



Technical Service Information

FORD A4LD OVERRUN CLUTCH RETURN SPRINGS AND RETAINER DESTROYED

COMPLAINT: Before and/or after rebuild, the overrun clutch springs, and the overrun clutch spring retainer are destroyed, from what looks to be a *twisting* motion.

CAUSE: The cause may be;

A. Poorly supported overdrive planetary carrier, allowing the inside diameter of the hub on the overdrive carrier to contact, and turn in a *twisting* motion, the overrun clutch spring retainer. This will destroy the retainer and return springs in a very short period of time (See Figure 1).
NOTE: The dimension between the outside diameter of the overrun clutch spring retainer, and the inside diameter of the overdrive carrier hub, *is critical*. (See Figure 1).

B. Bent or improperly installed overrun clutch spring retainer will also drastically affect the clearance between the retainer and the carrier hub.

CAUSE:

A. Inspect and replace the following, as necessary;

1. Turbine shaft bushings in the pump stator for wear and/or damage.
2. Turbine shaft splines (Overdrive Carrier End) for wear and/or damage.
3. Turbine shaft splines in overdrive planetary carrier, for wear and/or damage. Ensure a “snug” fit when installing the turbine shaft into the overdrive carrier,
4. Bushing in the front end of the output shaft for wear and/or damage. This will support the forward clutch drum and the overdrive center shaft. Replace this bushing on *All* units during rebuild (See Figure 2).
NOTE: In later applications a caged needle bearing is used in this location.
Inspect and replace as necessary (See Figure 2).
5. Overrun clutch housing bushing for wear and/or damage (See Figure 3).

B. Ensure that the overrun clutch spring retainer is supported evenly, using an outer pump gear, when compressing the return springs to avoid *ANY* distortion. This is critical, and is easily distorted with any uneven pressure.

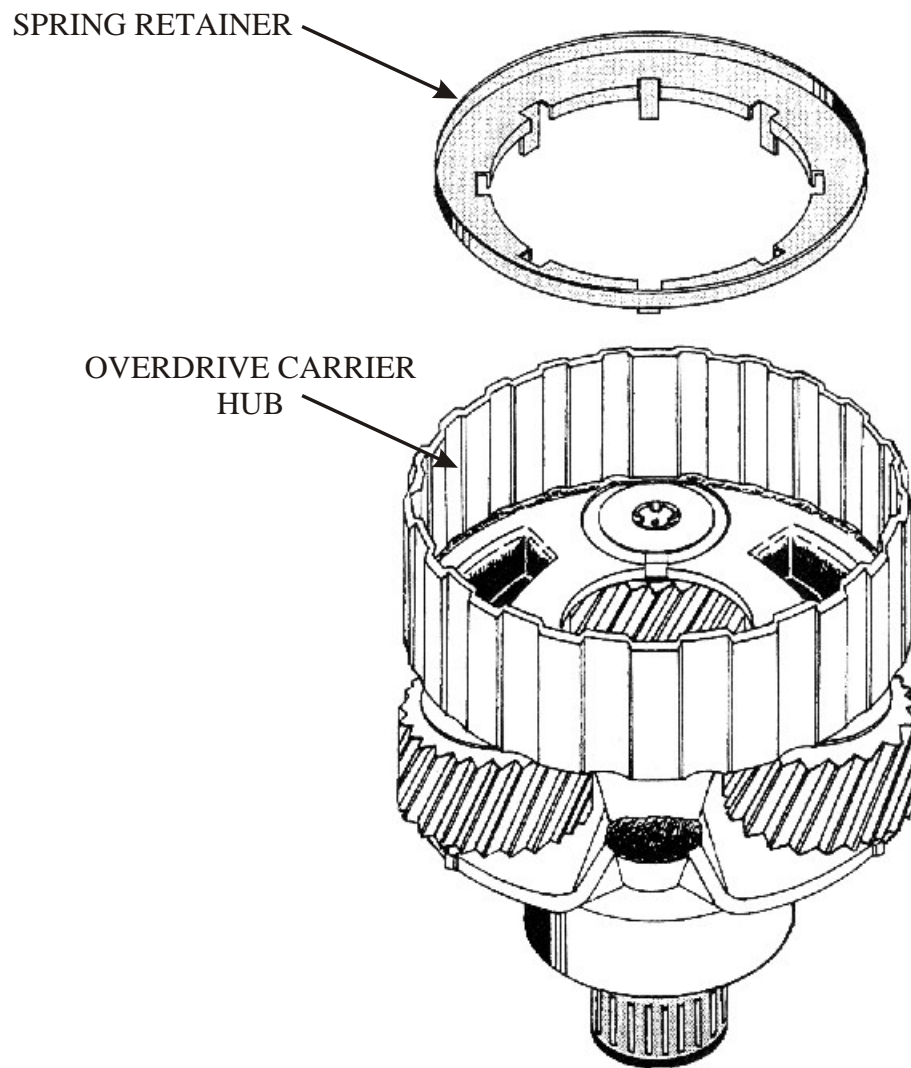
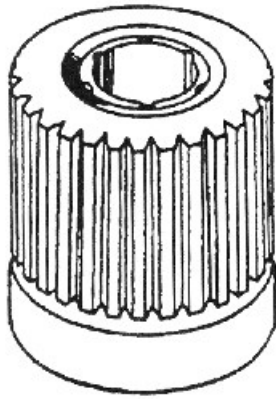
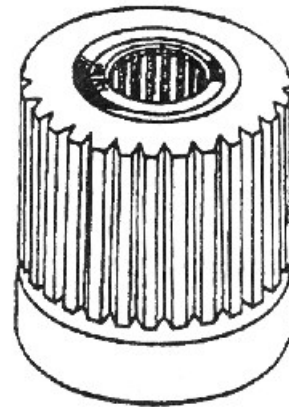


Figure 1

**EARLY DESIGN
WITH BUSHING**



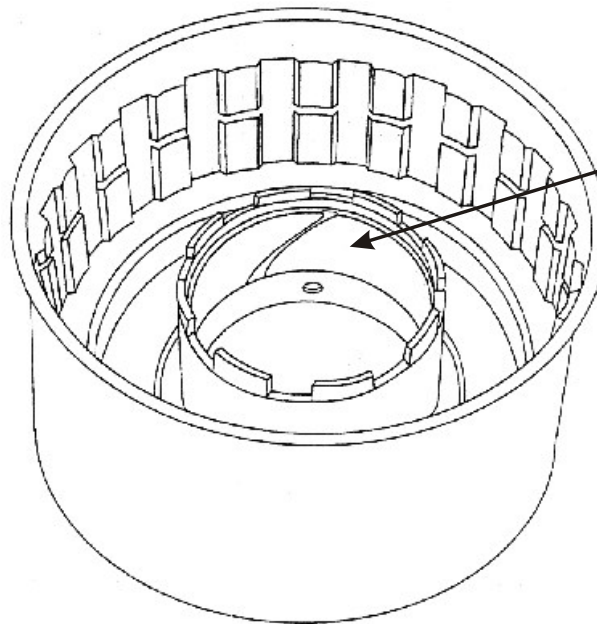
**LATE DESIGN
WITH BEARING**



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Figure 2

**OVERRUN CLUTCH
DRUM BUSHING**



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Figure 3