

## Extreme Duty Main Shaft

Part No.  
**34672-05**

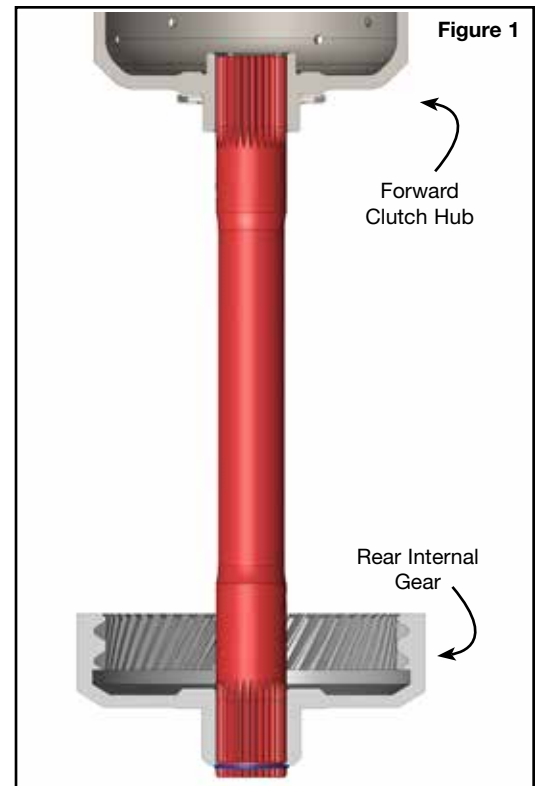
## GM TH400, 4L80-E, 4L85-E



**WARNING:** Spline configuration requires use of thrust bearing between forward clutch hub and direct drum that transfers support of the forward clutch hub from the main shaft to the direct drum/sun gear tube (Figures 1 & 4).

### 1. Installation (Assemble extreme duty main shaft with rear internal gear.)

- a. When Sonnax extreme duty main shaft is initially installed in the rear internal gear, it is normal that the retaining ring groove on the shaft will not protrude far enough to allow retaining ring installation (Figure 2). As a consequence, Sonnax extreme duty main shaft must be fitted to the rear internal gear.
- b. Begin the fitting process by installing Sonnax extreme duty main shaft into the rear internal gear. With the rear internal gear properly supported, lightly press (or carefully tap with soft faced hammer) the shaft into the rear internal gear while checking the position of the retaining ring groove. Typically it will be necessary to machine/grind a slight chamfer at the front edge of the rear internal gear internal spline (Figure 3).
- c. When complete, make sure there is no raised material where the bearing race seats at the front of the rear internal gear.



### 2. Final Assembly

- Spline configuration requires a modified forward clutch hub with a thrust bearing between forward clutch hub and direct drum that transfers support of the forward clutch hub from the main shaft to the direct drum/sun tube (**Figure 4**). This requires machining OE-based forward clutch hub. The amount of material removed during machining depends on the thickness of the bearing used. Bearings commonly used at this location are C6 Forward drum bearing, AXOD bearing E6DZ-7F404-A or Delco 8623922.
- For OE-based forward clutch hubs, remove approximately .080" from rear face of forward clutch hub (**Figure 4, Location B**) to ensure main shaft end play is not transferred to forward clutch hub by shaft spline-end transition.



**NOTE:** Sonnax forward clutch kit **34322-02K** features bearing (**Figure 4, Location A**), material removed (**Figure 4, Location B**) and hardened external and internal splines.

### 3. Final Check



**NOTE:** Ensure forward clutch hub is supported by direct drum and not supported by main shaft.

With rear section, center support, direct drum installed and built up to point of forward clutch installation, place bearing (**Figure 4, Location A**) on direct drum and place forward clutch hub onto main shaft. Measure the height between the front face of the main shaft and the face of the forward hub (**Figure 4, Location C**), in the area circled. Remove the bearing at (**Figure 4, Location A**), reinstall the forward clutch hub and repeat measurement. If the difference in measurement (without the bearing in place) indicates the hub has moved farther rearward, then the forward clutch hub is not supported by main shaft and will be supported by the direct drum and sun gear shaft as intended.

