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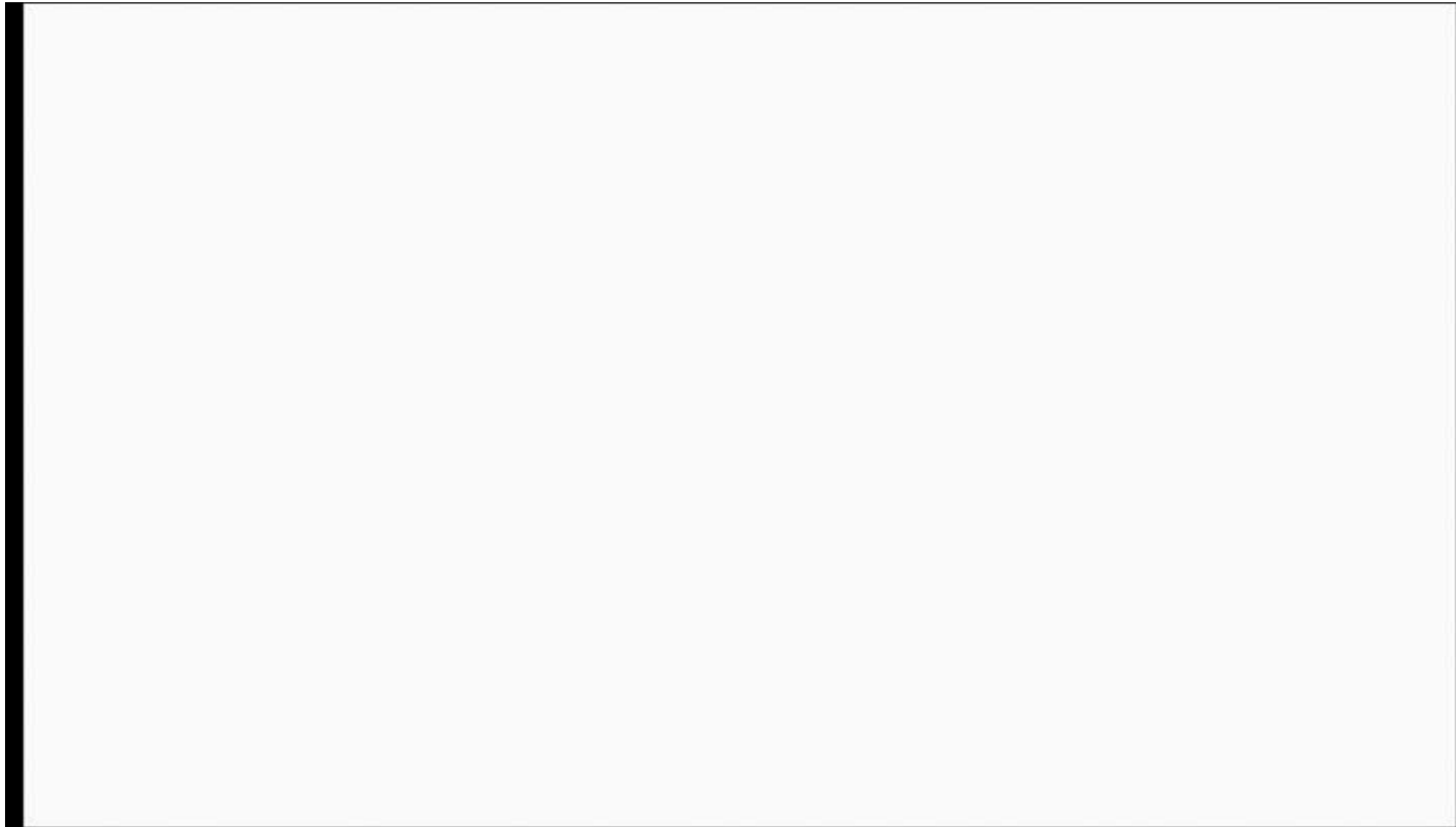
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Free Webinar Schedule



Oct 13/14	A760/AB60	Comparison Intro
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Pencil It In Now!

October 29 - November 1
2015


Powertrain
expo
2015

OCTOBER							NOVEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	3	4	5	6	7
4	5	6	7	8	9	10	8	9	10	11	12	13	14
11	12	13	14	15	16	17	15	16	17	18	19	20	21
18	19	20	21	22	23	24	22	23	24	25	26	27	28
25	26	27	28	29	30	31	29	30					

 Rio Hotel + Casino
Las Vegas, NV





2015 TECHNICAL SEMINAR

SCHEDULE

Registration 7am-8am
Seminar 8am
Lunch 12pm-1pm

FEES

All Pricing in US Funds

ATRA Members	\$165
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Every 4th person	FREE
On-site registration	\$240

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**Expo Package includes 1 Complete Conference Registration & up to 4 nights hotel stay at the Rio Hotel & Casino. Must be present to win.*

LOCATIONS

OCTOBER

ATRA's Powertrain Expo
October 29 - November 1

NOVEMBER

[11/7/15 -- Baltimore, MD](#)

**1 Free Expo
Package*
awarded at each
seminar!**



Ford 6R60 / ZF6HP Comparison



Presented by:
Mike Souza
ATRA Senior
Research Technician



Ford 6R60/ZF6HP Comparison Webinar ©2015 ATRA. All Rights Reserved.





Vehicle Application

Audi

A4 2007-13 2.0L L4 3.0/3.2L V6 ZF6HP28
A6 2008-11 3.0L V6 ZF6HP28
A8 2002-10 3.0/3.2L V6 3.7/4.2L V8 ZF6HP19
Q5 2009-12 3.2L V6 ZF6HP28AF
Q7 2008-13 6.0L V12 ZF6HP32
S5 2008-09 4.2L V8 ZF6HP28

BMW

1 Series 2004-07 1.6/2.0L L4 HP19
2007-13 1.6/2.0L L4 3.0L L6 ZF6HP21
3 Series 2003-14 2.0L L4 2.5/3.0L L6 ZF6HP19
2005-11 3.0L L6 ZF6HP26
2006-13 2.0L L4 2.5/3.0L L6 ZF6HP21
2006-13 2.0L L4 3.0L L6 ZF6HP28
5 series 2000-11 2.0L L4 2.2/2.5/3.0L L6 ZF6HP19
2003-10 2.0L L4 2.5/3.0L L6 4.0/4.4L V8 ZF6HP26
2004-10 2.0L L4 3.0L L6 4.8L V8 ZF6HP28
2006-10 2.0L L4 2.5/3.0L L6 ZF6HP21
6 series 2003-08 4.4/4.8L V8 ZF6HP26
2004-07 3.0L L6 ZF6HP19
2007-11 3.0L L6 ZF6HP21
2007-12 3.0L L6 4.8L V8 ZF6HP28
7 Series 2008-12 3.0L L6 ZF6HP21
2002-09 2.9/3.0L L6 3.6/4.0/4.4/4.8L V8 ZF6HP26
2001-08 3.9/4.4L V8 ZF6HP32
2009-12 3.0L L6 4.4L V8 ZF6HP28
X1 2010-14 2.0L L4 ZF6HP21
2012-14 2.0L L4 ZF6HP19
X3 2006-07 3.0L L6 ZF6HP26
2008-11 2.0L L4 ZF6HP21
2006-12 2.0L L4 3.0L L6 ZF6HP28
2006-11 3.0L L6 ZF6HP19
X5 2003-10 2.0L L4 3.0L L6 4.4/4.8L V8 ZF6HP26
2006-09 3.0L L6 ZF6HP19
2008-11 3.0L L6 ZF6HP21
2009-13 3.0L L6 4.4/4.8L V8 ZF6HP28

X6 2007-10 3.0L L6 4.4L V8 ZF6HP28
2009-14 3.0L L6 4.4L V8 ZF6HP28
Z4 Roadster/Coupe 2006-08 2.5/3.0/3.2L L6 ZF6HP19
Z4 Roadster 2009-11 2.5/3.0L L6 ZF6HP21

Bentley

Arnage 2007-09 6.8L V8 ZF6HP32
Azure 2006-10 6.8L V8 ZF6HP32
Brooklands 2008-09 6.8L V8 ZF6HP32
Flying Spur 2005-12 6.0L W12 ZF6HP26A
GT/GTC 2003-14 4.0L V8 6.0L W12 ZF6HP26A

Ford

Everest 2011-14 3.0L L5 6R60
2011 2.4L L4 3.2L L5 6R80
Expedition 2007-08 5.4L V8 6R75
2009-14 5.4L V8 6R80
2015 3.5L EcoBoost V6 6R80
Explorer 2006-08 4.6L V8 6R60
2009-10 4.6L V8 6R80
Explorer/Sport Trac 2007-08 4.6L V8 6R60
2009-10 4.6L V8 6R80
F150 2008-09 4.6L V8 6R60
F150 2009-15 2.7/3.5L EcoBoost 3.5/3.7L V6 4.6/5.0 DOHC 5.4/6.2L V8 6R80
Falcon (European) 2004-14 2.0L L4 2.7/3.5/4.0L L6 5.4L V8 ZF6HP26
Mustang 2010-15 2.3/3.7L V6 5.0L V8 6R80
Ranger 2010-14 2.2/2.5/3.0L L4 3.2L L5 6R80
Territory SY (European) 2005-14 4.0L L6 2.7L V6 ZF6HP26
Transit 150/250/350/350HD 2014-15 3.2L L5 3.5/3.7L V6 6R80

Foton (European)

D-SUV 2014 1.8/2.0/2.8L L4 ZF6HP21
Hawtai (European)
Terracan T9 2012-14 2.0/2.5L L4 ZF6HP21

Hyundai

Equus/Genesis 2009-11 4.6L V8 ZF6HP26
Genesis Coupe 2008-11 3.8L V6 ZF6HP19





Vehicle Application

Jaguar

S Type 2002-07 2.7/3.0L V6 4.2L V8 ZF6HP26

2003-05 2.5L V6 ZF6HP19

XF 2007-12 3.0L V6 4.2/5.0L V8 ZF6HP28

XJ 2003-10 2.7/3.0L V6 4.2L V8 ZF6HP26

XJ series 2002-09 2.7L V6 3.5/4.2LV ZF6HP26

2003-11 3.0L V6 ZF6HP19

2010-12 5.0L V8 ZF6HP28

XK 2003-08 3.5/4.2L V8 ZF6HP26

2008-11 5.0L V8 ZF6HP28

Kia

Borrego 2009-10 4.6L V8 ZF6HP26

Mohave 2007-14 3.0L V6 4.6L V8 ZF6HP26

Landrover

LR3 2004-11 2.7/3.0/4.0/4.4L L6 ZF6HP26

2009-14 2.7L V6 5.0L V8 ZF6HP28

Range Rover/Sport 2006-10 2.7L L6 3.6/4.2/4.4L V8 ZF6HP26A

2009-13 3.0L V6 4.4/5.0L V8 ZF6HP28

Lincoln

Navigator 2005-07 5.4L V8 ZF6HP26

2008-15 5.4/5.4L SOHC 3.5L EcoBoost V8 6R80

Town Car 2005-07 4.6L V8 ZF6HP26

Maserati

Grancabrio 2010-14 4.2L V8 ZF6HP26

Granturismo 2012-14 4.2/4.7L V8 ZF6HP26

GT Coupe 2007-11 4.2/4.7L V8 ZF6HP26

Guattrporte 2007-12 4.2/4.7L V8 ZF6HP26

Mazda

BT-50 2012-14 2.2/2.5/3.0L L4 3.2L L5 6R80

Pickup BT50 2011 2.2L L4 3.2L L5 6R80

Mercury

Mountaineer 2006-08 4.6L V8 6R60

2009-10 4.6L V8 6R80

Roewe (European)

W5 2012-14 1.8/1.9L L4 ZF6HP21

Rolls Royce

Drophead Coupe 2007-12 6.8L V12 ZF6HP32A

2012-14 6.8L V12 ZF6HP70

Phantom 2003-12 6.8L V12 ZF6HP32A

Seat (European)

Exeo 2009-11 1.8/2.0L L4 ZF6HP28

Volkswagen

Phaeton 2002-06 4.9L V10 ZF6HP32A

2004-14 3.0L V6 4.2L V8 6.0L W12 ZF6HP26A

2005-14 3.2/3.6L V6 ZF6HP19A

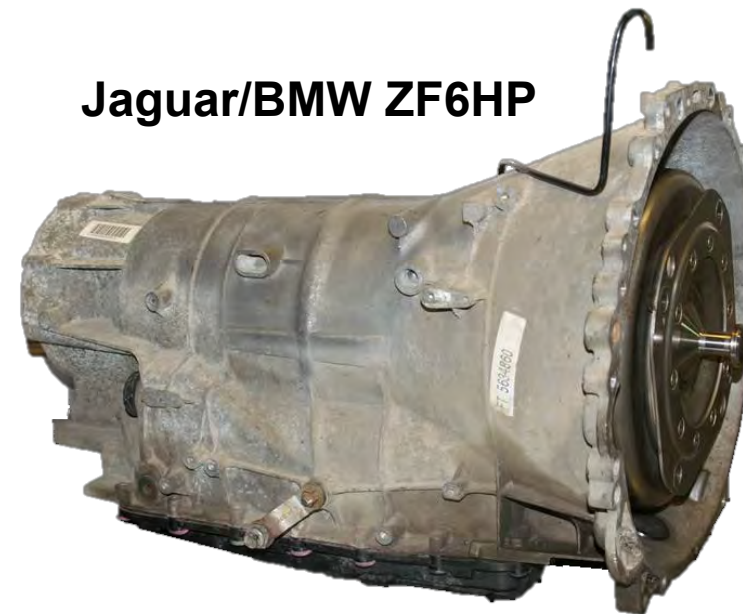




Navigator/ZF6HP26
2005-08



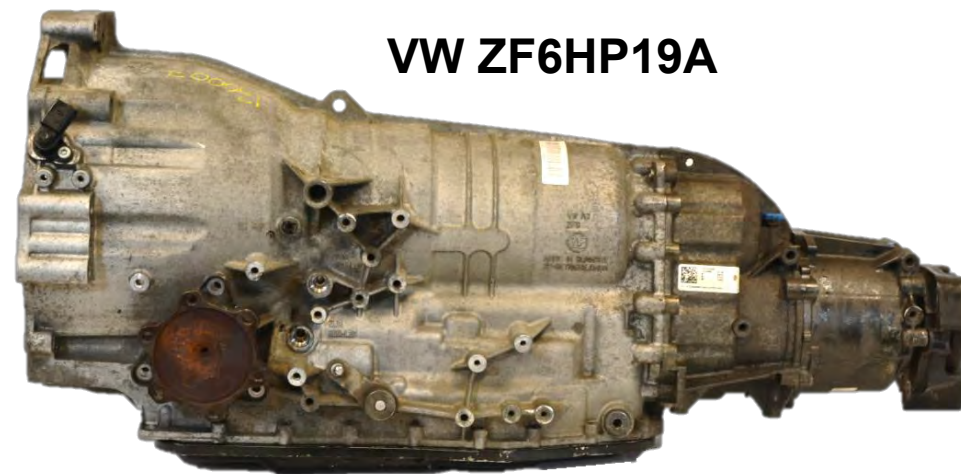
Jaguar/BMW ZF6HP



Explorer 6R60 Series
2006 & Later



VW ZF6HP19A





Ford's Remanufactured Powertrain information can be found on Google.

Just Google PTF200M_06.09.2015.

The list of year make and models shows which models use the 6R60 series and which used the ZF6HP series.



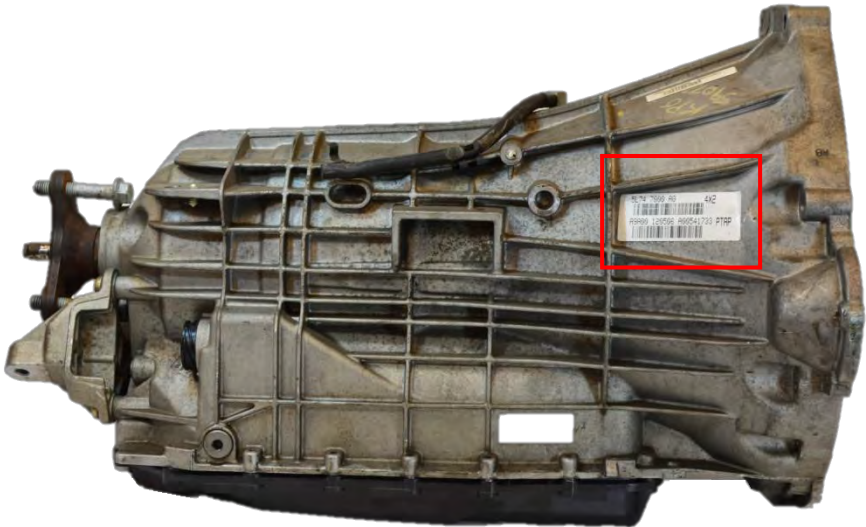
The Adobe file has over 200 pages of every part and O.E. part numbers

Navigator					
Part Type	Years	Engine	Trans	Qualifier	Ford #
Automatic - New	2015	3.5L EcoBoost	6R80	RWD	FL3Z-7000-C
	2014-2012	5.4L	6R80	4WD	CL1Z-7000-B
	2014-2012		6R80	RWD	CL1Z-7000-A
Automatic - Reman	2011		6R80	4WD	BL1Z-7000-B
	2012		6R80	RWD; CL1P-7000-AA	CL1Z-7000-ARM
	2012		6R80	4WD; CL1P-7000-BA	CL1Z-7000-BRM
	2011		6R80	4WD; BL1P-7000-BA,BB	BL1Z-7000-BRM
	2011		6R80	RWD; BL1P-7000-AA,AB	BL1Z-7000-ARM
	2010	5.4L SOHC	6R80	RWD; AL3P-7000-AA,AB,AC,AD	AL3Z-7000-ARM
	2010		6R80	4WD; AL1P-7000-BA,BB,BC,BD	AL1Z-7000-ARM
	2009	5.4L	6R80	RWD; 9L3P-7000-AF,AG,AH, NA,NB	9L3Z-7000-EARM
	2009		6R80	4WD; 9L3P-7000-BF,BG; 9L1P-7000-DC/DD, EA/EB	9L1Z-7000-BRM
	2007		6HP26	RWD; 7L7Z-7000-AC	DL7Z-7000-ERM
	2007		6HP26	4WD; 7L7Z-7000-BD	DL7Z-7000-FRM
	2006-2005		6HP26	RWD; 5L74-7000-AE	DL7Z-7000-ARM
	2006-2005		6HP26	4WD; 5L74-7000-BE	DL7Z-7000-BRM
	2004-2003		4R100	RWD; 3L7P-7000-AA; PRB-HE, PRB-HE1	3L7Z-7V000-ARM
	2004-2003		4R100	4WD; 3L7P-7000-BA; PRB-HF, PRB-HF1	3L7Z-7V000-BRM
	2002-2001		4R100	4WD; 1L7P-7000-BA,BB,BC; PRB-EB,FW,GY	3L7Z-7V000-BRM
	2002-2001		4R100	RWD; 1L7P-7000-AA,AB,AC,AD; PRB-EA	3L7Z-7V000-ARM
	2000			RWD; XL3P-7000-GB; PRB-BC	XL3Z-7V000-GBRM
	2000		4R100	4WD; YL1P-7000-BA; PRB-CB	XL1Z-7V000-DBRM
	2000	5.4L DOHC	4R100	RWD; YL1P-7000-AA; PRB-CA	XL1Z-7V000-CBRM
	2000	5.4L SOHC	4R100	4WD; YL3P-7000-BA; PRB-BD	YC3Z-7V000-BRM
	2000		4R100	RWD; YL7P-7000-AA; PRB-CF	XL3Z-7V000-GBRM
	1999	5.4L DOHC	4R100	RWD; XL1P-7000-CB; PRB-BA	XL1Z-7V000-CBRM
	1999		4R100	4WD; XL1P-7000-DB; PRB-BB	XL1Z-7V000-DBRM
	1999	5.4L SOHC	4R100	RWD; XL7P-7000-AA,GB; PRB-BC,BF,CF	XL3Z-7V000-GBRM
	1999		4R100	4WD; XL3P-7000-HB; PRB-BD,CD	YC3Z-7V000-BRM
	1998	5.4L	4R100	RWD; F8UP-7000-LC; 8TSG; PRB-AC	F8UZ-7V000-LCRM

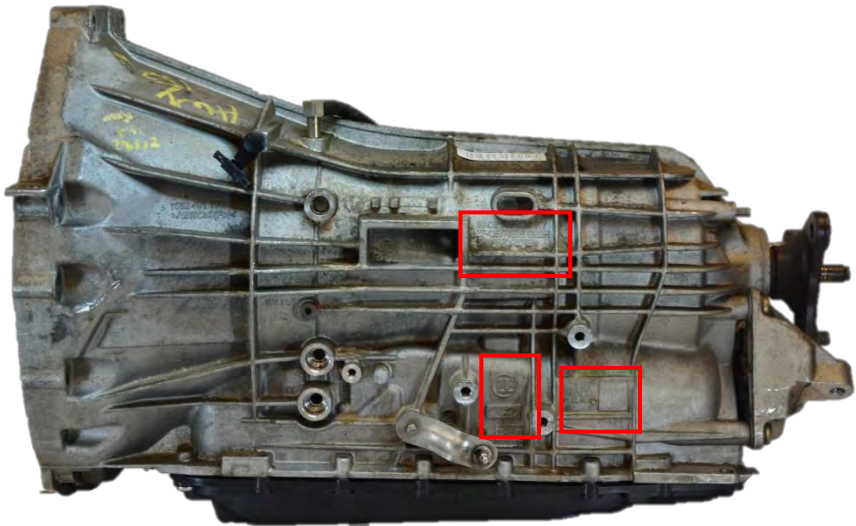




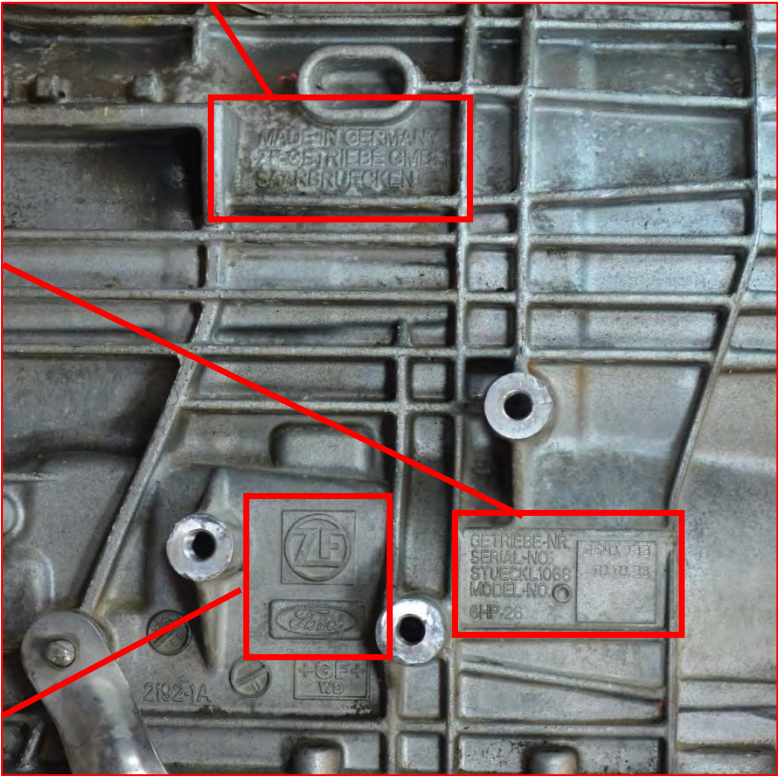
Navigator/ZF6HP26 2005-08 Identification Tag & manufacturer information made in Germany.



Made in Germany



6HP-26
Not 6R60



ZF & Ford



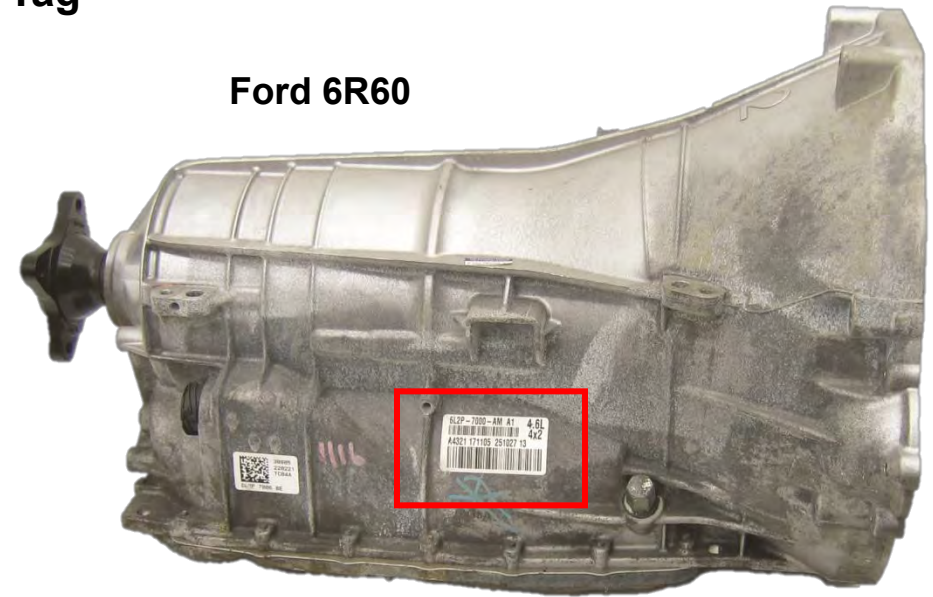
Ford 6R60 Series 2006 & Later Identification Tag



Identification Tag

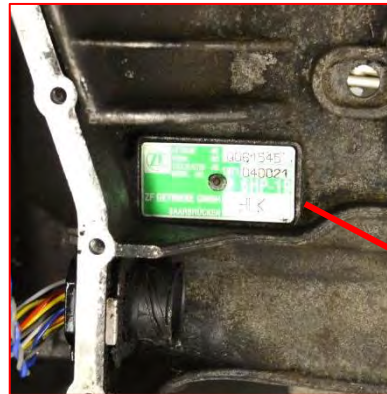


Ford 6R60

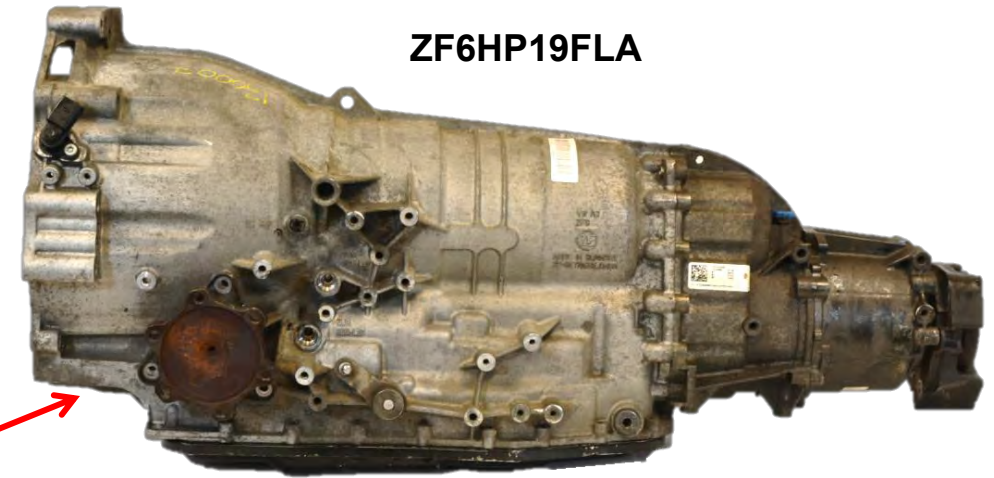


ZF6HP Series Identification Tags can be found in different locations on the case based upon make and models

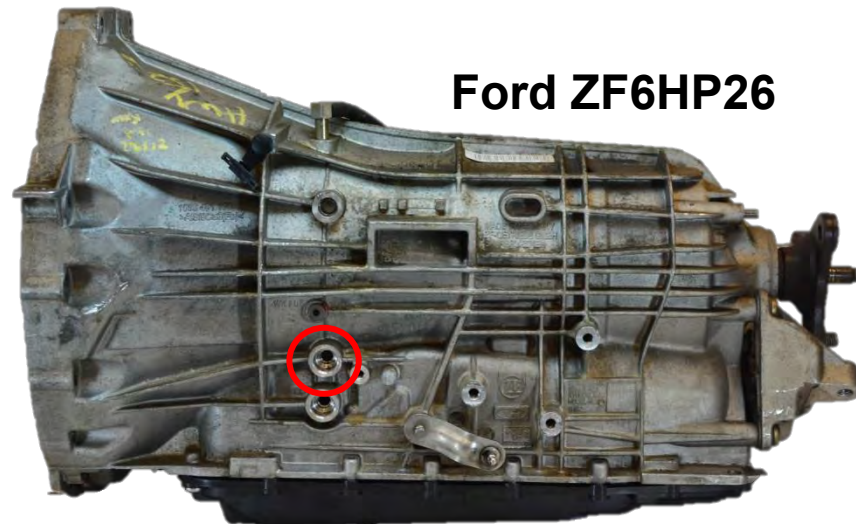
Identification Tag



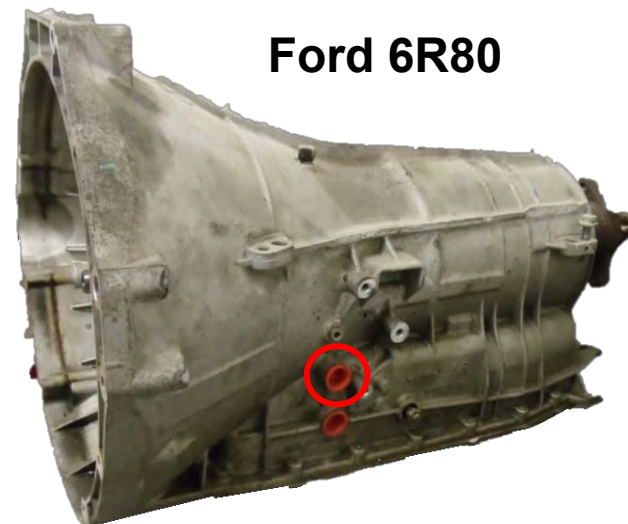
ZF6HP19FLA



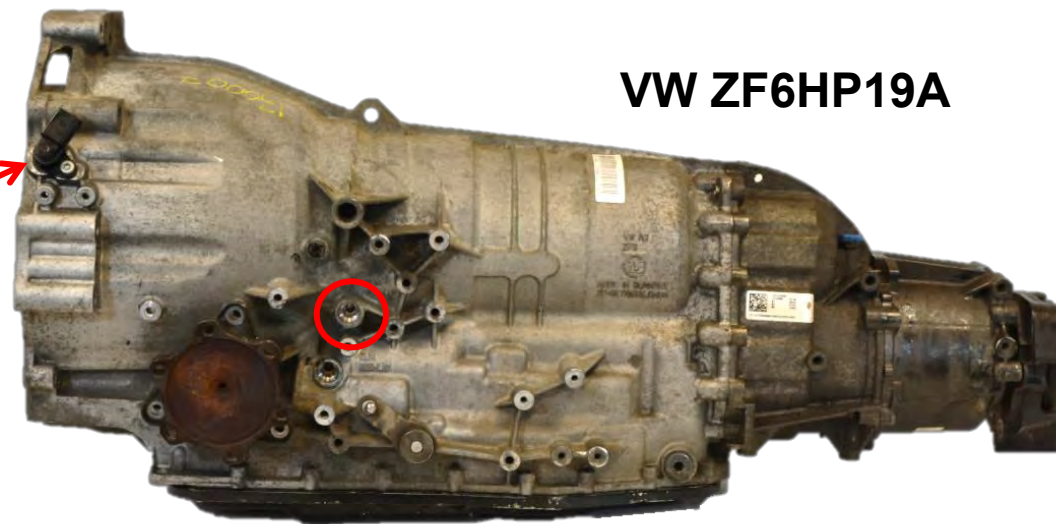
The transmission top cooler line on both the Domestic and European models is return.



Ford ZF6HP26



Ford 6R80



VW ZF6HP19A

VW ZF6HP19A
has a engine
speed sensor
located
on the
bellhousing



Different holding fixture when rebuilding transmission. The line pressure tap is located in the same area on most models.

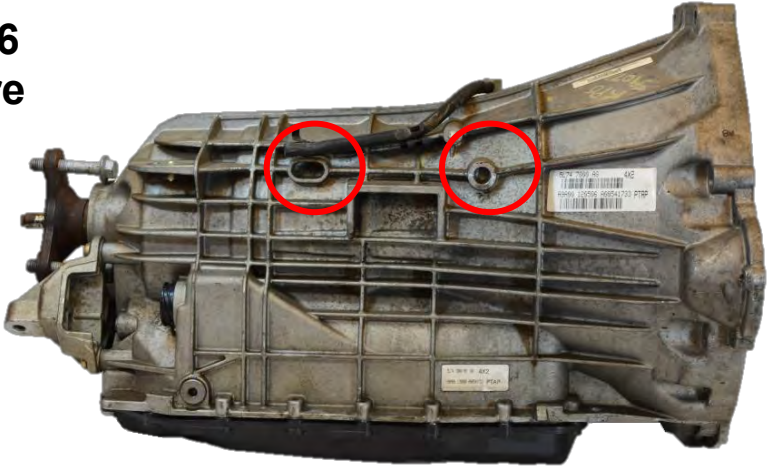
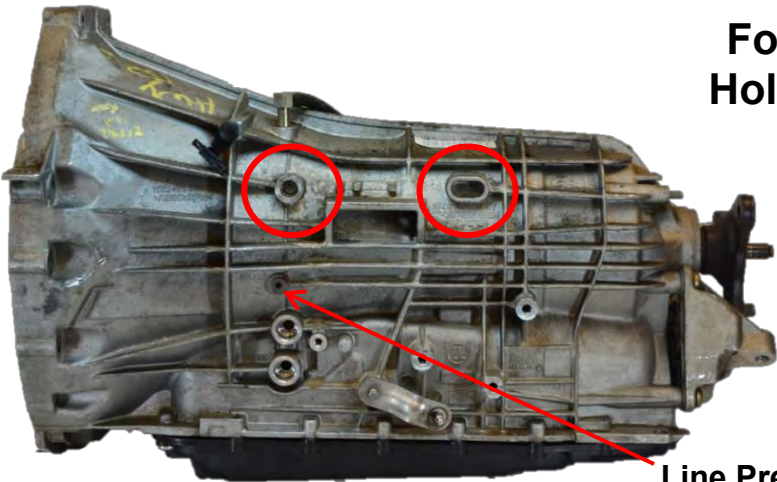


Ford
Holding Fixture



Line Pressure Tap

Ford ZF6HP26
Holding Fixture



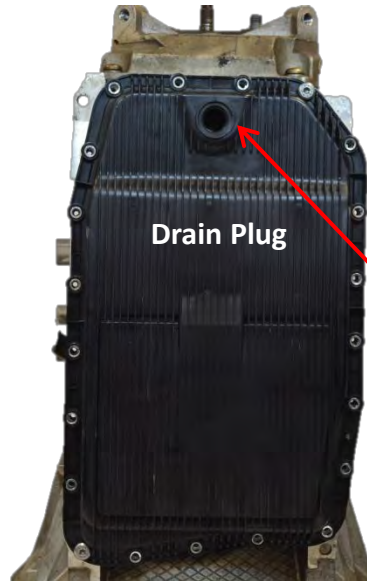
Line Pressure Tap



Transmission service (drain & fill) is different from model to model. Fluid type and fill specifications vary according to make and model.



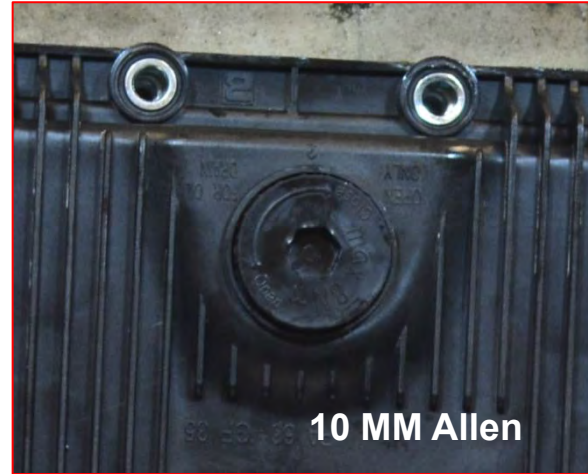
Navigator/ZF6HP26
2005-07



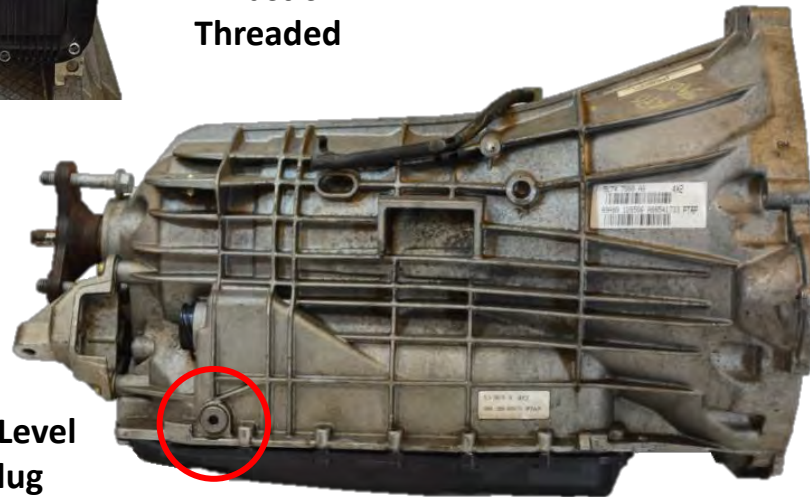
Drain Plug



Plastic
Threaded

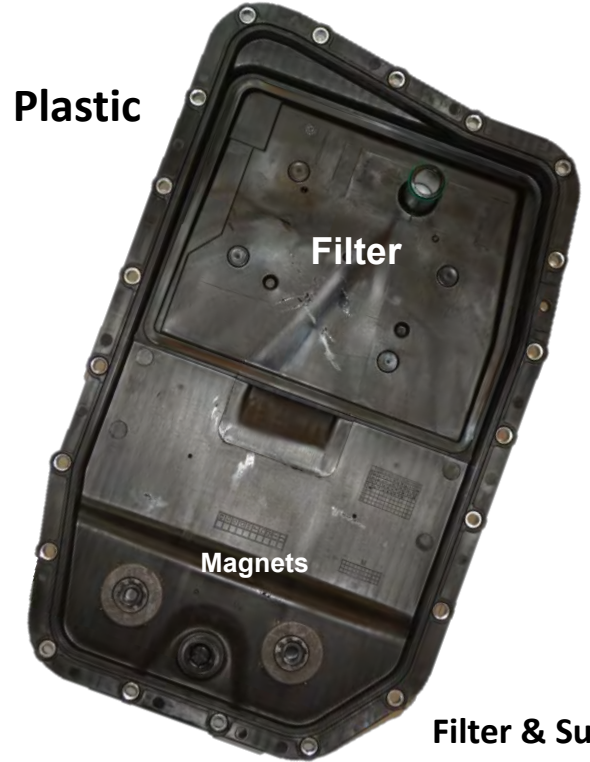


10 MM Allen



Fill Level
Plug

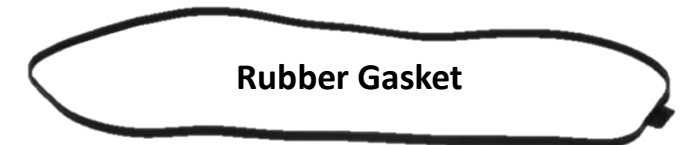
Plastic



Filter

Magnets

Filter & Sump
All In One



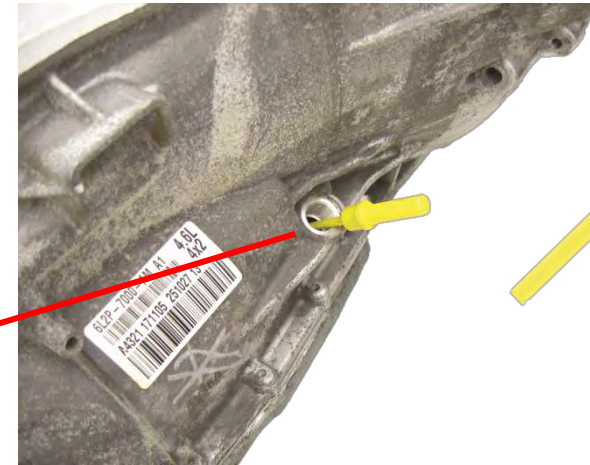
Rubber Gasket

Use Only ZF Lifeguard Fluid 6 or OE
Approved Transmission Fluid.

Transmission service (drain & fill) is different from model to model. Fluid type and fill specifications vary according to make and model.



Explorer 6R60 Series
2006 & Later



Dipstick



Metal



Mercon SP



2009 & Later 6R80 Requires LV

Filter



No Drain Plug

Note: The metal pan & separate filter can be used on a ZF6HP in place of the 1 piece plastic pan & filter



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GEARS

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TRANSMISSIONS														TRANSAXLES																			
MODEL YEAR	C6 AL4D	E4C0D	4R100	SR110 TORQ SHIFT (See Note 1)	4R70W/ 4R70E	4R75WE	4R44E	4R55E	SR55E	SR55N	SR44E	SR55W/0	6HP26	SR60/ 6R75	SR80	SR140 TORQ SHIFT 6	ATX	F4E (4EAT)	4F20E	CD4E	4F27E (See Note 1)	AX46 (AX40E)	4F50N (AX4N)	CVT	6SPD AUTO AMF-21	AW ECVT	FNR5	6PSDN/ 55N	6F35N	DP36	HF35 Hybrid	MODEL YEAR	
1996	V	V			V		V										V	V	V	V		V	V									1996	
1997		V			V		V		V								V	V	V	V		V	V									1997	
1998		V	V		V		V		V								V	V	V	V		V	V									1998	
1999			V		V		V		V								V	V	V	V		V	V									1999	
2000					V		V		V		V						V	V	V	V	LV	V	V									2000	
2001					V		V		V		V						V	V	V	V	LV	V	V									2001	
2002					V		V		V		V		V				V	V	V	V	LV	V	V									2002	
2003					V		V		V		V		V				V	V	V	V	LV	V	V									2003	
2004					V		V		V		V		V				V	V	V	V	LV	V	V									2004	
2005					V		V		V		V		V				V	V	V	V	LV		V		CVT	P	V					2005	
2006					V		V		V		V		V	SP			V	V	V	V	LV		V		CVT	P	V	M5				2006	
2007					V		V		V		V		V	SP	SP		V	V	V	V	LV		V		CVT	P	V	M5	V			2007	
2008					V		V		V		V		V	SP	SP		V	V	V	V	LV		V		CVT	P	V	M5	V			2008	
2009					V		V		V		V		V			LV	V	V	V	V	LV		V			P	LV	M5		LV		2009	
2010					V		V		V		V		V				V	V	V	V	LV		V			P	LV		LV	LV		2010	
2011					V		V		V		V		V				V	V	V	V	LV		V			P	LV		LV	LV	DCT	2011	
2012					V		V		V		V		V				V	V	V	V	LV		V			P	LV		LV	LV	DCT	2012	
2013					V		V		V		V		V				V	V	V	V	LV		V			P	LV		LV	LV	DCT	LV	2013
2014					V		V		V		V		V				V	V	V	V	LV		V			P	LV		LV	LV	DCT	LV	2014
2015					V		V		V		V		V				V	V	V	V	LV		V					LV	LV	LV	DCT	LV	2015

Version 5
Published 9/2014

On the import vehicles it is recommended to use what the factory requires.



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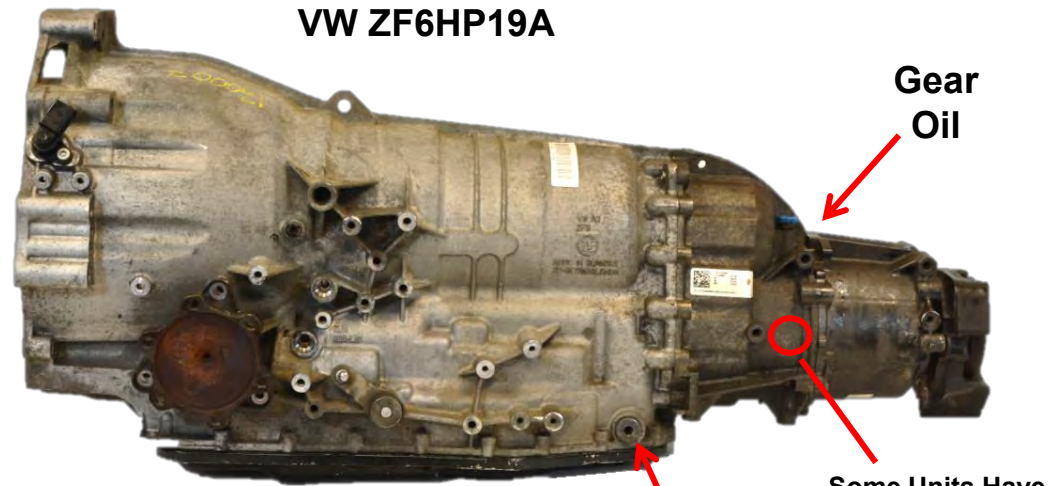


www.sealsap.com
(800) 582-2760

Transmission service (drain & fill) is different from model to model. Fluid type and fill specifications vary according to make and model.



VW ZF6HP19A



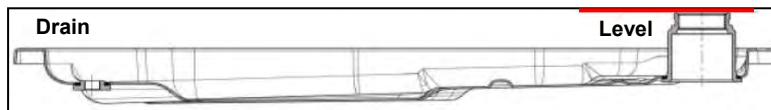
Gear Oil

Some Units Have Fill Plug Here

Filter



Fill Plug

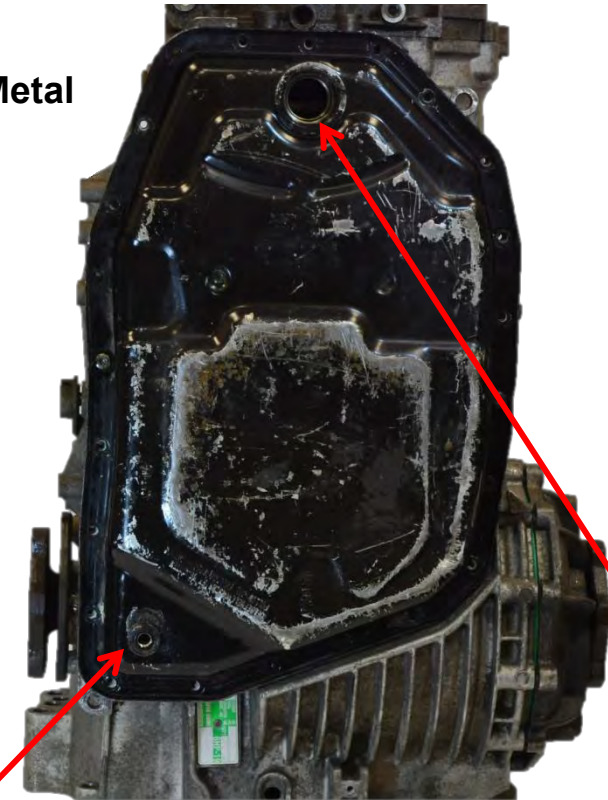


Drain

Level

Use Only ZF Lifeguard Fluid 6 or OE Approved Transmission Fluid.

Metal



Drain Plug



5 MM Allen

Level Plug



17 MM Allen



Transmission service (drain & fill) is different from model to model. Fluid type and fill specifications vary according to make and model.



Gear Oil
Fill & Level
Plug



Factory Recommended Oil SAF AG4 1016

Gear Oil
Fill & Level
Plug

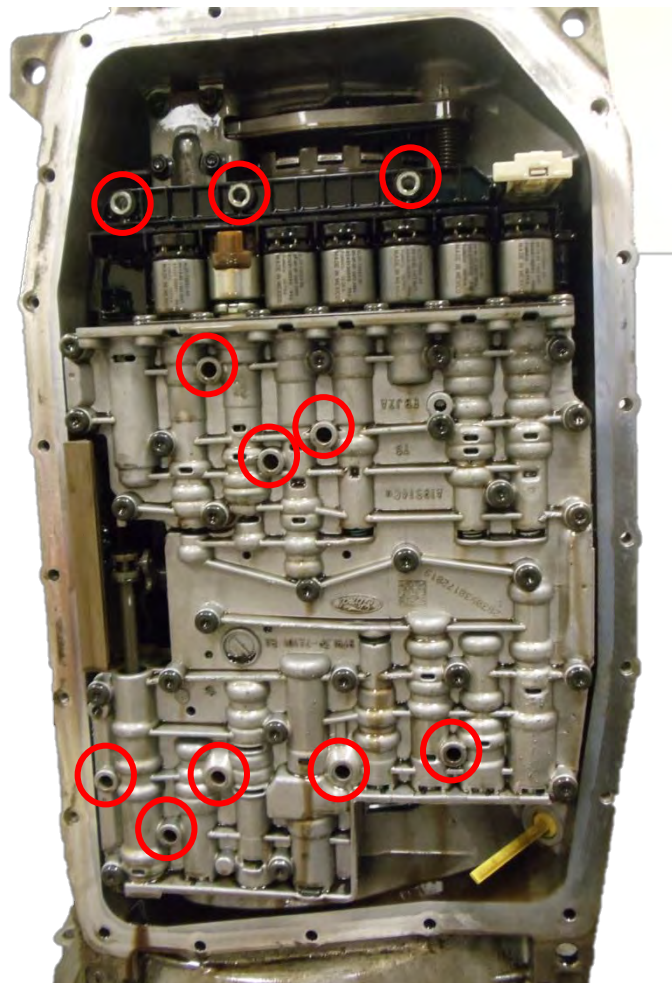




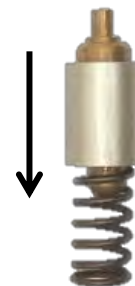
Valve Body Removal

Remove the 8 larger and head Torx bolts on the valve body and the 3 Torx on the solenoid bracket.

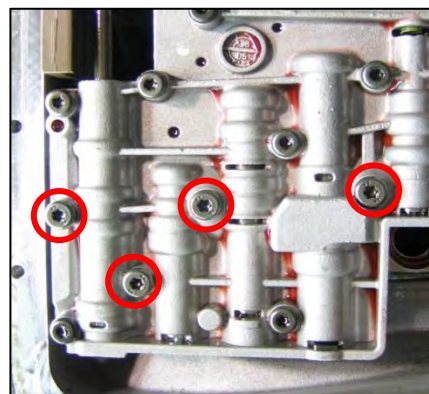
6R60/75/80 Series



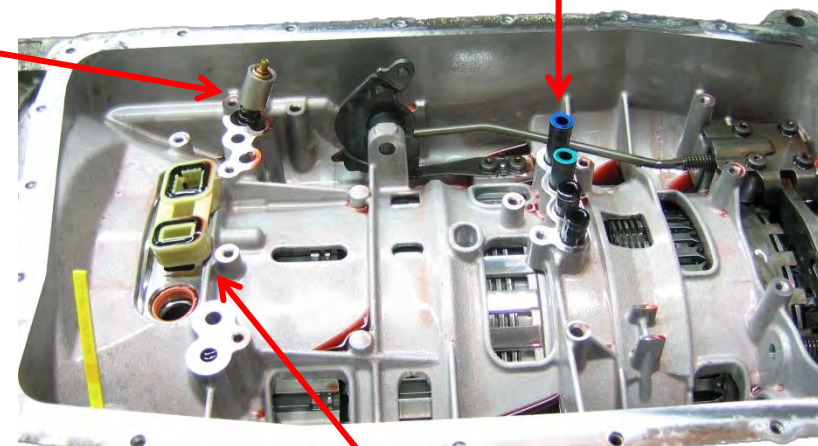
Thermal Cooler Bypass
(not found in ZF)



Larger Size Head



Feed Tubes
(Same ON ZF6HP26)



Seals



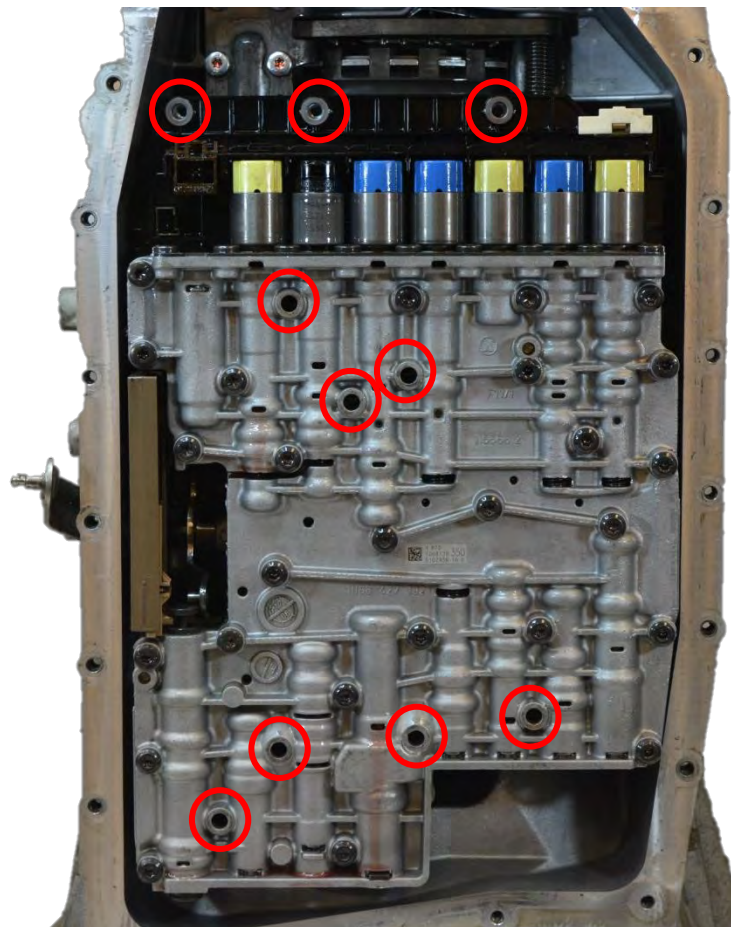
Bridge Seal (yellow)



Valve Body Removal

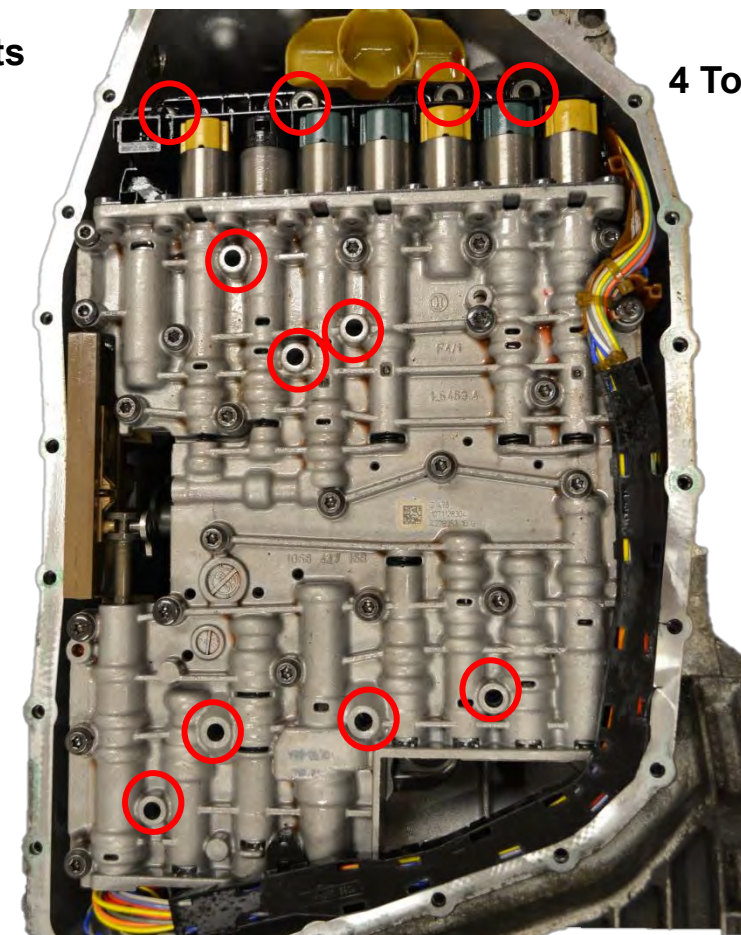
Remove the 7 Torx head bolts (same size heads) on the valve body and the 3 Torx bolts on the solenoid bracket on the ZF6HP26 and 4 on the ZF6HP19A.

ZF6HP26



3 Torx Bolts

ZF6HP19A



4 Torx Bolts

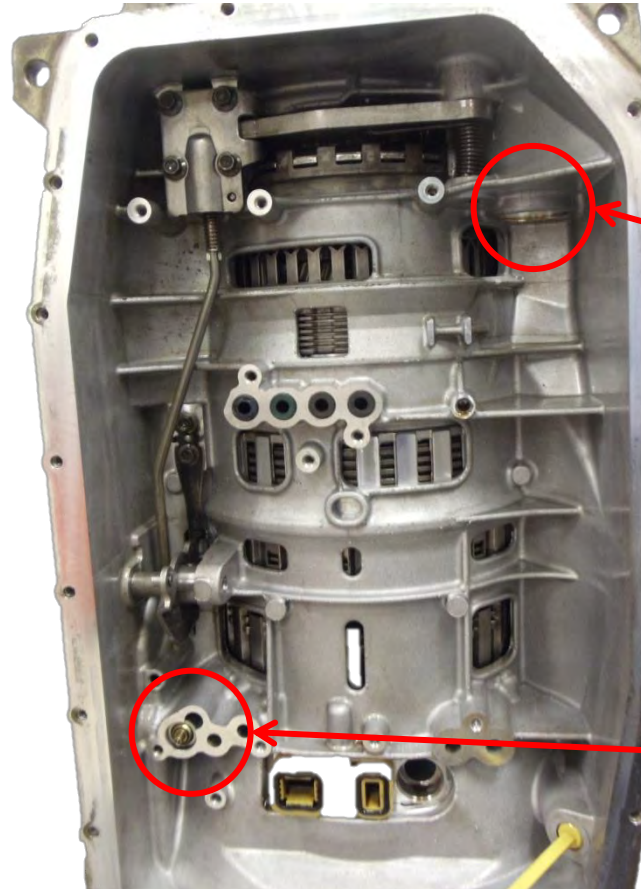
7 Torx Bolts
Same size
heads



The valve body on the 6R60 series and ZF6HP26 lock to a removable sleeve. Only the 6R60 series has a Thermal Cooler Bypass while the ZF units don't.



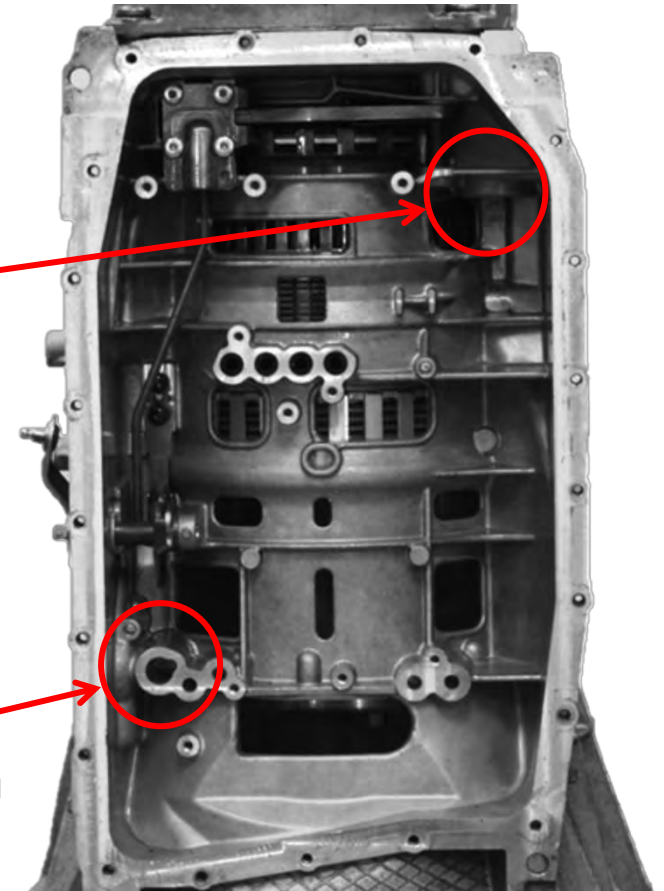
6R60 Series



Lock



ZF6HP26



Sleeve



Upgraded
Seals
(Don't Swell)



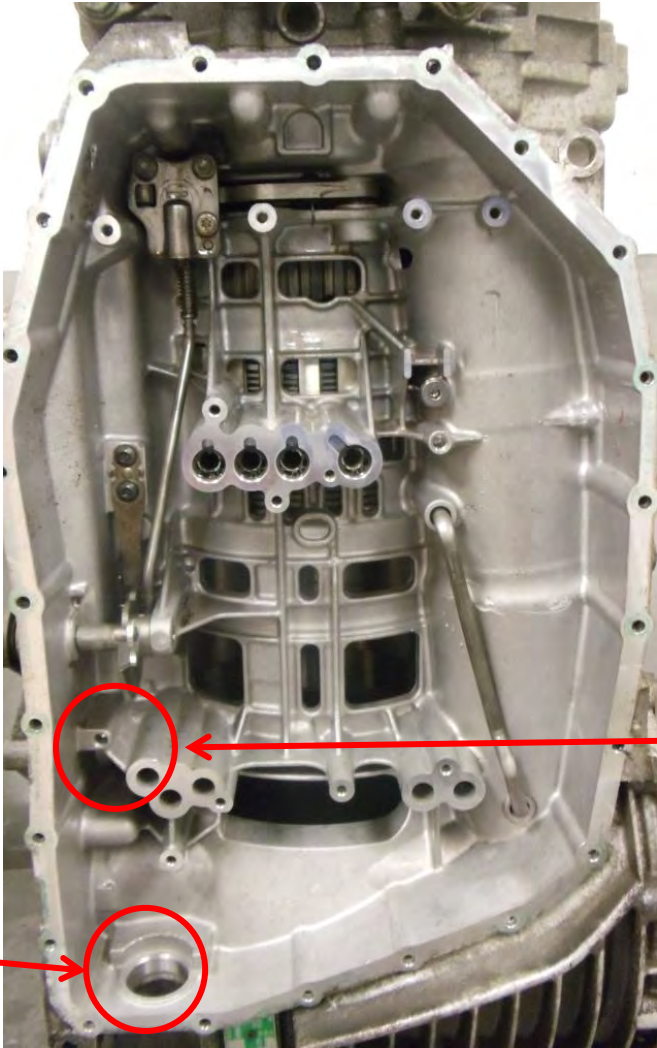
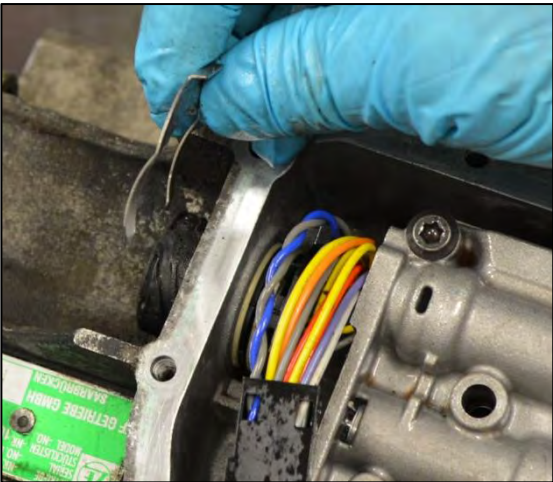
Thermal Cooler
Bypass



Not Found
In ZF



The ZF6HP19A does not have a sleeve. It has a clip that holds the internal harness connector to the solenoids.

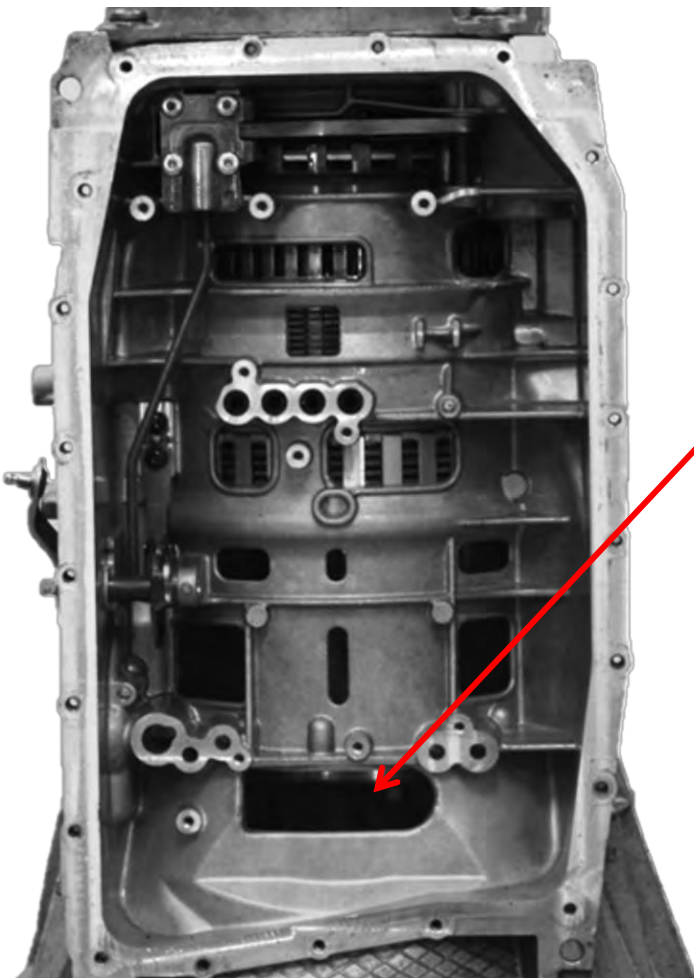


Thermal Cooler Bypass
(not found in ZF)





ZF6HP26



Bridge Seal Cracks



Black Bridge Seal



Seals

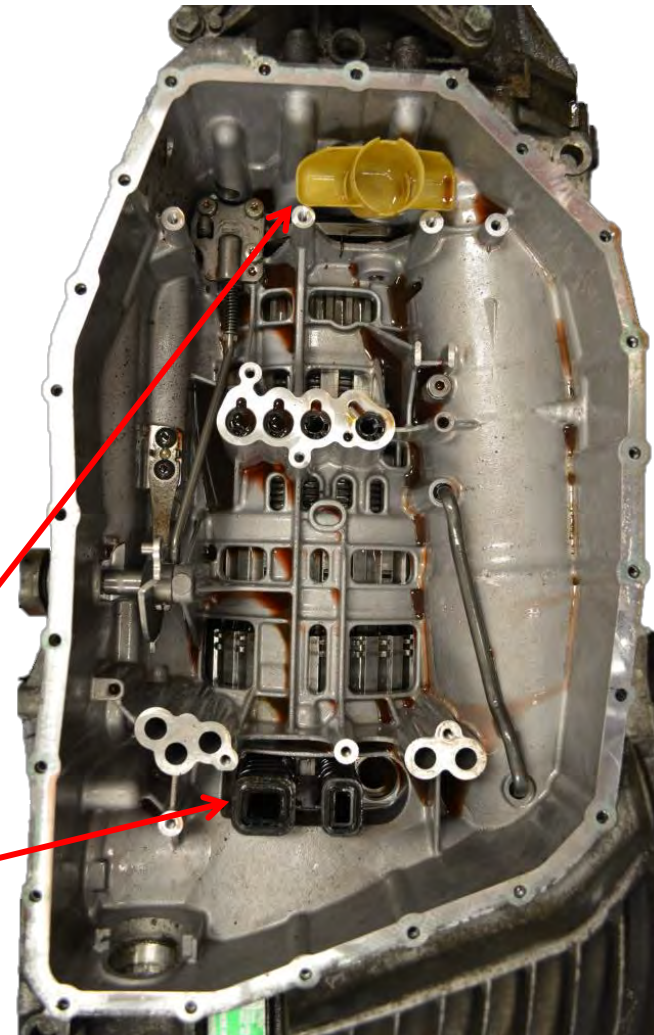
Oil Baffle



Tall Black Bridge Seal

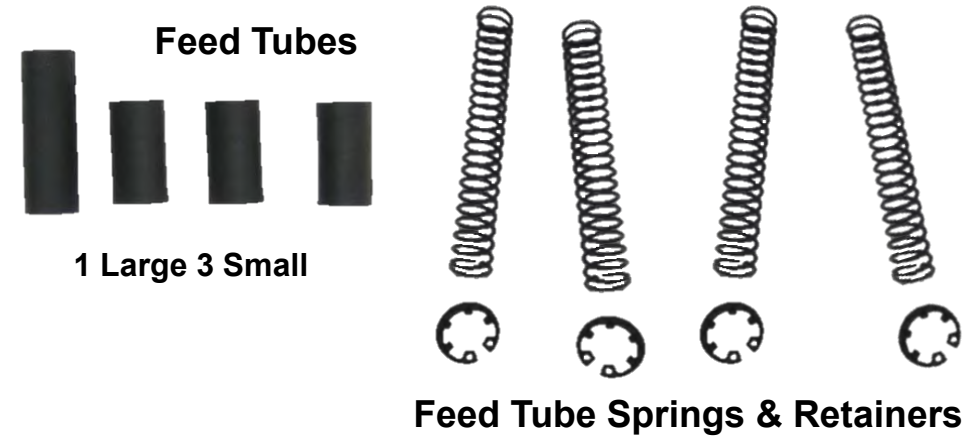
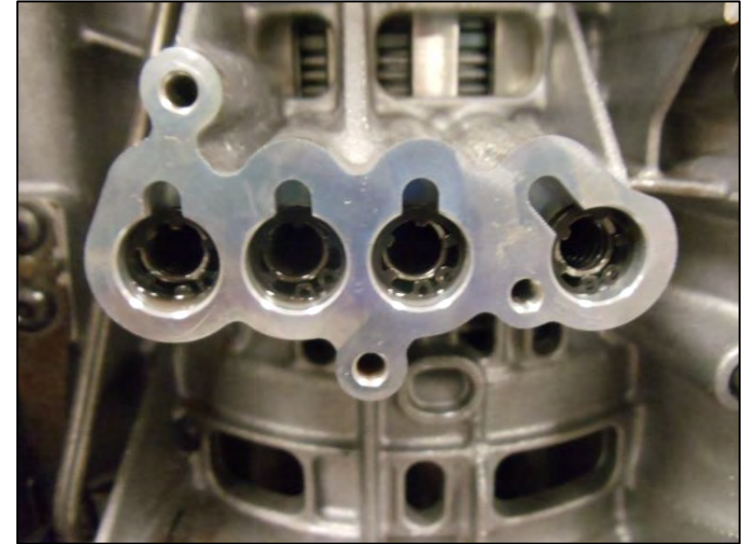
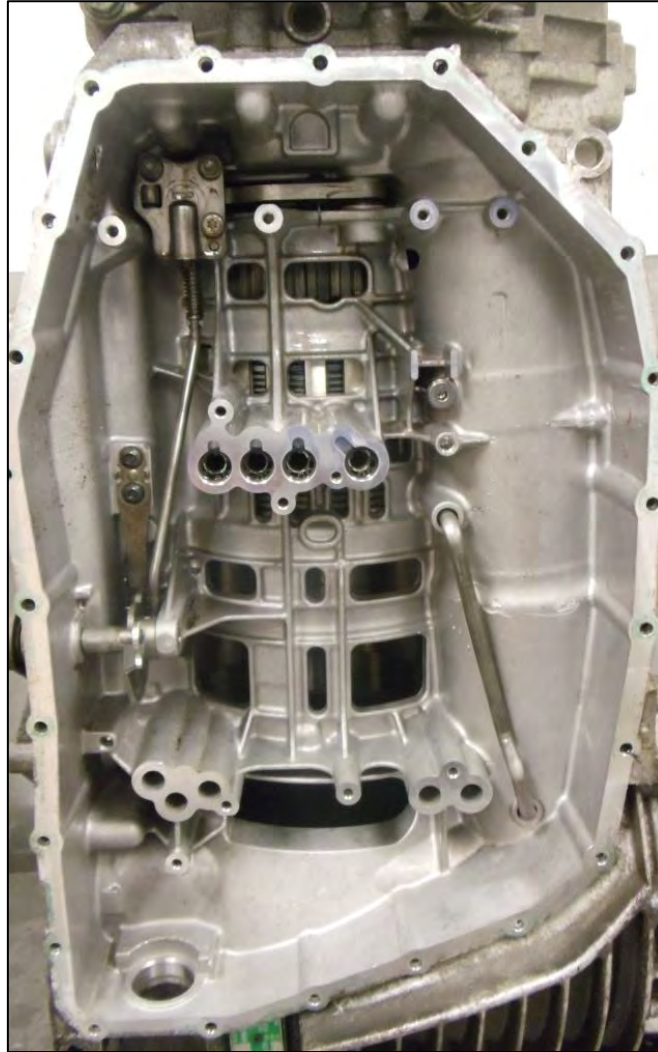


ZF6HP19A

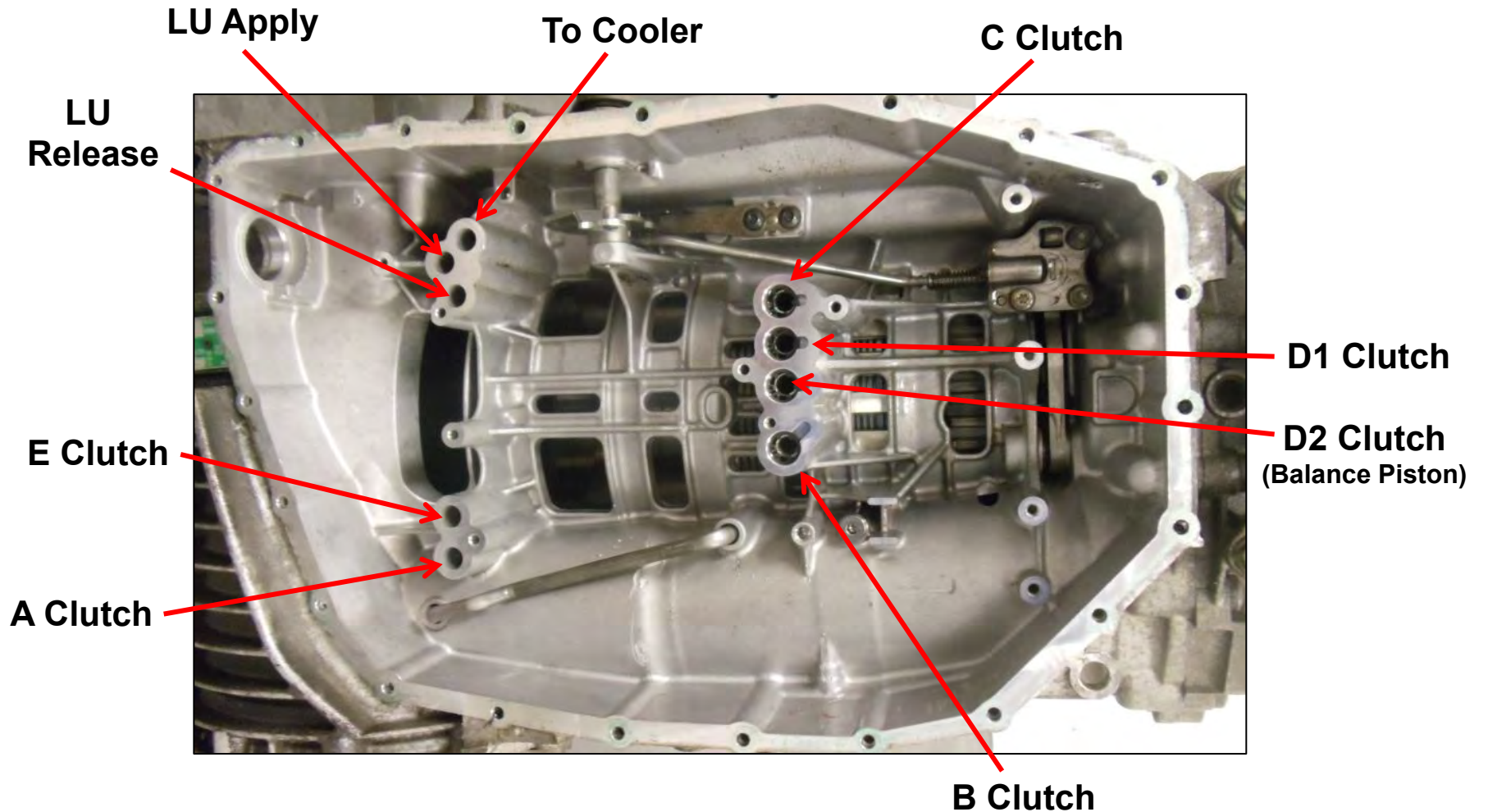




ZF6HP19A



All of the units air check the same.





Here are some comparisons on the ZF6HP series input shafts and stator supports alongside the 6R60 series.

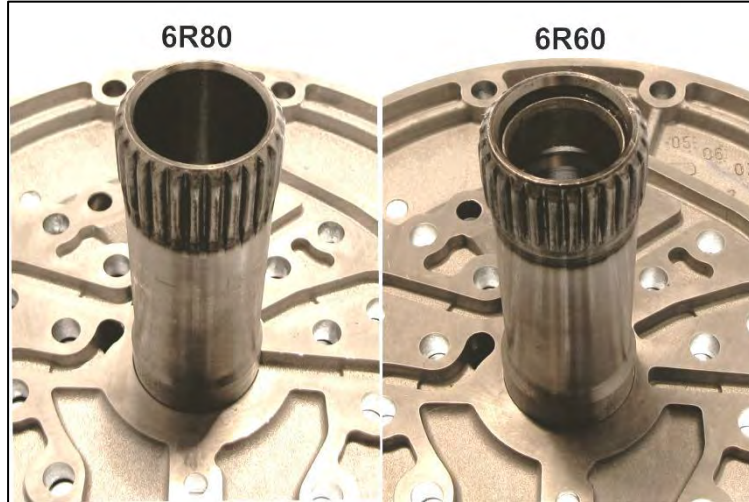
Starting from left to right the 6R60 E clutch drum only takes two sealing rings and has a bushing journal just below the splines on the tip of the input shaft as where the 6R80 and 6R90 series does not.

So instead of using a bushing as a seal for the converter clutch circuit it changed to a sealing ring. The shaft diameter on the 6R80 series is also larger in size and has more splines.





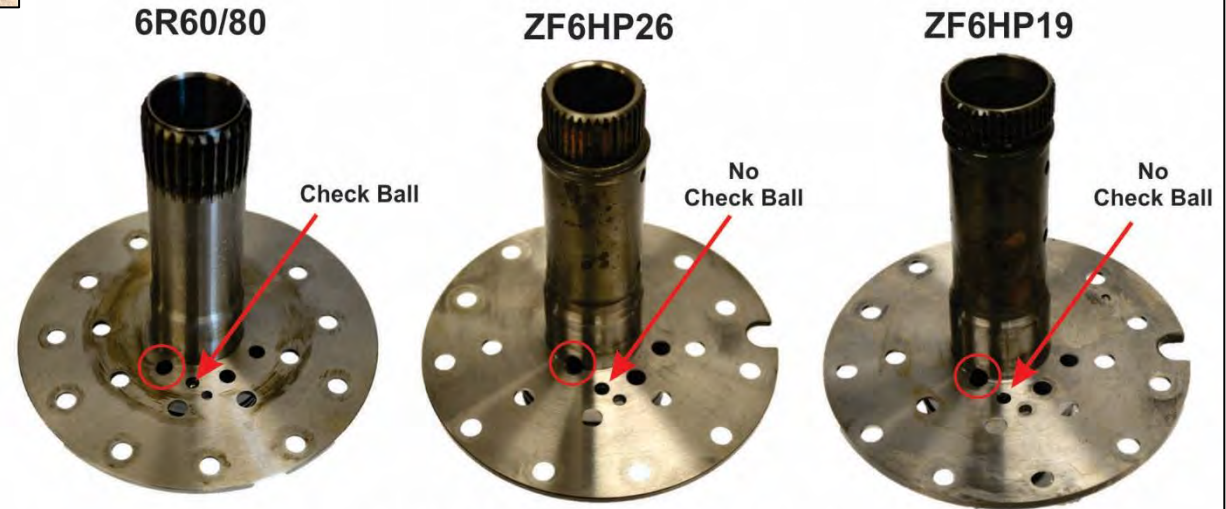
The stator support on the 6R80 series does not take a bushing the 6R60 series does.



Neither of the two ZF6HP series units shown have a bushing journal at the front of the input shafts.

One of the things you will notice is the holes in the stator align differently. Also the one hole has a check ball on the 6R60/80 series while both of the ZF6HP series do not.

Note: There is also a 6HP19/21 stator support that uses the same front bushing as the 6R60 not shown here.



The 6R60/80 has a 27 spline stator
The ZF6HP19/26 may have 38 or 43 spline stator depending on engine size and model

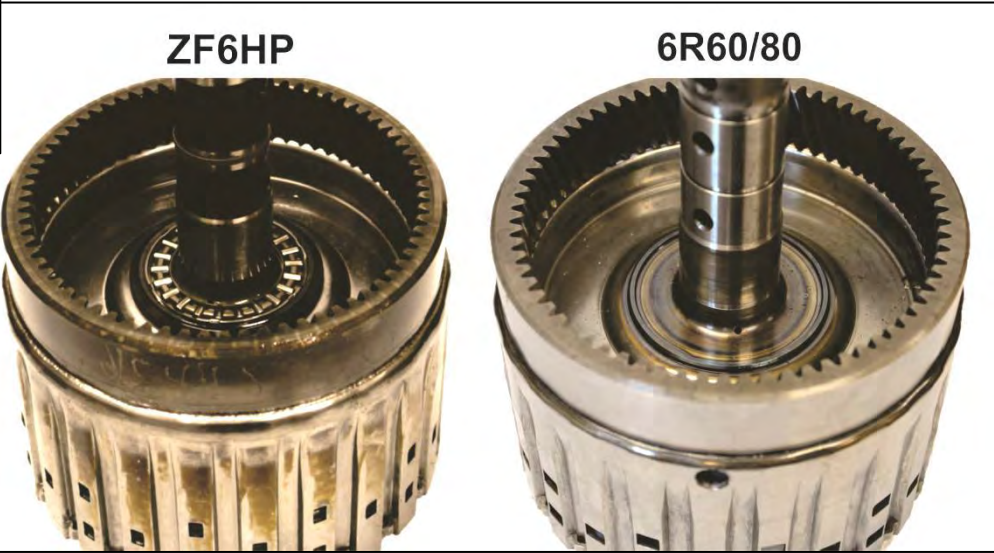
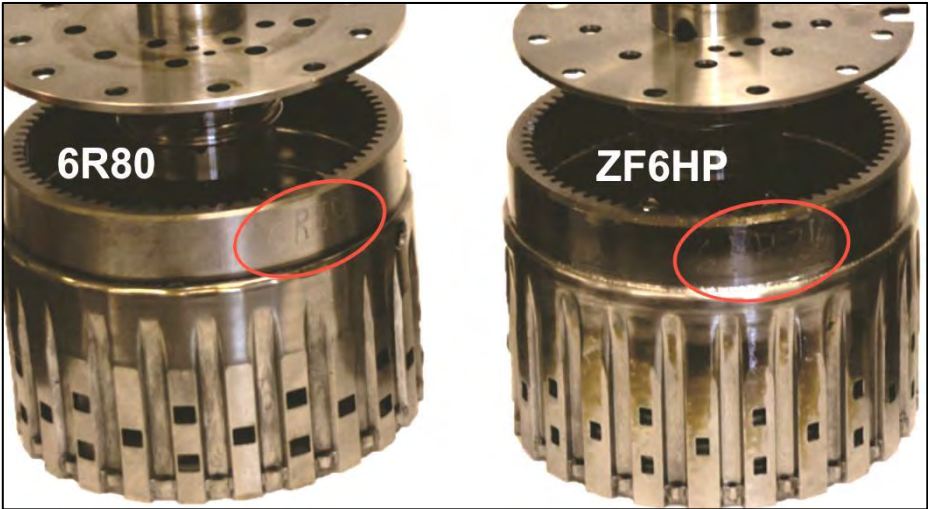




A closer look at the ring gears on the 6R60 series you will notice the inner teeth are hardened (darker) where the ZF6HP series the entire ring gear is hardened.

We found this out when we used an electric scribe to etch the drum identification on the outside edge of the ring gears.

The Ford drums etched very easily while the ZF drums would barely scratch the surface



The bearing at the bottom of the input shaft is staked in place on the ZF6HP series E clutch drum as where the 6R60 and 80 series is not.

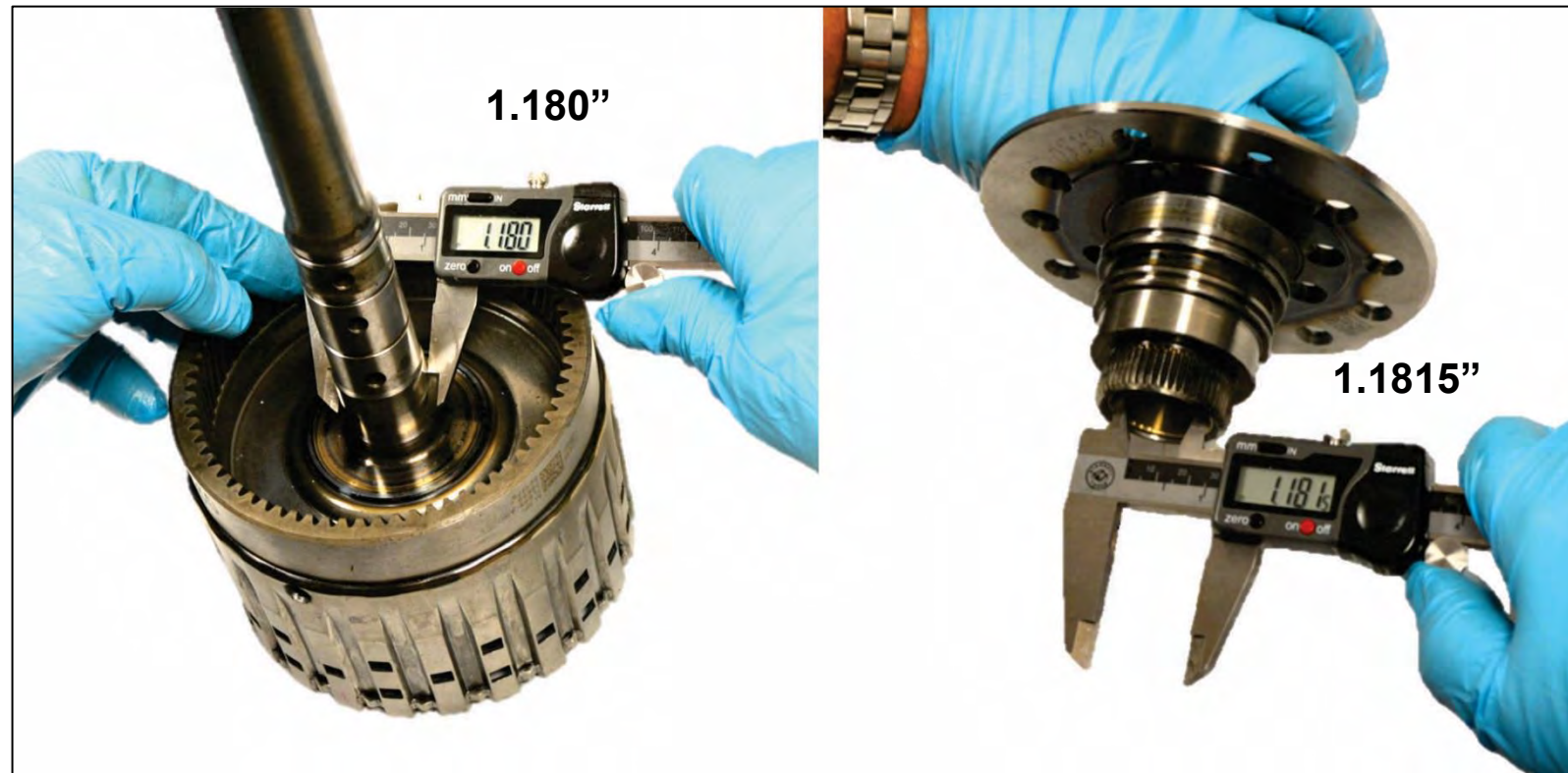




The most crucial point is the clearance with the bushing at the back of the stator it should no more than one and one half thousands of an inch (0.0015") of clearance.

On all the E drums found the large input shafts measured 1.180" and the smaller shafts were 1.021" Some replacement bushings may not be tight enough in this area and soon the clearance will be too much in a short time.

As shown below with a new bushing the clearance is correct

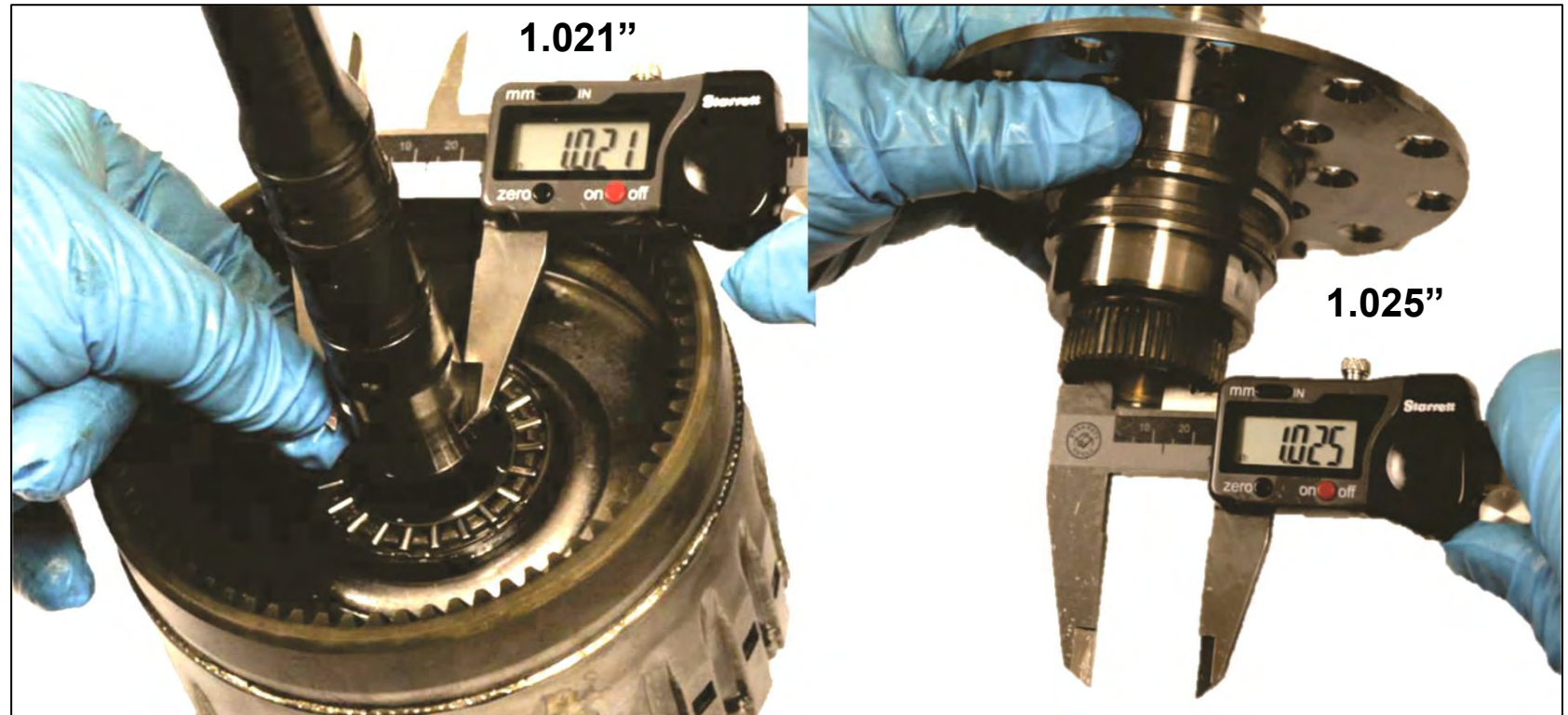




Looking at another drum you can see as much as 0.004" of an inch in wear. That's quite a leak for a clutch sealing surface.

Remember this bushing seals the E clutch oil circuit.

You will need to take measurements of the bore and compare it to the thickness of the shaft to assure the proper clearance is correct.

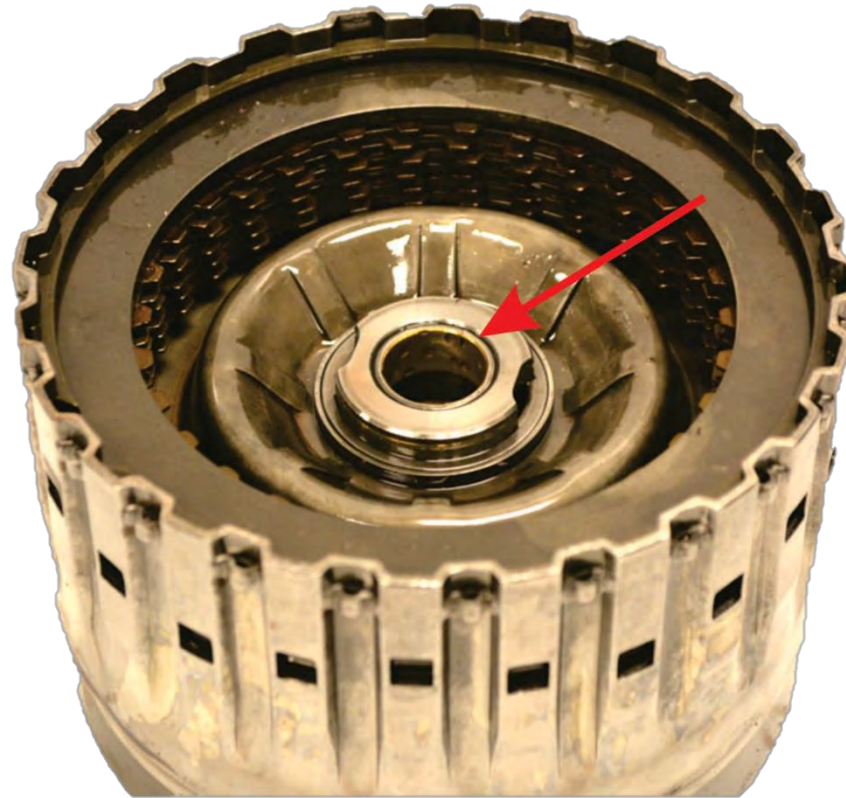




Another crucial bushing is the one on the back of the E clutch drum.

Especially on drums without the bushing journal on the front end of the input shaft for support.

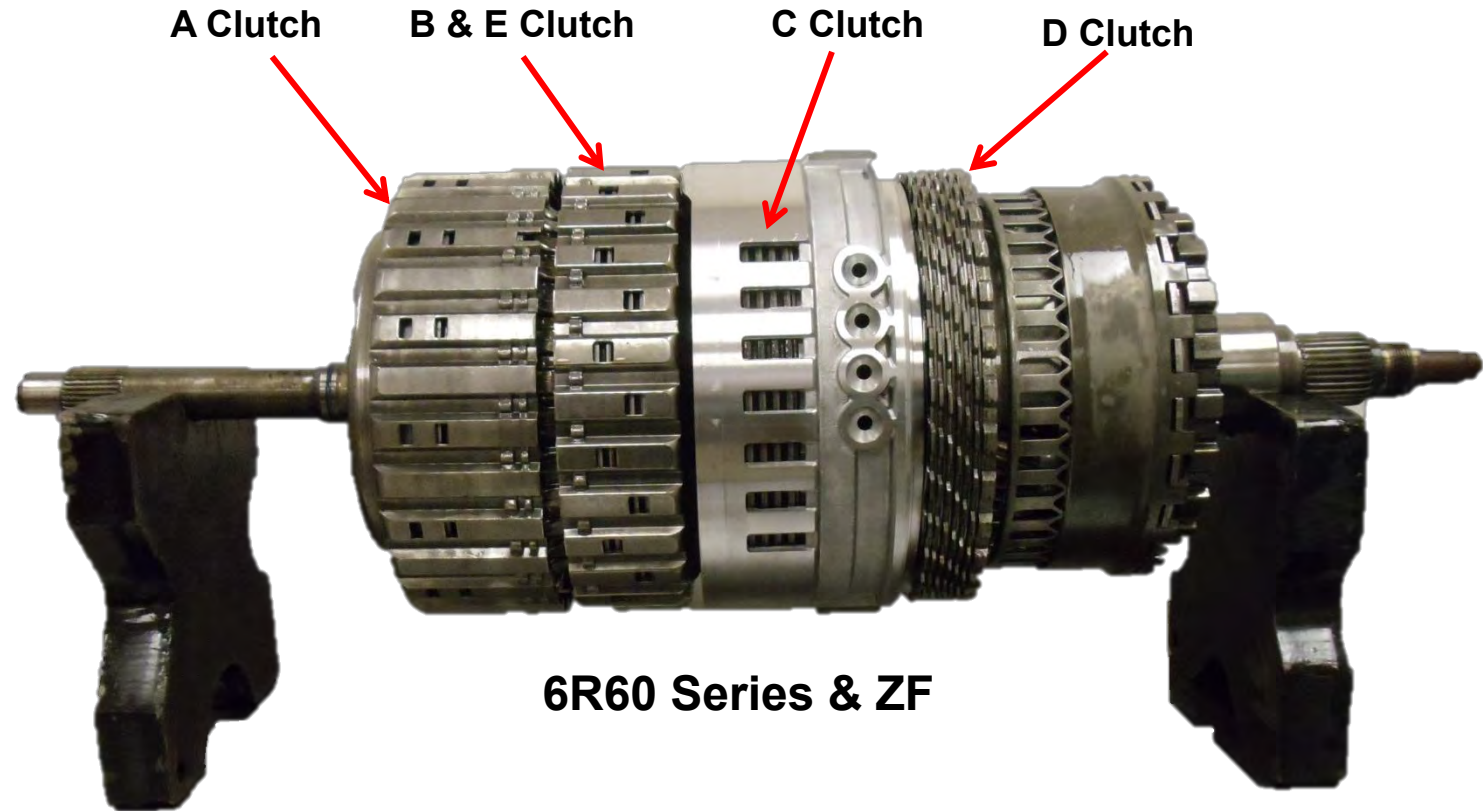
These drums will have less support to keep the drum centerline and may cause more load on this bushing. These two crucial bushings should be replaced during every overhaul.





Drivetrain Differences

The 6R60 series and ZF 2 wheel drive units are basically the same although the parts are not interchangeable.



6R60 Series & ZF

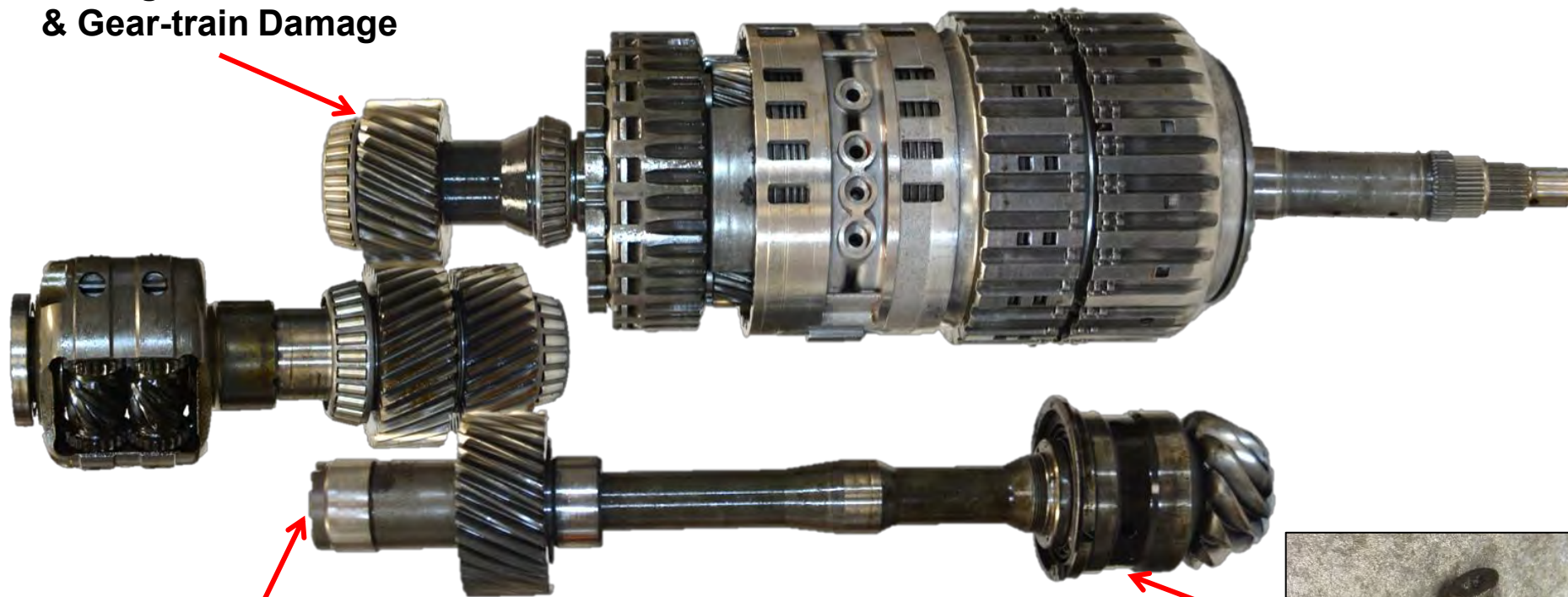




Drivetrain Differences

At Times This Gear Is
Installed Backwards
Causing Extreme Noise
& Gear-train Damage

VW ZF6HP19A





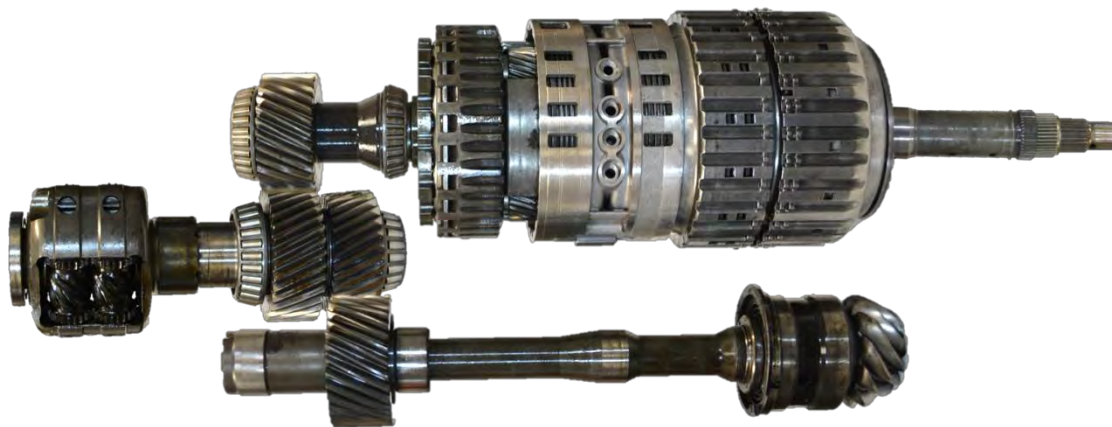
Drivetrain Differences

At Times This Gear Is
Installed Backwards
Causing Extreme Noise
& Gear-train Damage

Wrong

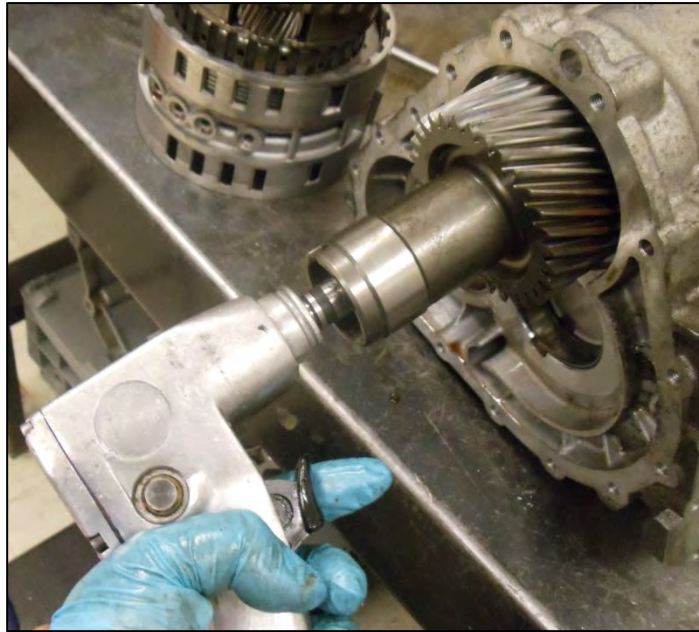


Correct





Pinion Removal



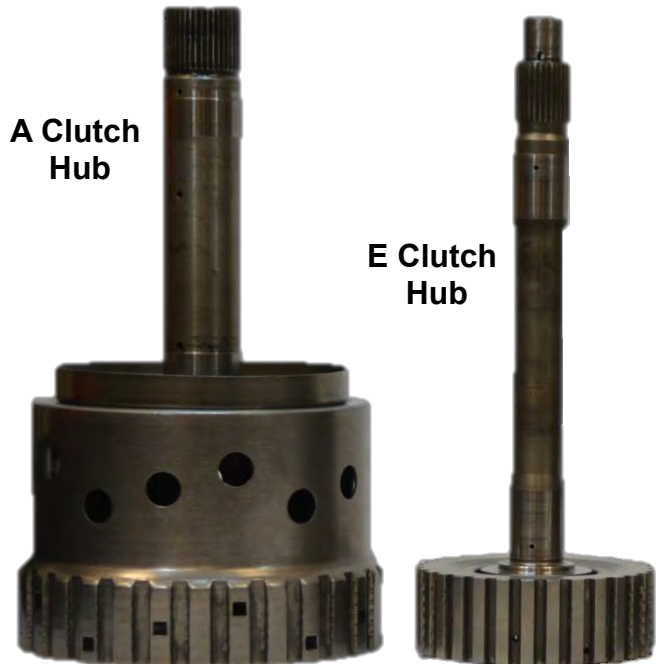
To Get To This Snap Ring
You Must Remove Two
Metal Clad Seals That
Divides The Trans Fluid
From The Gear Oil





Drivetrain Differences

Ford 6R80

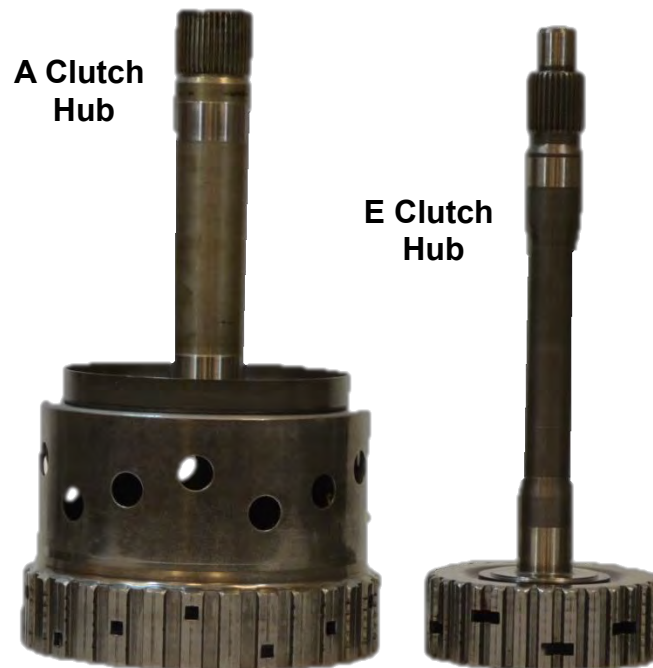


Square Holes

Round Holes



Ford ZF6HP26

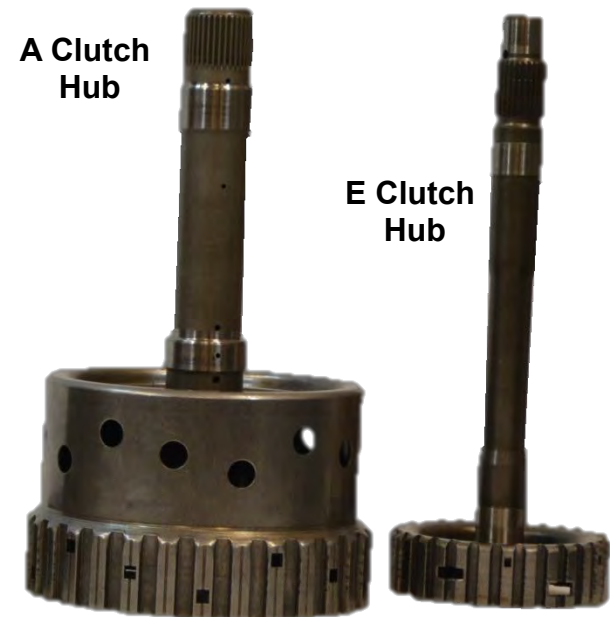


Square Holes

Rectangular Holes



VW ZF6HP19A



Square Holes

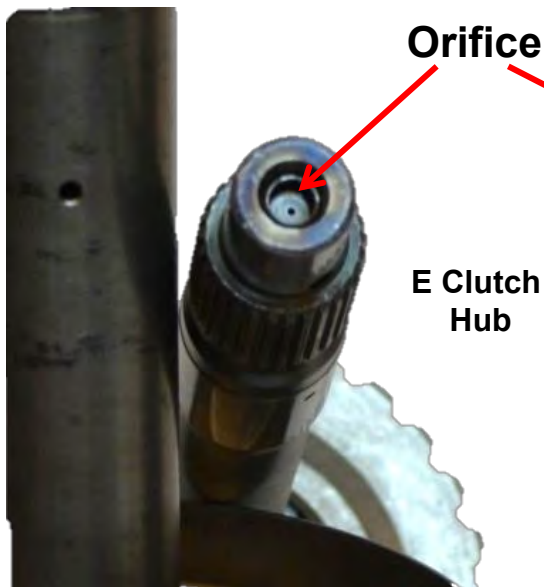
Rectangular Holes



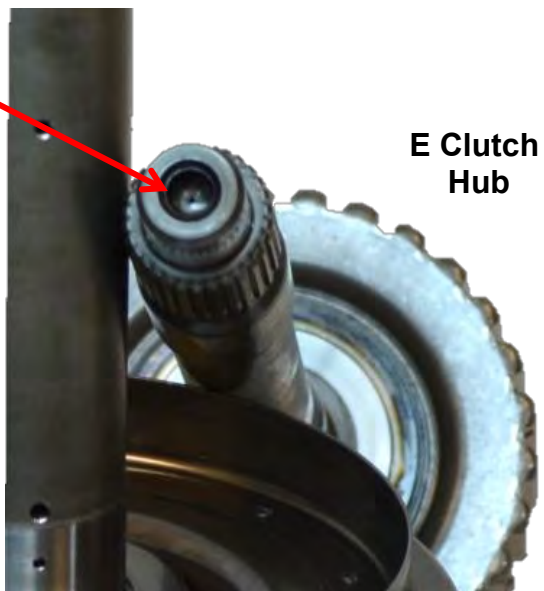


Drivetrain Differences

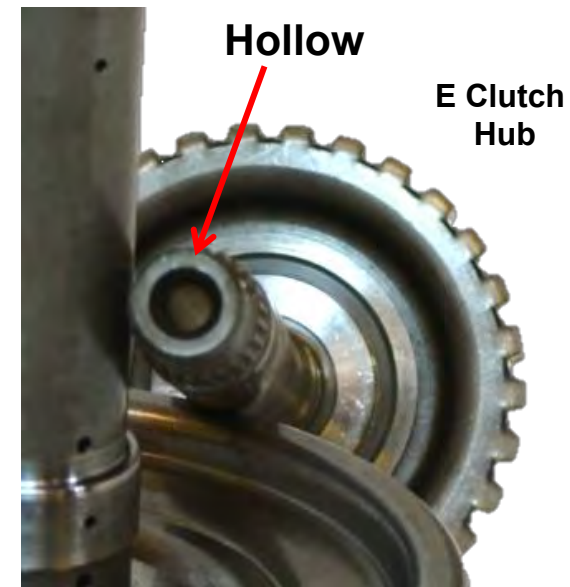
Ford 6R80



Ford ZF6HP26



VW ZF6HP19A



Cast Steel



Sheet Metal



Sheet Metal



Drivetrain Differences

The Ford 6R80 cast metal E clutch hub consists of two pieces held together with a retainer ring. The hub on this unit is very heavy duty.

Where as the ZF models are one piece.





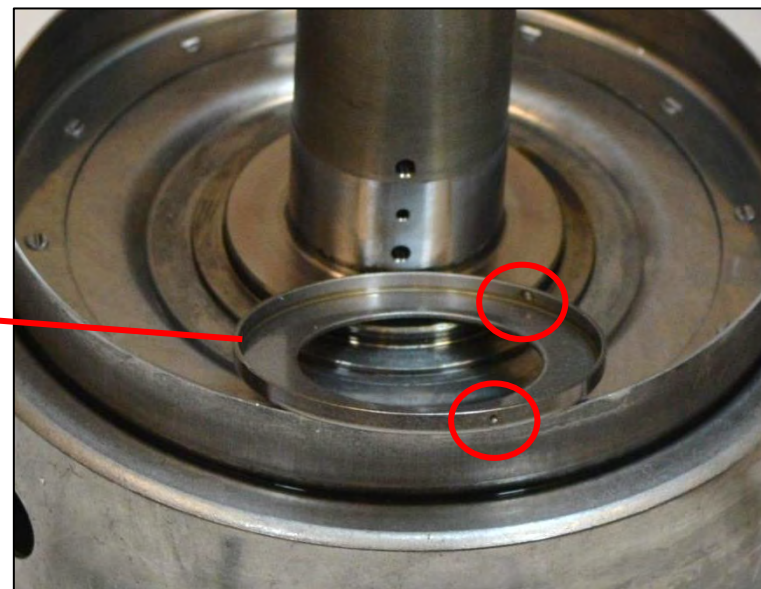
Drivetrain Differences

Ford 6R80

Ford ZF6HP26



Bearing Race Held In Place By 3 Tabs

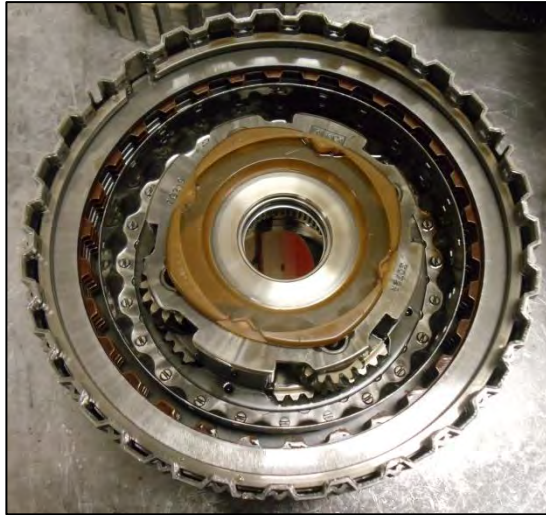


ID Grooves

Ford 6R & ZF6 Series 4 Pinion W/Retainer Ring Planet Removal



1 Remove the thrust washer



2 Use a Scribe to the unlock the Wavy Retainer Ring



3 Lift out the Planet

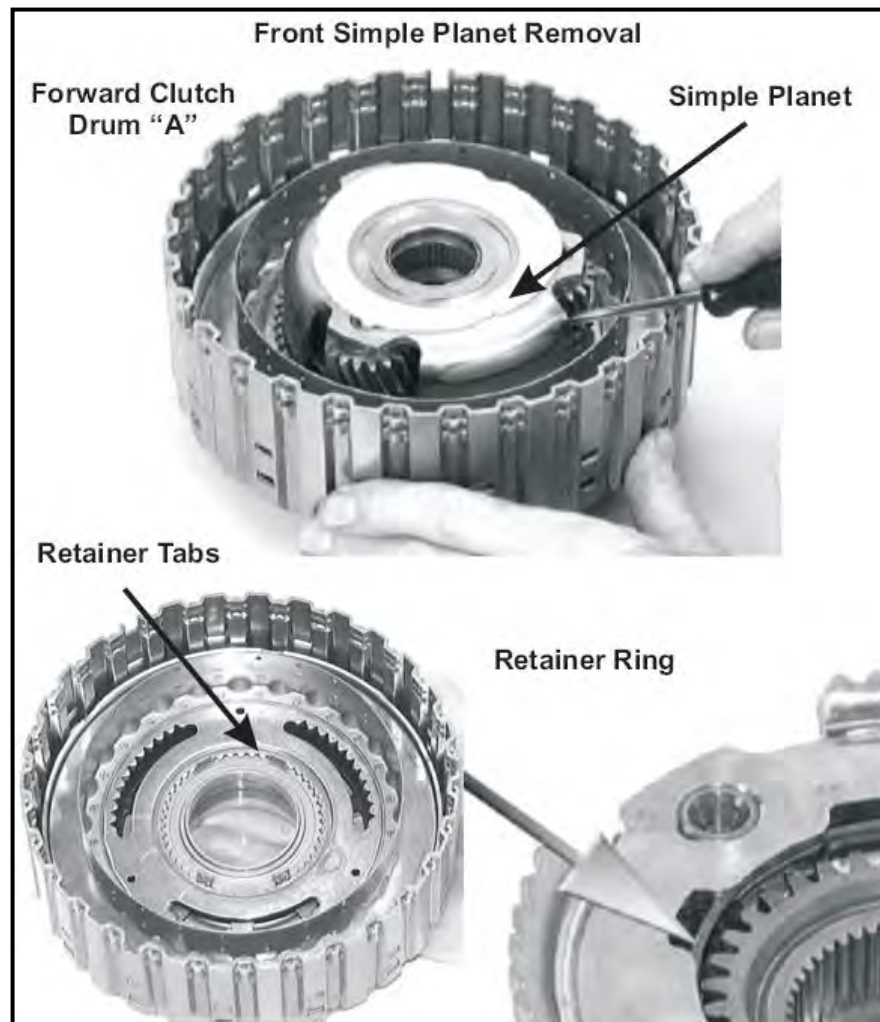


4 Remove the Wavy Retainer Ring

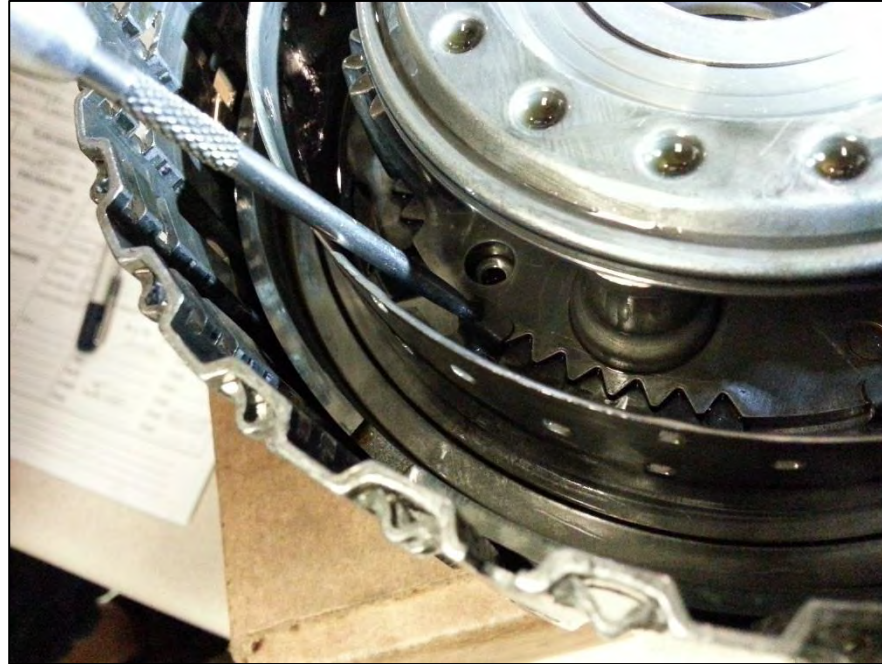




ZF6HP Series 3 Pinion W/Retainer Ring Planet Removal (Without removing the thrust washer)



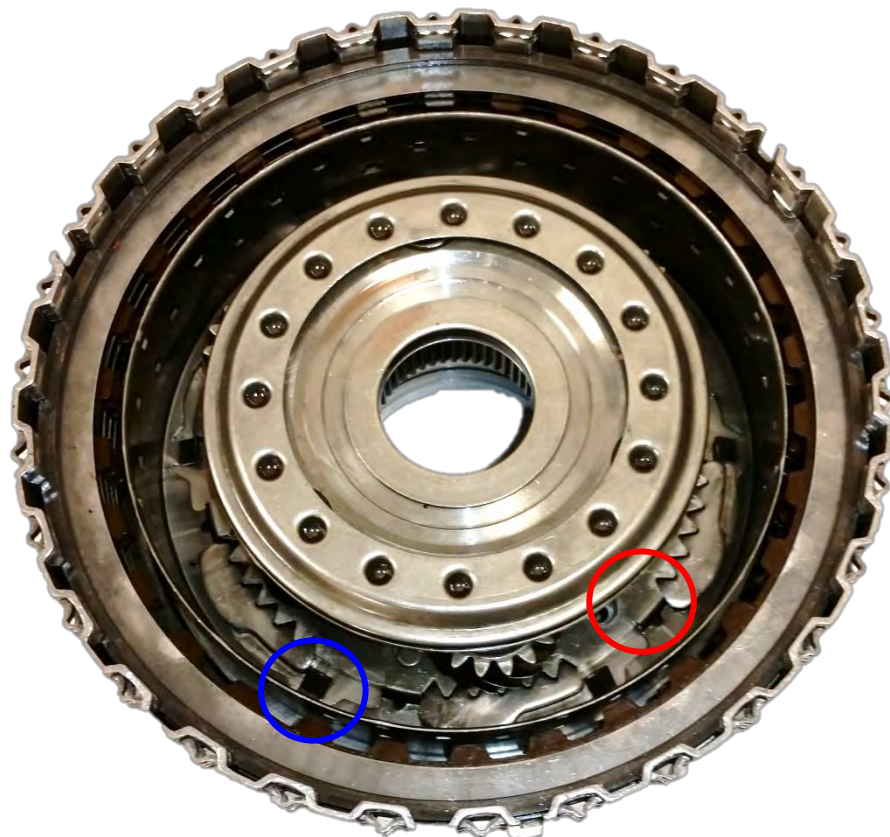
ZF6HP Series 3 Pinion W/Tab Planet Removal





ZF6HP Series 3 Pinion W/Tab Planet Removal Recommended Method

Lift Retainer Lock Tab (6)



Do Not Bend Retainer Tension Tabs (6)

Move Retainer Clockwise
Locked

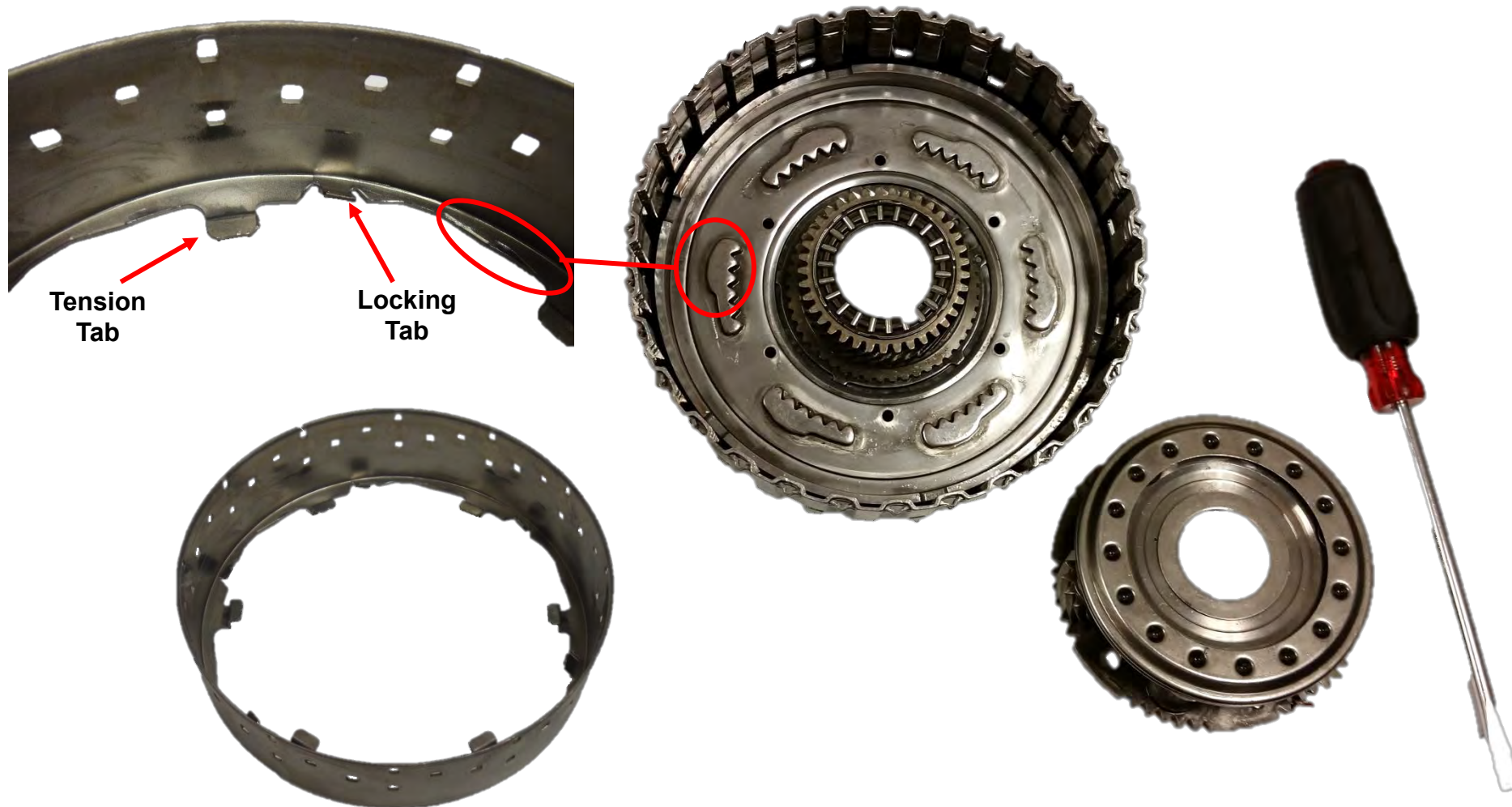


Unlocked





ZF6HP Series 3 Pinion W/Tab Planet Removal Recommended Method



A Clutch Drum Assembly

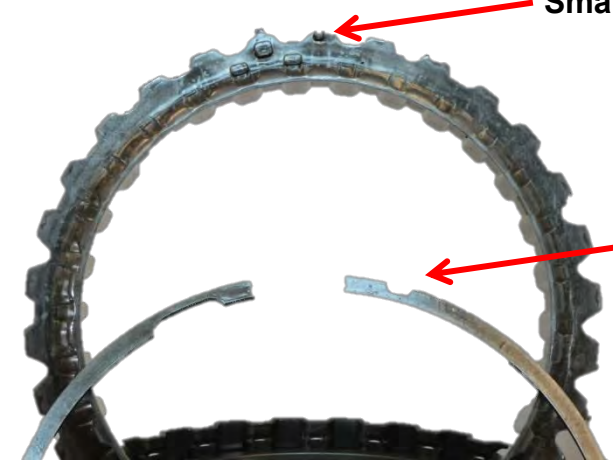


Snap Ring Ends Must Align With Large Tab



Small Tab

Cut Out



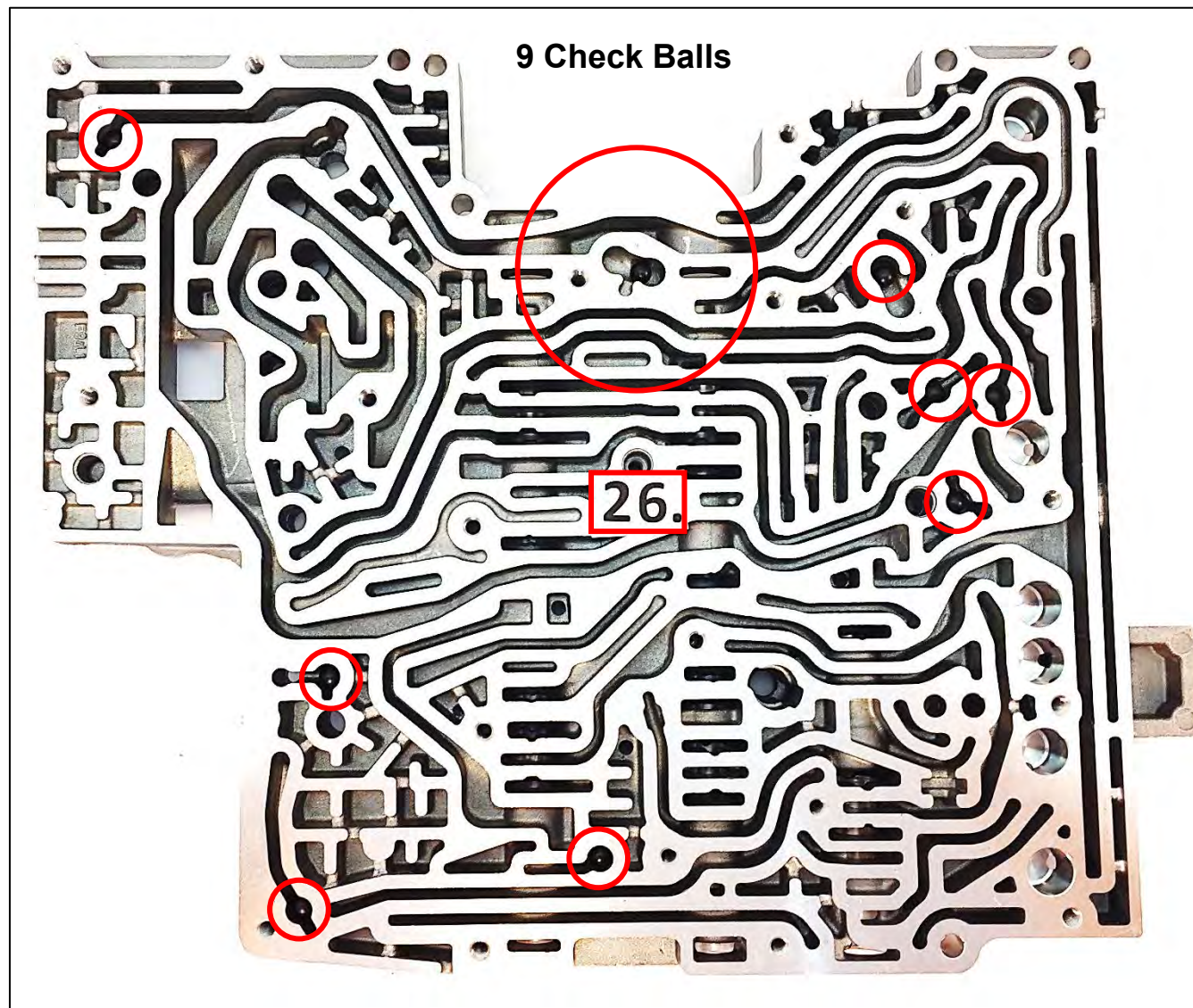
Must Remove
The Snap Ring
180° From
Opening





Valve body Information

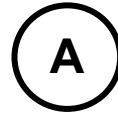
Typical ZF6 Series M Shift



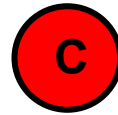


Valve body Information

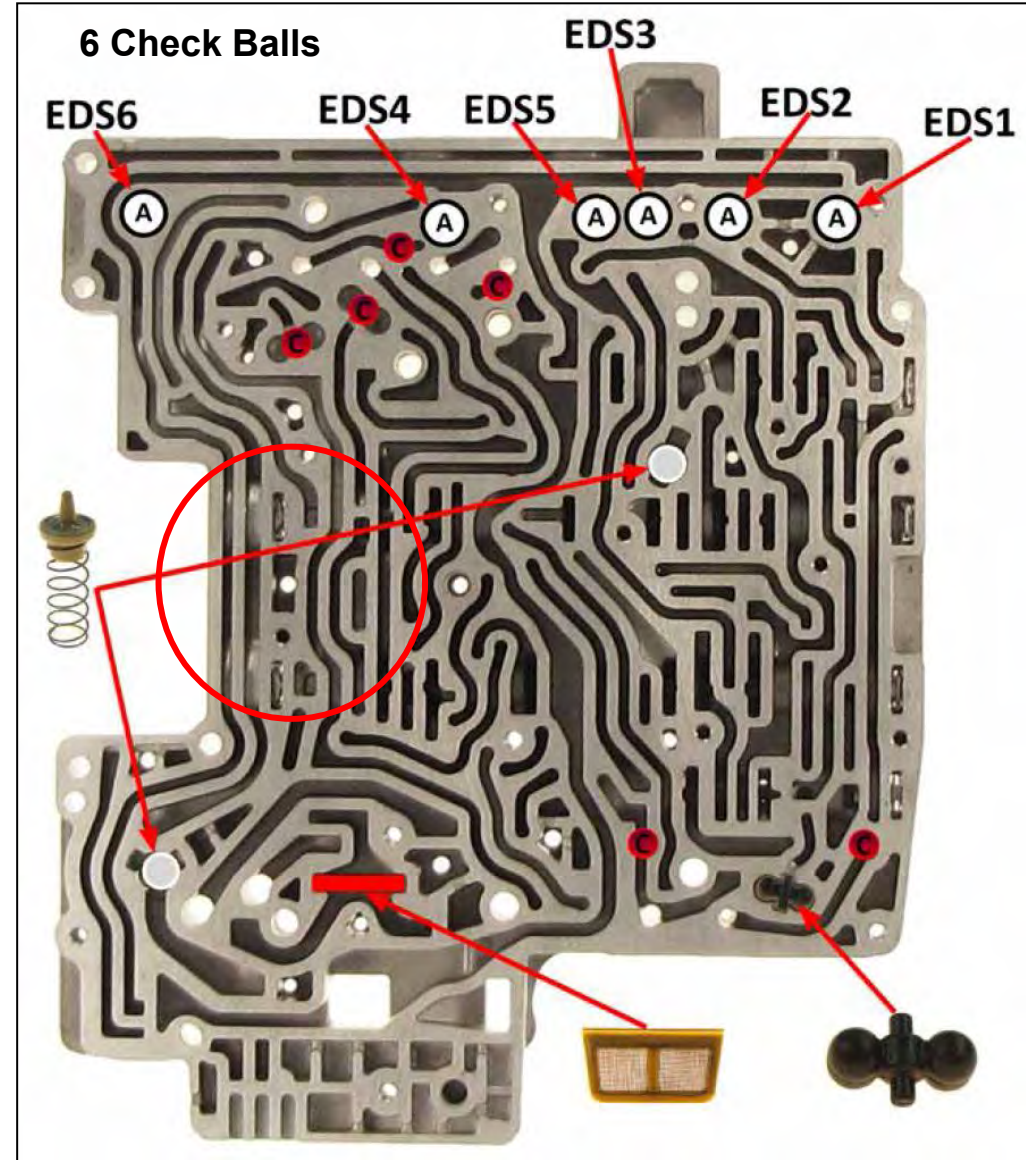
Typical ZF6 Series Gen 1 E Shift



Solenoid Accumulators



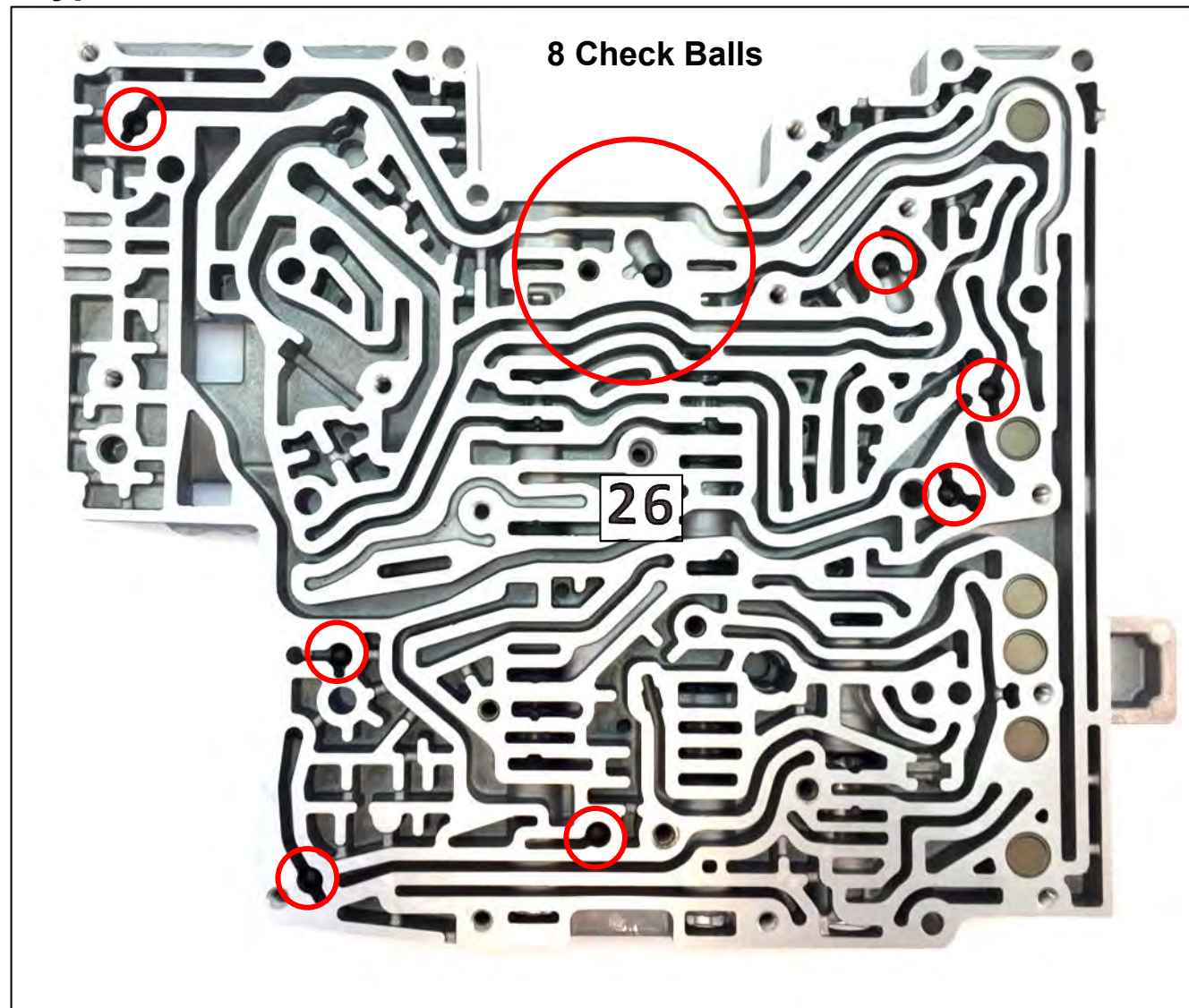
Check Balls





Valve body Information

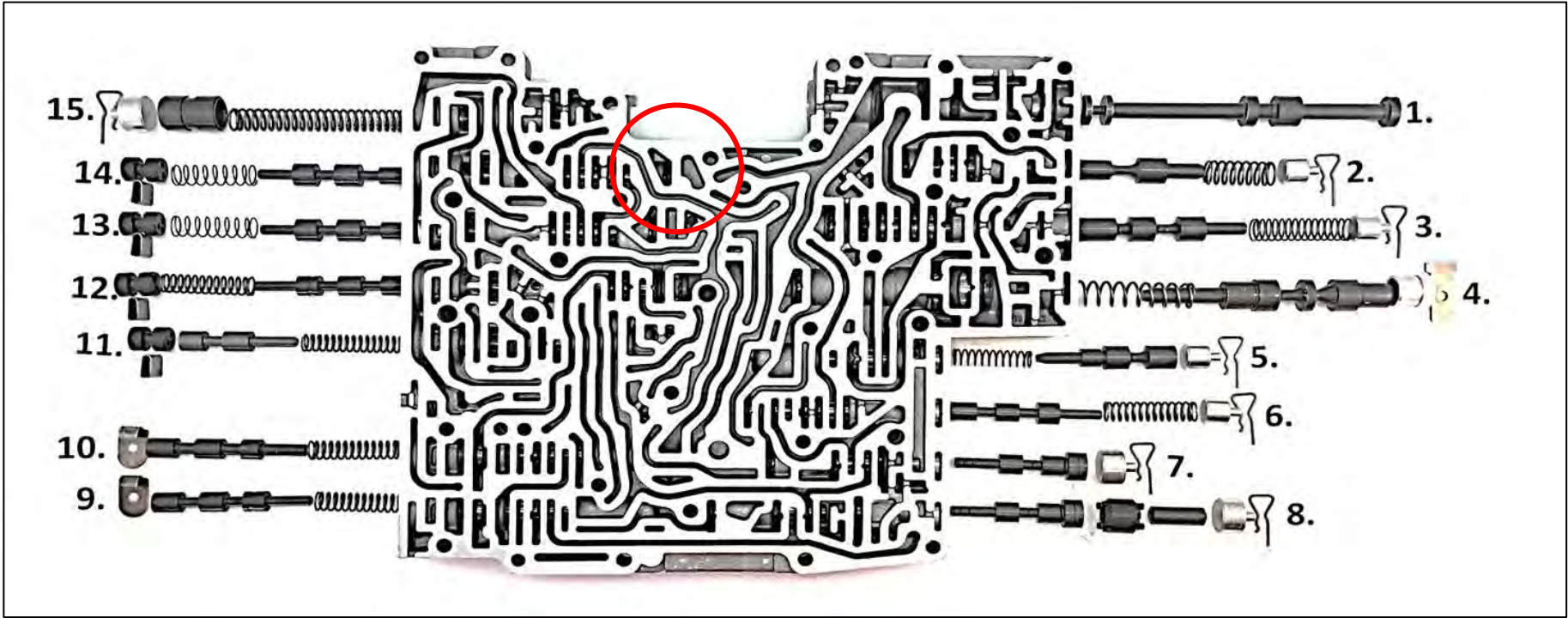
Typical 6R Series





Valve body Information

Typical ZF6 Series M Shift





Valve body Information

Typical ZF6HP Series Gen 1 E Shift

Park lock cylinder

MV3

EDS6

MV1

EDS4

EDS5

EDS3

EDS2

EDS1

SHV2

SHV1

HV-D

Dr.Red.V.

HV-B

HV-A

1.665X.349X.024

1.684X.349X.024

1.471X.381X.042

1.745X.360X.042

1.472X.381X.042

1.472X.381X.042

1.80X.365X.030 PS-V

1.052X.451X.042 Schm.-V

1.647X.464X.035 WD-V

2.335X.521X.050 Sys.Dr.-V

1.370X.342X.034 WK-V

1.550X.402X.042 HV-E

1.540X.351X.022 KV-E

1.521X.351X.022 KV-A

OE abbreviation= OE name/common name

SHV2=Selector valve 2/Switch valve 2

SHV1= Selector valve 1/Switch valve 1

HV-D= Retaining Brake D/Clutch D latch valve

Dr.Red.V.= Pressure reducing valve/Solenoid Regulator

HV-B= Retaining valve Clutch B/ Clutch B latch valve

HV-A= Retaining valve Clutch A/ Clutch A latch valve

PS-V= Park lock valve

Schm.-V= Lubricating valve/Lube control valve

WD-V= Converter pressure valve/ Converter release regulator valve

Sys.Dr.-V= System pressure valve/Main pressure regulator valve

WK-V= Converter lock-up clutch valve/Lock-up regulator valve

HV-E= Retaining valve clutch E/Clutch E latch valve

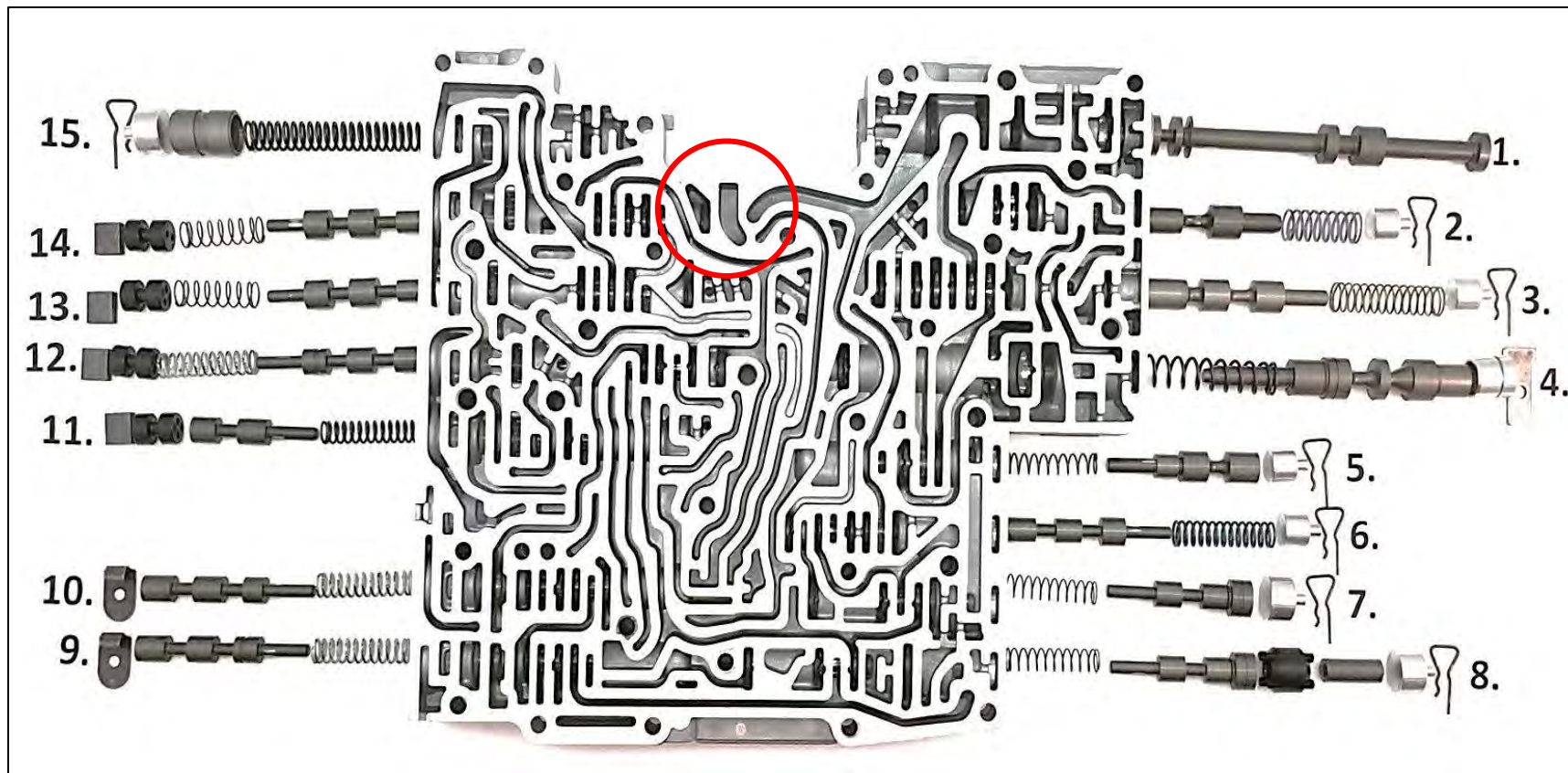
KV-E= Clutch valve E/Clutch E regulator valve

KV-A=Clutch valve A/ Clutch A regulator valve



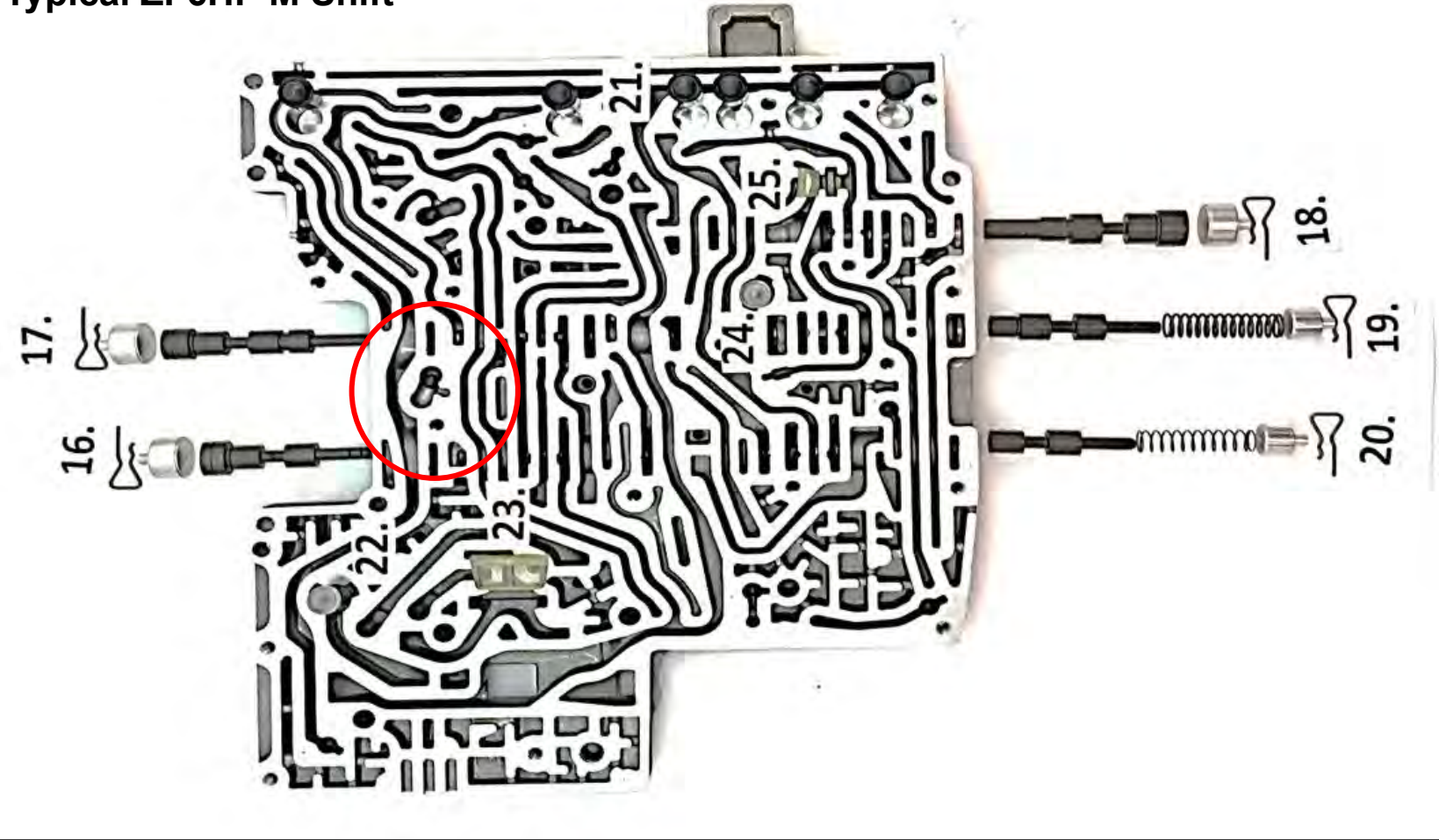
Valve body Information

Typical 6R Series



Valve body Information

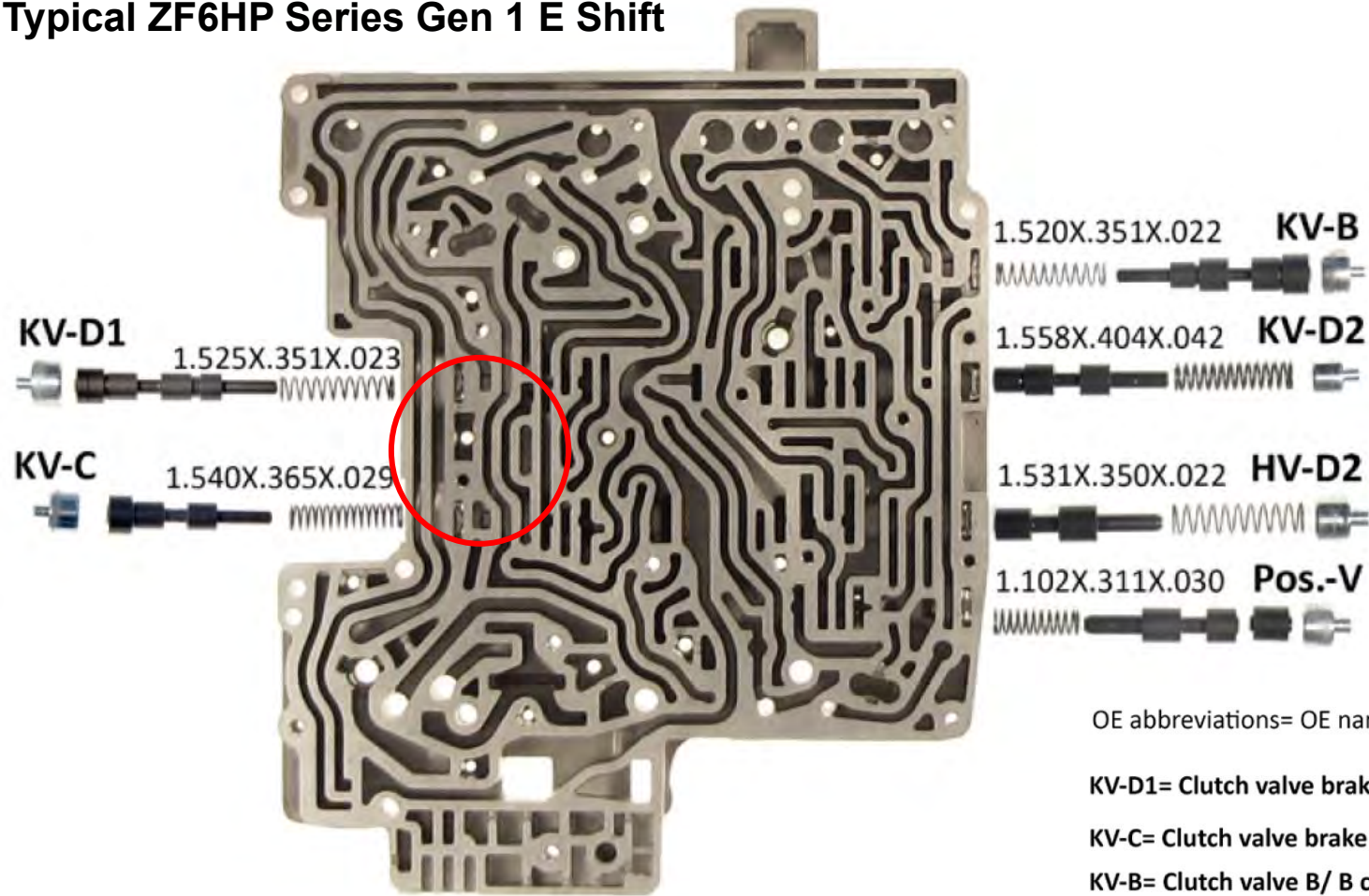
Typical ZF6HP M Shift





Valve body Information

Typical ZF6HP Series Gen 1 E Shift



OE abbreviations= OE name/Common name

KV-D1= Clutch valve brake D1/ D1 clutch regulator

KV-C= Clutch valve brake C/ C clutch regulator

KV-B= Clutch valve B/ B clutch regulator

KV-D2= Clutch valve brake D2/ D2 clutch regulator

HV-D2= Retaining valve D2/ D2 latch valve

Pos.-V= Position valve/ Position valve D





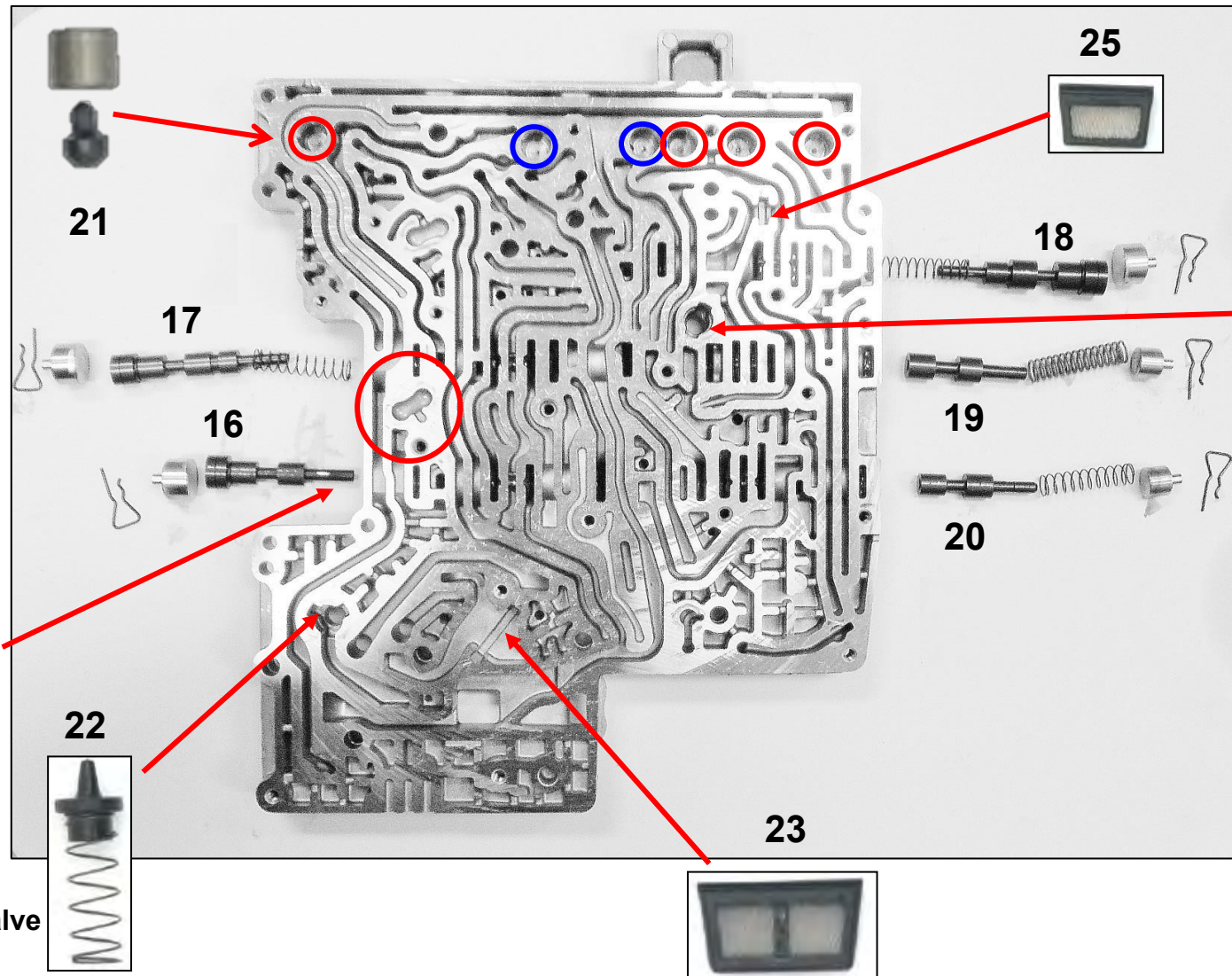
Valve body Information

Typical 6R60/75/80

There are 6 Solenoid Accumulators except 6R80 models from 2008 1/2 to 2010 with only 2



6R60/75 2008 1/2 (J2) spring removed Bosch solenoids added bleed to D clutch Mercon SP fluid only 2 accumulators in valve body



Drain Back Valve

Clutch Exhaust Valve



Valve body Information

Typical ZF6HP series dimensions may vary from model to model.

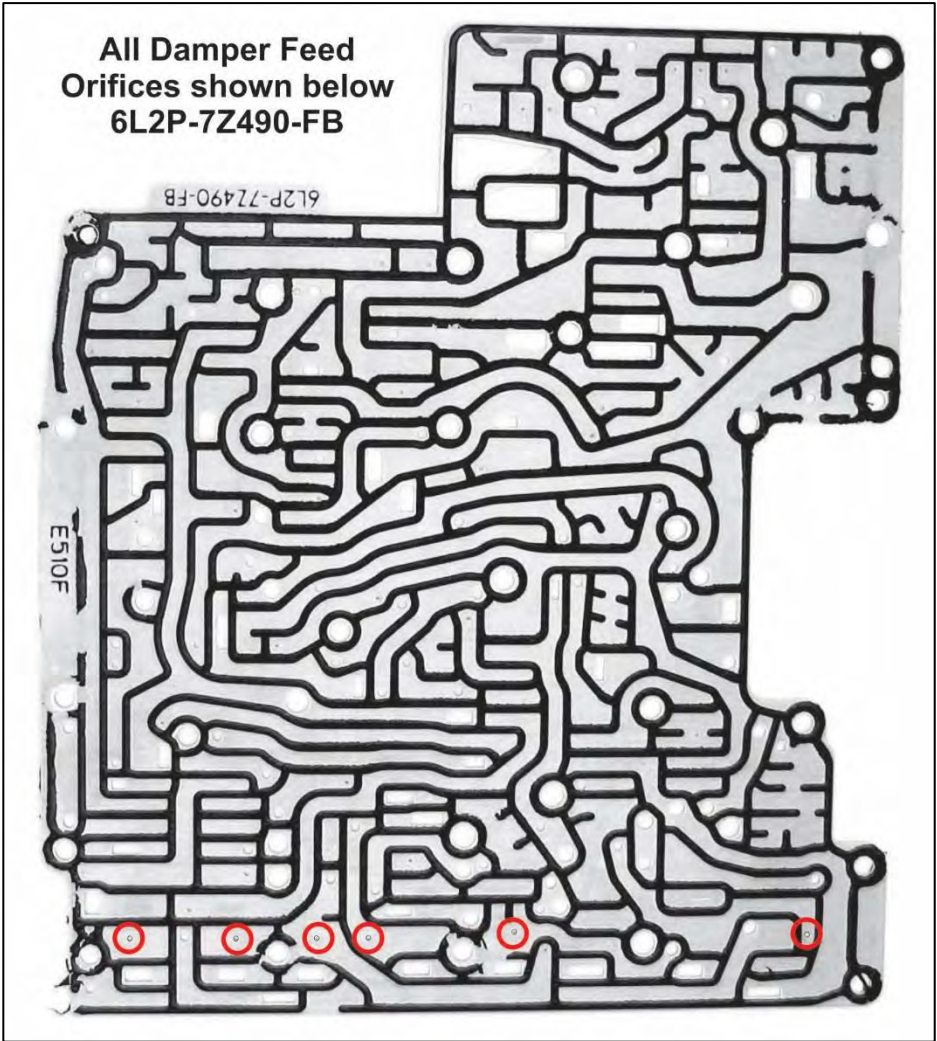
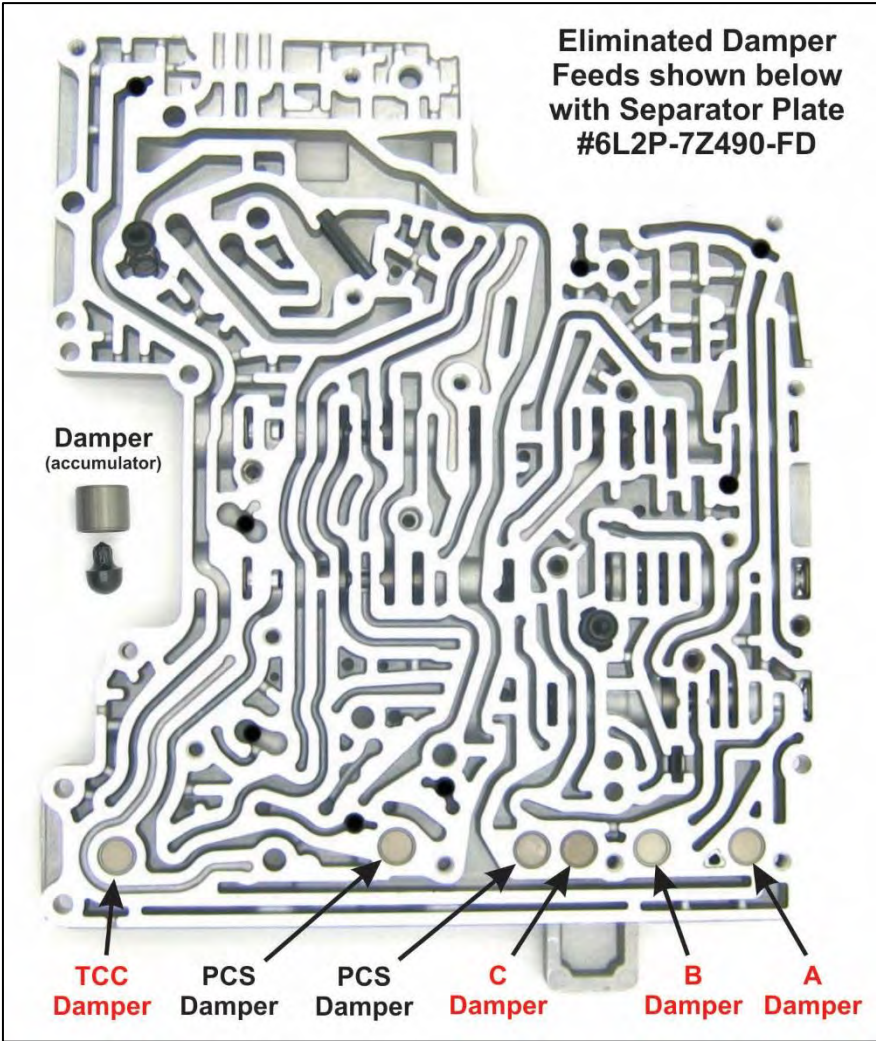
ZF6HP19/26/32 Valve Body Specs											
	Spring Gauge		Spring Length		Spring Diameter		Check Ball		Valve Description		
1									Manual Valve		
2	0.048 in	1.22 mm	1.135 in	28.82 mm	0.482 in	12.24 mm			Lubrication Control Valve		
3	0.037 in	0.94 mm	1.623 in	41.22 mm	0.448 in	11.39 mm			Converter Release Regulator Valve		
4	0.056 in	1.42 mm	2.184 in	55.47 mm	0.521 in	13.23 mm			Main Pressure Regulator Valve		
5	0.033 in	0.86 mm	1.349 in	34.26 mm	0.342 in	8.71 mm			Bypass Clutch Control Regulator Valve		
6	0.043 in	1.11 mm	1.551 in	39.40 mm	0.407 in	10.34 mm			Clutch E Latch Valve		
7	No Spring								Clutch E Control Pressure Regulator Valve		
8	No Spring								Clutch A Control Pressure Regulator Valve		
9	0.044 in	1.13 mm	1.495 in	37.98 mm	0.383 in	9.73 mm			Clutch A Latch Valve		
10	0.044 in	1.13 mm	1.486 in	37.76 mm	0.383 in	9.73 mm			Clutch B Latch Valve		
11	0.043 in	1.11 mm	1.687 in	42.85 mm	0.362 in	9.19 mm			Solenoid Pressure Regulator valve		
12	0.043 in	1.11 mm	1.478 in	37.55 mm	0.383 in	9.73 mm			Clutch D1 Latch Valve		
13	0.028 in	0.71 mm	1.322 in	33.58 mm	0.410 in	10.43 mm			Drive Enable Valve		
14	0.028 in	0.71 mm	1.304 in	33.12 mm	0.409 in	10.38 mm			Solenoid Multiplex Valve		
15	0.050 in	1.27 mm	2.900 in	73.67 mm	0.452 in	11.48 mm			Delay Accumulator Piston		
16	No Spring								Clutch D1 Control Pressure Regulator		
17	No Spring								Clutch C Regulator Valve		
18	No Spring								Clutch B Regulator Valve		
19	0.043 in	1.11 mm	1.555 in	39.51 mm	0.403 in	10.25 mm			Clutch D2 Regulator Valve		
20	0.024 in	0.61 mm	1.530 in	38.86 mm	0.352 in	8.96 mm			Clutch D2 Latch Valve		
21	6 accumulators										
22	Relief Spring										
23	Large screen										
24	Relief Spring										
25	Small Screen										
26	9 Check Balls										
27											
28											





Some changes occurred when the Ford went from Bosch to Saturn solenoids.

There is the 6R60, 6R75 and 6R80 referred to as TCM Driven units, initially release with Bosch solenoids and 6 Dampers for the 6R60 and 6R75 transmissions until 2008 ½ or J1 units.



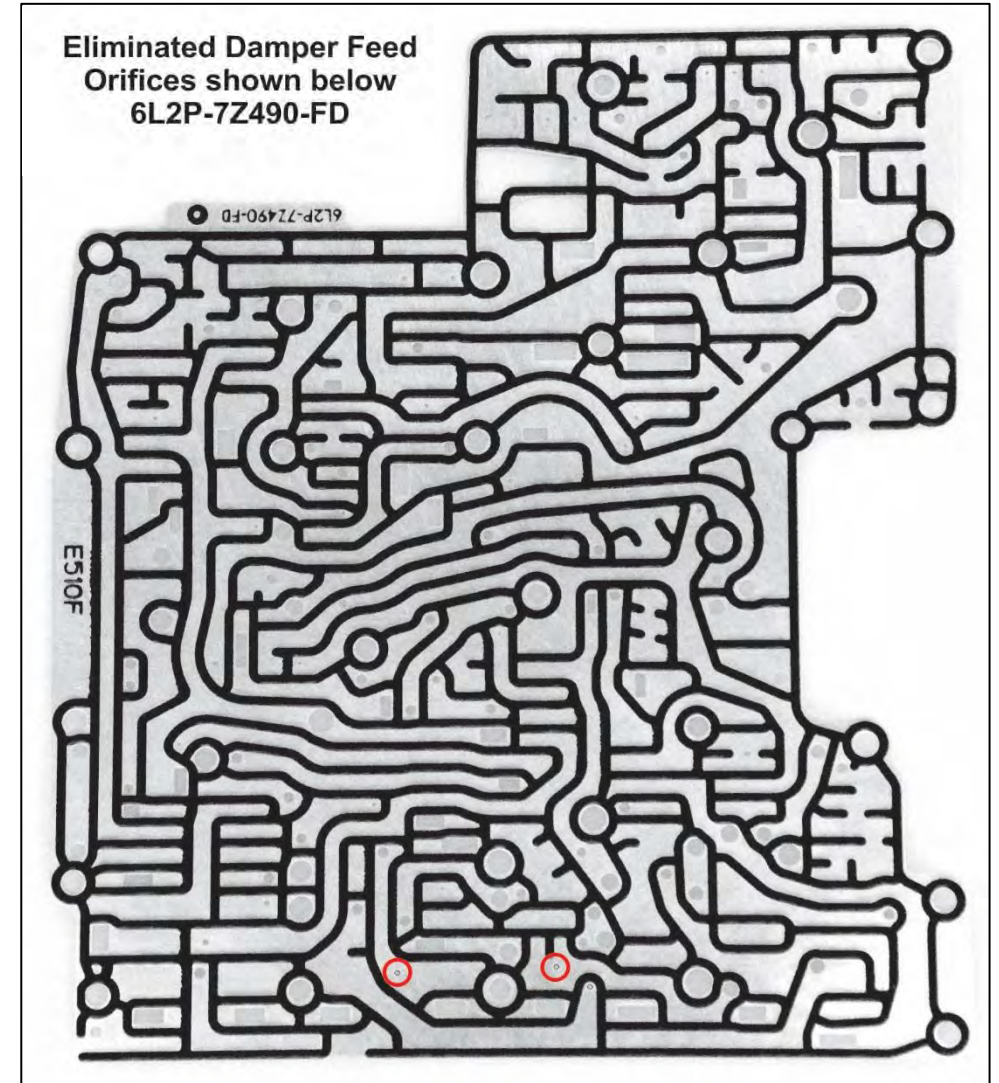


In 2008 1/2 during testing Ford learned that only 2 were required so they eliminated 4 dampers and feed holes. The only 2 feed holes and dampers required are for the pressure control solenoid.

The D1 regulator spring bore 201 was removed and added a bleed circuit to the D clutch these vehicle required using MERCON SP oil.

In 2009 they eliminated casting feed to the accumulator in bore 109 and switched to MERCON LV on 6R80 models.

Although the function for this design in 2008 1/2 model year has not been verified or tested.





In 2011 the Saturn solenoids and solenoid strategy entered the picture for the 2011 non TCM controlled one way clutch transmissions (added low sprag).

These solenoids required the added dampening so they had to bring them back.

For only one half year in the 6.2L units for 2010 ½ with Saturn solenoids non TCM without a one way clutch.

At this point in time the separator plate gasket is bonded to the plate.

The bonded plate was simply a lower cost option over the silk screen style.

Parts information;

6L2P-7Z490-FB: 2006 to 11/15/09 (6 damper feed holes)

6L2P-7Z490-FD: 11/16/09 to 11/3/10 (2 damper feed holes)

CL3P-7Z490-AA: 11/4/10 TO 7/30/12 bonded gasket (6 damper feed holes)

All Damper Feed
Orifices Returned
CL3P-7Z490-AA





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62TE Clutch Volume Index

This information can be found on the ATRA website to members in the repair center by typing in 62TE CVI in the search box. If you're a non member take a moment and write these specifications down.

62TE Clutch Volumes	(Preliminary)
UD	26-74
2/4	16-54
OD	42-143
L/R	16-63
LC	16-25
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