Safety rules



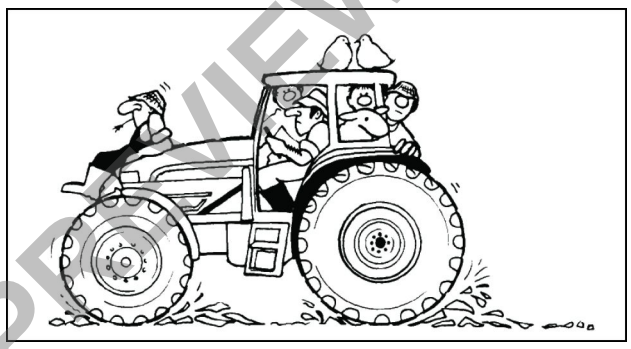
This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

Precautionary Statements

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 tractor. Equipment should be operated only by those who are responsible and instructed to do so.

The Tractor

1. Read this Operator's Manual carefully before using the tractor. Lack of operating knowledge can lead to accidents.
2. Only allow properly trained and qualified persons to operate the tractor.
3. To prevent falls, use the handrails and step plates when getting on and off the tractor. Keep steps and platform clear of mud and debris.
4. Replace all missing, illegible or damaged safety decals.
5. Keep safety decals free of dirt or grime.

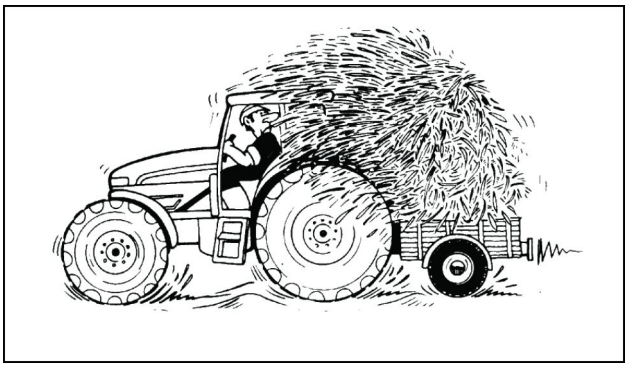


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6. Do not permit anyone but the operator to ride on the tractor. It is unsafe for extra passengers to travel.
7. Keep children away from the tractor and farm machinery at all times.
8. Do not modify or alter or permit anyone else to modify or alter the tractor or any of its components or any tractor function without first consulting your dealer.
9. Install all guards before starting the engine or operating the tractor.
10. Tractor wheels are very heavy. They need to be handled with care. Ensure that they are stored at a place where they do not fall down & cause injury.

Driving The Tractor

1. Always sit in the driver's seat while starting or driving the tractor.
2. When driving on public roads, have consideration for other road users. Pull in to the right side of the road occasionally to allow any following traffic to pass. Do not exceed the legal speed limit set for agricultural tractors.
3. Dip the tractor lights when meeting a vehicle at night. Make sure the lights are adjusted to prevent blinding the driver of an oncoming vehicle.
4. Reduce speed before turning or applying the brakes. Brake both wheels simultaneously when making an emergency stop. Ensure that both brake pedals are locked together when travelling at road speeds or when on public roads ensure correct operation of trailer brakes.



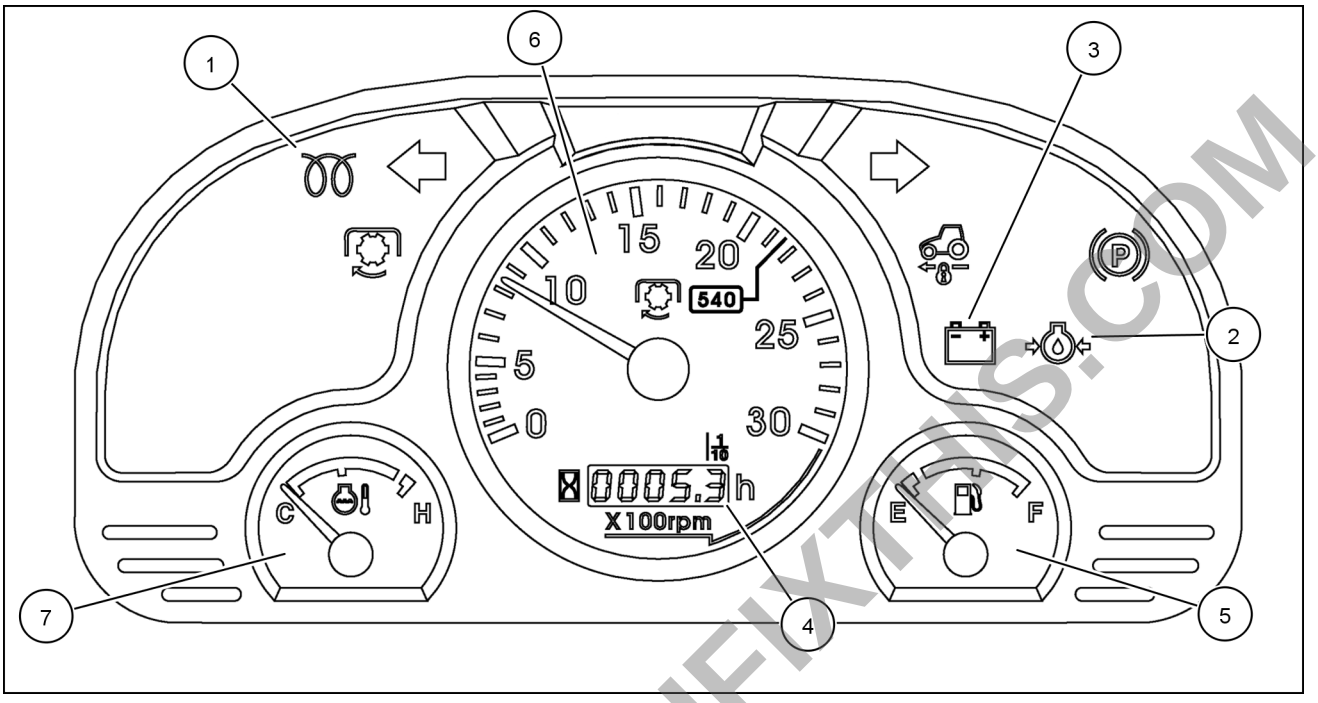
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5. Use extreme caution and avoid hard application of the tractor brakes when towing heavy loads at road speeds.
6. Keep the tractor in the same gear when going downhill as would be used when going uphill. Do not coast or freewheel down hills.

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FORWARD CONTROLS

Instrument panel



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1. Cold Starting Indicator Light - Illuminates when the key switch is first turned to the "ON" position. It remains lit for approximately eight seconds, during which time the glow plugs are heating the precombustion chambers.
2. Engine Oil Pressure Warning Light - Illuminates with the key switch in the "ON" position and remains lit for a short period of time after the engine is started. The light indicates oil pressure only and goes out when sufficient oil pressure is present at the oil sender. If the bulb becomes lit during operation, stop the tractor engine immediately and investigate the cause.
3. Battery Charge Warning Light - Illuminates when the key switch is in the "ON" position and goes out when the engine is started. If this bulb becomes lit during operation, it indicates that the charging system is not operating normally. As the battery can become fully discharged under these conditions, the problem should be investigated as soon as possible.
4. Hour Meter - Records the hours and portions of hours that your tractor has been operated regardless of engine RPM. Use the hour meter as a guide to determine hourly service and maintenance intervals.
5. Fuel Gauge - Indicates the amount of diesel fuel remaining in the tank. The gauge is activated when the key switch is in the "ON" position. It will register "empty" with the key switch in the "OFF" position.
6. Tachometer - Registers engine rpm (Revolutions Per Minute). The gauge is marked in increments of 100 and will return to zero when the engine is not running.
7. Temperature Gauge - Indicates coolant temperature. It is activated when the key switch is turned to the "ON" position. The gauge will register cold with the key switch in the "OFF" position. If the needle registers in the white range of the gauge, this indicates a normal operating temperature. If the needle moves to the red portion of the gauge, this indicates an overheated condition. Stop the tractor engine immediately and investigate the cause.

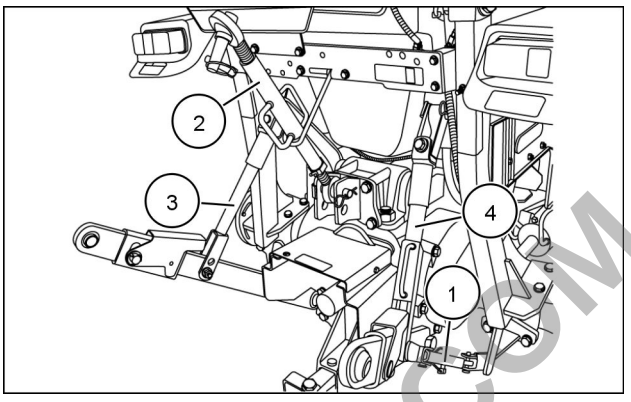
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Three-point linkage

The tractor's three-point linkage is used to attach three-point mounted equipment which is usually PTO operated, such as rotary mowers, tillers, flail mowers, snowblowers, etc. The three linkage points are the two lower lift arms and the top link.

The three-point linkage has easy to adjust sway bars **(1)** to control lateral movement of the lift arms. The length of the top link **(2)** and the height of the left-hand and right-hand lift arms **(3)** and **(4)** can be adjusted to ease the attachment of implements and to level the implement after attaching.



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MAINTENANCE CHART

Maintenance Chart

Overview

⚠ 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

This section details the necessary requirements to keep your machine working at its maximum efficiency. A lubrication and maintenance chart facilitates a quick query of the requirements. If you have questions regarding any lubrication or service issue, contact your Case IH Dealer.

Service Interval	Service Requirements	Check	Clean	Lube	Change	Adjust	Page No.
Every 10 hours or Daily	Engine Oil Level	x					
	Transmission/Rear Axle Oil Level	x					
	Radiator Screen, Oil Cooler	x	x				
	Engine Cooling Fluid Level	x					
	Engine Air Filter	x					
	Wheel and Tires	x					
First 50 Hours	Engine oil and filter				x		
	Hydraulic Filter				x		
	H.S.T. Filter				x		
	Fuel Filter				x		
	Wheel Bolt Torque	x				x	
	Tire Air Pressure	x				x	
	ROPS Attaching Hardware	x				x	
	All Fluid Levels	x				x	
	Brake Pedal Free Play	x				x	
	Clutch Pedal Free Play	x				x	
Every 50 Hours	Front Axle Oil Level (4WD)	x					
	All Grease Fittings			x			
	Battery	x					
	Fuel Filter Sediment Bowel		x				
	Clutch Pedal Free Play	x				x	
	Brake Pedal Free Play	x				x	
	Park Brake	x				x	
	HST Pedal Return to Neutral	x				x	
	All Hardware for Tightness	x				x	
	Wheel and Tires	x					
	Turn signals, Front Lights Instrument Panel Indicator Lights, Horn	x					

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LUBRICATION SYSTEM

Recommended lubricants and coolants

Lubricant	Type and Description	Part Number	Container Size
Engine Oil	**CASE IH AKCELA ENGINE OIL 10W-30**	**104104A1**	**0.946 l** (**1 US qt**)
		139033A1	**3.785 l** (**1 US gal**)
		104106A1	**18.93 l** (**5 US gal**)
	CASE IH AKCELA ENGINE OIL 15W-40	**407410R2**	**0.946 l** (**1 US qt**)
		139034A1	**3.785 l** (**1 US gal**)
		407414R2	**18.93 l** (**5 US gal**)
Transmission/Hydraulic Oil	**CASE IH AKCELA NEXPLORE™ FLUID**	**404787A1**	**18.93 l** (**5 US gal**)
	CASE IH F200A HYD FLUID	**B17805**	**18.93 l** (**5 US gal**)
Front Axle/Gear Oil	**CASE IH AKCELA GEAR 135 H EP 80W-90**	**87299775**	**0.946 l** (**1 US qt**)
		87299136	**18.93 l** (**5 US gal**)
Grease	**CASE IH AKCELA MULTI-PURPOSE GREASE 251H EP**	**132096A1**	Tube **14 oz**
Coolant	Ethylene Glycol Coolant Concentrate		

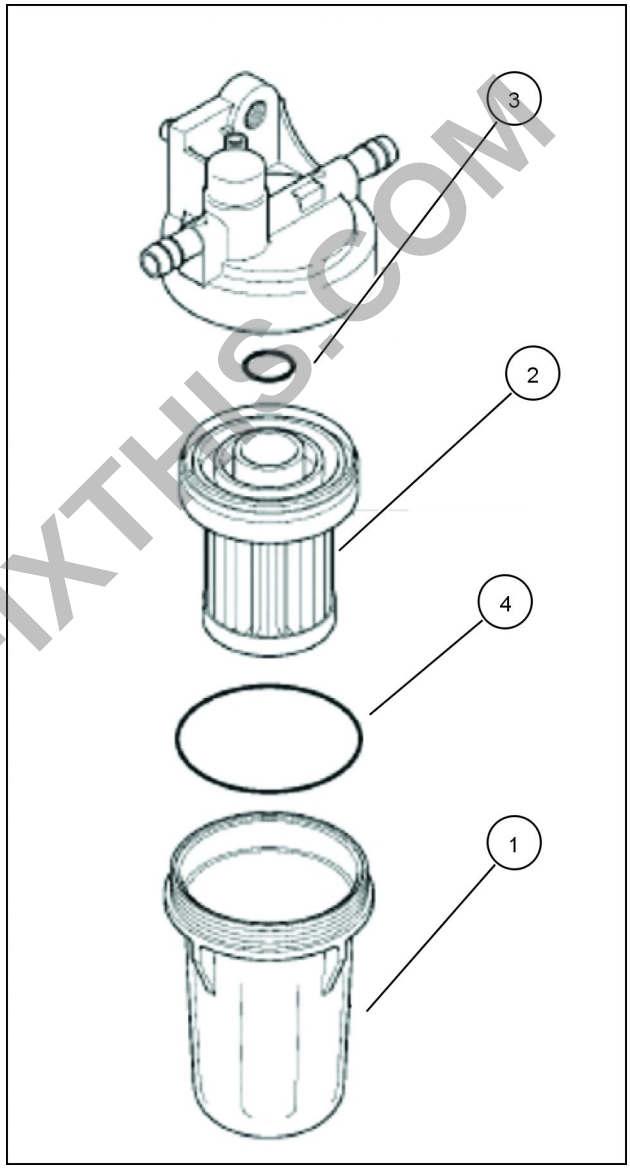
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Fuel filter system Fuel filter - Replace

NOTE: *Change the diesel fuel filter after the first 50 hours of operation, then following every 300 operating hours thereafter.*

1. Close off the fuel inlet hose to the fuel filter.
2. Remove the sediment bowl **(1)** by rotating bowel from the base.
3. Open fuel inlet hose, to drain any remaining water from the tank.
4. Pull element with plastic base from fuel filter housing **(2)** and install a new element.
5. Inspect the O-rings **(3)** and **(4)** and replace if necessary.
6. Install and securely tighten the sediment bowl.
7. Open the fuel inlet hose, so fuel will flow to the filter.
8. Bleed the fuel filter and injection pump as described in **7-14**.



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NOTE: *There is not a fuel shutoff valve in the fuel system. To stop the fuel flow from the fuel tank, the fuel inlet hose to the fuel filter has to be removed from the fuel filter base and a plug installed or the fuel hose needs to be crimped shut to shutoff the fuel flow.*

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8 - TROUBLESHOOTING

SYMPTOM(S)

ENGINE - Troubleshooting

Problem	Possible Cause	Correction
The start motor does not rotate with the key switch in the (START) position.	Low battery charge	Charge or replace
	Loose battery or starter cable terminals	Tighten the terminal
	Key switch faulty	Repair or replace switch
	Safety start switch not completing circuit	Depress clutch pedal fully
	PTO safety switch is not in "OFF" position	Place PTO switch in "OFF" position
	Starter motor faulty	Repair or replace starter motor
The start motor rotates but the engine does not start	Low battery charge	Charge or replace battery
	Air in fuel system	Bleed out the air
	Fuel filter clogged	Clean or replace the filter
	Fuel shutoff valve on fuel filter in closed position	Open the valve
	Fuel shutoff solenoid on fuel injection pump stuck in off position	Check solenoid for proper operation, repair as needed
Engine speed is irregular	Air in fuel system	Bleed the fuel system
	Fuel filter clogged	Clean or replace the filter
	Injection nozzle clogged	Repair or replace nozzle
	Fuel leakage	Repair fuel system
	Irregular fuel injection	Repair or replace fuel injection pump
Engine speed is more than maximum rated high idle speed	Governor malfunction	Repair injection pump as needed
Engine stops suddenly during operation	Fuel shortage	Add fuel and bleed air from fuel system
	Faulty fuel injector	Repair or replace injector
	Faulty fuel injection pump	Repair or replace injection pump
	Internal parts of engine seized due to lack of lubrication	Repair engine as needed
Engine stops at low speed	Faulty injection pump	Repair or replace injection pump as needed
	Engine valve gap is not correct	Adjust the gap
	Low fuel injector pressure	Repair fuel injector as needed
Engine overheating	Lack of coolant	Add coolant as needed
	Fan belt slipping or belt is broken	Adjust belt tension or replace belt
	Dirt attached to the radiator or prescreen	Clean radiator fins or screen as needed
The color of exhaust smoke is white	Low engine operating temperature	Allow engine to obtain higher operating temperature
	Engine burning engine oil	Repair engine as needed
	Engine coolant entering engine exhaust	Repair engine as needed
The color of exhaust gas is black.	Air filter clogged	Clean or replace engine air filter
	Excessive fuel supply	Repair fuel injection pump as needed
	Faulty fuel injector	Repair or replace fuel injector
Low engine power	Fuel injector nozzle clogged	Repair injector as needed
	Carbon accumulation on valve seat	Repair valve and seats as needed
	Incorrect valve gap adjustment	Adjust valve gap to correct amount
	Incorrect fuel injection timing	Check and adjust fuel injection timing as needed
	Lack of fuel supply	Check fuel system for restriction
	Air filter clogged	Clean or replace air filter

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General specifications

	Model - Farmall 30B Hydrostatic/ Gear	Model - Farmall 35B Hydrostatic/ Gear
ENGINE		
Type	Diesel	Diesel
Model	S4L	S4L2
Engine Gross Horsepower	**21 kW** (**28 Hp**)	**28 kW** (**38 Hp**)
Cylinders	4	4
Bore	**78 mm** (**3.07 in**)	**78 mm** (**3.07 in**)
Stroke	**78.5 mm** (**3.09 in**)	**92 mm** (**3.62 in**)
Displacement	**1.500 l** (**91.5 in³**)	**1.758 l** (**100.7 in³**)
Compression Ratio	22.0:1	20.0:1
Firing Order	1-3-4-2	1-3-4-2
Low Idle Speed	**970±30 RPM**	**970±30 RPM**
Maximum Speed:		
High Idle	**2800±20 RPM**	**2900±20 RPM**
Rated	**2600 RPM**	**2700 RPM**
Valve Clearance (Cold)		
Intake	**0.25 mm** (**0.010 in**)	**0.25 mm** (**0.010 in**)
Exhaust	**0.25 mm** (**0.010 in**)	**0.25 mm** (**0.010 in**)
CAPACITIES		
Fuel Tank	**33.0 l** (**8.7 US gal**)	**33.0 l** (**8.7 US gal**)
Cooling System	**4.5 l** (**4.8 US qt**)	**4.5 l** (**4.8 US qt**)
Engine Crankcase:		
With Filter	**4.7 l** (**5.0 US qt**)	**4.7 l** (**5.0 US qt**)
Rear Axle & Transmission (Includes Hydraulics)		
Gear	**32.0 l** (**8.5 US gal**)	**32.0 l** (**8.5 US gal**)
HST	**32.0 l** (**8.5 US gal**)	**32.0 l** (**8.5 US gal**)
Front Axle	**5.5 l** (**5.8 US qt**)	**5.5 l** (**5.8 US qt**)
COOLING SYSTEM		
Type	Pressurized Liquid with Recirculating Bypass	Pressurized Liquid with Recirculating Bypass
Water Pump:		
Type	Centrifugal	Centrifugal
Drive	V-Belt	V-Belt

	Model - Farmall 30B Hydrostatic/ Gear	Model - Farmall 35B Hydrostatic/ Gear
Belt Deflection	**10 - 13 mm** (**0.4 - 0.5 in**) when **10 kg** (**22 lb**) pressure is applied midway between belt pulleys	**10 - 13 mm** (**0.4 - 0.5 in**) when **10 kg** (**22 lb**) pressure is applied midway between belt pulleys
Fan Diameter	**380 mm** (**15.0 in**)	**380 mm** (**15.0 in**)
Thermostat:		
Start to Open	**76.5 °C** (**170 °F**)	**76.5 °C** (**170 °F**)
Fully Open	**90 °C** (**194 °F**)	**90 °C** (**194 °F**)
Radiator Cap	**90 kPa** (**13 psi**)	**90 kPa** (**13 psi**)
ELECTRICAL SYSTEM		
Alternator	**12 V**, Heavy Duty, **50 A**	**12 V**, Heavy Duty, **50 A**
Battery	**12 V**, w/ negative ground, 660 cca BCI Group 34	**12 V**, w/ negative ground, 660 cca BCI Group 34
Starting Motor	Solenoid Pre-Engaged Reduction	Solenoid Pre-Engaged Reduction
FUEL SYSTEM		
Fuel Type	Diesel	Diesel
Type of Fuel to Use if Above **4 °C** (**40 °F**)	No. 2-Diesel, Cetane Rating: Minimum 40	No. 2-Diesel, Cetane Rating: Minimum 40
Type of Fuel to Use if Below **4 °C** (**40 °F**)	No. 1-Diesel, Cetane Rating: Minimum 40	No. 1-Diesel, Cetane Rating: Minimum 40
Injection Pump:		
Type	In-Line	In-Line
Timing	**19 °** BTDC	**17 °** BTDC
CLUTCH		
Type	**240 mm** (**9.4 in**) - Transmission 12x12 Trans	**240 mm** (**9.4 in**) - Transmission 12x12 Trans
Pedal Free-Travel	**19 - 30 mm** (**0.75 - 1.2 in**)	**19 - 30 mm** (**0.75 - 1.2 in**)
BRAKES		
Type	Wet Disc	Wet Disc
2 Disc per Side	**223 mm** (**8.78 in**) x **174 mm** (**6.85 in**)	**223 mm** (**8.78 in**) x **174 mm** (**6.85 in**)

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	Model - Farmall 30B Hydrostatic/ Gear	Model - Farmall 35B Hydrostatic/ Gear
Range Low, 2nd gear	**1.64 km/h** (**1.02 mph**)	**1.71 km/h** (**1.06 mph**)
Range Low, 3rd gear	**2.13 km/h** (**1.32 mph**)	**2.21 km/h** (**1.37 mph**)
Range Low, 4th gear	**2.63 km/h** (**1.63 mph**)	**2.73 km/h** (**1.70 mph**)
Range Mid, 1st gear	**3.07 km/h** (**1.91 mph**)	**3.19 km/h** (**1.98 mph**)
Range Mid, 2nd gear	**4.48 km/h** (**2.78 mph**)	**4.65 km/h** (**2.89 mph**)
Range Mid, 3rd gear	**5.81 km/h** (**3.61 mph**)	**6.04 km/h** (**3.75 mph**)
Range Mid, 4th gear	**7.17 km/h** (**4.46 mph**)	**7.45 km/h** (**4.63 mph**)
Range High 1st gear	**9.40 km/h** (**5.84 mph**)	**9.76 km/h** (**6.07 mph**)
Range High, 2nd gear	**13.71 km/h** (**8.52 mph**)	**14.23 km/h** (**8.85 mph**)
Range High, 3rd gear	**17.78 km/h** (**11.05 mph**)	**18.47 km/h** (**11.47 mph**)
Range high, 4th gear	**21.93 km/h** (**13.63 mph**)	**22.787 km/h** (**14. mph**)
CAST IRON WEIGHTS		
Front End:		
With weight extension bracket installed	(5) weights @ **26 kg** (**60 lb**) each	(5) weights @ **26 kg** (**60 lb**) each
Rear Wheel:		
R-4 Tires	(4) weights (2) per wheel @ **34 kg** (**75 lb**) each	(4) weights (2) per wheel @ **34 kg** (**75 lb**) each
Turf Tires	NA	NA
Ag. Tires	(4) weights (2) per wheel @ **48 kg** (**106 lb**) each	(4) weights (2) per wheel @ **48 kg** (**106 lb**) each

	Model - Farmall 30B Hydrostatic/ Gear	Model - Farmall 35B Hydrostatic/ Gear
DRAWBARS		
Extendible	Standard	Standard
TIRES		
FRONT		
Agricultural:	7-14, 6PR, R1	7-14, 6PR, R1
Turf:	25 x 8.50-14, 4PR, R4	25 x 8.50-14, 4PR, R4
Industrial:	25 x 8.50-14, 6PR, R4	25 x 8.50-14, 6PR, R4
REAR:		
Agricultural	11.2-24, 4PR, R1	11.2-24, 4PR, R1
Turf	41 x 14.00-20, 4PR, R3	41 x 14.00-20, 4PR, R3
Industrial	43 x 16-20, 4PR, R4	43 x 16-20, 4PR, R4
WHEEL BOLT TORQUES		
Front Wheel --- Disc-to-Hub:		
FWD	**176 - 196 N·m** (**130 - 145 lb ft**)	**176 - 196 N·m** (**130 - 145 lb ft**)
Rear Wheel --- Disc-to Axle	**176 - 196 N·m** (**130 - 145 lb ft**)	**176 - 196 N·m** (**130 - 145 lb ft**)
ROPS and SEAT BELT ATTACHING BOLT TORQUES		
ROPS to Rear Axle	**132 - 147 N·m** (**97 - 108 lb ft**)	**132 - 147 N·m** (**97 - 108 lb ft**)
Seat Belt	**49 - 54 N·m** (**36 - 40 lb ft**)	**49 - 54 N·m** (**36 - 40 lb ft**)

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ROAD TRANSPORT
Lighting system 5-1
Hazard warning light operation 5-2
Turn signal operation 5-2
Headlight/work light operation 5-3
Rear work light (optional) 5-4
Driving the vehicle 5-5

SHIPPING TRANSPORT
Carrying the tractor on a transporter 5-6

RECOVERY TRANSPORT
Towing 5-6

6 WORKING OPERATIONS
GENERAL INFORMATION
Tractor ballasting 6-1
Tractor ballasting weights 6-2
Liquid Ballast 6-4

7 MAINTENANCE
GENERAL INFORMATION
General Information 7-1
Safety rules Diesel Fuel 7-3
Biodiesel fuel 7-4
Refueling the tractor 7-5

MAINTENANCE CHART
Maintenance Chart 7-6

LUBRICATION SYSTEM
Recommended lubricants and coolants 7-8
Grease fittings 7-9

ENGINE
Check engine oil level 7-10
Change engine oil and filter 7-11

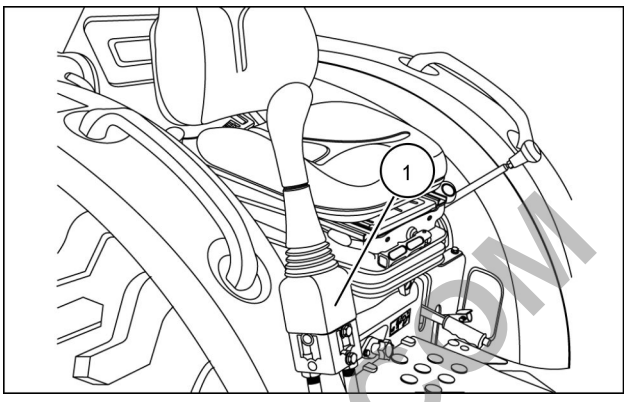
FUEL AND INJECTION SYSTEM
Fuel filter system Fuel filter - Drain fluid 7-12
Fuel filter system Fuel filter - Replace 7-13
FUEL AND INJECTION SYSTEM - Bleed 7-14
Fuel injector - Bleed 7-15

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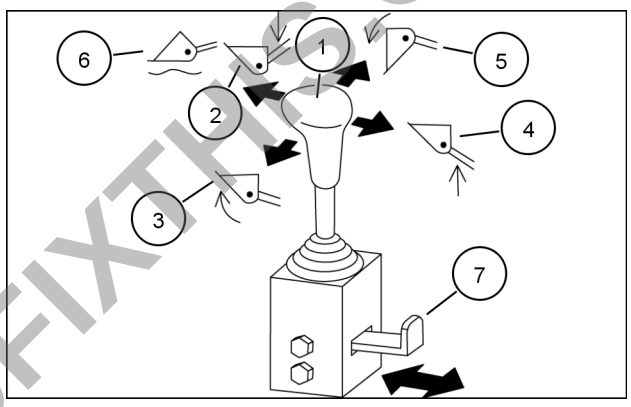
Two-spool control valve

The two-spool control valve **(1)** is mounted to the front of the right-hand fender. This valve is used mainly for front end loader operation, but may also be used to operate other front mounted implements.



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To operate the two-spool valve, move the control lever **(1)** in any of the four directions.
Release the control lever to stop the cylinder in any position, the lever automatically returns to neutral.



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- Move the control lever forward to lower the loader/ retract cylinder **(2)**.
- Move the control lever to the left to lift the bucket/ retract cylinder **(3)**.
- Move the control lever rearward to raise the loader/ extend cylinder **(4)**.
- Move the control lever to the right to dump bucket/ extend cylinder **(5)**.
- Move the control lever fully forward to "FLOAT" the bucket **(6)** which allows a cylinder to extend or retract freely.

NOTE: *Do not use the "FLOAT" position if the loader is raised to its highest position.*

NOTE: *Push the locking lever (7) in when the two-spool control valve is not used.*

NOTE: *If you move the control lever diagonally the loader and bucket will operate at the same time.*

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FUEL AND INJECTION SYSTEM - Bleed

Bleed the fuel system if:

- It has been drained.
- A new filter element has been installed.
- The tractor has run out of fuel.
- The lines leading to or from the filter have been disconnected.
- The injection pump has been removed and reinstalled.

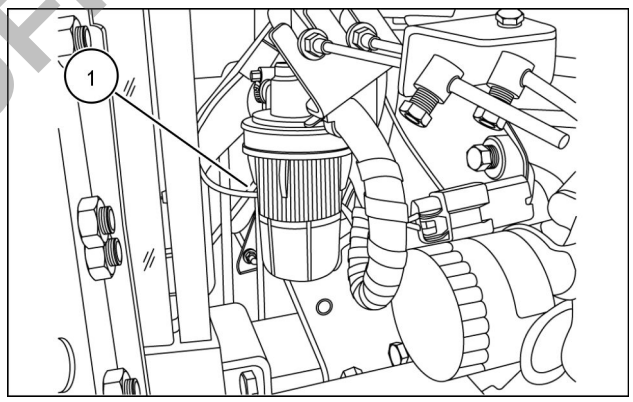
⚠ WARNING ⚠

Fuel oil in the injection system is under high pressure and can penetrate the skin. Only a qualified technician should remove or adjust a pump, injector nozzle, or any part of the fuel injection system. Stop the engine and relieve pressure before connecting or disconnecting lines and tighten all connections. DO NOT use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks . If any fluid is injected into the skin, obtain medical attention immediately. Failure to comply could result in death or serious injury.

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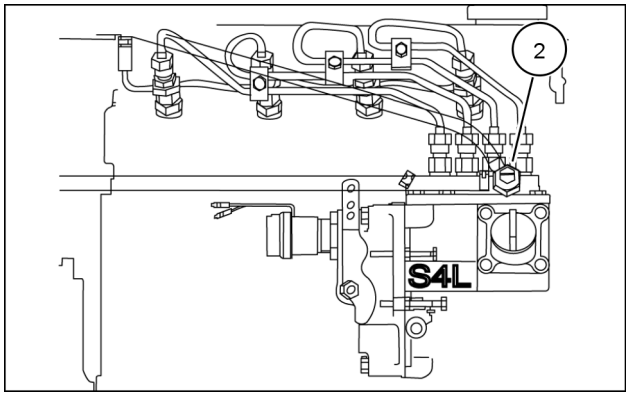
To bleed the fuel system:

1. Make sure there is adequate fuel in the fuel tank.
2. Open the fuel inlet hose to the fuel filter **(1)**.



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3. Open the bleed screw **(2)** at the pump, then close the bleed screw when air-free fuel flows.
4. Push the hand throttle to the high speed position. Turn the engine over for a few seconds to bleed the high pressure fuel tubes.



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