



Allis Chalmers
Service Manual
HD-7, HD-10 & HD-14
Crawlers

Service Manual

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AC-S-HD7

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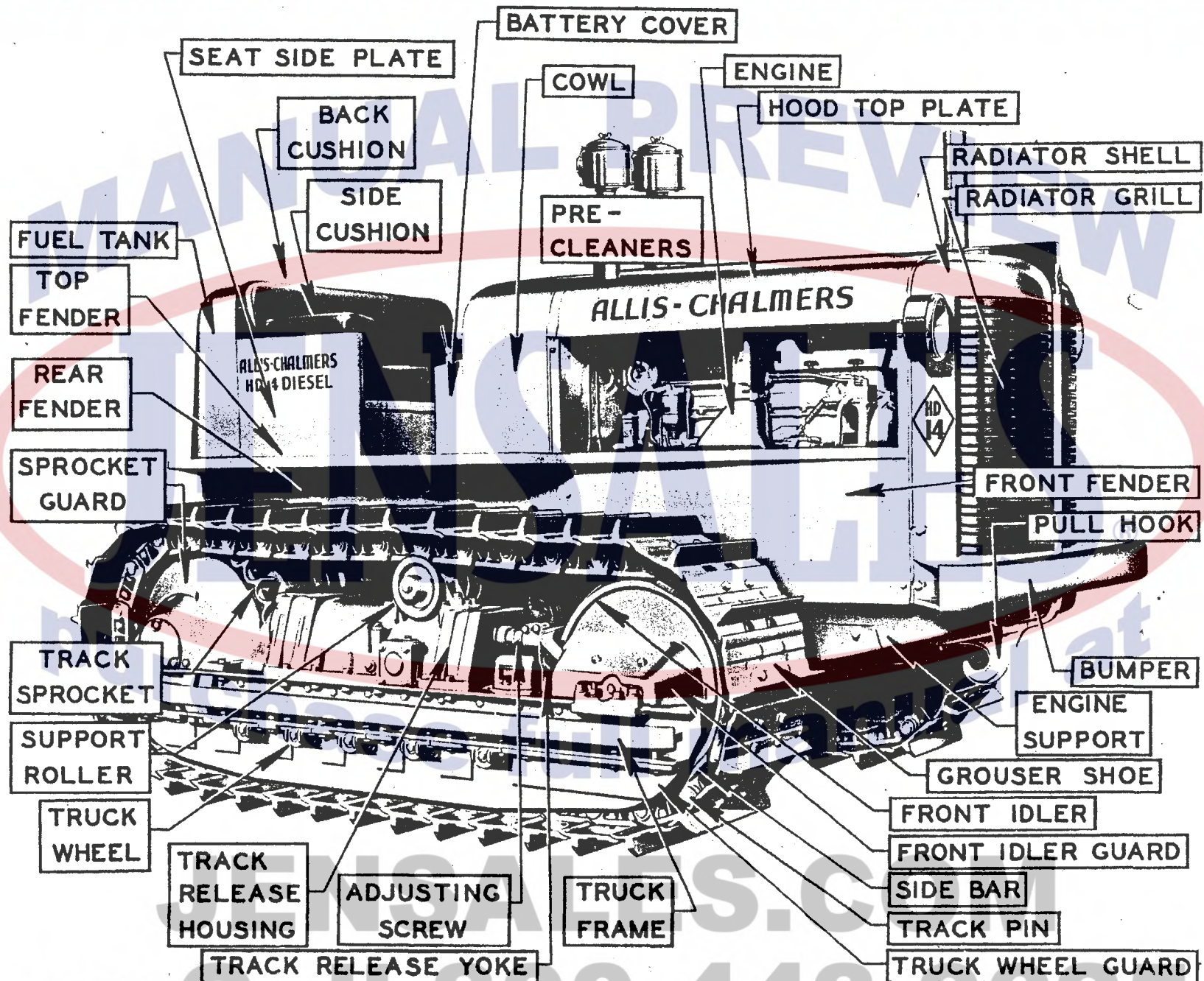
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CLICK ANYWHERE FOR MORE DETAILS



"HD 14" TRACTOR NOMENCLATURE

CLICK ANYWHERE FOR MORE DETAILS

filter and cooler adapter to the cylinder block.

B. INSPECTION

Inspect the oil cooler element for possible leaks, or for clogging.

C. INSTALLATION OF OIL FILTER AND COOLER ADAPTER

Be sure to use new gaskets throughout the

installation of this assembly. SHELLAC THE GASKETS ON BOTH SIDES. Reverse the removal procedure to install the cooler adapter, cooler element, etc.

The above operations can be performed with the motor either in or out of the tractor.

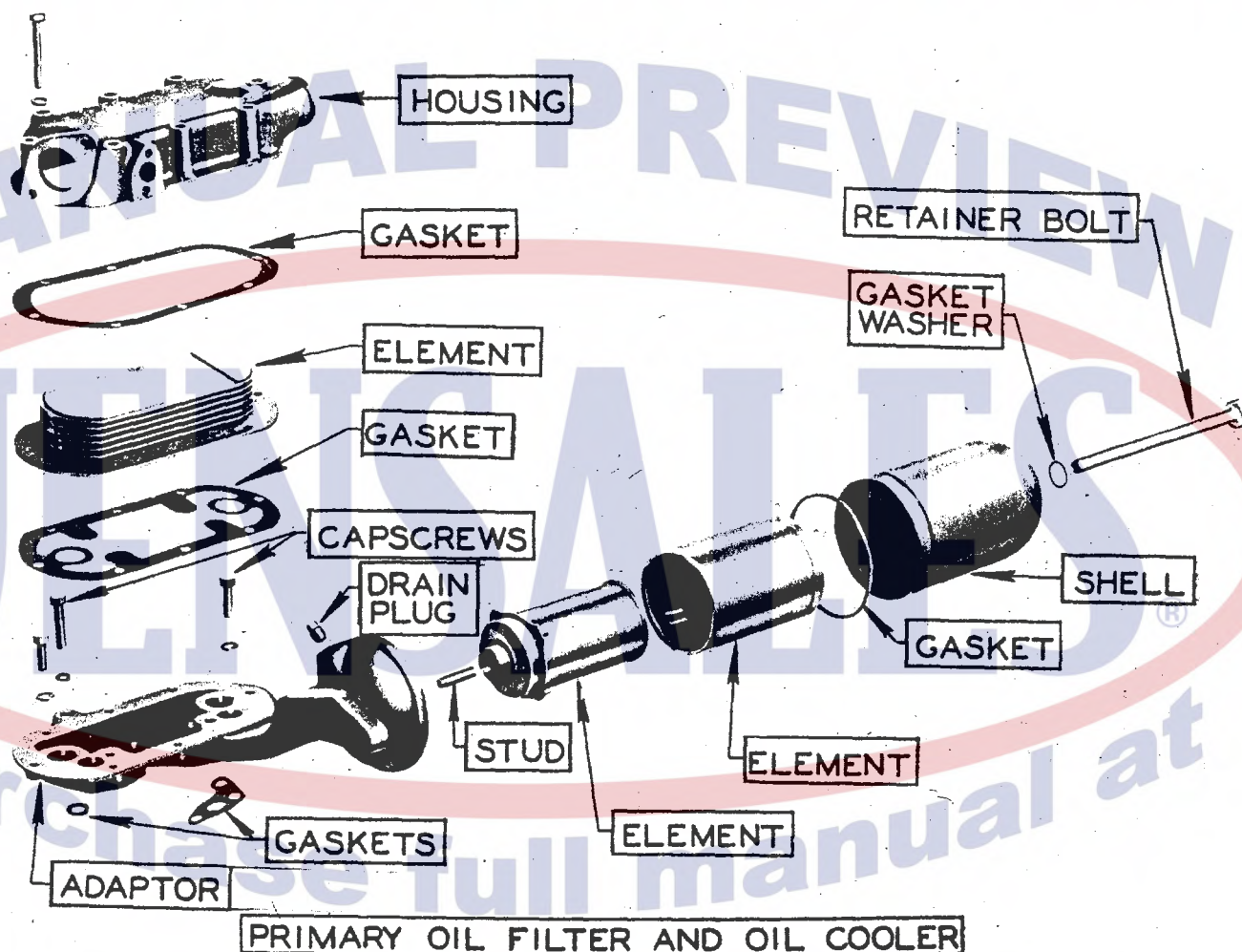


FIG. 2

91 -- Fuel Pump

Description—The fuel oil pump is the positive displacement vane type. The pump is bolted to the rear end of the blower cover, and driven from the lower blower rotor shaft through a U-shaped steel stamping which acts as a universal joint. An integral steel rotor and shaft supported in the pump flange and cover, revolves in a housing, the bore of which is eccentric to the shaft.

Two spring-loaded vanes, carried in the rotor, revolve inside the eccentric housing, thus displacing the liquid from the inlet to the outlet port. Two oil seals are used inside the flange at the drive end of the rotor shaft. One seal

retains the fuel oil under pressure, the other prevents the lubricating oil in the blower timing gear compartment from creeping along the pump shaft.

The seals are located approximately $\frac{1}{16}$ " apart and the feather edge of the leather on the inner seal faces the blower and that on the outer seal faces the pump body. A drain hole located between the two seals vents to atmosphere.

A spring-loaded, horizontal relief valve is provided in the cover of the pump, connecting the inlet and the outlet ports, which opens at a pressure of approximately 55 pounds per

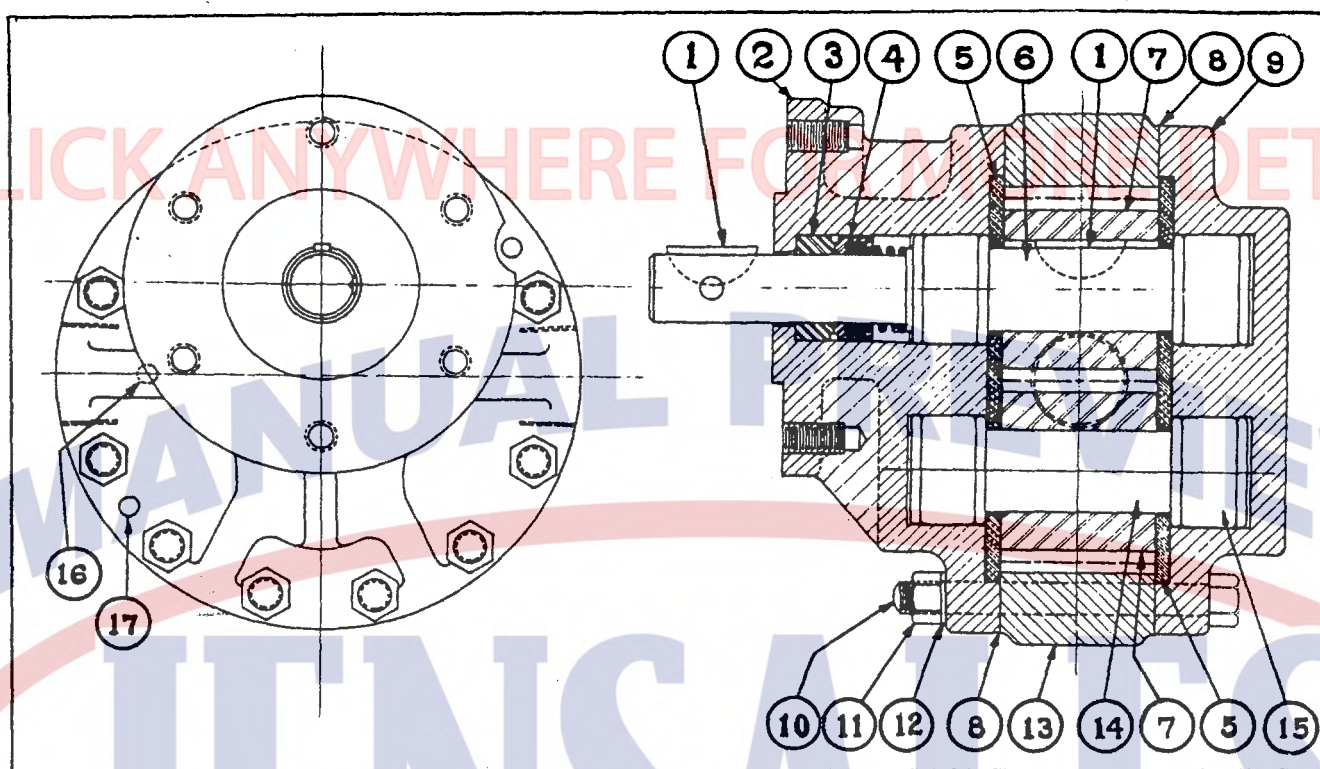


FIG. 4

minor repairs, such as replacing rotary seal, seat, bearings, or wear plates may be made in the field.

1. Select CLEAN place to take pump apart having previously washed exterior free of dirt.
2. Remove hardened Bolts No. 10 and entire pump may be taken apart.
3. Check surfaces of seal No. 4 and seal seat No. 3. These surfaces must be perfectly polished and if not should be pressed out and replaced. Care must be taken in replacing to secure perfectly contacting surfaces between seal and seat. It is sometimes necessary to lap this surface using grinding compound.
4. If surface of rotary seal is not damaged it may be used again but it is always advisable to replace the rubber or synthetic ring in the seal. This ring should fit tight on the shaft and serve as a seal on the shaft to drive the rotary seal. Occasionally a pump will leak at the seal due to shrinkage of this synthetic ring, in such case it is only necessary to replace the ring.
5. To check the necessity for new bearings in this pump requires special gauges. In case of doubt new ones should be used (New bearings of this type have more looseness than ball bearings and must be judged accordingly.)
6. If the bronze wear plates (No. 6) are worn they may be reversed. Before reversing care must be taken to be sure

they are flat within .001 of an inch.

7. In reassembling pump, all parts must be in PERFECT alignment—The proper amount of clearance maintained between gears and wear plates. To maintain this proper alignment and clearance, tighten all bolts alternately, at same time turn projecting end of shaft with HAND. This shaft should turn freely until all bolts are completely TIGHT. At this time the shaft should turn with some effort indicating close fitting between gears and wear plates but NO BINDING. This clearance is regulated by use of gaskets No. 8 between case No. 13 and end covers No. 2 and No. 9. Proper clearance between gears and wear plates should be .001 to .002 of an inch each side.

CAUTION—Use only CLEAN oil in the hydraulic system—dirty oil causes wear on the pump and valve parts.

Use straight mineral oil of a viscosity ranging between 150 and 250 sec. at 100 degrees. Oils in this range are suitable for operating at temperatures between 10 and 90 degrees, Fahrenheit. At lower temperatures use lighter oil and at temperatures above 90 degrees a heavier oil may be used. After a pump has become worn, pressure may be increased to some extent by use of heavier oil, but it is recommended not to exceed an SAE 40.

Drain old oil, flush entire system with