

NEW HOLLAND
TC30
Tractor

REPAIR MANUAL

NEW HOLLAND AGRICULTURE

SERVICE

87021725

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TC30 REPAIR MANUAL
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The following pages are the collation of the contents pages from each section and chapter of the TC30 Tractor Repair manual. Complete Repair part # 87021725.

The sections used through out all New Holland product Repair manuals may not be used for each product. Each Repair manual will be made up of one or several books. Each book will be labeled as to which sections are in the overall Repair manual and which sections are in each book.

The sections listed above are the sections utilized for the TC30 Tractors.

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SECTION 00 - GENERAL INFORMATION

BOOK 1 - 87021726

Chapter 1 - General Information

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SECTION 10 - ENGINE SYSTEMS

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Chapter 1 - Engine

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TROUBLESHOOTING

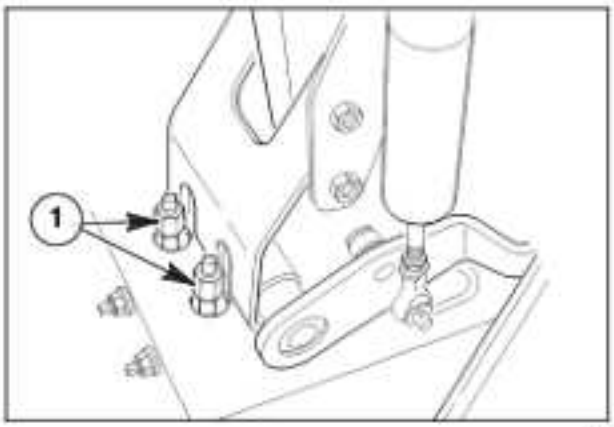
PROBLEM	POSSIBLE CAUSE	CORRECTION
Engine does not develop full power	Clogged air cleaner	Inspect and replace air cleaner if necessary
	Fuel line obstructed	Check for crimped fuel line. Inspect fuel filter for cleanliness
	Improper injection timing	Repair/ replace components as required
	Improper nozzle injection pressure and angle	Check injection timing Inspect for proper injection pressure an angle
	Low cylinder compression	Check engine compression
	Insufficient fuel injection	Repair at authorized shop
	Improper valve lash adjustment	Adjust valves to correct tolerances
	Burned, worn or sticking valves	Inspect and replace as necessary
	Blown head gasket	Replace head gasket
	Worn or sticking piston rings	Overhaul as necessary
	Faulty engine stop solenoid	Replace stop solenoid
Low oil pressure	Engine oil level low	Fill to proper level
	Wrong grade of oil	Replace with correct grade oil
	Clogged oil pump filter	Change oil and filter
	Faulty oil pressure relief valve	Replace relief valve
	Worn oil pump drive shaft gears, or broken oil pipe	Inspect oil system and components. Replace defective components
	Excessive main or connecting rod bearing clearances	Replace bearings or shaft if necessary
	Oil pump axial clearance not properly set	Check pump clearance and shim as needed to proper tolerance
Engine will not stop	Faulty engine stop solenoid	Replace the stop solenoid
	Faulty starter switch	Replace starter switch

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PRESSURE TESTS

HIGH PRESSURE RELIEF VALVE TEST

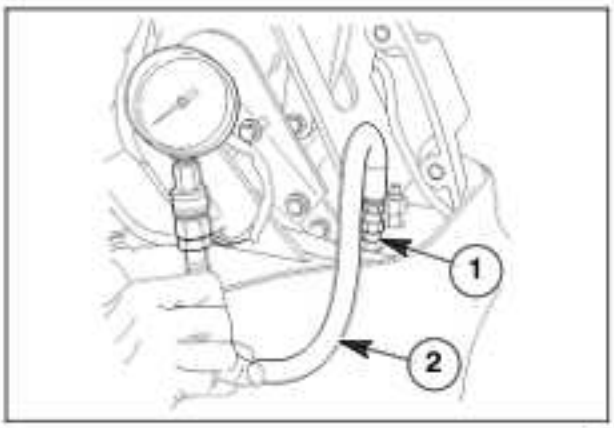
1. Remove the shroud center panel to gain access to the test port tubes, 1.
2. Operate the tractor to warm the fluid to 25° - 50°C (80° - 120°F) before performing this hydraulic test.
3. The test ports, 1, access the HST unit through holes in top of the clutch housing.



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4. Install test fitting Tool No. NH01378, 1, in the test port.
5. Install a 0 - 5000 psi gauge No. OEM 1463, 2, to the test fitting.
6. Securely lock the parking brake.
7. Place the range lever in high range.
8. Disengage the clutch and start the engine. Set throttle speed to 2500 rpm.
9. Be sure the transmission foot pedal is in neutral position and then release the clutch.
10. Slowly move the foot pedal in the forward position to obtain a reading on the pressure gauge. Read the maximum pressure on the gauge. Pressure reading should be 265 - 284 bar (3839 - 4124 psi) at 16 Lpm (4.2 gpm).

    IMPORTANT: *Read pressure in minimum time to prevent overheating and possible damage to the transmission.*



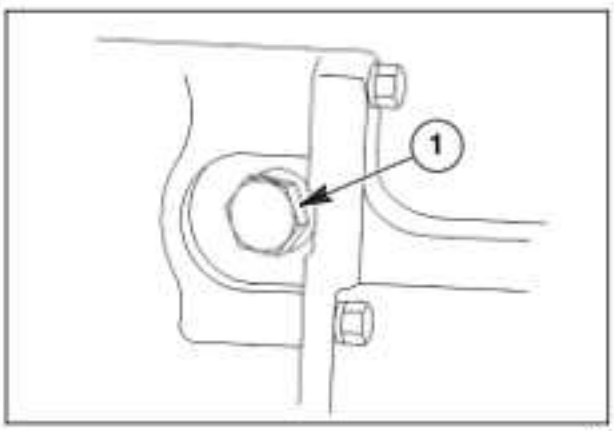
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11. If necessary to replace the relief valve, 1, remove the tractor seat and left side fender and replace the relief valve. Retest the new relief valve for correct pressure setting.

    The relief valve is adjustable by shimming between the spring and valve cap. Add shims to increase pressure or remove shims to decrease. The following shim thicknesses will change pressure readings.

Shim Thickness	Pressure Change
0.076 mm (0.003")	4.8 bar (70 psi)
0.5 mm (0.020")	27.6 bar (400 psi)

    NOTE: *If the relief valve is faulty, replace as an assembly.*



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TC30 Air Restriction Circuit

1. Current starts at the battery, and flows through the positive (+) battery cable to the engine starter motor.
2. From the starter motor, current flows through the fusible link wire to terminal 30 of the key switch.
3. When the key switch is in the "AC/Run" position, current crosses from terminal 30 to the "AC" terminal.
4. Current travels from the "AC" terminal of the key switch to the fuse panel.
5. Current passes through the 5-amp fuse within the fuse panel and reaches terminal 12 of the instrument panel.
6. Current enters terminal 12 and reaches the air restriction warning light within the instrument panel.
7. The air restriction switch controls the ground path to the warning light. When the air flow through the intake manifold drops below safe levels, the switch closes to complete the ground path, to terminal 11, causing the air restriction warning light to illuminate. This warns the operator that the air system is restricted and must be cleared to avoid engine damage.

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