ORIGINAL INSTRUCTIONS

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PUMA 140
PUMA 150
PUMA 165

Tractor - Tier 4B (final)

*PIN HACPU1***HE201001 and above*

*PIN DBDPU1***HE250001 and above*

OPERATOR'S MANUAL

Part number 48133645
1st edition English
December 2017

CASE IH AGRICULTURE

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2 - SAFETY INFORMATION

Safety precautions

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read and take the following precautions before driving, operating or servicing the machine. Equipment should be operated only by those who are responsible and instructed to do so.

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 , 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.

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

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

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.*

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.

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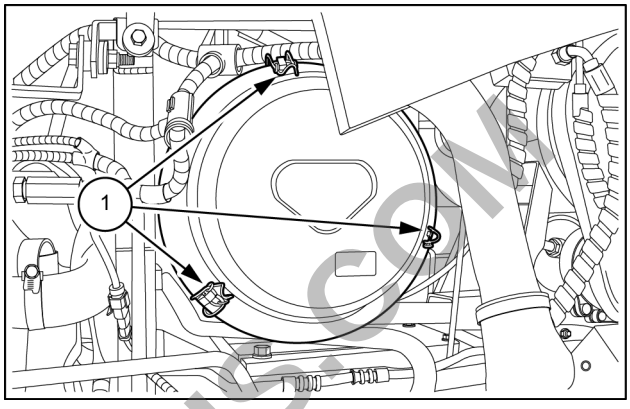
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WHEN THE WARNING LAMP LIGHTS

Change the engine air cleaner outer element

Replace the outer element when the restriction indicator symbol appears in the Dot Matrix Display or every 600 hours, whichever comes first. If the symbol appears, perform the replacement within one hour of operation.

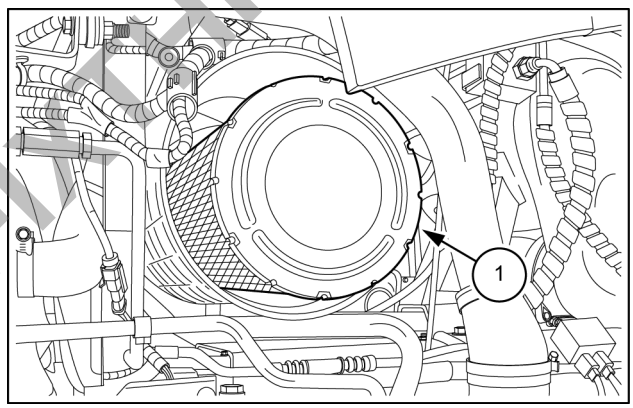
NOTICE: *Replace the outer element only when the restriction indicator symbol appears or at the recommended service intervals. Cleaning of the filter is not recommended.*



BAIL13TR01716AC 1

The dry air cleaner, which is located under the left- hand side of the hood, consists of an inner and outer paper element contained within an easily accessible housing. See Figure **1**.

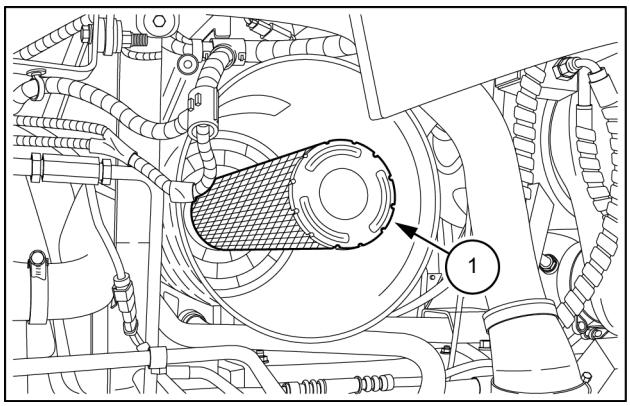
1. Unlatch the three retaining clips **(1)** Fig. **1**, and lift off the air cleaner assembly cover.
2. Remove the outer element **(1)** from the air cleaner assembly by gently twisting the end of the filter clockwise to disengage the seal. Then pull the filter straight out of the housing, not at an angle, ensuring the inner element remains in place.



BAIL13TR01717AC 2

NOTICE: *Do not disturb or remove the inner element.*

3. Examine the inside of the outer element. If dust is present, the outer element is defective and must be replaced. The inner element **(1)** should also be replaced at this time.
4. Ensure the inner element **(1)** is located correctly in the air cleaner assembly before installing the outer element. Refit the end cover and securely latch the three retaining clips.



BAIL13TR01718AC 3

If the restriction indicator light continues to illuminate the inner element may need replacing.

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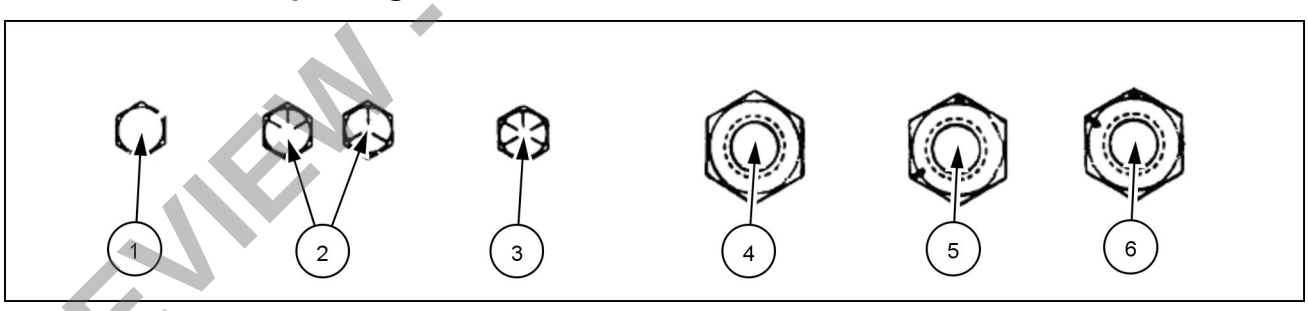
Minimum hardware tightening torques

INCH NON-FLANGED HARDWARE AND LOCKNUTS

NOMINAL SIZE	SAE GRADE 5 BOLT and NUT		SAE GRADE 8 BOLT and NUT		LOCKNUT GrB W/ Gr5 BOLT	LOCKNUT GrC W/ Gr8 BOLT
	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD		
1/4	**9.7 Nm (85.9 lb in)**	**13 Nm (115.1 lb in)**	**14 Nm (123.9 lb in)**	**18 Nm (159.3 lb in)**	**6.9 Nm (61.1 lb in)**	**9.8 Nm (86.7 lb in)**
5/16	**20 Nm (177.0 lb in)**	**26 Nm (230.1 lb in)**	**28 Nm (247.8 lb in)**	**37 Nm (327.5 lb in)**	**14 Nm (123.9 lb in)**	**20 Nm (177.0 lb in)**
3/8	**35 Nm (26 lb ft)**	**46 Nm (34 lb ft)**	**50 Nm (37 lb ft)**	**65 Nm (48 lb ft)**	**26 Nm (19 lb ft)**	**35 Nm (26 lb ft)**
7/16	**57 Nm (42 lb ft)**	**73 Nm (54 lb ft)**	**80 Nm (59 lb ft)**	**104 Nm (77 lb ft)**	**41 Nm (30 lb ft)**	**57 Nm (42 lb ft)**
1/2	**87 Nm (64 lb ft)**	**113 Nm (83 lb ft)**	**123 Nm (91 lb ft)**	**159 Nm (117 lb ft)**	**61 Nm (45 lb ft)**	**88 Nm (65 lb ft)**
9/16	**125 Nm (92 lb ft)**	**163 Nm (120 lb ft)**	**176 Nm (130 lb ft)**	**229 Nm (169 lb ft)**	**88 Nm (65 lb ft)**	**125 Nm (92 lb ft)**
5/8	**174 Nm (128 lb ft)**	**224 Nm (165 lb ft)**	**244 Nm (180 lb ft)**	**316 Nm (233 lb ft)**	**122 Nm (90 lb ft)**	**172 Nm (127 lb ft)**
3/4	**306 Nm (226 lb ft)**	**397 Nm (293 lb ft)**	**432 Nm (319 lb ft)**	**560 Nm (413 lb ft)**	**217 Nm (160 lb ft)**	**305 Nm (225 lb ft)**
7/8	**495 Nm (365 lb ft)**	**641 Nm (473 lb ft)**	**698 Nm (515 lb ft)**	**904 Nm (667 lb ft)**	**350 Nm (258 lb ft)**	**494 Nm (364 lb ft)**
1	**742 Nm (547 lb ft)**	**960 Nm (708 lb ft)**	**1048 Nm (773 lb ft)**	**1356 Nm (1000 lb ft)**	**523 Nm (386 lb ft)**	**739 Nm (545 lb ft)**

IDENTIFICATION

Inch Bolts and free-spinning nuts



20083682 1

Grade Marking Examples

SAE Grade Identification			
1	Grade 2 - No Marks	4	Grade 2 Nut - No Marks
2	Grade 5 - Three Marks	5	Grade 5 Nut - Marks **120°** Apart
3	Grade 8 - Five Marks	6	Grade 8 Nut - Marks **60°** Apart

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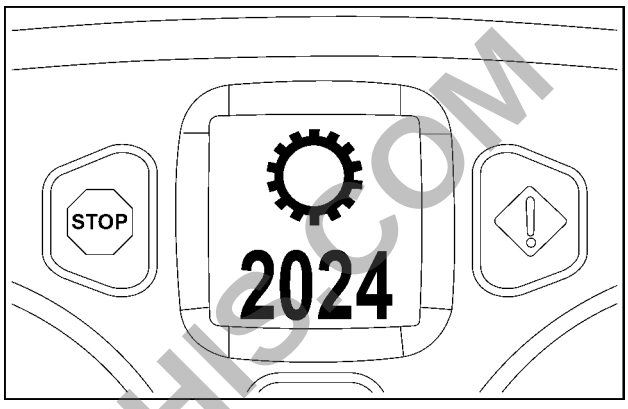
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8 - TROUBLESHOOTING

FAULT CODE RESOLUTION

Introduction

The following information is intended as a guide to assist in identifying and correcting possible tractor malfunctions and fault conditions.



SVIL17TR00611AA 1

Fault codes

Your tractor makes extensive use of electronics to control and monitor major components within the drive line, electrical and hydraulic systems. In the unlikely event of a fault occurring in one of these areas, the malfunction will be identified with a symbol and a four or five digit fault code in the Dot Matrix Display on the instrument panel. The first digit(s) of each number provide the general location of the fault and the subsequent numbers confirm the exact nature of the fault.

The code indicates the faulty circuit or sensor and the type of fault, e.g., open circuit, short circuit, etc. Each fault code will be supported by the relevant symbol displayed above the number.

If a fault code will be displayed in the instrument panel and you are unable to rectify the fault yourself, contact your authorized dealer and report the fault code displayed.

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STARTING THE UNIT

Starting the engine

⚠ WARNING

Hazard to bystanders!
Make sure the area surrounding the machine is clear of all persons before starting the engine.
Failure to comply could result in death or serious injury.

W0090A

Before starting the engine, always carry out the following procedure:

- Sit in the driver's seat.
- Ensure the parking brake is firmly applied.
- Ensure the hand throttle is in the idle position.
- Ensure the shuttle lever is in the downward or park position. (where park brake is fitted)

NOTE: *When starting the tractor it is important not to depress or operate controls other than the ignition key or clutch pedal.*

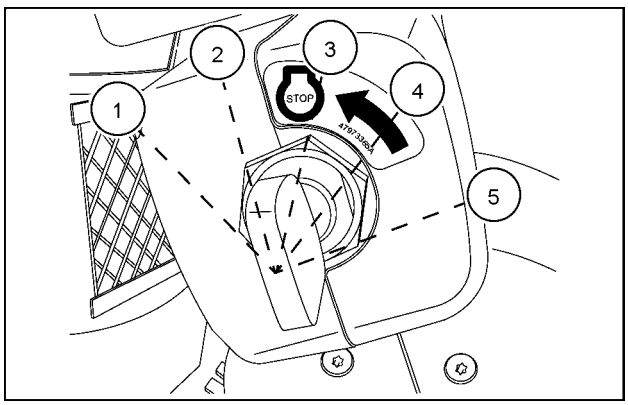
- Ensure that the PTO knob is in the OFF position.
- Place all remote control valve levers in neutral.
- Depress and hold the clutch pedal.

NOTICE: *The high operating speed of the turbocharger makes it essential that adequate lubrication is assured when the engine is started. Therefore, idle the engine at* ***1000 RPM*** *for approximately one minute before driving the tractor.*

Starting in cold weather (with a cold engine)

- Open the hand throttle halfway and turn the ignition key clockwise to position **(4)**. An indicator light **(1)** figure **2**, on the instrument panel will illuminate for **10 – 15 s** to show the grid heater has been activated.
- When the light extinguishes, turn the ignition key fully clockwise to position **(5)**. Crank the engine until it starts but do not operate the starting motor for more than **60 s**.

NOTE: *If cranking is not carried out within* ***30 s*** *of the light extinguishing, turn the ignition key to the OFF position, pause and restart the sequence.*



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ELECTRICAL POWER CONNECTORS

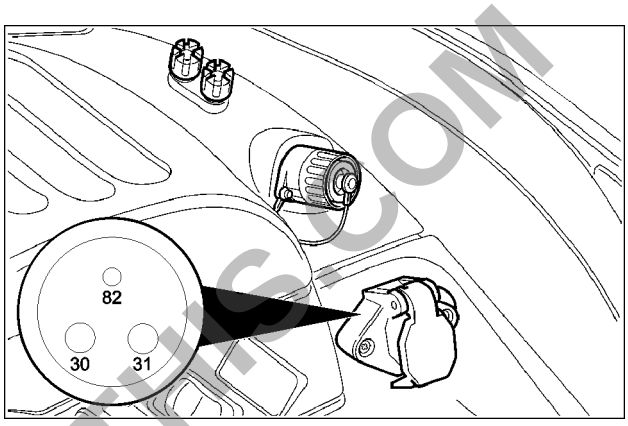
Internal power connectors

Depending on tractor specification there are a number of electrical power connectors provided for various applications. These are as follows:

3 pin power socket

ISO implement power socket. Provides constant and ignition key switched live feeds.

Pin No.
- 30 **25 A** power supply
- 31 Ground
- 82 **10 A** power supply (key switched)

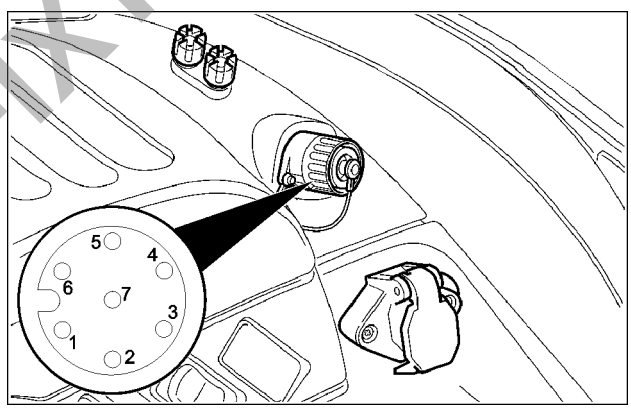


SS10N013 1

7 pin standard signal socket

7 Pole implement socket according **ISO 11786** provides the information below.

Pin No.
- 1 True ground speed. (Radar Sensed)
- 2 Theoretical ground speed.
- 3 Rear PTO speed.
- 4 Rear three-point hitch, in work/out of work.
- 5 Rear three-point hitch position
- 6 **5 A** power supply. (Ignition key switched)
- 7 Common ground connection.

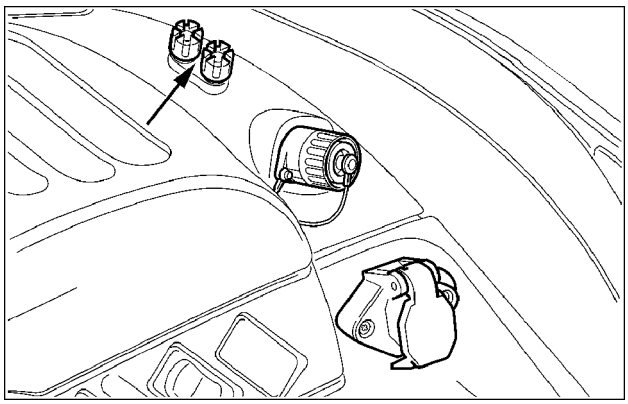


SS10N014 2

Screw terminals

Connect power wires to the red terminal (positive), connect ground wires (earth) to the black terminal (negative). Rating: **10 A**

NOTICE: *To ensure that the screw terminals and connecting cables do not get excessively hot when loaded with near maximum current it is important to make secure, tight connections to prevent overheating and damage. Ensure that equipment is connected to the terminals with cables of suitable gauge and insulation thickness and fitted with appropriate terminal connectors.*



SS10N012 3

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SYMPTOM(S)

Engine

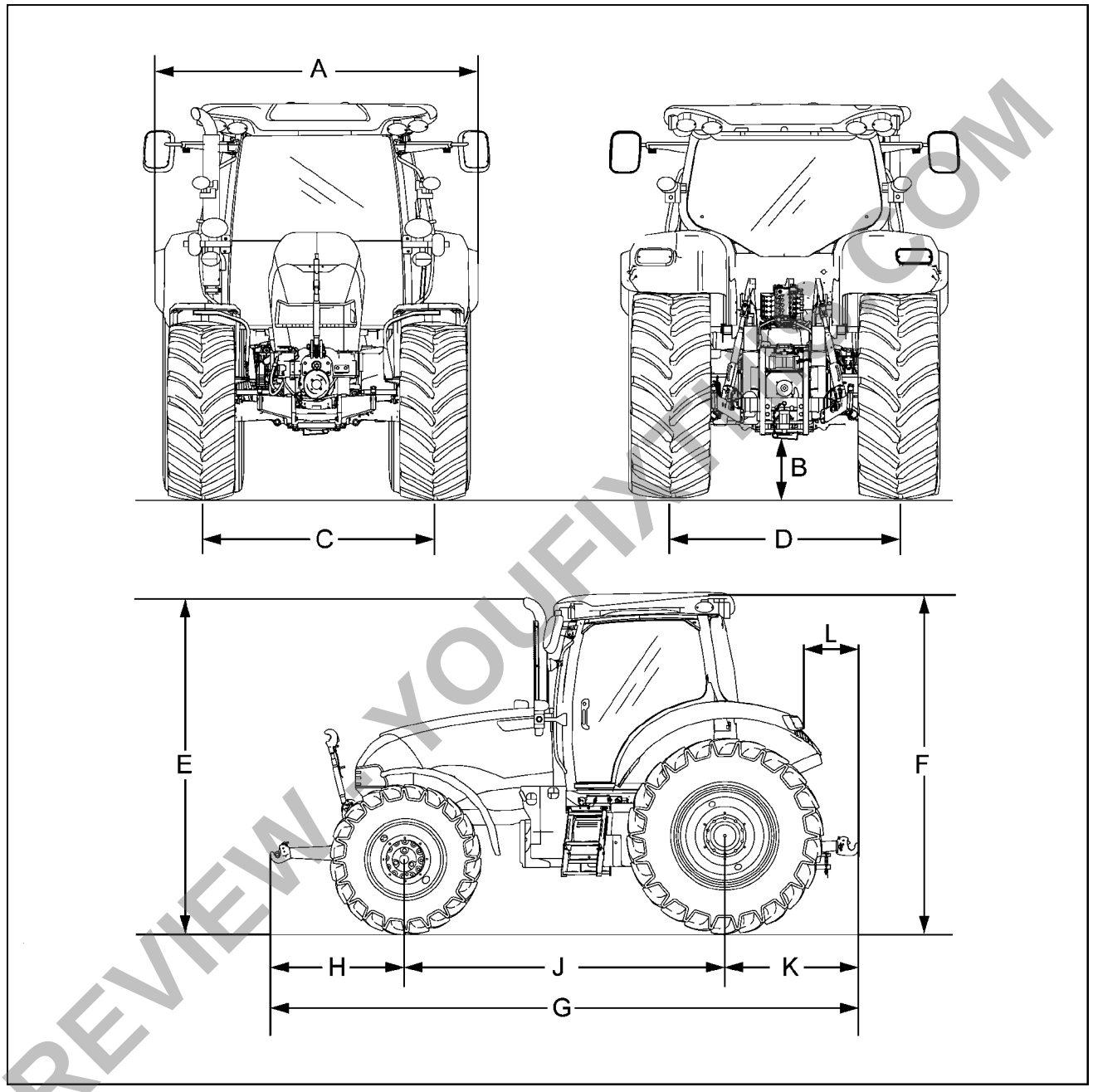
Problem	Possible Cause	Correction
Engine will not start or is difficult to start	Incorrect starting procedure.	Review starting procedure.
	Low or no fuel.	Check fuel level.
	Air in fuel lines.	Bleed fuel system.
	Low ambient temperature.	Use cold starting aid.
	Contaminated fuel system.	Clean and bleed fuel system.
	Clogged fuel filter(s).	Replace fuel filter element(s)
	Malfunctioning fuel pump or injectors.	See your authorised dealer.
	Malfunctioning fuel solenoid or solenoid relay.	See your authorised dealer.
	Incorrect engine oil viscosity.	Use correct viscosity oil.
	Incorrect fuel for operating temperature.	Use correct type fuel for temperature conditions.
	Slow starter speed.	See slow starter speed in Electrical.
Engine runs roughly and/ or stalls	Clogged fuel filter(s)	Replace fuel filter element(s).
	Contaminated fuel system.	Clean and bleed fuel system.
	Fuel solenoid incorrectly adjusted.	See your authorised dealer.
	Fuel cap vent blocked.	Wash cap in clean fuel oil.
Engine lacks power	Engine overloaded.	Shift to lower gear, reduce draft load or ballast carried.
	Air cleaner restricted.	Service air cleaner.
	Low engine operating temperature.	Check thermostats.
	Engine overheats.	See Engine overheats.
	Clogged fuel filter(s).	Replace fuel filter element(s).
	Incorrect fuel.	Use correct type fuel.
	Malfunctioning fuel injectors.	See your authoriszed dealer.
	Malfunctioning fuel injection pump.	See your authorized dealer.
	Leaking air intake boost pipes or exhaust manifold.	Check and rectify or see your authorized dealer.
	Turbocharger malfunctioning.	See your authorized dealer.
	Implement incorrectly adjusted.	See implement Operator's Manual.
Engine knocks	Fuel injection pump timing.	See your authorised dealer.
	Low engine oil level.	Add oil, as required.
	Low engine oil pressure.	See your authorised dealer.
	Low engine operating temperature.	Check thermostats.
	Engine overheats.	See Engine overheats.
Engine overheats.	Low engine oil level.	Add oil, as required.
	Low engine coolant level.	Fill coolant recovery tank. Check cooling system for leaks.
	Defective thermostat(s).	Check thermostat(s).
	Dirty/ blocked radiator core.	Clean.
	Excessive engine overload.	Shift to lower gear, reduce draft load or ballast carried.
	Faulty radiator pressure cap.	Replace cap.
	Cooling system blocked.	Flush cooling system.
	Loose or worn fan belt.	Check tension, adjust or replace belt if worn.
	Leaking hose or connection.	Tighten connection and/ or replace hose.
	Malfunctioning temperature gauge or sender.	See your authorised dealer.
	Malfunctioning vistronic fan.	See your authorised dealer.
Low engine operating temperature	Malfunctioning thermostat(s).	Replace thermostat(s).
	Vistronic fan locked up.	See your authorised dealer.

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9 - SPECIFICATIONS

General dimensions



SVIL17TR01237GA 1

NOTE: *The following dimensions are based on standard tractors fitted with tire size as shown. Allowance must be made for tires of larger or smaller dimensions:*

		4WD (standard and suspension axles)
The following dimensions are based on tractors with tire sizes:	Front	540/ 65R28
	Rear	650/ 65R38
A. Width across rear fenders		
Narrow fenders		**2164 mm** (**85.2 in**)
Wide fenders		**2338 mm** (**92.0 in**)
Wide fenders extensions		**2470 mm** (**97.2 in**)

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Ground speed calibration

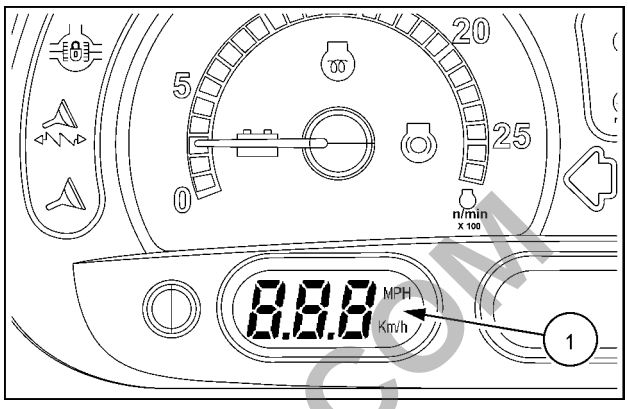
Ground speed display

The lower left-hand LCD provides a permanent display of ground speed **(1)** in Km/h or MPH dependent upon the country in which the tractor is to be used. If required, the display may be changed to read an alternate ground speed unit from that set at the factory.

NOTE: *If the tractor rear tire size is changed, the ground speed display may require re-calibrating to suit the radius of the new tire.*

NOTE: *Illustration shows all displays activated.*

NOTE: *The groundspeed is also shown in the transmission display.*

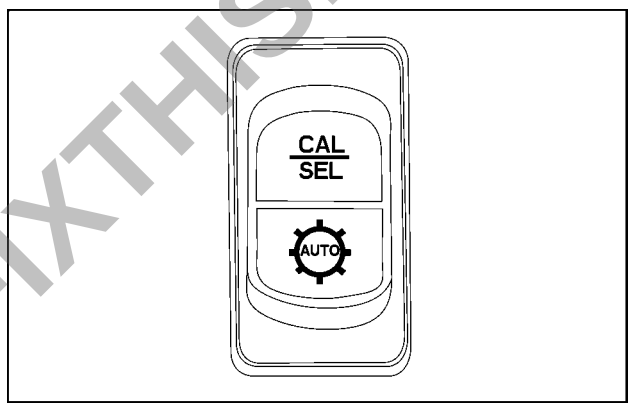


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Changing the ground speed units

Using CAL/SEL switch

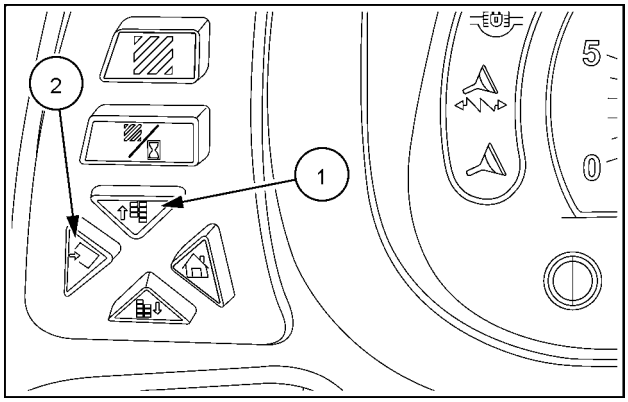
- With the ignition key in the OFF position, depress and hold in the CAL/SEL switch and turn the ignition key ON. The km/h MPH symbols will appear flashing in the display. Release the switch.
- Press the CAL/SEL switch again to toggle between km/h, MPH (UK) and MPH (US). When the required ground speed unit is displayed turn off the ignition key to store the selected speed unit in the memory.



SVIL17TR00869AA 2

Using the enhanced keypad (where fitted)

- With the ignition key ON, depress and hold the menu/enter key **(2)**. SETUP MENU will appear in the DMD but this will change to the warning symbol. release the menu/enter key.
- Using the menu Up key **(1)**, scroll through the menu until the Km/h MPH screen appears.
- Momentarily depress the menu/enter key **(2)** and, using the menu up/down keys, select the required speed reading. To store the setting (value xx saved) and return to the main menu depress the menu/enter key again. Depress the exit/cancel key to return to the original display.



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MAINTENANCE CHART

Maintenance chart

Maintenance action	Replace	Drain fluid	Check	Cleaning	Grease	Charging	Bleed	Change fluid	Adjust	Page no.
WHEN THE WARNING LAMP LIGHTS										
Change the engine air cleaner outer element	x									7-15
Draining the fuel filter water separator		x								7-16
Check the brake fluid level			x							7-17
EVERY 10 HOURS OR EACH DAY										
Check the engine coolant level			x							7-18
Check the engine oil level			x							7-19
Check the remote control valve drain bottles			x							7-20
Check windscreen washer reservoir			x							7-21
Drain air reservoir on air operated trailer brake		x								7-21
FIRST 50 HOURS										
Service operations			x							7-22
EVERY 50 HOURS										
Clean the cab air filter				x						7-24
Clean the cooler section				x						7-26
Clean the SCR cover air ducts				x						7-27
All grease fittings					x					7-28
Check the front and the rear wheel nuts			x							7-35
Check the tire pressures and the tire condition			x							7-35
EVERY 100 HOURS										
Inspect the poly V-belt			x							7-36
Inspect the compressor drive belt			x							7-37
EVERY 300 HOURS										
Check the battery fluid level			x							7-39
Adjust the hand brake					x					7-41
Check the transmission oil level, the rear axle oil level and the hydraulic oil level			x							7-42
Check the 4WD front axle differential oil level and the hubs oil level			x							7-43
Check the front PTO gearbox oil level			x							7-44
EVERY 600 HOURS										
Change engine oil and filter	x									7-45
Change the first stage fuel filter and the fuel filter element	x									7-47
Change the engine air cleaner outer element	x									7-49
Change the charge pump oil filter	x									7-50
Check the engine air intake connections			x							7-51
Check the transmission oil cooler pipe couplings			x							7-52
Clean the DEF/AdBlue in-line filter				x						7-53
EVERY 1200 HOURS OR ANNUALLY										
Change the cab air filters	x									7-54
Change the main oil filter cartridge	x									7-55
Change the 4WD differential oil							x			7-56
Change the 4WD planetary hub oil							x			7-57
Change the front PTO gearbox oil							x			7-58
Grease the rear axle shaft bearing					x					7-59
EVERY 1200 HOURS OR EVERY 2 YEARS										

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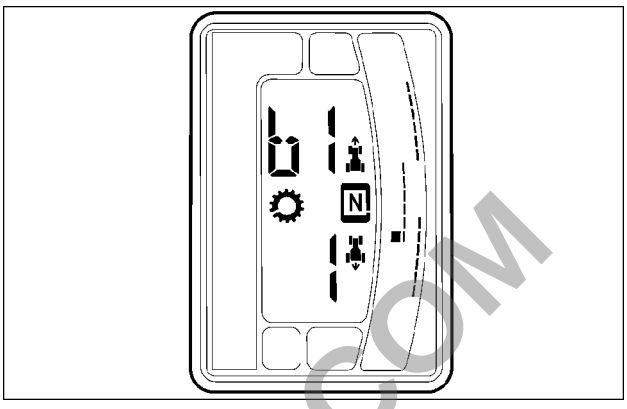
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Driving the tractor

Start the engine with the shuttle lever in neutral and the clutch pedal depressed. The forward/ reverse indicator on the gear display will indicate N (for neutral) and b1. (When the tractor is initially started, the electronic control will automatically select 1st gear in range B).

NOTE: *When gears in range B are selected, the LCD will always display the letter in lower case i.e. 'b'.*

NOTE: *Neutral start switches prevent operation of the starting motor unless the shuttle lever is in neutral and the clutch pedal depressed.*

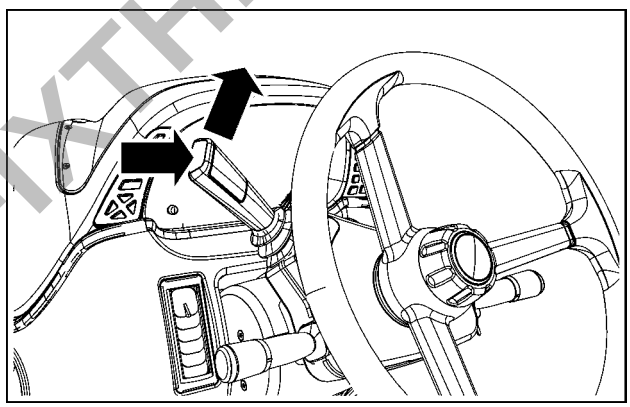


BRJ4977B 1

For forward travel, with the engine idling, pull the shuttle lever toward the steering wheel, against light spring- pressure, and move it up.

Once moving, select the required gear using the upshift or downshift buttons as previously described. An example of the display that you will see is shown in Figure **3** where 'b3' indicates that 3rd gear in range **(B)** is currently selected.

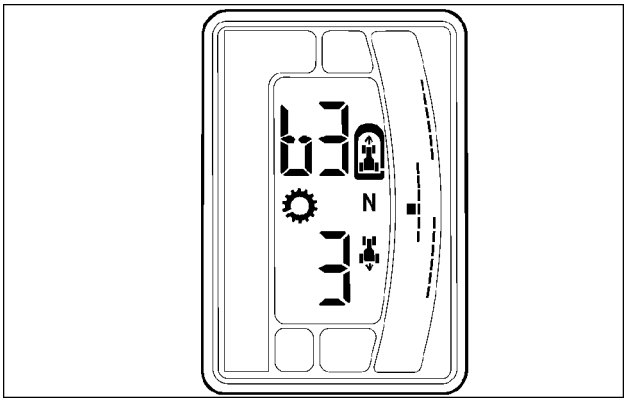
The display also shows the gear that will be selected if the shuttle lever is moved from forward to reverse.



SVIL17TR01588AA 2

NOTE: *An alternative gear ratio may be selected before pulling away. However, if a ratio higher than C1 has been selected this will be ignored and the transmission will select C1, this being the highest ratio permissible when pulling away from a standstill. If, for example, 4th gear in range C is selected before pulling away, the gear segment for C4 will flash but the transmission will select C1. This is confirmed by the segment for gear C! appearing in the display. As the tractor accelerates the transmission will automatically upshift through gears C2, C3 to C4, at which point the gear segment for C4 will cease to flash and become steady.*

When making a range change, the transmission will automatically select the nearest ratio for a smooth change. For example, if travelling forward in range A6, then B2 will be selected when an upward range change is made.



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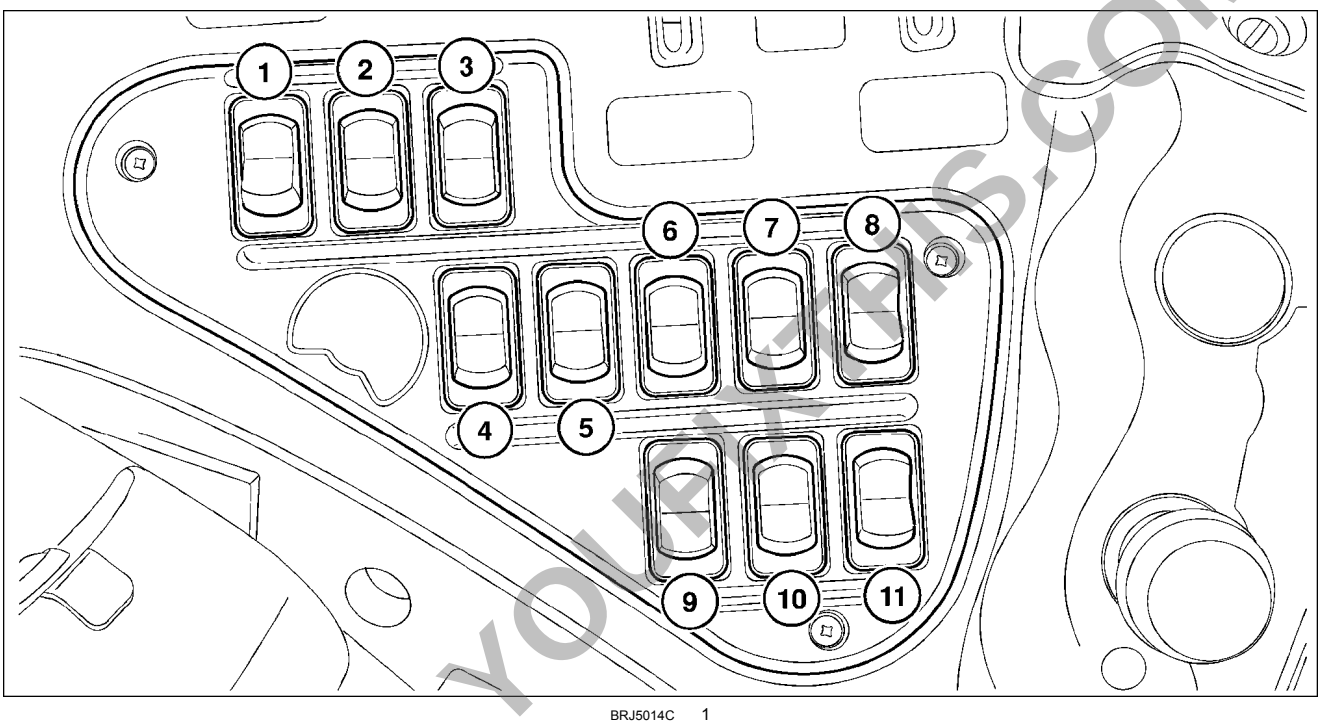
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RIGHT-HAND SIDE CONTROLS

Switch panel

Your tractor is equipped with a number of electronic control switches located on the right-hand side of the cab. Depending on the options fitted to your tractor, some of these switches may have more than one function. A full explanation of individual switch operation can be found in the relevant pages of this manual.

NOTE: *The number and location of the switches within these panels may change depending on country and tractor specification.*



BRJ5014C 1

Right-hand control console

1. Auto Transmission and Cal Select switch (see page **6-19** (Semi-Powershift) or **6-30** (Full-Powershift) and **6-22** (Semi-Powershift) or **6-33** (Full-Powershift)).
2. Shuttle aggressiveness switch (see page **6-12**).
3. Creeper switch (see page **6-24** (Semi-Powershift) or **6-39** (Full-Powershift)).
4. Not used.
5. Not used.
6. Automatic 4WD switch (see page **6-7**).
7. Automatic differential lock switch (see page **6-5**).
8. Engine increase/decrease switch (see page **6-3**).
9. Autoguidance system engage / VRS engage switch (see page **3-43**)
   or
   VRS engage switch only (see page **3-39**)
   or
   Autoguidance system engage switch only (see page **3-42**).
10. Advanced steering system field/road switch (see page **3-38**).
11. CRPM setting switch (see page **6-3**).

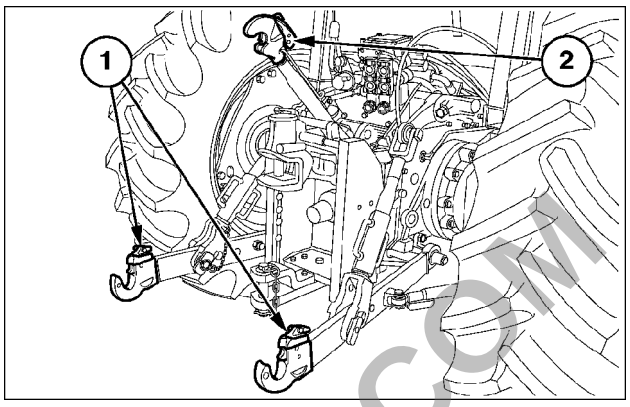
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Quick hitch

The quick hitch consists of an alternative pair of lower links **(1)** and an adjustable top link **(2)**. The lower links and the top link have open claw ends that permit rapid coupling and uncoupling of implements without leaving the cab. The claws are equipped with self-locking latches to ensure positive retention of the tractor linkage to the implement. Cables are provided for attachment to the latches.

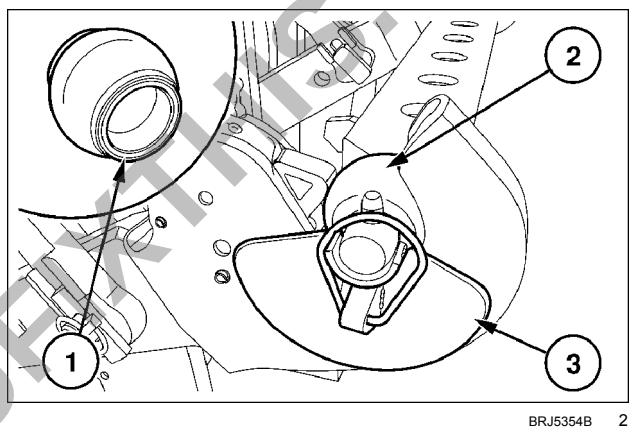
An adjustable spacer spring is available as an accessory. The spring maintains the lower links at the width setting required to match that of the implement.



BRF1820B 1

Three 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 **(2)** with their detachable guides **(3)** should be installed on the implement lower hitch pins.

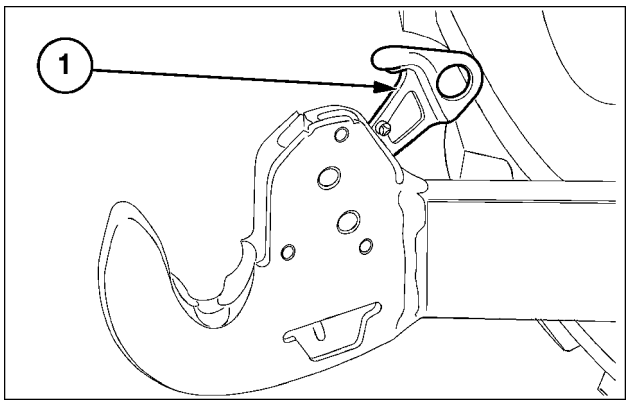


BRJ5354B 2

Coupling implement to tractor

Adjust the stabilizers to maintain the tractor lower links at the correct distance apart so they align with the ball bushings installed on the implement lower hitch pins.

Alternatively, use the optional, adjustable spacer, if available. The space consists of a closed spring, with a rod screwed into one end. To adjust, remove the 'R' clip and disconnect the spacer rod from the bracket on the right-hand lower link. Screw the rod into or out of the spring to shorten or lengthen the assembly.



BRE1709B 3

Place the top link in the transport position. With the link arms fully lowered and the self-locking latches in the unlocked position **(1)** reverse the tractor until the link ends are beneath the implement hitch pins.

The combination of large claw openings and the guides on the implement ball bushes make accurate alignment of tractor to implement unnecessary.

Raise the lower links until the claw couplers engage the ball bushes. An audible click will be heard as the self-locking latches engage the implement ball bushes. Lower the top link claw onto the upper implement ball- bush and press down until the latch is heard to engage. Increase or decrease top link length, as necessary.

The implement supports, where fitted, may now be removed or retracted and the implement supported on the three-point hitch.

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5 - TRANSPORT OPERATIONS

PREPARING FOR ROAD TRANSPORT

Carrying the tractor on a transporter

Transport the tractor with all four wheels on a flat bed trailer or truck. Securely chain the tractor to the transporter.

NOTICE: *Do not chain around the four wheel drive shaft, steering cylinders, front wheel drive axle or other components that could be damaged by contacting the chain or by heavy loading.*

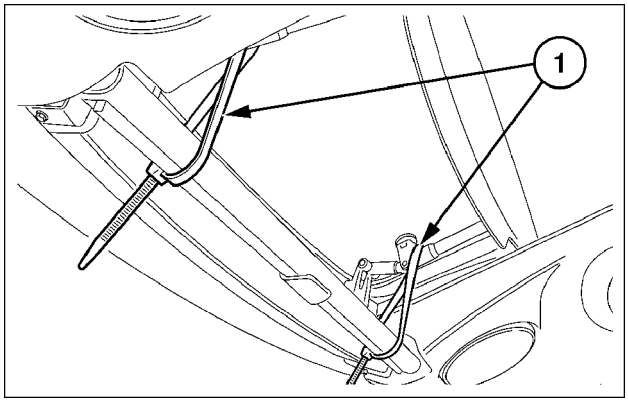
Use the drawbar or drawbar hanger for a rear tie down point.

NOTICE: *Cover the silencer outlet so that the wind does not spin the turbocharger and damage the bearings. Turbocharger turbine freewheeling (turning without engine running) must be avoided since lubrication will not be provided to the turbocharger bearings.*

Secure the high visibility roof panel

Where road speeds in excess of **50 km/h** (**31 mph**) are likely to occur when transporting the tractor, it is advisable to secure the high visibility roof panel with ties to prevent it from opening.

Secure both handles to the sun- visor support using a flexible strap such as a cable tie **(1)** as shown in the illustration. Do not use wire or metal straps as these may damage the paintwork.



BRG3056B 1

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settings and logics may be destroyed and seriously affect the function of the machine. This may result in unpredictable and unsafe behavior of the machine. Always refer to your dealer; he has the appropriate tools and data sets and owns the officially released software versions and updates for your machine.

- Your machine 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 machine. You will be exposed to serious hazards, and moreover, the behavior of the machine may become unpredictable.
- The machine has only one operator station and this is a one man operated vehicle. There is no need for other people on or around the machine during normal operation. Do not allow riders on the machine; do not allow people standing on the access way to the cab when the machine is moving. Your view to the left will be obstructed and a rider risks to fall from the machine during unforeseen or abrupt movements.
- When the machine is taken out of service because it is damaged beyond repair or has reached the end of its useful life, disassembly, scrapping and/or recycling of components, fluids, etc. must be performed only by a qualified technician using service instructions and in compliance with local laws and regulations.

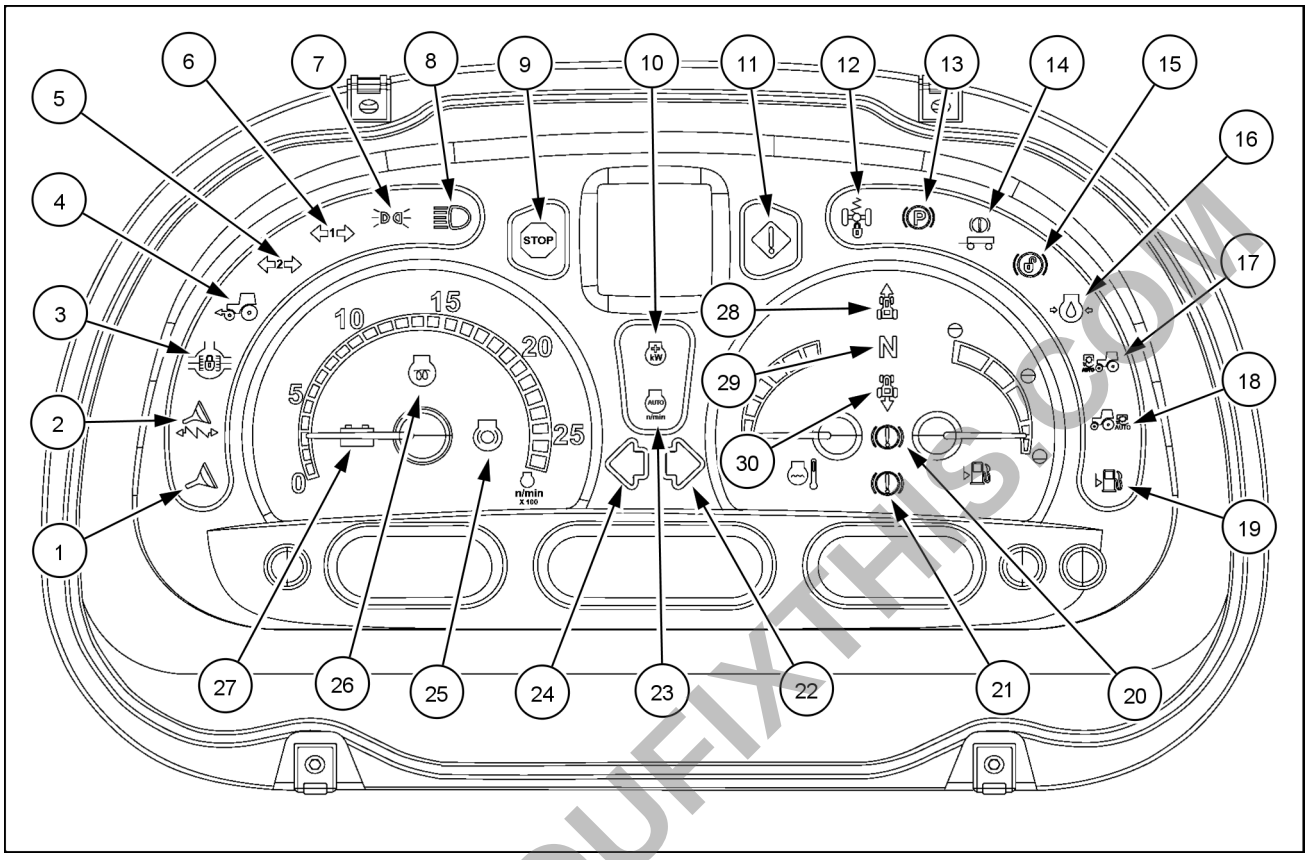
Seat belts

1. Seat belts must be worn at all times.
2. Seat belts are part of your protective system and must be worn at all times. The operator must be held to the seat inside the frame in order for the protective system to work.
3. Seat belt inspection and maintenance:
   - Keep seat belts in good condition.
   - Keep sharp edges and items that can cause damage away from the belts.
   - Periodically check belts, buckles, retractors, tethers, slack take-up system and mounting bolts for damage.
   - Replace all parts that have damage or wear.
   - Replace belts that have cuts that can make the belt weak.
   - Check that bolts are tight on the seat bracket or mounting.
   - If belt is attached to seat, make sure seat or seat brackets are mounted securely.
   - Keep seat belts clean and dry.
   - Clean belts only with soap solution and warm water.
   - Do not use bleach or dye on the belts, because this can make the belts weak.

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Indicator and warning lights



SVIL17TR00709FA 1

The colored lights provide operating information or give warning of system malfunction. Illumination of a warning light may be accompanied by an audible alarm.

NOTE: *All indicator and warning lights will illuminate for a short period at 'key- on' as the electrical system carry out a self diagnostic check.*

1. Advanced steering system — Light will illuminate when advanced steering system is in Field mode and Autoguidance or Variable ratio steering can be enabled. The light flashes when any advanced steering system is suspended because of high vehicle speed.
2. Variable ratio steering active — Light will illuminate when the Variable ratio steering is active. The light flashes when Autoguidance or Variable ratio steering is suspended because of high vehicle speed.
3. Differential lock — Light will illuminate when the differential lock is engaged. In auto differential lock mode, this light will flash when the differential lock is automatically disengaged.
4. Four wheel drive — Light will illuminate when the drive to the front wheels is engaged. In auto four wheel drive mode, this light will flash when four wheel drive has been automatically disengaged.
5. Trailer turn signal — Light will flash with tractor/trailer turn signals when a second trailer is attached.
6. Trailer turn signal — Light will flash with tractor/trailer turn signals when a trailer is attached.
7. Parking lights — Light will illuminate when the tractor lights are switched on.
8. Headlight high beam — Light will illuminate when the tractor lights are switched to high beam.
9. Red stop light — If stop light comes on stop the tractor immediately and investigate the cause. A warning symbol will appear in the Dot Matrix Display (DMD) to confirm the location of the fault.
10. Engine power boost activated — Light will illuminate when power boost is activated.
11. Amber Warning light — Illumination of this light will be accompanied by a warning symbol in the Dot Matrix Display (DMD). Stop the tractor and investigate the cause.
12. Front axle suspension lock — Light will illuminate when the front axle suspension is locked.

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4 - OPERATING INSTRUCTIONS

COMMISSIONING THE UNIT

Refueling the tractor

⚠ 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

⚠ WARNING

Fire hazard!
Do not add gasoline, alcohol, or blended fuels to diesel fuel, except as recommended in this manual.
Fuel combinations may increase fire and explosion hazards.
Failure to comply could result in death or serious injury.

W0401A

NOTE: *Additionally, dieselhol is not approved due to possible inadequate lubrication of the fuel injection system.*

Maintenance requirements

The operator must maintain appropriate DEF/AdBlue® levels at all times. No additional maintenance is required.

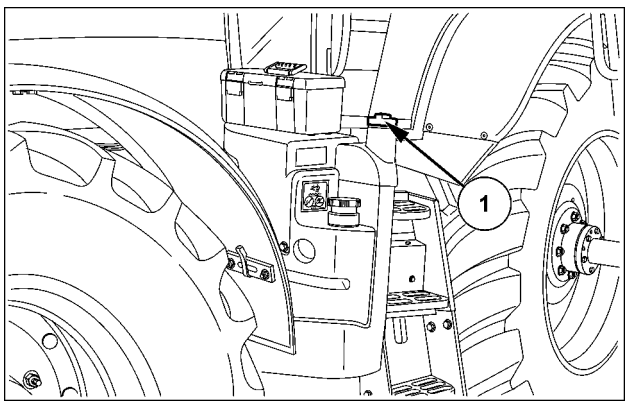
NOTE: *See your CASE IH dealer for replacement components and cleaning agents.*

See pages **7-10** and **7-11** for lubrication oil quality, maximum lubrication oil consumption ratings, and page **7-2** for fuel requirements. Your SCR system is compatible with up to **7%** bio-diesel fuel.

Diesel

When handling diesel fuel, observe the following:

- Fill the tank at the end of each day to reduce overnight condensation.
- Clean the area around the fuel cap **(1)** to prevent dirt from entering tank and contaminating the fuel.
- Never take the cap off or refuel with the engine running. Remove the cap and place in a clean area during refuelling. The cap is attached to the fuel tank by a chain to prevent loss.
- Keep control of the fuel nozzle while filling the fuel tank.
- Don't fill the tank to capacity. Allow room for expansion. If the original fuel tank cap is lost, replace it with a genuine original equipment cap and tighten securely.
- After filling the tank, replace and tighten the fuel cap.
- Wipe up spilled fuel immediately.



SS10J012 1

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Attaching PTO driven equipment

⚠ WARNING

Entanglement hazard!
Before attaching or detaching equipment or changing the Power Take-Off (PTO) shaft: 1) Apply the parking brake. 2) Move all controls to neutral and PTO control knob to the disengaged position. 3) Stop the engine and remove the key. 4) Wait for the PTO shaft to stop turning before leaving the cab. Failure to comply could result in death or serious injury.

W0323A

Mount or hitch the equipment to the tractor as outlined in ‘Three-point hitch’ on page **6-109**.

With the engine stopped, the PTO brake is released and the shaft may be turned by hand to aid implement shaft alignment.

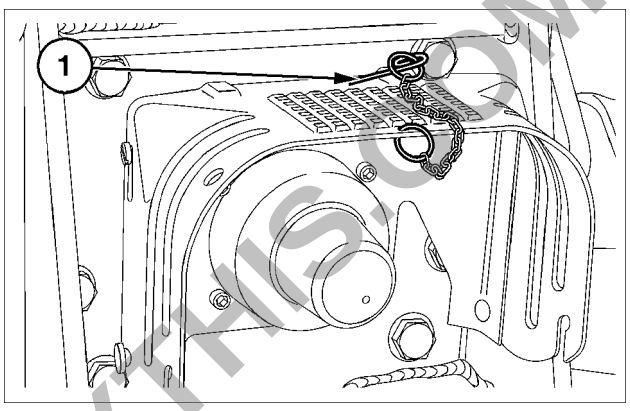
A flip up PTO guard is fitted as standard. Remove the ’R’ clip **(1)** from the locating pin and slide the guard upwards to clear the pin. Rotate the guard to gain access to the PTO shaft. A second locating pin allows the guard to be fixed at **45°** if required.

The PTO guard also serves as a support for drive line shields used with PTO-driven equipment and provides for your safety. Do not modify the guard.

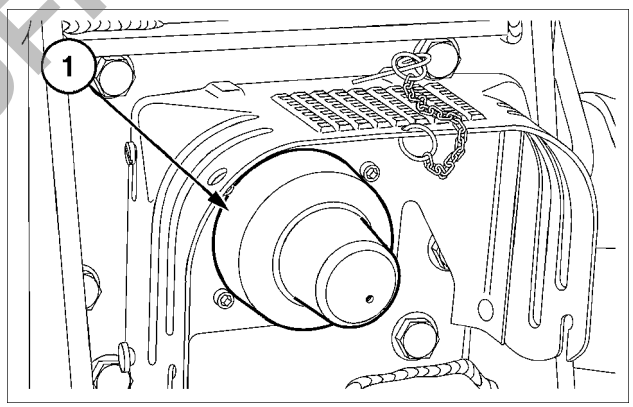
NOTE: *Tractors with slider type, vertically adjustable drawbars have a flip up PTO guard plate fixed to the slider frame.*

To connect PTO-driven equipment to the PTO shaft, tilt the guard up for access. Pull the plastic cap **(1)** from the shaft and store it in the tractor toolbox.

The plastic PTO cap should always be installed over the shaft when the PTO is not in use.



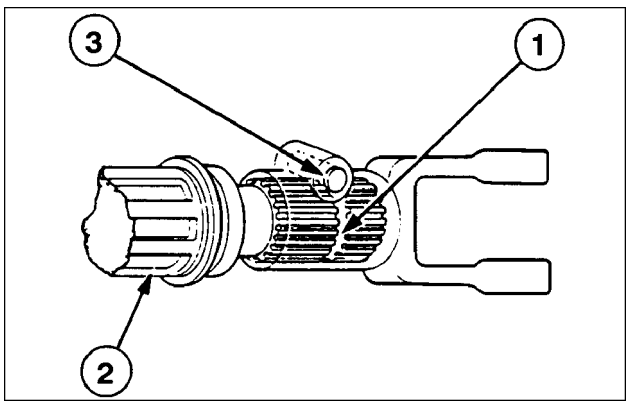
BRE1485B 1



BRE1485C 2

Attach the implement to the PTO shaft, ensuring that the implement driveshaft coupler lock pin **(3)** or detent balls engage the groove in the PTO shaft **(2)**. If the coupler does not have a locking arrangement, pin the coupler to the shaft. Lower the flip up guard and replace the ’R’ clip.

NOTICE: *After attaching mounted equipment, carefully raise and lower using position control and check clearances and PTO shaft slide range and articulation. When attaching trailed equipment, ensure that the drawbar is correctly set.*

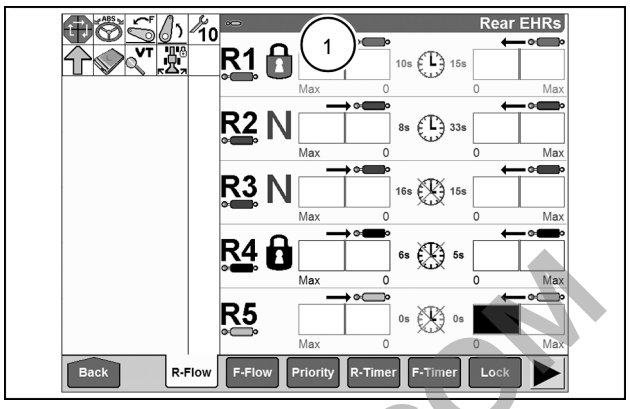


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When the valve is locked, a lock symbol **(1)** will appear in the main EHR information screen to confirm valve status.



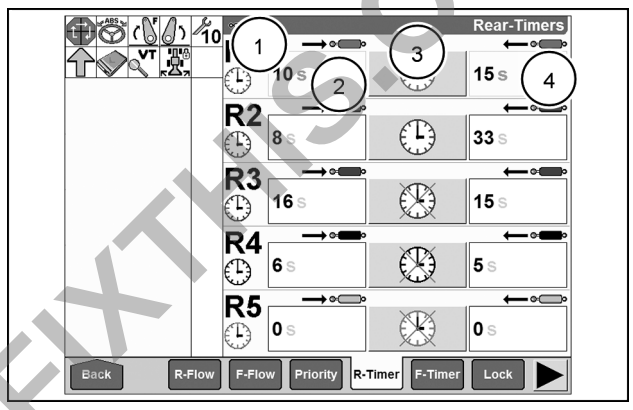
SVIL15TR02326AA 6

Replaying a Timed Programme

A timer sequence can only be activated through the colour display. Select the front timer screen and touch the timer symbol **(3)**.

This will arm the timer function and the timer light will start to flash, move the appropriate lever, joystick or quad switch to initiate oil flow.

To disable the timer function touch the screen again. A cross on the timer symbol will indicate the timer has been disarmed.



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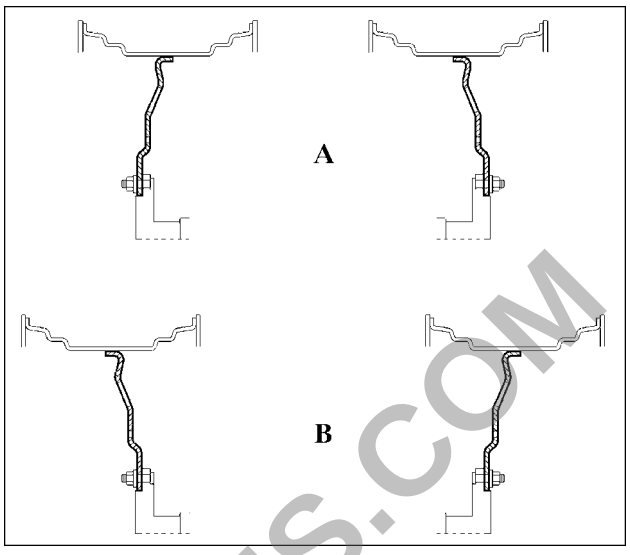
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Track Settings - Fixed Rim (Type 2)

A track adjustment of approximately **50 mm** (**2.0 in**) each side, my be achieved by interchanging wheel assemblies.

Track setting	Disc type 2 (18.4 x 38 tire)
A	**1840 mm** (**72.4 in**)
B	**1834 mm** (**72.2 in**)

NOTE: *Depending on rim type, the above settings may vary by approximately* ***10 mm*** *(**0.4 in**).*



SS10D216 4

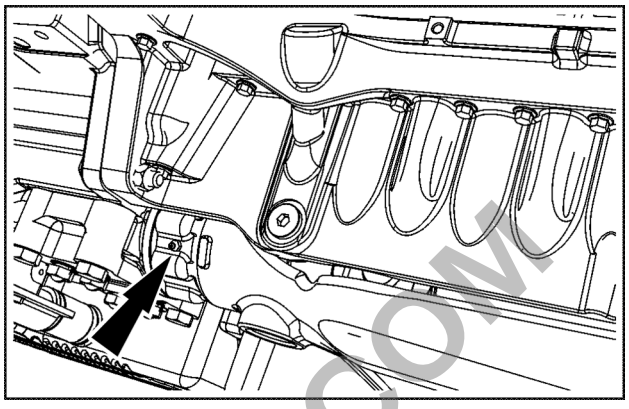
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Drive shaft universal joint (suspended axles only)

Apply a grease gun to the lubrication fitting as shown.

NOTE: *The grease fittings shown is at the rear of the drive shaft. On some models, the shield completely covers the drive shaft and a hole is provided for access.*



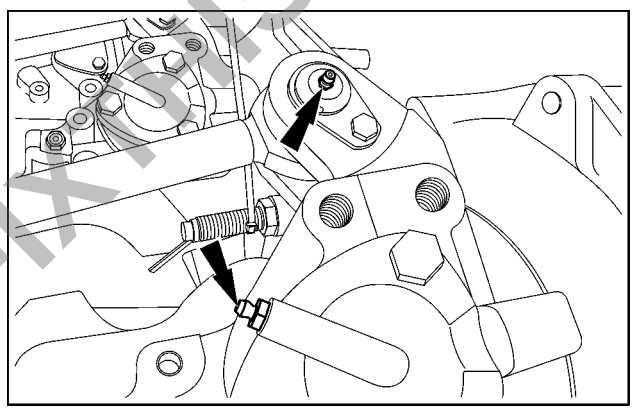
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Upper hub swivel bearings and steering cylinders (all 4WD axles)

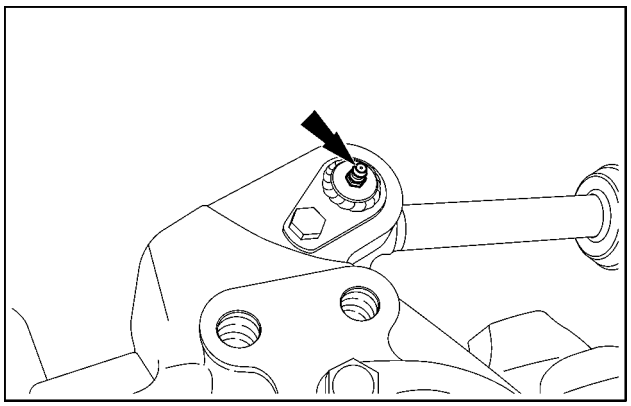
Apply a grease gun to the lubrication fittings as shown.

NOTE: *The right-hand end of the axle is shown. There are similar grease fittings on the left-hand steering cylinder and track control rod.*

NOTE: *Tractors with steering angle sensor have a sealed bearing on the right-hand upper swivel and therefore do not have a grease fitting.*



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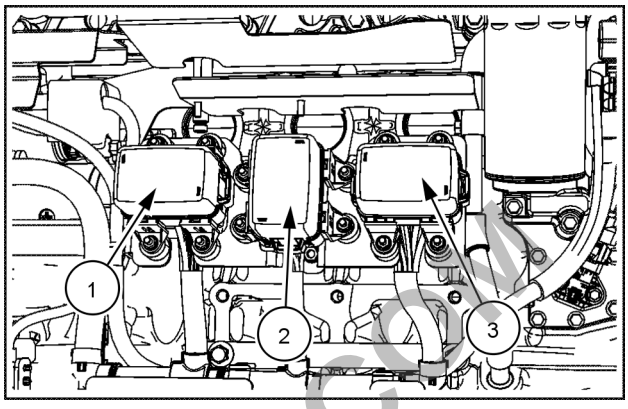
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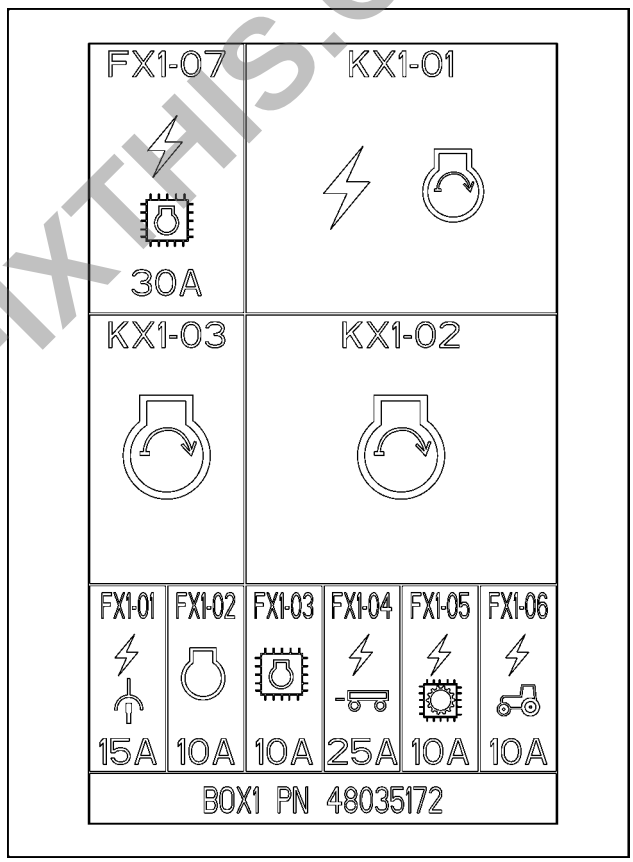
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Fuses and relays in the Power box 1

To access the fuses and relays in the power box 1, remove the cover **(1)** from the power box. After replacing a fuse or relay refit the cover and ensure that the clips for the cover are locked to prevent a build up of dust or debris around the fuses and relays.



SVIL17TR01323AA 7



SVIL17TR00713BA 8

Fuses

Fuse	Ampere	Description
FX1–01	**15 A**	Power socket **40 A** and implement socket (front) – Switched battery power supply
FX1–02	**10 A**	Water in fuel sensor, Flywheel sensor, Brake fluid level switch
FX1–03	**10 A**	Engine Control Unit (ECU) – Permanent battery power supply
FX1–04	**25 A**	Trailer socket rear and front (7-Pin) - Switched battery power supply
FX1–05		Not used
FX1–06		Not used
FX1–07		Not used

Relays

Relay	Description
KX1–01	Ignition relay 3 (switched battery power supply)
KX1–02	Crank relay

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