



Allis Chalmers

Service Manual

8010, 8030,
8050 & 8070

Volume 1 of 3

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AC-S-8010+

Service Manual

8010 - 8030 - 8050 - 8070

TRACTORS

SERVICE MANUAL

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670T ENGINE

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PISTON AND PISTON RINGS

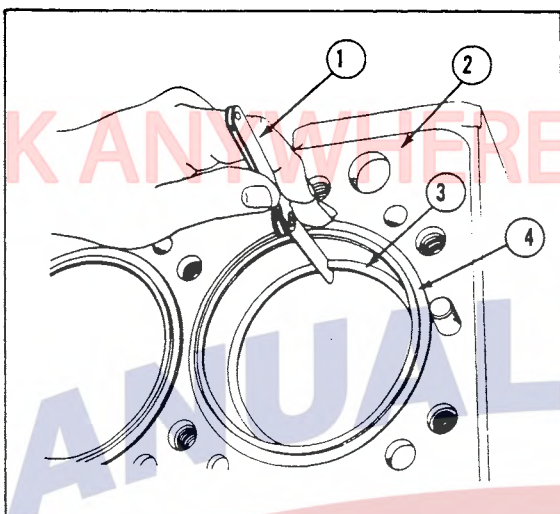


FIGURE 4 - Checking Piston Ring Gap

- 1. Feeler Gauge
- 2. Cylinder Block
- 3. Piston Ring
- 4. Cylinder Sleeve

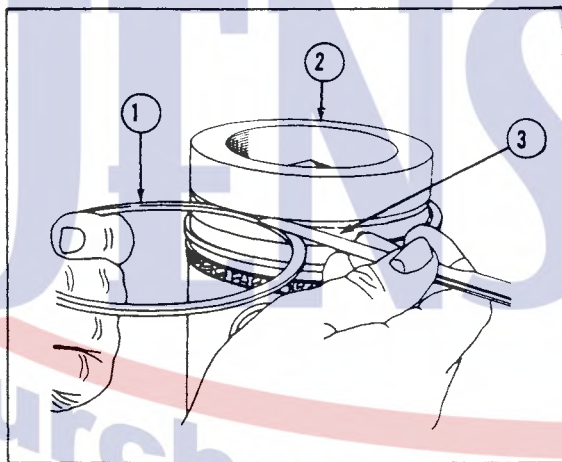


FIGURE 5 - Checking Piston Ring to Grooves

- 1. Compression Ring
- 2. Piston
- 3. Feeler Gauge

2. Measure ring-to-groove clearance (top of ring to top of groove in piston) as shown in Figure 5. The specified ring to groove clearances, using a new piston and new rings, are as follows:

Top Compression Ring	.004" - .0065"	.102 - .165 mm
2nd Ring	.002" - .004"	.050 - .100 mm
Oil Control Ring	.0015" - .003"	.038 - .076 mm

G. PISTON RINGS INSTALLATION

After piston rings have been properly fitted, lubricate piston and rings with Series 3 engine oil. Install rings on piston (with side marked "Top" or "T" toward top of piston), using a piston ring remover and installer tool as shown in Figure 2.

Litho in U.S.A.

NOTE: When installing rings on pistons, do not spread the rings more than necessary. Whenever a connecting rod with the piston is secured in a vise, be extremely careful that the bottom of the piston skirt is not nicked. Use lead protective jaws to protect the bottom of the skirt from nicks and also to prevent nicks in the rod which will lead to piston and/or connecting rod failure.

1. Install the two-piece oil control ring as follows:
 - a. Place stainless expander of ring in the bottom groove of the piston with ends butted on wire.
 - b. Install chrome-plated outer segment over expander with cap approximately 180 degrees from gap of expander making certain expander.
2. Install the two compression rings. The gap of all rings must be positioned 180 degrees apart and in line with the piston pin holes.

NOTE: Install the third compression ring with the inside chamfer down. Install the second compression ring with the inside chamfer up. Install the top ring either way.

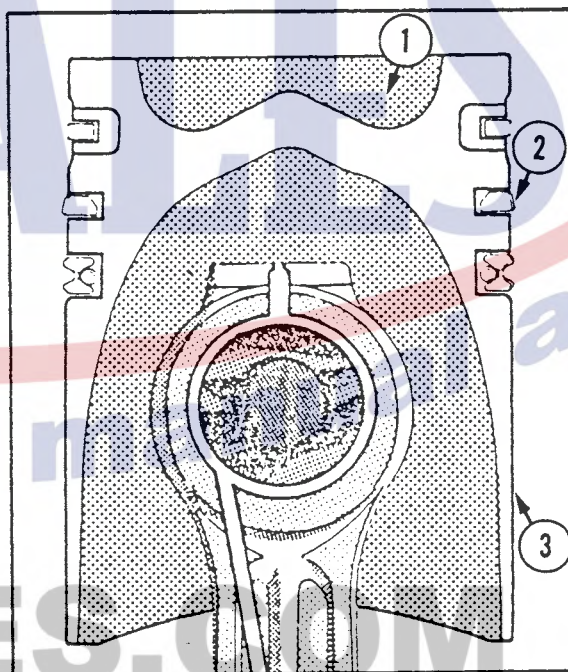


FIGURE 6

- 1. Combustion Chamber
- 2. 2nd Ring (I.D. Chamfer Up)
- 3. Spirt

H. ASSEMBLY OF CONNECTING ROD TO PISTON

1. Before assembling connecting rod to the piston, inspect the connecting rod.
2. Install one of the piston pin retainers in one end of the piston pin hole in the piston.

FUEL INJECTION

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OIL TRANSFER

I. TRANSFER OF OIL BETWEEN

TRANSMISSION AND REAR HOUSING SUMPS

TROUBLE SHOOTING PROCEDURE

If a transfer of oil is suspected, have the operator check oil levels in the morning after the tractor has not been run for several hours. This will give the oil levels a chance to stabilize so proper readings can be obtained. The fifteen minute waiting period specified on the decals at the checking points is not long enough for the oil level to stabilize if the oil is cold. If a definite oil level change in the sump is established, and there are no external leaks, proceed as outlined below.

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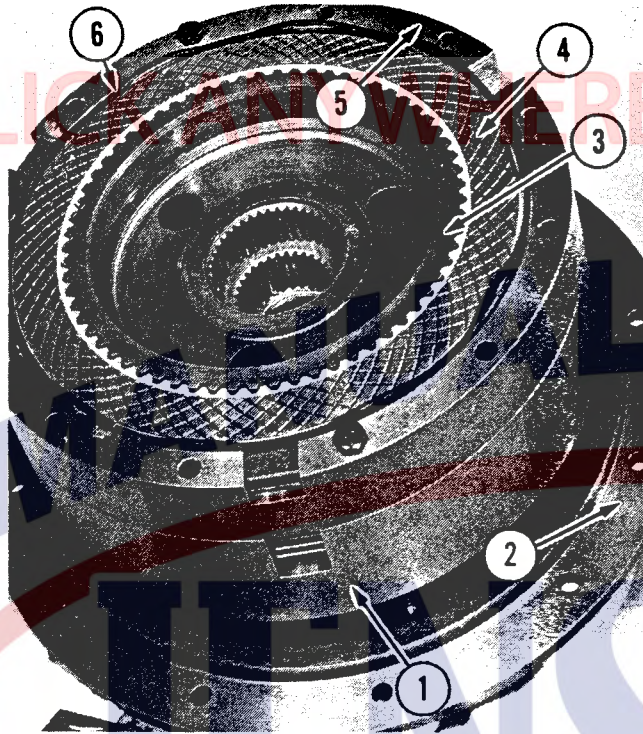
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POWER DIRECTOR CLUTCH DISASSEMBLY



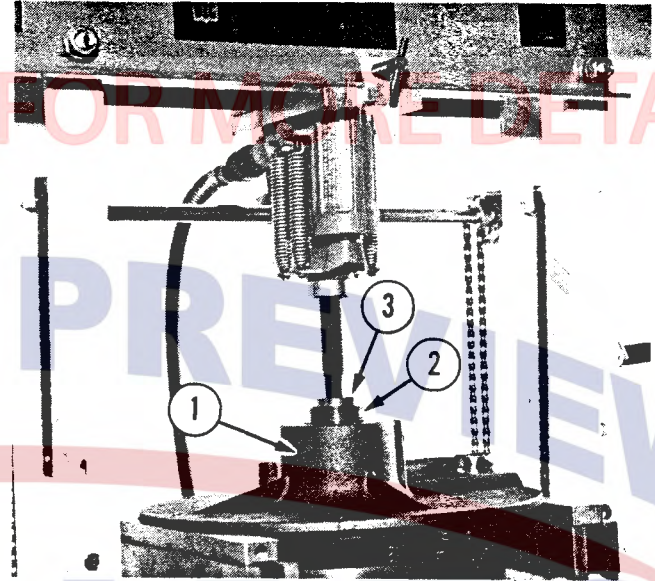
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FIGURE 17 - P.D. Clutch End Plate Removed

1. Front (Low Range) Clutch Housing
2. Clutch Support Cover
3. Rear Clutch Hub
4. Friction Plate
5. Rear (High Range) Clutch Housing
6. Wave Spring

DISASSEMBLE POWER DIRECTOR CLUTCH

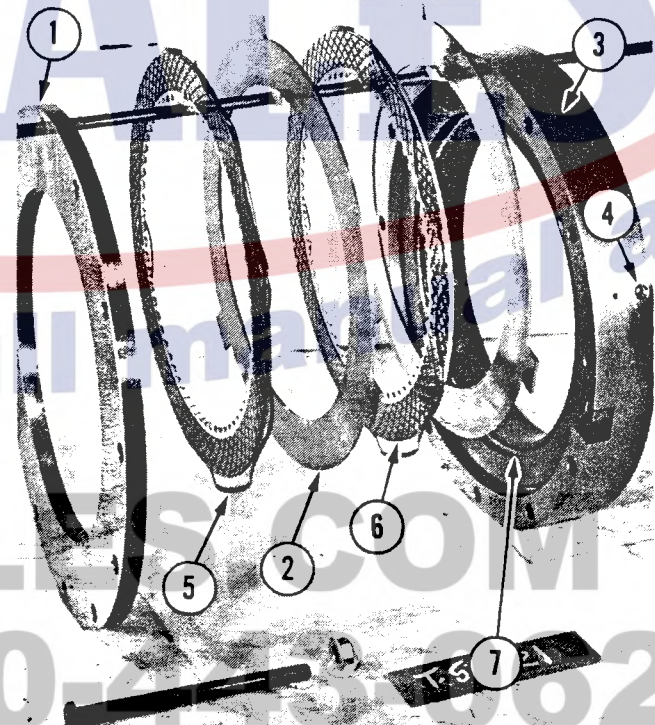
1. Position clutch assembly so that the support cover is supported on bench and with the rear clutch housing facing upward. Remove the 12 bolts attaching the end plate and clutch housings together. Mark front and rear clutch housings so that they are reassembled in the same positions.
2. Remove the end plate. Remove clutch plates, wave springs, and the separator plates. Remove the rear clutch hub. Remove the rear clutch housing (high range) from the front clutch housing (low range). Remove the front clutch hub and clutch plates. Remove piston from the rear clutch housing. To remove the piston from the front clutch housing will require separating the front support cover from the front (low range clutch housing).



T-62247

FIGURE 18 - Removing the Front Clutch From the Front Support (Low Range) Cover

1. Support Cover
2. Low Range Clutch Housing
3. Shaft Protector



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FIGURE 19 - High Range Clutch Section (Exploded View)

- | | |
|------------------------|------------------|
| 1. End Plate | 4. Orifice Plug |
| 2. Separator Plates | 5. Wave Springs |
| 3. Rear Clutch Housing | 6. Clutch Plates |
| | 7. Clutch Piston |

FWD AXLE

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