

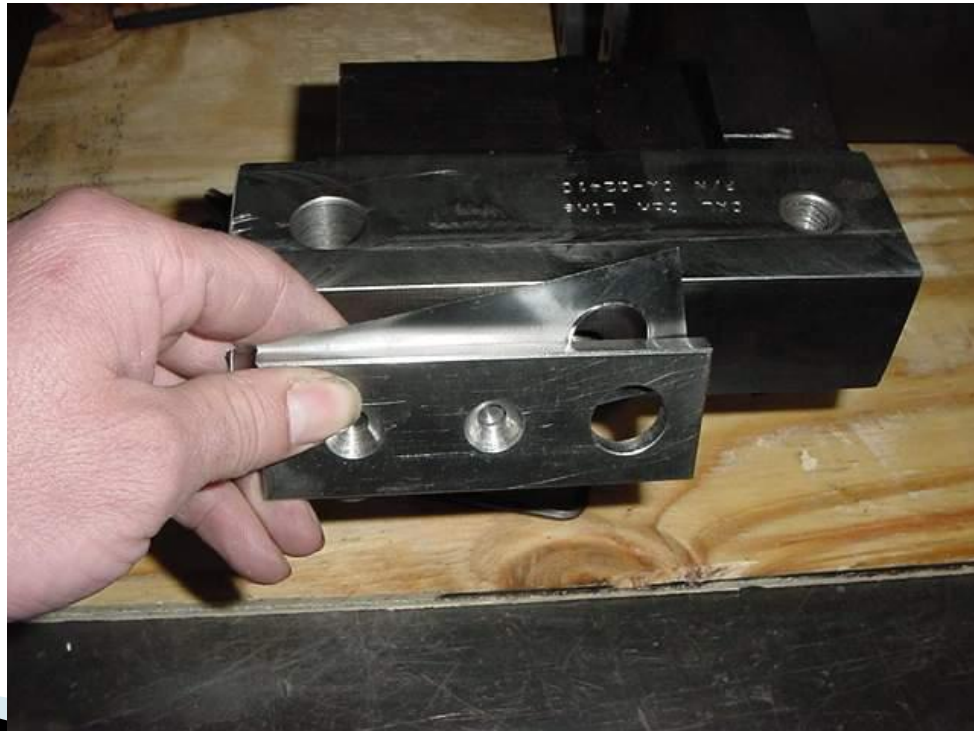


L.G.S Installation and Alignment



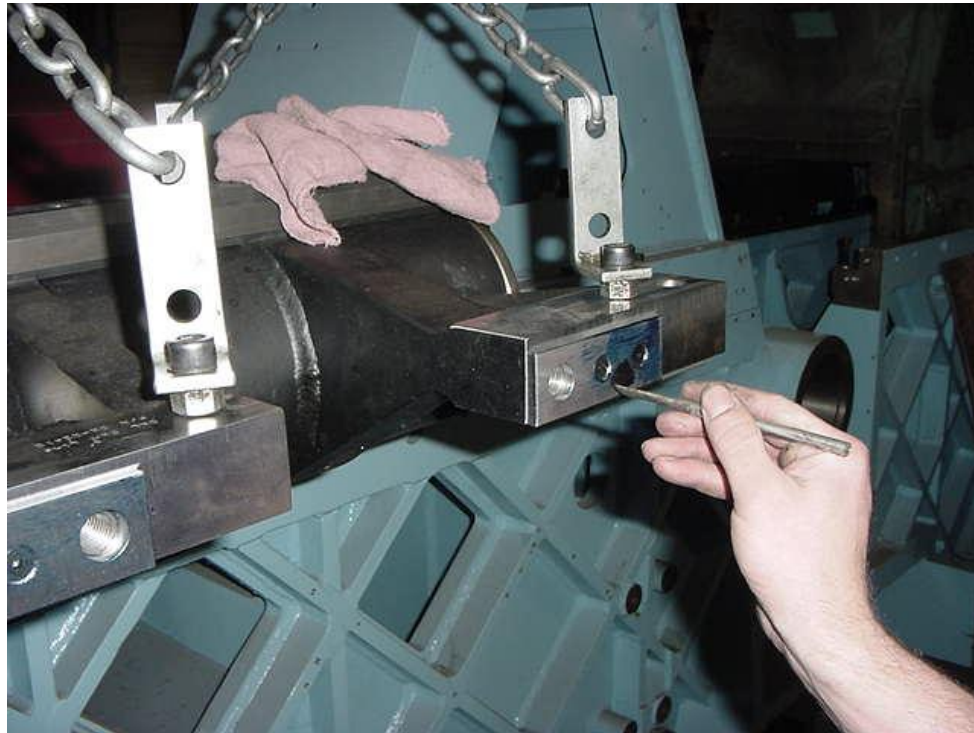


- ▶ The L.G.S is mated to the Bodymaker on a 6 point mount, 4 bottom and 2 on the operator side. The pads are ground to .246" and have a set of adjusting shims under them so it can be aligned parallel to the way seats.
- ▶ The adjusting shims are supplied in .001" and .0015" and .002". The spare shims included in the kit allow for .0005" adjustments in the housing.
- ▶ All of the pads are identical and have the same part number.



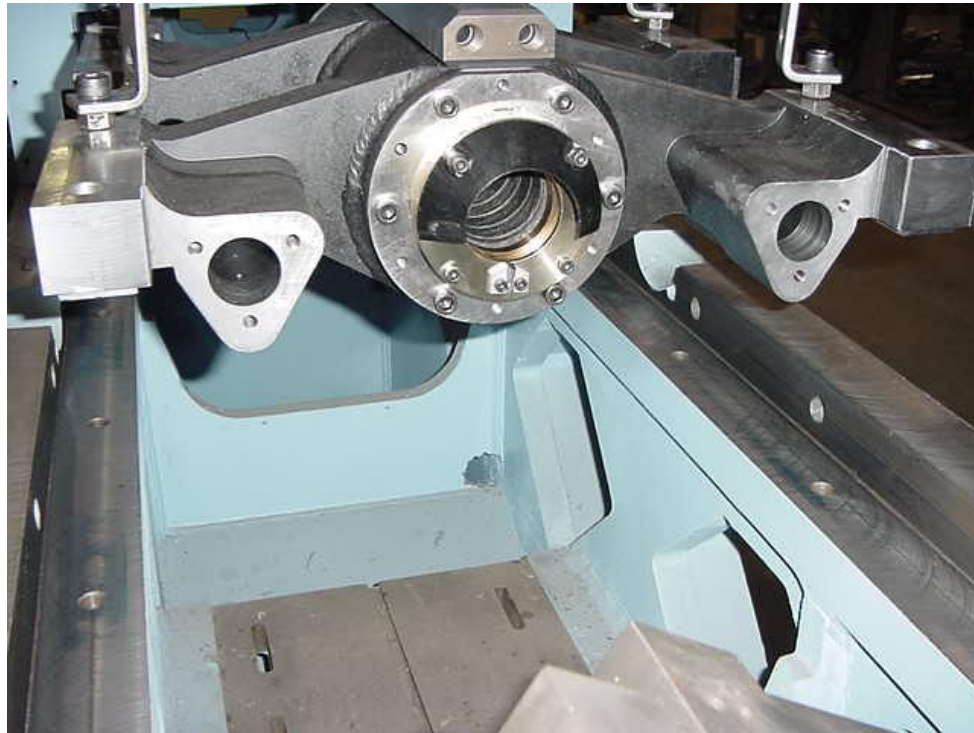


- ▶ Clean, stone and de-burr the Bodymaker frame.
- ▶ Apply Prussian blue (high spot blue) to the mounting pads of the L.G.S and then lower it into the Bodymaker.





- ▶ Lower the L.G.S into the frame and work it back and forth, then remove.
- ▶ The frame is then checked for contact at all six points.
- ▶ If corrections need to be made to achieve contact, shim should be added in .0005" increments until contact is established.

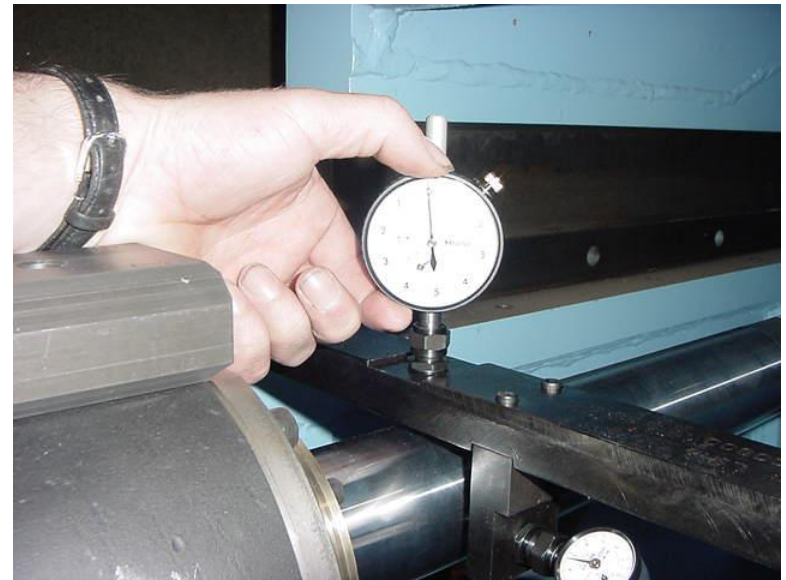




- ▶ With the crank angle of the machine between 135–145 degrees.
- ▶ Install the ram with the seal caps and plates loose.
- ▶ Allow the ram to normalize. The ram should nearly reach coolant temperature (98–103 deg F). This will normally take about 45 minutes.
- ▶ Break the bearing cartridges loose $\frac{1}{2}$ turn, slide and twist the ram. Torque the bearing cartridges to 30ft/lbs (6) places each end.
- ▶ Check the ram for smooth operation, it should move freely with the seals not engaged.
- ▶ Check the lift as close to the housing as possible, using a scale apply 15–lbs force upwards and measure. Should measure .0008”–.0015”.

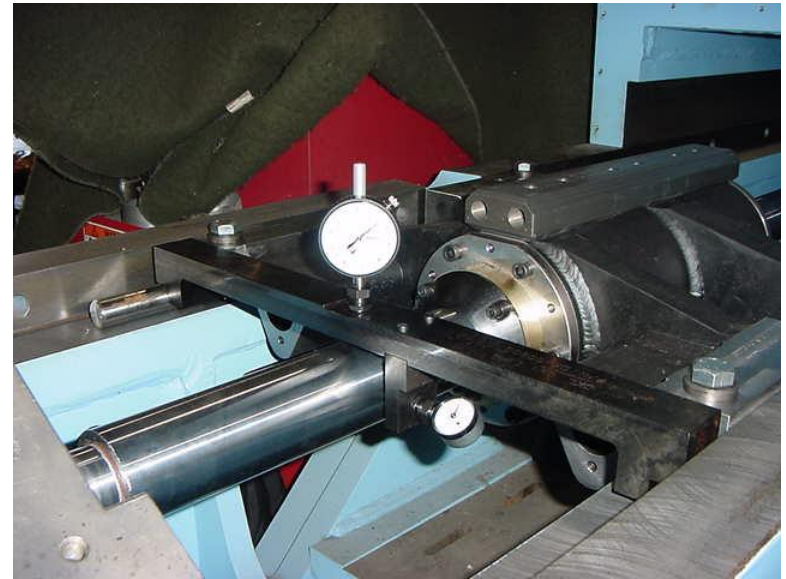
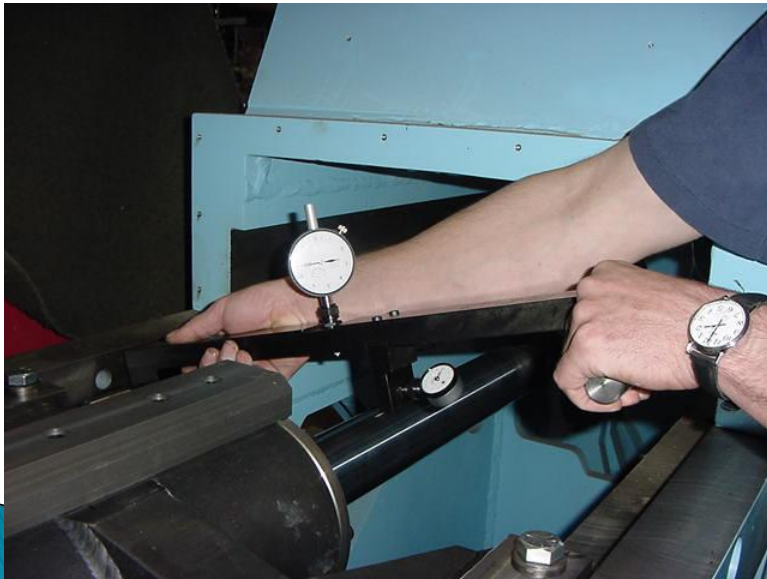


- ▶ The L.G.S is set at factory for the centre line. The plant only needs to set it parallel to the operators side way seat.
- ▶ This is accomplished by using and alignment fixture utilizing two .0001” dial indicators. The fixture is set at the rear of the machine, pulled to the operator side way seat (not flush with the housing), and the indicators set to zero.





- ▶ Push and pull the ram side to side and up and down, set “0” at the mid point of travel.
- ▶ The alignment fixture is then removed to the front of the housing and a reading taken to determine what corrective action is needed.





- ▶ The adjustments are made utilizing the shims under the master pads the housing is then torqued in to 110ft/lbs. The operators side bolts are tightened first and the top ones next in cross pattern.



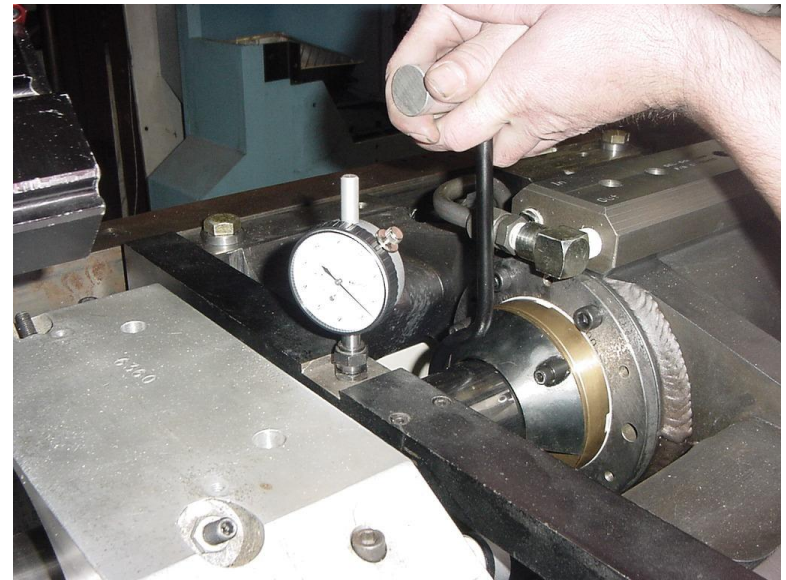
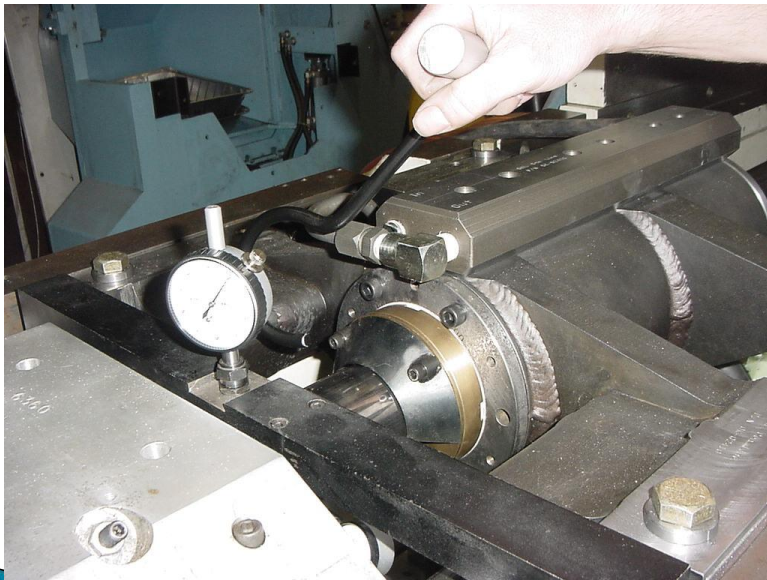


- ▶ Replace the ram, return to the same crank angle and allow it to come back to coolant temperature.
- ▶ The alignment gauge is replaced and the alignments repeated.





- ▶ When alignment is accomplished so the ram is aligned front to rear within .0005", you may proceed with the rest of the machine alignments.
- ▶ Install bearing cap's, seals and cover plate.





▶ Next begin the run in procedure.

▶ Run-in Procedure Chart

| ▶ Time | Temp Ram Domer end | Temp Ram Crank End | Temp Link |
|----------|-----------------------|-----------------------|--------------|
| ▶ 0 Min | _____ | _____ | _____ |
| ▶ 3 Min | _____ | _____ | _____ |
| ▶ 10 Min | _____ | _____ | _____ |
| ▶ 30 Min | _____ | _____ | _____ |
| ▶ 60 Min | _____ | _____ | _____ |



- ▶ The ram should have normalized by this time; the ram should never get so hot that it cannot be held by hand. To ensure consistent results wet the ram with coolant before using the infrared-thermometer as they are not accurate on shiny objects.
- ▶ Re-check and verify alignments, then proceed with tool alignment.