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Caterpillar

Service Manual

Service Manual

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ENGINE**TABLE OF CONTENTS**

	Section	Group
Index	4A-10	30.1
Specifications	4A-10	40
General Instructions	1A-10	50
Cutaway Views	4A-10	60
Cooling System (with Radiator)	4A-10	70.1
Water Temperature Regulator	4A-10	100
Water Pump	4A-10	140.1
Water Pump	4A-10	140.2
Raw Water Pump	4A-10	150
Radiator	4A-10	160.1
Lubricating System	4A-10	170
Oil Pan	4A-10	180.1
Oil Pump	4A-10	190.1
Oil Cooler	4A-10	200.1
Oil Cooler	4A-10	200.2
Oil Filter	4A-10	210.1
Sump Pump	4A-10	220
Fuel System	4A-10	230
Fuel Supply Equipment	4A-10	240.2
Fuel Supply Equipment	4A-10	240.3
Fuel Injection Equipment	4A-10	250.1
Governor	4A-10	260.1
Fuel Pump and Governor Drive	4A-10	265.1
Air Induction and Exhaust System	4A-10	270.3
Air Induction and Exhaust System	4A-10	270.4
Cylinder Heads	4A-10	280.1
Valves and Valve Mechanism	4A-10	290
Vibration Damper	4A-10	300.1
Vibration Damper	4A-10	300.2
Front Support	4A-10	310.1
Timing Gears	4A-10	320
Pistons, Rings and Connecting Rods	4A-10	340
Cylinder Liners	4A-10	350
Main Bearings	4A-10	360
Crankshaft	4A-10	370
Flywheel and Flywheel Housing	4A-10	390

ISSUED 1-57

ENGINE**INDEX**

A			
Accessory Drive Gear	320	-4	
Adjustments:			
Compression Release	40	-2	
Fuel Injection Pumps Lifter	250.1	-5	
Governor	260.1	-5	
Air Cleaner	270.3	-2	
Air Inlet Manifold	270.3	-1	
	270.4	-1	
B			
Bearings:			
Connecting Rod	340	-1	
Main	360	-1	
Bell, Suction	190.1	-3	
By-pass:			
Fuel	240.2	-2	
	240.3	-2	
Oil Filter	210.1	-1	
C			
Camshaft Gear	320	-2	
Chambers, Precombustion	280.1	-2	
Cleaner, Air	270.3	-2	
Cleaning:			
Engine Valves	290	-4	
Fuel Injection Valve	250.1	-1	
Pistons	340	-1	
Temperature Regulators	100	-2	
Clearances and Tolerances	40	-1	
Compression Release Mechanism	290	-6	
Connecting Rods and Bearings	340	-1	
Cooler, Oil	200.1	-1	
	200.2	-1	
Cooling System	70.1	-1	
Core, Radiator	160.1	-1	
Crankshaft	370	-1	
Crankshaft Pulley	300.1	-1	
Cutaway Views	60	-1	
Cylinder Head	280.1	-1	
Cylinder Liners	350	-1	
D			
Data, Engine	40	-1	
Damper, Vibration	300.1	-1	
	300.2	-1	
Directors, Water	280.1	-2	
Drive:			
Fuel Pump and Governor	265.1	-1	
Oil Pump	190.1	-1	
Service Meter	265.1	-3	
Tachometer	265.1	-4	
E			
Engine Data	40	-1	
Exhaust Manifold	270.3	-2	
F			
Fan	140.1	-1	
Filters:			
Fuel	240.2	-3	
	240.3	-3	
Oil	210.1	-1	
Flow of Coolant	70.1	-1	
Flow of Fuel	230	-1	
Flow of Lubricating Oil	170	-1	
Flywheel	390	-1	
Front Support, Engine	310.1	-1	
Fuel:			
By-pass	240.2	-2	
	240.3	-2	
Injection:			
Equipment	250.1	-1	
Pumps	250.1	-1	
Pump and Governor Drive	265.1	-1	
Pump Housing	250.1	-3	
Pump Lifters	250.1	-6	
Valves	250.1	-1	
Pump Drive Gear	320	-2	
System, Diesel	230	-1	
Transfer, Pump	240.2	-1	
	240.3	-1	
Priming, Pump	240.3	-3	
G			
Gauge:			
Fuel	230	-1	
Oil	170	-2	
Gear:			
Accessory Drive	320	-4	
Camshaft	320	-2	
Crankshaft	370	-1	
Fuel Pump and Governor Drive	320	-2	
Idler	320	-1	
Ring, Flywheel	390	-1	
Timing	320	-1	
Timing Marks	320	-5	
Governor:			
Adjustments	260.1	-5	
Control Lever	260.1	-3	
Drive Gear	320	-2	
Drive	265.1	-1	
Operation	260.1	-1	
H			
Head, Cylinder	280.1	-1	
Heat Tube	270.3	-1	
Housing:			
Flywheel	390	-1	
Fuel Injection Pump	250.1	-3	
Governor	260.1	-2	
Timing Gear	320	-1	
I			
Idler Gears	320	-1	
Injection, Fuel	250.1	-1	
Inlet:			
Manifold	270.3	-1	
Valve	290	-1	
L			
Lifters:			
Fuel Injection Pumps	250.1	-4	
Valve	290	-4	
Liners, Cylinder	350	-1	
Lubricating System	170	-1	

ENGINE

INDEX

ISSUED 1-57

Lubrication:

Service Meter	265.1-3
Piston and Ring	340 -1
Timing Gear	170 -2

M

Main Bearings	360 -1
Manifolds:	
Exhaust	270.3-2
Fuel	230 -1
Inlet	270.3-1
Oil	170 -1
Meter, Service	265.1-3

Oil:

By-pass Valves	210.1-1
Cooler	200.1-1
	200.2-1
Filters	210.1-1
Manifold	170 -1
Pan	180.1-1
Pump	190.1-1
Pump Drive	190.1-1
Pump Suction Bell	190.1-3

Operating Difficulties:

Engine Coolant Overheating	70.1-1
Engine Fuel System	230 -2
Engine Lubricating System	170 -2
Overheating, Coolant	70.1-1

P

Pan, Oil	180.1-1
Pistons	340 -1
Piston Pin Bushings	340 -3
Piston Rings	340 -2
Precombustion Chambers	280.1-2

Pump:

Fuel:	
Drive	265.1-1
Injection	250.1-2
Priming	240.3-3
Sump	220 -1
Transfer	240.2-1
	240.3-1

Oil	190.1-1
Water	140.1-1
	140.2-1

Pressure, Oil	170 -2
Gauge	170 -1

R

Radiator	160.1-1
Removing Ring Ridge in Cylinder Liners	350 -2
Regulators, Water Temperature	100 -1
Release, Compression	290 -6
Ring Gear Flywheel	390 -1
Rings, Piston	340 -1
Rocker Arms, Valve	290 -1
Rod, Connecting	340 -2

Running-in Schedule	340 -2
---------------------	--------

Run-out:

Flywheel	390 -1
Flywheel Housing	390 -2

S

Sealed Pressure Overflow	160.1-2
Seals, Liner	350 -1
Service Meter	265.1-3
Setting Fuel Pump Lifter	250.1-5
Shaft, Fuel Pump and Governor Drive	265.1-1
Specifications	40 -1

Springs:

Governor	260.1-1
Valve	290 -3

Suction Bell	190.1-3
--------------	---------

Sump Pump	220 -1
-----------	--------

Support, Engine Front	310.1-1
-----------------------	---------

T

Testing Temperature Regulators	100 -1
--------------------------------	--------

Thrust Bearing Crankshaft	360 -1
---------------------------	--------

Timing:

Engine Gears	320 -1
Engine Valves	290 -3

Fuel Injection	250.1-7
----------------	---------

Timing Gear Housing	320 -4
---------------------	--------

Timing Gears	320 -1
--------------	--------

Timing Marks	320 -5
--------------	--------

Tolerances	40 -1
------------	-------

Transfer Pump, Fuel	240.2-1
---------------------	---------

	240.3-1
--	---------

V

Valve:

By-pass, Fuel	240.2-2
	240.3-2

By-pass, Oil	210.1-1
--------------	---------

Inlet and Exhaust	290 -1
-------------------	--------

Fuel Injection	250.1-1
----------------	---------

Inspection and Reconditioning	290 -3
-------------------------------	--------

Lash Adjusters	290 -6
----------------	--------

Lifters	290 -5
---------	--------

Operation	290 -1
-----------	--------

Pressure Regulating, Oil Pumps	190.1-4
--------------------------------	---------

Rocker Arm	290 -2
------------	--------

Rotators	290 -2
----------	--------

Seat Specifications	290 -5
---------------------	--------

Stem Bushings	290 -5
---------------	--------

Timing	290 -7
--------	--------

Valves and Valve Mechanism	290 -1
----------------------------	--------

W

Water:

Directors, Seals and Ferrules	280.1-2
-------------------------------	---------

Pump:

Seal Replacement	140.1-1
------------------	---------

	140.2-1
--	---------

Temperature Regulator	100 -1
-----------------------	--------

Specifications

These specifications contain dimensions for new parts and a suggested guide for the amount of wear that might normally be considered a reasonable figure to use in determining when to replace parts. These wear dimensions are shown after the description, "permissible clearance". These specifications are provided to help determine when new parts should be installed. This information should not be regarded as the only factor in determining when to replace parts. Past performance should be the governing factor for parts replacement. Even though parts are worn they may still be satisfactory. The remaining service life of these parts must be considered when deciding if parts should be replaced. If a machine is disassembled for reconditioning, it is well to replace parts not completely worn out if the remaining service life is deemed short.

Number of cylinders	6
Bore and stroke	5 1/8" x 6 1/2"
Firing order	1-5-3-6-2-4

Camshaft

Bearing journal diameter	2.369 - 2.370 in.
Bearing clearance	.003 - .0075 in.
Permissible bearing clearance	.011 in.
End clearance	.009 - .014 in.
Permissible end clearance	.025 in.
Camshaft retaining nut torque	200 lb. ft.

Camshaft Idler Gear

Backlash	.006 in.
Shaft diameter	1.997 - 1.998 in.
Bushing clearance	.002 - .004 in.
Permissible bushing clearance	.008 in.

Crankshaft

Main journal diameter	4.249 - 4.250 in.
Permissible main journal wear	.009 in.
Main bearing clearance	.0054 - .008 in.
Permissible bearing clearance	.018 in.
End clearance	.012 - .019 in.
Permissible end clearance	.035 in.
Main bearing stud nuts, torque	170 lb. ft.
Connecting rod, journal diameter	3.374 - 3.375 in.
Permissible journal wear	.009 in.
Permissible out-of roundness (journal)	.007 in.
Thrower location (tight against gear on crankshaft)	
Permissible run-out on thrower ring groove face	.006 in.

Connecting Rod

Connecting rod bearing clearance	.0042 - .0067 in.
Permissible bearing clearance	.013 in.
Connecting rod bolt nuts, torque	120 lb. ft.
Center-to-center distance	10.749 - 10.750 in.
Bore in piston pin bushing	1.751 - 1.7515 in.

Valve Spring

Outer:

Pounds pressure	57.9 - 63.9
When compressed to	2 1/8 in.

Inner:

Pounds pressure	18.1 - 20.1
When compressed to	1 11/16 in.

Valve Lifters

Lifter diameter	.8095 - .810 in.
Bore diameter	.8115 - .8125 in.
Permissible clearance	.008 in.

Rocker Arm Bushings

Clearance between shaft and bushing	.002 - .004 in.
Permissible clearance	.010 in.

Oil Pump

Clearance between gears and end covers	.002 - .004 in.
Shaft diameter	.8745 - .875 in.
Bushing bore	.8765 - .8775 in.
Permissible bushing clearance	.005 in.

Fuel Injection Equipment

Fuel injection pump timing	10° BTC
Fuel injection pump lifter setting (with piston at top center)	1.739 - 1.741 in.
Fuel pump plunger length	2.6575 - 2.6577 in.
Permissible wear (decrease in length of plunger)	.005 in.
Injection nozzle orifice	.0325 - .033 in.
Injection valve retaining nut torque	100 - 110 lb. ft.

Fuel Injection Pump and Governor Drive Shaft

Gear backlash	.005 in.
End clearance	.002 - .004 in.
Permissible end clearance	.010 in.
Gear retaining nut torque	200 lb. ft.

Governor

Drive gear backlash	.004 in.
Bushing bore diameter	.484 - .486 in.
Permissible bushing wear	.008 in.

Service Meter

Drive gear backlash	.004 in.
Permissible bushing wear	.012 in.