

Transmission Report

Volume 13, No. 1

April 2022

Top 10 Products of 2022 — As Voted by You!

Every year, *Transmission Digest* accepts nominations for the top 10 products and tools in the powertrain aftermarket. Readers vote for their favorites to determine the winners. The results are in: we won six top product awards! Thank you all for your trust and support of Sonnax products — we couldn't have done it without you.



Chrysler



RFE Lube Regulated PR Valve

Part No. 44912-17K Fits 45/545RFE, 65/66/68RFE

Featuring advanced materials to protect against premature wear, this drop-in Zip Valve™ reestablishes a connection to the converter circuit at idle on tuned vehicles, restoring proper converter/lube flow while preventing drainback potential from drilled castings.



68RFE Smart-Tech® OD Clutch Housing Kit **Part No. 72960-16K**

Keep hardworking 68RFE trucks on the road with outstanding protection against OD clutch burnup.

This groundbreaking housing upgrade features improvements providing extra confidence that your builds will perform reliably at any power level, including custom BorgWarner clutches for maximum capacity with state-of-the-art squawk resistance.



62TE Shift Shaft Saver Kit

Part No. 262991-04K

Easily prevent or repair 62TE bushing failure with this patent-pending Sonnax kit. It allows you to save the OE shaft by replacing the bushing without removing and re-welding the shift lever. And since the bushing is made from upgraded material, you can be confident of a solid repair, with no risk of a shift shaft-related comeback.



Ford

6F35 Case Saver Kit **Part No. 144281-01K**

Instead of sourcing an expensive new case to deal with worn axle bushings, easily stop further wear and restore endplay to proper levels with this popular kit for Gen. 1 & 2 units.



GM **Learn More on Page 5!**

4L80-E, 4L85-E Performance Pack

Part No. HP-4L80E-01

Get max performance and durability in work/sport vehicles with the most comprehensive transmission upgrade kit on the market.



4L80-E, 4L85-E HD Input Shaft

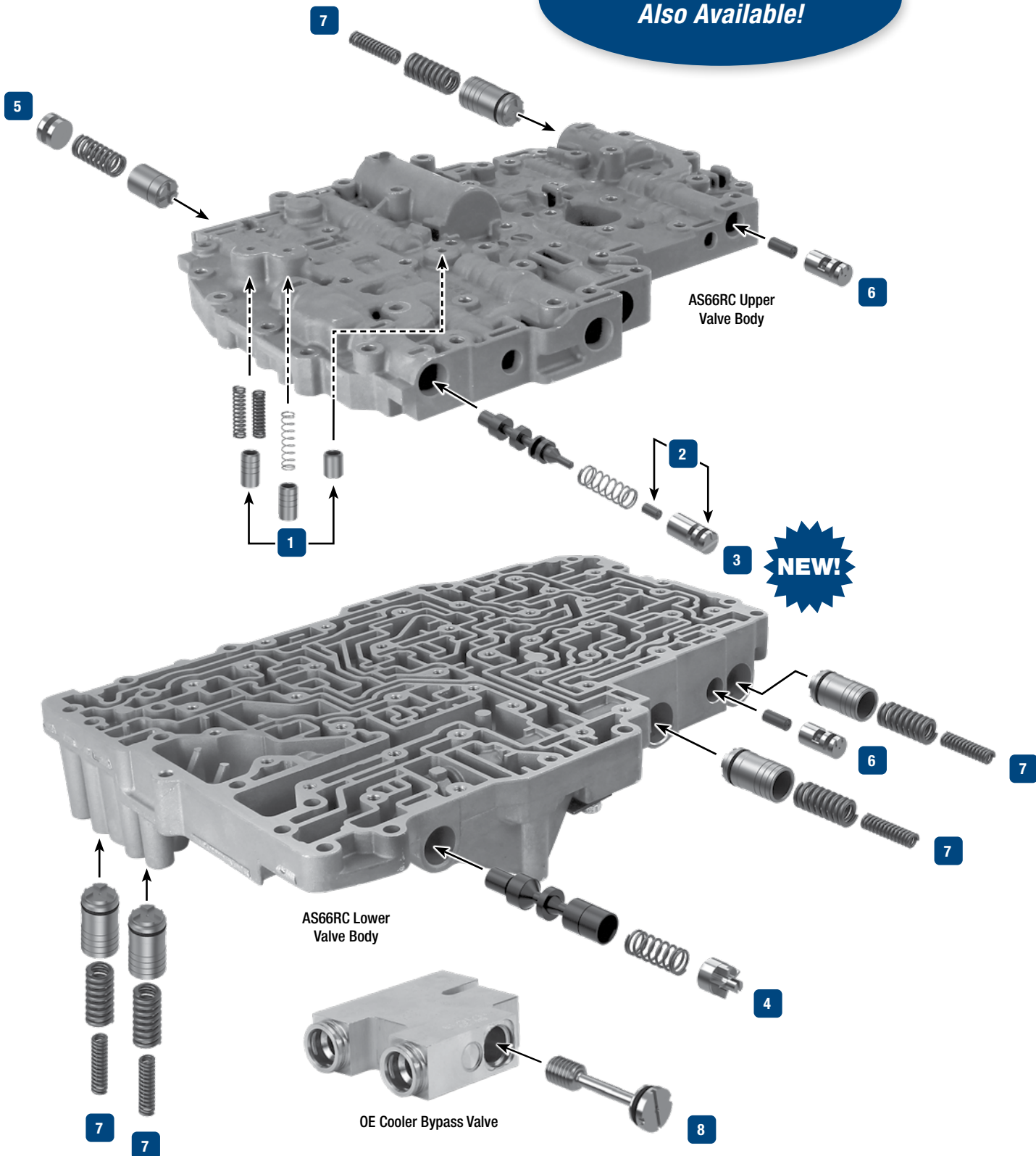
Part No. 34670-01

High-strength 300M shaft delivers exceptional performance, durability and value for any work/sport vehicle up to 1,000HP.



Your #1 Source for AS66RC, AS69RC Valve Body Repairs

AS68RC Components
Also Available!



Symptoms/Part Type	Product Name	Part No.	Details	Tooling
TCC/Lockup Symptoms				
Low cooler flow, Overheated fluid, Low converter pressure, TCC slip/slip codes	Oversized Cooler, Main Converter & Converter Relief Valve Kit	1 122740-10K	Selective springs	122740-TL10
TCC codes, Converter shudder, Overheated fluid, bushings & converter, Low SLT pressure	Secondary Pressure Regulator Plunger Valve Kit	2 122740-03K	ZIP AS66RC only, .255" dia. plunger valve	
	Secondary Pressure Regulator Plunger Valve Kit	2 122740-05K	ZIP AS69RC only, .321" dia. plunger valve	
Low cooler flow, Overheated transmission & converter, Reduced converter clutch life	Oversized Secondary Pressure Regulator Valve Kit	3 122740-24K	NEW! AS66RC only	F-122740-TL24*
	Oversized Secondary Pressure Regulator Valve Kit	3 122740-28K	NEW! AS69RC only	F-122740-TL28*
Pressure Problems				
High line pressure, Low line pressure, Poor shift quality, Burnt clutches	Oversized Pressure Regulator Valve Kit	4 122740-07K		F-122740-TL7*
Harsh shifts, Delayed shifts, Erratic SLT pressure, Low line pressure, Erratic line pressure	Oversized SLT Piston Kit	5 122740-17K		F-122740-TL17*
Shift/Engagement Concerns				
1-2 Flare, 5-6 Flare, B1 Clutches burned, Low line pressure, Delayed engagement	B1/B2 Apply Control Plunger Valve Kit	6 122740-01K	ZIP Fits either of 2 locations	
Flare shifts, Harsh shifts, Slipping gears, Burnt clutches	B1, B2, K1, K2, K3 Accumulator Piston Kit	7 122740-13K	ZIP Fits any of 5 locations	
Component Damage/Failure				
Overheating, Overheated fluid	Thermal Bypass Eliminator Kit	8 72760-01K	ZIP AS69RC only, for use in OE 68186711AB	
High Performance/Heavy Duty Upgrades				
1 Piece, Hardened, Does not let clutches dig into splines like OE	Heavy Duty K2 Clutch Hub	122572-01	AS69RC only	

* VB-FIX Required

AS66RC & AS69RC ID Guide

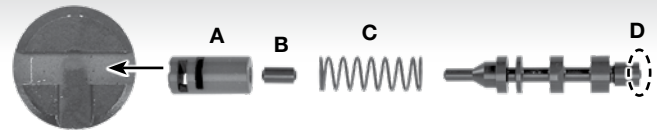
NOTE: Upper and lower valve body casting numbers are the same on AS66RC and AS69RC.

Secondary PR Valve Lineup

ID	Name	AS66RC Gas	AS69RC Diesel
A	Secondary PR Boost Sleeve I.D.	.257"	.323"
B	Secondary Boost Valve O.D.	.255"	.321"
C	Spring Free Length	1.59"	1.42"
D	Balance End of Secondary Valve	.382"	.332"

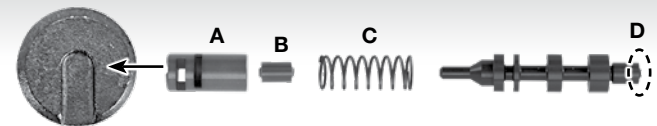
End of Boost Sleeve is "T" Shaped

AS66RC Gas

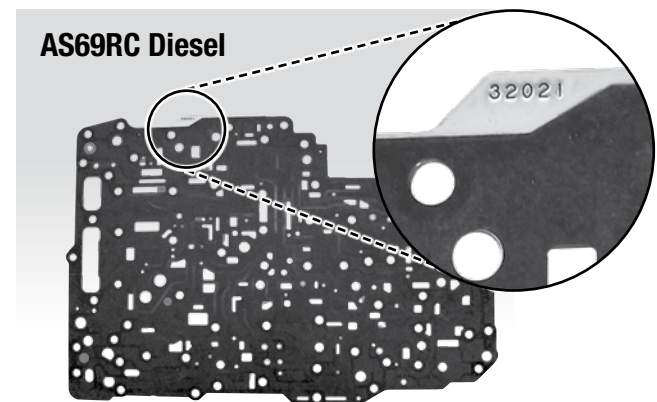
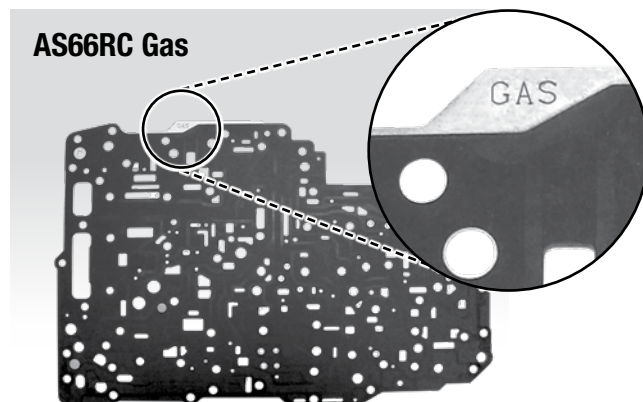


End of Boost Sleeve is "U" Shaped

AS69RC Diesel



Separator Plate





TH400 UPGRADES

Heavy Duty Forward Drum Part No. 34554-01

- Ultra-modern drum delivers both high-strength & light weight
- Enhanced with race-ready design features
- Compatible with Sonnax & other aftermarket 28-spline input shafts



Optimum Performance & Reliability at ANY Power Level

The options are many for upgrading the Forward drum on TH400 racing transmissions. Sonnax now offers a high-strength, lightweight drum to guarantee racers at any power level the ultimate in reliability.

For radically improved durability, the heavy duty drum is manufactured from chromoly steel with many unique lightening features. **It weighs 3 lbs. less than the OE drum and is just 3 oz. heavier than a common aluminum drum** — a soft material with huge wear issues. This means racers seeking enhanced performance don't need to switch to an aluminum option for reduced weight.

Compatible with a variety of input shaft styles and packed with race-ready features, this versatile drum upgrade is a great new way to optimize the TH400 transmission.

300M Input Shafts

Where max durability is required in high-horsepower TH400 applications, these three Sonnax input shafts have you covered!

- High-strength steel undergoes additional processing for fracture resistance
- Compatible with Sonnax & other aftermarket drums with 28-tooth Forward drum spline

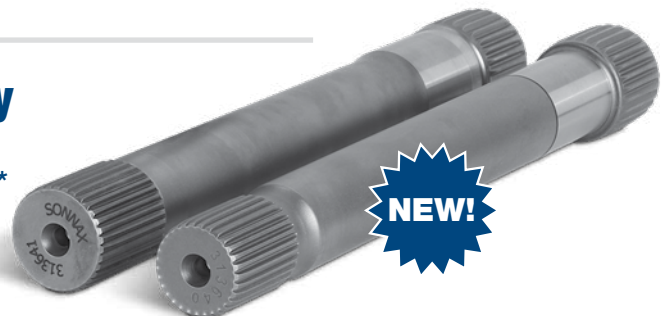
*For aftermarket converters WITHOUT internal turbine support.

**For aftermarket converters WITH internal turbine support.

Heavy Duty

Part No. 30280-01 *
Part No. 30280-02 **

- 1" Dia.
- 30 Spline



Extreme Duty **35% Stronger than 1" Shafts!**

Part No. 35280-02 **

- 1-1/8" Dia. Use of this shaft requires changing to a 35-spline turbine hub in the converter and Sonnax pump cover big shaft stator tube kit **28154S-125**.
- 35 Spline

4L80-E UPGRADES

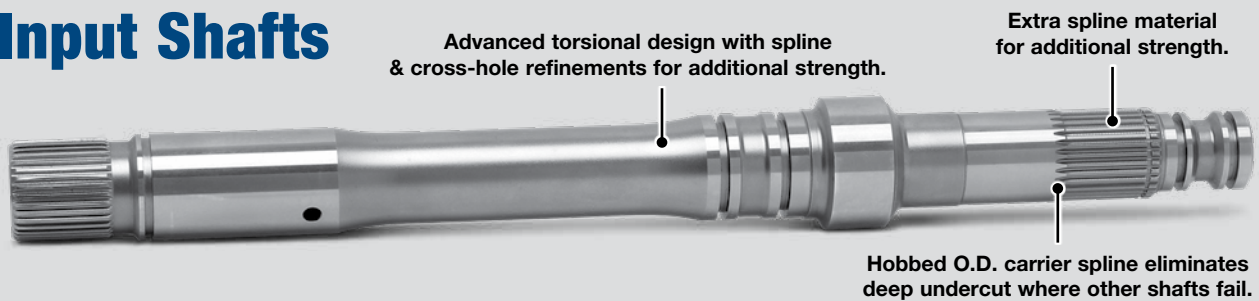


Performance Pack Part No. HP-4L80E-01

The Most Complete Upgrade Kit for Top-Quality Builds

- Recalibrated shift accumulation, with tunability for great, HD shifts
- Improved pump components minimize leaks & maintain pressure & lube under demanding use
- The only way to eliminate TCC PWM function without over-pressurizing the converter
- Includes internal parts for setup & to prevent common failures

Input Shafts



300M Heavy Duty Shaft

Awarded PRI 2021 BEST DRIVETRAIN PRODUCT!



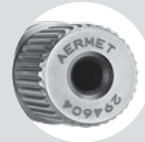
Part No. 34670-01

Striking the perfect balance of exceptional performance, durability and value, this heavy duty shaft is recommended for performance and heavy-duty applications up to 1,000HP.

Aermet Extreme Duty Shaft

Part No. 34670-02

Toughest Shaft for 1,000+ HP



NEW!

Low/Reverse Servo

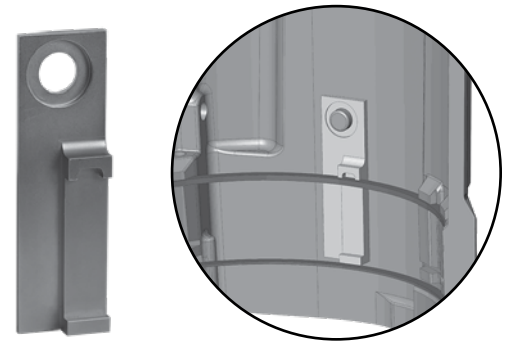
Billet Aluminum Pistons

Part No. 34914-01 Fits '95-Earlier 4L80-E & All TH400

Part No. 34914-02 Fits '96-Later 4L80-E

Adjustable Pin Kit Part No. 34912-01K

Fits '95-Earlier 4L80-E & All TH400 Covers the five longest lengths for easily, accurately setting travel.



Case Saver Retainers

The Only Way to Protect Case Lugs AND Keep the Intermediate Band

Part No. 34762-20 Fits '99-Later 4L80-E

Included in the Performance Pack!

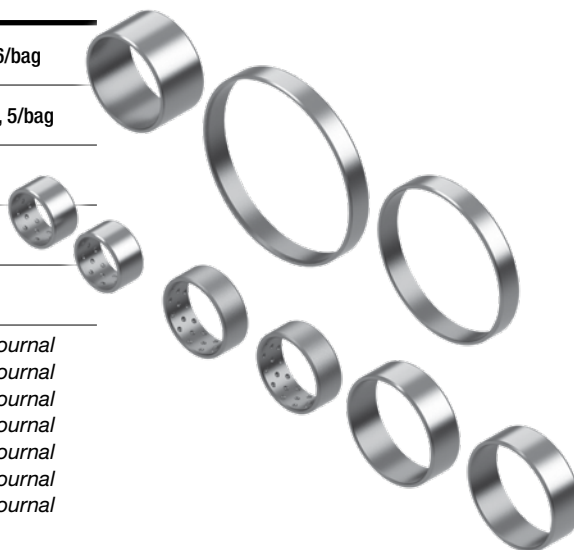
Part No. 34762-10 Fits '98-Earlier 4L80-E & All TH400



6R80 Precision Bushings Restore Critical Clearances & Combat Untimely Wear

- Upgraded material composition outperforms OE bushings
- Superior wear characteristics eliminate premature deterioration

Part Name	Part No.	Details
"B"/Direct Clutch Bushing	95030-07	'09-'14, 33.97mm dia. shaft journal only, 6/bag
Rear Stator Support Bushing	95030-02	29.96mm dia. shaft journal only, precision, 5/bag
Input/Output Shaft Bushing	95030-05	16.98mm dia. shaft journal only, 6/bag
Front Sun Gear Shaft Bushing	95030-06F	5/Bag
Rear Sun Gear Shaft Bushing	95030-06E	5/Bag
Bushing Kit	95030-80K	Rear Stator Support 1.180" Shaft Journal "A" Drum Front..... 2.352" Shaft Journal "A" Drum Rear 1.966" Shaft Journal Input/Output Shaft (2)669" Shaft Journal Front Sun Gear Shaft..... .952" Shaft Journal Rear Sun Gear Shaft..... .952" Shaft Journal "B"/Direct Clutch (2) 1.337" Shaft Journal



TOUGHEST Aftermarket Ford 9" Pinion Yokes



Complete Half-moon U-joint Ears & Billet Construction for Unmatched Strength & Support

The Ford 9" rear axle is one of the most popular differentials in automotive history and the go-to choice for performance applications.

New from Sonnax — one of America's leading drivetrain parts innovators — come two high-strength, billet chromoly pinion yokes designed as the gold standard for connecting the driveshaft to Ford 9" differentials. Rigorous design detail and expert machining methods result in a precision yoke with a perfect U-joint cradle that won't stress the joint and cause it to fail prematurely, a common problem with other aftermarket yokes.

- Compatible with all OE & aftermarket 28-spline, 9" diffs
- Fits both standard (small bearing) & Daytona (large bearing) carriers with 28-spline pinion shaft
- Compatible with commonly available aftermarket speed pickup reluctors

1330 Series Yoke

Part No. T9-28-1330FD

1350 Series Yoke

Part No. T9-28-1350FD

Ask for these and other Sonnax driveline components from your driveshaft builder or performance parts supplier.

Tech Team Shop Talk

Jim joined the Sonnax team in 2021 with more than 40 years' experience in transmission repair and diagnosis. He got his start repairing tractors and farm equipment at a young age, then went to work for Aamco right after high school where he eventually became a shop owner. Over his career, he's been engaged in helping technicians fix vehicles at U-Haul production remanufacturing facilities, as a corporate development consultant at Aamco and in product development and support at TransGo. Today, Jim brings his expertise to Sonnax, helping technicians online and offline in popular social media groups that specialize in transmission rebuilding.



Jim Mobley
Technical Communications
Specialist

How to Easily Drill the Balance Hole for Sonnax 6L80 series PR Valves

Make Your Own Small Drill Bit Vise!

Ever had the small drill bit break and cause havoc while installing the Sonnax 6L80 series pressure regulator valve kits? Here is how to fix that issue and most others when using small drill bits in your portable drill motor with standard-size Jacob chuck.

There is a simple, quick and readily available solution to this problem included with garage-level aerosol cans. These cans have red tubes taped to the sides for concentrated spraying of the contents. The plastic tubes make a perfect small drill bit vise and will allow insertion of drill bit directly into a portable drill motor standard size Jacob chuck. This makes drilling the .039" balance hole for Sonnax PR valve installation a breeze.

The inner hole size in these tubes vary from .035" to .045". Instructions are very simple:

1. Insert tube into drill chuck and leave 3/8" extended by clipping tube.
2. Insert small drill bit and securely tighten Jacob's chuck.
For larger bits, put drill bit in bench vise and tube in drill motor chuck and slightly drill hole in tube by running drill chuck onto bit until tube fits bit. Tubes come in many different sizes such as coffee stirrers, so it's possible there may be an exact fit for some medium size or larger bits.

What is great about this procedure is the ease with which you can now drill small holes for many other Sonnax products, including pressure regulators, clutch regulator and solenoid pressure regulator valves without the irritation of broken drill bits.

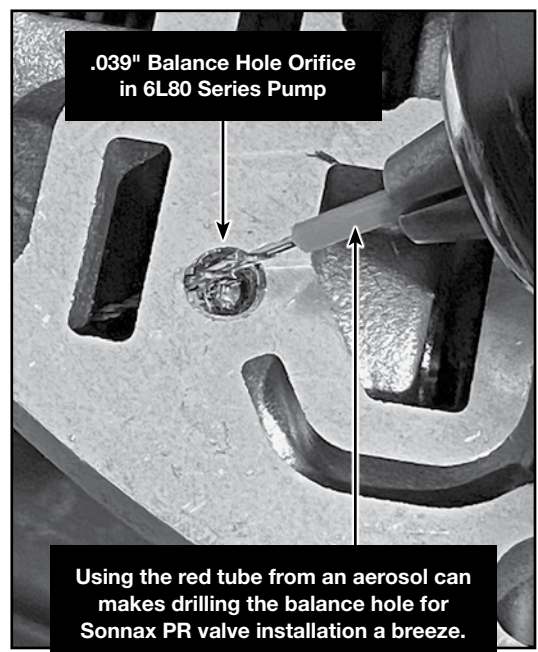
Enjoy and, if you have any questions about this or other Sonnax products, contact our tech team at (800) 843-2600, Ext. 398, or email sonnaxtechsupport@sonnax.com.



Scan with Smartphone
or Visit bit.ly/3N2Wn9s

TECH VIDEO

Scan the code to watch Jim's drill setup & pump drilling demo at www.sonnax.com!



sonnax®

Sonnax
2 Imtec Lane
Bellows Falls, VT
05101-0440

PRSRT STD
US POSTAGE
PAID
PUTNEY, VT
PERMIT #1

Transmission Report

Volume 13, No. 1

April 2022

Featured in this Issue

- **Sonnax Top Shop Products of 2022**
- **AS66/69RC Valve Body Components**
- **TH400 & 4L80-E Performance Upgrades**
- **Ford 9" Pinion Yokes & 6R80 Bushings**
- **Tech Tip: Easy 6L80 PR Valve Pump Drilling**

To update your address or request to stop this mailing, please call 800-843-2600, 8:30 a.m. to 5 p.m. ET, or send an email to news@sonnax.com.

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

NEW! ZF8HP70 HEAVY DUTY “E” CLUTCH HUB

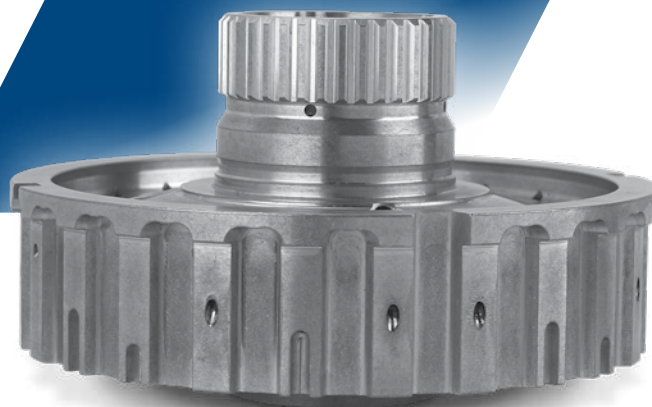
Part No. 35572-38T 38-Spline*

- **High-strength, forged aluminum hub eliminates spline failure**
- **Improved material significantly increases “E” clutch durability**

Vehicles with ZF8HP70 transmissions utilize an “E” hub that is made from weak, cast A380 aluminum. This material is no match for the high torque generated in these applications.

- The lock splines of the hub are prone to shearing or breaking, resulting in failsafe, ratio codes and loss of movement.
- In addition, the steel clutch plates dig into the splines on the drum, causing the plates to hang up and burn. This can happen in as few as 20,000 miles.

High Performance Billet Aluminum!



Sonnax heavy duty “E” clutch hub 35572-38T is crafted from forged 4000-series aluminum, the same material used for high performance engine pistons. The Sonnax billet hub features a far superior yield strength versus the OE hub, so you can rest easy knowing it will stand the test of time — no more worrying about comebacks due to a failed OE hub.

***WARNING:** Always verify spline count before purchase. The ZF8HP70 is equipped with a 38-spline “E” clutch hub from the OEM, but some applications may have been updated to an OE 48-spline hub and planetary due to a previous failure.