



HALE PRODUCTS, INC.
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SERVICE BULLETIN NO. 60

DATE: SEPTEMBER 22, 1997

TO: ALL MIDSHIP, LIGHT TRUCK, AND SERVICE CENTER CUSTOMERS

FROM: JOE COSTELLO, Hale Service Manager

SUBJECT: SLIDING GEAR, SLIDING GEAR SHAFT, TAILSHAFT, AND INTERMEDIATE GEAR
REPLACEMENT - HALE QHD UNITS MANUFACTURED PRIOR TO AUGUST, 1987

When servicing QHD drive units built prior to August, 1987, it will be necessary to change the sliding gear shaft, tailshaft, sliding gear, and intermediate gear as an assembly if replacement of any of these components is required.

The original QHD sliding gear had splines that piloted on the major diameter of the shafts. In order to minimize backlash, thrust, and provide smoother shifting from "pump" to "road" position, the design was changed to a minor diameter pilot in August of 1987. This caused the tolerancing of the sliding gear, sliding gear shaft, and tailshaft to change; hence they must be serviced as a set.

In 1990, the sliding gear and intermediate gear were improved by modifying the design of the tooth rounding where the gears meet when shifting from "road" to "pump". This was done to provide easier shifting and longer service life. The original tooth rounding is not compatible with the improved tooth rounding; hence the sliding gear and intermediate gear must both be changed.

It is not possible to use a current design sliding gear with the old shafts or intermediate gear. The current minor diameter piloted gear will slide over the splines on the original shafts, but there will be excessive backlash and runout, and the resulting thrust will probably damage the fork in short order. This runout will also aggravate the incompatibility between the original design and current design tooth rounding as the sliding gear engages with the intermediate gear.

The QHD gearing and shafts as originally designed are no longer manufactured. The parts we now provide for this application are the current production parts from the Hale "G" gearbox used on our current midship pumps. This is a common upgrade, and Hale Customer Service has kit numbers for doing this.

Please verify the maintenance history of the pump before ordering parts. If the sliding gear or any of these related components were replaced since 1990, the gearbox has probably already been upgraded to the current design, and we can then service the sliding gear, shafts, and intermediate gear as individual parts. Also, always make sure we have the serial number so that we can make the proper notations in our serial number records.

As always, should you have any questions or need additional information, please feel free to contact the Hale Customer Service Department at 1-800-220-3473.

Regards,

Joe Costello
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