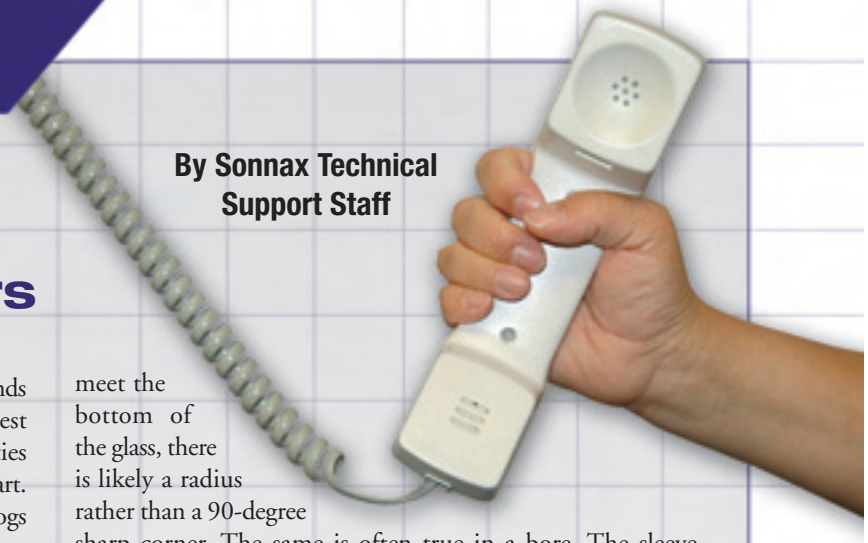

By Sonnax Technical Support Staff

Sonnax Technical Questions & Answers

The Sonnax Technical Support staff responds to thousands of calls each year from users seeking the very best technical advice about our Transmission Specialties products, from how to why to when to use a specific kit or part. Some questions are asked frequently, and in our last two catalogs we have included some of those questions – and the answers we gave. Your feedback has made this one of the most popular features in our catalogs, so we are pleased to bring you another question-and-answer session. As always, we're glad you asked. Here is a new collection of what many of you have been asking.

Question: I am installing the apply valve **84754-43K** into a 4T65-E. Is there an easy way to size the Teflon® seal used with this valve?

Answer: Although Sonnax has outlined a procedure in the instructions, suggesting the use of ordinary, easy-to-find materials, we have learned a few tricks on how to size the seal from some clever callers. All of the suggestions work best if the seal is placed in the freezer during sizing and using the Sonnax slippery stick (p/n **O-LUBE**) to provide lubrication as well as adhesive qualities that hold the Teflon® ring while being installed into the bore.

Some sizing tool suggestions from the field:

a.) The Sonnax CD4E bypass clutch control tool kit uses a jig that has the proper ID for sizing this seal. Be sure the jig says "CD4E bypass control valve." With the seal on the valve, insert it into the jig.

b.) A 1/2-inch heater hose works well to size the seal, another caller reported.

c.) A third suggestion is to use "rigid" heat-shrink tube. The caller uses this for many different sizing operations. The tubing is more like hard plastic than the typical wire splice-type heat-shrink tubing. He would use the old valve, shrink the tube and then label the sizing tool for use again at a later date.

Question: I am having trouble installing the retaining clip onto the TAAT pressure regulator sleeve **95200-05K**. What am I doing wrong?

Answer: The sleeve has come up against a radius at the bottom of the bore and cannot be inserted far enough to expose the entire clip groove. To understand this, imagine looking down the inside of a drinking glass. Where the sides meet the bottom of the glass, there is likely a radius rather than a 90-degree sharp corner. The same is often true in a bore. The sleeve contacts the radius before it can contact the bottom of the bore.

Tapping on the sleeve to expose the retaining ring groove causes the sleeve ID to be reduced as it follows the shape of the radius. The sleeve deformation will cause the valve to stick in the high line position when the valve travels to that end of the bore during operation.

Simply removing a very small amount of material from the 3 to 9 o'clock position where it meets this radius will aid in clip installation.

Saturn TAAT Pressure Regulator Sleeve 95200-05K

Remove this material for easier clip installation.

Question: Can I use the Sonnax OD servo pin **76833E** in the 4R70W transmission?

Answer: The 4R70W used two types of servo pistons. One type was held to the servo pin with a retaining clip. The other was retained by peening or staking the pin so that the piston could not slide off the pin. If the piston was retained with a clip, it can be installed onto the Sonnax pin. If it was peened or staked on, you must use a clip-style piston. A clip-style piston and Sonnax pin as an assembly can be used to replace the OEM peened assembly.

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Question: Many parts are common to a range of Chrysler rear-wheel-drive units and many are not. Now we have to add the 48RE into the mix. Can you help with what fits what?

Answer: This can be a tough one. This chart should help explain which parts fit which applications.

Sonnax Part No.	Description	A500 42RH	42RE	904	A518 46RH	46RE	727	A618 47RH	47RE	48RE
12780-Z	Rear Planet Endplay Shims	Y	Y	Y	n	n	n	n	n	n
12962N-01K, -02K	Upgraded Piston Retainer	Y	Y	n	n	n	n	n	n	n
12229-01K	Line Pressure Plug & Sleeve Kit	n	n	Y	n	n	n	n	n	n
22229-01K	Line Pressure Plug & Sleeve Kit, .200" dia.	Y	Y	n	Y	Y	1*	Y	Y	n
22229-04K	Line Pressure Plug & Sleeve Kit, .264" dia.	Y	Y	n	Y	Y	1*	Y	Y	n
22912	Rear Servo Piston	n	n	n	Y	Y	Y	n	n	n
22912A	Rear Servo Piston	Y	Y	Y	n	n	n	n	n	n
22912B	Rear Servo Piston	n	n	n	n	n	n	2*	2*	8*
22771-01K	Throttle Valve Kit	Y	Y	Y	Y	Y	Y	Y	Y	n
22771-02K	Oversized Throttle Valve Kit	Y	Y	Y	Y	Y	Y	Y	Y	n
22771-HDK	Heavy Duty / Towing Throttle Valve Kit	Y	Y	Y	Y	Y	Y	Y	Y	n
22771A-01	4-Spool Switch Valve	Y	Y	n	Y	Y	n	Y	Y	Y
22771A-13K	Oversized 4-Spool Switch Valve	Y	Y	n	Y	Y	n	Y	Y	Y
22700-Z	Rear Planet Endplay Shims	n	n	n	Y	Y	Y	Y	Y	n
22556-BRG	Case Repair Bearing	n	n	n	Y	Y	Y	Y	Y	Y
22754N-01K, -02K	Upgraded Piston Retainer	n	n	n	Y	Y	n	Y	Y	Y
22900-10	Lengthened Band Strut, .100"	n	n	n	Y	Y	Y	Y	Y	Y
22900-15	Lengthened Band Strut, .150"	n	n	n	Y	Y	Y	Y	Y	Y
12861-01	3-4 Accumulator Spring	Y	Y	n	Y	Y	n	Y	Y	Y
12783-01K	Overdrive Set-up Shim Kit	Y	Y	n	Y	Y	n	Y	Y	Y
22771-09	Manual Valve	Y	Y	3*	Y	Y	3*	Y	Y	Y
22771A-02K	Lube Regulated PR Valve	Y	Y	3*	Y	Y	3*	Y	Y	Y
22771A-07K	Oversized Lube Regulated PR Valve	Y	Y	3*	Y	Y	3*	Y	Y	Y
22771A-10K	Early Model Lube Regulated PR Valve	n	n	3*	n	n	3*	n	n	n
22841-01K	Intermediate Accumulator Repair Kit	Y	Y	Y	Y	Y	Y	Y	Y	Y
22171A-02K	Intermediate Shaft Pilot & End Plug Kit	Y	Y	n	Y	Y	n	Y	Y	8*
22827-01	Front Servo Piston Cover & O-Ring	n	n	n	Y	Y	4*	Y	Y	Y
22005A-01K	Stator Support Shaft Bushing	n	n	n	n	n	n	Y	Y	Y
22179-02	Manual Shaft Case Repair Bushing	Y	Y	Y	Y	Y	Y	Y	Y	Y
12510-01	Overdrive Output Shaft Pilot Bushing	Y	Y	n	Y	Y	n	Y	Y	8*
12802-01	Primary Governor Valve	Y	n	n	Y	n	n	Y	n	n
22229-03	Neutral Safety Backup Insulator Kit	5*	5*	5*	5*	5*	5*	5*	5*	n
22000-01K	Cooler Line Adapter Kit	6*	6*	6*	6*	6*	6*	6*	6*	6*
22121B-01	Heavy-Duty Input Shaft	n	n	n	n	n	n	Y	Y	Y
22179-06K	Neutral Safety Switch Adapter	n	Y	n	n	Y	n	n	Y	n
22912-01K	Reverse Servo Piston Plug	Y	Y	Y	Y	Y	Y	Y	Y	Y
22990-01	Boost Valve Spring Retainer	Y	Y	n	Y	Y	Y	Y	Y	Y
12655C-1	Overdrive Sun Gear - 15° Helical	n	n	n	7*	7*	n	7*	7*	7*
22771-14K	1-2, 2-3 Governor Bore Plug & Seal	Y	Y	Y	Y	Y	Y	Y	Y	Y
22771-12K	Valve Body Detent Ball & Sleeve Kit	Y	Y	Y	Y	Y	Y	Y	Y	n
12509-01	Oversized Output Shaft & Sprag Bushing	Y	Y	n	Y	Y	n	Y	Y	n
12860-01K	OD Bearing & Plate Kit	Y	Y	n	Y	Y	n	n	n	n
12502-01	Pump Bushing	Y	Y	Y	n	n	n	n	n	n
12913A	Intermediate Shaft	Y	Y	n	n	n	n	n	n	n
22825-01	Heavy Duty Kickdown Band Strut	n	n	n	Y	Y	Y	Y	Y	Y

Notations:

1* 22229-01K fits 727 units with boost tubes only, approximately 1994-up. Match pressure plug size.

2* 22912B Fits 1994 & later with split band.

3* 22771-09 manual valve and 22771A-02K or -07K PR valves are designed for '78 & later RWD units with lockup converters. Always verify that the existing PR valve has a reduced diameter on its innermost spool. The Sonnax manual valve and PR valve can be used only in units with this style valve and neither part can be installed in units with a full diameter end spool on the original PR valve.

4* 22827-01 front servo piston cover fits 1971-up 727 units.

5* 22229-03 neutral safety backup insulator service kit fits RWD '70 to '02.

6* 22000-01K cooler line adapter kit fits RWD with 1/4" pipe fittings only.

7* 12655C-1 can only be used on units with matching 15-degree helical gear components.

8* Use in 48RE has not been confirmed.

Question: We are starting to see 4L65-E and 4L70-E units more frequently. Do your 4L60-E parts fit these also?

Answer: In many cases yes. Again, a chart is the easiest way to answer this one.

Sonnax Part No.	Description	4L65-E 4L70-E	Notes
34913-01	Shift Cable Conversion Bracket	No	
35012-S	Oversized Rear Case Bushing	Yes	
65797	Pump Slide Pivot Pin	Yes	
74926	1-2 Accumulator Spring (light, purple)	Yes	Some late-model units have eliminated large (outer) 1-2 accumulator spring.
77005T	Teflon® Pump Bushing	Yes	
77010-01	Wide Sun Gear Bushing	Yes	
77401-01	Reaction Carrier Shaft PTFE Washer (std thick)	No	
77401-02	Reaction Carrier Shaft PTFE Washer (+.012")	No	
77406-10	Rear Unit Endplay Shim	Yes	
77409-15	Front Unit Endplay Shim	Yes	
77700-01	Extra-wide Intermediate Band - Red Friction	Yes	
77700-01K	Extra-wide Intermediate Band - Kevlar®	Yes	
77701-04K	"Corvette" Ratio Servo	Yes	
77701-076	Servo Release "Check Valve"	Yes	
77704S	1-2 Accumulator Spring (heavy, brown)	Yes	Some late-model units have eliminated large (outer) 1-2 accumulator spring.
77722-01K	High Output Pump Slide Spring	Yes	OEM changed from 2 "nested" springs to 1 conical wound spring (ref bull # 03-07-30-056). OK to use Sonnax.
77747-01	Captured Front Planet Bearing, 99-Up	Yes	
77754-02K	Forward Clutch Accumulator Pins	Yes	
77754-03K	High Ratio TCC Regulator Valve (non EC3)	No	
77754-04K	TCC Regulator Valve	Yes	
77754-09K	Actuator Feed Limit Valve	Yes	
77754-21	FWD/REV Abuse Bore Plug	Yes	
77754-23	3-2 Control Valve Spring	Yes	
77754-33	2-3 Shift Valve (direct replacement aluminum)	Yes	
77754-35K	FWD/REV Abuse Valve	Yes	
77754-39	AFL End Plug	Yes	
77754-ISO	Isolator Valve Sleeve	Yes	
77763-01	3-4 Clutch Boost Spring	Yes	
77767K	4th Gear "Super Hold"™ Servo	Yes	
77777 Series	Accumulator Valve	No	'94 & up units use B, C, CX, D, DX coded accumulator valve sleeves. Our current will work, but with compromises. We have heard of a very late YZ coded sleeve as well.
77805E-K	TCC Apply Valve (PWM)	No	Latest units have a revised "single spring" TCC apply valve. Units with "single spring" TCC apply valve cannot use our apply valve or SC-4L60E unless "double nested" springs are borrowed from an earlier pump.
77805-K	TCC Apply Valve (Non-PWM)	No	
77898-3K	Boost Valve - Factory Style Sleeve, .490"	Some	Fits early-style pump with long boost sleeve.
77898-6K	Boost Valve - Factory Style Sleeve, .470"	Some	Fits early-style pump with long boost sleeve.
77898E-4K	Boost Valve, .470"	Some	Fits early-style pump with long boost sleeve.
77898E-7K	Boost Valve, .490	Some	Fits later-style pump with shorter boost valve design.
77898E-K	Boost Valve, .490"	Some	Fits early-style pump with long boost sleeve.
77911-01	2nd Gear Servo Saver Sleeve	No	
77911-02	2nd Servo Piston Bore Seal	Yes	
77911-03K	"Super Hold"™ 2nd Gear Servo	Yes	
77917-07	Oversized Pressure Regulator Valve	Yes	
77917-08	Elevated Pressure Regulator Spring	Yes	
77917-RV	Pump Slide Spring Shim	No	OEM changed from 2 "nested" springs to 1 conical wound spring (reference bulletin #03-07-30-056). Do NOT use 77917-RV with late spring as it will not center correctly.
77918S-1K	Stator Support Shaft	Some	Will not work with late units with through hole for speed sensor
77918SBK	Stator Support (replacement bushings)	note	Will fit but not same material as OEM
77918S-K	Stator Support Shaft	No	
77942-01K	TCC Solenoid Snout ('96 & earlier)	No	
77942-02K	TCC Solenoid Snout ('97-Up)	Yes	
77964-04K	Oversized 4-3 Sequence Valve	Yes	
77964-08K	4-3 & 3-4 O-Ringed End Plug Kit	Yes	
77980-01K	Wiring Harness Connector Bracket	Yes	
77987-01K	Pinless Forward Accumulator Piston	Yes	
77998-01K	3-4 Accumulator Repair Sleeve	Yes	
77998-03K	Pinless 1-2, 3-4 Accumulator Piston	Yes	Some late-model units have eliminated large (outer) 1-2 accumulator spring.

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Question: I would like to replace the converter regulator in an AX4N unit using Sonnax **96201-23K**. The unit I am working on has a two-spool converter regulator valve. I noticed that the Sonnax converter regulator valve has four spools. Will this replace the two-spool design?

Answer: Yes. The Sonnax converter regulator will replace either the two-spool or the four-spool version. Either way, you must use the thicker Sonnax inner clip and choose the correct spring. For two-spool units, we include an inner valve body clip to replace the plug that was inboard of the two-spool valve. Use the Sonnax clip, followed by the Sonnax valve, the Sonnax white spring, and then reinstall the original outer clip. For a four-spool line-up, replace the original inner clip with the Sonnax clip, follow with the Sonnax valve, the Sonnax black spring, and then reinstall the original outer clip.

Question: I have worn accumulator bores in my 45RFE transmission. The Sonnax accumulator piston and sleeve kits **92834-03K** & **-05K** for the 41TE & 42LE appear to be very similar. Will they work?

Answer: Yes. The piston and sleeve kits will also work for the 45RFE or 545RFE units. This updated application information has been added to the product page in this catalog.

Question: I have used the **76948-04K** bypass clutch control sleeve and plunger valve before, but this 4R70W is a later unit and the sleeve I took out has four feed holes. Can I still use it?

Answer: Yes, but you should modify the sleeve. Using a 1/16" drill, enlarge the existing feed hole and drill through and out the other side of the sleeve. The resulting pair of 1/16-inch holes is all you need to duplicate the feel and response time of the original four. Make sure to remove any burrs from the inside of the sleeve (Scotchbrite™ works well for this) and verify that the plunger still moves freely. Note: Late-model units often do not require the Sonnax recommended plate modifications because the "A" and "B" hole are already enlarged or larger than the Sonnax recommendations.

Question: Instructions and illustrations for the **96201-15K** valve saver cap show the 3-2 shift timing valve living in the same bore as the pull-in valve and plug. What if my valve body does not have a pull-in valve?

Answer: No problem. Later units do not have the pull-in valve but the 3-2 shift timing valve is still at the bottom of the same bore location. The failure, the installation steps and the repair function are the same with or without the pull-in valve.

Question: I have a 2005 4L60-E unit in my shop. It appears that there have been some changes made to the pump. Will the Sonnax boost valve work in this late-style pump?

Answer: Sonnax now has boost valves for all designs. Please refer to the chart on page 31 of this catalog. GM has made changes to the pump to provide room for a new input speed sensor (ISS). There were two interim changes, A & B, and then the final new 2nd design. Interim B and the 2nd design are easily identified by a recessed casting at the opening of the boost valve bore *(see page 31)*. Interim A does not have this recess so it is necessary to measure the boost sleeve or look for the identifying bands on the valve or sleeve. All three later designs used a shorter boost valve and sleeve assembly. The early boost sleeve measures 1.910": the late measures 1.804". These measurements do not include the nub on the sleeve. The assembly can be identified by the valve or the sleeve. To keep it simple, only the valve identification is explained here.

Between the two spools of the valve there will be one, two, three or four ID bands. If it has one or two bands, it is an early style. If it has three or four bands, it is a late style.

Note: The TCC apply valve was also changed with the introduction of the ISS. The late style will have one spring and the valve has a spring pocket. The Sonnax apply valve **77805E-K** will replace the late style but will require using 2 springs from an OEM early-style apply valve line-up. ■

The Sonnax Technical Support staff is here to help you.

If you have not yet called or e-mailed us with questions about Sonnax products, please remember that we are available to help you. While we are not a full line tech service for general transmission problems, we are specialists in Sonnax Transmission Specialties product, and it is our mission to get you the information you need. You can e-mail us at TechSupport@sonnax.com or call us Monday through Friday, 8:30 a.m. to 5 p.m. Eastern time, at 800-843-2600 (toll free) or 802-463-9722.