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JX55T
JX75T
Tractor

SERVICE MANUAL

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CASE IH AGRICULTURE

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Safety rules

 This warning symbol points out important messages involving personal safety. Carefully read the safety rules contained herein and follow advised precautions to avoid potential hazards and safeguarded your safety.

In this manual you will find this symbol together with the following keywords.

WARNING: It gives warning about improper repair operations and potential consequences affecting the service technician's personal safety.
DANGER: It gives specific warning about potential dangers for personal safety of the operator or other persons directly or indirectly involved in the operation.

To prevent accidents

Most accidents and personal injuries taking place in workshops are due from non-observance of some essential rules and safety precautions.

The possibility that an accident might occur with any type of machines should not be disregarded, no matter how well the machine in question was designed and built.

A wise and careful service technician is the best precautions against accidents.
Careful observance of this only basic precaution would be enough to avoid many severe accidents.

 DANGER
Never carry out any cleaning, lubrication or maintenance operations when the engine is running.

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Engine - General specification

General specifications	JX55T	JX75T
Make	IVECO	
Type	4 stroke, diesel, turbocharged, direct injection, water cooled	
Power	**55 Hp**	**75 Hp**
Number of cylinders	3	4
Bore	**104 mm (4 in)**	**104 mm (4 in)**
Stroke	**115 mm (5 in)**	**115 mm (5 in)**
Cubic capacity	**2931 cm³ (179 in³)**	**3908 cm³ (238 in³)**
Compression ratio	18:1	18:1
Firing order	1-2-3	1-3-4-2
Idle speed	**650 RPM**	**650 RPM**
Maximum no load speed	**2525 RPM**	**2525 RPM**
Rated speed	**2300 RPM**	**2300 RPM**

Engine block	
Type	Dry type pre fitted liner with collar
Cylinder liner seat diameter in engine block	**106.850 – 106.900 mm (4.207 – 4.209 in)**
Cylinder sleeve O.D	**107.020 – 107.050 mm (4.213 – 4.215 in)**
Interference between liners and seats in block	**0.120 – 0.200 mm (0.005 – 0.008 in)**
Liner O.D oversize	**0.200 mm (0.008 in)**
Cylinder liner inner diameter	**104.00 – 104.024 mm (4.09 – 4.095 in)**
Maximum ovality and taper due to wear	**0.120 mm (0.005 in)**
Liner inner diameter oversize	**0.400 – 0.800 mm (0.016 – 0.031 in)**

Camshaft bush seat diameters	
• Front	**54.780 – 54.805 mm (2.157 – 2.158 in)**
• Intermediate	**54.280 – 54.305 mm (2.137 – 2.138 in)**
• Rear	**53.780 – 53.805 mm (2.117 – 2.118 in)**
Tappet seat bore diameter	**15.000 – 15.018 mm (0.591 – 0.591 in)**
Tappet oversize	**0.100 mm (0.004 in)** **0.200 mm (0.008 in)** **0.300 mm (0.012 in)**
Main bearing seat bore diameter	**84.200 – 84.230 mm (3.315 – 3.316 in)**

Cylinder head	
Valve guide seat bore diameter in head	**13.950 – 13.983 mm (0.549 – 0.551 in)**
Valve guide oversize	**0.200 mm (0.008 in)**
Valve stand-in	**0.700 – 1.000 mm (0.028 – 0.039 in)**
• Maximum stand-in permitted	**1.300 mm (0.051 in)**
Injector standout	**0.050 – 0.700 mm (0.002 – 0.028 in)**
• Maximum stand-out permitted	**1.000 mm (0.039 in)**
Original cylinder head height	**92 mm (4 in)**
Maximum head dressing allowed	**0.500 mm (0.020 in)**

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Exhaust valves	JX55T	JX75T
Valve head diameter	**41.000 – 41.250 mm** (**1.614 – 1.624 in**)	**41.000 – 41.250 mm** (**1.614 – 1.624 in**)
Valve stem diameter	**7.985 – 8.000 mm** (**0.314 – 0.315 in**)	**7.985 – 8.000 mm** (**0.314 – 0.315 in**)
Face angle	45° 30’±7’	45° 30’±7’
Tappet (cold)	**0.300 mm** (**0.012 in**)	**0.300 mm** (**0.012 in**)
Valve clearance (cold/hot)		
Cam lift	**6.167 mm** (**0.243 in**)	**6.167 mm** (**0.243 in**)
Valve lift	**10.937 mm** (**0.431 in**)	**10.937 mm** (**0.431 in**)

Intake valves	JX55T	JX75T
Valve head diameter	**43.300 – 45.500 mm** (**1.705 – 1.791 in**)	**43.300 – 45.500 mm** (**1.705 – 1.791 in**)
Valve stem diameter	**7.985 – 8.000 mm** (**0.314 – 0.315 in**)	**7.985 – 8.000 mm** (**0.314 – 0.315 in**)
Face angle	60° 30’±7’	60° 30’±7’
Tappet (cold)	**0.300 mm** (**0.012 in**)	**0.300 mm** (**0.012 in**)
Valve clearance (cold/hot)		
Cam lift	**5.889 mm** (**0.232 in**)	**5.889 mm** (**0.232 in**)
Valve lift	**10.444 mm** (**0.411 in**)	**10.444 mm** (**0.411 in**)

Valve springs	
Number per valve	1
Free length	**44.600 mm** (**1.756 in**)
Length loaded at **26.1 – 28.9 kg** (**57.5 – 63.7 lb**)	**34.000 mm** (**1.339 in**)
Length loaded at **51.2 – 56.5 kg** (**112.9 – 124.6 lb**)	**23.800 mm** (**0.937 in**)

Valve timing	JX55T	JX75T
Intake opening (before top dead centre)	15°	15°
Intake closing (after bottom dead centre)	45°	45°
Exhaust opening (before bottom dead centre)	56°	52°
Exhaust closing (after top dead centre)	26°	22°

Valve inserts	
Valve guide O.D	**13.933 – 14.016 mm** (**0.549 – 0.552 in**)
Valve guide oversize	**0.200 mm** (**0.008 in**)
Valve guide interference fit in housing cylinder head	**0.0050 – 0.0500 mm** (**0.0002 – 0.0020 in**)
Valve guide fitted I.D after reaming	**8.023 – 8.043 mm** (**0.316 – 0.317 in**)
Valve stem clearance in guide	**0.0230 – 0.0580 mm** (**0.0009 – 0.0023 in**)
Maximum wear clearance	**0.130 mm** (**0.005 in**)
Maximum valve stem eccentricity over one revolution with stylus on sealing face	**0.030 mm** (**0.001 in**)

Engine - Torque

Description	Thread size	Torque	Angle
Bolt, cylinder head **(C1)**	**M12 x 1.25**	**40 N·m** (**354 lb in**)	(**125 – 135°**) + (**135 – 145°**)
Bolt, main bearing caps **(C2)**	**M14 x 1.25**	**80 N·m** (**708 lb in**)	**90°**
Bolt, timing cover and case **(C3)**	**M12 x 1.25**	**40 N·m** (**354 lb in**)	–
Bolt, connecting rod caps **(C4)**	**M11 x 1.25**	**40 N·m** (**354 lb in**)	**60°**
Bolt, flywheel **(C5)**	**M12 x 1.25**	**40 N·m** (**354 lb in**)	**60°**
Bolt, rocker shaft bracket **(C6)**	**M8 x 1.25**	**25 N·m** (**221 lb in**)	–
Nut, crankshaft pulley hub **(C7)**	**M30 x 1.5**	**300 N·m** (**2655 lb in**)	–
Bolt, fan and alternator drive pulley **(C8)**	**M12 x 1.25**	**49 N·m** (**434 lb in**)	–

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Description	Thread size	Torque	Angle
Nut, injection pump shaft gear **(C9)**	**M12 x 1.25**	**64 N·m** (**566 lb in**)	–
Nuts, injection pump to support **(C10)**	**M12 x 1.25**	**23 N·m** (**204 lb in**)	–
Retaining screws, additional weights **(C11)**	**M12 x 1.25**	**110 N·m** (**974 lb in**)	–
Injector clamp nut **M8**	**M8**	**18 N·m** (**159 lb in**)	–

Engine - Sealing

Operation description	Sealant specification
Adopter for oil filter **(S1)**	**LOCTITE® 270**
Adopter for tachometer cable **(S2)**	**LOCTITE® 243™**
Flywheel housing to engine block **(S3)**	**LOCTITE® 510™**
Timing gear case studs **(S4)**	**LOCTITE® 270**
Timing gear cover dowel pin **(S5)**	**LOCTITE® 270**
Starter motor to flywheel housing **(S6)**	**LOCTITE® 510™**
Allen plug in cylinder head thermostat housing **(S7)**	**LOCTITE® 243™**
Cylinder head exhaust manifold studs **(S8)**	**LOCTITE® 270**
Oil sump to engine block **(S9)**	Loctite® 5699
Silencer mounting studs on exhaust manifold **(S10)**	Loctite® 77164
Flywheel bolt **(S11)**	**LOCTITE® 243™**

Engine - Special tools

CAUTION
Operations described in this section of the manual must be performed using the following essential tools to work safely and achieve the best technical results with additional savings of time and effort.

Tool description	Tool number
Injector tester	290284
Sling hook, engine	**290740**
Cylinder head valve spring compressor	**291050**
Tractor splitting trolley	292320
Installer rear main oil seal	9970846
Installer front oil seal	9970845
Dummy injector	9970364
Swan neck pipe (fuel timing)	9970848
Engine mounting bracket (to be used with engine stand 293860)	9970844
Steering wheel puller	82834312
Bushes for steering wheel puller	9971375
Remover, hand accelerator pin	9971378
Cylinder pressure test Kit	9971410
Lube pressure check Kit	9971367
Piston ring compressor	Local
Piston ring expander	Local

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Engine - Troubleshooting

NOTICE: *When attending a repair the cause of the problem must also be investigated and corrected to avoid repeat failures.*

Problem	Possible Cause	Correction
Engine does not develop full power	Clogged air cleaner	Clean or renew element
	Fuel line obstructed	Clean
	Faulty injectors	Clean and reset
	Incorrect valve clearance adjustment	Check and reset
	Burnt, worn or sticking valves	Replace valves with new or oversize, and or machine the valve guide bores
	Blown head gasket	Check head flatness and fit new gasket
	Incorrect fuel delivery	Check injectors and pump
	Low cylinder compression	Renew piston rings or re-bore/re-sleeve as necessary
Oil pressure warning light fails to operate	Bulb burnt out	Renew bulb
	Warning Light pressure switch faulty	Renew pressure switch
	Warning light circuit faulty	Check and renew wiring
Excessive exhaust smoke	Exhaust leak on exhaust manifold	Fit new gasket
	Air cleaner dirty or restricted	Clean
	Excessive fuel delivery	Overall injection pump and injectors
Engine knocks	Diluted or thin oil	Check crankshaft bearings for damage, change as required. Drain and refill with specified oil and renew filter. Ascertain cause of dilution
	Insufficient oil supply	Check oil level and top up as necessary Overhaul or renew pump as necessary Check oil filter is not clogged
	Low oil pressure	Overhaul pump or relief valve as necessary
	Excessive crankshaft end play	Install new thrust bearing liner
	Flywheel or ring gear run-out excessive	Skim flywheel or fit new ring gear
	Excessive connecting rod or main	Install new bearing inserts and or bearing clearance re-grind crankshaft
	Bent or twisted connecting rods	Renew connecting rods
	Crankshaft journals out-of-round	Re-grind crankshaft and fit undersize bearing inserts
	Excessive piston-to- cylinder	Re-bore/re-sleeve block and fit i bore clearance new pistons
	Excessive piston ring clearance	Fit new pistons and rings
	Broken rings	Fit new rings, check bore and pistons for damage
	Excessive piston pin clearance	Fit new piston or pin
	Piston pin retainer loose or missing	Install new retainer, and check bore/pistons for damage
	Excessive camshaft play	Install new thrust plate
	Imperfections on timing gear teeth	Renew timing gear
	Excessive timing gear backlash	Check and adjust backlash /renew, timing gear
Engine overheats	Hose connection leaking or collapsed	Tighten hose connection, renew hose if damaged
	Radiator cap defective or not sealing	Renew radiator cap
	Radiator leakage	Repair/renew radiator
	Improper fan belt adjustment	Re-adjust fan belt
	Radiator fins restricted	Clean with compressed air
	Faulty thermostat	Renew thermostat
	Internal engine leakage	Check for source of leakage, renew gasket or defective parts
	Water pump faulty	Overhaul water pump

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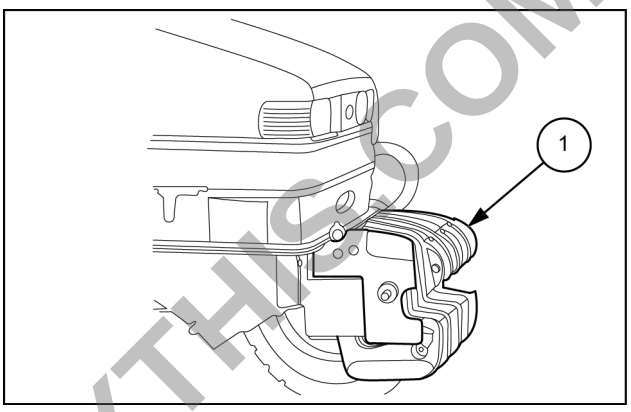
Engine - Remove

⚠ WARNING

Avoid injury!
Handle all parts carefully. Do not place your hands or fingers between parts. Use Personal Protective Equipment (PPE) as indicated in this manual, including protective goggles, gloves, and safety footwear.
Failure to comply could result in death or serious injury.

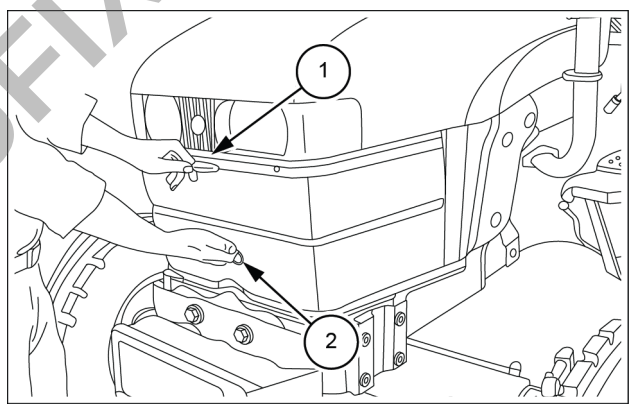
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1. Remove front ballast weights if fitted.



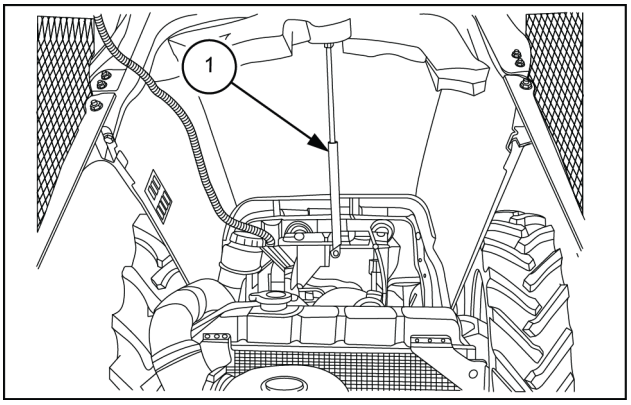
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2. Slide the lock **(1)** to right, hold and lift the handle **(2)** to raise the hood.



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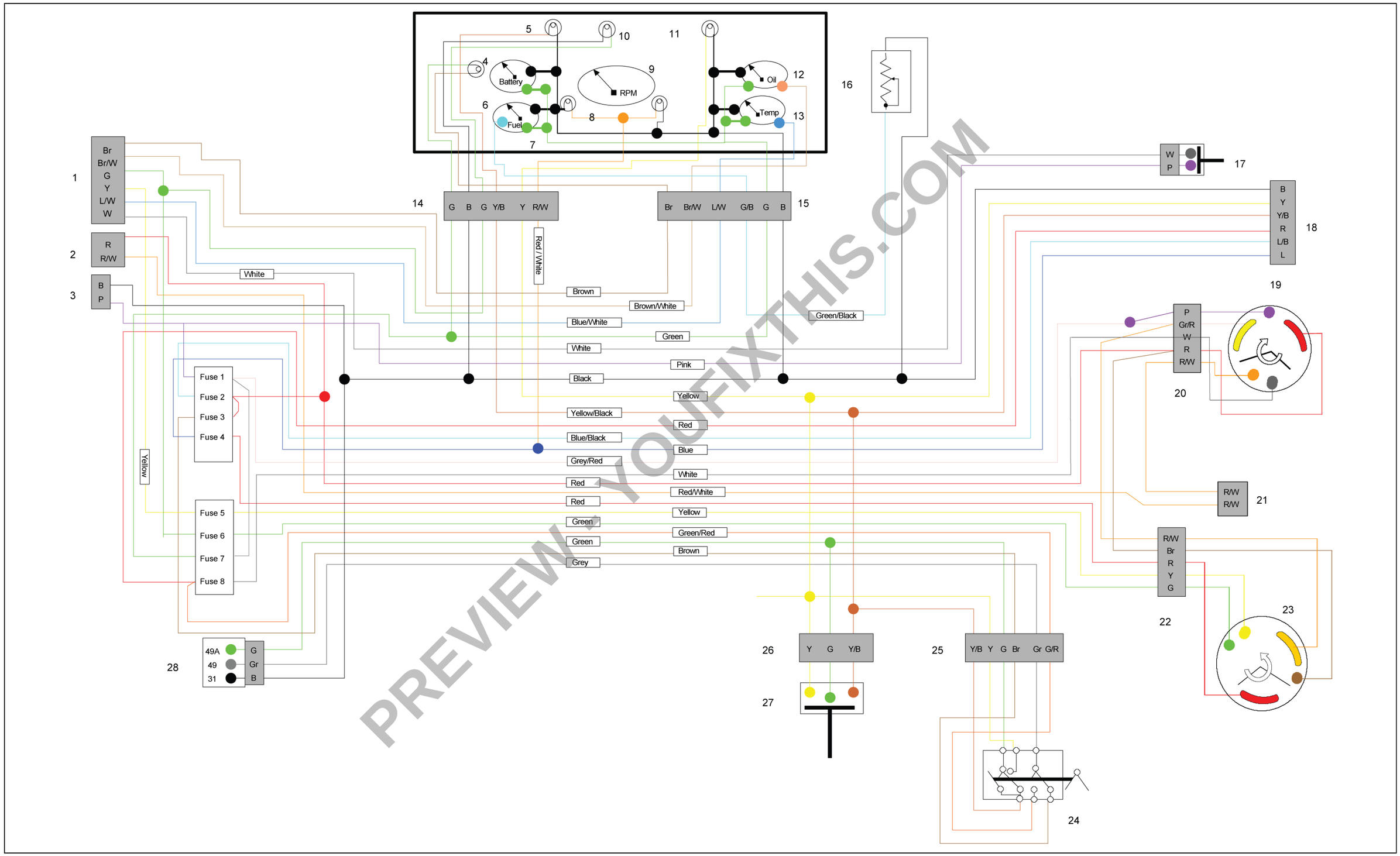
3. To maintain the hood in the raised position, a gas strut **(1)** is provided underside the hood.



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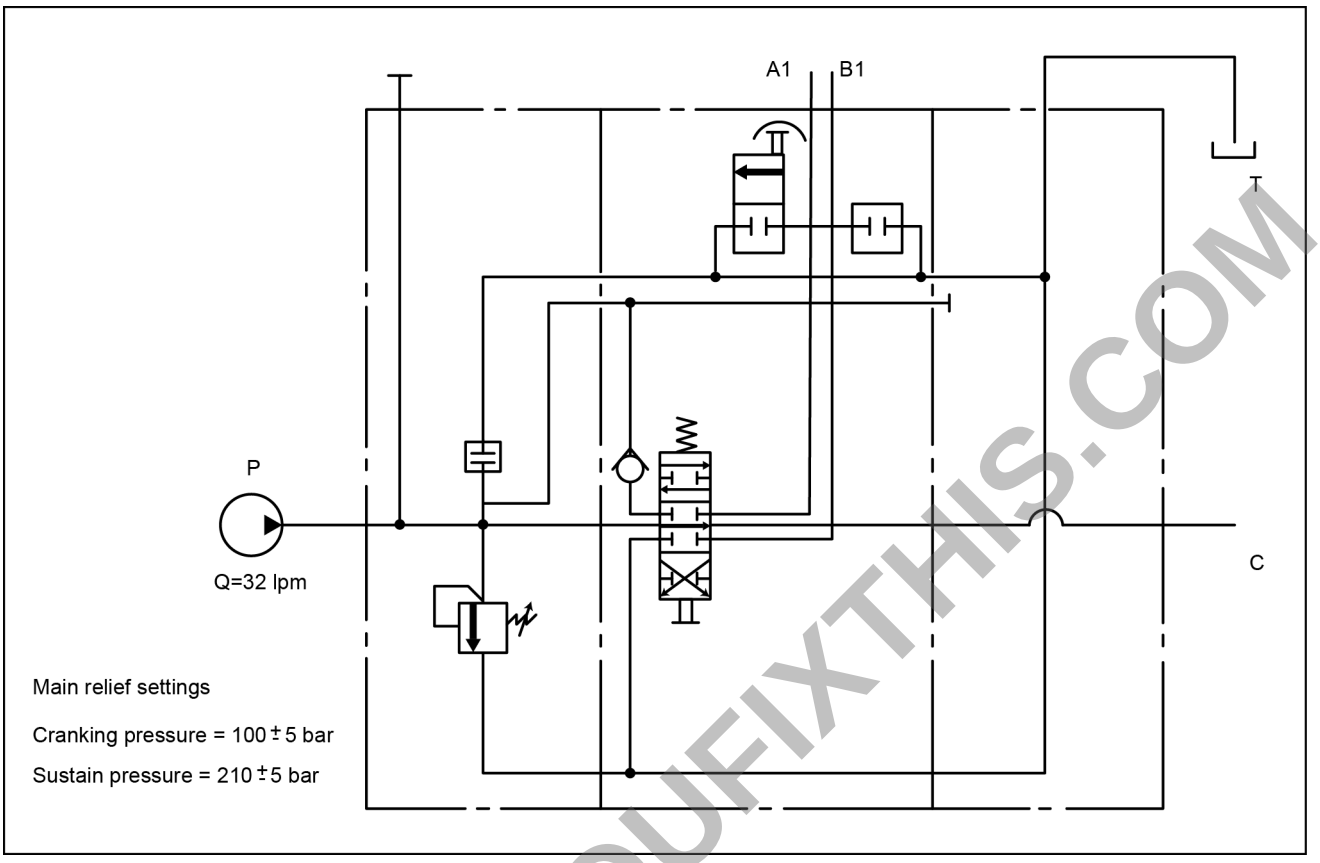


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Hydraulic systems - Hydraulic schema

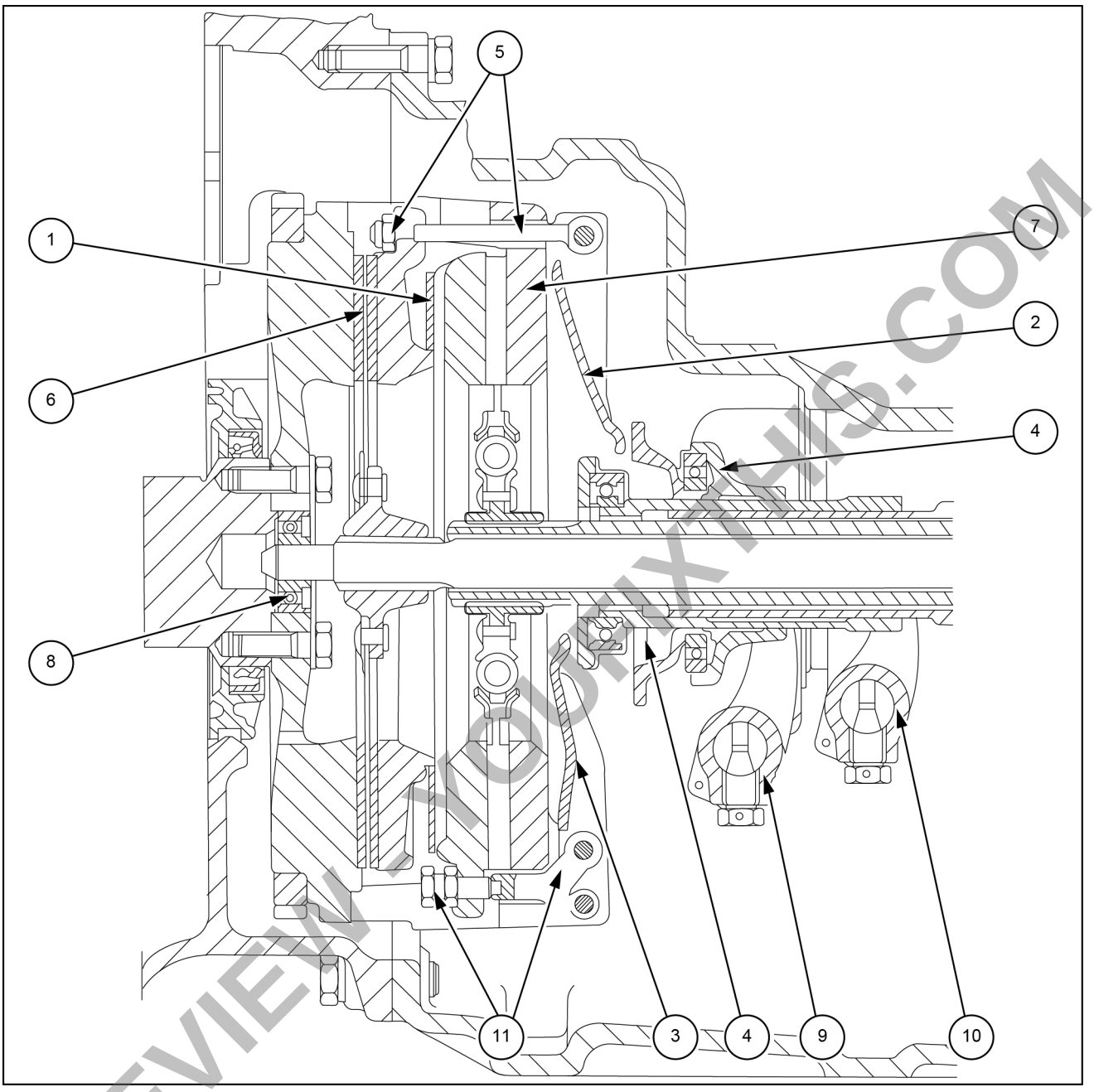


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Clutch - Sectional view



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1. Dish spring
2. Power Take-Off (PTO) clutch release fingers
3. Transmission clutch release fingers
4. Release control sleeves with thrust bearings
5. Power Take-Off (PTO) clutch release lever locknuts and adj. link
6. Power Take-Off (PTO) clutch plate
7. Transmission clutch plate
8. Fly-wheel bearing
9. Power Take-Off (PTO) clutch release fork
10. Transmission clutch release fork
11. Transmission clutch release lever locknut, adjusting screw and lever

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Engine - Compression test

Test procedure

1. Be sure battery performance meets specifications.
2. Warm up the engine by operating for a minimum of half an hour at **1200 RPM**.
3. Stop the engine and remove the injector and seat washer from number 1 cylinder.
4. Clean the injector bore and crank the engine to blow out any loose carbon particles.
5. Install an engine compression test gauge. Fit dummy injector (special tool number 9977364), into the injector bore, using a new seat washer and injector mounting bolts.
6. Connect the gauge and hose to the adapter dummy injector.
7. Crank the engine with the electric fuel shut off to prevent engine start up.
8. Observe the gauge reading and repeat the compression test, steps **5** - **7** for each cylinder.

Test readings

1. All cylinder compressions should be uniform or difference should be within **1.7 bar** (**24.6 psi**) of each other.
2. A reading of more than the **1.7 bar** (**24.6 psi**) below the other cylinders indicates leakage at the cylinder head gasket, piston rings or valves.
3. A reading of more than **1.7 bar** (**24.6 psi**) above the other cylinders indicates excessive carbon deposits on the piston and cylinder head.
4. A low even compression in two adjacent cylinders indicates a cylinder head gasket leak. Check this item before condemning the rings or valves.

Test conclusion

To determine whether the rings or the valve are at fault, squirt the equivalent of a table spoon of heavy oil into the combustion chamber. Crank the engine to distribute the oil and repeat the compression test.

The oil will temporarily seal any leakage past the rings. If approximately the same reading is obtained as for the first test, the rings are satisfactory, but the valves are leaking. Once they has been established the exhaust manifold can be removed to visually inspect of oil is leaking down the valve stems.

If compression has increased over the original reading, there is leakage past the rings.

During a compression test, if the pressure fails to climb steadily and remains the same during the first two successive strokes, but climbs higher on the succeeding strokes, or fails to climb during the entire test, suspect a sticking valve.

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Crankcase - General specification

Crank gear

Crankshaft - bearings

Main journal diameter	**79.791 – 79.810 mm** (**3.141 – 3.142 in**)
Main journal undersize	**0.254 mm** (**0.010 in**) – **0.508 mm** (**0.020 in**) – **0.762 mm** (**0.030 in**) – **1.016 mm** (**0.040 in**)
Main bearing wall thickness	**2.168 – 2.178 mm** (**0.085 – 0.086 in**)
Main bearing undersize	**0.254 mm** (**0.010 in**) – **0.508 mm** (**0.020 in**) – **0.762 mm** (**0.030 in**) – **1.016 mm** (**0.040 in**)
Main journal clearance in bearings	**0.034 – 0.103 mm** (**0.001 – 0.004 in**)
• Maximum wear clearance	**0.180 mm** (**0.007 in**)
Crankpin diameter	**63.725 – 63.744 mm** (**2.509 – 2.510 in**)
Crankpin undersize	**0.254 mm** (**0.010 in**) – **0.508 mm** (**0.020 in**) – **0.762 mm** (**0.030 in**) – **1.016 mm** (**0.040 in**)
Big end bearing wall thickness	**1.805 – 1.815 mm** (**0.071 – 0.071 in**)
Big end bearing undersize	**0.254 mm** (**0.010 in**) – **0.508 mm** (**0.020 in**) – **0.762 mm** (**0.030 in**) – **1.016 mm** (**0.040 in**)
Crankpin clearance in big end bearing	**0.033 – 0.087 mm** (**0.001 – 0.003 in**)
• Maximum wear clearance	**0.180 mm** (**0.007 in**)
Crankshaft thrust washer thickness	**3.378 – 3.429 mm** (**0.133 – 0.135 in**)
Thrust washer oversize	**0.127 mm** (**0.005 in**) – **0.254 mm** (**0.508 in**) – **0.508 mm** (**0.020 in**)
Width of main bearing housing over thrust washers	**31.766 – 31.918 mm** (**1.251 – 1.257 in**)
Length of corresponding main journal	**32.000 – 32.100 mm** (**1.260 – 1.264 in**)
Crankshaft end float	**0.082 – 0.334 mm** (**0.003 – 0.013 in**)
• Maximum wear clearance	**0.400 mm** (**0.016 in**)
Maximum main journal and crankpin ovality or taper after grinding	**0.0100 mm** (**0.0004 in**)
Maximum main journal and crankpin ovality or taper due to wear	**0.0500 mm** (**0.0020 in**)
Maximum main journal misalignment crankshaft resting on end journals	**0.0100 mm** (**0.00039 in**)
Maximum misalignment of crankpins relative to main journals (in either direction)	**0.2500 mm** (**0.00984 in**)
Tolerance from outer crankpin edge to crankshaft center line	± **0.1000 mm** (**0.0039 in**)
Maximum crankshaft flange run-out with gauge stylu, over **108.000 mm** (**4.252 in**) diameter (total gauge reading)	**0.0250 mm** (**0.0010 in**)
Maximum flywheel seat eccentricity relative to main journals (total gauge reading)	**0.0400 mm** (**0.0016 in**)

Connecting rods

Small end bore diameter	**41.846 – 41.884 mm** (**1.647 – 1.649 in**)
Small end bushing outer diameter	**41.979 – 42.017 mm** (**1.647 – 1.649 in**)
Bushing interference fit in small end	**0.0950 – 0.1710 mm** (**0.0037 – 0.0067 in**)
Small end bushing fitted ID	**38.004 – 38.014 mm** (**1.496 – 1.497 in**)

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Clutch - Overview

Description

The clutch system is double clutch mechanical type. It includes two dry clutch discs with non-asbestos, organic material pads. One clutch disc is to connect transmission to engine and another for connecting Power Take-Off (PTO) directly to engine, independent of transmission.

As usual, the clutch is located in front of the transmission. The transmission (main) clutch is operated by means of foot pedal and Power Take-Off (PTO) clutch is operated by hand lever located on right side below rear hood panel. The clutch system is composed of the clutch housing, clutch pressure plate, disc ring, clutch release fingers, clutch release bearings and clutch discs.

Operation

When both the clutches are engaged, the Power Take-Off (PTO) clutch pressure plate pushes the Power Take-Off (PTO) clutch disc against engine flywheel and transmission pressure plate pushes the clutch housing by the spring action of dish ring.

The friction between the clutch disc, flywheel and clutch housing transmits the engine power to the transmission drive shaft and Power Take-Off (PTO) drive shaft independently.

The clutch pedal is connected to the main clutch release bearing by means of mechanical linkage components.

When the clutch pedal is pressed, the clutch release bearing moves forward and discharges the main clutch fingers. Consequently, the clutch pressure plate backs off and releases the clutch disc from the clutch housing. The transfer of engine power to the transmission is stopped.

When the clutch pedal is released, the main clutch release bearing disengages the main clutch finger which acts on the clutch pressure plate and causes the clutch housing, main clutch discs and pressure plates to come in contact. The flow of power from the engine and transmission is re-established. Similarly Power Take-Off (PTO) clutch is engaged and disengaged independent of transmission clutch by operating Power Take-Off (PTO) clutch control lever.

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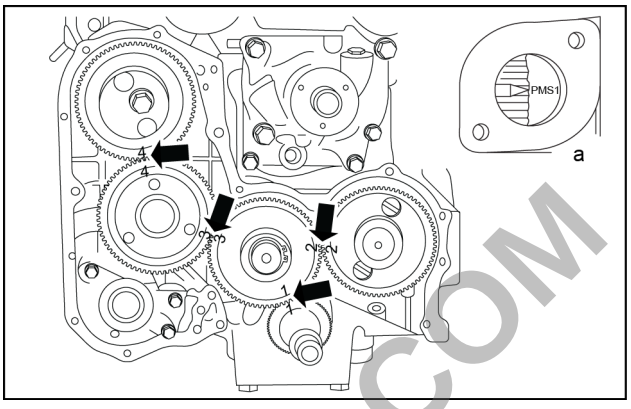
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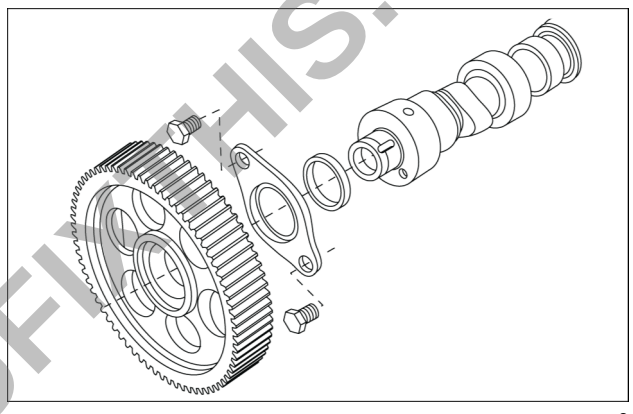
Timing gear housing - Install

1. If the rear cover was removed thoroughly clean the mating surfaces between the cover and engine block, using a suitable solvent cleaner and apply a thin coat of grease to the engine block and assemble the cover to the engine and tighten the retaining bolts to the specified torque.
2. Rotate the flywheel to PMS1 position before assembling timing gears.



NDIL14TR00112AB 1

3. Assemble the camshaft, thrust washer, flange and camshaft gear and tighten the two bolts to specified torque.

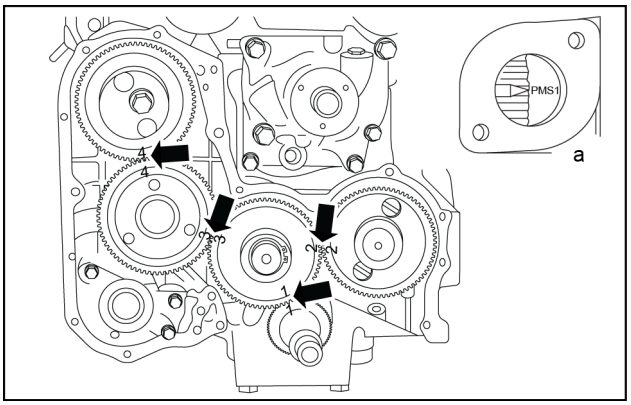


NDIL14TR00112AA 2

4. Install the feed pump drive gear by following the removal procedure in reverse.
5. Install the idler gear to the block, aligning the timing marks 1-1, 2-2 and 3-3 to the crankshaft gear, camshaft drive gear and feed pump drive gear respectively.

NOTE: *Ensure that flywheel is positioned at PMS1 mark while aligning the timing marks.*

6. Install the fuel injection pump drive gear by aligning mark 4-4 to the feed pump drive gear when idler gear is aligned with other gears as mentioned in step **5**.



NDIL14TR00112AB 3

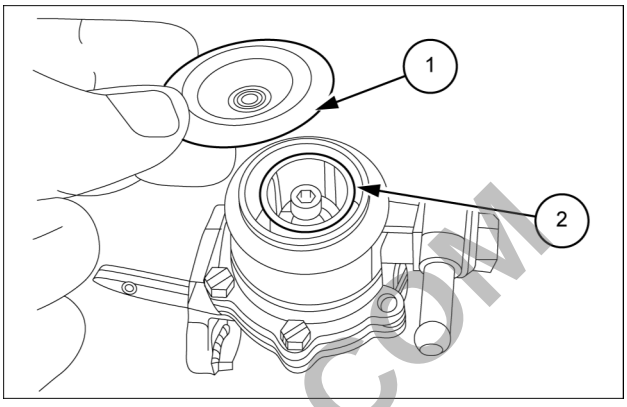
7. Tighten the fuel injection pump drive gear bolt to the specified torque.
8. Install the hydraulic and power steering drive gear by following the removal procedure in reverse.
9. Replace new gaskets between timing cover and hydraulic and power steering pump flange before installing pump.

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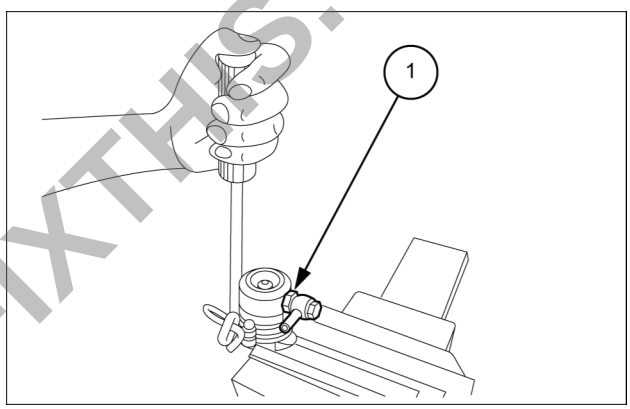
Fuel injection system - Disassemble – Feed pump

1. Screw out butterfly nut open strainer cap **(1)** and remove strainer **(2)**.



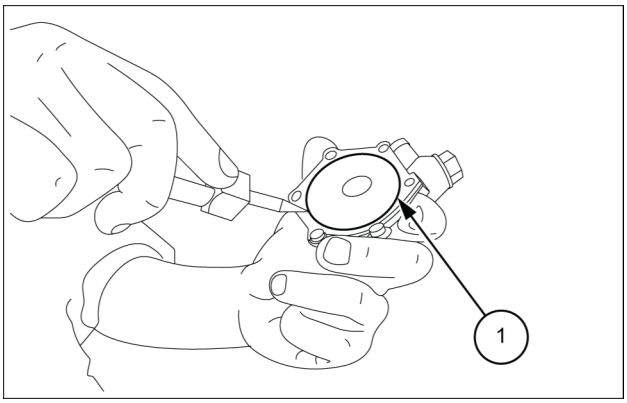
NDIL14TR00201AB 1

2. Loosen screws and remove feed pump head **(1)**.



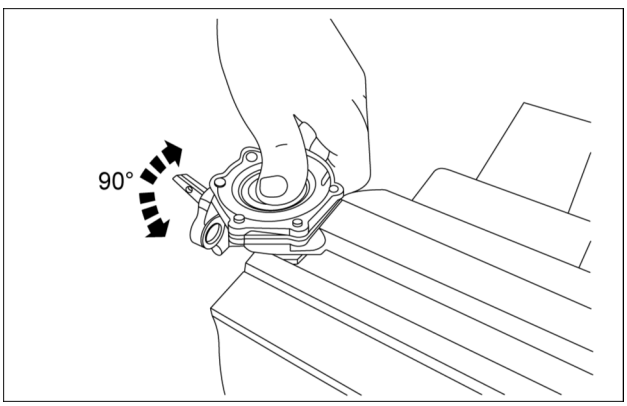
NDIL14TR00202AB 2

3. Remove nyloc cup **(1)** using suitable tool.



NDIL14TR00203AB 3

4. Remove diaphragm assembly by pressing and turning **90°** clockwise or anti-clockwise.

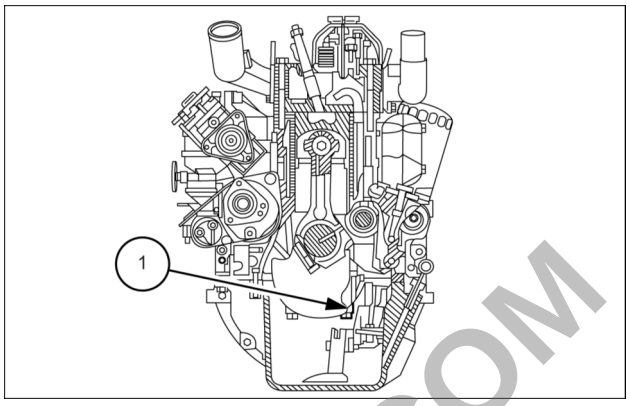


NDIL14TR00204AB 4

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4. Loosen two bolts retaining oil pump on cylinder housing and remove pump **(1)** from the engine.



NDIL14TR00246AB 4

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Transmission - 21

Gearbox external controls - 126

JX55T TIER 3 engine, 2WD tractor
JX55T TIER 3 engine, 4WD tractor
JX75T TIER 3 engine, 2WD tractor
JX75T TIER 3 engine, 4 WD tractor

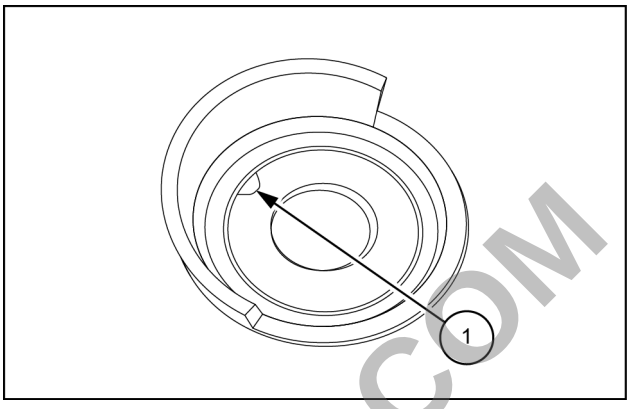
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Axle wheel hub - Install

Reinstall the spindle assembly to the front axle following the disassembly procedure in reverse.

NOTE: *Ensure that the slot **(1)** in the thrust washer fits on the notch provided on the axle outer section.*

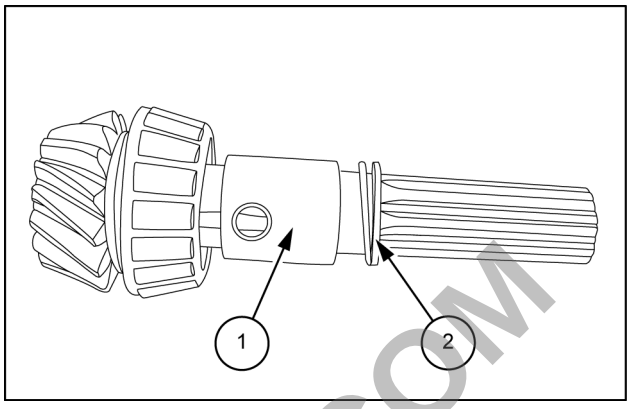


NDIL14TR00821AB 1

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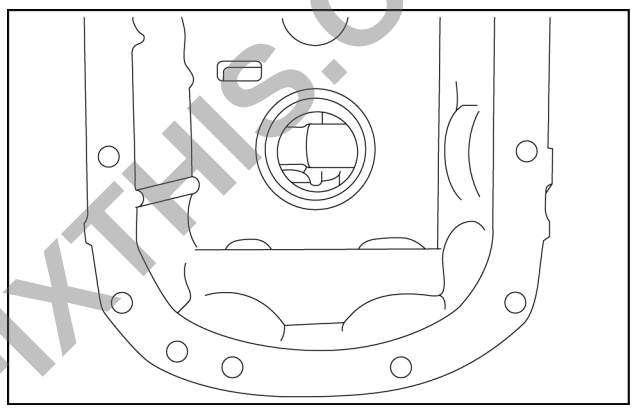
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4. Retrieve spacer **(1)** and shims **(2)** from the pinion shaft.



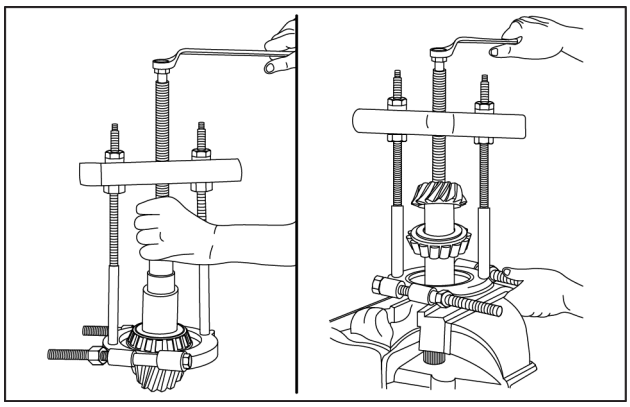
NDIL14TR00476AB 4

5. Remove outer race of the bearings from the case using suitable puller.



NDIL14TR00477AA 5

6. Remove the tapper roller bearings from the pinion shaft using special tool number 292911.



NDIL14TR00478AA 6

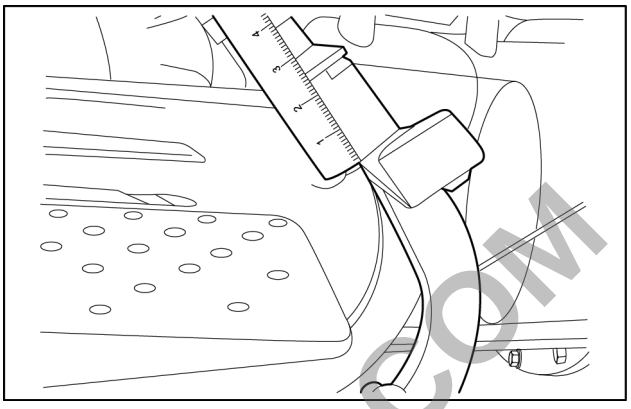
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Brake control pedals and shafts - Adjust – Brake pedal free play

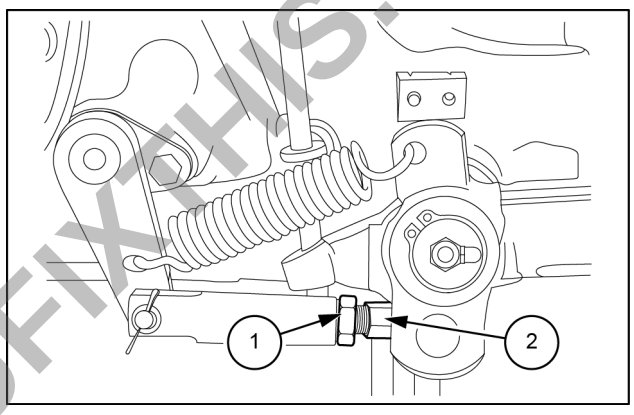
Measure free play of the brake pedals as shown in figure **1** and should be **35.00 – 45.00 mm** (**1.38 – 1.77 in**).With the brake pedals locked together, the tractor should stop in a straight line when brakes are applied.
Adjustment is made to the brake pull rods beneath the tractor. Block the wheels , front and rear, unlock the brake pedals and release the parking brake lever. Unlock nut **(1)** and rotate screw **(2)** to adjust play.

- Screw in to reduce the play.
- Screw out to increase the play.



NDIL14TR00572AA 1

Repeat the same procedure for the left brake pull rod. Lock the brake pedals together and road test to ensure that the brakes are balanced and will stop the tractor in a straight line. Any further adjustment necessary to balance the brakes should be carried out on the right brake.

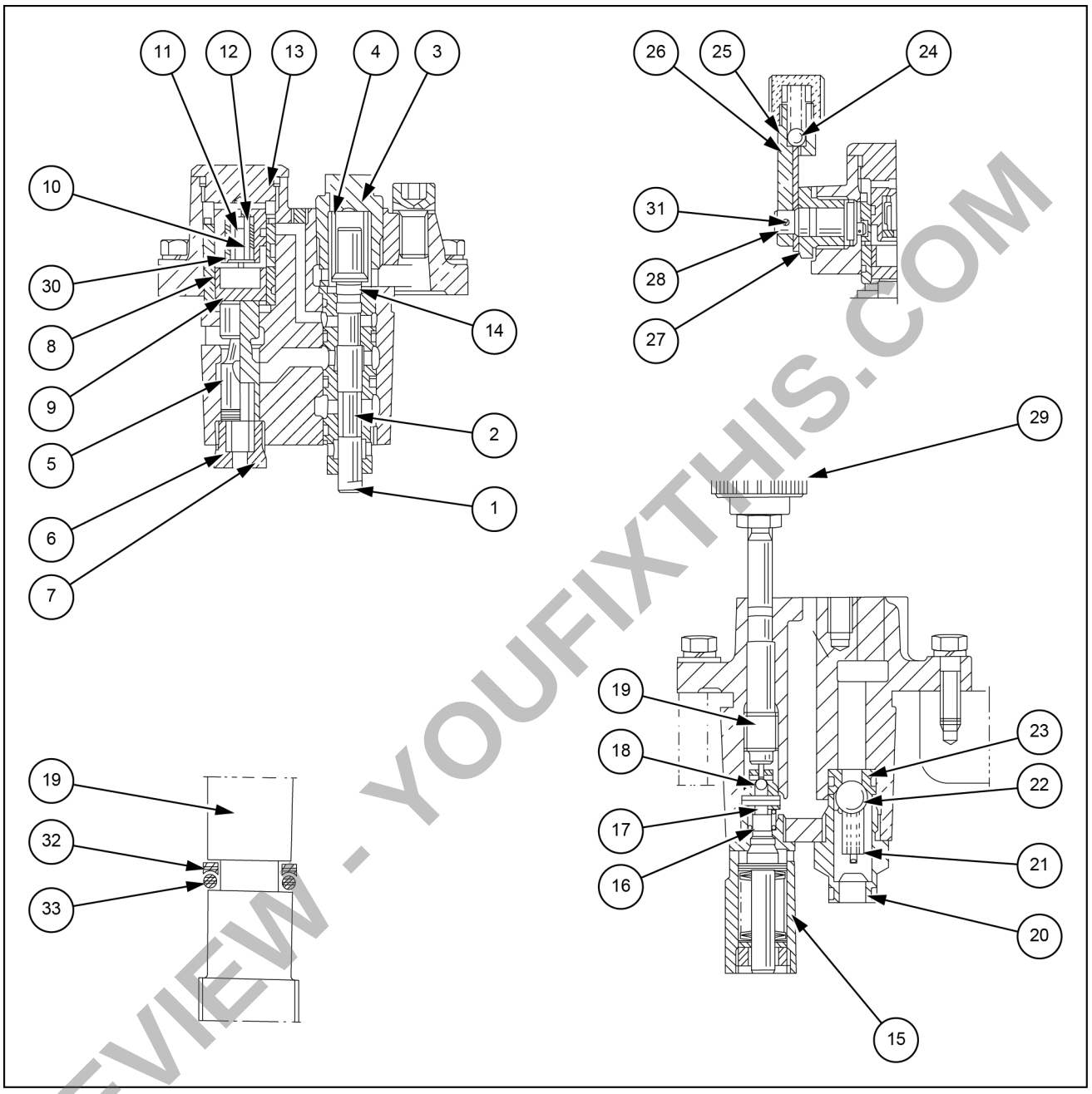


NDIL14TR00573AB 2

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Main lift system - Sectional view - Control valve



NDIL14TR00596GB 1

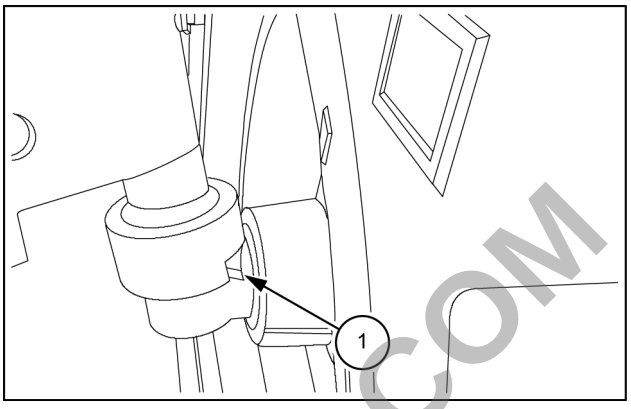
1. Valve spool
2. Valve spool seat plug
4. Valve spool return spring
5. Valve plunger
6. Plunger spring
7. Plug
8. Piston seat
9. Valve piston
10. Spring cup
11. Draft sensitivity adjusting valve spring
12. Draft sensitivity adjusting valve
13. Plug
14. Spool seat ring
15. Cylinder safety valve
18. Ball
19. Response control adjusting pin
17. Delivery connection
21. Check valve spring
22. Check valve
23. Check valve seat descent ball
25. Adjusting pin lever
26. Sector
27. Plug
28. Adjusting pin
29. Response control adjustment knob
30. Retaining ring
31. Roll Pin
30. Back-up ring

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Steering control - Install

Installation of steering assembly is the reverse of the removal procedure, refer to **Steering control - Remove (41.101)**, but observe the following:

1. Drop arm should be fitted on the steering roller shaft so that the marking lines are correspond to each other.
2. The splined section and the thread on the shaft should be well lubricated with lubricating oil before pushing arm on the splines.
3. If the position of the drop arm is not marked the following method should be used.
   The steering gears should be turned exactly to the middle position. The front wheels should also be brought as close as possible to the straight-ahead position. The drop arm can then be placed in the required position on the steering roller shaft. Special care should be taken at this time that neither the position of the steering nor the front wheels is altered. Small discrepancies can be balanced out by adjusting the length of the track rod.
4. It should be finally checked whether on full lock to left and right. The stop takes place on the relevant axle stop **(1)**. Under no circumstance may the stop be in the steering gear as otherwise there is danger of grave mechanical breakage.



NDIL14TR00711AB 1

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Electrical system - Troubleshooting

NOTE: *Whenever effecting a repair, the reason for the cause of problem must be investigated and corrected to avoid repeat failures.*

Problem	Possible Cause	Correction
Several or all lights do not illuminate	Battery discharged	Check battery, charge or renew
	Loose or defective battery cable connections	Inspect, clean and tighten connections
	Loose harness connectors	Check and ensure connectors securely tightened
	Fuse burned out	Inspect and renew, check circuit before re-connecting power
	Faulty wiring	Check lighting circuit, repair or renew
	Defective light switch	Check and renew
	Several light bulbs burned out due to defective voltage	Check and renew voltage regulator
Individual lights do not illuminate	Burned out bulb	Check and renew
	Defective or corroded bulb contacts	Inspect, clean or renew
	Fuse burned out	Inspect and renew, check circuit before re-connecting power
	Loose or broken wires	Inspect, secure, repair or renew wiring
	Poor ground connection	Inspect, dean or tighten ground connections
Lights bum out repeatedly	Loose or corroded wiring connections	Inspect, secure, repair or renew wiring
	Loose bulb or lamp mounting bracket	Inspect, tighten or renew
	Faulty voltage regulator	Check and renew voltage regulator
Plough light inoperative	See, “Individual lights do not illuminate”	See “Individual lights do not illuminate”
Flasher lamps do not illuminate	Fuse blown	Inspect and renew, check CIrcuit before re-connecting power.
	Flasher unit inoperative	Check and renew NOTE: Flasher unit may be bypassed by inter- connecting tenninals. This enables circuit continuity to be checked.
	Flasher switch inoperatIve	Check and renew
	Defective wiring or connections	Inspect circuit, dean and tighten connections or renew wiring
Individual flasher lamp does not illuminate	Burned out bulb	Check and renew
	Corroded or loose bulb contacts	Inspect, clean, tighten or renew
	Poor ground connections or damaged wiring	Inspect, clean and tighten connection, repair or renew wiring

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