



Technical Service Information

FORD CD4E NEW "WAVE" PLATE ADDED TO FORWARD CLUTCH ASSEMBLY

CHANGE: Beginning on January 5 1998, all CD4E transaxles were built with an added wave plate in the forward clutch pack that has created many engineering changes to related parts. This bulletin will help you identify the various design levels that the new parts have created, and the part numbers for the new design level parts.

REASON: Wave plate added to cushion the forward clutch engagement.

PARTS AFFECTED:

- (1) FORWARD/COAST/DIRECT CLUTCH HOUSING - There is a new forward clutch snap ring groove location to help accommodate the addition of the wave plate. This has now created two new clutch housings, one for the 4 cylinder and one for the V6 cylinder, just for the 1998 1/2 models. Identification and approximate dimensions are provided on the new design level clutch housings in Figure 1.
However, we still have 3 different previous design level clutch housings to contend with, which creates a total of five different clutch housings. Identification and approximate dimensions are provided on the previous design level clutch housings in Figures 2 and 3.
- (2) FORWARD CLUTCH RETURN SPRING - Now has a single open coil design return spring instead of the previous multiple spring design as shown in Figure 4.
- (3) COAST CLUTCH PISTON - Has been made 2.25mm (.089") **taller** to accommodate the addition of the wave plate in forward clutch, as shown in Figure 5.
- (4) FORWARD CLUTCH PISTON - Has been made 0.5mm (.020") **taller** to help accommodate for the addition of the wave plate, and positive identification can be made by the casting number on the piston. New casting number will have **RFF8RP** prefix, as shown in Figure 5.
- (5) FORWARD ONE-WAY CLUTCH OUTER RACE - Has been made 2.0mm (.079") **thinner** than the previous design level to accommodate the addition of the wave plate in the forward clutch, as shown in Figure 5.
- (6) COAST CLUTCH PRESSURE PLATE - Has been made 4.3mm (.169") **thinner** to help accommodate the addition of the wave plate in forward clutch, as shown in Figure 5.
- (7) FORWARD CLUTCH WAVE PLATE - Added to the forward clutch pack to help cushion the forward clutch apply, as shown in Figure 5. A valve body calibration change was also made and is coordinated with the new clutch design level.
- (8) FORWARD CLUTCH SNAP RING - Has always been selective to achieve the proper clutch clearance, but the above changes necessitated a new set of selective snap ring thickness to ensure the proper clutch clearance. Refer to Figure 8 for dimensions and part numbers.

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PARTS AFFECTED: (Continued)

(9) **FORWARD ONE-WAY CLUTCH AND SUN GEAR ASSEMBLY** - The forward sprag and sun gear assembly is available only as a complete service package of all of the pieces shown in Figure 6 under OEM part number F8RZ-7A089-AA. However, many of the service package parts have revised dimensions that you need to be aware of and are as follows:

- (A) **Coast Clutch Hub Retaining Ring** - No changes. Refer to Figure 6.
- (B) **Coast Clutch Hub** - Has been made **.053 taller** to accommodate changes in the forward clutch pack, as shown in Figure 6.
Previous Design = .592".
New Design = .640".
- (C) **Forward Sprag Outer Race** - Has been made **.077 narrower** to accommodate the changes in the forward clutch pack, as shown in Figure 6.
Previous Design Cage = .693".
New Design Cage = .616".
- (D) **Thick End Bearing** - Has been made **.020" thinner** to accommodate the changes in the forward clutch pack, as shown in Figure 6. Both end bearings now the same.
Previous Design = .134" (Black in color)
New Design = .114" (Gold in color).
- (E) **Forward Sprag Assembly** - Has been made **.050" narrower** to accommodate the changes in the forward clutch pack, as shown in Figure 6.
Previous Design = .593", Sprag Elements = .372".
New Design = .543", Sprag Elements = .307".
- (F) **Thin End Bearing** - Has been made **.003" thinner** to accommodate the changes in the forward clutch pack, as shown in Figure 6. Both end bearings now the same.
Previous Design = .117" (Black in color).
New Design = .114" (Gold in color).
- (G) **Forward Sprag Retainer** - No Changes. Refer to Figure 6.
- (H) **Forward Sprag Retaining Ring** - No Changes. Refer to Figure 6.
- (J) **Forward Sprag Inner Race And Sun Gear Assembly** - Has been made **.075" shorter** to accommodate the changes in the forward clutch pack, as shown in Figure 6.
Previous Design = 1.760".
New Design = 1.685".

INTERCHANGEABILITY:

Most of the parts listed in this bulletin will not interchange with previous design level parts because of dimensional changes in the parts concerned. Extra care should be exercised when it is necessary to replace any of the parts listed above.



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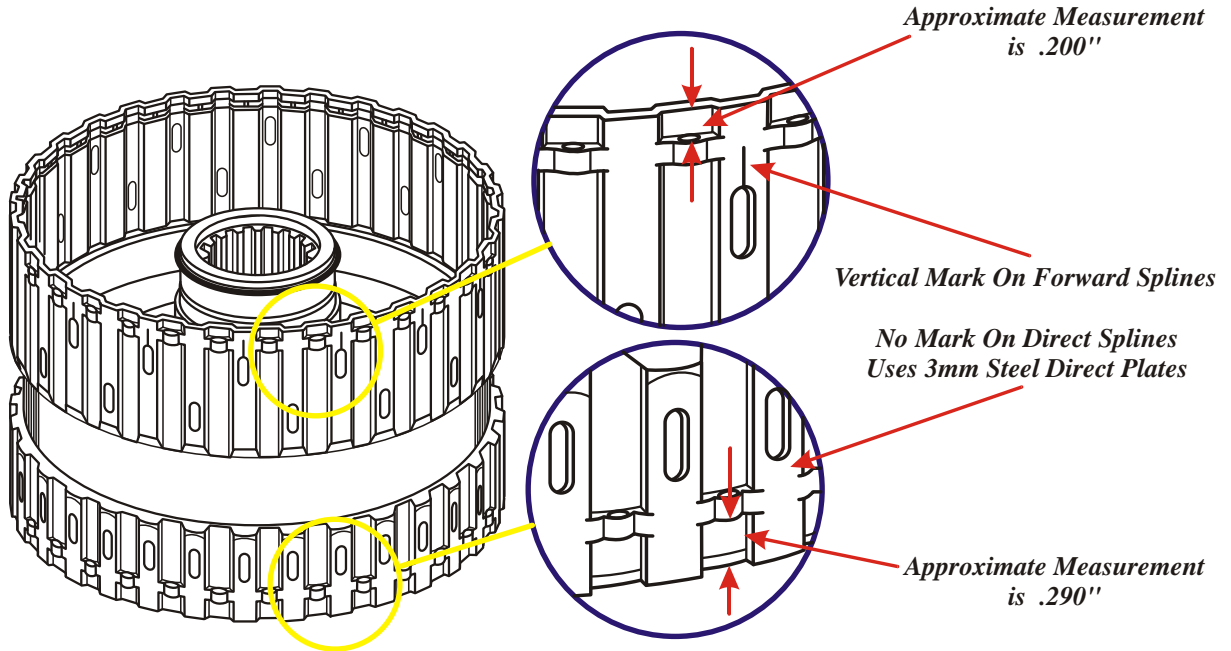
SERVICE INFORMATION:

Forward/Coast/Direct Clutch Housing, 4 Cyl, 1998 1/2 and Beyond	F8RZ-7G120-AA
Forward/Coast/Direct Clutch Housing, V6 Cyl, 1998 1/2 and Beyond	F8RZ-7G120-BA
Forward/Coast/Direct Clutch Housing, 4 Cyl, 3mm Direct Steels, Prior to 1998	F5RZ-7G120-A
Forward/Coast/Direct Clutch Housing, V6, 2mm Direct Steels, Prior to 1998	F4RZ-7G120-A
Forward/Coast/Direct Clutch Housing, 4 Cyl, 2mm Direct Steels, Prior to 1998	F7RZ-7G120-AA
Forward Clutch Return Spring Assembly (New Design)	F8RZ-7G299-AA
Coast Clutch Piston and Seal Assembly (New Design)	F8RZ-7A262-BA
Forward Clutch Piston Assembly (New Design)	F8RZ-7A262-AB
Coast Clutch Pressure Plate (New Design)	F8RZ-7B066-AA
Forward Sprag and Sun Gear Assembly (New Design)	F8RZ-7A089-AA
Forward Clutch Wave Plate (New Design)	F8RZ-7E085-AA
Forward Clutch Selective Snap Ring, 1.48mm (.058")	F8RZ-7D483-AA
Forward Clutch Selective Snap Ring, 1.64mm (.065")	F8RZ-7D483-BA
Forward Clutch Selective Snap Ring, 1.80mm (.071")	F8RZ-7D483-CA
Forward Clutch Selective Snap Ring, 1.97mm (.078")	F8RZ-7D483-DA

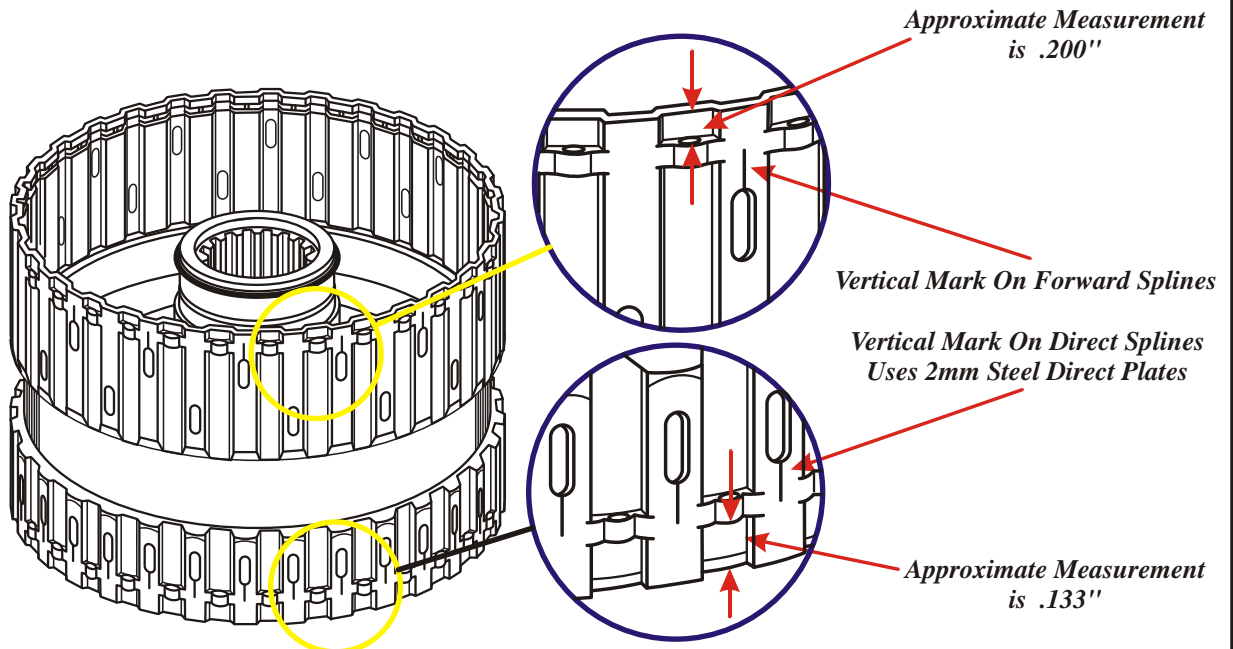
SPECIAL NOTE:

Refer to Figure 7 to ensure that you have the new design level parts assembled correctly.

CD4E COAST/FORWARD/DIRECT CLUTCH HOUSING
OEM PART NUMBER F8RZ-7G120-AA
FITS 4 CYL 1998-1/2 AND BEYOND



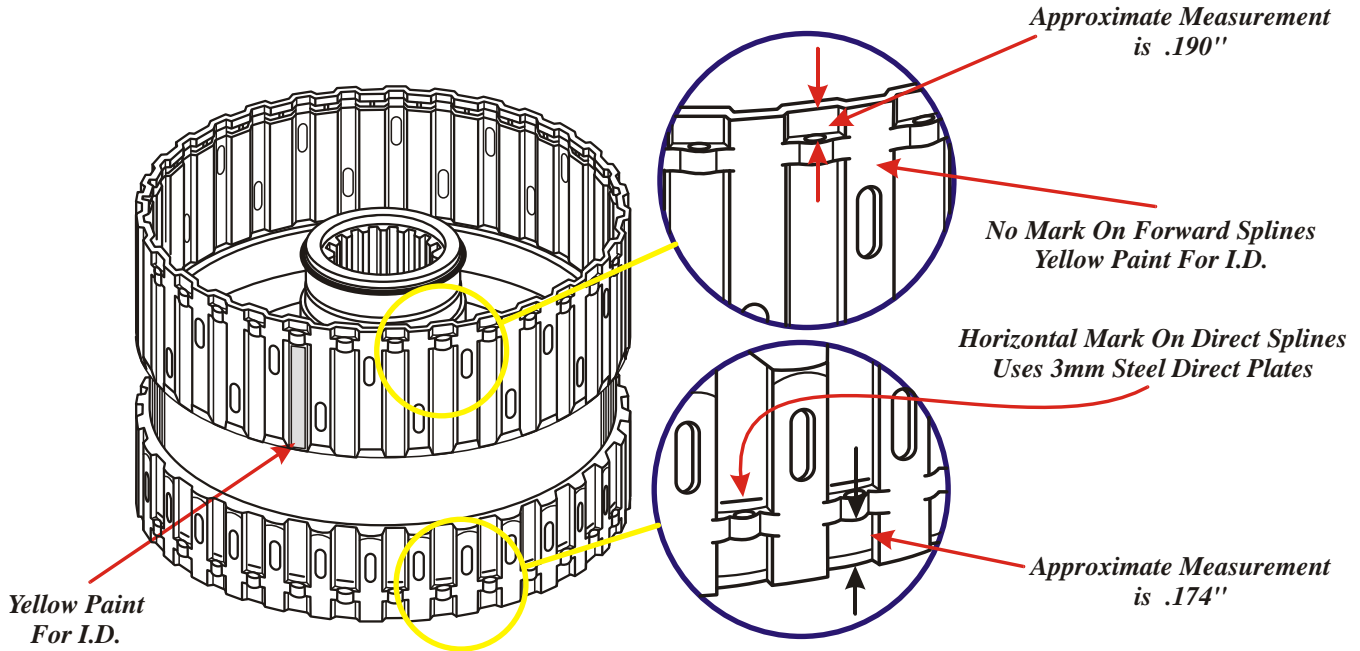
CD4E COAST/FORWARD/DIRECT CLUTCH HOUSING
OEM PART NUMBER F8RZ-7G120-BA
FITS V6 CYL 1998-1/2 AND BEYOND



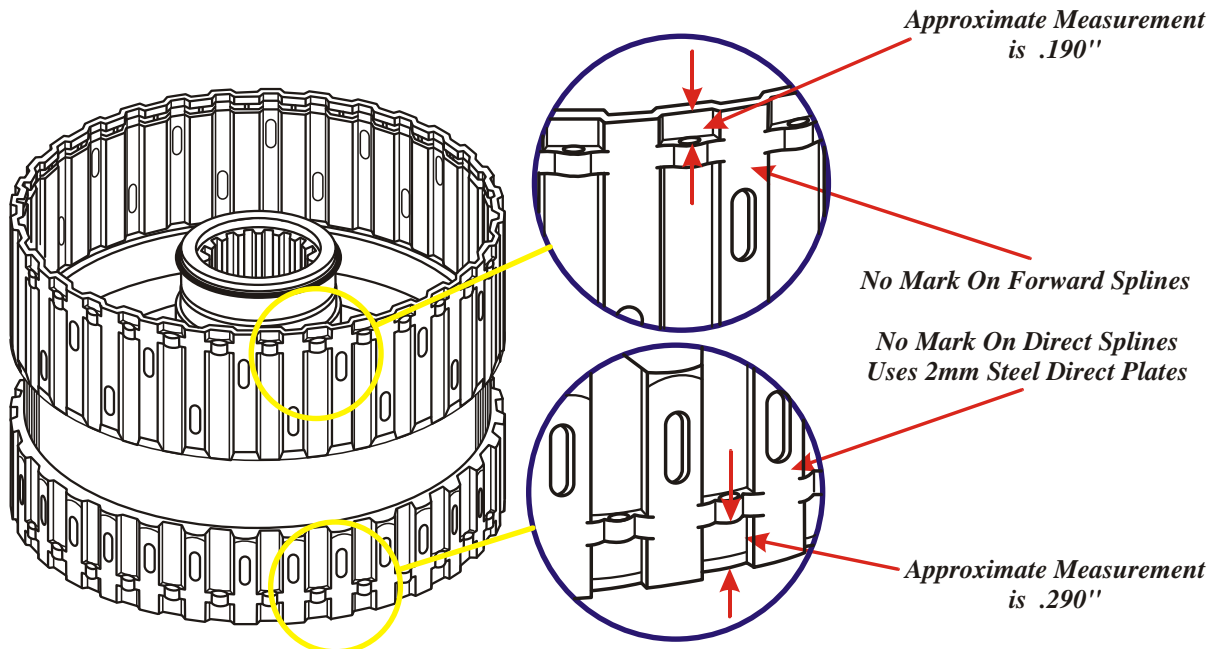
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Figure 1

CD4E COAST/FORWARD/DIRECT CLUTCH HOUSING
OEM PART NUMBER F5RZ-7G120-A
FITS 4 CYL PRIOR TO 1998-1/2



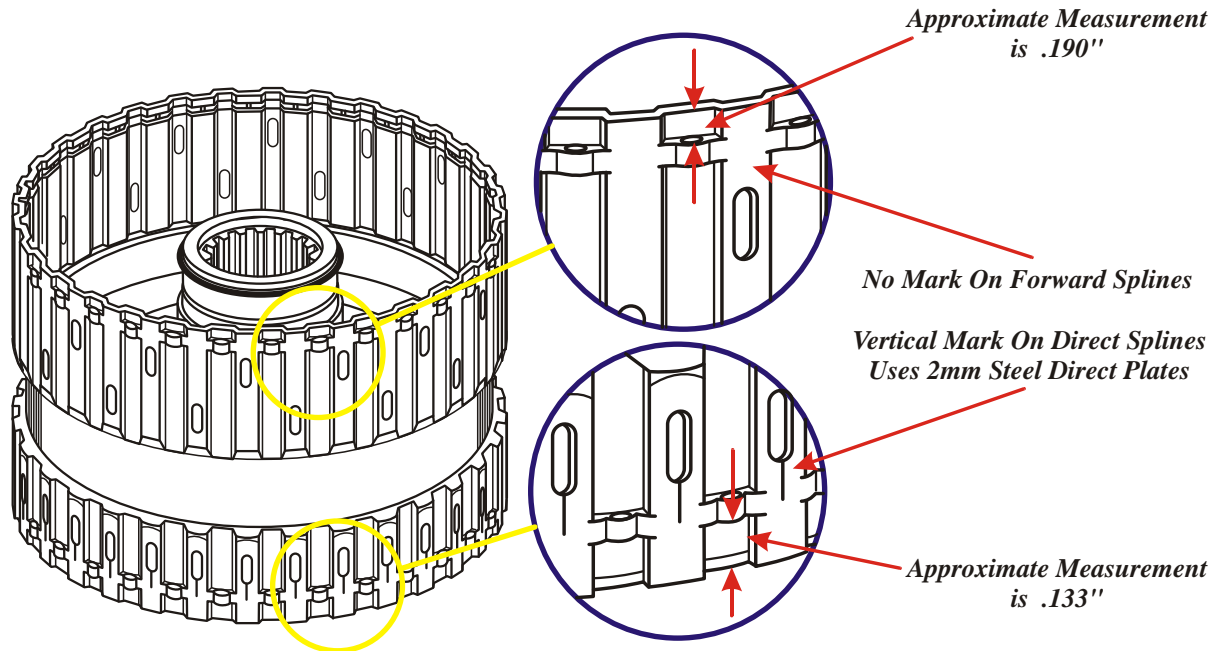
CD4E COAST/FORWARD/DIRECT CLUTCH HOUSING
OEM PART NUMBER F7RZ-7G120-AA
FITS 4 CYL PRIOR TO 1998-1/2



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Figure 2

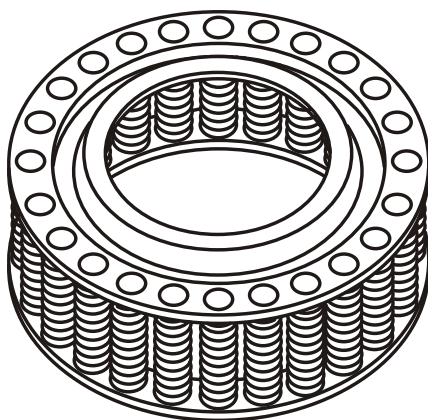
CD4E COAST/FORWARD/DIRECT CLUTCH HOUSING
OEM PART NUMBER F4RZ-7G120-A
FITS V6 CYL PRIOR TO 1998-1/2



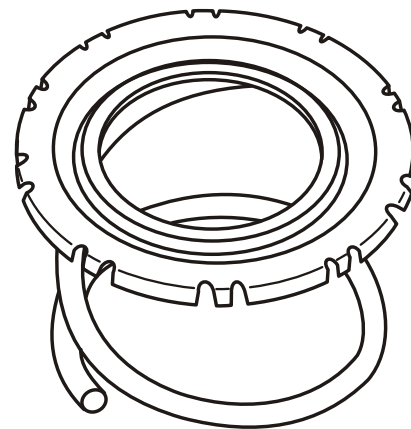
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Figure 3

**FIRST DESIGN CLUTCH
RETURN SPRING ASSEMBLY**



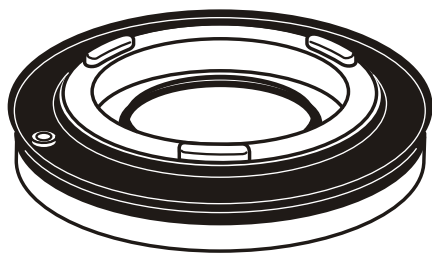
**NEW DESIGN CLUTCH
RETURN SPRING ASSEMBLY**



**OEM PART NUMBER
F8RZ-7G299-AA**

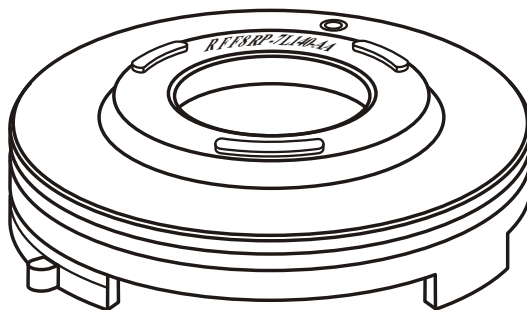
Figure 4

COAST CLUTCH PISTON ASSEMBLY
.100" Taller Than Previous Design
Stamped "F8RP"



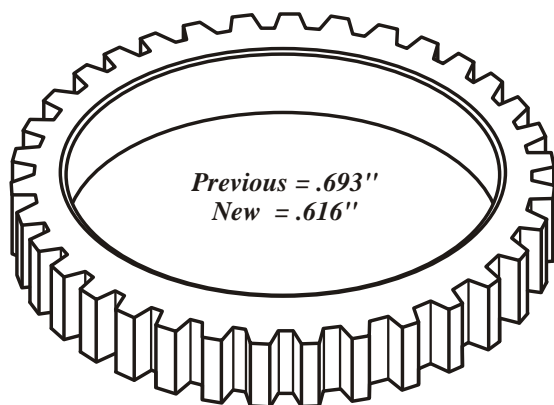
OEM PART NUMBER
F8RZ-7A262-BA

FORWARD CLUTCH PISTON ASSEMBLY
.020" Taller Than Previous Design
New Casting No. Prefix RFF8RP



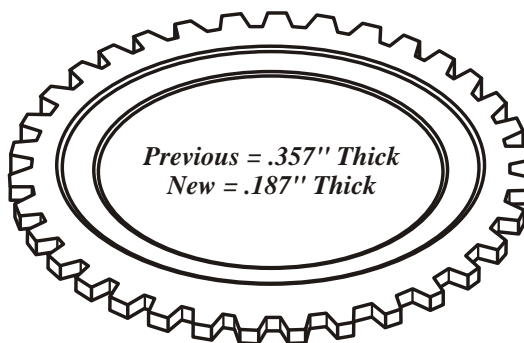
OEM PART NUMBER
F8RZ-7A262-AB

ONE-WAY CLUTCH OUTER RACE
.077" Thinner Than Previous Design



CONTAINED IN PACKAGE
F8RZ-7A089-AA

COAST CLUTCH PRESSURE PLATE
.170" Thinner Than Previous Design



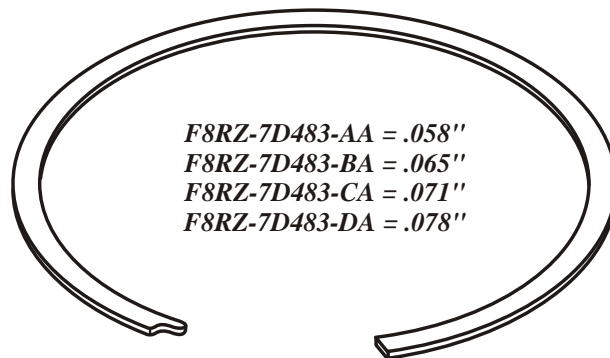
OEM PART NUMBER
F8RZ-7B066-AA

FORWARD CLUTCH WAVE PLATE
Added To New Design Level



OEM PART NUMBER
F8RZ-7E085-AA

NEW SELECTIVE FORWARD CLUTCH SNAP RING

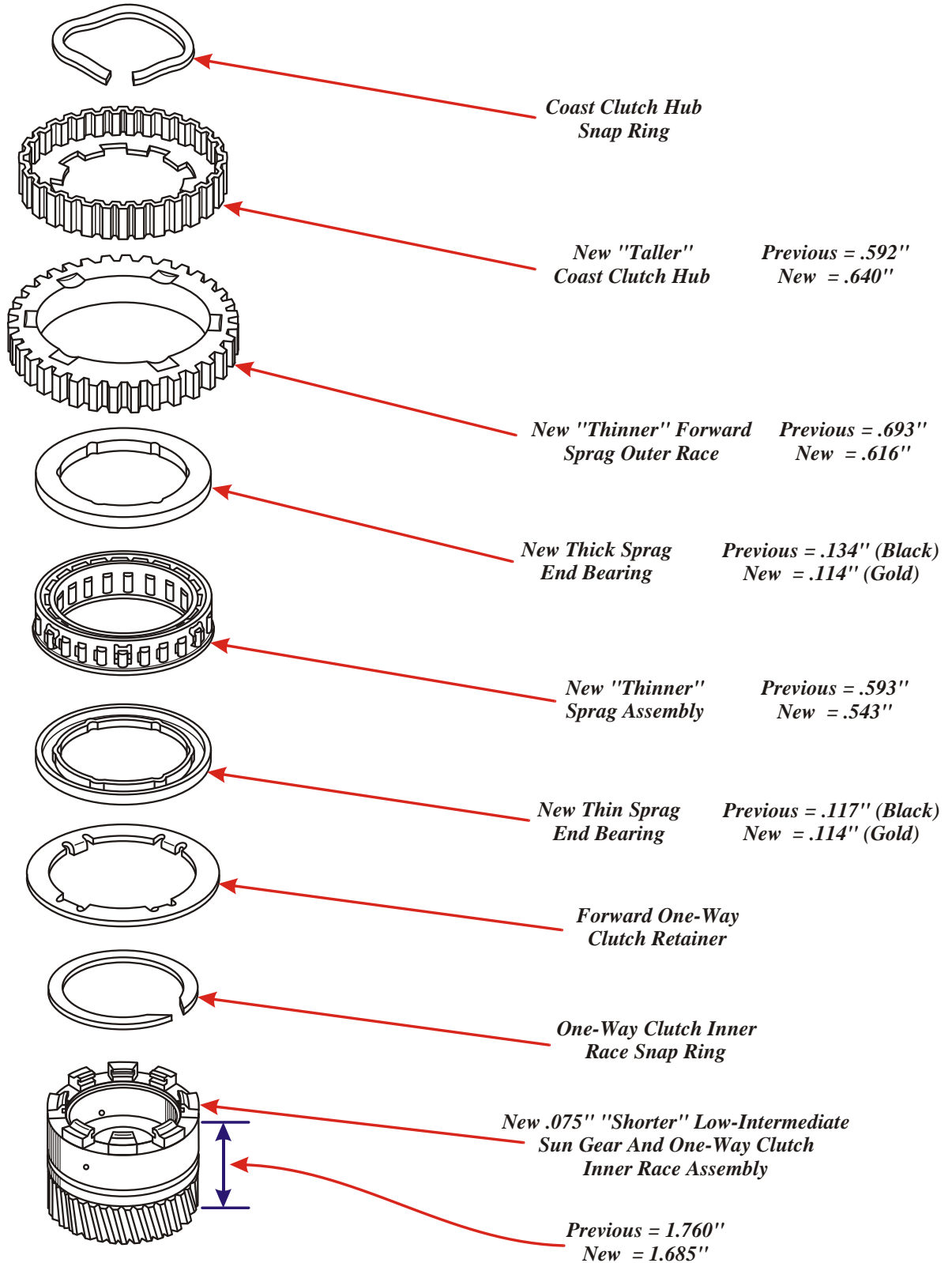


F8RZ-7D483-AA = .058"
F8RZ-7D483-BA = .065"
F8RZ-7D483-CA = .071"
F8RZ-7D483-DA = .078"

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Figure 5

LOW/INTERMEDIATE SPRAG AND SUN GEAR ASSEMBLY PART NUMBER F8RZ-7A089-AA



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Figure 6

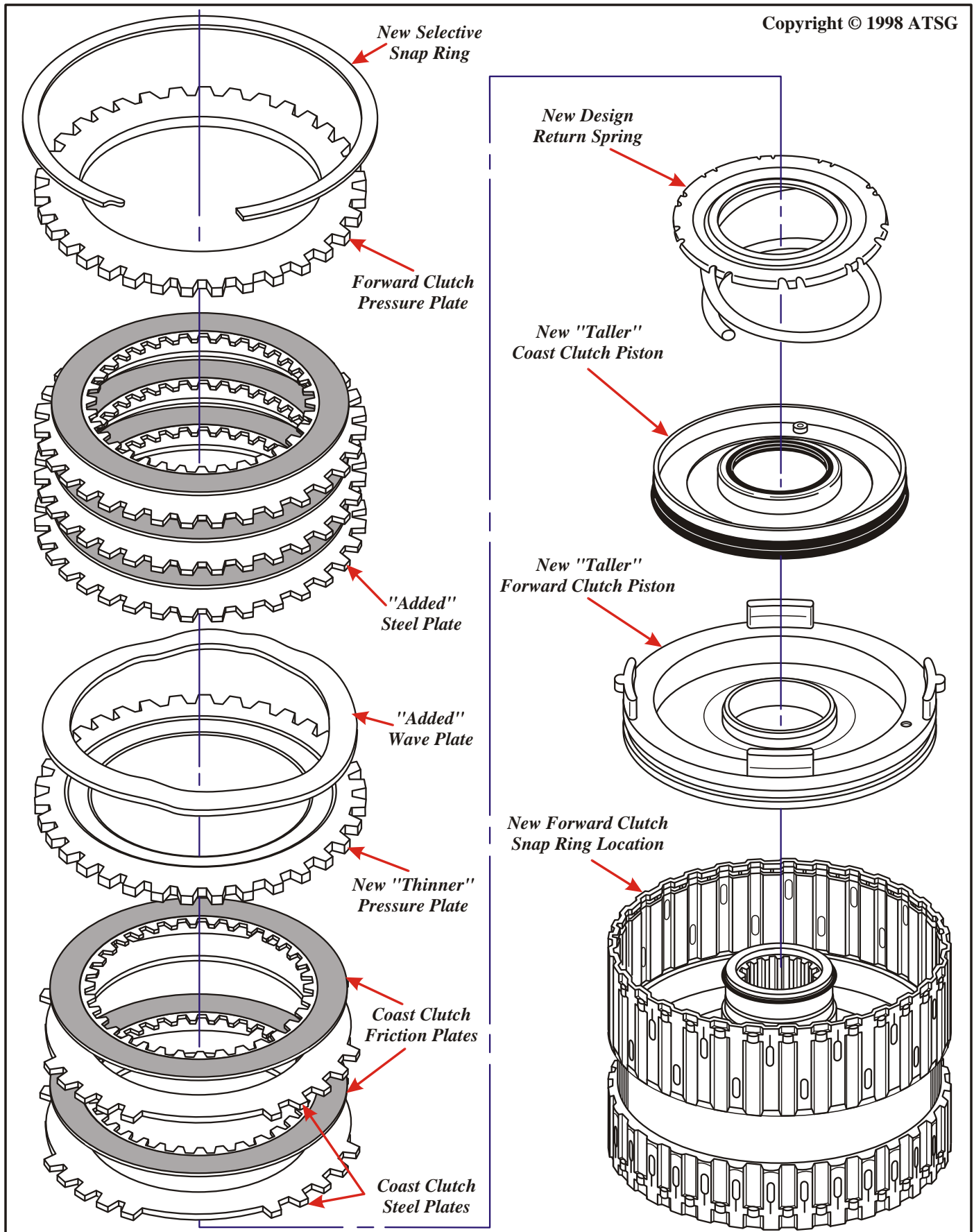


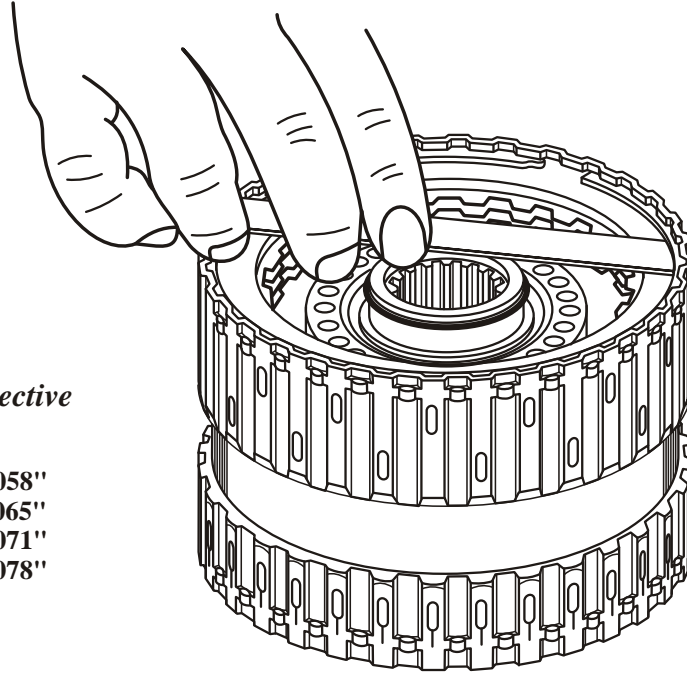
Figure 7

MEASURE FORWARD CLUTCH CLEARANCE

Forward Clutch clearance should be .012" - .038". If clearance is not within specification, select and install the proper thickness forward clutch snap ring from the chart below

Forward Clutch Selective Snap Rings

F8RZ-7D483-AA = .058"
F8RZ-7D483-BA = .065"
F8RZ-7D483-CA = .071"
F8RZ-7D483-DA = .078"



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Figure 8