



Allis Chalmers
Service Manual
F5220 Diesel
With
Hydrostatic Transmission

Service Manual

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AC-S-5220 HST

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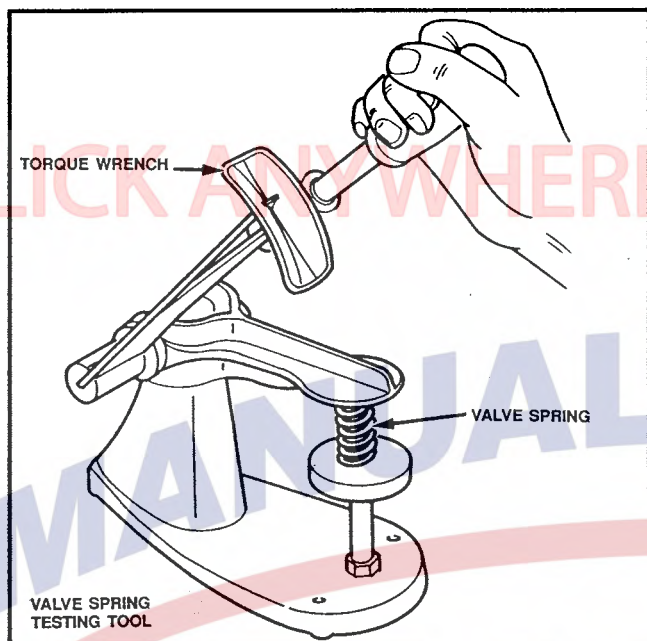
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FIGURE 16

Inspection**(Figure 16)**

Inspect the valve springs and retainer for cracks.

VALVE SPRING TENSION**OUTER SPRING:**

Compressed to:	1.34"	23.78 to 29.09 lbs.
	34 mm	105.8 to 129.4 N
Compressed to:	0.937"	56.83 to 70.05 lbs.
	23.8 mm	252.8 to 311.6 N

INNER SPRING:

Compressed to:	1.24"	11.46 to 14.09 lbs.
	31.5 mm	51.0 to 62.7 N
Compressed to:	.86"	36.41 to 45.18 lbs.
	21.8 mm	162.0 to 201 N

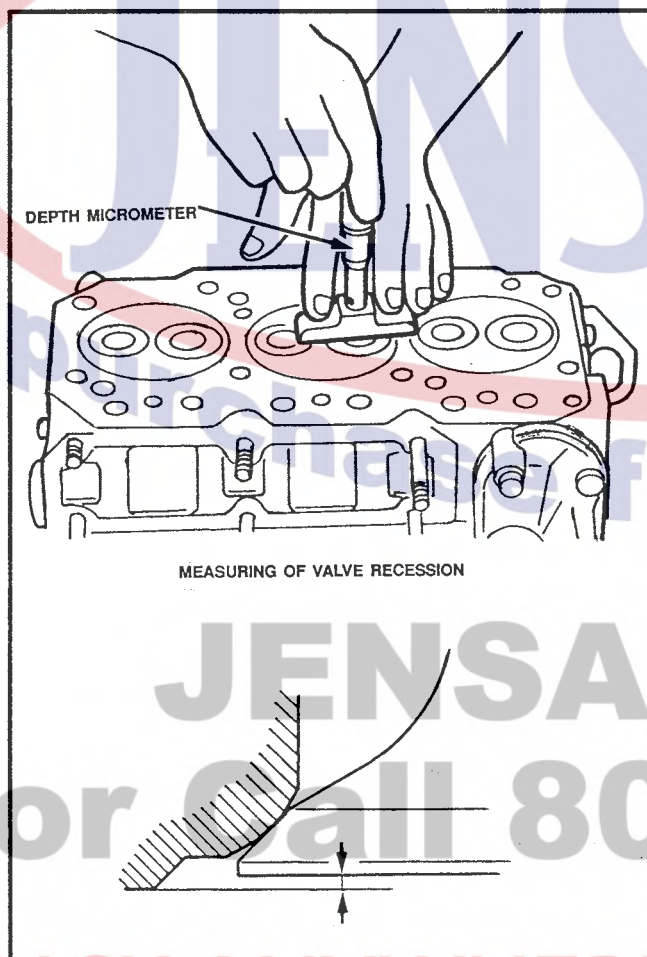
Replace springs when old springs are above or below spec in excess of 5%.

ASSEMBLY**(Figure 17)**

1. With a spring compressor, compress the valve spring with the retainer, place the valve spring lock and slowly return the valve lifter.

NOTE: When compressing the valve spring with the spring retainer, take care neither to damage the valve stem with the retainer nor to damage the valve stem seal due to overcompression.

NOTE: The valve end surface should have a recession of .020-.023" (0.5-0.6mm) as measured from the installation surface of the cylinder block. See Figure 17.



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FIGURE 17

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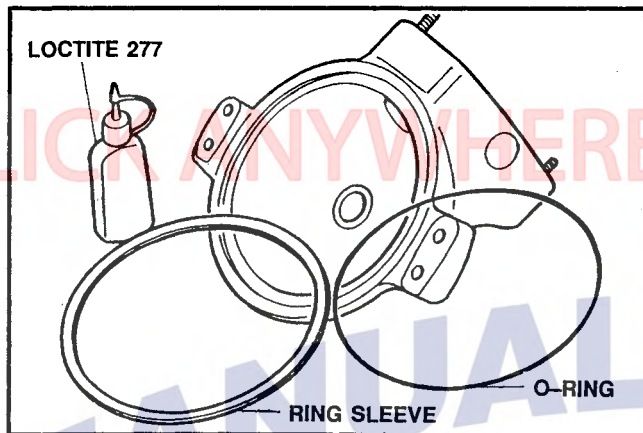
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FIGURE 29

FRONT GEAR CASE

ASSEMBLY

(Figure 29)

1. Press-fit the bushing into the front gear case.
2. Bond the ring sleeve. When rebonding it, completely grind off the adhesives on the bonding surface. (DO NOT scratch the bonding surface).

Completely remove oil, dust, etc. from the bonding surface to assure firm bonding.

NOTE: Use only Loctite 277.

Adhesives should be applied so they slightly overflow when the ring sleeve is uniformly pressed, approx. 4.4 lb. (2 kg). After the bonding, immediately reassemble the front axle and the front gear case.

The adhesives start to harden in approximately five minutes and reach the usable strength in about 3 hours. A stable strength is obtained in about 24 hours.

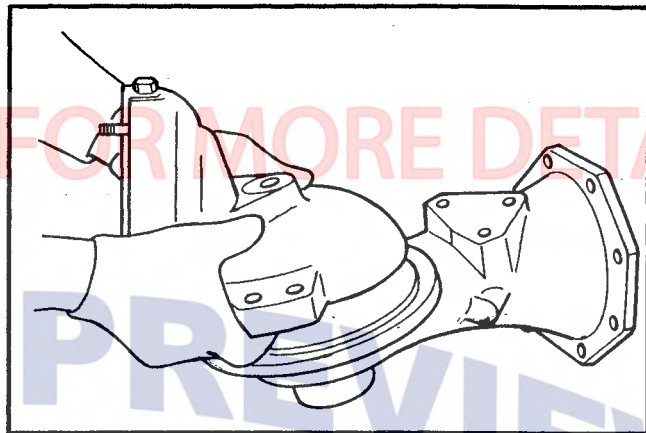
3. Press-fit the oil seal into the front gear case.
4. Install the universal joint. Press-fit the bearing into the gear (small) shaft and put it into the front gear case.

Insert the joint collar and constant speed ball joint into the gear shaft. (The constant speed ball joint has no directionality.)

5. Place the O-ring in tight contact with the front gear case.

When inserting O-ring into the king pin thrust bearing section of the front gear case, apply grease to hold the O-ring in place. Please note that the bearing can cut the O-ring when reassembling to the front axle.

Apply only a minimum amount of grease.



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FIGURE 30

FRONT AXLE

ASSEMBLY

(Figure 30, 31 and 32)

NOTE: Clean the parts to remove all foreign matter and dirt. Apply grease or gear oil to all turning and sliding parts and press-fitted sections.

NOTE: Replace all gaskets, oil seals and O-rings.

1. Assemble the front gear case to the front axle case (Figure 30).

NOTE: DO NOT mistake the RH and LH front gear cases. The front gear case is inscribed with an "R" or an "L".

NOTE: Install carefully so that O-ring and outer race of bearing DO NOT interfere with each other.

2. Reassemble the lower arm assembly. Secure the lower arm pin to the lower arm with the lock nut. The tightening torque is 165 ft.-lb. (225 N.m). Install the dust seal in the lower arm.

NOTE: Apply grease to the dust seal.

NOTE: After tightening the lock nut, firmly stake it in lower arm pin groove.

3. Install the lower arm assembly.

NOTE: Before inserting the lower arm pin, apply a thin coat of grease to the internal surface of bushing in the front gear case.

NOTE: When installing the lower arm to the front axle case, apply Loctite 271 to the bolts and tighten to a torque of 65 ft.-lb. (88 N.m).