



**8450,8650 AND 8850 TRACTORS
TECHNICAL MANUAL
TM-1256 (APR-85)**



JOHN DEERE

**TECHNICAL MANUAL
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8450,8650 AND 8850 TRACTORS TECHNICAL MANUAL TM-1256 (APR-85)

CONTENTWOPERATION AND TESTS

*This manual covers Tractor Operation and Tests (yellow tabs).
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ENGINE OPERATION & TESTS

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Group 00

SPECIFICATIONS AND SPECIAL TOOLS

SPECIFICATIONS

ITEM	MEASUREMENT	SPECIFICATION
6466A Engine	Compression Pressure	2280-2550 kPa (22.8-25.5 bar) (330-370 psi)
6619A Engine	Compression Pressure	2280-2620 kPa (22.8-26.2 bar) (330-380 psi)
6466A and 6619A Engines @ 2100 rpm	Oil Pressure	280-350 kPa (2.8-3.8 bar) (40-55 psi)
Valves - 6466A	Lift (intake)	10.5-11.2 mm (0.412-0.442 in.)
	(exhaust)	10.5-11.3 mm (0.412-0.443 in.)
	Clearance (intake)	0.41-0.51 mm (0.016-0.020 in.)
	(exhaust)	0.66-0.76 mm (0.026-0.030 in.)
Valves - 6619A.....	Lift (intake)	12.83-13.59 mm (0.505-0.535 in.)
	(exhaust)	11.20-11.96 mm (0.441-0.471 in.)
	Clearance (intake)	0.33-0.43 mm (0.013-0.017 in.)
	(exhaust)	0.58-0.68 mm (0.023-0.027 in.)
Crankshaft - 6466A and 6619A Engines.....	End Play	0.0380-0.380 mm (0.00150-0.0150 in.)
	Maximum Serviceable End Play	0.380 mm (0.0150 in.)
Damper - 6466A and 6619A Engines	Radial Run Out (Max.)	1.0 mm (0.040 in.)

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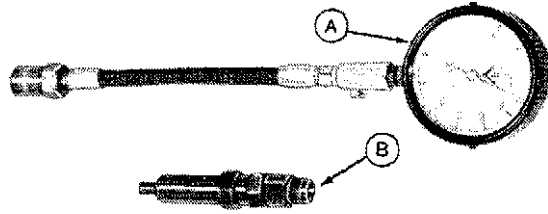
Specifications and Special Tools

SPECIAL TOOL 6466A AND 6619A

NOTE. Order tools from your SERVICE-GARD Catalog, unless otherwise indicated.

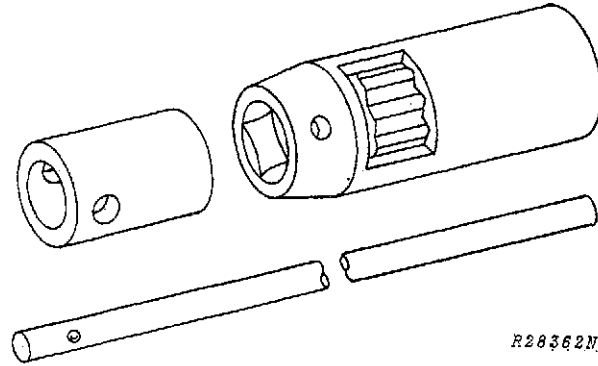
Motorite tester and adapter are used for testing compression.

A—D•14547BA Motorite Tester
WD•145B7BA Adapter



Used to remove and install KDEL nozzles.

JDE-92 Socket Wrench



R28362M

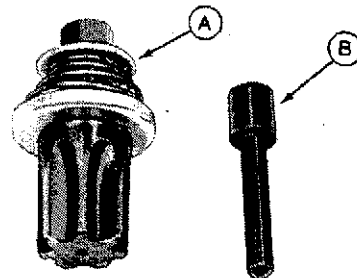
A87/R28362 N S11:3000 0 220981

Used for testing oil pressure.



A—No. 0700 (D-1) Fitting
WNo. 2tO6 (D•19HP) Hose and Fittings Assembly
C—No. 2O£6 (D•20) Gauge

Turning tool is used to rotate flywheel when timing the engine.



A—JDE•81•1 Flywheel Turning Tool
B • dDE-81•4 Timing Pin

A87/R26134 S11:22000 0 041182

COOLING SYSTEM—6466A

<p>Overflow valve Housing Radiator Cap (15 psi) (1.03 bar) Coolant Bypass Valve E—Water pump W—Thermostat</p>	<p>S—Water Manifold</p> <p>K—coolant Temperature L—Relief Valve</p>	<p>M—Overflow from Top Tank N—Overflow from Radiator</p>
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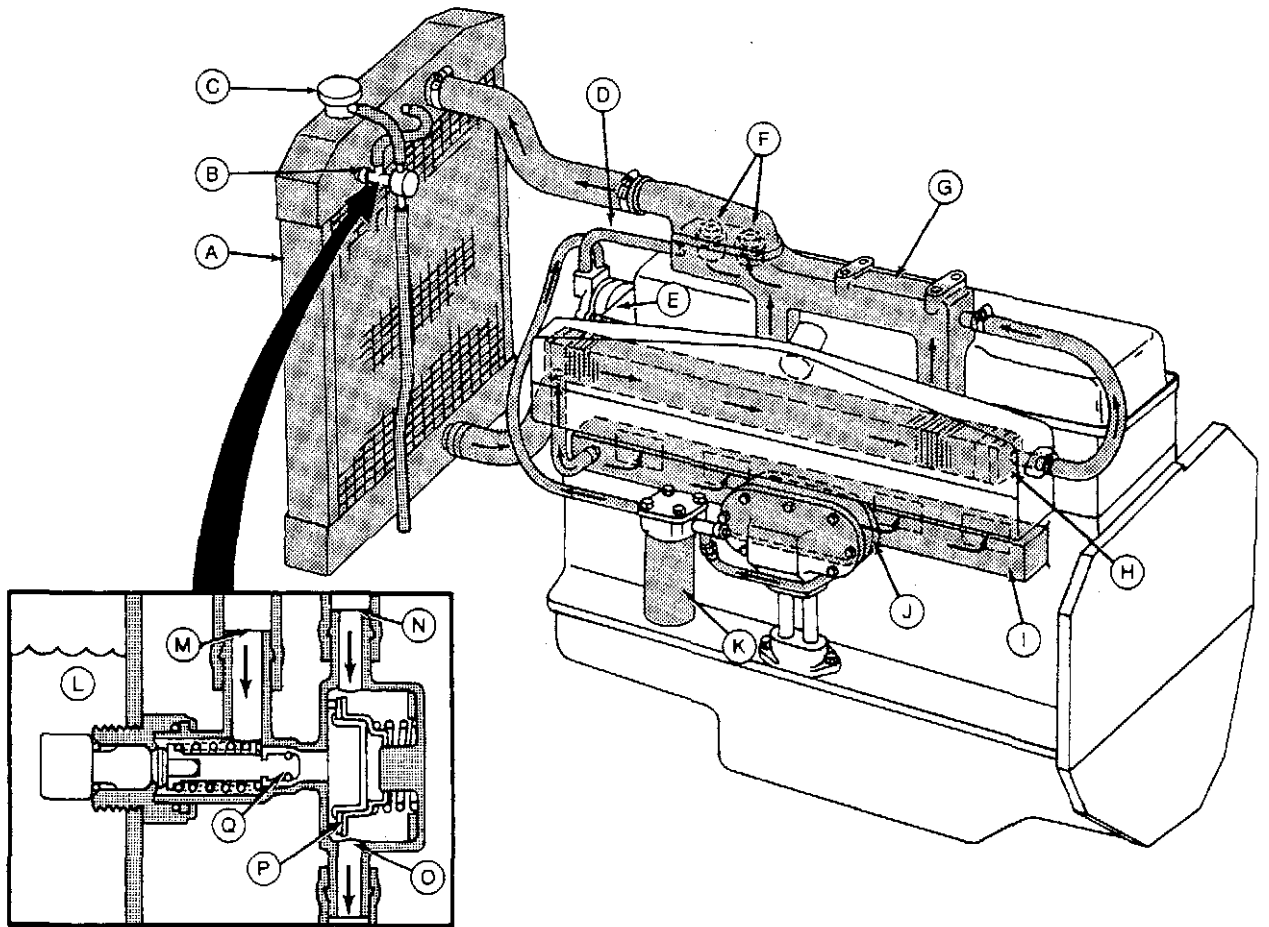
The dual pressure cooling system consists of a radiator (A), water pump (E), two thermostats (F), and water manifold (I).

NOTE: Later model tractors use a single pressure system which do not have overflow valves. The 8650 Tractors use a 103 kPa (1 bar) (15 psi) pressurizing cap. The 8450 Tractors use a 48 kPa (.5 bar) (7 psi) pressurizing cap.

A 103 kPa (1.03 bar) (15 psi) pressurizing cap (C) is connected by a hose to a coolant overflow valve (B) mounted at the rear of the radiator. A second hose connects the coolant overflow valve to the radiator top tank. Under normal conditions, relief valve (P) pres-

surizes extreme operating conditions (coolant temperatures of (105°C) 222°F and above) overflow valve (Q) closes stopping overflow from the radiator top tank (M). The 103 kPa (1.03 bar) (15 psi) cap (C) then pressurizes the system.

The pump draws coolant from the bottom of the radiator (A) and discharges it into the main coolant gallery (H) on the left-hand side of the engine. Coolant from the gallery circulates through the block to cool block and cylinder liners, then flows into the cylinder head. From the cylinder head, the coolant passes into the water manifold (G) and thermostat housing.



A—Radiator

ipe

H—Intercooler
I—Main Cooling Gallery
J—Engine Oil Cooler

Filter

O—Overflow to Ground
P—Relief Valve
Q—Overflow Valve

I

Continued on next page