

**INSTALLATION INSTRUCTIONS
FOR THE CRANE #9 SEAL IN NP PUMPS**

Effective | JAN 1983

MECHANICAL SEALS SHOULD BE INSTALLED AS ILLUSTRATED BELOW

Note:

1. All traces of old packing must be removed.
2. All nicks, burrs or scratches on shaft must be smoothed with fine emery cloth. Don't forget to thoroughly clean the shaft and stuffing box afterwards.
3. The shaft and the stuffing box bore must be lubricated so the mechanical seal O-Rings will slide on the shaft or bore during installation. Use a grease or an oil compatible with the product being pumped.
4. The polished seal faces (7) must be kept spotlessly clean.
5. Install the rotary seal unit (2), polished face out, on the shaft and then remove and discard the packing tape or clips which keep the springs from falling out during shipment.
6. Remove the pipe plug (5) and note the position of the groove machined in the shaft, relative to the pipe plug hole.
7. Slide the seal assembly into the pump stuffing box until the setscrew (1) is aligned with the groove in the shaft.
8. Tighten all the setscrews (1) securely.
9. Replace the pipe plug.
10. For the NP3, the packing gland is reversed to become the seal retainer. A pinned shim is provided and must be installed between the seal retainer and the stationary seat.
11. Install the seal retainer (4) (with spacer if NP3), the stationary seat (3), and O-Ring (6) as illustrated. The seal retainer may vary some in design. The polished side of the stationary seat should mate with the rotary seal face already on the shaft. The rotary seal unit springs are compressed while the seal retainer nuts are tightened down securely.

