached implement from moving unintentionally.
Failure to comply could result in death or serious injury.

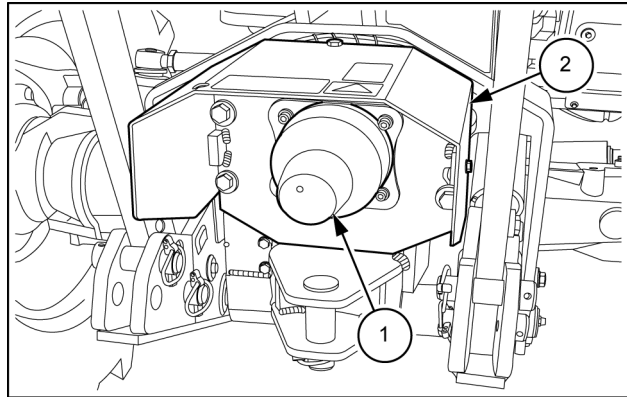
W0423A

Front Power Take-Off (PTO) - Operating

The front Power Take-Off (PTO) transfers engine power directly to front mounted equipment via a 6 spline shaft. The PTO shaft rotates anti-clockwise (as viewed from the front)

When the power take-off is not in use, always fit the safety cover (1) on the splined output shaft as shown in the figure.

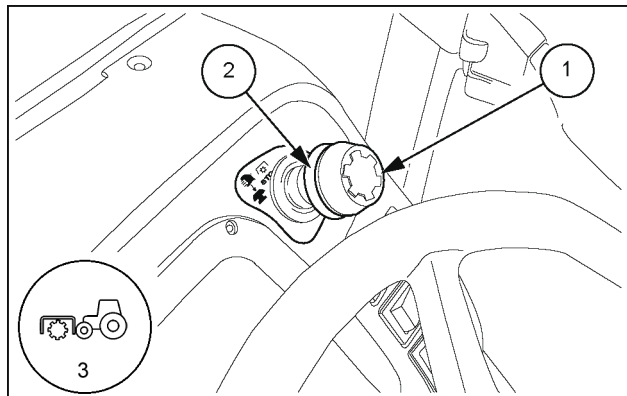
NOTICE: The Power Take-Off (PTO) guard (2) must be always installed.



Operation

When starting the engine with pushbutton (2) ON, a warning light (3) informs the operator that the pushbutton must be released. If the engine switches off with the PTO engaged, an indicator light (3) tells the operator to deactivate the command.

To engage the power take-off, lightly press push-button (2) and pull the ring (1) upwards. Engagement is controlled by an electromagnetic clutch. Indicator (3) remains illuminated to indicate that the PTO is engaged. To disengage the PTO, just press the knob (2) downwards.



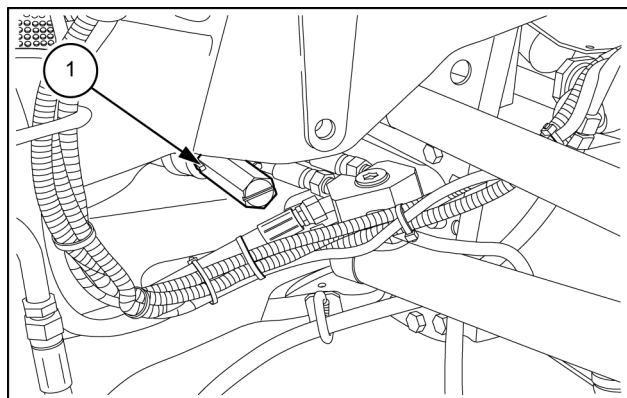
NOTE: In the event of electrical malfunctions on the PTO, the ECU sends a signal to indicator (3).

NOTICE: In the event of slipping because of torque peaks, as a result of the implement jamming or particularly heavy ground, the control unit automatically disengages the coupling. Under these conditions the indicator (3) flashes slowly to indicate coupling disengagement. To re-engage the PTO, press the knob (2) fully down to disengage the clutch, and then pull the knob upwards to re-engage. To return to normal operation the fault must be eliminated.

NOTE: For safety reasons, to avoid unnecessary rubbing, the device will not engage if the engine exceeds **1500 RPM**. If the power take-off is inadvertently engaged with the motor running at over **1500 RPM**, the indicator (3) will flash rapidly to warn that the motor revs must be reduced.

Power take-off drive coupling

NOTICE: In order to ensure longer life for the coupling and the electromagnetic clutch, when the front PTO is not being used, select the neutral position by turning screw (1) on the right hand side anticlockwise.

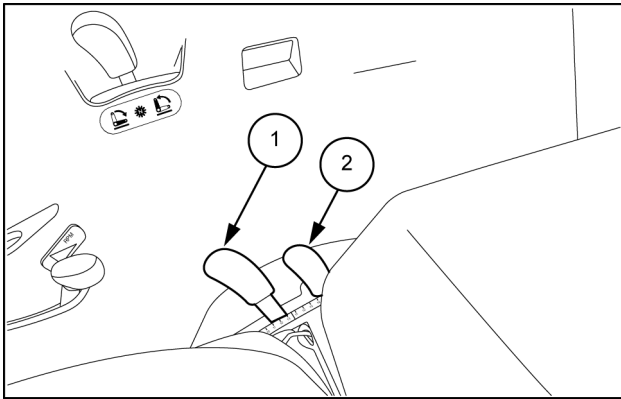


REAR HYDRAULIC LIFT

Hydraulic lift with mechanical control

The hydraulic lift system uses the transmission oil, which is supplied by a gear pump driven by the engine timing gears.

Operating Remote



1. Position control lever
2. Draft control lever

With the manually-operated hydraulic lift, there can be the following operating conditions.

Position control

Move draft control lever **(2)** fully forward.

Set the position of the implement, either in or above the ground surface, move the lever **(1)** forward to lower the implement and backward to raise it. The movement of the implement will be proportional to the movement of the lever.

To raise and lower the implement at the headland or when necessary, use the lever **(1)**, do not change the position of the lever **(2)**. When the implement is lowered, to restart work move the lever into the previous position to work with the same settings.

Draft control

Move position control lever **(1)** fully forward;

Set the desired implement depth in the ground by gradually shifting the draft control lever **(2)** forwards. The depth reached by the implement is proportional to the traction power which, in turn, is determined by the firmness of the ground. In these conditions, the lift will automatically maintain the traction power required from the tractor at a constant level.

To raise and lower the implement at the headland or when necessary, use the lever **(1)**, do not change the position of the lever **(2)**. When the implement is lowered, to restart work move the lever into the previous position to work with the same settings.

Float function

To operate the lift in float mode, i.e. with free movement of the arms for their full travel, move both levers **(1)** and **(2)** fully forward;

The lift should only be used to raise and lower the implement at the headland; to do this, operate only on lever **(1)**.

Mixed position and draft 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 shift the position control lever **(1)** backwards, until the lift arms start to rise.

Move the lever into the previous position to work with the same settings.

The lift operates in draft control but, at the same time, prevents the implement from going too deep if less ground resistance is encountered, which could result in unsuitable soil being brought to the surface.

Lift-O-Matic® control - Operating

The lever **(1)** is used to position the implement in an infinite number of positions. In both the lowering and raising phases, the implement stops at the height corresponding to the position where the lever is stopped.

Lifting

- Fixed neutral position of the lever.

The lever, when moved gradually rearwards, causes the implement to raise up. In this condition, when the lever is released it returns automatically to the central neutral position, while the lift keeps the new set position.

- Fixed position of the lever on full height

The lever **(1)** moved fully back, quickly raises the implement up to its full height. In this condition the lever is held in the fully back position.

Lowering

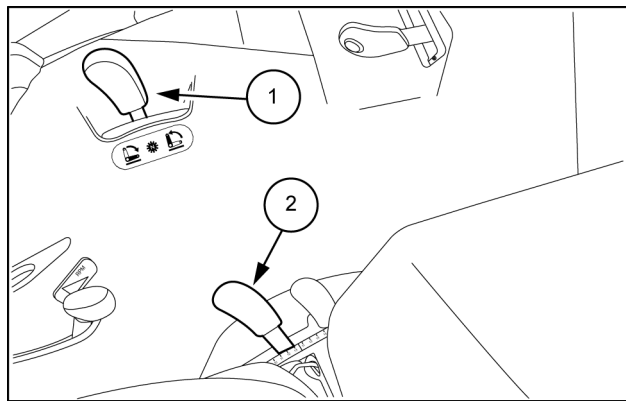
- Fixed neutral position of the lever

The lever, when moved gradually forwards, causes the implement to lower. In this condition, when the lever is released it returns automatically to the central neutral position, while the lift keeps the new set position.

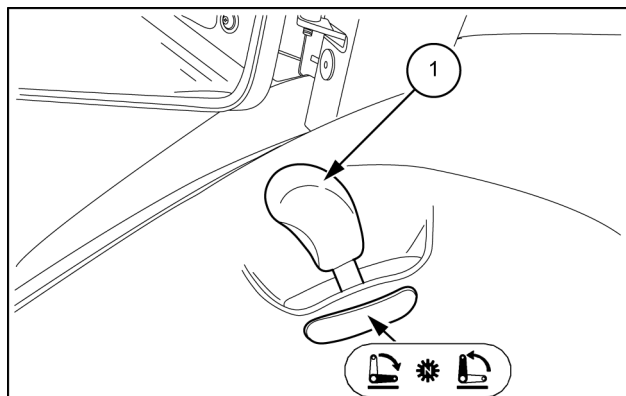
- Fixed position of the lever on full lowering

The lever **(1)** moved fully forwards, quickly lowers the implement down to the limit set beforehand with the position control lever **(2)**. In this condition the lever is held in the fully forward position.

NOTE: The lever **(1)** is particularly useful to make small adjustments in height of the lift arms. Move slightly to the right or left lever to make these adjustments.



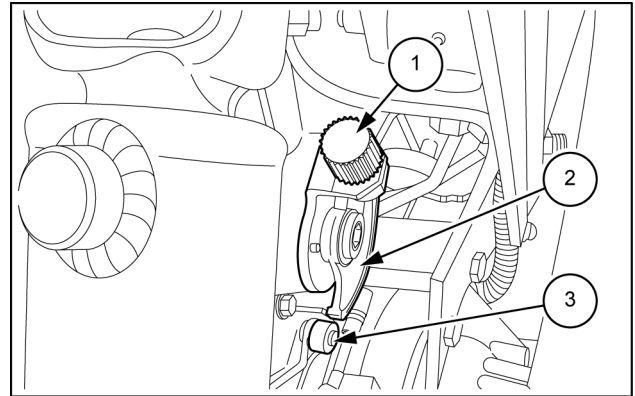
MOIL13TR01422AA 1



MOIL13TR01421AA 2

Adjusting the height limit of lift arm travel

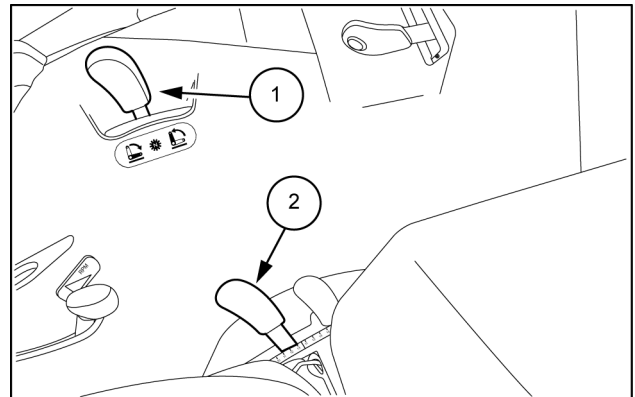
To achieve full lift height, turn the adjuster (1) fully anti-clockwise until the cam (2) is clear of the lever (3).



MOIL13TR00375AA 3

To adjust the upward travel of the implement, follow these guidelines:

1. Connect the implement to the lift arm swivel bushings;
2. Using the position control lever (2) fig. 4, raise the implement to the desired height;
3. Move the lever (1) fig. 4 backwards to lift the implement.
4. Switch off the engine
5. Turn the adjuster (1) fig. 3 anticlockwise to take the cam (2) into contact with the stop lever (3).



MOIL13TR01422AA 4

When you use the lever (1) fig. 3 of the **Lift-o-Matic** to raise the implement, the cam (2) fig. 3 comes into contact with the lever (3), stopping the implement from being raised.

NOTE: The arm upward stroke limit adjustment only affects the operation of the **Lift-o-Matic**. If it were necessary to raise the arms further, beyond the set limit, lift using the lift control levers.

NOTICE: When moving with the implement raised, the adjustment system described above will not prevent any jolting of the implement due to passing over obstacles or rough ground. It is therefore recommended to travel at such a speed as to avoid the problem of the implement hitch jolting.

Hydraulic lift with electronic control

⚠ WARNING

Crushing hazard!

The lifting systems must be operated by qualified personnel who are aware of the correct procedures to follow. Make sure all lifting equipment is in good condition, and all hooks are equipped with safety latches.

Failure to comply could result in death or serious injury.

W0256A

⚠ WARNING

Crushing hazard!

Always lower the machine hydraulic lift and all other hydraulic equipment to the ground before shutting off the engine and removing key.

Failure to comply could result in death or serious injury.

W0063C

The electronically controlled hydraulic lift offers considerable advantages over mechanical lifts as it features higher levels of working precision and sensitivity and it is controlled by microprocessors.

The electronic control system enables selecting three different work modes:

- position control
- draft control
- Float operation

Unlike a conventional hydraulic lift, which is fitted with complicated lever mechanisms, the electronically controlled hydraulic lift is equipped with electronic sensors that transmit variations in conditions to the electronic control unit, which via the hydraulic system operates the lift arms.

For working safely

- Before operating them, make sure the control settings of the electronically controlled lift are as desired.
- Never leave the implement in the raised position when the tractor is stationary.
- With the tractor stationary and the engine running, the external controls located on the mudguards remain enabled. Take care not to operate the controls inadvertently.
- The control unit is provided with self-diagnosis functions that signal any abnormalities in the control system.
- When possible, disconnect the implement or the part that needs welding from the tractor.

NOTE: To avoid damaging the electronic components, follow the instructions noted below when carrying out arc welding on tractors fitted with electronic lifts or on connected implements.

- When possible, disconnect the implement or the part that needs welding from the tractor.
- Disconnect the two battery cables from the terminals.
- Connect the welding machine ground clamp as close as possible to the area where welding is to take place.
- If welding is to be carried out within **1 m (39.37 in)** of the control unit, the unit must first be removed.
- While welding, make sure that the cables do not pass above or near electrical or electronic leads.

Inside controls

The setting controls for the electronically controlled hydraulic lift are located to the right of the driving seat (see page 33) and consist of four knobs:

Lift controls

1 Height limit adjustment control.

- Turn the knob completely clockwise to set the maximum arm lift limit.
- Turn the knob completely anticlockwise to set the minimum arm lift limit.

2 Lift arm drop rate adjustment control.

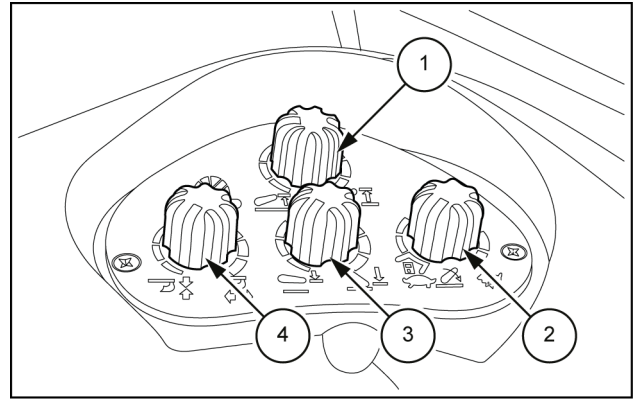
- Turn the knob fully clockwise to set the maximum arm drop rate.
- Turn the knob fully anticlockwise to set the minimum arm drop rate.

3 Lowering limit adjustment control.

- Turn the knob completely clockwise to set the maximum arm lowering limit.
- Turn the knob completely anticlockwise to set the minimum arm lowering limit.

4 Position/draft sensitivity control:

- This knob enables adjusting the mixed position/draft sensitivity control mode.
- Turning the knob anticlockwise gradually reduces the extent and frequency of the corrections made by the lift in response to the changes in resistance provided by the ground as the implement moves forwards.
- When this knob is turned completely anticlockwise, the lift works only in position control mode.



MOIL13TR00570AA 1

NOTE: With the drop rate control knob (2) turned completely anticlockwise, onto the padlock symbol, the lift will remain locked in the position it had at that moment, irrespective of whether it was moving or not. In this condition it is possible to lift the implement, but not to lower it. Turning the knob clockwise, towards the hare symbol, progressively increases the drop rate.

When the lift is at work, the drop rate is regulated by the knob (2).

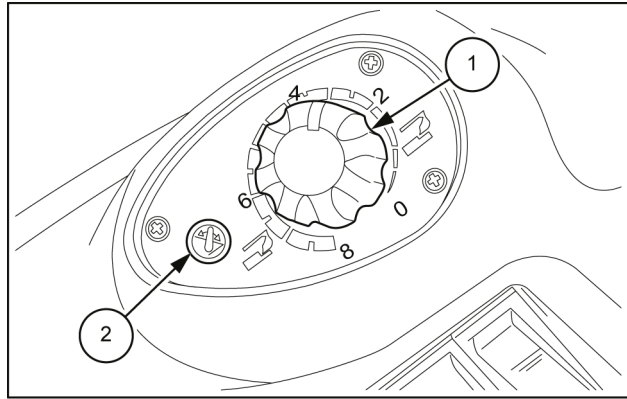
NOTICE: When travelling on roads, turn the arm drop rate control knob (2) completely anticlockwise, onto the tortoise symbol and press the up/down switch onto the UP position (A) fig. 3. The indicator (2) fig. 2 will begin to flash to signal that transport mode is activated. By operating controls (2) fig. 1 and (2) fig. 3 the lift will be disabled and will need to be reset, following the procedure described on the next page.

Lower arms up/down control knob

The up/down movement of the arms is controlled by knob (1). Turn the knob clockwise to raise the arms or anticlockwise to lower them.

To the left of the knob (1) there is an indicator light:

- indicator (2) indicates that the lift is momentarily disabled, i.e.: the position of the knob (1) does not correspond to the position of the arms, therefore the implement may neither be raised nor lowered. The external controls can be used to vary the position of the implement.



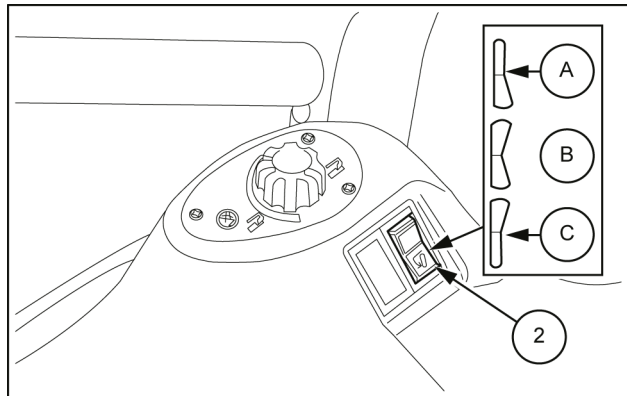
MOIL13TR00812AA 2

Fast raise/lower switch

To raise and lower the implement, use the switch (2), which has three positions:

- UP position (A)
- Work position (B)
- Fast ground entry position (C).

Use the position (C) at the headland to increase the implement ground entry speed; when released the switch automatically returns to the work position (B).



MOIL13TR00814AA 3

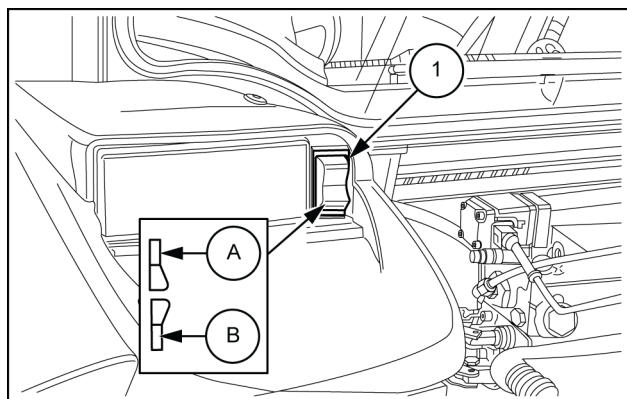
Lift arms reset procedure

To set the knob back in phase with the arms, check that the fast up/down switch (2) fig. 3 is in position (B). Turn the knob (1) fig. 2 completely clockwise (lifting), then turn it slowly anticlockwise (lowering) until the indicator light (2) goes out; now the movements of the knob (1) will be in phase with the movements of the lower arms.

External controls

Up/down pushbuttons

The external lift controls (1) are located at the rear of the tractor on both sides next to the tail lights. To enable the controls, press the control buttons (1) into either position. Switch to position (A) to raise, and position (B) to lower. When using the external controls for the hydraulic lift, all the central unit controls located in the cab are automatically disabled. To re-enable these it is necessary to perform the operations described under the heading "Lift arms reset procedure".



MOIL13TR00573AA 4

⚠ DANGER**Crushing hazard!**

Activate the external hydraulic control switches only while standing to the side of the machine (outboard of the rear tires). **DO NOT** climb on the implement or between the implement and the machine when the external hydraulic controls are enabled.

Failure to comply will result in death or serious injury.

D0009B



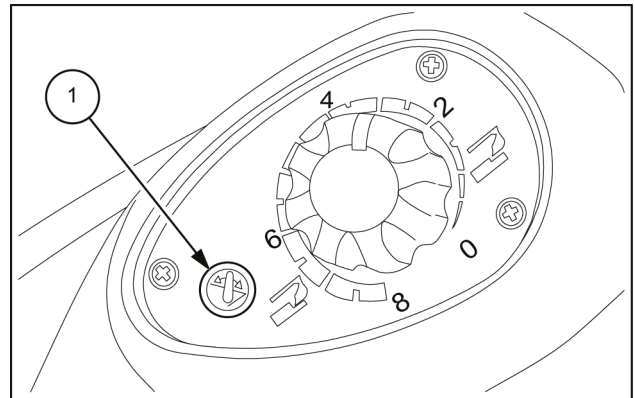
MOIL13TR00578AA 5

Using the lift

NOTE: When the indicator light (1) illuminates, this means that the internal lift controls have been disabled as a result of using the external controls on the mudguards, or that errors have occurred that disable the lift. To return lift control to the internal controls it is necessary to perform the operations described under the heading "Lift arms reset procedure". When the control unit has been "re-enabled", the indicator light will go out.

Before starting operations, set the upper and lower travel limit and lift arm drop rate adjustment knobs in the most suitable positions for the work to carry out.

NOTICE: When setting the implement for the first time, keep the lower lift arms drop rate knob in the slow lowering position to prevent damaging the implement or causing injury.



MOIL13TR00817AA 6

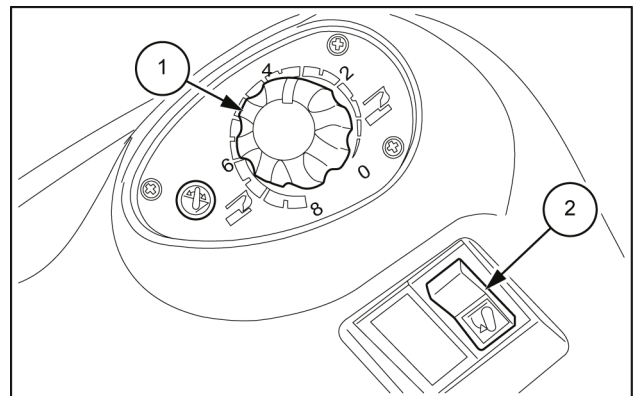
Position control

To operate in position control mode, turn the knob (1) fig. 1 fully counter-clockwise and set the working depth using the lower arm up/down control knob (1) fig. 7, rotating clockwise to raise and counter-clockwise to lower.

To lift and lower the implement, use the fast up/down switch (2) fig. 7; when lifting, the implement will be positioned at the height previously set with the lift limit control, whereas when lowering it will go into the previously set work position, within the limits set by the lowering limit (3) fig. 1.

NOTE: In the event that the position selected with the knob (1) fig. 7 requires a movement beyond the limits set with the upper and lower travel limit knobs (1) and (3) fig. 1, lower arm travel will stop at the limits set.

If the drop rate control knob is turned completely anticlockwise, onto the padlock symbol, the arms will stay locked in their present position and will no longer be able to be lowered. If the push-button (2) fig. 3 is in position (A), the external controls will be disabled too. Set then the most suitable drop rate.



MOIL13TR00819AA 7

Draft Control

To work in draft control mode, set the position/draft sensitivity knob **(1)** to an intermediate position, bearing in mind that by turning it clockwise the frequency and extent of corrective interventions caused by tractor draft variations on the implement will increase.

With the knob **(1)** fig. 8 turned fully clockwise (completely to the right, the decal shows two horizontal arrows pointing in opposite directions), a more sensitive adjustment will be obtained, therefore variations in ground density will result in more frequent interventions by the hydraulic system and consequent corrections in height above the ground of the lower lift arms and the connected implement.

Vice versa, by gradually turning the knob counter-clockwise (to the left, the decal shows two vertical arrows pointing towards each other) the extent and frequency of interventions will be progressively reduced.

Now, turning the up/down control knob **(1)** fig. 9 anticlockwise, lower the implement to determine the working depth.

To lift and lower the implement, use the fast up/down switch **(2)** fig. 9; when lifting, the implement will be positioned at the height previously set with the lift limit control, whereas when lowering it will go into the previously set work position.

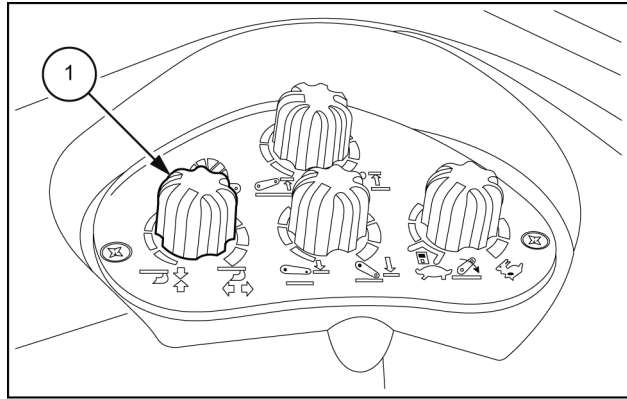
Operation in float mode

To work in float mode, position the controls as described below:

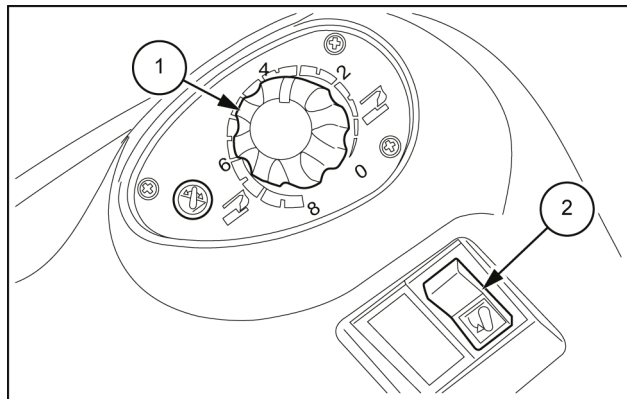
- Turn the control knob **(1)** fig. 9 completely anticlockwise (greatest working depth);
- Turn the position/draft sensitivity control knob **(1)** fig. 8 fully clockwise (greatest sensitivity).

NOTE: In the event that the position selected with the knob **(1)** fig. 9 requires a movement beyond the limits set with the upper and lower travel limit knobs **(1)** and **(3)** fig. 1, lower arm travel will stop at the limits set.

Each time an implement setting operation is carried out, the lift will automatically adjust the working depth of the implement according to ground conditions.



MOIL13TR00576AA 8



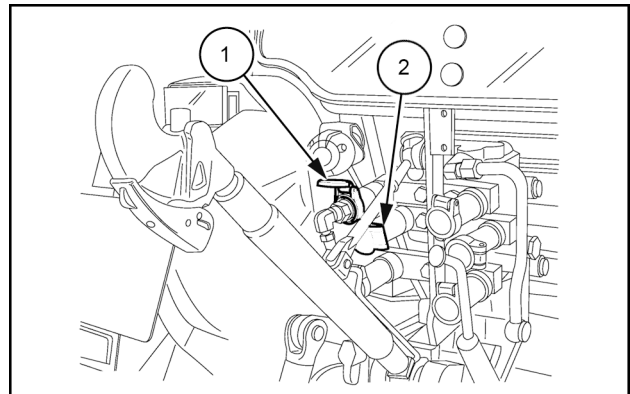
MOIL13TR00819AA 9

FRONT HYDRAULIC LIFT

Hydraulic lift with mechanical control

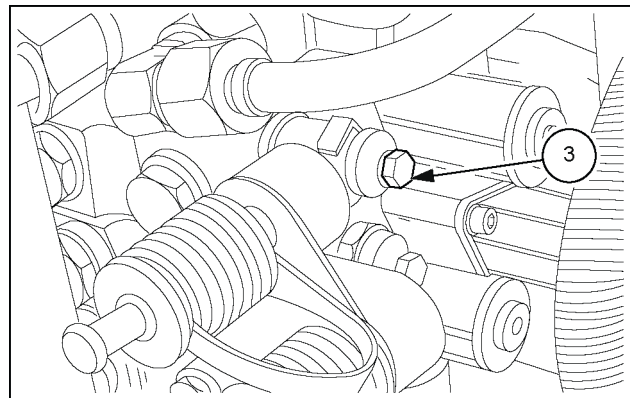
The front lift works with the transmission oil. It is operated by one of the rear mount remote valves illustrated in the figure.

NOTE: If hydraulic stabilizer struts are installed, the lift can be connected to the distributor **(1)** or **(2)**. Check that the distributor for actuating the lift has the float function.



MOIL13TR00955AA 1

With the lift connected, loosen the screw **(3)** on the control valve to go into single-acting operation.



MOIL13TR00951AA 2

Operation

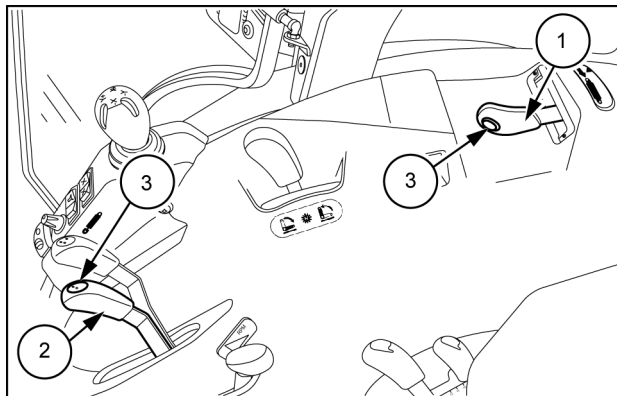
The lift works in position control. It is operated with one of the two levers **(1)** or **(2)** that command the rear distributors with the "DIVERTER" function, that is to say by pressing the button **(3)**. The levers and distributors are marked with the same colour to facilitate identification.

Press the button **(3)** and move the lever of the same colour in which the connection was made forwards to lower or backwards to lift the implements connected to the front lift.

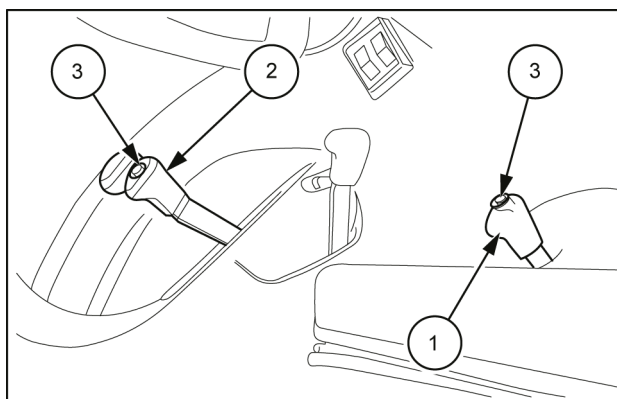
NOTE: On release, the levers automatically return to the central position. If it is necessary to work with the lift in the float position, move the levers beyond the stop where they are held by a special catch (detent). From the float position, to be able to lift the implement the levers must be manually unhooked.

NOTICE: When working with implements connected to the lift, pay attention to the operations as they increase the dimensions of the machine.

Version with mechanically controls lift



Version with electronically controls lift



Hydraulic lift with electronic control

⚠ WARNING

Crushing hazard!

The lifting systems must be operated by qualified personnel who are aware of the correct procedures to follow. Make sure all lifting equipment is in good condition, and all hooks are equipped with safety latches.

Failure to comply could result in death or serious injury.

W0256A

The functions of the front lift are controlled by the same ECU as the rear lift.

For reasons of safety, the front lift controls are disabled when the tractor is started.

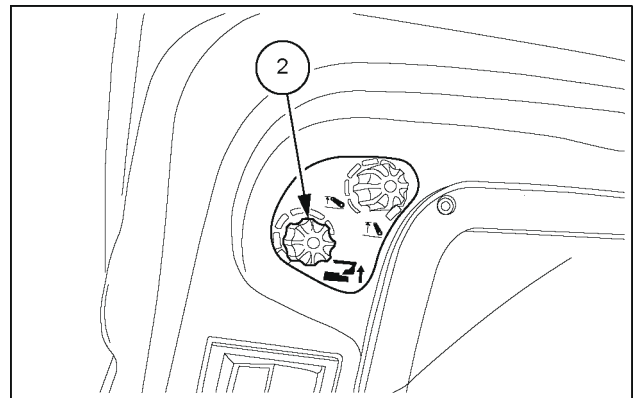
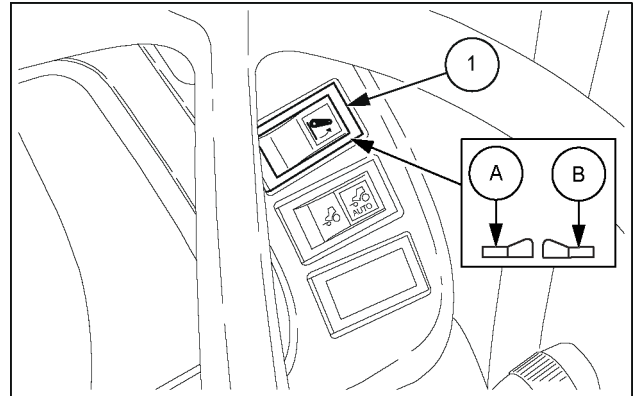
The disabled status is signalled by the indicator light  on the instrument cluster coming on.

Enabling controls

To enable the controls, proceed as follows:

- With the engine running, check that the alternator charging light is OFF;
- Set the switch **(1)** first to the raising position **(B)** and then to the lowering position **(A)**;
- Turn the work position potentiometer **(2)** clockwise, then anticlockwise until the indicator  goes out.

NOTE: Should a fault occur on the lift after malfunctioning of the sensors/actuators, the control unit will send a signal to the indicator . The type of flash enables identifying the fault code and the corresponding problem.



Controls

The two potentiometers **(1)** and **(2)** fig. 3, situated on the left-hand side of the dashboard (instrument cluster), enable regulating the lifting limit and the work position.

The switch **(1)** fig. 4, on the right-hand side, enables lifting and lowering the implement.

Knob to adjust arm lift limit;

- Turn the knob **(1)** fully clockwise to raise the lift arms up to the limit of the lift travel;
- Turn the knob **(1)** anticlockwise to reduce the arm lift travel gradually until it is eliminated.

Working position adjustment knob;

- Turn the knob **(2)** fully clockwise, for the minimum working depth;
- Turn the knob **(2)** anticlockwise, to progressively increase the working depth.

Raise/lower switch

To raise and lower the implement, use the switch **(1)** fig. 4, which has two positions:

- Position **(A)** , lowers
- Position **(B)** , lifts

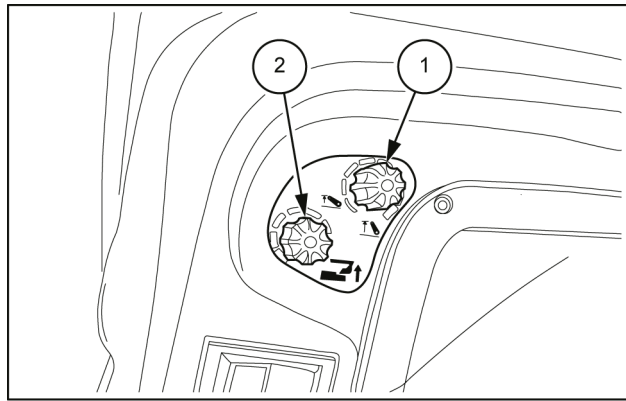
External lift and lower controls

The two external lift control buttons enable connecting and unhooking the implement from the lift arms.

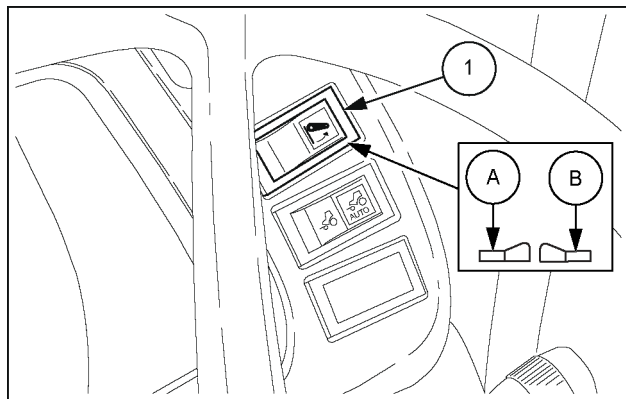
1. Arms down control button.
The lift arms are made to lower by holding down the button **(1)**. The lowering phase ends at the moment when the button is released.
2. Arms up control button.
The lift arms are made to lift by holding down the button **(2)**. The lifting phase ends at the moment when the button is released.

NOTE: If the external lift control buttons are used, the internal controls are disabled.

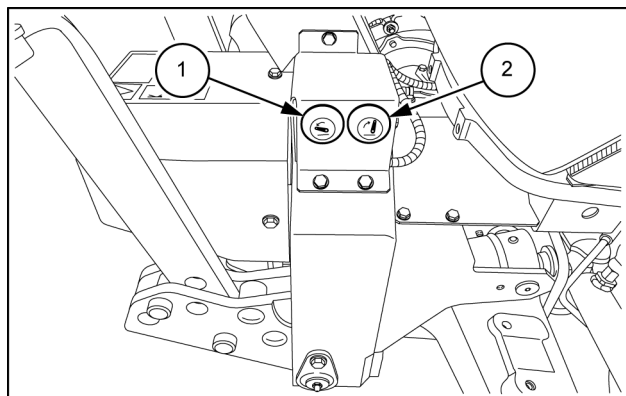
NOTICE: When the external controls **(1)** and **(2)** are used, do not stand between the tractor and the implement.



MOIL13TR00796AA 3



MOIL13TR00953AA 4



MOIL13TR00345AA 5

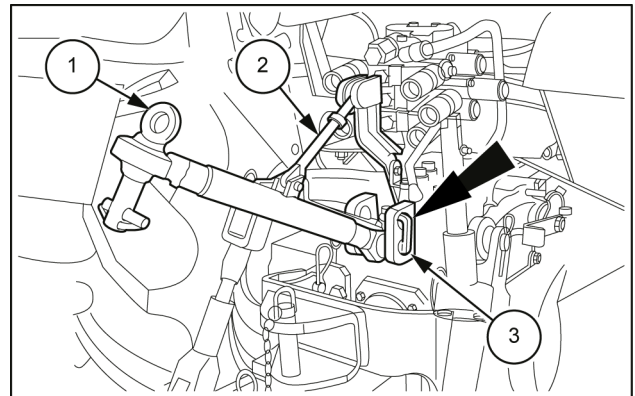
REAR 3-POINT HITCH

Operating Instructions

Adjustable top link

The top link (1) can be connected to the support bracket by means of the two holes. Select the most suitable hole for attaching the implement.

NOTE: When inserting the top link pivot pin (3) position it so that the safety pin enters in its safety hole as shown in the figure.



MOIL13TR00822AA 1

Standard left-hand lift rod

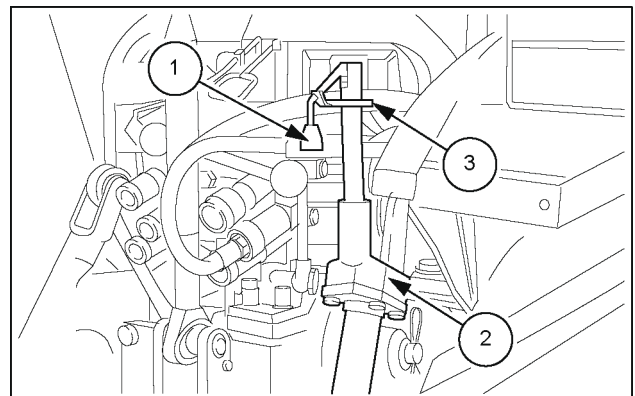
Adjust the length of the lift rod by screwing the end in or out

NOTE: When using the tractor without implements, always fit the spacer spring to prevent the arms from touching the tyres.

Right-hand lift rod with crank adjustment

The right-hand lift rod (2) fig. 2 can be adjusted by means of a crank (1) that can also be operated from the driving position.

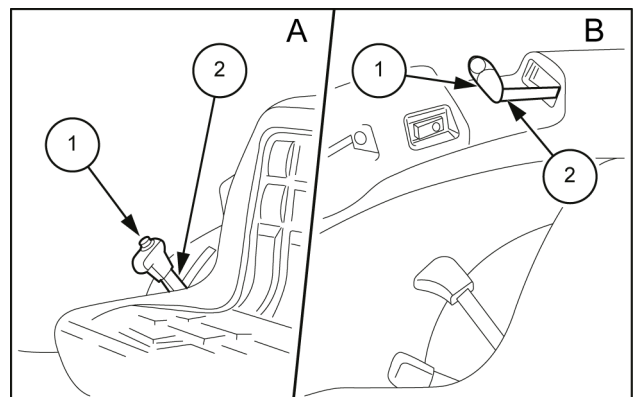
NOTICE: After adjusting the rod, lock the lever (1) with the catch (3) to prevent the lever (1) from coming into contact with parts of the machine or the adjustment getting changed due to vibration.



MOIL13TR00824AA 2

Hydraulic adjustment of the right-hand vertical rod (on request)

The right-hand vertical rod can be adjusted hydraulically with the lever (2), that can be positioned on the right-hand side next to the driver's seat if the tractor is equipped with an electronically controlled lift (detail A) vice versa, if the tractor is equipped with a mechanically controlled lift, the rod adjustment lever will be positioned on the right-hand rear side (detail B). To adjust the rod, hold down pushbutton (1) and gradually move the lever (2).

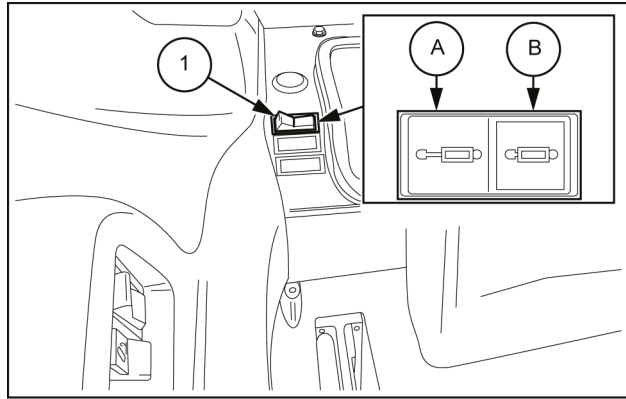


MOIL13TR00826AA 3

Hydraulic adjustment of the right-hand lift rod (on request)

The right-hand lift rod (2) fig. 2 is available with hydraulic adjustment using the specific switch

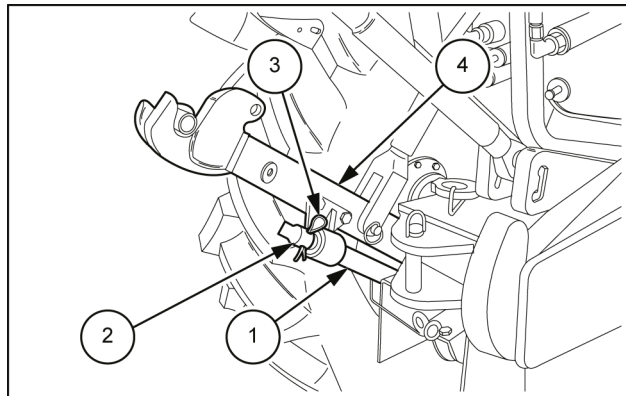
- Press the switch (1) into position (A) to raise the rod;
- Press the switch (1) into position (B) to lower the rod.



MOIL13TR00827AA 4

Standard side stabiliser struts

To adjust the length of the struts (3) remove the cotter pin (2) and rotate the coupling (1) of 90° for fast changes or screw in or out for limited changes. Always reinsert the cotter pin after adjusting the struts.



MOIL13TR00829AA 5

Side stabiliser struts with hydraulic adjustment (optional)

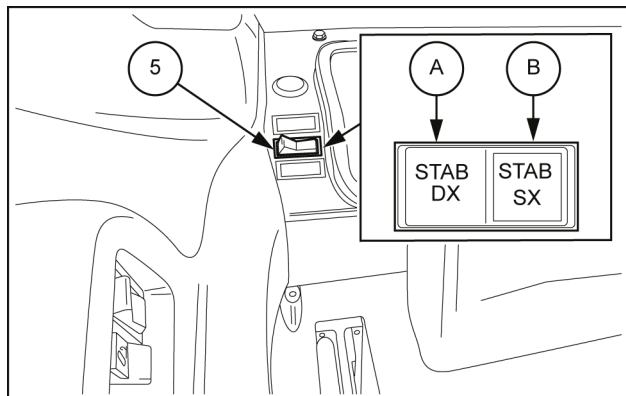
The struts are adjustable with the switches (5) and (6). To regulate the two lift arms, proceed as follows:

To regulate the swing of the struts, use the button (5)

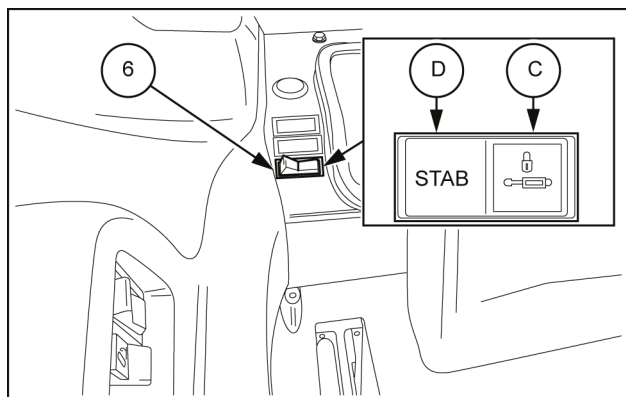
- Press the button into position (A) to operate the right-hand stabiliser strut;
- Press the button into position (B) to operate the left-hand stabiliser strut.

On completing the adjustment, to lock the struts in the determined position and completely cancel the swing of the lower arms (4) fig. 5, press switch (6) into position (C). To unlock the struts and keep the lower arm (4) free to swing, press the button (6) into position (D).

NOTICE: With the switch (6) in the locked position (C), do not operate the button (5) to regulate the struts. When the lower arms need to be varied (4), the switch (6) must be turned off and returned to the unlock position (D).



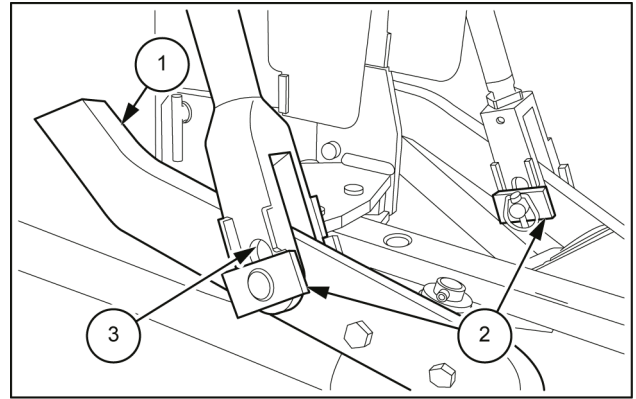
MOIL13TR00832AA 6



MOIL13TR00834AA 7

Adjust the lateral stabiliser struts (1) fig. 5, so that the lateral movement of the lower arms (1) does not exceed **12 cm (4.72 in)** 12 cm per side.

It is possible to set the float mode of the lower lift arms (1) by rotating the pins (2) into a vertical position, so as to allow them to swing freely inside the slots (3).



MOIL13TR00835AA 8

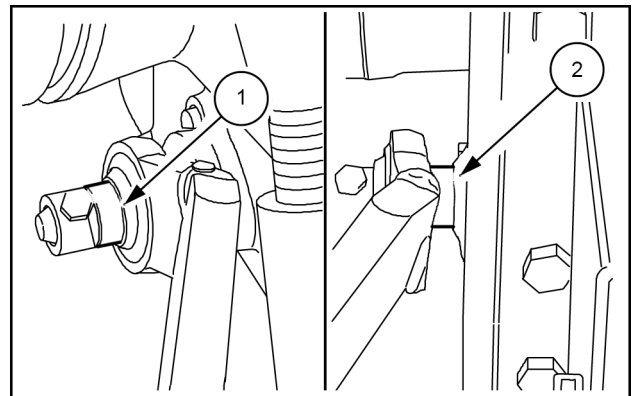
Lower arm mounting position

For light work

When operating the tractor in draft or mixed control, fit the lower arms (1) fig. 8 with spacers (2) fitted inside the arms for greater lift sensitivity when working with light equipment.

Normal or heavy work

When operating the tractor in draft or mixed control, fit the spacers (1) outside the lower arms for normal or heavy work. This position, which reduces lift sensitivity, enables improved tractor use.



MOIL13TR01004AA 9

Converting from 1st to 2nd category

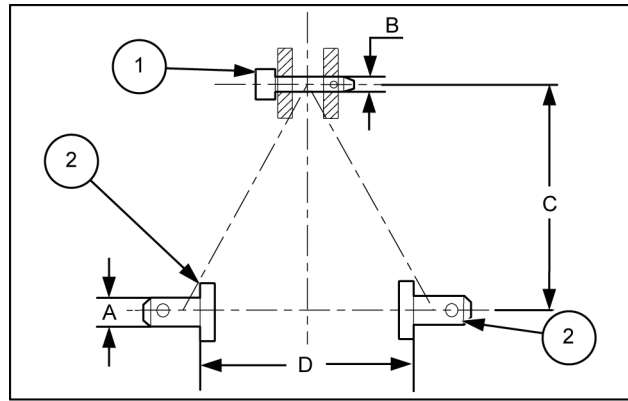
To allow both 1st and 2nd category equipment to be used, the three-point linkage has:

- a bush with an inside diameter of **19 mm (0.75 in) (1)** for 1st category implements, to be inserted in the spherical bushing at the end of the top link;
- a set of bushes with an inside diameter of **22 mm (0.87 in) (2)** for 1st category implements, to be inserted in the spherical bushings at the ends of the lower lift arms.

The three-point linkage system enables connecting both first and second category implements.

Depending on the category of the implement, it is recommended to respect the dimensions **(C)** and **(D)** given in the table below in order not to damage the coupler.

1. Top link pin
2. Lower lift arm pins



MOIL13TR00613AA 10

Dimensions	Categories					
	1N	1	2	2N	3N	3
A	22 mm (0.9 in)	22 mm (0.9 in)	28 mm (1.1 in)	28 mm (1.1 in)	36.6 mm (1.4 in)	36.6 mm (1.4 in)
B	19 mm (0.7 in)	19 mm (0.7 in)	25.5 mm (1.0 in)	25.5 mm (1.0 in)	31.75 mm (1.2 in)	31.75 mm (1.2 in)
C	360 mm (14.2 in)	460 mm (18.1 in)	610 mm (24.0 in)	610 mm (24.0 in)	685 mm (27.0 in)	685 mm (27.0 in)
D	400 mm (15.7 in)	683 mm (26.9 in)	825 mm (32.5 in)	683 mm (26.9 in)	825 mm (32.5 in)	965 mm (38.0 in)

Attach the implement

With the lower arms fully lowered, adjust the length of the control cables (2), so that they do not drag on the ground when attached to the tractor. Correctly adjust the distance between the lower arm hook ends by tightening or loosening the spacer spring rod (3).

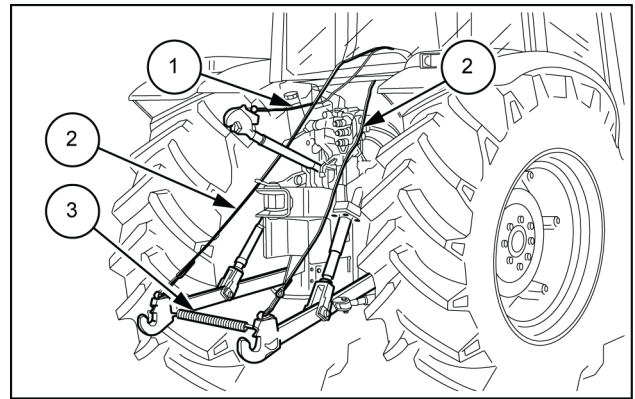
Fit the conical pick-up profiles (1) fig. 2 on the implement hitch pins, as shown in the figure.

Move the tractor forward, in position in relation to the implement, then raise the lower arms: the implement will be hitched automatically. The hook ends (2) fig. 3 should engage in the locked position. If using 1st. category implements, fit the reducer bushes on the implement hitch pins.

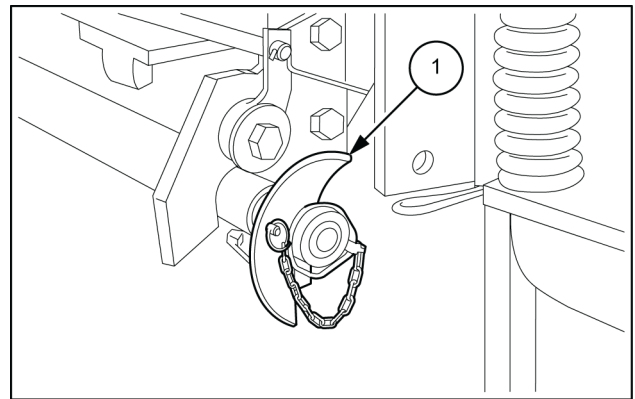
NOTICE: Before lifting the implement, make sure that the two hook ends (2) fig. 3 have engaged in the locked position.

Release the end of the top link by pulling back the control cable (1) fig. 1 and hook onto the implement.

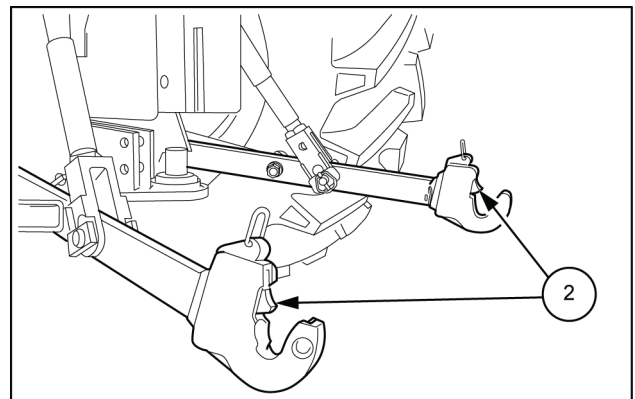
Adjust the length of the top link by tightening or loosening the threaded sleeve.



DCUTLNEIT046S6A 1



DCUTLNEIT045S6A 2

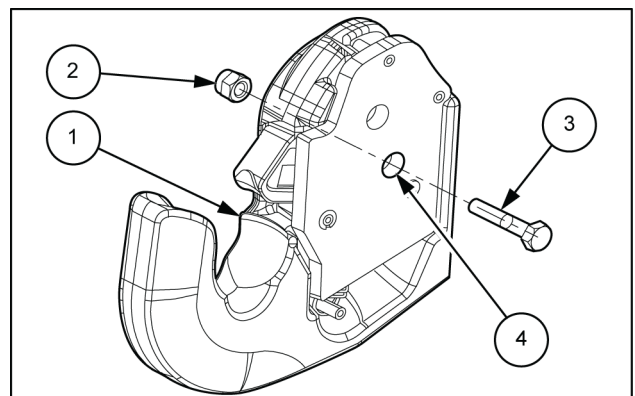


DCUTLNEIT047S6A 3

NOTICE: The quick couplers are fitted to be able to be locked so as to prevent the implement from accidentally getting unhooked.

To prevent the implement from getting unhooked it is recommended to secure the catches (1) in the locked position when using heavy overhanging implements (for instance, grass cutters, inter-row hoeing machines that come outside the tractor clearance) or when travelling on public roads.

To lock the catches (1), insert a screw (3) into the hole (4) and lock it with a self-locking nut (2), available in any hardware store.



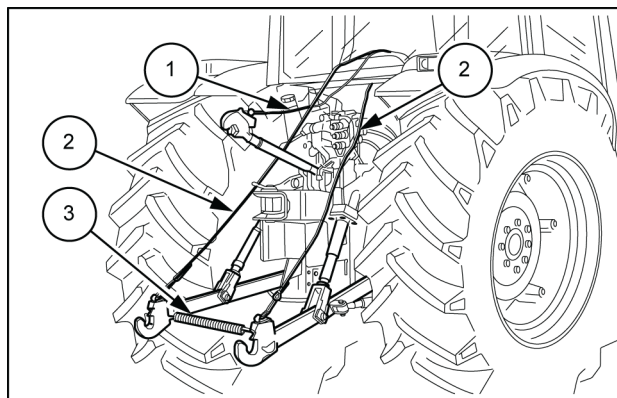
DCUTLNEIT048S6A 4

The type of screws and nuts suited to lock the catches (1) are given in the chart.

Cat. Hook	UNI 5737 screw cl. 8.8	UNI 7473 cl.6S nut
1	M6x40 opt. 7/32" x 1"1/2	M6 opt. 7/32"
2S	M6x45 opt. 7/32" x 1"3/4	M6 opt. 7/32"
2	M8x50 opt. 5/16" x 2"	M8 opt. 5/16"
3S	M8x55 opt. 5/16" x 2"1/8	M8 opt. 5/16"
3	M8x55 opt. 5/16" x 2"1/8	M8 opt. 5/16"
4	M8x65 opt. 5/16" x 2"1/2	M8 opt. 5/16"

Removing Equipment

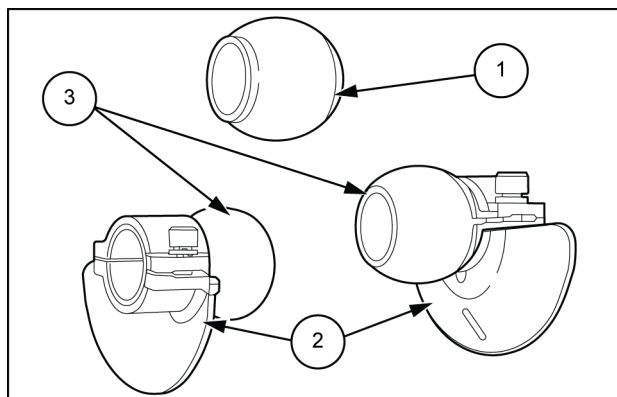
Rest the implement on the ground and make sure that it is stable. Remove the safety screws (3) fig. 4 from the two hooks to free the catches (1) fig. 4. While sitting in the driving seat, pull the control cable (1) to unhook the third point (3) fig. 5. Slightly raise the implement, then release the hook ends by pulling the control cables (2) fig. 5 directly from the driving position. Lower the lower arms until the hooks are released.



DCUTLNEIT046S6A 5

Tapered profiles

Three second category ball-bushings are supplied for installation on the implement, if required. The ball-bushing with projecting lips (1) should be installed on the implement upper hitch pin. The two plain ball-bushings (3) with their detachable guides (2) should be installed on the implement lower hitch pins.



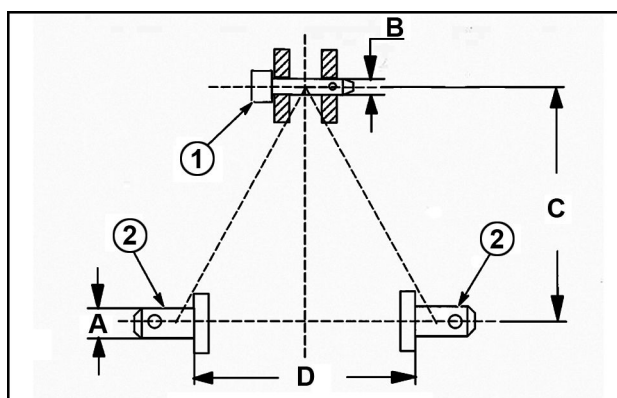
DCUTLNEIT043S6A 6

The three-point linkage system enables connecting second category implements.

It is recommended to respect the dimensions (C) and (D) given in the table below in order not to damage the coupler.

1. Top link pin
2. Lower lift arm pins

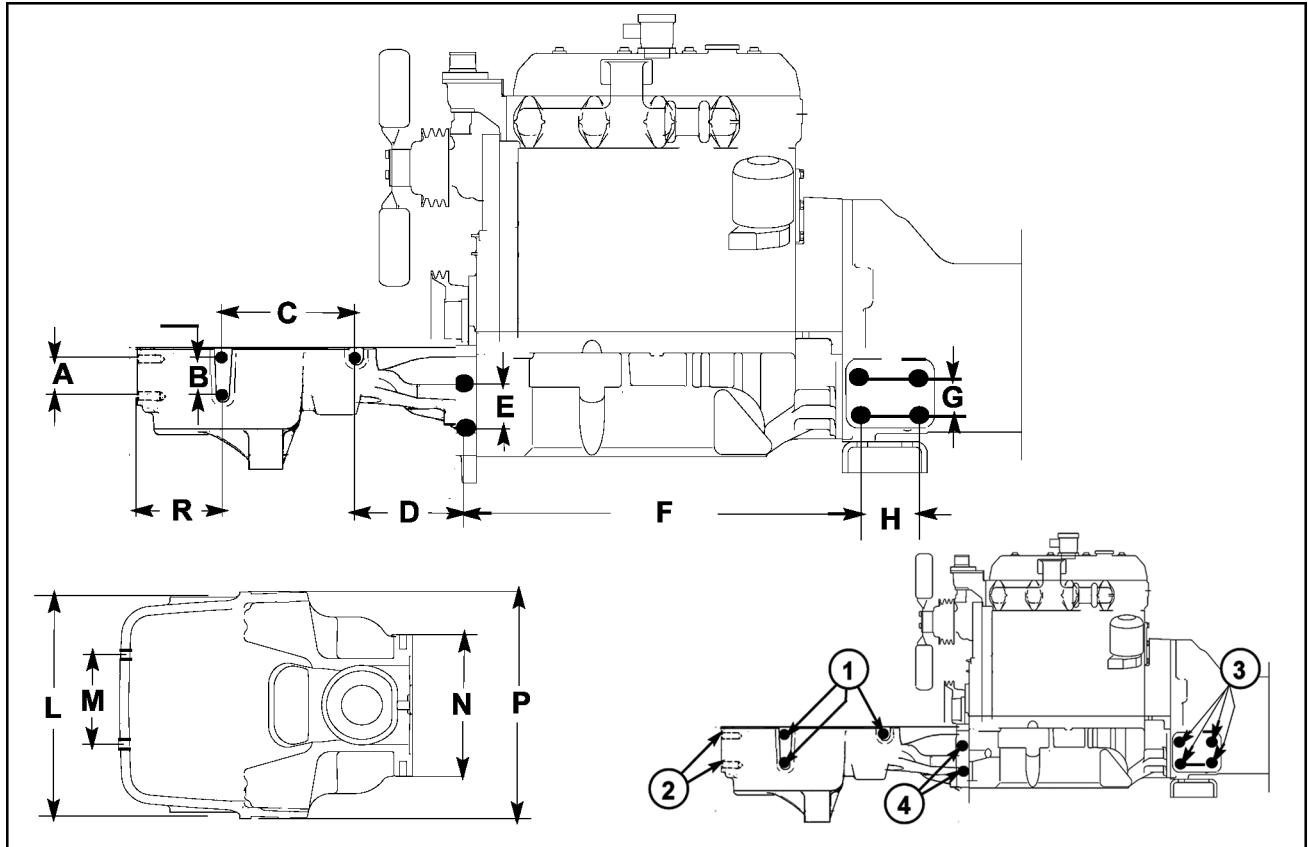
Dimensions	Categories	
	2	2N
A	28 mm (1.1 in)	28 mm (1.1 in)
B	25.5 mm (1.0 in)	25.5 mm (1.0 in)
C	610 mm (24.0 in)	610 mm (24.0 in)
D	825 mm (32.5 in)	683 mm (26.9 in)



DCSPVEGB064S6A 7

Additional equipment attachment points

Two-wheel drive (2WD)



DCSPFNEGB038S3F 1

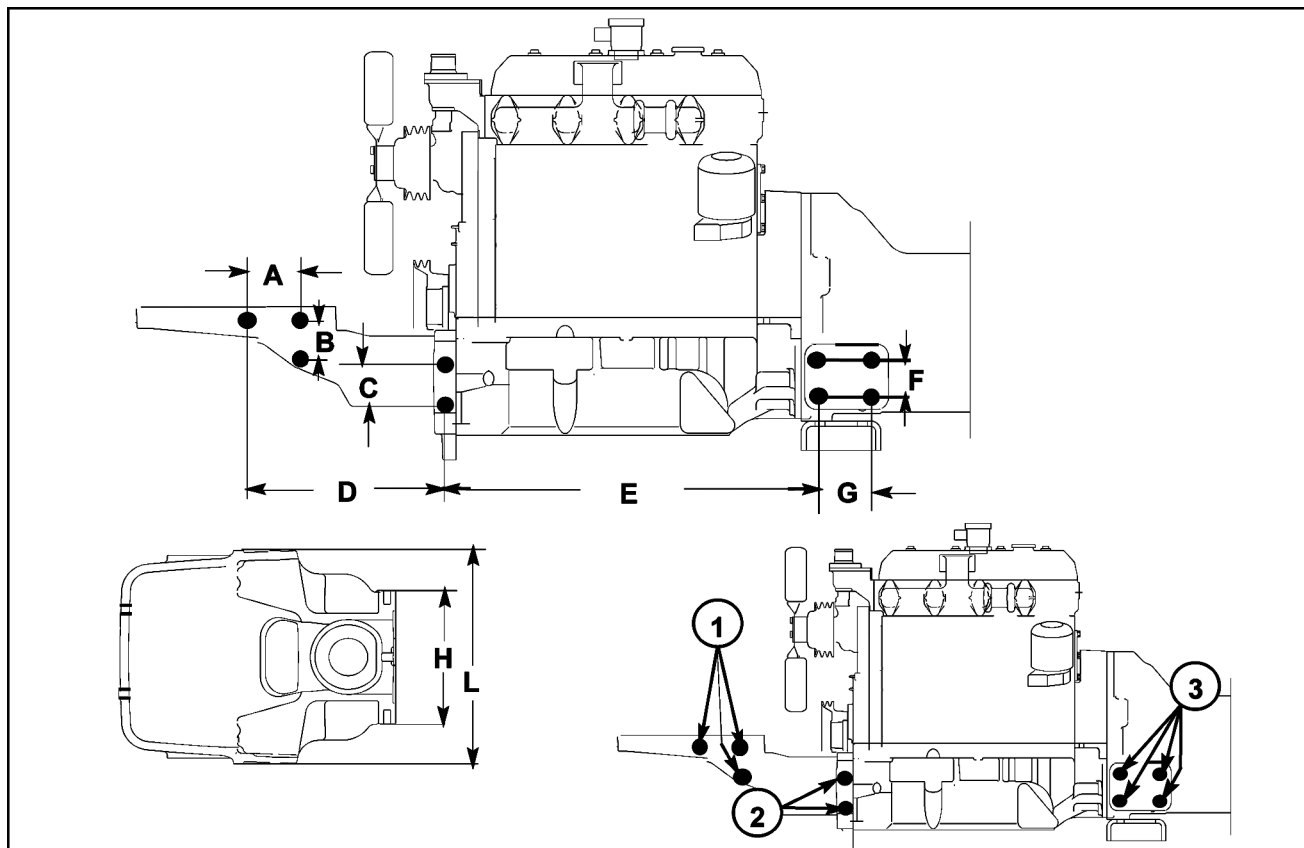
The tractor is provided with threaded holes on both sides for connecting implement and auxiliary equipment. The figure shows the free fixing holes on the left-hand side of the tractor, which are identical and symmetrical to the fixing holes on the right-hand side.

NOTE: Use exclusively the holes specified in figure when mounting auxiliary equipment. The use of different holes for auxiliary applications automatically exonerates the manufacturer from all liability in relation to damage to the tractor or injury to persons, resulting from failure to observe the relative regulations.

Hole			Torque Specifications
1	M 12 x 1.25	24 mm (0.94 in)	350 - 400 N·m
2	M 20 x 2.5	36 mm (1.42 in)	400 - 450 N·m
3	M 20 x 2.5	35 mm (1.38 in)	400 - 450 N·m
4	M 20 x 2.5	38 mm (1.50 in)	400 - 450 N·m

Dimension

A	B	C	D	E	F T4.75F T4.85F	F T4.95F T4.105F	G	H
75 mm (2.95 in)	75 mm (2.95 in)	250 mm (9.84 in)	234.5 mm (9.23 in)	70 mm (2.76 in)	624 mm (24.57 in)	711 mm (27.99 in)	60 mm (2.36 in)	80 mm (3.15 in)
L	M	N	P	R				
470 mm (18.50 in)	174 mm (6.85 in)	360 mm (14.17 in)	513 mm (20.20 in)	160 mm (6.30 in)				

4WD MODELS (SUPERSTEER)

DCSPFNEGB039S3F 2

The tractor is provided with threaded holes on both sides for connecting implement 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 figure when mounting auxiliary equipment. The use of different holes for auxiliary applications automatically exonerates the manufacturer from all liability in relation to damage to the tractor or injury to persons, resulting from failure to observe the relative regulations.

Hole			Torque Specifications
1	M 12 x 1.25	24 mm (0.94 in)	350 - 400 N·m
2	M 20 x 2.5	36 mm (1.42 in)	400 - 450 N·m
3	M 20 x 2.5	35 mm (1.38 in)	400 - 450 N·m

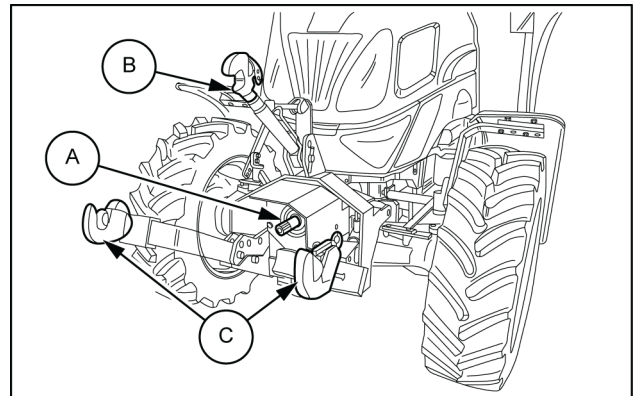
Dimension

A	B	C	D	E T4.75F T4.85F	E T4.95F T4.105F	F	G	H	L
95 mm (3.74 in)	75 mm (2.95 in)	70 mm (2.76 in)	389.5 mm (15.33 in)	622 mm (24.49 in)	709 mm (27.91 in)	60 mm (2.36 in)	80 mm (3.15 in)	360 mm (14.17 in)	513 mm (20.20 in)

FRONT 3-POINT HITCH

Operating Instructions

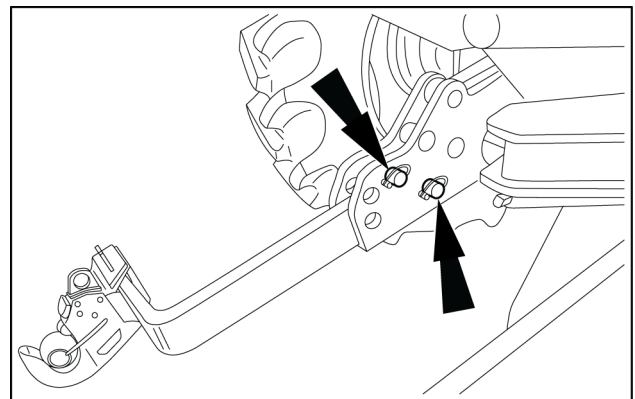
- A** Power take-off shaft
- B** Adjustable top link
- C** Lower lift arms



MOIL13TR00968AA 1

With no implements connected

It is advised to remove the horizontal arms when using the tractor without front-hitched implements (to avoid knocking into obstacles), or when on the public highway. To remove the arms, remove the pins shown in the figure.



MOIL13TR00969AA 2

Horizontal arm mounting position

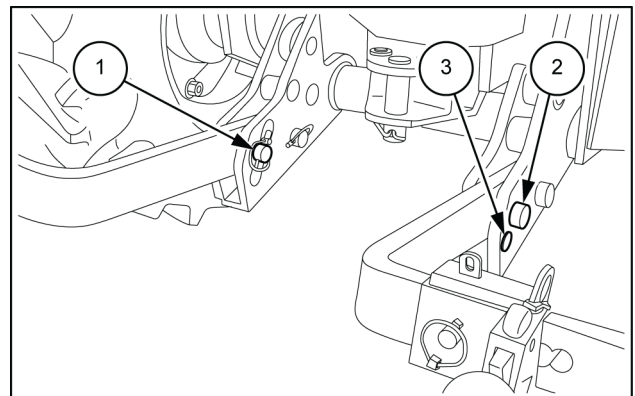
The horizontal arms are attached to the support in three different positions:

First position

- Top position, with pin **(2)** securing the arms in the hole **(1)** and hole **(3)** free. In this position the arms are at their highest position off the ground.

Second position

- Bottom position, with the arm fixing pin in the hole **(3)** and hole **(1)** free: In this position the arms are at their lowest position off the ground.

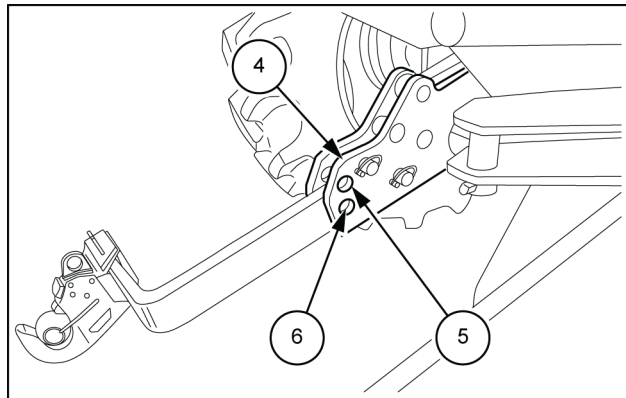


MOIL13TR00970AA 3

6 - WORKING OPERATIONS

Third position

- Floating position with the lock pin inserted in the hole **(4)** and the holes **(5)** and **(6)** free. In this position the lifting arms are free to move vertically.

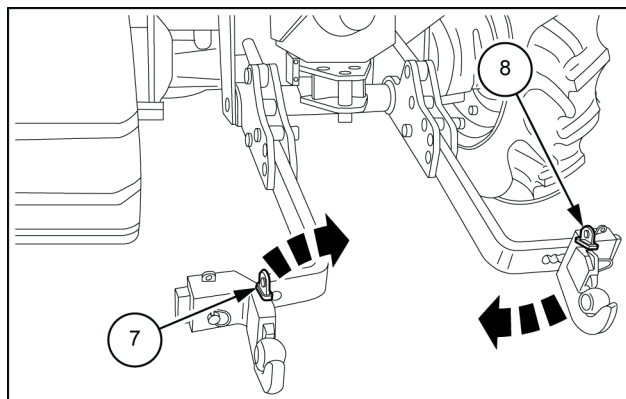


MOIL13TR00971AA 4

Positions for mounting the hook ends

The hook ends **(7)** and **(8)** slide and can be secured in six different positions according to the width of the implement. The assembly shown in figure illustrates the three narrowest positions that can be obtained.

You can obtain another three positions for implements of a higher class by swapping over the position of the hooks as shown by the arrows in figure.



MOIL13TR00972AA 5

Maximum lift capacity

With third point connected to top hole of top link attachment bracket and for the entire lifting stroke:

At link ends of horizontal lines

1275 kg (2810.9 lb)

With centre of gravity at **610 mm (24.0 in)** from link ends

980 kg (2160.5 lb)

Quick fit implement linkage

Fit the conical pick-up profiles (1) fig. 6 on the implement hitch pins.

Move the tractor forward, in position in relation to the implement, then raise the lower arms: the implement will be hitched automatically.

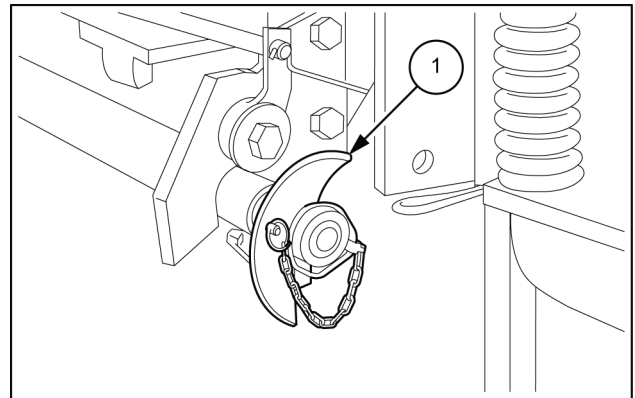
If using 1st category implements, fit the reducer bushes on the implement hitch pins.

NOTICE: Before lifting the implement, make sure that the two hook ends (10) have engage in the locked position.

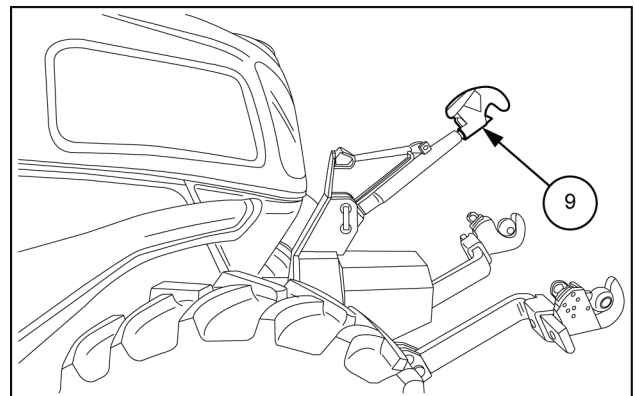
Release the end of the top link by pulling back the lever (9) and hook onto the implement. Adjust the length of the top link by tightening or loosening the threaded sleeve.

Unhitching the implement

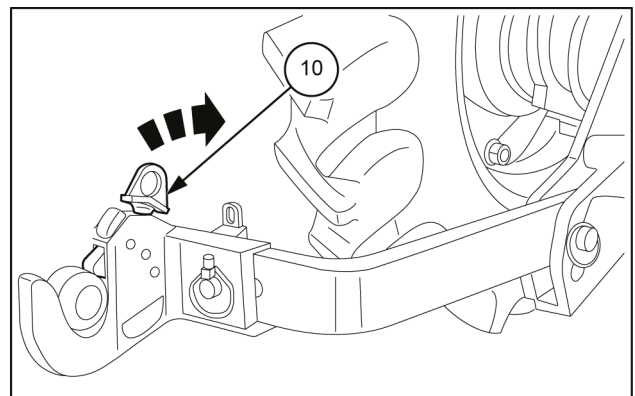
Rest the implement on the ground and make sure that it is stable. Unhook the top link by pulling back the unhooking lever (9). Slightly raise the implement, then release the lower hook ends by pulling the release lever (10).



DCUTLNEIT045S6A 6



MOIL13TR00973AA 7



MOIL13TR00974AA 8

SWINGING DRAWBARS

Safety rules

WARNING

Collision hazard!

During road transport, the drawbar must be locked in the center position, and the implement must be centered behind the tractor.

Failure to comply could result in death or serious injury.

W0324A

WARNING

Loss of control hazard!

Always attach or pull towed vehicles from the tractor drawbar.

Failure to comply could result in death or serious injury.

W1013A

WARNING

Rear upset hazard!

Use the correct location on the tractor when attaching equipment. Always use the drawbar for trailed equipment. Always use the three point hitch for mounted or semi-mounted equipment. Do not use the hitch as a drawbar.

Failure to comply could result in death or serious injury.

W0331A

CAUTION

Avoid injury!

Follow ALL of the precautions listed below.

Failure to comply could result in minor or moderate injury.

C0125A

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 depend on correct towing adjustment.
- If the towing device is fitted high, the towing capacity is increased, but there is a risk that the tractor will tip back. Therefore ensure that the trailer shaft is not at too great an upward angle.
- When using 4WD, the towing bracket should be in the lower position with the shaft almost horizontal.
- Avoid towing excessively heavy trailers or loads.
- Never start suddenly, as this also considerably increases the risk of tipping backwards.
- Always brake the trailer first and then the tractor.

Swinging drawbar

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

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

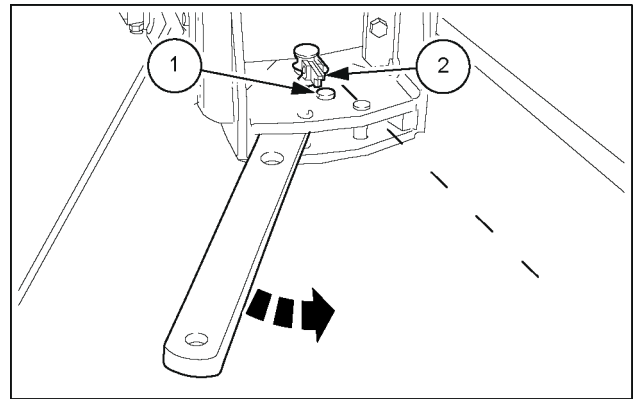
The device can be supplied:

- with the relative brackets to fit rigid towing hooks and towing hooks;
- with a bracket designed to fit only to a towbar.

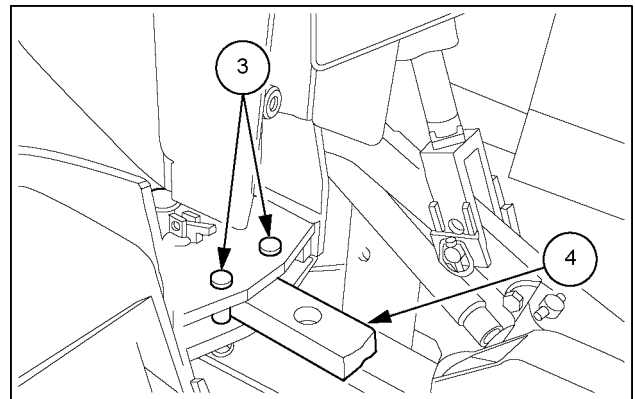
The following adjustments can be made to the bar:

- Prevention of lateral swing by inserting two pins **(3)** in the respective holes.
- Lateral adjustment of the bar, which can be positioned either to the right or to the left by means of the pin **(1)**, is extremely useful for implements or machines requiring free lateral movement.
- By varying the position of the locking pin **(2)** in the holes of the drawbar **(4)** it is possible to vary the distance of the tow from the PTO shaft.

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



MOIL13TR00757AA 1



MOIL13TR01005AA 2

WHEELS AND TIRES

Wheels and tires

⚠ WARNING

Explosion hazard!

Tires must be replaced by skilled personnel with the proper tools and technical knowledge. Unskilled personnel replacing wheels or tires could result in serious physical injuries, tire damage, and/or wheel distortion. Always have a qualified tire mechanic service wheels and tires.

Failure to comply could result in death or serious injury.

W0171A

⚠ WARNING

Explosion hazard!

A tire can explode during inflation. Replace a tire if it has any defect(s). Replace a wheel rim that has cracks, wear, or severe rust.

Failure to comply could result in death or serious injury.

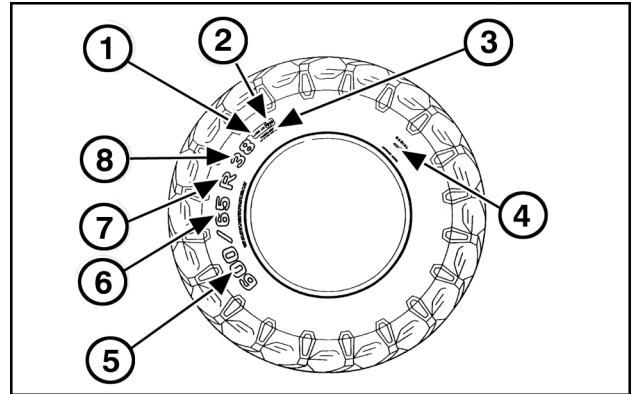
W0455A

USE, MAINTENANCE AND REPLACEMENT

- When changing tires, select suitable tires for the actual tractor use, taking account of the recommended combinations.
- Do not exceed the permitted load indicated on the tires.
- Do not exceed the speeds shown on the tires, as this both overheats and causes premature tire wear.
- Do not fit used tires where their previous use is unknown.
- Ask the manufacturer or a tire specialist for advice.
- After fitting tires, check that the wheel nuts are tight after 3 hours in operation and then periodically.
- Following this, check the tightness on a regular basis.
- Do not stand tires on hydrocarbons (oil, diesel, grease, etc.).
- The tires fitted on the tractor must be checked periodically, with special care given to:
 - tread, must have regular consumption;
 - flanks, must not have any cracks, swellings or abrasions.
- Have the tires checked by a specialist if one or more of the problems mentioned above should occur.
- Consult an expert if a tire is subject to violent shocks, even if there are no visible signs of damage.
- Tires age, even if used infrequently or not at all.
- Cracks on the walls, sometimes accompanied by bulges, are a sign of ageing.
- Tires fitted on tractors which are not used for extended periods tend to age more rapidly than those used more frequently. In this event, it is advisable to raise the tractor from the ground and protect the tires from direct sunlight.

Tire marking

To indicate, dimensions, structure and specifications of use of a tire, the manufacturers have internationally adopted standard abbreviations and numbers. The drawing shows an example of the marking on a tire used for agricultural work. Example of reading the abbreviation **600/65 R 38**.



DCUTDNEGB076S3A 1

1	157 154	Load capacity index.
2	A8 B	Speed code. Maximum speed in relation to load corresponding to load index (IC) see page
3	TUBE-LESS	Tubeless tires. Tires with inner tubes are marked TUBE TYPE or left blank.
4		The arrow shows the direction of tire travel.
5	600	Nominal cross-section width in mm.
6	65	Ratio between height and width of cross-section.
7	R	Indicates the radial structure. On a conventional tire, the R is replaced by a hyphen (-).
8	38	Rim keying diameter.

Another example: 7.50-16 8 PR

1	7.50	Nominal width of cross-section in inches.
2	-	Conventional structure.
3	16	Rim keying diameter.
4	8 PR	Resistance index of tire or number of ply that make up the tire. (This code is normally shown on conventional tires, whereas radial tires show the load capacity index).

LOAD INDEX

The loading index (IC) is a numerical index indicating the maximum permissible load on the tire, for the speed indicated by the relevant speed code, under the conditions specified by the manufacturer.

Loading index per wheel											
IC	• kg	• lb.	IC	• kg	• lb.	IC	• kg	• lb.	IC	• kg	• lb.
100	800	1764	120	1400	3086	140	2500	5512	160	4500	9921
101	825	1819	121	1450	3197	141	2575	5677	161	4625	10196
102	850	1874	122	1500	3307	142	2650	5842	162	4750	10472
103	875	1929	123	1550	3417	143	2725	6008	163	4875	10748
104	900	1984	124	1600	3527	144	2800	6173	164	5000	11023
105	925	2039	125	1650	3638	145	2900	6393	165	5150	11354
106	950	2094	126	1700	3748	146	3000	6614	166	5300	11684
107	975	2150	127	1750	3858	147	3075	6779	167	5450	12015
108	1000	2205	128	1800	3968	148	3150	6945	168	5600	12346
109	1030	2271	129	1850	4079	149	3250	7165	169	5800	12787
110	1060	2337	130	1900	4189	150	3350	7385	170	6000	13228
111	1090	2403	131	1950	4299	151	3450	7606	171	6150	13558
112	1120	2469	132	2000	4409	152	3550	7826	172	6300	13889
113	1150	2535	133	2060	4542	153	3650	8047	173	6500	14330
114	1180	2601	134	2120	4674	154	3750	8267	174	6700	14771
115	1215	2679	135	2180	4806	155	3875	8543	175	6900	15212
116	1250	2756	136	2240	4938	156	4000	8818	176	7100	15653
117	1285	2833	137	2300	5071	157	4125	9094	177	7300	16094
118	1320	2910	138	2360	5203	158	4250	9370	178	7500	16535
119	1360	2998	139	2430	5357	159	4375	9645	179	7750	17086

SPEED CODE

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

NOTICE: Respecting the limits in the tables will ensure that the tires both perform well and are long-lasting. Over-loading tires substantially reduces their service life.

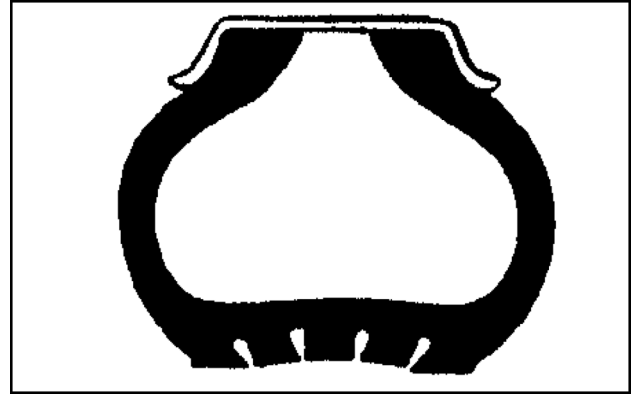
NOTE: The values in these tables are also marked on the walls of the tires themselves.

Speed codes		
SYMBOL	• km/h	• mph
A1	5	3.10
A2	10	6.21
A3	15	9.32
A4	20	12.42
A5	25	15.53
A6	30	18.64
A7	35	21.74
A8	40	24.85
B	50	31.06
C	60	37.28
D	65	40.38

INFLATION PRESSURES

For safe and long-lasting tire use, the following instructions must be closely observed.

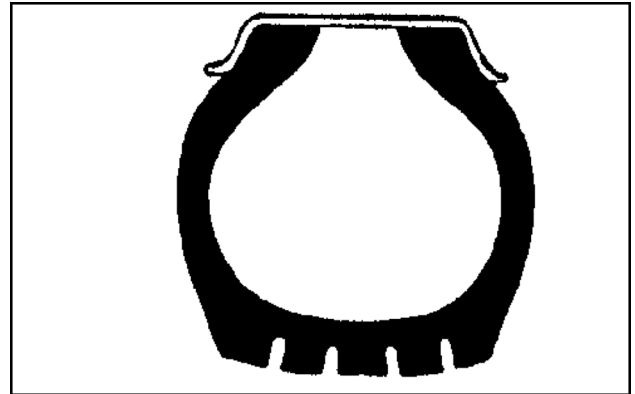
- Use the correct pressures for each axle and for the type of use planned.
- Ensure tire pressures are not lower than the correct values, to prevent overheating of the tires, which can lead to:
 - tire bursting;
 - coming off rim;
 - internal damage;
 - irregular wear and short service life.



DCUTDNEGB077S3A 2

Low pressure

- Do not over-inflate the tires, as this may lead to damage in the event of impact and, in extreme conditions, the tire rim may be deformed or the tire may burst.
- Check tire pressures at least every two weeks, especially when liquid ballast is used. Tire pressures should be checked only when the tires are cold, as pressures rise during use, as a result of the tires heating up. Tires 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 tire pressures when the tires are hot.



DCUTDNEGB078S3A 3

Pressure too high

When checking tire pressures, keep the body away from the valve mechanism or cap.

NOTICE: The tire pressures vary depending on the load weighing on the axles.

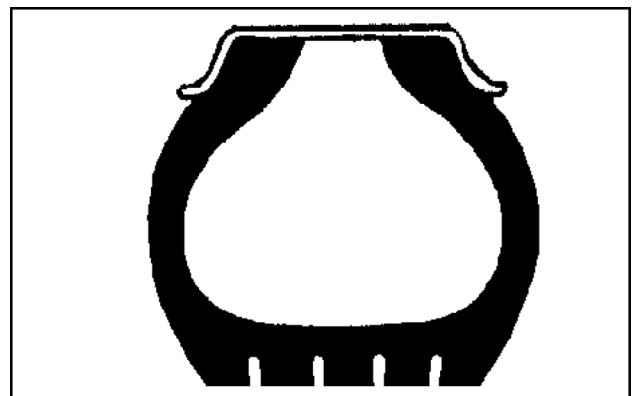
⚠ WARNING

Explosion hazard!

Always maintain correct tire pressure as indicated in this manual. DO NOT inflate tires above the recommended pressure. Excessive pressure could result in tire failure.

Failure to comply could result in death or serious injury.

W0109A



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Correct pressure

Tyre dimensions

2WD FRONT TIRES

Tires	Code	Index radius	Rim
6.50 - 16	8PR	360	4.50E x 16
7.00 - 12	6PR	—	4.25 x 12
7.50 - 16	8PR	390	5.50F x 16
11L-15 F3	8PR	300	W8 x 15

4WD FRONT TIRES

Tires	Code	Index radius	Rim
7.50 R 18	A8	410	5.50F x 18
260/70 R 20	A8	410	W9 x 20
280/70 R 16	A8	390	W8 x 16
280/70 R 18	A8	410	W9 x 18
280/70 R 20	A8	425	W9 x 20
300/70 R20	A8	450	W9 x 20
320/70 R 20	A8	475	W9 x 20
10.5/80 - 18	10PR	525	W9 x 18

2WD/4WD REAR TIRES

Tires	Alternative tires	Code	Index radius	Rim
12.4 R 28	320/85 R 28	A8	600	W10 x 28
13.6 R 28	340/85 R 28	A8	625	W12 x 28
14.9 R 28	380/85 R 28	A8	650	W13 x 28
360/70 R 28	-	A8	600	W10 x 28
380/70 R 20	-	A8	525	W11 x 20
380/70 R 24	-	A8	575	W11 x 24
380/70 R 28	-	A8	625	W13 x 28
420/70 R 24	-	A8	600	W13 x 24
420/70 R 28	-	A8	650	W13 x 28
420/70 R 30	-	A8	675	DWW13x30
19.5L - 24	-	10PR	625	W16L x 24

TIRE COMBINATIONS

RECOMMENDED COMBINATIONS FOR 2WD MODELS

Front tires	Rear tires	Pressure bar	
		Front	Rear
6.50 - 16	380/70 R 28	2.5 bar (36.3 psi)	1.5 bar (21.8 psi)
	420/70 R 24		
	13.6 R 28 - 340/85 R 28		
	380/70 R 24		
	12.4 R 28 - 320/85 R 28		
	360/70 R 28		
7.00 - 12	380/70 R 20		
7.50 - 16	14.9 R 28 - 380/85 R 28		
	420/70 R 28		
	420/70 R 30		

RECOMMENDED COMBINATIONS FOR 4WD MODELS

Front tires	Rear tires	Pressure bar	
		Front	Rear
7.50 R 18	13.6 R 28 340/85 R 28	1.5 bar (21.8 psi)	1.5 bar (21.8 psi)
	12.4 R 28 - 320/85 R 28		
	360/70 R 28		
260/70 R 20	13.6 R 28 - 340/85 R 28		
	380/70 R 28		
280/70 R 16	380/70 R 20		
	380/70 R 24		
280/70 R 18	420/70 R 24		
280/70 R 20	14.9 R 28 - 380/85 R 28		
	420/70 R 28		
300/70 R20	420/70 R 30		
320/70 R 20	420/70 R 30		

RECOMMENDED COMBINATIONS FOR 2WD MODELS - INDUSTRIAL TIRE

Front tires	Rear tires	Pressure bar	
		Front	Rear
11L-15 F3	19.5L - 24	2.5 bar (36.3 psi)	1.5 bar (21.8 psi)

RECOMMENDED COMBINATIONS FOR 4WD MODELS - INDUSTRIAL TIRE

Front tires	Rear tires	Pressure bar	
		Front	Rear
10.5/80 - 18	19.5L - 24	1.5 bar (21.8 psi)	1.5 bar (21.8 psi)

WHEEL TRACK ADJUSTMENT

Wheel tread settings

Front 2WD wheel track adjustment

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 by loosening the two retention screws (1) and (2) fig. 1 on each side.

tightening torque		
220 N·m	22.5 kgm	162.7 ftlbs.

- adjust the length of the steering struts connected to the two wheels by loosening the fixing screws (1) fig. 2

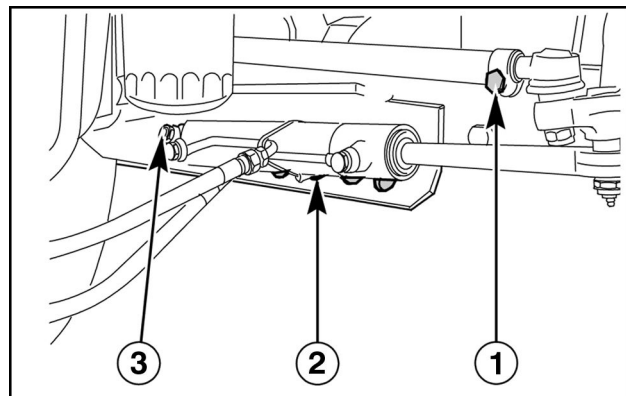
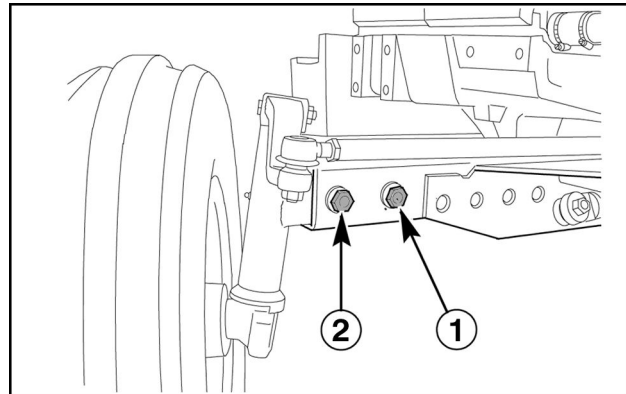
tightening torque		
39 N·m	4 kgm	29 ftlbs.

The possible wheel tracks are provided as shown on the next page.

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

NOTICE: As the tractor is fitted with hydrostatic steering, proceed as described above for the left-hand wheel. For the right-hand wheel, after having released the sliding end of the axle the internal angle of the hydraulic cylinder must be suitably adjusted. Proceed as follows:

- loosen the cylinder hose connectors
- make sure the screw (1) fig. 2 is loosened
- insert the pivot pin (3) fig. 2 in one of the four corresponding holes (2) fig. 2;
- tighten the nut on the pin (3) fig. 2 (tightening torque **294 N·m – 30 kgm**);
- tighten the screw (1) fig. 2 (tightening torque **39 N·m – 4 kgm**);
- make sure that the hoses are not twisted and tighten the connectors.



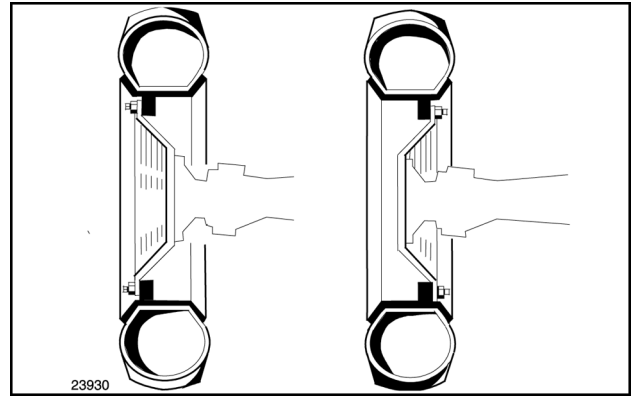
Wheel track adjustment front 4WD and rear 2/4WD

You can fit the wheel disk with the camber directed inwards or outwards.

Each of these two disk positions provides a different track width, as shown on the following pages.

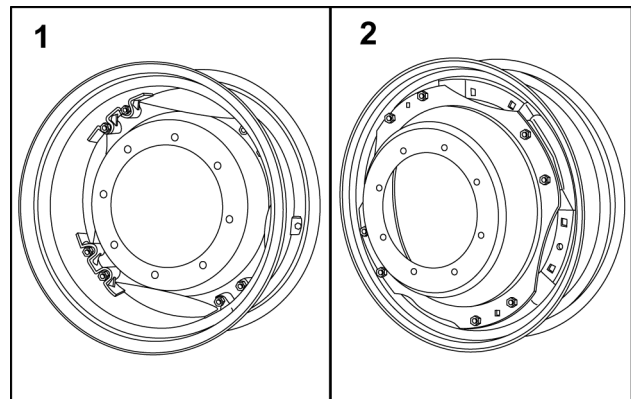
When adjusting the wheel track, ensure that the points of the tire treads are still facing in the direction of forward travel, indicated by an arrow on the tire walls.

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



Front and rear wheels	
Front — M16	220 N·m (162.3 lb ft)
Rear — M18	310 N·m (228.6 lb ft)

Front and rear wheels	
1	250 - 310 N·m (184.4 - 229 lb ft)
2	280 - 340 N·m (206.5 - 250.8 lb ft)



NOTICE: Select the appropriate rear track before changing the front track.

⚠ WARNING

Crushing hazard!

Wheel drive assemblies are heavy. Use an adequate lifting device. Reposition one side at a time. Failure to comply could result in death or serious injury.

W0019B

Steering angle adjustment

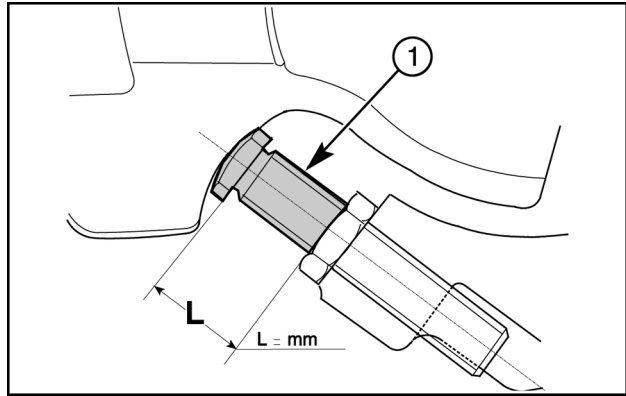
When using the narrowest tracks, the tires may touch the tractor body when the steered wheels are at full lock and the front axle is at maximum pivot position. To avoid this problem, the steering angle can be adjusted by means of screw (1) fig. 5.

To adjust the steering angle, proceed as follows:

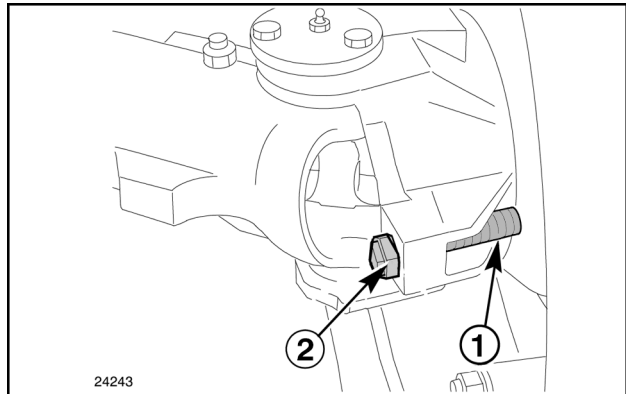
- turn the wheels;
- adjust the protrusion (L) fig. 5 of screw (1) fig. 6 so that the wheels cannot come into contact with the tractor body;
- on termination of adjustment operations, secure the screw (1) by means of the locknut (2) fig. 6.

Repeat the same operations for the opposite wheel.

NOTE: After adjusting the steering angle, make sure that when the wheels are fully locked, there is at least a **20 mm (0.79 in)** clearance between the tire or the mudguard and the tractor body.



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24243

DCUTDNEGB067S3A 6

Front axle swing adjustment

If necessary, you can increase the swing of the axle.

With the nut (1) fitted internally as in the figure, the axle has its minimum swing.

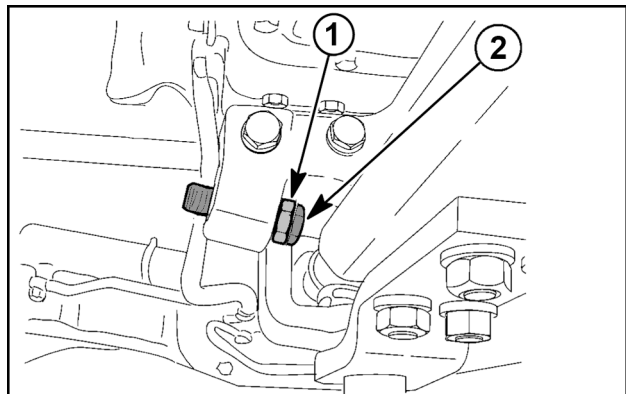
To increase the swing, proceed as follows:

- Unscrew the screw (2) and move the nut (1) outwards.

NOTE: The same adjustments must be performed on the opposite side.

NOTICE: When you are in the situation of greatest axle swing, adjust the steering angle so as to prevent the fully steered wheels from interfering with the casing.

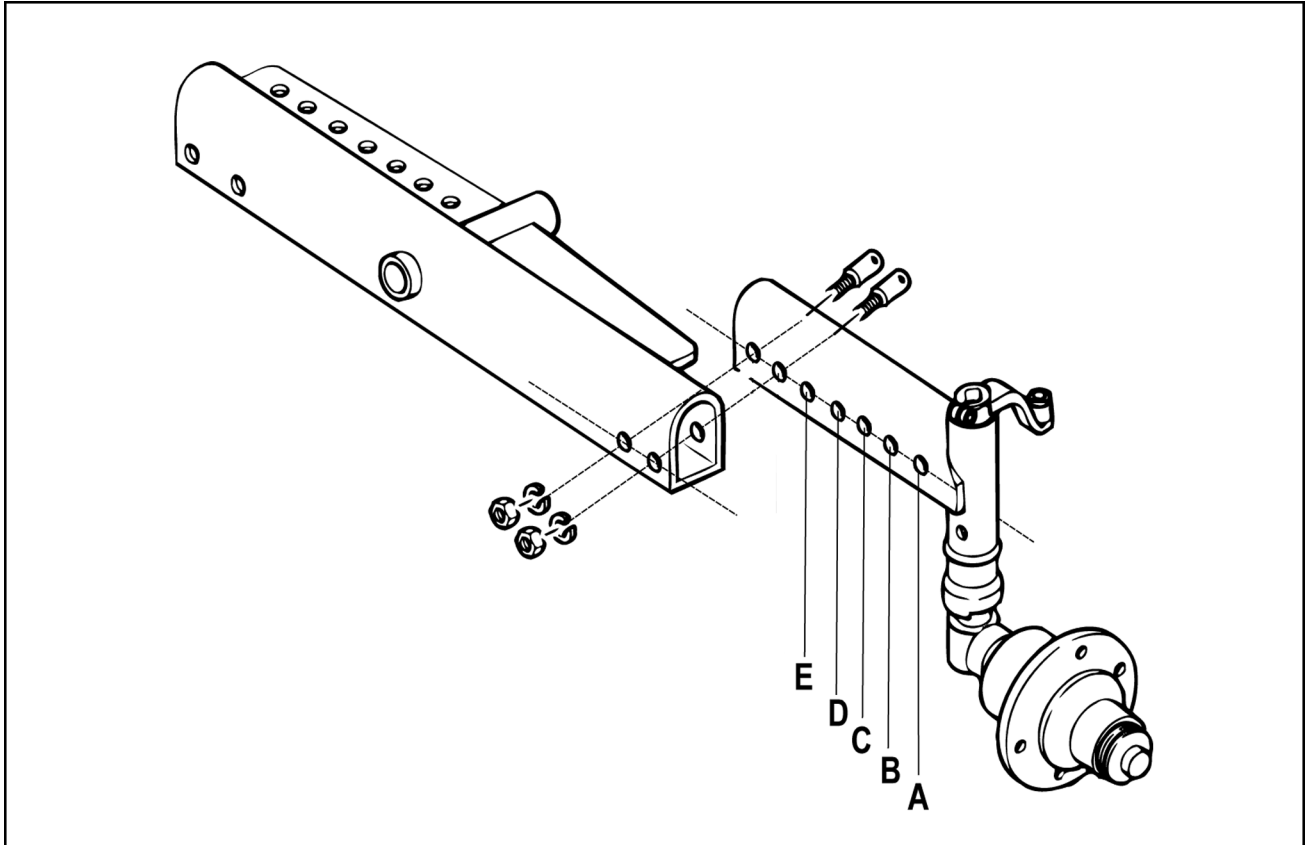
With the front lift fitted, keep the nut (1) fitted inside on the least swing.



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Tire Combinations and Tread Positions

2WD FRONT WHEEL TRACKS



DCSPFNEGB060S3A 1

Tire	A	B	C	D	E
6.50 - 16	1146 mm (45.1 in)	1246 mm (49.1 in)	1346 mm (53.0 in)	1446 mm (56.9 in)	1546 mm (60.9 in)
7.00 - 12	1172 mm (46.1 in)	1272 mm (50.1 in)	1372 mm (54.0 in)	1472 mm (58.0 in)	1572 mm (61.9 in)
7.50 - 16	1165 mm (45.9 in)	1265 mm (49.8 in)	1365 mm (53.7 in)	1465 mm (57.7 in)	1565 mm (61.6 in)
11L-15 F3	1212 mm (47.7 in)	1312 mm (51.7 in)	1412 mm (55.6 in)	* 1512 mm (59.5 in)	* 1612 mm (63.5 in)

Or turning the wheel

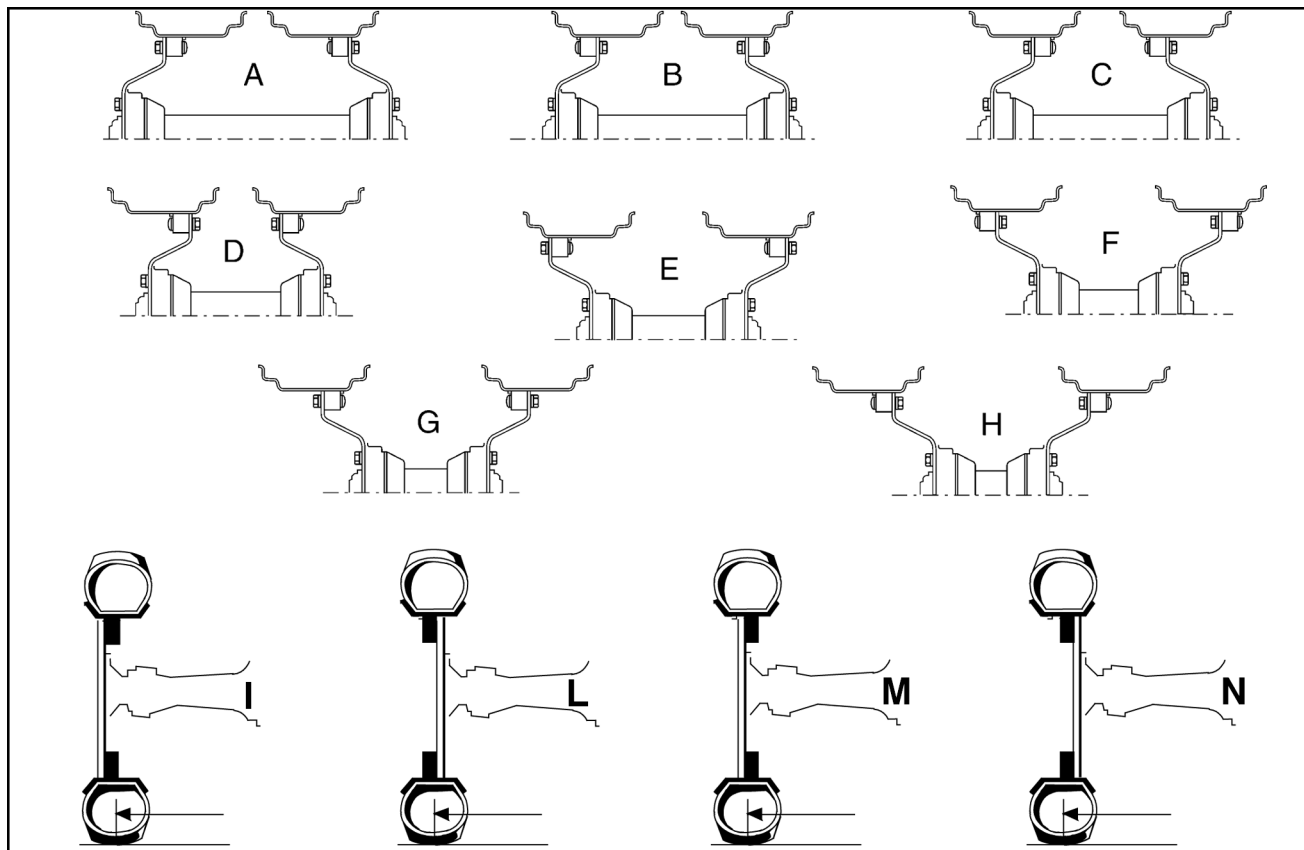
Tire	A	B	C	D	E
11L-15 F3	1252 mm (49.3 in)	1352 mm (53.2 in)	1452 mm (57.2 in)	* 1552 mm (61.1 in)	* 1652 mm (65.0 in)

Rated wheel track setting

(*) Track settings to be made only on the field or on road with the maximum clearance lights extended.

NOTE: Tracks lower than rated setting could require: steering angle reduction, or front axle oscillation angle reduction, or front fender removal, if installed.

4WD FRONT WHEEL TRACKS



DCSPFNEGB048S3F 2

TIRES	A	B	C	D	E	F	G	H
260/70 R 20	-	1157 mm	1255 mm	1355 mm	1189 mm	1289 mm	1387 mm	1487 mm
280/70 R 20	-	(45.6 in)	(49.4 in)	(53.3 in)	(46.8 in)	(50.7 in)	(54.6 in)	(58.5 in)
300/70 R20	-	1157 mm	1255 mm	1355 mm	1189 mm	1289 mm	1387 mm	* 1487 mm
320/70 R 20	-	(45.6 in)	(49.4 in)	(53.3 in)	(46.8 in)	(50.7 in)	(54.6 in)	(58.5 in)

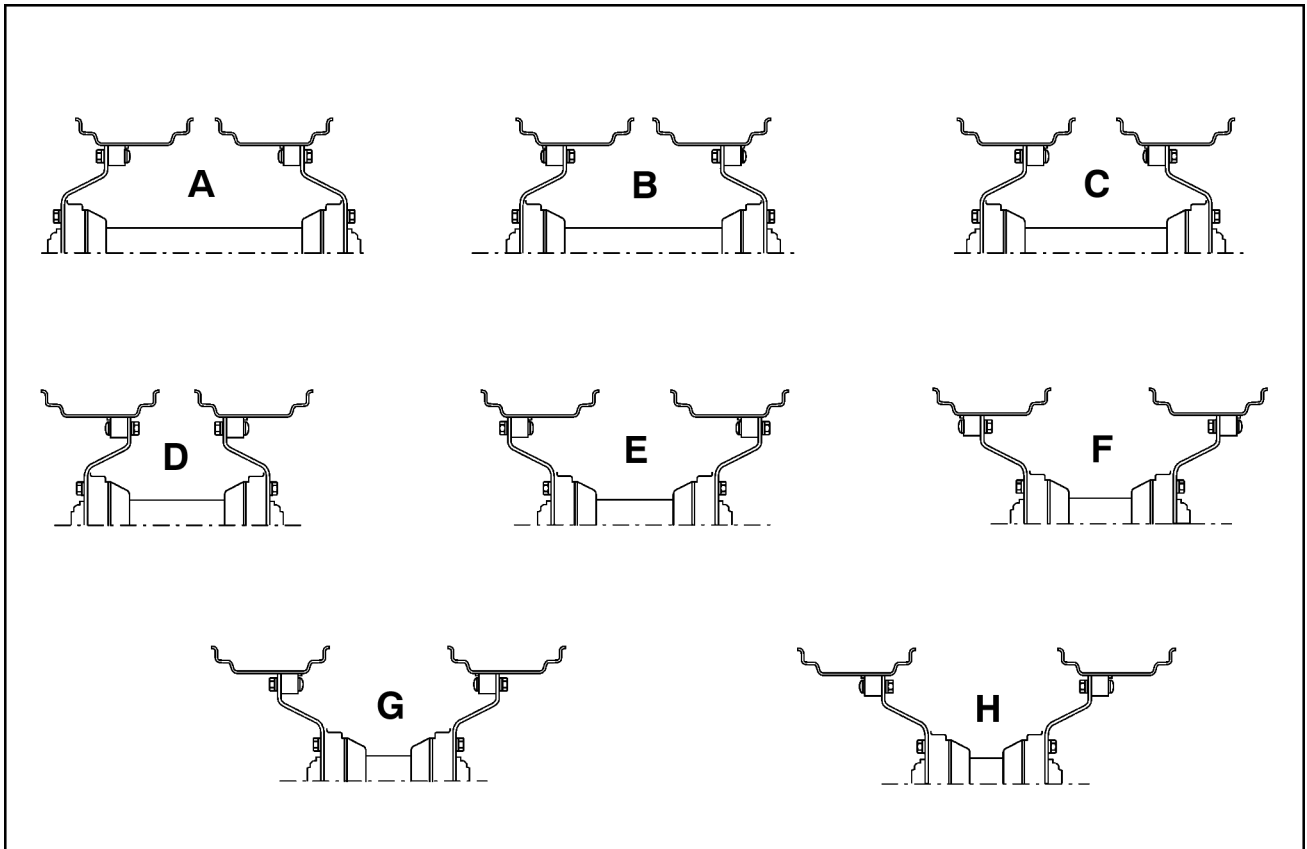
TIRES	I	L	M	N
280/70 R 16	1225 mm (48.2 in)	1319 mm (51.9 in)	—	—
280/70 R 16 with rear tires 20 "	1217 mm (47.9 in)	1341 mm (52.8 in)	—	—
280/70 R 18 10.5/80 - 18	1195 mm (47.0 in)	1301 mm (51.2 in)	1245 mm (49.0 in)	1351 mm (53.2 in)
7.50 R 18	1185 mm (46.7 in)	1291 mm (50.8 in)	1255 mm (49.4 in)	1361 mm (53.6 in)

Rated wheel track setting

(*) Track settings to be made only on the field or on road with the maximum clearance lights extended.

NOTE: Tracks lower than rated setting could require: steering angle reduction, or front axle oscillation angle reduction, or front fender remotion, if installed.

2/4WD REAR WHEEL TRACKS



DCUTDNEGB075S3F 3

TIRES	A	B	C	D	E	F	G	H
380/70 R 20	—	—	—	1108 mm (43.6 in)	1280 mm (50.4 in)	1316 mm (51.8 in)	1332 mm (52.4 in)	1368 mm (53.9 in)
380/70 R 24	—	1137 mm (44.8 in)	—	1200 mm (47.2 in)	1192 mm (46.9 in)	1305 mm (51.4 in)	1255 mm (49.4 in)	* 1368 mm (53.9 in)
420/70 R 24	—	—	1142 mm (45.0 in)	1255 mm (49.4 in)	1137 mm (44.8 in)	1250 mm (49.2 in)	1310 mm (51.6 in)	* 1423 mm (56.0 in)
12.4 R 28 320/85 R 28 380/70 R 28	—	—	1062 mm (41.8 in)	1173 mm (46.2 in)	1217 mm (47.9 in)	1328 mm (52.3 in)	* 1462 mm (57.6 in)	* 1573 mm (61.9 in)
13.6 R 28 340/85 R 28	—	—	1096 mm (43.1 in)	1207 mm (47.5 in)	1183 mm (46.6 in)	1294 mm (50.9 in)	* 1496 mm (58.9 in)	* 1607 mm (63.3 in)
380/70 R 28	—	—	—	1130 mm (44.5 in)	1260 mm (49.6 in)	1371 mm (54.0 in)	* 1419 mm (55.9 in)	* 1530 mm (60.2 in)
420/70 R 28	—	—	—	1149 mm (45.2 in)	1241 mm (48.9 in)	* 1352 mm (53.2 in)	* 1438 mm (56.6 in)	* 1550 mm (61.0 in)
14.9 R 28 380/85 R 28	—	—	—	1130 mm (44.5 in)	1260 mm (49.6 in)	* 1372 mm (54.0 in)	* 1419 mm (55.9 in)	* 1530 mm (60.2 in)
420/70 R 30	—	—	—	1144 mm (45.0 in)	1246 mm (49.1 in)	* 1358 mm (53.5 in)	* 1433 mm (56.4 in)	* 1544 mm (60.8 in)
19.5L - 24	—	—	—	1241 mm (48.9 in)	—	1264 mm (49.8 in)	* 1296 mm (51.0 in)	* 1409 mm (55.5 in)

Rated wheel track setting

(*) Track settings to be made only on the field or on road with the maximum clearance lights extended.

NOTE: Tracks lower than rated setting could require: steering angle reduction, or front axle oscillation angle reduction, or front fender removal, if installed.

BALLAST

Ballast

⚠ WARNING

Crushing hazard!

Counterweights are very heavy. Always use certified lifting equipment to remove and install the counterweights. Make sure the hardware securing the counterweight(s) to the machine is installed correctly and the clamp bolts are tightened fully before operating the machine. Failure to comply could result in death or serious injury.

W0402A

⚠ WARNING

Heavy object!

Clear the area around and under the counterweight removal and installation system before installing or removing counterweights. Keep all unauthorized personnel clear of the area. Make sure all lifting devices are in good condition and capable of handling the counterweight mass. Failure to comply could result in death or serious injury.

W0037A

⚠ WARNING

Driving hazard!

Be aware that extra weight and bad traction conditions such as mud or ice increase your stopping distance. Liquid in the tires, weights on the machine or wheels, tanks filled with fertilizer, herbicides, or insecticides - all these add weight and increase the distance you need to stop. Failure to comply could result in death or serious injury.

W0338A

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.

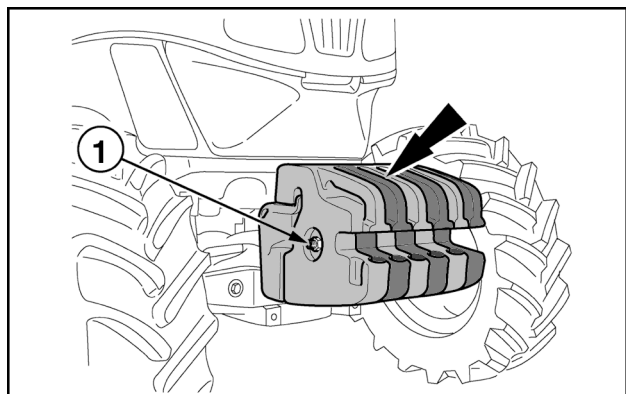
When using very long and heavy implements, which could affect the longitudinal stability of the tractor, ballast the front axle by fitting the appropriate cast-iron counterweights.

Front axle ballast

- 4 plates each weighing **25 kg (55 lb)**
- 6 plates each weighing **25 kg (55 lb)**.
- 6 plates each weighing **40 kg (88 lb)**.

To remove the blocks of ballast, unscrew the bolt (1) and extract the pin.

NOTICE: Do not use the tractor until the plates have been locked together.

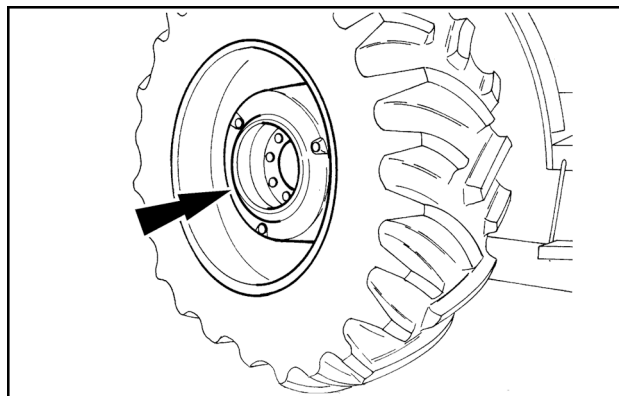


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Rear axle ballasting

4 cast iron rings, of the weight of **50 kg (110.23 lb)** each, for **28"** and **30"** tyres.

NOTICE: Periodically check the tightness of the front and rear ballast locking bolts.



DCSPVEGB009S5F 2

7 - MAINTENANCE

GENERAL INFORMATION

General safety before you service

DANGER

Improper operation or service of this machine can result in an accident.
Do not operate this machine or perform any lubrication, maintenance, or repair on it until you have read and understood the operation, lubrication, maintenance, and repair information.
Failure to comply will result in death or serious injury.

D0010A

DANGER

Improper operation or service of this machine can result in an accident.
Any unauthorized modifications made to this machine can have serious consequences. Consult an authorized dealer on changes, additions, or modifications that may be required for this machine. Do not make any unauthorized modifications.
Failure to comply will result in death or serious injury.

D0030A

WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.

1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery.
7. Wait for all machine movement to stop.

Failure to comply could result in death or serious injury.

W1023A

WARNING

Maintenance hazard!

Before you start servicing the machine, attach a DO NOT OPERATE warning tag to the machine in a visible area.

Failure to comply could result in death or serious injury.

W0004A

WARNING

Maintenance hazard!

Always perform all service procedures punctually at the intervals stated in this manual. This ensures optimum performance levels and maximum safety during machine operation.

Failure to comply could result in death or serious injury.

W0132A

WARNING

Improper operation or service of this machine can result in an accident.

Read and understand the SAFETY INFORMATION Section before you perform any maintenance, service, or repairs. Read and understand the specific service procedures for the components you plan to work with before you start servicing the machine.

Failure to comply could result in death or serious injury.

W0138A

⚠ WARNING

Improper operation or service of this machine can result in an accident.
If you do not understand a maintenance procedure, or doubt your ability to perform a maintenance procedure correctly, see your authorized dealer.
Failure to comply could result in death or serious injury.

W0157A

⚠ WARNING

Personal Protective Equipment (PPE) required.
When assembling, operating, or servicing the machine, wear protective clothing and PPE necessary for the particular procedure. Some PPE that may be necessary includes protective shoes, eye and/or face protection, hard hat, heavy gloves, filter mask, and hearing protection.
Failure to comply could result in death or serious injury.

W0353A

⚠ WARNING

Moving parts!
Install all covers, panels, and guards after servicing or cleaning the machine. Never operate the machine with covers, panels, or guards removed.
Failure to comply could result in death or serious injury.

W0135A

⚠ WARNING

Avoid injury and/or machine damage!
After installation or service, make sure you remove all tools from the machine.
Failure to comply could result in death or serious injury.

W0902A

Introduction

This section gives full details of the maintenance procedures required to keep the tractor in conditions of maximum efficiency. The lubrication and maintenance table provides rapid reference for this purpose.

Maintenance frequency

The service intervals at set times, given in this section, apply when the tractor is used under normal and not harsh conditions.

These service intervals must be reduced even on a daily basis if necessary when there are adverse conditions (wetness, mud, sand, great dustiness, etc.).

Shortening the interval from one job to the next is particularly recommended for the following parts:

- Cleaning the cab air filters (use in damp or particularly dusty places).
- Radiator cores (use in particularly dusty places).
- Lubricators (use in particularly muddy places).

Environmental Protection

Always bear in mind the rules of environmental protection before servicing this machine and before disposing of old fluids, lubricants and filters.

- Never pour oil or fluids onto the ground, into the drainage system or into containers that do not have a seal.
- Dispose of all old fluids, lubricants and filters in compliance with the local laws.
- For any further information, please contact your local differentiated waste collection centre or your dealer.

When it is necessary to refill the fuel tank, or top up or change the oil, never forget to place a container under the component to collect any spillage.

The products mentioned are pollutants and we must therefore prevent them from contaminating the environment in which we live.

Preventing system contamination

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 nipples before lubrication.

Wipe excess grease from the fitting after greasing.

Various controls

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 no grease is escaping from the protective hoods to the ball joints, and that the hoods are in good condition and show no signs of cracks.
- Hydrostatic steering cylinder lines: the lines must not show signs of crimping, cracking or swelling of the external sheath; there must be no traces of oil between the pipe and the connector;
- Handbrake lever: check that the ratchet locks securely.

Engine Cooling systems

It is advisable to change the coolant every two years, even if the total working time of **1200** hours has not been reached.

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.

Tires

Always fit and remove tyres in perfectly clean conditions. Avoid working on the ground.

Do not use grease when fitting and removing tyres. Use a soap and water solution instead.

When fitting a new or used tyre, inflate it to **3.5 bar (50.8 psi)** to ensure the correct positioning of the bead. Then inflate the tyre to its service pressure.

Tyre pressures

The recommended tyre pressures are given in this manual in specific tables.

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.

Body maintenance

Protection against atmospheric agents

Over the years, NEW HOLLAND have 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 atmospheric humidity
- 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 at points which are particularly vulnerable to corrosion (edges, projections and sheet-metal welded joints).

Unfortunately, external agents act in various ways according to environmental conditions and tractor use. However, if the user takes enough care, the tractor can be maintained better and for longer.

The following information is provided to help achieve this aim.

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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 once more;
- apply the paint;
- lastly, polish.

Maintenance of the paintwork is normally carried out by washing, at intervals that depend on the conditions of use and the environment.

In areas prone to atmospheric pollution and coastal zones, washing should be carried out 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 - 4 % of shampoo in water), rinsing the sponge frequently. Rinse the tractor thoroughly and dry, if possible, with a jet of air.

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

- Periodically check that no water remains in areas covered with mats or padding.
- Protect the hinges and locks on the doors, roof and opening windows with lubricants and water- repellents.
- Clean the windows with suitable detergents. If necessary, use sulphuric ether.
- Remove the windscreen wiper blade and sprinkle talcum powder on the rubber surfaces.
- Leave the doors partially open.

► WARNING ◀

When washing your tractor, never direct the jet of water horizontally, but only from top to bottom so as not to reach the following components:

- alternator;
- starter motor;
- air filter;
- connectors and other electrical components;
- especially on models with a roll bar, the ignition key must be inserted in the switch to prevent water getting in.

Break-in period

During the running-in period (approximately 50 hours of work), in addition to carrying out the operations indicated in this section for "Lubrication and Maintenance" after "every 10 hours of work and "every 50 hours of work", we recommend the following:

- Run the engine for a few minutes at low speeds and let it idle after every cold start.
- Do not let the engine idle for a long time.
- Do not use the tractor continually for heavy work.

Follow the above recommendations after replacement of major parts.

NOTICE: After the first 50 hours of work, replace:

- The oil filter cartridge for the transmission and lift
- On Power Shuttle models, the hydrostatic steering filter cartridge
- Renewing the fuel filter and bleeding the system

At the end of the running-in period carry out the following checks:

- engine sump oil level;
- transmission oil level;
- 4WD front axle oil level;
- 4WD front axle housing oil;
- 4WD front axle final drive oil level
- wheel retaining bolts;

- front ballast retaining bolts;
- front wheel toe-in and steering limiters;
- tyre inflation pressures and wear;
- oil or fluid leaks;
- braking efficiency;
- steering efficiency;
- 4WD engagement efficiency;
- differential lock efficiency;
- clutch efficiency;
- handbrake efficiency and adjustment;
- PTO efficiency;
- control valves and lift efficiency;
- lights and horn efficiency;
- checking the alternator V-belt tension;
- cleaning the radiator and air-conditioner condenser, if installed.

NOTICE: Carry out the operations illustrated in this section at the specified intervals to ensure that your tractor functions properly.

Remember to make the checks and adjustments (with variable frequency depending on environmental and working conditions) according to the intervals suggested by experience and good sense.

Fuel supply

⚠ WARNING

Fire hazard!

When handling diesel fuel, observe the following precautions:

1. Do not smoke.
 2. Never fill the tank when the engine is running.
 3. Wipe up spilled fuel immediately.
- Failure to comply could result in death or serious injury.

W0099A

Fuel specifications

The quality of fuel used is an important factor for the engine's subsequent performance and satisfactory service life. Fuels must be clean, well-refined, and non-corrosive to fuel system parts. Be sure to use fuel of a known quality from a reputable supplier.

Storing fuel

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

- Store fuel in black iron tanks, not galvanized tanks, as the zinc coating will react with the fuel and form compounds that will contaminate the injection pump and injectors.
- Shelter the storage drums from direct sunlight and tilt them slightly so that sediment inside can be removed through the outlet pipe.
- To facilitate moisture and sediment removal, provide a drain plug at the lowest point at the end opposite the outlet pipe.
- If fuel is not filtered from the storage tank, put a funnel with a fine mesh screen in the fuel tank filler neck when refueling.
- Organize fuel supplies so that summer fuel is not kept for too long and then used in winter.

Fuel tank flap

A flap provides quick access for filling the fuel tank, without it being necessary to lift the bonnet.

Refuelling

Before filling the tank, clean the area around the filler cap to prevent foreign bodies getting inside and contaminating the fuel. Remove the cap and place in a clean area during refuelling. After refuelling replace the cap and tighten it fully.

Fuel tank capacity:

Normal tank: 77 l (20 US gal)

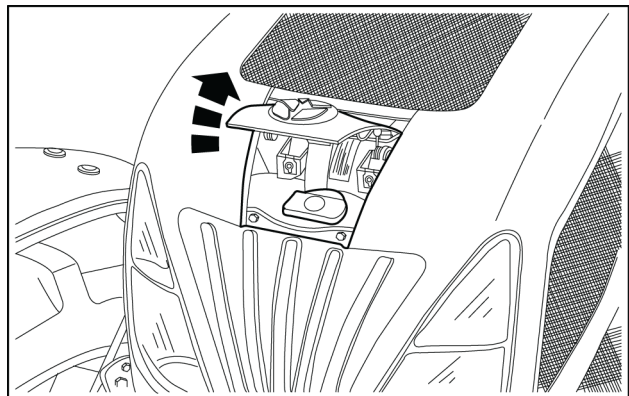
Reduced tank: 67 l (18 US gal)

NOTE: If the fuel tank cap should be lost or damaged, replace it with an original spare part.

Diesel

NOTICE: The Diesel fuel approved for your tractor's engine must comply with the **EN590** standard (or the equivalent).

Be aware that use of diesel not complying with the above mentioned Specification Standard could lead to severe damage to the engine and to the fuel system. In addition, bear in mind that use of fuels that are not approved can invalidate the terms of Warranty.



MOIL13TR00717AA 1

General specification - Biodiesel Fuels

Fatty Acid Methyl Ester Biodiesel (Biodiesel Fuel) consists of a family of fuels derived from vegetable oils treated with methyl esters.

NOTICE: Biodiesel Fuel blends are approved for your engine only if they comply with **EN14214** Specification Standards or **ASTM D6751**.

NOTICE: It is imperative that you check which blend is approved for your engine with your NEW HOLLAND dealer. Be aware that the use of Biodiesel Fuel that does not comply with the Standards mentioned above could lead to severe damage to the engine and fuel system of your machine. The use of fuels that are not approved may void NEW HOLLAND Warranty coverage.

Biodiesel Fuel Usage Conditions

NOTICE: The Biodiesel Fuel must meet the fuel Specification mentioned above.

Biodiesel Fuel must be purchased from a trusted supplier that understands the product and maintains good fuel quality. Biodiesel Fuel must be pre-blended by the supplier. Mixing Biodiesel Fuels on-site can result in incorrect mixture that can lead to problems with both engine and fuel system.

Engine performance is affected by the use of Biodiesel Fuel. There may be up to **12 %** reduction in power or torque depending on the blend used.

NOTICE: DO NOT modify the engine and/or injection pump settings to recover the reduced performance.

The reduced power must be accepted if using any Biodiesel Fuel blend.

Some modification may be required to allow your engine to run Biodiesel Fuel. Consult your dealer for complete information on these modifications.

Biodiesel Fuel has a higher cloud point than Diesel Fuel.

NOTICE: The use of high Biodiesel Fuel blends are not recommended in cold weather conditions.

With Biodiesel Fuels, it may be necessary to change the engine oil, engine oil filter and fuel filter elements more frequently than with Diesel Fuels. Biodiesel Fuel can remove rust and particles from the inside of on-site fuel storage tanks that would normally adhere to the sides of the tank. Like particle deposits that commonly occur with Diesel Fuel, these particles can become trapped by the machine fuel filters, causing blockage and shortening filter life. In cold weather, this is more likely to happen. Consult your NEW HOLLAND dealer for information on cold weather operation and proper maintenance intervals when using any Biodiesel Fuel blend.

When handling Biodiesel Fuel, care must be taken not to allow water into the fuel supply. Biodiesel Fuel will actually attract moisture from the atmosphere.

Fuel tanks must be kept as full as possible to limit the amount of air and water vapors in them. It may be necessary to drain the fuel filter water tap more frequently.

Potential oxidation and stability could be a problem with the fuel stored in the machine.

NOTICE: Machines must not be stored for more than three months with Biodiesel Fuel blends in the fuel system.

If long storage periods are necessary, the engine must run on Diesel Fuel for 20 hours to flush the Biodiesel Fuel out of the engine fuel system prior to storage.

NOTICE: Biodiesel Fuel must not be stored in on-site storage tanks for more than three months.

Any spillage of Biodiesel Fuel must be cleaned up immediately before it can cause damage to the environment and the paint finish of the machine.

Before using Biodiesel Fuel blends you should consult with your dealer to receive full information about the approved blend for your machine and any detailed conditions of its usage.

NOTICE: Be aware that not fulfilling the requirements and conditions of Biodiesel Fuel usage will void your machine's NEW HOLLAND Warranty coverage.

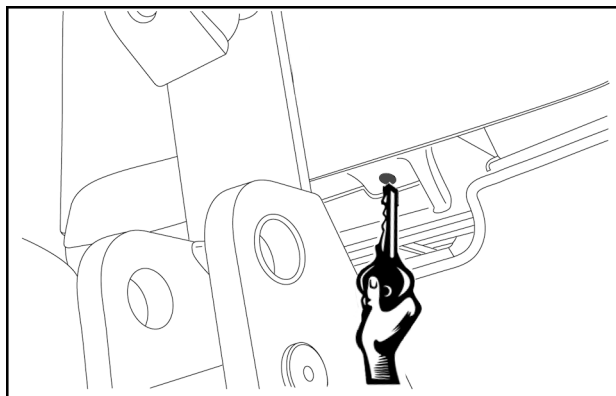
Opening the hood

To access the engine components and carry out inspection, lubrication and maintenance operations, the bonnet must be opened **(1)**. The following instructions describe the procedure to be followed.

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

To open the bonnet, insert the engine starter key into the hole shown (on the front of the bonnet) and press on the catch to unhook the bonnet. Raise the bonnet with the special handle, an internal strut will keep it in the raised position.

To close the hood, push it fully in. An audible click will signal engagement of the locking catch. Check that the hood is properly closed.



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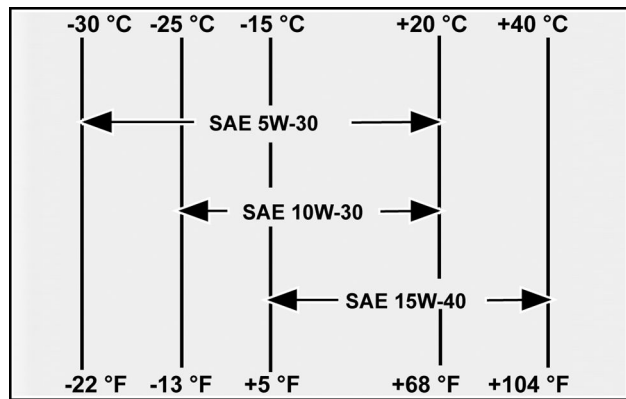
Fluids and lubricants

COMPONENT TO BE FILLED OR TOPPED UP	QUANTITY		RECOMMENDED NEW HOLLAND PRODUCTS	SPECIFICATION NEW HOLLAND	INTERNATIONAL SPECIFICATION
	l	US gal			
Cooling system, models with no cab:	10,5	2.77	Mixture of water and antifreeze FLEETGUARD® COMPLEAT™ at 50 % + 50 %	NH900A	-
Cooling system, models with cab:	12,5	3.30			
Windscreen wash reservoir	2	0.53	Water & cleaning liquid	-	-
Fuel tank:	77	20.34	Decanted, filtered diesel fuel	-	-
Reduced fuel tank:	67	17.70			
Engine oil sump: T4.75F - T4.85F	8,5	2.25	NEW HOLLAND AMBRA MASTERGOLD HSP	NH330H SAE 15W40 NH324H SAE 10W30	API CH-4 ACEA E7/E5
Engine oil sump: T4.95F - T4.105F	9,5	2.51			
Brakes circuit	0,5	0.13	BRAKE LHM FLUID	NH610A	ISO 7308
With front brakes	0,2	0.05			
Front axle housing:	2,8	0.74	NEW HOLLAND AMBRA MULTI G™ HYDRAULIC TRANSMISSION OIL	NH410B	API GL-4 ISO 32/46 SAE 10W30
Front axle final drives (each) - with brakes Front axle final drives (each) - without brakes	1,75 1,0	0.46 0.26			API GL-5 MIL-L-2105 D SAE 80W90
Rear axle (bevel drive, final drives and brakes), transmission, hydraulic lift, power take-off and hydrostatic steering:	44	11.62	NEW HOLLAND AMBRA MULTI G™ HYDRAULIC TRANSMISSION OIL	NH410B	API GL-4 ISO 32/46 SAE 10W30
Grease fittings			NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE	NH710A	NLGI 2

Engine Oil

The correct degree of engine oil viscosity depends on the environment temperature. 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 lubrication practices are acceptable. The use of **SAE 5W** with extremely low temperatures and **SAE 50** for extremely high temperatures is advised.



Sulphur in Fuel

The engine oil change frequency is given in this section. However, locally available fuel may have a high sulphur content, in which case the engine oil change period (as noted in this Section) should be adjusted as follows:

Sulphur content	Oil Change Period
less than 0.5 %	normal
0.5 - 1.0 %	half the normal
more than 1.0 %	one quarter normal

NOTICE: Avoid using fuel with sulphur content higher than **1.3 %**

MAINTENANCE CHART

Maintenance Chart

Interval	Page no.	Maintenance action	No. of pts.										
				Check	Adjust	Cleaning	Tighten	Drain fluid	Filling	Grease	Change fluid	Replace	
AS REQUIRED	7-15	Radiator expansion tank		X									
	7-15	Windscreen washer tank			X								
	7-15	Road light		X									
	7-16	Clutch pedal adjustment				X							
	7-16	Parking brake or parking lock				X							
	7-16	Radiator					X						
	7-17	Tyre pressure		X									
	7-18	Wheel nuts torque						X					
	7-18	Brake pedals		X									
AT WARNING MESSAGE DISPLAY	7-19	Engine air filters					X						
	7-21	Brake fluid level							X				
EVERY 10 HOURS OR EACH DAY	7-22	Engine oil level		X									
EVERY 50 HOURS	7-23	Rear wheel hub									X		
	7-23	Lift and linkage									X		
	7-23	2WD steering cylinder									X		
	7-24	4WD steering cylinders									X		
	7-24	2WD front axle pivot									X		
	7-24	4WD front axle pivot									X		
	7-25	4WD transmission shaft									X		
	7-25	2WD right and left-hand stub axle									X		
	7-25	Front lift arms shaft									X		
	7-26	Front PTO coupling									X		
EVERY 100 HOURS	7-27	Transmission oil cooler					X						
	7-27	Air conditioning condenser					X						
	7-27	Intercooler					X						
	7-28	Cab air filter					X						
	7-28	Cab recirculated air filter					X						
EVERY 300 HOURS	7-29	Transmission oil filter										X	
	7-29	Oil filter models with power shuttle/dual command										X	
	7-30	Engine air filters				X							
	7-30	Transmission oil level						X					
	7-30	4WD front axle housing		X									
	7-31	4WD front axle final drives										X	
	7-31	4WD front axles stub								X			
	7-31	2WD front wheels								X			

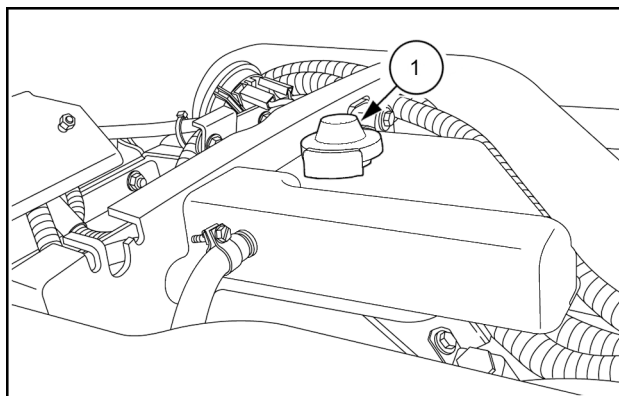
7 - MAINTENANCE

Replace													
Change fluid													
Grease													
Filling													
Drain fluid													
Tighten													
Cleaning													
Adjust													
Level make up													
Check													
Interval	Page no.	Maintenance action	No. of pts.										
EVERY 1200 HOURS OR ANNUALLY	7-38	Cab air filters					X						
	7-38	Cab recirculated air filter					X						
	7-38	Engine air filters											X
	7-39	Fuel tank					X						
EVERY 1200 HOURS OR EVERY 2 YEARS	7-40	4WD front axle housing										X	
	7-40	Engine valves		X									
	7-41	Change transmission oil										X	
	7-42	Washing cooling system					X						
EVERY 1800 HOURS	7-45	Fuel injectors		X									
ELECTRICAL SYSTEM	7-46	Battery		X									
	7-48	Fuses and relays											X
	7-49	Fuses and relays location											X
	7-51	Fuses and relays location											X
	7-53	Fuses and relays location											X
	7-53	Headlight				X							
	7-54	Headlight											X

AS REQUIRED

Radiator expansion tank

1. The level must always be above the “ **MAX** ” mark on the tank. If necessary, top up to reach the correct level through the cap (1).

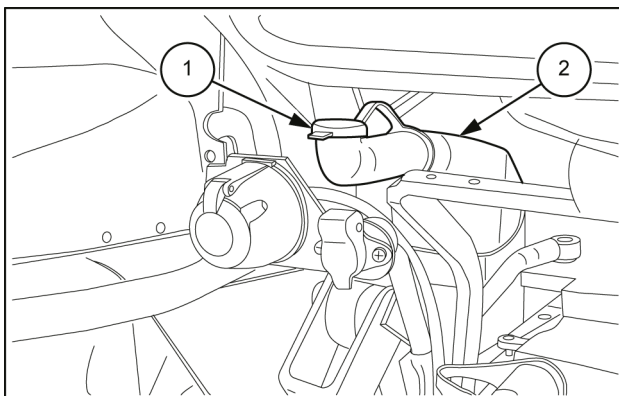


MOIL13TR00948AA 1

Windscreen washer tank

1. To fill-up the windscreen washer tank, remove filler cap (1) and fill up the tank (2) with washing liquid.

NOTICE: Mix anti-freeze fluid with the water in the winter.



MOIL13TR00793AA 1

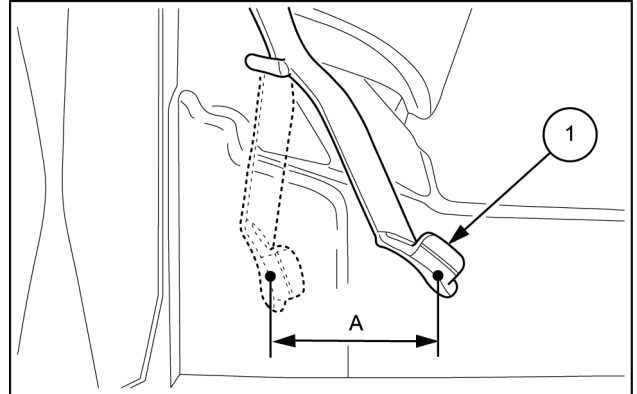
Road light - Check

1. Make sure the light beam produced by the various lights is directed correctly to prevent dazzling drivers of on-coming vehicles. The procedure for adjusting them is given further.

Clutch pedal adjustment

Manual versions

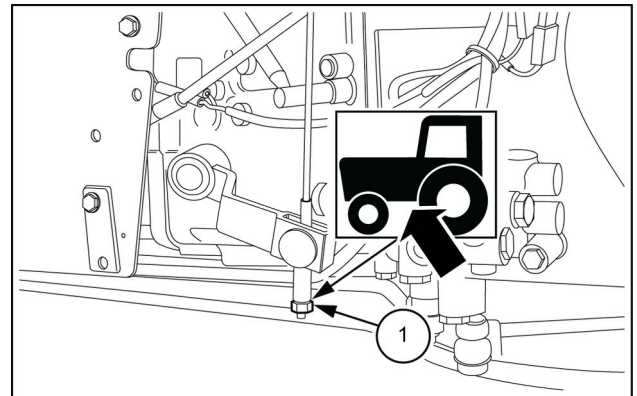
1. If the pedal position becomes uncomfortable (too high) or it will not reach its upper rest position (to prevent the clutch slipping), check that distance **(A)** on pedal **(1)** is **150 mm (5.91 in)** for tractors without cabs, or **162 mm (6.38 in)** for tractors with cabs, if not, contact your dealer to have it checked and if necessary adjusted.



MOIL13TR00633AA 1

Parking brake or parking lock - Adjust

1. When pulled three notches, the parking brake should engage. If not, tighten the adjustment screw **(1)** if it exceeds the three notches or loosen the screw if it fails to reach the third notch.



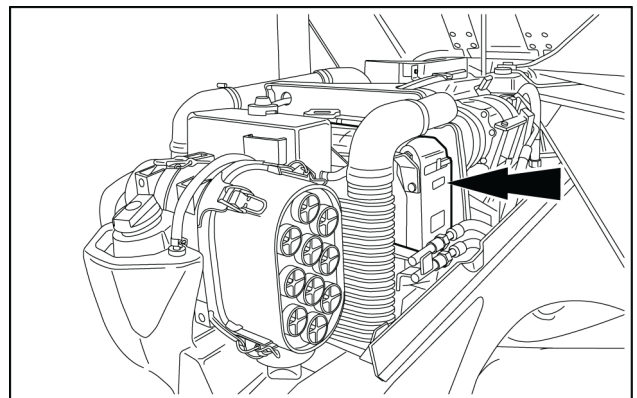
MOIL13TR00634AA 1

Radiator - Cleaning

1. Check no dirt has accumulated between the fins and that they are not obstructed. If any is noted, clean as follows:
 - Slide the air conditioner condensor (where fitted) out to gain access to the engine coolant radiator.
 - For cleaning, use compressed air or a pressure washer not exceeding **7 bar (101.5 psi)**.

NOTE: If the cores are blocked with any oily substances, apply a detergent solution and remove it with a pressure washer.

NOTICE: If using a pressure washer to wash the radiator, take care not to direct the jet of water onto the cover of the engine air filter.

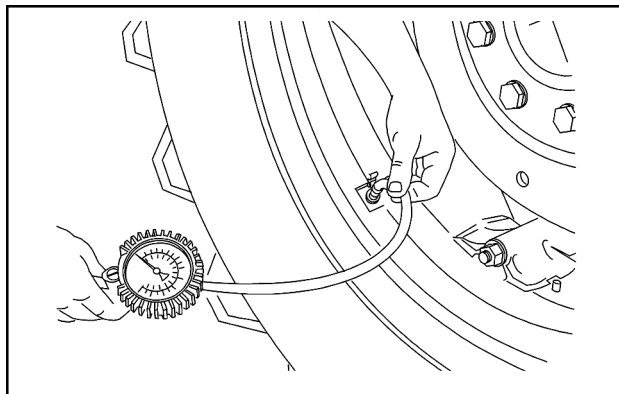


MOIL13TR00635AA 1

Tyre pressure

1. Connect a pressure gauge to the pressure relief valve and check it is as prescribed. Check and adjust the front and rear tire pressures. Inspect the tread and sidewalls for damage. Adjust the tire pressures to suit the load being carried. See 'Tire sizes' in Section 5.

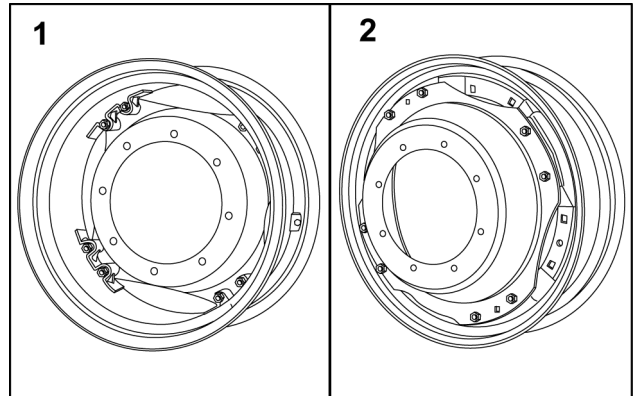
NOTE: If the tires are ballasted with a solution of water and antifreeze, a special tire gauge should be used as the solution will corrode a proprietary type gauge. Check pressure with the valve stem at the bottom.



DCAPLNEGB015S4A 1

Wheel nuts torque

1. Check the front and rear wheel nuts for tightness using a torque wrench (with a torque multiplier, where necessary). Always make sure that the front and rear wheels are symmetrically aligned in relation to the longitudinal axis of the tractor.



MOIL13TR00011AA 1

Disc to hub nuts

Front and rear wheels	
Front — M16	220 N·m (162.3 lb ft)
Rear — M18	310 N·m (228.6 lb ft)

Disc to rim nuts

Front and rear wheels	
1	250 - 310 N·m (184.4 - 229 lb ft)
2	280 - 340 N·m (206.5 - 250.8 lb ft)

Brake pedals

⚠ WARNING

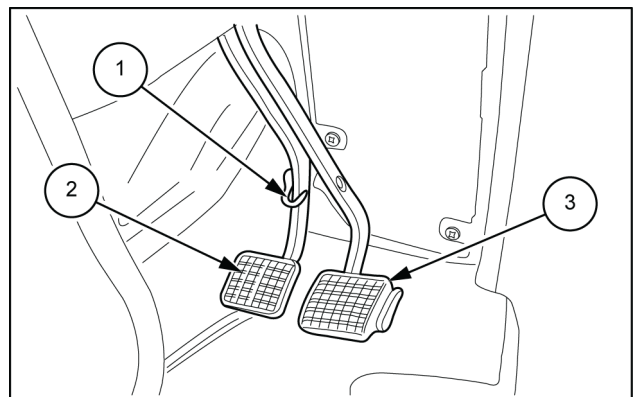
Equipment failure could cause accident or injury!

Immediately contact your dealer if brake system malfunctions or shows signs of wear, including leakage.

Failure to comply could result in death or serious injury.

W0104A

1. See that the pedal joints **(2)** and **(3)** and the control linkage are not damaged. Check that the pin **(1)** joining the pedals engages properly as well.



MOIL13TR00636AA 1

AT WARNING MESSAGE DISPLAY

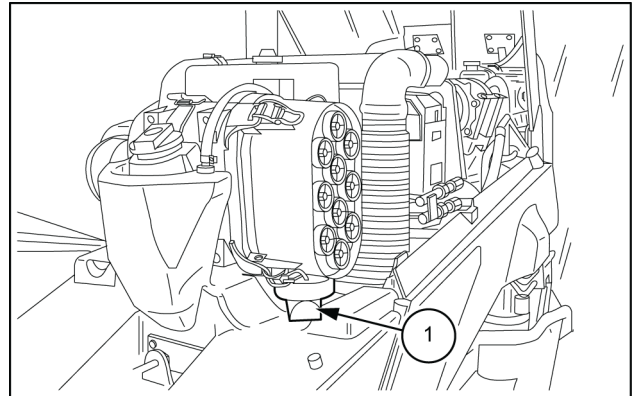
Engine air filters



NOTE: When the warning light air filter blocked on the control panel illuminates, check for filter clogging. Replace the external cartridge every year or when cracks appear (visible by placing a light inside).

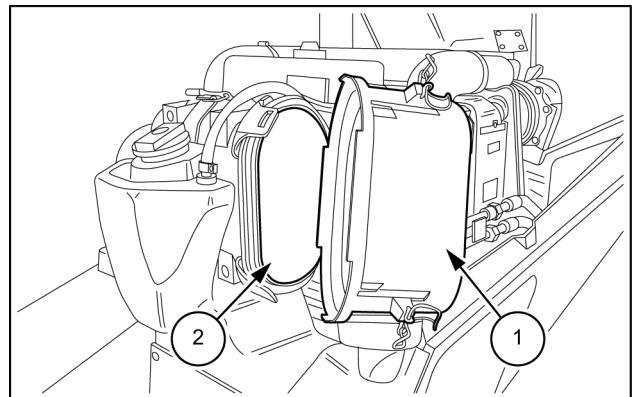
Air filter discharge valve

1. Check if the outlet valve (1) is clogged by pressing the rubber end cap.



MOIL13TR00638AA 1

2. When the warning light air filter blocked on the control panel illuminates, remove the cover (1), extract the external cartridge (2) and clean as follows;
 - place the cartridge facing downwards on a flat surface. Tap on the cartridge with the palm of your hand a few times, taking care not to damage it, so as to eliminate any remaining dust.
 - or
 - blow compressed air at a pressure of less than **5 bar (72.5 psi)**.



MOIL13TR00637AA 2

NOTE: It is not advisable to wash the cartridge with water.

NOTICE: The internal safety cartridge must never be cleaned or removed when cleaning the external cartridge, but it must be changed every three times the external cartridge (2) is cleaned.

Fuel filter water drain

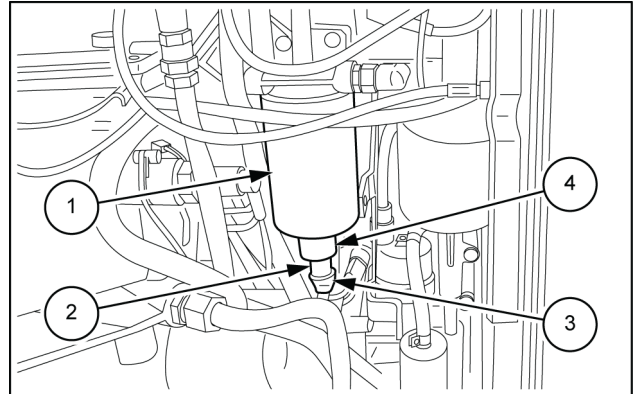
NOTICE: Before loosening or disconnecting any part of the fuel injection system, thoroughly clean the area to be worked on to prevent contamination.

When the instrument cluster display shows the water

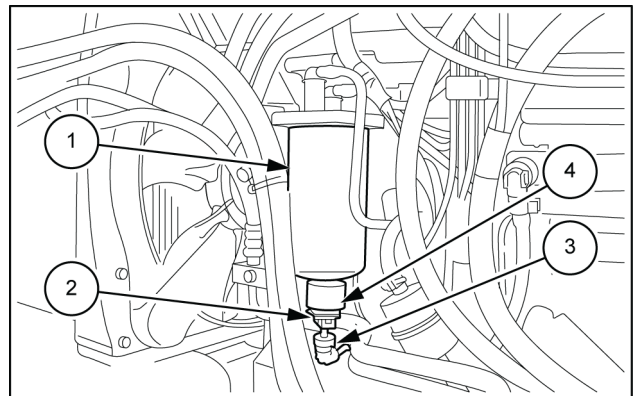
in fuel symbol , drain the fuel filter (with sedimentator) immediately as follows:

1. Place a container under the filter **(1)**;
2. Remove the retaining pin **(2)** and disconnect the sensor **(3)**;
3. Remove the drain plug **(4)** at the base of the filter;
4. Allow contaminated fuel to drain until only clean fuel runs out. Drain off the fuel and dispose of it appropriately. Close the drain plug and replace the sensor wire in position.
5. Start the engine running, after a few seconds the indicator light must go out. If the indicator stays on, replace the filter even if it has not yet reached the time for it to be changed.

- Figure 1, models **T4.75F** and **T4.85F**
- Figure 2, models **T4.95F** and **T4.105F**



MOIL13TR00639AA 1



MOIL13TR00640AA 2

Brake fluid level

1. Check that the fluid level never drops below the point marked (MIN) by the arrow on the reservoir.

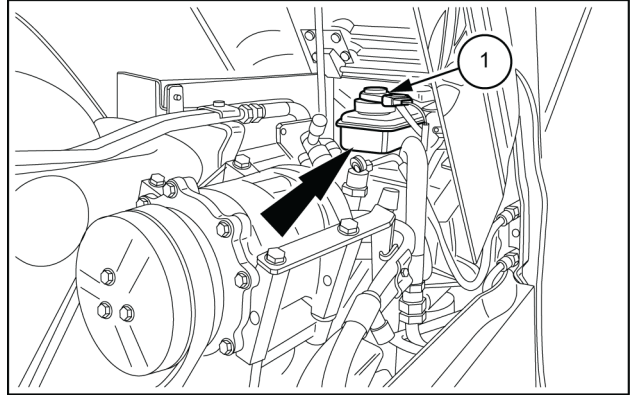


NOTICE: Illumination of the warning light on the control panel, indicates that the oil level in the reservoir is below the "MIN" level. Act promptly and restore the level. If the light remains illuminated, contact your local dealer.

2. Periodically check that the light is working properly. By pressing the blue push button **(1)** fig. 1 on the cover, if all is working correctly, the indicator should illuminate.

NOTICE: Use only the correct type of oil, as shown in the table "Fluids and lubricants". Mixing different types of brake fluids may damage the internal hydraulic components, thereby compromising braking efficiency. The brake fluid is of the mineral type, therefore avoid contact with skin. Carefully read the instructions provided on the fluid container.

Do not spill the brake fluid on the tractor as this will damage the paintwork.



MOIL13TR00641AA 1

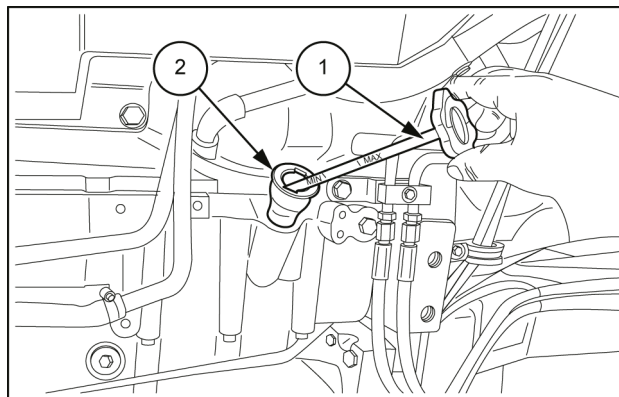
EVERY 10 HOURS OR EACH DAY

Engine oil level

1. Check the level with the engine on a flat surface with the engine switched off. Allow at least five minutes for the oil to settle in the sump:
 - Remove the dipstick (1), clean with a cloth and replace in the dipstick hole (2).
 - Remove the dipstick again and check that the oil level is between the "MIN" and "MAX" marks.
 - If necessary, top up with oil through the fill point (2) to the required level.

NOTE: The quantity of oil between the "MIN and MAX" marks on the dipstick is approximately 2 l (0.53 US gal).

NOTE: Never run the engine when the oil level is below the "MIN" mark.

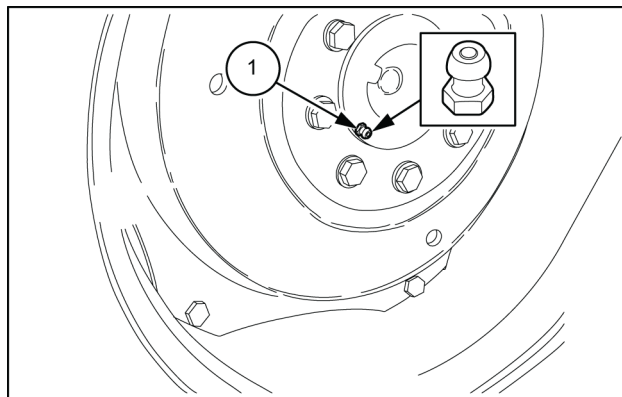


MOIL13TR00801AA 1

EVERY 50 HOURS

Rear wheel hub

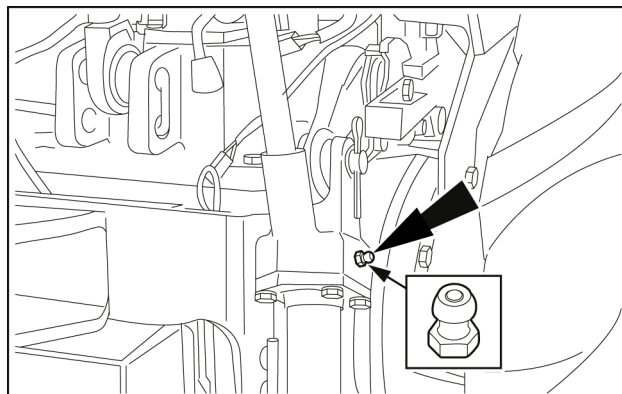
1. Check regularly that when **AMBRA GR9** grease is pumped in via lubricating nipple **(1)** (one on each side), grease escapes from the internal guard. To fill the grease chamber between the wheel hub and the reducer housing uniformly, the wheel must be turned. When working in particularly dusty or boggy environments, the operation must be carried out frequently to expel any dust or water that has entered.



MOIL13TR00643AA 1

Lift and linkage

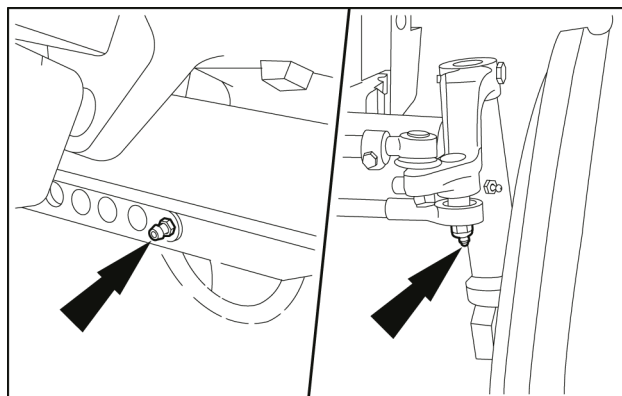
1. Using a grease gun, pump **NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE** grease into the lubrication fitting shown.



MOIL13TR00809AA 1

2WD steering cylinder

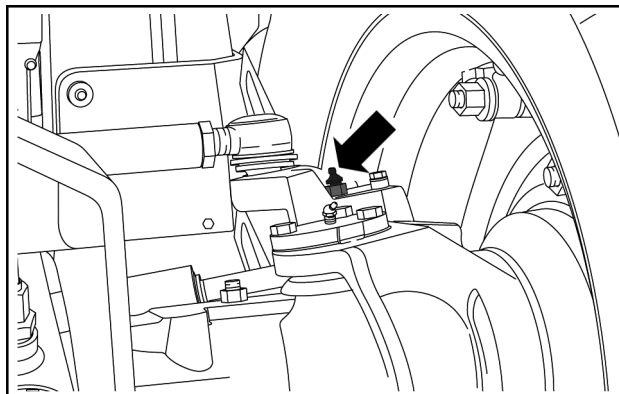
1. Using a grease gun, pump **NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE** grease into the lubricating nipples shown.



MOIL13TR00808AA 1

4WD steering cylinders

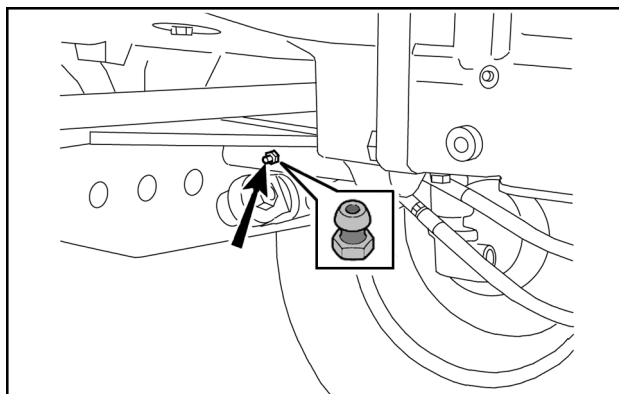
1. Using a grease gun, pump **NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE** grease into the grease fittings shown (one on each side).



DCSPFNEGB026S7A 1

2WD front axle pivot

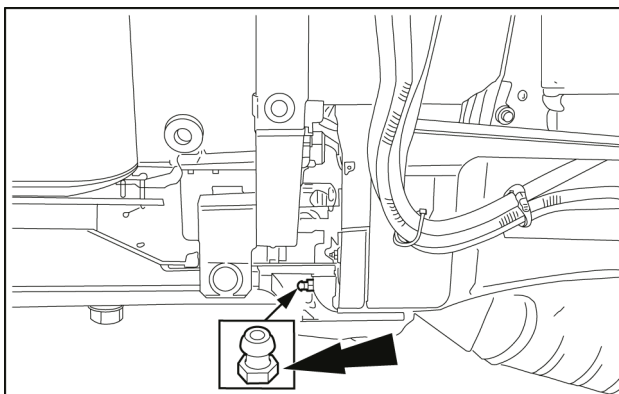
1. Using a grease gun, pump **NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE** grease into the lubricating nipples shown.



DCSPFNEGB069S4A 1

4WD front axle pivot

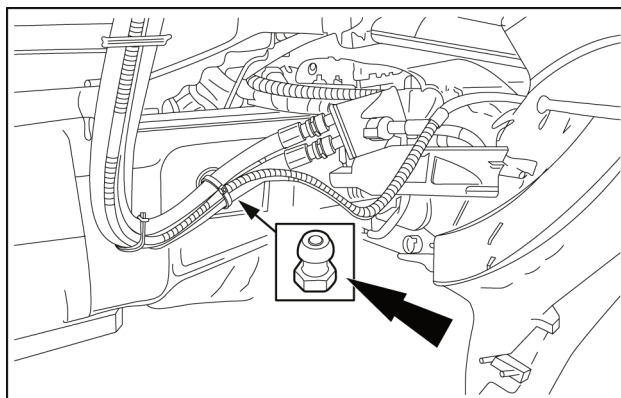
1. Using a grease gun, pump **NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE** grease into the lubricating nipples shown.



MOIL13TR00804AA 1

4WD transmission shaft

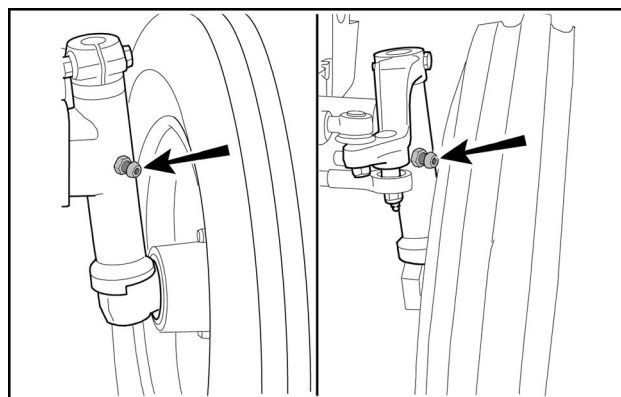
1. Using a grease gun, pump **NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE** grease into the lubricating nipples shown.



MOIL13TR00806AA 1

2WD right and left-hand stub axle

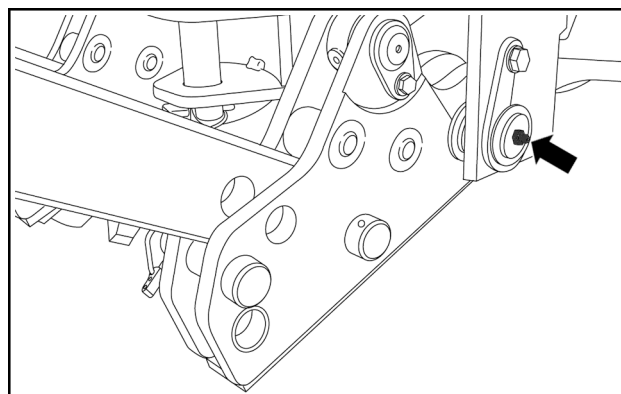
1. Using a grease gun, pump **NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE** grease into the lubricating nipples shown.



DCSPFNEGB070S4A 1

Front lift arms shaft

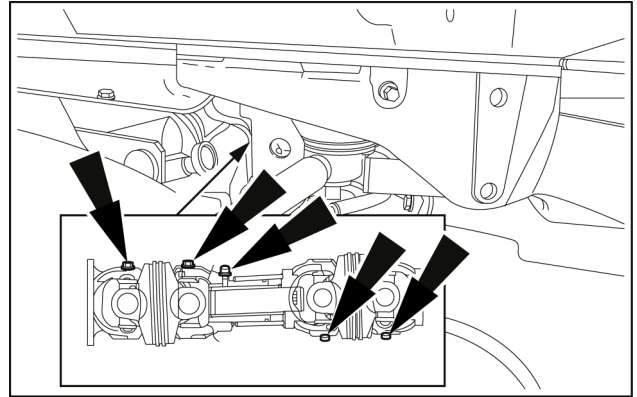
1. Using a grease gun, pump **NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE** grease into the grease fitting shown.



DCSPFNEGB027S7A 1

Front PTO coupling

1. Using a grease gun, pump **NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE** grease into the five lubricating nipples shown, located in front of the radiator.

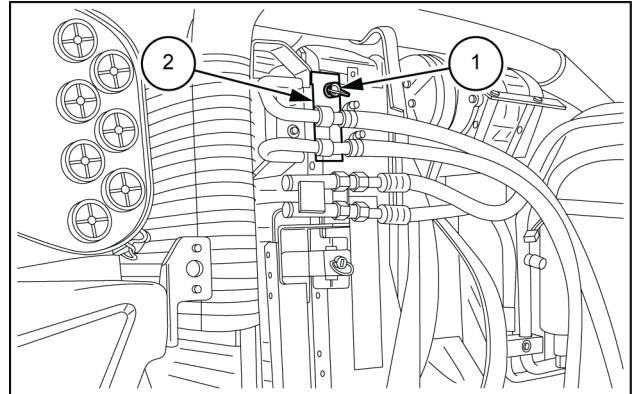


MOIL13TR00815AA 1

EVERY 100 HOURS

Transmission oil cooler

1. Check no dirt has accumulated on the fins and that they are not obstructed. If cleaning is necessary, release the catch (1), take out the cooler (2), and clean it as follows: Remove the protective mesh on the cooler and direct the jet of air or water through each fin, from the back to the front. Carefully straighten any bent fins.

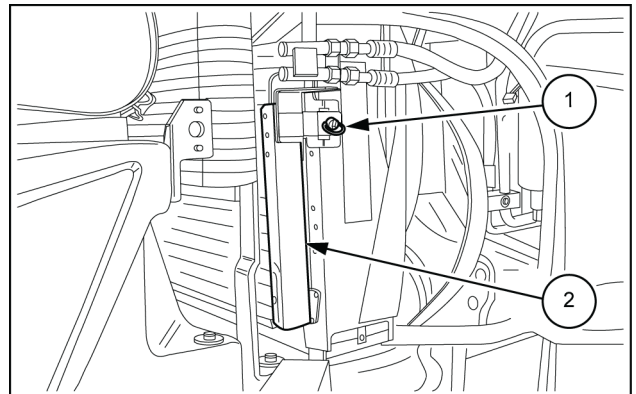


MOIL13TR00651AA 1

Air conditioning condenser

1. Free the catch (1), extract the condenser (2) of the air-conditioning system from its housing. Remove the protective mesh and clean it of any dirt that accumulates between the cooling fins. Check that the fins are not deformed then restore proper working conditions.

NOTE: If you notice any operating trouble with the air-conditioning system, have the drier filter housed under the cab roof checked by your dealer's specialized personnel.

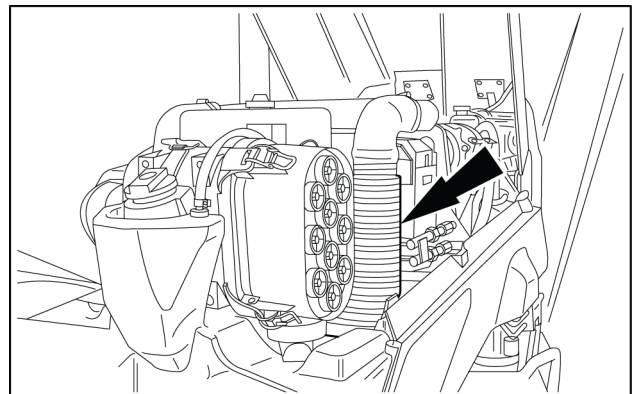


MOIL13TR00652AA 1

Intercooler

1. Remove the air-conditioning system condenser from its housing shown in figure. Clean the intercooler with a jet of air or water from the back towards the front.

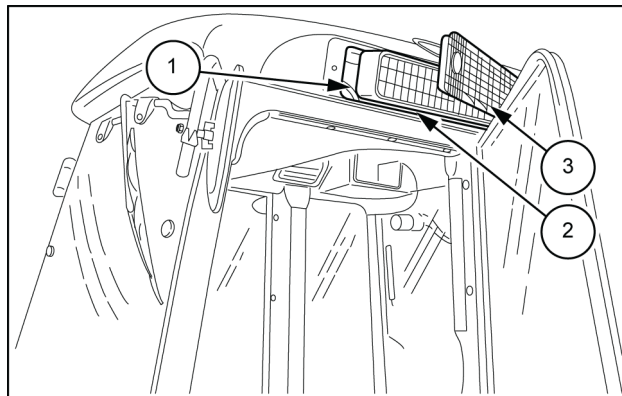
NOTICE: If using a pressure washer to wash the components, take care not to direct the jet of water onto the cover of the engine air filter.



MOIL13TR00653AA 1

Cab air filter

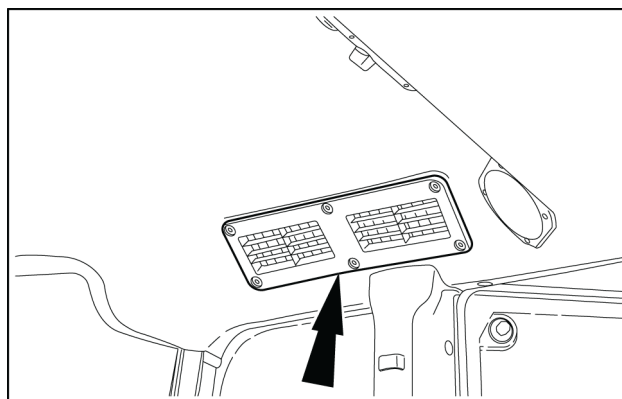
1. Open the wire mesh guards **(3)**, extract the cartridges **(2)** and clean them:
by tapping gently on a flat surface with the outward-facing part downwards;
or
with a jet of compressed air at a pressure of less than **6.9 bar (100 psi)** 100.05 psi (6.9 bar);
Clean the filter seats **(1)** with a cloth. When refitting, make sure the arrows on the cartridge labels are pointing towards the inside of the cab.



MOIL13TR00654AA 1

Cab recirculated air filter

1. Remove the grilles on either side of the cab and clean the recirculated air cartridges located in the housings.



MOIL13TR00655AA 1

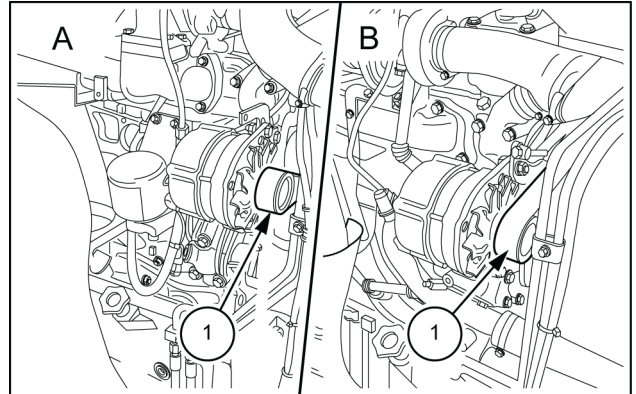
EVERY 300 HOURS

Alternator belt

Contact your dealer's specialized personnel and have the tension of the alternator belt **(1)** checked. Check that the belt is not cracked and shows no signs of rubbing; fit a new belt if there is any doubt. Ensure that the belt is correctly located on the pulleys and that the belt tensioner is operating correctly.

A. **T4.75F - T4.85F**

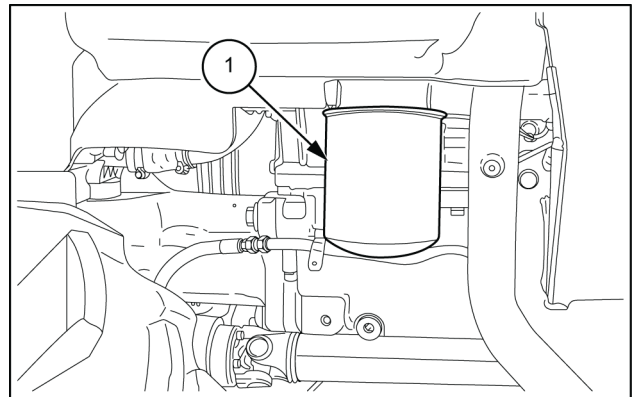
B. **T4.95F - T4.105F**



MOIL13TR00656AA 1

Transmission oil filter

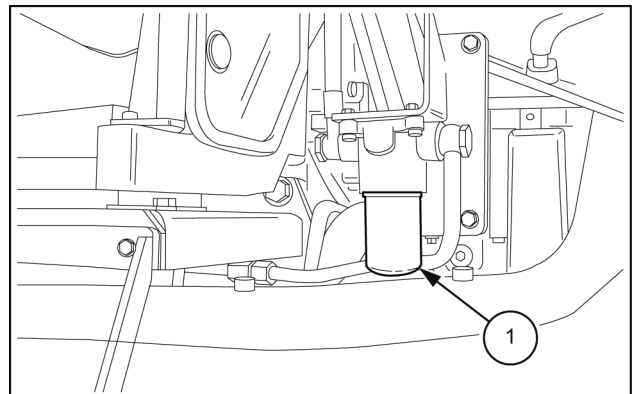
1. Unscrew the container **(1)** and replace the internal filter. Before re-positioning the container, oil the seals and screw on by hand for 3/4 of a turn. Top up with new oil.



MOIL13TR00658AA 1

Oil filter models with power shuttle/dual command

1. Replace the filter **(1)** located on the right-hand side of the tractor. Oil the seal, screw on and tighten the cartridge 3/4 of a turn by hand. Top up the oil level, without using old oil.

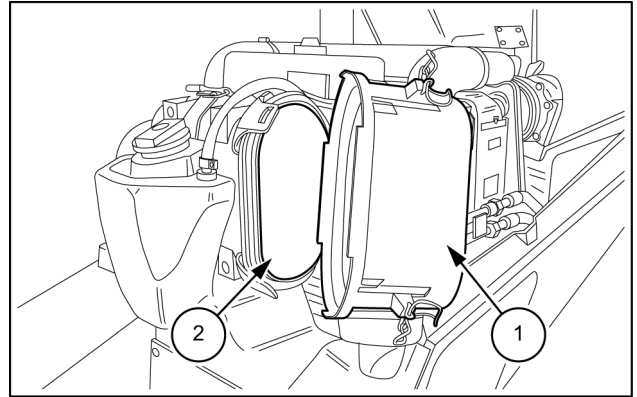


MOIL13TR00825AA 1

Engine air filters

1. Remove the cover (1), extract the external cartridge (2) and clean (see operation described on 7-19).

NOTICE: The internal safety cartridge must never be cleaned or removed when cleaning the external cartridge, but it must be changed every three times the external cartridge (2) is cleaned.

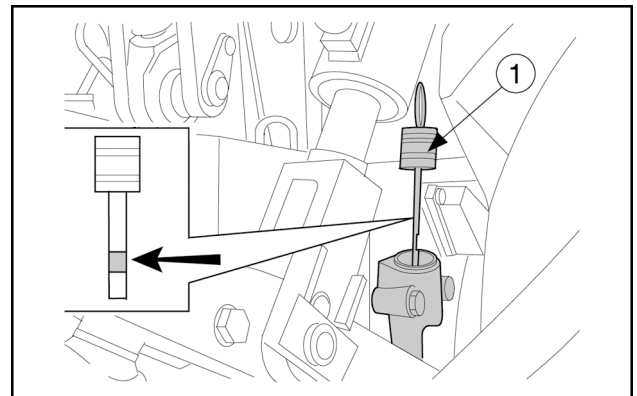


MOIL13TR00637AA 1

Transmission oil level

1. With the tractor on a level surface, the engine switched off and the lift arms lowered, check that the oil level reaches the upper mark on the dipstick (1). If necessary, top up with oil through the dipstick hole. (for quantity and type see "Refuelling table" in this section)

NOTE: If the tractor is fitted with a front lift, make sure that the lift arms are lowered before checking the transmission oil.

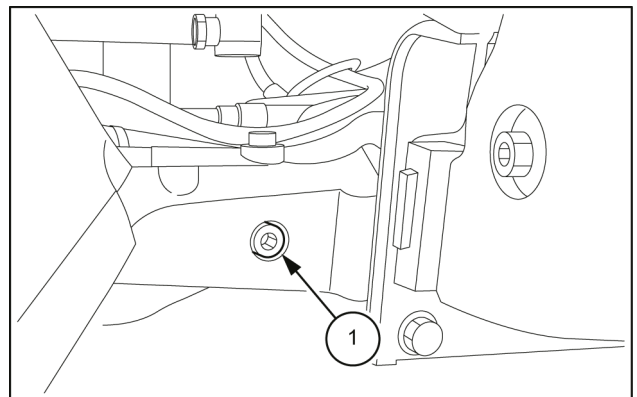


DCSPFNEGB071S4A 1

4WD front axle housing

1. Check the oil level as follows:
 - Park the tractor on a level surface.
 - Remove the plug (1), the oil will flow out of the plug hole.
 - If necessary, top up via plug hole (1) until oil escapes.

NOTICE: for quantity and type see "Refuelling table" in this section.

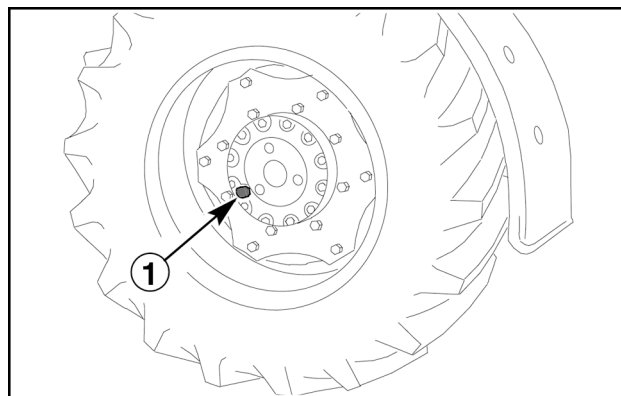


MOIL13TR00828AA 1

4WD front axle final drives

1. Bring the plug (1) to a horizontal position and check the oil level. If oil does not come out of the plug, top up through the plug hole.

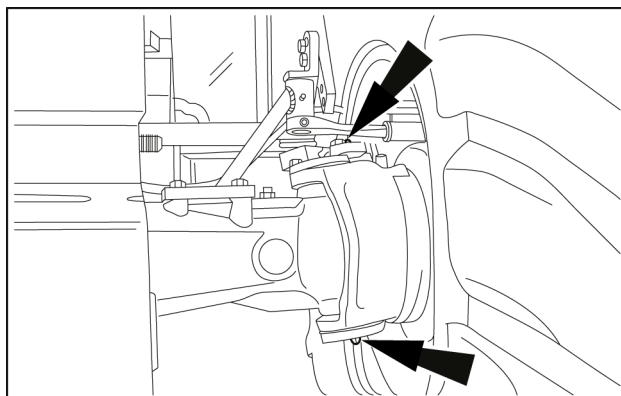
NOTICE: for quantity and type see "Refuelling table" in this section.



DCSPFNEGB072S4A 1

4WD front axles stub

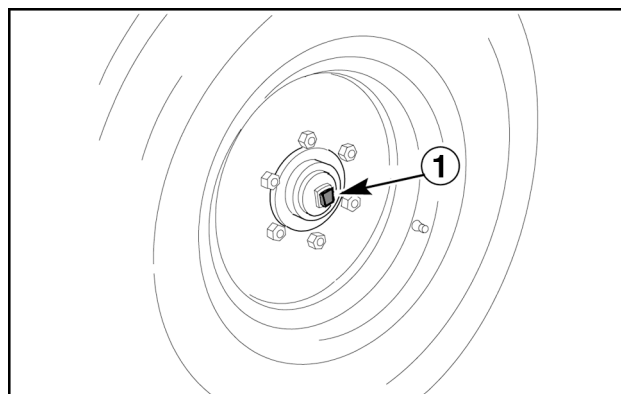
1. Inject **NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE** in the two nipples shown (two on each side).



MOIL13TR00830AA 1

2WD front wheels

1. Remove the hub covers (1) and fill with **NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE**, then replace the covers.



DCSPFNEGB073S4A 1

EVERY 500 HOURS

Engine oil and filter

T4.75F — T4.85F

NOTE: This operation describes the process of draining oil from the engine sump and changing the relevant oil filter. The frequency of 500 hours can anyhow be affected by other factors:

Cold temperature operation

Engines operating in temperatures below **-12 °C (10.4 °F)** or in arduous conditions should have the oil changed every **300** hours of operation. The filter must be changed regularly as prescribed.

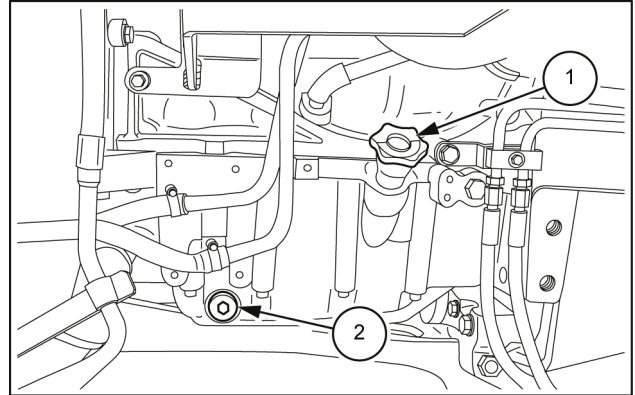
Diesel fuel sulphur content

In some countries, locally available diesel may have a high sulphur content, in which case the oil and filter should be changed sooner, as follows:

Sulphur content between **0,5 - 1,0 %** change oil every **300** hours;

Sulphur content between **1,0 - 1,3 %** change oil every **150** hours;

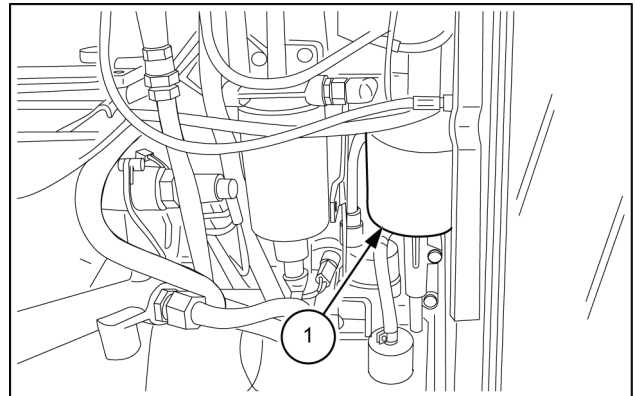
If in doubt, or if it is not possible to check the instructions given, keep to the interval recommended in the Operator's Manual.



MOIL13TR00833AA 1

Drain oil and renew filter

- place a container under the engine sump;
- remove the drain plugs **(2)** figure 1 from the sump (one on each side) and drain off the oil;
- screw the plugs back on;
- unscrew the filter **(1)** figure 2, drain it of the remaining oil and discard it as required by the current regulations in your country;
- clean the surface of the filter seat;
- lightly oil the seal of the new filter, screw it down into contact with the support and tighten it by hand by 3/4 of a turn, or a full turn at most;
- fill up with new oil through the fill point **(1)** figure 1
- start the engine, leave it idling for at least 3 minutes; switch it off and check that the oil level is between the MIN and MAX marks on the dipstick. If necessary, top up with oil.



MOIL13TR00666AA 2

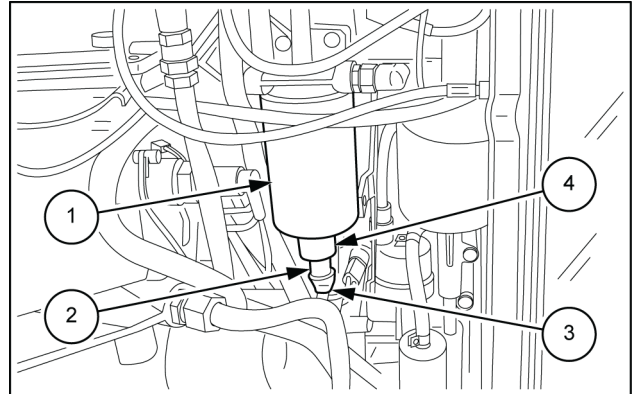
Fuel filter

T4.75F — T4.85F

NOTICE: Before loosening or removing any components of the injection system carefully clean the area around the components involved in the maintenance work to prevent contaminating the system.

To change the filter, proceed as follows:

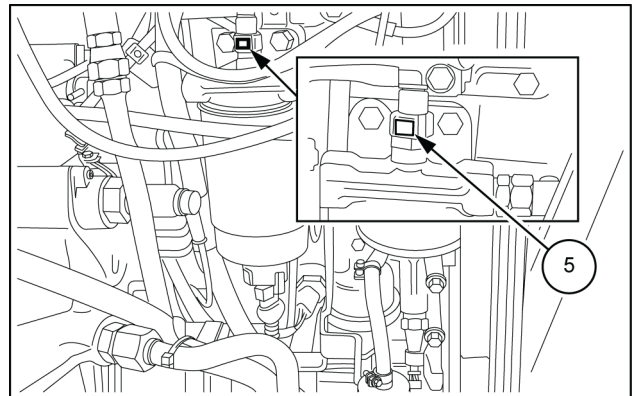
- Place a container under the filter (1);
- Remove the retaining pin (2) and disconnect the sensor (3);
- Unscrew the drain plug (4) at the base of the filter to drain off the fuel;
- remove the filter cartridge (1);
- lightly oil the seal, screw the new cartridge down into contact with the support and tighten it by hand by 3/4 of a turn (**15 N·m**);
- fit the sensor (3) back on and secure it with the retaining pin (2).



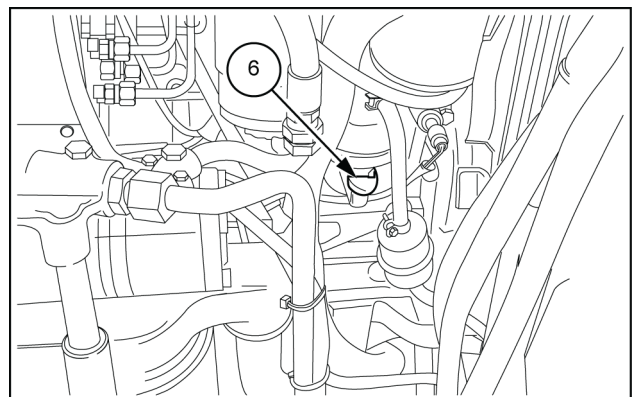
MOIL13TR00667AA 1

After changing the filter cartridge, it is necessary to bleed the fuel system as follows:

- press the two retaining buttons (5) (one is behind the union) and disconnect the pipe from the filter head;
- pump the primer lever (6) until the fuel coming out of the filter contains no air bubbles;
- refit the pipe by simply pushing it downwards to lock it on the head of the filter.



MOIL13TR00668AA 2



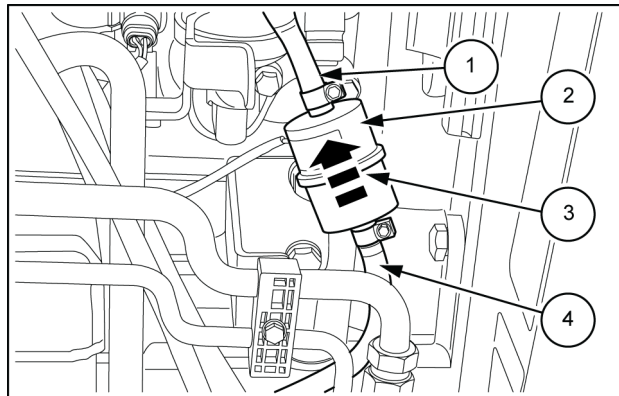
MOIL13TR00669AA 3

Fuel pre-filter

T4.75F — T4.85F

1. Check periodically to ensure that the filter container (2) is clean. If it needs cleaning, proceed as follows;
 - First detach pipe (4) from the fuel tank and then pipe (1);
 - remove the filter and blow compressed air in the opposite direction to the arrow (3) on the container in order to remove the material deposited inside.

NOTE: If after cleaning you notice that the filter is still dirty, then it needs replacing.



MOIL13TR00670AA 1

NOTICE: The arrow (3) on the transparent plastic container indicates the direction of the flow of diesel. When you fit the filter back on, first fill it with diesel and take care that the arrow (3) faces the direction of the fuel pump as illustrated. When you fit the pipes (1) and (4) back on make sure that the clamps are in contact with the filter so as to ensure correct tightening, which prevents air getting into the circuit

EVERY 600 HOURS

Engine oil and filter

T4.95F — T4.105F

NOTE: This operation describes the procedures for draining oil from the engine sump and changing the relevant oil filter. The frequency of 600 hours can anyhow be affected by other factors:

Cold temperature operation

Engines operating in temperatures below **-12 °C (10.4 °F)** or in arduous conditions should have the oil changed every **300** hours of operation. The filter must be changed regularly as prescribed.

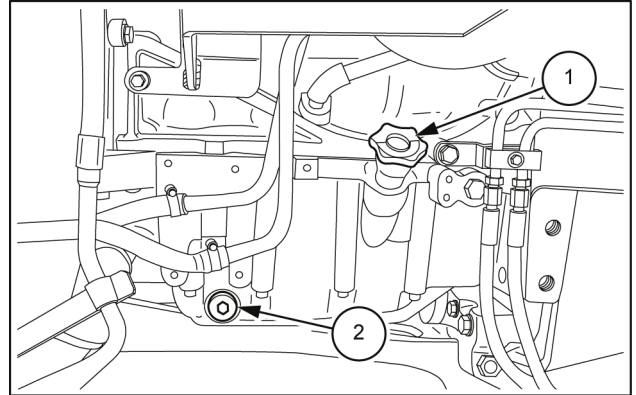
Diesel fuel sulphur content

In some countries, locally available diesel may have a high sulphur content, in which case the oil and filter change period should be adjusted, as follows:

sulphur content between **0,5 - 1,0 %**, change the engine oil every **300** hours;

sulphur content between **1,0 - 1,3 %**, change the engine oil every **150** hours;

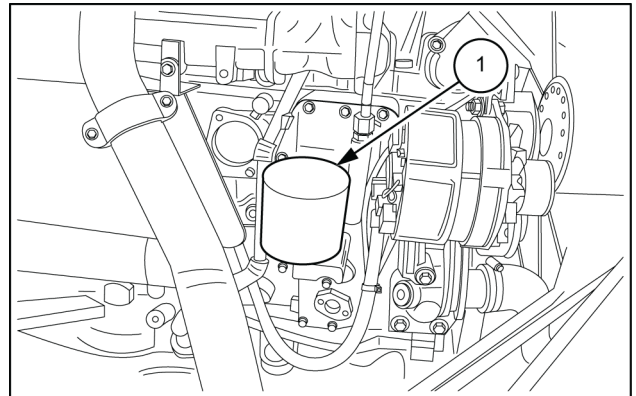
If in doubt, or if it is not possible to check these indications, keep to the frequency recommended in the use and maintenance manual.



MOIL13TR00833AA 1

Drain oil and renew filter

- place a container under the engine sump;
- remove the drain plugs **(2)**, figure **1**, from the sump (one on each side) and drain off the oil;
- screw the plugs back on;
- unscrew the filter **(1)**, figure **2**, drain off the remaining oil and discard it as required by current regulations in your country;
- clean the surface of the filter seat;
- lightly oil the seal of the new filter, screw it down into contact with the support and tighten it by hand by 3/4 of a turn, or a full turn at most;
fill with fresh oil through the filler **(1)**, figure **1**
- start the engine, leave it idling for at least 3 minutes; switch it off and check that the oil level is between the MIN and MAX marks on the dipstick. If necessary, top up with oil.



MOIL13TR00672AA 2

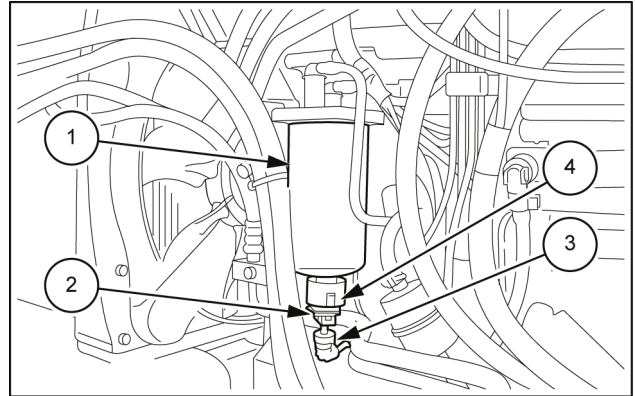
Fuel filter

T4.95F — T4.105F

NOTICE: Before loosening or removing parts of the injection system, thoroughly clean the area surrounding the components involved in the maintenance work in order to avoid contaminating the system.

To change the filter, proceed as follows:

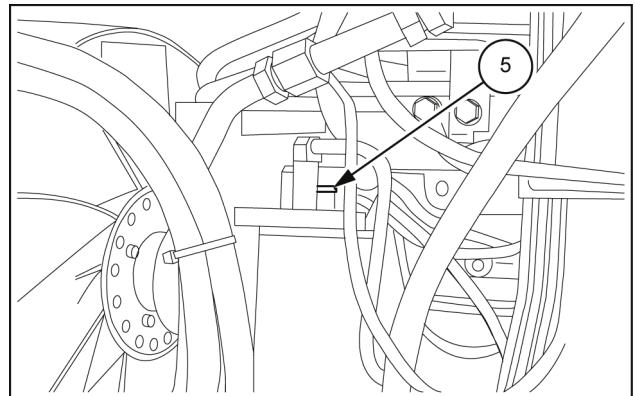
- Place a container under the filter **(1)**;
- Remove the retaining pin **(2)** and disconnect the sensor **(3)**;
- Unscrew the drain plug **(4)** at the base of the filter to drain off the fuel;
- remove the filter cartridge **(1)**;
- Lightly oil the seal, screw on the new cartridge into contact with the support and tighten it by hand by 3/4 of a turn (**15 N·m**);
- Fit the sensor **(3)** back on and secure it with the retaining pin **(2)**.



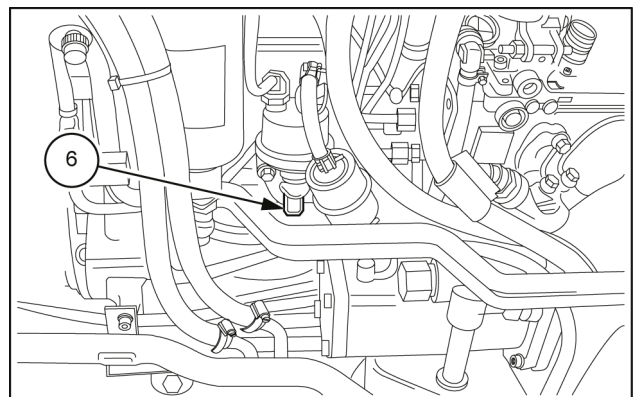
MOIL13TR00840AA 1

After changing the filter cartridge, it is necessary to bleed the fuel system as follows:

- press the two retaining buttons **(5)** (one is behind the fitting) and disconnect the pipe from the filter head;
- pump the primer lever **(6)** until the fuel coming out of the filter contains no air bubbles;
- reconnect the pipe by simply pressing it downwards to lock it in position on the head of the filter.



MOIL13TR00842AA 2



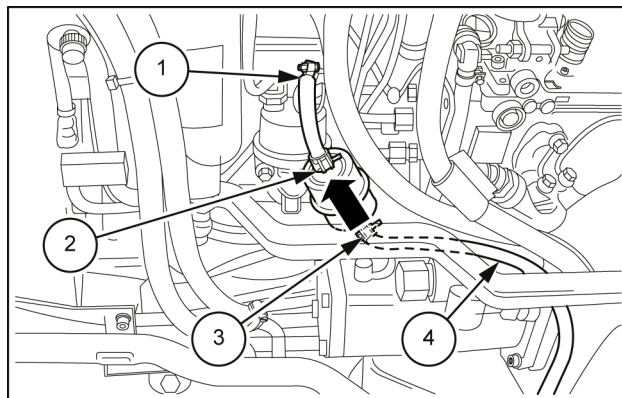
MOIL13TR00845AA 3

Fuel pre-filter

T4.95F — T4.105F

1. Check periodically to ensure that the filter container (2) is clean. If it needs cleaning, proceed as follows;
 - first detach the pipe (4) from the fuel tank, then the pipe (1);
 - remove the filter and blow compressed air in the opposite direction to the arrow (3) on the container in order to remove the material deposited inside.

NOTE: If after cleaning you notice that the filter is still dirty, then it needs replacing.



MOIL13TR00847AA 1

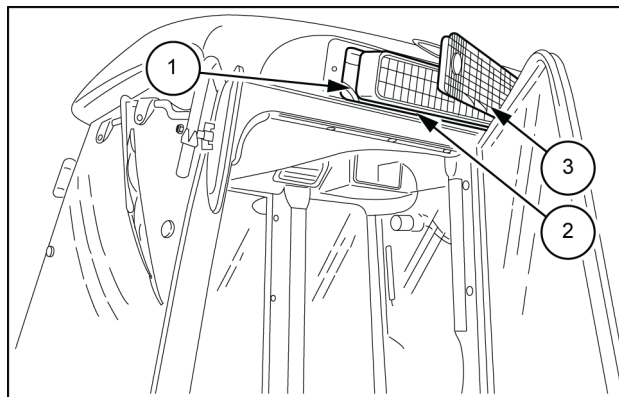
NOTICE: The arrow (3) on the transparent plastic container indicates the direction of the flow of diesel. When you fit the filter back on, first fill it with diesel and take care that the arrow (3) faces the direction of the fuel pump as illustrated. When you fit the pipes (1) and (4) back on, make sure that the clamps are in contact with the filter so as to ensure correct tightening, which prevents air getting into the circuit

EVERY 1200 HOURS OR ANNUALLY

Cab air filters

1. Remove the grilles (3), one on each side, and replace the internal cartridges (2). Before fitting new cartridges, clean the seats (1) with a damp cloth.

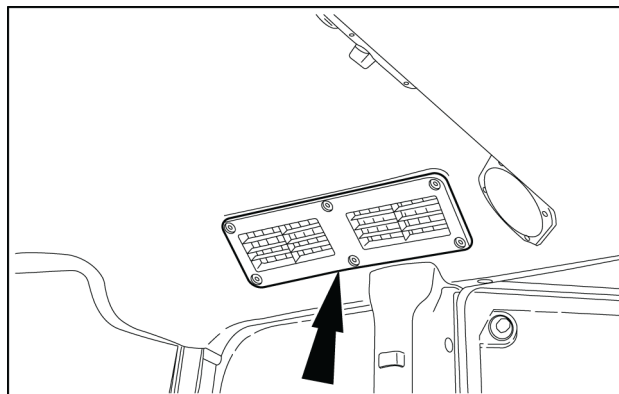
NOTE: In this phase it is necessary to replace the active carbon filters too.



MOIL13TR00654AA 1

Cab recirculated air filter

1. Remove the grilles on either side of the cab and clean the recirculated air cartridges located in the housings.

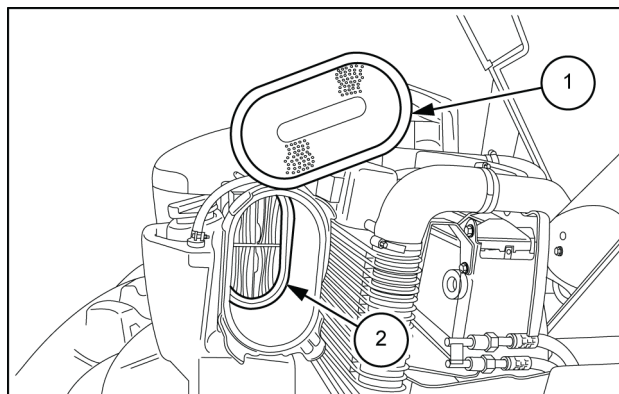


MOIL13TR00655AA 1

Engine air filters

1. Replace the external filter (1), together with the internal filter (2).

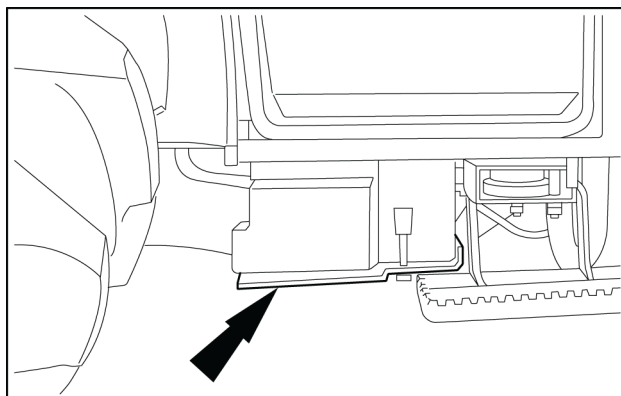
NOTE: Never clean the internal safety cartridge. Replace together with the external cartridge.



MOIL13TR00677AA 1

Fuel tank

1. With the tractor on a level surface and the engine off, drain the fuel as described below:
 - place a container under the tank;
 - remove the plug and drain the fuel to eliminate any impurities in the tank.
 - Refill the tank with clean fuel and bleed the system, as described on **7-33**



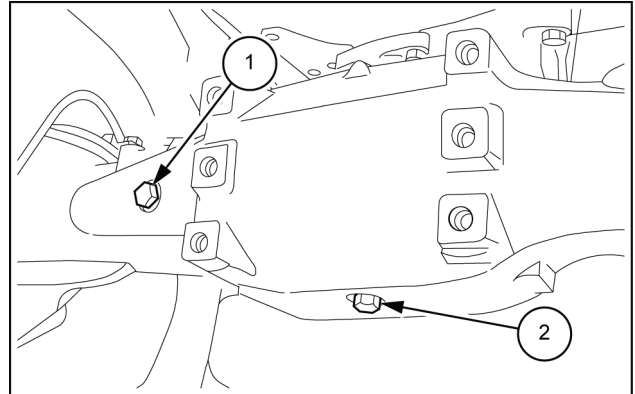
MOIL13TR00678AA 1

EVERY 1200 HOURS OR EVERY 2 YEARS

4WD front axle housing

1. Place a container under the axle housing, unscrew the screw (2), and let all of the oil drain out. Fill up with new oil through the plug (1).

NOTICE: for quantity and type see "Refuelling table" in this section.

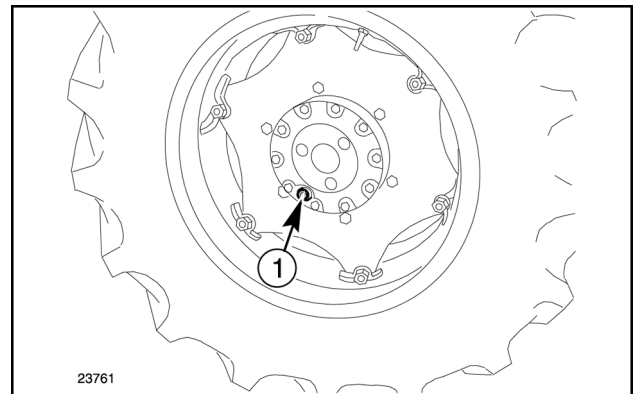


MOIL13TR00982AA 1

Draining the oil from the front axle final drives

2. Position plug (1) to its lowest point, place a container under the plug hole and drain the oil. Return the plug hole to a horizontal position and fill with new oil. The oil reservoir is full when oil starts to come out of the hole.

NOTICE: for quantity and type see "Refuelling table" in this section.

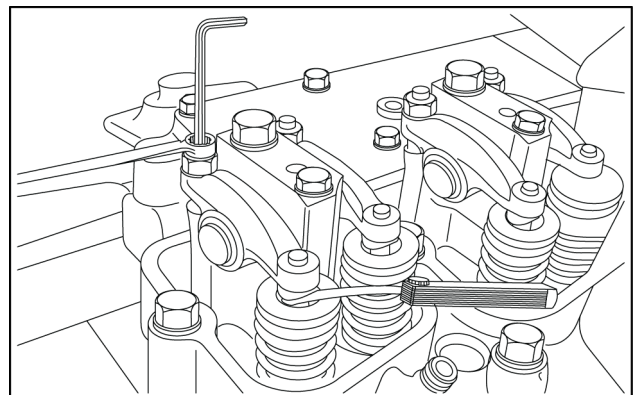


23761

DCUTDNEGB084S4A 2

Engine valves

1. Contact authorised personnel at your local dealer to check the clearance between the valves and the rocker arms.

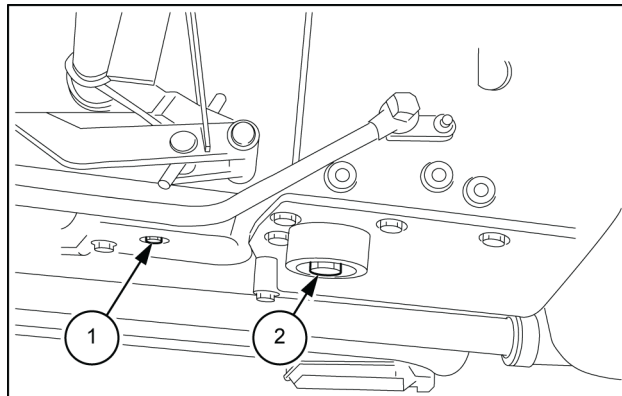


MOIL13TR00681AA 1

Change transmission oil

Transmission housing

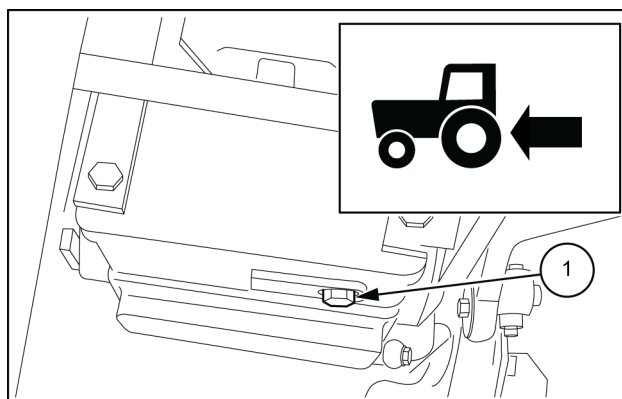
1. Place a container under the plug holes **(1)** and **(2)** and drain off the oil.



MOIL13TR00682AA 1

Lift torsion bar

2. Place a container under the drive gear housing and drain off the oil through the plug hole **(1)**.

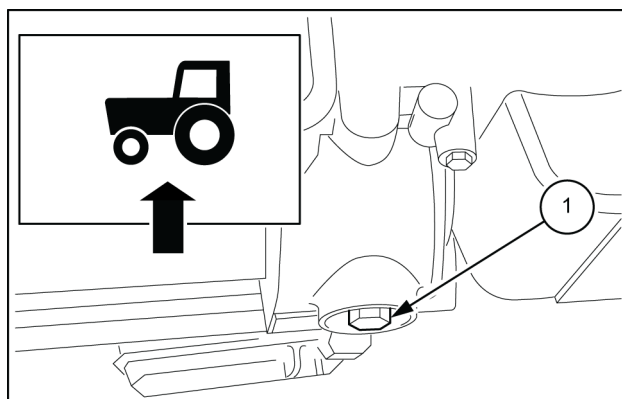


MOIL13TR00683AA 2

Drive gear, 4-wheel drive

3. Place a container under the drive gear housing and drain off the oil through the plug hole **(1)**. After the oil has drained off, screw on the plugs and fill up with new oil through the dipstick hole.

NOTE: Replace the filter every time transmission and lift oil is changed.



MOIL13TR00684AA 3

Washing cooling system

⚠ CAUTION

Burn hazard!

Hot coolant can spray out if you remove the filler cap while the system is hot. After the system has cooled, turn the filler cap to the first notch and wait for all pressure to release before proceeding. Failure to comply could result in minor or moderate injury.

C0043A

⚠ WARNING

Chemical hazard!

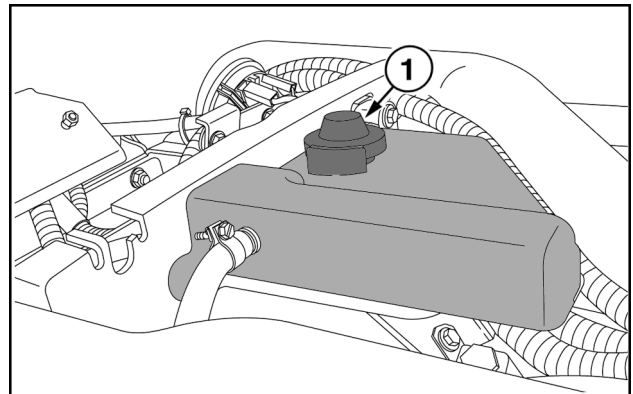
Coolant can be toxic. Keep away from children and pets. Avoid prolonged contact. If not reused, dispose of in accordance with local environmental regulations. Failure to comply could result in death or serious injury.

W0295A

The system uses a mixture of water and **FLEETGUARD® COMPLEAT™** antifreeze fluid. This liquid has anti-oxidant, anti-corrosive, anti-foaming and anti-crusting properties; it is also non-freezing to temperatures of

Degrees	-8 °C (17.6 °F)	-15 °C (5.0 °F)	-25 °C (-13.0 °F)	-30 °C (-22.0 °F)
% by volume of liquid	20	30	40	50

1. Filling the circuit when you buy the tractor will guarantee the system against minimum temperatures above those shown on the plate attached to the hood. This mixture can be kept unchanged for a period of 2 years provided that during this time the tractor has not been used for more than 1200 hours, in total, in which case it must be replaced when the system is flushed. In an emergency situation, in the event of unexpected leaks, fill up the system with water through the radiator fitting (1). After filling, run the engine for a short period to let the two fluids mix thoroughly.



DCSPFNEGB025S7A 1

Flushing the system (models without cab)

2. **⚠ WARNING**

Hot surface possible!
Wait for all components to cool before performing any operation.
Failure to comply could result in death or serious injury.

W0251A

Flush at least every 1200 hours of work or every 2 years and whenever switching from or to the anti-freeze mixture.

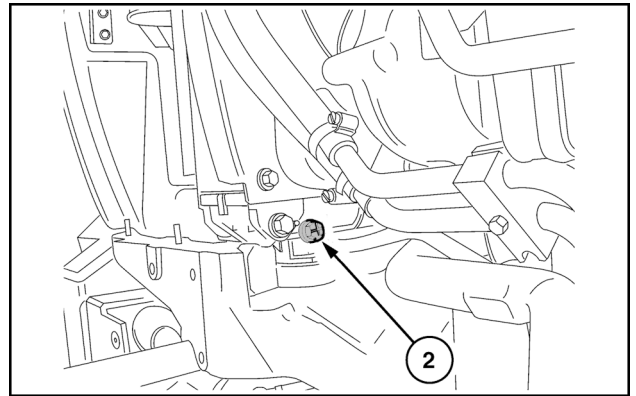
Proceed as follows:

- Remove the expansion tank cap (1) fig. 1, then remove the radiator hose (1) fig. 2 and drain off the fluid while the engine is cold;
- Put the radiator cap back on and fill the radiator with a filtered solution of Solvay soda and water at a ratio of **250 g (8.8 oz)** of soda to every **10 l (2.2 UK gal) 2.70 US gal** of water;
- Run the tractor for about an hour. Wait for the engine to be cold, then drain the cleaning solution from the radiator plug (2);
- then run pure water through it by pouring it into the radiator and leaving it to drain through the radiator plug (2) fig. 2;
- Replace the radiator plug, fill with water, run the engine for a few minutes and drain the system;
- Leave the engine to cool, then fill the radiator with a mixture of water and **FLEETGUARD® COMPLEAT™** fluid, and close the radiator cap.

ATTENTION: The engine must be switched off when draining the water.

Thermostat

3. 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 (approx. **85 °C (185.0 °F)**). If doubts arise concerning thermostat operation, remove the part and have it checked by skilled personnel.



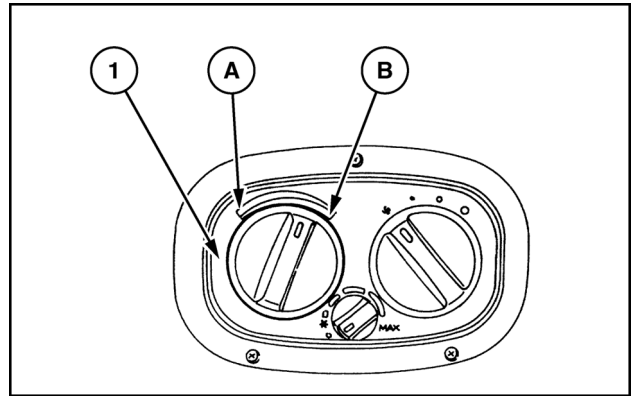
DCSPVNEGB060S7A 2

Flushing the system (models with cab)

4. The heating system uses fluid from the engine cooling system drawn off between the engine and the radiator. Flush the system as described for models without a cab, bearing in mind that the system can be completely drained by turning temperature adjustment control **(1)**, fig. 3, to position **(A)**.

Fill the engine cooling system and cab heating system as follows:

- fill the radiator with a mixture of water and **FLEETGUARD® COMPLEAT™** antifreeze fluid and screw on the radiator cap;
- close the heater cock (knob **(1)** in position **(A)**), start the engine and leave it running at a medium speed for approx. **5 - 10 min** (this operation is necessary to preheat the liquid in the engine cooling circuit;
- remove the upper radiator cap, open the heater cock (knob **(1)** on position **(B)**) and allow the engine to run at maximum speed for approximately five minutes;
- fill the radiator with the engine running at high revs until it is completely full, and fit the cap.



DCSPVNEGB061S7A 3

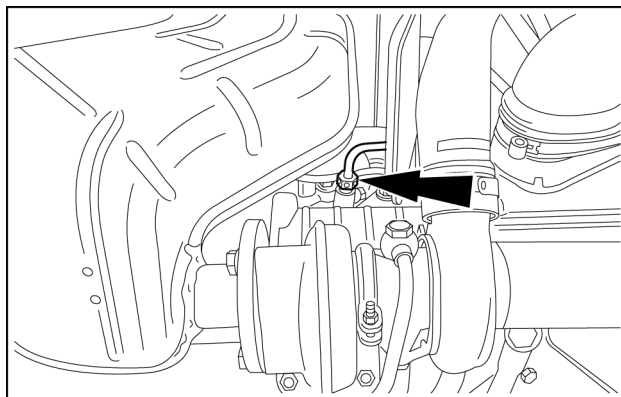
EVERY 1800 HOURS

Fuel injectors - Check

1. Have your local dealer check the pressure settings. To remove 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.

Cover all injector lines and apertures to prevent any dirt ingress.



MOIL13TR00688AA 1

ELECTRICAL SYSTEM

Battery

⚠ WARNING

Explosive gas!

Batteries emit explosive hydrogen gas and other fumes while charging. Ventilate the charging area. Keep the battery away from sparks, open flames, and other ignition sources. Never charge a frozen battery.

Failure to comply could result in death or serious injury.

W0005A

⚠ WARNING

Hazardous chemicals!

Battery electrolyte contains sulfuric acid. Contact with skin and eyes could result in severe irritation and burns. Always wear splash-proof goggles and protective clothing (gloves and aprons). Wash hands after handling.

Failure to comply could result in death or serious injury.

W0006A

⚠ WARNING

Battery gas can explode!

To prevent an explosion: 1. Always disconnect the negative (-) battery cable first. 2. Always connect the negative (-) battery cable last. 3. Do not short circuit the battery posts with metal objects. 4. Do not weld, grind, or smoke near a battery.

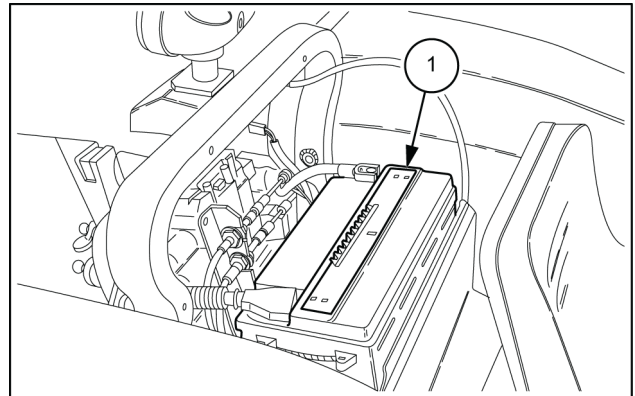
Failure to comply could result in death or serious injury.

W0011A

The tractors are fitted with maintenance-free batteries. Keep the top part clean and dry. Check that the fluid level reaches the top mark and never drops under the bottom mark. If necessary lift covers (1) and add ONLY distilled water.

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.



MOIL13TR00689AA 1

Voltage	Charge level
12,66 V	100 %
12,45 V	75 %
12,30 V	50 %
12,00 V	25 %

If the voltage is around **12,30 V**, immediately recharge the battery with a current equivalent to **1/10** of the capacity in **Ah** (a **50 Ah** battery is to be charged to **5 A**).

NOTICE: Always disconnect the cables before recharging the battery. The battery should be removed from its seat and recharged at a safe distance from the tractor.

NOTE: Never use rapid "boost" battery chargers to recharge the battery.

Never fill up the battery with SULPHURIC ACID.

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

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 local dealer. The dealer will dispose of (or recycle) the batteries correctly. This procedure is requested by law in certain countries.

If an old battery needs to be replaced 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 seat, without over- tightening the retaining screws;
- clean the lead ends and connect 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 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 battery to the tractor battery ensuring that the terminals match (positive to positive and negative to negative).

This rule must also be observed when recharging the battery externally.

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 jump start the tractor by towing, as the electro-magnetically operated injection pump cut-off device will prevent the engine from starting;
- it is possible to start the tractor with an auxiliary battery after having first disconnected plug **D+**, terminal **B+** and the condenser but to no avail given that the engine will stop as soon as the external battery supply to the electro-magnetic cut-off device is interrupted;
- avoid starting the engine with an auxiliary battery whilst plug **D+**, terminal **B+** and the condenser are connected to the alternator;
- however, it is necessary to connect a **12 V** battery, capable of starting the tractor, and then to replace it with the battery that is to be fitted on the tractor.
- Under normal conditions, the engine must never run without plug **D+**, terminal **B+** and the condenser disconnected from the alternator.

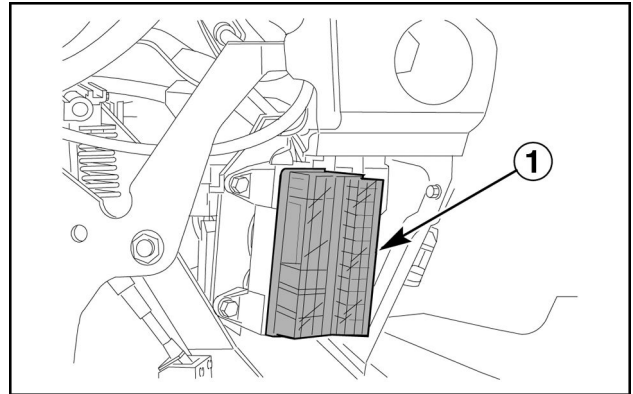
Fuses and relays

12-way fusebox and relays

1. On all models, the 12-way fuse box (1) is located on the left-hand side of the central console, beneath the steering wheel.

NOTE: When replacing a blown fuse, make sure that the new fuse has the same amp value.

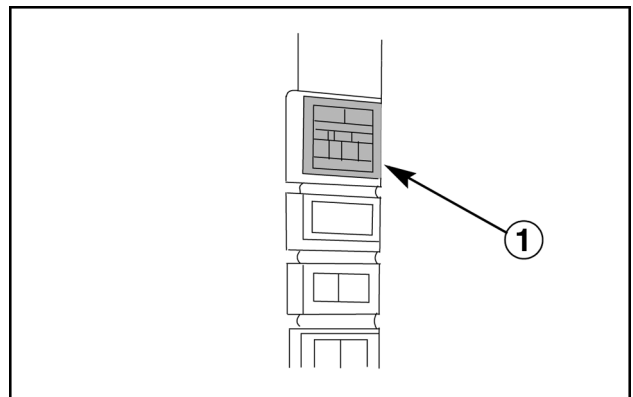
If electrical system relays need to be changed, check that correct spare parts are used and that they are fitted in the correct positions. The use of structurally or functionally different relays - even if interchangeable - could seriously compromise tractor control with dangerous results.



DCSPFNEGB075S4A 1

Six-way fusebox for cab circuit

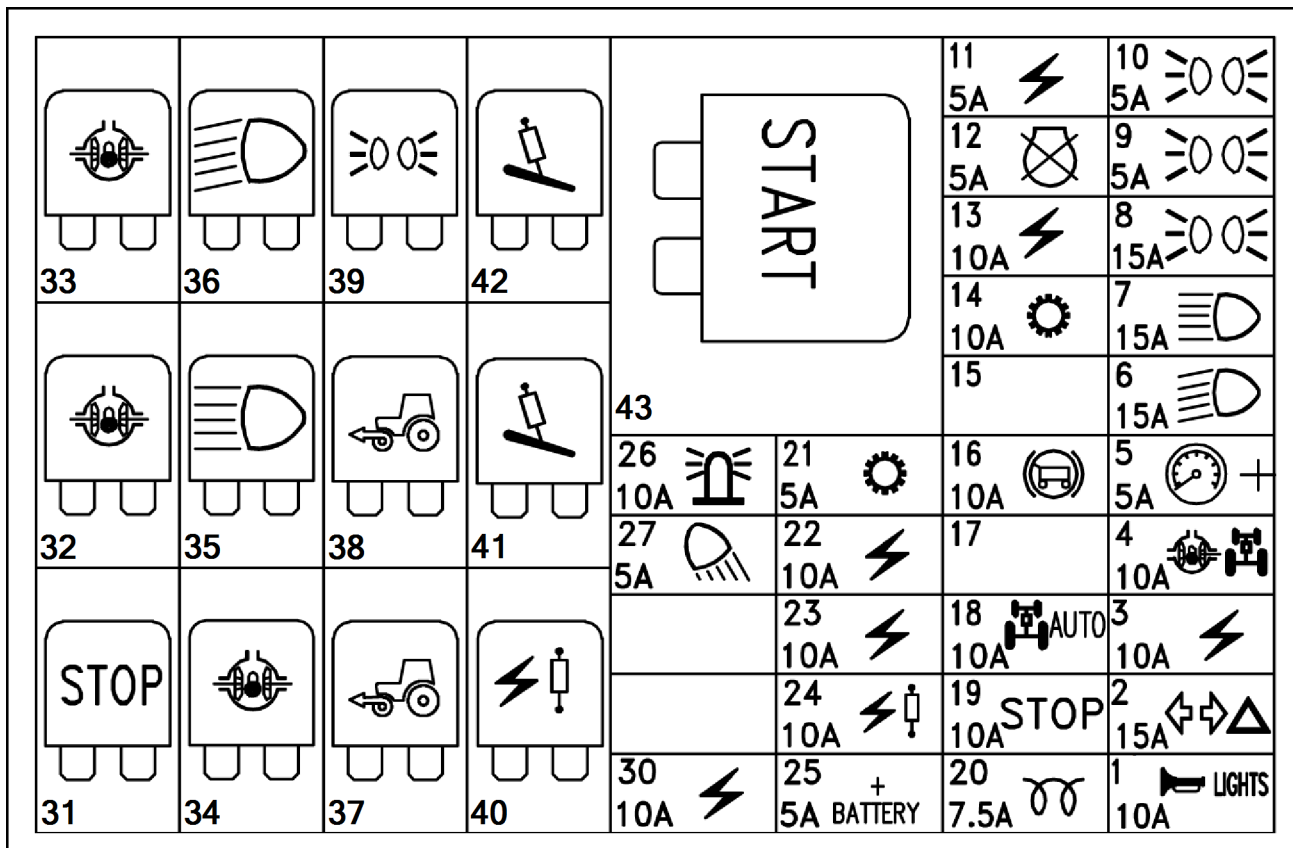
2. Together with the main fuse box shown in fig. 1, tractors with cabs are fitted with an additional 6 way fuse box (1), located on the right-hand upright.



DCSPFNEGB075S4A 2

Fuses and relays location

Model without cab



MOIL13TR00724FA 1

NOTICE: Depending on your version some components described below might not be present.

Fuses

Ref.	Fuse	Protected circuits
1	10 A	Horn, driving beam flashing
2	15 A	Turn and hazard lights.
3	10 A	8 A socket 8 A
4	10 A	Differential lock circuit, four-wheel drive circuit.
5	5 A	+ instrument cluster, electronic hydraulic lift switches and lamps
6	15 A	Dipped beam headlight circuit.
7	15 A	Full beam headlight circuit.
8	15 A	Circuit of position lights or work lights for 7-pole socket.
9	5 A	Front left-hand and rear right-hand position lights, instrument cluster light.
10	5 A	Front right-hand and rear left-hand position lights, position lights indicator circuit.
11	5 A	Engine starting safeties circuit.
12	5 A	Engine shutdown electromagnet.
13	10 A	Stabilizer lock circuit.
14	10 A	Power Shuttle circuit
15	-	Not used
16	10 A	Trailer brake and hydraulic adjustment circuit.
17	-	Position not used.
18	10 A	Permanent 4WD circuit
19	10 A	Brake lights circuit.
20	7.5 A	Grid heater unit circuit.
21	5 A	Power Shuttle lever
22	10 A	Circuit for second and third distributor.

Ref.	Fuse	Protected circuits
23	10 A	Circuit for right-hand tie rod control.
24	10 A	Ventral control valves
25	5 A	Battery cut-out circuit
26	10 A	Rotating beacon
27	5 A	Rear work lights circuit.
28	-	Position not used.
29	-	Position not used.
30	10 A	Power supply for keypad + key

Relay

Ref.	Protected circuits
31	Brake lights (STOP)
32	Differential lock circuit
33	Differential lock circuit
34	Differential lock circuit
35	Full beam headlight circuit
36	Dipped beam headlight circuit
37	4WD circuit
38	Steering switch
39	Position lights circuit
40	Ventral control valves
41	Third hydraulic distributor
42	Second hydraulic distributor
43	Engine starting circuit maxi-relay

NOTE: *If electrical system relays need to be changed, check that correct spare parts are used and that they are fitted in the correct positions. The use of structurally or functionally different relays - even if interchangeable - may seriously compromise tractor control with dangerous results.*

Ref.	Fuse	Protected circuits
23	10 A	Circuit for right-hand tie rod control.
24	25 A	Ventral control valves
25	5 A	Battery cut-out circuit
26	7.5 A	Ventral control valves
27	5 A	Ventral control valves
28	7.5 A	Ventral control valves
29	7.5 A	Ventral control valves
30	10 A	Power supply for keypad + key

Relay

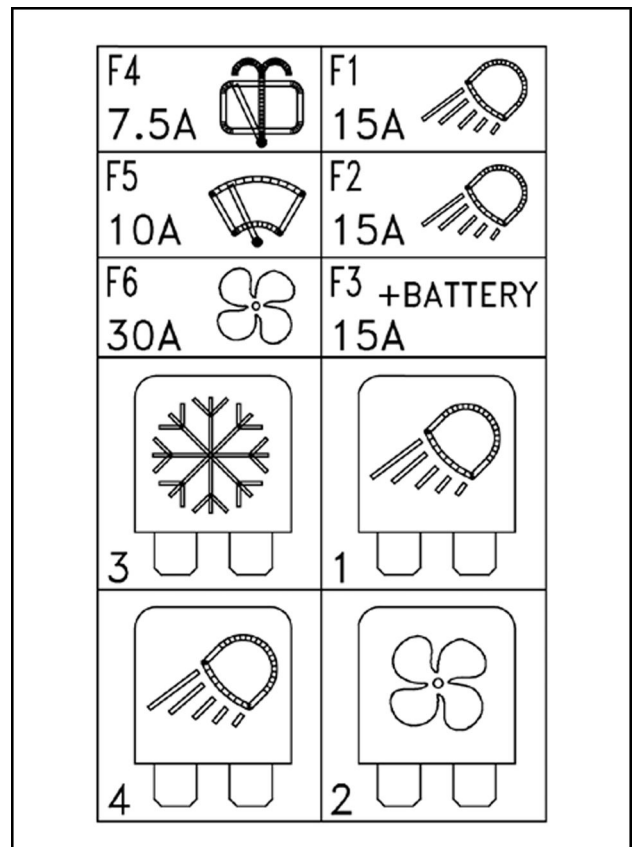
Ref.	Protected circuits
31	Brake lights (STOP)
32	Differential lock circuit
33	Differential lock circuit
34	Differential lock circuit
35	Full beam headlight circuit
36	Dipped beam headlight circuit
37	4WD circuit
38	Steering switch
39	Position lights circuit
40	Ventral control valves
41	Third hydraulic distributor
42	Second hydraulic distributor
43	Engine starting circuit maxi-relay

NOTE: *If electrical system relays need to be changed, check that correct spare parts are used and that they are fitted in the correct positions. The use of structurally or functionally different relays - even if interchangeable - may seriously compromise tractor control with dangerous results.*

Fuses and relays location Fuses and relays on cab right hand upright

Cab relays

1. Front lights circuit.
2. Conditioner fan circuit.
3. Compressor circuit.
4. Rear lights circuit.



DCSPVNEGB069S7B 1

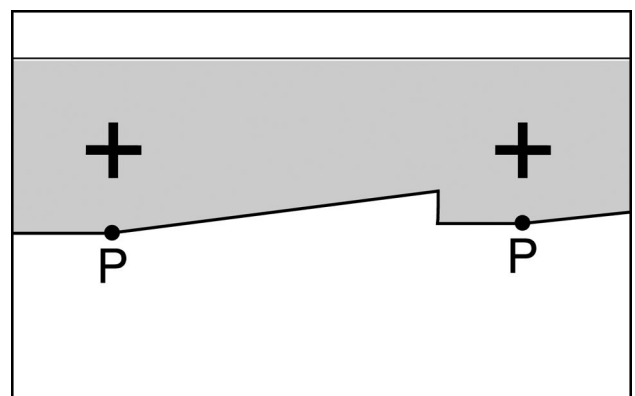
Fuses

Pos.	Fuse	Protected circuits
F1	15 A	Front work lights.
F2	15 A	Rear work lights.
F3	15 A	Rotating beacon, cigar lighter and interior light.
F4	5 A	Wiper -rear window.
F5	10 A	Front windscreen wiper.
F6	30 A	Fan and air conditioning circuit.

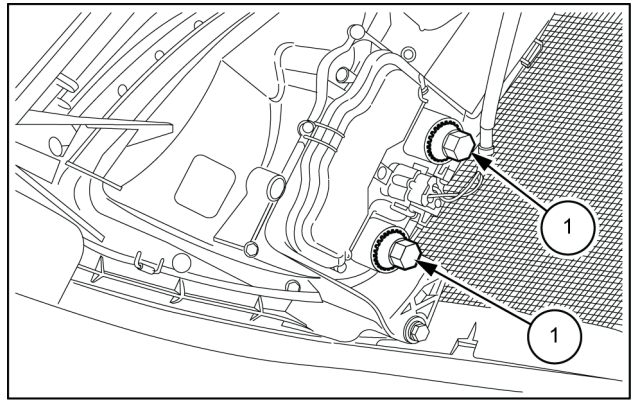
Headlight - Adjust

Adjust the front lights as follows:

- Park the unloaded tractor on flat ground, with the tyres inflated to the specified pressure, facing a shaded white wall;
- Mark two crosses on the wall, corresponding to the centre of the headlights, as shown in figure.
- reverse the tractor by approximately **5 m (16.4 ft)** metres and turn the beam full on;
- Points **P - P** should be **5 cm (2.0 in)** below the crosses.
- To adjust the beams, use the screws **(1)** figure 2 inside the bonnet.



DCAPLNEGB098S4A 1



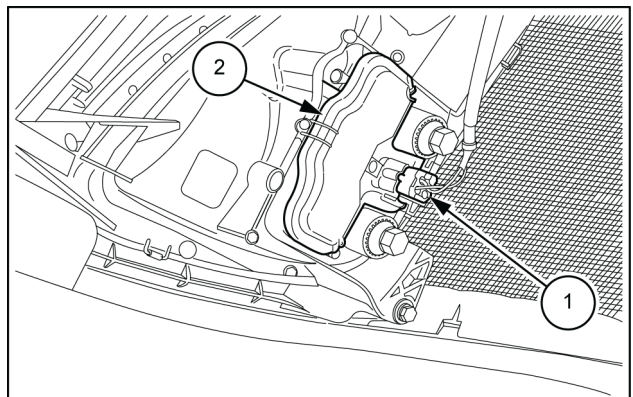
MOIL13TR00695AA 2

Headlight - Replace

NOTE: When handling halogen bulbs, only touch the metal parts, never the bulb. If the bulb comes into contact with your fingers, the intensity of the light emitted will be reduced, adversely affecting its service life. In the event of contact, clean the bulb with a cloth soaked in alcohol and leave to dry.

Full/dipped beam headlight bulbs:

1. Replace blown bulbs as follows:
 - Raise the bonnet;
 - Remove the fixing plugs (1);
 - Take off the guard (2);
 - Extract the light bulb and replace it with a new one of the same power.



MOIL13TR00696AA 1

STORAGE

Tractor storage

NOTE: Take the following precautions if your tractor is going to remain unused for a prolonged period.

Protect the engine as follows:

- For storage periods of approx. 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.
- For storage periods of over one month, drain the oil from the engine while hot, fill up the reservoir with oil (see "Topping-up" table on "Maintenance chapter") and run the engine for a few minutes at medium rpm.
- Remove the external air filter cartridge and clean according to the instructions provided on "Maintenance chapter".
- Do not drain off the engine cooling system. During winter periods, make sure that the proportions of the water/fluid, supplied with the tractor, are as specified (see "Topping-up" table on "Maintenance chapter"). To this end, follow the instructions on "Maintenance chapter"..
- Clean the tractor and the bodywork.
Protect the paintwork with silicone wax and use protective lubricants on non-painted metal parts; always keep the tractor in a covered, dry and well-ventilated place.
- Check that all controls are left in neutral (including electrical switches and the parking brake control).
- Do not leave the ignition key in the switch.
- Make sure that the operating cylinder rods (hydrostatic steering, lift, etc.) are closed up to protect them.
- Fill the fuel tank with diesel fuel.
- 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 **10 °C (50.0 °F)** and away from direct sunlight.
- Check the battery charge condition using a voltmeter, as described on "Maintenance chapter".
- 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.
- Cover the tractor with a non-plastic non-waterproof sheet.

NOTICE: When the engine is to be re-started at the end of the storage period, closely follow the instructions relating to starting the engine.

CALIBRATIONS

Dual command calibration

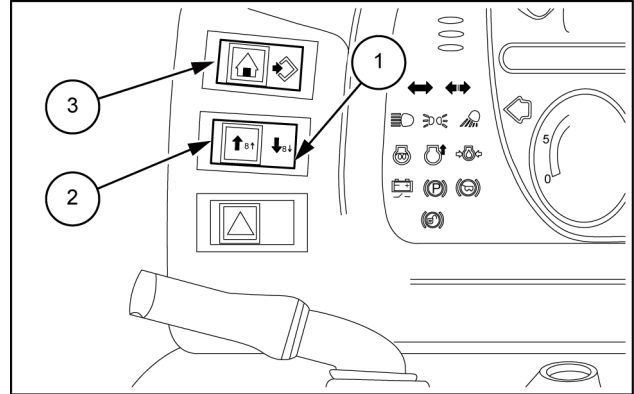
⚠ WARNING

Unexpected machine movement!

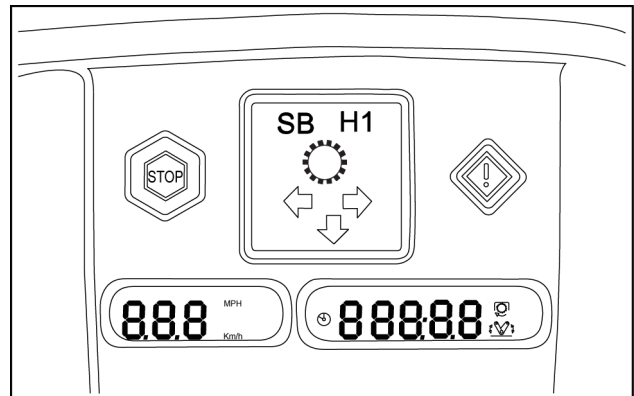
The machine could move automatically during calibration. Park on a flat surface, engage the parking brake, and be sure that the area around the machine is clear before starting the calibration process. Failure to comply could result in death or serious injury.

W0300A

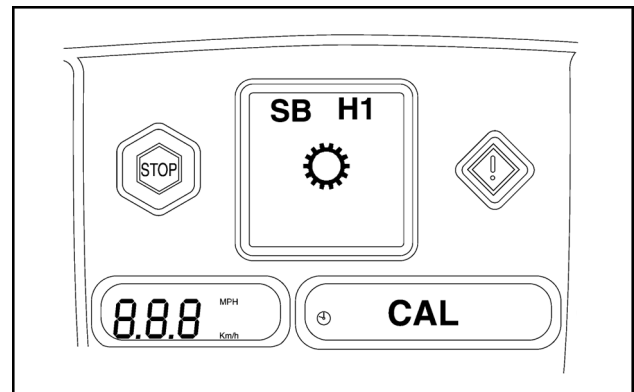
- Do the setting as described below.
During the setting procedure, if a four digit number starting with 2 is displayed, it is a standard error code. Before doing the calibration it is necessary to remedy the trouble.
To enter this mode press the service symbol on the switch (3) while starting up the engine. Scroll through the **HH** menu using the arrows (1) and (2) on the switch of fig. 1, to select code **SB** and menu **H1**, as in fig. 2. (Shortcut – press and hold switch (3) fig. 1 (Home) while starting the engine. Kick on release). “**CAL**” will briefly be displayed on the display at bottom right of the instrument cluster as in fig. 3, then the oil temperature (degrees Celsius) will be displayed (XXC or XXXC).
- Select 3rd range and 1st gear.
Turn off the air-conditioner, where applicable.
Set engine to **1300 RPM** +/- 100 and release the clutch pedal. Engine speed must be stable, with no noticeable hunting or surging. If necessary, change the throttle setting slightly to achieve a stable engine rpm.
- Check that the handbrake is on. Release the clutch pedal.
Place the shuttle lever in forward (NOT IN NEUTRAL or REVERSE).
THE SETTING IS ONLY POSSIBLE WITH THE OPERATOR SITTING IN THE DRIVING SEAT.



MOIL13TR00707AA 1

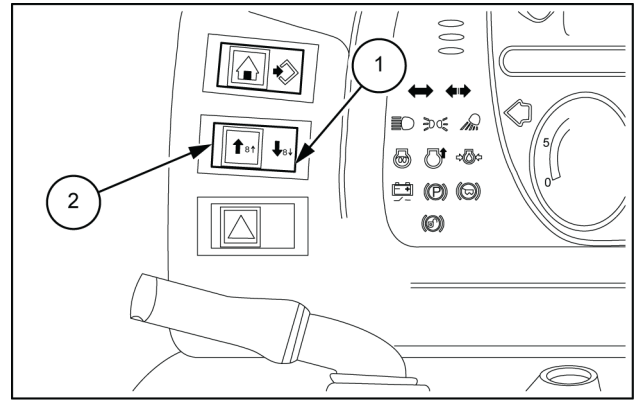


MOIL13TR00708AA 2



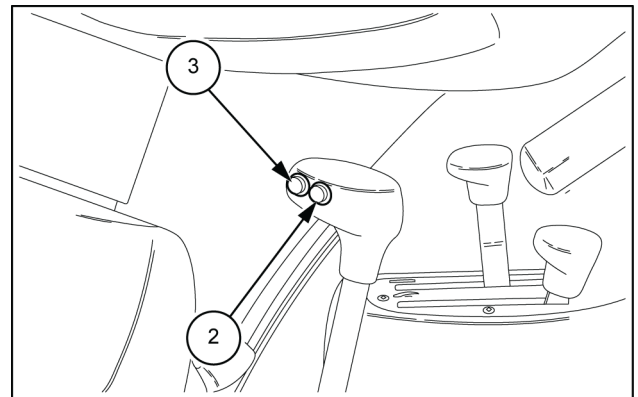
DCSPVNEGB086S7A 3

4. Press and release the arrow **(1)** fig. 4 or the push-button **(2)** LO fig. 5. The display on the right will show a cursor shortly followed by the letter corresponding to the clutch involved in the setting with a three-digit number that increases



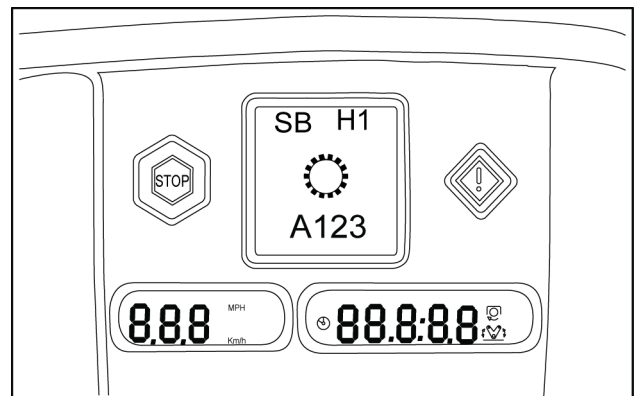
MOIL13TR00710AA 4

5. When the display shows the letter corresponding to the clutch being calibrated, press and hold down the arrow **(2)** fig. 4 or the push-button **(2)** LO fig. 5. In this phase the calibration phase begins and the display shows a numerical value in mA that progressively increases. When the numerical progression stops, the value of the calibration current blinks.



MOIL13TR00711AA 5

6. Release the arrow **(2)** fig. 4 or the push button **(2)** LO fig. 5. Press the arrow **(1)** fig. 4 or HI **(3)** fig. 5 to display the next clutch to calibrate, for example: B



MOIL13TR00712AA 6

NOTICE: Transmission output rpm, clutch pedal position, shuttle lever position, and gear/range lever position are constantly monitored. Calibration cannot proceed unless the tractor is stopped, shuttle lever in gear, gear and range levers not in neutral, and the clutch pedal is up. If while in calibration an anomalous condition is detected it is shown on the display with its error code via the alarm lamp, if the error is related to the calibration, then its 'U' code is displayed on the LCD. See the list of related codes on the next page.

NOTE: If the letter related to the clutch does not appear and the cursor keeps on scrolling at the bottom of the display, it means that the engine speed is not constant.

LIST OF ERROR CODES “U” ELECTROHYDRAULIC TRANSMISSIONS

U CODE	MEANING
17	Seat switch not activated.
18	Correct start-up procedure was not used.
19	Transmission oil temperature low (Below 10 °C (50.0 °F)).
20	Handbrake is not set.
21	Engine RPM below 1150, increase throttle.
22	Engine RPM above 1350, reduce throttle.
23	Shuttle lever is in neutral, shift lever to forward.
26	Clutch pedal is not up, release clutch pedal.
31	Wheel speed sensed, check handbrake and start again.
32	A Clutch cal too low – RPM dropped too soon, clutch pressure is not being controlled properly or something else caused RPM to drop.
33	A Clutch cal too high – RPM did not drop, no pressure to clutch or mechanical failure breaking the torque path.
34	B Clutch cal too low – RPM dropped too soon, clutch pressure is not being controlled properly or something else caused RPM to drop.
35	B Clutch cal too high – RPM did not drop, no pressure to clutch or mechanical failure breaking the torque path.
49	No movement of the synchronizer sensed.
51	Engine speed error.
60	Range lever in Neutral.
61	Gear lever in Neutral.
64	Reverse and high synchronizer solenoid connectors swapped.
91	Synchronizer potentiometer signal is not within allowable limits for HI-LO position; bad potentiometer signal or jammed synchronizer.
92	Synchronizer potentiometer signal is not within allowable limits for shuttle position; bad potentiometer signal or jammed synchronizer.
111	Unable to calibrate Transmission.

NOTE: In cold or hot transmission oil conditions will still be possible to calibrate the clutches, however this will be signalled to the operator by means of the warnings:

- CL** COLD OIL WARNING, generated when the oil temperature is between **10 °C (50.0 °F)** and **20 °C (68.0 °F)**. At temperatures below **10 °C (50.0 °F)** it is not possible to calibrate the clutches.
- CH** HOT OIL WARNING, generated when the oil temperature is above **100 °C (212.0 °F)**.

8 - TROUBLESHOOTING

FAULT CODE RESOLUTION

Display fault codes

Fault code	Symbol	Function	Audible warning	Indicator (Amber) on
14001		Rear PTO short to VCC	NO	YES
14002		Rear PTO short to GND	NO	YES
14011		Engine speed sensor short to VCC or open circuit	YES	YES
14012		Engine speed sensor short to GND	YES	YES
14015		5 V supply voltage too high	NO	YES
14016		5 V supply voltage too low	NO	YES
14021		Cranking line shorted to VCC	NO	YES
14022		Cranking line shorted to GND	NO	YES
14041		Engine coolant temp short to VCC or open circuit	YES	YES
14042		Engine coolant temp short to GND	YES	YES
14051		Fuel level sensor short to VCC or open circuit	NO	YES
14052		Fuel level sensor short to GND	NO	YES
14058		Seat switch closed over 25 hours	YES	YES
14091		Transmission out speed short to VCC	NO	YES
14092		Transmission out speed short to GND	NO	YES
14093		Seat switch short to VCC or open circuit	YES	YES

8 - TROUBLESHOOTING

Fault code	Symbol	Function	Audible warning	Indicator (Amber) on
14094		Seat switch short to GND	YES	YES
14101		Fuel contaminated sensor Not connected	YES	YES
14103		Alternator lamp not working	NO	YES
14106		Front PTO present but not configured	NO	YES
14107		Front Hitch present but not configured	NO	YES
14108		Rear PTO sensor present but not configured	NO	YES
14201		Steering switch shorted to VCC or open circuit	YES	YES
14202		Steering switch shorted to GND	YES	YES
14203		Speed & Steer DT excude relay short to VCC or open circuit	YES	YES
14204		Speed & Steer DT excude relay short to GND	YES	YES
14900		MCM missing	NO	NO
14905		Keypad missing	NO	NO
14906		PSS missing	NO	NO
14911		Instrument panel without keypad	NO	YES
14912		Instrument panel with keypad	NO	YES
14061		Air brake pressure	YES	YES

TROUBLESHOOTING ENGINE

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.

1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.

Failure to comply could result in death or serious injury.

W0047A

⚠ WARNING

Improper operation or service of this machine can result in an accident.

If you do not understand a maintenance procedure, or doubt your ability to perform a maintenance procedure correctly, see your authorized dealer.

Failure to comply could result in death or serious injury.

W0157A

Problem	Possible Cause	Correction
The engine will not start or starts with difficulty	Incorrect starting procedure	See starting procedure
	Fuel level low or empty	Check the 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
	Battery isolator activated, or fuse and relay faulty	Disconnect the battery isolator, check and if necessary change the fuse or the relay
The engine does not run properly and/or cuts out	Fuel system contaminated	Clean system
	Fuel injector fault	Contact your dealer
Engine does not develop full 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
	Improper valve clearance	Check and adjust
	Idling speed too low	Contact your dealer
Abnormal engine knocking	Oil level low	Top up fluid level
	Oil pressure low	Contact your dealer
Low engine operating temperature	Thermostat malfunction	Replace thermostat
	Fan viscous coupling malfunction	Contact your Dealer
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

8 - TROUBLESHOOTING

Problem	Possible Cause	Correction
Engine overheating	Radiator core clogged	Clean radiator
	Engine overload	Change to lower gear or reduce load
	Engine oil level low	Top up fluid 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. If necessary, replace the belt
	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	Incorrect 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
	Improper valve clearance	Check and adjust
	Equipment wrongly adjusted	Refer to equipment manual for correct operation
	Engine temperature too low	Check thermostat
	Excessive ballast	Adjust ballast to correct weight
	Fuel injection nozzles clogged	Have your dealer service the injectors

Electrical system - Troubleshooting ELECTRICAL SYSTEM

Problem	Possible Cause	Correction
The electrical system does not work	Battery terminals loose or corroded	Clean and tighten terminals
	Battery	Check that battery charge is at least 12.6 V . Check electrolyte level and specific gravity
Batteries not charging	Terminals loose or corroded	Clean and tighten terminals
	Battery	Check that battery charge is at least 12.6 V . Check electrolyte level and specific gravity
	Belt loose or worn	Check belt tensioning device. If necessary, replace the belt
Low starter motor speed and difficulty in starting engine	Connections loose or corroded	Clean and tighten loose connections
	Battery	Check that battery charge is at least 12.6 V . Check electrolyte level and specific gravity
	Engine oil viscosity wrong	Use oil of viscosity specified for temperature conditions
Starter motor does not work	Gear lever engaged	Move gear lever to neutral
	Connections loose or corroded	Clean and tighten terminals
	Batteries totally flat	Charge or replace batteries
Battery charge light stays on when engine is running	Engine idling speed is low	Increase idling speed
	Alternator belt loose	Check belt tensioner
	Battery fault	Check that battery charge is at least 12.6 V . Check electrolyte level and specific gravity
	Alternator fault	Have the alternator checked by your dealer or an authorized workshop
The battery charge light flashes to indicate excessive charge voltage	Alternator fault	Have the alternator checked by your dealer

Hydraulic systems - Troubleshooting HYDRAULIC SYSTEM

Problem	Possible Cause	Correction
The hydraulic system is not working properly	Oil level low	Top up system
	Hydraulic filter clogged	Replace hydraulic filter
	Hydraulic system fault	Call your Dealer
Hydraulic fluid overheating	Fluid level too high or low	Top up oil
	Fluid filter element clogged	Replace filter
	Incorrect flow regulation	Call your Dealer
	Radiator block	Call your Dealer
	Spool valve stuck on	Call your Dealer
	Relief valve venting	Call your Dealer
Hoses not joined together properly	Damage male couplers	Replace couplers with standard ISO-1/2" connectors, available from your dealer
	Dirt or soil in the coupling.	Clean the coupling
Automatic control valve release mechanism kick out	Automatic release pressure incorrectly set	Adjust automatic release pressure setting
Remote control valve does not work	Hoses not connected correctly	Connect hoses correctly
	Check the flow of oil in the half- couplers	Actuate control levers. If problems persist, replace male half-couplers
	System overload	Reduce load or use a suitable cylinder
	Pump failure	Check if hitch goes up and down

Rear three-point hitch - Troubleshooting HYDRAULIC LIFT AND 3-POINT LINKAGE

Problem	Possible Cause	Correction
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
Implement does not raise to full height	Arm lift upper limit control not set correctly	Adjust height limit control
The implement hitch lowers slowly	Lowering speed control incorrectly set	Have control valve checked
The hydraulic lift operates slowly in draft control	Combined draft/position control incorrectly set	Adjust combined draft/position control
	Lowering speed too slow	Have control valve checked
	Implement not working properly	Adjust implement settings
The hydraulic lift operates too fast in draft control	Combined draft/position control incorrectly set	Have control valve checked
Electronically controlled hydraulic lift fault code signal		Call your Dealer

Hydraulic service brakes - Troubleshooting

Problem	Possible Cause	Correction
Pedals soft when engine off	Air in the braking system	Call your Dealer
Pedal depresses fully with engine off	Brake piston seals leaking	Call your Dealer
	Brake discs worn	Call your Dealer
	Brake release leaking	Call your Dealer
	Brake valve(s) leaking	Call your Dealer
Excessive pedal travel or resistance with engine running	Brake valve(s) leaking	Call your Dealer
	Air in the braking system	Call your Dealer
	Brake piston seals leaking	Call your Dealer
	Brake release leaking	Call your Dealer

Cab climate control - Troubleshooting

Problem	Possible Cause	Correction
Dust in cab	Filter seal ineffective	Check condition of filter seal
	Filter clogged	Clean or replace filter
	Filter defective	Replace filter
	Excessive air draughts	Block draughts
Poor recirculation air	Filter clogged or air circulation filter clogged	Clean or replace filter(s)
	Heater or humidifier radiator core clogged	Call 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. Call your Dealer
	Compressor belt slips or is damaged	Check the automatic belt-tensioning device and the state of the belt
	Heating on	Turn the temperature control fully anti-clockwise for maximum cooling

ALARM(S)

Alarms

The following tables show:

- How each single operating fault is signalled to the operator.

- Start of activation of each single warning signalled on the performance display.
- Possible action to remove the trouble.

Fault	Meaning			Audible warning	Symbol shown on the display	Indicator lamp associated on the instrument
		Amber indicator lamp	Red indicator lamp			
1	Operator not seated in driving seat, with handbrake disengaged	YES	-	YES		
2	Clutch	-	-	YES		-
3	Handbrake ON	-	-	YES		-
4	Power Shuttle lever	-	-	YES		-
5	Transmission oil	-	-	YES		-
6	Rear PTO	YES	-	YES		-
7	Front PTO	YES	-	YES		-
8	Battery voltage too low	YES	-	YES		-
9	Engine coolant temperature	-	YES	YES		-
10	Engine Oil Pressure Too Low	-	YES	YES		
11	Power steering line oil pressure	-	YES	YES		-
12	Network Errors (CAN)	-	-	YES		-
13	Handbrake engaged while driving	-	-	YES		
14	Engine air filter blocked	YES	-	-		-
15	Alternator charging failure	YES	-	-		

8 - TROUBLESHOOTING

Fault	Meaning			Audible warning	Symbol shown on the display	Indicator lamp associated on the instrument
		Amber indicator lamp	Red indicator lamp			
16	Brake fluid level too low		-	-		-
17	Transmission oil temperature too high	YES	-	-		-
18	Fuel contaminated	YES	-	YES		-
19	Battery voltage too high	YES	-	-		-
20/1	Module configuration	-	YES	YES		-
20/2	Module configuration	-	-	-		-
21	Direction indicators	-	-	YES	-	
22	Side lights (only on stopping the engine)	-	-	YES	-	
23	Parking brake not engaged (only on stopping the engine)	-	-	YES	-	
24	Battery cut-off	-	-	YES	-	

Alarms, cause, solutions

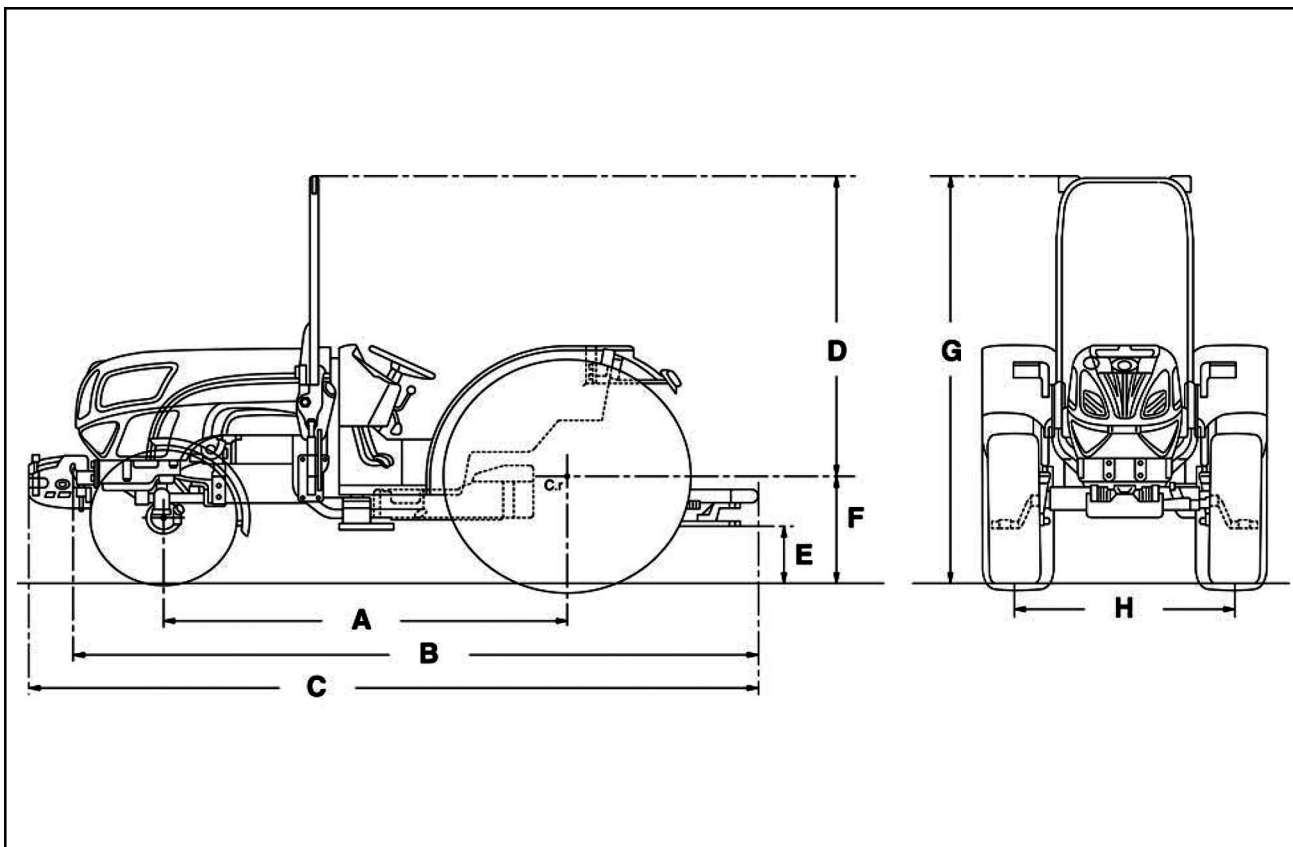
Fault	POSSIBLE CAUSE	SOLUTION
1	The audible warning comes on with the related icon on the display when the operator leaves the driving seat without engaging the handbrake or with the seat safety switch broken.	Engage the handbrake. The signal must stop.
2	The audible warning and indicator warn of an incorrect or dangerous manoeuvre.	Fully depress the clutch pedal and release it slowly.
3	An audible warning is activated with the related icon on the display if the operator starts the tractor automatically with the handbrake engaged.	Disengage the handbrake. The signal must stop when the brake is disengaged.
4	The audible warning and indicator warn of an incorrect or dangerous manoeuvre.	Move the Power Shuttle control lever into the neutral position.
5	The signal displayed shows that the transmission oil has exceeded its normal working temperature.	Slow the engine down to idling and let it idle for 2/3 minutes. Switch off the engine and check that the cooler is not clogged. Clean it if necessary. IMPORTANT: If the problem is not resolved, do not use the tractor and call your local dealer.
6	The audible warning comes on with the related icon on the display with the engine running when the operator leaves the driving seat without disengaging the PTO control lever or with the seat safety switch broken.	Move the rear PTO control lever into the neutral position before leaving the driving seat.
7	The audible warning comes on with the related icon on the display with the engine running when the operator leaves the driving seat without disengaging the PTO control lever or with the seat safety switch broken.	Move the front PTO control lever into the neutral position before leaving the driving seat.
8	The audible warning comes on with the related icon on the display when the battery charge is low.	Recharge/renew the battery.
9	The audible warning comes on with the related icon on the display when the engine coolant temperature is too high.	Stop the engine immediately and let it cool down. Make sure the radiator is clean and the fluid is at the right level. IMPORTANT: If the problem is not resolved, do not use the tractor and call your local dealer.
10	The audible warning comes on with the related icon on the display and the instrument indicator when the engine lubrication oil pressure is too low.	Stop the tractor and call your dealer. IMPORTANT: If the signal does not stop, do not use the tractor and call your local dealer.
11	The audible warning comes on with the related icon on the display when the power steering oil pressure is too low.	Stop the tractor and call your dealer. IMPORTANT: If the signal does not stop, do not use the tractor and call your local dealer. Under these conditions the steering could lock.
12	Potential problems in the electronic control unit management network.	IMPORTANT: Call your local dealer immediately.
13	An audible warning is activated with the related icon on the display with the tractor running faster than 8 km/h (5.0 mph) and the handbrake engaged.	The signal must stop when the brake is disengaged, or when the ground speed falls under 8 km/h (5.0 mph) .
14	The related icon is shown on the display when the engine air cleaner is clogged.	Clean the filtering cartridges as described in the dedicate chapter.
15	The signal comes on: • with the engine off and the ignition key (ON) on the first click; • a few seconds after starting the engine if the alternator fails to charge the battery.	Have your dealer check the system.

8 - TROUBLESHOOTING

Fault	POSSIBLE CAUSE	SOLUTION
16	The signal for the trouble is activated when the oil level falls under the minimum or with the level sensor broken.	Top up the brake fluid level and check the level sensor works properly as described in Maintenance section. If the signal continues, have your dealer check the system.
17	If the maximum temperature limit is exceeded the warning signal is activated.	The signal stops when the temperature drops under the set limits. IMPORTANT: Stop work, wait 2/3 minutes with the engine running, check the transmission oil level, top it up if necessary and renew the filter if necessary. Recommence work and if the signal does not stop call your local dealer.
18	This symbol comes on to indicate water in the fuel.	Clean the filter as described in section 4. Start the engine and if the signal stays on, have your dealer check the system.
19	The signal comes on if the battery voltage is too high. Voltage that is too high can damage the circuits of the electronic control units.	We advise you call your local dealer.
20	If a new module is added, with the ignition key (ON) on the first click, the operator is warned by the related symbol 20/1 coming on.	Turn the key (OFF) all off, turn the key (ON) onto the first click. If the configuration has been done correctly the display will show the symbol 20/2. The new module has been recognized and the display disappears.
21	Tractor in motion: - an audible warning comes on after 20 seconds, with the direction indicators on. Tractor stationary: - the audible warning comes on after 5 minutes with the ignition key (ON) on the first click.	Turn off the direction indicators after completing the manoeuvre. Turn off the direction indicators. NOTE: With the tractor stationary and the hazard lights on, the audible warning is not activated.
22	Side lights on with ignition key (OFF).	Switch off the side lights.
23	The signal is only made with the ignition key (OFF) and the handbrake is not engaged.	Engage the handbrake.
24	The signal is activated for a duration of 30 seconds when the engine is switched off if the battery has not been cut off with the relevant switch. NOTE: The variant that permits cutting off the battery when switching off the engine is not available for all markets.	Turn on the battery cut-off command.

9 - SPECIFICATIONS

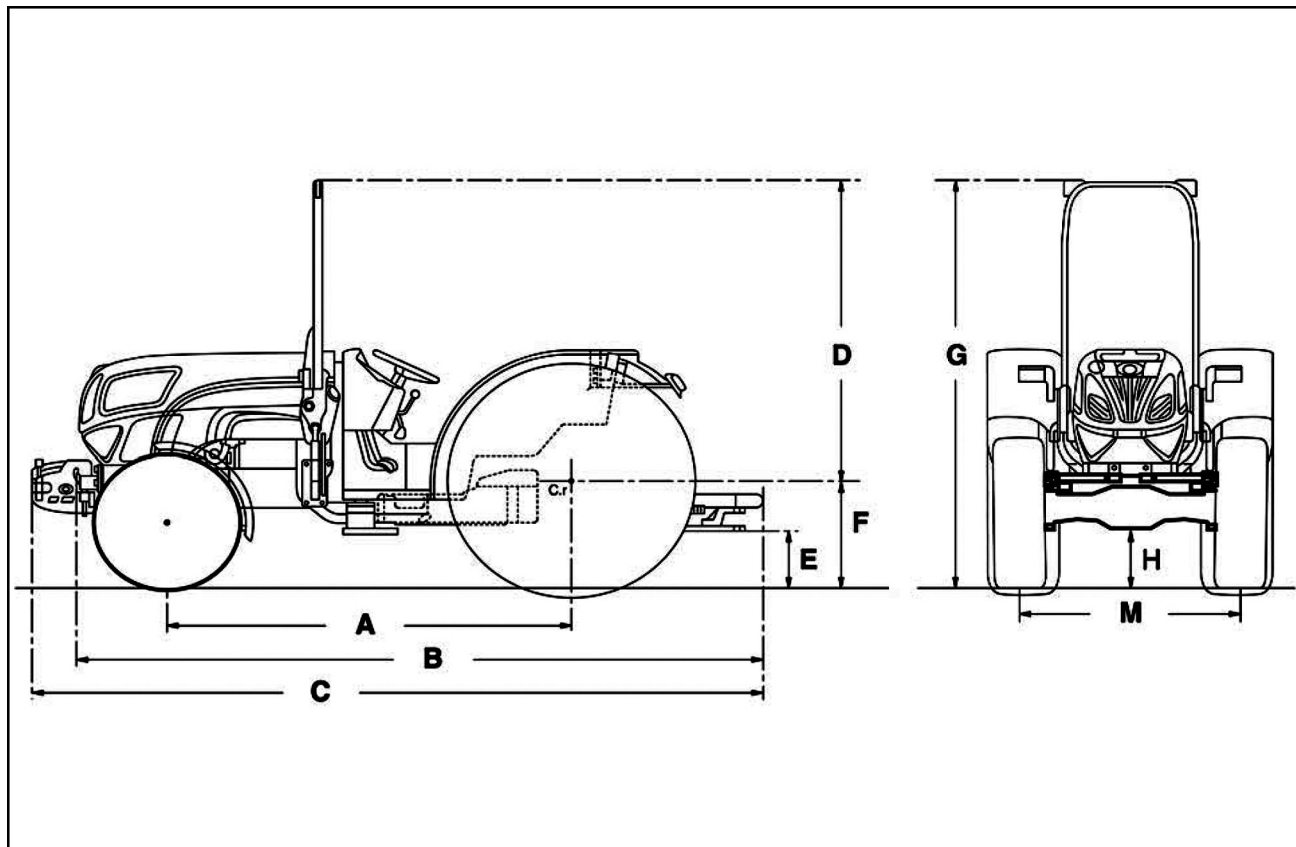
Dimensions and weights



DCSPVNEGB001S9F 1

Dimensions of 2WD models without cab

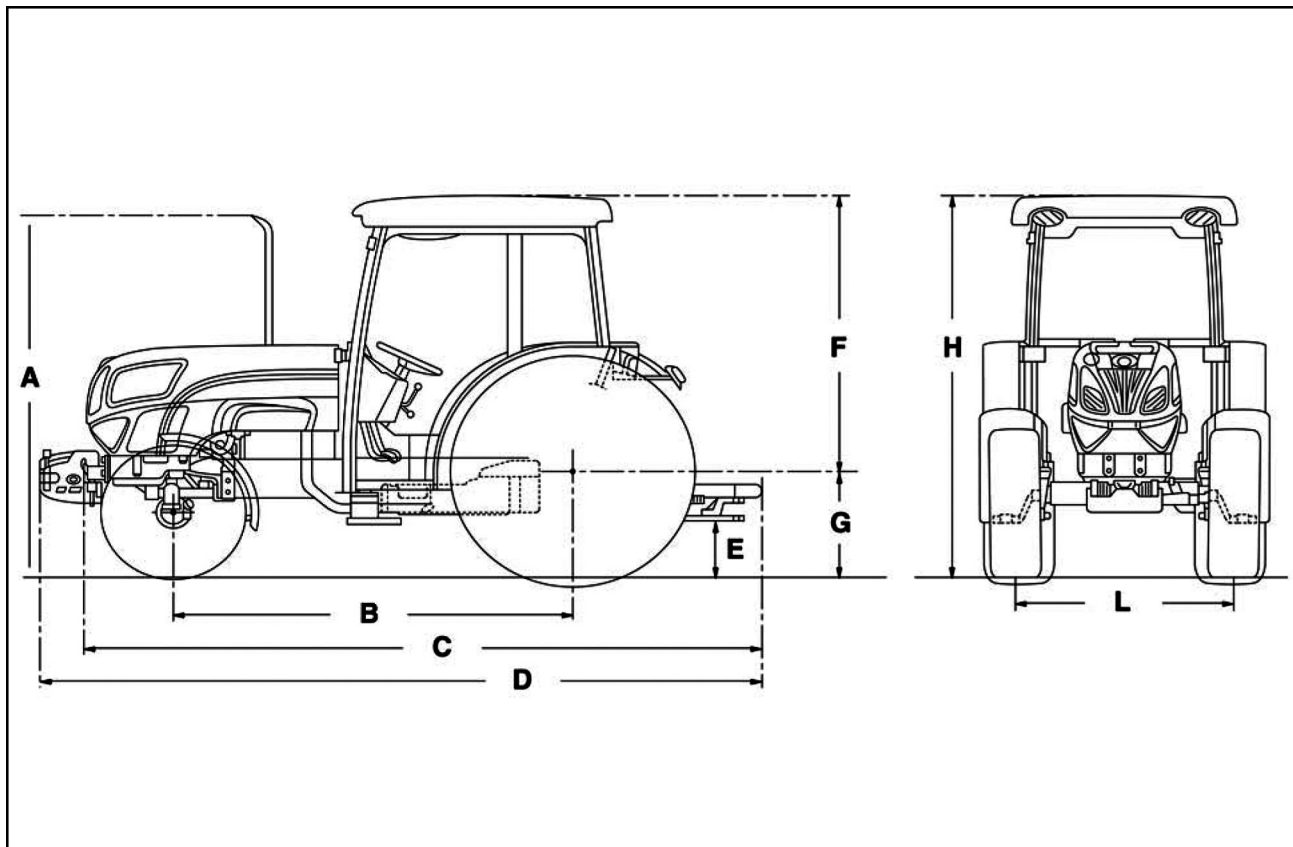
Dimensions	T4.75F - T4.85F	T4.95F - T4.105F
A	2082.5 mm (82.0 in)	2169.5 mm (85.4 in)
B	3682 mm (145.0 in)	3769 mm (148.4 in)
C	3914.5 mm (154.1 in)	4001.5 mm (157.5 in)
D	1749.5 mm (68.9 in)	
E	323 mm (12.7 in)	
F - min. with 380/70 R 20	525 mm (20.7 in)	
F - max with 420/70 R 30	675 mm (26.6 in)	
G	2274.5 - 2424.5 mm (89.5 - 95.5 in)	
H - front track setting	1146 - 1572 mm (45.1 - 61.9 in)	
H - rear track setting	1058 - 1371 mm (41.7 - 54.0 in)	



DCSPVNEGB003S9F 2

Dimensions of 4WD models without cab

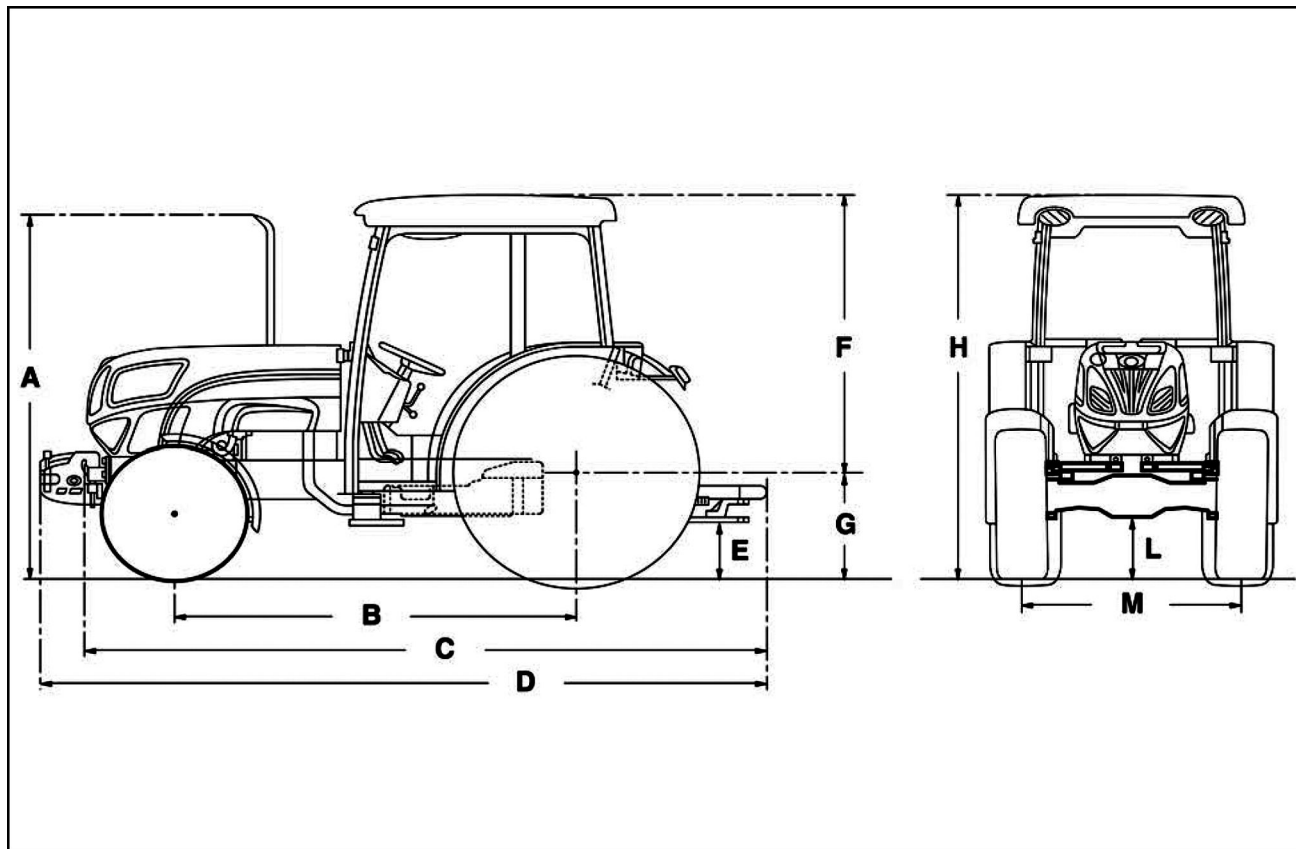
Dimensions	T4.75F - T4.85F	T4.95F - T4.105F
A	2348 mm (92.4 in)	2435 mm (95.9 in)
B	3947.5 mm (155.4 in)	4034.5 mm (158.8 in)
C	3914.5 mm (154.1 in)	4001.5 mm (157.5 in)
D	1749.5 mm (68.9 in)	
E	323 mm (12.7 in)	
F - min. with 380/70 R 20	525 mm (20.7 in)	
F - max with 420/70 R 30	675 mm (26.6 in)	
G	2274.5 - 2424.5 mm (89.5 - 95.5 in)	
H	331 mm (13.0 in)	
M - front track setting	1190 - 1492 mm (46.9 - 58.7 in)	
M - rear track setting	1058 - 1371 mm (41.7 - 54.0 in)	



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Dimensions of 2WD models with cab

Dimensions	T4.75F - T4.85F	T4.95F - T4.105F
A	2161 - 2311 mm (85.1 - 91.0 in)	
B	2082.5 mm (82.0 in)	2169.5 mm (85.4 in)
C	3682 mm (145.0 in)	3769 mm (148.4 in)
D	3914.5 mm (154.1 in)	4001.5 mm (157.5 in)
E	323 mm (12.7 in)	
F	1648 mm (64.9 in)	
G - min. with 380/70 R 20	525 mm (20.7 in)	
G - max with 420/70 R 30	675 mm (26.6 in)	
H	2173 - 2323 mm (85.6 - 91.5 in)	
L - front track setting	1146 - 1572 mm (45.1 - 61.9 in)	
L - rear track setting	1058 - 1371 mm (41.7 - 54.0 in)	



DCSPVNEGB004S9F 4

Dimensions of 4WD models with cab

Dimensions	T4.75F - T4.85F	T4.95F - T4.105F
A	2161 - 2311 mm (85.1 - 91.0 in)	
B	2348 mm (92.4 in)	2435 mm (95.9 in)
C	3682 mm (145.0 in)	3769 mm (148.4 in)
D	3914.5 mm (154.1 in)	4001.5 mm (157.5 in)
E	323 mm (12.7 in)	
F	1648 mm (64.9 in)	
G - min. with 380/70 R 20	525 mm (20.7 in)	
G - max with 420/70 R 30	675 mm (26.6 in)	
H - min.	2173 - 2323 mm (85.6 - 91.5 in)	
L	240 - 331 mm (9.4 - 13.0 in)	
L - front track setting	1190 - 1492 mm (46.9 - 58.7 in)	
L - rear track setting	1058 - 1371 mm (41.7 - 54.0 in)	

9 - SPECIFICATIONS

FRONT BALLAST

Each plate	25 kg (55.12 lb)	Max. 6 plates
Each plate	40 kg (88.2 lb)	Max. 6 plates

REAR BALLAST

Each ring	Rims 28 " — 30 "	50 kg (110.2 lb)	Max. 4 rings
Each ring	Rims 24 "	32 kg (70.5 lb)	Max. 6 rings

WEIGHTS OF 2WD TRACTORS WITHOUT CAB WITHOUT BALLAST WEIGHTS

T4.75F • T4.85F	2762 kg (6089.2 lb)
T4.95F • T4.105F	2842 kg (6265.5 lb)

WEIGHTS OF 4WD TRACTORS WITHOUT CAB WITHOUT BALLAST WEIGHTS

T4.75F • T4.85F	2832 kg (6243.5 lb)
T4.95F • T4.105F	2912 kg (6419.9 lb)

WEIGHTS OF 2WD TRACTORS WITH CAB WITHOUT BALLAST WEIGHTS

T4.75F • T4.85F	2840 kg (6261.1 lb)
T4.95F • T4.105F	2930 kg (6459.5 lb)

WEIGHTS OF 4WD TRACTORS WITH CAB WITHOUT BALLAST WEIGHTS

T4.75F • T4.85F	Standard axle 2910 kg (6415.5 lb)
T4.95F • T4.105F	Standard axle 3000 kg (6613.9 lb)

Maximum permitted loads on front and rear axle

WARNING

Overturning hazard!

The operator must know the correct **OPERATING LOAD** capacity of the machine before attempting to operate the machine. Always follow the recommended load limits.

Failure to comply could result in death or serious injury.

W0216A

NOTICE: The total weight of the tractor, including the ballast and the weight of the implements carried, must not exceed the limits given in the table below. The values refer to the axle capacity.

Maximum permissible weight for road transport

Maximum front axle load	Maximum rear axle load	Total maximum load
2000 kg (4409 lb)	3500 kg (7716 lb)	2WD — 3900 kg (8598 lb)
		4WD — 4300 kg (9480 lb)

ATTENTION: If the value of the maximum load of the pair of tires is less than the maximum axle load it is necessary to refer, for the maximum load, to the value of the pair of tires. Otherwise it is necessary to take the axle load as the maximum load.

Maximum permitted loads on drawbar

The maximum vertical load of the drawbar is given in the table below:

Bar model	Maximum vertical load
694.142.001	490 kg (1080 lb)

CUNA-type drawbar — For the ITALIAN market only

Vertical loading is not permissible. Single-axle trailers are not permissible.

Technical data

ENGINE SPECIFICATION

T4.75F	F5A E9484 B*A 001
T4.85F	F5A E9484 G*A 006
T4.95F	F4C E9484 M*J 603
T4.105F	F4C E9484 L*J 603 • F4C E9484 L*J 602

Clutch	11 "
injection pump	BOSCH
Intake	Turbocharger + intercooler
Number of cylinders	4
Injection Sequence	1 – 3 – 4 – 2

Bore and stroke:	T4.75F • T4.85F - 99 mm (3.90 in) x 104 mm (4.09 in) T4.95F • T4.105F - 104 mm (4.09 in) x 132 mm (5.20 in)
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Total displacement	T4.75F • T4.85F - 3200 cm³ (195.28 in³) T4.95F • T4.105F - 4485 cm³ (273.69 in³)
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Compression ratio	T4.75F • T4.85F - 18 : 1 T4.95F • T4.105F - 17.5 : 1
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Maximum horsepower (ECE R120)

T4.75F	57 kW (77 Hp)
T4.85F	65 kW (88 Hp)
T4.95F	71 kW (97 Hp)
T4.105F	79 kW (107 Hp)

Torque Rise

T4.75F	39 %
T4.85F	30 %
T4.95F	35 %
T4.105F	30 %

Rated Speed	2300 RPM
Maximum torque	1300 RPM

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-VE4**

Fuel filtering:

- mesh filter in the fuel pump
- replaceable cartridge filter on the injection pump feed line with water separator. Fuel sedimenter filter (on request).

LUBRICATION

Forced, by gear pump.

Oil filtration: forced through pump intake mesh and replaceable cartridge filter on engine intake.

Lubrication pressure with engine RPM of **2300 RPM: 2.9 - 3.9 bar (42.1 - 56.6 psi)**

Engine oil cooled by a heat exchanger using engine coolant.

COOLING

Water, forced circulation by centrifugal pump

Radiator with 3 lines of vertical copper pipes for **T4.75F - T4.85F** models and 4 lines of vertical copper pipes for mod. **T4.95F - T4.105F**.

Cooling fan fitted on same shaft as water pump.

COOLING

Water circulation from engine to radiator thermostatically controlled.

TRANSMISSION

Dry 11" double-plate clutch, with separate controls: pedal operation for gearbox and hand lever for power take-off.

Plate material - manual transmissions: metal-ceramic

Plate material - electro-hydraulic transmissions: organic

PTO clutch: metal-ceramic

Transmission housing

Permanently engaged helical mesh with 4 gear ratios.

Full syncromesh for all gears.

Range gear: Standard cascade connection with 4 gear ranges and synchronised mechanical shuttle.

Range gear: On request cascade connection with 4 gear ranges, Power-Shuttle/dual command (2 speed power shift) device and electro-hydraulic shuttle and creeper unit.

Range gear: On request cascade connection with 4 gear ranges, Power-Shuttle/dual command (2 speed power shift) device and mechanical shuttle.

Rear transmission

Bevel gear pair ratios:

30 km/h (18.64 mph)	9/38
30 km/h (18.64 mph) with 20 " rear tyres	11/36
40 km/h (24.9 mph) with standard front axle	11/36
40 km/h (24.9 mph)	11/32

Differential with pedal-operated mechanical locking device or electrohydraulic locking device with automatic release. Epicyclic final drives.

REAR POWER TAKE-OFF

Completely independent with two speeds **540/1000 RPM**.

Engine speed:
2196 RPM
2260 RPM

PTO speed:
540 RPM
1000 RPM

Engine speed:
2300 RPM
2300 RPM

PTO speed:
565 RPM
1017 RPM

Manual control: clutch control lever, take-off engage lever and speed selector lever. Direction of rotation with tractor seen from behind: clockwise.

FRONT POWER TAKE OFF

Manual control with knob for electromagnetic clutch. Fully independent at 1000 rpm. Direction of rotation with tractor seen from the front: anticlockwise.

Engine speed:
2037 RPM
2300 RPM

PTO speed:
1000 RPM
1032 RPM

MECHANICALLY OR ELECTRONICALLY CONTROLLED REAR HYDRAULIC LIFT

Oil supply is from the transmission by gear pump operated directly by the engine:

NEW HOLLAND TYPE C42

BOSCH TYPE 25

pump speed with engine on full power: **2502 RPM**

rated flow rate with engine on full power:

NEW HOLLAND TYPE C42 (standard) **48,6 l/min**

BOSCH TYPE 25 (on request) **63,8 l/min**

pressure relief valve calibration: **190 bar (2755 psi)**

Maximum rear lift capacity

With third point connected to top hole of support bracket and for the entire lifting stroke:

at link ends of horizontal arms **1835 kg (4045 lb)**

with centre of gravity at **610 mm (24.02 in)** from link ends **1715 kg (3781 lb)**

Maximum front lift capacity

With third point connected to top hole of support bracket and for the entire lifting stroke:

at link ends of horizontal arms **1275 kg (2810.9 lb)**

with centre of gravity at **610 mm (24.02 in)** from link ends **980 kg (2160.5 lb)**

THREE POINT HITCH

1st and 2nd category three-point implement linkage device.

Stabilisers for all models:

– mechanically adjusted telescopic stabiliser struts (standard).

– hydraulically adjusted telescopic stabiliser struts (on request).

Link arms with rapid attachment (on request).

Single or double-acting rear mount remote valves: up to three, two with float and automatic release.

Single or double-acting rear mount remote valves: two with flow rate control (on request).

Front 3-Point Hitch

1st and 2nd category three-point implement linkage device.

FRONT AXLE

Central pivoting, telescopic, inverted "U" structure.

Track setting: by extending the axle. Total: 5 wheel tracks.

2WD FRONT WHEELS

Rims with integral sheet metal wheel disks.

4WD FRONT WHEELS

Wheels in two parts: sheet-metal wheel disc and tyre rim.

Track setting: variable fitting of rims to disks and wheel hubs.

REAR WHEELS

Wheels in two parts: sheet-metal wheel disc and tyre rim.

Track setting: variable fitting of rims to disks and wheel hubs.

STEERING SYSTEM

Hydrostatic control, independent circuit.

Metal cartridge oil filter, fitted in oil reservoir.

Gear pump operated directly by the engine, through timing gears:

Type NEW HOLLAND

with mechanical transmissions

A25

with electro-hydraulic transmissions

A31 XRP2

pump speed with engine on full power:

2502 RPM

corresponding flow :

With pump **A25**

28 l/min

With pump **A31 XRP2**

35.6 l/min

pressure relief valve calibration - models

170 bar (2465.0 psi)

Minimum turning radius not brake assisted:

3.4 m (133.86 in)

Minimum turning radius brake assisted:

3.1 m (122.05 in)

4WD FRONT AXLE

Controlled oscillation with co-axial drive shaft and pivoting on the longitudinal axis of the tractor. Differential with two planetary pinions.

Transmissions with spur gears. Epicyclic reduction gears on wheel hubs with braking system (on request).

Standard front axle

Bevel gear pair ratios **30 km/h (18.64 mph)**

11/36

Bevel gear pair ratios **40 km/h (24.9 mph)**

11/28

with **20 "** rear tyres

13/37

Bevel gear pair ratios **30 km/h (18.64 mph)**

-

Bevel gear pair ratios **40 km/h (24.9 mph)**

10/29

Minimum turning radius not brake assisted, four-wheel drive disengaged, four-wheel drive models:

not brake assisted

3.3 m (129.92 in)

brake assisted

3.2 m (125.98 in)

REAR SERVICE BRAKES

Oil-immersed disk brakes, hydrostatically operated with independent hydraulic circuits for right and left-hand brakes, operated by separate pedals. The pedals must be connected for simultaneous braking on the four wheels when driving on roads.

FRONT SERVICE BRAKES

Oil-immersed disk brakes, hydrostatically operated. The pedals must be connected for simultaneous braking on the four wheels when driving on roads.

PARKING BRAKE ON TRANSMISSION

Disk brake, fully independent, mounted beneath gearbox and connected to pinion shaft.

Mechanically operated by lever.

BODYWORK AND DRIVING POSITION

With roll bar

Platform, instrument panel and mudguards form a single, modular structure, suspended on 4 silent blocks. Sheet metal mudguards coated with a layer of zinc, adjustable in height.

Mounting structure for roll bar.

Two fuel tanks with single filler cap, one of which located on the right-hand side beneath cab and the other located in front of the radiator.

Back folding bonnet, held in the open position by a rigid support rod.

Models with cab

Mudguards and cab form a single integrated structure. Two fuel tanks with single filler cap, one of which located on the right-hand side beneath cab and the other located in front of the radiator.

Back folding bonnet, held in the open position by a rigid support rod.

SEAT

Padded, with mechanical suspension, adjustable springing and position.

TOWING DEVICES

Cross member with attachment holes.

Rear swinging drawbar.

Rear height-adjustable rigid hook.

Front manoeuvring hook.

ELECTRICAL SYSTEM

Voltage	12 V
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ALTERNATOR

Magneti Marelli with incorporated electronic voltage regulator	120 A
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Maximum horsepower with engine at 2300 RPM , approximately	1.4 kW
---	---------------

BATTERY

12 V - Capacity (amperage) **88/100 A**, sealed, maintenance-free.

Starter

With electromagnet coupling:

T4.75F - T4.85F	3.2 kW
------------------------	---------------

T4.95F - T4.105F	4.2 kW
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LIGHTS

Two asymmetrical front headlamps using **55 W** bulbs (white or yellow)

Two front light clusters including:

- position lights (**5 W** light bulb) with clear transparent cover;
- direction indicator (**21 W** light bulb) with orange transparent cover;

Two rear light clusters including:

- position lights (**5 W** light bulb) with red transparent cover;
- direction indicator (**21 W** light bulb) with orange transparent cover;
- brake light (**21 W** light bulb) with red transparent cover;
- number plate light.

Red rear reflectors.

INSTRUMENTS AND ACCESSORIES

Multiple function (multifunction) instrument cluster

7-pin DIN power socket.

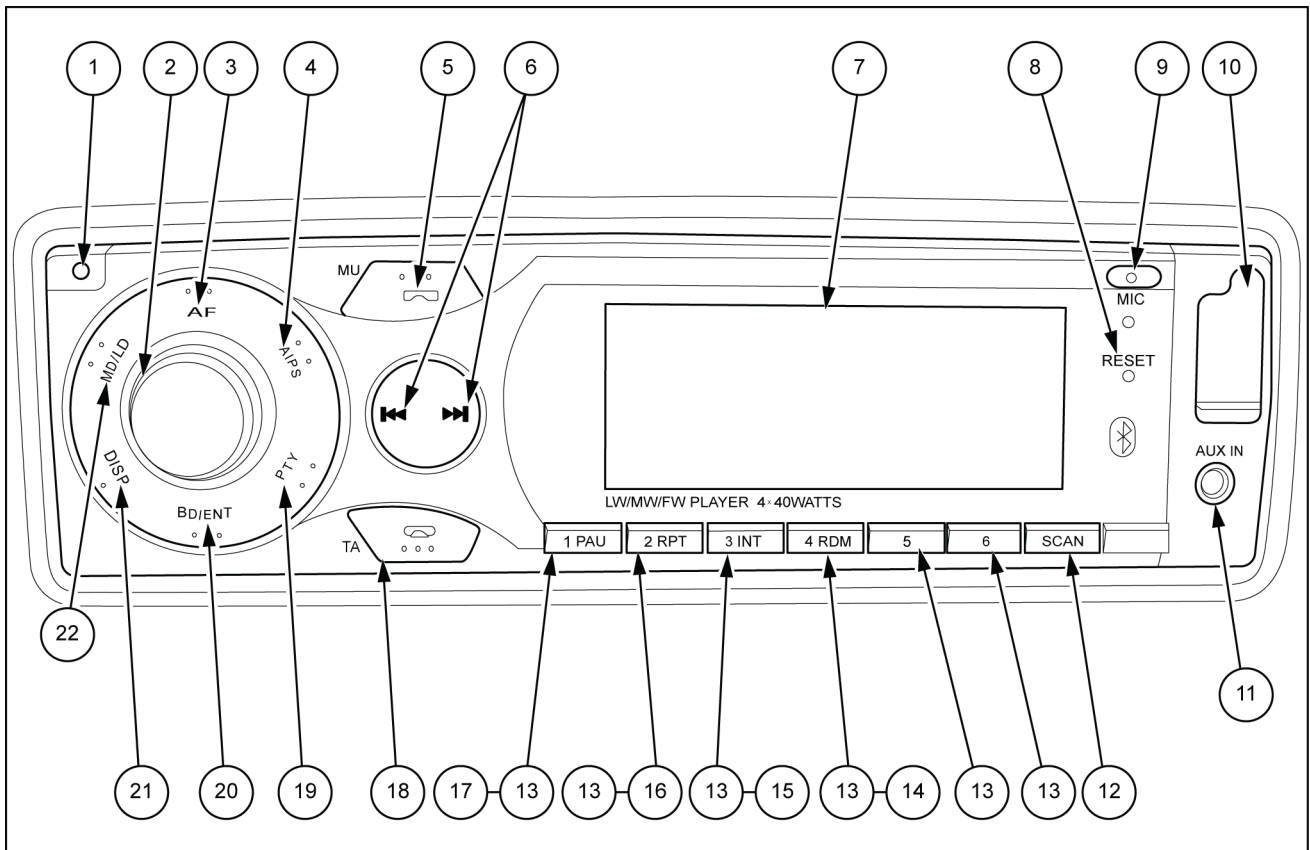
25 A power socket.

Flashing hazard warning light indicator for tractor and trailer.

Cold start aid (grid heater).

10 - ACCESSORIES

Radio



MOIL13TR00770FA 1

1. Power ON/OFF button
Press to turn on the radio. Press and hold to turn OFF.
2. Function/volume selection knob
Turn the knob (to the right/left) to regulate "**VOL/BAS/TRE/BAL/FAD**". To select other functions, press the button until the desired function is shown on the display.
3. Alternative frequency selection button (**AF7REG**)
When pressed momentarily, **AF/REG** mode is selected. When "**AF/REG**" mode is selected, the radio checks the signal strength of the **AF** all the time. When pressed long, it is activated as regional mode ON/OFF.
4. Automatic tuning button (**A/PS**)
A - By pressing longer than 1 sec, the 6 strongest stations are stored in the corresponding preset memory number. When Automatic Scan operation (**AS**) is finished, the radio executes the preset scan.
PS By pressing shortly, the radio searches for each preset station. Each preset station will be played for 5 seconds.
5. Audio stop button (**MU**) and call answering
Press this button to turn off the sound. Press it again to return to the previous volume level.
6. Automatic or manual tuning selection
When pressed momentarily, these buttons generate an Automatic Scan. When pressed longer than 1 sec., they activate a Manual Scan.
In the **MP3/WMA** player mode, when pressed briefly these buttons activate the track up or track down mode. When pressed for longer than a second they activate the **CUE** mode (addition of indexes) or **REVIEW** (reviewing)
7. Information "LCD" display
The Liquid Crystal Display will display the current state of the unit. The auxiliary input jack (**AUX IN**) allows easy connection of portable media devices.
8. Button to reset settings "**RESET**"

The **Reset** button is on the housing. The **Reset** button is to be activated for one of the following reasons:

- Initial installation of the unit when all wiring is completed.
- None of the buttons function.
- Error symbol on the display.

9. Microphone for speakerphone conversation (**Bluetooth**)

10. USB Port

Using USB cable to connect your portable **MP3** player.

NOTE: Using USB cable to connect your portable **MP3** player.

11. “**AUX IN**” input

12. Automatic scanning to search for radio channels and recording (**SCAN/REC**)

Press **SCAN** button to activate radio scan. The unit will search for every station and will play 5 seconds of each station found. To cancel scanning, press the button once more.

13. Selection buttons for stations **1–2–3–4–5–6**

When pressed momentarily, these buttons directly select the station saved on the button. If pressed for longer than 1 second, the station tuned to at that moment is saved.

In player mode **MP3/WMA**

M5 — Folder up

M6 — Folder down

14. RANDOM button (for USB playback only)

When this button is pressed, the “**RDM ON**” indication is displayed and each track is played in random instead of normal progression. To cancel Random mode, press the “**RDM**” button again.

15. INTRO (**INT**) button (for USB playback only)

When this button is pressed, the “**INT ON**” indication is displayed and the first several seconds of each track is played. Press again to stop intro and listen to track.

16. REPEAT (**RPT**) button (for USB playback only)

Repeat the track. When this button is pressed the display shows “**RPT ON**” and the repetition of the selected track will be repeated continually until the “repeat track” is cancelled by pressing the (**RPT**) button again.

17. PAUSE (**PAU**) button (for USB playback only)

During playback, press the button to pause. Press it again to resume play.

18. Button for traffic information and end of call (**TA**)

When pressed briefly, “**TA**” mode on or off is selected. When “**TA**” mode is selected and a traffic announcement is transmitted – If the level of the volume is under the listening threshold, it is raised up to this threshold. When a “**TP**” station is received, “**TP**” is shown on the display.

19. Program type button (**PTY**)

When pressed momentarily, the “**PTY**” **ON/OFF** function is activated and the search starts for the “**PTY**” information, that stops when the corresponding “**PTY**” information is detected. By pressing this key longer than 2 sec., you can select “**PTY**” mode by turning the volume knob as below.

NEWS--AFFAIRS--INFO--SPORT--EDUCATE-- DRAMA--CULTURE--SCIENCE--VARIED--POP--ROCK--
-EASY--M--LIGHT--M--CLASSIC OTHER--M--WEATHER--FINANCE--CHILDREN--SOCIAL--RELI-
GION--PHONE IN--TRAVEL--LEISURE--JAZZ--COUNTRY--NATION--M--OLDIES--FOLK M--DOCU-
MENT--TEST--ALARM.

20. Button to select band and enter (**BD/ENT**)

(RDS: for Europe) Press this button consecutively to switch in sequence through the bands “**FM1--FM2--FM3--MW1--MW2--LW**”.

21. DISPLAY button

Press the “**DISP**” button to switch between display information such as radio frequencies, clock, track and other information depending on the play mode.

22. MODE/LOUDNESS button (**MD/LD**)

By pressing this button, the user can select “**AUX/TUNER/USB/AD2P**” modes.

Connecting to a Portable MP3 Player

Use the **USB** cable to connect your portable **MP3** player to port (10).

The external audio input jack (11) “**AUX IN**” enables connecting to a portable device.

How to select MP3/WMA files

Searching by track number

- Press **(4) (A/PS)** to activate track search.
- Turn the volume knob **(2)** to the left or right to select the first digit desired.
- Press the volume knob **(2)**, the first digit is saved and the second one starts blinking.
- Turn the volume knob **(2)** to the left or right to select the second and third digit.
- Press button **(21) (BD/ENT)**; the selected track will automatically be played back.

Searching by letter:

- Pressing **(4) (A/PS)** twice activates track searching by character.
- Turn the volume knob **(2)** to the left or right to select the desired letter.
- Press the volume knob **(2)**, and repeat the previous step to select the second and third letter.
- Songs with the same letters that were previously selected appear on the display
- Turn the volume knob **(2)** to the left or right to select the desired track.
- Press button **(21) (BD/ENT)**; the selected track will automatically be played back.

Searching by file name:

- Pressing **(4) (A/PS)** three times activates track searching by folder.
- Turn the volume knob **(2)** to the left or right to select the desired folder.
- Press button **(21) (BD/ENT)**; the folder is saved and the first file will automatically be played back.

Recording / Storing / Deleting on a USB Memory Stick

You can store recordings from the tuner (radio) on an USB memory stick. The recordings are made in the same order and end automatically when the memory is completely full

Recording from the radio

- Insert a **USB** memory stick into the **USB** port **(10)**.
- Press button **(22) MD/LD** to select playing the PLL Band radio.

Starting Recording

- Hold down button **(12) SCAN/REC** for two seconds; **REC USB** will appear on the display.
- Press button **(20) BD/ENT**; the display will show **RECORD** . Then the letter **R** appears (flashing), followed by information on the storage location (e.g. **01**) and the length of the recording (e.g. **19.58**)

Stopping Recording

- Press button **(20) BD/ENT**

Deletion

- Use button **(22) MD/LD** to select mode **USB** . Track playback begins.
- Hold down button **(12) SCAN/REC** for two seconds.. The display shows **DELETE**.
- Press button **(20) BD/ENT**. The current track is deleted automatically.

Connecting iPod

You can connect your portable **iPOD** device and play songs from the vehicle stereo. Only the audio feature is supported, other features of iPOD are not supported.

It is possible to play songs from the iPOD when the cable is connected properly.

- Repeatedly press button **(22) MD/LD** until the display shows **IPOD**.
- Press button **(4) A/PS**

- Turn knob **(2) VOL** (left/right) to select **PLAYLIST – ARTISTS – ALBUMS – SONGS – GENRES – COMPOSER**
- Press **SEL**.

If you are aware on how to use iPod, the way to use the vehicle stereo feature is basically just the same. Take note of the equivalent key function below.

Radio	iPOD	Function
Turn the VOL knob (left/right)	Turn click wheel	Up/down category/file browsing
Press the VOL knob	Press button SELECT	Selecting a category / Play song

NOTE: Please refer to your iPod user's manual for operating instructions. Press **A/PS** to return to the main menu.

How to use BLUETOOTH in your vehicle audio system

Before you can dial out from the vehicle stereo, you must first pair (**PAIRING**) the phone with the radio. This "pairing" is a procedure for connecting two devices equipped with **Bluetooth**.

1. This unit's **Bluetooth** function is always on, perform the pairing starting from your cellular phone. Refer to your cellular manual on proper pairing
2. Perform the search for available **Bluetooth** devices, "**CAR--BT**" will show. Enter **0000** when the code is requested.
3. After successful pairing, connect to the head unit if it is not automatically connected.

How to make / receive calls using the front panel

To make calls using call history

- Press and hold button **(5)** to display the "**REDIAL**" history.
- Turn repeatedly to select the telephone number to call and press button **(5)** to start the call.
- During conversation, press button **(18)** to end the call.
- When there is incoming call, press button **(5)** to receive the call.
- Press button **(18)** to reject the call.

Audio Streaming

If your phone is "**A2DP**" format compatible, you can play music from your mobile and the music will be transferred to the vehicle audio system

1. Make sure your mobile and the vehicle radio unit is paired and connected.
2. Play the music in your mobile according to your mobile operating method.
3. The unit will display "**A2DP**" when receiving **A2DP** automatically (but for some mobiles you have to press the **MODE** button to change **A2DP** mode).
4. You can press buttons **(6)** on the unit for the previous or next tracks.

CHARACTERISTICS

PLAYER MP3/WMA	
Signal to Noise ratio	> 60 dB
Channel separation	> 50 dB (1kHz)
Channel separation	20Hz – 20 kHz
Radio (FM) — (RDS)	
Frequency range	87,5 - 107,9 MHz
Channel step	200 kHz
Intermediate frequency	10,7 MHz
Sensitivity	2,8 µV
Stereo separation	30 dB
Signal to Noise ratio	50 dB
Radio MW (AM	

Frequency range	522 - 1620 MHz with RDS
	522 - 1710 MHz without RDS
Intermediate frequency	10,71 MHz
Sensitivity	32 dB
Radio LW	
Frequency range	144 - 290 MHz
Intermediate frequency	10,71 MHz
Line out	
Output	5 V (max)
Impedance	10k Ohm
General data	
Power	12 V DC (10.8 - 15.6 V enabled
Speaker impedance	4 — 8 Ω
Output power	40 W x 4 CH

NOTE: Specifications and design are subject to possible modification without notice due to improvement.

Disposal

This product bears the selective sorting symbol for waste electrical and electronic equipment (WEEE).

This means that this product must be handled pursuant to European Directive **2002/96/EC** in order to be recycled or dismantled to minimize its impact on the environment.

For further information, please contact your local or regional authorities. Electronic products not included in the selective sorting process are potentially dangerous for the environment and human health due to the presence of hazardous substances.

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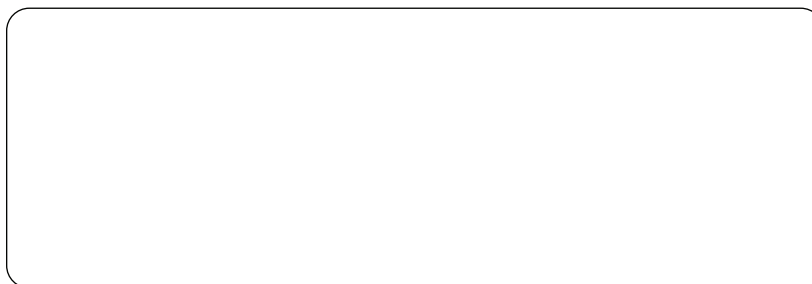
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Dealer's stamp



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