

sonnax[®] PERFORMANCE

faster

tougher

stronger



HD WORK SPORT

TRANSMISSION • CONVERTER • DRIVESHAFT

sonnax[®] PERFORMANCE

faster **tougher** **stronger**

HD WORK/SPORT

Whether put to the test in a daily use workhorse or plow truck, or ensuring worry-free trips with a trailered truck pulling heavy loads, Sonnax components for heavy-duty gas and diesel trucks are the top choice for all high-quality builds.

TRANSMISSION

CHRYSLER

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GO BEYOND THE TRANSMISSION WITH SONNAX

TORQUE CONVERTER Page 42

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CHRYSLER 48RE

Parts shown also fit 46-47RH/RE and A727 unless otherwise noted.

Extreme Duty Intermediate Shaft

HD/HP UPGRADE

Part No. 22171B-HD
Fits 48RE, 47RH/RE

Increase Torque & Load Capacity with Confidence

This groundbreaking intermediate shaft handles the extreme operating conditions of high-horsepower street, competition and towing trucks. Industry trusted for class-leading durability, this patented, ultra-strong shaft won't let you down.

300M steel shaft maximizes strength and resistance to fracture.



Torsional design dissipates peak stress.

Unique modifications to lubrication channel increase lube flow to gear train.

Rolled splines increase durability.

Extreme Duty Output Shaft Kit

HD/HP UPGRADE

Part No. 22173D-01K
Fits 48RE 4WD

Eliminate Breakage — No Machining Required

Other aftermarket shafts made from common high-strength materials often suffer from roller clutch race fretting. Only Sonnax delivers a meaningful enhancement by combining the right material for race-hardness and the right size shaft for strength.

The Sonnax 1.480" dia., high-strength alloy shaft delivers 50% more strength than OE-size, aftermarket shafts. Plus, the included transfer case input gear is ready for install — no machining required. Get outstanding protection against breakage and straightforward installation.

*Transfer case disassembly required.

Includes New Venture 271/273 Input Gear, No Modifications Required*



Hardened Roller Clutch Race

Larger Diameter Shaft

Sonnax
1.48" Dia.
29 Splines

OE
1.25" Dia.
23 Splines

Shown Actual Size

THE LEGENDARY #1 DODGE PERFORMANCE SHAFT KEEPS. GETTING. BETTER.

- One-piece design eliminates the weak connection between input shaft & direct (front) clutch hub
- Shafts are custom forged from a solid piece of ultra high-strength 300M steel
- Cutting-edge engineering guarantees unrivaled performance & durability

Shaft Upgrades for Everyday Drivers & Lightly Modded Trucks

Heavy Duty Input Shaft

One-of-a-Kind Upgrade Originally Set the Standard for Durability

Although there are other aftermarket versions of this classic Sonnax design, no one else in the industry uses the same techniques or can manufacture the same high-quality shaft as Sonnax. With over a decade of proven performance, it remains one of the most popular upgrades for hardworking Dodge trucks.

HD/HP UPGRADE

Part No. 22121B-01
Fits 48RE, 47RH/RE

Smart-Tech[®] Input Shaft & Piston Kit

20% More Direct Clutch Torque Capacity,
No Modifications Required

Installing thinner clutches to increase capacity leads to heat build-up and flex, ultimately resulting in clutch failure. Only Sonnax delivers an easy-to-install system with a longer clutch hub and billet piston that accepts one extra, OE-thickness friction and steel. The result: an optimum combination of increased capacity and durability you won't find anywhere else.

HD/HP UPGRADE

Part No. 22121B-02K
Fits 48RE, 47RH/RE

Part No. 22119B-02K
Fits A727, Replaces '67-'89 shafts
with two sealing rings.

Smart-Tech[®] Big Input Shaft Kit

HD/HP UPGRADE

Part No. 22121B-08K Fits 48RE, 47RH/RE

THE END of Input Shaft Failure

- 35% Stronger than the best heavy-duty, 23-spline shafts
- Custom billet pump cover keeps OE oil flow paths & eliminates leakage for predictable, trouble-free converter control
- Longer hub & direct piston work together for 20% more clutch capacity, no modifications required

For drivers pushing the limits beyond 1,200HP, the ULTIMATE protection against spline twist and shaft breakage is here!

Designed in fit and function to work just like the OE, the Sonnax shaft is bigger and better in all the right places for unmatched durability. Pair with Sonnax extreme duty intermediate and output shafts for the most reliable components from end to end.



NOTE Torque Converter Upgrade Required

Moving up to this big 35-spline shaft requires installation of a matching Sonnax performance converter kit. See page 42 for details or talk to a converter rebuilder about options.

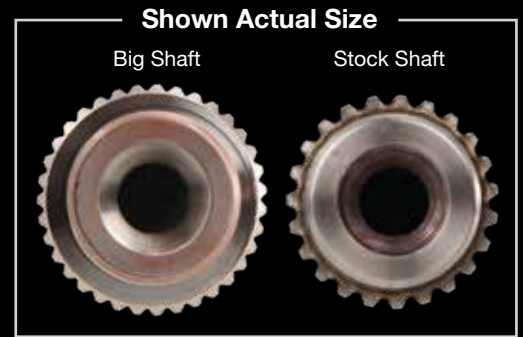
Unique Seals
Eliminate
Cross Leaks

Precision-Ground,
4340 Stator Tube

Hardened
Bushing Journal

1-1/8" Dia.
35-Spline Shaft

.100" Thicker in
Sealing Ring Area



2nd Gear Super Hold Servo Kit

Quicker Shifts, Fewer Leaks **HD/HP UPGRADE**
Part No. 22301B-01K

- Delivers more holding force in 2nd, firmer 1-2 shifts & 2-3 shifts that become firmer under load
- 16% More apply area for more band holding power
- 15% Less leakage than other designs

The largest and most leak-free servo on the market, this Sonnax super hold servo reduces the need for aggressive lever ratios, excessively high line pressure and other radical modifications to achieve firmer shifts. The exclusive servo design features rubber and PTFE seals that enhance positive sealing and prevent case wear.



Accumulator Piston Kit

Eliminate Cross Leaks Between Circuits **HD/HP UPGRADE**
Part No. 22841-04K

- Rubber D-rings for superior sealing
- PTFE guide seal prevents case wear from piston contact
- Billet aluminum piston for improved durability



Reinforced Front Clutch Piston

CRITICAL SAFEGUARD Part No. 22965A-01

Guard Against Direct Clutch Failure

Relying on a weak OE piston is like playing Russian roulette with your rebuild. When the piston cracks, the result is an unexpected clutch failure. Eliminate rework and liabilities by installing the redesigned, stronger Sonnax piston that includes extra webbing to reinforce otherwise weak areas.



Heavy Duty Kickdown Band Strut

HD/HP UPGRADE
Part No. 22825-01

Strongest Strut Ever Made for RH/RE Units

- Extra-thick cross-section for max toughness
- Solid, heat-treated steel will not bend or break like stamped struts

Reverse Servo Piston Plug Kit

Won't Break or Wear

- Hardened steel plug is more than 2X stronger than the OE plug
- Exclusive, leak-free design uses O-ring between plug & piston
- Replaces both extended & flat-tip styles



CRITICAL SAFEGUARD
Part No. 22912-01K

Front Servo Piston Cover Kit

Improve Direct Clutch Durability

- Added O-ring stops direct (front) clutch oil leaks that undermine 2-3 shift & direct clutch durability
- Billet aluminum piston resists wear



CRITICAL SAFEGUARD
Part No. 22827-01

CRITICAL SAFEGUARD

Rear Servo Piston Prevents Binding for Consistent Rear Band Apply

- Modified seal ridges prevent piston from sticking in case bore
- Billet aluminum won't crack like OE cast piston

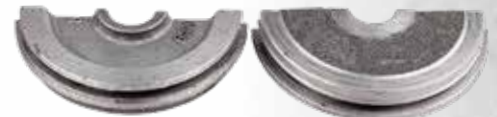
Part No.	Application	OE Part No.	O.D.
22912C	47-48RE '97-Later*	52118745	2.46"
22912B	47RE/RH '94-'96*	4531229	2.46"
22912	46RE/RH, A727	2801281	2.80"



*Match OE to Sonnax part using pistons shown here.

Use 22912C

Use 22912B



Piston Retainer Kit

CRITICAL SAFEGUARD

Part No. 22754N-01K Fits 48RE, 47RH/RE, 46RH/RE

Maximize Gear Train Durability

- Prevents loss of lube oil between support & case
- High-quality aluminum alloy resists galling
- Improved oil delivery at bearing journals

Many OE supports do not seal well against the case, leading to reduced lube flow to the gear train and consumption of pump volume. This patented retainer kit features redesigned oil grooves to enhance journal lubrication and upgraded aluminum for better wear resistance.

Damaged reverse drums can be salvaged using the oversized version of this kit (Part No. 22754N-02K).



Throttle Valve Kits CRITICAL SAFEGUARD

Improve Line Pressure Response & Shift Timing

- **Hardened steel plunger & valve** increase durability, especially in 48REs
- **Optional shims & TV spring** for custom TV pressure adjustment & tuning
- **Fit all Chrysler RWD models, including '05-later units with motorized linkage**

Oversized Valve Kit 22771-04K	Fully restores throttle control in bores with moderate to severe wear. Requires tool kit F-22771-TL and the VB-FIX reaming fixture.
Heavy Duty Valve Kit 22771-HDK3	<ul style="list-style-type: none"> • Ideal for earlier, wide-open throttle shift points in new/lightly used valve bodies. • Reduces gear hunting and the need to back off the throttle when shifting under heavy load. • Optional balance spring improves throttle control if bore shows minimal wear.
Throttle Valve Kit 22771-03K	Basic durability enhancement with an optional balance spring to help revive throttle control in bores with minimal wear.

Lube Regulated PR Valve

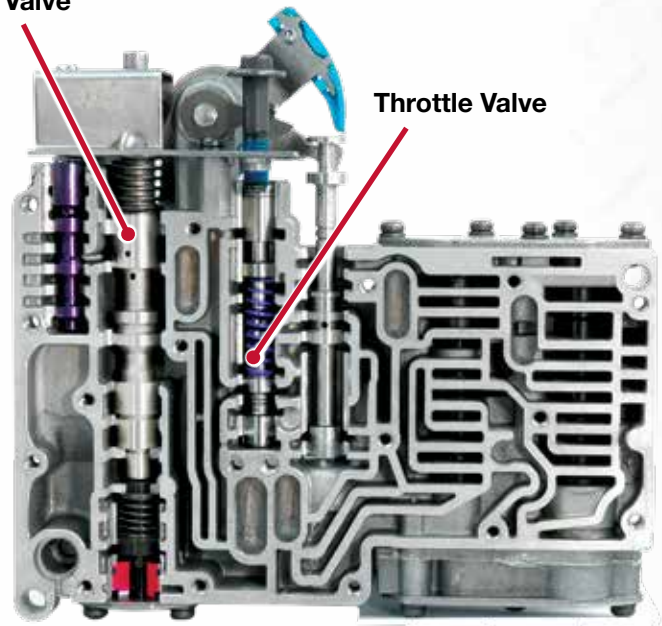
CRITICAL SAFEGUARD Part No. 22771A-10K Fits '62-'77
 Part No. 22771A-02K Fits '78-Later

Enhance Converter Charge & Prevent Drain Back Problems

- **Improves converter feed/lube oil flow at critical low RPM & high load conditions**
- **Redesigned valve prevents fluid drain back & slow engagements**
- **Helps charge the converter in Park**

TECH TIP: Under extreme pressure or temperature conditions, the converter/lube circuit can be restricted by the PR valve. The practice of drilling a hole between passages is an outdated technique that contributes to slow engagements or — if the hole is improperly drilled — excessive converter pressure and low line pressure.

Lube Regulated PR Valve



Throttle Valve



Upgraded PTFE coating vastly improves durability and will not generate break-in and wear debris like OE bimetal washers. Endplay stays where set and will not increase over time.

Heavy Duty Planetary Thrust Washers

Zero Wear for ZERO Problems

Part No.	Dimensions	Industry No.	OE No.
6-Tab Washers Fit 48RE			
22700FT-01	3.700" O.D. x 2.525" I.D.	D22238F	52854039AB
22700GT-01	3.700" O.D. x 2.250" I.D.	D22238G	52854076AB
4-Tab Washer Fits 46-47RH/RE			
22700ET-01	3.400" O.D. x 2.250" I.D.	22238B	4617888

WHICH KIT IS RIGHT FOR YOUR REBUILD?



The First Step in Correcting Common Shift Problems

"Over the years of using Sonnax I have come to really appreciate the continual good work Sonnax puts into the industry and their products. The Zip Kit is my favorite." W. Swanson

Zip Kit® CRITICAL SAFEGUARD

- Installs quickly, **NO REAMING** or special tools required
- Uniquely designed parts address root causes of valve body complaints by sealing critical pressure circuits; additional components deliver comprehensive reconditioning
- Technical booklet included with in-depth rebuild & inspection tips for comprehensive valve body repair

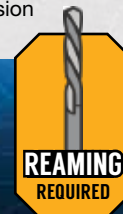
Part No. 46-47RHE-ZIP Fits 46RH/RE, 47RH/RE

Most components in this kit also will service 48RE units. Only components marked with * will NOT fit 48RE.

- Line-to-Lube PR Valve
- Line Pressure Plug & Sleeve Kit*
- 4-Spool Switch Valve
- Throttle Valve Kit
- 3-4 Accumulator Spring
- Turbine Shaft Seals (2)
- Intermediate Shaft Pilot & End Plug Kit
- Manual Valve
- Output Pilot Bushing
- Boost Valve Spring Retainer
- Checkballs (10)
- 4th Acc. Piston Seals
- Endplay Shims (2)*
- E-Ring

Comprehensive Kit for Big Problems You Don't Want Back

"The 48RE Sure Cure kit is one of the most complete repairs that Sonnax has come up with. Fixes the valve body every time." M. Klein • Parkland Transmission



The Sure Cure® CRITICAL SAFEGUARD

- Restores shift quality & reduces comebacks
- Repairs biggest trouble areas to reduce comebacks
- Includes step-by-step instructions for comprehensive valve/pump body restoration

Part No. SC-48RE Fits 48RE

Both kits require reaming with tool kits [22771-TL12](#), [22771A-TL13](#), [F-22771A-TL7](#), [F-22771-TL](#) and the [VB-FIX](#) reaming fixture, all sold separately.

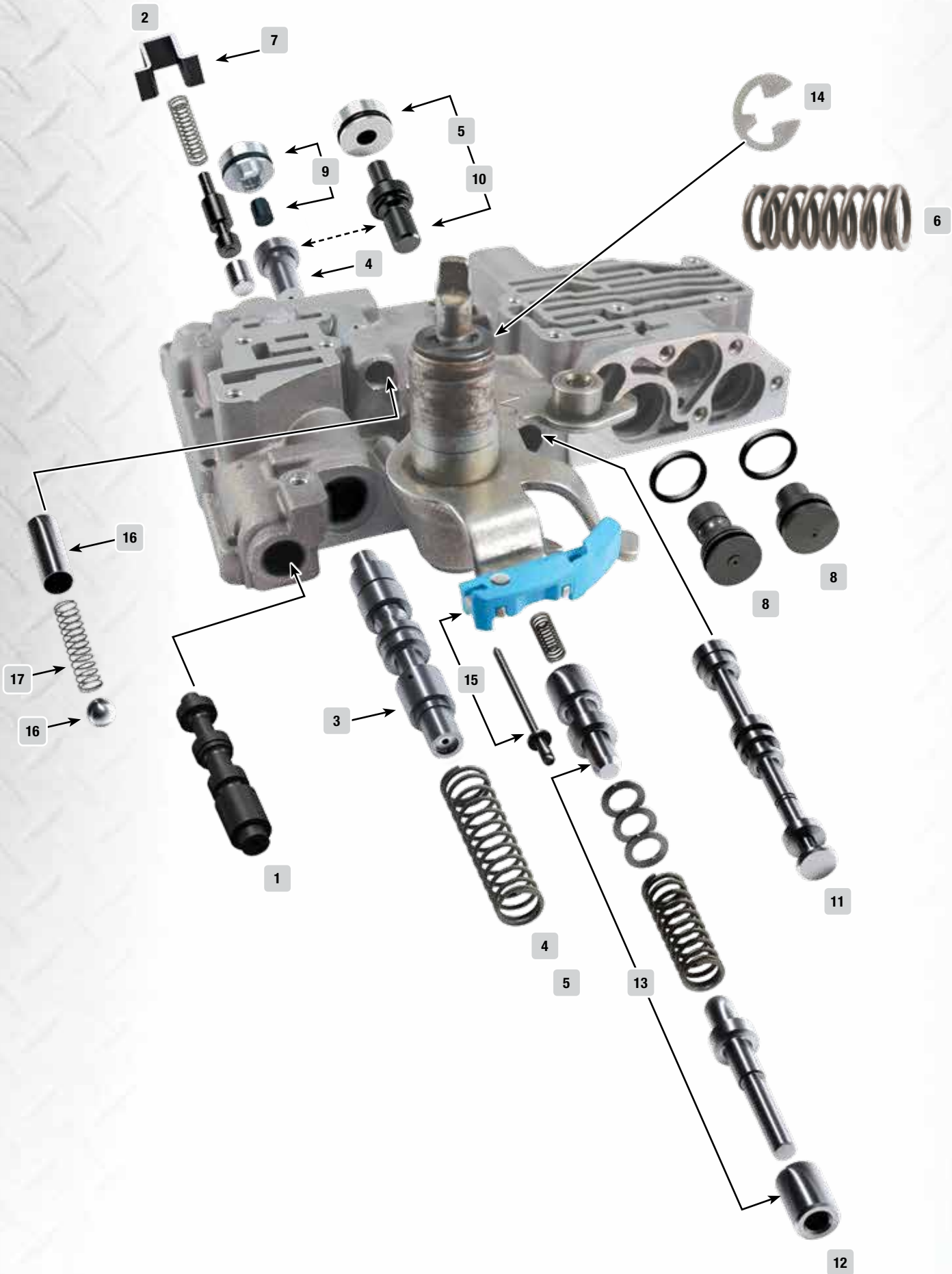
- Oversized Lube Regulated PR Valve & Line/TV Pressure Plug Kit
- Oversized 4-Spool Switch Valve
- Oversized Throttle Valve Kit
- 3-4 Accumulator Spring
- Turbine Shaft Seals (2)
- Intermediate Plug & Pilot Kit
- Manual Valve
- Output Pilot Bushing
- Valve Body Detent Ball & Sleeve Kit
- Boost Valve Spring Retainer
- .188" Dia. Checkball
- Shift Linkage E-Clip
- 6-Tab Thrust Washers (2)
- 4th Accumulator D-Ring & Seal

Part No. SC-46-47RHE-OS Fits 46RH/RE, 47RH/RE

- Lube Regulated PR Valve
- Line Pressure Plug & Sleeve Kit
- 4-Spool Switch Valve
- Throttle Valve Kit
- 3-4 Accumulator Spring
- Turbine Shaft Seals (2)
- Intermediate Shaft Pilot & End Plug Kit
- Manual Valve
- Output Pilot Bushing
- Valve Body Detent Ball & Sleeve Kit
- Boost Valve Spring Retainer
- Checkballs (10)
- E-Ring
- Front Servo Piston Cover Kit
- Reverse Servo Piston Plug Kit
- Kickdown Band Strut
- 3-4 Accumulator Piston Seals
- Rear Planet Endplay Shims (2)

CHRYSLER 48RE

Parts shown also fit 46-47RH/RE
and A727 unless otherwise noted.



More Components

Parts listed below may also fit A727 and A904 units.

Symptoms/Part Type	Product Name	Part No.	Details	Tooling
TCC/Lockup Symptoms				
Lockup shudder, Overheated converter, Low cooler flow, Soft TCC apply	4-Spool Switch Valve	1 22771A-01	Replaces 4-spool valves only	
	Oversized 4-Spool Switch Valve	1 22771A-13	Replaces 4-spool valves only	22771A-TL13
TCC slip under load, No line rise during TCC apply in 4th, Overheated converter, No lockup	Oversized Lockup Boost Valve Kit	2 22771-19K	'90-Later with boost oil deliver tube	F-22771-TL19*
Pressure Problems				
Delayed engagement, Pressure regulator buzz, Converter drain back, Lube failures	Lube Regulated Pressure Regulator Valve	3 22771A-02K	OE valve must match '78-later design	
	Oversized Lube Regulated Pressure Regulator Valve Kit	4 22771A-07K	42RH/RE, 46RH/RE, 47RH/RE only, OE valve must match '78-later design	F-22771A-TL7*
	Oversized Lube Regulated Pressure Regulator Valve & Line/TV Pressure Plug Kit	5 22771A-16K	48RE only	F-22771A-TL7*
Pump seal leakage, Pump noise, Loss of prime, Low pump volume, Low cooler flow, TCC codes	Pump Bushing	12502-01	42RH, 42RE only, precision, 5/bag	
Shift/Engagement Concerns				
3-4 Soft	3-4 Accumulator Spring	6 12861-01	Matches OE 47RE diesel calibration	
No Reverse, Soft Reverse	Extended Length Band Strut	22900-10	46RH/RE, 47RH/RE, 48RE only, .100" longer than OE	
	Extended Length Band Strut	22900-15	46RH/RE, 47RH/RE, 48RE only, .150" longer than OE	
Leakage of 4th & TCC oil pressure, Slipping gears	Boost Valve Spring Retainer	7 22990-01	5/Bag	
2-3 Long slide, Direct clutch failure, Direct clutch failure	Front Servo Piston Cover Kit	22827-01	46RH/RE, 47RH/RE, 48RE only, includes O-ring	
1-2 Shuttle, 2-3, 3-2 Oversensitive, Early upshifts	Governor Bore Plug Kit	8 22771-14K		
1-2 Soft, Delayed engagement, Forward clutch failure, Low line rise	Intermediate Accumulator Sleeve Kit	22841-01K		
Reverse slip, Poor Forward & Reverse engagement, Poor line pressure control, Soft Reverse	Line Pressure Plug & Sleeve Kit	9 22229-01K	42RH/RE, 46RH/RE, 47RH/RE only, .200" dia. plug	
	Line Pressure Plug & Sleeve Kit	9 22229-04K	42RH/RE, 46RH/RE, 47RH/RE only, .264" plug dia.	
	Line Pressure Plug & Sleeve Kit	10 22771A-19K	48RE only	
Delayed engagement, No cooler flow in Park, Converter bushing failure	Manual Valve	11 22771-09	Use with '78-later pressure regulator valve only	
Early upshifts, Late upshifts, 2nd Gear starts	Primary Governor Valve	12802-01	42TH, 46RH, 47RH, '90-'03 only,	
Shift timing concerns, Throttle buzz, Poor kickdown, 2-3 Late, 3-2 Oversensitive	Throttle Valve Kit	12 22771-03K	Fits all Chrysler RWD models, including '05-later units with motorized linkage	
	Oversized Throttle Valve Kit	13 22771-04K	Fits all Chrysler RWD models, including '05-later units with motorized linkage	F-22771-TL*
Delayed Forward, Delayed engagement, Burnt Forward clutch	Rear (Forward) Clutch Inner Lip Seal	3647-01	46RH/RE, 47RH/RE, 48RE only, Viton® seal, 5/bag	
Component Damage/Failure				
Bearing noise, Bearing failure	Bearing Kit	SBK-C16	42RH, 46RH, '88-later only	
	Bearing & Plate Kit	12860-01K	42RH/RE, 46RH/RE, 48RE only, OD sun gear to planet	
	Inner Overdrive Bearing	12738	OE Part No. 4461014	
Damaged case, Output & planet assembly wear/failure	Case Repair Bearing	22556-BRG	46RH/RE, 47RH/RE, 48RE only, 3/bag	
Oil leaks	Cooler Line Adapter	22000-01	For cases with 1/4" pipe fittings only, single adapter	22000-01K
	Cooler Line Repair Kit	22000-01K	For cases with 1/4" pipe fittings only, includes 5 adapters	

* VB-FIX Required

Continued on next page.

CHRYSLER 48RE

Parts shown also fit 46-47RH/RE
and A727 unless otherwise noted.

Continued from previous page.

Symptoms/Part Type	Product Name	Part No.	Details	Tooling
Component Damage/Failure				
Lost or damaged component	E-Ring	14 10000-03K	For .250" manual shaft, 10/bag	
Poor lube oil control, Recontamination of new parts, Unable to clean shaft	Intermediate Plug & Pilot Kit	22171A-02K	42RH/RE, 46RH/RE, 47RH/RE, 5/bag	
Late cases cannot be used for early applications	NSS Adapter Kit	22179-06K	42RE, 46RE, 47RE only, allows late-style, five-wire neutral safety switch cases to be used in early-style, three-wire vehicles	
Lost or damaged component	Neutral Safety Back-Up Insulator Service Kit	15 22229-03	42RH/RE, 46RH/RE, 47RH/RE, '70-'02 only, w/ 3-terminal switch	
	Neutral Safety Backup Insulator Service Kit	15 22229-07K	'01-Later only, w/ digital range sensor	
OD roller clutch failure	Oversized O.D. Sprag Pilot Bushing	12509-01	42RH/RE, 46RH/RE, 47RE, '88-later only	
Bushing wear, Bushing failure	Output Pilot Bushing	12510-01	42RH/RE, 46RH/RE, 47RH/RE, '90-later only	
Not enough OE washers to properly set end clearance	Overdrive Shim Kit	12783-01K		
Lost or damaged component	Overdrive Sun Gear	12655C-1	46RH/RE, 47RH/RE, '95-later only, 15° helical cut	
Loss of lubrication oil to planetaries, Reverse drum, retainer & planet failure	Piston Retainer Kit	12962N-01K	42RH/RE only, improved oil flow & material	
	Oversized Piston Retainer Kit	12962N-02K	42RH/RE only, improved oil flow & material	
	Piston Retainer Kit	22754N-01K	46RH/RE, 47RH/RE, 48RE only, improved oil flow & material	
	Oversized Piston Retainer Kit	22754N-02K	46RH/RE, 47RH/RE, 48RE only, improved oil flow & material	
Burnt bands, No Reverse, Rear servo piston sticking/breakage	Rear Servo Piston	22912A	42RH/RE only, OE 2801271, 2.540" O.D.	
	Rear Servo Piston	22912	46RH/RE only, OE 2801281, 2.800" O.D.	
	Rear Servo Piston	22912B	47RH/RE, '94-'96, only OE 4531229, 2.460" O.D.	
	Rear Servo Piston	22912C	47RE, 48RE, '97-later only, OE 52118745,	
Excess total transmission endplay	Rear Unit Endplay Shim	12780-Z	42RH/RE only, for 3- or 4-tanged washers, .010" thick, 10/bag	
	Rear Unit Endplay Shim	22700-Z	46RH/RE, 47RE/RE only, fits 3- or 4-tanged OE washers, .010" thick, 10/bag	
No Reverse, Burnt Reverse band, Reverse servo piston plug breakage	Reverse Servo Piston Plug Kit	22912-01K	Universal replacement for both extended & flat-tip plug styles	
Leaking manual shaft case seal	Shift Lever Case Bore Repair Sleeve	22179-02		56361-TL
Manual lever binds in Park position, Damaged valve body casting, Linkage loose, No start	Valve Body Detent Ball & Sleeve Kit	16 22771-12K	Fits both short & long OE detent bore designs	22771-TL12
Manual lever binds, Linkage loose, No start	Valve Body Detent Spring	17 22771-36	Fits both short & long OE detent bore designs	
Tools				
Sonnax F-Tool kits designed to service a specific bore require the VB-FIX, a self-aligning valve body reaming fixture.	Tool Kit	56361-TL	56361-01K, 22179-02	
	Tool Kit	22771-TL12	SC-46-47RHE-OS, SC-48RE, 22771-12K	
	Tool Kit	22771A-TL13	SC-46-47RHE-OS, SC-48RE, 22771A-13	
	Tool Kit	F-22771-TL	32229-01K, 22771-04K, SC-48RE, SC-46-47RHE-OS	VB-FIX
	Tool Kit	F-22771-TL19	22771-19K	VB-FIX
	Tool Kit	F-22771A-TL7	SC-46-47RHE-OS, SC-48RE, 22771A-07K, 22771A-16K	VB-FIX

* VB-FIX Required

Remanufactured Valve Bodies

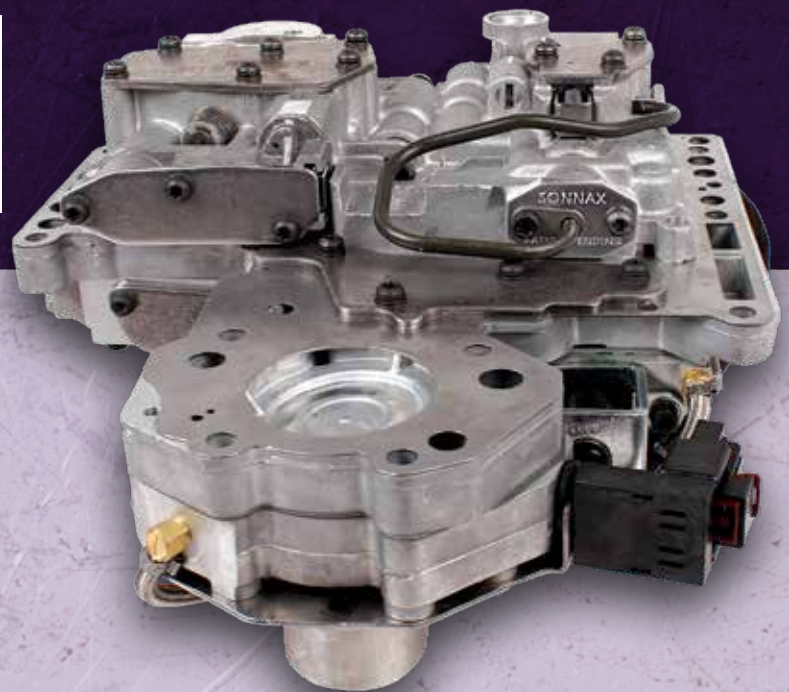
Save Time & Money with a PREMIUM Rebuilt Valve Body from Sonnax

Every valve body is completely disassembled, cleaned and updated, with solenoids tested and replaced as needed. Each remanufactured unit is then hydraulically and electronically tested so it's ready to install!

46-47RE Valve Body	
'00-Later, w/ Small Pump Inlet, Late Sensor	CHR131
'00-Later, w/ Large Pump Inlet, Late Sensor	CHR132
'99-Earlier, w/ Small Pump Inlet, Early Sensor	CHR129
'99-Earlier, w/ Large Pump Inlet, Early Sensor	CHR130



46-47RH Valve Body	
Hydraulic, w/ Tube	CHR127
'90-Later, 1 Solenoid	CHR124



48RE Part No. CHR135 CONVERTED VALVE BODY

With Sonnax, You Never Have to Settle for a Worn-Out Valve Body

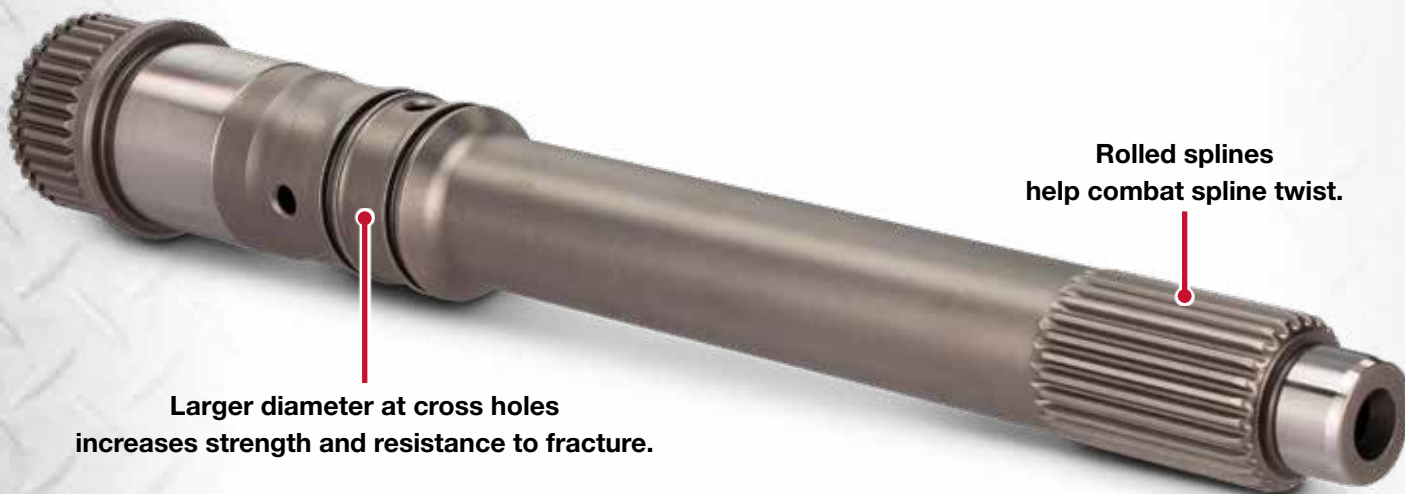
Cores for Chrysler light-to-medium-duty trucks are scarce and often modified beyond repair. Patent-pending innovation allows Sonnax to convert plentiful early-model RE Chrysler cores into premium-quality 48REs.

OE remanufactured valve bodies — while competitively priced — undergo only minimal restoration. The Sonnax 48RE provides far more value and durability. Each valve body is carefully refurbished in critical areas to restore proper function and prevent future wear.

- 100% Tested to ensure pressure curves & timing match 48RE OE design
- Great for 46/47RE pressure & lockup upgrades
- Rebuilt & improved with these Sonnax parts:
 - Manual Valve
 - Oversized Throttle Valve Kit
 - Valve Body Detent Ball & Sleeve Kit
 - Oversized 4-Spool Switch Valve
 - Oversized Lube Reg. PR Valve & Line/TV Pressure Plug Kit
 - Patented Pressure Curve Components
 - Patented Lockup Conversion Components
 - 3-4 Accumulator Spring
 - New Governor Pressure Solenoid & Sensor

CHRYSLER 68RFE

Parts shown also fit 65/66RFE and 45/545RFE unless otherwise noted.



Larger diameter at cross holes increases strength and resistance to fracture.

Rolled splines help combat spline twist.

Heavy Duty Input Shaft

Unrivaled Durability for High-Horsepower Gas & Diesel Trucks

- Suitable for any 68RFE high-horsepower street, towing or competition application
- Specially heat-treated & processed for maximum toughness & straightness
- Manufactured from 300M ultra high-strength steel for maximum strength & resistance to fracture
- Includes checkball assembly & line-bored bushing

HD/HP UPGRADE

Part No. 72670B-01

Fits 68RFE

Line Pressure Booster Kit

HD/HP UPGRADE

Part No. RFE-LB1

The Fast, Easy Way to Clean Up Shifts

- Skip the expensive pump modifications required with other upgrades, the harness installs easily on the outside of case
- Get classic large-ratio boost valve action for crisp, clean shifts without low-speed harshness
- Ideal for heavy-duty & modified vehicles as well as hard-working daily drivers
- Fits both gas & diesel units

This one-of-a-kind booster kit is an improved design over a simple resistor circuit. Featuring an integrated chip (IC) circuit and a stronger pressure regulator spring, RFE-LB1 delivers 10 psi increase at lower pressure range and 25 psi increase at higher pressure ranges. Use of the spring is optional to help prevent trouble codes.



Electronic booster connects between the factory harness and the line pressure sensor using OE-style connectors.



"Love these drums...holds power and not heat. Shifts much smoother as well." B. Puls • Brad's Diesel Repair

Smart-Tech® Overdrive Clutch Housing Kit

HD/HP UPGRADE

Part No. 72960-06K

Rock-Solid Reliability with 20% MORE Clutch Capacity

Dodge trucks pulling heavy loads or boosted to 500–600HP are at high risk for Overdrive burnup due to the stock transmission's insufficient clutch capacity and fragile OE clutches. The OD clutch is a major weak link in this popular transmission.

Increasing torque capacity by 20%, the groundbreaking Smart-Tech overdrive clutch housing kit is the ONLY kit that installs easily, significantly increases durability and eliminates clutch problems.

SERVICE PARTS

Frictions & Steels Kit Part No. 72960-01SVC

Reaction Plate & Bolt-On Anchor Plate Kit Part No. 72960-02SVC



Kit Includes:

- Overdrive/Reverse Housing
- Bolt-On Anchor Plate & Screws (12)
- Anchor Plate Shims (2)
- Adapter Sleeve
- Frictions (6)
- Steels (5)
- UD/OD Reaction Plate
- Lip Seal
- Chisel

GET 25% MORE TOTAL TORQUE CAPACITY

Combine the housing with line pressure booster kit RFE-LB1.

Bolt-On Anchor Plate

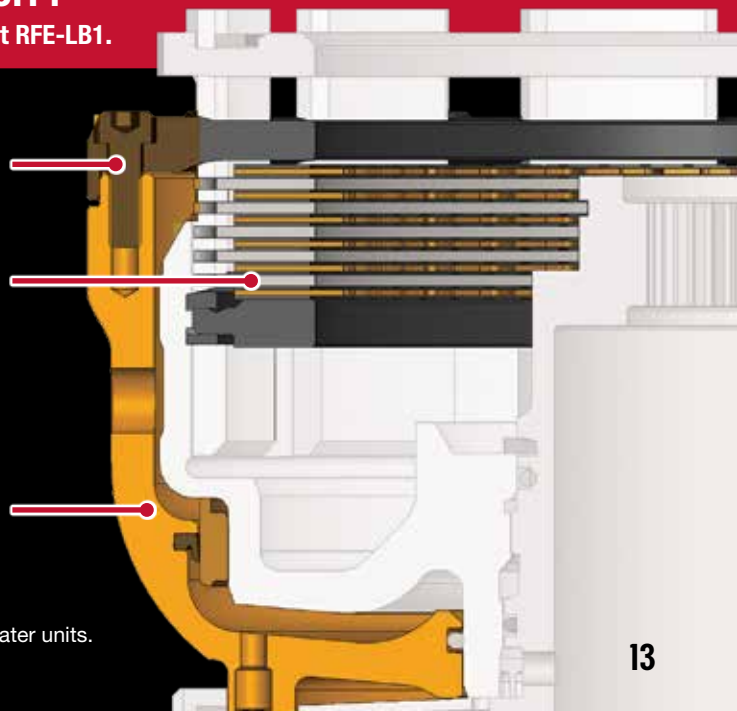
Eliminates clutch pack flexing and distortion that contributes to heat build-up.

2X Thicker Steels & Double-Sided Frictions

Guarantee more protection against heat damage than fragile OE clutches. That's 28% more steel mass to guard against burnup!

Billet Aluminum Housing

Holds a physically larger clutch pack for 20% more clutch capacity and 16% more OD apply area.

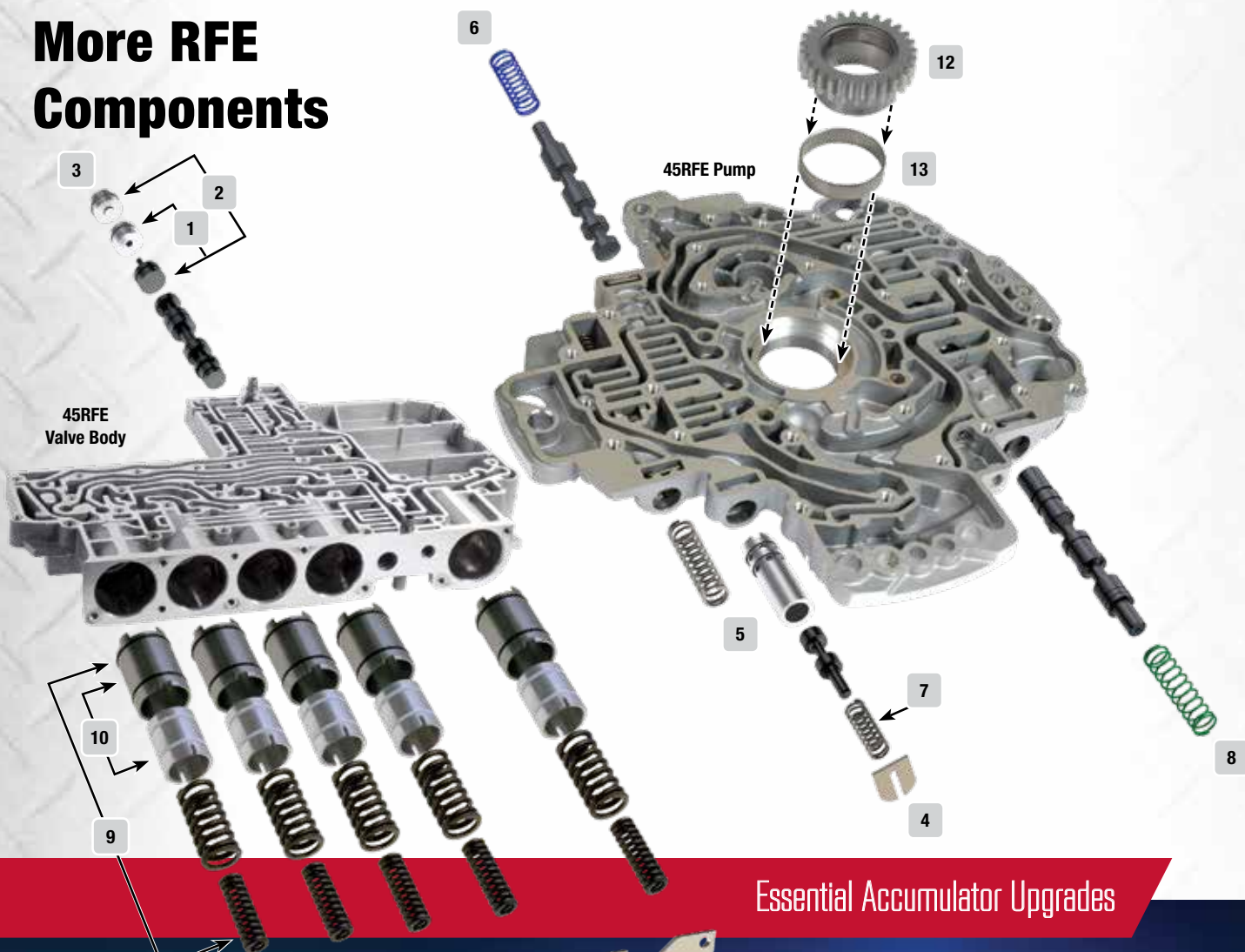


Note: This kit requires use of the input clutch retainer found in '07-later units.

CHRYSLER 68RFE

Parts shown also fit 65/66RFE and 45/545RFE unless otherwise noted.

More RFE Components



Essential Accumulator Upgrades

Accumulator Cover Plate Kit

HD/HP UPGRADE

Part No. 44892-01K

End Accumulator Plate Failure

- Stronger, thicker plate prevents flexing
- Three additional mounting holes & high torque-rated screws prevent transmission failure that results from plate or screws coming loose
- Tightly-toleranced tap (Part No. 44892-TL) provides higher torque yield threads than common shop taps



Accumulator Piston Kits

HD/HP UPGRADE

Part No. 44894-01K 1 Piston

Part No. 44894-01MK 5 Pistons

Prevent Bore Scuffing & Salvage Worn Bores

- Dual-guide seals prevent piston-to-bore scuffing
- Updated seal location allows use in scuffed bores
- Prevents transmission failure from broken plastic pistons

Symptoms/Part Type	Product Name	Part No.	Details	Tooling
TCC/Lockup Symptoms				
Codes 841, 868, 871, 988, 1775, 1776, OD clutch burned, Failsafe mode, Bind-up	Solenoid Switch Valve Plug Kit	1 92835-02K	Fits bores containing OE switch valve w/ .420" dia. large spool only	
	Oversized Solenoid Switch Valve Plug Kit	2 92835-22K	Fits bores containing OE switch valve w/ .453" dia. large spool only	92835-RM22
	Oversized Solenoid Switch Valve & Plug Kit	3 92835-32K	Fits bores containing OE switch valve w/ .420" dia. large spool only	F-92835-TL32*, 92835-BST †
	Oversized Solenoid Switch Valve & Plug Kit	3 92835-31K	Fits bores containing OE switch valve w/ .453" dia. large spool only	F-92835-TL31*
Delayed engagement, Loss of power, Engine stall, Low TCC release pressure/cooler flow	TC Limit Valve Kit	4 44912-03K		F-44912-TL
Harsh TCC apply, TCC apply & release concerns	TCC Accumulator Spring	5 44912-01	5/Bag	
No lockup, Engine stall, TCC slip, Overheating, TCC codes, Loss of fuel economy	Oversized TCC Switch Valve Kit	6 44912-08K		F-44912-TL8*
Broken spring, Engine stall on engagement, Delayed engagement, Loss of power	Torque Converter Limit Spring	7 44912-02	Fits OE aluminum valves found in early-style units only, not for use with 44912-03K, 5/bag	
Pressure Problems				
Harsh shifts, Erratic line pressure, Broken parts due to excessive line pressure	Oversized Pressure Regulator Valve Kit	8 44912-10K		F-44912-TL10*
Shift/Engagement Concerns				
Slide shifts, High CVIs, 1-2 Shudder, Coastdown clunk	Accumulator Piston & Sleeve Kit	9 92834-05K	Fits 5 locations in 45RFE, 545RFE only, restores OE shift quality	
	Accumulator Piston & Sleeve Kit	10 92834-03K	Fits 5 locations in 45RFE, 545RFE only, firmer shift than OE	
	Replacement Seal Kit	92834-03SK	For 92834-03K & 92834-05K, 10/bag	
Shift concerns	Remanufactured Solenoid Block	44836	45RFE, 545RFE, '99-'03 only, early style, black connector	
	Remanufactured Solenoid Block	44836A	All years, late style, white connector	
	Remanufactured Solenoid Block	44836B	545RFE & 68RFE '09-later only, all years 65RFE & 66RFE, gray connector	
Code 841, 846, 871, 876, 988	Solenoid Repair & Spacer Kit	44836-01K		
Component Damage/Failure				
Damaged accumulator plate	Accumulator Cover Plate Kit	11 44892-01K		44892-TL
Bearing noise, Bearing failure	Bearing Kit	SBK-C17	45RFE, 545RFE, '99-later only	
	Bearing Kit	SBK-C18	65RFE, 66RFE, 68RFE, '07-later only	
Pump gear wear or fracture, Noise concerns	Center Pump Gear	12 72530B-02	68RFE only	
	Center Pump Gear Bushing	13 72530B-03	68RFE only	
Lost or damaged component	OD/Reverse 4-Lug Reaction Plate	72142B-01	65RFE, 66RFE, 68RFE only, OE 52119930AB	
Tools				Required Fixture
Sonnax F-Tool kits designed to service a specific bore require the VB-FIX, a self-aligning valve body reaming fixture.	Thread Tap	44892-TL	44892-01K	
	Bore Sizing Tool	92835-BST	92835-32K	
	Reamer	92835-RM22	92835-22K	
	Tool Kit	F-44912-TL	44912-03K	VB-FIX
	Tool Kit	F-44912-TL8	44912-08K	VB-FIX
	Tool Kit	F-44912-TL10	44912-10K	VB-FIX
	Tool Kit	F-92835-TL31	92835-31K	VB-FIX
Tool Kit	F-92835-TL32	92835-32K	VB-FIX	

* VB-FIX Required

† Recommended Tool

Remanufactured Valve Bodies Save Time & Money with a PREMIUM Rebuilt Valve Body

- Completely refurbished with genuine Sonnax parts
- Hydraulically & electronically tested, ready to bolt up
- Limited Lifetime Warranty

45/545/65/66RFE Remanufactured valve bodies also available.

68RFE	
'08-Earlier Return & Rebuild Only	CHR143
'09-Later Return & Rebuild Only	CHR144

Heavy Duty K2 Clutch Hub

CRITICAL SAFEGUARD

Part No. 99572-01

Hardened Hub Splines Prevent Repeat 4-5-6 Failure

- One-piece hub is crafted from forged steel for increased strength
- Unique heat treatment builds in unbeatable durability
- Added oil control lip provides improved K2 clutch cooling



The soft, stamped steel OE clutch hub allows the clutch pack to dig and notch into the hub splines, ultimately hanging up the clutches, causing them to drag, overheat and burn. OE hubs begin to fail in as few as 15,000 miles.

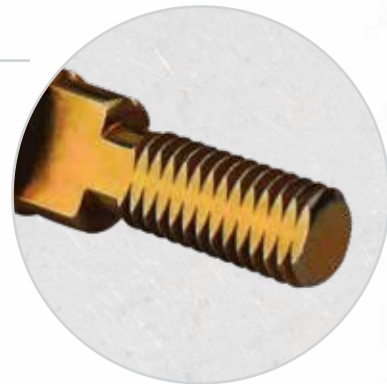
The Sonnax K2 clutch hub — stronger, thicker and expertly heat-treated — prevents the wear and notching that causes K2 failure. It's an unbeatable value for any rebuild!

Manual Shaft Kits

CRITICAL SAFEGUARD

Unbeatable Protection from Corrosion & Breakage

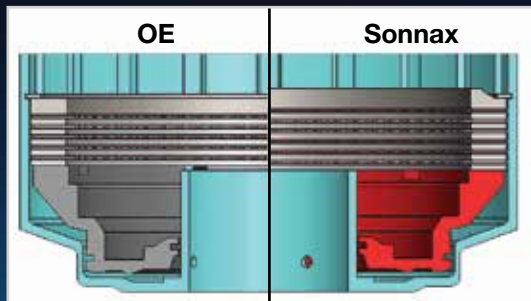
- Direct replacement shafts feature added corrosion protection to prevent rust at threads
- Upgraded, stronger material for added durability over OE



Part No. 99740-08K Fits Mitsubishi & Isuzu



Part No. 99740-07K Fits Dodge



High Capacity K2 Clutch Piston Kit

HD/HP UPGRADE

Part No. 99582-01K

Drop-In Kit Increases Clutch Count for 20% More K2 Capacity

- Increases K2 clutch capacity by 20%
- Adds one additional friction & steel for increased capacity & heat dissipation
- Thinner backing plate is reinforced for improved stiffness & reduced flex
- No drum or piston machining required

AS68RC transmissions often suffer failure of the K2 clutch assembly due to limited capacity. The Sonnax K2 clutch piston kit combines a thinner billet aluminum K2 piston with a thinner-yet-stiffer backing plate that together allow for one extra OE-thickness friction and steel, increasing the number of frictions from five to six. This improves the K2 clutch capacity by 20% for more torque capacity in 4th, 5th and 6th Gears while also significantly increasing steel mass in clutch pack for improved heat dissipation and resistance to burning.

Included in the kit is a backing plate retaining ring that allows clutch clearance adjustment. Get added durability with this easy-to-install kit that does not require machining of the drum or other components.

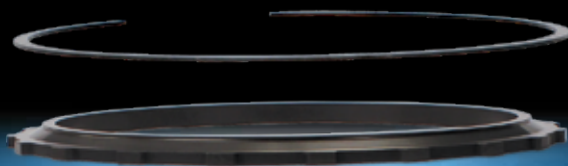
Backing Plate Kit Also Sold Separately

K2 Clutch Backing Plate Kit

CRITICAL SAFEGUARD

Part No. 99582-02K

Use of this kit requires machining the OE piston to fully accommodate an extra OE friction and steel plate.



More AS68RC Components

Symptoms	Product Name	Part No.	Details	Tooling
Downshift clunk, Flare shifts, Harsh shifts, Shift concerns	Clutch Control Plunger Valve Kit	99740-01K	Dodge only	
	Clutch Control Valve Spring	99740B-01	Mitsubishi & Isuzu only	
Bearing noise, Bearing failure	Front Stator Bearing	99520-03		
Bearing noise, 1-2, 2-3, 4-5 Flares	Rear Stator Bearing	99520-04	1.585" Dia. input shafts only	

Performance Pack

HD/HP UPGRADE

Part No. HP-4R100-01 Fits 4R100

No Complaints from Overly Harsh Shifts, Still Tunable to Any Level

- Firmer shifts under load without sacrificing low-speed drivability
- Pressure increases progressively for improved clutch holding & increased durability as vehicle is pushed harder
- Improved pump components minimize leaks & maintain pressure, TCC performance & lube
- Durable parts target commonly worn areas in the transmission & prevent future damage

A Sonnax Performance Pack is a must-have for any heavy-duty vehicle. All components work together for maximum performance and durability by recalibrating pressures and shift accumulation. It's the ULTIMATE way to get an impressive transmission that responds to throttle and increased load with quick, firm shifts.



Note: Sonnax bore-sizing tool 36948-12 and bushing installation tool T36008A are recommended when using this Performance Pack. Both are sold separately.

Don't need a complete valve body overhaul?
Clean up your shifts with a line pressure booster kit!

Large-ratio boost valve assembly changes the rate of line pressure increase in response to driving conditions.



PR spring is about 10% stronger than OE and more conservative in impact than other aftermarket springs.

Line Pressure Booster Kit

HD/HP UPGRADE Part No. 4R100-LB1 Fits 4R100, E40D

The Fast, Easy Way to Clean Up Shifts

- Large-ratio boost valve delivers crisp, clean shifts without low-speed harshness
- No special installation tools required
- Ideal for heavy-duty & modified vehicles as well as hard-working daily drivers
- Improved shift feel & durability reduce comebacks & complaints



- Heavy Duty/Performance Upgrade
- Critical Safeguard
- Repair

Many Performance Pack components also sold separately! See pages 21-22.

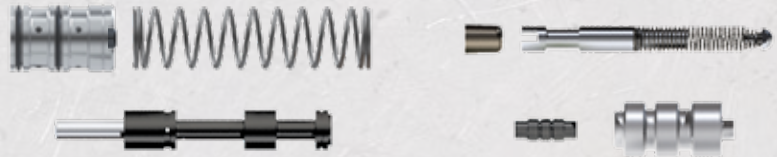
Valve Body Parts

- Heavy Duty Low/Reverse Modulator Sleeve Kit
- Line Pressure Modulator Plunger Valve Kit
- High Radius Relief Valve



Pump Parts

- Line Pressure Booster Kit
- Line-to-Lube PR Valve
- Front Lube/Drainback Valve Kit
- TCC Control Plunger Valve Kit



Accumulator Parts

- Performance-Rated Accumulator Springs (10)
- 1-2, 2-3 & 3-4 Accumulator Control Valve Kits



Internal Parts

- Intermediate & Direct Clutch Feed Seal Kit
- Sure Lock Overdrive Spiral Snap Ring
- Rear Planet Endplay Shims (2)
- One-Piece Rear Case Bushing
- Center Support Gasket



Heavy Duty Input Shaft

HD/HP UPGRADE

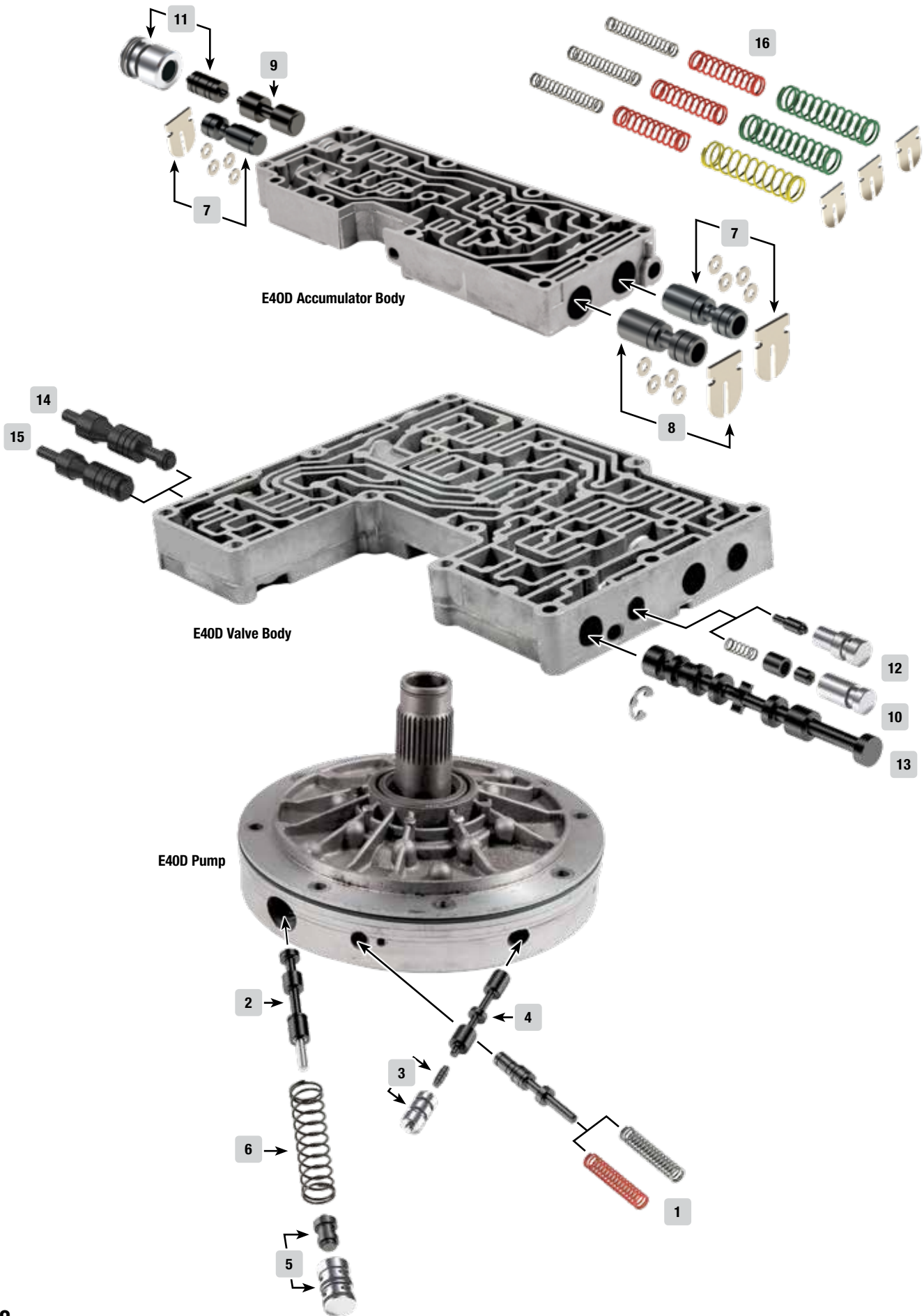
Part No. 36670-HD
 Fits 4R100, 5R110W

Better Material & Processing Deliver the Best All-Around Shaft

- Manufactured from 300M ultra high-strength steel for maximum strength & resistance to fracture
- Suitable for any high-horsepower street, towing or competition application
- Rolled splines for increased durability
- Specially heat-treated & processed for maximum toughness & straightness

FORD 4R100, 5R110W

4R100 Parts shown also fit E40D unless otherwise noted.



More 4R100/E40D Components

Symptoms/Part Type	Product Name	Part No.	Details	Tooling
Multiple Symptoms				
The first step in correcting common shift problems.	Zip Kit®	E40D-4R100-ZIP		36948-12 †
TCC/Lockup Symptoms				
Internal converter damage, Excess converter pressure	Oversized Converter Clutch Regulator Valve Kit	1 36424-11K	Fits F1, F5, F8 & E9 stamped pump castings	F-36424-TL11C*
TCC slip, Soft TCC apply, Code 1783, Code 1741, 1744, Overheating, Low cooler flow	Cooler Bypass Valve Kit	36605-02K	'97-Later with either style outboard fitting	
Code 62, 628, 1744, Engine stall on engagement in Reverse, High line pressure	Line-To-Lube Pressure Regulator Valve	2 36424-04K	Fits F1, F5, F8 & E9 stamped pump castings	
	Oversized Line-to-Lube Pressure Regulator Valve Kit	2 36424-16K	Fits F1, F5, F8 & E9 stamped pump castings	F-36424-TL16C*
Lockup shudder, TCC cycling	TCC Control Plunger Valve Kit	3 36424-08K	4R100 PWM only	
No lockup, TCC always applied	Oversized TCC Control Valve	4 36424-15K	4R100 PWM with F8 stamped pump castings only	F-36424-TL15C*
Pressure Problems				
Soft shifts, Delayed Reverse, Low line rise	Boost Valve Kit	5 36424-03K	Factory style	
	Boost Valve Kit	5 36424-01K	Includes O-rings	
Soft shifts, Poor shift quality, Low base line pressure, High line pressure	Elevated Pressure Main Pressure Regulator Spring	6 36424-10	20/Bag	
Code 62, 628, 1744, Low line pressure, Excess pump noise, Damaged pump gears	Pump Gear Set	36438A-03	E40D '95-later F5 & F8 pumps only & all 4R100	
	Oversized Pump Gear Set	36438AX-01K	E40D '95-later F5 & F8 pumps only & all 4R100	
Shift/Engagement Concerns				
Soft shifts, No 2nd, No 3rd, Premature clutch failure	1-2 & 2-3 Accumulator Control Valve Kit	7 36948-13K		36948-12 †
No 4th, Soft shifts, Premature clutch failure	3-4 Accumulator Control Valve Kit	8 36948-09K		36948-12 †
1-2 Harsh, Harsh shifts, Soft shifts	Oversized Accumulator Pressure Control Valve	9 36948-19		36948-TL ‡
Burnt Forward clutch	Forward Clutch Piston	36434A		
No engine braking in D1, Burnt Low/Reverse clutch, Low/Reverse clutch distress	Low/Reverse Modulator Plunger Valve Kit	10 36947-06K	'96-Later, uses lower OE ratio	
Intermittent harsh shifts, 1-2 Soft, 2-3 Soft, Low line rise, Low EPC pressure	Line Pressure Modulator Plunger Valve Kit	11 36948-03K	6- & Small 8-cylinder applications: .331"	
	Line Pressure Modulator Plunger Valve Kit	11 36948-05K	Large 8-cylinder applications: .372"	
	Line Pressure Modulator Plunger Valve Kit	11 96948-01K	Heavy duty, .427" dia.	
No engine braking in D1, Breakaway/Burnt Low/Reverse clutch	Heavy Duty Low/Reverse Modulator Sleeve Kit	12 36947-09K	'96-Later, uses higher OE ratio	
Delayed Reverse, Reverse slip, Low/Reverse clutch failure	Oversized Manual Valve Kit	13 36947-13K		F-36947-TL13*
Shift concerns	Remanufactured Solenoid Block	36424A	E40D only, '89-'94, 12-pin connector	
	Remanufactured Solenoid Block	36424B	E40D '95-'98 and 4R100 non PWM '98-later, 9-pin connector	
	Remanufactured Solenoid Block	36424D	4R100 only, '98-later with PWM TCC, 9-pin connector	
2nd Gear starts, 3rd Gear starts, TCC cycling, TCC slip	Oversized Solenoid Regulator Valve	14 36948-22	E40D only, '95-earlier, early-style, three-spool valve version	F-36948-TL22*
	Oversized Solenoid Regulator Valve	15 36947-14	'96-Later, late-style, two-spool valve version	F-36947-TL14*

* VB-FIX Required

† Recommended Tool

Continued on next page.

‡ Tool kit 36946-TL is no longer in production. Check with your distributor for availability.

FORD 4R100, 5R110W

4R100 Parts shown also fit E40D unless otherwise noted.

Continued from previous page.

Symptoms/Part Type	Product Name	Part No.	Details	Tooling
Component Damage/Failure				
Bearing noise, Bearing failure	Ball Bearing	96423-01	'95-Later	
	Bearing Kit	SBK-F5	'89-'96	
Forward clutch failure, Low lube oil flow	Center Support Gasket	36743G	Printed silicone bead, 5/bag	
Excess wear of center support & case lugs at contact points	Center Support Ring	36743-02		
Damaged bushing journal	Forward Planetary Repair Sleeve Kit	36440-01	Not for use with steel planetaries	
OD planetary failure	Front Lube/Drainback Valve Kit	36425-01K	Melt-proof aluminum	
Burnt intermediate clutches, Intermediate clutch failure, Direct clutch failure, 2-3 Slip	Intermediate & Direct Clutch Feed Seal Kit	36424-24K		
Lost or damaged component	Low Sprag Inner Race	36429E	E40D only, late style, 1.013" thick	
	Low Sprag Race & Bearing Kit	36429E-K	E40D only	
Leaking front seal, Pump noise, Excess converter hub-to-bushing clearance, Low pump volume	Pump Bushing	36002-01	E40D only, finish-in-place	
Premature wear & bushing failure, Inadequate lubrication	Rear Case Bushing	36008B	E40D only, '89-'94, early style with three grooves to front, no grooves to back, 4/bag	T36008A
	Rear Case Bushing	36008D	'96-Later, late style with three grooves to front, one groove to back, 4/bag	T36008A
Damaged case, Spun-out bushings	Oversized Rear Case Bushing	36008C	'95-Later, late style with one groove to back, 4/bag	T36008A †, T36605-03 ‡
Bearing noise, 1-2, 2-3, 4-5 Flares	Rear Sun Gear Bearing & Race Assembly	96423	E40D only	
Driveline clunk, Reduced seal ring life, Rear component driveline wear	Shim	36402-Z	Reverse planet endplay, 4 I.D. slots, .010" thick, 10/bag	
Cross leaks, Second clutch feed passage leaks at case & center support	Shim	36743-01	Center support, .204" thick, 10/bag	
OD loss (E40D), OD piston retaining ring popout, Catastrophic failure (4R100)	Sure Lock Spiral Snap Ring	36744-01		

High Performance/Heavy Duty Upgrades

Valve Body

Aggressive shifts	Performance-Rated Accumulator Spring Kit 16	36948-18K	Tri-cumulator springs	
Significantly firmer shifts at any gear	Line Pressure Modulator Plunger Valve Kit 11	96948-05K	Extreme heavy duty, .500" dia.	

Tools	For use with			Required Fixture
Sonnax F-Tool kits designed to service a specific bore require the VB-FIX, a self-aligning valve body reaming fixture.	Bore Sizing Tool	36948-12	HP-4R100-01, 36948-13K, 36948-09K, SC-E40D	
	Tool Kit	F-36424-TL11C	36424-11K	VB-FIX
	Tool Kit	F-36424-TL15C	36424-15K	VB-FIX
	Tool Kit	F-36424-TL16C	36424-16K	VB-FIX
	Tool Kit	F-36947-TL13	36947-13K	VB-FIX
	Tool Kit	F-36947-TL14	36947-14	VB-FIX
	Tool Kit	F-36948-TL22	36948-22	VB-FIX
	Bushing Installation Tool	T36008A	HP-4R100-01, 36008C, 36008D, 36008B, SC-E40D, SC-4R100HD	
Reamer	T36605-03	T36605-04, 36008C	T36605-04 ‡	

*VB-FIX Required

† Recommended Tool

‡ T36605-03 requires reamer fixture T36605-04, which is no longer in production.

More 5R110W Components

Symptoms	Product Name	Part No.	Details	Tooling	
Lost or damaged component	Bearing Kit	SBK-F8	All bearings fit units '03-later with exception of forward carrier/ forward ring gear bearing which fits '05-later only		
Harsh TCC apply, Soft TCC apply, TCC codes, TCC slip, TCC lining failure	Converter Pressure Limit Valve Kit	36940-06K	'05-Later, OE valves with balance spool diameter of .298" or .312" only		
Damaged case, Retaining ring pops out of groove, No Reverse/Manual 1st, Reverse slip	Low/Reverse Retaining Ring	36885	Increased width & tension		
Delayed Drive, Delayed Reverse, Low line pressure	Manual Valve	36940-22	Replaces OE valves with or without holes in long spool		
Damaged valve body casting, Low line pressure, Delayed Drive, Delayed Reverse	Oversized Manual Valve	36940-11	Replaces OE valves with or without holes in long spool	F-36940-TL11*	
Code 1744, 1783, Low line pressure & TCC concerns	Oversized Pressure Regulator Valve Kit	36940-03K		F-36940-TL3**, F-36940-TL3C**, F-36940-RM3C**	
Loss of shift solenoid control pressure, Shift concerns	Pressure Switch O-Ringed End Plug Kit	36940-17K	Fits any of five locations		
Overheating, Excess TCC slip, TCC cycling, TCC slip, Code 1783, P0741	TCC Control Plunger Valve Kit	36940-01K			
Tools			For use with	Required Fixture	
Sonnax F-Tool kits designed to service a specific bore require the VB-FIX, a self-aligning valve body reaming fixture.		Carbide Reamer	F-36940-RM3C	Tool for 36940-03K with F-36940-TL3 or F-36940-TL3C	VB-FIX & VB-06
		Tool Kit	F-36940-TL3	For 36940-03K	VB-FIX & VB-06
		Tool Kit	F-36940-TL3C	For 36940-03K	VB-FIX & VB-06
		Tool Kit	F-36940-TL11	For 36940-11	VB-FIX

* VB-FIX Required

** VB-FIX & VB-06 Required

Remanufactured Valve Bodies

Save Time & Money with a PREMIUM Rebuilt Valve Body from Sonnax!

- Completely refurbished with genuine Sonnax parts
- Hydraulically & electronically tested, ready to bolt up
- Limited Lifetime Warranty

4R100

Without PTO, F6 Casting Number **Part No. F043**

With PTO, F8 Casting Number **Part No. F044**
Return & Rebuild Only

F043

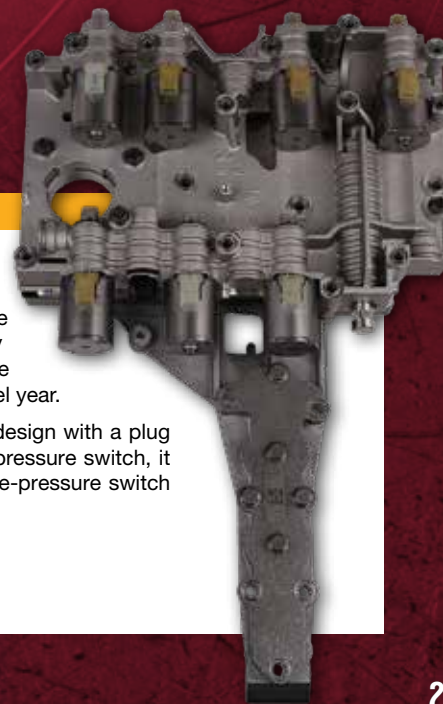


5R110W

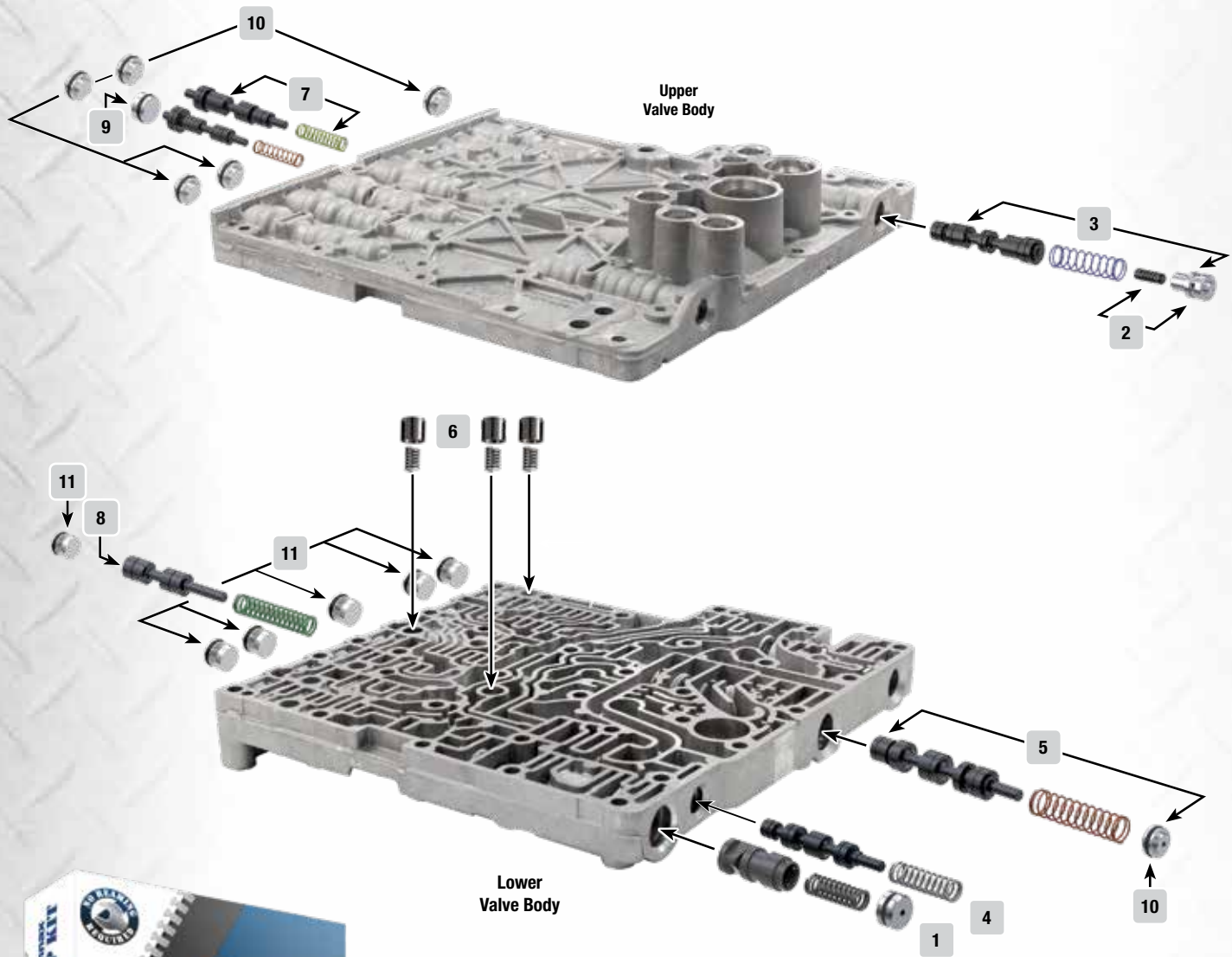
Part No. F05R110

TECH NOTE: This product is serviced without any pressure switches. Your solenoid body may have one or five pressure switches depending on model year.

Although F05R110 is a late design with a plug installed instead of the one pressure switch, it will work in early, one- or five-pressure switch applications.



FORD 6R140



Zip Kit®

REPAIR & PREVENT DAMAGE

Part No. 6R140-ZIP

The First Step in Correcting Common Shift Problems

- Delayed engagement
- Harsh shifts
- Excess heat
- Flare shifts & bind-ups
- Slipping gears
- TCC apply & release concerns
- Harsh engagement
- Soft shifts

Kit Includes:

- TCC Apply Boost Valve Kit
- O-Ringed End Plug Kit
- Internal O-Ringed End Plug Kit
- Accumulator Pistons (3)
- Converter Limit Valve, Sleeve & Spring
- Accumulator Springs (3)

It's easy to restore — and maintain — shift quality with Zip Kits.

Uniquely designed Sonnax parts target the root cause of valve body complaints and stop critical circuit pressure losses in the most common problem areas of the transmission.

- **Installs quickly with no reaming or special tools required**
- **Uniquely designed parts address root causes of valve body complaints by sealing critical pressure circuits**
- **Detailed technical booklet included with in-depth rebuild & inspection tips for comprehensive valve body repair**



Symptoms/Part Type	Product Name	Part No.	Details	Tooling
TCC/Lockup Symptoms				
Excess TCC slip, TCC codes, TCC apply & release concerns, Lube failures, Reduced clutch life	Oversized Converter Limit Valve Kit	1 126740-19K		F-126740-TL19*
TCC codes, TCC slip/cycling, No lockup, TCC cycling, Overheated fluid, Low cooler & lube pressure	TCC Apply Boost Valve Kit	2 126740-03K		
	Oversized TCC Apply Regulator & Boost Valve Kit	3 126740-15K		F-126740-TL15*
Engine stall, TCC codes, No TCC release, Overheated fluid, Low TCC release pressure	Oversized TCC Charge Limit Valve Kit	4 126740-01K		F-126740-TL*
Pressure Problems				
Poor shift quality, TCC apply & release concerns, Erratic line pressure, Burnt clutches	Oversized Line Pressure Control Valve Kit	5 126740-08K		F-126740-TL8*
Shift/Engagement Concerns				
Downshift clunk, Firm shifts, Erratic EDS solenoid control and/or EDS codes	Accumulator Piston Kit	6 95740-15K	Set of 7 pistons & springs	
Delayed Reverse, 2-3/4-5 Flare, Ratio codes, 3rd Slip, 5th Slip, Direct clutch burned	Oversized Direct Clutch Regulator Valve Kit	7 126740-11K		F-126740-TL11*
Shift quality is not load sensitive, Delayed engagement, Gear ratio & solenoid codes	Oversized Forward Clutch Latch Valve Kit	8 126740-06K		F-126740-TL6*
Delayed/No Forward, Gear ratio & solenoid codes, Failsafe mode, Slipping gears	Oversized Forward Clutch Regulator Valve Kit	9 126740-13K		F-126740-TL13*
Flare shifts, Harsh shifts, Soft shifts, Pressure loss, Burnt clutches	O-Ringed End Plug Kit	10 126740-09K	Includes 20mm LPC end plug & 5 regulator 18mm end plugs	
	Internal O-Ringed End Plug Kit	11 126740-05K	Includes 6 end plugs	
Shift concerns, Line pressure instability	Solenoid (NH)	126421-NHJ	Replaces band #1 OE BC3Z-7G383J only, for LPC, 3-5-R or 4-5-6 solenoid locations	
	Solenoid (NH)	126422-NHK	Replaces band #2, OE BC3Z-7G383K only, for LPC, 3-5-R or 4-5-6 solenoid locations	
	Solenoid (NH)	126425-NHN	Replaces band #5 OE BC3Z-7G383N only, for LPC, 3-5-R or 4-5-6 solenoid locations	
Shift concerns, TCC apply & release concerns	Solenoid (NL)	126421-NLR	Replaces band #1 OE BC3Z-7G383R only, for TCC, 1-2-3-4, 2-6 or 1-R solenoid locations	
	Solenoid (NL)	126425-NLV	Replaces band #5 OE BC3Z-7G383V only, for TCC, 1-2-3-4, 2-6 or 1-R solenoid locations	
Component Damage/Failure				
Pump noise, Bearing failure, Loss of lube oil	Converter Hub Support Pump Bearing	126202	With seal	
Manual lever binds, Missing, corroded or broken shift selector shield	Shift Selector Shield Kit	126760-01K	Non-PTO equipped, replaces OE BC3Z-7B229-B, 4C3Z-7H181-AA	
Tools				
Sonnax F-Tool kits designed to service a specific bore require the VB-FIX, a self-aligning valve body reaming fixture.	Tool Kit	F-126740-TL	126740-01K	VB-FIX
	Tool Kit	F-126740-TL11	126740-11K	VB-FIX
	Tool Kit	F-126740-TL13	126740-13K	VB-FIX
	Tool Kit	F-126740-TL15	126740-15K	VB-FIX
	Tool Kit	F-126740-TL19	126740-19K	VB-FIX
	Tool Kit	F-126740-TL6	126740-06K	VB-FIX
	Tool Kit	F-126740-TL8	126740-08K	VB-FIX

* VB-FIX Required

“R” Ratio Servo Piston Kit

HD/HP UPGRADE

Part No. K36528R Fits Mid '68-Later

Classic “R” Ratio Apply Size
with No-Leak Pin Design

- Largest apply area
- No-leak pin design prevents high clutch/release oil leaks
- Includes two return springs for tuning of shift

Note: A replacement seal kit (Part No. K36528R-SK) is available that includes a cover gasket and all O-rings needed to refresh the servo piston.



Servo Apply Levers

HD/HP UPGRADE

Recalibrate Cores or Hardworking Units for Additional Band Capacity

- High-quality, forged 6061-T6 aluminum resists distortion & cracking
- Replace hard-to-find OE levers

Changing to a lever with the band apply strut channel closer to the pin center will increase band apply force and holding power while firming up the 1-2 shift. Combine levers with different sized servos to correspond with specific application needs.



Part No. 36916E
“E” Ratio (1.85)
C6AZ-7330-D



Part No. 36916F
“F” Ratio (2.30)
C6AZ-7330-E



Part No. 36916FF
“FF” Ratio (2.82:1)

STOCK RATIOS Combine an “R” ratio servo with an “E” ratio lever for mild performance applications or an “F” ratio lever for more extreme applications.

CUSTOM RATIO Due to this aggressive lever ratio, Sonnax does not recommend use with “H” or “R” code servos.



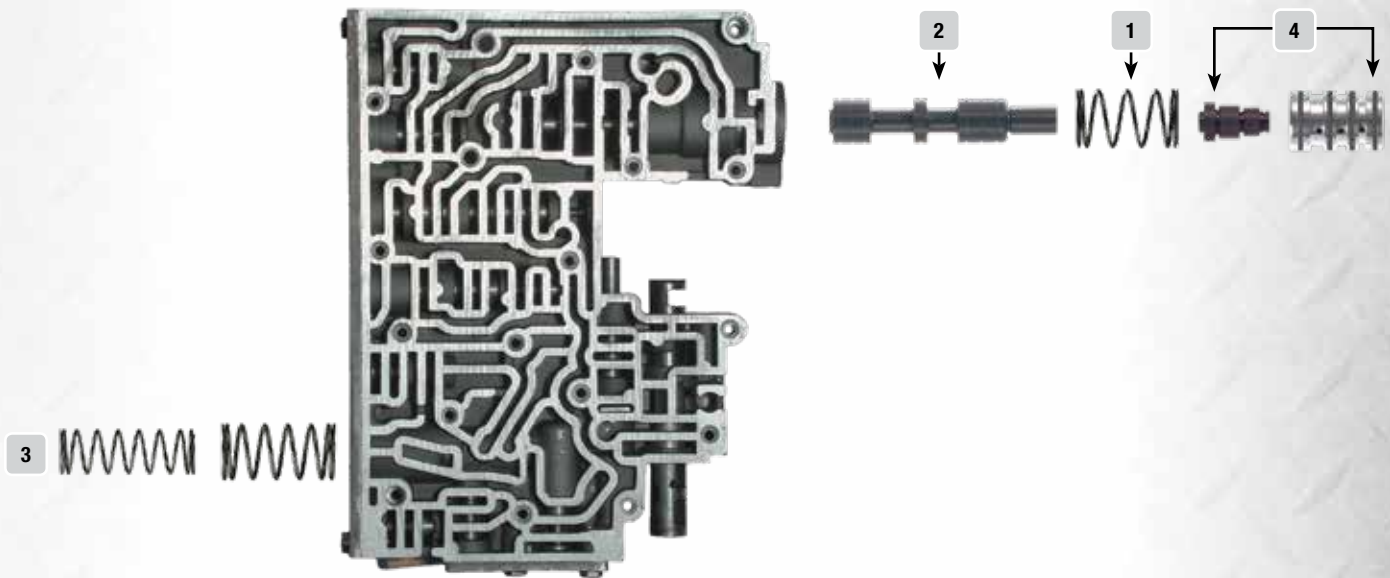
Extra Wide Band

HD/HP UPGRADE

Part No. S026968 Fits '66-Later

2 ¼" Wide with Heavy-Duty Lining
to Guarantee Maximum Holding Power

More C6 Components

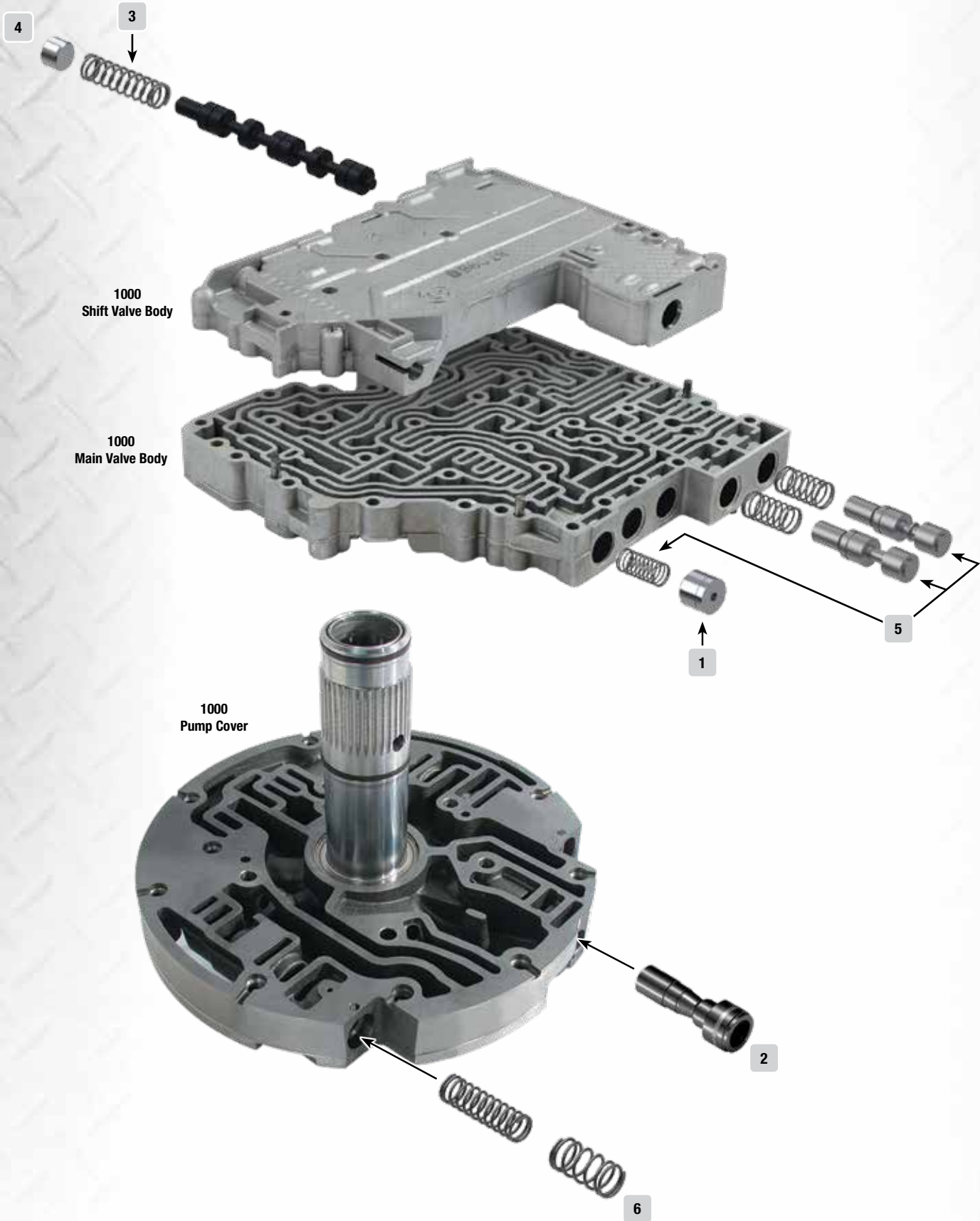


Symptoms/Part Type	Product Name	Part No.	Details	Tooling
Pressure Problems				
Soft shifts, Poor shift quality, Low base line pressure, High line pressure	Elevated Pressure Main Pressure Regulator Spring	1 36946-13	Calibrated to OE gas line pressure, fits gas/diesel, 20/bag	
No kickdown, Stacked shifts, Poor line pressure control, High line pressure in Reverse	Oversized Modulator Valve Kit	36833-01K	Includes springs for gas, diesel & gas/diesel conversions	36833-TL
2-3 Flare, Delayed engagement, Erratic line pressure, PR valve buzz, Reverse chatter	Oversized Pressure Regulator Valve	2 36946-10K		36946-TL ‡
Shift/Engagement Concerns				
1-2 Quality poor	1-2 Accumulator Valve Spring Kit	3 36946-05K	5 Inner springs, 5 outer springs	
Soft shifts, Poor shift quality, Reverse shudder, Direct clutch failure, Low line rise	Boost Valve Kit	4 36941-01K	'76-Earlier, clicker-style units only	
	Boost Valve Kit	4 36946-04K	Gas ratio, factory style	
	Boost Valve Kit	4 36946-01K	Gas ratio, includes O-rings	
	Boost Valve Kit	4 36946-03K	Diesel ratio, factory style	
	Boost Valve Kit	4 36946-02K	Diesel ratio, includes O-rings	
Component Damage/Failure				
Bearing noise, Bearing Failure	Bearing Kit	SBK-F7	'66-'94	
Damaged bushing journal	Forward Planetary Repair Sleeve Kit	36440-01	Not for use with steel planetaries	
Lost or damaged component	Low Sprag Inner Race	36429E	Late style, 1.013" thick	
	Low Sprag Race & Bearing Kit	36429E-K	Includes OE bearing	
	Oil Pan	36950-01	Heavy gauge, 25% thicker than OE	
	Pan Bolt	26341-01	Also fits C4, 100/bag	
Leaking front seal, Pump noise, Excess converter hub-to-bushing clearance, Low pump volume	Pump Bushing	36002-01	Finish-in-place	
Premature wear & bushing failure, Inadequate lubrication	Rear Case Bushing	36008B	'89-'94, early style with three grooves to front, no grooves to back, 4/bag	T36008A †
Bearing noise, 1-2, 2-3, 4-5 Flares	Rear Sun Gear Bearing & Race Assembly	96423		
Driveline slack & engagement noise	Shim	36414-01K	.044" Thick, 5/bag	
Tools				
	Tool Kit	36833-TL	36833-01K	Required Fixture
	Bushing Installation Tool	T36008A	HP-4R100-01, 36008C, 36008D, 36008B, SC-E40D, SC-4R100HD	

‡ Tool kit 36946-TL is no longer in production. Check with your distributor for availability.

† Recommended Tool

ALLISON® 1000/2000/2400



Symptoms/Part Type	Product Name	Part No.	Details	Tooling
TCC/Lockup Symptoms				
Overheating, Code P0741, TCC surge	F-Trim Valve End Sleeve	1 37000-03	'00-'05	
Shift/Engagement Concerns				
C1 Clutch hub wear, Lack of C1 clutch control, Harsh Forward, Delayed bump on Forward	C-1 Valve & Seal Kit	2 37000-05K	Feb '04-Earlier	
Code P0872, Code P1711, Pressure switch stuck on, Failsafe mode, 3rd Gear starts	E-Shift Valve Spring	3 37000-02	'00-'09	37000-02BST †
	Oversized E-Shift Valve Kit	4 37000-15K	'00-'09	F-37000-TL15*
Premature clutch wear, Inability to alter clutch apply pressure curve	Trim Valve & Spring Kit	5 37000-12K	'00-'09, F-trim spring fits '00-'05 only	37000-TL12
Component Damage/Failure				
Broken spring, Overheating, Delayed engagement	Lube Regulator & Converter Relief Spring Kit	6 37000-01K	'03-Earlier, 6-solenoid units	
	Thrust Bearing	S29531089	Early style, T1/T6	
	Thrust Bearing	S29531090	T2, located in C2 drive hub	
	Thrust Bearing	S29531095	Early style, T3/T5, located in rotating clutch assembly & P2 planet module	
Bearing noise, Bearing Failure	Thrust Bearing	S29531106	T4, located in P1 planet module	
	Thrust Bearing	S29531106	T4, located in P1 planet module	
Tools				
Sonnax F-Tool kits designed to service a specific bore require the VB-FIX, a self-aligning valve body reaming fixture.	Bore Sizing Tool	37000-02BST	37000-02	
	Tool Kit	37000-TL12	37000-12K	
	Tool Kit	F-37000-TL15	37000-15K	VB-FIX

* VB-FIX Required

† Recommended Tool

Trim Valve & Spring Kit

HD/HP UPGRADE

Part No. 37000-12K

Fits '00-'09 only. F-trim spring fits '00-'05 only.



Only Sonnax Delivers Predictable Pressure Control & Pressure Increase

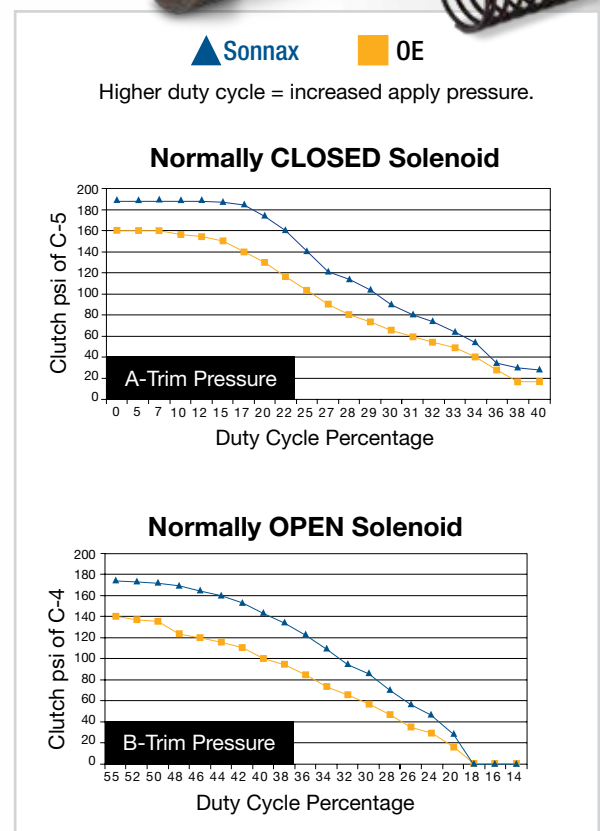
- Recalibrated valve ratio is the only way to predictably affect clutch pressures & apply rates
- 15% More clutch pressure & clamping force than OE
- Firmer & shorter shifts, including TCC engagement
- Improved engine braking on deceleration

The OE valve and spring configuration has a very conservative pressure curve. It simply cannot provide the rise in clutch apply pressure needed in heavy-duty Allison applications. Other aftermarket solutions that rely only on spring changes can have erratic pressure control.

Only Sonnax pairs recalibrated springs and redesigned valve ratios that deliver more aggressive pressure control and are specifically calibrated to provide predictable, responsive clutch pressure.



Installation of valves requires reaming with tool kit 37000-TL12, sold separately.



Forward Clutch Hubs

Heavy Duty CRITICAL SAFEGUARD Part No. 34322-01

#1 Aftermarket Hub for 4L80 Units

- Forged 1045 steel hub is an ideal upgrade over OE hubs
- Thicker cross-section for increased strength
- Added durability for daily drivers, work trucks & mild performance applications



Extreme Duty HD/HP UPGRADE Part No. 34322-02K

Hardened Splines & Added Bearing, No Machining Required

- Forged 4140 steel, nitrited & case-hardened splines eliminate spline wear in extreme applications
- Case-hardening at bearing surface is cut back to make further mods easier
- .025" Thicker than OE to slightly tighten endplay

Forward Clutch Hub Washer

A MUST for Every Build CRITICAL SAFEGUARD Part No. 34298-078 5/Bag

This unique Sonnax washer is .015" thicker than OE and installs between the forward clutch hub and drum to quickly and easily snug up endplay. Tightening endplay at this location does not alter endplay path through the unit as can happen when shimming between the forward clutch hub and direct drum.



Extreme Duty Main Shaft HD/HP UPGRADE Part No. 34672-05

The Most Durable 1" Shaft Available

- Exceptionally tough high-strength steel alloy with proprietary heat treatment stands up to the most extreme horsepower & abuse
- Full spline engagement prevents the rear internal gear, journal-end from twisting off
- Extensive in-vehicle & lab testing with unbroken performance

Note: Requires use of thrust bearing between forward clutch hub and direct drum. Some machining may be required for use in 4L80-E and 4L85-E applications.



Smart-Tech®

CRITICAL SAFEGUARD

Overrun Clutch Valve Kit

Part No. 34200-40K Fits '97-Later 4L80-E, 4L85-E

OUTSMART Overdrive Roller Clutch Failure

- Improves OD roller clutch holding power in D4 & Reverse ranges
- Extends the life of workhorse transmissions while preventing warranty claims & comebacks
- Installs quickly onto the valve body — no transmission removal needed!

Chronic OD roller clutch failure is due to insufficient holding capacity of the OD roller clutch. The 4L80-E OD roller clutch faces a tough challenge: it alone delivers ALL the power in 1st, 2nd and 3rd Gears. The only way to radically increase OD roller clutch holding capacity is to bring on the overrun clutch in OD 1st-3rd Gears. Thanks to the Sonnax Smart-Tech overrun clutch valve kit, this is easy to do. Components install easily onto the valve body to help keep trucks working hard all year round.

A Simple Hydraulic Solution to a Complex Mechanical Problem

Via an external manifold that bolts to the valve body, the Smart-Tech kit hydraulically applies the overrun clutch as soon as the engine is started. The overrun clutch can now share the load the OD roller clutch otherwise struggles with on its own. The manifold releases the overrun clutch only in OD 4th Gear enabling maximum holding capacity in 1st, 2nd and 3rd Gears.

PLUS...Improved Holding in Reverse

With the Smart-Tech kit, the overrun clutch is applied in ALL manual valve positions, including Reverse. That's a big help for drivers trying to back up a goose-neck trailer loaded down with a huge tractor.

TECH TIP: Learn more about gear function by reading "Outsmarting 4L80-E Overdrive"



With Smart-Tech Kit		GEAR	Stock Transmission	
OD Roller Clutch	Overrun Clutch		OD Roller Clutch	Overrun Clutch
Holding	APPLIED	Park	Holding	OFF
Holding	APPLIED	Reverse	Holding	OFF
Holding	APPLIED	OD - 1 st	Holding	OFF
Holding	APPLIED	OD - 2 nd	Holding	OFF
Holding	APPLIED	OD - 3 rd	Holding	OFF
Overrunning		OD - 4 th	Overrunning	

EASY TO INSTALL

Remanufactured Valve Bodies

Overrun Clutch Protection Right Out of the Box

Save time and money on your next job! The Smart-Tech kit is available pre-installed on a premium Sonnax remanufactured valve body. Refurbished and improved with genuine Sonnax parts and backed by a limited lifetime warranty, this valve body comes fully tested and ready to bolt-up.

Part No. GM033 '97-'03 4L80-E, 4L85-E

Part No. GM030 '04-Later 4L80-E, 4L85-E





Line Pressure

Booster Kit The Fast, Easy Way to Clean Up Shifts

"The Sonnax progressive boost valve will put a smile on your customer's face."

D. Stewart • Dan's Service Center

- Large-ratio boost valve delivers crisp, clean shifts without low-speed harshness
- No special installation tools required
- Ideal for heavy-duty & modified vehicles as well as hard-working daily drivers
- Improved shift feel & durability reduce comebacks & complaints



HD/HP UPGRADE

Part No. 4L80E-LB1 Fits 4L80-E, 4L85-E

Part No. 400-LB1 Fits 400

Heavy Duty Case Bushing Kit

No-Walk Bushing with Thrust Bearing Maximizes Durability

Case-bushing walkout and thrust washer wear are common issues in the 400 and 4L80-E. This kit combines the tried-and-true no-walk case bushing with a high-quality thrust bearing and selective shims that update this area for maximum durability in all applications.

HD/HP UPGRADE

Part No. 34006-SPB



Selective Shims

Flanged, Bronze No-Walk Bushing

High-Quality Bearing

Bushing Also Sold Separately

CRITICAL SAFEGUARD

Part No. 34006-SP

Reverse Servo Spacer Kit

CRITICAL SAFEGUARD

Part No. 34528-01K Fits 4L80-E, 4L85-E

Prevent Reverse Piston Breakage

- Increased contact area reduces pressure between apply pin & piston by 60%
- Belleville spring washer reduces shock on piston
- No machining necessary, drop-in components
- Eliminates the need to retrofit early-design reverse servo pistons into late units



Short Spacer

Flat Washer

Belleville Spring Washer

E-Clip



The Sure Cure[®]

Comprehensive Kit for
Big Problems You Don't Want Back

CRITICAL SAFEGUARD

Part No. SC-4L80E
Fits 4L80-E, 4L85-E

Requires reaming with tool kit
77754-TL, sold separately.



- Restores shift quality & reduces comebacks
- Repairs biggest trouble areas to reduce comebacks
- Includes step-by-step instructions for comprehensive valve/pump body restoration

Get everything you need for fixing problem-plagued units in one place, at one cost!

- High line pressure
- Uncontrollable line rise
- Buzzing noise
- Broken parts due to excessive line pressure
- Case damage
- Band failure
- Clutch failure
- Solenoid performance codes
- 2nd Gear starts
- Wrong gear starts
- 2-3 Neutral
- 3-4 Neutral
- No 4th
- Bushing walks out
- Output shaft & case damage
- Metal contamination
- Burnt converter
- Converter shudder
- TCC apply & release concerns
- TCC slip codes



TCC Regulator Valve Kit



Front Unit
Endplay Shim



Forward Clutch
Hub Washer (Rear)



Case Bushing



Stator Support
Bushing



O-Ringed Boost Valve Assembly



O-Ringed End Plugs



Checkballs



1-2 & 2-3 Shift Valve Springs



AFL Valve Kit

Lube Regulated Pressure Regulator Valve

CRITICAL SAFEGUARD

Part No. 34200-14K Fits 4L80-E, 4L85-E

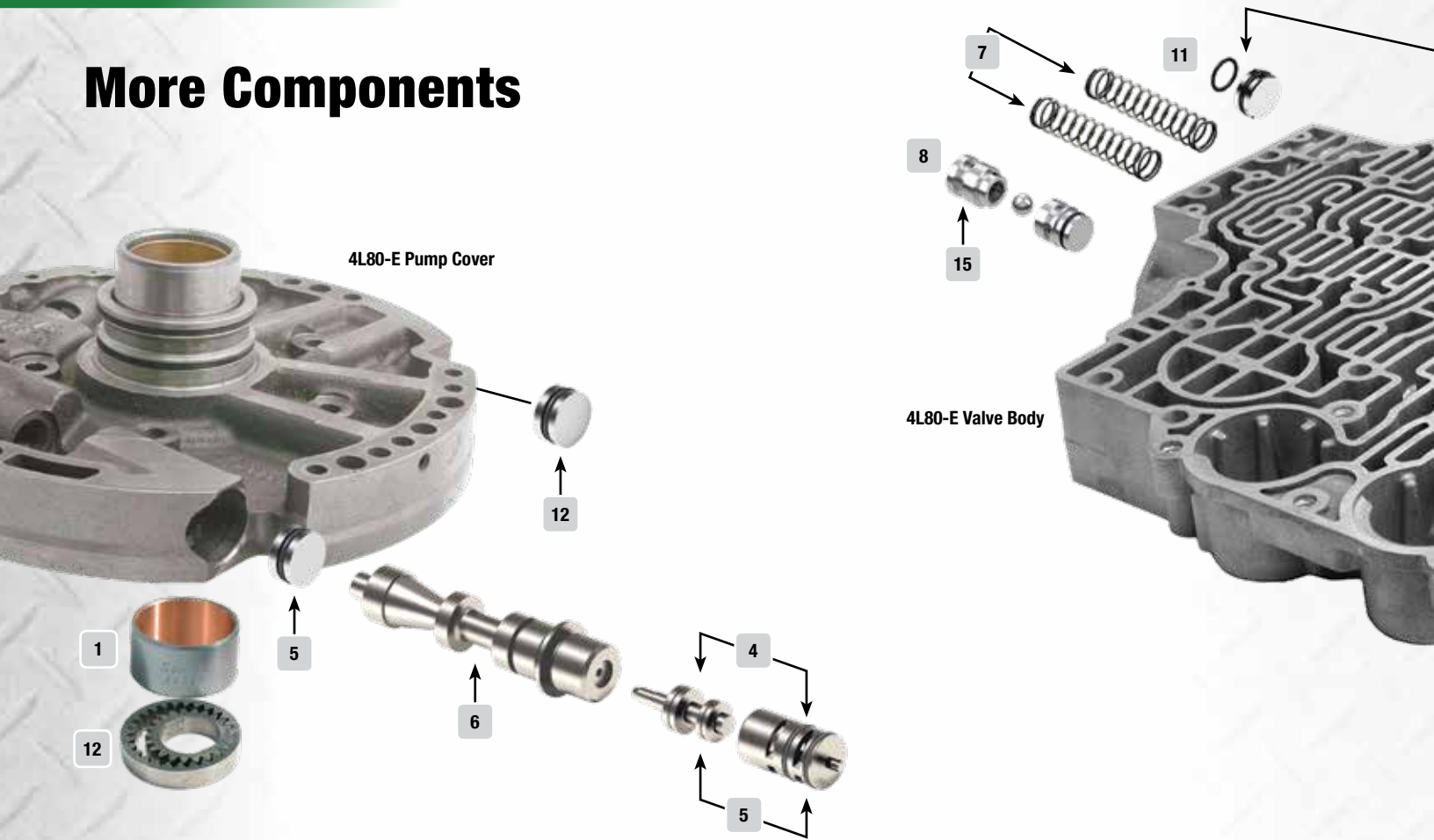
Prevent Overheating & Engine Surge at Idle

- Allows regulated flow to the converter charge/lube circuit at vehicle idle
- Prevents converter or pump drainback
- Improves converter release pressure
- Prevents engine surge at idle



Note: An oversized version of this valve is available for restoring hydraulic operation in worn bores (Part No. 34200-36K). See page 34 for details.

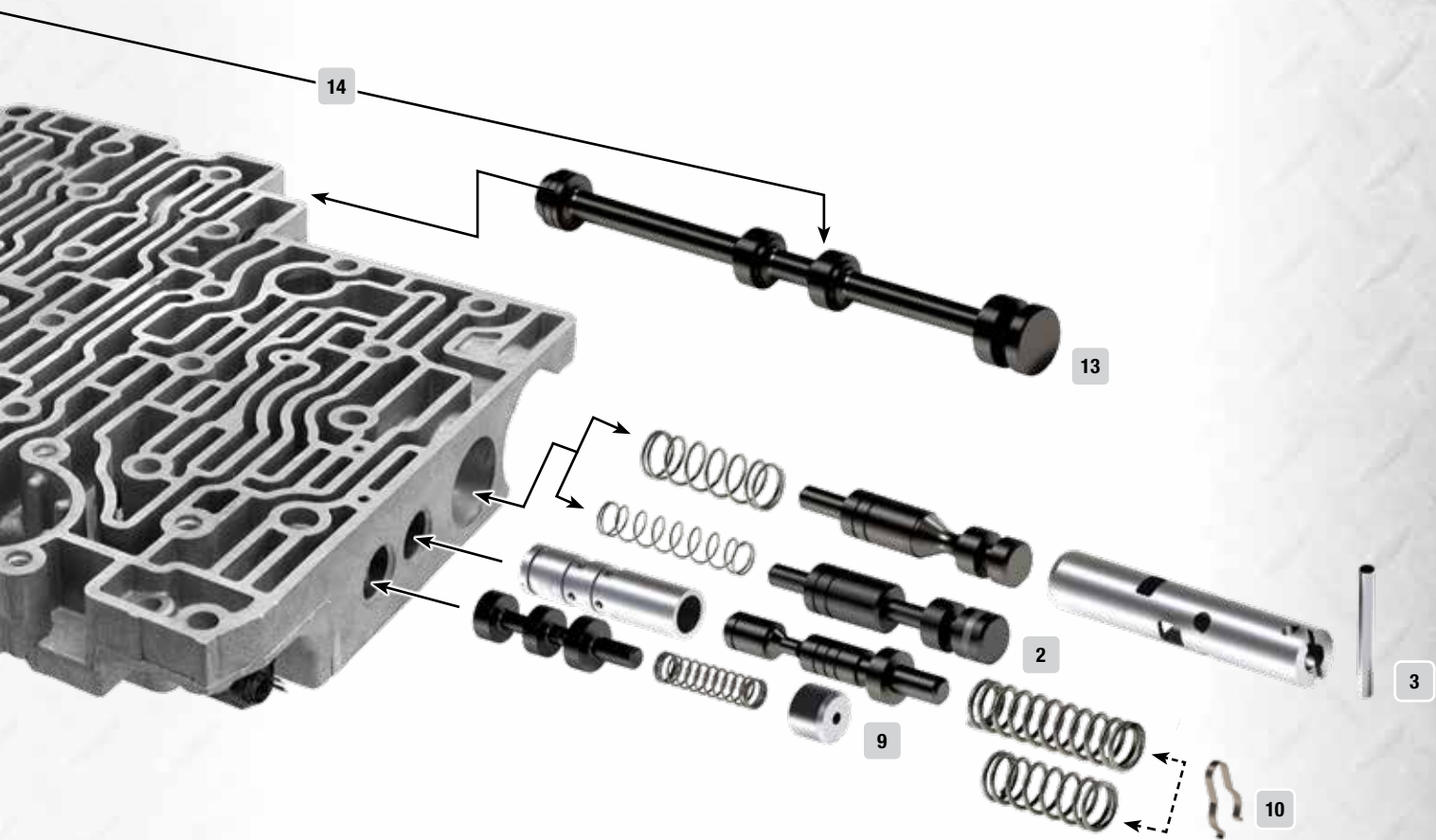
More Components



Symptoms/Part Type	Product Name	Part No.	Details	Tooling
TCC/Lockup Symptoms				
No converter apply, 1-2, 2-3, 4-5 Flares	End Plug	34994-11	4L80-E, 4L85-E only, fits TCC valve bore with .500" dia., 5/bag	
	O-Ringed End Plug Kit	34994-14K	4L80-E, 4L85-E, .668" dia. TCC valve bores only, includes 5 end plugs	
TCC slip codes, No lockup, Overheated fluid, No Overdrive	Stator Support Bushing	1 34016-W	4L80-E, 4L85-E only, wider than OE, 4/bag	
TCC codes, TCC apply & release concerns, Converter shudder, Burnt converter	TCC Regulator Valve Kit	2 34994-01K	4L80-E, 4L85-E only, includes seal for use in mildly worn bores ‡	
	Oversized TCC Regulator Valve Kit	3 34994-18K	4L80-E, 4L85-E only, sleeve corrects more severely worn bores ‡	F-34994-TL18*
Pressure Problems				
Line pressure instability	EPC Solenoid Harness Adapter	34435-01K	Plug-in harness adapter allows installation of an early-style solenoid into '03-later units	
Uncontrollable line rise, High line pressure, Broken parts, Broken clutch piston	Boost Valve Kit	4 34200-10K	4L80-E, 4L85-E only, limits EPC pressure to 95-105 psi	
	Boost Valve Kit	5 34200-03K	4L80-E, 4L85-E only, factory style	
	Boost Valve Kit	5 34200-01K	4L80-E, 4L85-E only, O-ring style	
Engine surge at idle, Low cooler flow, Low TCC release pressure	Lube Regulated Pressure Regulator Valve	6 34200-14K	4L80-E, 4L85-E only	
Engine surge at idle, Low cooler flow	Oversized Line-to-Lube Pressure Regulator & Boost Valve Kit	6 34200-36K	4L80-E, 4L85-E only	F-34200-TL36*
High & uncontrollable line pressure, Delayed converter charge, Poor Reverse engagement	Pressure Regulator Valve Kit	34910-03K	400 only	

* VB-FIX Required

‡ 34994-18 and 34994-01K each have two springs. The heavier spring results in OE-style lockup, the lighter spring results in firmer-than-OE apply.



Symptoms/Part Type	Product Name	Part No.	Details	Tooling
Shift/Engagement Concerns				
Repeated Solenoid B code 86, Repeated Solenoid B code 87, 2nd Gear starts, No 4th, No 3rd	1-2 & 2-3 Shift Valve Spring Kit	7 34994-02K	4L80-E, 4L85-E only	
Shift concerns	1-2 Shift Solenoid	24230288	4L80-E, 4L85-E, '91-later only, OE	
3rd Slip, 4th Slip, Gear ratio codes, Direct clutch burned, Reverse slip	3rd & Reverse Checkball Sleeve Kit	8 34200-47K	4L80-E, 4L85-E only	
Damaged accumulator bore, Poor shift quality, Loss of accumulator control	4th Accumulator Repair Kit	34805-01K	4L80-E, 4L85-E only, includes sleeve, pinless piston & seals	
Soft shift & low accumulator pressure, High line pressure in Drive	Oversized Accumulator Control Valve Kit	9 34994-22K	4L80-E, 4L85-E only, upgrades '91-'96 units to '97 calibration	F-34994-TL22*
Wrong gear starts, Clutch failure, Solenoid performance codes, No 4th, Band failure	Actuator Feed Limit Valve Kit	10 34200-16K	4L80-E, 4L85-E only	77754-TL
Broken AFL filters, 2nd Gear starts, Leaking AFL end plug, Code 68, 85, 86, 87, No upshifts	AFL Filter End Plug & O-Ring Kit	11 34994-17K	4L80-E, 4L85-E only	
Low line rise, 1-2 Soft, 2-3 Soft, Delayed Reverse, Reverse shudder	Boost Valve Kit	34910-01K	400 only, O-ring style	
	Boost Valve Kit	34910-05K	400 only, Factory style	
Pressure loss, TCC apply concerns, Burnt clutches, Harsh shifts, Soft shifts	O-Ringed End Plug Kit	34200-05K	4L80-E, 4L85-E only, TCC & PR bores, Includes 5 end plugs	
No converter apply, Burnt converter	O-Ringed End Plug Kit	12 34994-13	4L80-E, 4L85-E only, TCC shift valve bore, .497" dia., 5/bag	
Shift concerns	Governor Gear Kit	402	400 only	
	Governor	400	400, 2nd design only	
Bent valves, Low line rise, Delayed engagement, Gear loss	Manual Valve	13 34994-16	4L80-E, 4L85-E only	
Bent valves, Low line rise, Delayed engagement, Gear loss, Broken AFL filters, 2nd Gear starts	Manual Valve Kit	14 34994-16K	4L80-E, 4L85-E only, includes 34994-16 & 34994-17K	

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Symptoms/Part Type	Product Name	Part No.	Details	Tooling
Shift/Engagement Concerns				
Shift concerns	Pressure Switch Manifold	24222077	4L80-E, 4L85-E, '91-later only, OE Part No. 24222077	
Reverse slip, Gear ratio codes, 3rd Slip, 4th Slip, Direct clutch burned, No Reverse	Reverse Checkball Sleeve	15 34200-38	4L80-E, 4L85-E only, 4/bag	
Broken Low/Reverse servo piston, No Reverse	Reverse Servo Spacer Kit	34528-01K	4L80-E, 4L85-E, '96-later only	
Component Damage/Failure				
Bearing noise, Bearing failure	Bearing Kit	SBK-G20	4L80-E, 4L85-E only, '91-later	
	Bearing Kit	SBK-G10	'76-'97	
Bushing walks out, Case damage, Output shaft & case damage, Metal contamination	Case Bushing	34006-SP		
Lost or damaged component	Checkball	10000-08	Imidized plastic, .250" dia., 10/bag	
Direct clutch failure, Delayed 3rd/Reverse, Code 87, 730, 756, 1811, No 3rd/4th	Direct Drum Sleeve Kit	34838-01K		34838-TL †
Excess front endplay	Forward Clutch Hub Washer (Front)	34298-078	.078" Thick, 5/bag	
Excess front endplay, Forward clutch & sealing ring failure	Forward Clutch Hub Washer (Rear)	34301-094	.094" Thick, 5/bag	
	Forward Clutch Hub Washer (Rear)	34301-078	.078" Thick, 5/bag	
Excess front endplay, Excess rear endplay, Burnt Forward clutch	Front/Rear Unit Endplay Shim	34500-Z	.010" Thick, 10/bag	
Lost or damaged component	Manual Shift Shaft Kit	38511-05K	400 only	
	Manual Shift Shaft Kit	38511-01K	4L80-E, '91-'94 only, short version	
	Manual Shift Shaft Kit	38511-04K	4L80-E, 4L85-E, '95-later only, long version	
	Manual Shift Shaft Kit	38511-03K	Short version, adapts '95-later detent lever for use in 4L80-E '91-'94 units	
Lost or damaged component	Pan Bolt	35801-01	400 only, 100/bag	
Output & reaction planet assembly wear, Output & planet assembly failure	Pinion Pin	34875-01	400, 4L80, '98-earlier only, 4/bag	
	Pinion Roller	34875-05	400 & 4L80, '98-earlier only, 80/bag	
	Pinion Roller	34875-02	400, 4L80, '98-earlier only, 72/bag	
	Pinion Roller	34821-06	4L80-E, 4L85-E only, 80/bag	
	Pinion Roller	34880-02	4L80-E, 4L85-E, '99-later only, 72/bag	
	Pinion Washer	34875-03	400 & 4L80, '98-earlier only, 8/bag	
	Pinion Batwing Washer	34880-03	4L80-E, 4L85-E, '99-later only, 8/bag	
	Pinion Thrust Washer	34875-04	400 & 4L80, '98-earlier only, 8/bag	
	Planetary Rebuild Kit	34875RK	400 & 4L80, '98-earlier only	
	Planetary Rebuild Kit	34880RK	4L80-E, 4L85-E, '99-later only	
	Lost or damaged component	Pump Gear Set	16 34201E-SP	4L80-E, 4L85-E only, standard size
Retaining Clip		34989-01	4L80-E, 4L85-E only, 10/bag	
Wear grooves in the Forward drum ID bore, Delayed engagement, Burnt Forward clutch	Oversized Seal Rings	34716-01	4L80-E, 4L85-E only, 2/bag	34716-TL †
Early cases without shifter bracket bosses cannot be used in '96-'97 vehicles	Shift Cable Mount Bracket	34913-01	4L80-E, 4L85-E only, adapts early cases for '96-later use	
Excess rear endplay	Shim	34006-05	.005" Thick, 10/bag	
Lost or damaged component	Snap Ring	34994-15	4L80-E, 4L85-E only, 10/bag	
Damaged stator support turbine shaft sleeve	Stator Support Sleeve	34203-01K	4L80-E, 4L85-E only	
Bearing noise, Bearing failure	Thrust Bearing	34821-01	4L80-E, 4L85-E only	
Connector pushed into pan area, Retention tabs break off wiring harness connector	Wiring Harness Connector Bracket	34998-01K	4L80-E, 4L85-E, late-style, gray connector only	

† Recommended Tool

Symptoms/Part Type	Product Name	Part No.	Details	Tooling
High Performance/Heavy Duty Upgrades				
Pump				
Superior wear resistance & fit	Pump Bushing	34034T-01	PTFE lined	
Material & design upgrades for added strength	Stator Support Shaft	34910S-01	400 only, heat-treated chromoly	
Linkage				
Prevents leakage from GM THM400 cases	Shift Lever Kit	38512-01K		
Tools			For use with	Required Fixture
Sonnax F-Tool kits designed to service a specific bore require the VB-FIX, a self-aligning valve body reaming fixture.	Sizing Tool	34716-TL	34716-01	
	Installation Tool	34838-TL	34838-01K	
	Tool Kit	77754-TL	SC-4L60E, 34200-16K, 77754-09K, SC-4L80E	
	Tool Kit	F-34200-TL36	34200-36K	VB-FIX
	Tool Kit	F-34994-TL18	34994-18K	VB-FIX
	Tool Kit	F-34994-TL22	34994-22K	VB-FIX
	Vacuum Test Plate Kit	34994-VTP	For use with VACTEST-01K	
<p>Find Valve Body Problems 2X Faster with a Sonnax Vacuum Test Plate Kit</p> <p>Each plate seals over the entire valve body, leaving ports open at key areas for vacuum testing with Sonnax test stand kit VACTEST-01K. Easy-to-follow instruction guides identify valves, symptoms of wear and the right Sonnax parts for repair.</p>				
	Vacuum Test Plate Kit Seal	34994-VTP-S	Replacement seal for 34994-VTP	



Remanufactured Valve Bodies

Save Time & Money with a PREMIUM Rebuilt Valve Body from Sonnax!

- Completely refurbished with genuine Sonnax parts
- Hydraulically & electronically tested, ready to bolt up
- Limited Lifetime Warranty

4L80-E, 4L85-E

'92-'96, Temp Sensor in Wire Harness	GM027
'97-'03	GM028
'04-Later	GM029



4L80-E, 4L85-E with overrun clutch protection — see page 31 for details.

'97-'03	GM033
'04-Later	GM030

GM027

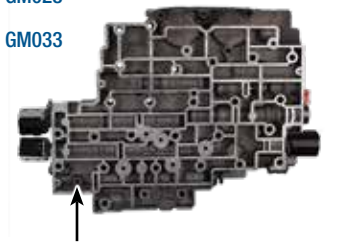


The screw in the temperature sensor is only used in '91 units. All later years use the temperature sensor located in the internal wiring harness.

◀ Look for two small holes on the upper right side of the valve body. The holes do not appear on '97-later units.

GM028

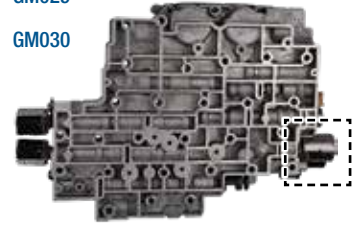
GM033



In '97-'03 units, the lube hole is at the location indicated.

GM029

GM030



'04-Later units have a late-style EPC solenoid, identifiable by its silver canister.



Zip Kit®

REPAIR & PREVENT DAMAGE

Part No. 6L45-6L90-ZIP

The First Step in Correcting Common Shift Problems

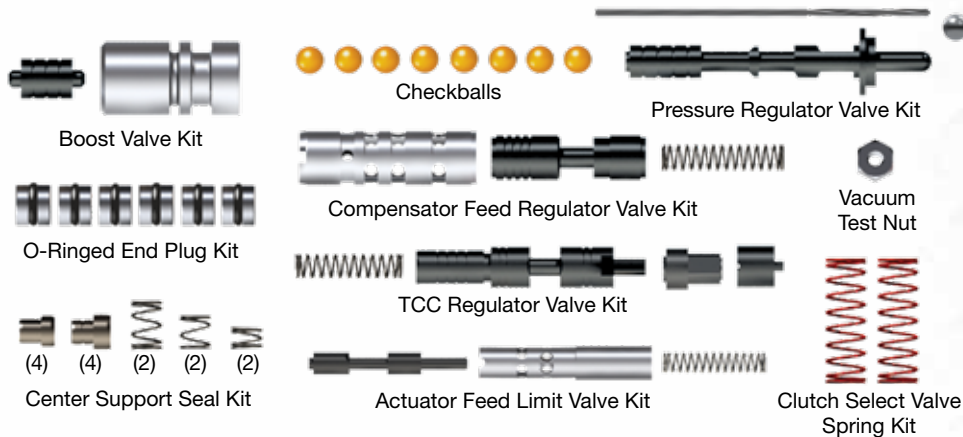
It's easy to restore — and maintain — shift quality with Zip Kits. Uniquely designed Sonnax parts target the root cause of valve body complaints and stop critical circuit pressure losses in the most common problem areas of the transmission.

- Installs quickly with no reaming or special tools required
- Uniquely designed parts address root causes of valve body complaints by sealing critical pressure circuits
- Detailed technical booklet included with in-depth rebuild & inspection tips for comprehensive valve body repair



Install this Zip Kit to address these common transmission symptoms:

- Low pressure
- Slips & flares
- Soft shifts
- Burnt clutches
- Delayed engagement
- Inadequate lubrication
- TCC codes
- TCC apply & release concerns



Line Pressure Booster Kit



The Fast, Easy Way to Clean Up Shifts

HD/HP UPGRADES
Part No. 6L80-LB1

- Classic large-ratio boost valve delivers crisp, clean shifts without low-speed harshness
- No special installation tools required
- Ideal for heavy-duty & modified vehicles as well as hard-working daily drivers
- Improved shift feel & durability reduce comebacks & complaints

Pump Slide Spring

HD/HP UPGRADE Part No. 104534-HD Fits 6L80, 6L90



Maintains Maximum Line Pressure at Maximum RPM

- Stiffer spring holds the pump slide in a maximum-volume position at high RPMs
- Maintains line pressure to prevent clutch failure

4-5-6 Clutch Apply Piston Kits

Heavy Duty

HD/HP UPGRADE

Part No. 104960-01K Fits 6L80, 6L90

Improved Clutch Apply for Increased Durability

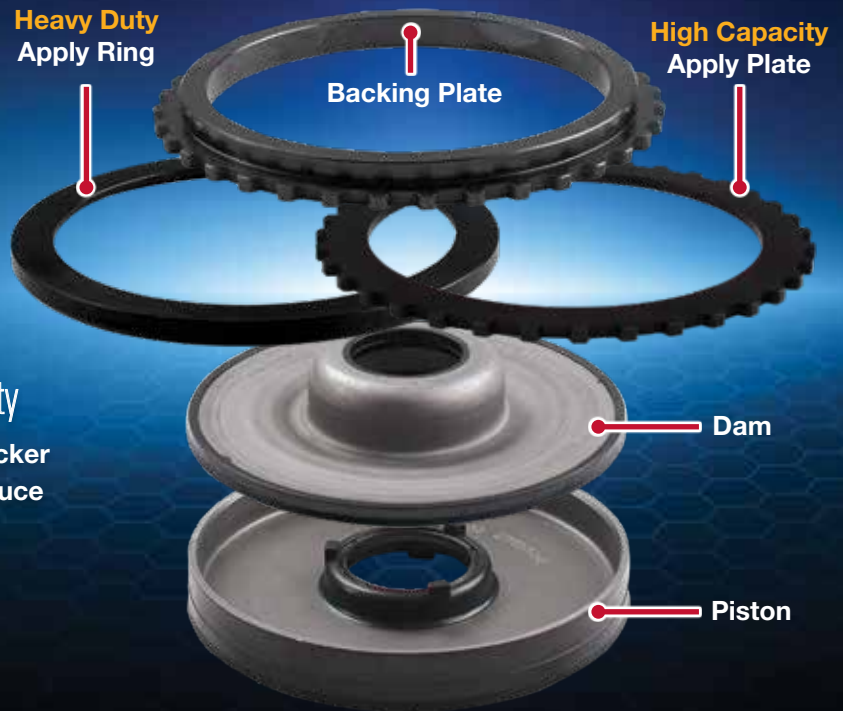
- Patent-pending apply ring & stronger, thicker backing plate improve clutch apply & reduce heat buildup
- Uses OE waved plate & clutch pack

High Capacity

HD/HP UPGRADE

17% More Clutch Capacity

Patent-pending, toothed-apply plate eliminates OE waved plate to allow one additional friction.



Part No. 104960-10K

Use with stock clutches.

Part No. 104960-20K

Use with Powerglide clutches

Both Fit 6L80, 6L90

and a 45-tooth clutch hub.

High Capacity

HD/HP UPGRADE

Part No. 104548-01

3-5-R Apply Ring

25% More Clutch Capacity

Shorter apply ring eliminates OE waved plate to allow one additional friction.



Heavy Duty 1-2-3-4 Piston

CRITICAL SAFEGUARD

Part No. 104984-01 Fits 6L80, 6L90*


Crack-Proof Billet Piston

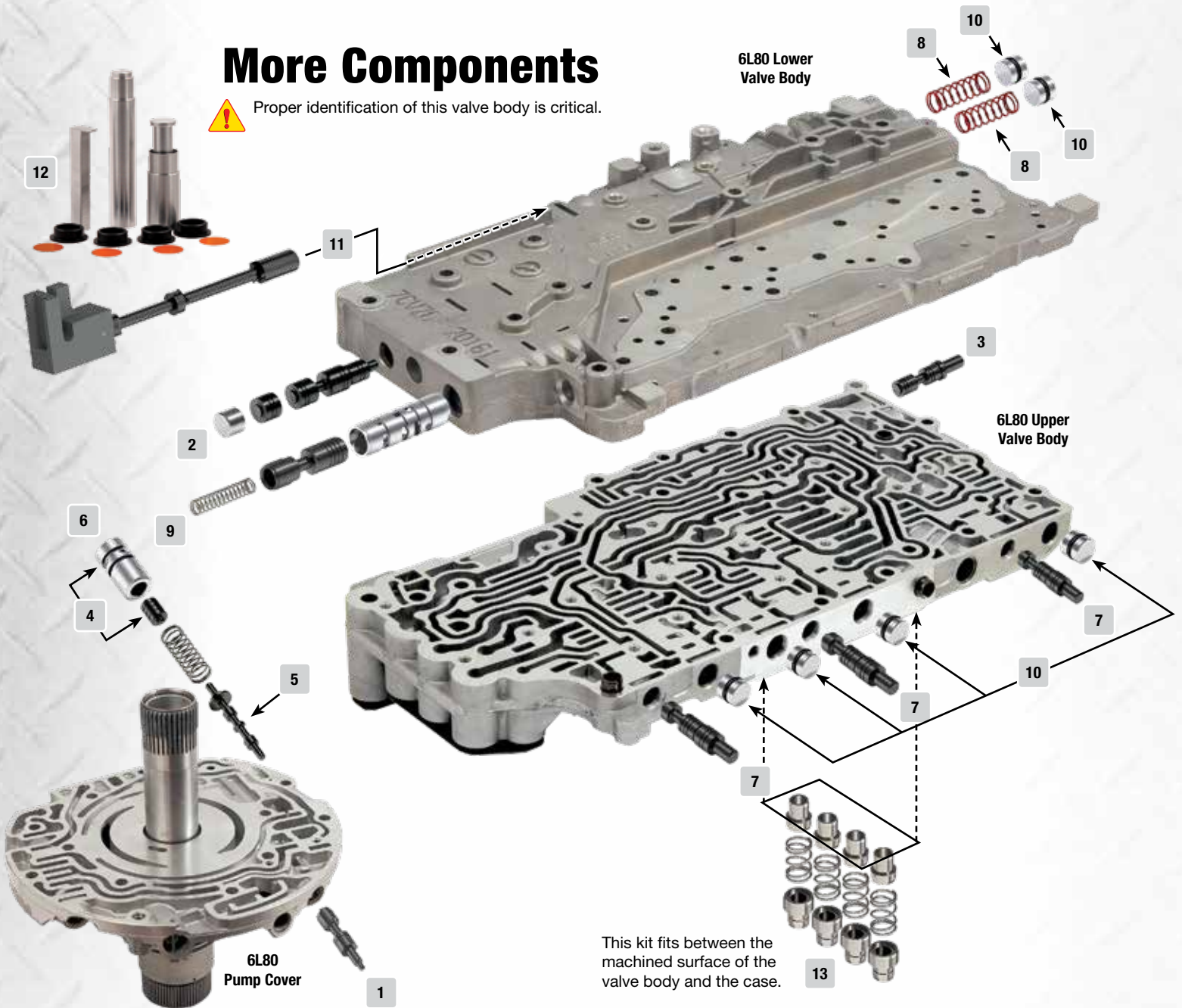
Guarantees Outstanding Performance

- 6061 Billet aluminum piston is significantly stronger than cast aluminum OE
- Unique design refinements add additional strength to prevent breakage & deliver maximum durability

*This piston does not fit '06-'07 units that use OE part number 24224146.

More Components

 Proper identification of this valve body is critical.



This kit fits between the machined surface of the valve body and the case.

Symptoms/Part Type	Product Name	Part No.	Details	Tooling
TCC/Lockup Symptoms				
High TCC slip RPM, Codes P0218, P0741, Overheated converter, Inadequate lubrication	Oversized Converter Feed Limit Valve	1 104520-11		F-104520-TL11C**
Codes P0741, P0742, High TCC slip RPM, Overheated fluid, Failsafe mode, Harsh shifts	Oversized TCC Regulator Valve Kit	2 104740-07K		F-104740-TL7*
Pressure Problems				
Solenoid performance codes, Clutch failure, Wrong gear starts, Harsh shifts, Soft shifts	Oversized AFL Valve	3 104740-12		F-104740-TL12*
Low line rise in Drive, Soft shifts, Burnt clutches	Boost Valve Kit	4 104520-01K		
Erratic line pressure, High line pressure, Low line pressure, Clutch slippage, Harsh shifts	Pressure Regulator Valve Kit	5 104520-03K		
	Oversized Pressure Regulator & Boost Valve Kit	6 104520-07K		F-104520-TL7C**

* VB-FIX Required

** VB-FIX & VB-06 Required

Tool kits F-104520-7TLC and F-104520-TL11C require the VB-06 unless the stator support shaft is removed from the pump body prior to reaming.

Symptoms/Part Type	Product Name	Part No.	Details	Tooling
Shift/Engagement Concerns				
Shift quality is not load sensitive, Clutch pressure solenoid codes, Burnt clutches	Oversized Clutch Boost Valve	7 104740-01	Fits any of 3 locations	F-104740-TL*
Code P0751, 1-2-3-4/3-5-Reverse Clutch burned, Cruise control disabled	Clutch Select Valve Spring Kit	8 104740-02K	Mid '10-Earlier, includes 2 springs	
Harsh shifts, Downshift clunk, Bump shifts, Flare shifts, Bind-up, Burnt clutches	Compensator Feed Regulator Valve Kit	9 104740-09K		
Shift concerns, Burnt clutches	O-Ringed End Plug Kit	10 104740-23K	Includes 6 end plugs	
No Forward, No Reverse, Gear ratio codes	Manual Valve Assembly	11 104740-24K	Fits BMW 6L45 only	
Pressure switch codes, Switch codes, Pressure control out-of-range codes, Failsafe mode	Pressure Switch Rebuild Kit	12 124740-30K	Services one valve body, requires installation tool kit	124740-TL30
	Pressure Switch Rebuild Master Pack	12 124740-28K	Services 10 valve bodies, includes installation tool kit	
Component Damage/Failure				
Burnt clutches, Loss of lube oil, Overheating & reduced lube feed	Center Support Seal Kit	104740-14K		
Lost or damaged component	Pump Vane	76742		
Tools			For use with	Required Fixture
Sonnax F-Tool kits designed to service a specific bore require the VB-FIX, a self-aligning valve body reaming fixture.	Pressure Switch Installation Tool Kit	12 124740-TL30	Includes tools, plus discs & seals to service one valve body	
	Tool Kit	F-104740-TL	104740-01	VB-FIX
	Tool Kit	F-104740-TL7	104740-07K	VB-FIX
	Tool Kit	F-104520-TL7C	104520-07K	VB-FIX**
	Tool Kit	F-104520-TL11C	104520-11	VB-FIX**
	Tool Kit	F-104740-TL12	124740-01, 104740-12	VB-FIX
	Vacuum Test Plate Kit	104740-VTP	For use with VACTEST-01K	
	Vacuum Test Plate Kit Seal	104740-VTP-SL	Replacement lower valve body seal for 104740-VTP	
Vacuum Test Plate Kit Seal	104740-VTP-SU	Replacement upper valve body seal for 104740-VTP		

Remanufactured Valve Bodies

Guaranteed OE Performance...without the OE Price!

- Completely refurbished with genuine Sonnax parts
- Hydraulically & electronically tested, ready to bolt up
- Limited Lifetime Warranty



Bores, plates, checkballs, seals, casting...EVERY critical area is reviewed, refreshed and repaired.

Top-quality Sonnax components optimize valve body function and prevent future wear.

State-of-the-art testing verifies AFL, clutch, TC and compensator feed pressures match new OE specs.

Tech and install tips ship with every unit.



Check ID guides before ordering

6L45

Part No. GM6L45L '10-Later GM units

Part No. BMW6L45E Early-design separator plate
Return & Rebuild Only

Part No. BMW6L45L Late-design separator plate
Return & Rebuild Only

6L45, 6L50

Part No. GM6L45E '06-'09 GM units

6L50

Part No. GM6L50L '10-Later GM units

6L80

Part No. GM6L80E '06-'09 GM units

Part No. GM6L80L '10-Later GM units

6L90

Part No. GM6L90E '06-'09 GM units

Part No. GM6L90L '10-Later GM units

Note: TEHCM not included with valve bodies.

TORQUE CONVERTER

GO BEYOND THE TRANSMISSION WITH SONNAX

On the road and on the track, Sonnax is the world's #1 full-line supplier of the quality converter components essential for long-lasting, trouble-free performance.

WHERE TO BUY Talk to your local converter shop or performance specialist about rebuilding with Sonnax components. Contact Sonnax anytime for comprehensive assistance with Sonnax products.

PERFORMANCE CONVERTER KITS ENGINEERED TO DELIVER BUILDS THAT LAST

A performance torque converter is highly specialized based on the performance characteristics of the specific vehicle. Unlike many labor-intensive aftermarket kits, Sonnax kits ensure fast, easy assembly with predictable tuning adjustments.

From the weekend enthusiast to the hardcore competitor, Sonnax has you covered!

- **Widest variety of kits available**
- **Designed for ease of assembly**
- **Improve acceleration & durability with confidence**

SMALL/LARGE DIAMETER • SINGLE-PLATE/MULTI-PLATE/NON-LOCKUP • DAMPERED/DAMPERLESS

Ask your converter rebuilder or performance specialist about performance converter kits for these transmissions.

Allison®

- 1000/2000/2400
- LCT 1000

Chrysler

- A618, 47RH/RE, 48RE
- 68RFE
- 727
- A904

Ford

- 5R110W
- C4, C6
- AOD, AODE, 4R70W

GM

- 350, 400, Powerglide
- 200-4R, 4L60, 4L60-E, 4L65-E, 4L75-E
- 4L80-E, 4L85-E
- 6L80, 6L90

48RE

LEARN MORE
ON PAGE 3

Big Shaft System

The END of
Input Shaft Failure

For drivers pushing the limits beyond 1,200HP, the ULTIMATE protection against spline twist and shaft breakage is here! The Sonnax combination of a 35-spline input shaft and 35-spline, multi-plate converter guarantees unmatched durability. Ask a converter shop or performance specialist about installation requirements.

Smart-Tech® Big Input Shaft Kit


Part No. 22121B-08K Fits 48RE, 47RH/RE

Performance Converter Kit

Part No. BW-RK-4 (Damperless) Part No. BW-RK-5 (Dampered)



ONLY SONNAX LETS YOU FULLY UNLEASH DIESEL POWER ON THE ROAD AND ON THE TRACK



Sonnax multi-plate converter kits are powerhouse upgrades for diesel truck owners that demand unmatched performance, consistency and durability from their vehicles.

Select Sonnax kits for upgrading Chrysler, Ford and Allison units come in both dampered and damperless configurations to give you the ultimate flexibility when customizing heavy-duty trucks for work or sport.



MAKE THE RIGHT CHOICE WHEN UPGRADING BIG POWER TRUCKS

Dampered Converter = Stock Shift Action

Damperless Converter = Aggressive Engagement & Lockup

The popular practice of “chipping” diesel engines creates lots of additional horsepower and torque that easily can overpower any stock converter. Upgrading to an aftermarket multi-plate is the only solution, but damperless converters used in extreme applications are hard on both drivers and the drivetrain.

That’s why Sonnax developed dampered multi-plates, the **ONLY** way to radically improve holding capacity without compromising the driving experience. They’re built from the same top-quality components as Sonnax damperless multi-plates, the only difference is the piston.

SONNAX IS THE EXCLUSIVE SUPPLIER OF HIGH-CAPACITY, DAMPERED MULTI-PLATE CONVERTER KITS

“I’ve had really good luck with the Sonnax dampered multi-plate.

With a solid damper, we were breaking two to three input shafts a week. Since we switched to the Sonnax kit and heavy duty shaft, we haven’t broken a shaft once.”

J. Garmon
Garmon’s Diesel Performance

DRIVELINE

GO BEYOND THE TRANSMISSION WITH SONNAX

Once you've increased engine and transmission performance, get the power down to the ground with premium-quality Sonnax driveline components.

WHERE TO BUY

Ask for Sonnax aluminum components from your local driveshaft shop. Contact a Sonnax product specialist for help with driveshaft component selection.

TWO-PIECE TO ONE-PIECE DRIVESHAFT CONVERSION

- Raise Strength & Durability
- Increase Serviceability
- Reduce Maintenance Costs
- Eliminate Takeoff Shudder



▲ FROM THIS

◀ TO THIS!



ELIMINATE THE WEAK LINK

The carrier bearing is one of the weakest links and highest maintenance costs associated with the two-piece driveline.

Optimize trucks running upgraded transmissions and converters with a one-piece driveshaft made from Sonnax aluminum yokes and tubing.

"We exclusively use Sonnax aluminum weld yokes and tubes for our 5" high performance truck driveshafts. They're high quality, easy to assemble and work well with our welding methods to create the quality finished product our customers are looking for."

B. Crownover • Driveshaft Specialist



5" Aluminum Weld Yokes & Tubing

From light-duty gas to the most powerful modified heavy-duty diesel trucks, Sonnax 5" aluminum driveline components are a simple and trouble-free next step for getting power down to the ground. Tubing and weld yokes combine for shaft lengths of up to 86".

Enhanced Strength & Durability

Sonnax components are made from 6061 T6, an aircraft-grade aluminum stronger and lighter than OE.

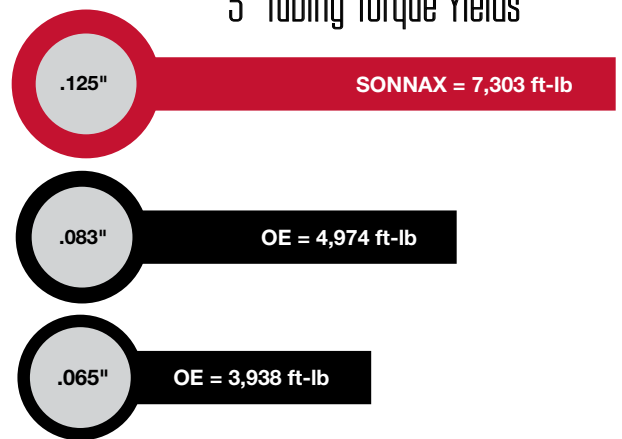
Improved Torque Yield

Tubing features a .125" thick wall for torque yields of up to 7,303 ft-lb (5" tubing), a dramatic improvement compared to the weaker OE .083" and .065" thick tubing.

Precision-Machined Quality

Yokes and tubing are manufactured to exacting specifications for long-lasting, trouble-free performance.

5" Tubing Torque Yields



**SONNAX IS AMERICA'S #1 SOURCE
FOR ALUMINUM DRIVESHAFT COMPONENTS
& AFFORDABLE, HIGH-QUALITY PERFORMANCE STEEL SLIP YOKES**