



Technical Service Information

FORD AODE/4R70W NEW DESIGN FOR ALL MODELS MECHANICAL DIODE INTERMEDIATE SPRAG

CHANGE: There is now available from Ford Motor Company, a ***Mechanical Diode*** sprag assembly to replace the previous design Intermediate Roller Clutch. It also requires replacing the Reverse Input Housing to accommodate the new design mechanical diode sprag assembly.

This new design can be manufactured in any configuration of outer race, inner race and retainer to hold the parts together, but all will have several spring loaded "Diodes" inside to do the holding and freewheeling. Refer to Figure 1 for a basic cross section of how a mechanical diode sprag assembly works.

REASON: Greatly improved reliability and durability.

PARTS AFFECTED:

- (1) MECHANICAL DIODE SPRAG ASSEMBLY - Totally new design to replace the previous design intermediate roller clutch in AODE and 4R70W transmissions (See Figures 1 and 2).
- (2) REVERSE INPUT HOUSING - New design housing with "Splines" in place of the previous inner race, to accommodate the new design mechanical diode sprag assembly. Refer to Figures 1 and 2.
- (3) RETAINING RING - No dimensional changes on the snap ring, you still use the original snap ring. When installed, the mechanical diode assembly may move back and forth approximately .010" and this is normal (See Figure 2).

INTERCHANGEABILITY:

The new design Mechanical Diode Sprag Assembly will retro-fit back to all previous models of the AODE/4R70W transmission, but all three pieces listed above must be used as a service package. There will soon be available a Service Package that includes all three pieces so that you do not have to purchase them individually.

The new design Mechanical Diode Sprag Assembly will also retro-fit back to the 1980-1991 AOD units equipped with the cast iron drum, but additional parts are ***required*** to make the 1988 design level parts fit. They are as follows:

- (1) The sun shell must be replaced with part number F4AZ-7A019-A.
- (2) The 3 reverse input clutch steel plates must be replaced with part number F2TZ-7B442-A.
- (3) The pressure plates must be replaced with F2TZ-7B066-A and F2TZ-7B066-B.
- (4) If the transmission used a Number 2 thrust washer, it must be replaced with the needle thrust bearing part number E1TZ-7A166-A.

SERVICE INFORMATION:

Mechanical Diode Sprag Assembly	F8AZ-7A089-AA
Reverse Input Housing Assembly (Mech Diode)	F8AZ-7D044-AA
Retaining Ring	391267-S

MECHANICAL DIODE FREEWHEEL PRINCIPLES

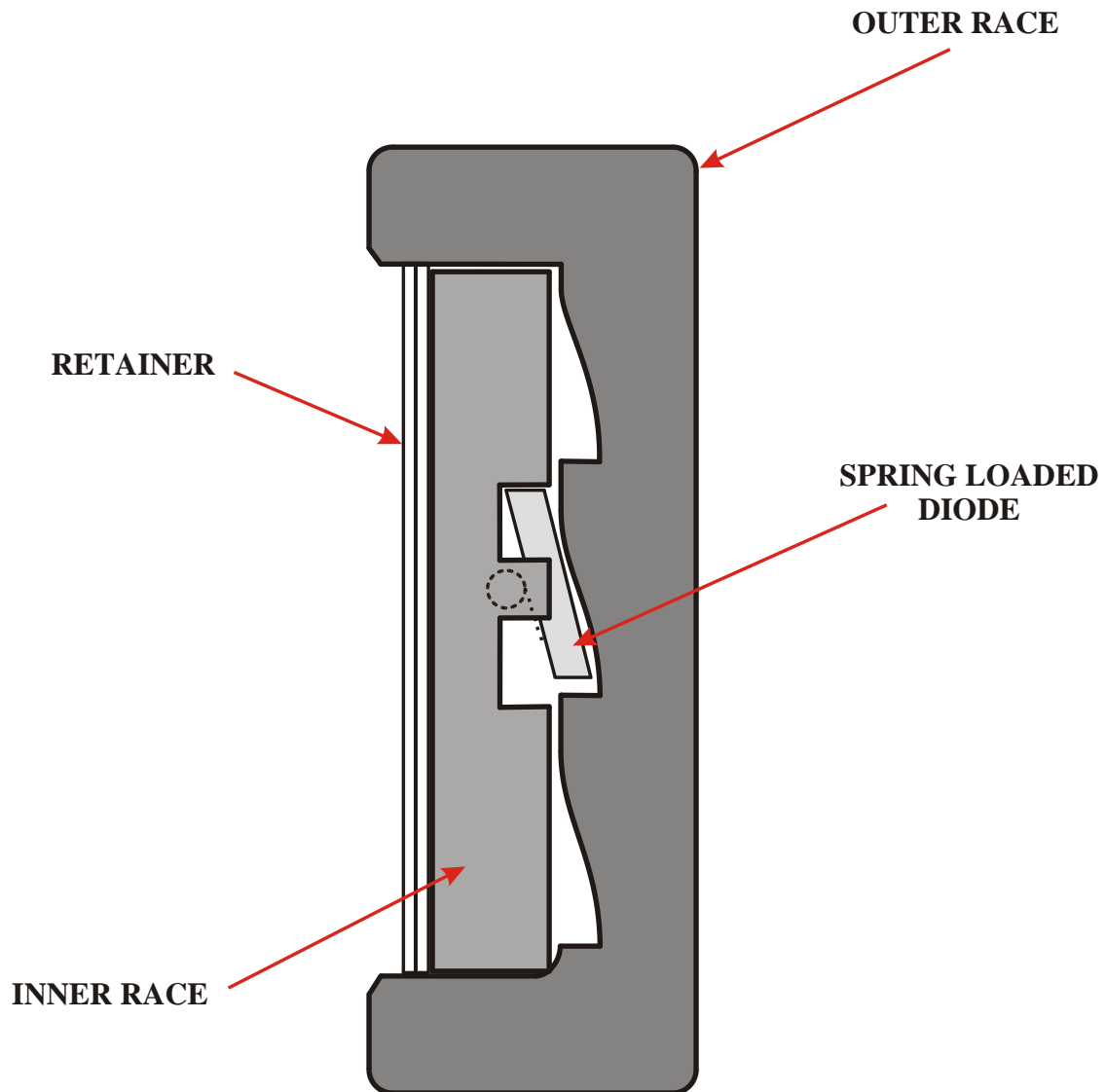


Figure 1

MECHANICAL DIODE INTERMEDIATE SPRAG

MECHANICAL DIODE
SNAP RING
PART NO. 391267-S

MECHANICAL DIODE
SPRAG ASSEMBLY
PART NO. F8AZ-7A089-AA

MECHANICAL DIODE
REVERSE INPUT DRUM ASSEMBLY
PART NO. F8AZ-7D044-AA

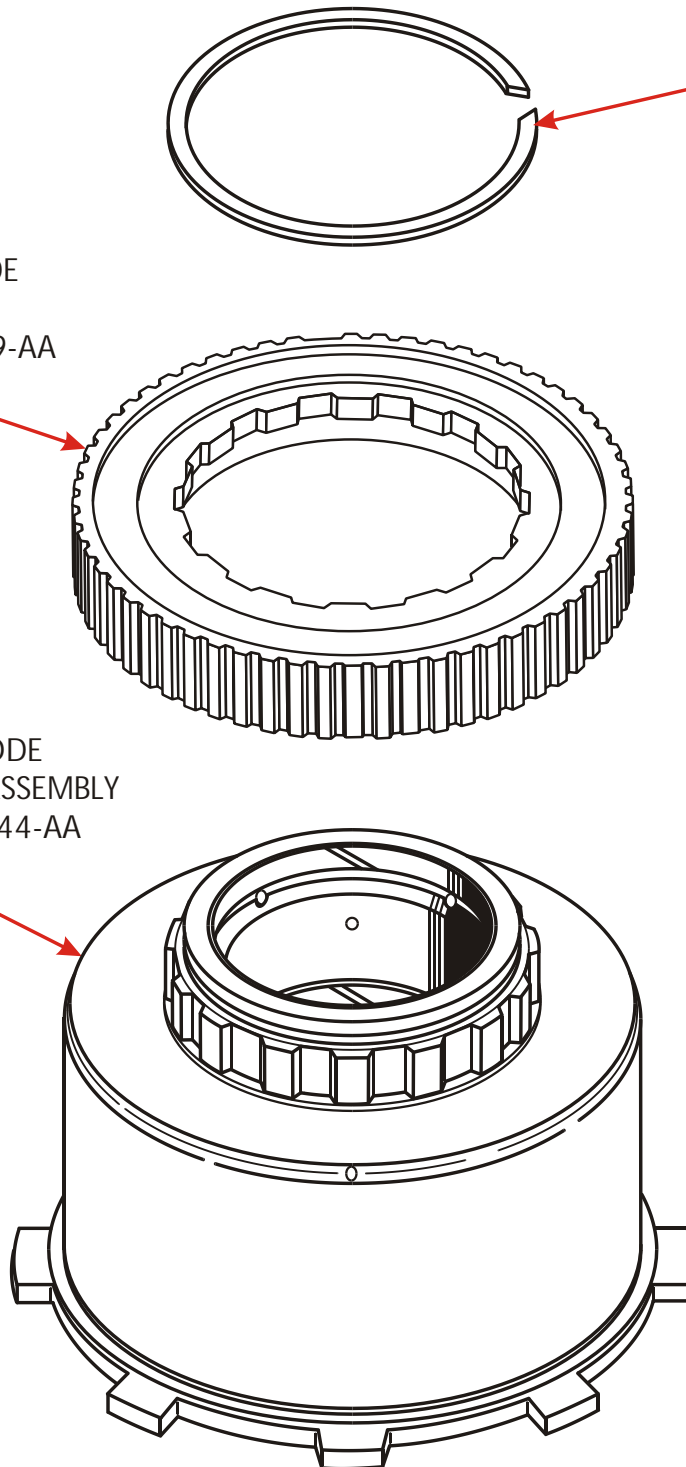


Figure 2