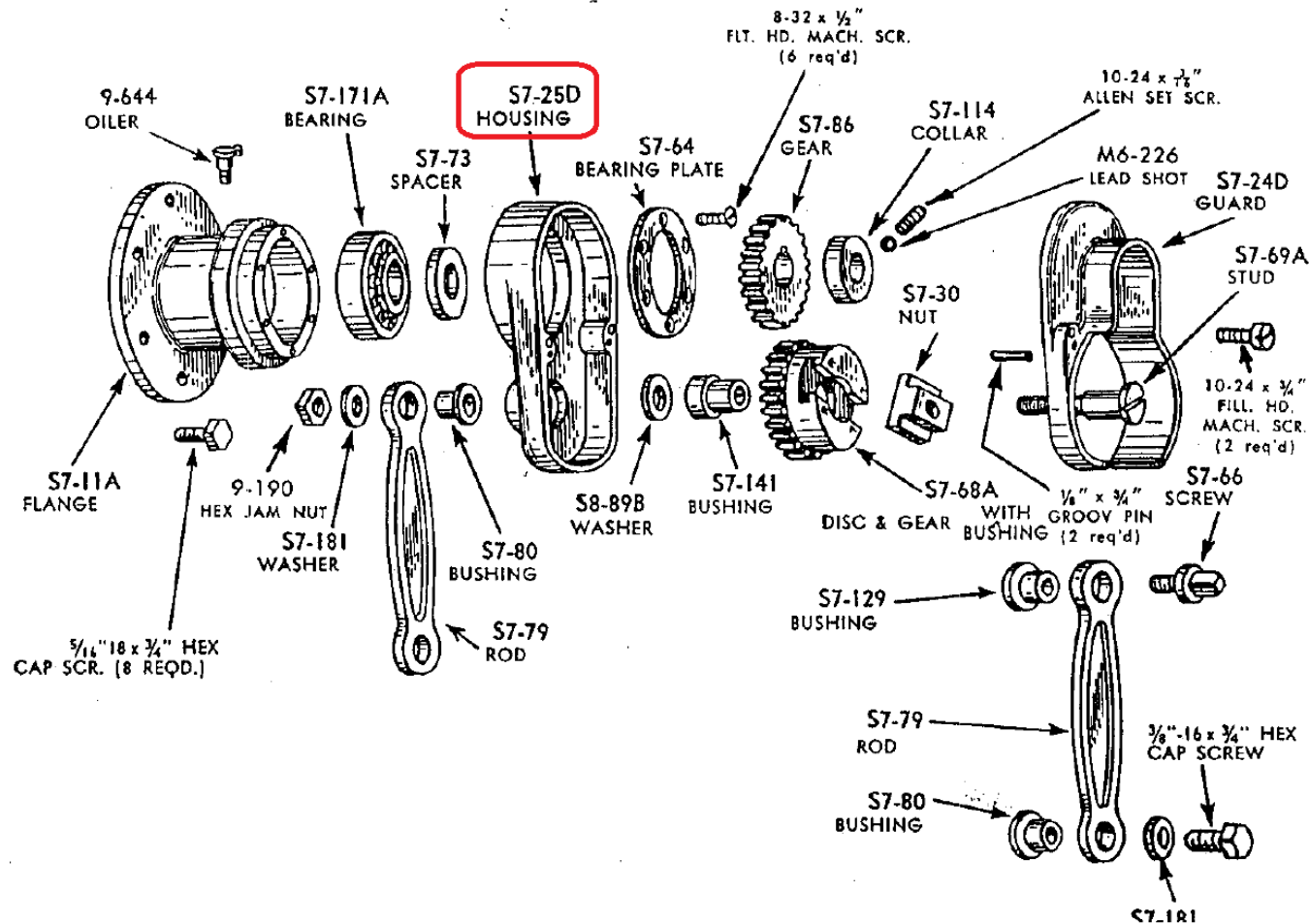


Atlas 7B shaper

Cross feed gear housing – casting S7-25D – repair

FEED AND RATCHET CASE PARTS LIST



The cross feed gear housing (S7-25D) on the shaper was severely distorted, causing gears S7-86 and S7-68A meshing improperly. Casting is made out of ZAMAK, zinc-aluminum alloy that has tendency to cold flow / creep under the stress. Not sure if this was the case here as there are no real forces imposed on this part when shaper is operating or stationary. It could have been an impact damage as well, who knows.

Holding plug was machined from the old aluminum piston (from a hydraulic cylinder) and straightening lever from

5/8" cold rolled bar. The casting was clamped on to the plug and then held in the vise. Area of casting with distortion was then heated with the heat gun to about 200°C (the alloy has melting point of about 380°C). Gentle pressure was gradually applied to the straightening lever and straightness was checked with a square, until the casting was straight.



Figure 1 -Before repair



Figure 2 - After repair



Figure 3 - Casting distorted before repair



Figure 4 - Casting straight (more-less) after repair

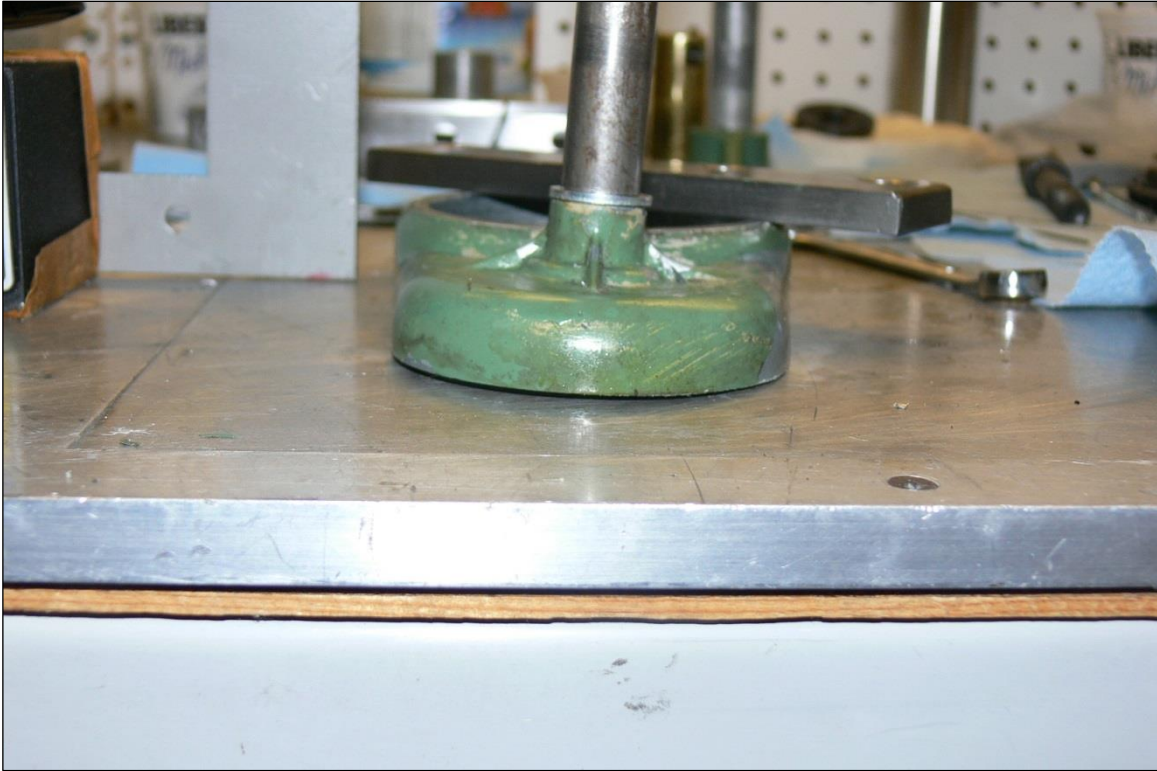


Figure 5 - Casting distorted before repair



Figure 6 - Casting straight after repair



Figure 7 - Aluminum plug to hold casting in the vise



Figure 8 - Steel lever for straightening



Figure 9 - setup in the vise, ready for heating and straightening