

Welcome to the



GM Gen. 1 6T70/75/80

Ford 6F50/55

Concerns & Repair Techniques

Welcome

- **Connections**
 - **Handout**
 - **Questions**
 - **steve.garrett@sonnax.com**
-
- **Sonnax Tech Resources available free of charge at www.sonnax.com**
 - **Call for Tech Assistance: 1-800-843-2600**

GM 6T70/6T75/6T80 Applications

6T70 Introduced in 2007

- Saturn Aura
- Pontiac G6
- Saturn Outlook
- GMC Acadia
- Buick Enclave
- Chevrolet Equinox
- Pontiac Torrent
- Chevrolet Traverse
- Cadillac SRX
- Buick La Crosse, Allure
- Chevrolet Impala
- Cadillac XTS
- GMC Terrain
- Saturn Vue
- Suzuki XL7
- Buick Regal

Note: Many vehicles use more than one transmission model for the application. This will vary from year to year and depending on engine design.

Ford 6F50/6F55 Applications

6F50 Introduced in 2007, 6F55 in 2009

- Ford Edge
- Lincoln MKX
- Ford Taurus & Taurus X
- Mercury Sable
- Ford Flex
- Lincoln MKS
- Lincoln MKT
- Ford Escape
- Mercury Mariner
- Mazda Tribute
- Ford Fusion
- Lincoln MKZ
- Mercury Milan
- Ford Explorer

Note: Many vehicles use more than one transmission model for the application. This will vary from year to year and depending on engine design.

6T70/75 (GEN 1) & 6T80 (GEN 2) Features

- 6 Forward speeds
- 5 Clutches: 3 stationary, 2 rotating. Compensator pistons (clutch dams, balance pistons) are used on the 2 rotating clutches
- 1 Diode, one-way clutch
- TCM mounted inside transaxle. TEHCM includes 8 Solenoids, pressure switches (GEN 1), TFT
- Dexron VI
- Available as a GEN 1 or GEN 2 application (major hydraulic differences between the generations)
- Remote mounted, off axis, chain driven vane-type oil pump

6T70/75 (GEN 1) & 6T80 (GEN 2) Features

Continued

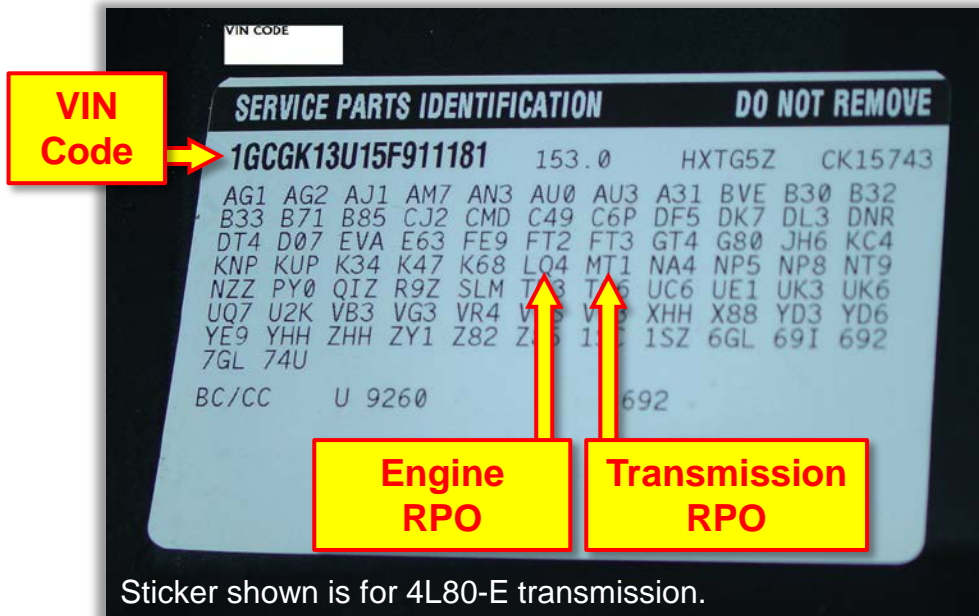
- Internal Mode Switch (IMS) equipped
- Performance Algorithm Shifting (PAS) programming
- Performance Algorithm Lift (PAL) foot programming
- Sport mode and TAP shift equipped
- Reverse lockout protected
- Neutral idle capable
- Exhaust back fill circuit is used to reduce clutch fill time and variation in apply feel
- Skip shift capable due to individual PC solenoids
- Flat tow capabilities (lube trough and PTFE-coated bushings)

GM RPO Codes

RPO Codes

Red = GEN 2

Unit	AWD	FWD
6T70	MH4, M7U	MH2, M7W
6T75	MH6, M7X	MY9, M7V
6T80		MHM



6T Final Drive Effective Ratios

- **GW5** = 3.16-1
- **F07** = 3.39-1
- **D70** = 2.77-1
- **F71** = 2.44-1

Note: RPO **M7U**, **M7W**, **M7X**, **M7V** and **MHM** use GEN 2 hardware and software. They are NOT designed to be interchanged with GEN 1 applications.

6T Identification



**Code Below the Bar Code:
617HAKW7115A0507**

- **61** = Code for the trans
- **7** = Year
- **HA** = Trans model
- **K** = Trans family
- **W** = Plant source code
- **7** = Calendar year
- **115** = Julian date
- **A** = Assembly shift
- **0507** = Time of day unit was built (001 = 1201 AM)

GM Position #5 plant source code for all plants:

4 = Ramos, Mexico

H = Ypsilanti, Mich.

J = Windsor, Canada

S = Strasbourg, France

W = Warren, Mich.

Y = Toledo, Ohio

R = Boryeong, Korea

M = Yan Tai Shan Dong, China

P = San Luis Potosi, Mexico

6F50 Features

Six-speed, Front-Wheel-Drive (FWD), All Wheel Drive (AWD) model electronically controlled, automatic overdrive transaxle with an electronically controlled torque converter clutch.

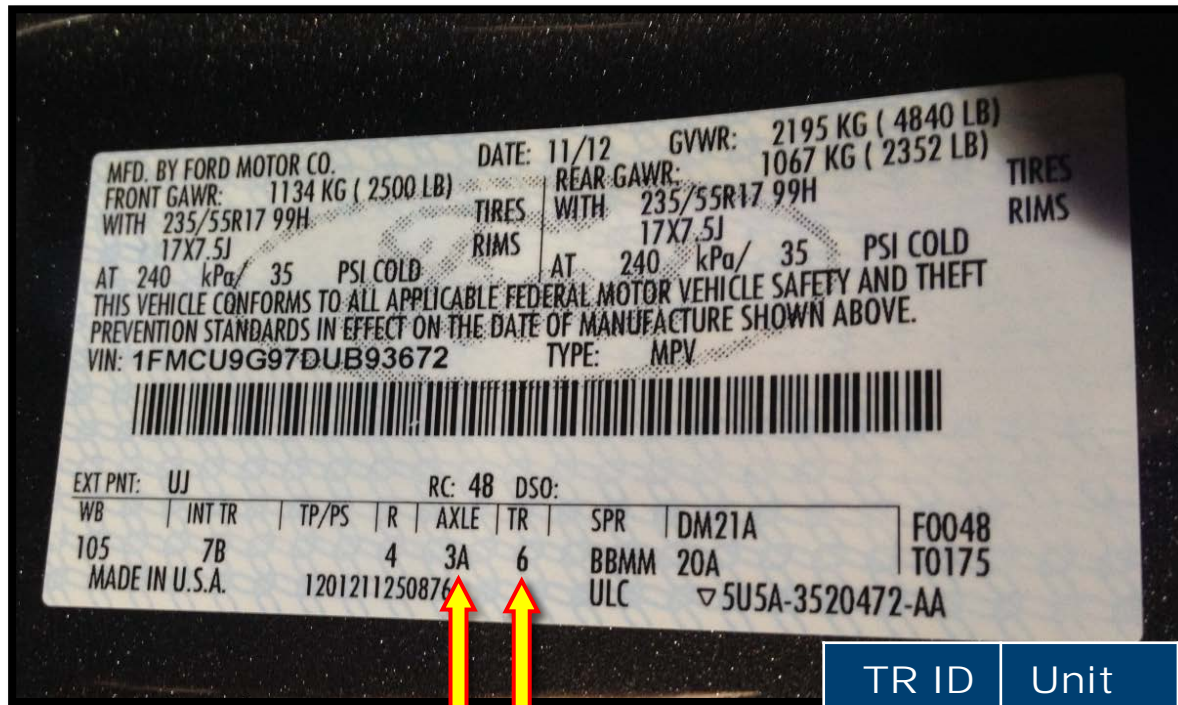
- **Engine Range:** 2.0L, 3.5L, 3.7L
- **Gear Ratios:**

Gear	Ratio	Gear	Ratio
First	4.484	Fifth	1
Second	2.872	Sixth	0.742
Third	1.842	Reverse	2.882
Fourth	1.414		

- **Shift Pattern & Shift Quality:**
6 Variable Flow Solenoids, 1 On/Off
- **Torque Converter Clutch:** Ec3/ECCC
- **Fluid Type:** Mercon[®] V
- **Transmission Weight (wet):**
100 kg/220 lbs.
- **Fluid Capacity:** 9.5L (10qt)
- **Pressure Taps Available:**
Line Pressure
- **Assembly Site:** Sterling Heights, Mich.
- **Final Drive Ratios:** 2.77, 3.07, 3.16, 3.39, 3.51, 3.65
- **Shifter Positions:** P, R, N, D, M, (DSC+/-) & L (MU/MD)

Vehicle Certification Code

Ford 6F35 Model Shown Here



Axle Ratio

Transmission Type ID

Vehicle certification tag located on driver's side door, "B" pillar.

TR ID	Unit
6	6F35
C	6F55
J	6F50

6F50

Vehicle Certification Code

Axle Ratio Position #7 on the tag

Car

Axle	Ratio
1	2.77
2	3.16
3	3.39
4	3.07

Utility Vehicle

Axle	Ratio
3E	3.16
3F	3.39
3G	3.36
3H	3.51

Transmission Position # 8 on the tag

TR ID	Unit
6	6F35
C	6F55
J	6F50

Ford 6F50 & GM 6T70 Primary Differences

- **Case**
- **Final Drive**
- **TCM Location & Design**
- **Torque Converter**
- **Diode One-Way Clutch**
- **Solenoid Pack Design & Number of Solenoids**
- **Clutch Packs, Wave Plates, Fluid Requirements**
- **35R/456 Clutch Drum**

GM & Ford Clutch Nomenclature

GM Name	Ford Name
Low/Reverse	Low/Reverse
2-6	Intermediate
1-2-3-4	Forward
3-5-R	Direct
4-5-6	Overdrive

Clutch Apply Chart

Range	Gear	1-2-3-4/FWD Clutch	3-5-R/Direct Clutch	4-5-6/OD Clutch	2-6/Interm. Clutch	Low & Rev. Clutch	Low One-Way Clutch
PARK	P					ON	
REVERSE	R		ON			ON	
NEUTRAL	N					ON	
DRIVE	1 ST BRAKING	ON				ON	HOLDING
	1 ST	ON					HOLDING
	2 ND	ON			ON		
	3 RD	ON	ON				
	4 TH	ON		ON			
	5 TH		ON	ON			
	6 TH				ON	ON	

6T70/75/80 & 6F50/55 Clutches

3-5R, 4-5-6 Clutches (Direct/OD)



2-6 Clutch (Intermediate)



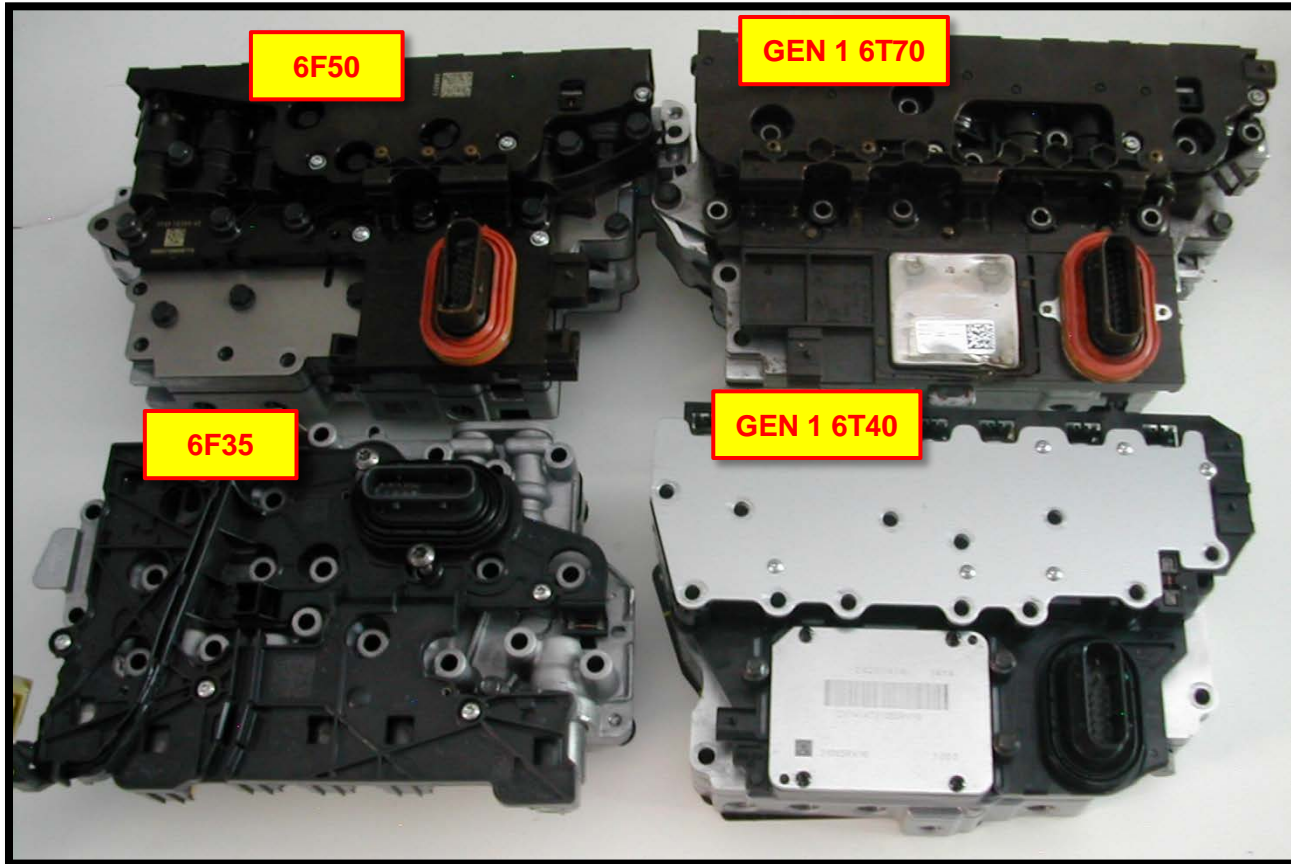
Low/Reverse Clutch



1-2-3-4 Clutch (Forward)



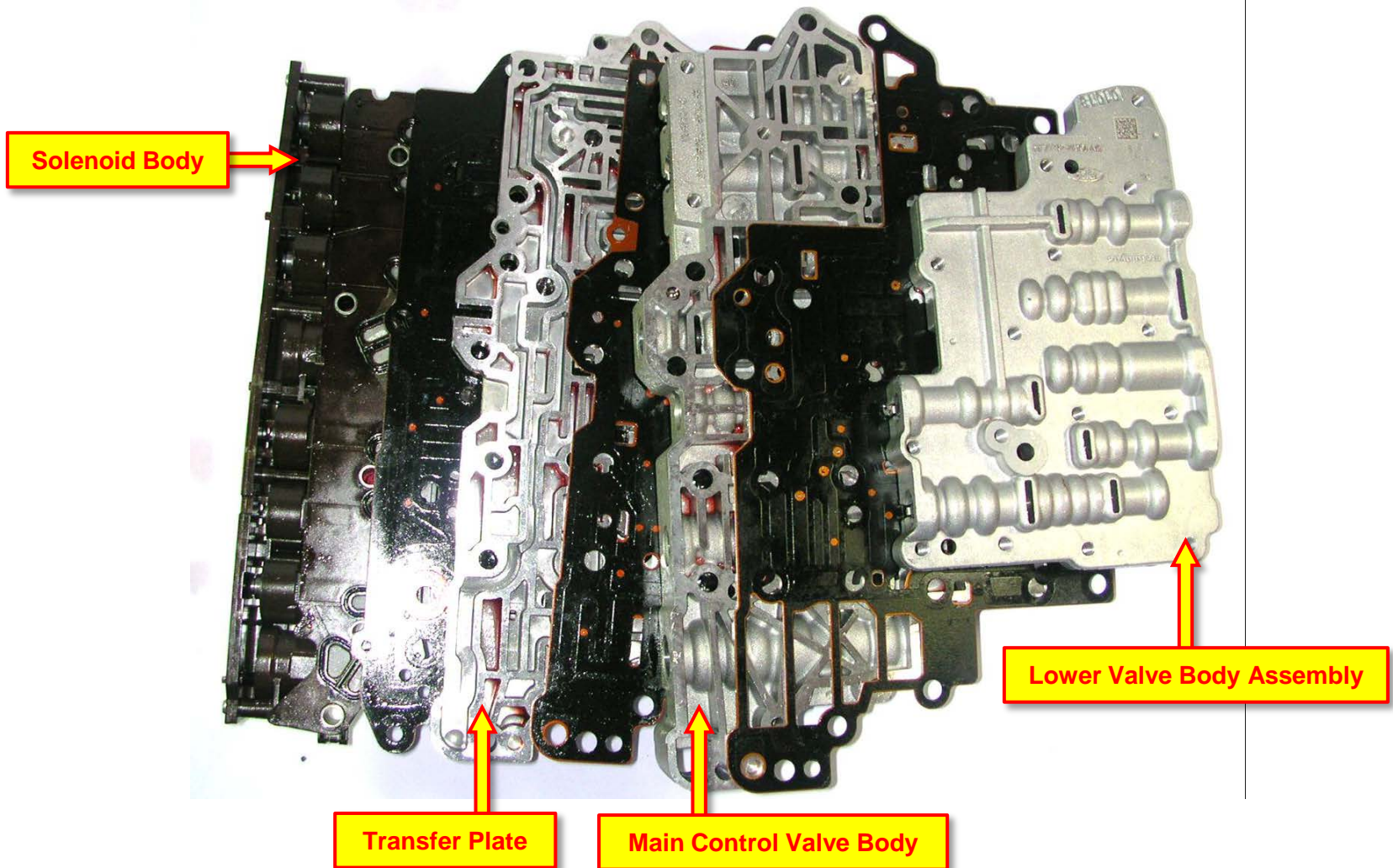
TEHCM & Solenoid Block Comparison



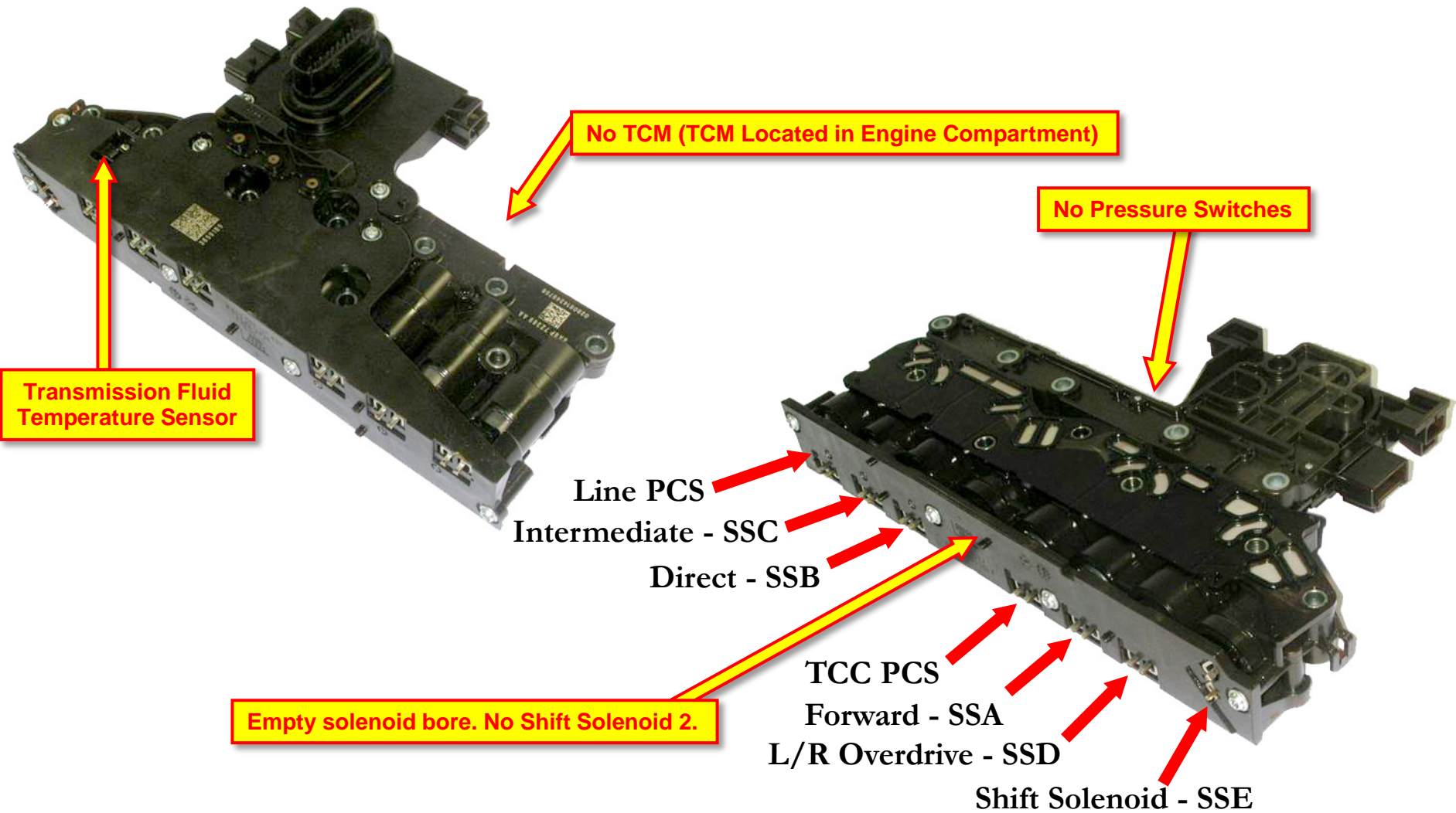
6T70/75/80 TEHCM Features

- Two shift solenoids (On/Off Design): SS1 & SS2
- Six variable bleed solenoids (VBS on GEN 1) 6 Variable feed solenoids (VFS on GEN 2): PCS1, PCS2, PCS3, PCS4, PCS5, TCC
- A Bosch®-built, 32-bit TCM (TEHCM)
Note: A special spring-loaded bracket is used to force the TCM against a heat sink on the valve body. Failure to install the bracket will result in TCM thermal shutdown.
- Four pressure switches used on GEN 1, none on GEN 2 (clutch pulse learn used instead)
- One temp sensor mounted externally on the TEHCM (used for shift and pressure control)
- Two internal temp sensors mounted on the circuit board (protects the TEHCM against thermal shutdown)

6F50 Mechatronic

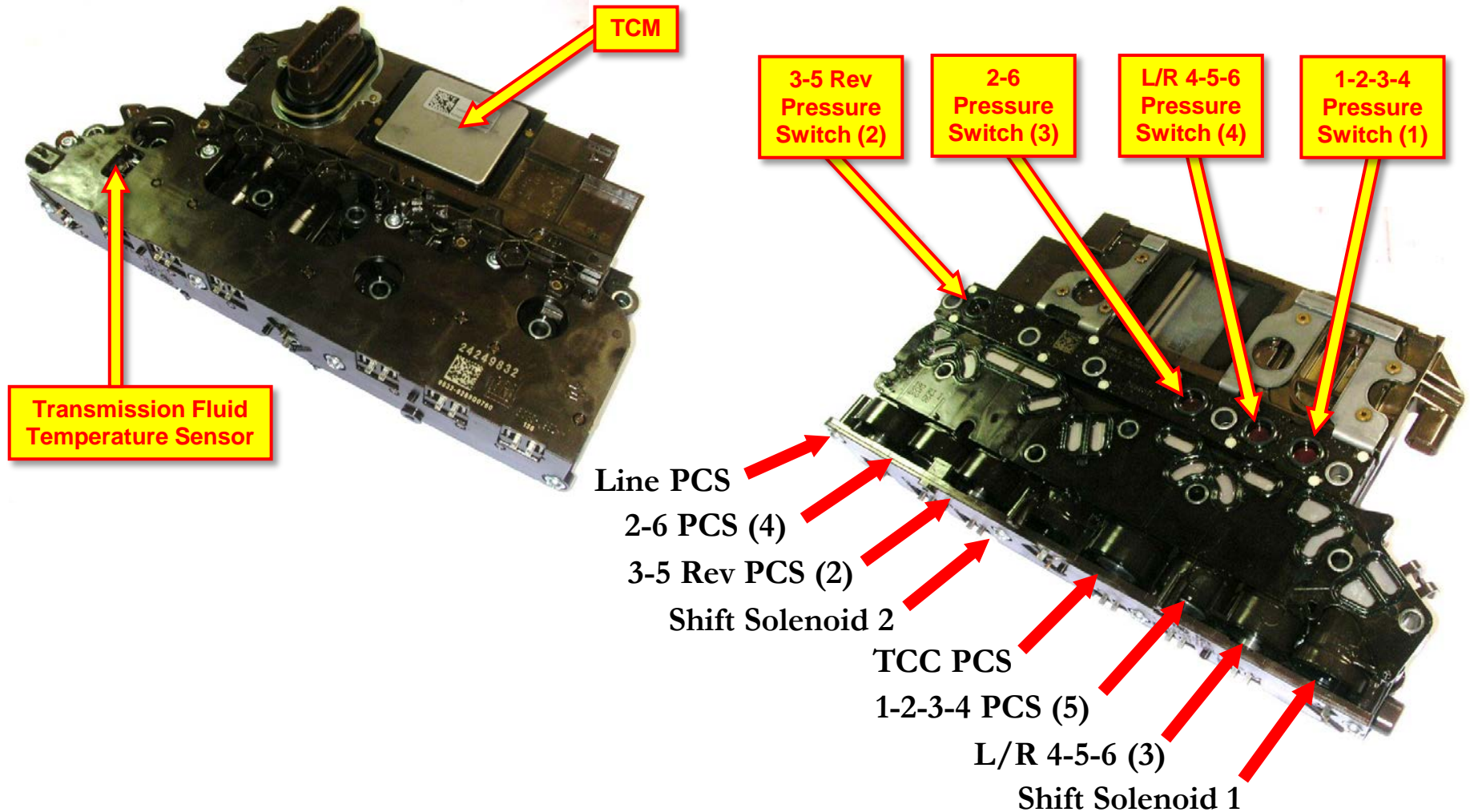


6F50 Solenoid Body

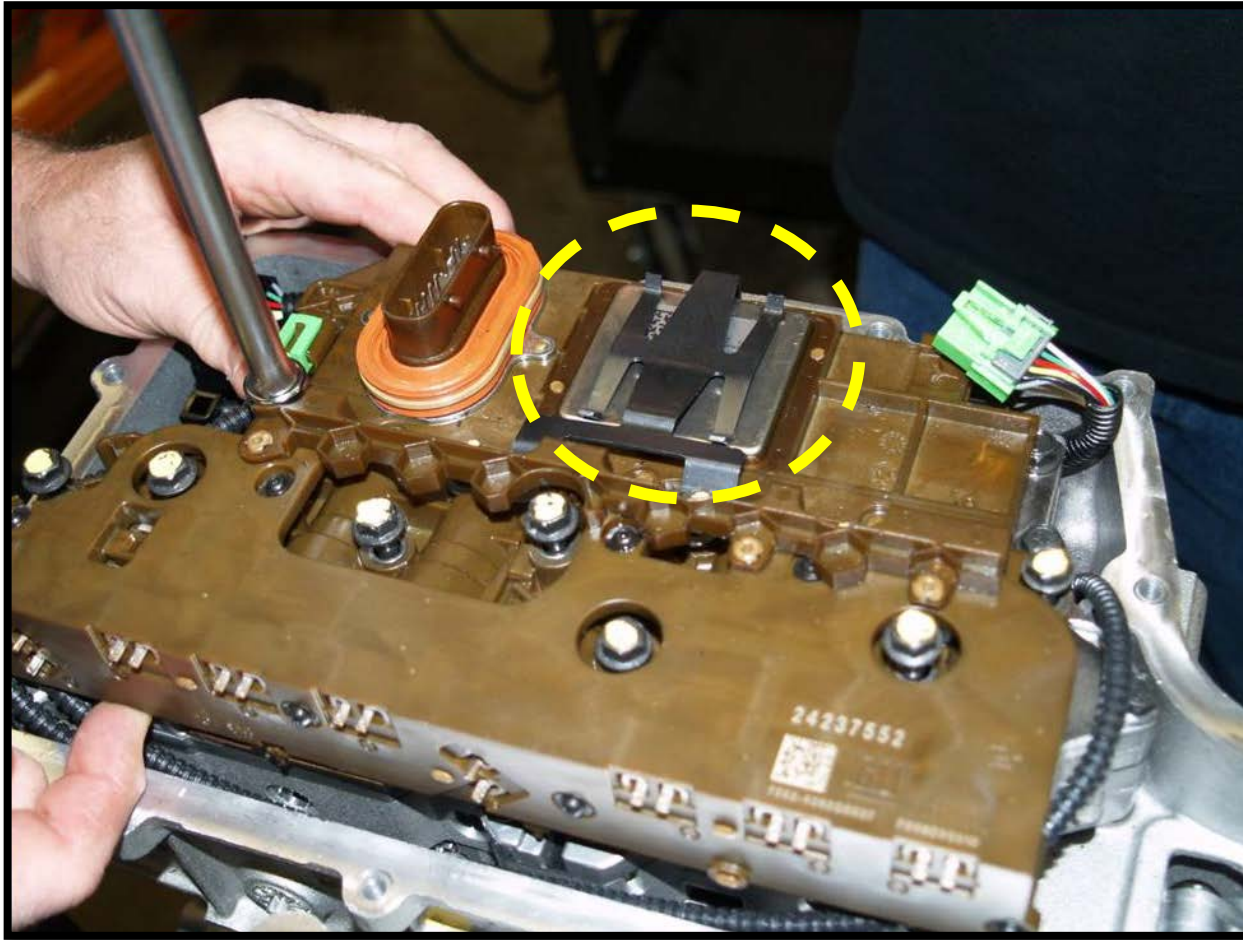


GEN 1 6T70

Control Solenoid Assembly (TEHCM)



6T70 Spring Clip



6T70 Solenoid Functions

Solenoid	Valve Controlled
Shift Solenoid 1	Clutch Select Valve 2
Shift Solenoid 2 (6T70 Only)	Clutch Select Valve 3
TCC Solenoid	TCC Valve
Pressure Control Solenoid 1	Line Pressure Valves
Pressure Control Solenoid 2	3-5-Reverse Clutch Regulator Valve
Pressure Control Solenoid 3	R1/4-5-6 Clutch Regulator Valve
Pressure Control Solenoid 4	2-6 Clutch Regulator Valve
Pressure Control Solenoid 5	1-2-3-4 Clutch Regulator Valve

GEN 1 6T70 Fluid Pressure Switch Operation (Normally Closed)

Switch Function: Monitor clutch regulator valve operation and calculate adaptive learn values.

Switch Number	Monitors Operation of...
1	1-2-3-4 Clutch Regulator Valve
2	3-5 & Reverse Clutch Regulator Valve
3	2-6 Clutch Regulator Valve
4	R1/4-5-6 Clutch Regulator Valve

Open: 8 psi (55 Kpa)

Pressure Present = Switch Open
Reads low on scan tool.

Closed: 12 psi (82 Kpa)

No Pressure = Switch Closed
Reads high on scan tool.

Sonnax offers rebuild kits to service the pressure switches.

Pressure Switches

- Used in *ALL GEN 1 TEHCMs*
- Used for adaptive control calculations
- Very high failure rate, delamination, contamination; previously required TEHCM replacement
- Likely to set a P0752, P0872, P0877 and/or P0989 DTC

Pressure Switch Repairs

Solution: Part # 124740-28K
PATENT PENDING

Pressure Switch Rebuild Master Pack

- **40 Seals**
- **40 Laminate Discs**
- **Installation Tool Kit**

Services 10 complete TEHCMS
in 6L45/50/80/90 & GEN 1 6T70/75 units.



**Switch delamination
requires seal replacement.**

Note: Before installing Sonnax kit, test switches to verify proper electrical operation. Kit repairs laminate disc and seal failures only; it will not rectify electrical breakdown.



Also Available:



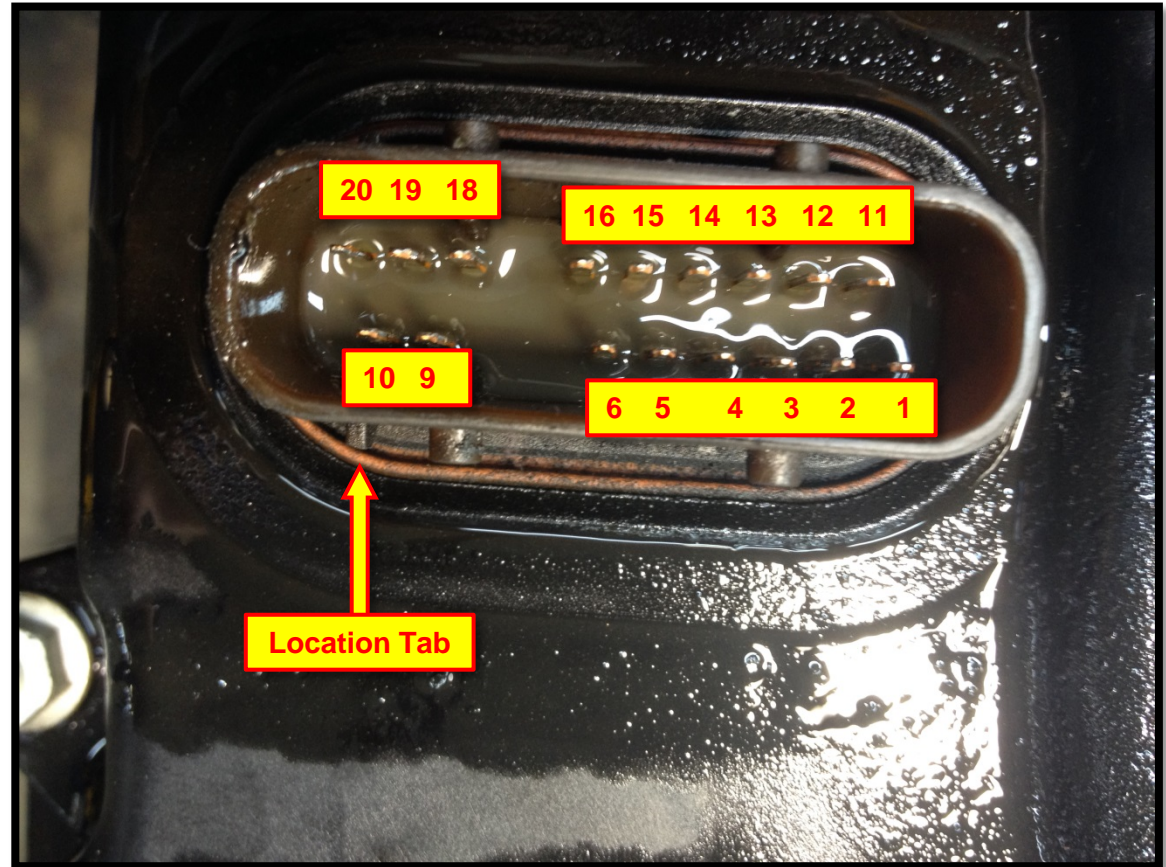
Pressure Switch Rebuild Kit 124740-30K
Seals and discs to service one TEHCM.
Installation tool kit required.



Pressure Switch Installation Tool Kit 124740-TL30
Installation tool kit, plus seals and discs to service one TEHCM. **Patent Pending**

Transmission Connector Pin Assignments "Trans Side"

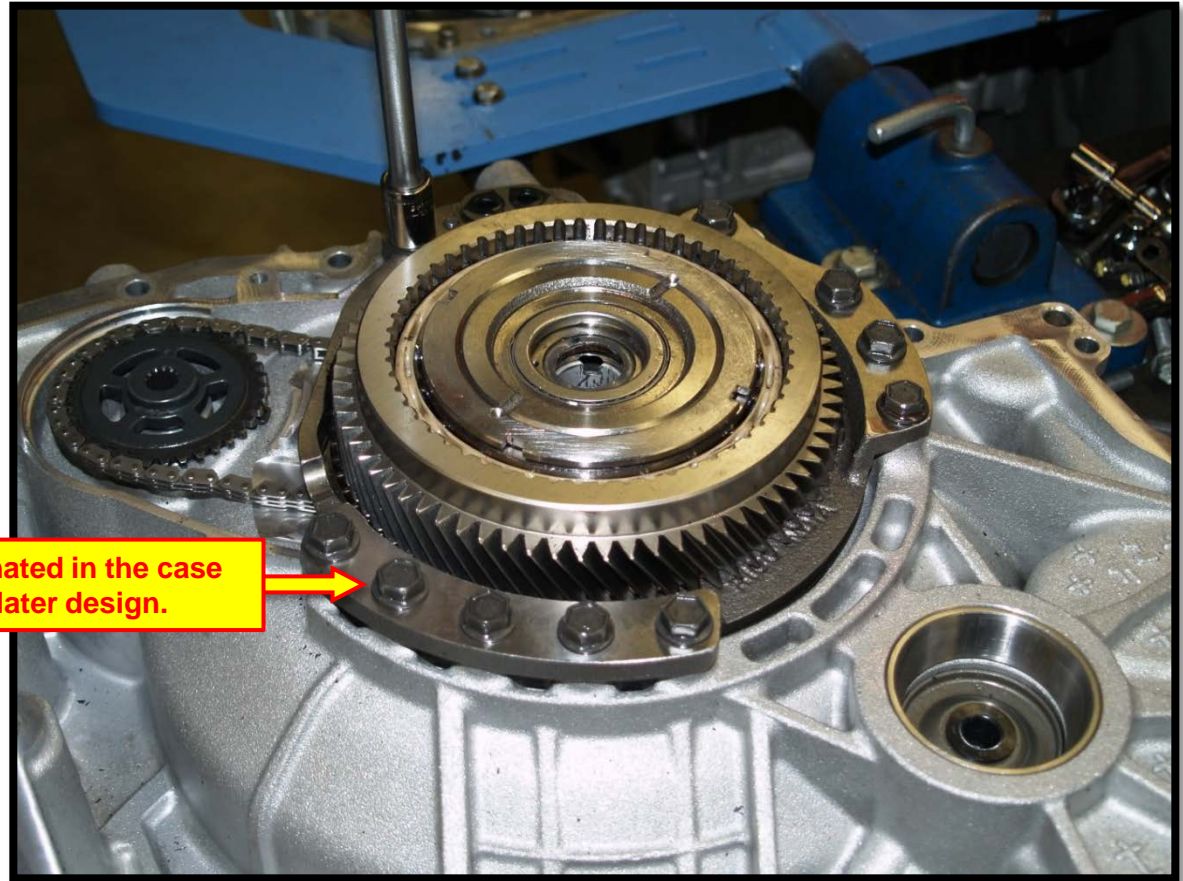
- 1 = Ground
- 2 = Hi speed Data +
- 3-4 = Not used
- 5 = Hi Speed Data +
- 6-11 = Not used
- 12 = Hi Speed Data -
- 13 = B+
- 14 = Hi Speed Data -
- 15 = B+
- 16 = Brake Sw.
- 17 = Not used
- 18 = Ground
- 19 = B+
- 20 = P/N



Product Updates & Issues

6T70/75 Bolt Eliminated from the Support in 2008

Updated support will back-service previous applications.



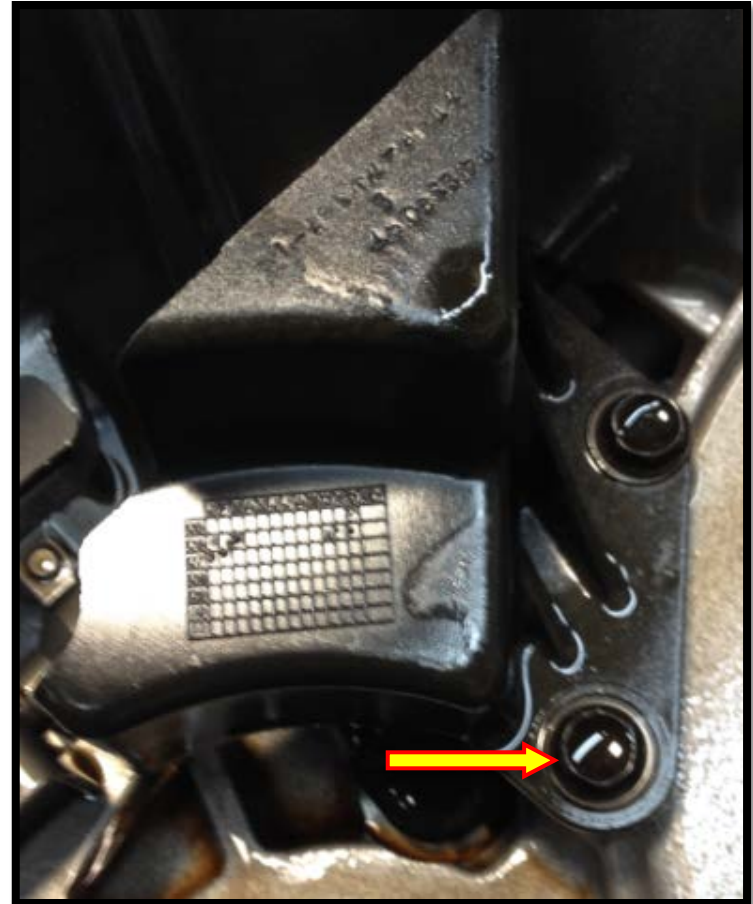
This bolt hole eliminated in the case and support on later design.

6T70/75

Lube Trough Update 2008

Bolt eliminated, new trough will back-service previous models.

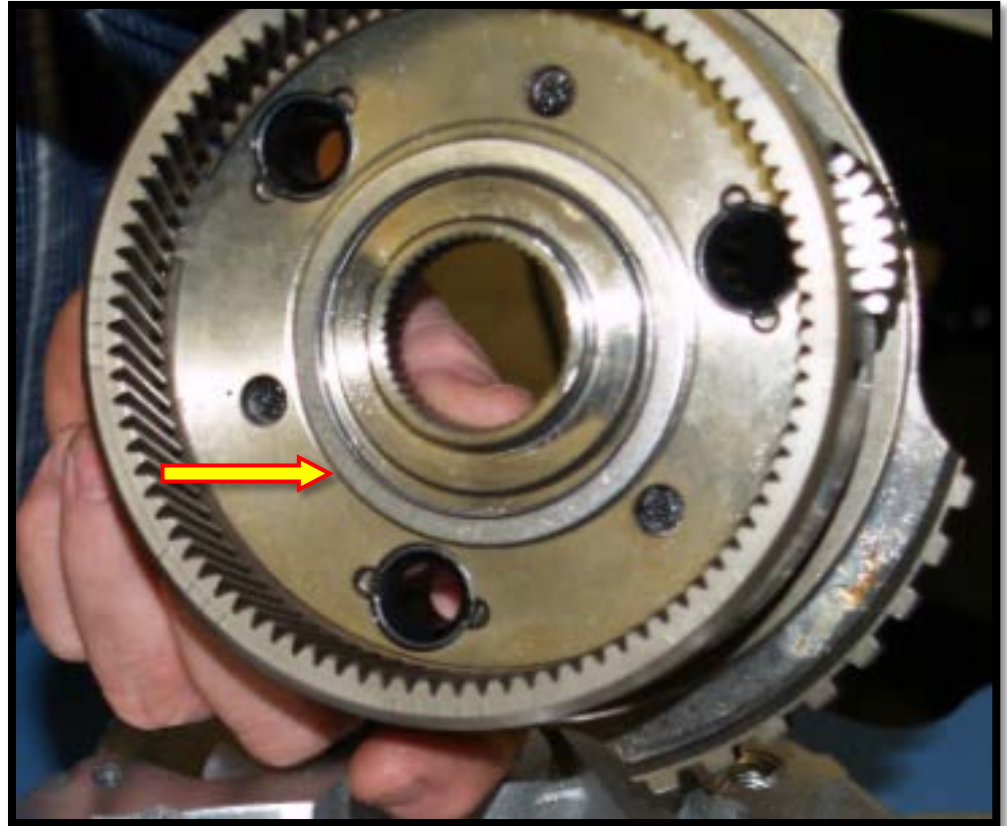
Hole in the case eliminated.



6T70/75 Updated Reaction Carrier

Updated carrier bearing pocket is cut .25mm (.010") deeper and a thicker bearing was installed.

Updated 2009 models will back-service previous years.



6T70/75 Updated Output Carrier

Updated carrier bearing pocket is cut .25mm (.010") deeper and a thicker bearing was installed.

Updated 2009 models will back-service previous years.



6T70/75 Updated Cooler Lines & Case

- Updated in mid-2008
- New design line **WILL NOT** fit in the previous design case (the previous design cooler lines **WILL** fit into the updated design case)
- The updated line has a longer snout
- Change implemented because of leak issues

6T70/75 Updated Wave Plates

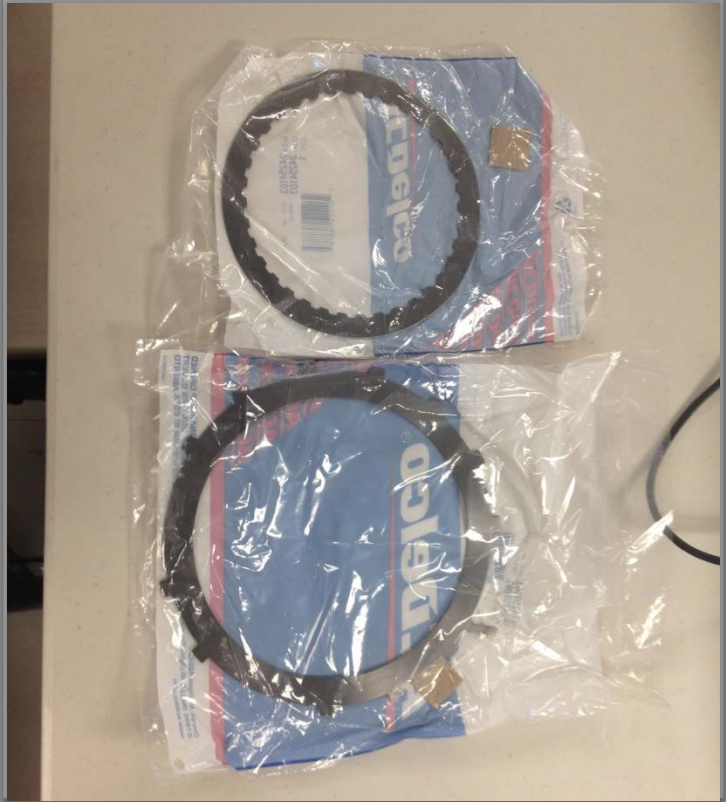
2012 Model Year

Plates will back-service previous years and the same parts are used for all models.

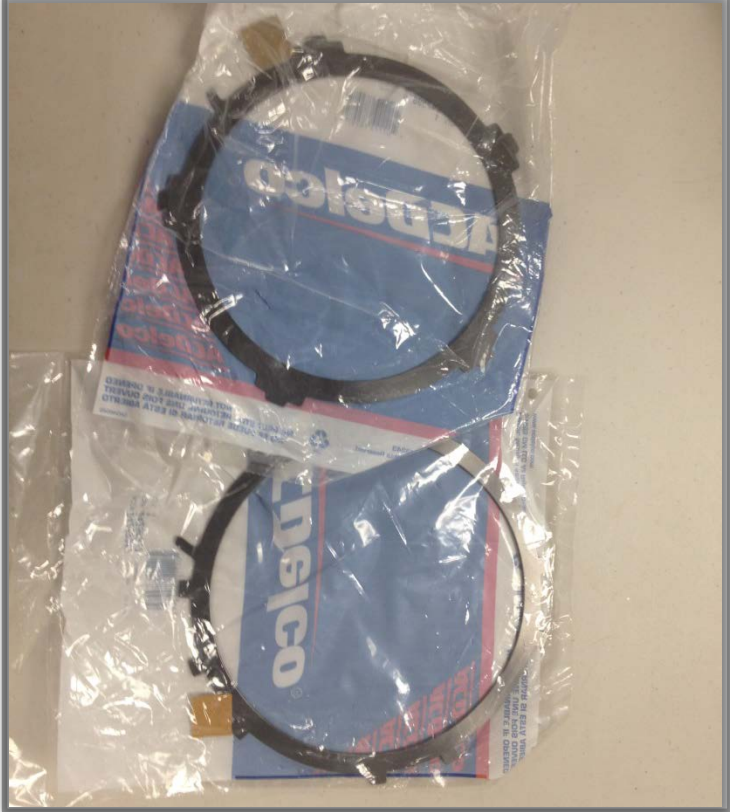
- 1-2-3-4 Clutch Waved Plate **24259063**
- 2-6 Clutch Waved Plate **24259816**
- 3-5-Reverse Clutch Waved Plate **24254103**
- Low-Reverse Clutch Waved Plate **24259817**

6T70/75 Updated Wave Plate

24254103 3-5-R Wave
24259063 1-2-3-4 Wave



24259816 2-6 Wave
24259817 Low/Rev Wave



6T70/75 Controls Upgrade 2013

The 6T70 (RPO M7W or M7U) and 6T75 (RPO M7V and M7X) received a major control system update for the 2013 model year. As with updates on other applications, this major change was **NOT** implemented in all 6T70/75 applications.

The GEN 2 changes were implemented over a two-year time period. Two versions of the 6T70/75 were available during the 2013–14 model years: GEN 1 and GEN 2. All 6T80 applications are GEN 2.

- GEN 1: Units that do not contain the controls update package
- GEN 2: Units contain the controls update package

Most of the updates are NOT designed to back-service previous GEN 1 applications!

GEN 2 6T70/75 Updates

- New TEHCM design: No pressure switches, solenoid design changed from VBS to VFS.
- New valve body and valves:
 - Updated pressure regulator, 2-6 clutch regulator, Low/Rev 4-5-6 regulator, clutch select 2, 1-2-3-4/C-4-5-6/C-3-5-R boost, actuator feed limit, 1-2-3-4 regulator, 3-5-R regulator, 4-5-6 accumulator piston and spring, isolator valve spring.
 - Added one new checkball
 - Major channeling changes
- Updated spacer plate
- New Low/Reverse wave plate, Low/Reverse friction discs and snap ring
- New 1-2-3-4 piston (Notches cut into piston legs for ID), 1-2-3-4 wave plate. New, thinner friction plates with more wave added (now uses nine rather than seven plates) The new plates use “half moon” teeth for ID.

GEN 2 6T70/75 Updates

Continued

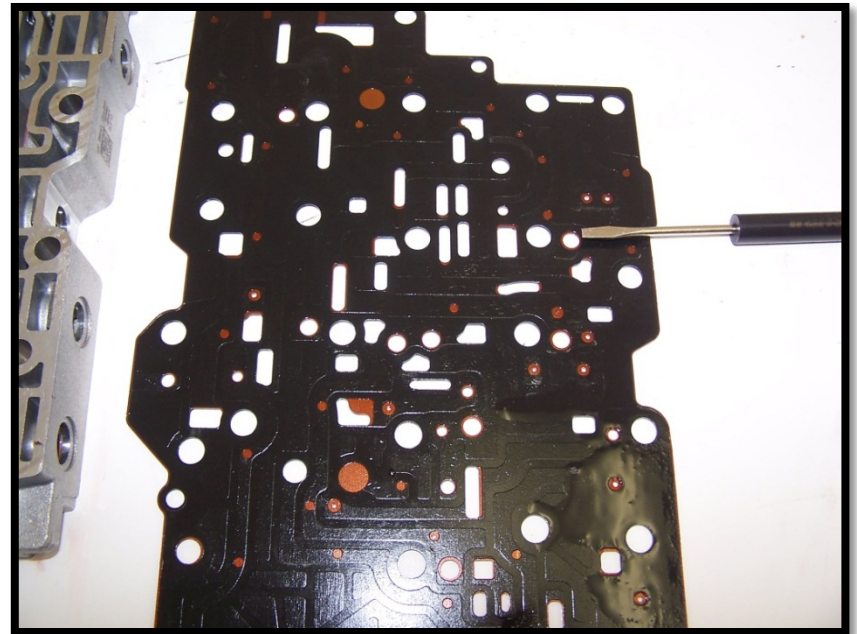
- New 2-6 wave plate, 2-6 friction discs
- New 3-5-R wave plate, new 3-5-R friction discs and snap ring. The snap ring groove was repositioned .25mm and the clutch compensator piston was redesigned.
- New 3-5-R/4-5-6 clutch housing, major casting changes. Holes in drum were reoriented by 30°.
- Turbine shaft
- Compensator feed blow off spring located in the rear cover
- Three splines to avoid the dam holes.
 - Holes moved axially toward the dam holes by .25mm as 3-5-R snap ring was relocated.
 - The 4-5-6 piston seal moved from the piston to the inside of the housing.
 - Piston ID increased, new return springs.

6F50 Updated Spacer Plate

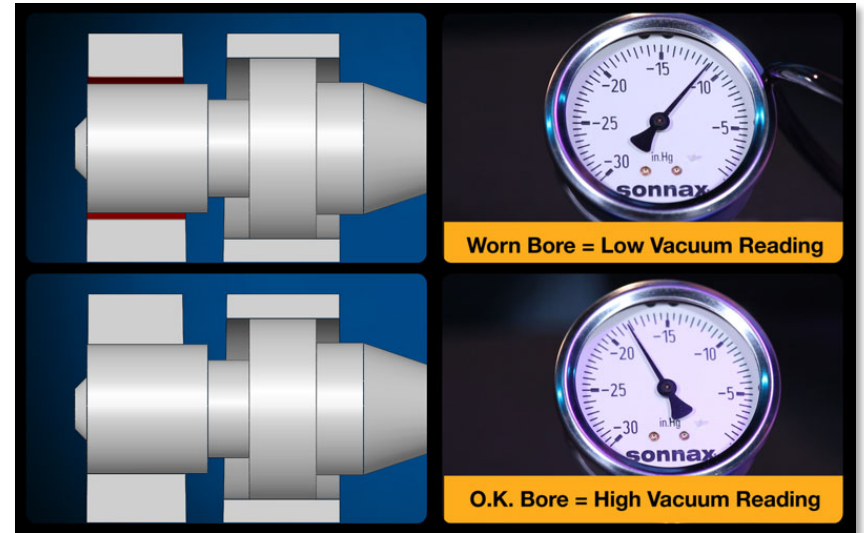
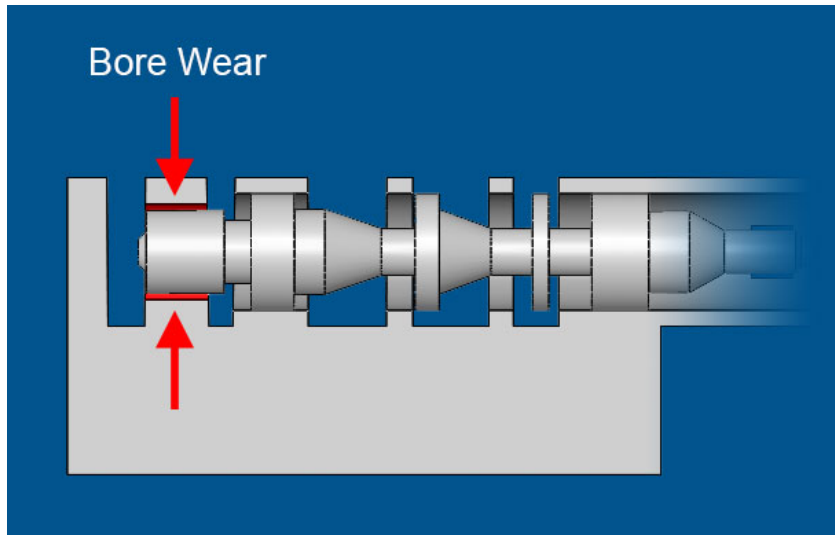
Designed to address poor acceleration at low speeds (0–5 mph 0–8 kph) and/or harsh bump or slip feeling when taking off from a stop on 2009–2011 6F50 applications using Mercon[®] LV fluid.

The update included changes to the spacer plate and valve body. One checkball and spacer plate hole were eliminated.

In addition to the updated valve body and spacer plate, an updated calibration was also released.



6T70/75/80, 6F50/55 Valve Body Wear Issues



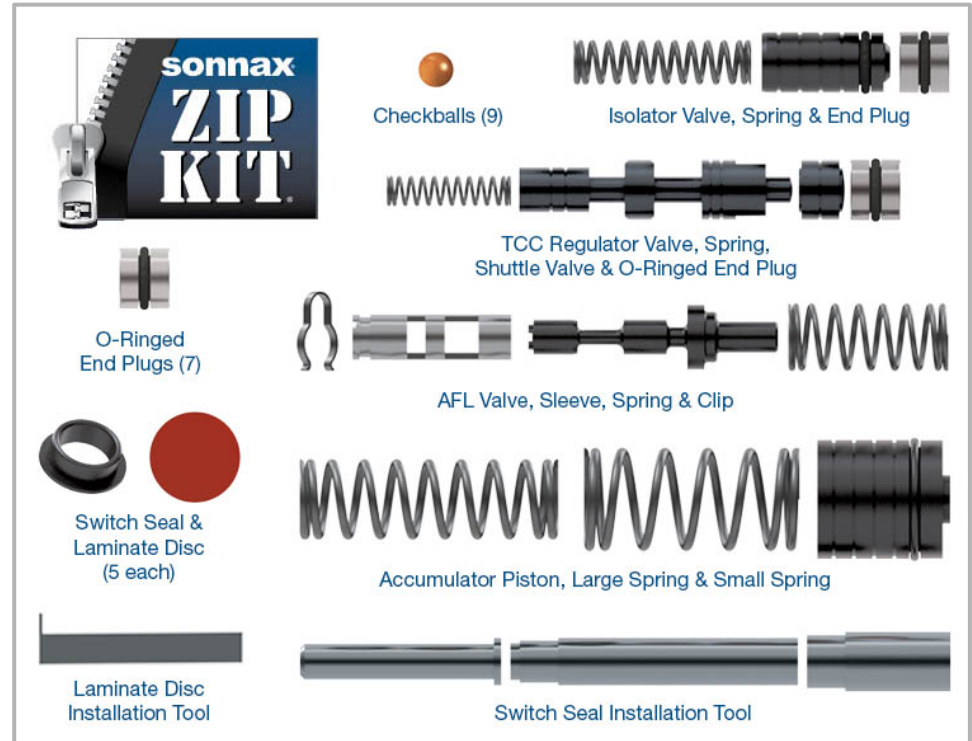
Valve body wear is common in many of the GM and Ford 6-speed applications, including the 6T70 and 6F50 families of transaxles.

Vacuum testing will allow you to identify worn areas.

GEN 1 6T70/75 Zip Kit[®]

Part # 6T70-ZIP Patent Pending

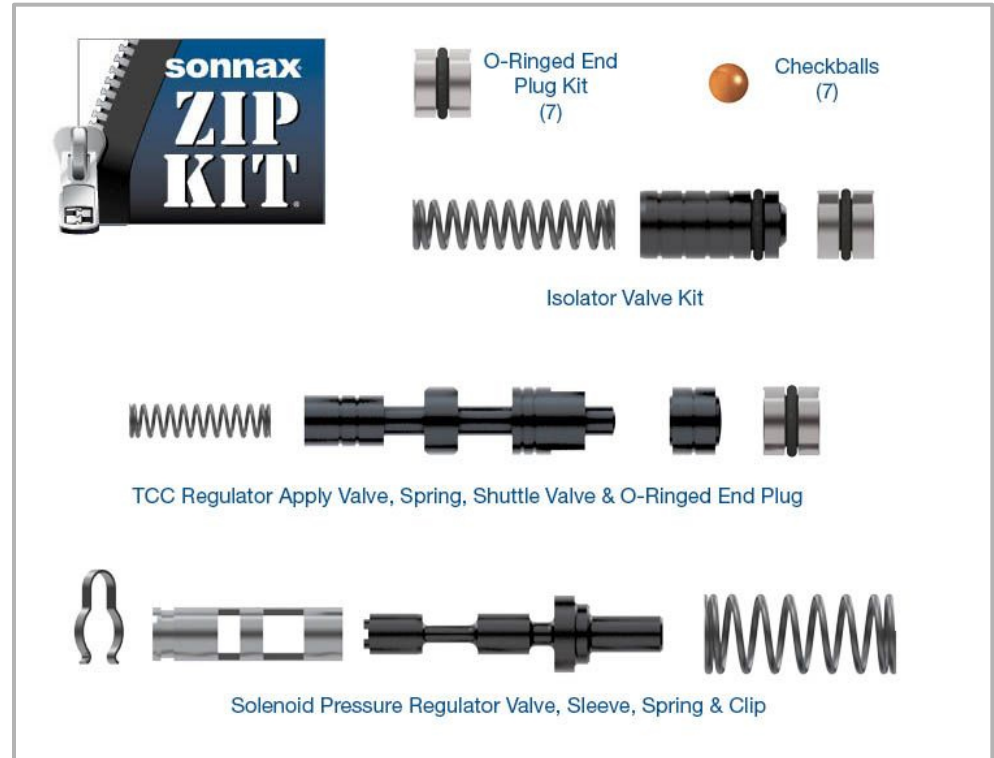
- No reaming required
- Installs quickly with no separate, special tools required
- Allows salvage of expensive TEHCM
- Uniquely designed parts address root causes of valve body concerns by sealing critical pressure circuits
- Includes detailed tech booklet with rebuild tips and vacuum testing information



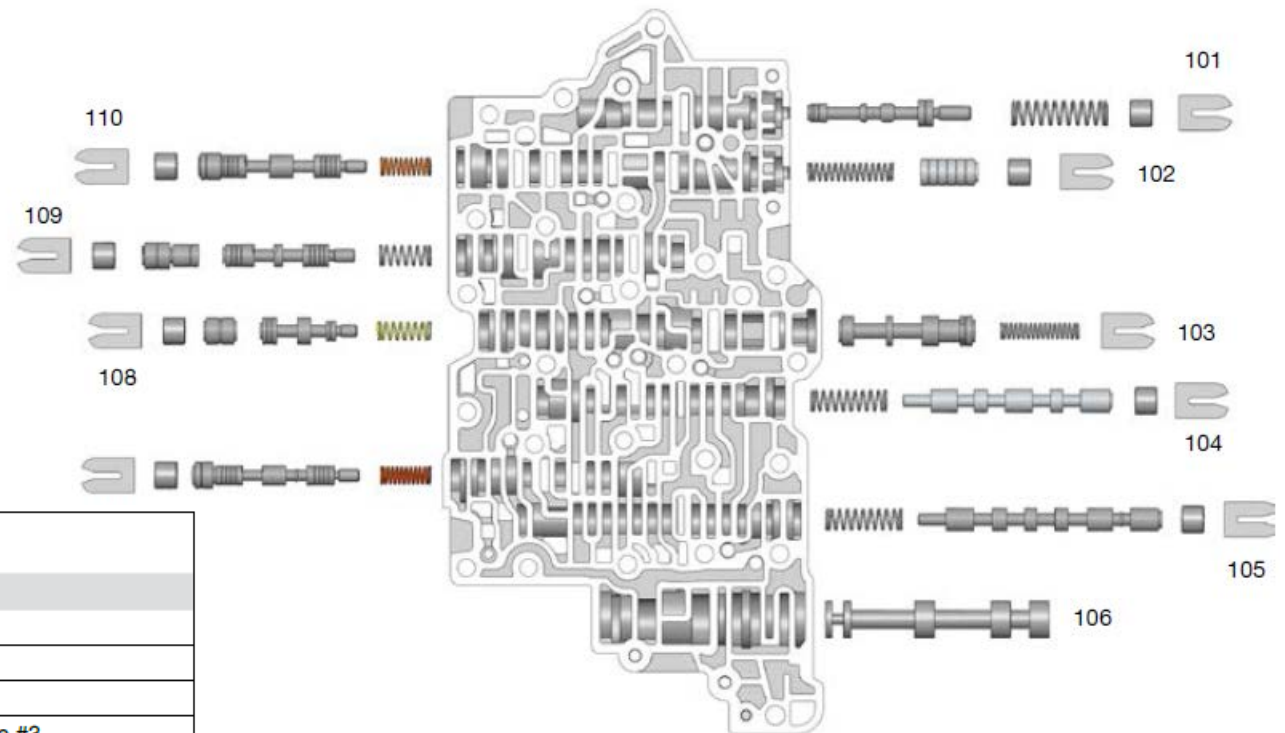
6F50/55 Zip Kit[®]

Part # 6F50-ZIP

- No reaming required
- Installs quickly with no separate, special tools required
- Uniquely designed parts address root causes of valve body concerns by sealing critical pressure circuits
- Includes detailed tech booklet with rebuild tips and vacuum testing information



GEN 1 6T70 OE Exploded View Upper Valve Body

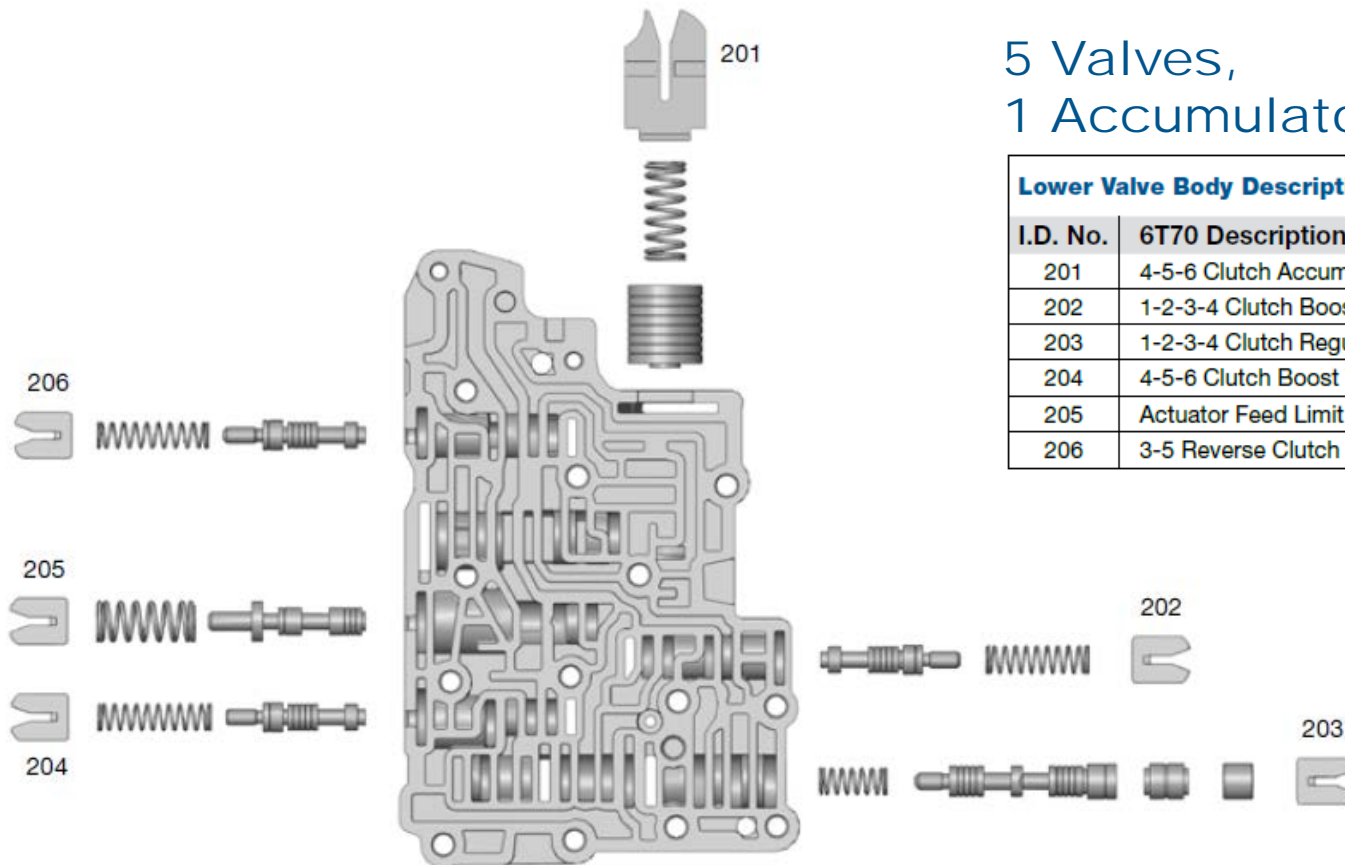


10 Valves

Upper Valve Body Descriptions	
I.D. No.	6T70 Description
101	Pressure Regulator Valve
102	Isolator Valve
103	TCC Control Valve
104	Clutch Select Solenoid Valve #3
105	Clutch Select Solenoid Valve #2
106	Manual Valve
107	L/R 4-5-6 Clutch Regulator Valve
108	TCC Regulator Apply Valve
109	2-6 Clutch Regulator & Gain Valve
110	3-5 Reverse Clutch Regulator Valve

GEN 1 6T70 OE Exploded View Lower Valve Body

5 Valves,
1 Accumulator



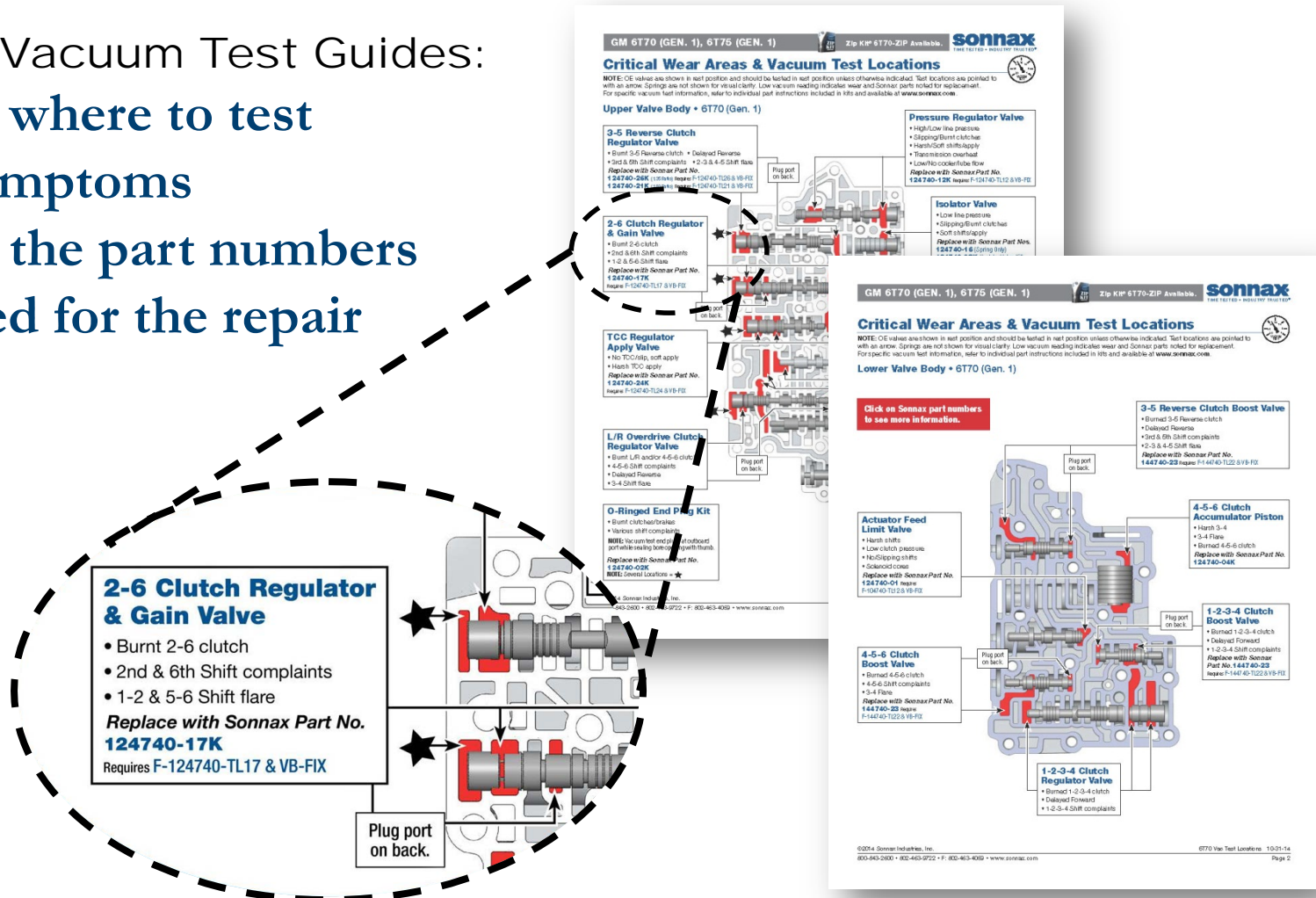
Lower Valve Body Descriptions

I.D. No.	6T70 Description
201	4-5-6 Clutch Accumulator Piston
202	1-2-3-4 Clutch Boost Valve
203	1-2-3-4 Clutch Regulator Valve
204	4-5-6 Clutch Boost Valve
205	Actuator Feed Limit Valve
206	3-5 Reverse Clutch Boost Valve

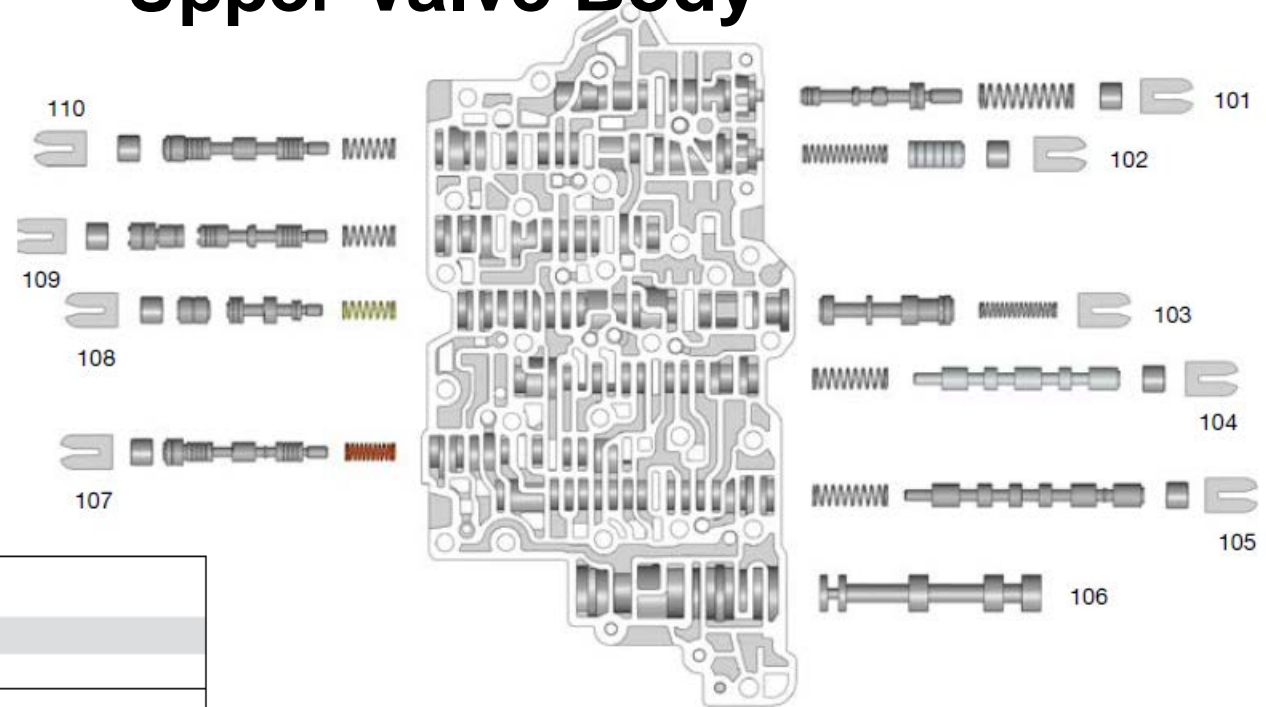
GEN 1 6T70 Vacuum Test Guide

Sonnax Vacuum Test Guides:

- Show where to test
- ID symptoms
- Show the part numbers needed for the repair



6F50 OE Exploded View Upper Valve Body



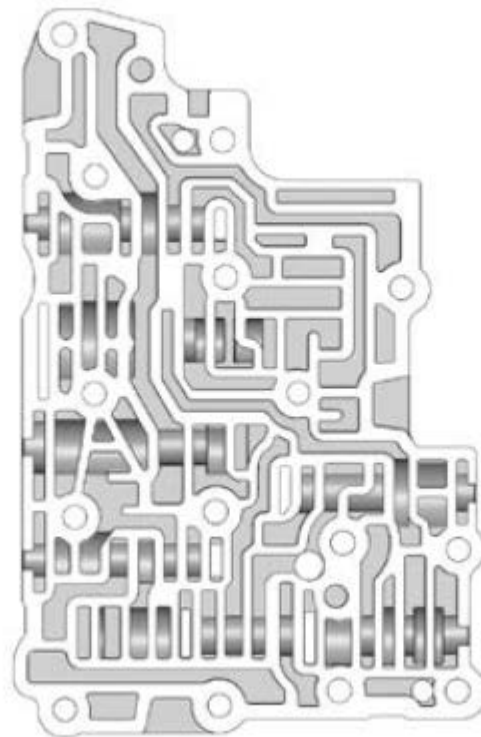
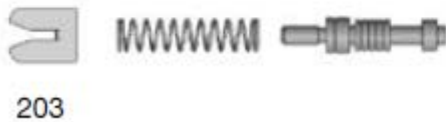
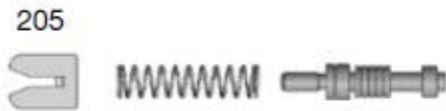
10 Valves

Upper Valve Body Descriptions	
I.D. No.	6F50 Description
101	Pressure Regulator Valve
102	Isolator Valve
103	TCC Control Valve
104	Multiplex Manual Valve
105	Multiplex Shift Valve
106	Manual Valve
107	L/R Overdrive Clutch Regulator Valve
108	TCC Regulator Apply Valve
109	Intermediate Clutch Regulator & Gain Valve
110	Direct Clutch Regulator Valve

6F50 OE Exploded View Lower Valve Body

5 Valves,
NO Accumulator

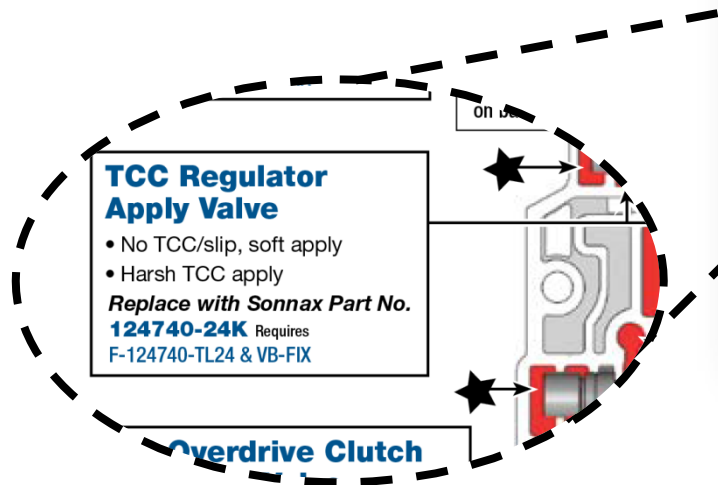
Lower Valve Body Descriptions	
I.D. No.	6F50 Description
201	Forward Clutch Latch Valve
202	Forward Clutch Regulator Valve
203	L/R Overdrive Clutch Latch Valve
204	AFL (Actuator Feed Limit) Valve
205	Direct Clutch Latch Valve



6F50 Vacuum Test Guide

Sonnax Vacuum Test Guides:

- Show where to test
- ID symptoms
- Show the part numbers needed for the repair



FORD 6F50, 6F55 Zip Kit[®] 6F50-ZIP Available. **sonnax** Test Tools • Customer Support

Critical Wear Areas & Vacuum Test Locations

NOTE: OE valves are shown in rest position and should be tested in rest position unless otherwise indicated. Test locations are pointed to with an arrow. Springs are not shown for visual clarity. Low vacuum reading indicates wear and Sonnax parts listed for replacement. For specific vacuum test information, refer to individual part instructions included in kits and available at www.sonnax.com.

Upper Valve Body • 6F50 Shown

Direct Clutch Regulator Valve

- Burnt direct clutch
- 2nd & 6th SHFT complaints
- Delayed Reverse
- 2-3 & 4-5 SHFT flare

Replace with Sonnax Part No. **124740-26K** Requires F-124740-TL28 & VB-FIX
124740-21K Requires F-124740-TL21 & VB-FIX

Pressure Regulator Valve

- High/Low line pressure
- Slipping/Burnt clutches
- Harsh/Soft shifts/apply
- Transmission overheat
- Low/No cooler/No flow

Replace with Sonnax Part No. **124740-12K** Requires F-124740-TL12 & VB-FIX

Intermediate Clutch Regulator & Gain Valve

- Burnt Intermediate clutch
- 2nd & 6th SHFT complaints
- 1-2 & 5-6 SHFT flare

Replace with Sonnax Part No. **124740-17K** Requires F-124740-TL17 & VB-FIX

TCC Regulator Apply Valve

- No TCC/slip, soft apply
- Harsh TCC apply

Replace with Sonnax Part No. **124740-24K** Requires F-124740-TL24 & VB-FIX

L/R Overdrive Clutch Regulator Valve

- Burnt L/R and/or overdrive clutch
- 4-5-6 SHFT complaints
- Delayed Reverse
- 3-4 SHFT

O-Ringed End Plug Kit

- Burnt overdrive/clutch
- Various SHFT complaints

NOTE: Vacuum test end plugs at outward port with sealing tape coming with kit.

Replace with Sonnax Part No. **124740-02K** Requires F-124740-TL02 & VB-FIX

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FORD 6F50, 6F55 Zip Kit[®] 6F50-ZIP Available. **sonnax** Test Tools • Customer Support

Critical Wear Areas & Vacuum Test Locations

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Lower Valve Body • 6F50 Shown

Direct Clutch Latch Valve

- Burnt Direct clutch
- Delayed Reverse
- 2nd & 6th SHFT complaints
- 2-3 & 4-5 SHFT flare

Replace with Sonnax Part No. **144740-03K** Requires F-144740-TL03 & VB-FIX

AFL (Actuator Feed Limit) Valve

- Harsh shifts
- Low clutch pressure
- No/Slipping shifts
- Soldered cones

Replace with Sonnax Part No. **124740-01K** Requires F-124740-TL01 & VB-FIX

L/R Overdrive Clutch Latch Valve

- Burnt overdrive clutch
- 4-5-6 SHFT complaints
- 3-4 Flare

Replace with Sonnax Part No. **144740-02K** Requires F-144740-TL02 & VB-FIX

Forward Clutch Latch Valve

- Burnt forward clutch
- Delayed forward
- 1-2-3-4 SHFT complaints

Replace with Sonnax Part No. **144740-03K** Requires F-144740-TL03 & VB-FIX

Forward Clutch Regulator Valve

- Burnt forward clutch
- Delayed forward
- 1-2-3-4 SHFT complaints

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6F50/6T70 AFL Valve

Symptoms

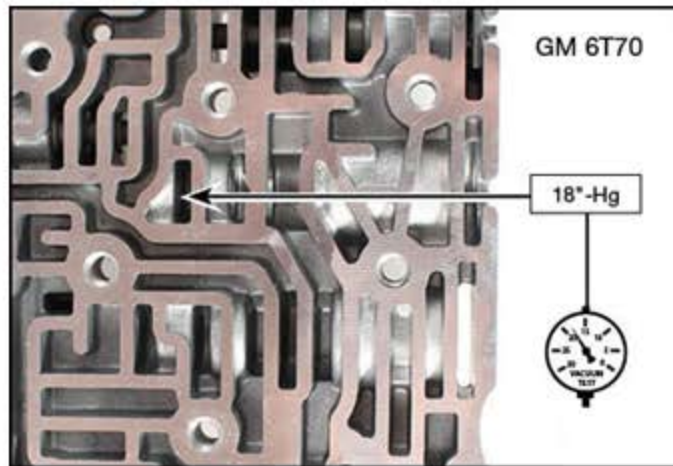
- **Clutch failure**
- **Solenoid codes**
- **Wrong gear starts**

6F50/6T70 AFL Valve

Part # 124740-01

Oversized AFL/Solenoid Pressure Regulator Valve

Serves 6F50/55 &
GEN 1 6T70/75 Units



Requires Tool Kit
F-104740-TL12

Note: Download or print complete vacuum test guides for the 6F50/55 and GEN 1 6T70/75 at www.sonnax.com.

4-5-6 Accumulator Piston

Symptoms

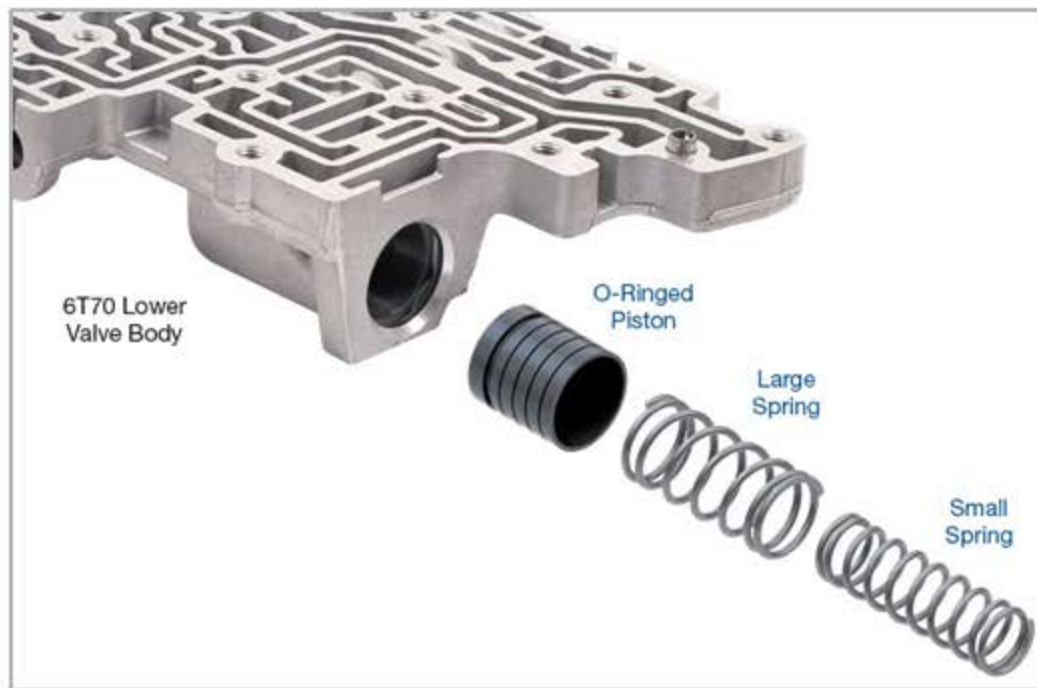
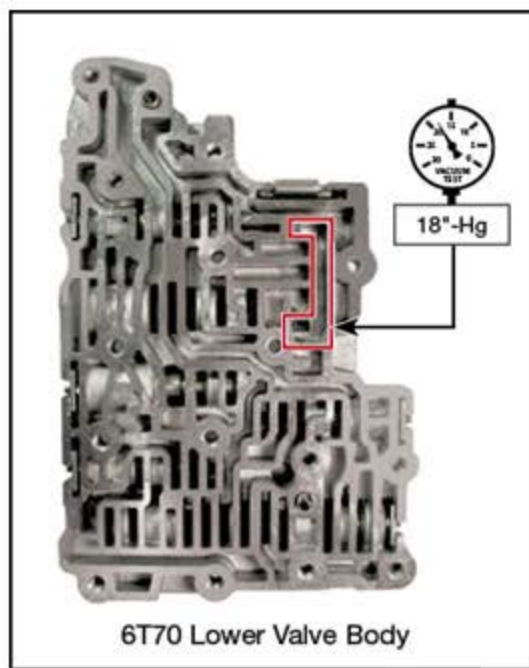
- **3-4 Flare**
- **3-4 Harsh**
- **4-5-6 Clutch burned**
- **Ratio codes**
- **Slipping**

4-5-6 Accumulator Piston

Part # 124740-04K

4-5-6 Accumulator Piston Kit

Services GEN 1 6T70/75 Units



Note: Download or print complete vacuum test guides for the 6F50/55 and GEN 1 6T70/75 at www.sonnax.com.

6F50/6T70 Pressure Regulator

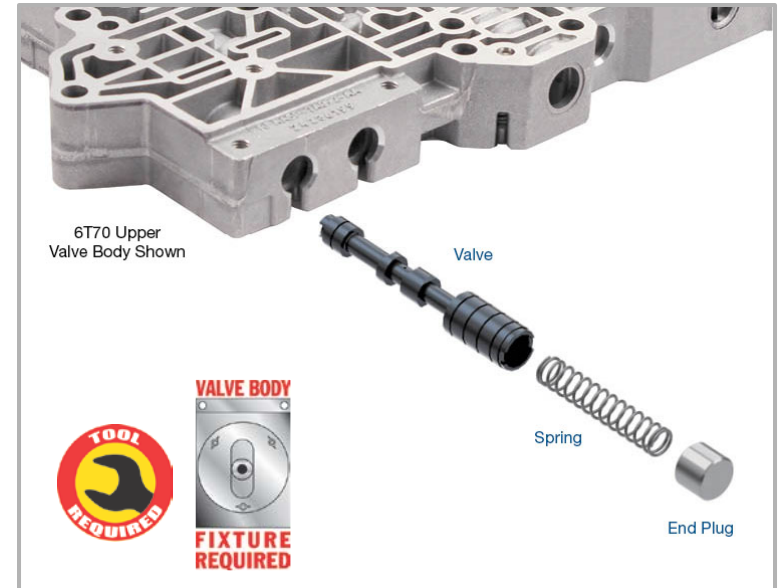
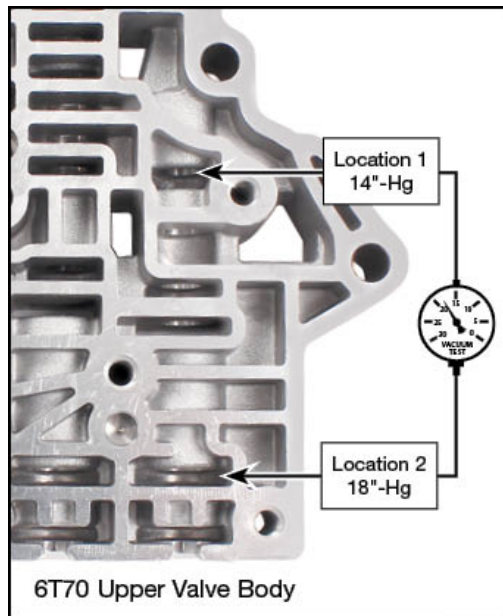
Symptoms

- **Erratic line pressure**
- **Burnt clutches**
- **Low converter & lube flow**
- **TCC apply & release concerns**
- **Overheating**
- **Poor shift quality**

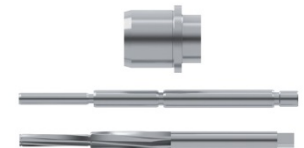
6F50/6T70 Pressure Regulator

Part # 124740-12K

Oversized Pressure
Regulator Valve Kit
Services 6F50/55 & GEN 1 6T70/75 Units



Requires Tool Kit
F-124740-TL12



Note: Download or print complete vacuum test guides for the 6F50/55 and GEN 1 6T70/75 at www.sonnax.com.

6F50/6T70 End Plugs

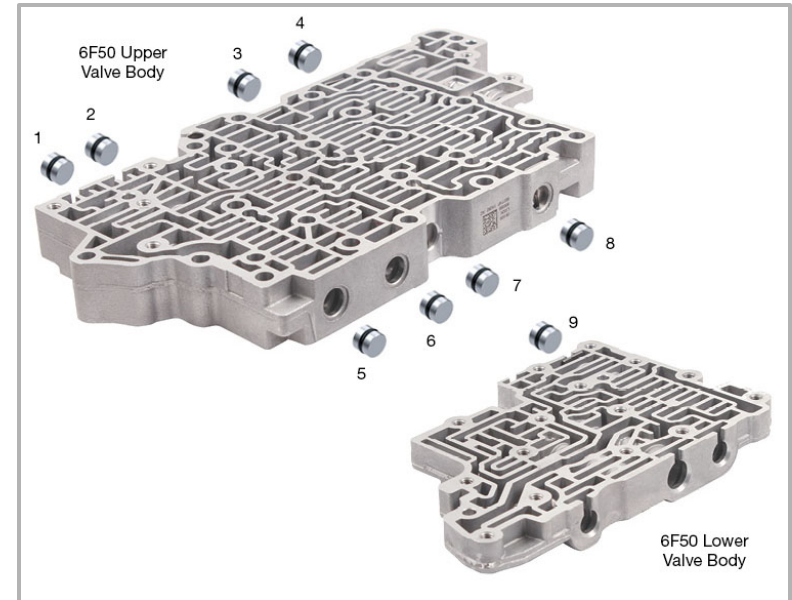
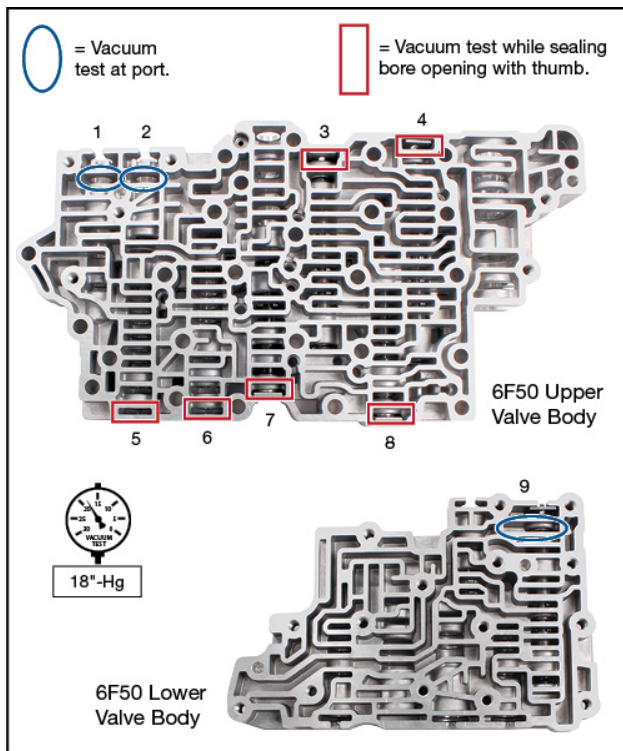
Symptoms

- **Burnt Clutches**
- **Pressure Loss**
- **Shift Concerns**
- **TCC Apply Concerns**

6F50/6T70 End Plugs

Part # 124740-02K

O-Ringed End Plug Kit Services 6F50/55 & GEN 1 6T70/75 Units



Note: Download or print complete vacuum test guides for the 6F50/55 and GEN 1 6T70/75 at www.sonnax.com.

Many Other Parts Available

Ford
6F50, 6F55

sonnax
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ZIP KIT
Zip Kit®
6F50-ZIP

This Sonnax kit is also available, see www.sonnox.com for details.

1 124740-24K
Oversized TCC Regulator Valve Kit
Helps cure:
• Harsh/No TCC apply
• Codes 741, 742
Note: Requires tool kit F-124740-TL24 & the VB-FIX reaming fixture.

2 124740-14K
Oversized TCC Control Valve Kit
Helps cure:
• TCC apply/release concerns
• Low cooler flow
Note: Requires tool kit F-124740-TL14 & the VB-FIX reaming fixture.

3 124740-16
Isolator Valve Spring *5/Bag*
Helps cure:
• No/Low line pressure
• Line pressure instability

4 124740-03K
Isolator Valve Kit
Helps cure:
• No/Low line pressure
• Line pressure instability

5 124740-12K
Oversized Pressure Regulator Valve Kit
Helps cure:
• Harsh/Soft shifts
• Burst clutches
Note: Requires tool kit F-124740-TL12 & the VB-FIX reaming fixture.

6 144740-23

Download or print valve body layouts found in the Tech Resource area at www.sonnox.com.

GM
6T70 (Gen. 1), 6T75 (Gen. 1)

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ZIP KIT
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1 124740-24K
Oversized TCC Regulator Valve Kit
Helps cure:
• Harsh/No TCC apply
• Codes 741, 742
Note: Requires tool kit F-124740-TL24 & the VB-FIX reaming fixture.

2 124740-14K
Oversized TCC Control Valve Kit
Helps cure:
• TCC apply/release concerns
• Low cooler flow
Note: Requires tool kit F-124740-TL14 & the VB-FIX reaming fixture.

3 124740-16
Isolator Valve Spring *5/Bag*
Helps cure:
• No/Low line pressure
• Line pressure instability

4 124740-03K
Isolator Valve Kit
Helps cure:
• No/Low line pressure
• Line pressure instability

5 124740-28K
Pressure Switch Repair Kit *Fix 4 locations*
Helps cure:
• Codes 8752, 8872, 8877, 898
• Shift concerns
Note: Goes into the TEHCM portion of the Mechatronic.

6 124740-12K
Oversized Pressure Regulator Valve Kit
Helps cure:
• Harsh/Soft shifts
• Burst clutches
Note: Requires tool kit F-124740-TL12 & the VB-FIX reaming fixture.

7 144740-23
Oversized Clutch Boost Valve *Fix any of 3 locations*
Helps cure:
• Slip & Burn
• Burst clutches
Note: Requires tool kit F-144740-TL22 & the VB-FIX reaming fixture.

8 124740-04K
4-5-6 Accumulator Piston Kit
Helps cure:
• Burned 4-5-6 check
• 4-5 Hank/Flare

9 124740-21K 124740-26K
Oversized 3-5-R Clutch Regulator Valve Kits *1.88 Parts 1.38 Parts*
Helps cure:
• 3rd & 5th Gear shift concerns
• Burn 3-5-R Check
Note: 124740-21K requires tool kit F-124740-TL21, 124740-26K requires tool kit F-124740-TL26 & they both require the VB-FIX reaming fixture.

10 124740-17K
Oversized 2-6 Clutch Regulator Valve Kit *1.88 Parts*
Helps cure:
• 2nd & 6th Gear shift concerns
• Burn 2-6 Check
Note: Requires tool kit F-124740-TL17 & the VB-FIX reaming fixture.

11 124740-02K
O-Ringed End Plug Kit *Fix 3 locations*
Helps cure:
• Shift concerns
• Burst clutches

12 124740-01
Oversized AFL/Solenoid Regulator Valve *1.88 Parts*
Helps cure:
• Solenoid codes
• Wrong gear starts
Note: Requires tool kit F-124740-TL12 & the VB-FIX reaming fixture.

6T70 Upper Valve Body

6T70 Lower Valve Body

Viewer Questions & Answers

- **Q: Why do wave plates break in the GM applications, but not in the Ford applications?**
A: Ford wave plates, clutch packs and drums are designed differently for the 35R clutch.
- **Q: Should just the 35R wave plate be replaced or should all the wave plates be replaced in the GM 6T70 applications?**
A: If it is a 2011 or earlier application, all of the wave plates should be updated. If it is a 2012 or later application, just the 35R wave plate should be replaced.
- **Q: Are all of the TEHCM's the same?**
A: No, there are several different part numbers so if you are replacing a TEHCM, provide the VIN to your parts specialist to ensure you get the correct one. [Click here](#) to learn more about TEHCM applications.
- **Q: Why do the valve bores wear so much in both the Ford and GM applications?**
A: Typically, this is due to several factors including the scrubbing action created by the solenoid frequency and duty control, the valve body material used, and the valve design allowing side-loading in the bore.