

## Transmission Report

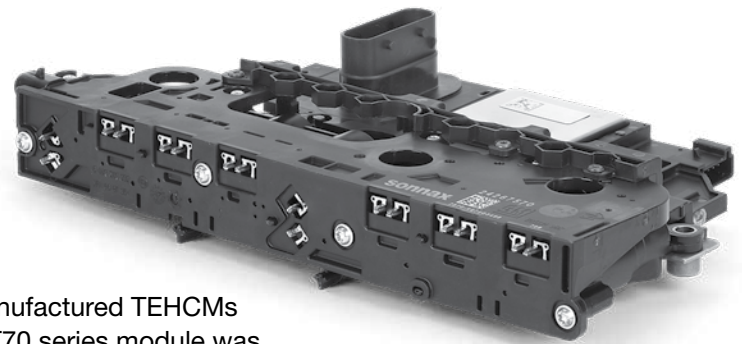
Volume 16, No. 1

February 2025

### **NEW!** Gen. 2 6T70/75/80 Remanufactured TEHCM

#### Durable, Reliable OE Performance at an Affordable Cost

Thanks to your great feedback about the GM 6L80/90 remanufactured TEHCMs Sonnax debuted last year, we heard loud and clear a GM 6T70 series module was also in high demand. So here it is! An affordable alternative to buying new from OE, every one backed by Sonnax time-tested, industry-trusted quality you can trust.



**Part No. GM6T70-G2-TEHCM**

**OE Part No.** 24257300, 24264346, 24267570,  
24268004, 24275870, 24276632

**Typically Fits** GMC 2010–2012, Buick 2010–2013,  
Saturn 2010, Cadillac 2010–2012,  
Chevrolet 2010–2016

#### Top-Quality Remanufacturing

Every unit undergoes a rigorous ultrasonic cleaning and is then inspected to ensure all failed components are replaced. A new filter plate/screen is included.

#### Rigorous Electro-hydraulic Testing

Sophisticated diagnostic testing to mimic a full and varied drive event guarantees functional performance consistent with a new OE TEHCM.

#### Ready for Reprogramming

As with a new OE, this remanufactured TEHCM is ready for quick flashing at your facility using a J2534 device.



Always ask for a Sonnax TEHCM so you know you're delivering customers a top-quality rebuild. Each one features the Sonnax logo!

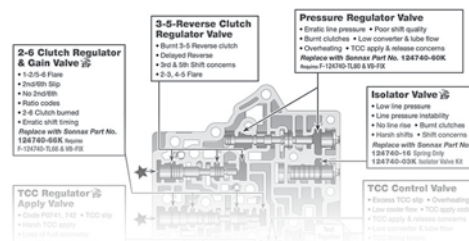
### Keep the Comebacks Away with More Great 6T70 Series Repairs & FREE Tech Resources from Sonnax!



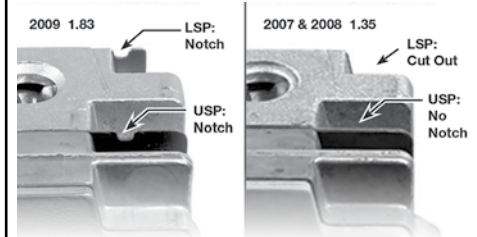
#### Repairs



#### Vacuum Test Guides



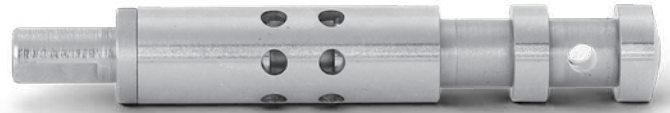
#### Valve Body ID Guides



## Prevent Chrysler RFE, RH/RE Converter Failure

### Maintain Proper TCC Apply Pressure with a Sonnax “Apply Limit” Valve

- Patent-pending “apply limit” valve design prevents converter ballooning & transmission damage
- Limits TCC apply pressure to the safe max of 130 psi in RH/RE & 150 psi in RFE
- Prevents lockup & TCC problems without affecting line pressure, even in chipped & performance units



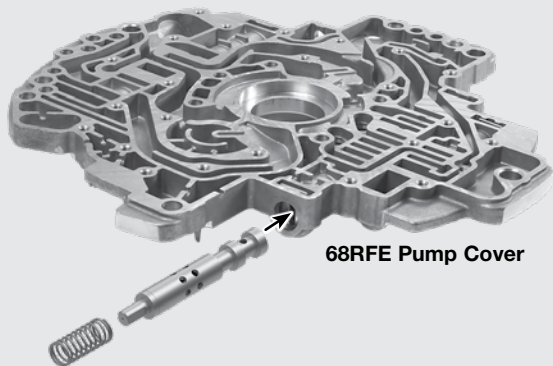
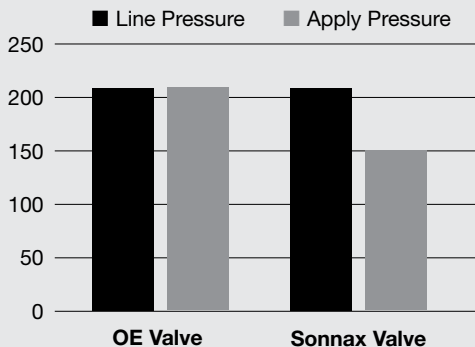
Maintaining proper TCC apply pressure in Chrysler RFE and RH/RE series transmissions is critical, as excess pressure can cause torque converter/component damage, ballooning and converter failure. Unfortunately, these units lack the ability to limit converter apply pressure during full apply situations.

To limit the amount of pressure applied to the converter, replace the OE valve with a Sonnax TCC “apply limit” valve. It’s an ideal way to improve reliability in any rebuild without affecting line pressure or creating partial apply drivability issues.

We all want to build a transmission that lives a long life, and we do our best to take the right steps to match

### 45/545RFE, 65/66/68RFE

Sonnax valve limits TCC apply pressure to a max of 150 psi, even in chipped and HP units.



68RFE Pump Cover

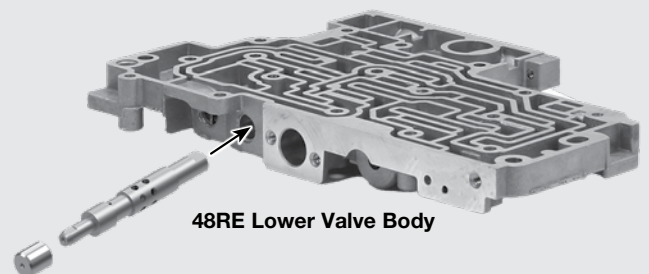
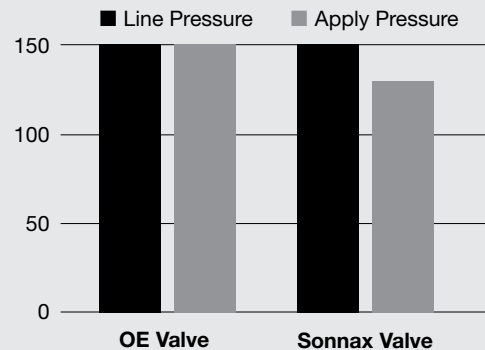
**TCC Apply Limit Switch Valve Kit**  
Part No. 44912-36K



**Oversized Kit** Part No. 44912-41K  
Requires F-44912-TL8 & VB-FIX

### 46RH/RE, 47RH/RE, 48RE

Sonnax valve limits TCC apply pressure to a max near 130 psi depending on the set point of max line pressure.

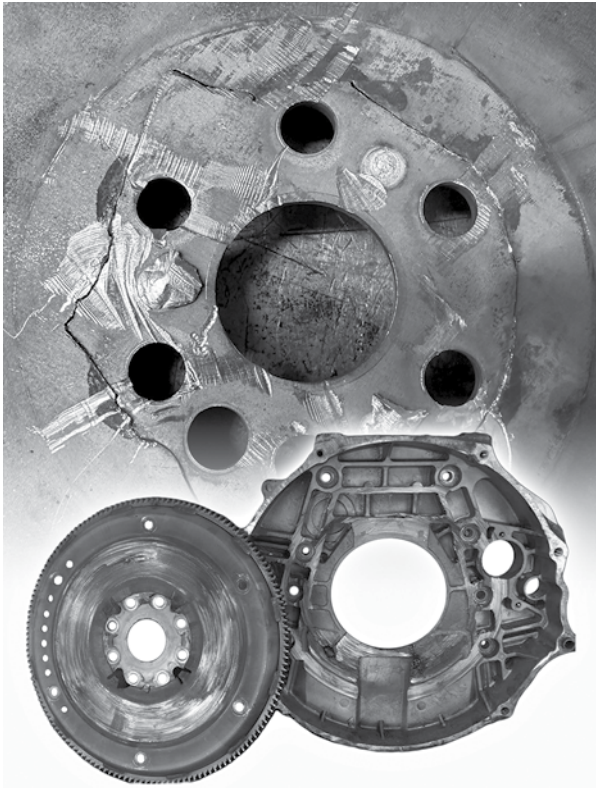


48RE Lower Valve Body

**NEW!**

**TCC Apply Limit Valve Kit**  
Part No. 22771A-44K





the transmission build to the use of the vehicle it is going into. Many times the recipe for the build will include a line pressure boost along with some tuning to help provide better holding power, firmer shifts and quick pressure response.

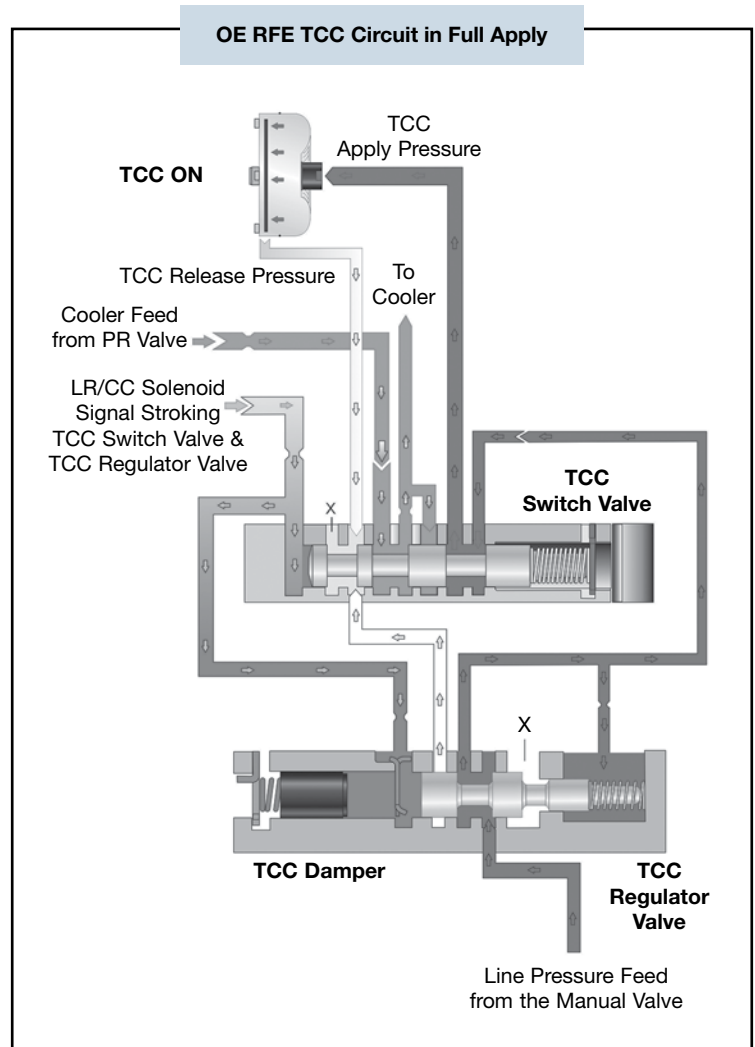
There are definite benefits to increasing pressure and holding capacity, but there are items connected to line pressure, like the TCC apply circuit, that are designed to have limitations. There are two examples of transmissions of this type.

### TCC Apply Problems in the RFE

The first is the TCC apply circuit for the 45/545RFE and 65/66/68RFE family. When in full TCC apply mode, this circuit (as shown in diagram) is limited to whatever maximum line pressure is. On a stock unit, that max is around 160 psi in the Forward ranges.

The interesting thing about this is that the RFE has a TCC regulator valve that is in charge of controlling the amount of TCC apply pressure that gets to the apply side of the clutch, but this valve only functions as a regulator valve during partial apply. Once the TCC goes into full apply, TCC apply pressure will equal line pressure.

Modifying the RFE pressure control circuitry does have its benefits, but there also can be some pitfalls related to how high pressure is regulated. Some performance kits will allow line pressure to be in excess of 220 psi.



When line pressure gets that high, so does TCC apply pressure. This can cause converter ballooning and/or flex plate damage and eventual damage to the pump assembly and the bellhousing adapter. This increase in apply pressure puts a large amount of force on the crankshaft of the engine. Some have gone to billet torque converter covers to help prevent ballooning, but this does not prevent the additional force from this pressure increase.

### TCC Apply Problems in the RH/RE

The second example of a circuit designed to have limitations is found in the Chrysler RH/RE family. The TCC apply valve is fed line pressure from the manual valve, and when the torque converter clutch is applied, line pressure is fed to the clutch. Compared to RFE units, this transmission family has a lower max pressure in Drive near 130 psi when in TCC or in 4<sup>th</sup> Gear. Performance kits will increase that pressure to 150 psi and higher, which is much lower than the RFE family, but can still cause ballooning.

The TCC apply circuit, on both examples, can benefit from a Sonnax apply limit valve that limits apply pressure near the factory specs. A billet cover converter is definitely a great addition as well. ◀

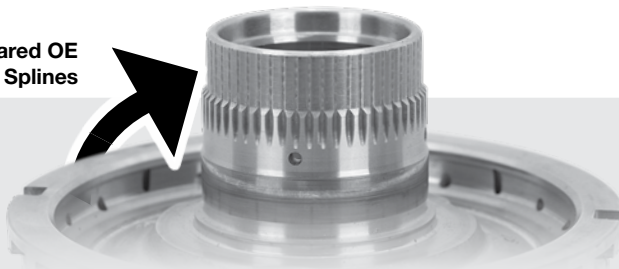
## ZF8 & Chrysler Heavy Duty “E” Clutch Hubs

### Eliminate Failures & Prevent Comebacks

- High-strength, forged aluminum hub prevents spline failure
- Improved material significantly increases “E” clutch durability
- Choose from four spline counts to safeguard a range of units



Sheared OE  
Hub Splines



The lock splines of the weak OE hub are no match for the high torque of 8-speed ZF and Chrysler units. Shearing and breaking of the cast hub is common, as is “E” clutch burnup when the steel clutch plates dig into the soft aluminum. This can happen in as few as 20,000 miles. Guarantee max reliability and keep the comebacks away with a Sonnax high-strength billet hub.



**NEW!**

**ZF8HP45,  
Chrysler 845RE**

**53-Spline\***

Part No. 35572-53T



**NEW!**

**ZF8HP55/75**

**48-Spline**

Part No. 35572-48T



**NEW!**

**ZF8HP51/55,  
Chrysler 850RE**

**62-Spline**

Part No. 35572-62T



**ZF8HP70**

**38-Spline\***

Part No. 35572-38T

\*Verify spline count before purchase. The hub equipped by the OEM may have been updated to a hub with different spline count due to a previous failure.



# Tech Team Shop Talk

**Tory Royce**

Technical Support Engineer & Product Support Specialist

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Mon. – Fri., 8:30 a.m. – 5 p.m. ET

## Don't Forget to Check Isolator Bore Wear in 4L60-E Series Transmissions

The GM 4L60-E series started production in 1993 and was used in a variety of different applications for over 20 years. It's still a very popular unit for many shops, and common problems have largely been identified by most builders at this point.

Since PWM controls were implemented in 1995, builders have been fighting issues with TCC slip codes. The '98-later models added EC3 controls, which further complicated the issue because the converter will rarely see full lockup. Under most conditions, 20–40 RPM of TCC slip is normal operation.

The addition of EC3 controls had a significant side effect: the constant oscillation of the TCC regulator/isolator valves in the aluminum valve body can cause casting wear, which will allow critical apply pressure to exhaust.

The common fix is to ream the bore and use Sonnax TCC regulator and isolator valve kit [77754-04K](#) to resolve the issue. It's a great solution and helps with the TCC regulator portion of the bore by providing a wear-resistant sleeve and valve to prevent future wear.

While we include a lengthened isolator valve in the kit to operate in *unworn* portions of the bore, it's important to note that casting wear can occur on this end just as it does with the regulator valve (**Figure 1**). Many builders assume that installing [77754-04K](#) will restore the integrity of the entire bore, but the reality is that many of these units see such significant mileage that casting wear (detectable via vacuum testing) can be a real concern in the isolator section.

Fortunately, Sonnax offers a solution for this as well. You will oversize the bore using reamer [77754-RM5](#) or reamer tool kit [F-77754-TL4](#) and then install isolator sleeve kit [77754-IS0](#). This allows the new isolator valve from [77754-04K](#) to be installed in a wear-resistant sleeve (**Figure 2**), completely eliminating leakage in the bore and the potential for costly comebacks from casting wear. ◀

Figure 1 - OE '98-Later PWM Valve Lineup

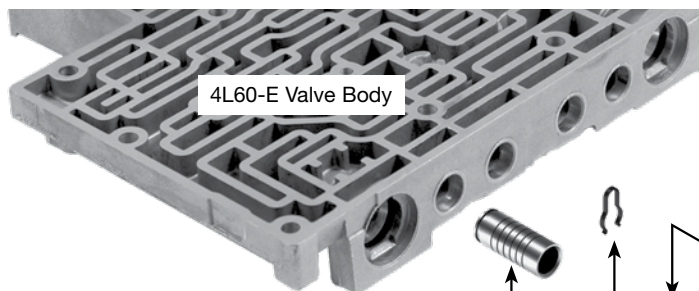
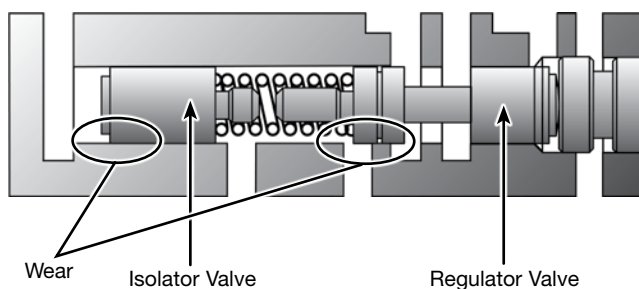
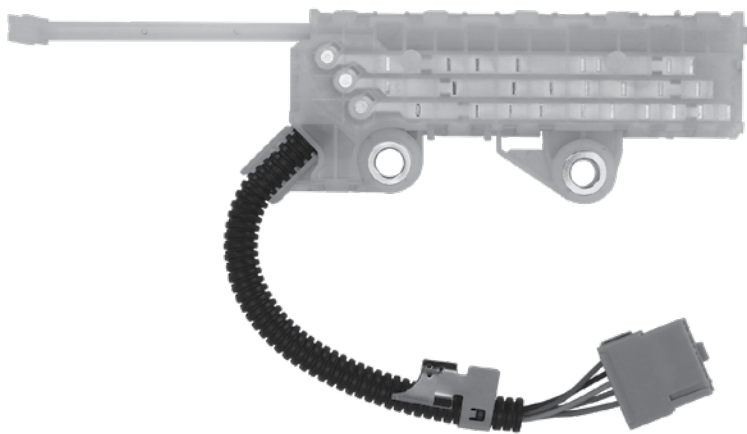


Figure 2  
Sonnax Regulator &  
Isolator Valve Bore Repairs

Ask your distributor for these new  
Rostra products and learn more at  
[www.rostrapowertrain.com](http://www.rostrapowertrain.com)

# ROSTRA<sup>®</sup>

## Powertrain Controls



**NEW!**

### 6L80/90 Manual Lever Position Sensor

Part No. 50-1615

### **NEW!** Allison<sup>®</sup> Switches & Sensors for Heavy Duty Builds

	Pressure Switches		Speed Sensors				
	Oil Switch #50-1185	C3 Clutch Switch #50-1026	Output Sensor #50-1022	Input Sensor #50-1025	Crankshaft Position Sensor #50-1024	Vehicle Sensor #50-1023	Input Sensor #50-1021
B400	•	•	•	•			
B500	•	•			•	•	
MD 3000 Series		•	•	•			
HD 4000 Series		•			•	•	
3000RDS							•
4000RDS		•			•		•
5000, 6000							•

**NEW!**

## Authentic OEM/S Parts

Supplied by Rostra

Rostra Powertrain Controls is your source for common transmission electronics direct from OEM.

Featuring popular, domestic solenoids, control modules, switches and sensors, trust Rostra to supply your everyday jobs with results you can count on.

- ▶ Best Performance
- ▶ Proven Reliability
- ▶ OE Design & Manufacturing

**OEM/S PART**

SUPPLIED BY ROSTRA

### 4L60-E, 4L65-E, 4L70-E Pressure Switch Manifold

Part No. 50-1616

Aftermarket version also available: Part No. 50-1002



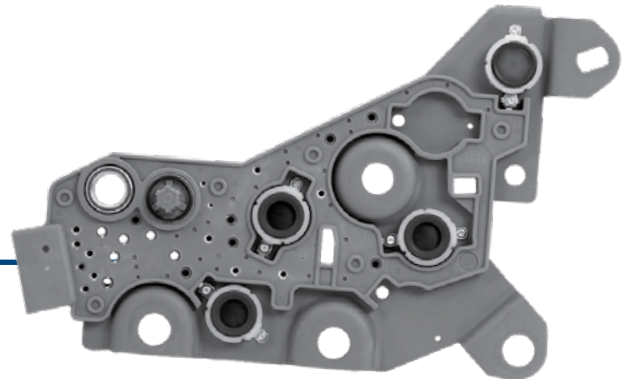
**OEM/S PART**

SUPPLIED BY ROSTRA

### Allison® 1000/2000/2400 Pressure Switch Manifold

Part No. 50-1617

Aftermarket version also available: Part No. 50-1034



**OEM/S PART**

SUPPLIED BY ROSTRA

### 4R70E/W, 4R75E/W, AODE EPC Solenoid

Fits 2009–2014 Part No. 50123-S

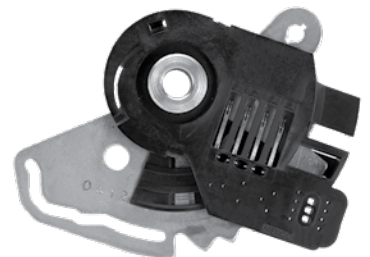


**OEM/S PART**

SUPPLIED BY ROSTRA

### 62TE Manual Lever Position Sensor

Fits 2007-Later Part No. 50-1614



# sonnax®

Sonnax  
2 Imtec Lane  
Bellows Falls, VT  
05101-0440

## Transmission Report

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### New Parts Featured in this Issue

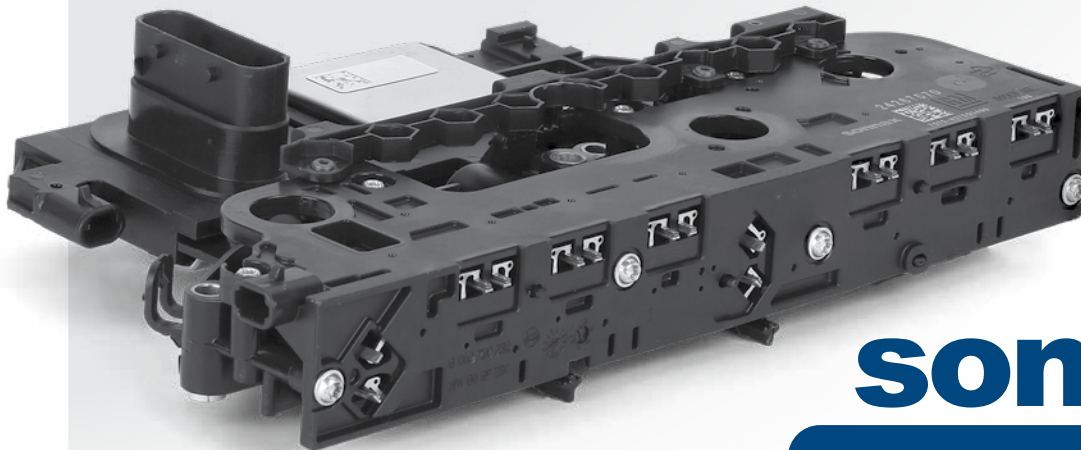
- Gen. 2 6T70/75/80 Remanufactured TEHCM
- RFE, RH/RE “Apply Limit” Valves
- ZF8 & Chrysler Heavy Duty “E” Clutch Hubs
- Rostra Switches, Sensors & Solenoids
- Tech Tip: Check 4L60-E Isolator Bore Wear

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 A Marmon |  
Berkshire Hathaway  
Company

# **NEW!** Gen. 2 Remanufactured 6T70/75/80 TEHCM



◀ [Learn More Inside!](#)

## sonnax®

**Durable, Reliable  
OE Performance at  
an Affordable Cost!**