J.I. Case

Service Manual

1845 Uni-Loader

Volume 1 of 2

Service Manual

CA-S-1845

1845 UNI-LOADER TABLE OF CONTENTS AND SERVICE MANUAL INTRODUCTION

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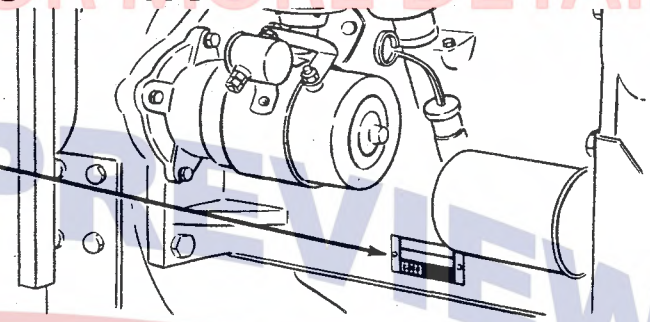
Section 1010

GENERAL ENGINE SPECIFICATIONS

1845 UNILOADERS

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



DIESEL ENGINES

General

Type	Case Open Chamber, 4 Cylinder, 4 Stroke Cycle, Valve-in-Head
Firing Order	1-3-4-2
Bore	3-13/16 Inches
Stroke	4-1/8 Inches
Piston Displacement	188 Cubic Inches
Compression Ratio	16-1/2 to 1
No Load Governed Speed	2330 to 2370 RPM
Rated Engine Speed	2200 RPM
Engine Idling Speed	800 to 850 RPM
*Valve Tappet Clearance (Exhaust)	(Hot and Cold) .014 Inch
(Intake)	(Hot and Cold) .012 Inch

*Hot Settings Are Made After the Engine Has Operated At Thermostat Controlled Temperature For At Least Fifteen Minutes.

Piston and Connecting Rods

Rings per Piston	4
Number of Compression Rings	2
Number of Oil Rings	2
Type Pins	Full Floating Types
Type Bearing	Replaceable Precision, Steel Back, Copper-Lead or Aluminum Alloy Liners

Main Bearings

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

Engine Lubricating System

Crankcase Capacity (Without Filter)	4
(With Filter Change)	5
Oil Pressure	50 to 70 Pounds with Engine Warm and Operating at Rated Engine Speed
Type System	Pressure and Spray Circulatio
Oil Pump	Gear Type
Oil Filter	Full Flow Spin-on Type

Fuel System

Fuel Injection Pump	Roosa-Master
Pump Timing	8 Degrees Before Top Dead Center
Fuel Injectors	Pencil Type (Opening Pressure 2800 PSI)
Fuel Transfer Pump	Vane Type, Integral Part of Injection Pump
Governor	Variable Speed, Fly-Weight Centrifugal Type, Integral Part of Injection Pump
Fuel Filters	Full Flow Spin on Type

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CENTRAL LUBRICATION SYSTEM

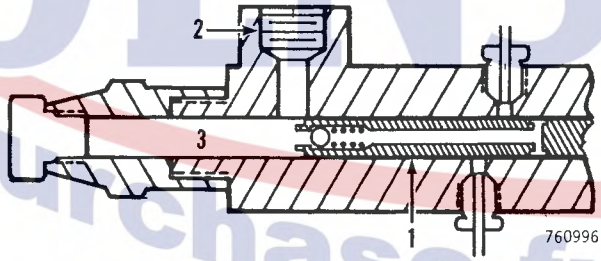
General

The central lubrication system is used on all early production 1845 Special machines. It is an automatic lubrication system consisting of two vacuum operated pumps and the lubricant lines between the pumps and pivot points. This system assures adequate lubrication to combat corrosion. The system will operate at a minimum of 15 inches of mercury.

Operation

The pumps are made up of a pump body and plunger, and a diaphragm assembly. The pumps are operated by the engine intake manifold vacuum.

When the engine is stopped or there is a rapid drop in manifold vacuum, two springs return the plunger and diaphragm to a neutral position which opens the inlet port to the lubricant chamber, Figure 1.

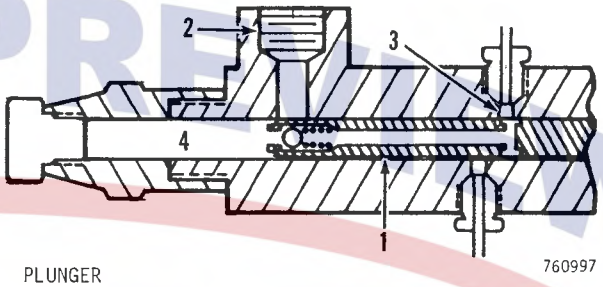


1. PLUNGER
2. INLET PORT
3. LUBRICANT CHAMBER

Figure 1

When the engine is started, engine vacuum working against the diaphragm causes the plunger to move into the pump body trapping the lubricant in the lubricant chamber. As the plunger moves into the pump body, pressure increases in the lubricant chamber, unseats the ball check allowing lubricant to flow into passage in the plunger.

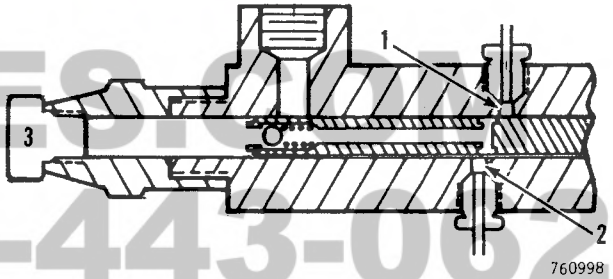
When the plunger reaches the point where it has sealed off the inlet port, the leading edge of the distribution groove opens outlet port No. 1, Figure 2. As the plunger moves into the pump body, the lubricant displaced by the plunger is injected into the No. 1 lubrication line.



1. PLUNGER
2. INLET PORT
3. OUTLET PORT NO. 1
4. LUBRICANT CHAMBER

Figure 2

At the point where the trailing edge of the distribution groove closes outlet port No. 1 the leading edge of the groove opens outlet port No. 2, Figure 3. The plunger continues moving in this manner past the remaining outlet ports until it touches the end plug. The plunger will remain in this position until there is a rapid drop in manifold vacuum or the engine is stopped. A return to normal vacuum or restarting the engine starts the lubrication cycle again.



1. OUTLET PORT NO. 1
2. OUTLET PORT NO. 2
3. END PLUG

Figure 3

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Section

2013

CYLINDER HEAD AND VALVES

148, 159, 188 AND 201 SPARK IGNITION ENGINES

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Section
2023

ENGINE BLOCK ASSEMBLIES

201G, 188G, 159G, 148G SPARK IGNITION ENGINES

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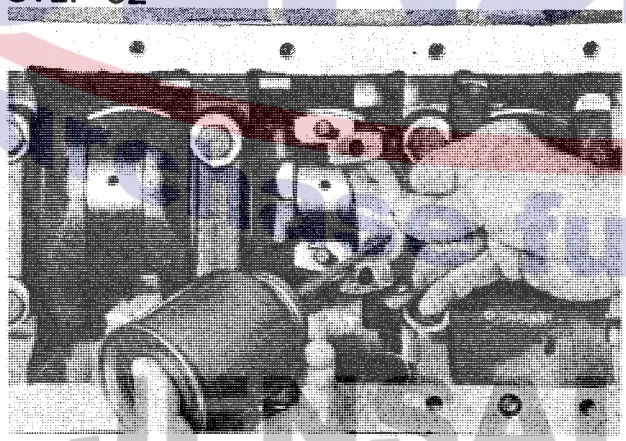
STEP 61

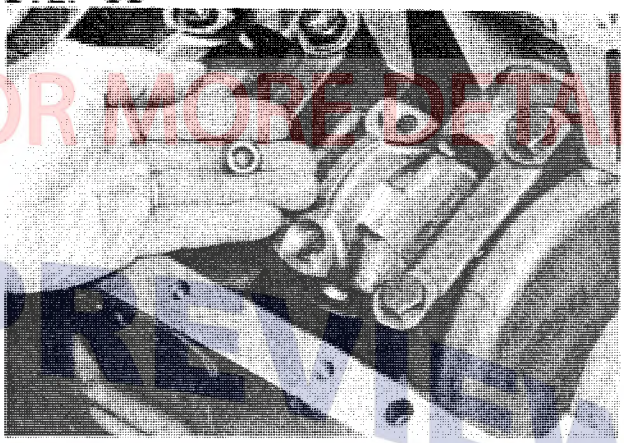
Remove bearing cap from connecting rod. The flattened plasti gauge will be found on either the rod bearing cap or crankshaft. Compare the flattened gauge material at its widest point with the scale that is furnished. The number within the graduation indicates the clearance in thousandths of an inch. The clearance must be .0010" to .0040". If clearance exceeds the specified limit, undersize bearing liners must be installed to provide the proper clearance. Refer to Detailed Specifications Section.

STEP 62



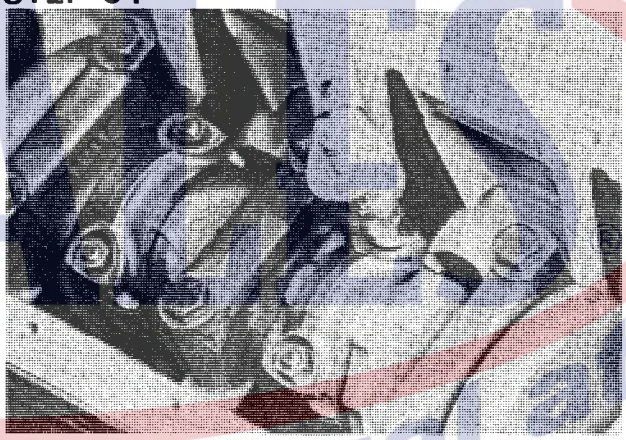
Lubricate connecting rod bearing cap liners and rod journals with HDM No. 30 oil.

STEP 63



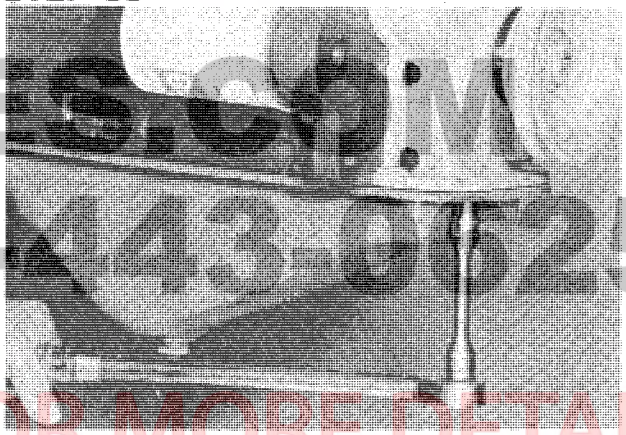
Reinstall connecting rod bearing caps and mounting nuts. Be sure numbered sides of cap and rod are together.

STEP 64



Torque connecting rod bearing cap mounting nuts 45 to 50 ft. lbs.

STEP 65



Install oil pan and gasket. Torque stamped steel oil pan mounting bolts 10 to 12 ft. lbs.

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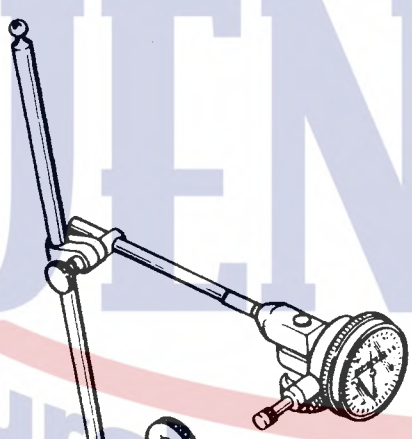
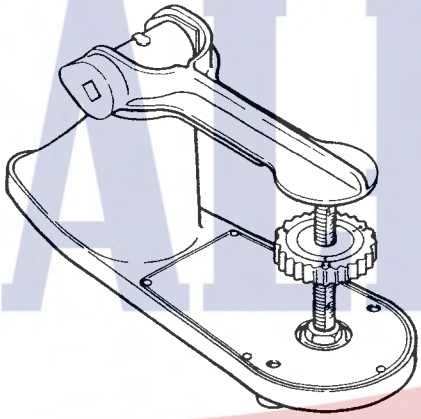
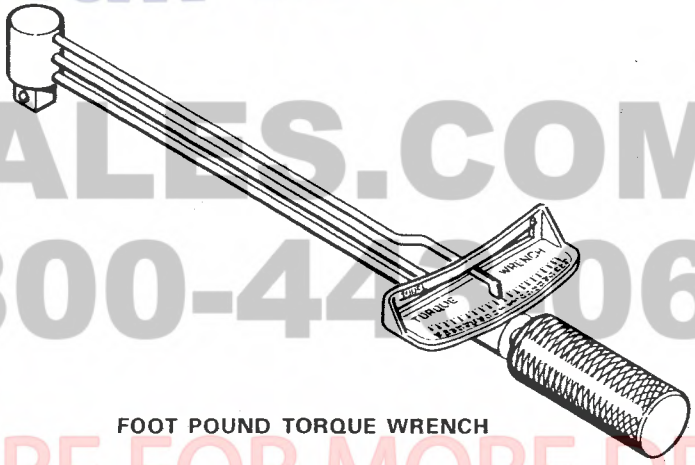
SPECIAL TOOLS



DIAL INDICATOR



SPRING TESTER



FOOT POUND TORQUE WRENCH

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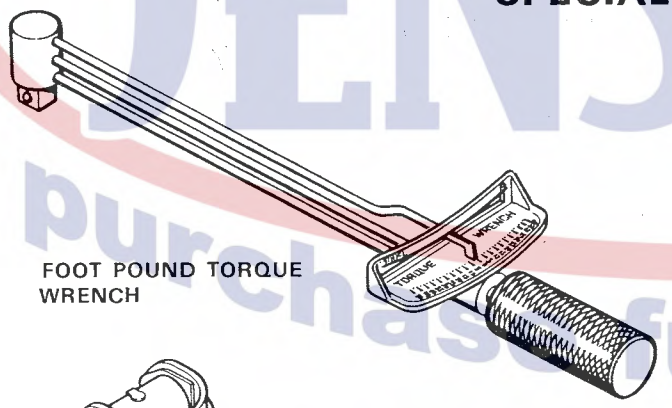
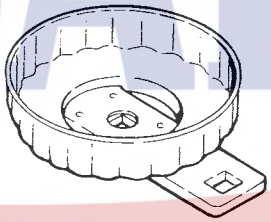
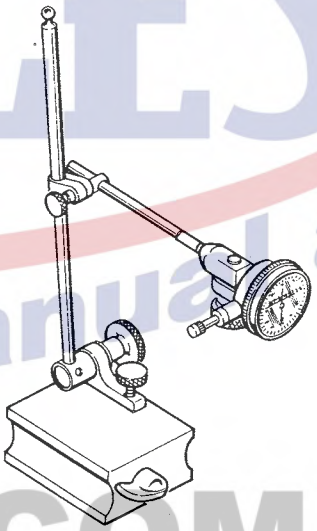


FOOT POUND TORQUE WRENCH



FILTER WRENCH A64761



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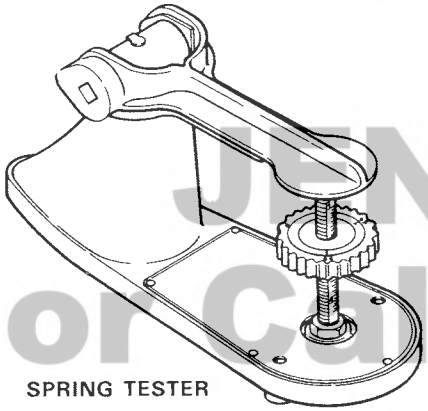
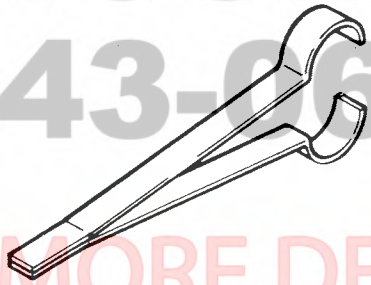


SPRING TESTER

SLEEVE TOOL CD322



SEAL COMPRESSION TOOL CD331

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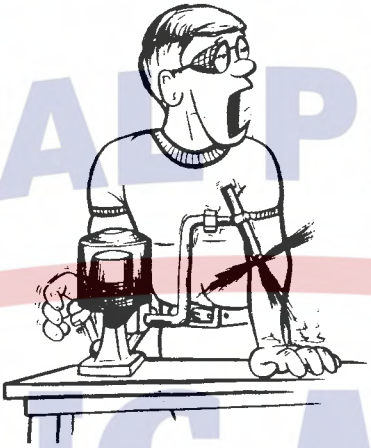

WARNING *When testing or adjusting fuel injectors, do not place your hands or arms in front of the injector nozzle.*

The fuel spray from an injector has sufficient penetrating power to puncture the flesh and destroy tissue. Should the fuel enter the blood stream, it may cause blood poisoning.

In the event the skin is punctured from the discharge of an injector, apply the following first aid immediately and then have the injury examined by a physician as quickly as possible.

Wash the injured part with boric acid solution, support the injured finger or hand with a splint and sling so the injured part will remain absolutely at rest until a physician can examine it.

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Section

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INDUCTION DISCHARGE
ELECTRONIC IGNITION SYSTEM

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