
SECTION 00 - GENERAL INFORMATION

BOOK 1 - 86705316

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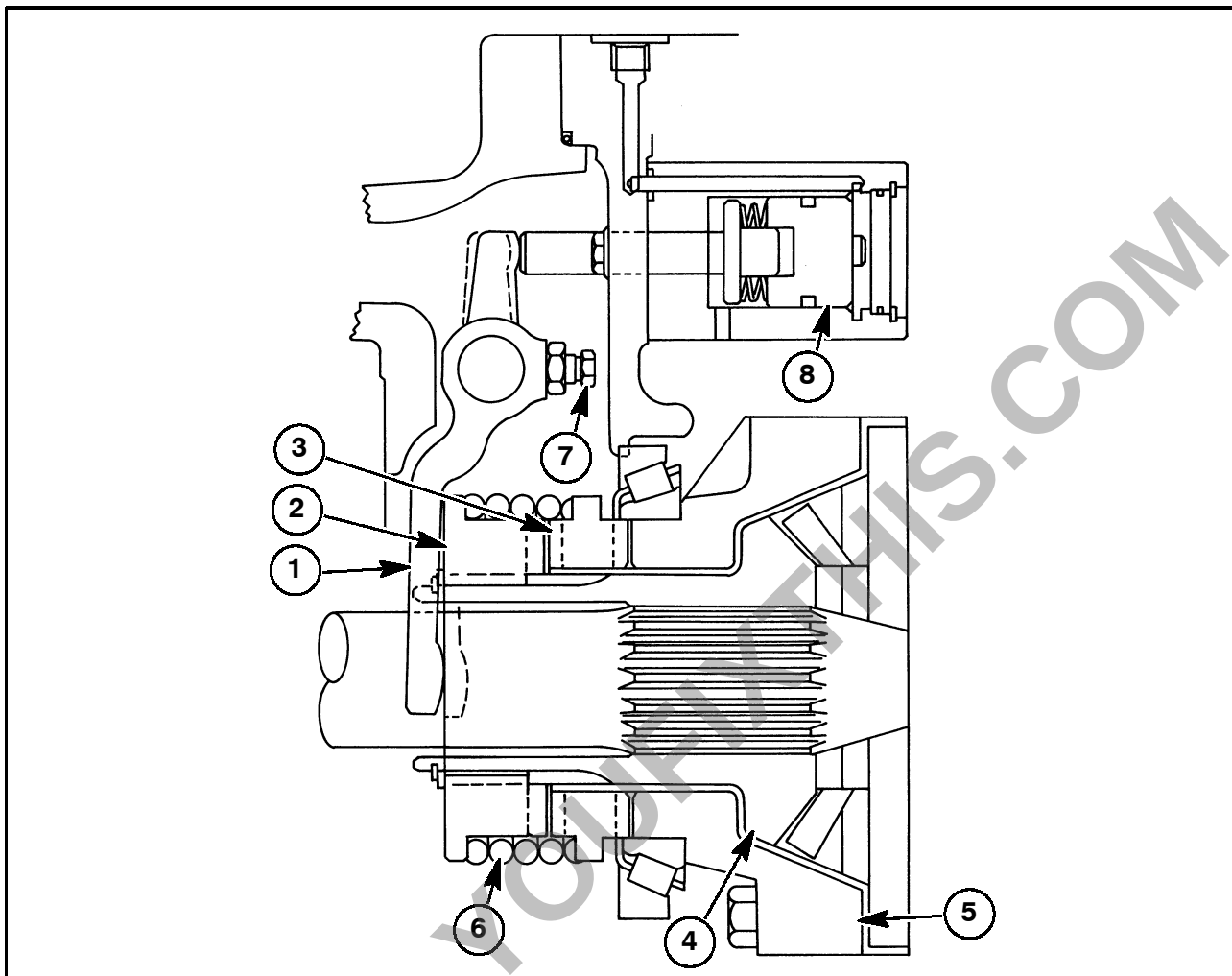
ENGINE SPECIFICATIONS

General Specifications

Number of Cylinders	6
Firing Order	1 - 5 - 3 - 6 - 2 - 4
Displacement	7472 cc (456 cu in.)
Cylinder Arrangement	Inline-Vertical
Valve Arrangement	Overhead-Inline
Idle Speed	700 - 800 rpm
Rated Engine Speed	2200 rpm
Maximum No Load Engine Speed	2370 - 2420 rpm
Maximum Power	110 kW (147 hp)
PTO Output at Rated Engine Speed	78 kW (105 hp)
Torque at Rated Engine Speed	337 N·m (249 ft.-lbs.)
Maximum Torque	535 N·m (395 ft.-lbs.) @ 1200 rpm
Compression Ratio	17:5 - 1
Cylinder Bore Compression @ Cranking Speed (200 rpm)	25.5 bar (375 psi)
Cylinder Bore	111.8 mm (4.4 in.)
Stroke	127.0 mm (5.0 in.)
Aspiration Type	Turbocharged
Maximum Boost Pressure at Rated Engine Speed	41.37 kPa (6 psi)

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TORQUE VALUES	N·m	ft. lbs.
Belt Tensioner Pulley Bolt	54	40
Camshaft Gear Bolt	69	51
Camshaft Idler Drive Gear-to-Block	237	175
Camshaft Rear Gear Plate Bolts	47	35
Connecting Rod Bolts	149	110
Cover Bolts (Blanks Oil Drilling)	31	23
Crankshaft Pulley-to-Crankshaft	224	210
Crankshaft Rear Oil Seal Retainer -		
Initial Tightening	12	9
Final Tightening	20	15
Cylinder Head Bolts (with Engine Cold)	55, 95+90°	40, 70+90°
Cylinder Head Rocker Shaft Bolts (with Engine Cold)	55, 95+90°+45°	40, 70+90°+45°
Exhaust Manifold-to-Cylinder Head	38	28
Exhaust Pipe-to-Flange	31	23
Fan Blade to Viscous Unit	27	21
Flywheel-to-Crankshaft	197	145
Front Cover-to-Cylinder Block	24	18
Idler Pulley Bolt	54	40
Injection Pump-to-Front Cover	24	18
Injection Pump-to-Gear Nut	92	68
Injector Attachment Bolts	23	17
Injector Line Nuts	24	18
Intake Manifold-to-Cylinder Head	35	26
Leak-off Tube Banjo Fitting Bolts	6	4.4
Main Bearing Bolts	81+90°	60+90°
Oil Filter Adaptor Bolts	42	31
Oil Filter Mounting Bolt Insert	34	25
Oil Pan Drain Plug	41	30
Oil Pan-to-Cylinder Block (Cast)	38	33
Oil Pressure Switch Assembly	31	23
Oil Pump to Block	23	17
Pump Connector to Block	24	18
Self-Locking Screw - Valve Rocker Arm	24	18
Starting Motor-to-Rear Adaptor Plate	31	23
Sump Tube Mounting Bolts	27 - 34	20 - 25
Temperature Senders	20	15
Tensioner to Water Pump Bolt	54	40
Thermostat Housing Bolts	24	18
Turbocharger-to-Exhaust Manifold Nut	44	33
Valve Rocker Cover Bolts	24	18
Viscous Unit to Pulley	54	40
Water Pump-to-Cylinder Block	35	48
Water Pump Cover-to-Pump	27	20



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DIFFERENTIAL LOCK

When a wheel of the tractor rolls over soft or slick ground, the differential sends most of the driving force to that wheel, causing it to spin. The lack of traction slows the tractor and reduces efficiency.

The differential lock, an option on the TV140 tractor front axle, helps to solve this problem. When the differential lock is engaged, both wheels are locked together so that the driving force is applied to both wheels at the same time. Traction is then maintained.

The differential lock consists of a dog-type coupling which is splined to, but free to slide on, the differential side gear. Engaging the lock connects the differential side gear to the differential case. The differential lock adapter has dog teeth on both faces. The teeth on the inside engage the teeth machined on the differential case, and the teeth on the outside engage teeth on the differential lock coupling.

The fork, 1, actuated by pressure on the hydraulic piston, 8, moves the coupling, 2, into contact with the adapter, 3. The teeth on the coupling and adapter engage, slide along the differential side gear, 4, and lock the adapter, coupling and the differential case, 5, together. The components remain engaged until the hydraulic pressure is released. When released, the compressed operating spring, 6, forces them apart, disengaging the lock.

The hydraulic pressure to operate the differential lock is supplied from the low-pressure manifold through a line to the solenoid valve mounted on the lower right side of the engine compartment. When the lock is engaged, the valve supplies oil pressure to the cylinder in the in the axle housing, forcing the fork against the differential lock. In the off or disengaged position, the valve closes the inlet line and opens the drain line. When the lock is disengaged, the differential lock spring pushes the piston back. This forces the oil back through the valve and into the drain line.

SPECIFICATIONS

Implement Pump Assembly

Pump Type	Variable displacement-pressure and flow compensating
System Type	Closed-Centre Load-Sensing (CCLS)
Shaft Type	Splined
Rotation (From Shaft End)	Clockwise
Max Speed	3000 rpm
Max Over speed	3200 rpm
Minimum Speed	700 rpm
Max Temperature (at inlet)	
Continuous	90° C (194° F)
Intermittent	110° C (230° F)
Min Temperature (at inlet)	
Normal	0° C (32° F)
Cold Start	-40° C (-40° F)
Displacement	114 L/min (30 US.GPM)
Rated Pressure	197 bar (2857 PSI)
Rated Speed	3000 rpm
Max Pressure (Dead Head)	214 bar (3100 PSI)
Low Pressure Standby Pressure	19 ± 1.7 bar (275 ± 25 PSI)
Charge Pump	
Displacement	123 L/min (32.5 US.GPM)
Rated Pressure	197 bar (2857 PSI)
Rated Speed	3000 rpm
Pressure Compensator Setting	207-214 bar (3000-3100 PSI) at zero flow
Flow Compensator Setting	19 ± 1.7 bar (275 ± 25 PSI) at zero flow
Filter (Charge Pump Discharge)	
Type (NH P/N 86016760)	Return-Paper Element
Filtration	15 Micron absolute
Filter Bypass Relief valve	6.8 bar (100 PSI)
Charge Pressure Bypass Valve	1.7 bar (25 PSI)
Filter (Charge Pump Suction)	100 Mesh Screen
Oil Reservoir Capacity	51.1 L (15.5 US.gal)
Oil Type	134D
Implement Valve Assembly (3 or 5 valve sections)	
Type	Closed-Centre Load-Sensing
Flow Control Range	
Blue (Detent) Valve Section	11.4-114.6 L/min (3-30 US.GPM)
Tan (Float) and Green (Standard) Valve Sections	30.3-114.6 L/min (8-30 US.GPM)
Engine End Grey and Black Valve Sections (Optional)	11.4-114.6 L/min (3-30 US.GPM)
Detent Kick Out Pressure	171 ± 68 bar (2500 ± 100 PSI)
Steering Priority Valve Section	
Relief Valve Pressure	193 bar (2800 PSI)
Flow	23 L/min (6 US.GPM)

AUDIBLE/VISUAL ALARMS

The EICS monitors various operating conditions of the tractor. Should any one of these conditions vary too far from the normal operating range, an audible and visual alarm will be generated. The alarms will be in one of two categories - critical or non-critical. A critical alarm means that the engine will be shut down if the problem is not corrected. A non-critical alarm is used to warn the operator of a non-standard condition but allows the engine to continue running. There are four critical alarm functions of the EICS.

The critical alarms are:

- Engine Oil Pressure (Low)
- Engine Coolant Temperature (High)
- Hydraulic Oil Pressure (Low)
- Hydraulic Oil Temperature (High)

The non-critical alarm functions are:

- Air Filter Restriction
- Electrical System High/Low Voltage
- Engine End PTO over-speed - indicator flashes
- Cab End PTO over-speed - indicator flashes
- PTO Alert - Engine Running, Operator Not in Seat and PTO on.
- Fuel Level Low
- Fuel Level Sender Failure
- DIFF LOCK on and ground speed is 16.1 km/h (10 MPH)
- Tractor Speed Sensor Circuit Failure
- Coolant Temperature Sensor
- O/P (ERR) Error Codes
- Park Brake Alert - Tractor Moving, and Park Brake Engaged
- Park Brake Alert - Engine Running, Operator Not in Seat and Park Brake Not Engaged

CRITICAL ALARMS

The following information applies to all four critical alarms.

After the EICS has detected one of the critical alarm conditions the system will go through an alarm sequence and then shut down the engine. However, if the override switch is pressed and held down before the engine is shut down, the alarm will continue through its sequence but the engine will not shut down. The override switch gives the operator extra time to move the tractor from an undesirable location.

If the engine was shut down by the EICS, and is restarted with the critical condition still present but without activating the override switch, the alarm sequence will repeat, and the engine will shut down.



WARNING



The engine shutdown feature is fully automatic. It can be overridden to drive the tractor to a safe location. The override switch is located beneath the EICS and should be used only as necessary to move the tractor out of a dangerous situation such as traffic. A lamp in the switch is illuminated when the switch is held in the override position.

IMPORTANT: Use caution when restarting the engine because of the possibility of NO LUBRICATING OILS for the engine and/or the hydrostatic transmission. DO NOT restart the engine more than once or operate the engine at high speeds. Damage to the engine and or transmission may occur. Contact your New Holland Dealer for assistance.

IMPORTANT: The only way to totally clear the warnings is to shut off the tractor and to correct the problem. Take corrective action immediately to prevent damage to the tractor.

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