

Industry Honors Sonnax for Outstanding Transmission Products

TH400 Drum Module Named Judge's Pick at 2022 PRI Show

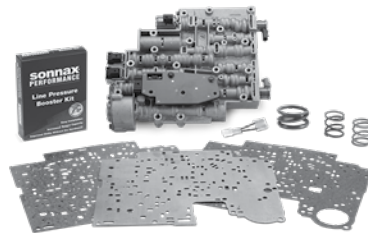


Part No.
34555-01K

At the annual Performance Racing Industry Show, individual judges from a panel of industry professionals select one showcase product that made the biggest impact on them. Sonnax — a longtime PRI exhibitor — was honored at the 2022 event to receive a Judge's Pick Certificate from Alex Taylor Racing for the new TH400 Smart-Tech® drum module. Sonnax High Performance Product Line Manager Gregg Nader (left) and Project Engineer Brian Rowell accepted the award.

12 Top Shop Product Awards for 2023

Every year, *Transmission Digest* magazine accepts nominations for the top products and tools in the powertrain aftermarket. Readers vote for their favorites to determine the winners. When the results came in, Sonnax won 12 awards! Thank you to all who voted for your trust and support of Sonnax and Rostra products — we couldn't have done it without you.



GM 6L80/90

Extreme Duty 4-5-6 Clutch Hub & Intermediate Shaft

Bearing Kit

Output Planetary Lube Dam

GM 4L60-E, 4L65-E ('96-'08)

Heavy Duty Remanufactured Valve Bodies

GM 4L80-E ('95-Earlier), TH400

Adjustable Rear Servo Pin Kit

Heavy Duty L/R Servo Piston

GM 8L45/90

Shift Zip Kit®

TCC Zip Kit®



GM TH400

Heavy Duty Forward Drum

Smart-Tech® Drum Module

Chrysler 845RE, ZF8HP45/55/70

Solenoid Test Manifold Kit

ZF8HP55/70/75

Heavy Duty "A" Clutch Backing Plate

Heavy Duty "E" Clutch Hub Fits ZF8HP70 Only

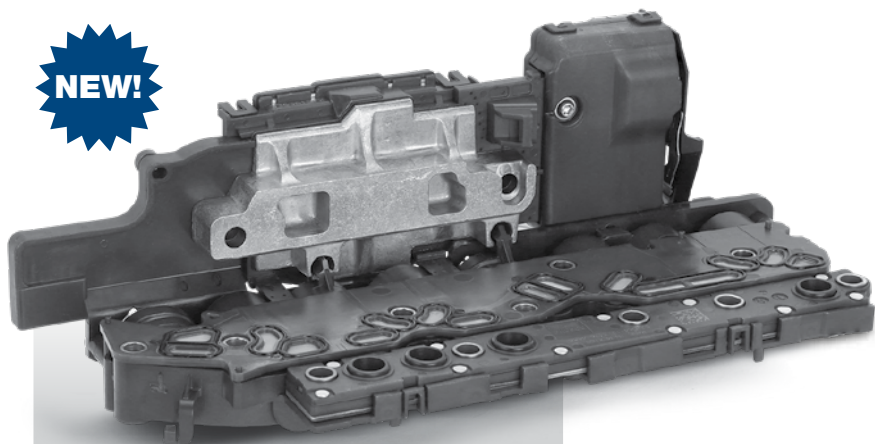


Ford 6R80/100/140

Rostra Variable Bleed Solenoids



NEW!



6L80, 6L90 Remanufactured TEHCMs

FROM **sonnax**

Durable, Reliable OE Performance at an Affordable Cost!

The Sonnax Quality Process:

- Ultrasonically cleaned & thorough flushing of solenoids to remove all dirt & debris
- New pressure switches installed
- New filter plate/screen installed
- Fully electro-hydraulically tested to comply with OE performance
- VIN-blanked for programming to any applicable vehicle

Sonnax remanufactured TEHCMs deliver durable, reliable OE performance at a significant savings over an OE replacement.

Each unit goes through a rigorous cleaning and inspection process where all failed components are replaced. Electro-hydraulic testing in a simulated drive test ensures full functional performance consistent with a new OE TEHCM. Each TEHCM has the pre-existing VIN cleared and is returned to a blank VIN state for reprogramming by the transmission shop technician for the specific vehicle to which it will be installed.

The fully tested TEHCM is serialized, the test data stored and the unit packaged in a mylar bag with a protective connector cover to prevent inadvertent static discharge issues during the shipping, handling and receiving processes.

Ask your distributor today for a Sonnax remanufactured TEHCM and learn more at www.sonnax.com.

Part No. GM6L-TEHCM-C5	Part No. GM6L-TEHCM-C6
Typically Fits	
Cadillac 2010–2011	Cadillac 2012–2015
Chevrolet 2010–2013	Chevrolet 2011–2020
GMC 2010–2011	GMC 2011–2020
	Isuzu 2012–2016
OE Part Nos.	
24251029	24256939
24251412	24257213
24254908	24259835
24256051	24261870
24256124	24264141
24257141	24265259
24258304	24267576
24275874	24270598
	24275873
	24276637

What to Know About the 6L80/90 TEHCM

The GM 6L80 and 6L90 TEHCM houses the transmission control module (TCM), or computer. The eight solenoids are connected to the TCM via a lead frame, all of which are over-molded in the plastic housing and not accessible or serviceable separately.

The TCM is located in the TEHCM and acts as the central brain of the transmission system, receiving inputs from numerous sensors and controlling various solenoids to ensure smooth and efficient operation of the transmission.

The TEHCM also communicates with the engine control module (ECM) to ensure that the engine and transmission are working together harmoniously.

Component failures and circuit faults in the TEHCM are common, and result in drivability complaints and trouble codes which can only be remedied with a replacement unit. Transmission symptoms can include:

- Solenoid electrical circuit faults
- Solenoid performance codes
- Gear ratio codes
- Poor shift quality
- TCC codes
- Internal memory codes
- Temperature sensor codes

Installing a remanufactured Sonnax TEHCM will restore the same level of performance as you would get from a new OE TEHCM.

Stabilize Your Loose 9- & 10-Speed Solenoids

Retainer

- Replaces OE clips
- 32% More casting-to-solenoid surface area for better support & leverage
- Positive stop retainer feature prevents collapse



Clip Insert

10-Speed Insert Shown Here
Installed in OE Retainer

- Use with OE spring retainers
- Prevents future spring retainer collapse
- Reshapes collapsed spring retainers



BEFORE
Loose & Crooked

AFTER
Secure & Straight

Product	Part No.	GM 9T45/50/60/65	GM 10L60/80/90 (Gen. 1 & 2) & Ford 10R60/80/90/140
Solenoid Stabilization Retainer 6/Bag	105740-19K		NEW! ✓
Solenoid Stabilization Clip Insert 6/Bag	105740-01K		✓
Solenoid Stabilization Clip Insert 4/Bag	184740-04K	NEW! ✓	

ZF8 Heavy Duty “D” Clutch Hub Backing Plate

- 2X thicker than weak, stamped OE backing plate for significantly improved protection against burnup
- Easy to install, no special tools or machining required
- Prevents comebacks by installing in units that have not yet failed



Part No. 35570-75
Fits ZF8HP55/70/75

Heavy Duty “A” Clutch Plate
Also Available! Part No. 35577-70

Keep the Comebacks Away with a More Durable, Reliable 6F35 Stator Support Bushing

The sub-optimal material composition of 6F35 OE stator bushings often causes them to wear prematurely. Because the stator bore is tapered, it is common for replacement bushings to have retention problems. Complicating this further, some aftermarket bushings are made from bronze without steel backing. The result is that they routinely spin in the bore, very often on the test drive after replacement.

Machining the bore and installing Sonnax stator support bushing **144036B** eliminates spinning and premature deterioration for worry-free operation in Ford Gen. 1 and 2 6F35 units.

Part No. 144036B
5/Bag Machining Required



Ask your distributor for all these new
Rostra products and learn more at
www.rostrapowertrain.com

ROSTRA®

Powertrain Controls



Ford 6F35 (Gen. 2) Variable Bleed Solenoids

- Improved sensitivity & reduced hysteresis over the OE design
- Accurate pressure control to within tenths of a psi allows for seamless torque transfer between active clutches
- Improved Rostra design increases reliability & durability



Solenoid Type	Band No.	Rostra Part No.
NH BLACK	5	52-0777
	4	52-0776
	3	52-0775
	2	52-0774
	1	52-0773
NL BROWN	5	52-0772
	4	52-0771
	3	52-0770
	2	52-0769
	1	52-0768

Starting in 2013, Ford came out with a second generation 6F35 valve body that uses NH and NL variable bleed solenoids (VBS) banded with numbers between 1 and 5 to indicate flow and pressure rate variances. These go into very popular vehicles, which number well over 4.5 million actively in use on North American roads currently.

Most builders are now familiar with the intent of this solenoid banding practice, which is to compensate for manufacturing tolerances by categorizing the solenoid into five different performance buckets (Figure 1). This lets the TCM be programmed accordingly and allows for faster adapts and smoother shifts.

▶ Match the band number to your old solenoids for instant plug-and-play success.

Chrysler RE ('00-Later) Governor Pressure Sensor



Part No. 50-1606
Fits 42/44/46/47/48RE ('00-Later)
OE Part No. 56028196AD

- New, better-than-OE design enhances reliability & durability
- Utilizes a ceramic sensing element, which, as used in the old metal can style, is virtually indestructible
- Added internal seal & steel circuit board hold downs have been tested to withstand over 600 psi
- This product has been field tested – without failure – for thousands of miles by some of the most reputable diesel enthusiasts in the market

Figure 1
NL Solenoid Bandwidth at 31 psi

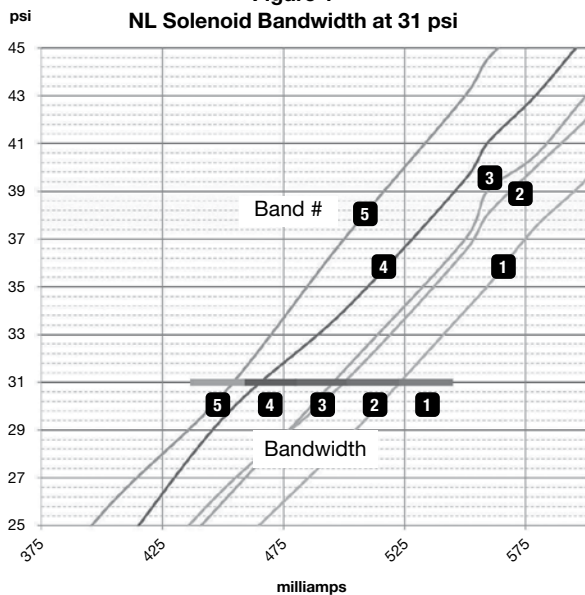
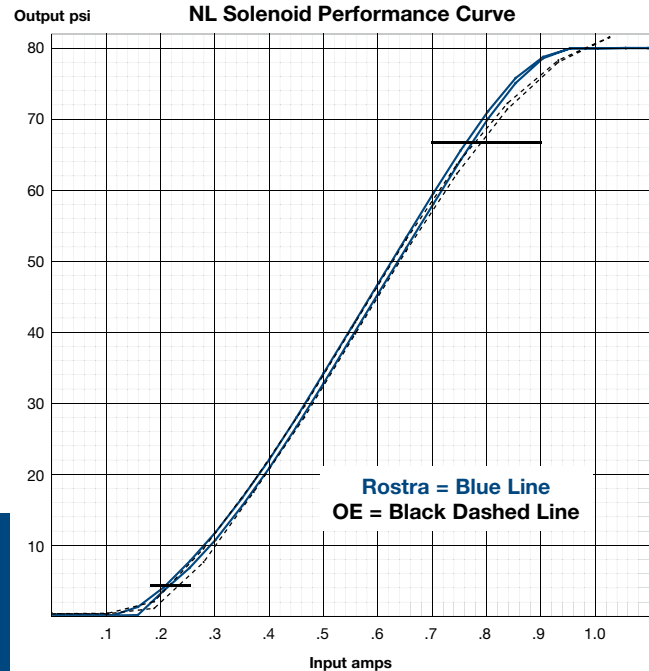


Figure 2

NL Solenoid Performance Curve



Verified OE Performance

Rostra now offers replacement 6F35 Gen. 2 banded VBSs that meet the exacting performance criteria of the original design (Figure 2). The Rostra design has gone through hundreds of hours and thousands of miles of vehicle testing as well as extensive durability testing. Each solenoid is tested to meet four different pressure gates, as well as multiple pressure targets to ensure quick vehicle adaptation will occur.

Improved Reliability

Because the Rostra design has no permanent magnet like the OE, there will be less drift over time. Another advantage is that the internal seat has been made from stainless steel versus plastic, which provides greater long-term durability.

Ask your distributor for all these new
Rostra products and learn more at
www.rostrapowertrain.com

ROSTRA[®]
Powertrain Controls

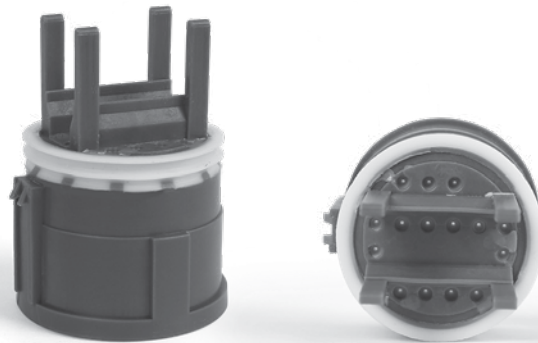


**GM 10L60/80/90
& Ford 10R60/80/90 ('17-Later)
26-Pin Harness Repair Kit** Part No. 350-0191

For cost-savings over replacing the whole harness, this harness with external connector can be used to replace the damaged external transmission wiring or to make improved electrical connections to corroded, damaged pins.



**GM & Allison[®]
Internal Wire Harness
Connector Seals**



Over time, the terminal seal of the original harness degrades and begins to leak.

Application	# of Pins	Housing/Seal Colors	Part No.
GM 4L60-E, 4L65-E ('93-'06)	13	Lt Green/Lt Green	12146748
GM 4L60-E, 4L65-E ('06-'08)	15	Brown/White	15487318
GM 4L60-E, 4L65-E 4L70-E ('09-'12)	17	Brown/Lt Blue	13524842
GM 4L80-E, 4L85-E	11	Dark Green/White	12146504
GM 4T65-E, Allison LCT	20	Black/Yellow	15317565



**Subaru TR580
TCC Solenoid** Part No. 52-0767

The TCC solenoid is the most common failure on the TR580 valve body and is known to wear and develop TCC control issues. This solenoid is not available independent of the valve body via the OEM.





Jim Mobley

Technical Communications Specialist

Tech Team Shop Talk

Contact Product Support (800) 843-2600, Ext. 398 • sonnaxtechsupport@sonnax.com

Mon. – Fri., 8:30 a.m. – 5 p.m. ET

Ford 10-Speed ATF Venting & Overheating

Some of you may remember the early days of 3-speed transmissions with incorrect dipsticks and debates about ATF levels. Well, that debate is still going strong today. Venting excess ATF still occurs when a unit is overfilled, and overheating has now come on board blazing hot with the latest Ford 10-speeds.

To the point, if you have an overheating/venting condition after repair on one of these units, make certain to check the ATF level first. We have found that as little as 1 qt. (1 L) overfilled will cause both overheating and venting on them.

They typically come into the shop for repair of the CDF drum. Upon installation, it is cold when ATF level is checked on the lift and it gets filled to top level, which is about a quart over the full mark after it reaches operating temperature. Some units have a thermal valve, so that makes it even more important to do the final check at operating temperature.

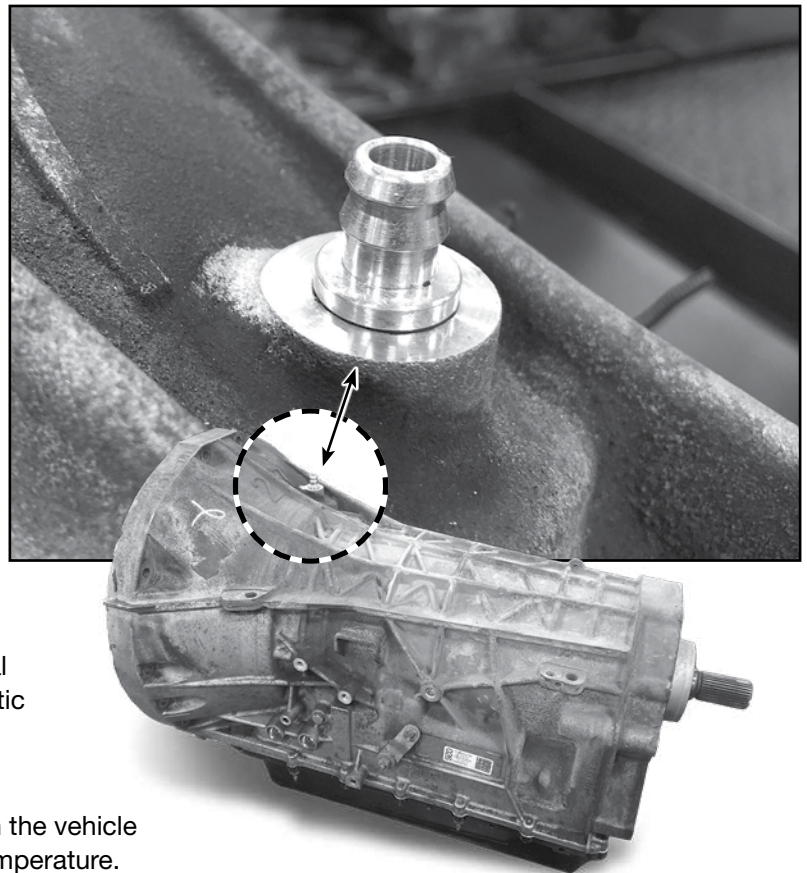
Specifications

As an example vehicle, we will use a 2020 Ford F-150 4x4 (all engines) 10R80 transmission. During internal repair dry, a total of 13.0 qt. (12.3 L) of MERCON® ULV automatic transmission fluid XT-12-QULV is needed.

“Pay Attention”

Transmission fluid check should be done with the vehicle on a level surface and at normal operating temperature. Normal operating temperature is 96°C (206°F) to 101°C (215°F).

Hopefully this will keep mayhem away when repairing the Ford 10-speed transmissions.



Visit www.sonnax.com to see 10-speed products for both Ford and GM like improved solenoid retainers, drop-in and oversized valve kits, plus great tech resources to help with valve body repairs.

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Sonnax
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Transmission Report

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Featured in this Issue

- New 6L80/90 Remanufactured TEHCMs
- New Ford, GM & ZF Parts to Help Keep the Comebacks Away
- Rostra Powertrain Controls: New Solenoids, Sensors & More
- Tech Tip: Ford 10-Speed ATF Venting & Overheating

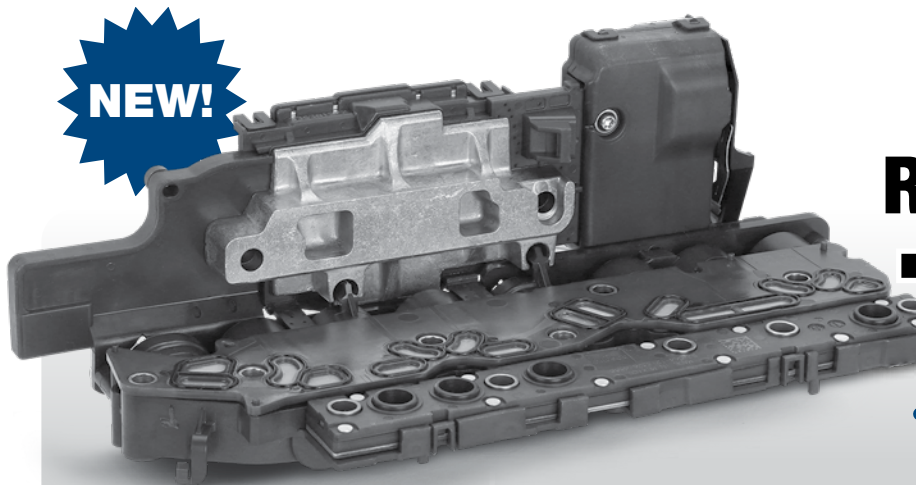
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Sonnax is an industry leader in the cutting edge design, manufacture and distribution of the highest quality products to the automotive aftermarket, commercial vehicle industries, and industrial sectors utilizing drivetrain technology.

 A Marmon |
Berkshire Hathaway
Company

Durable, Reliable OE Performance at an Affordable Cost!

NEW!



6L80, 6L90 Remanufactured TEHCMs

FROM **sonnax®**

**Top-Quality
Remanufacturing**

**Rigorous
Electro-hydraulic Testing**

**VIN-blanked for
Easy Programming**

 **Learn More on Page 2!**