

W14 LOADER

TABLE OF CONTENTS

SERIES/SECTION	SECTION NO.	FORM NO.
10 SERIES-GENERAL		
General Engine Specifications	1010	9-75616
Detailed Engine Specifications	1023	9-78646
Maintenance and Lubrication	1050	9-72536
Torque Chart	1051	9-72536
20 SERIES-ENGINE		
Engine Diagnosis	2001	9-76365
Engine Tune-Up	2002	9-76379
Cylinder Head, Valve Train and Camshaft	2015	9-76166
Cylinder Block, Sleeves, Pistons and Rods	2025	9-76176
Crankshaft, Main Bearings, Flywheel and Oil Seal Replacement	2035	9-76187
Lubrication System	2047	9-78667
Stall Checks and Engine Removal and Installation	2050	9-72536
Backhoe Throttle Cable Adjustment	2050A	9-72536
Air Cleaner and Spark Arrester	2051	9-72536
Cooling System	2055	9-78357
Reconditioning Case Engine Blocks	2290	8-21170
30 SERIES-FUEL SYSTEM		
Fuel System and Filters	3010	9-75187
Robert Bosch Fuel Injection Pump	3012	9-74937
Rosa Master Fuel Injectors	3013	9-74959
Electric Fuel Pump	3051	9-72536
Fuel Lines and Fuel Tank	3052	9-72536
40 SERIES - HYDRAULICS		
Hydraulic Diagram, Trouble Shooting, Testing and Adjustments	4011	9-72536
Backhoe Hydraulic Diagrams, Trouble Shooting, Pressure Checks	4011A	9-72536
Hydraulic Pump	4012	9-72536
L51290 and L52776 Loader Control Valves	4020	9-72536
Case Backhoe Control Valve	4022	9-72536
L55038 Diverter Valve	4027	9-72536
L56060 Backhoe Relief Valve	4042	9-72536
Loader Cylinders	4050	9-72536
Backhoe Cylinders	4051	9-72536
50 SERIES-STEERING		
Hydraulic Diagram, Trouble Shooting and Testing	5011	9-72536
Steering Control Valve and Flow Control Valve	5013	9-72536
Steering Cylinders	5015	9-72536
Center Pivot	5018	9-72536

SERIES/SECTION	SECTION NO.	FORM NO.
60 SERIES-POWER TRAIN		
Alison Transmissions - Powershift Model	Manual	SA 1277
Transmission Removal and Installation	6012	9-72536
Differentials and Planetaries	6020	9-72536
Rear Axle Trunnion Center Bearing Support, Drive Shafts and Universal Joints	6022	9-72536
70 SERIES-BRAKES		
Air System Operation and Diagram	7011	9-72536
Pressurizing/Depressurizing the Air System	7012	9-72536
Brake Shoes and Wheel Cylinders	7013	9-72535
L52092 Air Compressor, Governor and Reservoir	7014	9-72536
L17683 Air Compressor	7014A	9-72535
Brake Valve	7015	9-72536
Brake Actuator	7016	9-72535
Parking Brake Actuator and Control Valve	7017	9-72536
Pressure Protection Valve and Pressure Reducing Valve	7018	9-72536
Air Horn and Horn Valve	7019	9-72535
Alcohol Evaporator	7020	9-72535
Double Check Valve/Stop Light Switch	7021	9-72536
80 SERIES-ELECTRICAL		
Wiring Diagram - Machines without Instrument Clusters	8011	9-72537
Trouble Shooting and Adjustments	8012	9-72536
Batteries	8014	9-72535
Starter, Starter Solenoid and Magnetic Switches	8015	9-72536
35 amp Alternator, (Models without Instrument Cluster)	8016	9-72536
30 amp Alternator, (Models with Instrument Cluster)	8016A	9-72535
90 SERIES-MOUNTED EQUIPMENT		
Loader	9011	9-72535
Model 26C Backhoe	9012	9-72535
Roll-Over Protection Structure	9019	9-72535

Section 1010

GENERAL ENGINE SPECIFICATIONS W14 LOADER

THE MODEL AND ENGINE SERIAL NUMBER IS STAMPED ON A PLATE LOCATED ON THE SIDE OF THE ENGINE ABOVE THE CRANKING MOTOR.



DIESEL ENGINES

General

Type	4 Cylinder, 4 Stroke Cycle, Valve-in-Head
Firing Order	1-3-4-2
Bore	4-5/8 Inches
Stroke	5 Inches
Piston Displacement	336 Cubic Inches
Compression Ratio	16.5 to 1
No Load Governed Speed	2330 to 2370 RPM
Rated Engine Speed	2200 RPM
Engine Idling Speed	725 to 775 RPM
Exhaust Valve Rotators	Positive Type
*Valve Tappet Clearance (Exhaust)	(Hot) .020 Inch (Cold) .025 Inch
(Intake)	(Hot and Cold) .015 Inch
*Hot Settings Are Made After the Engine Has Operated At Thermostat Controlled Temperature For At Least Fifteen Minutes.	
Cranking Motor	24 Volt Negative Ground
Thermostat Operating Range	175°F. to 202°F.

Piston and Connecting Rods

Rings per Piston	3
Number of Compression Rings	2
Number of Oil Rings	1
Type Pins	Full Floating Type
Type Bearing	Replaceable Precision, Steel Back, Copper-Lead Alloy Liners

Main Bearings

Number of Bearings	5
Type Bearings	Replaceable Precision Steel Back, Copper-Lead Alloy Liners

Engine Lubricating System

Oil Pressure	45 to 60 Pounds with Engine Warm and Operating at Rated Engine Speed
Type System	Pressure and Spray Circulation
Oil Pump	Gear Type
Oil Filter	Full Flow Spin on Type
Engine Oil Capacity (without filter change)	10 U.S. Quarts
(with filter change)	11 U.S. Quarts

Fuel System

Fuel Injection Pump	Robert Bosch, Type PES Multiple Plunger
Pump Timing	31 Degrees Before Top Dead Center (Port Closing)
Fuel Injectors	Pencil Type (Opening Pressure 3200 PSI)
Fuel Transfer Pump	Plunger Type, Integral Part of Injection Pump
Governor	Variable Speed, Fly-Weight Centrifugal Type, Integral Part of Injection Pump
1st Stage Fuel Filter	Full Flow Spin on Type
2nd Stage Fuel Filter	Full Flow Spin on Type

J I Case

A Tenneco Company



Rec. 9-75616

PRINTED IN U.S.A.

TABLE OF CONTENTS

RUN-IN INSTRUCTIONS	4
ENGINE SPECIFICATION DETAILS	
Cylinder Sleeves	5
Piston with 1.62" (41.15 mm) Pin Bore	5
Piston with 1.80" (45.72 mm) Pin Bore	5
Piston Pin for Piston with 1.62" (41.15 mm) Pin Bore	5
Piston Pin for Piston with 1.80" (45.72 mm) Pin Bore	5
Piston Rings	6
Connecting Rod for Piston with 1.62" (41.15 mm) Pin Bore	6
Connecting Rod for Piston with 1.80" (45.72 mm) Pin Bore	6
Crankshaft with 3" (76.2 mm) Main Bearing Journals	7
Crankshaft with 3.5" (88.9 mm) Main Bearing Journals	7,8
Camshaft	8
Valve Push Rod Lifters	8
Gear Train	9
Oil Pump and Two Gear Balancer	9
Oil Pump and Three Gear Balancer	9
Oil Pump, Front Mounted	10
Cylinder Head	10
Exhaust Valve	10
Intake Valve	10
Intake and Exhaust Valve Guides	11
Valve Spring	11
Rocker Arm Assembly	11
Intake Valve Timing	11
SPECIAL TORQUES	12,13
GENERAL TORQUES SPECIFICATION TABLE	14

RUN-IN INSTRUCTIONS

Engine Lubrication

Fill the engine crankcase with CASE HDM oil and install new engine oil filters, after an engine has been rebuilt.

NOTE: Use a *SERIES 3 DS* or *CD SERVICE CLASSIFICATION* oil that has the correct viscosity rating for ambient air temperature, if CASE HDM oil is not used.

Change the engine oil while the engine is hot and replace the engine oil filters, after the first 20 hours of operation.

Change the engine oil and filters at the given intervals, after the 20 hours, as found in the Operator's Manual.

Run-In Procedure For Rebuilt Engines (With A Dynamometer)

The following procedure must be followed when using a PTO dynamometer to run-in the engine. The dynamometer will make sure of the control of the engine load at each speed and will remove stress on new parts during run-in.

During the run-in, continue to check the oil pressure, coolant level and coolant temperature.

STEP	TIME	ENGINE SPEED	DYNAMOMETER SCALE LOAD*
1	**10 Minutes	1000 RPM	Not Any
2	**10 Minutes	1800 RPM	Not Any
3	20 Minutes	1800 RPM	1/3
4	20 Minutes	1800 RPM	1/2
5	***30 Minutes	100 RPM below rated speed	3/4
6	Tighten the cylinder head bolts to the torque that is found in Section 2015 of the service manual.		

* According to normal dynamometer scale load at rated speed for the specific vehicle model. Decrease this scale load as shown.

** The best run-in procedure will constantly change the throttle between 750 to 1000 RPM, for the first 10 minutes and from 1000 to 1800 RPM, for the next 10 minutes. The purpose of this changing RPM is to change the lubrication and coolant flow.

*** 30 minutes at 3/4 load is a minimum amount of time the engine can be run. It is best that when possible, the engine (especially a turbocharged diesel) must be run for four (4) hours or more, at the above speed and load before checking the full engine horsepower or before using the engine for heavy field work.

Run-In Procedure For Rebuilt Engines (Without A Dynamometer)

STEP	TIME	ENGINE SPEED	LOAD
1	*10 Minutes	1000 RPM	Not Any
2	*10 Minutes	1800 RPM	Not Any
3	30 Minutes	2/3 Rated RPM	Light Load
4	1 Hour	Full RPM (not over 2000 RPM)	80 to 90%
5	Tighten the cylinder head bolts to the torque that is found in Section 2015 of the service manual.		

* If engine must then run at or near full load to operate the machine, remove the load for the first hour and run at high idle for several minutes at 15 minute intervals.

Run-In Procedure

Keep in one gear lower than normal for the first 8 hours of field operation. DO NOT "lug" the engine for the next 12 hours. Prevent "lugging" by moving the shift lever to a lower gear. The engine must not be "lugged" below the Rated Engine RPM during the early hours of life.

Thank you so much for reading.
Please click the “Buy Now!”
button below to download the
complete manual.



After you pay.

You can download the most
perfect and complete manual in
the world immediately.

Our support email:

ebooklibonline@outlook.com