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MANUAL PREVIEW

J.I. Case

Service Manual

480E

Tractor, Loader, Backhoe

Volume 1 of 3

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CA-S-480E TLB

**480E LOADER BACKHOE
480E LL LOADER LANDSCAPER**

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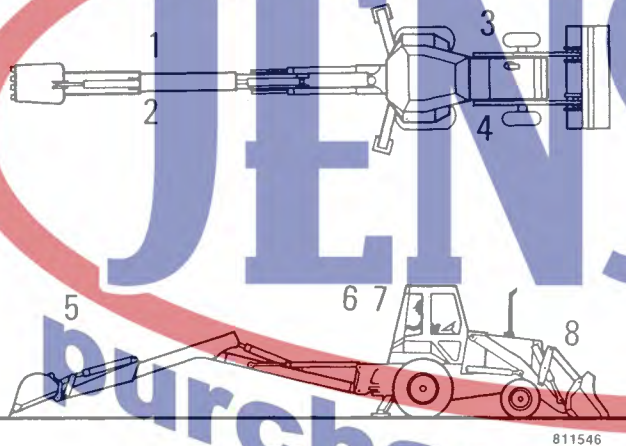
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SERVICE MANUAL INTRODUCTION

This service manual has been prepared with the latest service information available. Troubleshooting, removal, disassembly, inspection and installation procedures, and complete specifications and tightening references can be found in most sections. Some sections have drawings but no written procedure because the job is so easily done. This service manual is one of the most important tools available to the service technician.

Right, Left, Front, and Rear

The terms right-hand and left-hand and front and rear as used in this manual indicate the right and left sides, and front and rear of the machine as seen from the operator's seat for correct operation of the machine or attachment.



- | | |
|-----------------------|------------------|
| 1. Right Side-Backhoe | 5. Front-Backhoe |
| 2. Left Side-Backhoe | 6. Rear-Backhoe |
| 3. Left Side-Machine | 7. Rear-Machine |
| 4. Right Side-Machine | 8. Front-Machine |

Text

If the service manual is for more than one machine or different models of components (planetary axles, gear boxes, control valves, etc.) the procedures have the steps necessary to service each model.

Table of Contents

A Table of Contents is in the front of this manual. The Table of Contents shows the main divisions and the sections that are in each division. The individual sections, where necessary, have a Table of Contents on the cover or second page of that section.

Page Numbers

All page numbers are made of two numbers separated by a dash, such as 4002-9. The number before the dash is the section number. The number following the dash is the page number in that section. Page numbers will be found at the upper right or left of each page.

Illustrations

Illustrations are put as near as possible to the text and are to be used as part of the text.

Special Tools

Special tools are needed to remove and install, disassemble and assemble, check, and adjust some components parts of this machine. Some special tools can be easily made locally and the necessary information to make the tool is in this service manual. Other special tools are more difficult to make locally and are available from Service Tools in the U.S. and from Jobborn Manufacturing in Canada. Use these tools according to the instructions in this service manual for your personal safety and to do the job correctly.

Order special tools from either of the following companies:

Service Tools

P.O. Box 314
Owatonna, Minnesota 55060

Jobborn Manufacturing Co.
97 Frid Street
Hamilton, Ontario L8P 4M3
Canada

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or Call 800-443-0625

Product Identification Number (PIN) and Serial Numbers

NOTE: A serial number plate is also on some components such as the starter, alternator, pumps, etc.

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MANUAL PREVIEW

ROPS CANOPY SN

ROPS CAB SN

PRODUCT
IDENTIFICATION NUMBER

LOADER BUCKET
SERIAL NUMBER

BACKHOE
SERIAL NUMBER

ENGINE SERIAL NUMBER

TRANSAXLE SERIAL NUMBER

POWER SHUTTLE SERIAL NUMBER

THREE-POINT HITCH
SERIAL NUMBER

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Oil Pump Installation

STEP 17



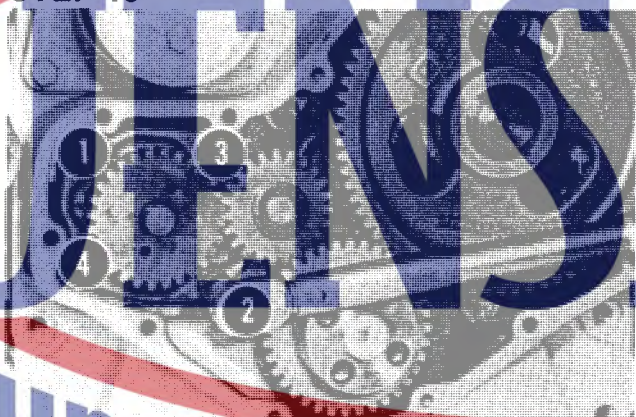
Install the oil pump in the engine block.

STEP 20



Clean the seal surface on the crankshaft with loc-tite safety solvent. See Section 2425 in the service manual for front cover installation.

STEP 18



Install the oil pump bolts and tighten to a torque of 18 lb ft (24 Nm)(2.4 kgm). Follow the torque sequence above.

NOTE: To prevent damage to the oil pump do not tighten the bolts more than 18 lb ft (24 Nm)(2.4 kgm).

STEP 21



Install the crankshaft pulley.

STEP 19



Check the backlash between the oil pump idler gear and the crankshaft. Put a dial indicator on the oil pump idler gear. If the backlash is more than 0.450 mm the oil pump must be replaced.

STEP 22



Install the crankshaft pulley bolts and tighten to a torque of 101 lb ft (137 Nm)(13.7 kgm).

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MAINTENANCE AND TROUBLESHOOTING

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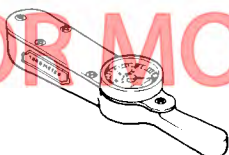
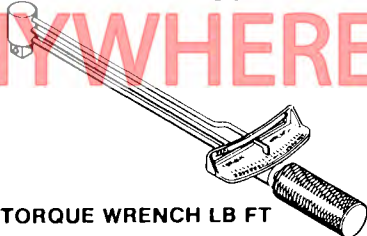
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SPECIAL TORQUES

	U.S. Value	Metric Value
Brake Cover Bolts	80 to 96 lb ft	109 to 130 Nm (10.9 to 13.0 kgm)
Breather Bolts	14 to 16 lb ft	19 to 22 Nm (1.9 to 2.2 kgm)
Ferry Head Bolts (Hand Brake)	110 to 132 lb ft	149 to 179 Nm (14.9 to 17.9 kgm)
Retaining Bolts (Hand Brake)	70 to 84 lb ft	95 to 114 Nm (9.5 to 11.4 kgm)
Air Removal Screw	10 to 50 lb inch	1 to 6 Nm (0.1 to 0.6 kgm)

SPECIAL TOOLS



GENERAL INFORMATION

Contamination in the hydraulic system is a major cause of the malfunction of hydraulic components. Contamination is any foreign material in the hydraulic oil. Contamination can enter the hydraulic system in several ways.

1. When you drain the oil or disconnect any line.
2. When you disassemble a component.
3. From normal wear of the hydraulic components.
4. From damaged or worn seals.
5. From a damaged component in the hydraulic system.

All hydraulic systems operate with some contamination. The design of the components in this hydraulic system permits efficient operation with a small amount of contamination. An increase in this amount of contamination will cause problems in the hydraulic system. The following list includes some of these problems.

TYPES OF CONTAMINATION

There are two types of contamination, microscopic and visible.

1. Microscopic contamination occurs when very fine particles of foreign material are in suspension in the hydraulic oil. These particles are too small to see or feel. Microscopic contamination can be found by identification of the following problems or by testing in a laboratory. Examples of the problems:

- a. Cylinder rod seals leak.
- b. Control valve spools do not return to NEUTRAL.
- c. The hydraulic system has a high operating temperature.

1. Cylinder rod seals leak.
2. Control valve spools do not return to NEUTRAL.
3. Movement of control valve spools is difficult.
4. Hydraulic oil becomes too hot.
5. Pump gears, housing, and other parts wear rapidly.
6. Relief valves or check valves held open by dirt.
7. Quick failure of components that have been repaired.
8. Cycle times are slow; machine does not have enough power.

If you have any of these problems, the hydraulic system has too much contamination. The best way to remove the contamination is to use the Portable Filter.

2. Visible contamination is foreign material that can be found by sight, touch, or odor. Visible contamination can cause a sudden failure of a component. Examples of visible contamination:

- a. Particles of metal or dirt in the oil.
- b. Air in the oil.
- c. The oil is dark and thick.
- d. The oil has the odor of burned oil.
- e. Water in the oil. See page 8003-6.

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BACKHOE

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