SK® 10RL80-G1

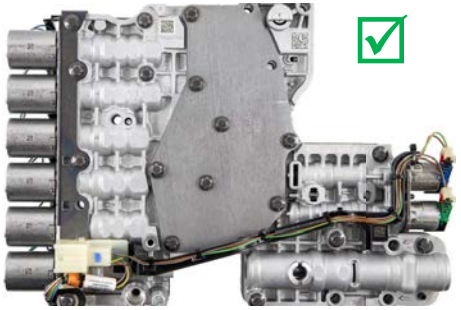
Fits: All Ford 10R60/80/100, GM GEN 1 10L80/90

Does not fit GM GEN 2 or GEN 1-VAR 1 (order part # SK® 10L80-G2 instead)

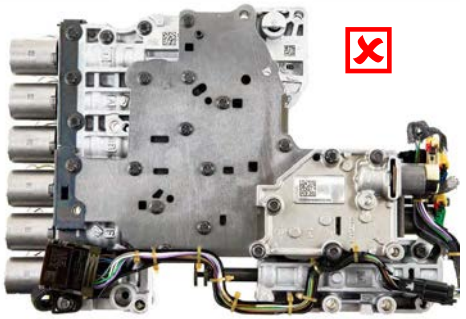
Corrects/Prevents/Reduces:

Unexplained shift complaints including binding, flaring or missing shifts with and without burnt frictions — Erratic main line pressure — Delayed engagements or broken parts — TCC shudder or slip, with or without codes, as well as insufficient clamping force under load — Overheated converter due to loss of converter feed — Clutch pressure regulation instability

Listen up! For **GM applications only,** look at the two pictures below to confirm it is a **GEN 1** valve body. *Transmission still in the vehicle? Not a problem, see page 6.*

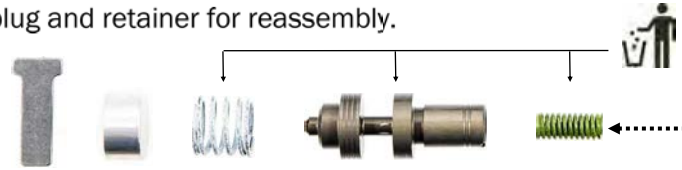


GEN 1



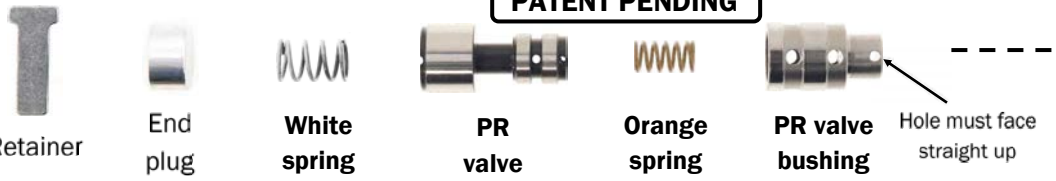
GEN 2 / GEN 1 -VAR 1

Step 1. Remove and discard original PR valve and 2 springs. Keep the end plug and retainer for reassembly.

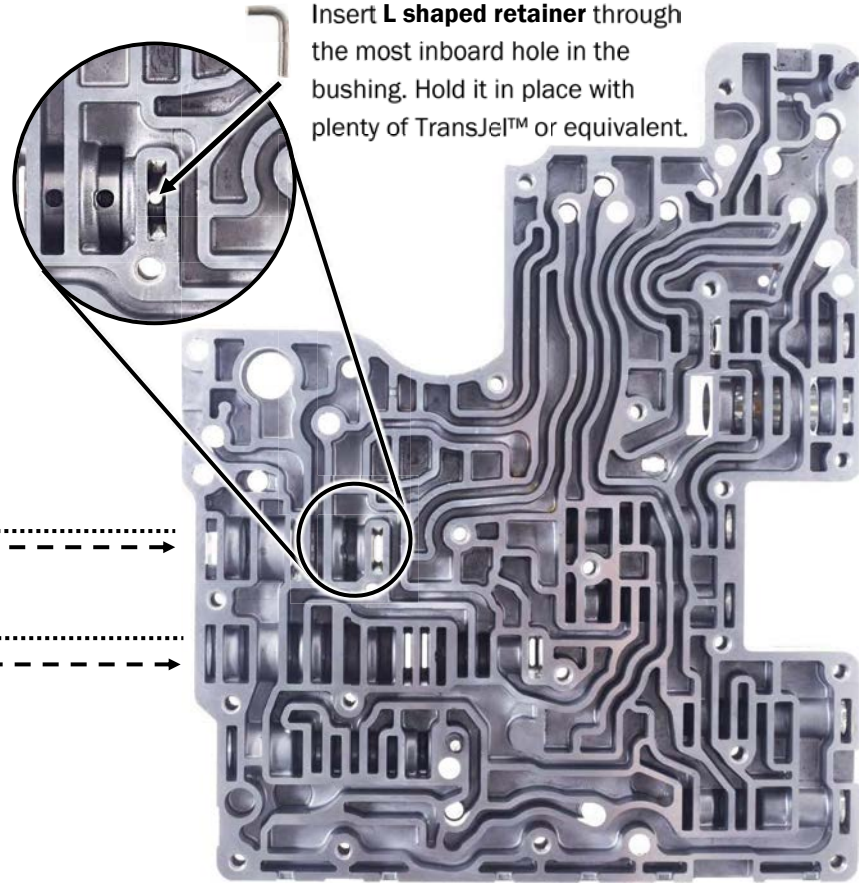


Step 2. Rotate the **new PR valve bushing** so that either one of the two holes in the smaller diameter is facing straight up. Next slide it into the valve body bore until it bottoms out and secure it in place by inserting the provide **L shaped retainer.** Add a generous amount of TransJel™ or alike to prevent retainer from accidentally falling out when turning the casting over. Next, insert new **orange spring, PR valve, white spring,** original end plug and retainer.

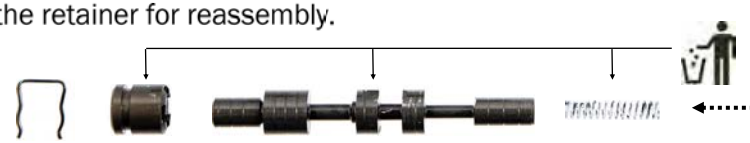
PATENT PENDING



Insert **L shaped retainer** through the most inboard hole in the bushing. Hold it in place with plenty of TransJel™ or equivalent.



Step 3. Remove and discard original TCC bushing, control valve, and spring. Keep the retainer for reassembly.



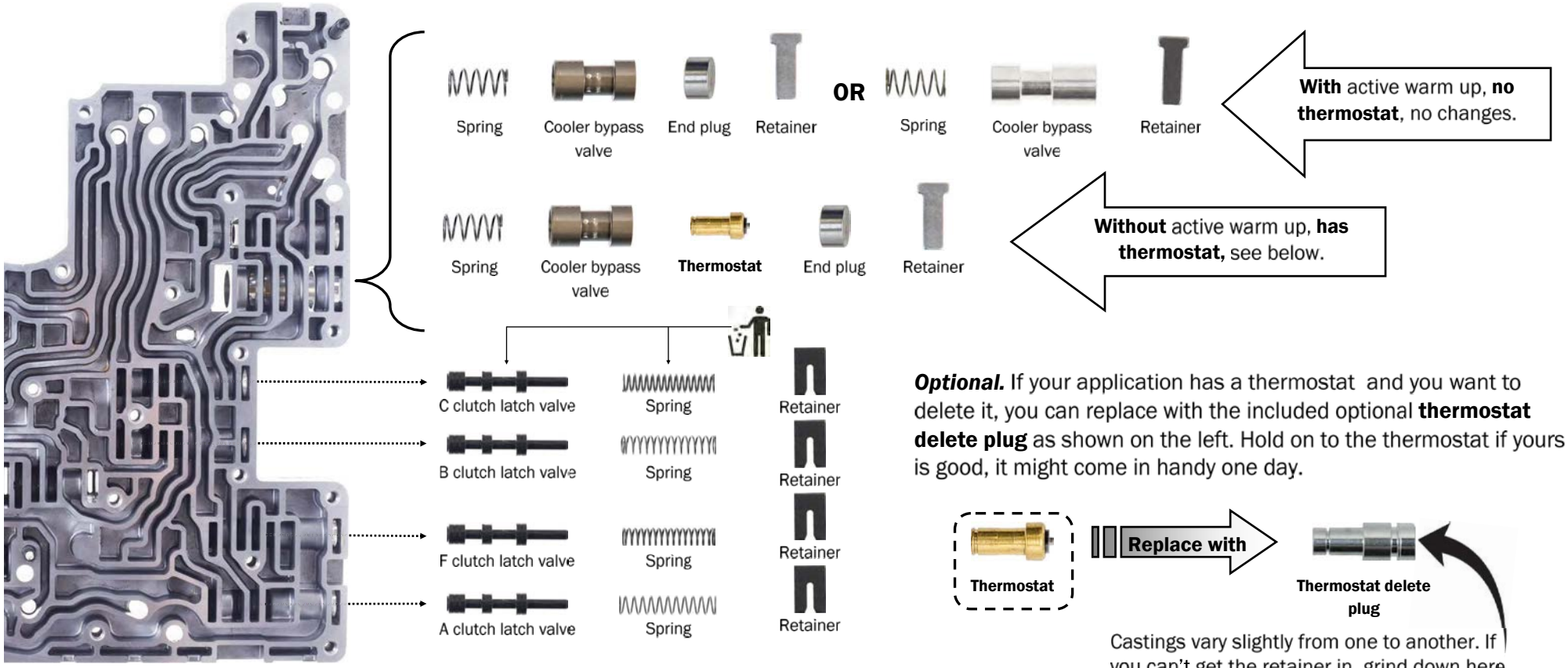
Step 4. Install new TCC **red spring, control valve, bushing** and original retainer.

Most Ford applications use what they call **“active warm up”,** where the PCM controls transmission fluid temperature via electrically operated coolant flow control valve(s) supplying the ATF heat exchanger(s). These systems **do not** use a valve body thermostat. If overheating is present, verify the unit is **not overfilled first,** as even a small overfill can cause severe overheating. If fluid level is correct, the issue is most often within the vehicle’s coolant control system.

Only 2018–2023 Mustang applications are built **“without active warm up”** and **do use** a valve body thermostat. Some GM GEN 1 valve body have a thermostat as well. This thermostat should be tested during installation (hot water test, similar to an engine thermostat). The thermostatic element contains wax that expands with heat and strokes the cooler bypass valve, changing flow from mostly recirculating to full cooler flow as temperature increases. Unlike many traditional designs, a small amount of cooler flow is always present to purge air from the cooler circuit and allow accurate fluid level checking immediately.

The thermostat is not sold separately, it only comes with a complete new valve body. If yours is faulty, or if long-term reliability is a concern, the included **optional thermostat delete plug** may be installed to provide full-time cooler flow. **Note:** In cold climates, this may significantly delay ATF warm-up and can result in delayed 9th or 10th gear operation. In some cases, extended warm-up time may also set a DTC.

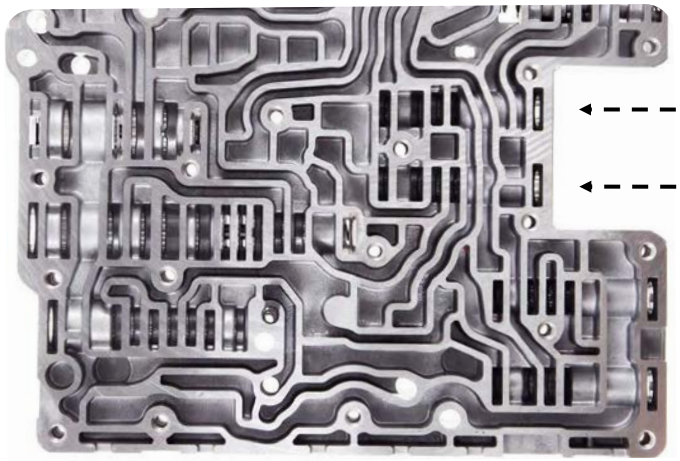
Step 5. Remove and discard original clutch latch valves and springs. Keep the retainers for reassembly.



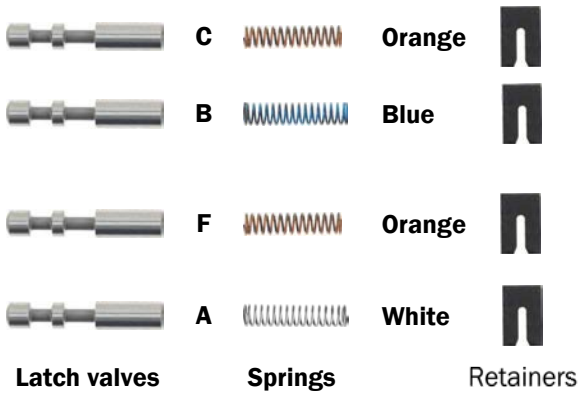
Optional. If your application has a thermostat and you want to delete it, you can replace with the included optional **thermostat delete plug** as shown on the left. Hold on to the thermostat if yours is good, it might come in handy one day.

Castings vary slightly from one to another. If you can’t get the retainer in, grind down here just enough to be able to insert the retainer.

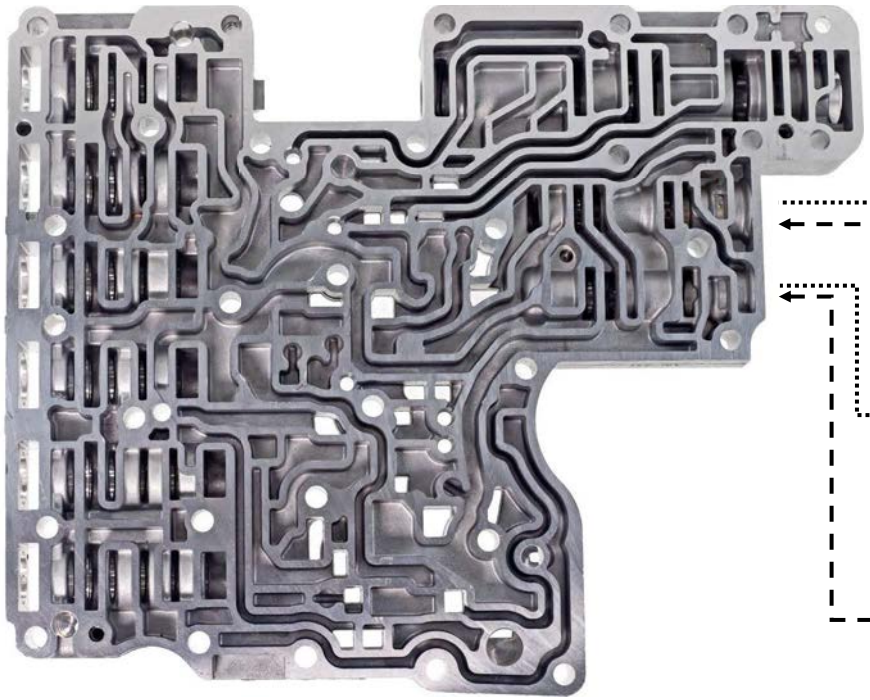
Step 6. Install **clutch latch valves, springs** and original retainers as outlined below. All four valves are identical, only the springs vary depending on which valve bore it is.



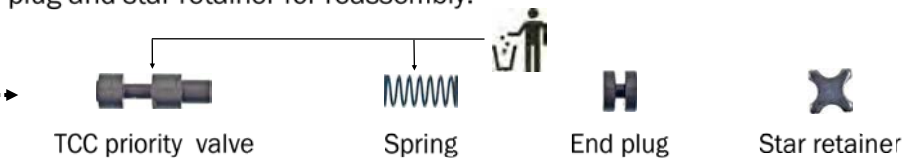
Solenoid body



Step 7. Remove and discard original TCC priority valve and spring. Keep the end plug and star retainer for reassembly.

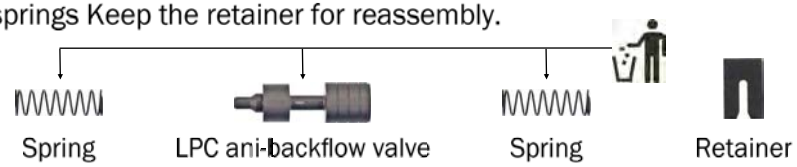


Solenoid body



Step 8. Install the new **bushing, TCC priority valve, blue spring**, original end plug and star retainer.

Step 9. Remove and discard the original LPC anti-backflow valve and both springs Keep the retainer for reassembly.



Step 10. Install new **yellow spring, LPC anti-backflow valve, yellow spring**, and original retainer

The factory shift solenoid retainers are one-time use items. They are designed by factory to be compressed only once when pushed straight down into place. If inadvertently compressed more than prescribed during installation, removal, or when force gets accidentally applied perpendicular to the solenoid, like when the R&R technician wrestles the valve body out fighting the exhaust and crossmember, the retainers will not return to their original pre-stressed dimensions. See the side by side pictures on the right. Our custom-made inserts prevent this from happening.

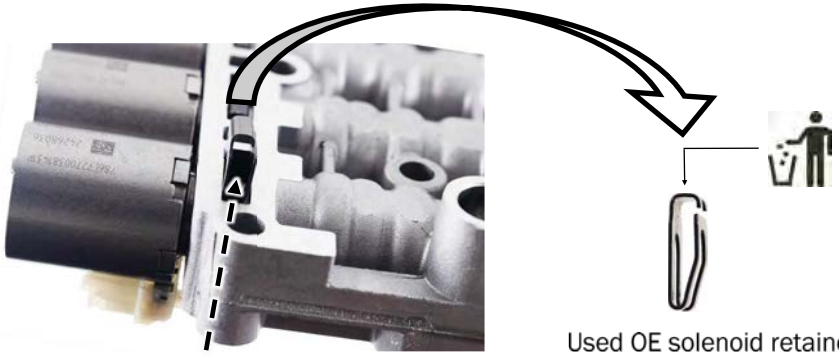
Used solenoid retainer

New solenoid retainer

Tab should extend outward like this.

Listen up! The **new solenoid retainers and inserts assembly** will go in from the valve body separator **plate side.** That's right, the **opposite** side from the side the original OE retainers were installed from factory.

Step 11. Remove and discard OE one-time use solenoid retainer.



Used OE solenoid retainer

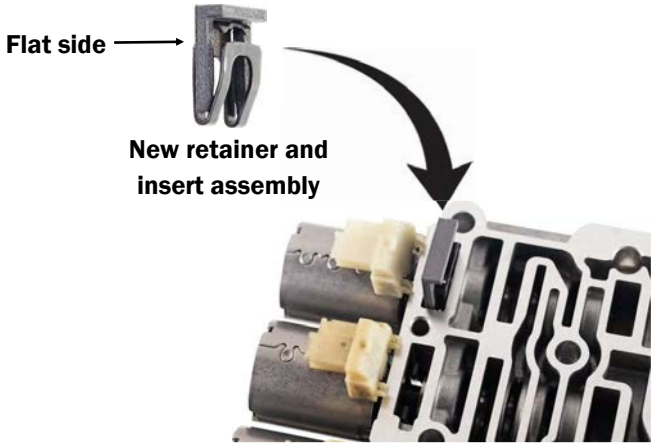
Step 12. Slide the **new insert** in the **new solenoid retainer** as shown below.

New insert

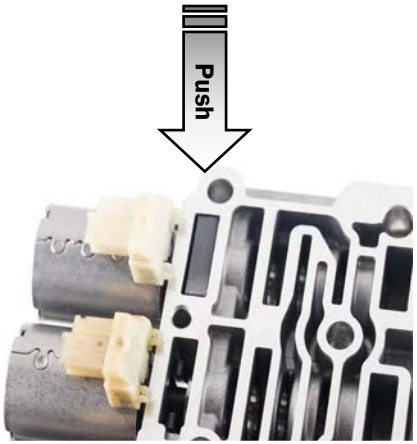
New retainer

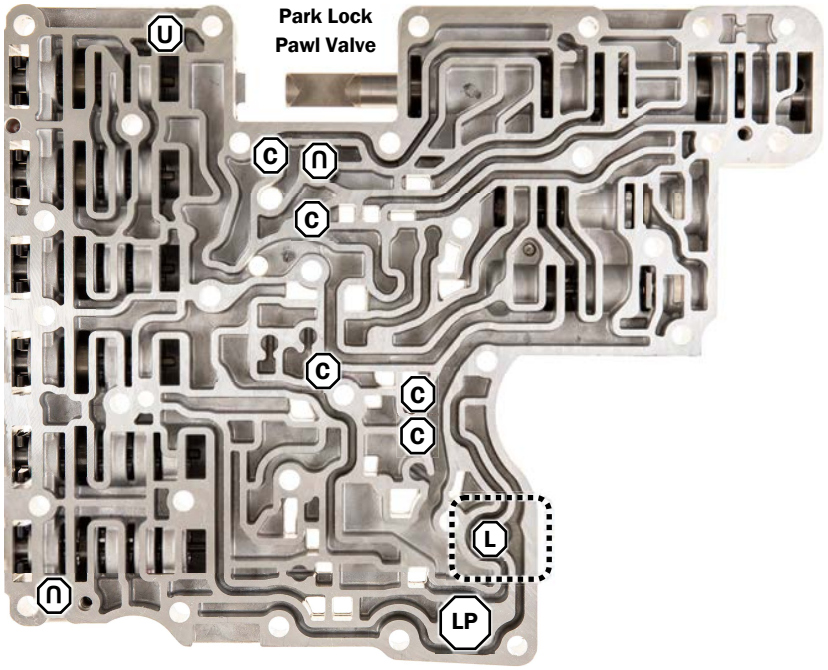
New retainer and insert assembly

Step 13. Turn solenoid body casting over so that the separator plate side **faces up,** then insert **new retainer and insert assembly** flat side facing the solenoid.



Step 14. Press down on insert until both, insert and clip, sits below the casting surface. Repeat for the remaining five shift solenoid retainers.





Park by wire valve body

LP — Line pressure solenoid damper

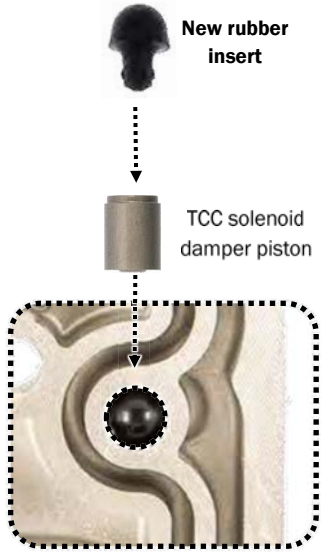
U — (1) Check valve, **spring facing up**

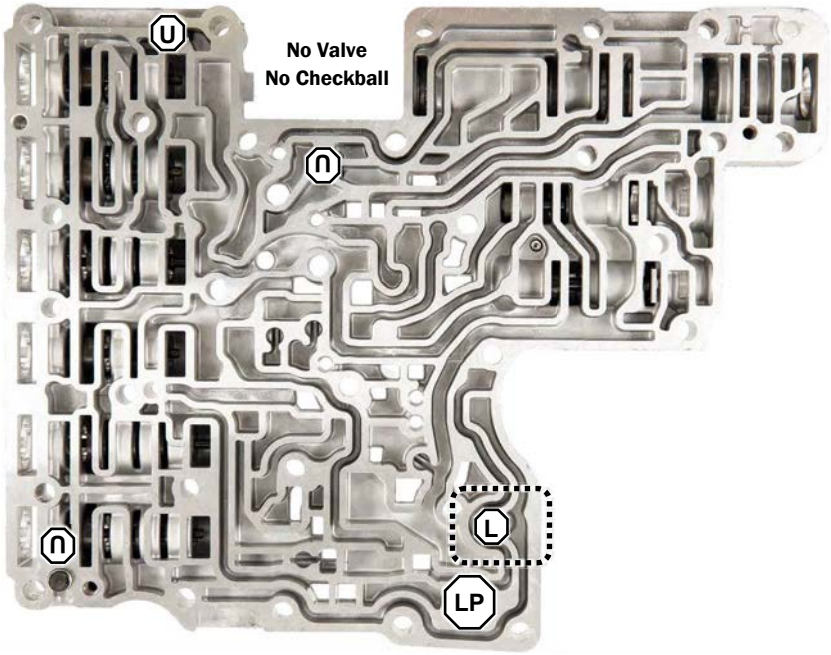
∩ — (2) Check valve, **spring facing down** in the pocket

C — (5) Checkballs 6mm **park by wire application only**

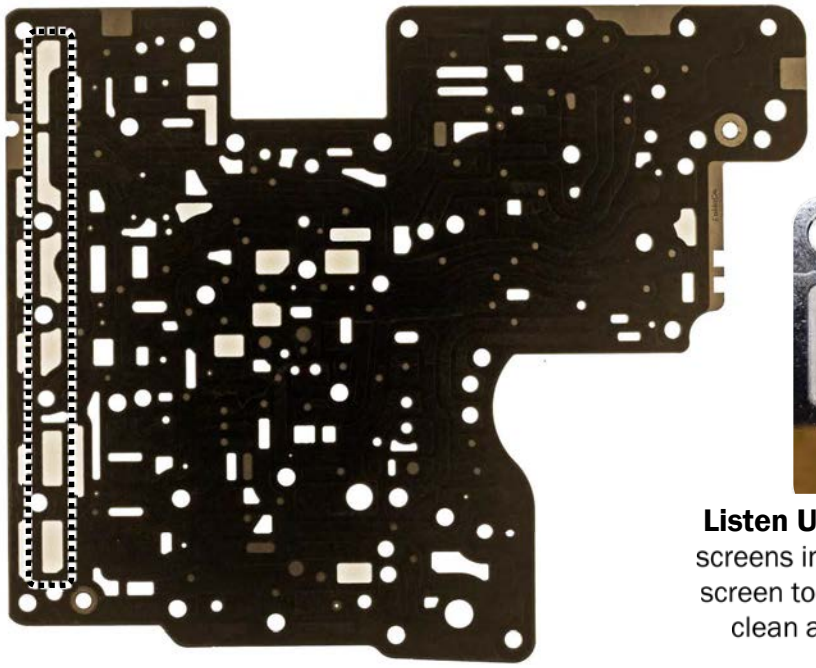
L — TCC solenoid damper, **see below**

Step 15. If your valve body did not have a TCC solenoid damper, skip this step. For valve body with TCC solenoid damper, discard the spring if it has one and turn the damper piston over so that the spring pocket faces towards the separator plate. Install the piston in the channel casting followed by the **new rubber insert** as shown in the illustration on the right.





Traditional cable actuated park valve body



Listen Up! Inspect the large screens in the separator plate screen to make sure they are clean and not damaged.

GM in vehicle transmission identification

Beginning with the 2018 model year, a QR code was added to the certification label on all GM vehicles **Figure 1.** When you scan the QR code with a phone it gives you get the VIN, followed by vehicle's model year and all the its RPO (Regular Production Option) codes **Figure 2**. How sweet is that? No more looking in the glove box or the trunk for the often missing or all smudged writing on the sticker. This kit ONLY fits RPO codes **MF6** and **MGL** found in some GM vehicles with 6.2L engines; 2017-2019 with a LT4 and 2018-2020 with a L86. It does not fit 6.2L vehicles when paired with a LT1 or L87 engine. **Figure 3** shows the most complete list of RPO codes, as well as what each represents, that we have found at the time of this writing.

Figure 1

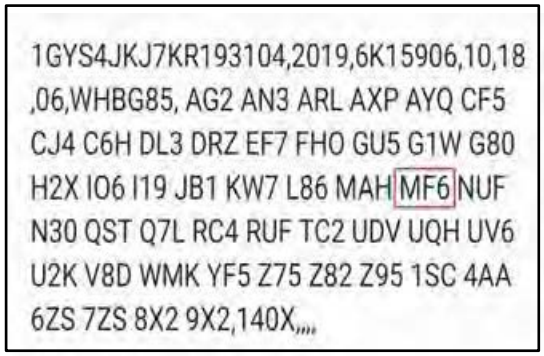
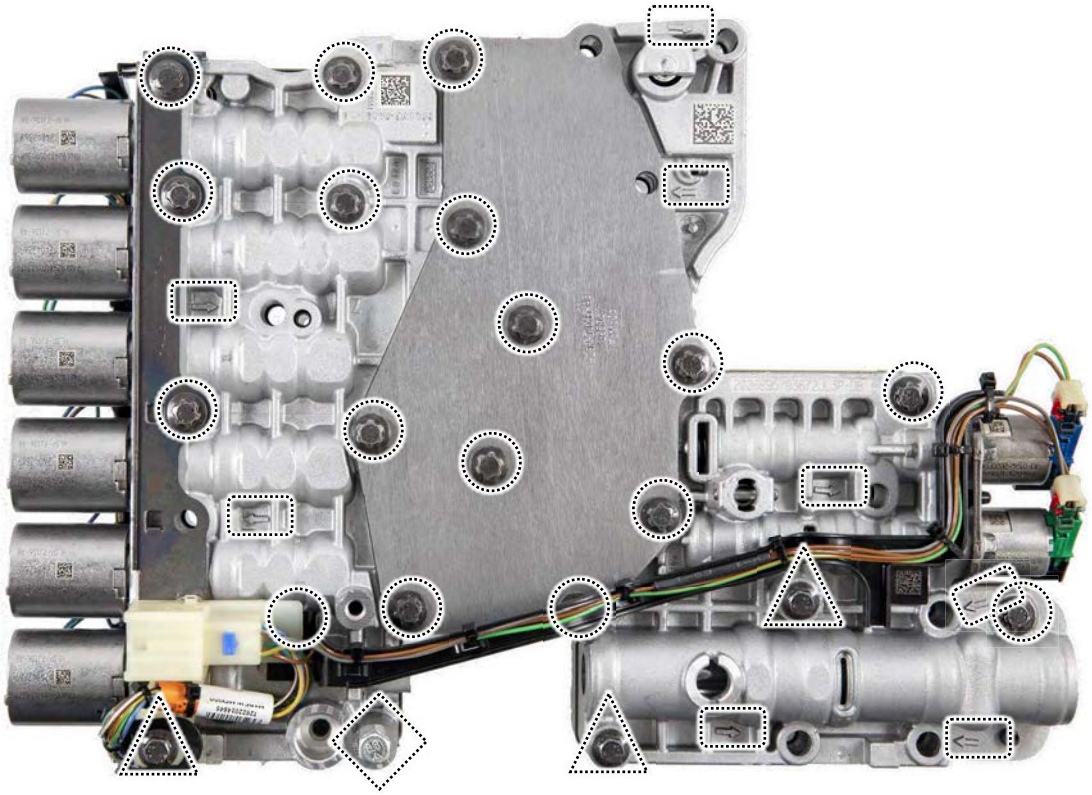


Figure 2

MF6	TRANSMISSION-AUTO 10 SPD, 10L80, GRX, GEN 1 ☑
MGL	TRANSMISSION-AUTO 10 SPD, 10L90, GEN 1
MHO	TRANSMISSION-AUTO 10 SPD, 10L90, ETRS, GEN 2
MHS	TRANSMISSION-AUTO 10 SPD, 10L80, GRX, GEN 1, ATSS, ETRS, VAR 1
MHT	TRANSMISSION-AUTO 10 SPD, 10L80, GRX, GEN 1, ATSS, VAR 1
MHU	TRANSMISSION-AUTO 10 SPD, 10L80, GRX, GEN 1, ETRS, VAR 1
MHW	TRANSMISSION-AUTO 10 SPD, 10L90, GRX, GEN 1, ATSS, ETRS, VAR 1
MHX	TRANSMISSION-AUTO 10 SPD, 10L90, GRX, GEN 1, ETRS, VAR 1
MI1	TRANSMISSION-AUTO 10 SPD, 10L60, GEN 1, VAR 1
MI2	TRANSMISSION-AUTO 10 SPD, 10L80, GRX, GEN 1, VAR 1
MI4	TRANSMISSION-AUTO 10 SPD, 10L90, GEN 1, VAR 1
MQ2	TRANSMISSION-AUTO 10 SPD, 10L60, GEN 1, ATSS, ETRS, VAR 1
MQA	TRANSMISSION-AUTO 10 SPD, 10L60, ATSS, ETRS, CPA, GEN 2
MQB	TRANSMISSION-AUTO 10 SPD, 10L80, ATSS, CPA, GEN 2
MQC	TRANSMISSION-AUTO 10 SPD, 10L80, ATSS, ETRS, CPA, GEN 2

Figure 3



Listen Up! Field testing has shown that torquing valve body bolts to GM's recommended 80 lb.in (9Nm) rather than Ford's 106 lb.in (12Nm) reduces valve sticking issues.