INDEX

GENERAL MOTORS

FORD

ADVERTISERS

"FIXES ARE GREAT IN '98"

INTRODUCTION

In this FIXES ARE GREAT IN '98 manual we continue to bring you part changes and fixes for both G.M. and Ford transmissions. They are the latest in factory and original bulletins. 4L60E, 4L80E, 4T40E and Saturn complete the General Motor's section. The Ford section will start with a video showing detailed step by step diagnostic routine when handling PSOM problems. The live portion of the show begins with both part changes, fixes and electrical related concerns so sit back and enjoy!

DALE ENGLAND
FIELD SERVICE CONSULTANT

ROBERT D. CHERRNAY
TECHNICAL DIRECTOR

ED KRUSE
TECHNICAL CONSULTANT

WAYNE COLONNA
TECHNICAL SUPERVISOR

JIM DIAL
TECHNICAL CONSULTANT

PETE LUBAN
TECHNICAL CONSULTANT

JERRY GOTT
TECHNICAL CONSULTANT

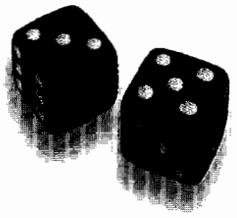
ARSENIO RIVERA
TECHNICAL CONSULTANT

DAVID CHALKER
TECHNICAL CONSULTANT

GREGORY LIPNICK
TECHNICAL CONSULTANT

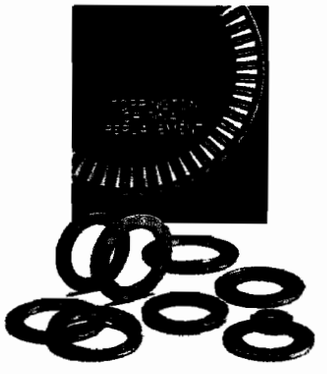
AUTOMATIC TRANSMISSION SERVICE GROUP
9200 S. DADELAND BLVD.
SUITE 720
MIAMI, FL 33156
(305) 670-4161

THERE ARE CERTAIN SITUATIONS THAT REQUIRE A LITTLE LUCK. A TRANSMISSION REBUILD, HOWEVER, SHOULDN'T BE ONE OF THEM.



INSTALLING OLD BEARINGS DURING A TRANSMISSION REBUILD IS KIND OF LIKE ROLLING THE DICE. MANY USED BEARINGS HAVE UNDETECTED DAMAGE WHICH CAN LEAD TO FAILURE. SO YOU RISK HAVING WARRANTEED TRANSMISSIONS COME BACK AGAIN. WHICH MEANS YOU RISK LOSING REVENUE. TIME. AND ULTIMATELY, CUSTOMERS. FORTUNATELY, WE HAVE A RELIABLE AND INEXPENSIVE SOLUTION: ORIGINAL REPLACEMENT BEARING KITS FROM TORRINGTON. THEY IMPROVE REBUILD RELIABILITY AND REMOVE A POTENTIAL CAUSE FOR WARRANTEED RETURNS. DON'T WAIT UNTIL YOUR LUCK RUNS OUT. CALL YOUR LOCAL TRANSTAR OR DACCO DISTRIBUTOR TODAY.

TORRINGTON ORIGINAL REPLACEMENT BEARING KITS HELP DECREASE TRANSMISSION FAILURES AND REDUCE YOUR WARRANTEED RETURNS.



TORRINGTON
THE AUTOMATIC CHOICE.

TORRINGTON
INGERSOLL-RAND

THM 4L60-E

NEW "DEEP" BOTTOM PAN AND FILTER FOR 1998

CHANGE: Beginning at the start of production for 1998 model vehicles, there was a new design bottom pan introduced on all "C" Trucks, "K" Trucks and "G" Vans. All other models use the regular pan, except the Corvette. The Corvette has its own pan since 1997. The new design bottom pan is approximately 17mm deeper and requires a new design filter.

REASON: Improved fluid temperature control.

PARTS AFFECTED:

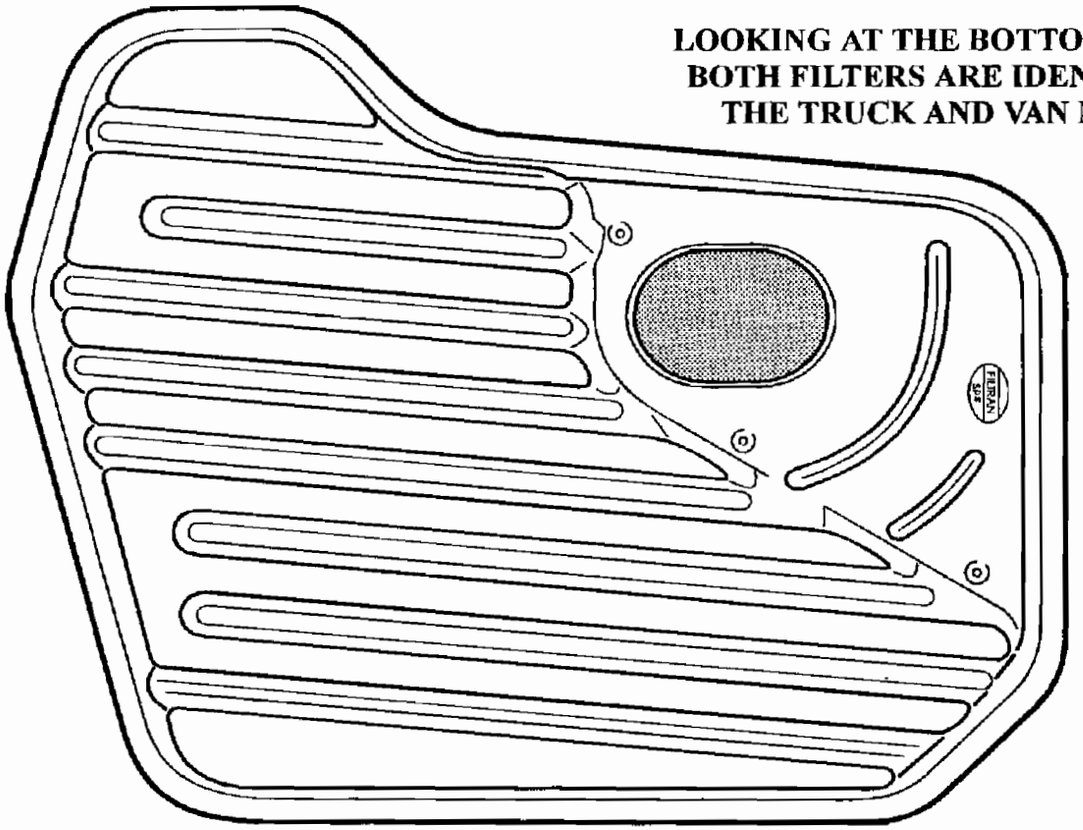
(1) BOTTOM PAN - New design is approximately 17mm deeper than the regular pan, and all three bottom pans used in 1998 models are illustrated in Figure 3 for identification purposes.

(2) BOTTOM PAN FILTER - There are now three different filters for the 1998 model year. The bottom profile of the filters are all the same as shown in Figure 1. The side profiles however are different as the "Deep" pan requires the filter with the longer neck, the "Regular" pan requires the filter with the shorter neck, and the 97-up Corvette requires the filter with the added extension on the bottom. Refer to Figure 2.

INTERCHANGEABILITY:

Bottom pan filters must be used with the correct design level bottom pans and must be used on the models that they were intended for, as shown in Figures 1, 2, and 3.

LOOKING AT THE BOTTOM PROFILE BOTH FILTERS ARE IDENTICAL ON THE TRUCK AND VAN MODELS



1997-UP CORVETTE ONLY BOTTOM PROFILE

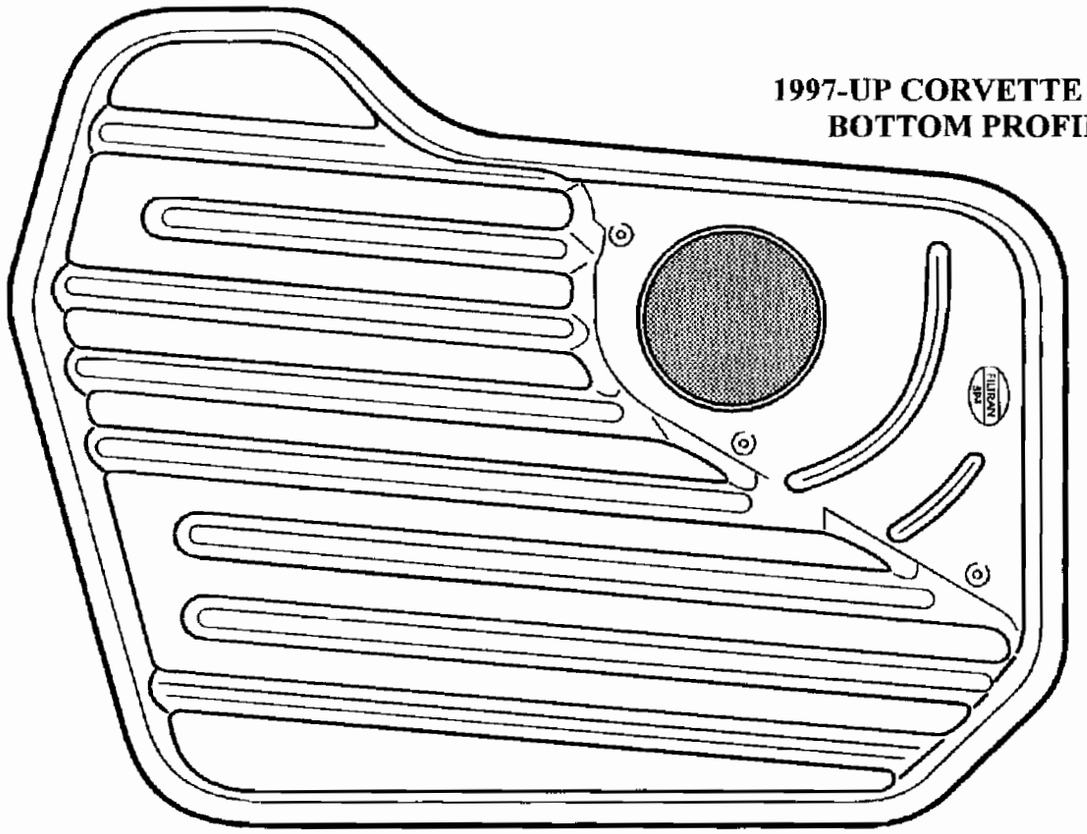


Figure 1

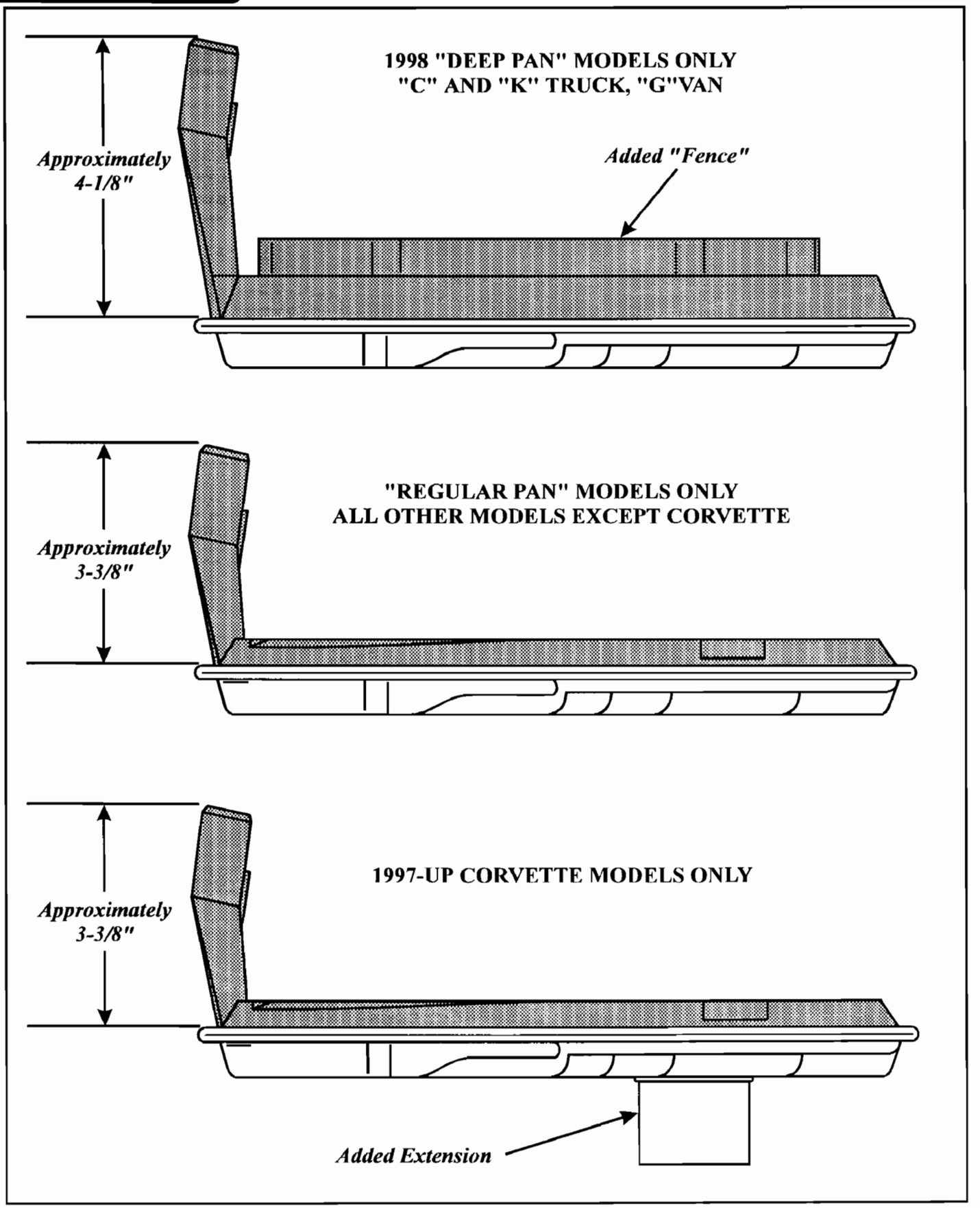

1998 "DEEP PAN" MODELS ONLY
"C" AND "K" TRUCK, "G"VAN
Approximately
4-1/8"
Added "Fence"
"REGULAR PAN" MODELS ONLY
ALL OTHER MODELS EXCEPT CORVETTE
Approximately
3-3/8"
1997-UP CORVETTE MODELS ONLY
Approximately
3-3/8"
Added Extension

Figure 2

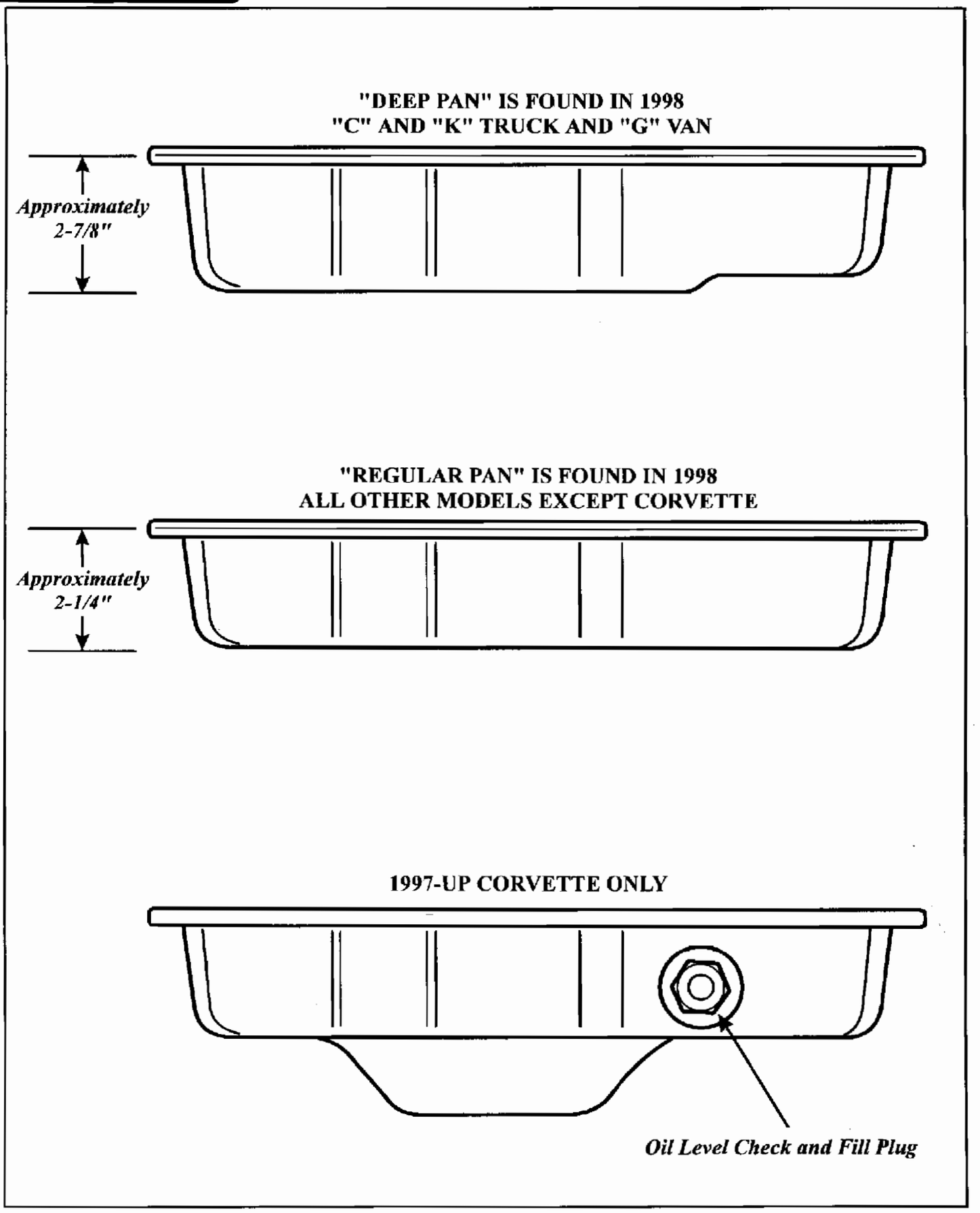

"DEEP PAN" IS FOUND IN 1998
"C" AND "K" TRUCK AND "G" VAN
Approximately
2-7/8"
"REGULAR PAN" IS FOUND IN 1998
ALL OTHER MODELS EXCEPT CORVETTE
Approximately
2-1/4"
1997-UP CORVETTE ONLY
Oil Level Check and Fill Plug

Figure 3

Transmissions In Stock

- Domestic (Cars & Trucks)
- Import (Cars & Trucks)
- Allisons - On Highway/Off Highway
- Remanufactured Torque Converters
- Construction/Industrial
- Factory Remanufactured Units
- **Thousands In Stock Ready to Ship!**

ACCURATE TRANSMISSIONS™

Your Source For Quality Remanufactured Dyno-Tested Transmissions

ACCURATE TRANSMISSIONS INC.

935 Campus Dr.
Mundelein, IL 60060
Fax (847) 549-9474
(847) 549-8100
Toll Free (800) 428-7726
WWW.ACCURATETRAN.COM

THM 4L60-E
NEW DESIGN SHIFT SOLENOIDS, EPC SOLENOID AND TCC/PWM SOLENOID

CHANGE: Beginning at the start of production for all 1998 models, the THM 4L60-E transmissions were built with a new design for both Shift Solenoids, a new design EPC Solenoid, and a new design TCC/PWM Solenoid.

REASON: Improved shift quality and durability., and eliminates some mis-assembly concerns.

PARTS AFFECTED:

(1) TCC/PWM SOLENOID - Changes from a metal stem to a "Gray Plastic" stem as shown in Figure 1, and the solenoid connector is also Gray in color to help distinguish it from the 3-2 Downshift (ON-OFF) Solenoid. These two solenoids are now manufactured identical, with the exact same dimensions, except for the difference in color of the solenoid stem and solenoid connector. The wide groove to accept the internal harness connector is also on opposite sides of the solenoid connector to prevent the solenoids from being accidentally installed in the wrong models, as shown in Figure 1.

(2) SHIFT SOLENOIDS "A" AND "B" - One groove has been removed from the stem of the Shift Solenoids to prevent mis-assembly concerns, as the retaining clip can be installed in the previous design solenoids, which means the solenoid is not all the way into it's bore. Refer to Figure 2.

(3) PRESSURE CONTROL SOLENOID - New design has larger micron screens in the solenoid to greatly improve cold weather operation. This will allow the colder oil through the screens easier. Refer to Figure 3.

INTERCHANGEABILITY:

(1) TCC/PWM SOLENOID - New design will retro-fit back to 1995 models.

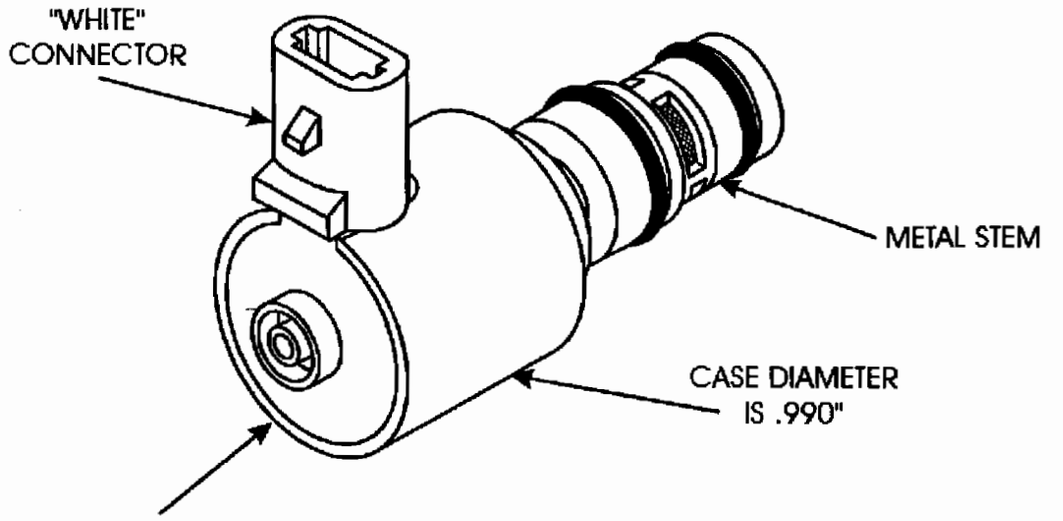
(2) SHIFT SOLENOIDS "A" AND "B" - New design will retro-fit back to all previous models.

(3) PRESSURE CONTROL SOLENOID - New design will retro-fit back to all previous models.

SERVICE INFORMATION:

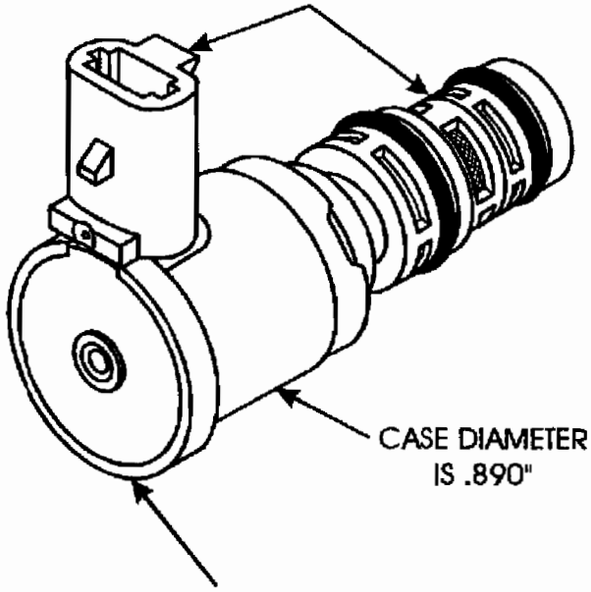
3-2 Downshift Solenoid (PWM for 95 Models)	8683187
3-2 Downshift Solenoid (On-Off for 96-97 Models)	24209121
TCC/PWM Solenoid (For 95-97 Models)	24207054
Shift Solenoids "A" and "B" (All Models)	10478131

3-2 DOWNSHIFT SOLENOID AND TCC/PWM SOLENOID CHANGES



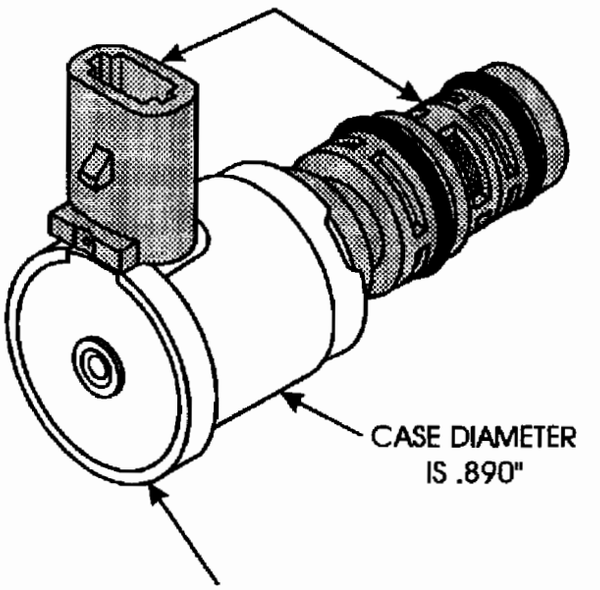
1993-1995 3-2 DOWNSHIFT (PWM) SOLENOID
AND 1995-1996 TCC/PWM SOLENOID
PART NUMBER 8683187
10-15 OHMS RESISTANCE

"*WHITE PLASTIC*" STEM AND CONNECTOR



1996 AND 1997
3-2 DOWNSHIFT (ON/OFF) SOLENOID
PART NUMBER 24209121
20-31 OHMS RESISTANCE

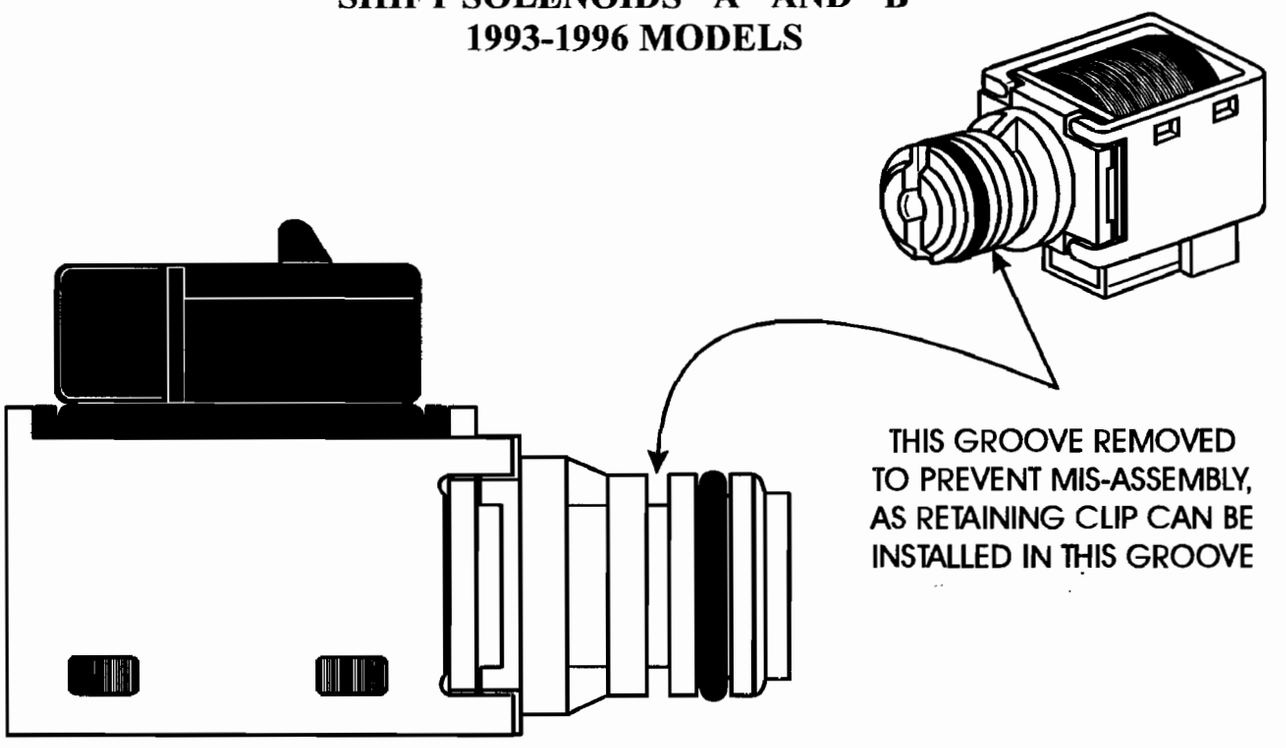
"*GRAY PLASTIC*" STEM AND CONNECTOR



1997 AND LATER
TCC/PWM SOLENOID
PART NUMBER 24207054
10-15 OHMS RESISTANCE

Figure 1

THM 4L60-E
SHIFT SOLENOIDS "A" AND "B"
1993-1996 MODELS



THM 4L60-E
SHIFT SOLENOIDS "A" AND "B"
1997 AND LATER MODELS
PART NO. 10478131

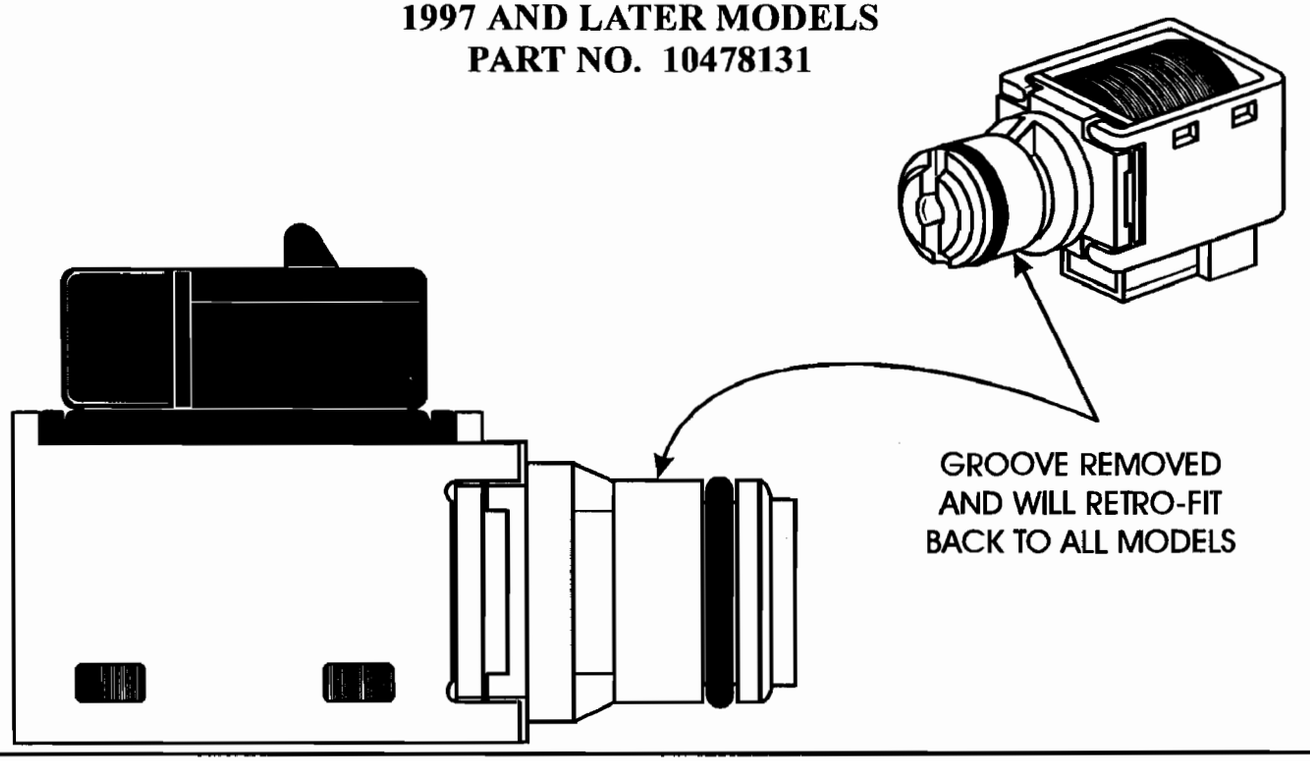


Figure 2

NEW ELECTRONIC PRESSURE CONTROL SOLENOID
PART NUMBER 24209276

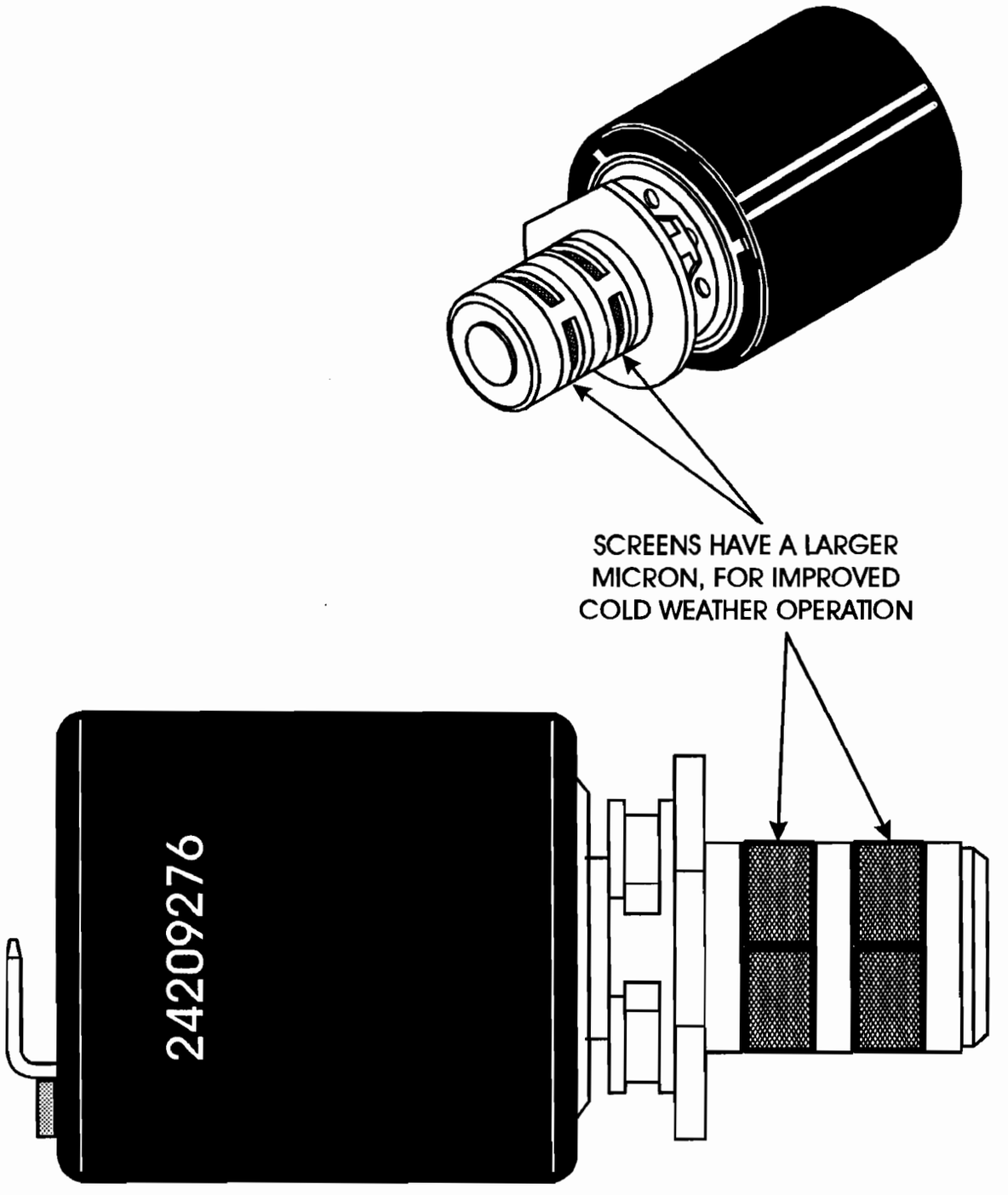


Figure 3

4L60E: A BIG FIX for a small cost

SK® 4L60E-Jr Shift Kit

The right parts in the right places for the shift feel and durability you expect.

Pump

Pressure regulator spring for traffic driving 1-2 upshift.
Prevents long slide And band burnup.

VB accm pressure

Adjusts 2nd & 4th firmness. Not too soft or too firm.

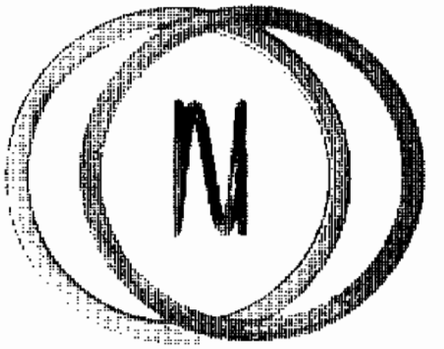
4th Accumulator

Has the right feel.

"SMART" 2nd Accumulator System

Gives you short but not hard 1-2 shifts with a new band or many miles later with a glazed band.
Nothing impresses your customer as much as a 1-2 shift that is SHORT, but still SMOOTH.
Retainer and large diam bottom spring reduces pin wear in the piston.

2-4 Band Adjustment



Band clearance controls the 2-3 shift feel. No more fancy measurements or guessing. Shims make band adjustment precise and easy in 2 minutes.. Added cushion spring prevents 2-3 cutloose & light throttle bump.

And while you're there here is some other nice things to reduce complaints and let your customer know that it's really FIXed.

Oversize 2nd Checkball

Saves worn separator plate.
Reduces plate wear.

Neutral to Drive Accumulator

Eliminates the Rev to "D" cutloose bang and hot delay from "P" to "D".

Reverse Input Piston Orifices

This lets you plug the big bleed hole in the piston that causes reverse delay when hot.

"Your customers will know its fixed."

Also available:
4L60E-HD2 Kit for HD and Hi-Perf.
Product support: (626) 443-7451
Distributor location: (626) 443-7456

THM 4L60-E
CHANGE IN BELLHOUSINGS FOR THE 1998 MODEL YEAR

300mm TORQUE CONVERTER ***(Figure 1):***

The Bellhousing shown in Figure 1, is approximately 1/4" deeper than the previous "Big Bell" and is designed to accommodate a new 300mm converter that is used in the 1998 Firebird. The best identification is the added bolt hole at the top of the bellhousing. This style bellhousing and the 300mm converter also require a new design turbine shaft and stator shaft that are also about 1/4" longer.

1998 REGULAR "BIG BELL" ***(Figure 2):***

The Bellhousing shown in Figure 2, has four added holes for an added dust shield, and can be compared with the previous model "Big Bell" that is shown in Figure 3.

1996-1997 REGULAR "BIG BELL" ***(Figure 3):***

The Bellhousing shown in Figure 3, is the previous design "Big Bell" and included in this bulletin for comparison with the 1998 design changes.

HOLDEN "BIG BELL" ***(Figure 4):***

The Bellhousing shown in Figure 4, is the Holden "Big Bell" that is export only and shipped mainly to Australia.

CORVETTE ***(Figure 5):***

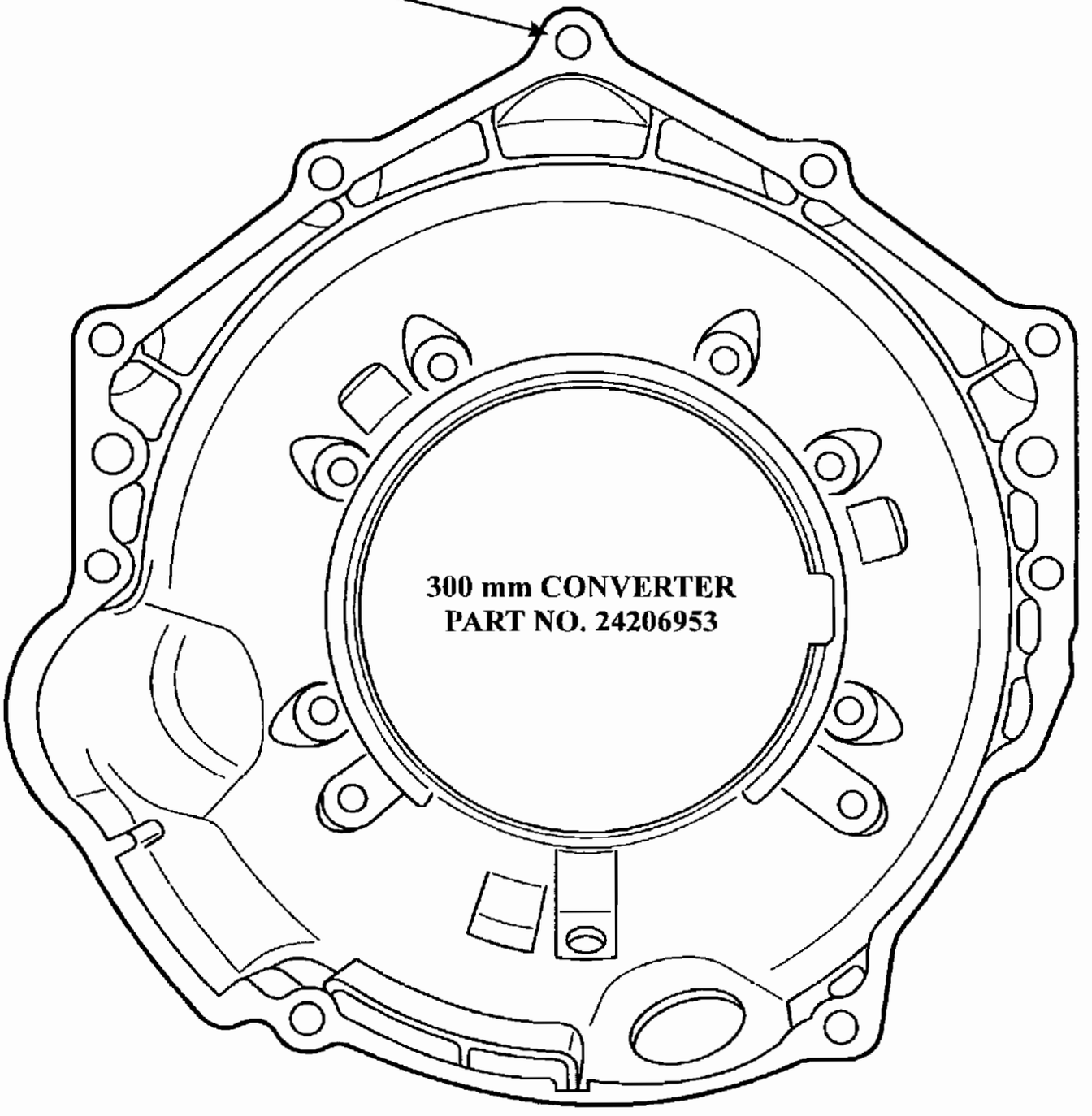
The Bellhousing shown in Figure 5, is for the 1997-1998 Corvette with the transmission mounted in the rear of the vehicle and is used with a torque tube.

HOLDEN "SPECIAL" S/T TRUCKS (Figure 6):

The Bellhousing shown in Figure 6, is the Holden "Special" S/T Truck bell that is export only and shipped mainly to Australia. This bell has part of the housing cast out as compared to the Regular S/T Truck bell that is shown in Figure 7.

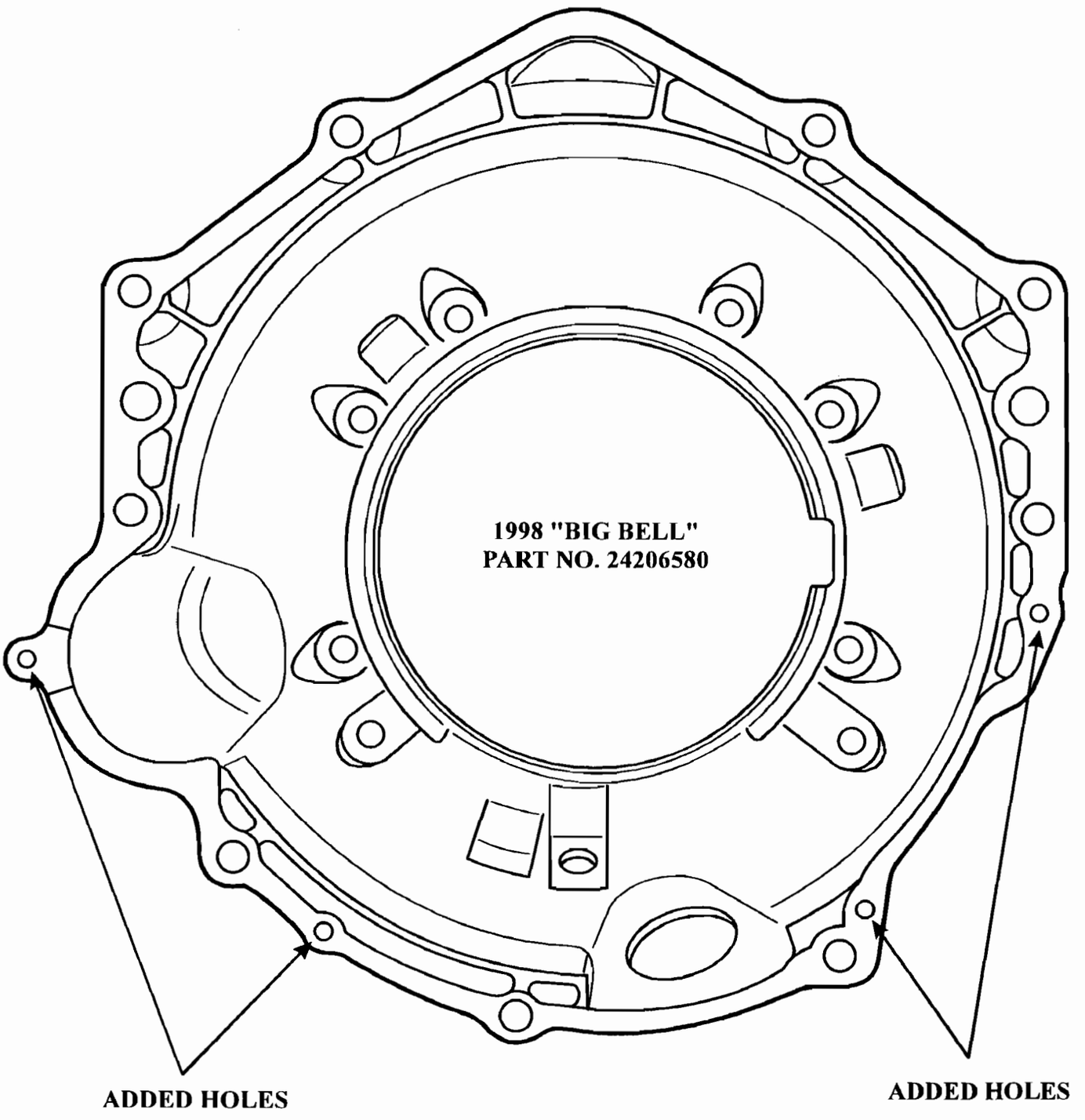
REGULAR S/T TRUCKS (Figure 7):

The Bellhousing shown in Figure 7, is the Regular S/T Truck bellhousing used in North America and is cast different than the export S/T Truck bellhousing shown in Figure 6.



This style bellhousing and the 300mm torque converter also require a new design turbine shaft and stator shaft that are approximately 1/4" longer than other models.

Figure 1



See 1996-1997 version on next page for comparison.

Figure 2

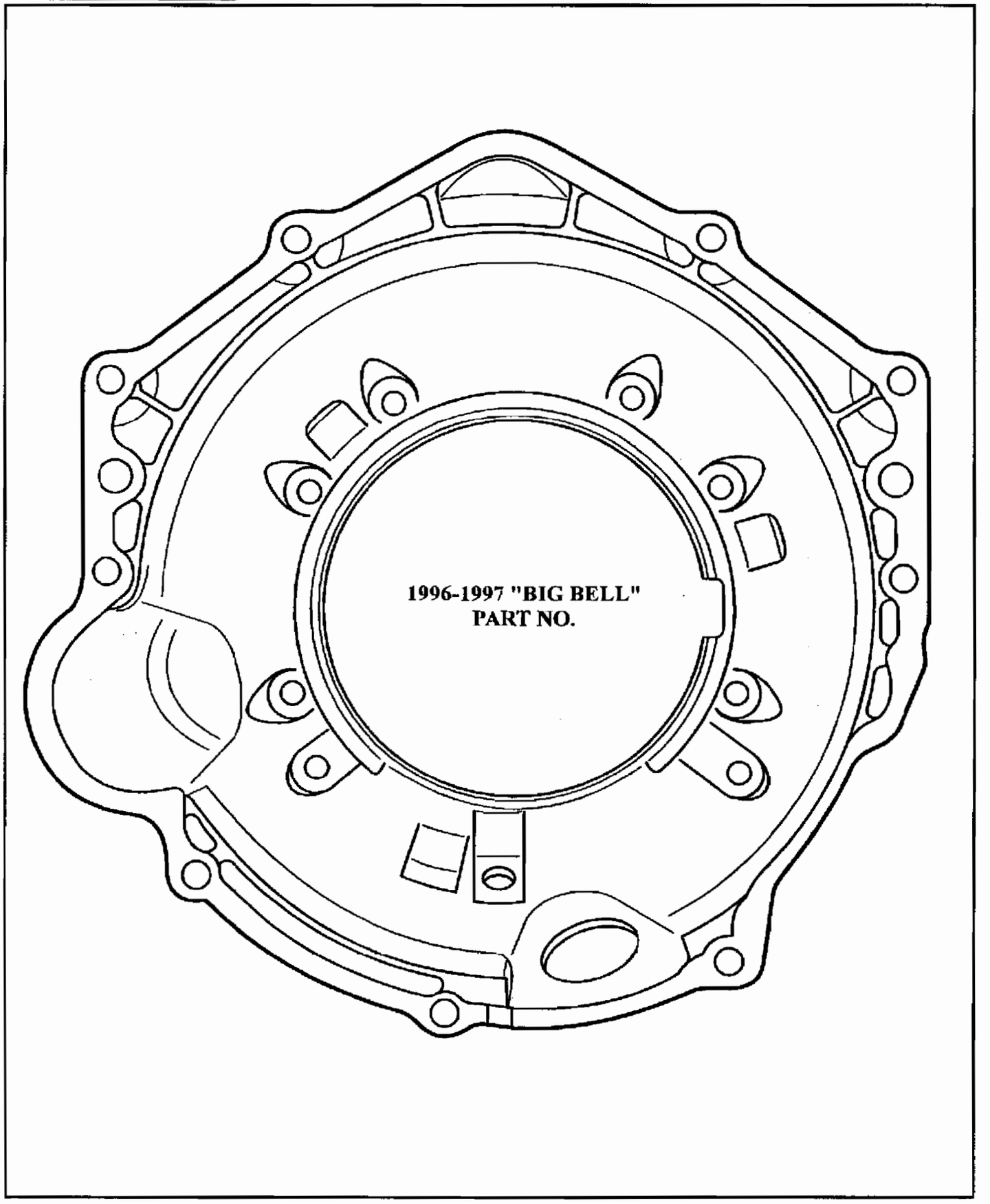
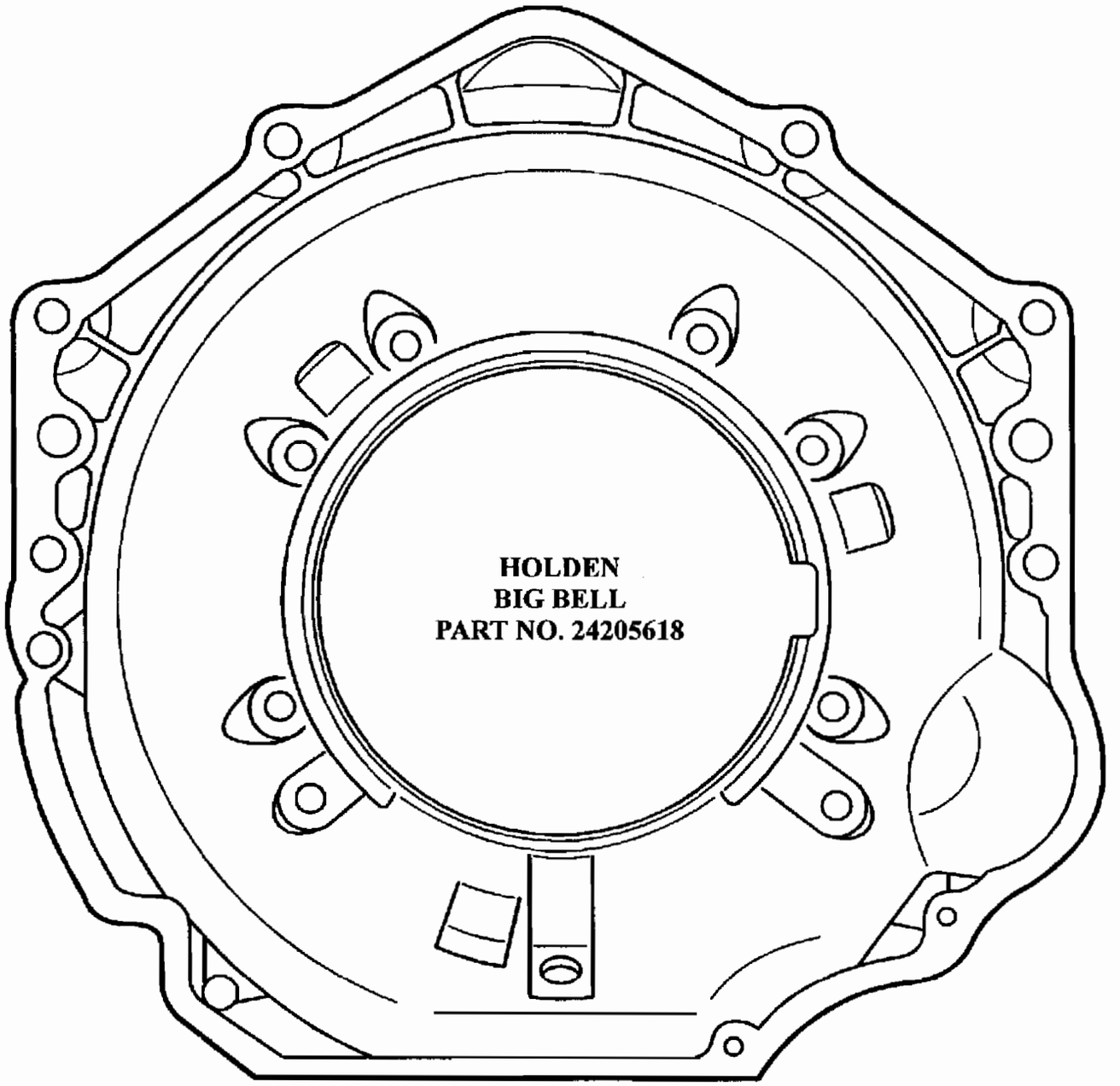


Figure 3



EXPORT ONLY

Figure 4

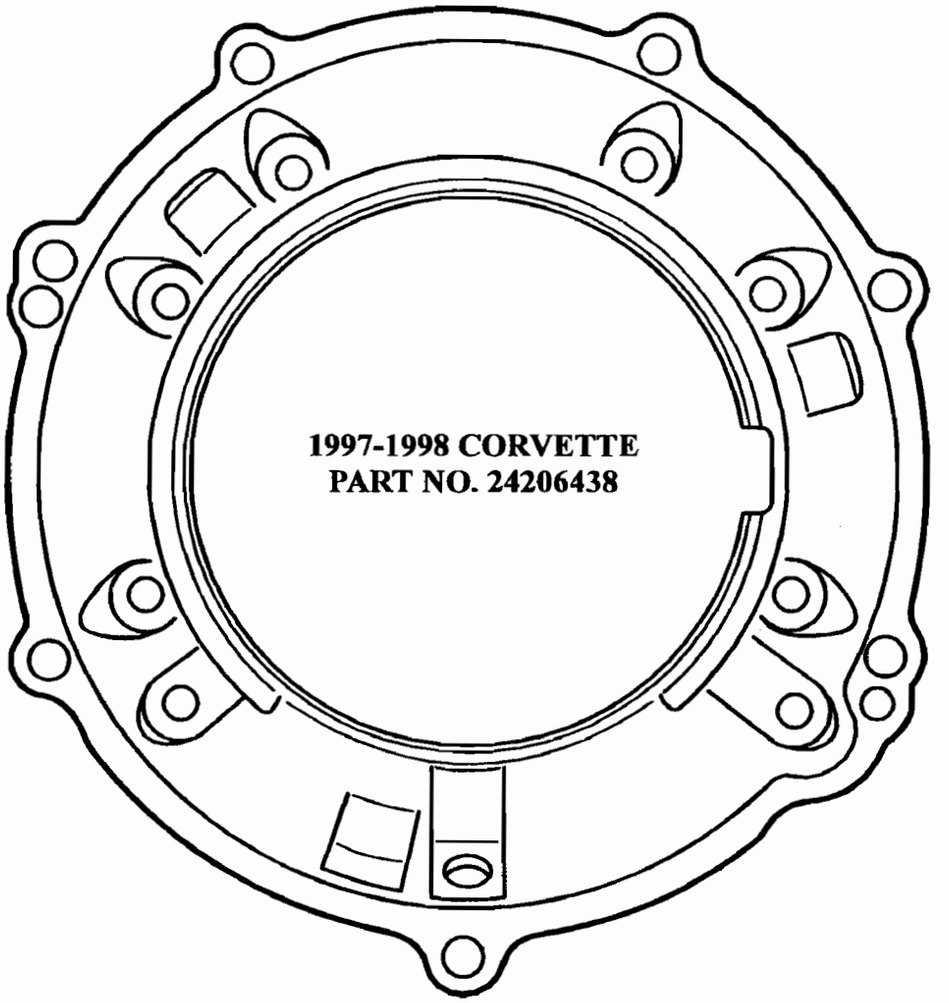
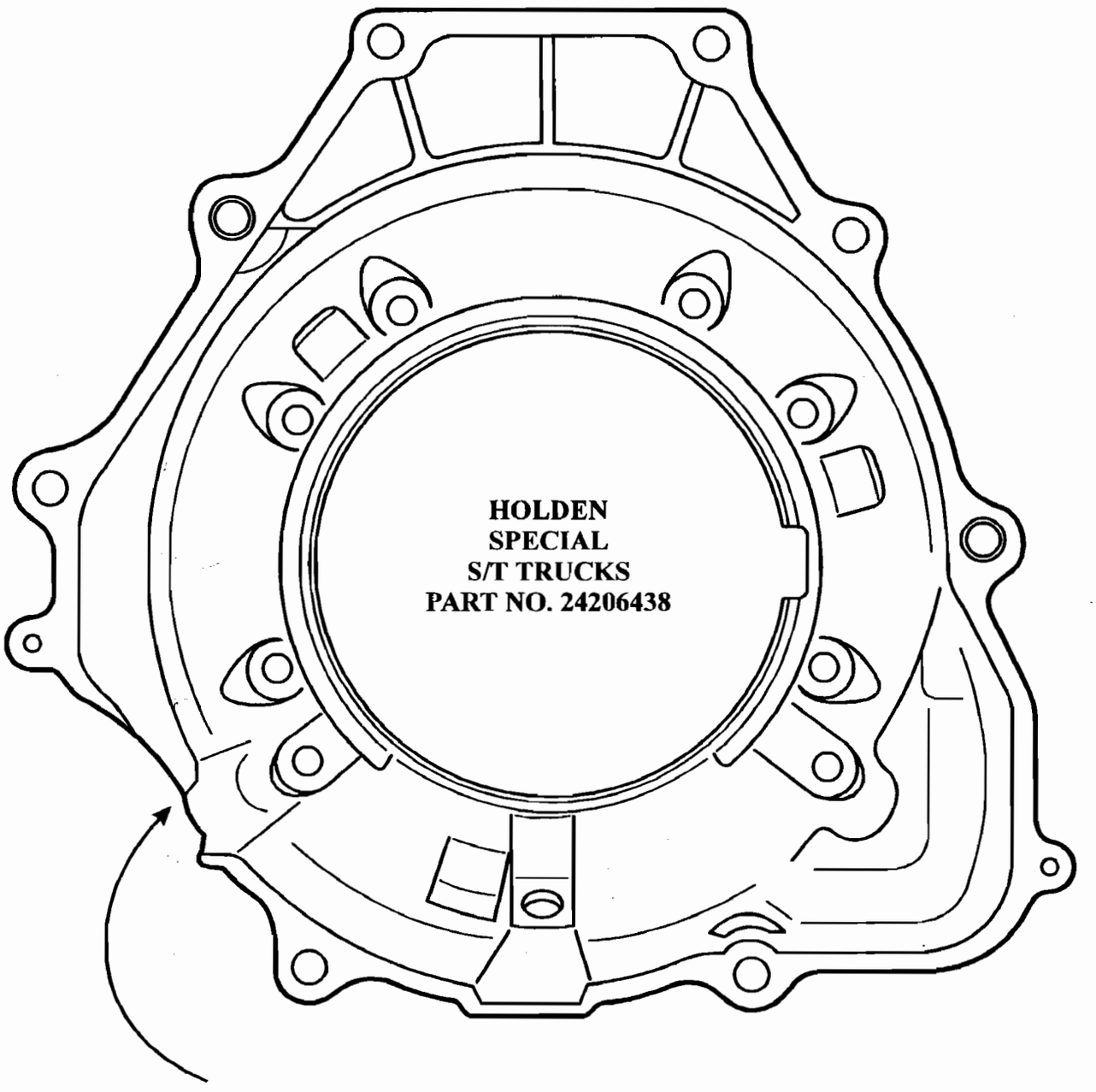


Figure 5



Compare with Regular S/T Bell on next page.

Figure 6

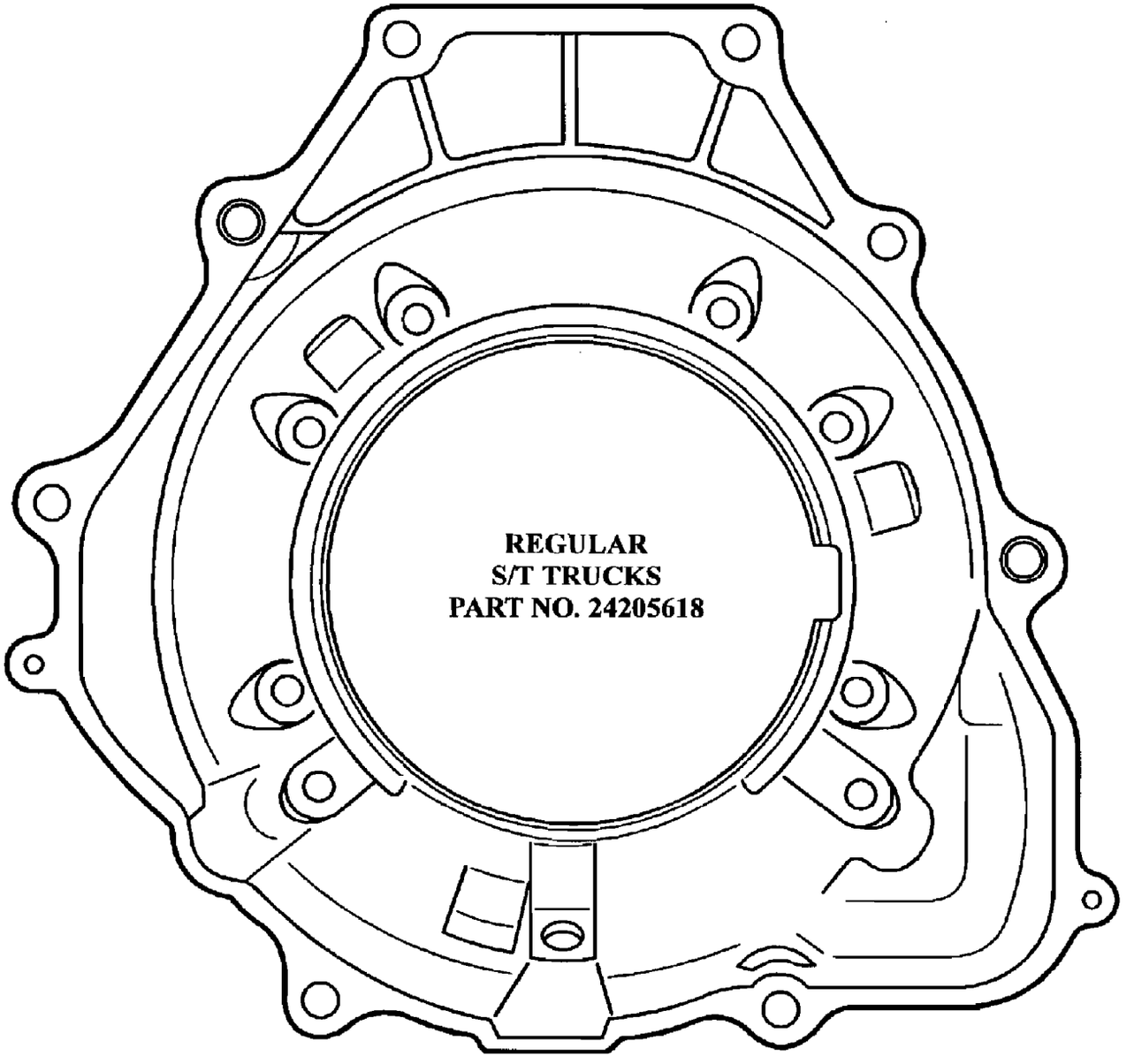
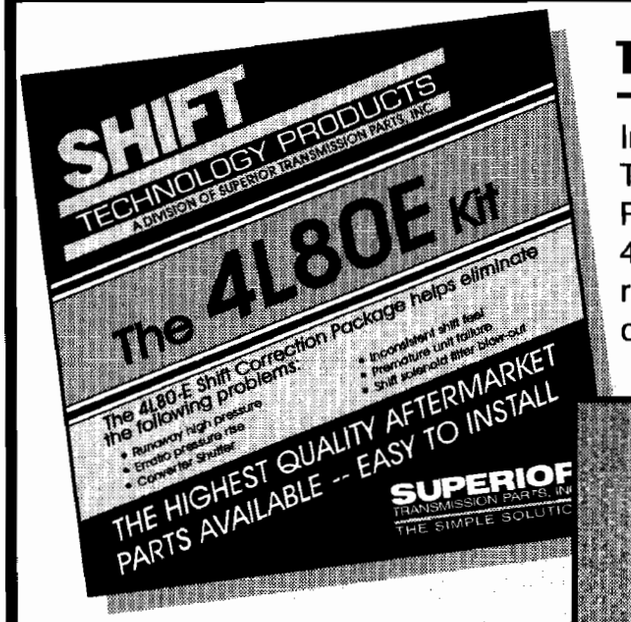


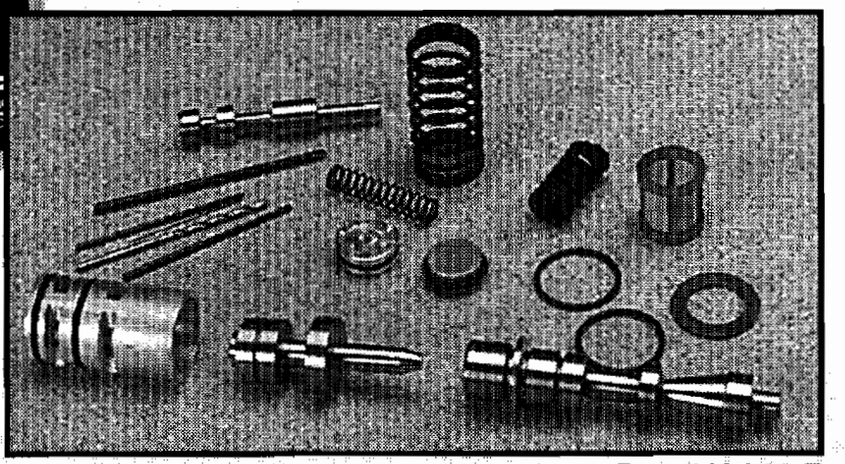
Figure 7

New From Superior!



The 4L80E Shift Correction Package!

Improve overall transmission performance with Superior Transmission Parts' new 4L80E Shift Correction Package. For normal or heavy duty applications, the 4L80E Kit comes with a complete custom pressure regulator valve train and a custom anti-shudder converter clutch control valve.



Helps To Eliminate:

- Runaway high pressure
- Erratic pressure rise
- Converter shudder
- Inconsistent shift feel
- Premature unit failure
- Shift solenoid filter blow-out

Part # K4L80-E

Be Sure To Try Our 4L60E Shift Correction Package!

Like all Superior valve body products the 4L60E Shift Correction Package is easy to install, features simple instructions, uses only quality-made parts and offers consistent product performance.

The 4L60E Shift Correction Package helps to eliminate the following problems:

- Bind up in reverse
- Low & reverse clutch burn up
- Delayed engagement in forward & reverse
- Slide in 2nd
- 3-4 clutch burn up
- Provides more lube oil
- Clutch & band failure
- Improves shift quality.

Part # K4L60-E

Make The Shift To...™

SUPERIOR
TRANSMISSION PARTS, INC.™
THE SIMPLE SOLUTION

Call For The Distributor Nearest You: 800-451-3115

Shift Correction Packages Available For: TF-TC, 440-T4, 700-R4, 200-4R, 400, 350, 200, 125, E4OD, A4LD, AXOD, 722.3-4, AOD, C-6, AOD-E, AXOD-E, & 4L60E — High Performance Kits Also Available For: 200-4R HP, AOD HP, 350 HP, & 700-R4 HP.

THM 4L80-E/4L80-EHD
NEW SHIFT SOLENOID ASSEMBLIES AND PRESSURE CONTROL SOLENOID

CHANGE: Beginning at the start of production for the 1998 model year, all 4L80E/4L80EHD transmissions were built with revised Shift Solenoids, and a new EPC Solenoid.

REASON: Revised plastic material for seats in the Shift Solenoids, and larger micron screens in the EPC Solenoid for improved durability.

PARTS AFFECTED:

(1) SHIFT SOLENOID "A" - Revised plastic material in the seat area, and connector is still Black in color, but color of plastic for snout where the "O" ring goes changed to Brown instead of the previous White, for identification purposes (See Figure 1).

(2) SHIFT SOLENOID "B" - Revised plastic material in the seat area, and connector is still White in color, but color of plastic for snout where the "O" ring goes changed to Brown instead of the previous White, for identification purposes (See Figure 1).

(3) EPC SOLENOID - Revised (Larger) micron in the solenoid screens for improved operation in cold ambient temperatures (See Figure 2).

INTERCHANGEABILITY:

The new design Shift Solenoids, and the new design EPC Solenoid, will retro-fit back on ***all*** previous models.

SERVICE INFORMATION:

Shift Solenoid "A" (Black connector, Brown snout) 10478140
Shift Solenoid "B" (White connector, Brown snout) 10478141
Pressure Control Solenoid 24209276

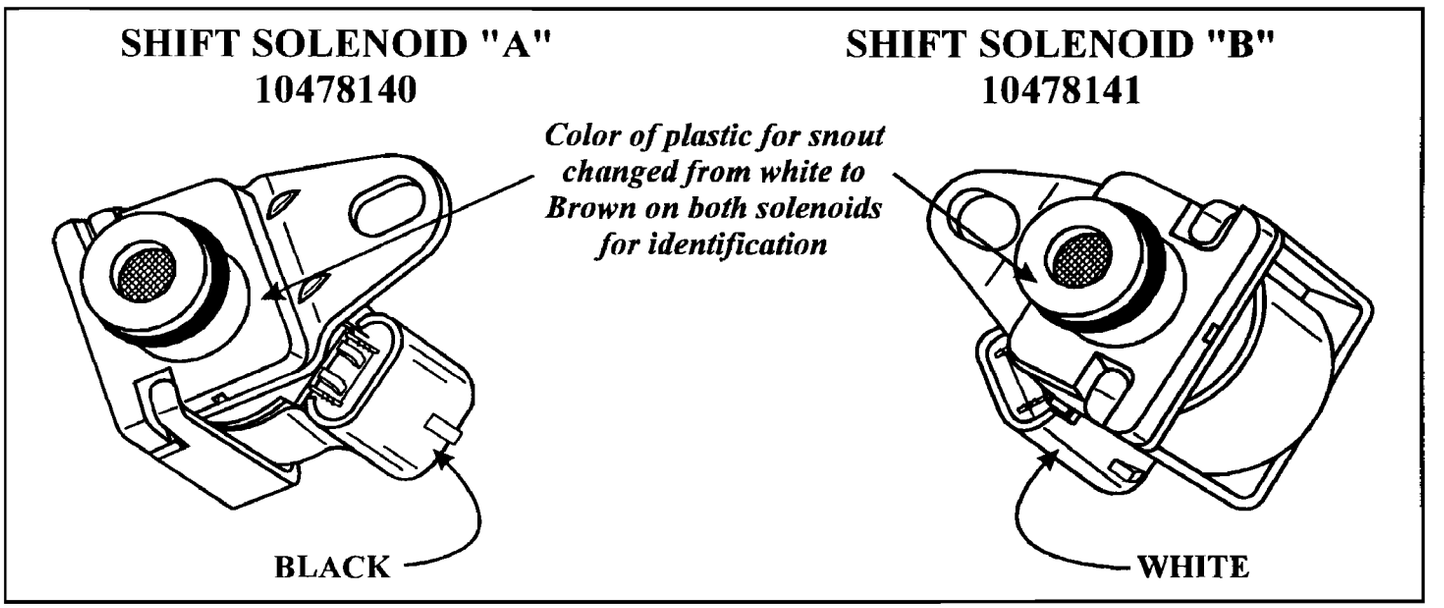


Figure 1

NEW ELECTRONIC PRESSURE CONTROL SOLENOID
PART NUMBER 24209276

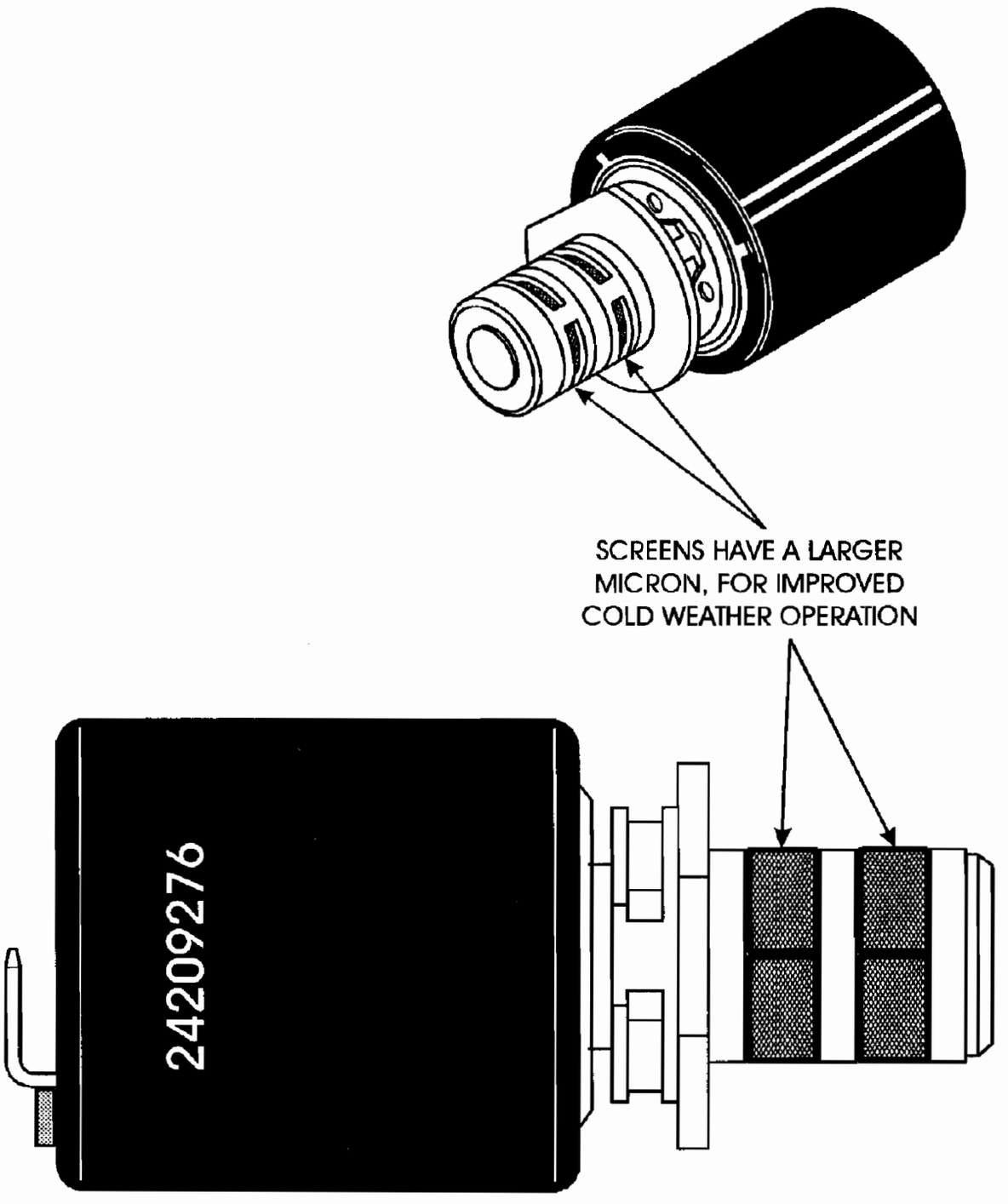


Figure 2

THM 4L80-E/4L80-EHD
1997 MODEL CENTRAL LUBE DISTRIBUTION

CHANGE: Beginning at the start of production for all 1997 models, a new design centralized lubrication system was implemented, with changes that will affect service parts and normal disassembly procedures. Refer to Figures 1, 2, and 3. The new centralized lube distribution system is divided into three independent systems; front, center and rear.

REASON: Provides a more desirable distribution of lube oil flow throughout the transmission to increase reliability and durability.

PARTS AFFECTED:

(1) TRANSMISSION CASE - The return oil cooler line fitting was moved to the rear of the case, in line with the center support, and extends through the case and into the center support through a new metal clad seal in the support, as shown in Figure 3.
This now requires removing the return cooler line fitting, before removing the center support, to eliminate any damage to the related parts.

(2) CENTER SUPPORT - A new metal clad lube seal and a new lube passage were added to the center support, as shown in Figure 3. The center support bushing length has been extended and the grooves modified to connect the reaction carrier bushing lube passage to center lube supply at the outer diameter of the sun gear shaft. The intermediate clutch lube orifice was also reduced. Refer to Figure 3.
These changes now require removing the return cooler line fitting, before removing the center support, to eliminate any damage to the related parts.

(3) FRONT PUMP COVER - The front lube system is supplied oil by the regulated converter feed oil passage through modifications to the oil pump assembly. One oil pump assembly modification, is a machined .048" orifice slot in the pump cover, connecting regulated converter feed oil to the passage which provides oil to the front lube system (See Figure 1).

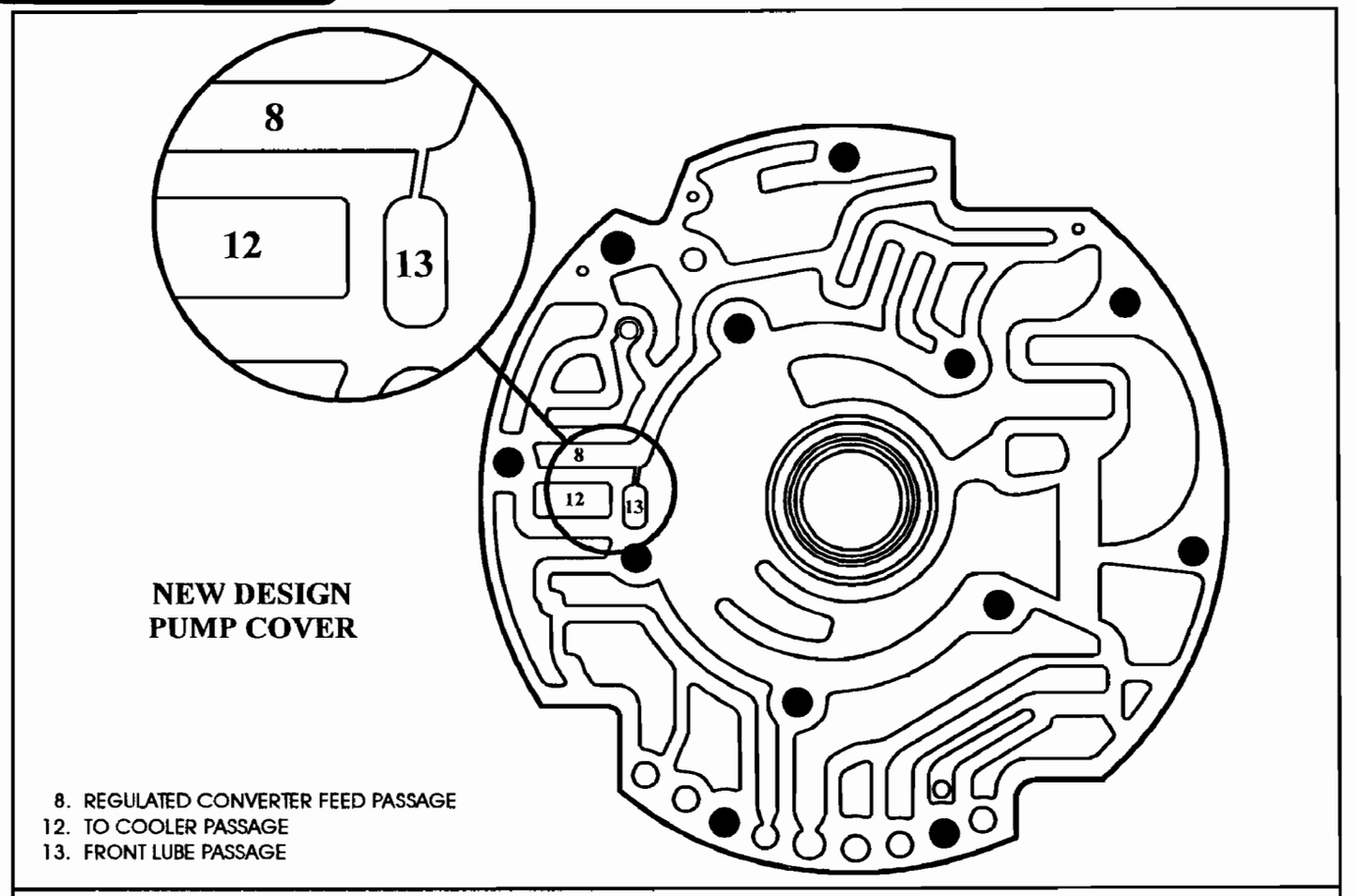
(4) FRONT PUMP BODY - The front pump body was also modified to accommodate the changes made in the pump cover assembly for the front lube passage, as shown in Figure 2.

(5) VALVE BODY - Recieved modifications to accommodate the new rear lube pipe, which provides lubrication to the rear case thrust washer, case bushing and extension housing bushing, as shown in Figure 4.

(6) REAR LUBE PIPE - Has been made shorter, and installed into the acuator feed oil passage at the back of the valve body, as shown in Figure 4. Rear lube is isolated from center lube and provides lube for the rear case thrust washer, case bushing and extension housing bushing.

INTERCHANGEABILITY:

None of the parts listed above will interchange with any of the previous design parts.


8
12
13
8
12
13
NEW DESIGN
PUMP COVER
8. REGULATED CONVERTER FEED PASSAGE
12. TO COOLER PASSAGE
13. FRONT LUBE PASSAGE

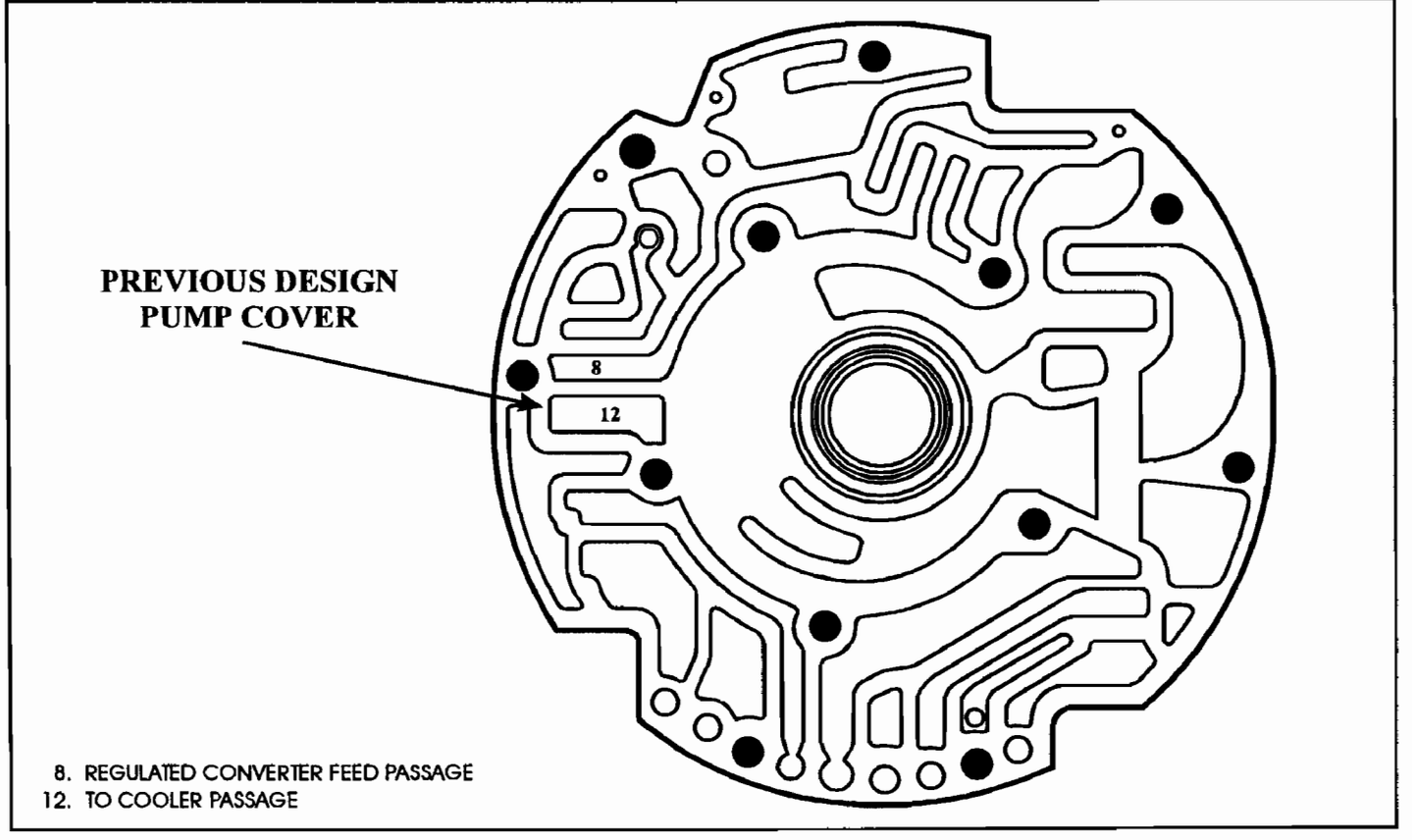
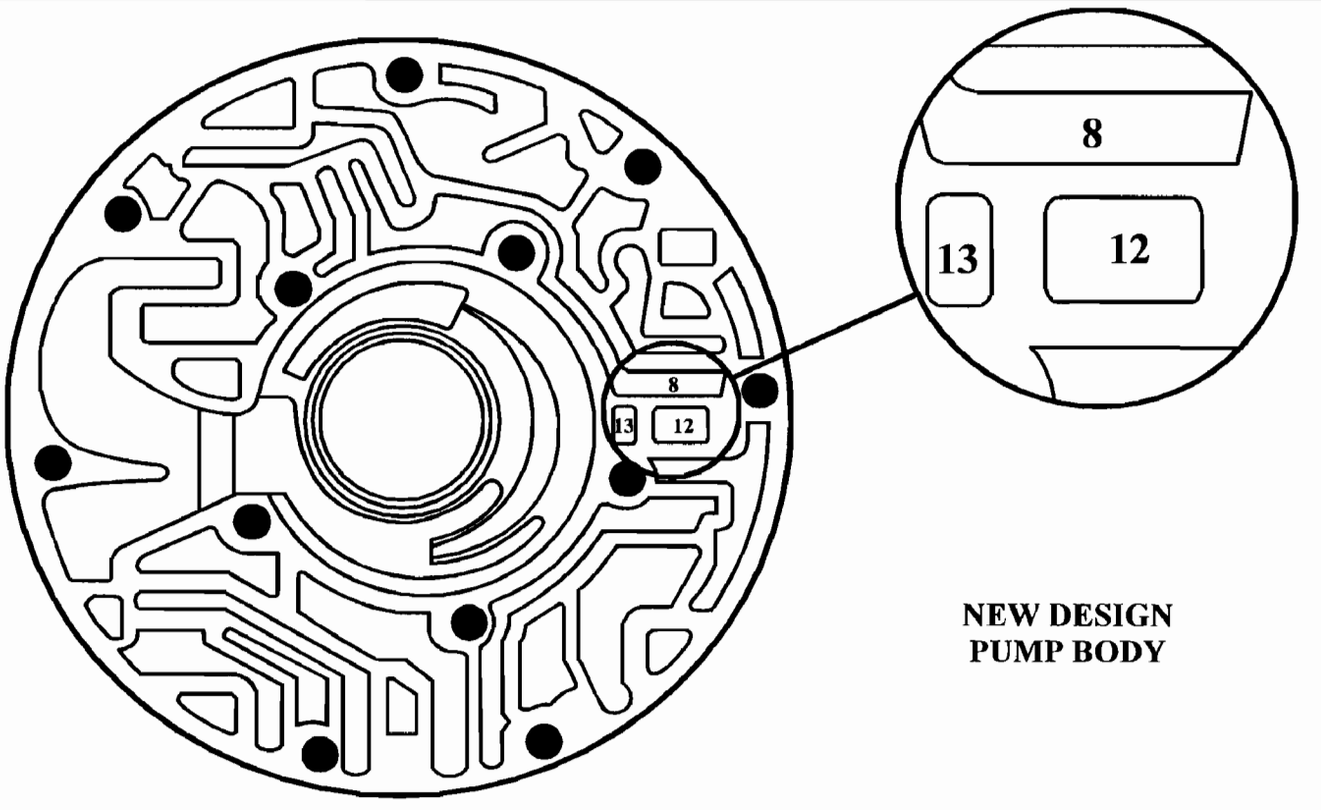
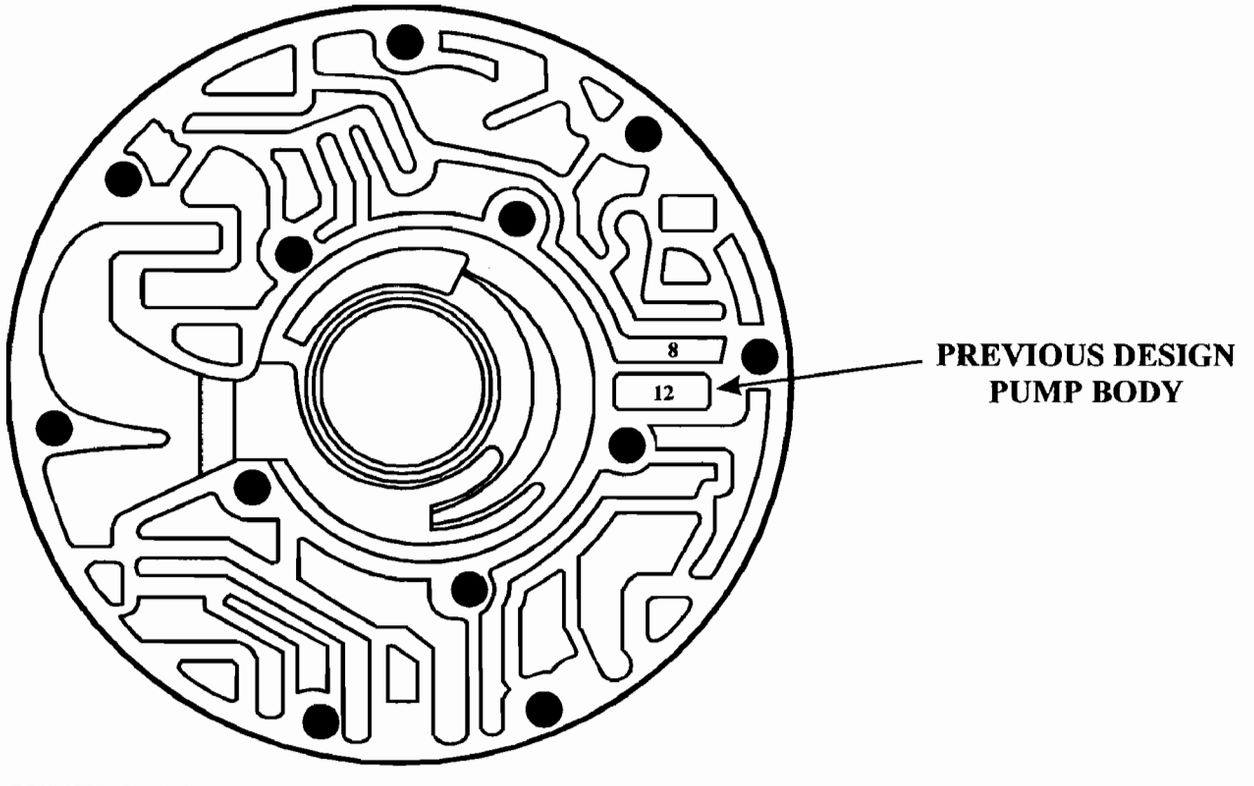

PREVIOUS DESIGN
PUMP COVER
8
12
8. REGULATED CONVERTER FEED PASSAGE
12. TO COOLER PASSAGE

Figure 1



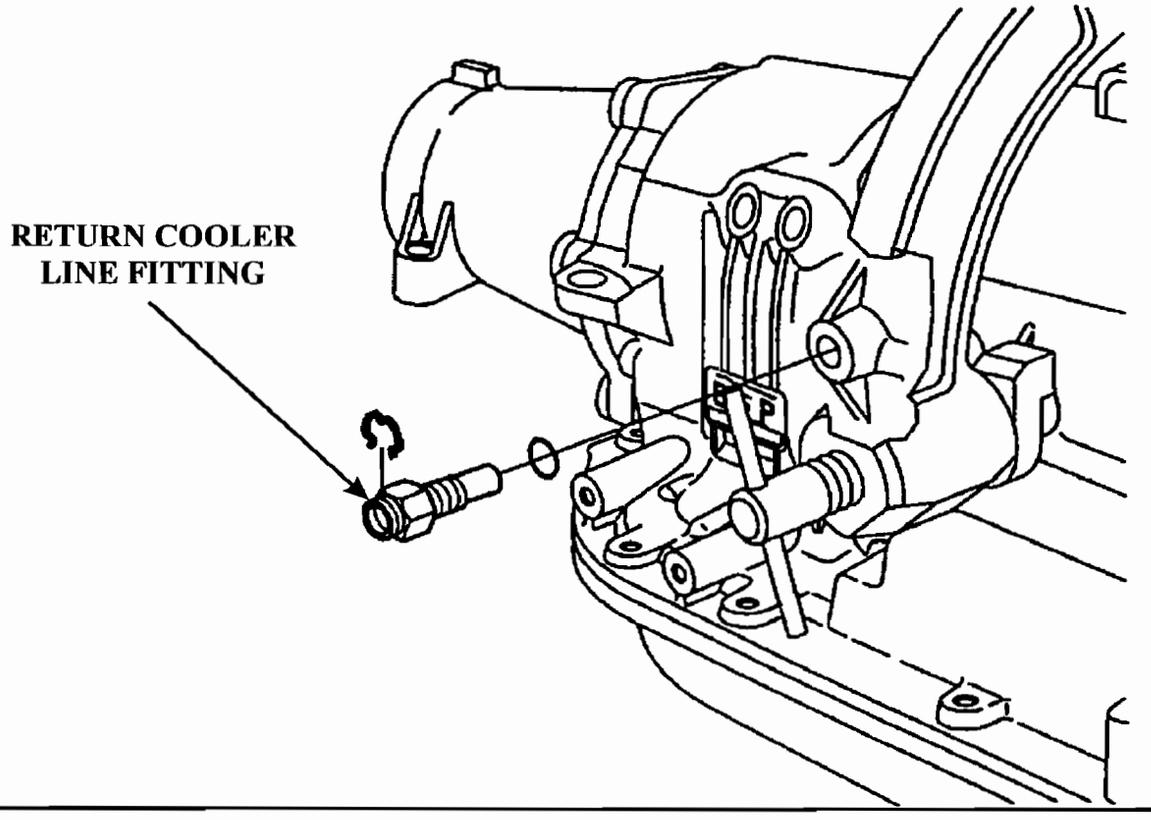
8. REGULATED CONVERTER FEED PASSAGE
12. TO COOLER PASSAGE
13. FRONT LUBE PASSAGE



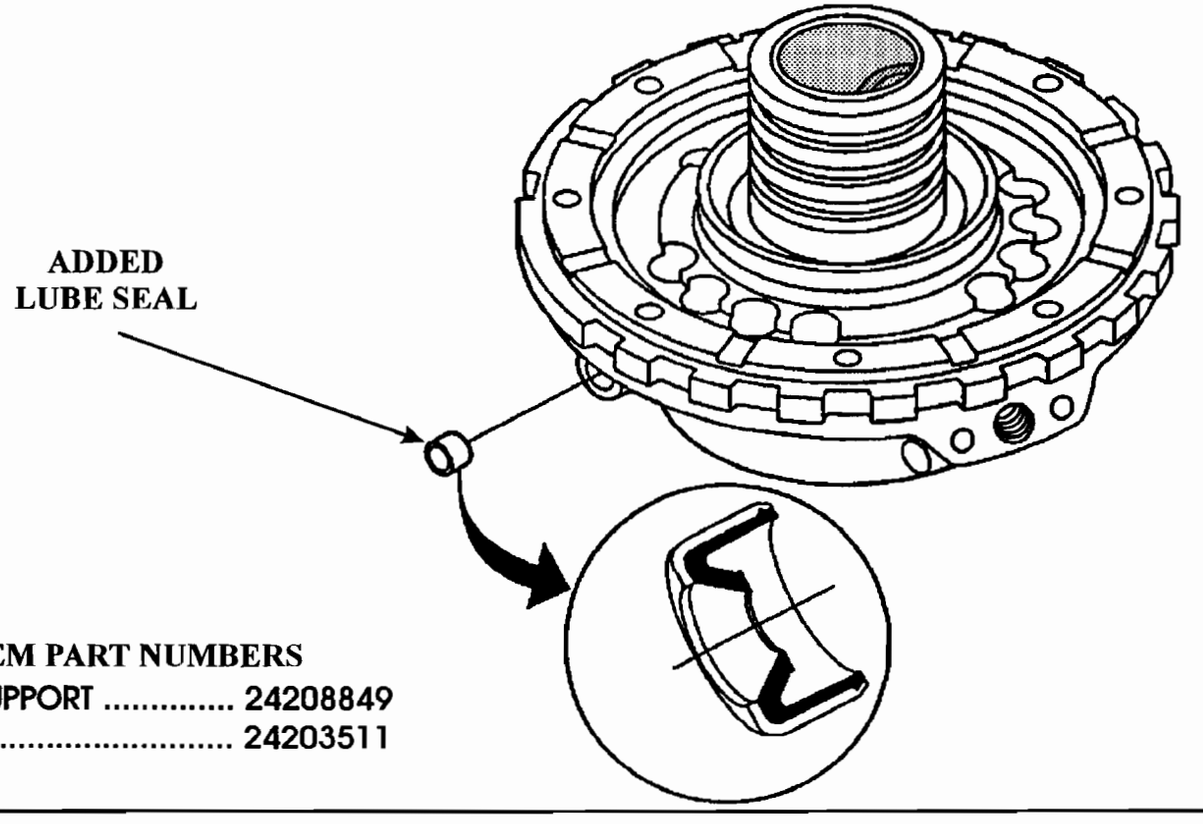
8. REGULATED CONVERTER FEED PASSAGE
12. TO COOLER PASSAGE

Figure 2

1997 MODEL RETURN COOLER LINE FITTING LOCATION



1997 MODEL CENTER SUPPORT WITH LUBE SEAL

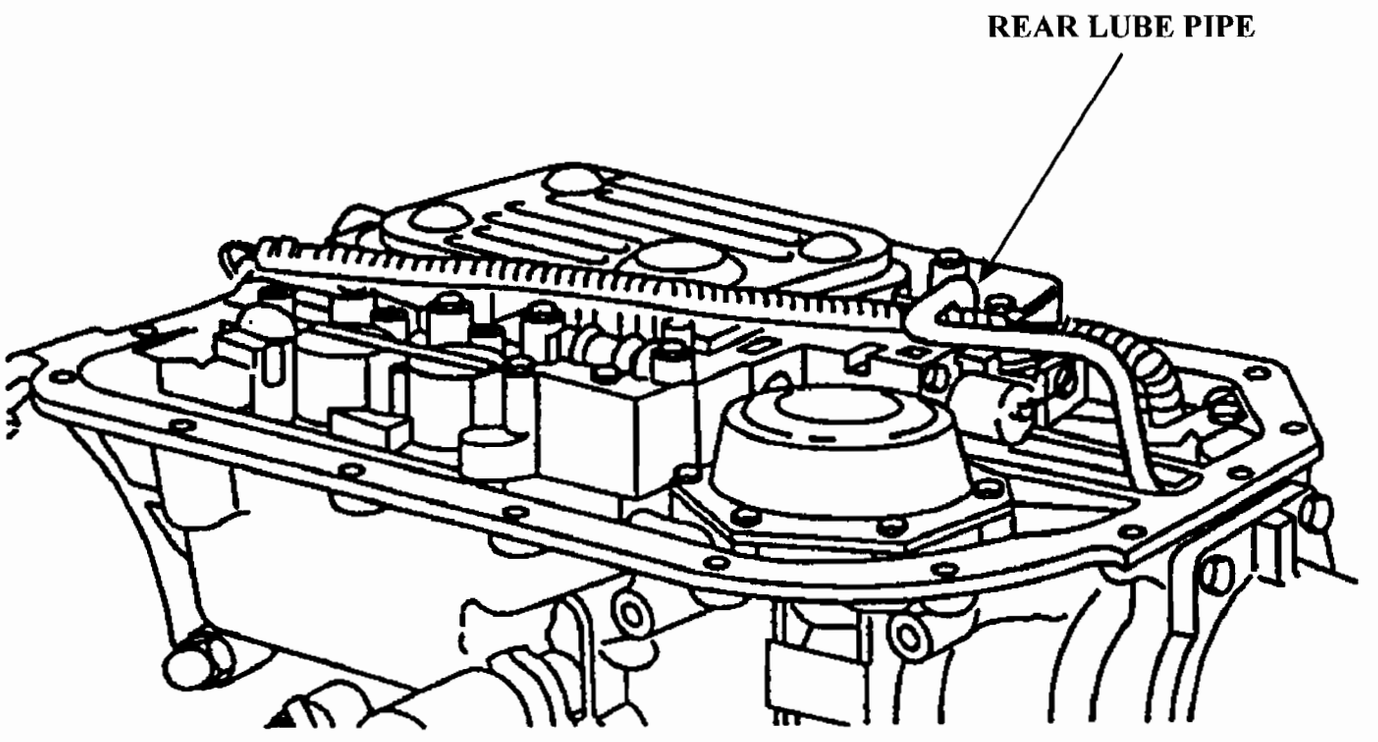


OEM PART NUMBERS

CENTER SUPPORT 24208849
LUBE SEAL 24203511

Figure 3

NEW DESIGN REAR LUBE PIPE



PREVIOUS DESIGN REAR LUBE PIPE

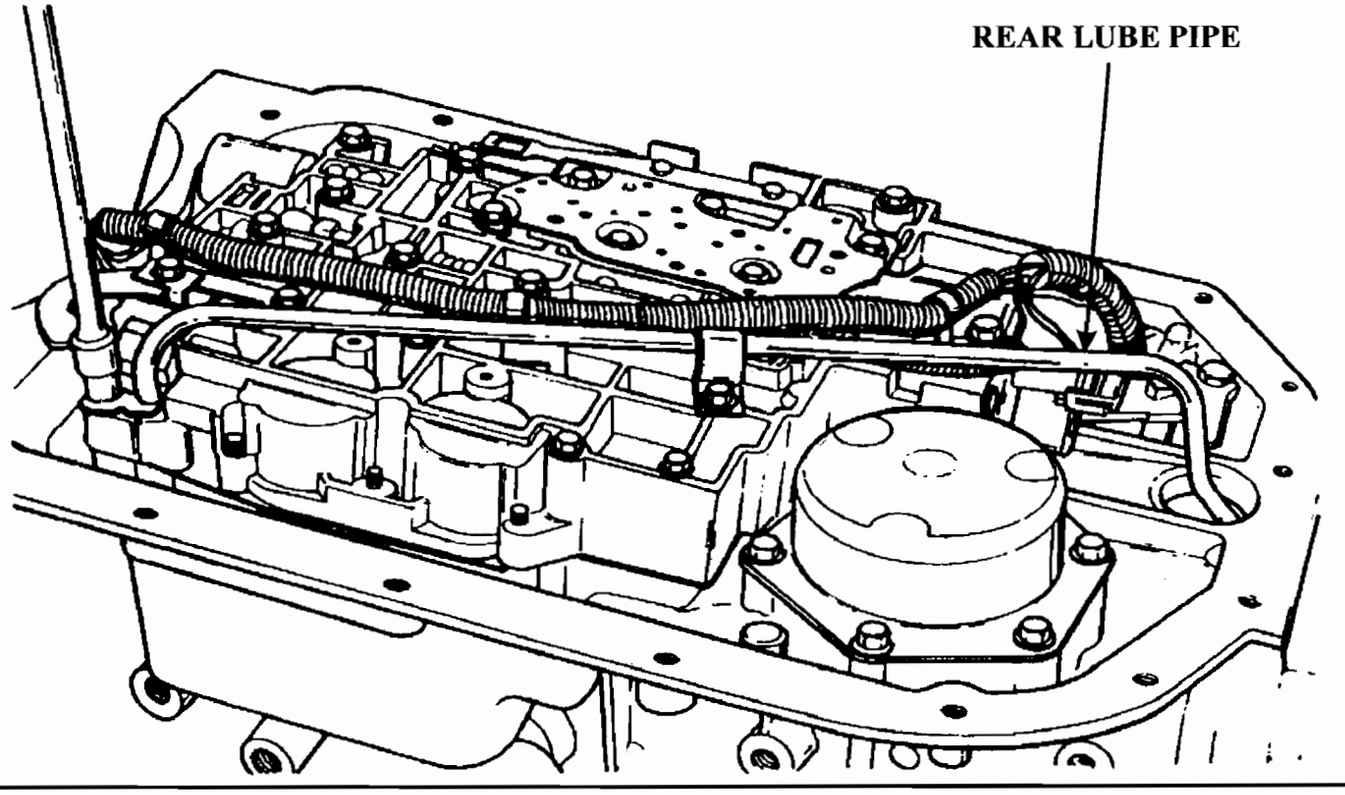


Figure 4

sonnax

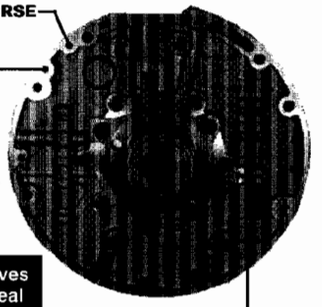
TASC FORCE ✓Approved!

E40D Boost Valve Assembly

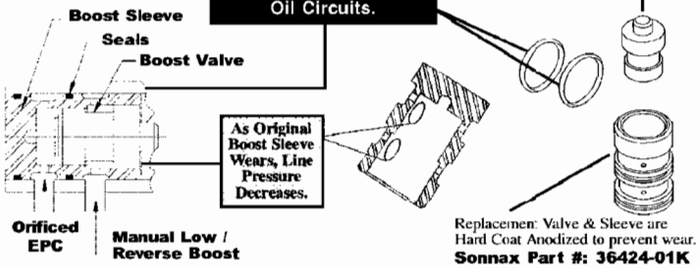
For Increased Line Rise

To Verify A Worn Boost Valve Assembly:

- Wet/Air test with the pump bolted together.
- Any oil cross-leaking is lost boost oil!



Sonnax Boost Sleeves Have O-Rings to Seal Oil Circuits.

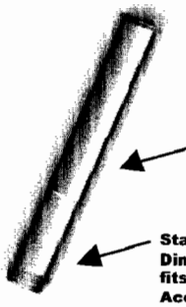


Replacement Valve & Sleeve are Hard Coat Anodized to prevent wear.
Sonnax Part #: 36424-01K

THM700-R4, 200-4R, 325-4L Accumulator Pins

Oversized Accumulator Pins...

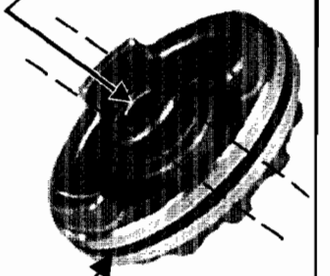
- **Allow Re-use of Original Piston**
- **Numerous Applications for One Pin**
- **No Bushings, Sleeves or Costly Tools**
  (Requires .3150" / 8mm Reamer)
- **Ensure Oil Circuit Integrity**
  (Prevent Cross Leaks, Wrong Gear Starts, Poor Shift Quality - Extend Clutch & Band Life)



Sonnax Part #: 77999
Oversized Pin Allows Use of Original Piston

Standard Dimension here fits Case or Accumulator Housing

Pin Bore Reamed to fit New Oversized Pin

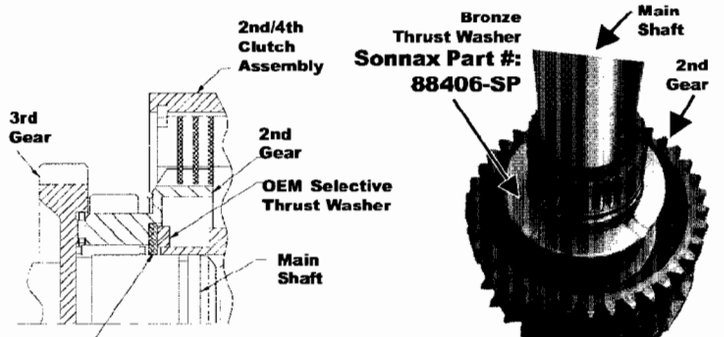


Additional savings can be realized by Lathe Cutting the Shallow Groove Teflon to fit the Viton Seal

Honda Main Shaft 2nd Gear Thrust Washer

(For Honda 4 Speed Transmission Applications)

Allows the salvage of 2nd Gear with damage from the original Thrust Bearing.



Refinish the Gear Surface to approximately 20 micro inches at the Thrust Bearing contact surface. (The Gear must be in working condition. A worn Gear will cause failure.) Install OEM Thrust Washer and Sonnax 88406-SP and then set-up to correct factory end-play. (See installation instructions included with the product.)

ASK YOUR DISTRIBUTOR FOR THESE & MORE TRANSMISSION SPECIALTY ITEMS!

Many New Offerings Coming In 1998:

BOOST VALVES & SLEEVES

ACCUMULATOR PINS

PRESSURE REGULATOR VALVES

THROTTLE VALVE KITS

& MUCH MORE !

Translating Rebuilder Problems Into Parts That Work

P.O. Box 440 • Automatic Drive • Bellows Falls, Vermont 05101-0440 • USA
802-463-9722 • 800-843-2600 • Fax: 802-463-4059 • http://sonnax.com

THM 4L80-E/4L80-EHD

FORWARD AND DIRECT CLUTCH PISTON CHANGES FOR 1997

CHANGE: Beginning at the start of production for 1997, all THM 4180-E transmissions were produced with new design forward and direct clutch piston assemblies that are stamped steel with molded rubber seals, as shown in Figure 1. The new design level forward clutch piston also changes the forward clutch housing, with the addition of a stamped steel forward clutch sleeve with a molded seal, that replaces previous lip seal, as shown in Figure 1.

REASON: Improved park to reverse or drive shift feel, improved clutch durability, and cost savings considerations during the manufacturing process.

PARTS AFFECTED:

(1) FORWARD CLUTCH HOUSING - Has previous intermediate seal groove and intermediate lip seal eliminated, and is now machined to accept a new steel sleeve with a molded seal that replaces the previous lip seal located in the housing, as shown in Figure 1.

(2) FORWARD CLUTCH PISTON - New design piston is stamped steel with molded seals to replace the previous cast aluminum piston, as shown in Figure 1.

(3) FORWARD CLUTCH INTERMEDIATE LIP SEAL - Has been eliminated and replaced with a steel sleeve with the molded seal, as shown in Figure 1. (Currently not serviced seperately)

(4) DIRECT CLUTCH PISTON - New design piston is stamped steel with molded seals to replace the previous design cast aluminum piston, as shown in Figure 1.

(5) WAVE PLATES - Were used to replace the previous design bellville plates in both the forward and the direct clutch housings. There are 2 different thickness selective wave plates.

INTERCHANGEABILITY:

The stamped steel molded rubber seal direct clutch piston ***will*** retro-fit back on all previous models of the THM 4L80-E/4L80-EHD transmissions.

The forward clutch housing will also retro-fit back on all previous models, but ***must*** be used as a complete package, including the stamped steel molded rubber seal piston and the added sleeve with the molded seal (See Figure 1).

SERVICE INFORMATION:

Direct Clutch Piston (Stamped Steel)	24204961
Forward Clutch Piston (Stamped Steel)	24204957
Forward Clutch Housing (Includes Molded Seal)	24208850
Wave Plate, Forward and Direct	24205559
Wave Plate, Forward and Direct	24205560

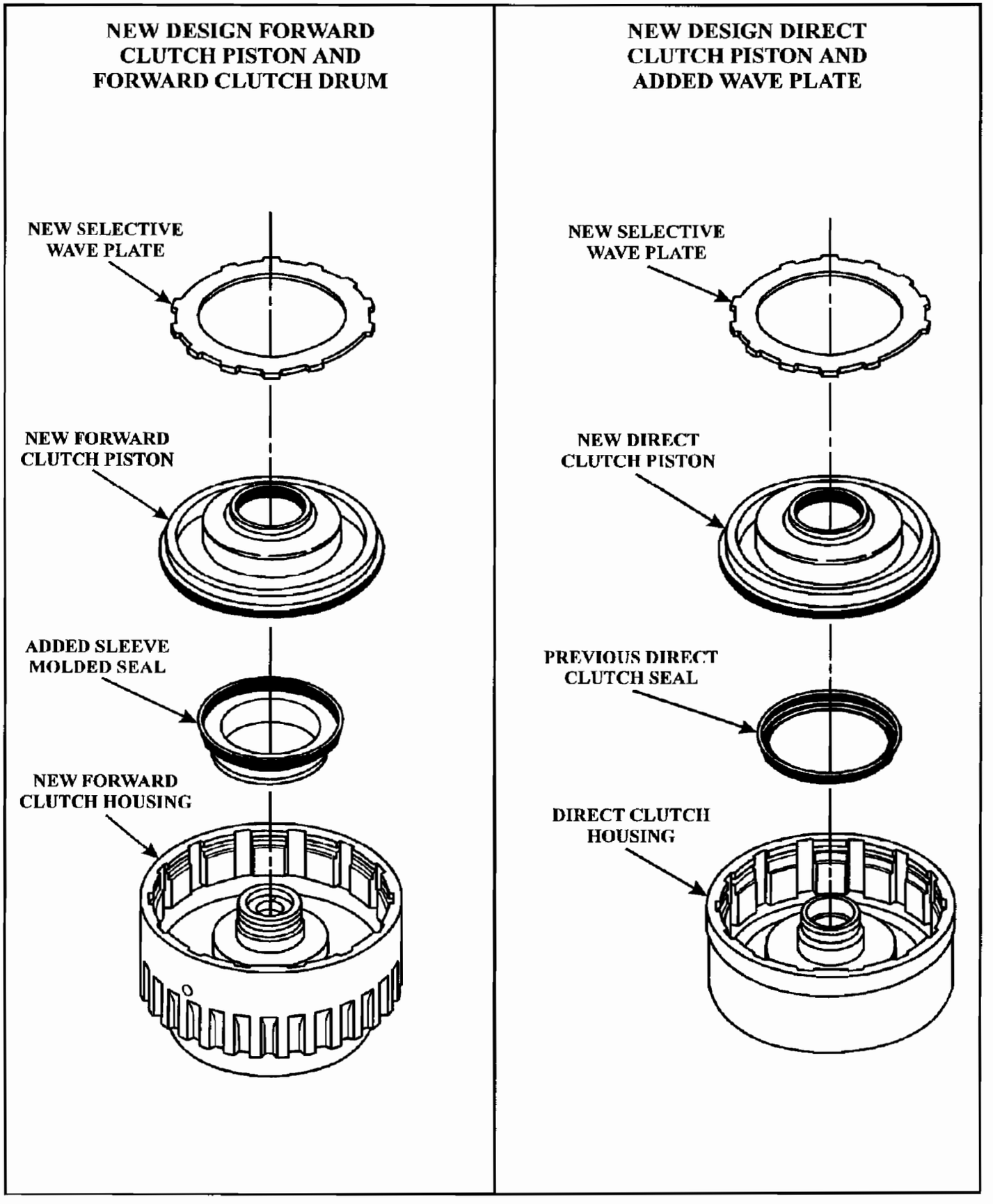

NEW DESIGN FORWARD CLUTCH PISTON AND FORWARD CLUTCH DRUM
NEW SELECTIVE WAVE PLATE
NEW FORWARD CLUTCH PISTON
ADDED SLEEVE MOLDED SEAL
NEW FORWARD CLUTCH HOUSING
NEW DESIGN DIRECT CLUTCH PISTON AND ADDED WAVE PLATE
NEW SELECTIVE WAVE PLATE
NEW DIRECT CLUTCH PISTON
PREVIOUS DIRECT CLUTCH SEAL
DIRECT CLUTCH HOUSING

Figure 1

THM 4L80-E/4L80-EHD

NEW DESIGN OIL FILTER AND BOTTOM PAN FOR 1997 MODELS

CHANGE: Beginning at the start of production for all 1997 model THM 4L80-E transmissions, were built with a new design bottom pan filter and a contoured bottom pan with a drain plug.

REASON: Improved line pressure response times during low temperature garage shift maneuvers, and reduces air ingestion and flow limitations at acute vehicle angles.

PARTS AFFECTED:

(1) BOTTOM PAN - The new design oil pan has a contoured shape, is 7mm (.275") deeper than the previous model oil pan, and has an oil level indicator stop incorporated into the oil pan stamping (See Figure 1).

(2) OIL FILTER - The new design oil filter has an inlet which extends deeper into the sump, and four raised "Dimples" to retain the oil filter in the filter neck seal. We have provided illustrations of the bottom of both oil filters in Figure 2, and illustrations of the oil filter profile in Figure 3, for purposes of identification.

INTERCHANGEABILITY:

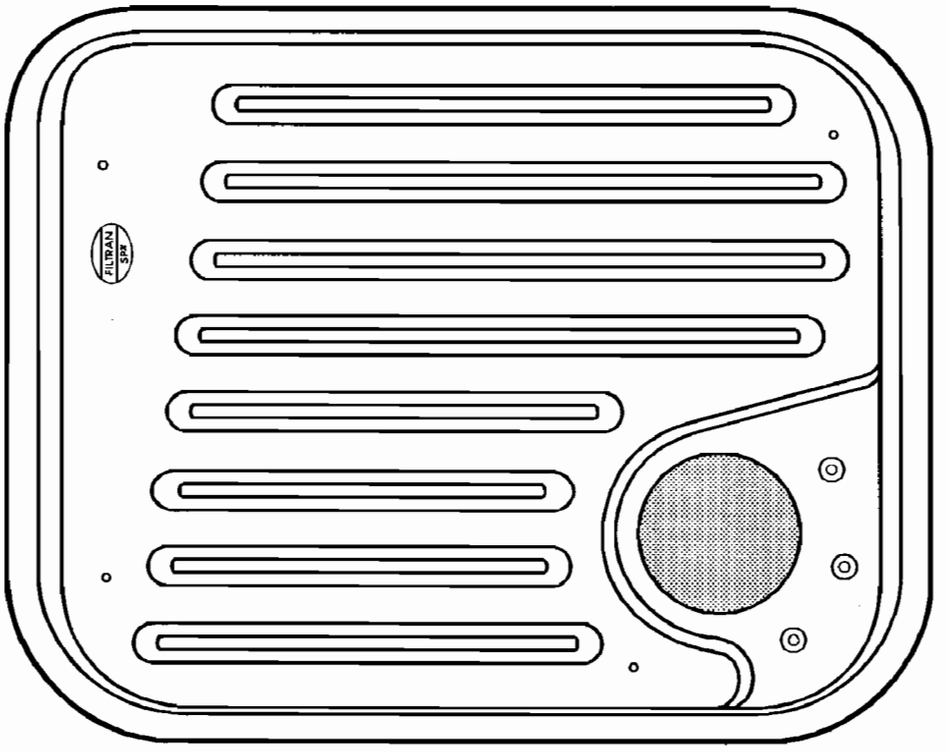
The new design oil filter ***must*** be used with the new design oil pan.

SERVICE INFORMATION:

Bottom Pan Oil Filter (97 Design with 4th Stand-off) 24210956

PREVIOUS MODEL THM 4L80-E OIL FILTER

Bottom View



1997 MODEL THM 4L80-E OIL FILTER

Bottom View

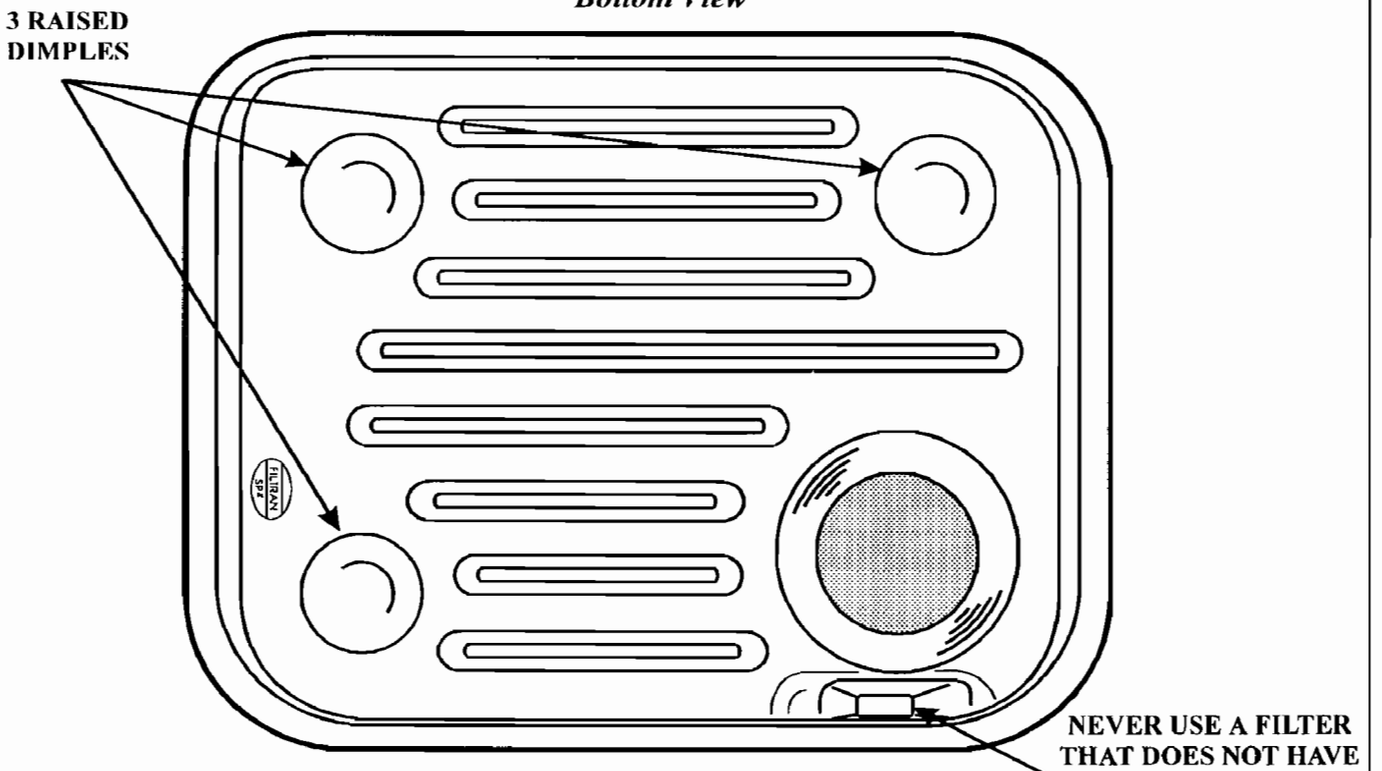
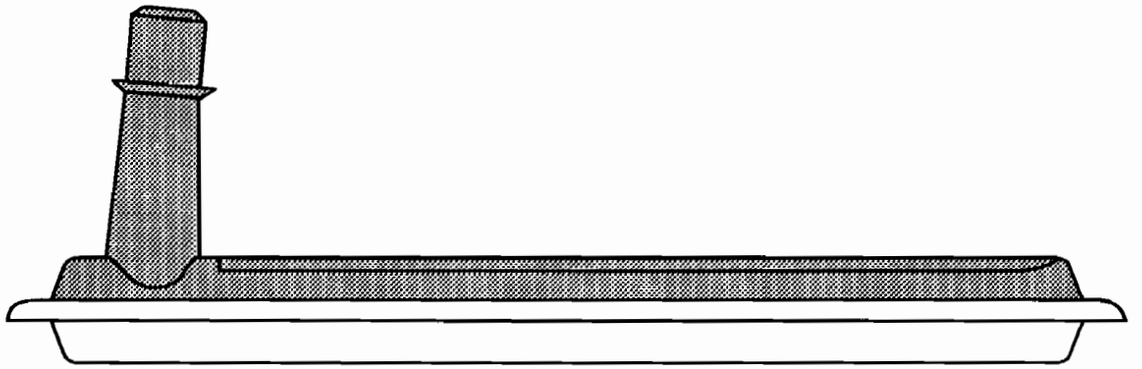


Figure 2

PREVIOUS MODEL THM 4L80-E OIL FILTER
Side Profile View



1997 MODEL THM 4L80-E OIL FILTER
Side Profile View

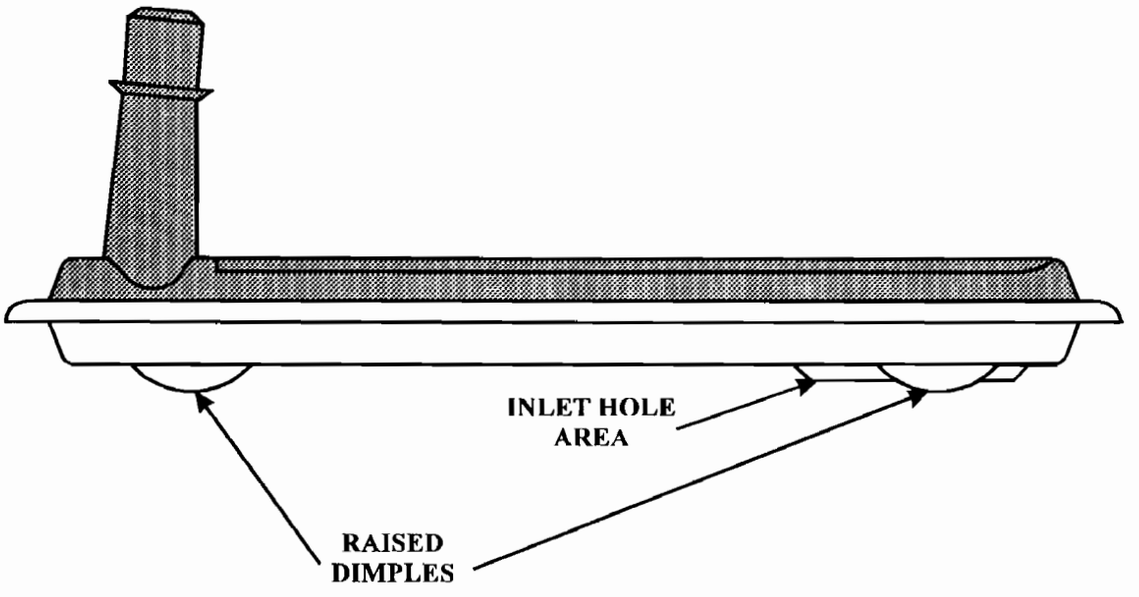


Figure 3

1997 MODEL THM 4L80-E BOTTOM PAN

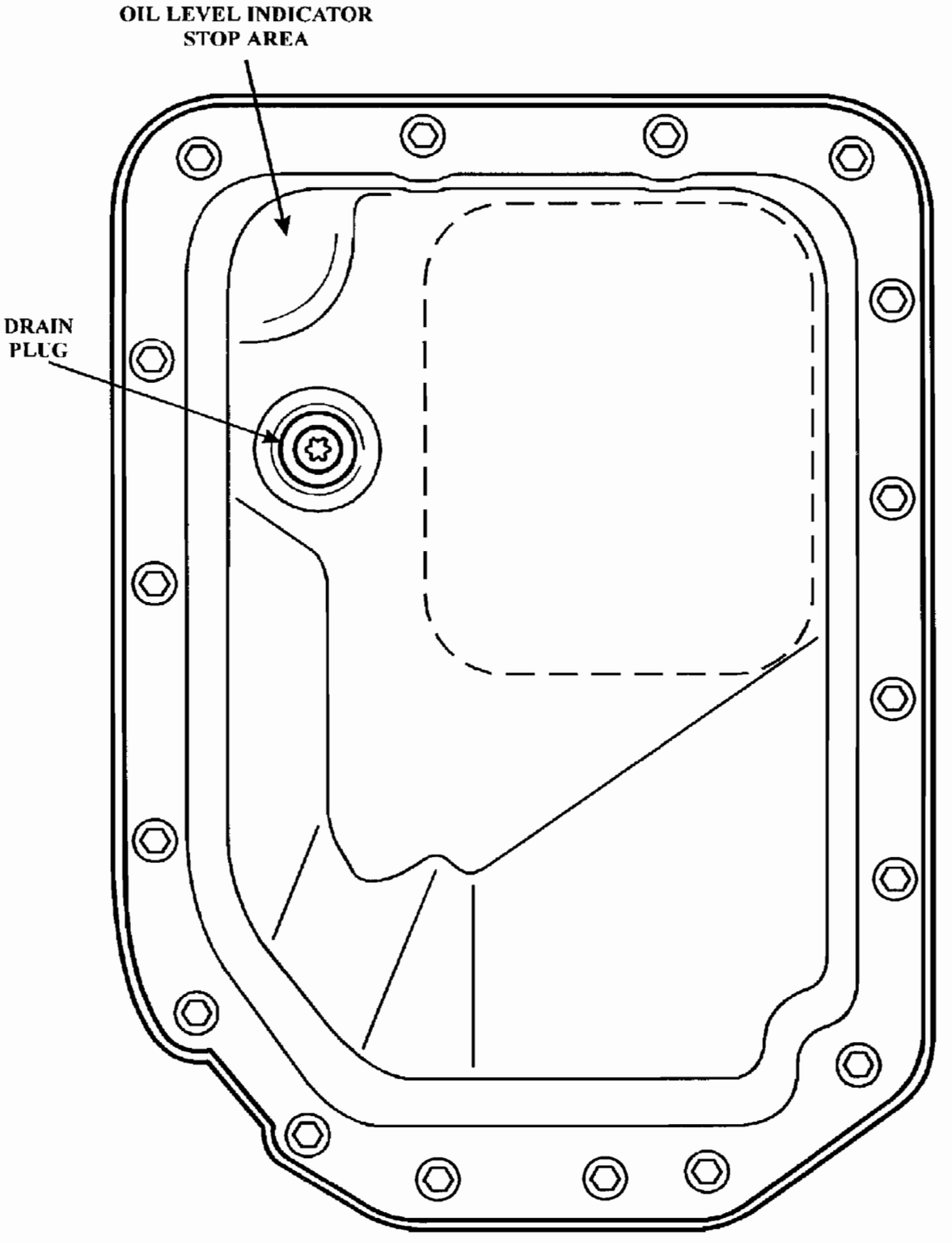


Figure 1

THM 4L80-E/4L80-EHD
NEW DESIGN FOURTH AND OVERRUN CLUTCH STEEL PLATES

CHANGE: Beginning at the start of production for all 1997 model THM 4L80-E transmissions were built with new design steel plates for both the fourth clutch and the overrun clutch, which now include "Turbulator" holes in the plates (See Figure 1).

REASON: The holes interrupt fluid surface pressure to inprove efficiency.

PARTS AFFECTED:

(1) OVERRUN STEEL PLATES - New design has seven holes in the steel plates (See Figure 1).

(2) 4TH CLUTCH STEEL PLATES - New design has four holes in steel plates (See Figure 1).

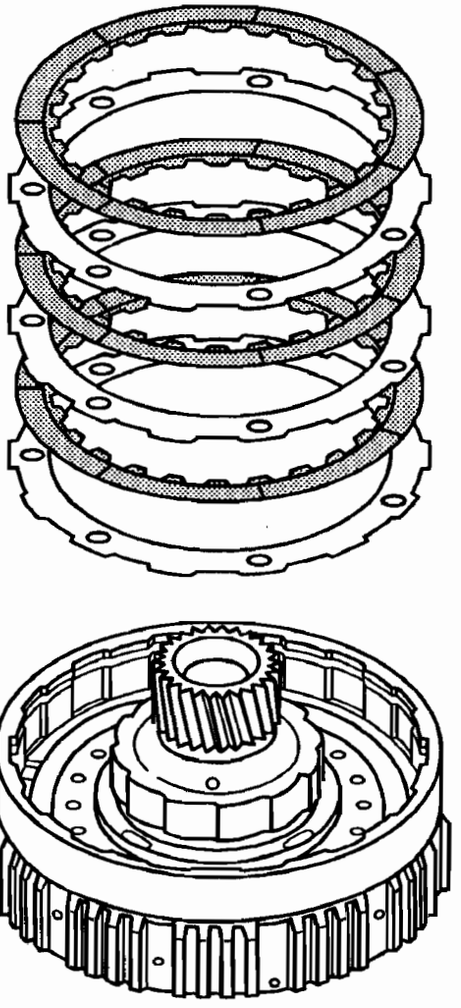
INTERCHANGEABILITY:

The new design steel plates are not recommended for previous models because of calibration considerations and changes.

SERVICE INFORMATION:

Fourth Clutch Steel Plates (With Holes) 24204283
Overrun Clutch Steel Plates (With Holes) 24204287

1997 MODEL OVERRUN CLUTCH ASSEMBLY



1997 MODEL FOURTH CLUTCH ASSEMBLY

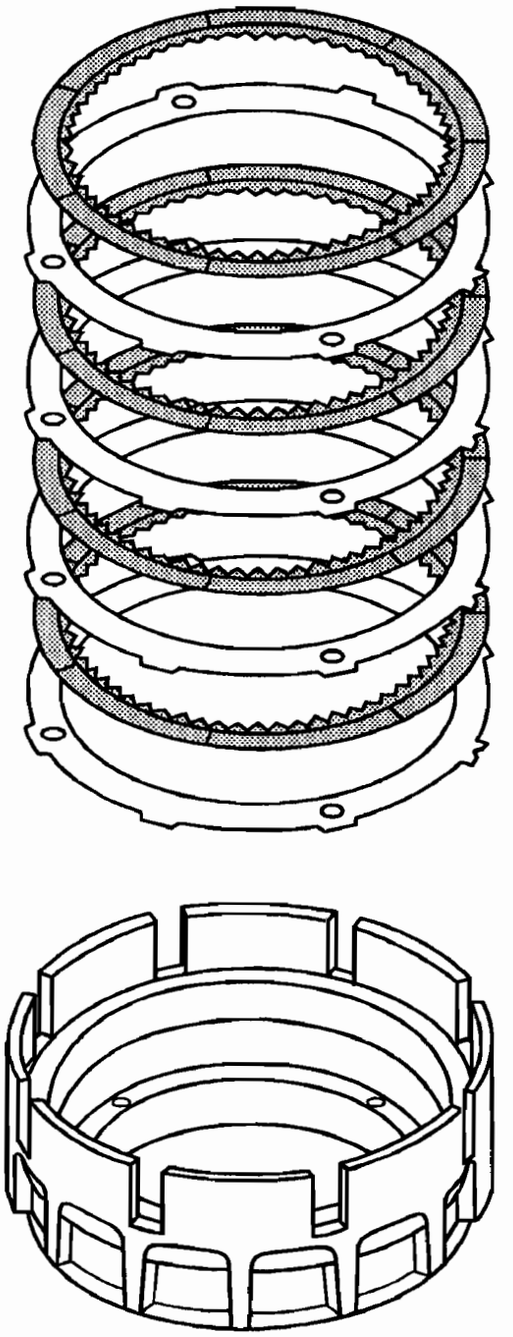


Figure 1

THM 4L80-E/4L80-EHD

TROUBLE CODE 68 IN OVERDRIVE
TROUBLE CODE 39 IN DRIVE 3
ALL ELECTRICAL OKAY

COMPLAINT: After rebuild, the vehicle displays a no converter clutch condition, stores trouble code 68 when the vehicle is driven in the Overdrive gear selector position, and stores trouble code 39 when the vehicle is driven in the "D3" gear selector position.

CAUSE: There are many electrical and mechanical reasons for these codes to be stored. After all of the electrical has been eliminated, the cause may be the TCC Enable Valve, in the pump cover assembly is in backwards.

CORRECTION: Remove the pump assembly and install the TCC Enable Valve in the direction that is shown in Figure 1, and ensure free movement after installation.

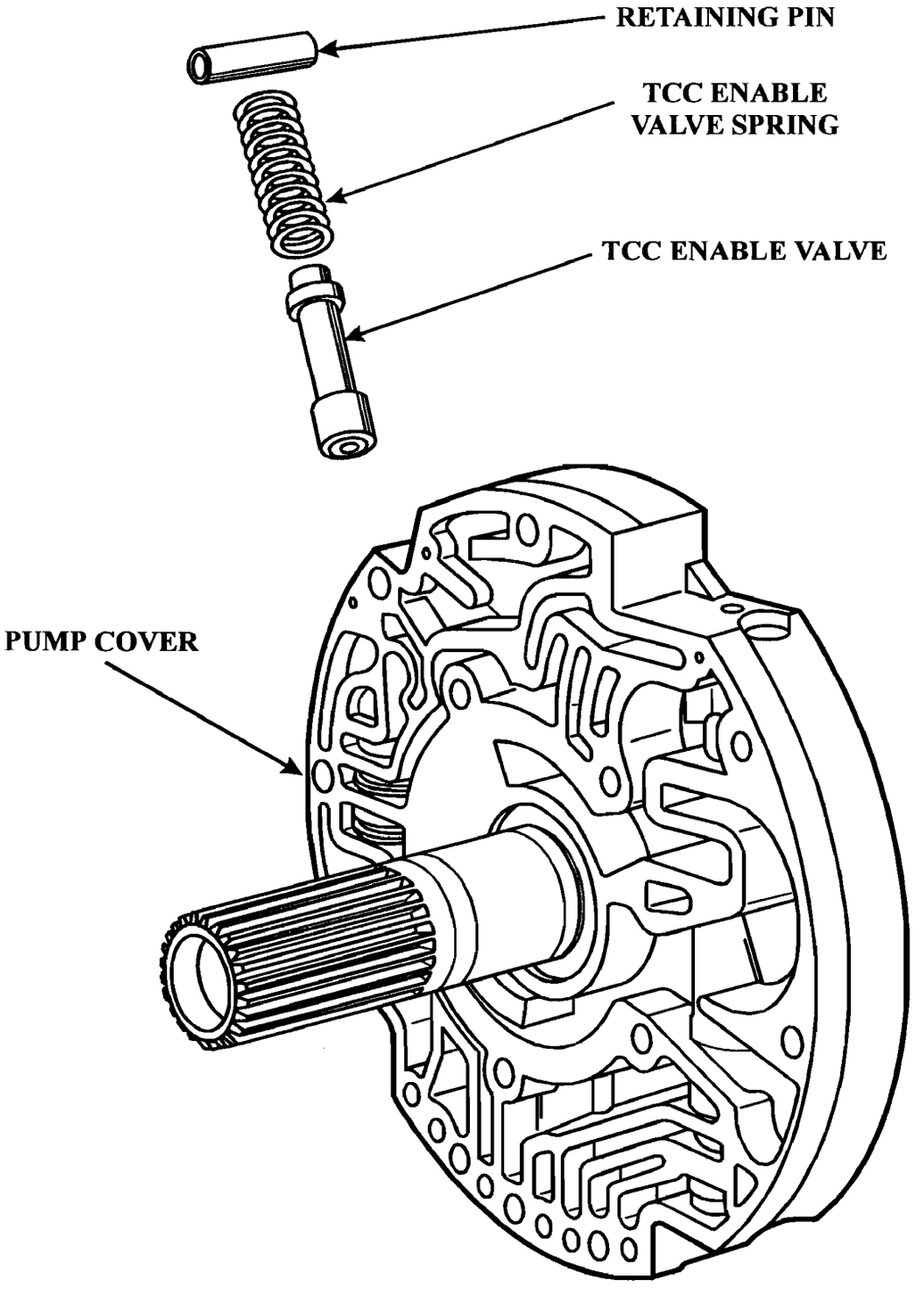

RETAINING PIN
TCC ENABLE VALVE SPRING
TCC ENABLE VALVE
PUMP COVER

Figure 1

THM 4T40-E
TRANSAXLE CASE, CHANNEL PLATE AND CHECKBALL LOCATION CHANGES FOR 1997

CHANGE: Beginning in the middle of the 1997 model year, the transaxle case, channel plate and the checkball locations were changed on all THM 4T40-E transaxles, that may create some confusion for service.

REASON: Improved clutch durability, and improved 4-2 downshift.

PARTS AFFECTED:

(1) TRANSAXLE CASE - Added boss and the second threaded hole to the case in the area shown in Figure 2, to accommodate valve body bolt and channel plate changes for improved clamping. The previous design case, with the single boss and hole is shown in Figure 1.

(2) CHANNEL PLATE - New casting with an added boss, and one of the threaded holes in the channel plate changes to a non-threaded hole to accomodate the valve body bolt changes for improved clamping force. The previous design channel plate is shown in Figure 3, and the new design channel plate is shown in Figure 4.

(3) CHECKBALL LOCATIONS - The number 6 checkball moves from the direct clutch apply circuit, and into the 2-3 accumulator circuit. There were no changes in worm track configuration, however we also show the "Threaded" hole that changed to a "Non-Threaded" hole in the channel plate. Refer to Figure 5 for 1995-1996 checkball locations, and Figure 6 for the 1997-Up checkball locations.

(4) SPACER PLATE - The number 45 exhaust passage in the spacer plate has changed from a rectangular hole to a small oval hole, as shown in Figure 7.

(5) DRIVEN SPROCKET SUPPORT - Ball capsule added in the direct clutch circuit to act as an air bleed to improve direct clutch apply, as shown in Figure 8.

INTERCHANGEABILITY:

NONE of the parts listed above will interchange with previous design level transaxles. Any transaxle using the ball capsule in the direct clutch circuit must use the 1997 channel plate and all associated parts listed above.

1995-1996 TRANSAXLE CASE

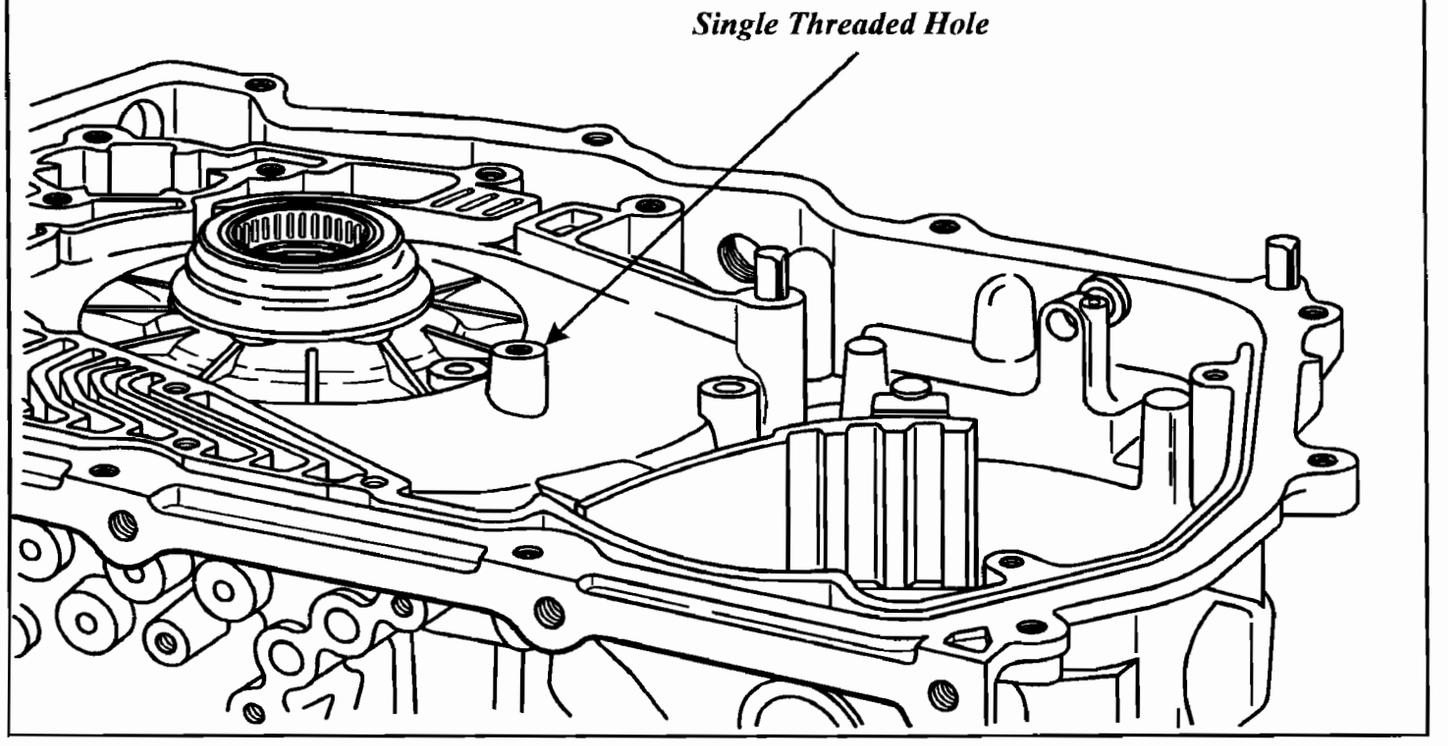


Figure 1

1997-UP TRANSAXLE CASE

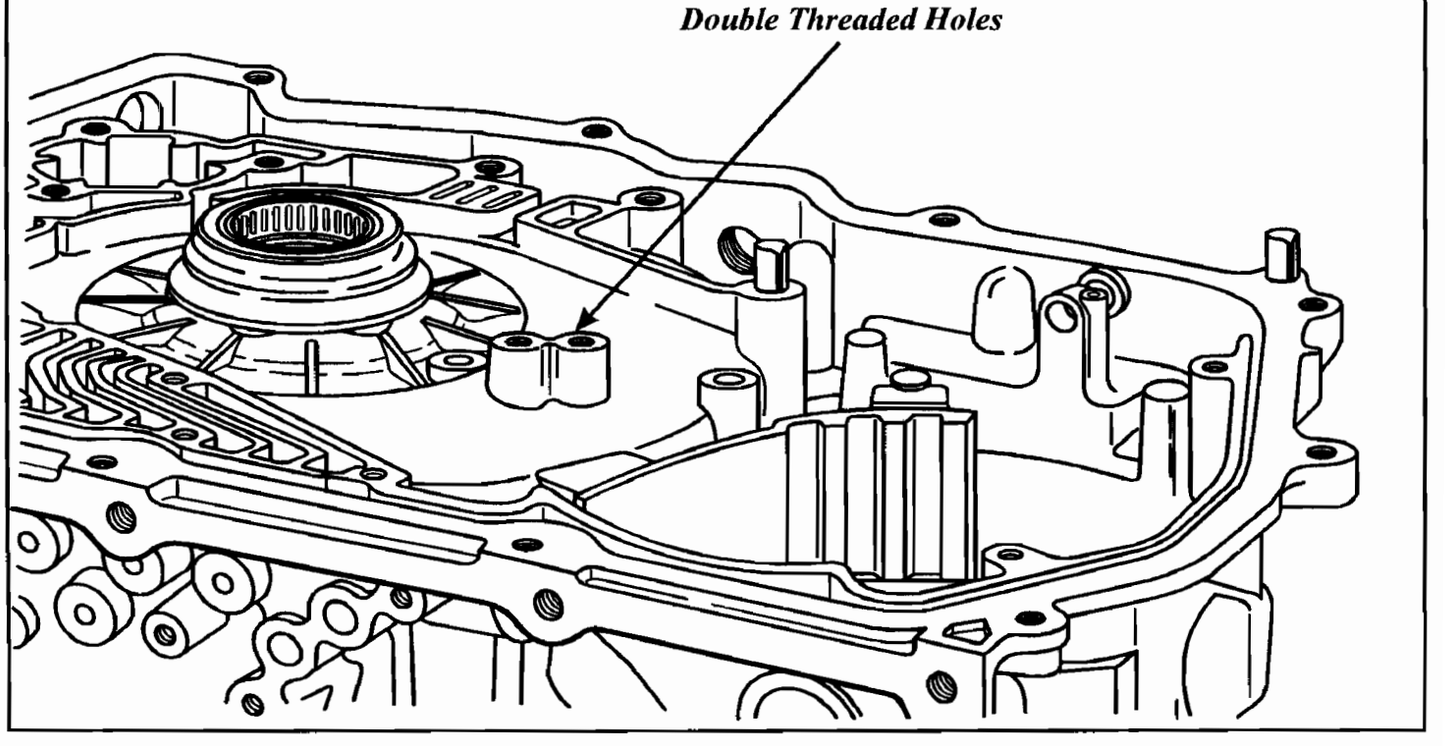


Figure 2

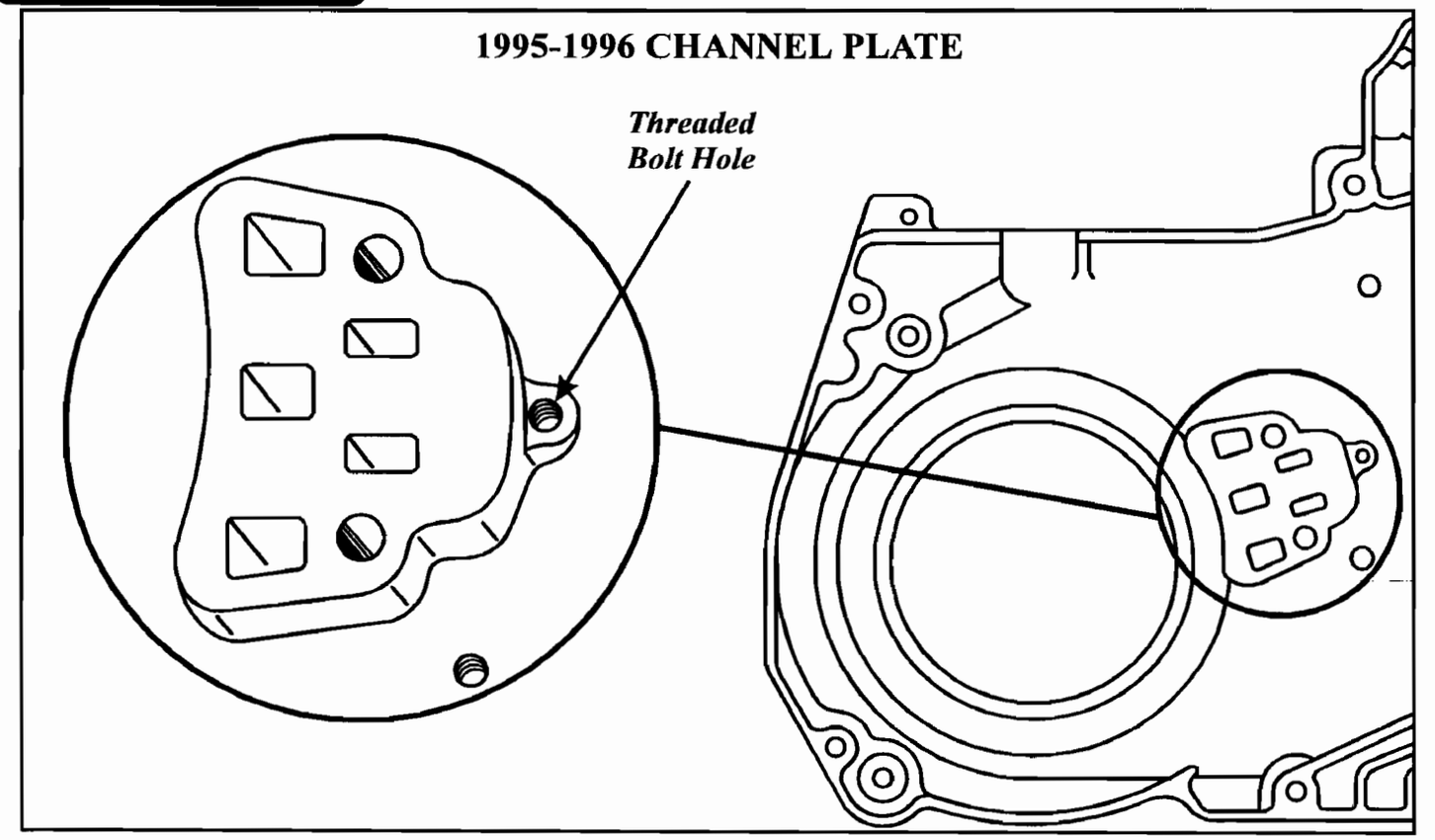


Figure 3

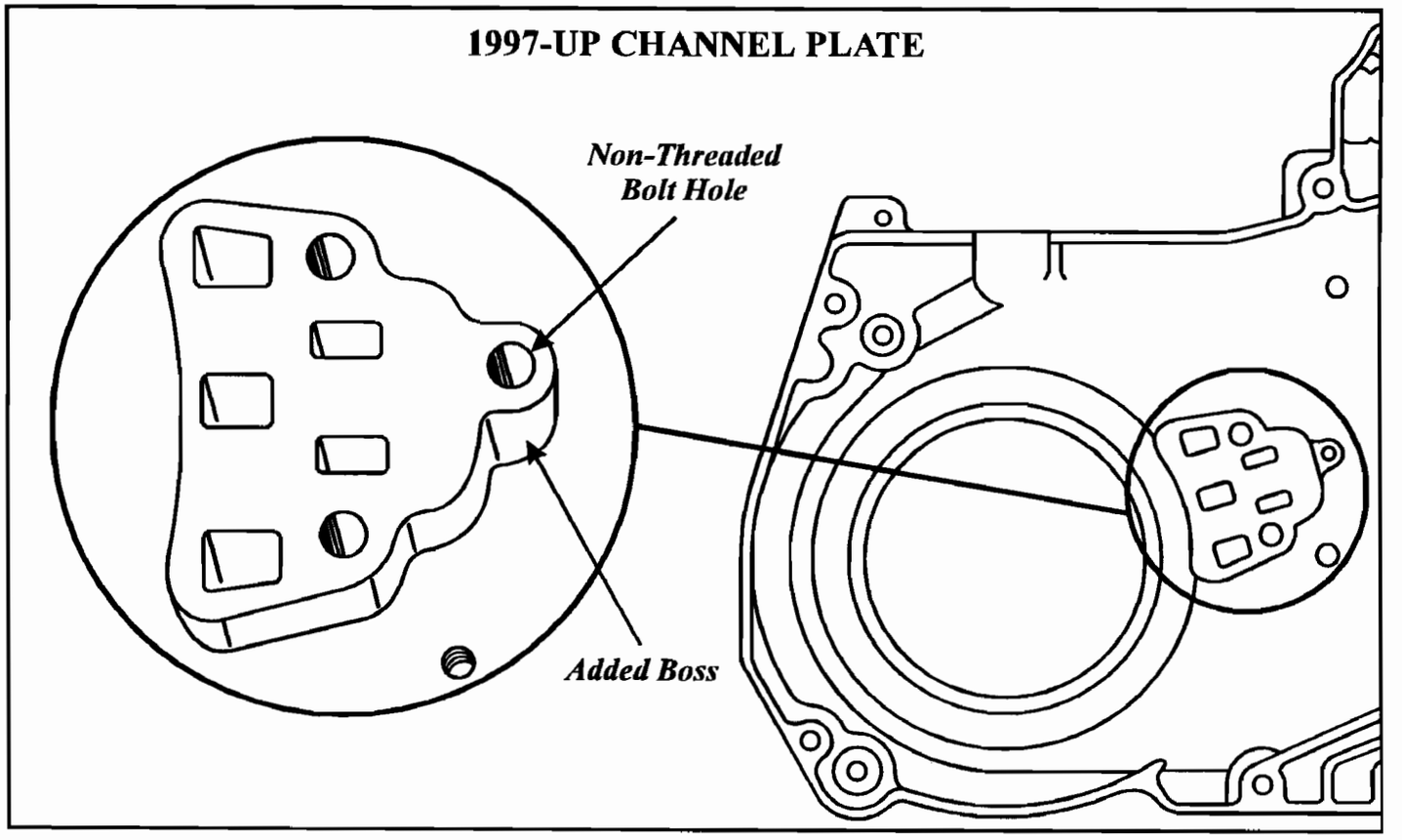
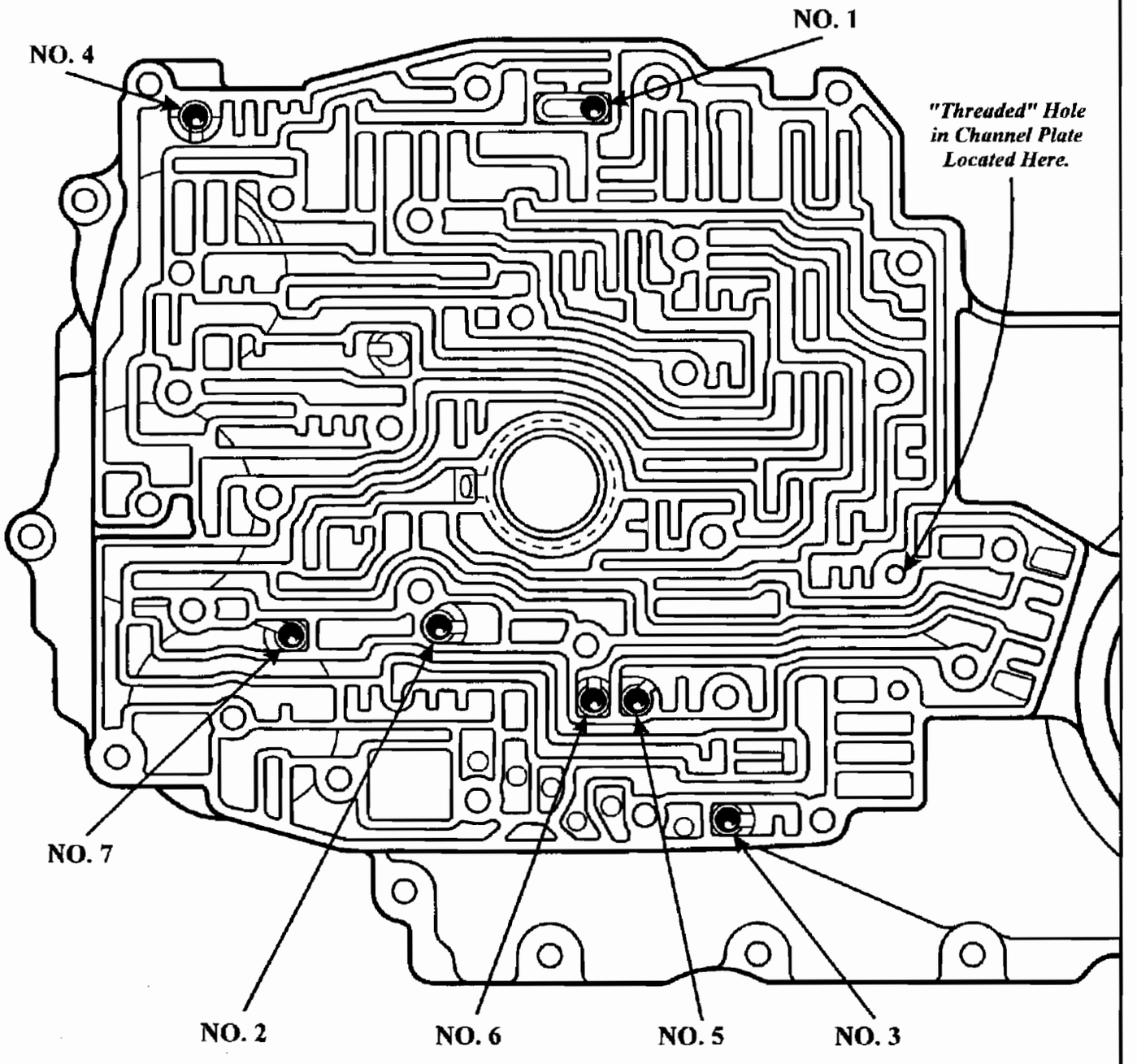


Figure 4

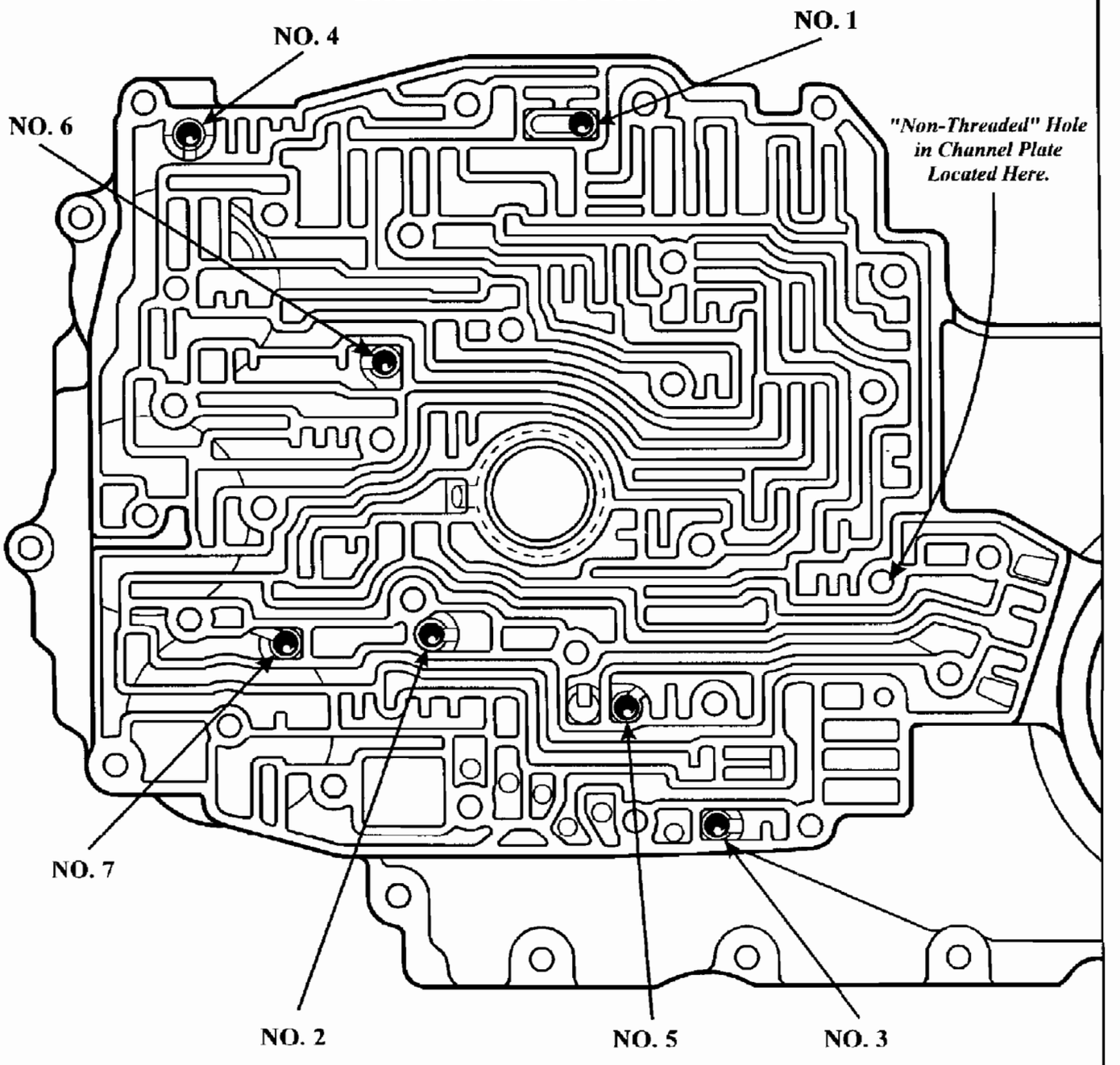
THM 4T40-E *1995-1996 MODELS ONLY*
CHECKBALL LOCATIONS



NO. 1 SEPERATES LO/PRN FLUID CIRCUITS.
NO. 2 FORCES 2-3 DRIVE FLUID THRU ORIFICE #3 TO CONTROL 1-2 SHIFT FEEL.
NO. 3 FORCES INTERMEDIATE BAND APPLY OIL THRU ORIFICE #8 FOR APPLY FEEL.
NO. 4 FORCES ACCUMULATOR OIL THRU ORIFICE #24 TO THE 1-2 ACCUMULATOR.
NO. 5 FORCES 3-4 DRIVE OIL THRU ORIFICE #26 TO CONTROL 2-3 SHIFT FEEL.
NO. 6 FORCES EXHAUSTING DIRECT CLUTCH OIL THRU ORIFICE #25 TO CONTROL RELEASE. OF DIRECT CLUTCH.
NO. 7 FORCES ACCUMULATOR OIL THRU ORIFICE #28 TO THE 3-4 ACCUMULATOR.

Figure 5

THM 4T40-E *1997-UP MODELS ONLY*
CHECKBALL LOCATIONS



NO. 1 SEPERATES LO/PRN FLUID CIRCUITS.
NO. 2 FORCES 2-3 DRIVE FLUID THRU ORIFICE #3 TO CONTROL 1-2 SHIFT FEEL.
NO. 3 FORCES INTERMEDIATE BAND APPLY OIL THRU ORIFICE #8 FOR APPLY FEEL.
NO. 4 FORCES ACCUMULATOR OIL THRU ORIFICE #24 TO THE 1-2 ACCUMULATOR.
NO. 5 FORCES 3-4 DRIVE OIL THRU ORIFICE #26 TO CONTROL 2-3 SHIFT FEEL.
NO. 6 FORCES ACCUMULATOR OIL THRU ORIFICE #27 TO THE 2-3 ACCUMULATOR.
NO. 7 FORCES ACCUMULATOR OIL THRU ORIFICE #28 TO THE 3-4 ACCUMULATOR.

Figure 6

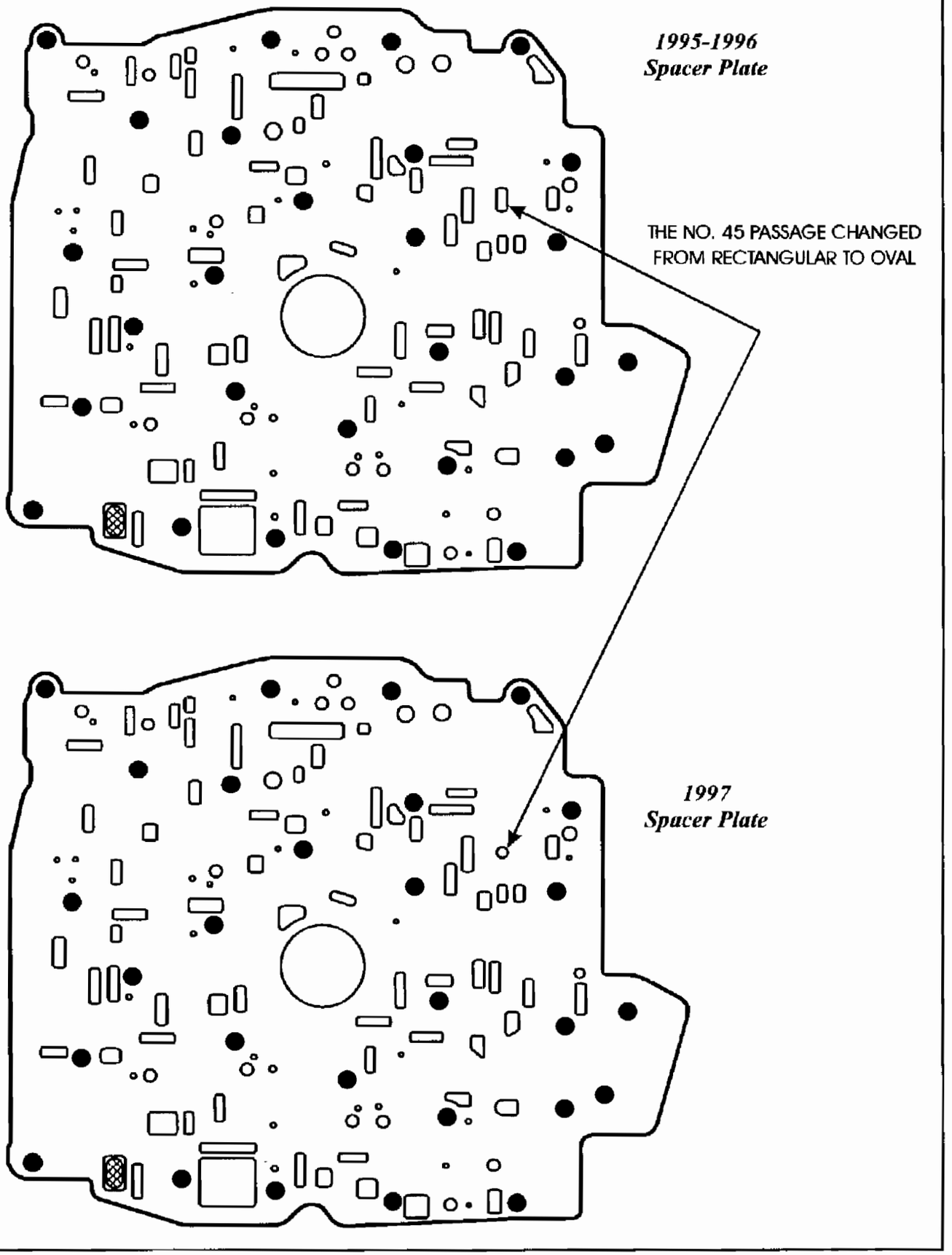

1995-1996
Spacer Plate
THE NO. 45 PASSAGE CHANGED
FROM RECTANGULAR TO OVAL
1997
Spacer Plate

Figure 7

THM 4T40-E *1997-UP MODELS ONLY*
DRIVEN SPROCKET SUPPORT

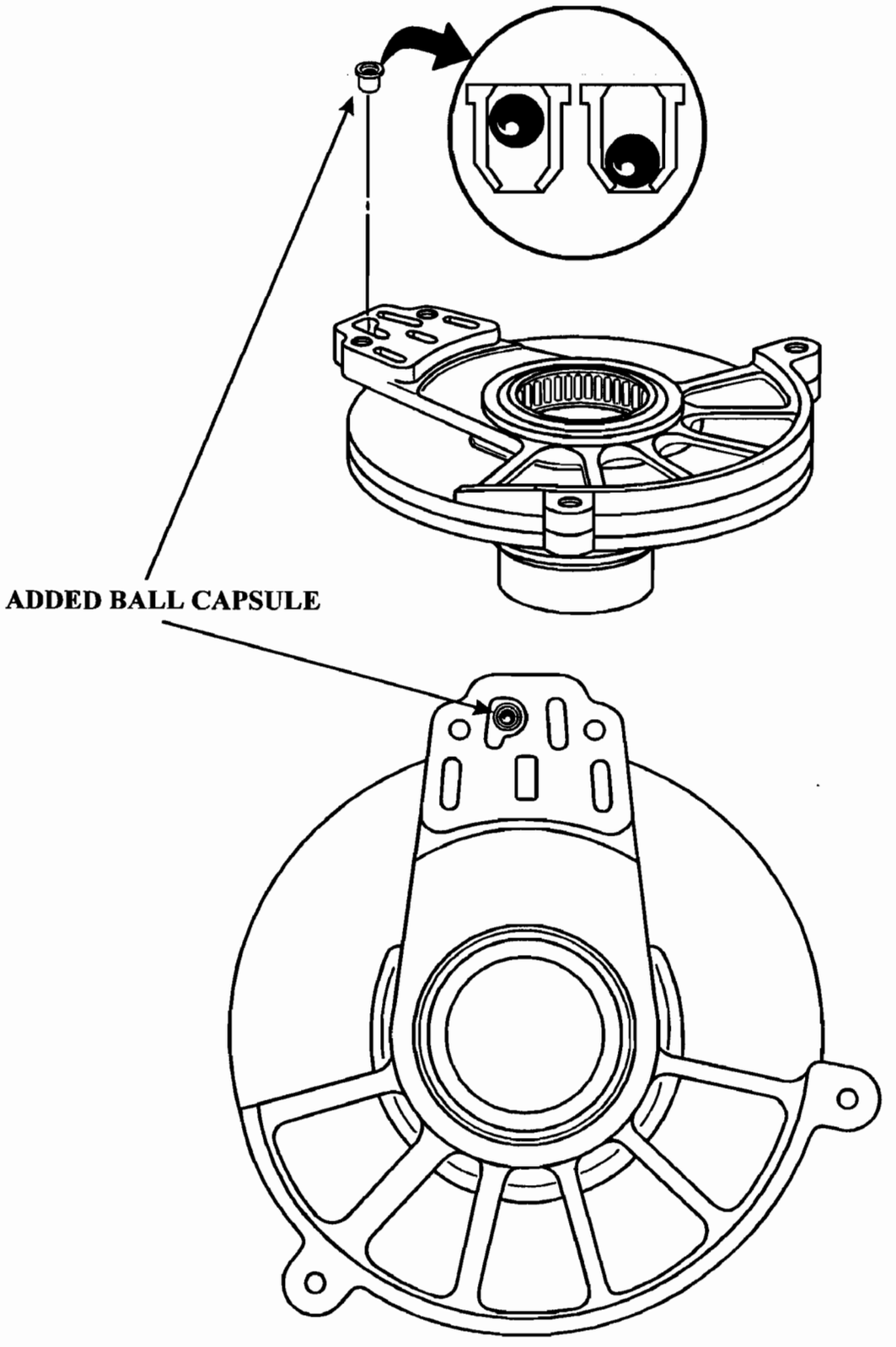
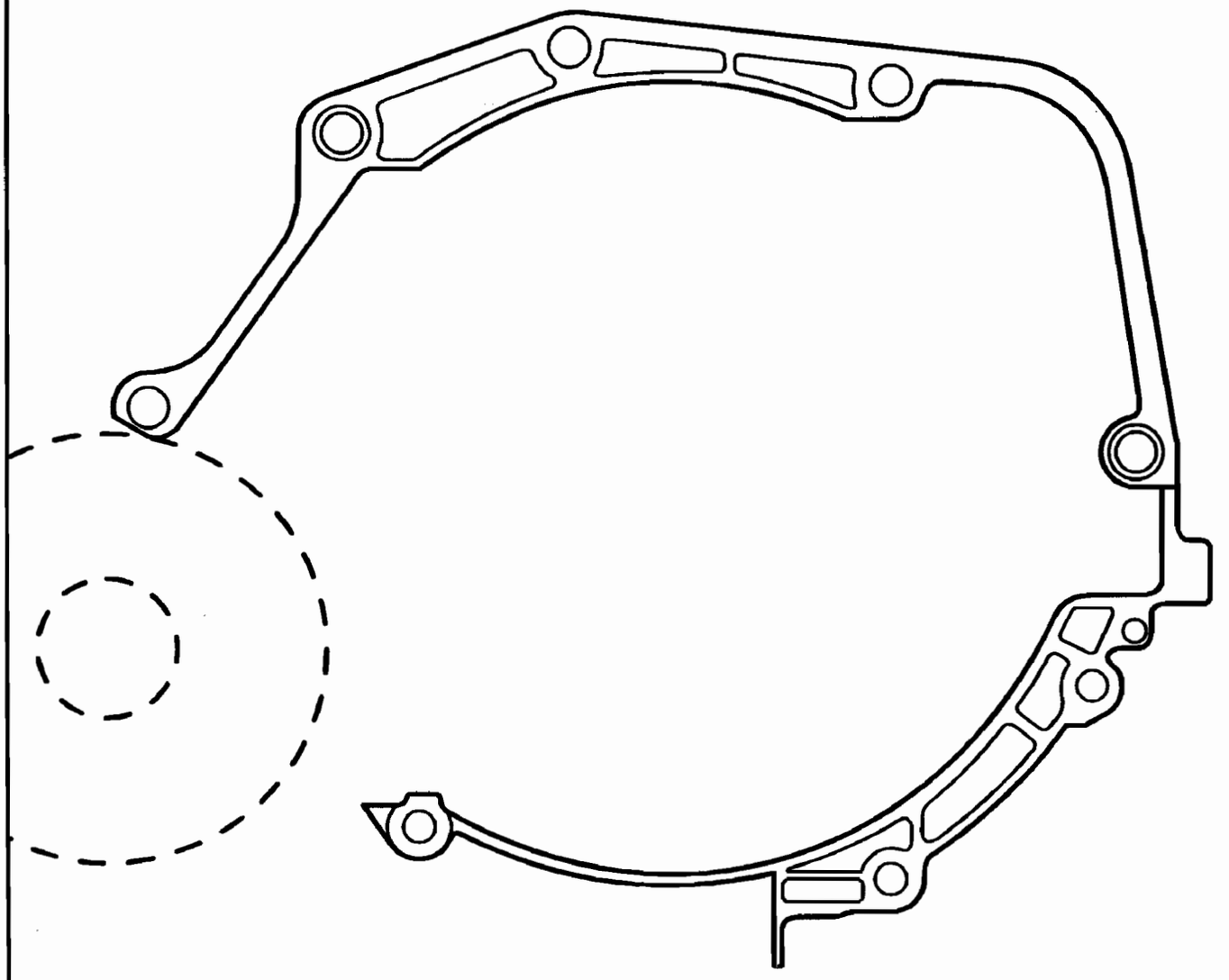


Figure 8

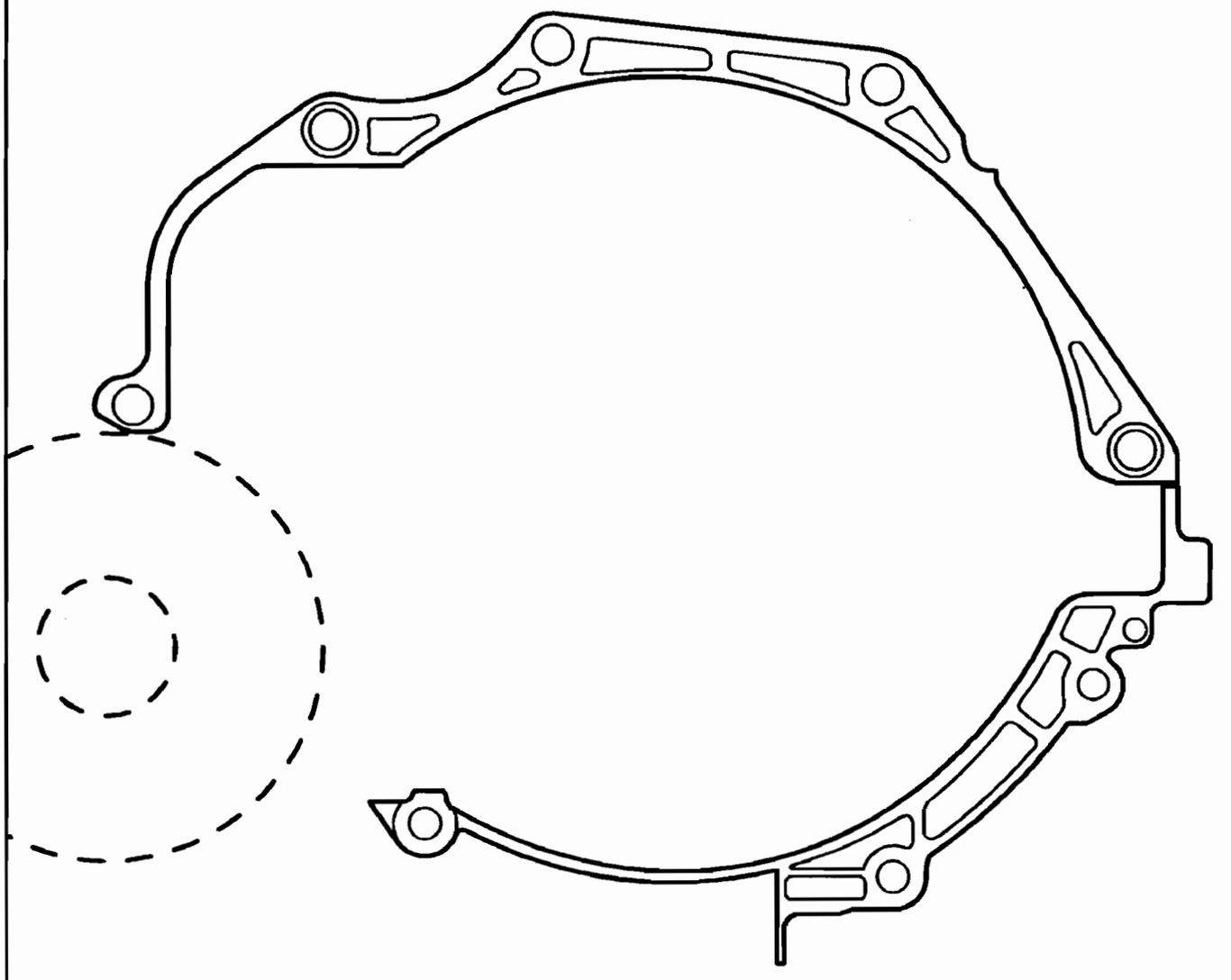
THM 4T40-E BELLHOUSINGS

2.2L 4 CYL ENGINES
2.4L 4 CYL ENGINES



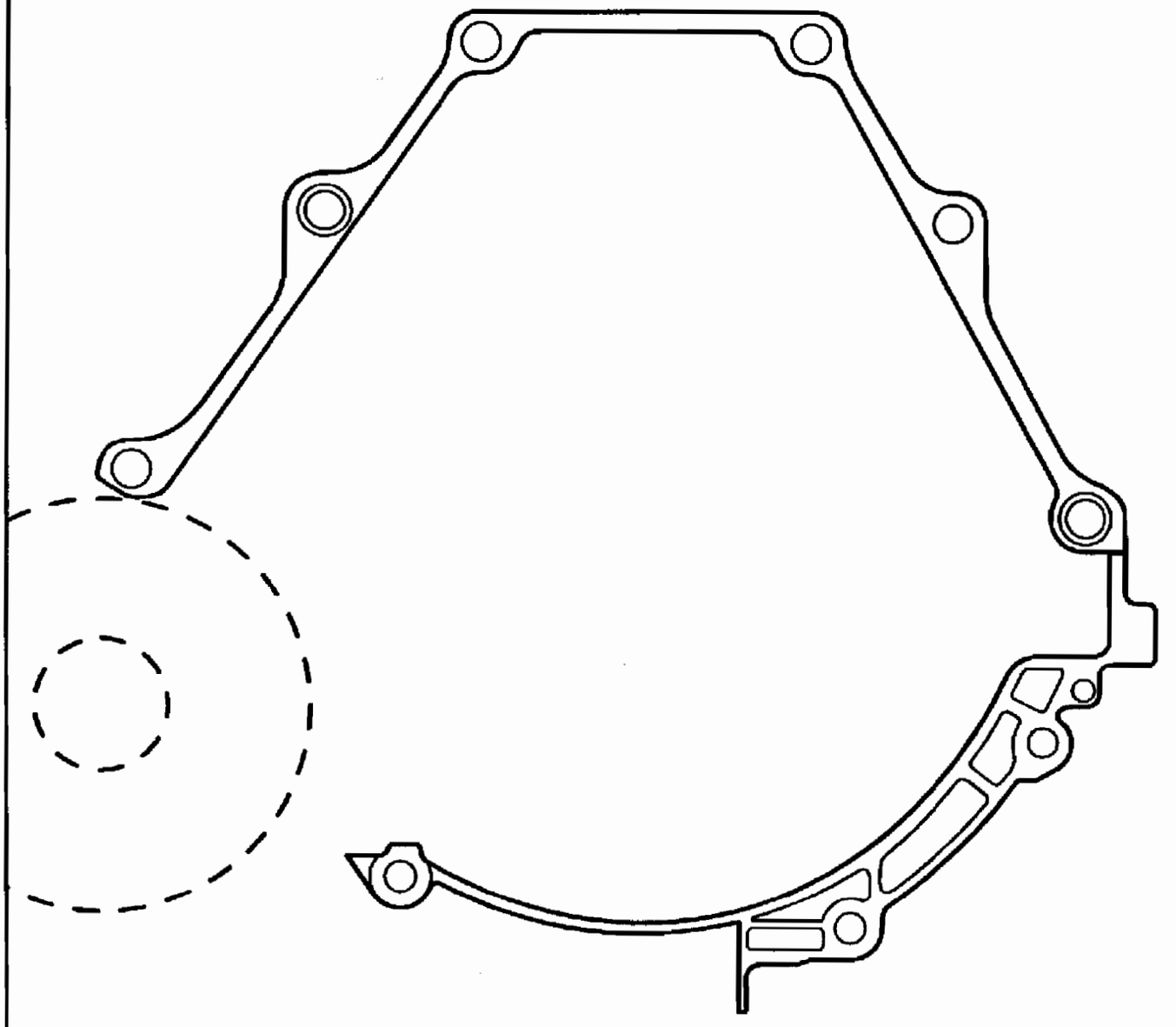
THM 4T40-E BELLHOUSINGS

OPEL 4 CYL ENGINES



THM 4T40-E BELLHOUSINGS

3.1L V6 CYL ENGINES



4T60E Complaints

Worn valve body Complaints

Falls in and out of lockup hot.
Lockups in 2nd and will not unlock.
No lockup when hot.
May set code(s) 39,85, 80/90 or 740.
Black and blue converter.
Light throttle lockup shudder.
No lockup or 4th hot
No upshifts--Goes to limp.

Other Complaints

Soft 1-2 and 2nd clutch burnup [Worn accm pins or seals]
No 2-3 cold or 2-3 delay cold [stiff or undersize lip seals]
Jumps into gear in Park at high RPM. [May break input shaft.]

New valve body about $300:

Will correct some of the complaints.

4T60E-Jr Shift Kit® about $35: Corrects/Prevents/Reduces all of them.

New PWM Spring & Long Valve.

Increases LU pressure. Long valve reaches beyond valve body wear.

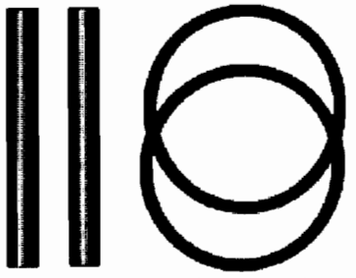
Plate plug. Set screw.

Reroutes lockup signal to match engine torque.

Slightly bigger checkballs.

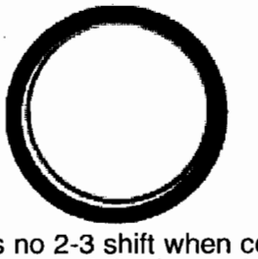
Saves worn separator plate

Hardened pins and Tuff Seals.



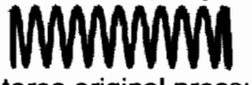
Stops 2nd clutch burnup due to pin wear and seal nibble.

Square 3rd seal & expander.



Fixes no 2-3 shift when cold or late 2-3 shift when cold.

New PR Spring



Restores original pressures

Reverse Boost Spring

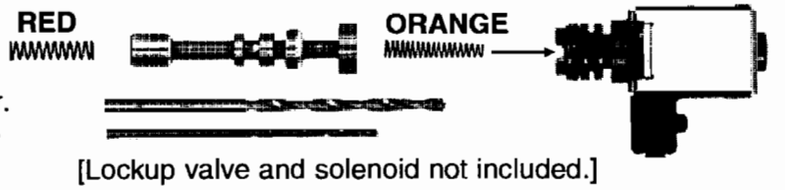
Restores original pressure

Includes Anti-shuttle Lockup Package: Fixes the loss of lockup and falls in and out when hot, ***even with badly worn VB.*** Nails the codes too.

Discard Filter

Plate Orifice

No more collapsed/plugged filter. Replace it with the Plate Orifice.



[Lockup valve and solenoid not included.]

"Your customers will know its fixed."

Product Support: (626) 443-7451
Distributor Location: (626) 443-7456

THM 4T60-E (CADILLAC)
3RD GEAR STARTS

COMPLAINT: Before or after overhaul, 1991-1995 Cadillac Deville, Concours, Eldorado and Seville, may exhibit a 3rd gear start in the Drive position along with a Diagnostic Trouble Code "PO40." (Power Steering Pressure Switch Circuit Open).

CAUSE: The cause may be, the "Fuse" that supply's the solenoids in the transmission and the Power Steering Pressure Switch with battery voltage may have blown. NOTE: Some years have the transmission solenoids, the EGR solenoid, Brake switch, Canister purge solenoid, Power Steering Pressure Switch and Air conditioning Relay all on the same fuse. A short or wiring problem on any and all of the above may cause the fuse to blow.

CORRECTION: Locate the "E" terminal on the harness connector, shown in Figure 1, and check for battery voltage with the ignition on. If there is NO voltage at terminal "E", refer to Figures 2&3 for fuse location and vehicle application and replace the fuse. *NOTE: The fuse in question is highlighted for identification purposes.*

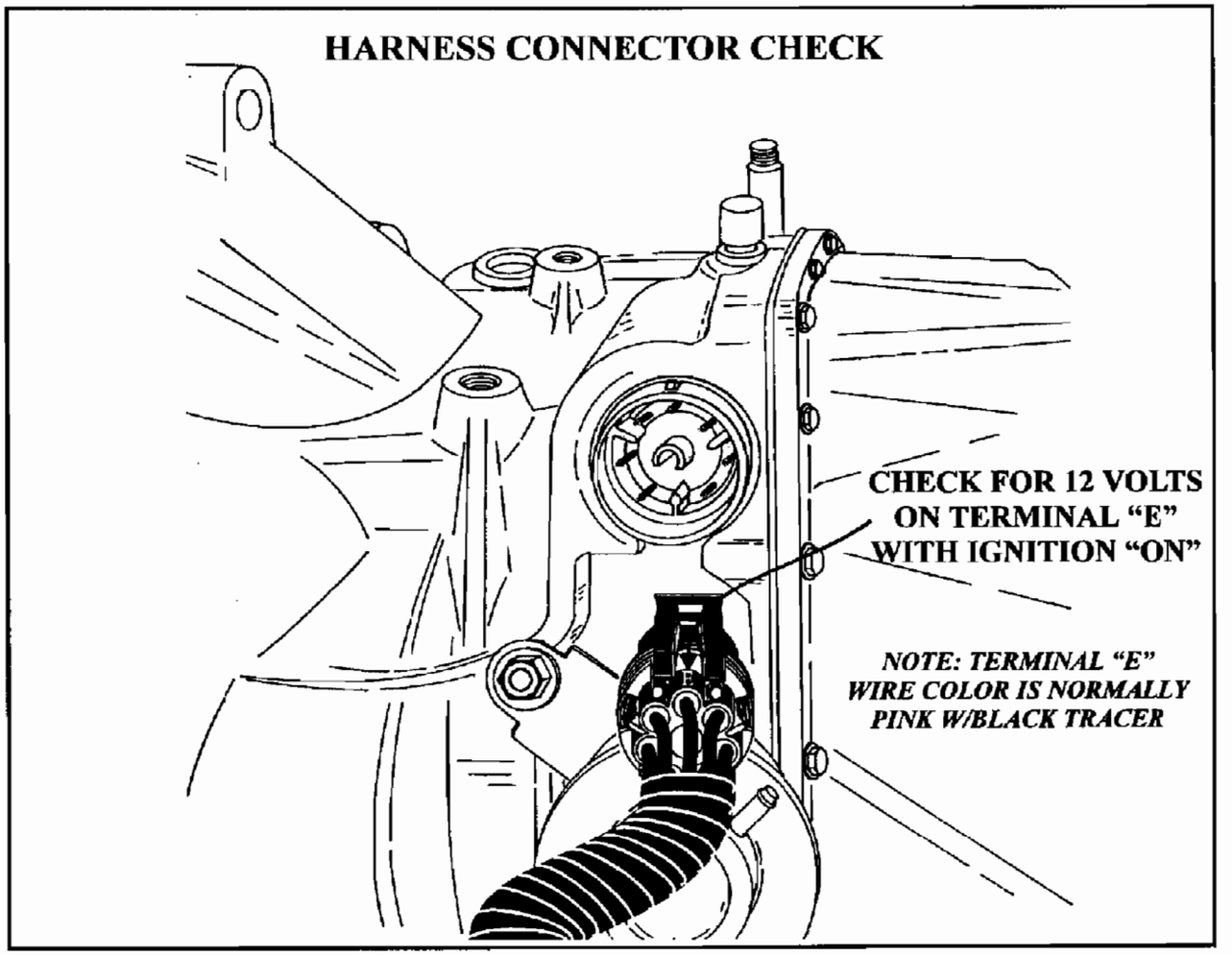
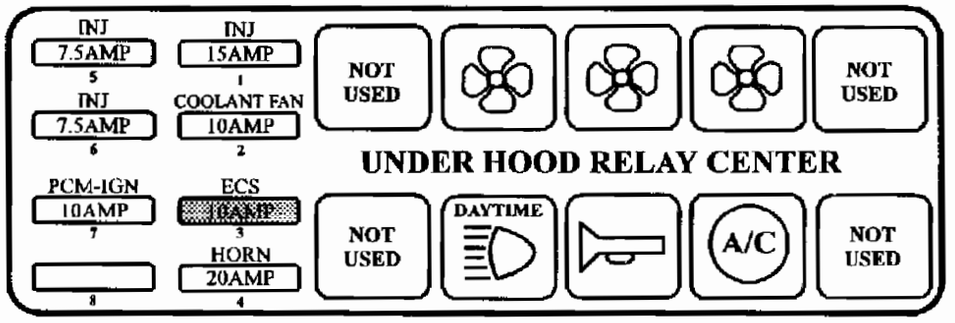


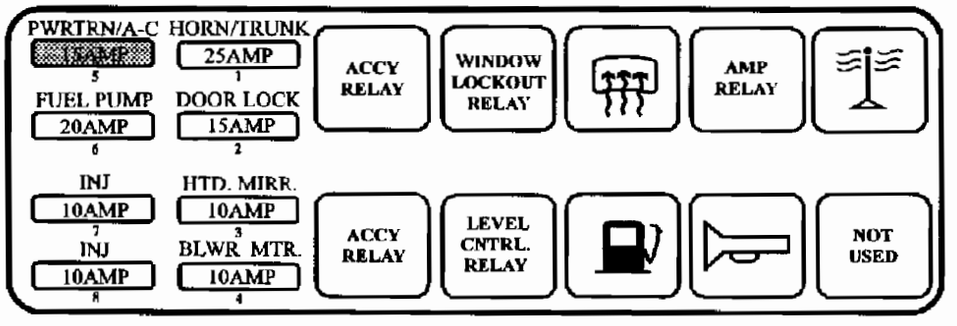
Figure 1

91 SEVILLE &ELDORADO



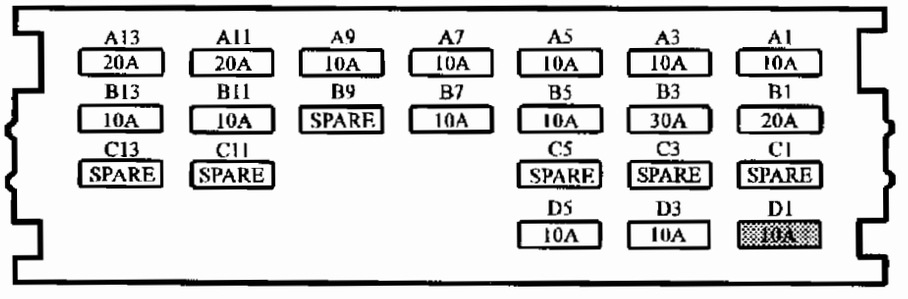
LOCATION: UNDER HOOD RELAY CENTER

91- 93 DEVILLE



LOCATION: INSTRUMENT PANEL FUSE BLOCK & RELAY CENTER
(INSIDE VEHICLE ON PASSENGER SIDE)

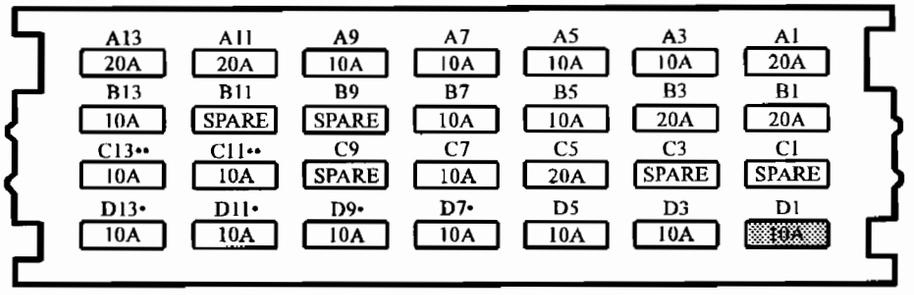
92 SEVILLE & ELDORADO



LOCATION: ENGINE COMPARTMENT FUSE PANEL

Figure 2

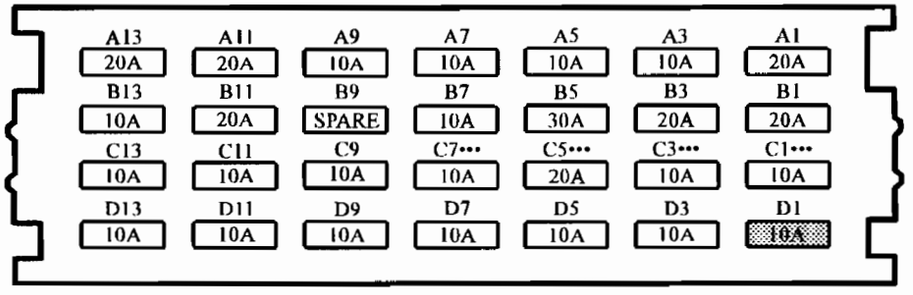
93 SEVILLE & ELDORADO



• EXPORT HARNESS
•• CANADIAN ONLY

LOCATION: ENGINE COMPARTMENT FUSE PANEL

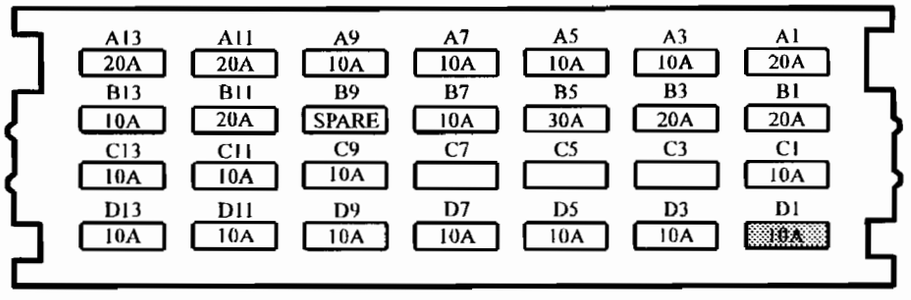
94 DEVILLE, CONCOURS, ELDORADO & SEVILLE



••• CONCOURS ONLY

LOCATION: ENGINE COMPARTMENT FUSE PANEL

95 DEVILLE, CONCOURS, ELDORADO & SEVILLE



LOCATION: ENGINE COMPARTMENT FUSE PANEL

Figure 3

SATURN

DELAYED OR HARSH REVERSE ENGAGEMENT

COMPLAINT: 1993 Saturn's, equipped with MP6 or MP7 automatic transaxles, may exhibit "Delayed" and/or "Harsh" engagement's into Reverse, after the vehicle is at operating temperature. Also, there may be repeat failures of the external filter seal, causing fluid loss.

CAUSE: The cause may be,

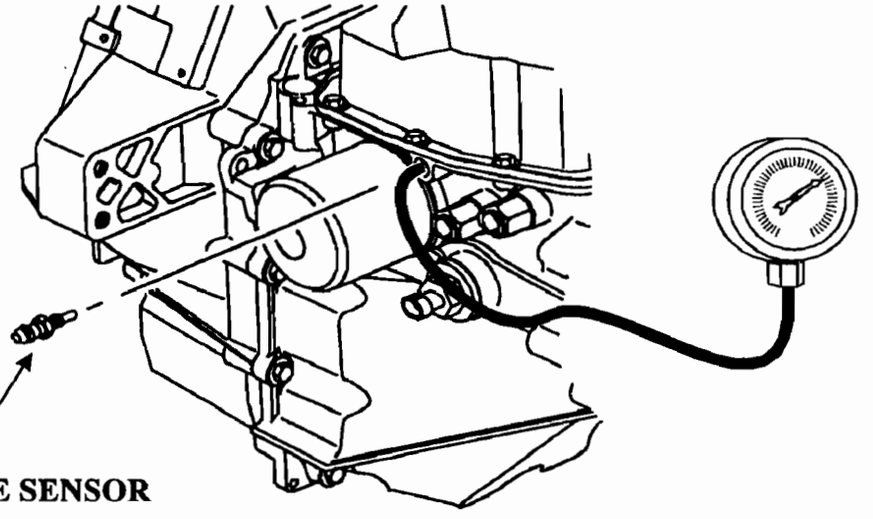
- A broken "Line Pressure Regulator Valve Cushion Spring."
- "Side to Side" Pressure Regulator Valve bore wear.

CORRECTION: Warm vehicle up to operating temperature. Remove temperature sensor and install a 0-300 psi. pressure gage, as shown in Figure 1. Remove 7.5 amp. Line Pressure Actuator fuse shown in Figure 2. Place selector in Reverse at an ***Idle*** and ensure that line pressure is not less than 175 psi. If the pressure gage indicates low pressure, remove the valve body and dis-assemble the Pressure regulator valve line up as shown in Figure 3. Locate the Line Pressure Regulator Valve Cushion Spring and inspect it for breakage. If the spring is not broken, reinstall the pressure regulator valve and place a flashlight over the valve body, shown in Figure 3, and look for light peering out between the valve and its bore. If light is seen or the Line Pressure Regulator Valve Cushion Spring is broken, replace the upper valve body with Saturn upper valve body kit, part no. 21005813.

SERVICE INFORMATION:

SATURN UPPER VALVE BODY KIT.....21005813
Includes, upper control valve body, both spacer plate gaskets, valve body cover gasket, spacer plate, and actuator retainer exhaust diverter.

LINE PRESSURE CHECK



LINE PRESSURE MUST BE 175 PSI, *MINIMUM*, AT IDLE IN REVERSE WITH "LP" LINE PRESSURE ACTUATOR FUSE REMOVED

Figure 1

UNDER HOOD JUNCTION BOX

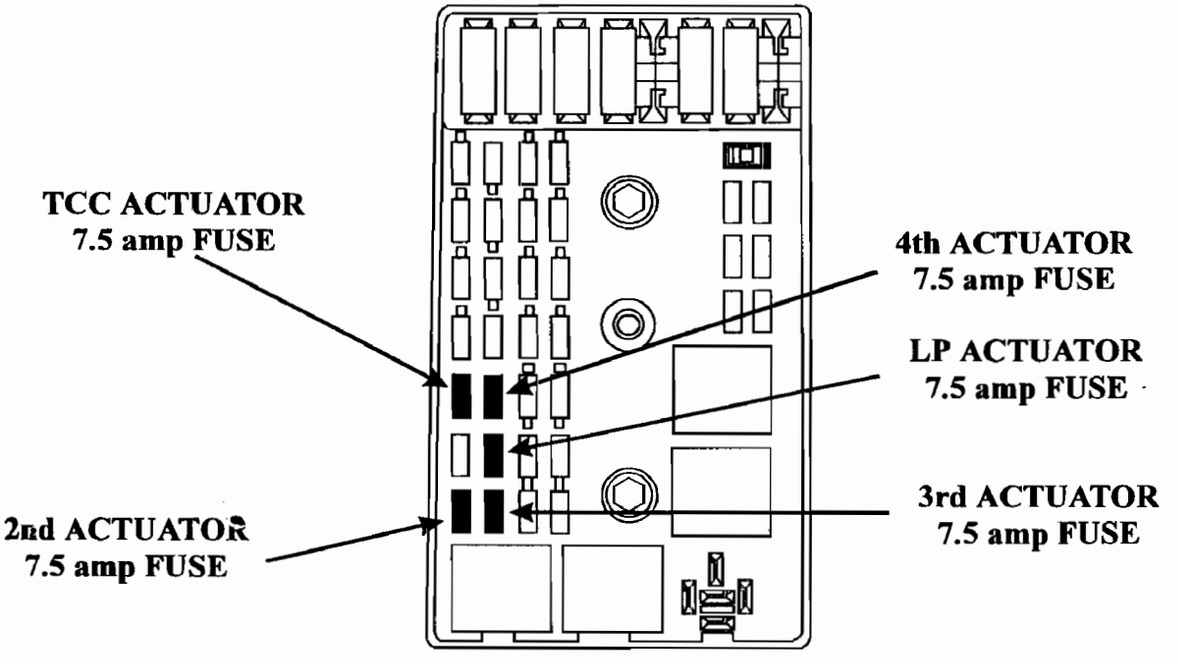


Figure 2

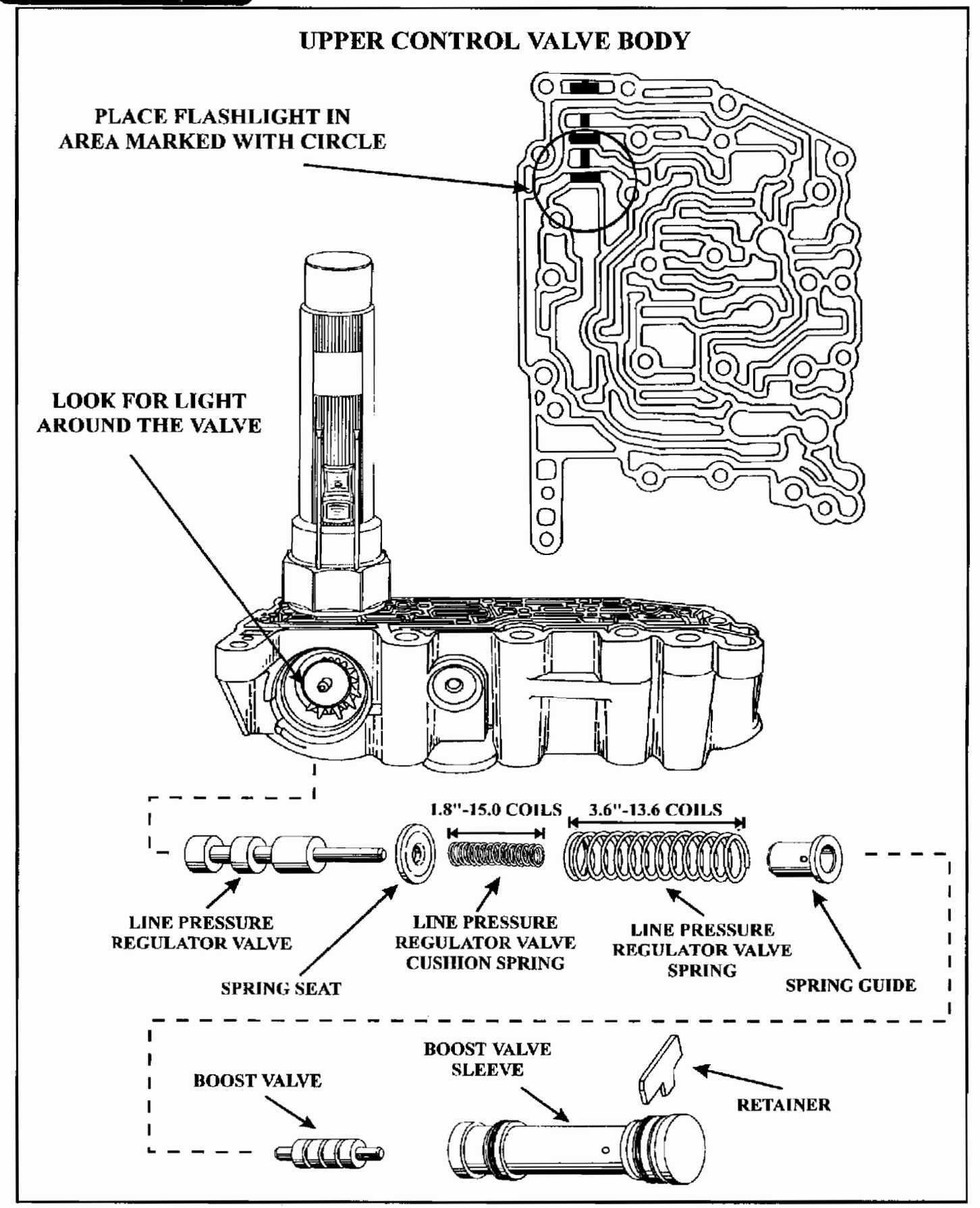

UPPER CONTROL VALVE BODY
PLACE FLASHLIGHT IN AREA MARKED WITH CIRCLE
LOOK FOR LIGHT AROUND THE VALVE
1.8"-15.0 COILS
3.6"-13.6 COILS
LINE PRESSURE REGULATOR VALVE
SPRING SEAT
LINE PRESSURE REGULATOR VALVE CUSHION SPRING
LINE PRESSURE REGULATOR VALVE SPRING
SPRING GUIDE
BOOST VALVE
BOOST VALVE SLEEVE
RETAINER

Figure 3

Ford PowerTrain™

Service Engineering

98-A

TECHNICAL PUBLICATIONS ORDER FORM 1998

Fix it right the first time - on time!

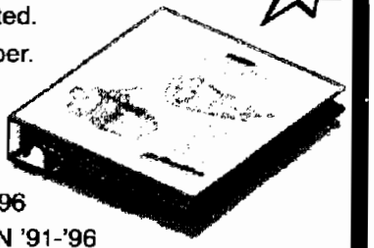
Powertrain Division of Ford Motor Company is offering the following service publications as a means to improve your diagnostic and repair capability, reduce service time, and minimize "come backs."

These materials are well illustrated, contain detailed specifications and are written specifically for service technicians.

Many publications are new. Watch for the NEW.

SERVICE BULLETINS FOR AUTOMATIC TRANSMISSIONS

- Listed by model, year and symptom.
- Contains official Ford Service Bulletins on the transmissions listed. NEW
- Printed on heavy paper.
- 400 pages
- Covers: Years
  - A4LD '89-'96
  - AODE/4R70W '92-'96
  - AXODE/AX4S/AX4N '91-'96
  - C6 '89-'96
  - CD4E '94-'96
  - E4OD '89-'96
  - 4EAT '89-'96
  - 4F20E '93-'96



ORDER ITEM #19

This is the most correct and complete information on

Ford

Powertrain Products

TRANSMISSION INFORMATION KIT

3 TAPE KIT ORDER ITEM #15

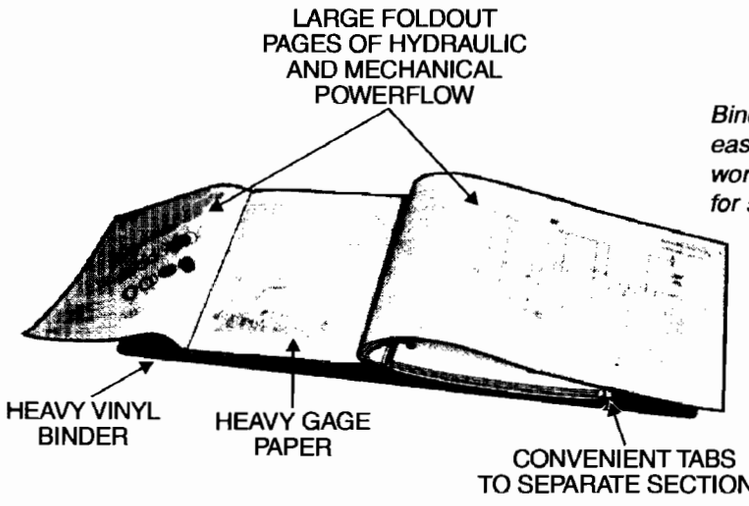
Electronic Transmission Diagnostic Video - a two part, 50 minute video that discusses the Ford electronic systems and the electronic tools to diagnose the system. Part one uses an animated character "ZAP" to show how the Ford EEC IV and V systems control the transmission. Part two shows the advanced diagnostic tools needed to properly diagnose and repair electronically controlled transmissions.

Diagnosis and Service Tips Video - produced in 1993 and is 55 minutes long. The tape covers diagnosis using the transmission tester tool and factory approved routines through-out the video. Special emphasis is placed on the AXODE transmission.

E4OD Video - produced in 1992 is 56-minutes long and divided into two parts. The first part covers diagnosis of the electronics that control the E4OD and product updates. Part two includes disassembly and reassembly, highlighting all areas that require special attention to ensure a "fix it right the first time" repair.

The Kit Consists of 3 Videos and 3 Laminated Cards.

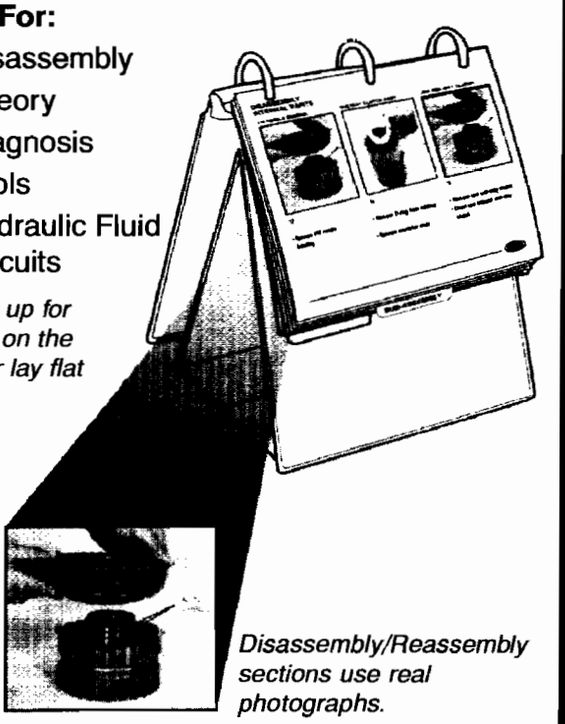
TRANSMISSION REFERENCE MANUAL BINDERS



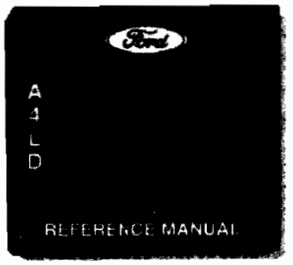
Sections For:

- Disassembly
- Theory
- Diagnosis
- Tools
- Hydraulic Fluid Circuits

Binders stand up for ease of using on the work bench or lay flat for study.



Disassembly/Reassembly sections use real photographs.



- Covers '85-'93
- 232 photos
- 14 pages of color hydraulic fluid circuits
- 453 total pages

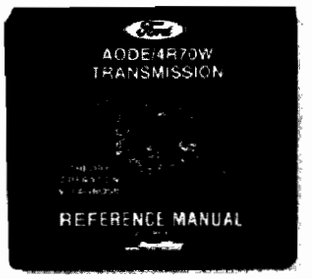
ORDER ITEM #11

- Two binders
- 363 photos
- 16 pages of color hydraulic fluid circuits
- All pages in full color
- 413 total pages

ORDER ITEM #9

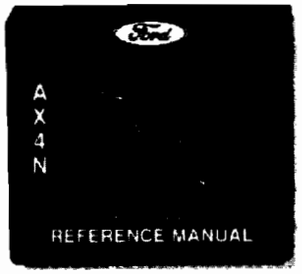
- Covers '91-'96 NEW
- Two binders
- 357 photos
- 8 pages of color hydraulic fluid circuits
- 460 total pages

ORDER ITEM #21



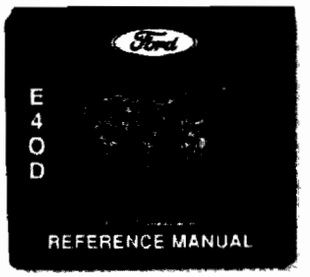
- Covers '92-'96 NEW
- Two binders
- 219 photos
- 18 pages of color hydraulic fluid circuits
- 413 total pages

ORDER ITEM #20



- Two binders
- 332 photos
- 9 pages of color hydraulic fluid circuits
- 95 full color pages
- 575 total pages

ORDER ITEM #12



- Covers '89-'93
- 248 photos
- 33 pages of color hydraulic fluid circuits
- 446 total pages

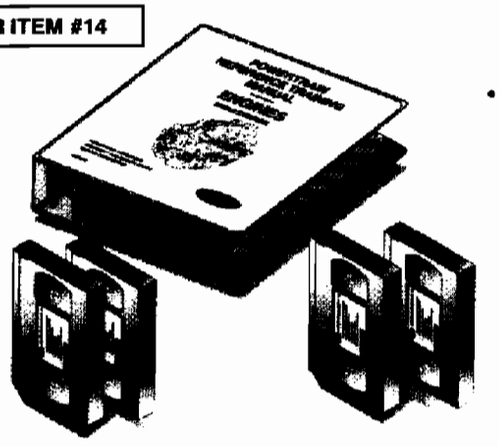
ORDER ITEM #1

ONE EACH OF THE ITEMS ABOVE - ORDER ITEM #16

POWERTRAIN ENGINE INFORMATION

ENGINE - POWERTRAIN INFORMATION KIT

ORDER ITEM #14



You will receive:

A ring binder with books - Video Tapes and an assortment of booklets and other repair information enhancements. Over 4 hours of factory information.

- **Leak and Noise Set**

  The Leak and Noise set contains a 60 minute video on Leak and Noise Diagnosis. Two companion booklets, each 36 pages, describe in more detail the steps outlined in the video. Two laminated quick reference cards are also included.

- **Yearly Updates**

  The update contains video tapes and companion books with information for service on the following topics:
  - Base Engine
  - Driveability
  - Parts Interchanges
  - Transmission Topics
  - Service Information
  - Information on Oil and Fluids

- **Fuel Delivery Set**

  The fuel system set contains a 48 minute video that walks the technician thru diagnosis and service of fuel injectors and throttle bodies. A 76-page companion book provides the technician with additional information. Also included are a wall chart indicating serviceability by year and model and a ready reference card and sticker.

ORDERING INSTRUCTIONS

- **RETAIL SALES**
- **INTERNAL FORD MOTOR SALES**
- **INSTITUTIONAL SALES**

FORD Internal ICBA Sales

Ford ICBA forms with authorization signatures should be sent to: Ford Powertrain Box 28
36200 Plymouth Road
Livonia, MI 48150
ICBA form questions call: 313-523-5809

FORD DEALERS with P & A Code

Ford or Lincoln Mercury Dealers may order using your P & A Code. The purchase will appear on your monthly invoice.

- Please indicate the quantities and totals in the appropriate columns.
- Include your check or money order (payable in U.S. funds) with this order form.
- Visa/MC orders are accepted by mail or fax (313) 414-2971, attn: Linda. Your statement will reference - Gage, the Ford delivery agent.
- To order by **phone**, call the **Order Desk: (313) 459-5140**.
- For shipping information outside U.S., call the Order Desk.
- Applicable taxes are included in your purchase price for U.S. sales.
- Allow 2 to 3 weeks for delivery.

ORDER FORM

Ford PowerTrain Service Engineering

TECHNICAL PUBLICATIONS ORDER FORM 1998-A

Item #	Description	Price Each	Qty	Extended Price
1	**E4OD** Reference Manual Binder --- PTB 201	69.95		
9	**CD4E** Reference Manual Binder --- PTB 306	69.95		
11	**A4LD** Reference Manual Binder --- PTB 304	69.95		
12	**AX4N** Reference Manual Binder --- PTB 407	69.95		
14	Engine - Information Kit --- PEO 214B *(see page 3)*	49.95		
15	Transmission Information Kit --- PTK 418 *(see page 1)*	29.95		
16	Master Kit of the 6 Binders *(Listed in Bold Type)* **(E4OD, AODE/4R70W, AXODE/AX4S, CD4E, A4LD, AX4N)**	299.95		
19	Comprehensive TSB --- PTB 609	69.95		
20	**AODE/4R70W** Reference Manual Binder --- PTB 606	69.95		
21	**AXODE/AX4S** Reference Manual Binder --- PTB 605	69.95		

Total

U.S. Orders only, add 10% Shipping/Handling
(minimum $5.00)

(Orders outside U.S. see Ordering Instructions)

Total

ORDER INSTRUCTIONS

Ford Dealers — Please Include Your P & A Code # _____

MAKE CHECKS PAYABLE TO:
GAGE MARKETING GROUP

MAIL PAYMENT & ORDER FORM TO:
GAGE MARKETING GROUP
FORD POWERTRAIN PUBLICATIONS
101 UNION STREET
PLYMOUTH, MI 48170

SHIP TO (No PO Boxes):

Attention _____

Company _____

Address _____

City _____ State ____ Zip _____

Telephone ( ) _____

Check No. _____
or
Visa/MC # _____

Expiration Date ____/____/____

Signature _____

1992 AND LATER FORD TRUCKS WITH E4OD TRANSMISSION

INTERMITTENT OR CONTINUOUS LOSS OF VSS

COMPLAINT: Transmission goes to neutral condition while driving, or after coming to a stop the transmission is stuck in first gear. The TCIL (Transmission Control Indicator Lamp) is flashing and code 29,452, PO500 or PO503 is stored.
These symptoms may occur intermittently accompanied by erratic speedometer operation and the above codes may be stored in memory.
NOTE: The ABS warning lamp may be illuminated.

CAUSE: These symptoms can be caused by a faulty **RABS** (**R**ear **A**ntilock **B**rake **S**ensor) speed sensor located in the rear differential (Refer to Figure 1) or it's connector or wiring or a loose speed sensor exciter ring on the differential ring gear carrier.(Refer to Figure 2)
These symptoms can also be caused by a malfunction of the **PSOM** (**P**rogramable **S**peedometer/**O**dometer **M**odule) or a loss of power to the PSOM or a faulty PCM.
1992 and later Ford trucks with the VSS located in the differential are equipped with an internal microprocessor located within the speedometer cluster known as the PSOM (Programable Speedometer/Odometer Module).
The PSOM receives an analog signal from the VSS (RABS) in the form of AC voltage. This frequency (HERTZ) is proportionate to road speed and is converted by the PSOM to an 8000 pulse per mile signal that can be deciphered by the PCM/TCM and is calibrated for each vehicles tire size and differential gear ratio and can be recalibrated by the technician should tire size and/or differential gear ratio change.
All the above directly affects shift scheduling!
An overview of the PSOM system can be seen in figure 3.

CORRECTION: Using the following diagnostic procedures, replace or repair the faulty component.

1. While road testing vehicle take note of speedometer and odometer operation for function and accuracy. If DATA is available on the scanner, see if the mph indicated by the speedometer matches the scanner reading. If this is incorrect then the PSOM may need recalibration. (See step 10)
2. Locate the RABS test connector in the left rear corner of the engine compartment on "F" series (Refer to Figure 4) trucks or behind the left side headlamp assembly (Refer to Figure 5) on "E" series vans.
   Set your multi meter to hertz (HZ) and probe the RABS test connector, raise vehicle speed to 30mph (48km/h). The multi meter should indicate approximately 667 Hertz. If the hertz reading is erratic, the speed sensor exciter ring in the differential may be loose or the speed sensor or it's connector/wiring may be at fault.

Continued ☞

1992 AND LATER FORD TRUCKS WITH E4OD TRANSMISSION

INTERMITTENT OR CONTINUOUS LOSS OF VSS

3. Locate the vehicles computer, to the left of the brake booster in "F" series trucks (Refer to Figure 4) and to the right of the brake booster in "E" series (Refer to Figure 5) vans and back probe pins 3 ***(GRAY/BLACK, CIRCUIT 679)*** and 6 ***(PINK/ORANGE, CIRCUIT 676),*** (EEC-IV) on 1994-95 "F" series Turbo Diesels, and 1996 and later vehicles, pin 33 ***(GRAY/BLACK, CIRCUIT 679)*** and(***PINK/ORANGE, CIRCUIT 676)*** pin 58 (EEC-V), with the multi meter set to HZ.
   Raise vehicle speed to 30mph (48km/h), the meter should indicate approximately 67 Hertz.
   If this reading is incorrect or there is no reading, the fault is with the wiring between the PSOM and the PCM or the PSOM itself is faulty or fuses #8 or 18 are faulty.
   At this time go to step 4 and perform a pin by pin check of the PSOM circuits.
   If these readings are correct, the PCM is faulty.
4. Remove the instrument cluster from the dash to gain access to the PSOM connector and refer to the schematic in **Figure 6 for steps 5 through 10.**
5. Begin with the ***LIGHT GREEN/YELLOW (CIRCUIT 54)*** wire at PSOM connector pin 1 which is keep alive power at all times, this must have battery voltage even with the ignition off. If it does not the #8 15 amp fuse in the under dash fuse box should be checked (Refer to Figure 7) or the LG/Y wire is faulty.
   If fuse #8 has no power then the 50 amp "S" maxi-fuse in the under hood fuse box should be checked as shown in figure 8.
6. Next go to pin 3 at the PSOM connector and locate the ***WHITE/PURPLE (CIRCUIT 296)*** wire.
   This must have system voltage when the ignition is on. If it does not have power, the #18 fuse in the under dash fuse box should be checked, (Refer to Figure 7), or there is a problem with the W/P wire.
7. When checking the above circuits be sure to use the ***PINK/ORANGE (CIRCUIT 676)*** wire at PSOM connector pin 2 which is the PSOM ground circuit. If this ground circuit is showing more than .01 volt on a voltage drop test, it is not a good ground and must be provided with a good ground.
   NOTE: This wire changes to ***BLACK/WHITE, CIRCUIT 570)*** after the factory splice.
8. Next locate the ***RED/PINK, CIRCUIT 523) (ORANGE/LIGHT BLUE ON BRONCO ONLY)*** and back probe PSOM connector pin 4 and ***LIGHT GREEN/BLACK, CIRCUIT 519) (LIGHT GREEN/YELLOW ON BRONCO ONLY)*** on PSOM pin 5. These are the RABS VSS input to the PSOM and should have 667 HZ @ 30mph (48km/h) across both pins with the PSOM connector disconnected. It can also be checked for resistance and should show 900 to 2500 ohms.
9. Next locate the ***GRAY/BLACK, CIRCUIT 679*** wire at PSOM connector pin 7. This is the conditioned signal from the PSOM to the PCM and should show 67 HZ @ 30mph (48km/h).
   This circuit can also be checked for resistance by unplugging the PCM connector and placing the ohm meter leads to pins 3 or 33 and 6 or 58 of the PCM connector. The meter should read 20,000 to 50,000 ohms. If this reading is out of range, the ***GRAY/BLACK, CIRCUIT 679*** wire between pin 3 or 33 at the PCM and PIN 7 at the PSOM is shorted or open.

Continued ☞

1992 AND LATER FORD TRUCKS WITH E4OD TRANSMISSION

INTERMITTENT OR CONTINUOUS LOSS OF VSS

10. If the PSOM requires recalibration, the ***LIGHT BLUE/YELLOW, CIRCUIT 567*** wire at PSOM connector pin 9 is the PSOM enable circuit used to reprogram the PSOM. This LB/Y wire goes to the PSOM Enable Connector located under the left side of the dash below the fuse box near the bulkhead connector on "E" series vans (Refer to Figure 9) and under the center of the dash below the glove box on "F" series trucks. (Refer to Figure 10)
NOTE: PSOM should be printed on the enable connector.

11. A diagnostic tree is provided in figures 11 and 12.

Use the following procedures to reprogram the PSOM's conversion constant due to tire size or differential gear ratio changes, speedometer service, or loss of power to the PSOM for a lengthy period of time.

Make certain ignition is in the "OFF" position.
After locating the PSOM Enable Connector, attach a jumper wire to the connector then ground the other end of the jumper lead.
Next, While pushing in on the trip odometer reset button (See Figure 13), turn the ignition "ON", do not start the engine, then release the trip odometer reset button.
At this time the speedometer needle should sweep across the face of the speedometer and back again. This sweep indicates that the PSOM has been put into the enable mode.
In the LCD odometer window, you will now see the English/Metric display, the revision level number and the lockout countdown number which indicates how many times the PSOM can be reprogrammed.(Refer to Figure 13)
CAUTION: ***Each time the PSOM is reprogrammed, the number of times this can be done is reduced by one!***
1992 vehicles can be reprogrammed 3 times, while 1993 and later vehicles can be reprogrammed 6 times.
If the countdown number is zero and the PSOM requires reprogramming, the instrument cluster will require replacement.
Next, press the odometer reset button once again, and now you will see the conversion constant number, without the decimal point, in the odometer window, followed by the abbreviation "CAL". (Refer to Figure 14)
Next, press and release the select button as many times as necessary to change the conversion constant number until the desired number is reached.
Each time the select button is pressed, the constant will decrease by one number.
When the desired constant number is reached, press and release the reset button once to lock in the new conversion constant.
In order to prevent wasting reprogramming attempts, Refer to the tire size and differential gear ratio chart in figure 15.
Turn ignition "OFF", remove jumper wire from PSOM Enable Connector and verify proper speedometer operation.

1992 AND LATER FORD TRUCKS WITH E4OD TRANSMISSION

INTERMITTENT OR CONTINUOUS LOSS OF VSS

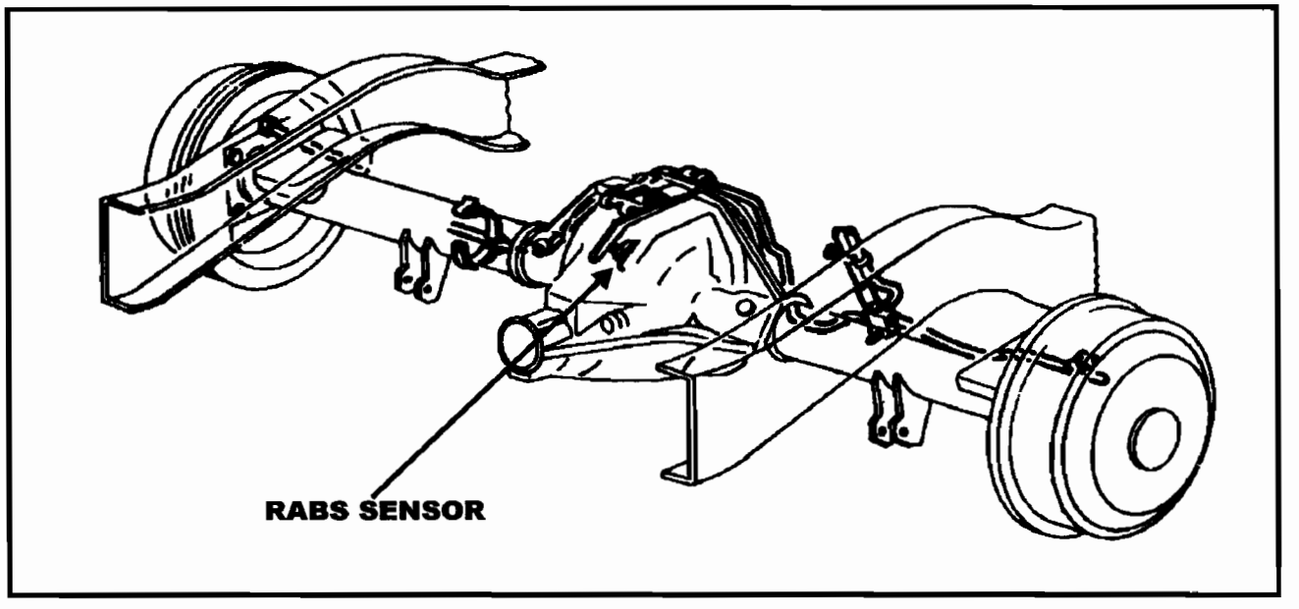


Figure 1

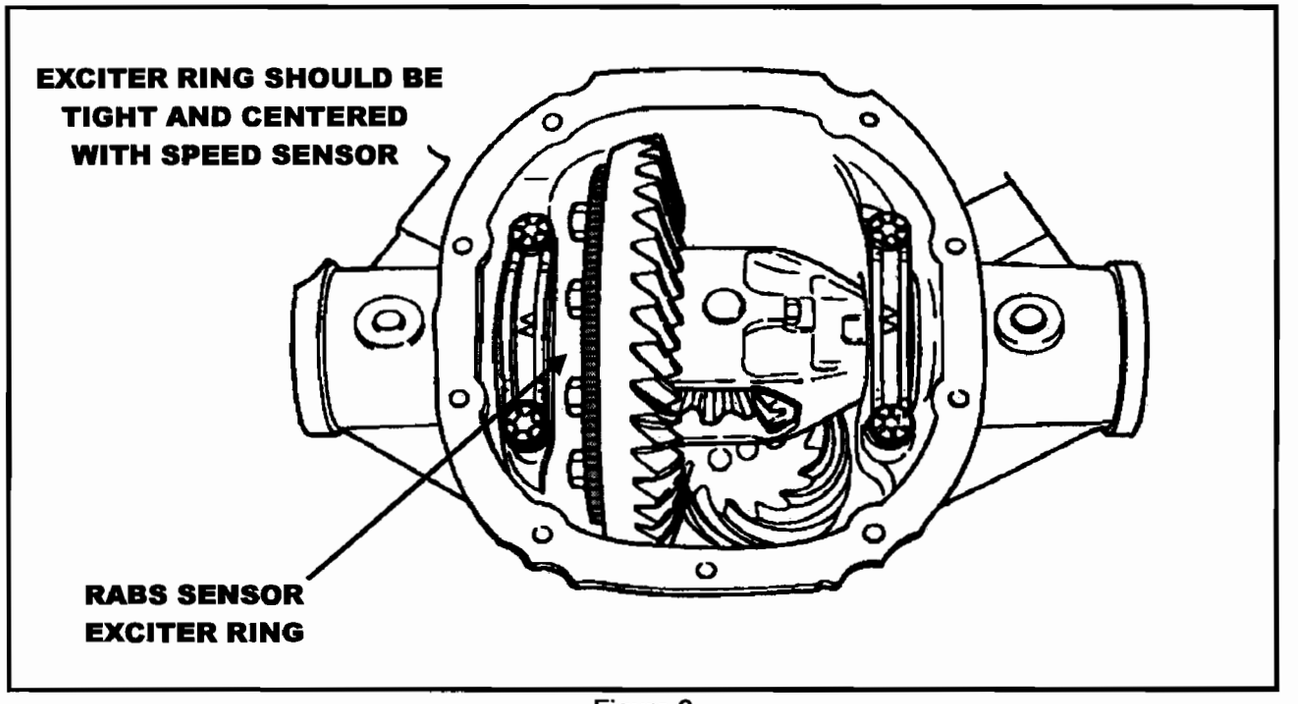


Figure 2

1992 AND LATER FORD TRUCKS WITH E4OD TRANSMISSION

INTERMITTENT OR CONTINUOUS LOSS OF VSS

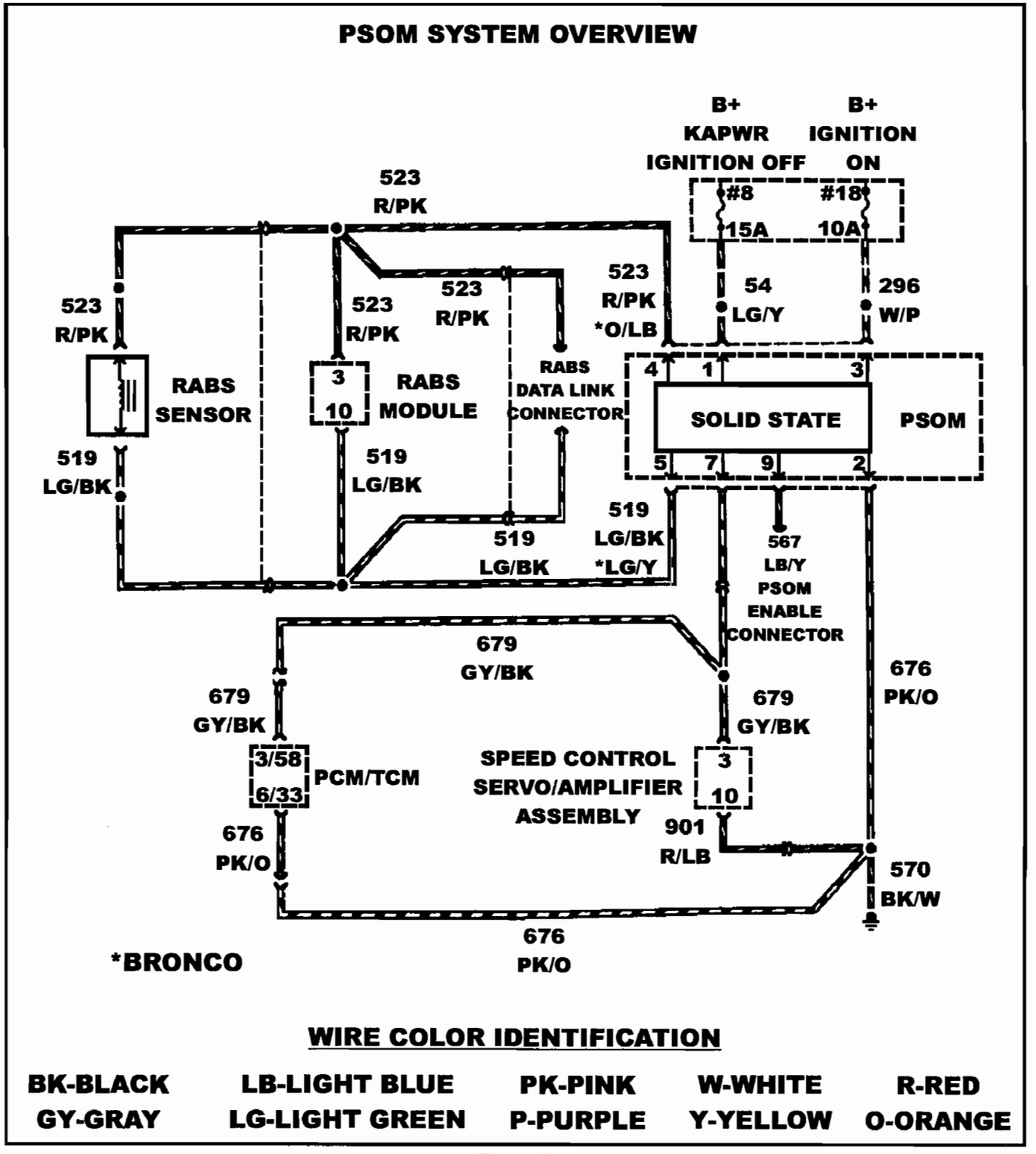


Figure 3

1992 AND LATER FORD TRUCKS WITH E4OD TRANSMISSION

INTERMITTENT OR CONTINUOUS LOSS OF VSS

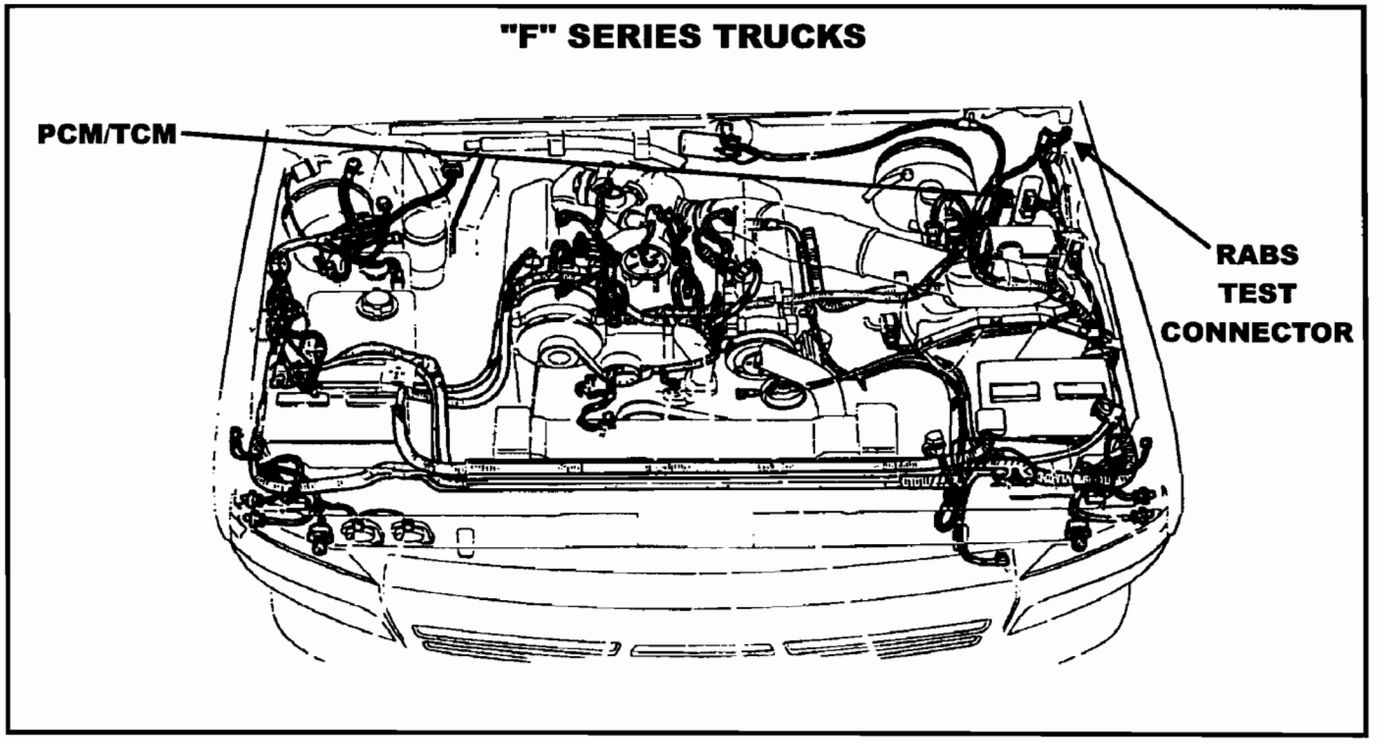


Figure 4

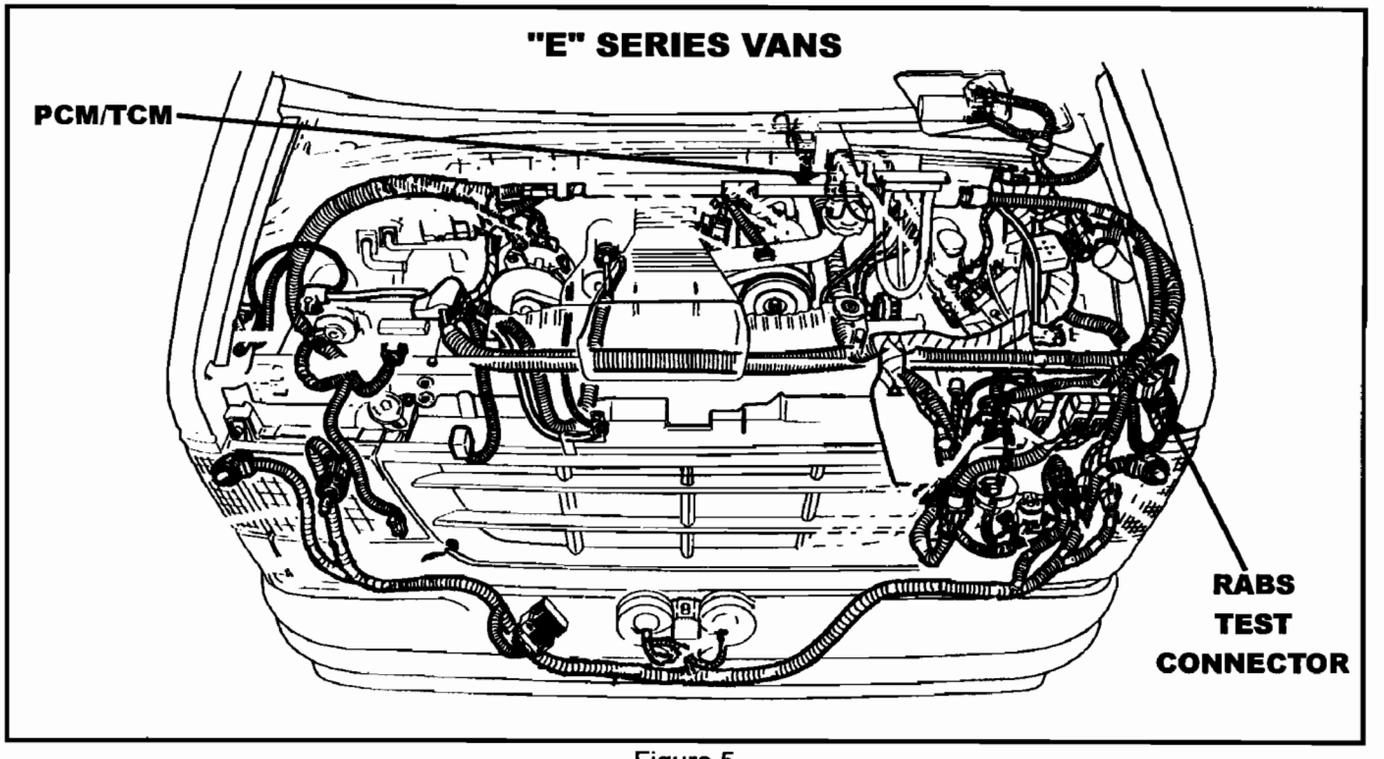
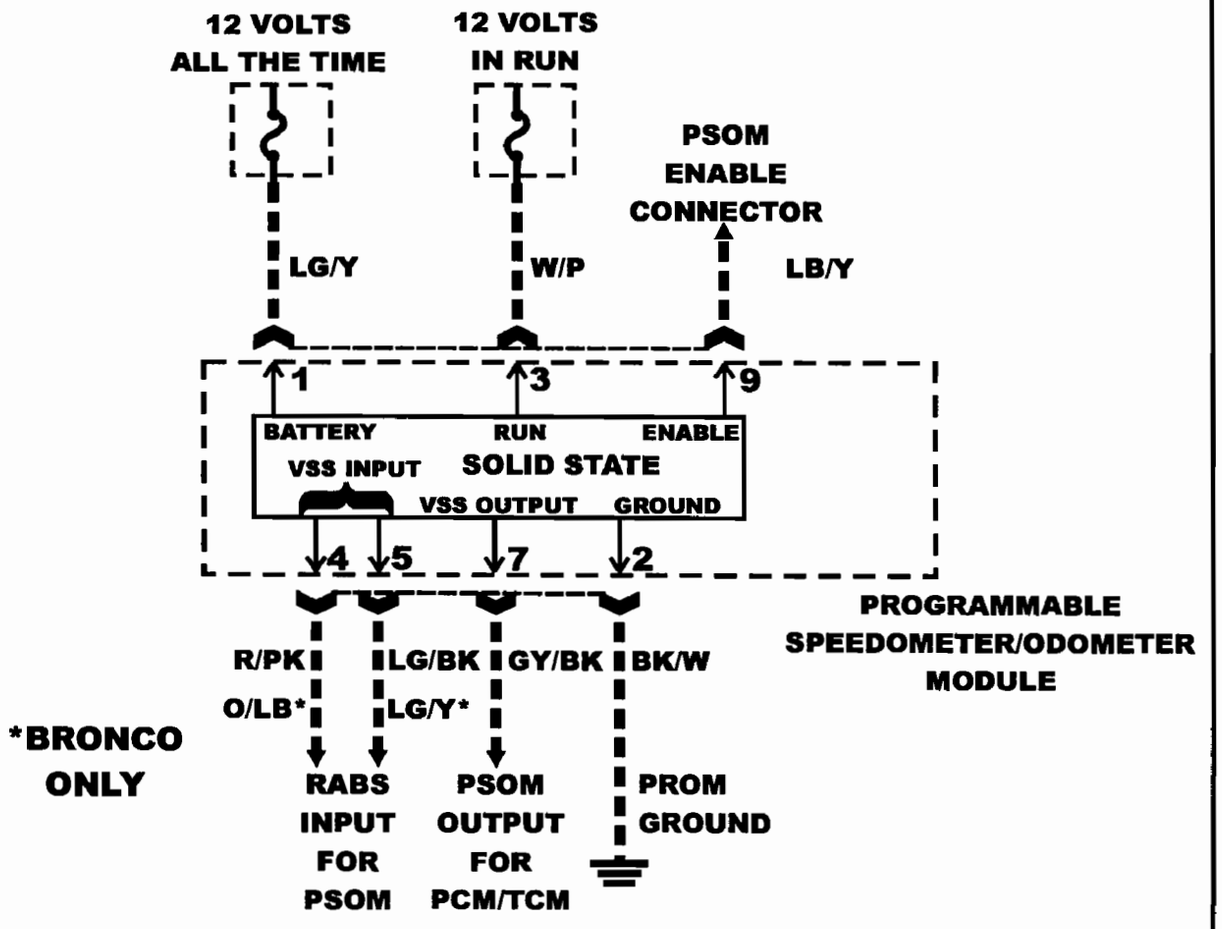
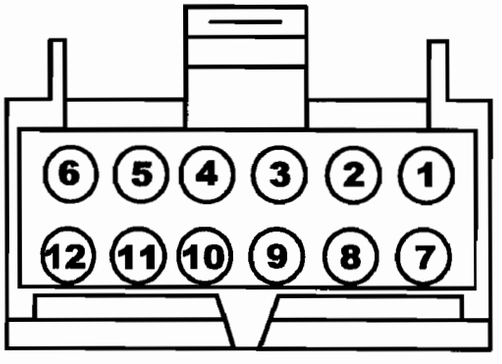


Figure 5

1992 AND LATER FORD TRUCKS WITH E4OD TRANSMISSION

INTERMITTENT OR CONTINUOUS LOSS OF VSS





VIEW LOOKING INTO
FACE OF CONNECTOR

PIN 1	12 Volts all the time
PIN 2	Ground .1 volt or less
PIN 3	12 Volts run only
PIN 4	RABS signal input
PIN 5	RABS signal return
PIN 6	NOT USED
PIN 7	Speed output to instrument cluster Cruise Control & PCM/TCM
PIN 8	NOT USED
PIN 9	PSOM dealer enable
PIN 10	NOT USED
PIN 11	NOT USED

Figure 6

1992 AND LATER FORD TRUCKS WITH E4OD TRANSMISSION

INTERMITTENT OR CONTINUOUS LOSS OF VSS

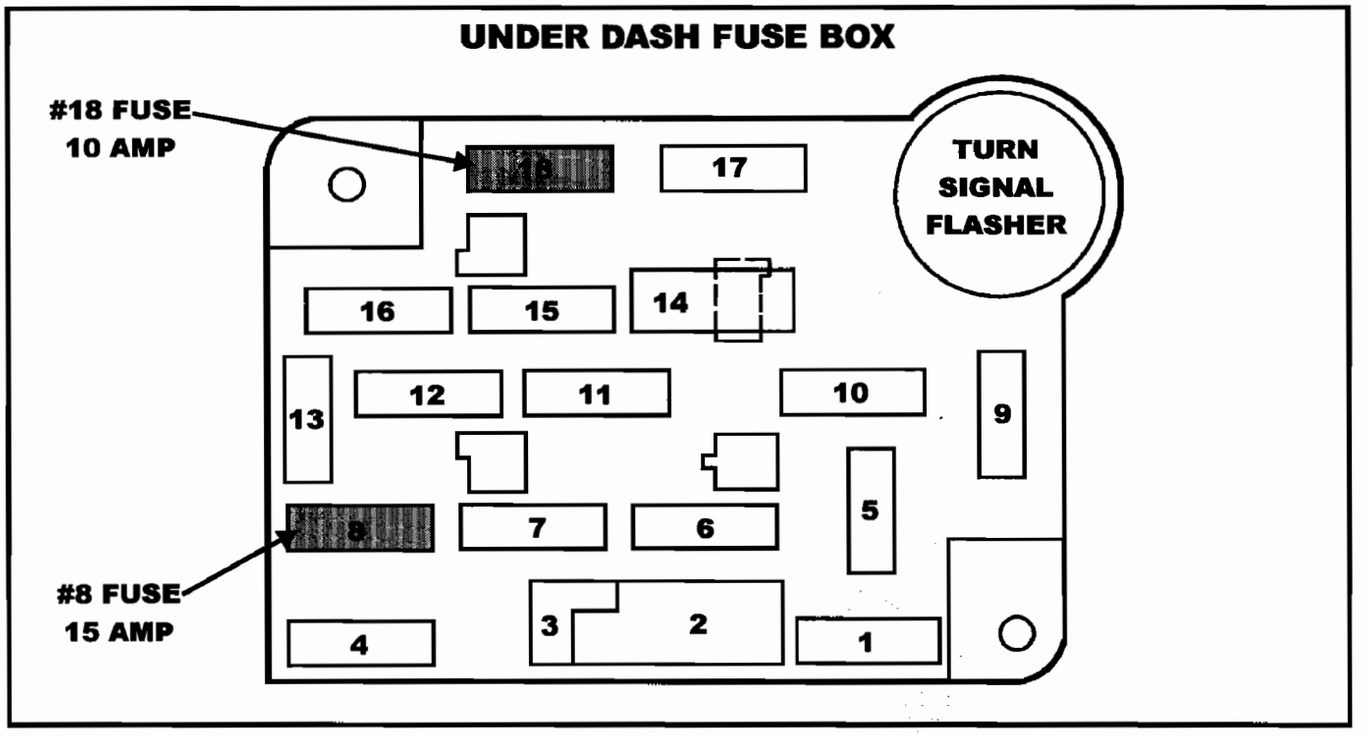


Figure 7

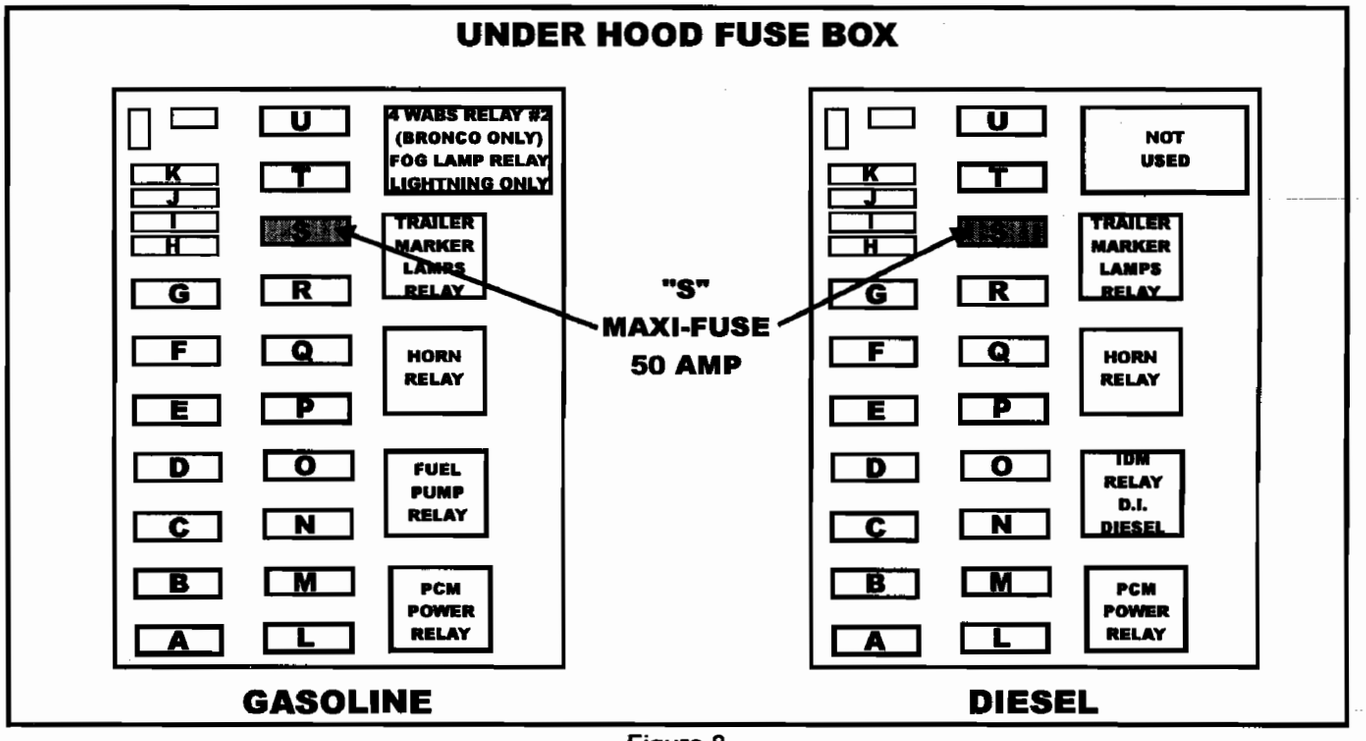


Figure 8

1992 AND LATER FORD TRUCKS WITH E4OD TRANSMISSION

INTERMITTENT OR CONTINUOUS LOSS OF VSS

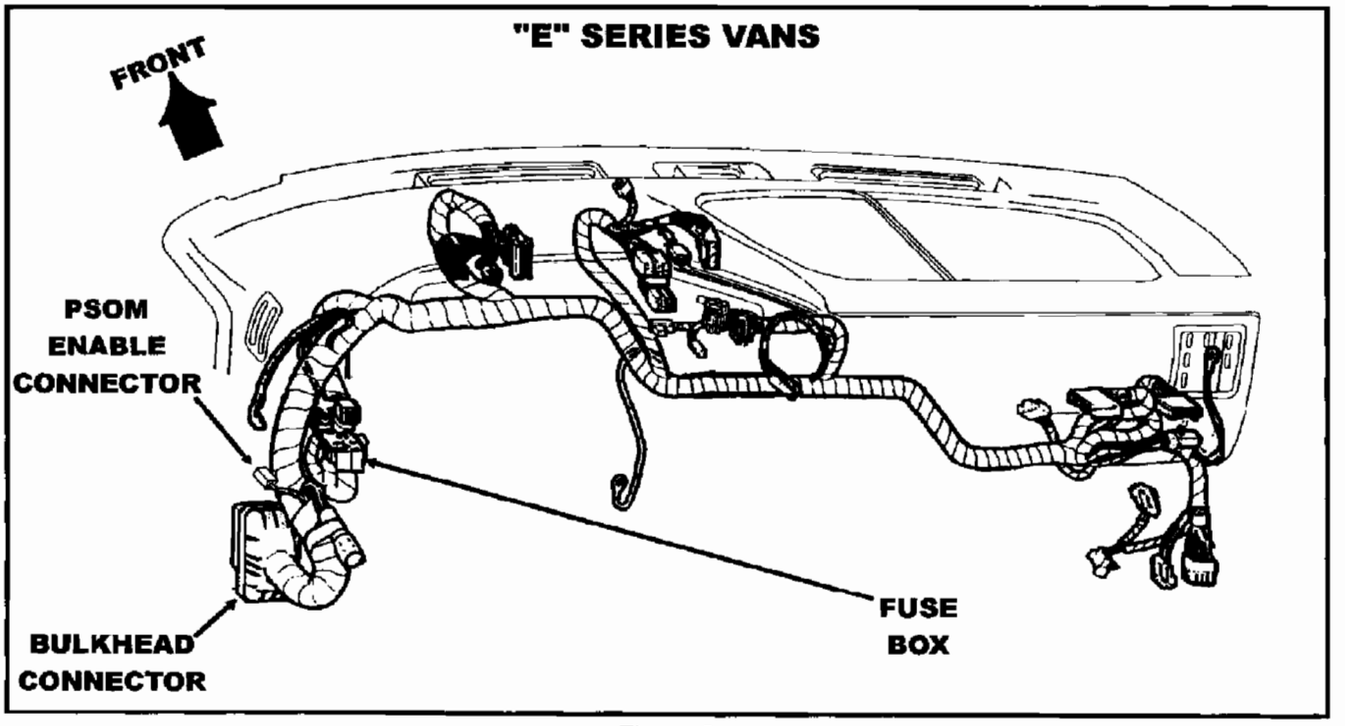


Figure 9

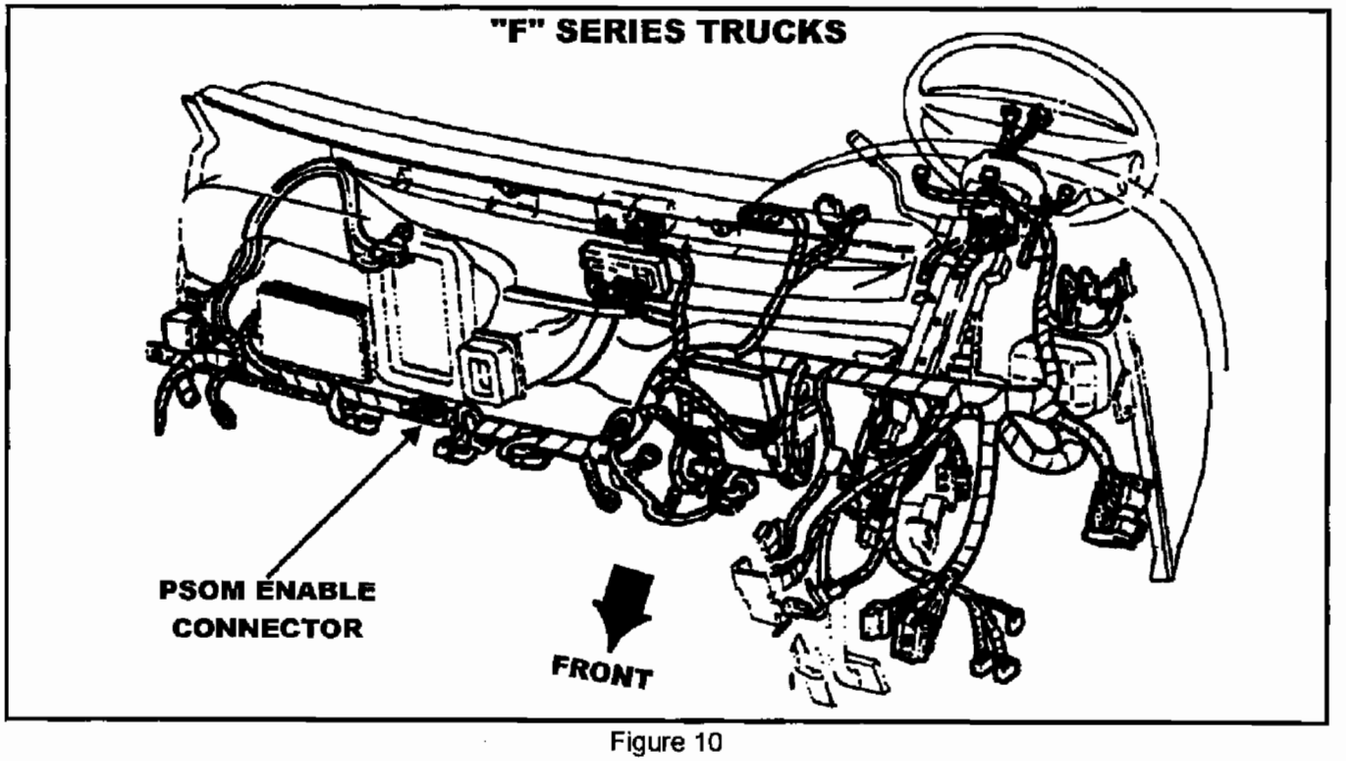
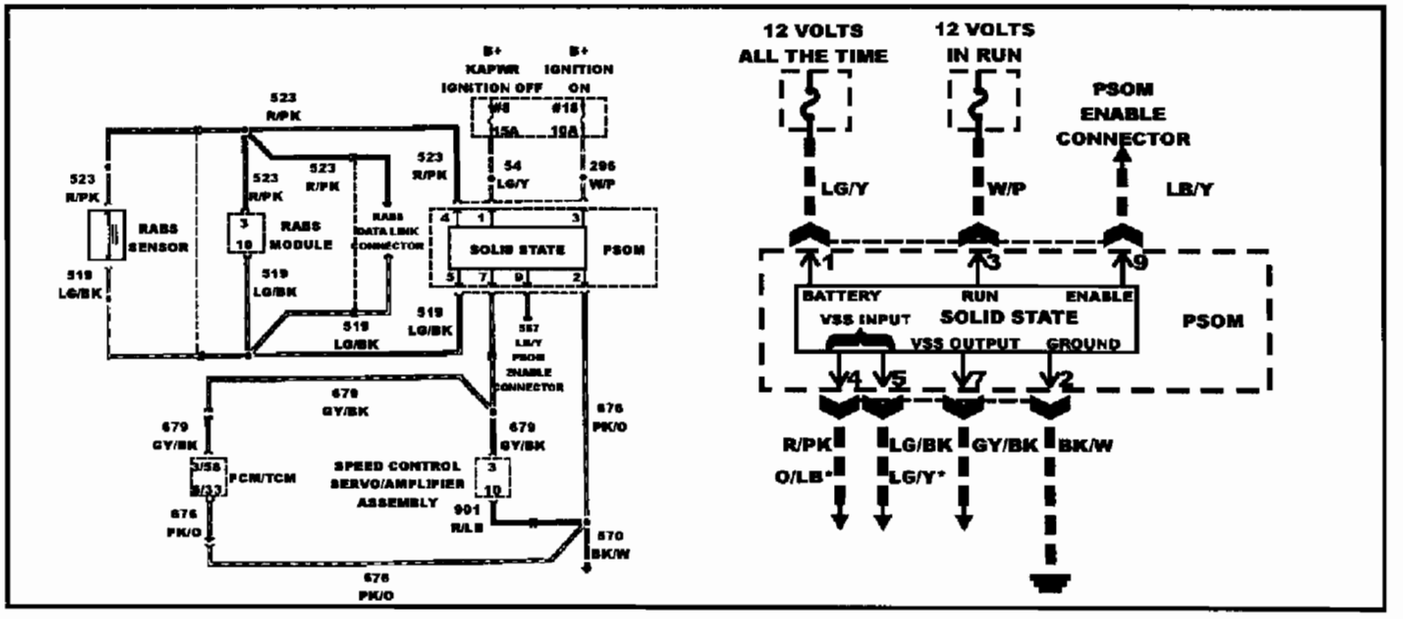


Figure 10

1992 AND LATER FORD TRUCKS WITH E4OD TRANSMISSION

INTERMITTENT OR CONTINUOUS LOSS OF VSS



PSOM DIAGNOSTIC TREE

ROAD TEST...VERIFY TRANSMISSION AND SPEEDOMETER OPERATION VERIFY IF VEHICLES TIRE SIZE AND DIFFERENTIAL GEAR RATIO ARE ORIGINAL

SCANNER INDICATES CODES 29, 452, P0500 OR P0503 IS STORED

ABS WARNING LAMP MAY BE ILLUMINATED

LOCATE PCM/TCM AND BACKPROBE PINS 3 & 6 ON EEC-IV OR 33 & 58 ON EEC-V 67 HZ @ 30 MPH (48 KM/H) SHOULD BE SEEN

READING INCORRECT OR NO READING

CHECK THE 50 AMP "S" FUSE IN THE UNDERHOOD FUSE BOX

OR

CHECK THE #8 15 AMP AND THE #18 10 AMP FUSE IN THE UNDERDASH FUSE BOX

CHECK RABS SENSOR AT RABS TEST CONNECTOR FOR 667 HZ @ 30 MPH (48KM/H)

HERTZ INCORRECT

CONNECT OHMMETER TO RABS TEST CONNECTOR TERMINALS 900-2500 OHMS SHOULD BE SEEN **DO WIGGLE TEST WITH OHMMETER CONNECTED**

REMOVE SPEEDOMETER CLUSTER FROM DASH

CHECK PSOM CONNECTOR PIN 1 LG/YWIRE (54) & PIN 2 PK/O (676) FOR 12 VOLTS WITH IGNITION OFF

VOLTAGE INCORRECT

CHECK 15 AMP FUSE #8 IN UNDERDASH FUSE BOX AND 50 AMP "S" FUSE IN UNDERHOOD FUSE BOX OR CIRCUIT 54 IS FAULTY OR FAULTY GROUND CIRCUIT 676

VOLTAGE CORRECT

CONTINUED

Figure 11

1992 AND LATER FORD TRUCKS WITH E4OD TRANSMISSION

INTERMITTENT OR CONTINUOUS LOSS OF VSS

PSOM DIAGNOSTIC TREE CONTINUED

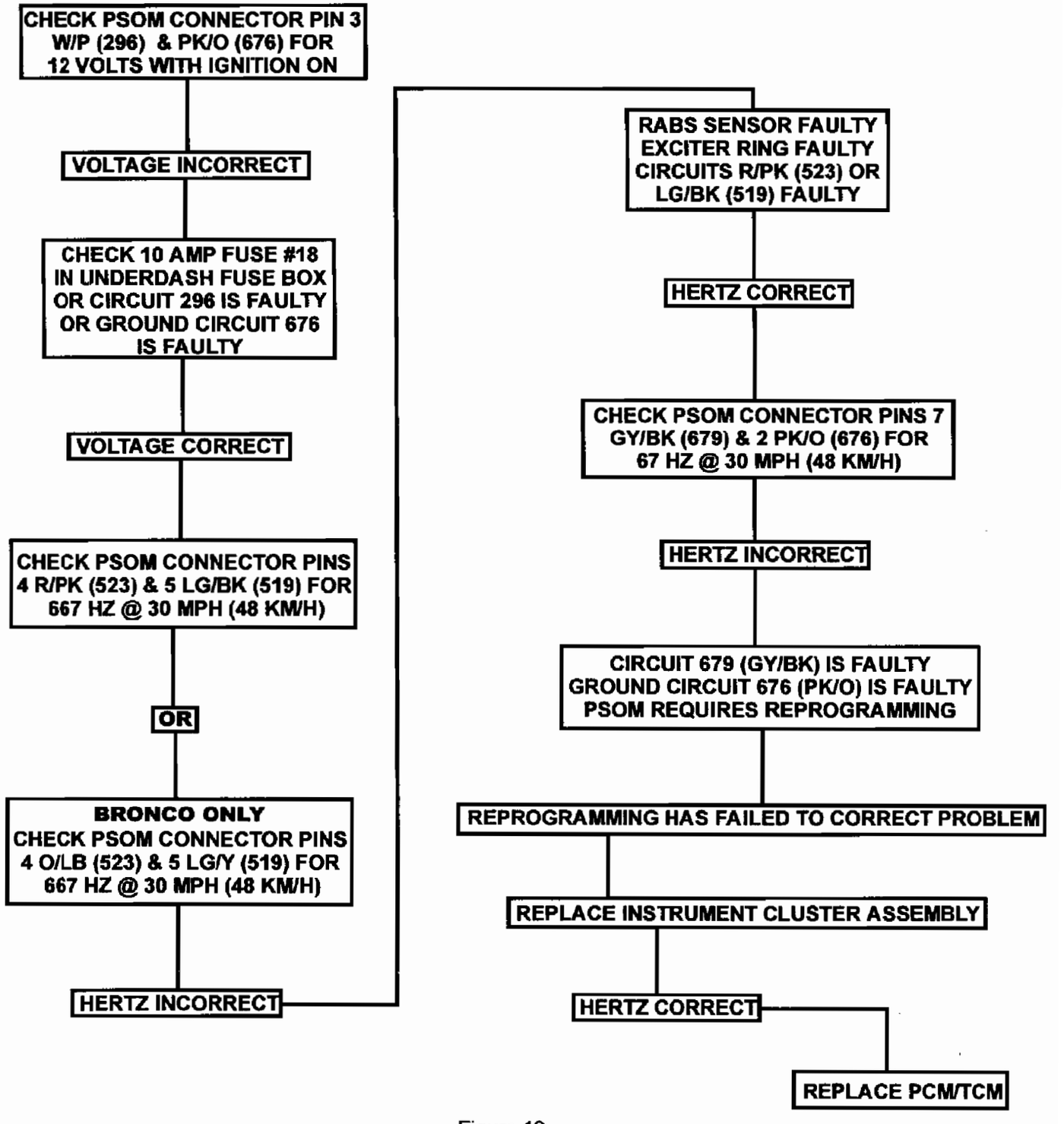


Figure 12

1992 AND LATER FORD TRUCKS WITH E4OD TRANSMISSION

INTERMITTENT OR CONTINUOUS LOSS OF VSS

PSOM ODOMETER DISPLAY

REPROGRAM ENABLE MODE

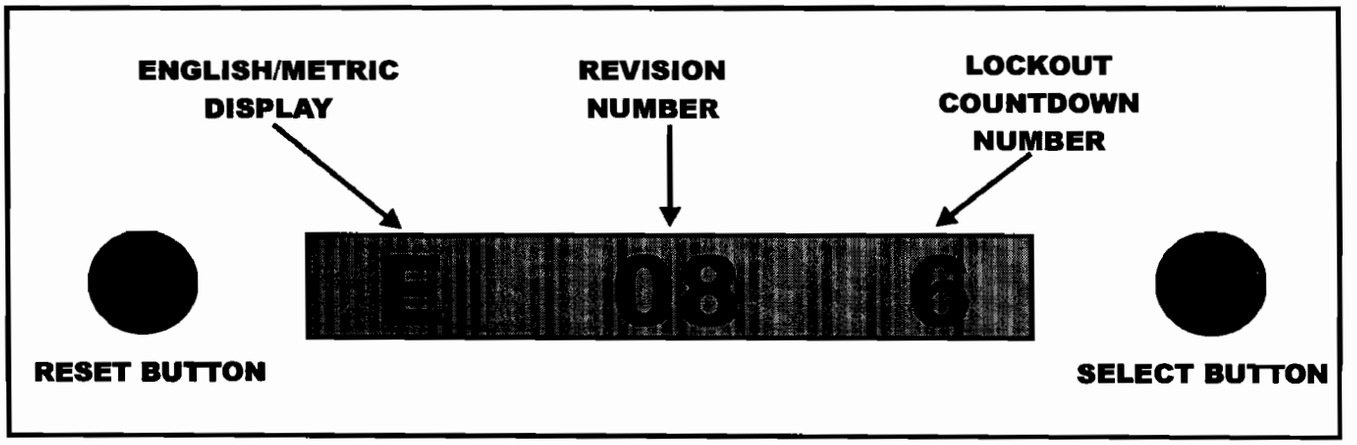


Figure 13

CALIBRATION MODE

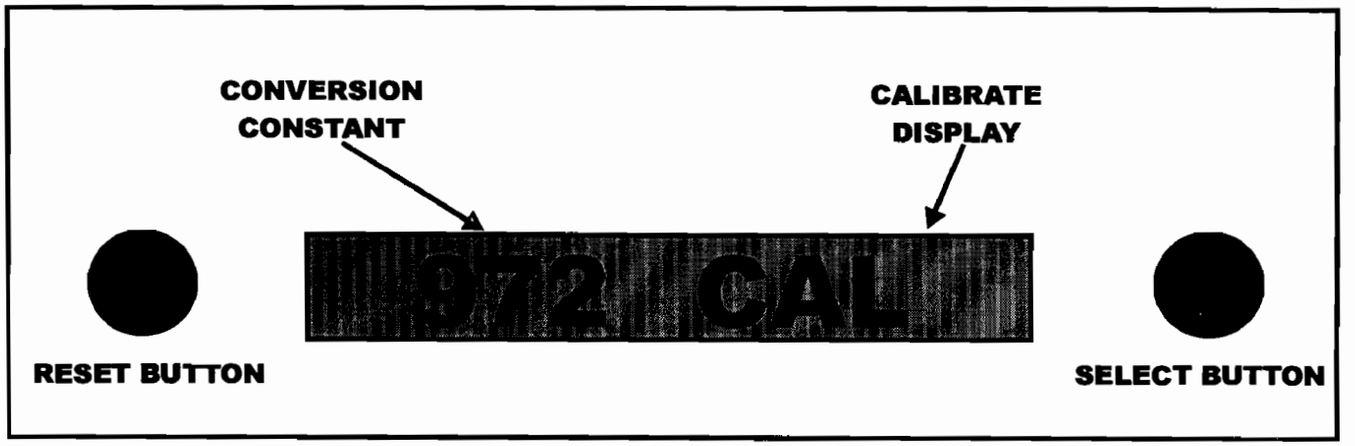


Figure 14

1992 AND LATER FORD TRUCKS WITH E4OD TRANSMISSION

INTERMITTENT OR CONTINUOUS LOSS OF VSS

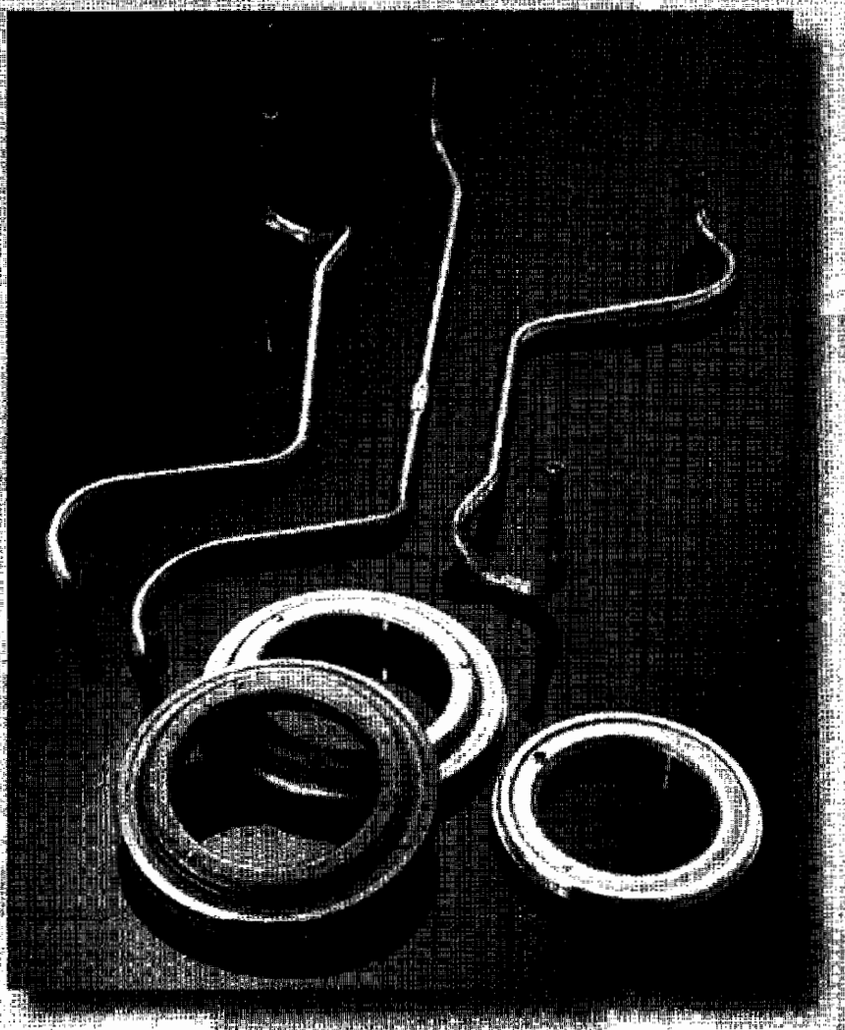
CONVERSION CONSTANT CHART

TIRE SIZE/ TYPE AND SAE REVS PER MILE	AXLE CAPACITY	3800	5300	6250	7400	8250	11000
	SPEED SENSOR EXCITER RING TOOTH COUNT	108	120	120	120	120	120
P215/75R15SL/A/S...753		10.17	N/A	N/A	N/A	N/A	N/A
P235/75R15XL/A/S...720		9.72	N/A	N/A	N/A	N/A	N/A
P235/75R15XL/A/T...716		9.67	N/A	N/A	N/A	N/A	N/A
31-10.50R15C/A/T...680		9.18	N/A	N/A	N/A	N/A	N/A
LT215/85R16D/A/T...684		N/A	10.26	N/A	10.26	10.26	N/A
LT215/85R16D/A/S...687		N/A	10.31	N/A	N/A	N/A	N/A
LT235/85R16E/A/T...653		N/A	9.80	9.80	N/A	9.80	9.80
LT235/85R16E/A/S...653		N/A	9.84	9.84	N/A	9.84	9.84
7.50R-16D/HWY...653		N/A	9.80	N/A	N/A	N/A	N/A
7.50R-16D/A/T...649		N/A	9.74	N/A	N/A	N/A	N/A
P265/75R15/A/T...680		9.18	N/A	N/A	N/A	N/A	N/A
P275/60HR17/A/S...690.5		9.32	N/A	N/A	N/A	N/A	N/A

Figure 15

USE THIS TIRE SIZE, DIFFERENTIAL GEAR RATIO AND EXCITER RING TOOTH COUNT CHART WHEN REPROGRAMMING THE PROGRAMMABLE SPEEDOMETER /ODOMETER

World Class Parts...
Accept Nothing Less!



Powertrane has been the leader in piston technology for the AXOD and AXOD-E Ford transmission. Our forward clutch piston, direct clutch piston, and the forward clutch piston for the SHO cars are of OEM quality. We meet or exceed that quality each and every time we produce a part. We bring to you that same commitment with our lube tubes for the AXOD-E transmission unit...

Accept Nothing Less!

Powertrane parts can be purchased at most all transmission parts distributors. For the distributor nearest you call 1-800-790-4327.

POWERTRANE® CORPORATION

2412 Distribution Street • Charlotte, NC 28203
704-376-5588 • 800-790-4327 • FAX: 704-376-1178

FORD E4OD
ENGINE STALL DURING ENGAGEMENT

COMPLAINT: Some vehicles may stall the engine when the transmission is placed into gear. The vehicles affected are 96 Bronco, 96-97 Econoline, 96-97 F-150-350 Trucks, F53 Motorhome Chassis, 97 Expedition, and 98 Navigator.

CAUSE: The cause may be, the bottom pan transmission filter falling out of its bore, resulting in air ingested into the pump and lower than normal line pressure, which creates lower than normal converter release pressure.

CORRECTION: Remove the transmission bottom pan to determine if the filter has dropped down or is not firmly seated in the pump bore. If the filter is not firmly seated in the pump bore or falls down into the pan as it is removed, place the rectangular Transmission Pan Magnet part No. F3RZ-7E290-AC on the transmission pan at the location shown in Figure 1. Leave the original magnet in place, and install new filter and seal assembly.

SERVICE INFORMATION:

Transmission Pan Magnet F3RZ-7E290-AC

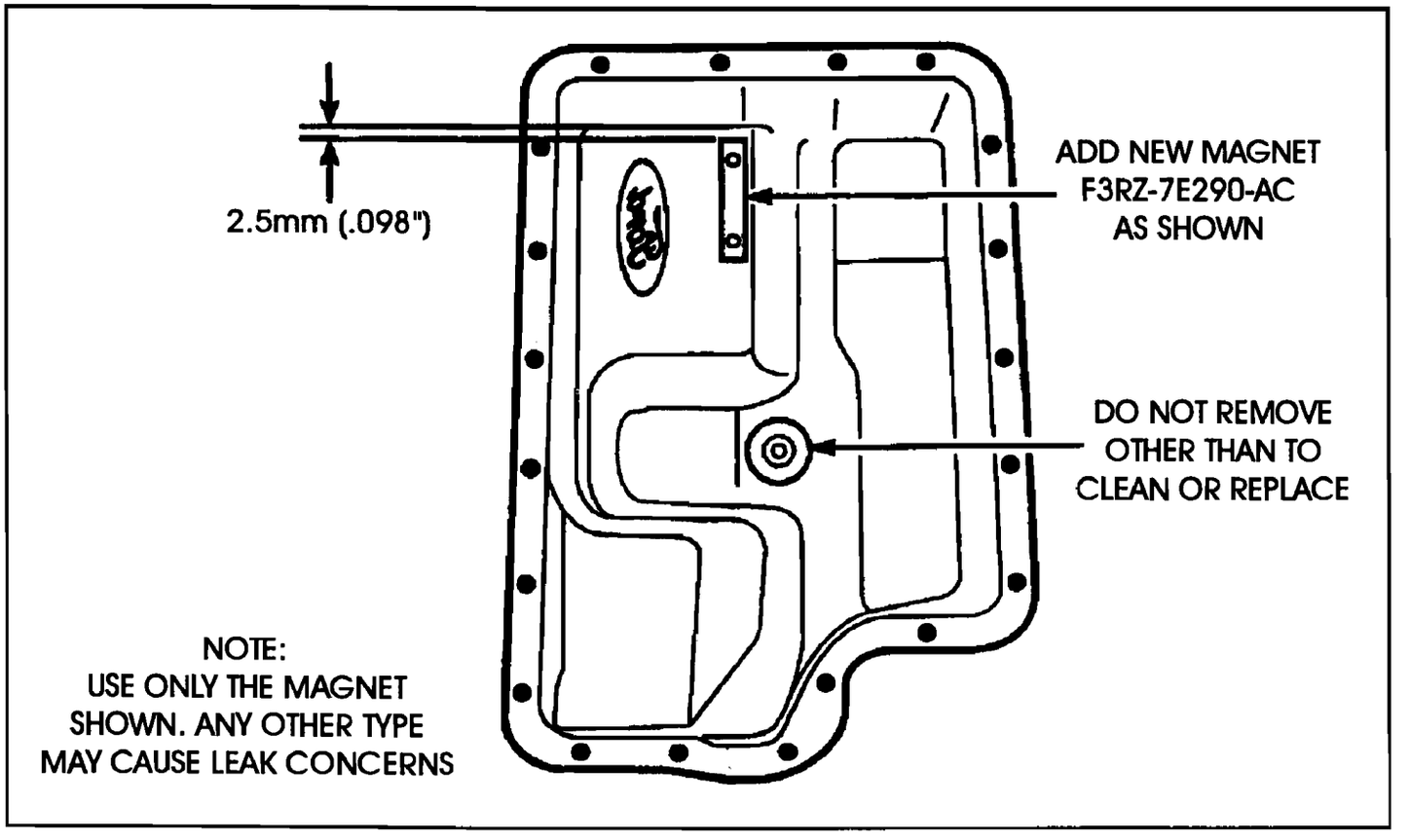


Figure 1

FORD AODE/4R70W
CONVERTER CLUTCH SHUDDER

COMPLAINT: Before and/or after rebuild, the vehicle exhibits a converter clutch shudder condition, even with the proper Mercon® transmission fluid installed.

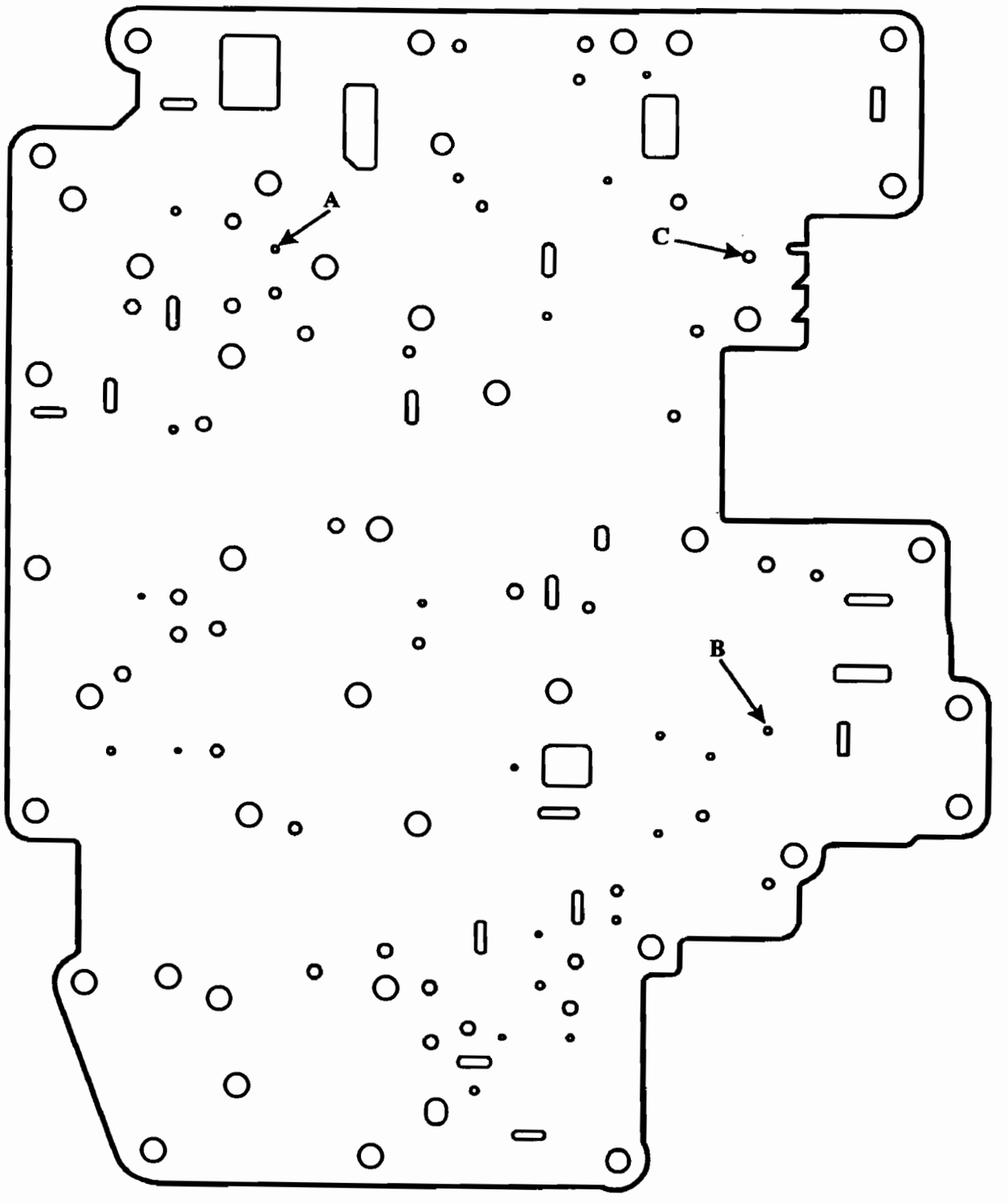
CAUSE: The cause may be, not enough oil to the converter clutch apply circuit.

CORRECTION: Drill the hole marked "A" in Figure 1 out to .062", which increases the volume of oil to the bypass clutch control valve apply circuit.

Drill the hole marked "B" in Figure 1 out to .062", which increases oil volume to the MCC/PWM solenoid. This increased oil to the valve's apply circuit ("A" orifice).

Restrict the hole marked "C" in Figure 1, to approximately .030" using a cotter key, which ensures that apply oil can overcome this balance circuit.

FORD A0DE/4R70W
TCC SHUDDER



1. **DRILL HOLE MARKED "A" OUT TO .062".**
2. **DRILL HOLE MARKED "B" OUT TO .062".**
3. **INSTALL COTTER PIN IN HOLE MARKED "C" TO REDUCE SIZE TO APPROXIMATELY .030".**

FORD AODE/4R70W
DELAY TO REVERSE

COMPLAINT: Some vehicles equipped with the AODE/4R70W transmission, may exhibit a delay to reverse condition, before and/or after rebuild.

CAUSE: The cause may be, not enough volume of oil to the reverse input clutches.

CORRECTION: Drill the hole in the spacer plate that is shown in Figure 1 out to .093" to increase the volume of oil to the reverse input clutches, and correct the delay to reverse.

FORD A0DE/4R70W
DELAY TO REVERSE

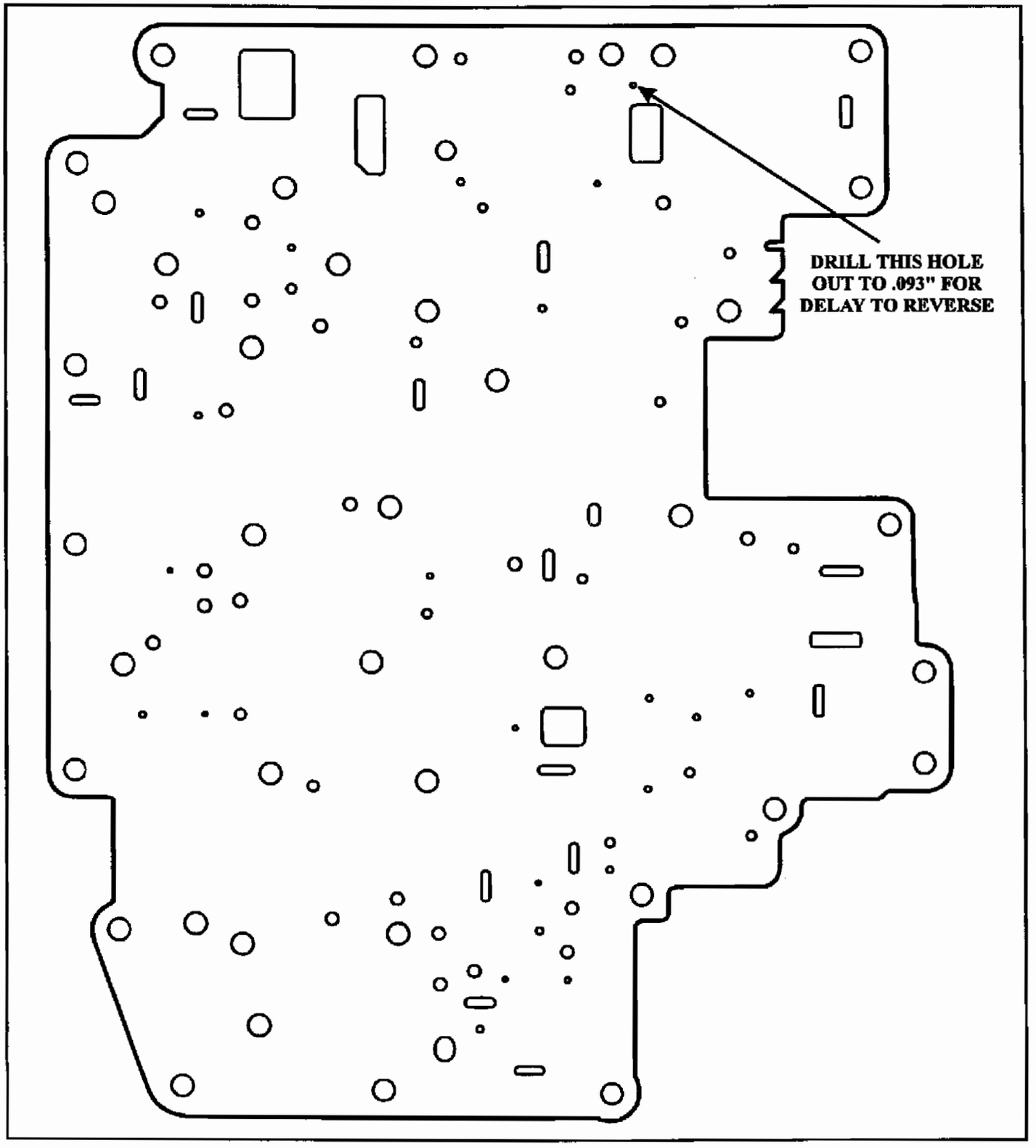


Figure 1

FORD AODE/4R70W
FIRMER 1-2 UPSHIFT

COMPLAINT: Some drivers may complain about a soft 1-2 upshift on Ford vehicles equipped with the AODE/4R70W transmission. This can occur before and/or after rebuild.

CAUSE: The cause may be, not enough volume of oil to the intermediate clutch pack.

CORRECTION: Drill the hole in the spacer plate that is shown in Figure 1 out to .040" to .055", to increase the amount of oil for the intermediate clutches and improve the 1-2 shift feel.

FORD A0DE/4R70W
FIRMER 1-2 UPSHIFT

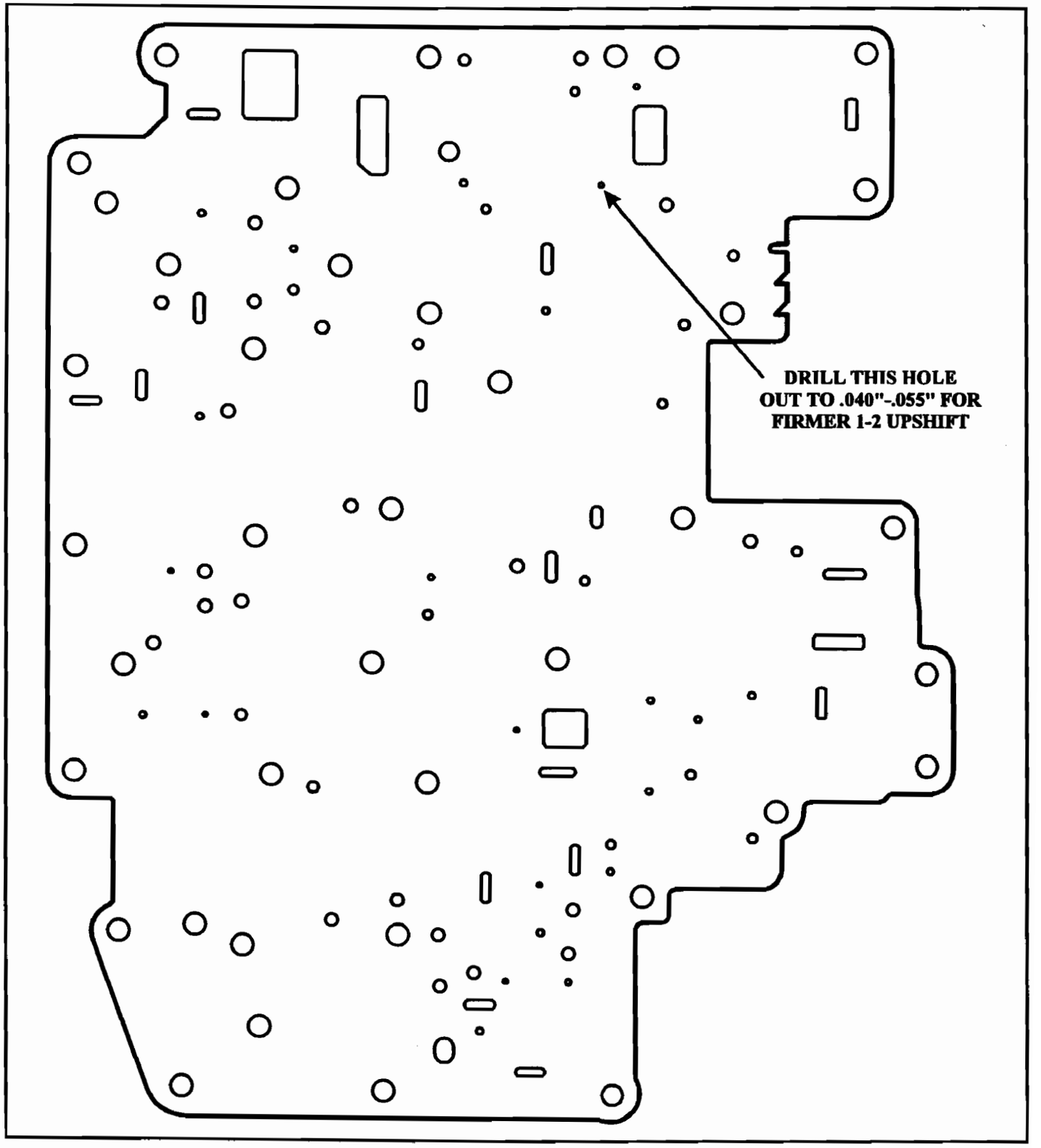


Figure 1

FORD AX4S (AXODE)
INTERMITTENT NEUTRAL COMING TO STOP

COMPLAINT: Some 1996-1998 Windstar vehicles equipped with the AX4S (AXODE) transaxle may experience an intermittent neutral condition after driving and coming to a stop.

CAUSE: The cause may be, the molded rubber seal on the forward clutch piston intermittently not sealing during the 3-2 downshift (See Figure 1).

CORRECTION: Replace the forward clutch piston ***and*** the forward clutch cylinder with the OEM part numbers listed below. Refer to Figure 1 for new design and Figure 2 for previous design

SERVICE INFORMATION:

Forward Clutch Piston	F8DZ-7A262-AB
Forward Clurch Cylinder	F5DZ-7A360-A
Forward Clutch Friction Plates (4 Required)	F8DZ-7B164-AC
Forward Clutch Steel Plates (4 Required)	F2DZ-7B442-A

NEW DESIGN FORWARD CLUTCH PISTON

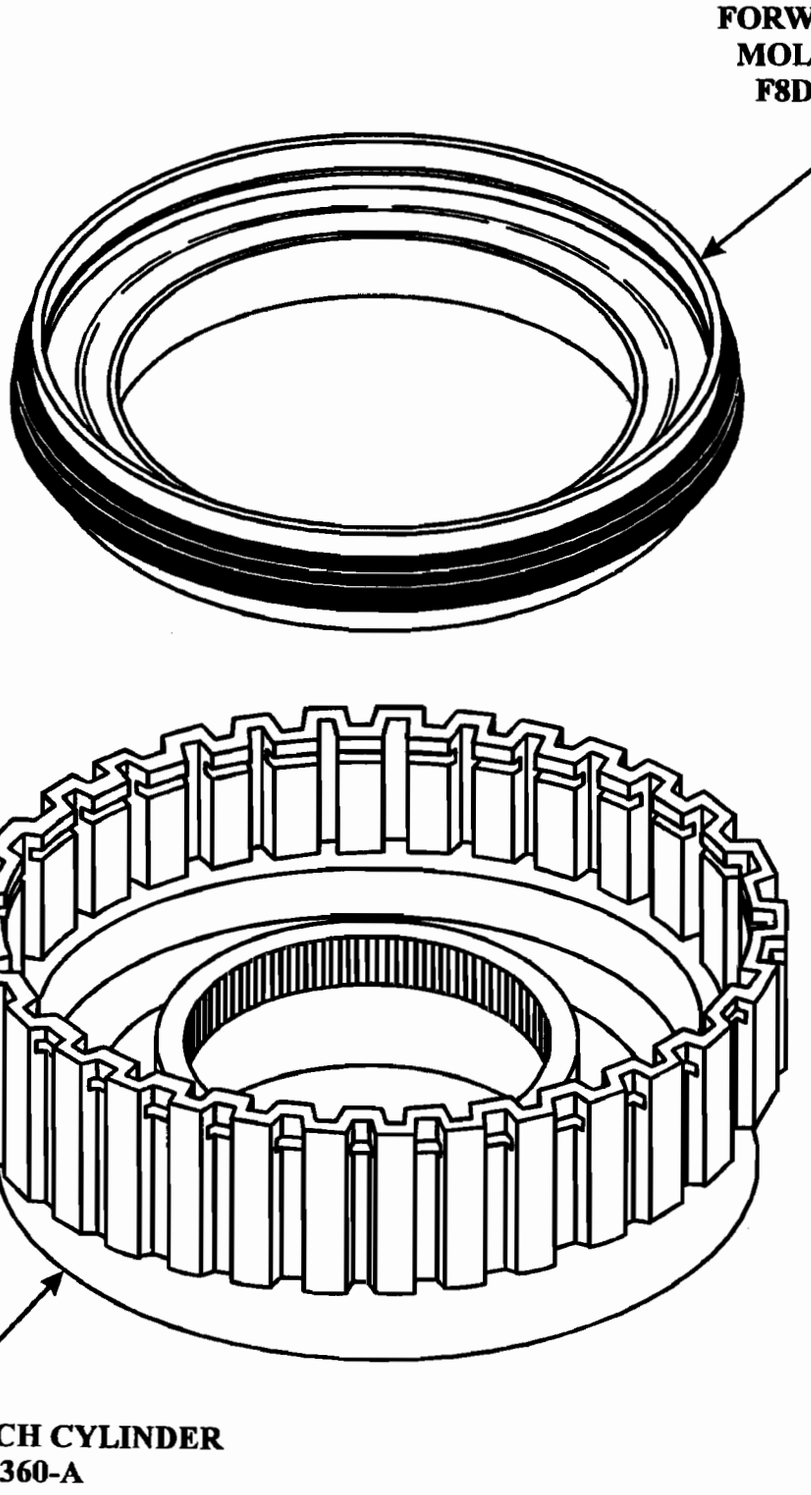


Figure 1

PREVIOUS DESIGN STEEL FORWARD CLUTCH PISTON
OEM PART NUMBER F4DZ-7A262-A

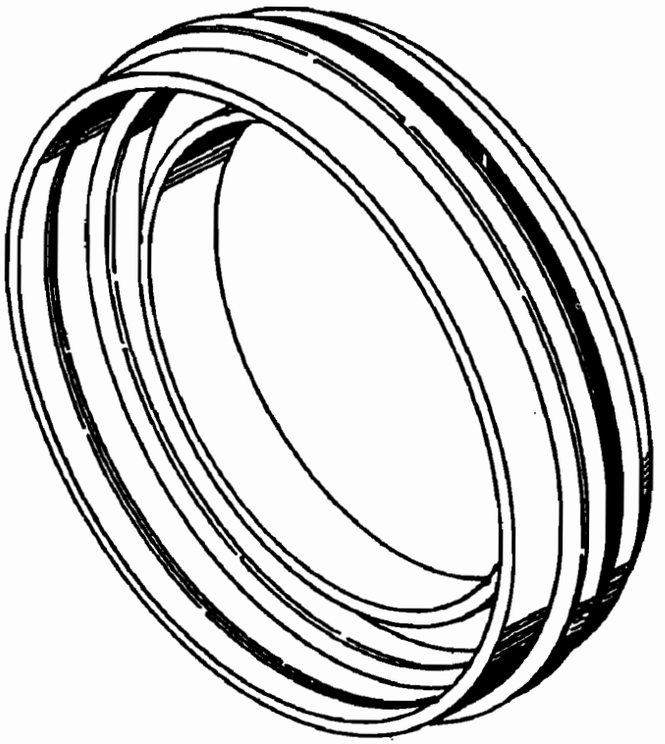
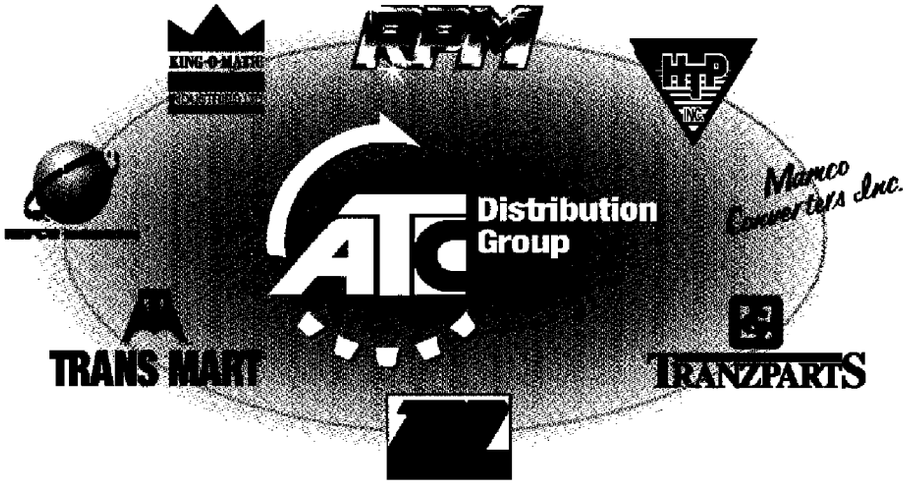


Figure 2

ONE CATALOG

ONE COMPANY



FORD AODE/4R70W
VALVE BODY INTERCHANGE

A new transmission case and valve body have been released for service for all 1992-1995 vehicles equipped with the AODE/4R70W transmission. The new transmission case pilot holes, used to align the valve body, have been reduced to accommodate the smaller pilots used on the new service valve body bolts. Refer to Figure 1.

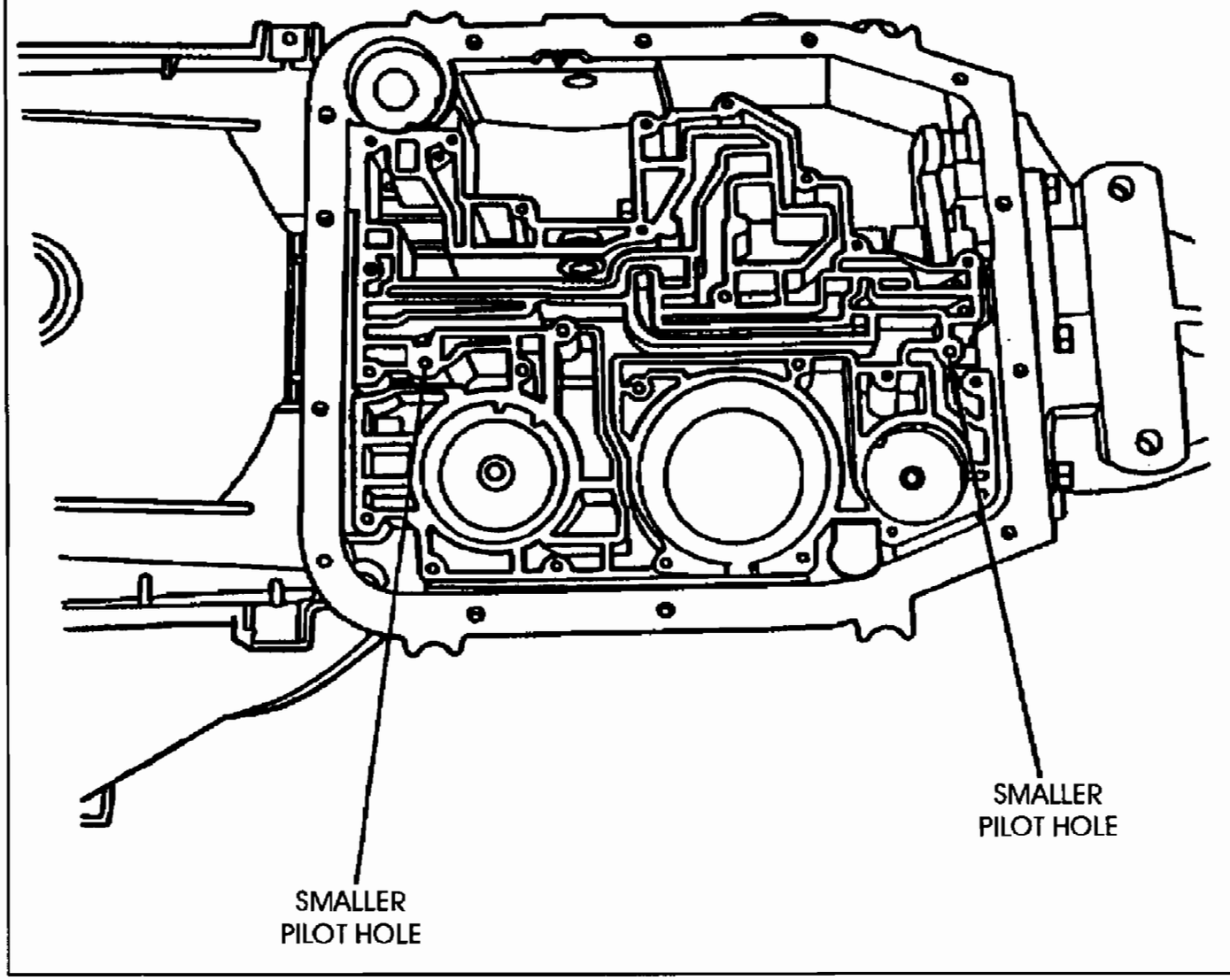
When installing a new service case, and using a 92-95 valve body, the pilot bolts must be replaced with the new bolts with the smaller pilot, part number N808962-S and gasket part number F6AZ-7C155-A.

When replacing the valve body with a new design level valve body, and reusing the 92-95 case, you must use new sleeves in the case pilot holes, part number F6AZ-7K720-A, to accommodate the new design level valve body with the smaller pilots on the bolts. The new design level EPC Solenoid Retainer, part number F6AZ-7H111-A must also be used because of the thinner plate on the new design level valve body.

SERVICE INFORMATION:

Valve Body Pilot Bolts (Smaller Pilot)	N808962-S
Transmission Case Pilot Sleeves	F6AZ-7K720-A
Transmission Case, 3.8L, 4.2L, 5.0L (New Design)	F6SZ-7005-A
Transmission Case, 4.6L (New Design)	F6AZ-7005-A

NEW DESIGN LEVEL TRANSMISSION CASE



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

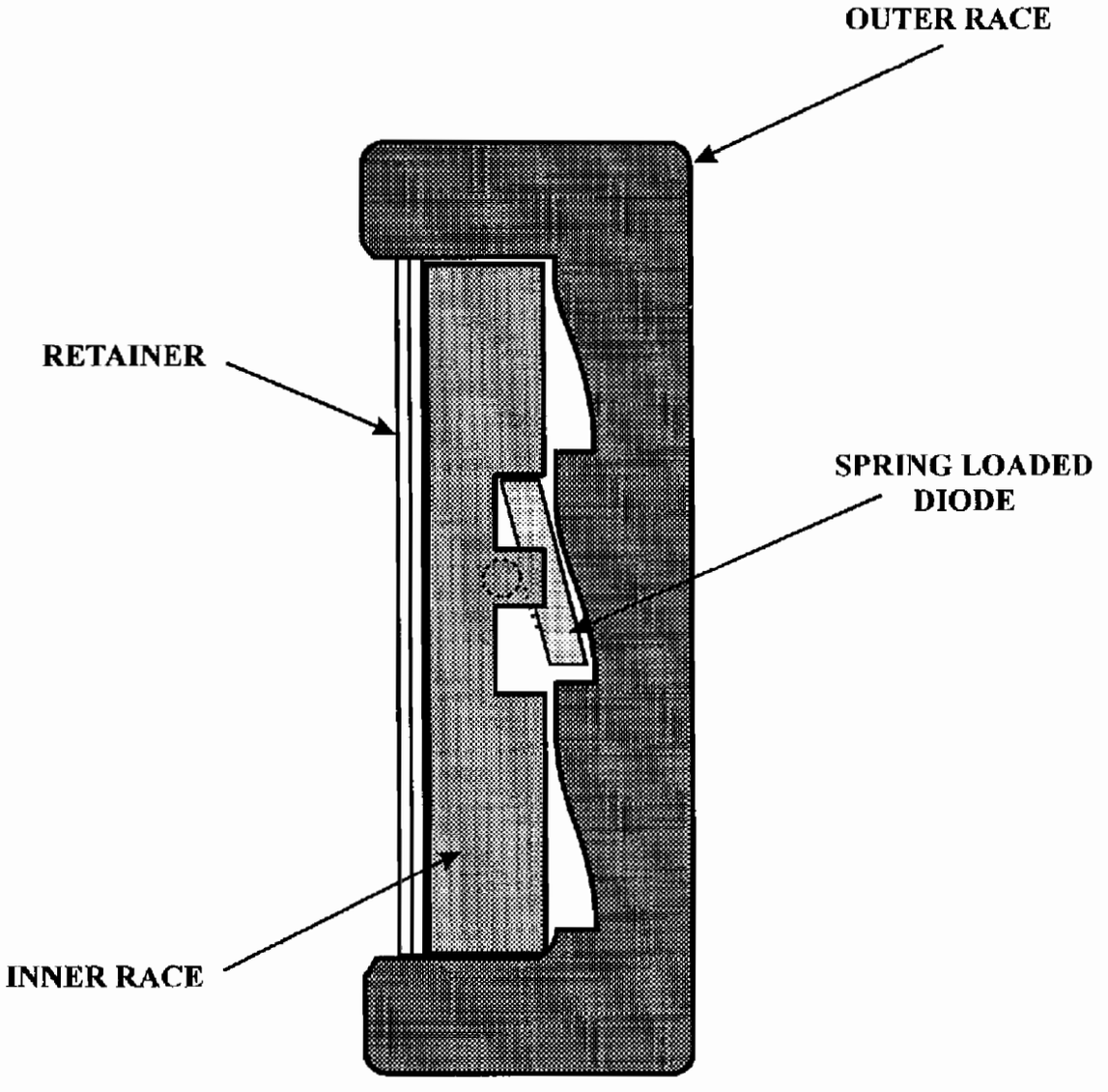


Figure 1

MECHANICAL DIODE INTERMEDIATE SPRAG

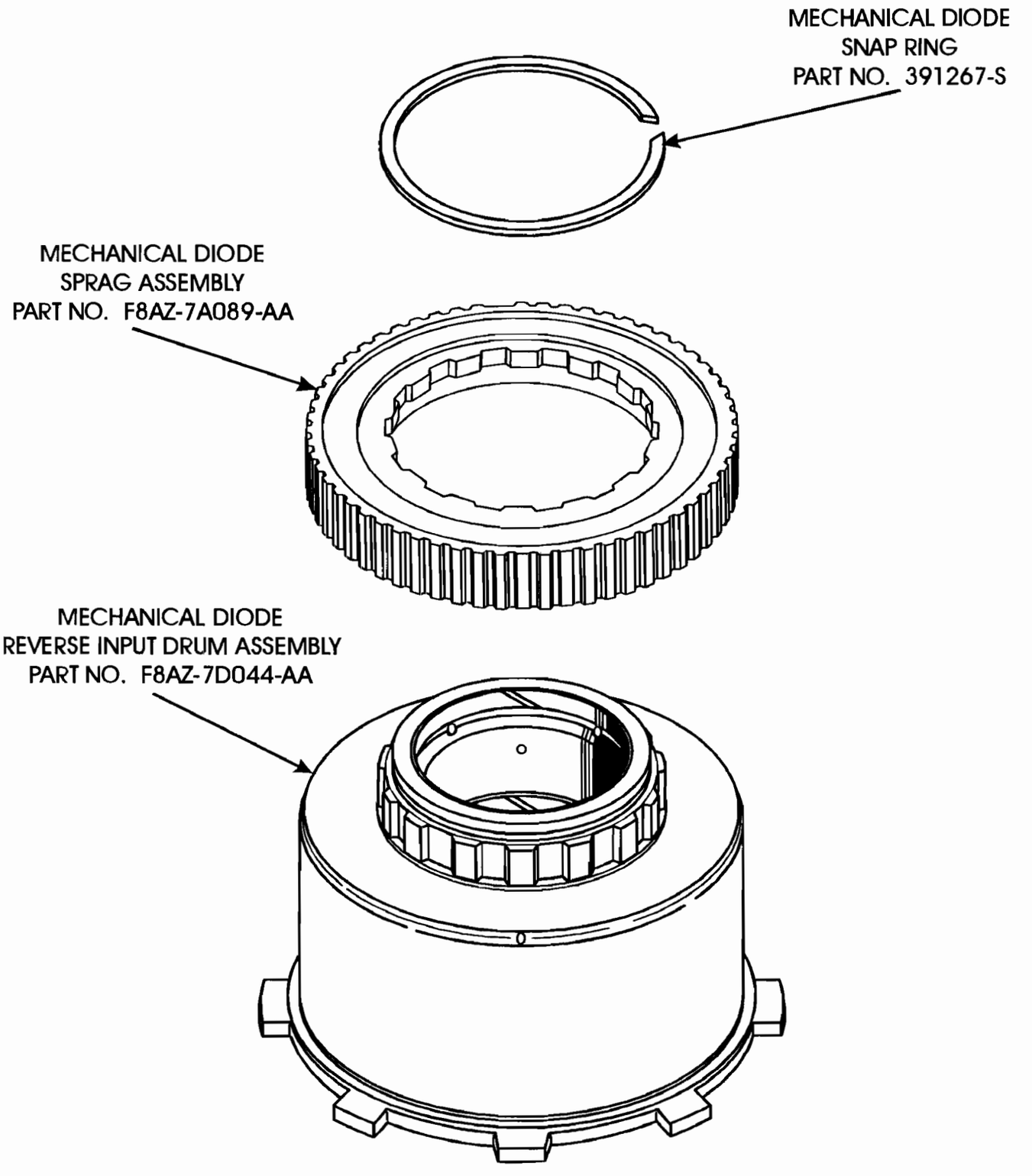


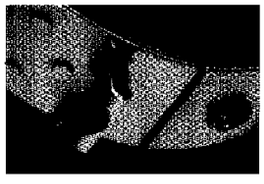
Figure 2

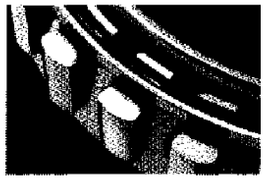
Thanks a billion.

Borg-Warner Automotive pioneered the development of paper based friction materials over 40 years ago.

Since then, we've manufactured well over *one billion* plates for automakers around the globe – and for rebuilders like you nationwide.

Our history of working closely with automotive OEM's in the development of components and systems on generations of transmissions has also helped to make Borg-Warner one of the most requested names in the rebuilder industry. That's because professional rebuilders know when they specify genuine Borg-Warner parts, they won't get replacement parts – they'll get the same no risk OEM components that automakers around the world have relied on for over fifty years. They also know that Borg-Warner parts are competitively priced, readily available for quick delivery and guaranteed to fit their rebuilds.





Borg-Warner makes dozens of OEM quality parts for over 80 transmissions world-wide, including FLEX-BAND™, UNI-BAND™ and MAJI-BAND™ transmission bands, friction plates and one-way clutches.

Call your authorized distributor today and ask for the original equipment parts from the leader in automatic transmission technology...Borg-Warner Automotive.

BorgWarner Automotive

Borg-Warner Automotive Automatic Transmission Systems Corporation
1140 North DuPage Avenue Lombard, IL 60148 (630) 261-9980

FORD AOD-E/4R70W
SLIPPING OR PROLONGED 1-2 UPSHIFT

COMPLAINT: Before and/or after rebuild, the vehicle exhibits a slipping condition on the 1-2 upshift, and sometimes will not be displayed untill some miles have been put on the vehicle.

CAUSE: The cause may be, premature 1-2 accumulator seal wear, which also creates the case accumulator bore to become scuffed, which leads to the loss in the 1-2 shift.

CORRECTION: Replace the cast aluminum 1-2 accumulator piston with a new design one piece stamped steel piston with molded rubber lip seals, and replace the top accumulator spring with the revised parts available from Ford Motor Co. Case replacement should not be necessary with the use of the revised stamped steel accumulator piston. Refer to Figure 1 to remove the piston assembly. Refer to Figure 2 for illustration of both design stack-ups, and to Figure 3 for a chart to install the proper revised springs into the proper model.

SERVICE INFORMATION:

1-2 Accumulator Piston (New Design)	F7AZ-7F251-AA
1-2 Accumulator Spring, Bottom, (Purple)	F3LY-7F284-A
1-2 Accumulaotr Spring, Bottom, (Pink)	F4UZ-7F284-A
1-2 Accumulaotr Spring, Bottom, (Violet)	F7AZ-7F284-BA
1-2 Accumulator Spring, Top, (White)	F7AZ-7F284-AA
1-2 Accumulator Spring, Top, (Dk. Blue)	F7AZ-7F284-CA
1-2 Accumulator Spring, Top, (Lt. Blue)	F75Z-7F284-AA
1-2 Accumulator Spring, Top, (Brown)	F75Z-7F284-BA

Note: ***When referencing spring location, bottom refers to the bottom of the transmission as it sits in the vehicle (pan side).***

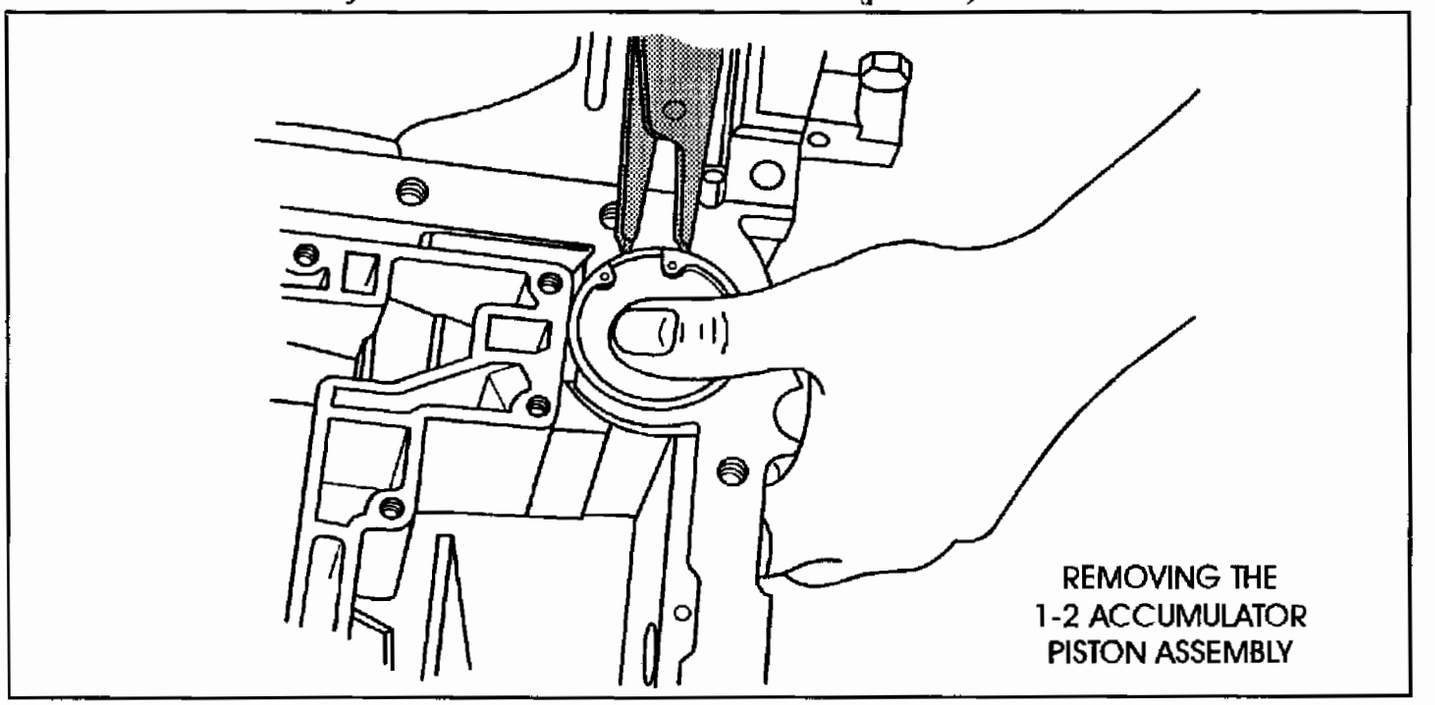
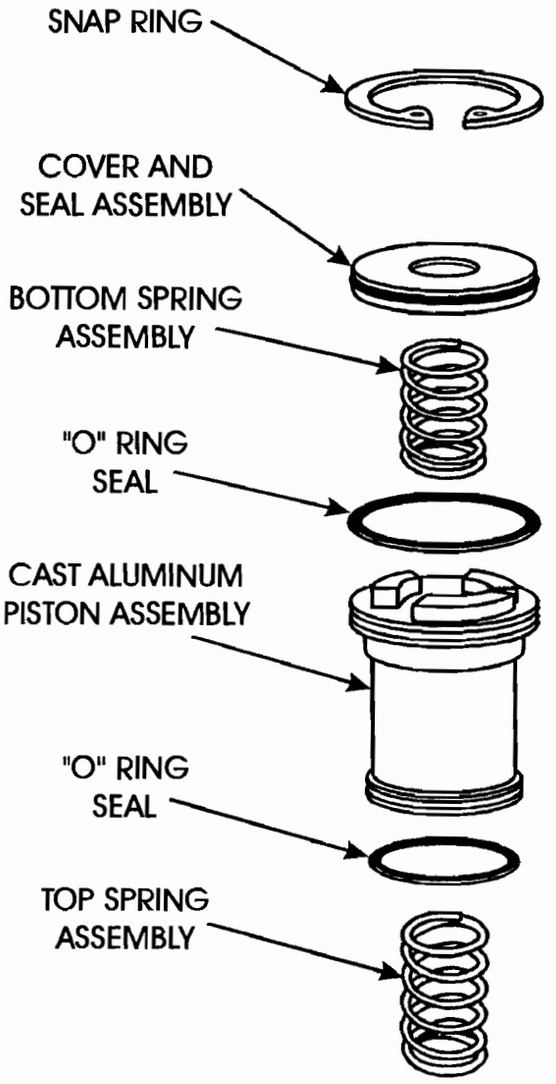
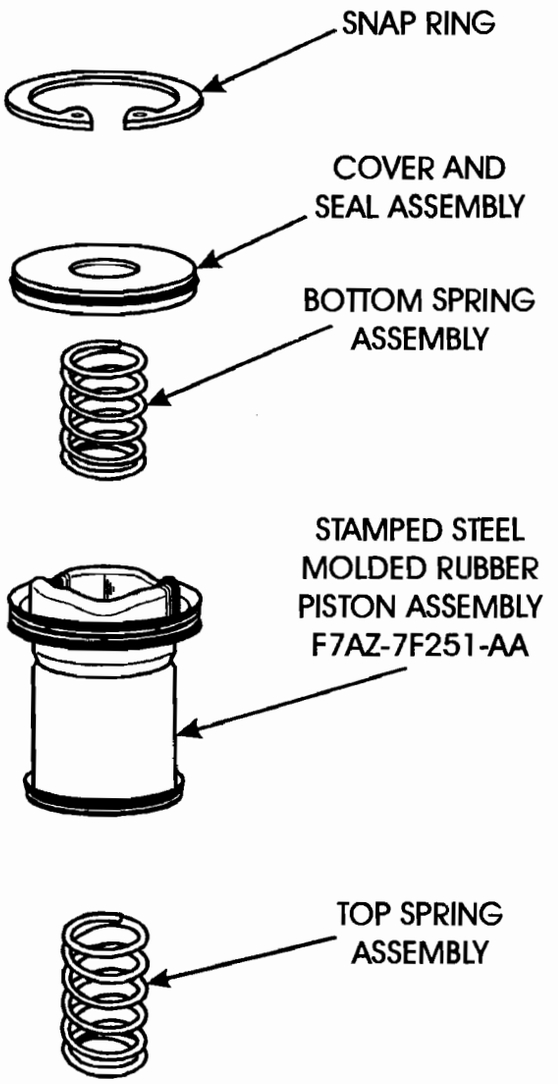


Figure 1

PREVIOUS DESIGN
1-2 ACCUMULATOR
ASSEMBLY



NEW DESIGN
1-2 ACCUMULATOR
ASSEMBLY



Note: **When referencing spring location, bottom refers to the bottom of transmission as it sits in the vehicle (pan side).**

		1992	1993	1994	1995	1996	1997
Crown Victoria 4.6L Grand Marquis 4.6L	TOP BOTTOM	NONE F7AZ-BA (Violet)	NONE F7AZ-BA (Violet)	F7AZ-CA (Dk. Blue) F7AZ-BA (Violet)	F7AZ-AA (White) F3LY-A (Purple)	F7AZ-AA (White) F3LY-A (Purple)	F7AZ-AA (White) F3LY-A (Purple)
Mark VIII 4.6L 4V	TOP BOTTOM	NA NA	F75Z-AA (Lt. Blue) F3LY-A (Purple)	F75Z-AA (Lt. Blue) F3LY-A (Purple)	F75Z-AA (Lt. Blue) F3LY-A (Purple)	F75Z-AA (Lt. Blue) F3LY-A (Purple)	F75Z-AA (Lt. Blue) F4UZ-A (Pink)
Mustang 3.8L	TOP BOTTOM	NA NA	NA NA	NONE F3LY-A (Purple)	NONE F3LY-A (Purple)	F7AZ-AA (White) F4UZ-A (Pink)	F7AZ-AA (White) F4UZ-A (Pink)
Mustang 4.6L	TOP BOTTOM	NA NA	NA NA	NONE F3LY-A (Purple)	NONE F3LY-A (Purple)	F75Z-AA (Lt. Blue) F3LY-A (Purple)	F75Z-AA (Lt. Blue) F3LY-A (Purple)
Mustang 5.0L	TOP BOTTOM	NA NA	NA NA	NONE F3LY-A (Purple)	NONE F3LY-A (Purple)	NA NA	NA NA
Thunderbird 3.8L & Cougar 3.8L	TOP BOTTOM	NA NA	NA NA	NONE F3LY-A (Purple)	NONE F3LY-A (Purple)	F7AZ-AA (White) F4UZ-A (Pink)	F7AZ-AA (White) F4UZ-A (Pink)
Thunderbird 4.6L & Cougar 4.6L	TOP BOTTOM	NA NA	NA NA	NONE F3LY-A (Purple)	NONE F3LY-A (Purple)	F75Z-AA (Lt. Blue) F3LY-A (Purple)	F75Z-AA (Lt. Blue) F3LY-A (Purple)
Town Car 4.6L	TOP BOTTOM	NONE F7AZ-BA (Violet)	NONE F7AZ-BA (Violet)	F7AZ-CA (Dk. Blue) F7AZ-BA (Violet)	F7AZ-AA (White) F3LY-A (Purple)	F7AZ-AA (White) F3LY-A (Purple)	F7AZ-AA (White) F3LY-A (Purple)
Econoline 4.2L & 4.6L	TOP BOTTOM	NA NA	NA NA	NA NA	NA NA	NA NA	F75Z-BA (Brown) F4UZ-A (Pink)
Econoline 5.0L	TOP BOTTOM	NA NA	NA NA	F7AZ-AA (White) F4UZ-A (Pink)	F7AZ-AA (White) F4UZ-A (Pink)	F7AZ-AA (White) F4UZ-A (Pink)	NA NA
Expedition 4.6L	TOP BOTTOM	NA NA	NA NA	NA NA	NA NA	NA NA	F75Z-AA (Lt. Blue) F4UZ-A (Pink)
Explorer 5.0L & Mountaineer	TOP BOTTOM	NA NA	NA NA	NA NA	NA NA	F7AZ-AA (White) F4UZ-A (Pink)	F7AZ-AA (White) F4UZ-A (Pink)
F-150 4.2L	TOP BOTTOM	NA NA	NA NA	NA NA	NA NA	F7AZ-AA (White) F4UZ-A (Pink)	F7AZ-AA (White) F4UZ-A (Pink)
F-150 4.6L	TOP BOTTOM	NA NA	NA NA	NA NA	NA NA	F75Z-AA (Lt. Blue) F4UZ-A (Pink)	F75Z-AA (Lt. Blue) F4UZ-A (Pink)
F-150 5.0L	TOP BOTTOM	NA NA	NA NA	F7AZ-AA (White) F4UZ-A (Pink)	F7AZ-AA (White) F4UZ-A (Pink)	F7AZ-AA (White) F4UZ-A (Pink)	NA NA
F-250 LD 4.6L	TOP BOTTOM	NA NA	NA NA	NA NA	NA NA	NA NA	F75Z-BA (Brown) F4UZ-A (Pink)

Notes:
1. *The base part number for the springs is -7F284-. For example, the part number for the pink spring is F4UZ-7F284-A.*
2. *When referencing spring location, bottom refers to the bottom of the transmission as ir sits in the vehicle (pan side).*
3. *"NA" means that the AOD-E/4R70W transmission was "Not Available", and not used for that model year.*

FORD AODE/4R70W
STAMPED STEEL, MOLDED RUBBER 2-3 ACCUMULATOR PISTON

CHANGE: Beginning at the start of production for 1997 models, Ford Motor Company introduced a new design stamped steel, molded rubber 2-3 accumulator piston, for vehicles equipped with the AODE/4R70W transmission See Figures 1 and 2.

REASON: Increased reliability and durability of the transmission and direct clutches.

PARTS AFFECTED:

(1) Now manufactured of stamped steel with molded rubber seals instead of the previous cast aluminum piston with the individual seals. (See Figure 2).

INTERCHANGEABILITY:

The new design stamped steel, molded rubber 2-3 accumulator piston will retro-fit back to 1981 model hydraulic AOD transmissions, and is recommended.

SERVICE INFORMATION:

2-3 Accumulator Piston (New Design) F7AZ-7H292-AA

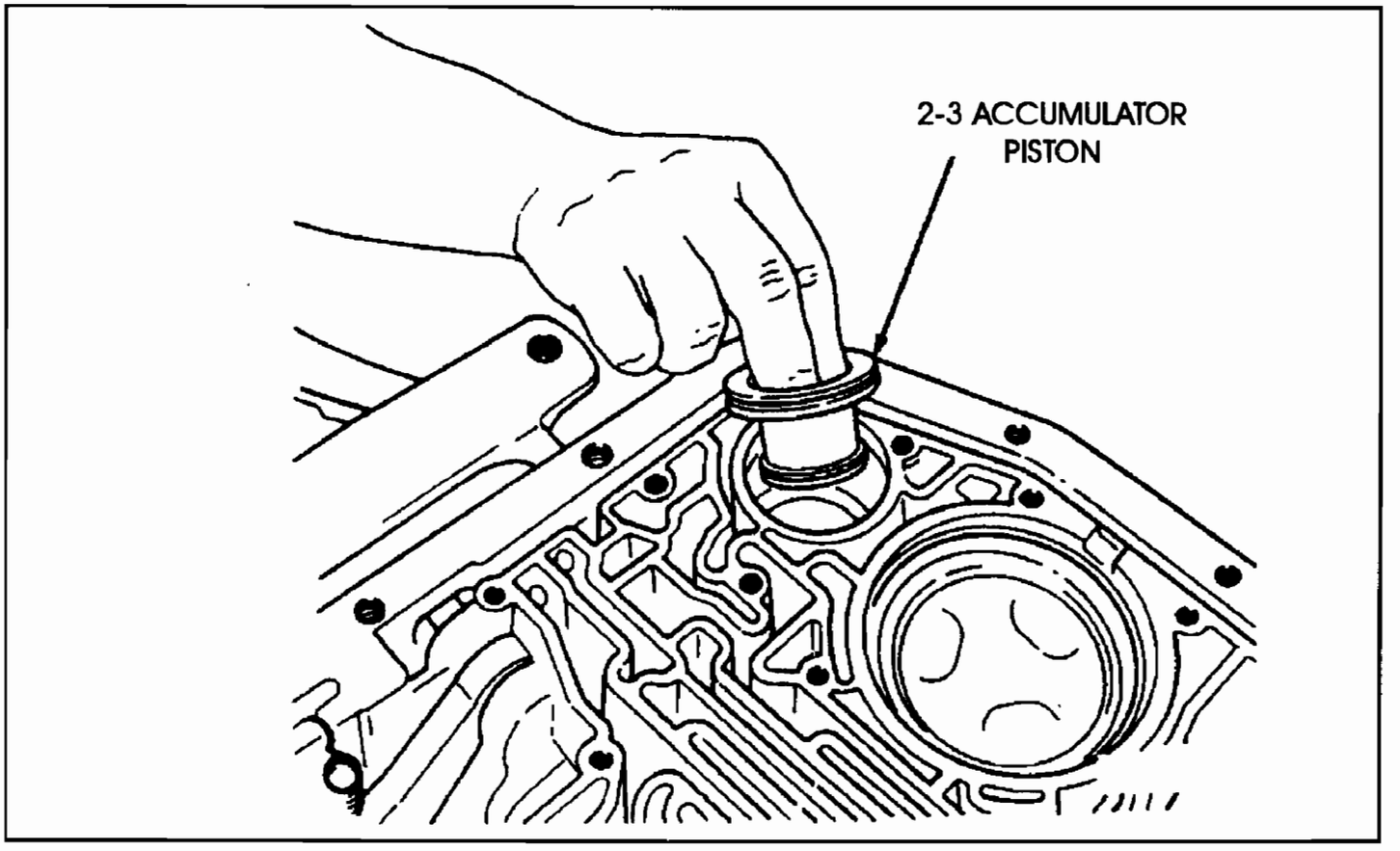


Figure 1

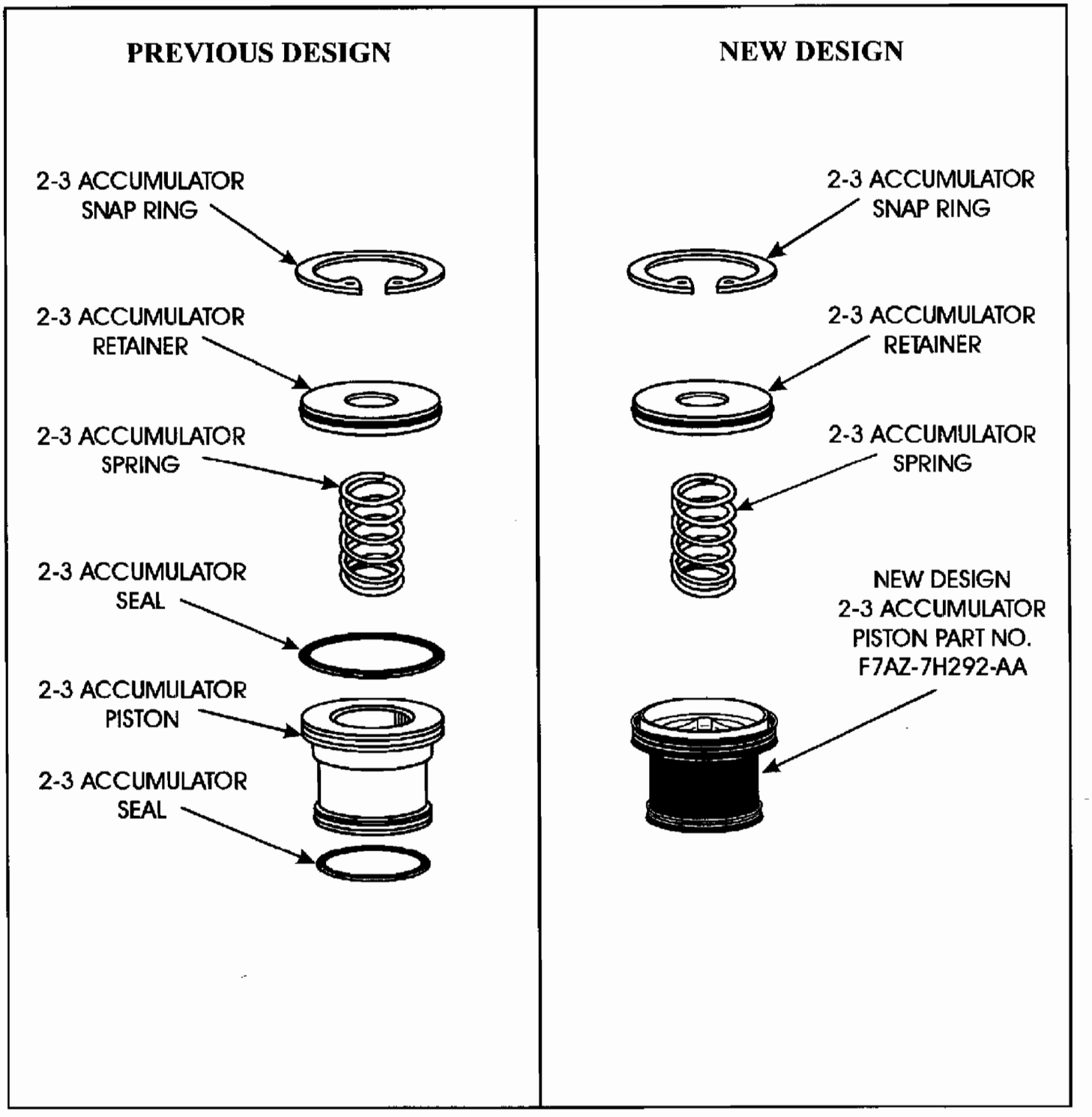
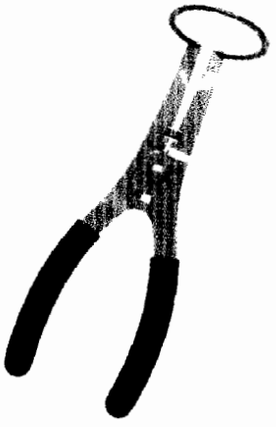

PREVIOUS DESIGN
2-3 ACCUMULATOR SNAP RING
2-3 ACCUMULATOR RETAINER
2-3 ACCUMULATOR SPRING
2-3 ACCUMULATOR SEAL
2-3 ACCUMULATOR PISTON
2-3 ACCUMULATOR SEAL
NEW DESIGN
2-3 ACCUMULATOR SNAP RING
2-3 ACCUMULATOR RETAINER
2-3 ACCUMULATOR SPRING
NEW DESIGN 2-3 ACCUMULATOR PISTON PART NO. F7AZ-7H292-AA

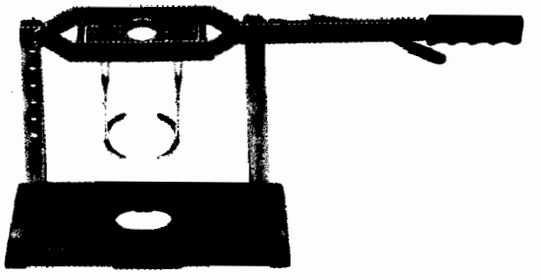
Figure 2

DEMAND THE BEST



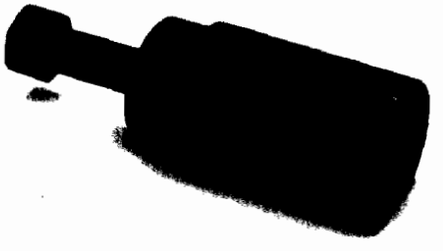
T-0025-A
RINGLOC SNAP RING PLIERS

T-1703
FRONT PUMP SPRING LOADER TOOL FOR GM 700R4, 2004R AND 440-T4



T-0158-SP
SNAPRESS CLUTCH SPRING COMPRESSOR

T-0157
QUICK LOCK SPRING COMPRESSOR



T-1571
GM 700-R4 DAMAGED SUN GEAR PULLER

T-1453
CHRYSLER BEARING CUP AND CONE REMOVER AND INSTALLER KIT

YOUR COMPLETE TRANSMISSION TOOL SOURCE

HAYDEN Trans-Tool
110 Connelly, San Antonio, TX 78203
1-800-531-5978/FAX (210) 225-2114

FORD AODE/4R70W

FLUID LEAK AT OIL COOLER IN RADIATOR

COMPLAINT: Some models of the 1994-1997 Thunderbird and Cougar equipped with the AODE/4R70W transmission may exhibit a fluid leak at the transmission oil cooler in the radiator.

CAUSE: The cause may be, a leaking transmission oil cooler gasket at the radiator.

CORRECTION: Replace the transmission oil cooler gasket to reduce the possibility of fluid leakage using the following procedure:

(1) Drain the radiator, remove the radiator, and lay the radiator flat on a workbench. Be careful not to damage the cooling fins and/or tubes.

(2) Remove the transmission oil cooler line fitting, as shown in Figure 1.

(3) Remove the jam nut and washer, as shown in Figure 2.

(4) Push down on the transmission oil cooler and slide to the side under the lip of the end tank, as shown in Figure 3.

(5) Remove the old gasket, as shown in Figure 4.

(6) Install a new Transmission Oil Cooler Gasket part number E77Z-8C242-AA, by placing the gasket over the cooler fitting, pushing down on the oil cooler and carefully working the gasket around the fitting into position.

(7) Reinstall the washer and jam nut, and torque the jam nut to 11-14 ft.lb.

(8) Reinstall the transmission oil cooler line fitting and torque to 17-24 ft.lb.

(9) Repeat the steps above for the other cooler fitting if necessary.

(10) Reinstall the radiator and refill the transmission and cooling system.

SERVICE INFORMATION:

Transmission Oil Cooler Gasket E77Z-8C242-AA

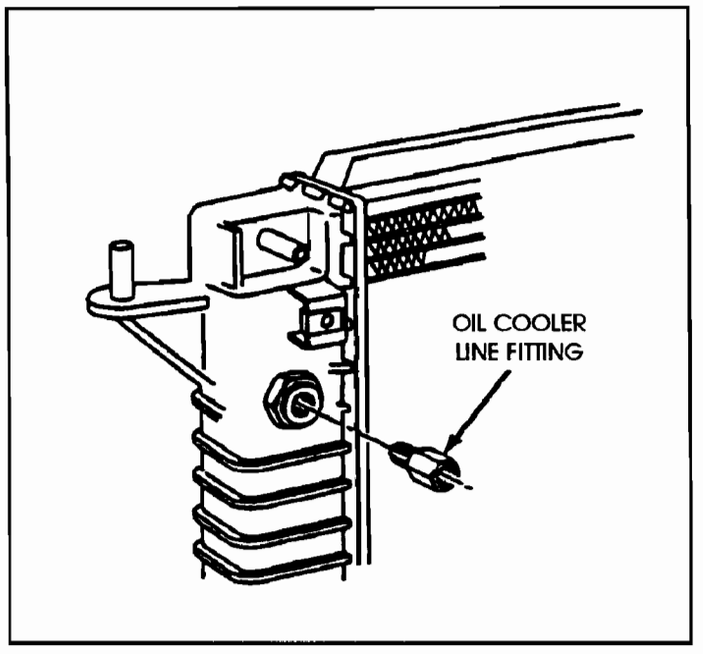


Figure 1

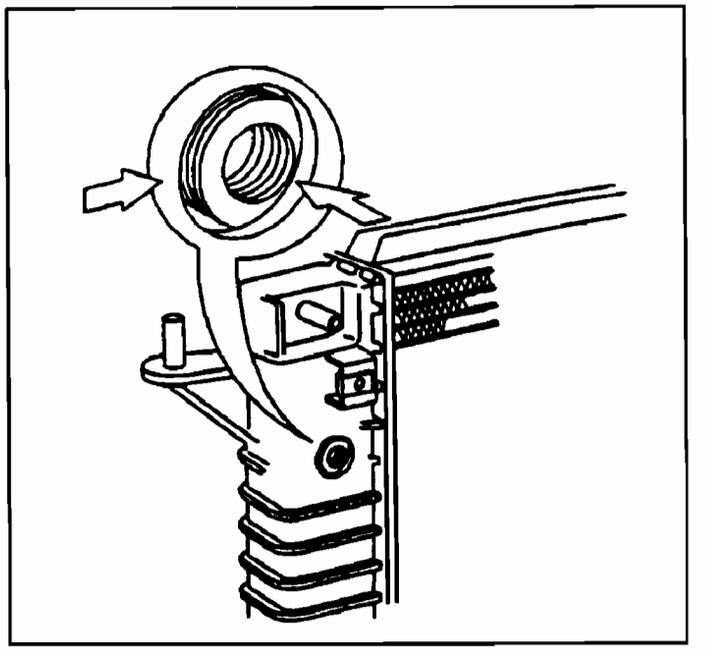


Figure 3

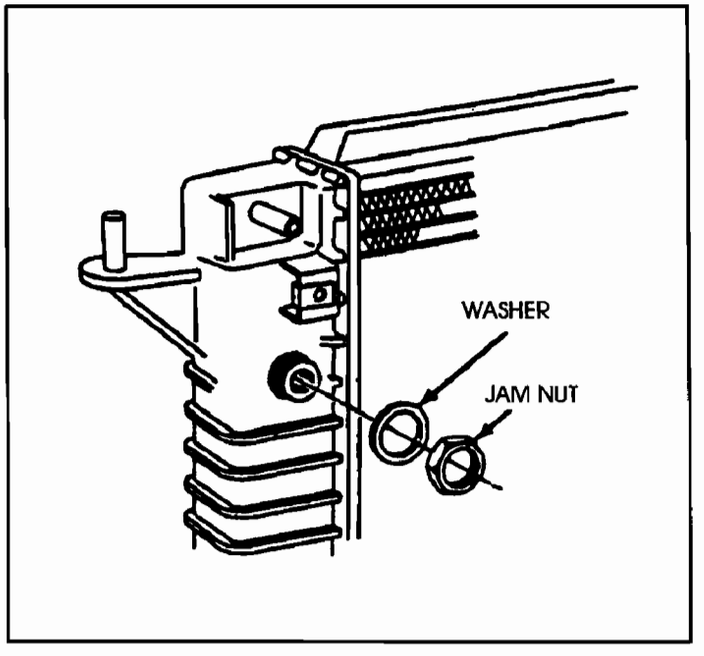


Figure 2

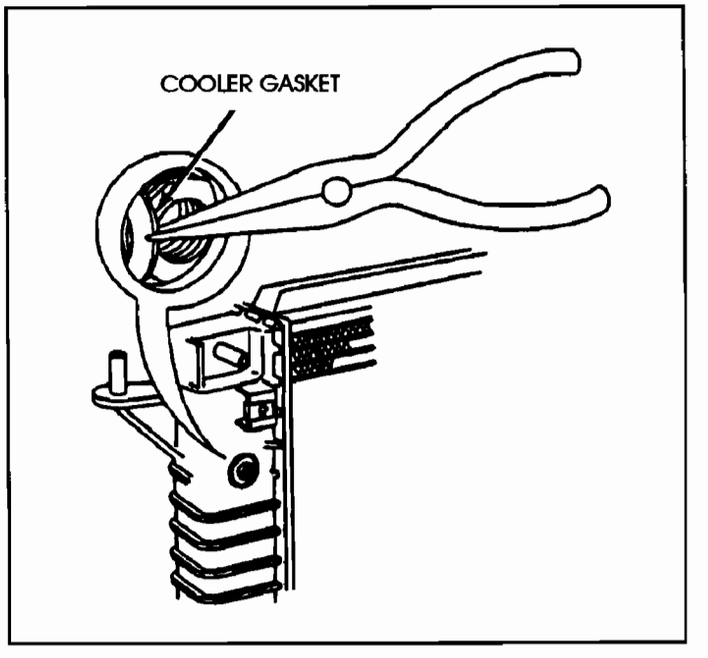


Figure 4

FORD E4OD

BOOST VALVE AND SLEEVE NOW AVAILABLE

There is now available from Ford Motor Company, a pressure regulator boost valve and sleeve assembly for the E4OD transmissions. When servicing the E4OD transmission inspect the main regulator boost valve and sleeve assembly for any signs of wear, and replace as necessary with part number E9TZ-7D003-AA. Refer to Figure 1 for the location in oil pump cover, and to Figure 2 for proper assembly.

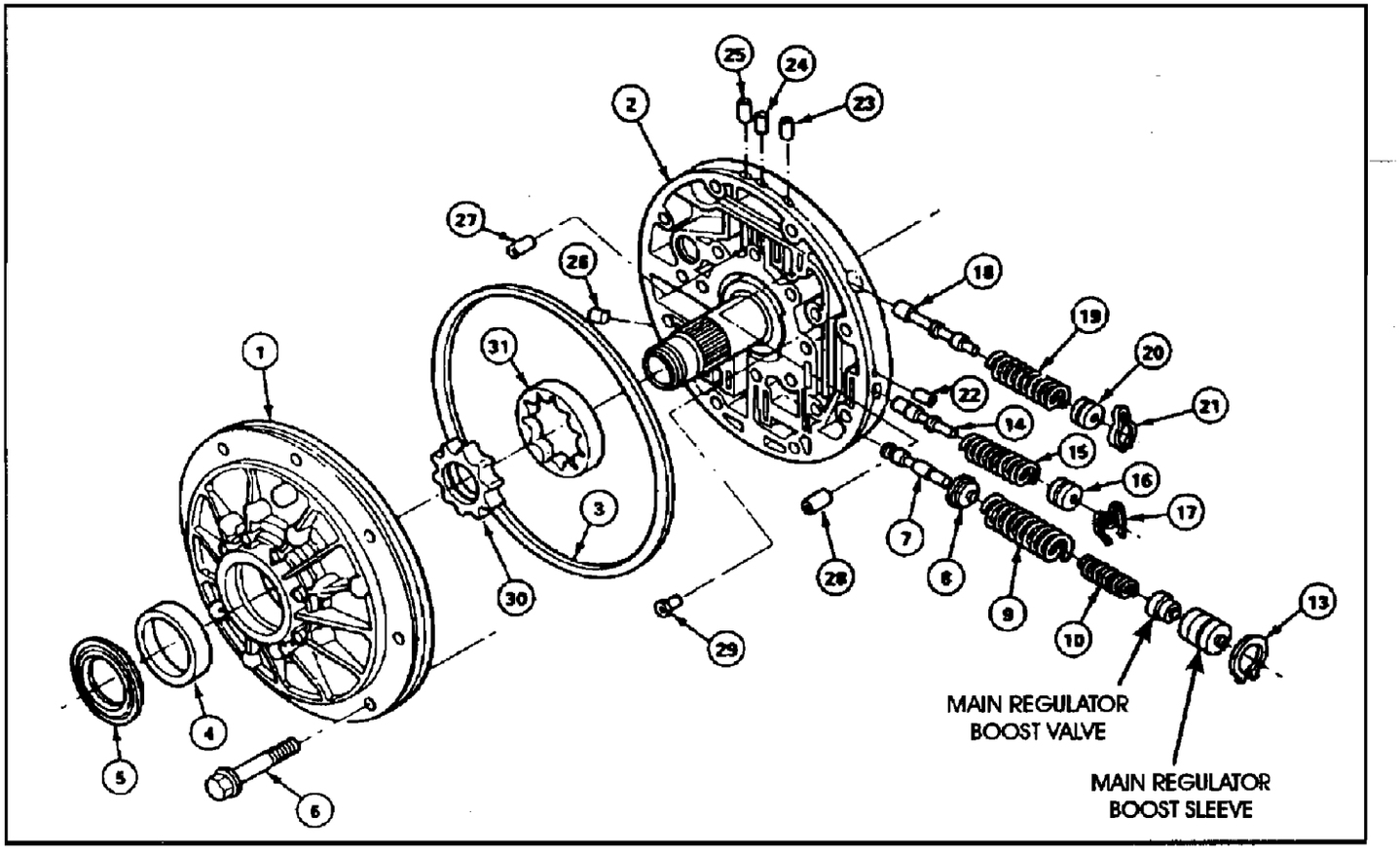


Figure 1

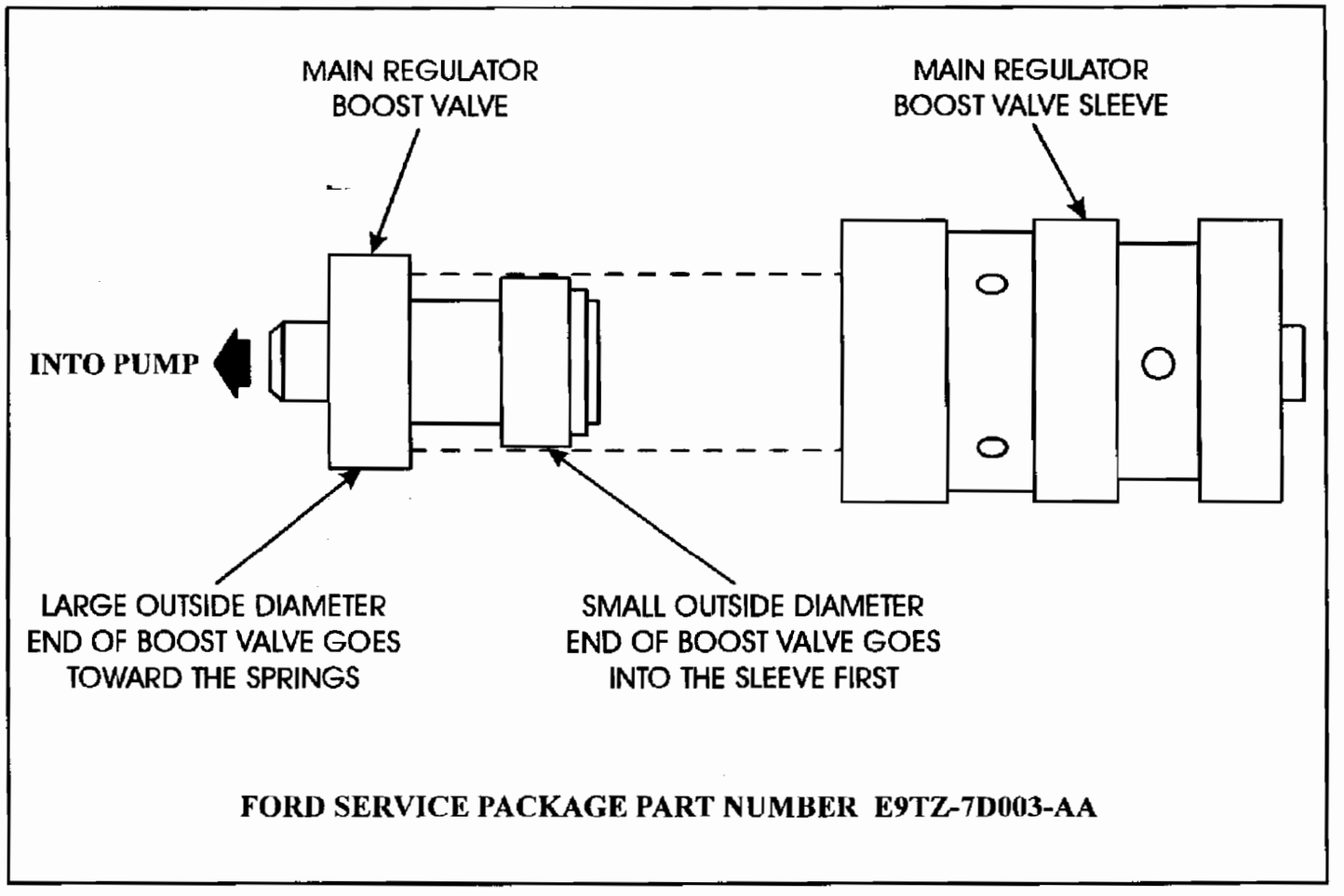

MAIN REGULATOR
BOOST VALVE
MAIN REGULATOR
BOOST VALVE SLEEVE
INTO PUMP
LARGE OUTSIDE DIAMETER
END OF BOOST VALVE GOES
TOWARD THE SPRINGS
SMALL OUTSIDE DIAMETER
END OF BOOST VALVE GOES
INTO THE SLEEVE FIRST
FORD SERVICE PACKAGE PART NUMBER E9TZ-7D003-AA

Figure 2

SCHAFFER SHIFTER® PRODUCTS

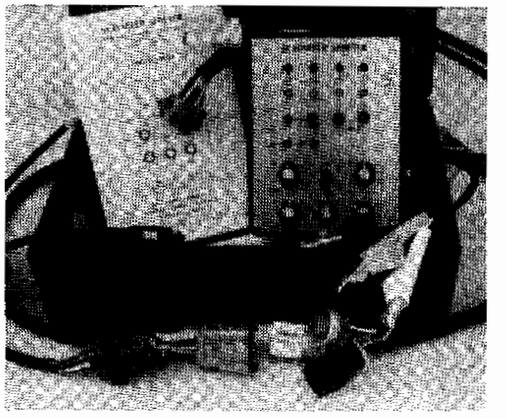
THE SCHAFFER SHIFTER®

TRANSMISSION TESTER

A Manual Controller for Testing Computer-Shifted Transmissions

IT CAN TEST SO MANY VEHICLES...
we can't name them all.
BELOW ARE THE NEWEST ADAPTERS:

Ford 4F20E and RE4F04A/V Adapter
A500 and A518 Adapter
AX4N (Revised AXODE) Transaxle
Chrysler 42RE Adapter with Module
Ford CD4E Adapter
Import Pressure Control Module
JR403E Adapter
Both Mazda N4AEL Adapters
Saturn Adapter with Module



MADE IN U.S.A.

Compare With The Competition And You Will Find There Is NO COMPARISON!

SCHAFFER SHIFTER STARTER PACKAGE *(PART # SESS)*: Includes the majority of U.S. and Asian transmissions through 1992 including GM, Ford, Chrysler, Toyota, Honda, Mitsubishi and some Mazdas.

95 ADAPTER UPDATE PACKAGE *(Part # 95U)*: Includes ANY 12 Adapters with new Operating Manual and Storage Case!

OPTIONAL ADAPTERS CONTINUALLY ADDED ACCORDING TO NEEDS!

SCHAFFER® TEST PRODUCTS

THREE AFFORDABLE MULTI-METERS TO CHOOSE FROM!

① **DMM: ALL THE FEATURES...a transmission shop needs! A good machine with:**
- Frequency
- Separate ON/OFF Switch
- Best price in the Industry

② **DMM-2: ALL THE FRILLS! This one has:**
- Fully Automatic
- Bargraph
- Diode Check
- Protective Holster
- Test Leads

In Addition: AC & DC Volt, AC & DC Current, Frequency, Capacitance, Resistance, Temperature and Continuity Buzzer

③ **DMM-3: FULL SYSTEM DIAGNOSTIC METER WITH RPM! INCLUDES ALL THE FRILLS OF THE DMM-2, PLUS...**these features even a leading brand doesn't have:
- Back Lit Display
- Duty Cycle
- Dwell
- IMS Glitch Capture

Test Leads Etc.!

BACK PROBE KIT
- 2 (Black and Red) 4 Foot Leads
- 2 (Black and Red) small Probes for 20-22 gauge wire
- 2 (Black and Red) larger Probes for 16-18 gauge wire

DMM TEST LEADS
- 4 Foot Long
- Insulation Piercing Probes
- Allows testing during operation without disconnecting

FORD TRANSFER CASE

"CLUNKING" OR "GRUNTING" NOISE FROM DRIVELINE DURING ACCELERATION OR BRAKING (4WD MODELS ONLY)

COMPLAINT: Some 4 Wheel Drive, 1997 Expeditions, F-150 Trucks and F-250 Trucks may exhibit a "Clunking" and/or "Grunting" noise heard from the driveline during acceleration and/or braking.

CAUSE: The cause may be, the slip yoke on the transfer case not sliding smoothly on the transfer case output shaft splines. Refer to Figure 1.

CORRECTION: Install a ***revised*** slip yoke and teflon grease to lubricate the splines. The grease should allow the new slip yoke to slide smoothly on the transfer case output shaft, reducing the possibility of noise. Use the list below to select the proper yoke for the vehicle that you are working on.

SERVICE INFORMATION:

VEHICLE	ENGINE	WHEELBASE	PART NUMBER
F-150	4.2L, 4.6L	120 Inch	F6TZ-4841-CC
F-150	5.4L	120 Inch	F87Z-4841-AA
F-150	4.2L, 4.6L	139 Inch	F75Z-4841-RS
F-150	5.4L	139 Inch	F75Z-4841-RB
F-150	ALL	157 Inch	F65Z-4841-FA
F-250	ALL	ALL	F75Z-4841-RS
EXPEDITION	ALL	Air Suspension	F75Z-4841-RB
EXPEDITION	4.6L	Coil Suspension	F6TZ-4841-CC
EXPEDITION	5.4L	Coil Suspension	F87Z-4841-AA

TRANSFER CASE DRIVESHAFT YOKE

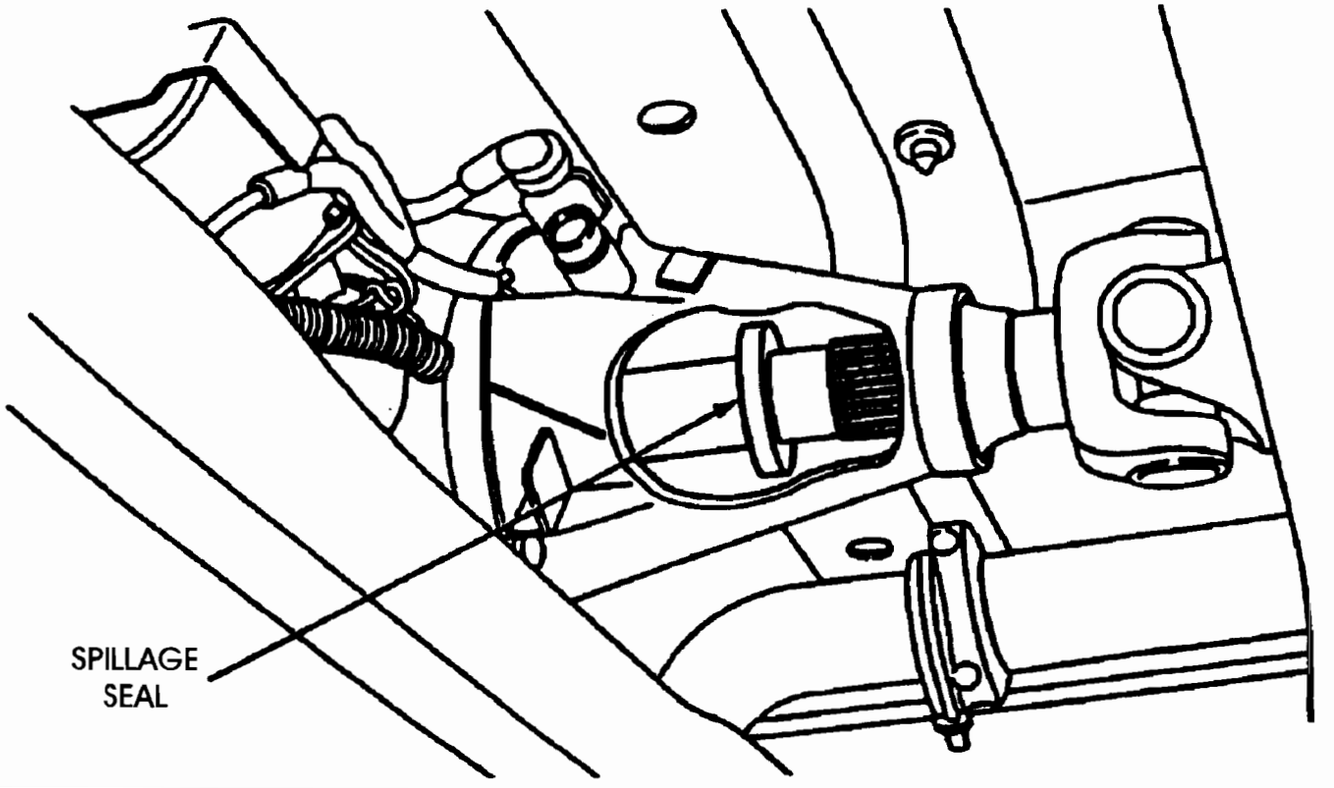


Figure 1

FORD E4OD
NEW DESIGN OVERDRIVE PISTON

CHANGE: Some 1996-1997 vehicles equipped with the E4OD transmission were built with a new design level overdrive clutch piston, with the seals bonded to the piston (See Figure 1).

REASON: Increased durability and cost savings in the manufacturing process.

PARTS AFFECTED:

(1) OVERDRIVE PISTON - Now stamped steel with moulded rubber inner and outer seals on the piston assembly, instead of the previous machined aluminum, as shown in Figure 1.

(2) OVERDRIVE/INTERMEDIATE CLUTCH CYLINDER - Major casting changes to clutch cylinder, to accommodate the new design level bonded piston, as shown in Figure 1.

INTERCHANGEABILITY:

Both pieces listed above ***will*** retro-fit back on all previous models of the E4OD transmission, but ***must*** be used together as a package. New design parts are not interchangeable with previous design level parts on an individual basis.

Note: ***Until the new design level parts are fully stocked, the current service parts must be used to replace the new design level parts, if it becomes necessary to replace eithr the new design bonded seal piston or new design cylinder.***

SERVICE INFORMATION:

Overdrive Piston Assembly (New Design)	F6TZ-7A262-AA
O.D./Int. Cylinder Assembly (New Design)	F6TZ-7G384-AA
Overdrive Piston Assembly (Previous Design)	E9TZ-7A262-A
Inner Piston Seal (Previous Design)	E9TZ-7F225-A
Outer Piston Seal (Previous Design)	E9TZ-7A548-A
O.D./Int. Cylinder Assembly (Previous Design)	E9TZ-7G384-B

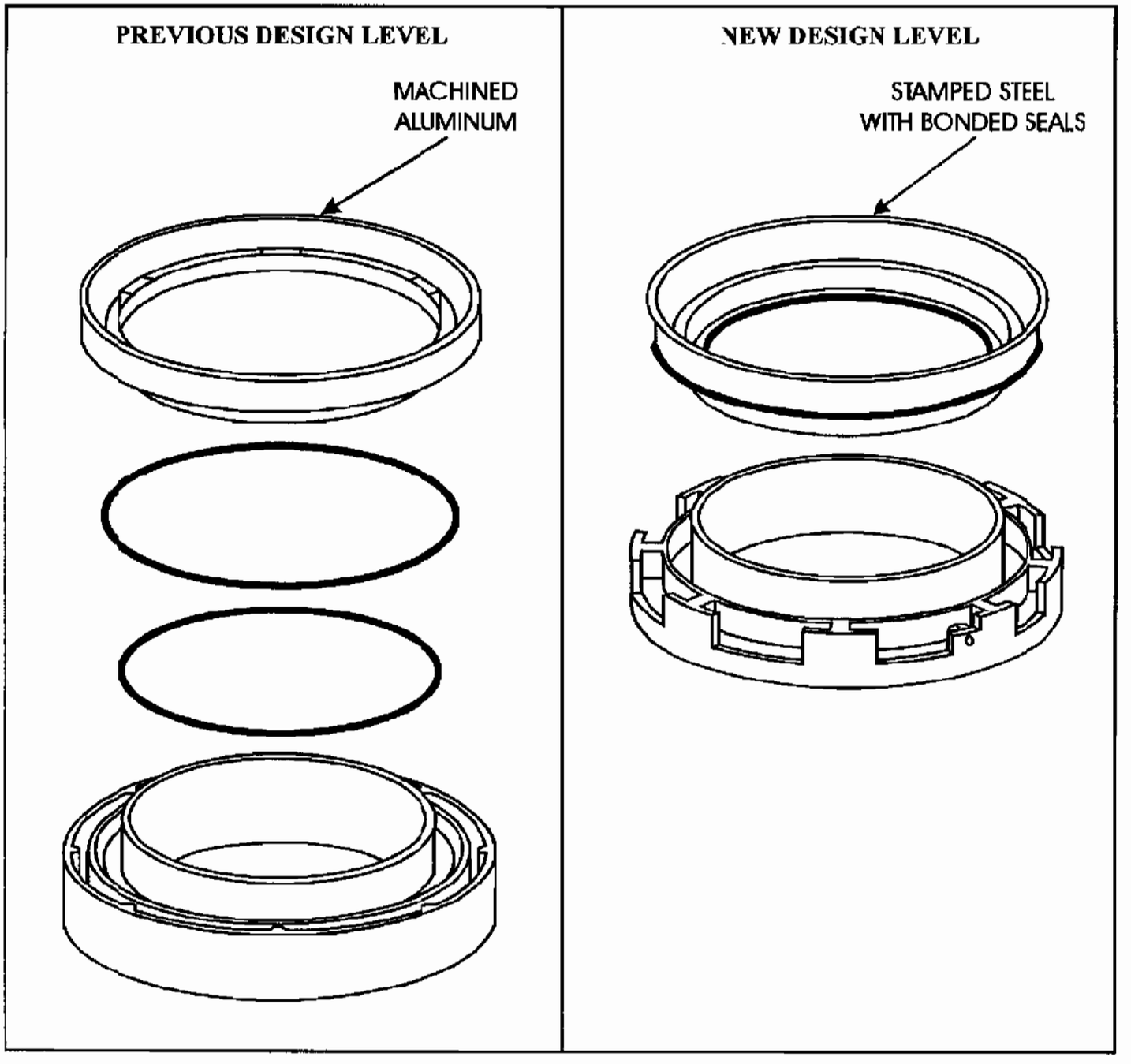

PREVIOUS DESIGN LEVEL
MACHINED
ALUMINUM
NEW DESIGN LEVEL
STAMPED STEEL
WITH BONDED SEALS

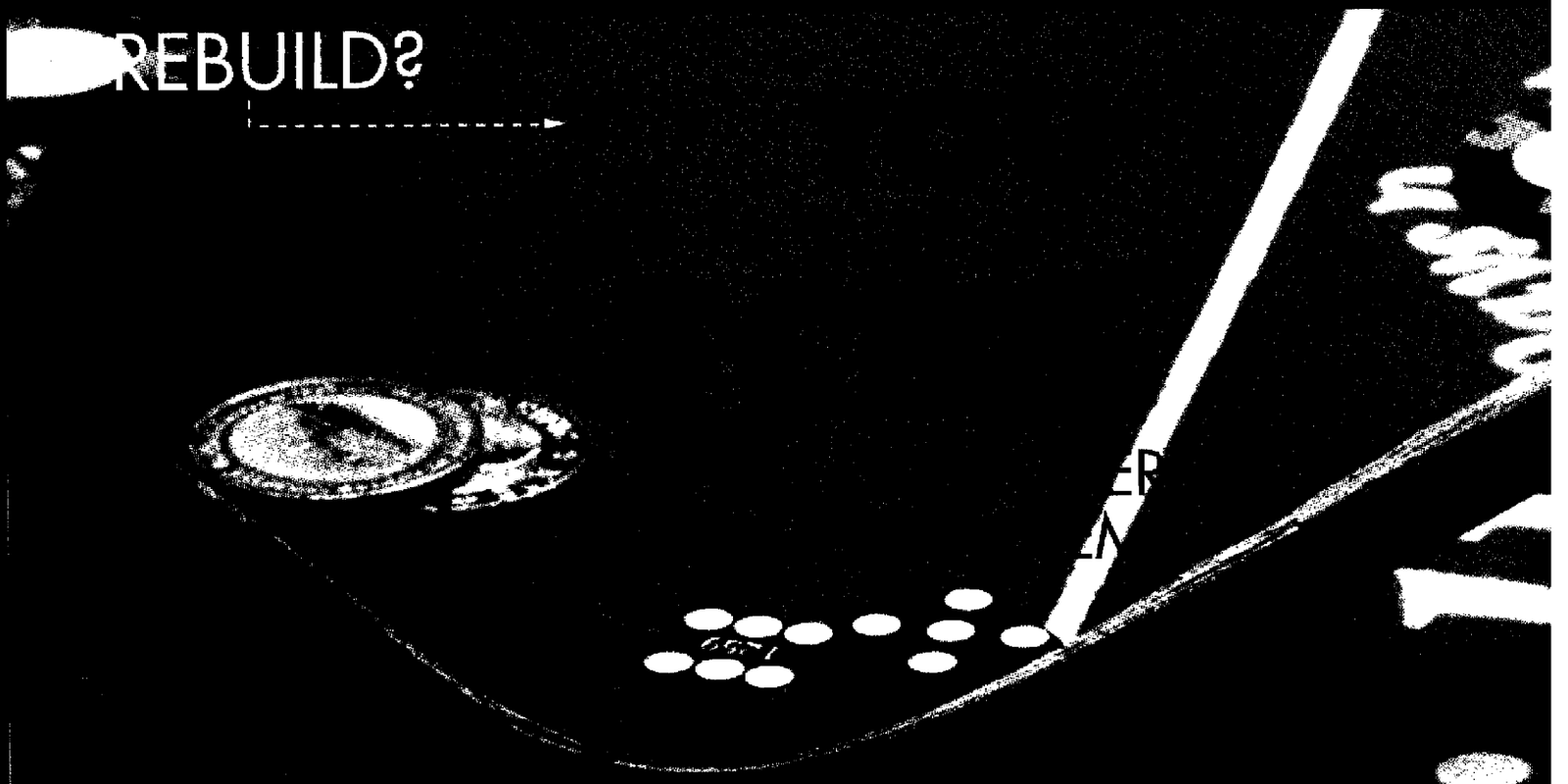
Figure 1

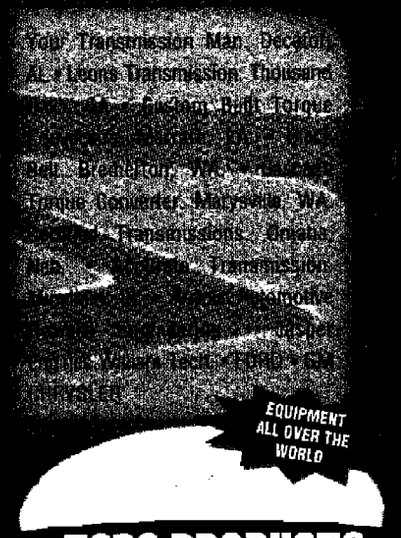
WHY

ON YOUR NEXT

REBUILD?

Whether you use two converters a day
or want a high production system,
we can design a system
to fit your needs!





"They would not think of being in the transmission business again without our Torque Converter Rebuilding System."

TCRS PRODUCTS

TCRS SPECIAL APPLICATION LATHE
RETROFITTED TURRET LATHE
PRECISION TOOLING
FRONT LOADING JET SPRAY WASHER
SUPERTANKER AIR TEST STAND
PISTON BONDER
VERTICAL AUTO WELD ALIGNER
TORQUE CONVERTER BALANCER

EQUIPMENT FOR THE PRODUCTION REBUILDER
HORIZONTAL AUTO WELD ALIGNER
HUB MASTER
CONVEYOR WASHER - ELECTRICAL OR WASTE OIL FIRED
DOUBLE PISTON BONDER
SUPERTANKER AIR TEST STAND (1 TO 4 UNITS AT A TIME)

ADDITIONAL PRODUCTS
CD-500 HEAVY DUTY HYDRAULIC RIVETER
LOCK-UP DYNO
END PLAY CHECKER
HEIGHT GAGE
TCRS BUSHING DRIVER SET
BELT SANDER
FORD STUD REPAIR KIT
GM STUD REPAIR KIT
200/700 PUMP PAL
E40D PUMP PAL
LOCK-UP PISTON LEAK CHECKER
CONVERTER LOCK-UP TESTER

1-800-598-1933

TCRS

TORQUE CONVERTER REBUILDING SYSTEMS

2010 KLEPPE LANE • SPARKS, NV 89431
702-677-6600 • FAX 702-677-6666

KEEPING YOU ON THE LEADING EDGE OF TECHNOLOGY

TCRA

FORD E4OD
COOLER BYPASS VALVE ADDED TO SOME 1997 MODELS

CHANGE: Some 1997 Econoline, Expedition, F-150 Trucks and F-250 Trucks have been equipped with a Cooler Bypass Valve Assembly that requires sealing washers on both the "To Cooler" end and "From Cooler" end of the bypass valve assembly, as shown in Figure 1.

REASON: Increased lube flow during cold weather operation.

PARTS AFFECTED:

(1) COOLER BYPASS VALVE ASSEMBLY - Added between the cooler line fittings in the case, to increase lube flow during cold weather operation (See Figure 1).

(2) CASE FITTINGS - Requires special case fittings to retain the "Banjo" ends of the cooler bypass valve assembly into the transmission case (See Figure 1).

(3) SEALING WASHERS - Requires sealing washers on both of the "Banjo" ends of the cooler bypass valve to seal properly (See Figure 1).

INTERCHANGEABILITY:

The new design Cooler Bypass Valve Assembly will retro-fit back to all previous models.

SERVICE INFORMATION:

Cooler Bypass Valve Assembly F75Z-7H322-AB
Cooler Bypass Valve Sealing Washer Kit 391933

SPECIAL SERVICE NOTE:

If a removed Cooler Bypass Valve has an "O" ring installed, remove the "O" ring prior to re-installing the assembly. The "O" rings are only used to hold the sealing washers in place for shipping purposes. If the entire Cooler Bypass Valve requires replacement, be sure to remove the shipping caps and "O" rings prior to installation.

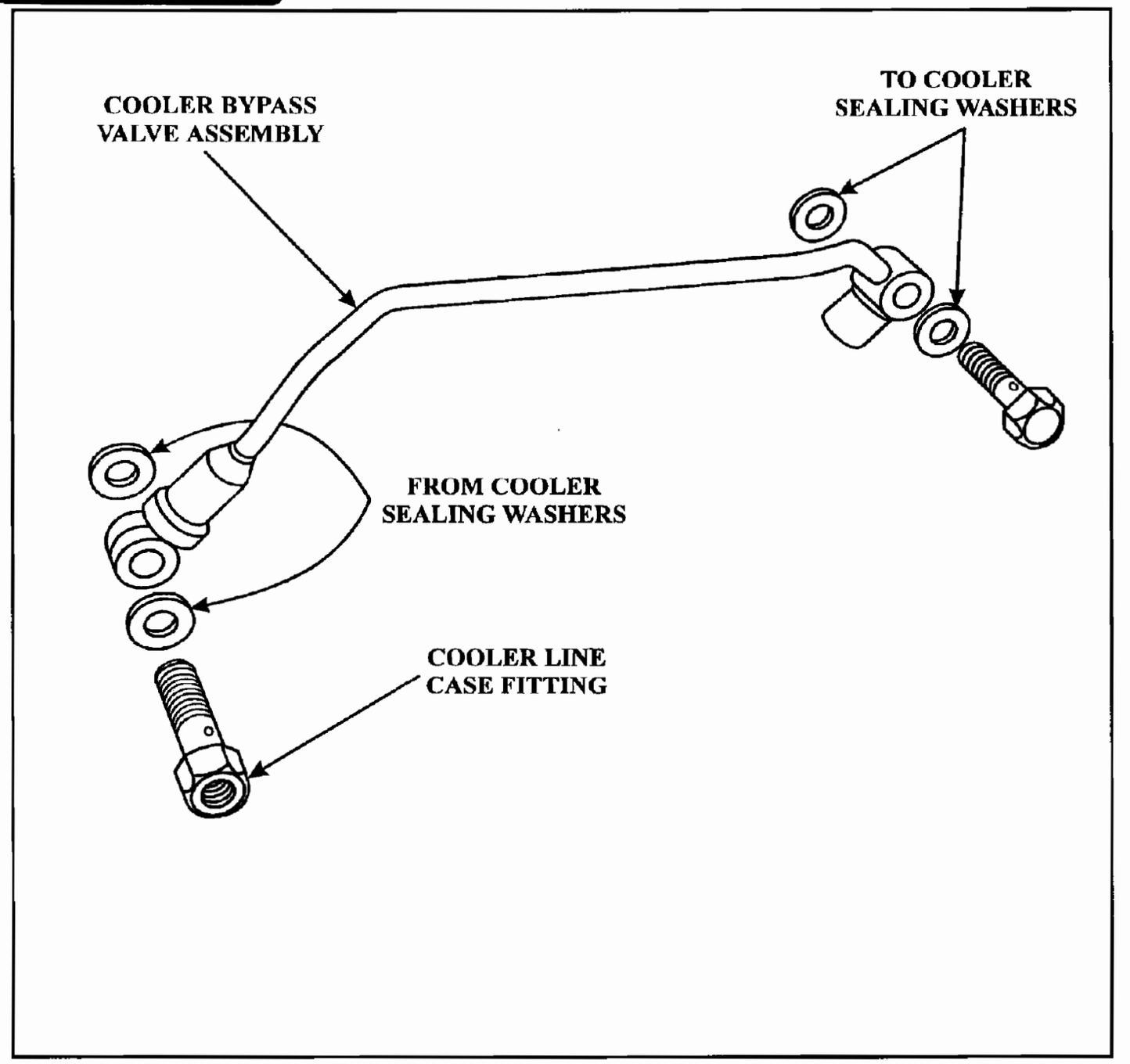

COOLER BYPASS
VALVE ASSEMBLY
TO COOLER
SEALING WASHERS
FROM COOLER
SEALING WASHERS
COOLER LINE
CASE FITTING

Figure 1

FORD E4OD

SLIDE/BUMP 1-2 UPSHIFT
1997 MODEL ONLY

COMPLAINT: Some 1997 models of the Expedition and the F-150 Trucks may have a soft/drawn out and/or slide/bump 1-2 upshift, on models built from 4/18/97 through 4/21/97, and the transmission build date is 7D15 with serial nombers between 00012500 and 00012855.

CAUSE: The cause may be, the transmission being built with the wrong valve body spacer plate.

CORRECTION: Once confirmation has been made that you have a suspect transmission that falls between the build dates and serial numbers listed above, remove the pan and inspect the spacer plate identification stamped into the "tail" of the plate. Figure 2 shows the location of the identification notches, and the chart in Figure 1 below shows the 1997 spacer plate identification that is wrong. Install new spacer platc F7TZ-7A008-AA, along with new valve body gaskets.
Caution: Internal damage may have already occured, which means the transmission may need to be removed, disassembled and repaired to prevent a repeat failure.

SPACER PLATE IDENTIFICATION CHART

PART NUMBER	IDENTIFICATION	YEAR
E9TZ-7A008-A		Late 1989 ONLY
F4TZ-7A008-A		1990-1994
F5TZ-7A008-A		1990-1995
F5TZ-7A008-B		1990-1995
F6TZ-7A008-A *		1996
F6TZ-7A008-B		1996
"Do Not Use"		1997
F7TZ-7A008-AA		1997

* ***Not Available for purchase, use F7TZ-7A008-AA for replacement.***

Figure 1

TYPICAL E4OD SPACER PLATE

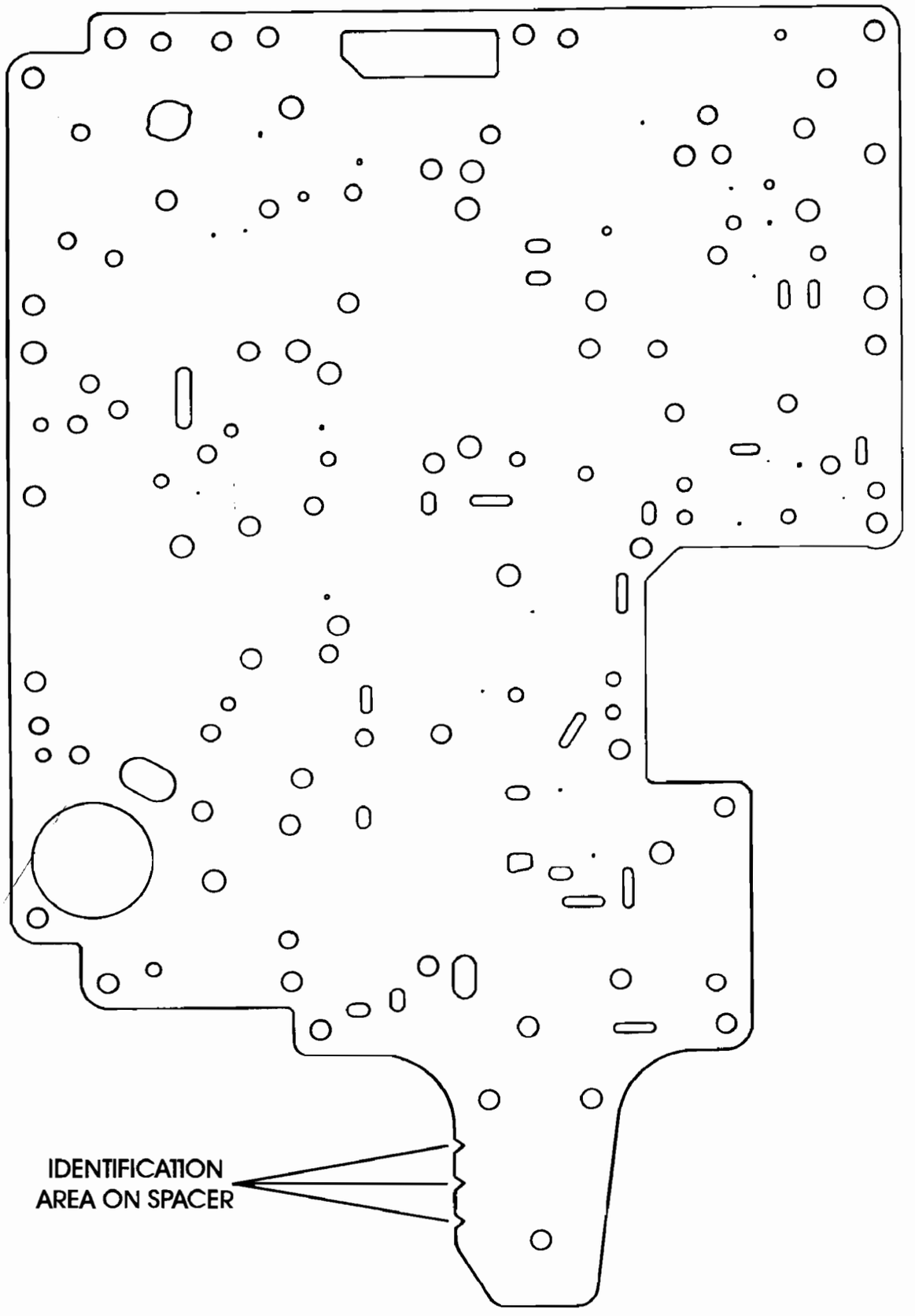
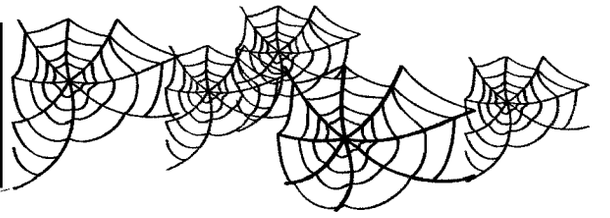
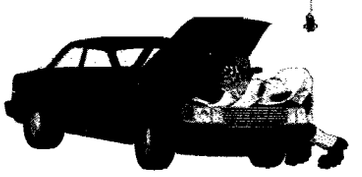


Figure 2

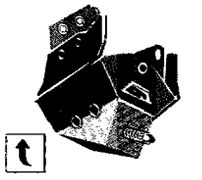
DON'T GET CAUGHT ON A NOWHERE WEB!



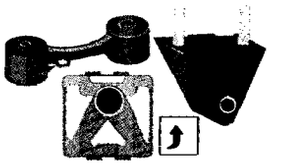
Shortcut To Tranny Rebuilder Tools



Maybe we better call a Southeast Distributor!!!

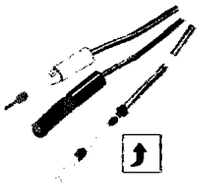


Quickest WayTo Quality Transmission Mounts

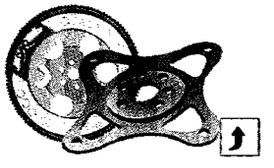


This Way To Motor Mounts & Torque Struts

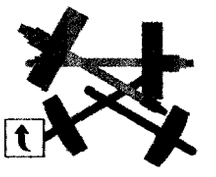
Surf Through Southeast's Whizbang Products. Use Them, You'll Love The Quality and workmanship.



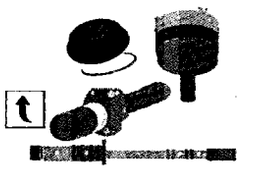
Road To Domestic & Foreign Cables



Discover Premium Flywheels & Flexplates



Pinpoint Speedo Drive & Driven Gears

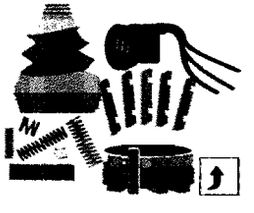


Route To Specialty Transmission Hard Parts

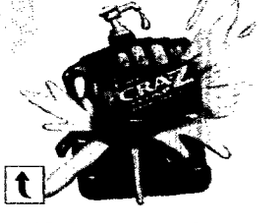
Our Replacement Parts Meets or exceeds OEM Specs Ask Your Distributor For Genuine Southeast Parts.

When The Job Is Done...
The Cleanest Working Hands Use
The World's #1 Industrial Hand Soap !

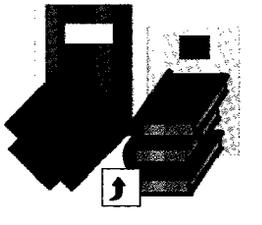
Find All Types Of Plastic Parts Here



Gets Springs & Switches Fix-Its & Wiggets



Visit our website at: www.cra-zsoap.com



Catalogs & Applications Research & Development

FORD E4OD
LARGER DESIGN LOW ROLLER CLUTCH FOR 1997 MODELS

CHANGE: Beginning at the start of production for 1997 models, ***some*** models of the E4OD transmission were built with a new design low roller clutch that is larger, and a new design reverse clutch assembly.

REASON: Much improved durability and reliability.

PARTS AFFECTED:

(1) LOW ROLLER CLUTCH ASSEMBLY - New design is larger in diameter, has 17 rollers instead of the previous 16 rollers, and the plastic is "Tan" in color instead of black for easy identification. Refer to Figure 1.

(2) LOW ROLLER CLUTCH INNER RACE - New design is 3.385" in diameter instead of the previous 3.189" diameter, to accommodate the new low roller clutch. There is no other means of identification on the inner race other than measuring the diameter. Refer to Figure 1.

(3) REVERSE CLUTCH HUB - New design has a larger diameter "Cam" installed into the rear of reverse clutch hub to accommodate the larger low roller clutch, and the shell is now stamped, and has wider grooves for the reverse clutch teeth. Refer to Figure 2.

(4) REVERSE CLUTCH FRICTION PLATES - New design friction plates are manufactured with wider teeth to fit the new design reverse clutch hub. Refer to Figure 2.

(5) REAR PLANETARY CARRIER - New design level has narrow teeth on the outside diameter instead of the previous wide teeth, to accommodate the new design reverse clutch hub. Refer to Figures 3 and 4.

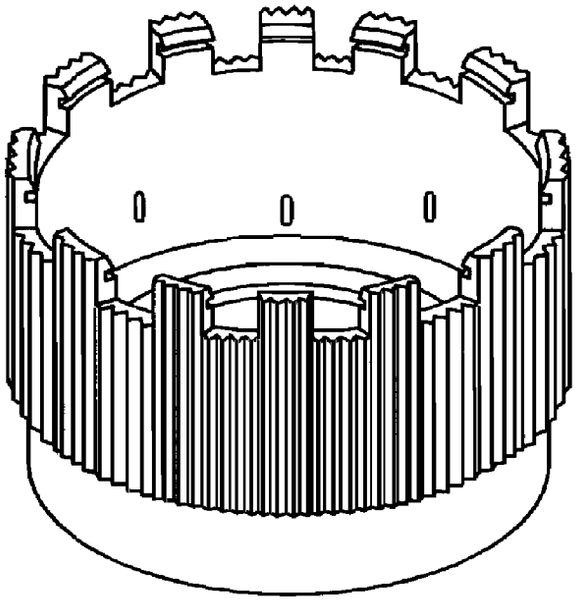
INTERCHANGEABILITY:

The new design parts will retro-fit back to all previous models, as long as all parts listed above are used as a package. The low roller clutch assembly ***must*** be installed into the back side of the reverse clutch hub regardless of which design level you are using, as shown in Figure 5.

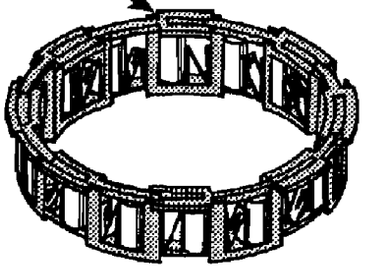
SERVICE INFORMATION:

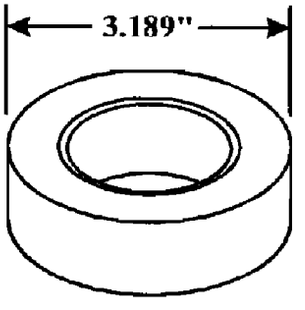
Part Name	Previous Design	New Design
Reverse Clutch Hub Assembly	F3TZ-7B067-A	F7TZ-7B067-AC
Low Roller Clutch Assembly	F3TZ-7A089-A	F7TZ-7A089-AA
Low Roller Clutch Inner Race	E9TZ-7D171-AA	F7TZ-7D171-AA
Reverse Planetary Carrier (4 Pinion)	F2TZ-7D006-A	F7TZ-7D006-BA
Reverse Clutch Friction Plates	D6AZ-7B164-A	F7TZ-7B164-AA

1989-1996 DESIGN LEVEL REVERSE CLUTCH HUB, LOW ROLLER CLUTCH, AND INNER RACE



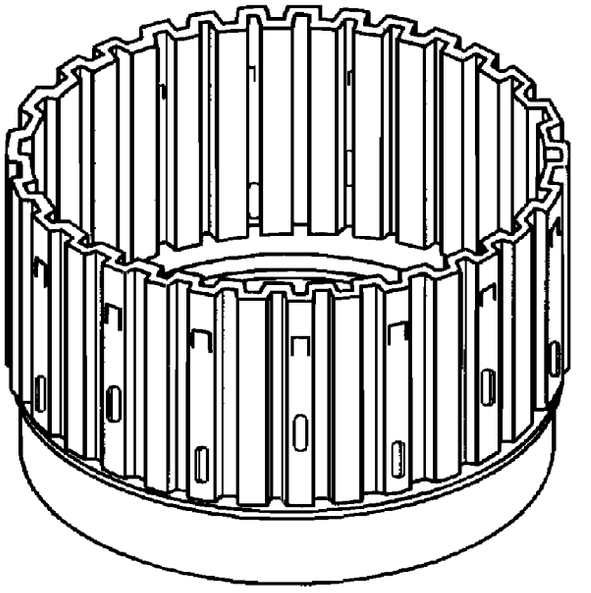
"BLACK" PLASTIC CAGE
16 ROLLERS



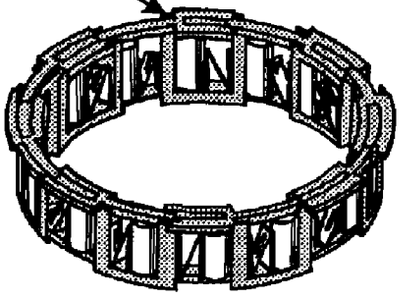


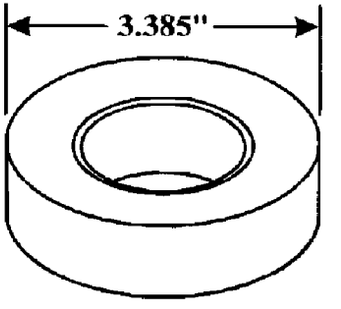
LOW ROLLER
INNER RACE

1997-UP DESIGN LEVEL REVERSE CLUTCH HUB, LOW ROLLER CLUTCH, AND INNER RACE



"TAN" PLASTIC CAGE
17 ROLLERS

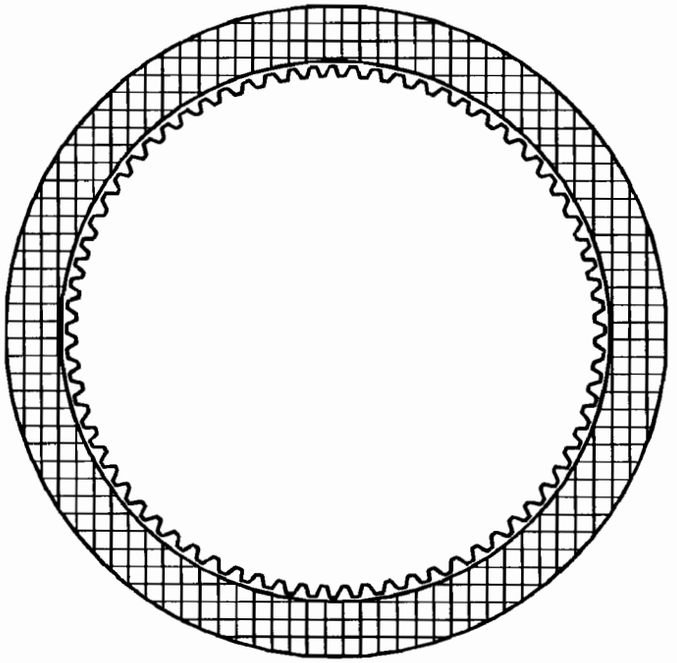


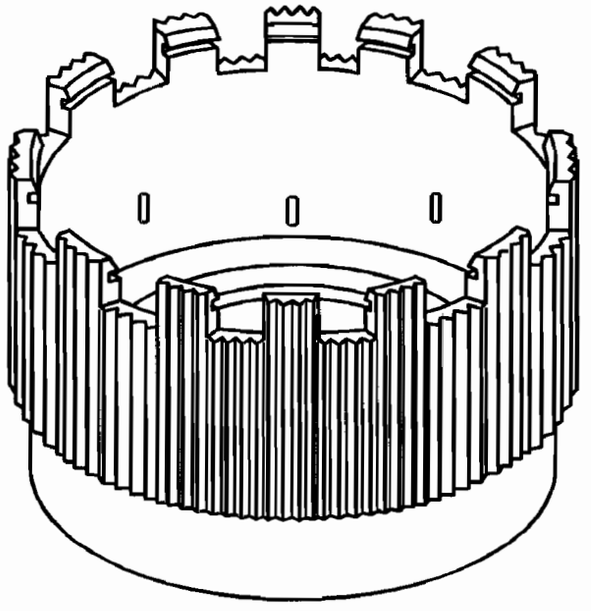


LOW ROLLER
INNER RACE

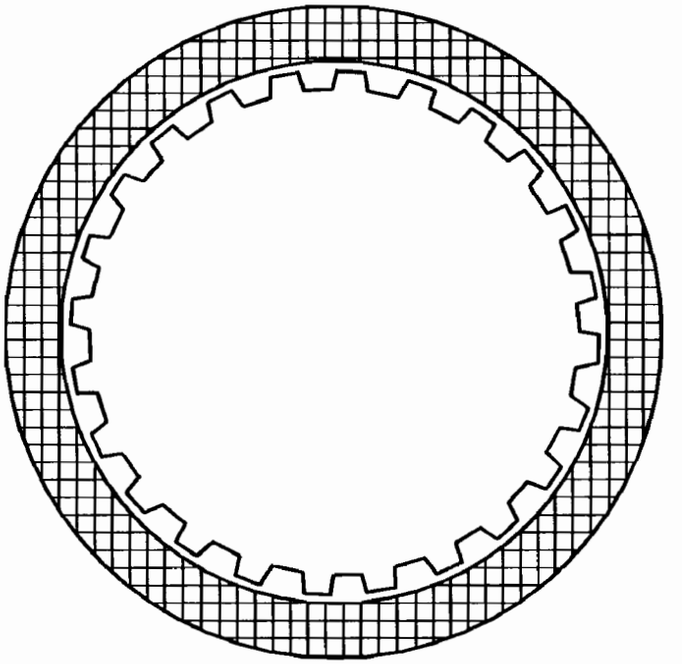
Figure 1

1989-1996 DESIGN LEVEL
LOW/REVERSE CLUTCH PLATE
AND REVERSE CLUTCH HUB





1997-UP DESIGN LEVEL
LOW/REVERSE CLUTCH PLATE
AND REVERSE CLUTCH HUB



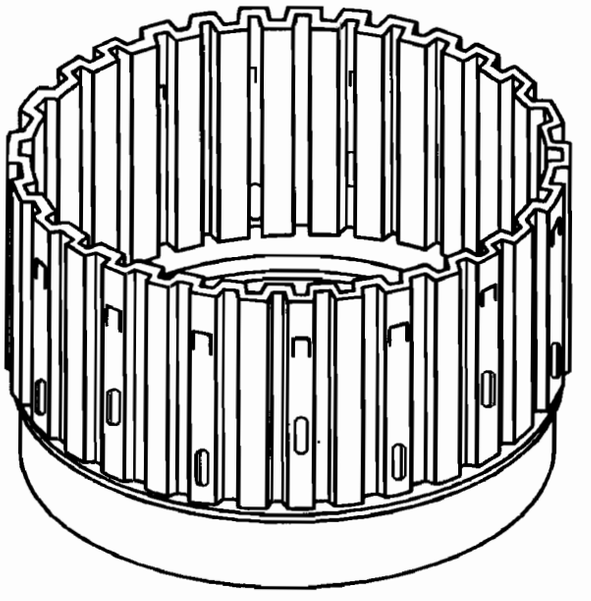


Figure 2

1989-1996 DESIGN LEVEL
REVERSE CLUTCH HUB AND REAR PLANET ASSEMBLY

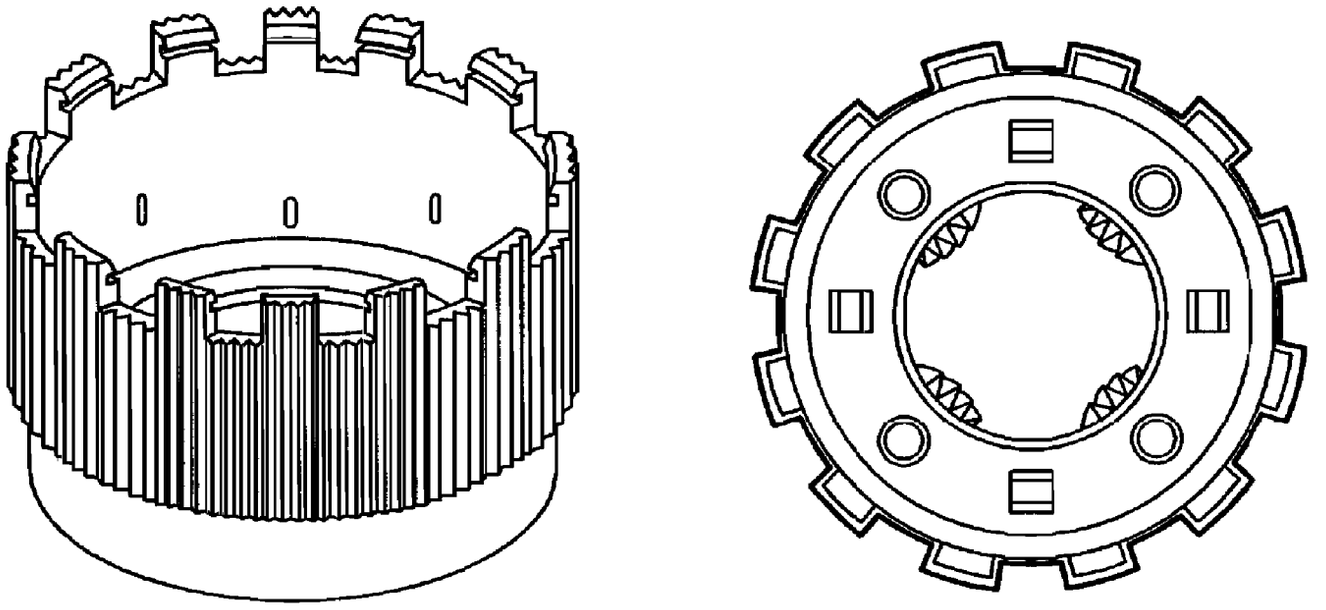


Figure 3

1997-UP DESIGN LEVEL
REVERSE CLUTCH HUB AND REAR PLANET ASSEMBLY

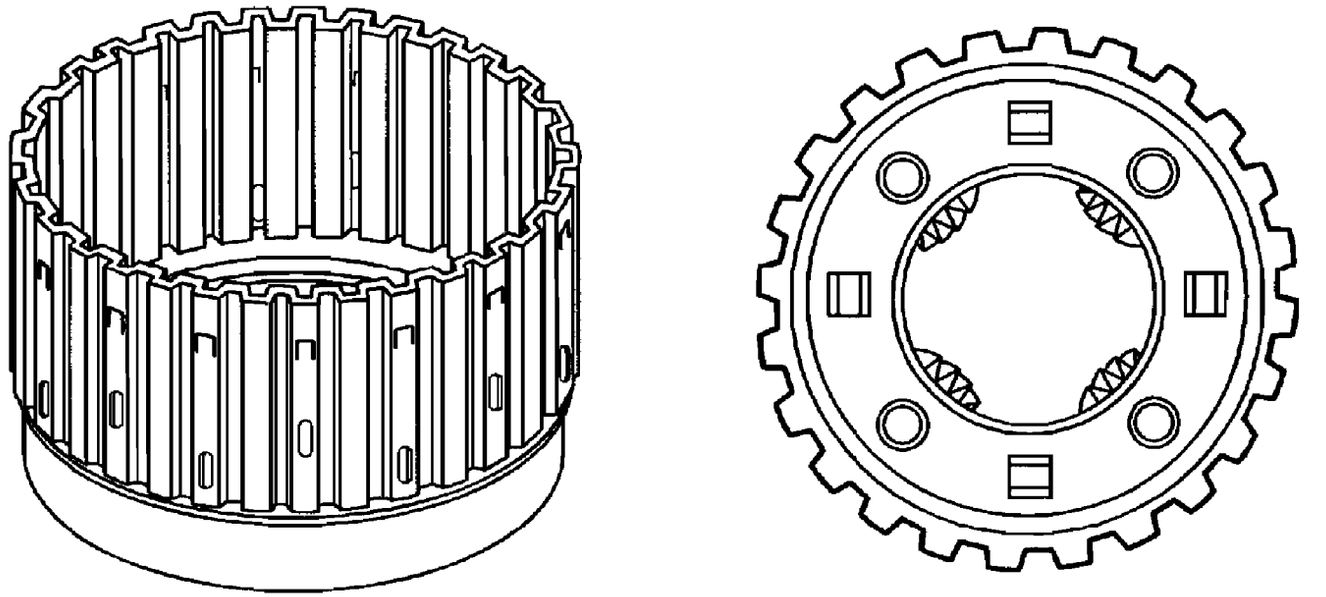
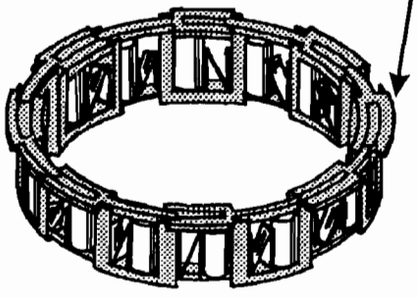


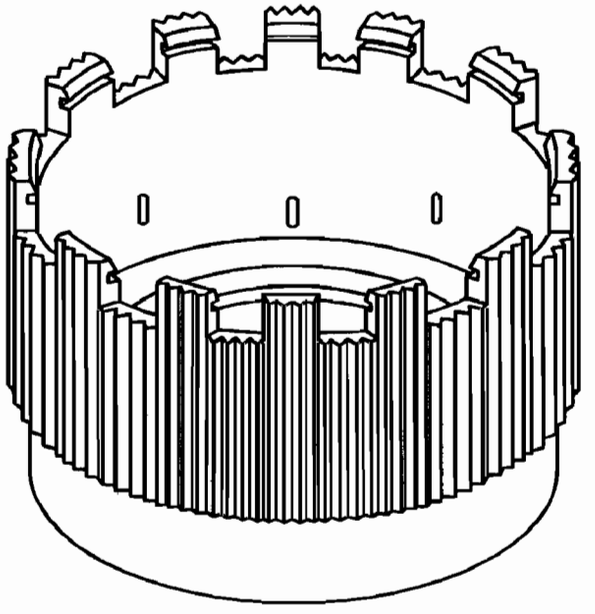
Figure 4

E4OD PLASTIC LOW ROLLER CLUTCH ASSEMBLY

"INCORRECTLY" INSTALLED

NOTE TABS ON TOP OUTER EDGE

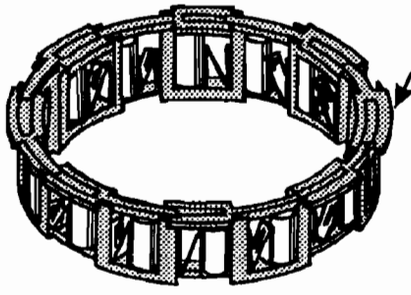


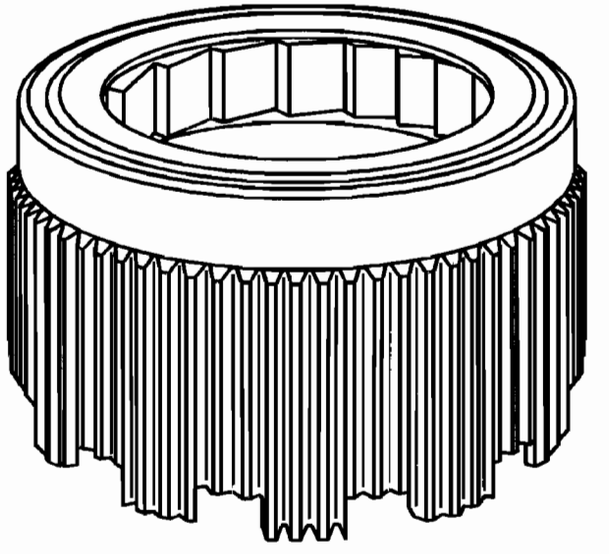


CAUTION
IF THE ROLLER CLUTCH IS INSTALLED IN THIS DIRECTION, THE REVERSE HUB WILL FREEWHEEL IN BOTH DIRECTIONS.

"CORRECT" INSTALLATION

NOTE TABS ON TOP OUTER EDGE





DISCARD BOTH SNAP RINGS. THEY ARE NOT USED WITH THE PLASTIC ROLLER CLUTCH

Figure 5

FORD A4LD
CENTER SUPPORT INTERCHANGEABILITY

CHANGE: The part number for the late model "Snap Design" center support has been changed to OEM Part Number F5TZ-7A130-B, and the early "Non-Snap Design" center support is no longer available from Ford Motor Company.

REASON: Creates a common part that will retro-fit back to 1985.

PARTS AFFECTED:

(1) NUMBER 4 THRUST WASHER - Was replaced by a new ***selective*** Number 4 thrust bearing, as shown in Figure 1.

INTERCHANGEABILITY:

The late model snap design center support will retro-fit back to early design units as long as the new ***selective*** Number 4, and the Number 3 thrust bearings are used (See Figures 1 & 2).
Note: The number 5 thrust bearing is not used on early "Non-Snap Design" models. Refer to Figure 1.

SERVICE INFORMATION:

Center Support (Snap Design)	F5TZ-7A130-B
Number 3 Thrust Bearing	F3TZ-7L326-A
Number 4 Thrust Bearing (Selective .110")	F3TZ-7L326-A
Number 4 Thrust Bearing (Selective .120")	F5TZ-7L326-A
Number 4 Thrust Bearing (Selective .125")	F5TZ-7L326-B
Number 4 Thrust Bearing (Selective .130")	F5TZ-7L326-C

Special Note:

If rear end play is too tight with the thinnest of the four selective bearings, which is the F3TZ-7L326-A thrust bearing .110", remove the number 14 thrust washer, which is the steel "shim" on the rear of the sun gear shell, and recheck the rear end play. If now okay, leave out the number 14 washer.

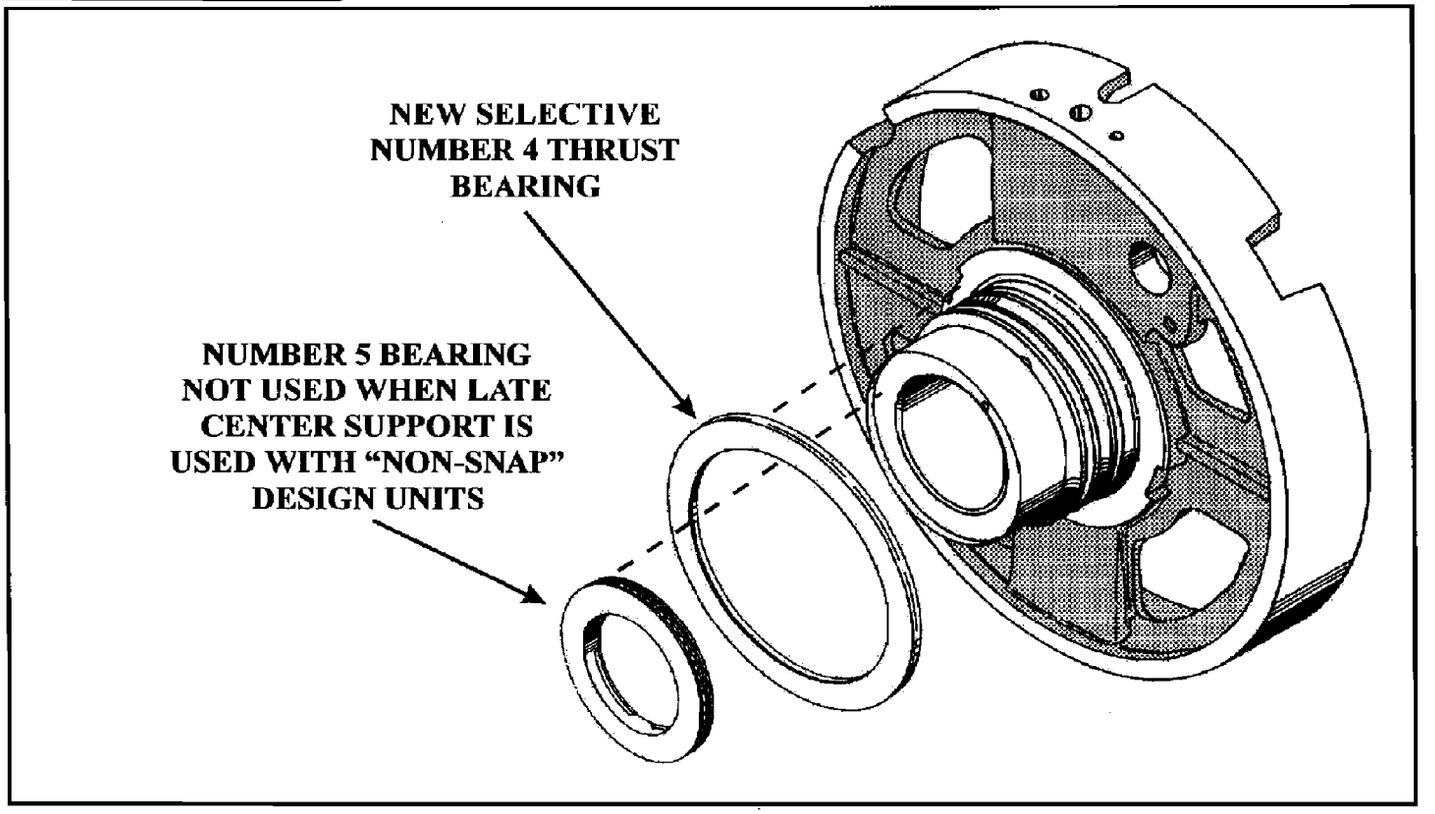


Figure 1

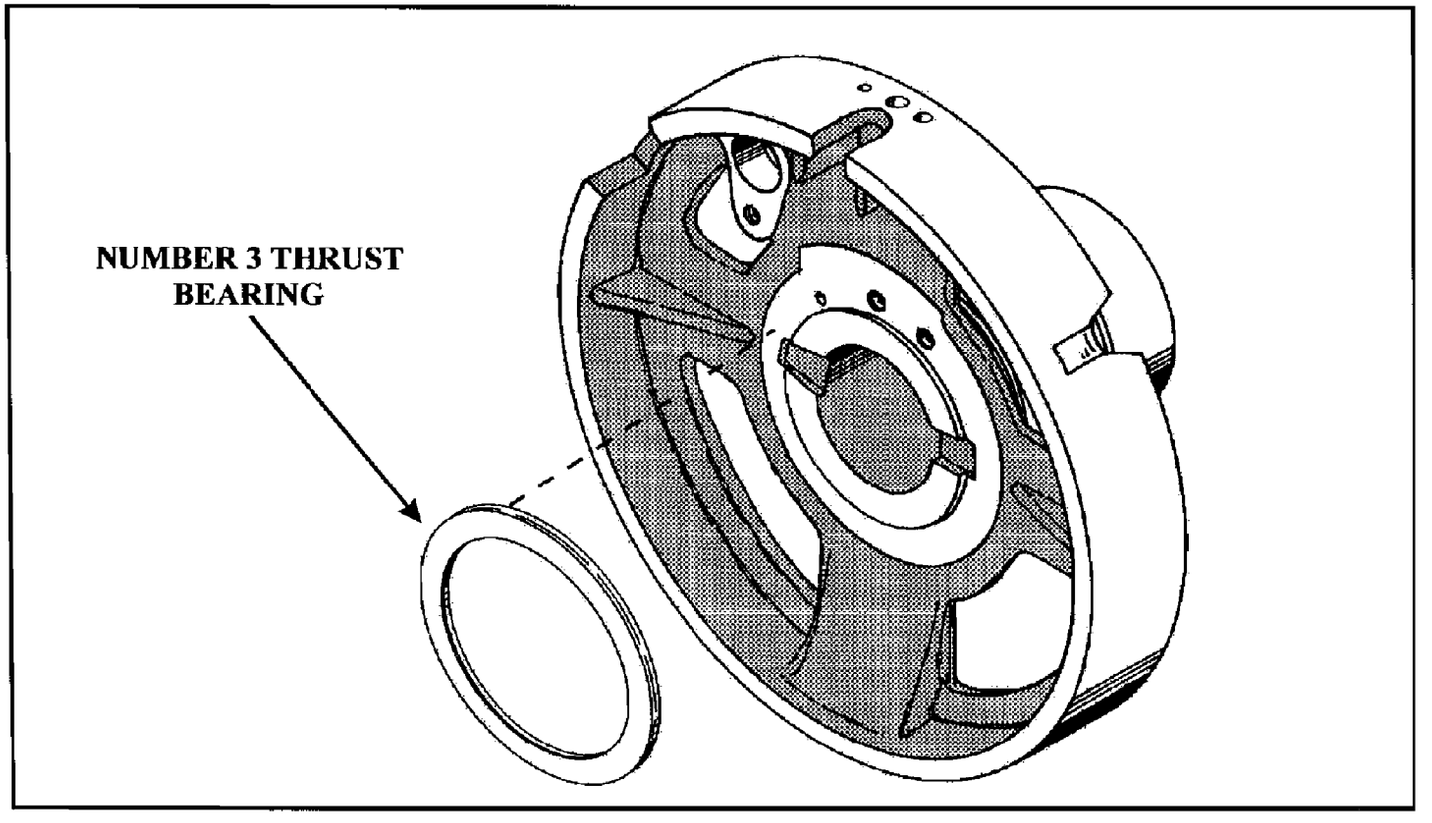


Figure 2