4 - OPERATING INSTRUCTIONS

Starting the unit

Starting the engine

⚠ DANGER

Run-over hazard!
Start engine only from operator's seat. If you bypass the safety start switch, the engine can start with the transmission in gear and the machine will move. DO NOT short or connect across terminals of the starter solenoid.
Failure to comply will result in death or serious injury.

D0102A

To start the engine:

1. Step onto the tractor from the left-hand side only.
2. Sit on the operator's seat and fasten the seat belt.
3. Make sure that both the gear shift levers and the shuttle lever are in neutral.

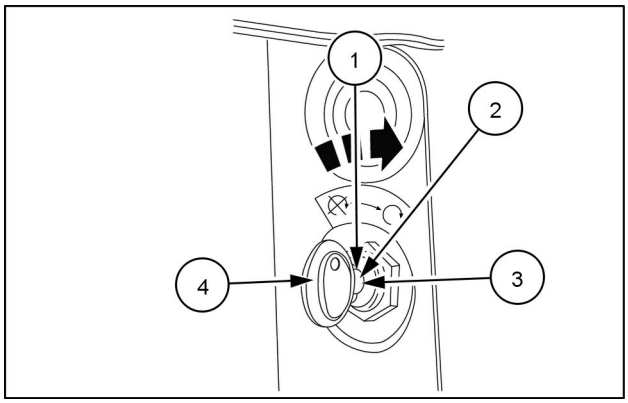
   NOTICE: *Neutral start switch prevents operation of the starting motor unless the gear levers are in the neutral position.*
4. Make sure that the Power Take-Off (PTO) is disengaged.
5. Depress the clutch pedal.

   NOTICE: *Clutch switch prevents the operation of the starting motor unless the clutch pedal is depressed.*
6. Turn the key-start switch to the start position. Release the key when the engine starts.

   NOTICE: *Never push or tow the tractor to start the engine. Doing so may overstress the drive train.*

A three-position key-start switch **(4)** is available. The key-start switch positions are as follows:

Position **(1)**	Electrical equipment 'Off'.
Position **(2)**	Accessories (the head lamp, the instrument cluster, the horn, the gauges, the brake lights, and the turn signals) and the engine 'ON'.
Position **(3)**	Engine start - The full clockwise position activates the starter motor, to start the engine. After the release of the key, the switch returns to 'position **(2)**.



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7 - MAINTENANCE

General information

Lubrication and maintenance general information

Introduction

This section gives full details of the service procedures necessary to maintain your tractor at peak efficiency. The lubrication and maintenance chart provides a ready reference to these requirements ,see **7-9**. Each operation being numbered for easy reference. If in doubt about any aspect of lubrication and maintenance, consult your authorized dealer.

NOTE: *Dispose of used filters and fluids properly.*

⚠ CAUTION

Maintenance hazard!
Always stop the machine before performing any lubrication. Observe the following precautions before leaving the operator's platform: Disengage all drives. Engage the parking brake. Raise the header. Engage the header lifter safety latch. Turn the machine engine OFF. Remove the ignition key.
Failure to comply could result in minor or moderate injury.

C0029A

10 hours or daily check

- Coolant: check coolant level (top up if required)
- Air filter: check clogging indicator (clean if required)
- Check engine oil

During first 50 hour operation

In addition to the regular maintenance operations listed, check the following items every 10 hours or daily during the first 50 hours of operation:

- Check engine oil.
- Check Transmission/Hydraulic, rear axle oil level.
- Wheel nuts for tightness.

NOTICE: *Park the tractor on level ground and where applicable, extend all cylinders on implements or attachments before checking these oil levels.*

The first 50 hour service

At the first 50-hours service, ensure that the following additional service operations are carried out. The items are listed in the "First 50-Hour service" check list

- Change hydraulic oil filter.
- Check and tighten all cooling system hose connections.
- Check and tighten all air intake connections.
- Check and torque front end weight bolts.
- Check torque of all wheel nuts

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8 - TROUBLESHOOTING

Fault code resolution

Maintenance - Troubleshooting

Problem	Possible Cause	Correction
The engine will not start or starts with difficulty	Incorrect starting procedure.	See starting procedure
	Tractor in gear.	Put shuttle lever in neutral.
	Fuel level low or empty.	Check fuel level & fill
	Air in fuel system.	Bleed fuel system.
	Fuel system choked	Contact your authorised dealer.
	Fuel filter clogged.	Replace filter.
	Fuel pump injector faulty.	Contact your authorised dealer.
Improper engine running or stalls after start	Fuel filter clogged	Replace filter
	Poor diesel quality	Drain tank and fill with filtered diesel
	Fuel system choked.	Contact your authorised dealer
	Fuel injector faulty.	Contact your authorised dealer
Engine does not achieving maximum power	Engine overloaded.	Change to lower gear or reduce load.
	Air cleaner dirty	Carry out maintenance on air cleaner.
	Fuel filter clogged.	Replace filter.
	Engine overheating.	See engine overheating.
	Low engine operating temperature.	Check thermostat.
	Fuel injector faulty.	Contact your authorised dealer.
	Tappet clearance incorrect.	Get it adjusted by your authorised dealer.
	Throttle control lever mechanism faulty	Contact your authorised dealer.
	Turbo charger not functionTurbo charger not function	Contact your authorised dealer.
Abnormal engine knock	Oil level low.	Top up the oil level.
	Oil pressure low.	Contact your authorised dealer
	Engine over heating	See engine overheating
	Tappet setting incorrect	Contact your authorised dealer.
Low engine operating temperature	Thermostat malfunction	Replace thermostat.
	Water temperature gauge faulty	Get it checked by your authorised dealer
Engine over heating	Radiator cap defective.	Replace cap.
	Radiator core / fins clogged.	Clean
	Engine overloads	Change to lower gear or reduce load.
	Engine oil level low.	Top up oil level.
	Coolant level low.	Top up coolant level in radiator tank; check system for leakages. In case leakage still persists, contact your authorised dealer.
	Fan/Alternator belt slipping or wornout.	Check belt tension. Replace belt, if worn.
	Thermostat defective.	Change.
	Cooling system clogged internally.	Flush cooling system
	Thermostat not properly functioning.	Check thermostat.
	Hoses leaking.	Tighten hose connections.
	Temperature indicator or gauge not working properly.	Contact your authorised dealer.
Excessive fuel consumption.	Air cleaner dirty or clogged.	Carry out maintenance on air cleaner.
	Engine overloaded.	Change to lower gear or reduce load.
	Tappet clearance wrong.	Contact your authorised dealer.
	Implement wrongly adjusted..	Contact your authorised dealer.
	Engine temperature too low.	Contact your authorised dealer.

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9 - SPECIFICATIONS

General specification

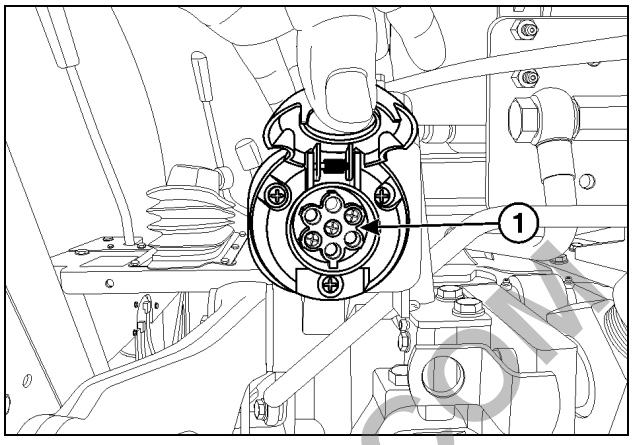
	TT4.80	TT4.90
Engine		
Model	Iveco S8000	
Emission level	Tier 0	
Engine net horsepower	**59 kW** (**80 Hp**)	**65 kW** (**88 Hp**)
PTO Horsepower	**50.0 kW** (**68.0 Hp**)	**54.4 kW** (**74.0 Hp**)
Cylinders	4	
Bore	**104.0 mm** (**4.1 in**)	
Stroke	**115.0 mm** (**4.5 in**)	
Displacement	**3908.0 cm³** (**238.5 in³**)	
Compression ratio	18:01	
Firing order	1-3-4-2	
Aspiration	TC	
Low idle speed	**700±50 RPM**	
High idle speed	**2550±70 RPM**	
Rated speed	**2300 RPM**	
Lubrication type	Force feed and splash	
Capacities		
Main fuel tank	**90.0 L** (**23.8 US gal**)	
Cooling system	**15.0 L** (**4.0 US gal**)	
Engine oil capacity	**10.7 L** (**2.8 US gal**)	
Rear axle and transmission	**37.0 L** (**9.8 US gal**)	
Cooling system		
Type	Pressurized liquid with recirculating bypass	
Fan diameter	**400.0 mm** (**15.7 in**)	
Number of fan blades	6	
Thermostat:		
Start to open at	**77.0 °C** (**170.6 °F**)	
Fully open at	**81.0 °C** (**177.8 °F**)	
Radiator cap pressure	**0.9 Kg/cm²** (**12.8 psi**)	

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3. A connector is given to make electric connection. Lift cover **(1)** as shown to make connection.

NOTICE: *Do not replace a blown fuse with another of a different rating. Avoid using wire in place of fuse.*



GNIL13TR00144AA 2

Rating	Circuit
15 A	Brake switch
20 A	Lamp
20 A	Horn
15 A	Turn signal
20 A	Plough lamp
20 A	Accessories
Spare fuses	
20 A	Spare
15 A	Spare

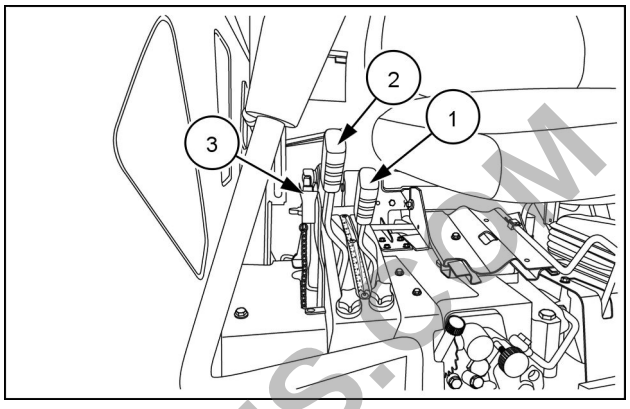
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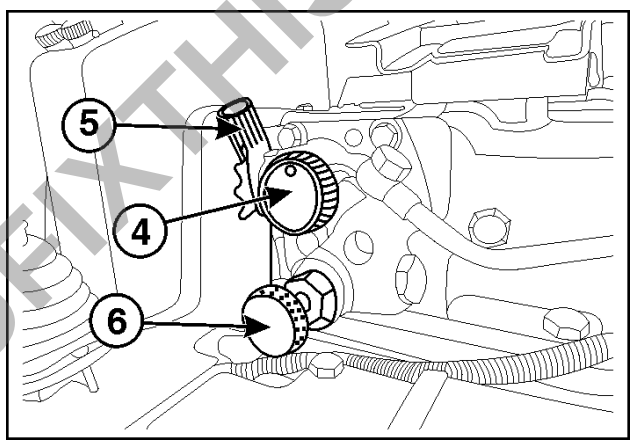
Hydraulic system

This is an open-center hydraulic system, where a hydraulic gear pump constantly circulates hydraulic oil through the hydraulic system. Transmission lubrication oil is used as the hydraulic oil. The system allows the operator to select any of the three controls (position control, draft control, mixed control, and float control).
The Hydraulic Power Lift (HPL) system is operated by the draft control lever **(1)**, position control lever **(2)**, Lift-O-Matic **(3)**, see image **1**, the response control **(4)**, the sensitivity control **(5)** and diverter (tap-off) valve **(6)**, see image **2**.

NOTICE: *Some mounted or semi-mounted equipment may interfere with and cause damage to tractor sheet metal. Check for clearance between the tractor and the implements to avoid damage.*



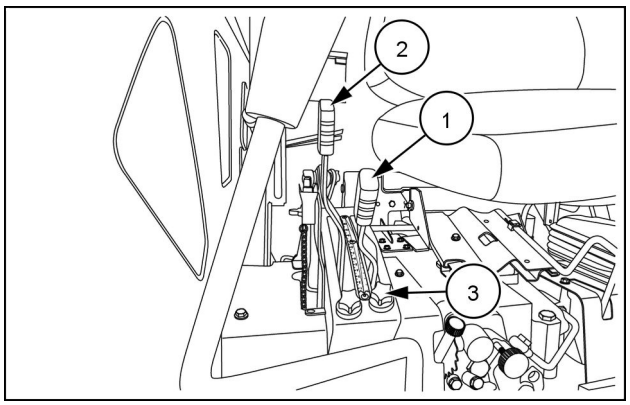
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Position control

The position control lever **(2)** sets the lower position of the hydraulic lift. Position control is best for fixed-level implements that operate above the ground, such as mowers, rakes, and sprayers. Position control keeps the equipment at one position at all times, so it is not recommended for any ground-engaging equipment, unless the field is very flat and the soil is very consistent.
To set the position control, move the draft control lever **(1)** to its full forward position. Then set the implement position lower by moving the position control lever, forward, or set implement position higher by moving the lever rearward.
When operating in position control, the tractor and implement become a single unit that reacts to changing terrain as one piece of equipment. Once you have the position control set, you can raise and lower the attached implement at the end of each pass.
You can limit the range of manual position lever operation by moving and tightening the stop **(3)**.



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6 - WORKING OPERATIONS

General information

Field operation

Before operating

⚠ WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE DEATH OR SERIOUS INJURY.
MAKE SURE THAT EVERY OPERATOR:
-learns and practices the safe use of machine controls in a safe, clear area before operating the machine on a job site.
-clears the work area of all bystanders.
-observes pertinent laws and regulations.
-follows the instructions in this operator's manual.
Failure to comply could result in death or serious injury.

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Read this section carefully for a thorough understanding of operational requirements. Even if you operate other tractors, you should thoroughly read this section of the manual and ensure that you are familiar with the location and function of all the controls of this tractor

Do not start the engine or attempt to drive or operate the tractor until you are fully familiar with all controls. It is too late to learn once the tractor is moving. If you have any questions about the operation of tractor, consult your Authorized Dealer.

For tractor specifications see **9-2**.

Running-in procedure

Your tractor will provide long and dependable service if given proper care during the first **50 h** running-in period and if serviced at the recommended intervals.

Avoid overloading the engine. Operating in a high gear under heavy load may cause engine overloading. Overloading occurs when the engine will not respond to a throttle increase.
Do not operate the engine without a load. This can be as harmful to the engine as overloading. Ensure that the engine is subjected to heavy as well as light loads during the running-in period.

Pre-operation checks

Perform daily lubrication and maintenance operation in accordance with **7-9** .

After completing the daily maintenance operations, perform a walk around visual inspection of the tractor. Pay particular attention and check the following items:

1. Fan belt for cracks.
2. Engine area for accumulation of debris.
3. Hoses, lines, and fittings for leaks and damages
4. Tires for damage.
5. Hardware for looseness.
6. Leakage at joints.

Make any necessary repairs before using the tractor.

Power Take-Off (PTO)

Power Take-Off (PTO) - Grouped Safety Message

⚠ 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

⚠ 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.

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Maintenance chart

Maintenance requirements	Lubricate	Clean	Check	Change	Adjust	Drain	Top-up	Page number
First 50 hours								
Engine oil				■				**7-11**
Engine oil filter				■				**7-12**
Hydraulic oil filter				■				**7-12**
Every 10 hours or daily								
Engine oil level	■						■	**7-12**
Radiator coolant level	■						■	**7-13**
Water separator	■					■		**7-13**
Every 50 hours or weekly								
Water drain plug (fuel filters)						■		**7-13**
Common oil level (transmission / hydraulics / steering)	■						■	**7-14**
Air pre cleaner		■						**7-14**
Clutch pedal free play	■				■			**7-14**
Brake pedal free play	■				■			**7-15**
Wheel, nuts and bolts	■				■			**7-15**
Tire pressure	■				■			**7-16**
Fan and alternator belt tension	■				■			**7-16**
All greasing points (Two-Wheel Drive)		■	■					**7-17**
All greasing points (Four-Wheel Drive)		■	■					**7-18**
Battery electrolyte level	■						■	**7-22**
Front axle housing – 4WD	■						■	**7-19**
Every 150 hours								
Air cleaner outer element		■						**7-20**
Battery electrolyte level	■						■	**7-22**
Every 300 hours								
Dry air cleaner outer element or light glows		■						**7-23**
Fuel filter (primary)				■				**7-23**
Fuel feed pump filter		■						**7-24**
Engine oil and filter				■				**7-11** and **7-12**
Common oil level (transmission / hydraulics / steering)	■						■	**7-14**
Hydraulic oil filter				■				**7-12**
Front axle reduction hubs – 4WD		■						**7-27**
Front axle swivel bearings – 4WD		■	■					**7-27**
Front axle housing oil level – 4WD		■	■					**7-27**
Drive shaft sleeve – 4WD front axle		■						**7-28**
PTO clutch lever free play	■				■			**7-28**
Safety frame bolts	■				■			**7-29**
Every 600 hours								
Air cleaner outer element				■				**7-20**
Fuel filter (primary and secondary)				■				**7-29**
Valve tappet clearance	■				■			**7-29**
Transmission breather		■						**7-30**
Front wheel bearings		■	■					**7-30**
Toe-in	■				■			**7-30**
Every 1200 hours or 12 months, whichever occurs earlier								
Engine air cleaner	■							**7-30**
Fuel injectors	■							**7-30**

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Problem	Possible Cause	Correction
	Incorrect ballast	Add ballast to eliminate wheel slippage. Contact your authorised dealer for further details.
	Fuel injector nozzles faulty.	Contact your authorised dealer.
	Excess tyre pressure/tyre slippage or incorrect ballast.	Inflate tyres to recommended pressure.
	Brakes system faulty/ jammed.	Contact your authorised dealer.
The electrical system does not work.	Battery terminals loose or corroded.	Clean and tighten terminals.
	Sulphated batteries.	Check electrolyte level. After that contact your authorised dealer.
	Low sp. gravity or lack of continuity	Change or re-fill with electrolyte to required sp. gravity.
Low starter motor speed and difficulty in starting engine.	Connections loose or corroded.	Rectify
	Battery discharged.	Check electrolyte level.
Starter motor does not work.`	High-low selector gear & Gear shifter levers engaged.	Move gear levers to neutral.
	Connections loose or corroded.	Clean and tighten loose connections.
	Battery totally discharged.	Charge or replace battery
	Starter motor defective	Contact your authorised dealer.
Alternator Warning light flashes when engine is running.	Engine idling speed is low.	Increase idling speed.
	Fan/Alternator belt loose/ cut.	Check belt tension/ replace if cut.
	Battery faulty.	Check electrolyte level. After that contact your authorised dealer.
	Alternator faulty.	Contact your authorised dealer.
Battery not charging	Terminals loose or corroded.	Clean and tighten terminals.
	Sulphated batteries.	Check electrolyte level
	Belt loose or wornout.	Check belt tension, If necessary, replace the belt.
	Battery defective.	Change
The hydraulic system is not working properly.	Oil level low.	Top up the oil.
	Hydraulic filter clogged.	Replace hydraulic filter.
	Hydraulic system faulty.	Contact your authorised dealer.
	Hydraulic lift pump not functioning properly.	Contact your authorised dealer.
Auxillary control does not work	Hoses not connected correctly	Connect hoses correctly
	System overload	Reduce load or use a suitable cylinder.
	Incorrect couplings	Correct couplings
The linkage does not raise when the control lever is actuated	Linkage not connected properly.	Contact your authorised dealer
	Low pressure setting.	Contact your authorised dealer
	Linkage over loaded	Contact your authorised dealer
The linkage lowers slowly	Linkage rusty or bushing jammed	Clean joints of linkage/ lubricate bushes
	Lowering speed control incorrectly set.	Contact your authorised dealer
The hydraulic lift operates slowly in draft control.	Combined draft/position control incorrectly set.	Adjust combined draft/ position control.
	Lowering speed too slow.	Contact your authorised dealer
	Implement not working properly	Adjust implement settings.
The hydraulic lift operates too fast in draft control.	Combined draft/position control incorrectly set.	Contact your authorised dealer
Brake actuate only when pedal is pressed fully.	Incorrect pedal adjustment	Check and adjust
Tractor pulls to one side when brakes applied.	Brakes not equally adjusted.	Adjust.

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General specification

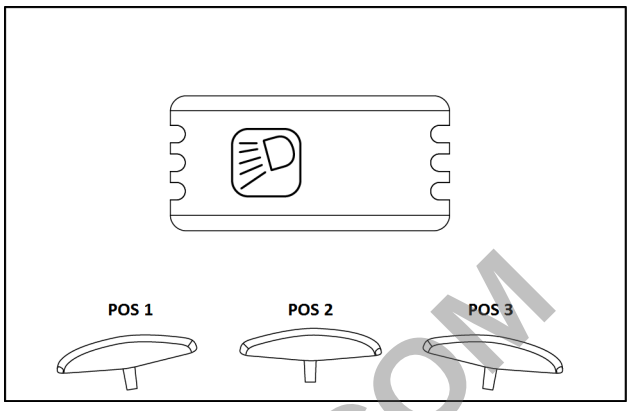
	TT4.80	TT4.90
Engine		
Model	Iveco S8000	
Emission level	Tier 3	
Engine net horsepower	**59 kW** (**80 Hp**)	**65 kW** (**88 Hp**)
PTO Horsepower	**50.0 kW** (**68.0 Hp**)	**54.4 kW** (**74.0 Hp**)
Cylinders	4	
Bore	**104.0 mm** (**4.1 in**)	
Stroke	**115.0 mm** (**4.5 in**)	
Displacement	**3908.0 cm³** (**238.5 in³**)	
Compression ratio	18:1	
Firing order	1-3-4-2	
Aspiration	TCA	
Low idle speed	**650±50 RPM**	
High idle speed	**2550±50 RPM**	
Rated speed	**2300 RPM**	
Lubrication type	Force feed and splash	
Capacities		
Main fuel tank	**90.0 L** (**23.8 US gal**)	
Cooling system	**15.0 L** (**4.0 US gal**)	
Engine oil capacity	**10.7 L** (**2.8 US gal**)	
Rear axle and transmission	**37.0 L** (**9.8 US gal**)	
Cooling system		
Type	Pressurized liquid with recirculating bypass	
Fan diameter	**450 mm** (**17.7 in**)	**450 mm** (**17.7 in**)
Number of fan blades	10	
Thermostat:		
Start to open at	**77.0 °C** (**170.6 °F**)	
Fully open at	**81.0 °C** (**177.8 °F**)	
Radiator cap pressure	**0.9 Kg/cm²** (**12.8 psi**)	

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Front and rear canopy LED light switch

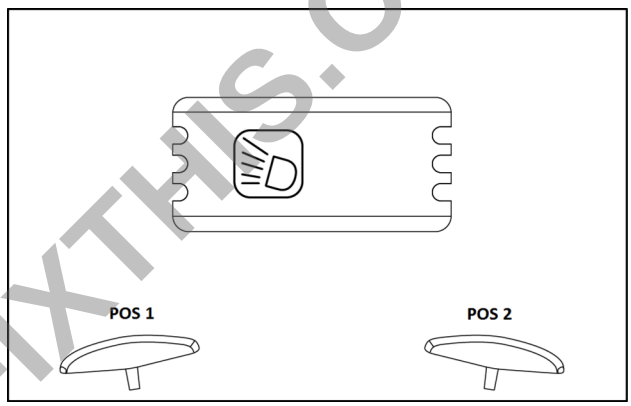
It has three positions, see image **6**
Position **(1)** — Front and rear canopy LED lights ON
Position **(2)** — Front canopy LED lights ON
Position **(3)** — All canopy LED lights OFF



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Front canopy LED light switch

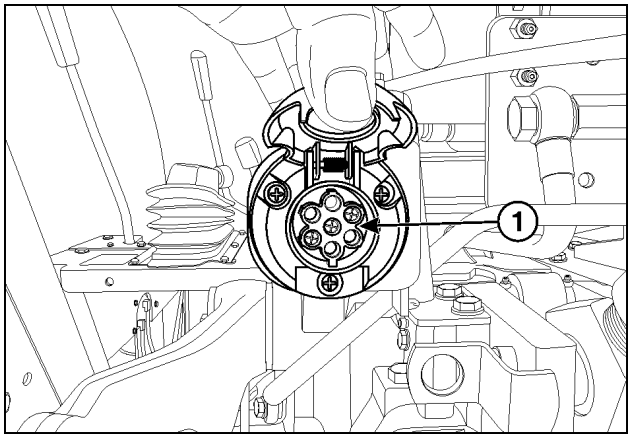
It has two positions, see image **7**
Position **(1)** — Front canopy LED lights ON
Position **(2)** — Front canopy LED lights OFF



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Trailer electrical socket

A standard 7-pin trailer socket **(1)** is a standard equipment and it is mounted to the left-hand side of ROPS cross brace.
The trailer socket pin connections are as follows:



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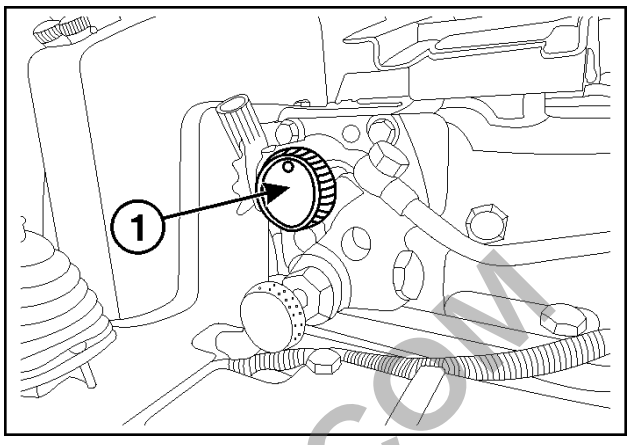
Contact No.	Function	Core insulation color
1	Left-hand direction indicator light	Yellow
2	Rear fog light	Blue
3	Common return	White
4	Right-hand direction indicator light	Green
5	Right-hand rear position and marker lights, and rear registration plate illumination device	Brown
6	Stop lights	Red
7	Left-hand rear position and marker lights, and rear registration plate illumination device	Black
NOTE: *Connect the rear registration plate illumination device in such a way that no lamp of the device has a common connection with the contacts 5 and 7.*		

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Response control

The response control knob **(1)** varies the speed of the drop of the lower links.
Clockwise rotation -- Increases speed of drop
Counter-clockwise rotation - Decreases speed of drop

NOTICE: *To lock implements in transport position when driving on road, fully raise the position control lever* ***(2)****, see* ***1*** *and screw in (rotate anti-clockwise) knob* ***(1)****, see* ***10****.*



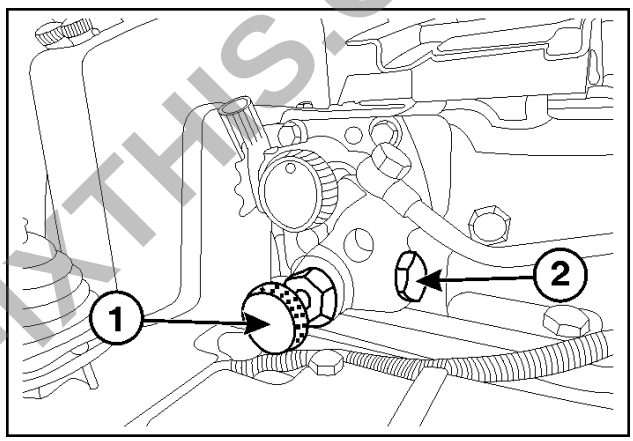
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The diverter valve and the external supply port

The diverter valve **(1)** is used to divert oil, normally flowing to the lift cylinder of the three-point linkage, to the external supply port. A single acting cylinder can be connected to this external port and be operated by the draft control lever.

- Connect the port **(2)** to the single acting cylinder.
- For safety, fully lower the lift arms by putting down both the draft control lever and the position control lever to relieve any pressure in the system.
- Screw in the diverter valve **(1)** completely in order to block the passage to the hydraulic lift cylinder.
- To activate the external cylinder slowly move the draft lever up the quadrant. Lifting will start when the draft lever reaches anywhere between the 9 - 12 mark on the quadrant.
- To stop the movement of external cylinder move the draft lever a little forward to find the neutral position.
- To discharge the oil from external cylinder move the draft lever down the quadrant.

NOTE: *Keep the diverter valve* ***(1)*** *fully open during the tractor hydraulic lift operations.*



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