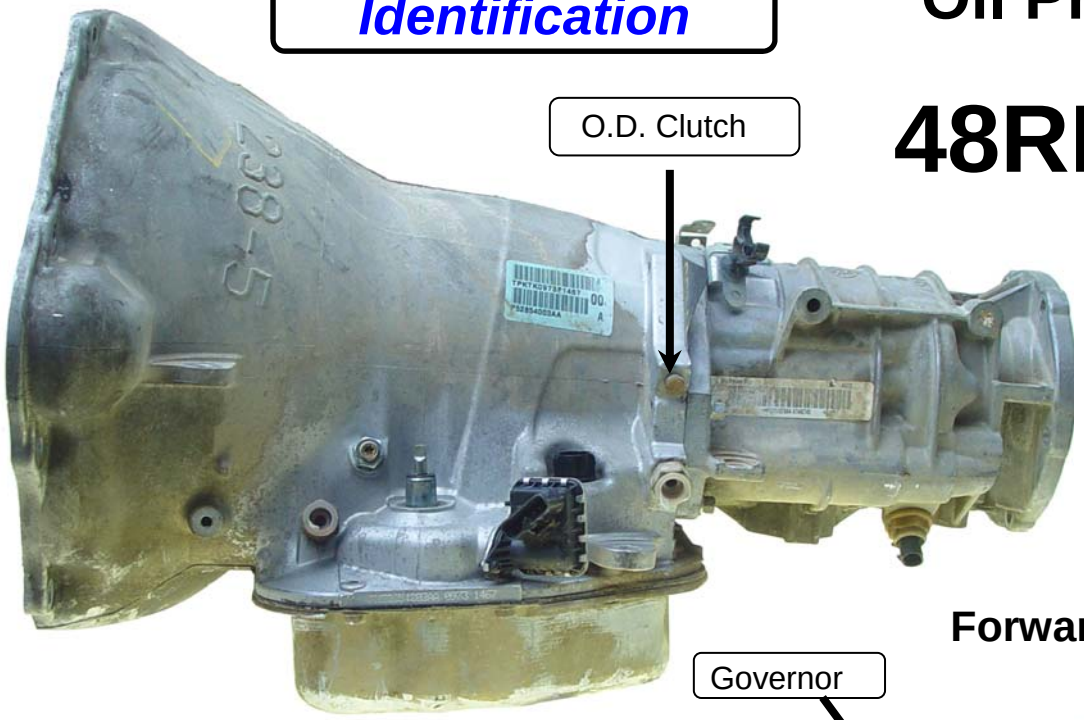
Identification

Oil Pressure Checks

48RE



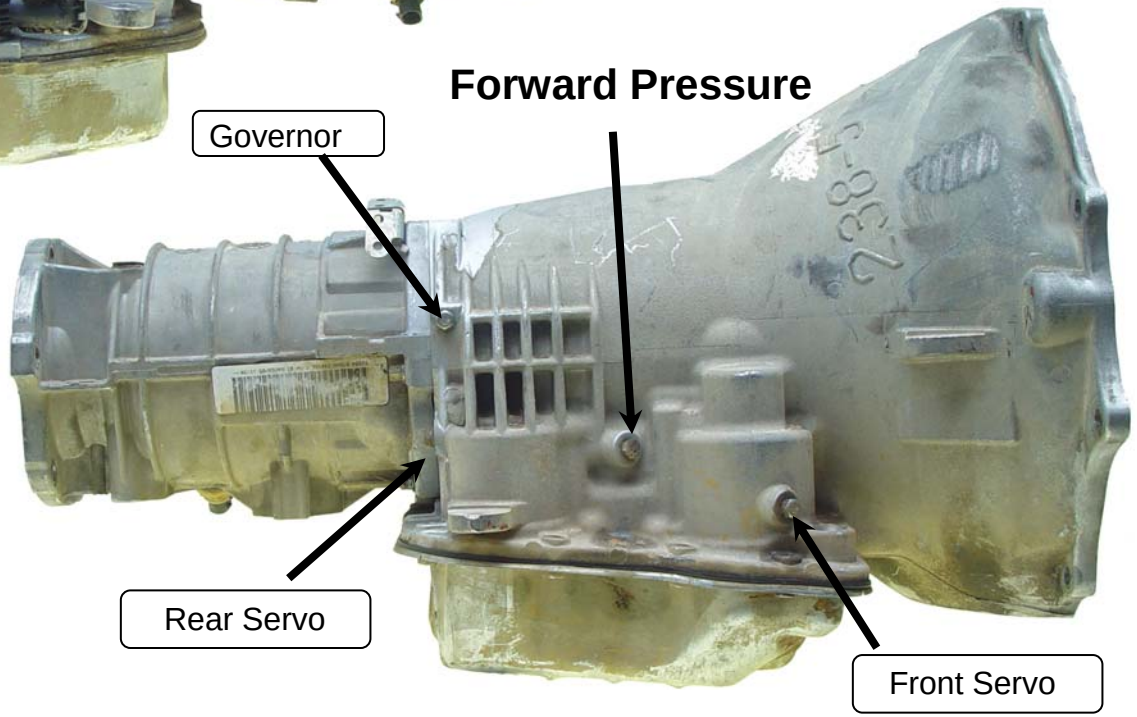
Forward Pressure
"D" Min = 54-60 Psi
Max = 95 1st 2nd 3rd unlocked

Lockup or 4th causes Hi-boost
3rd with lockup 120-170
4th gear at 1/2 - 3/4 throttle 140 PSI
4th gear full throttle 155 -170 PSI

Identification

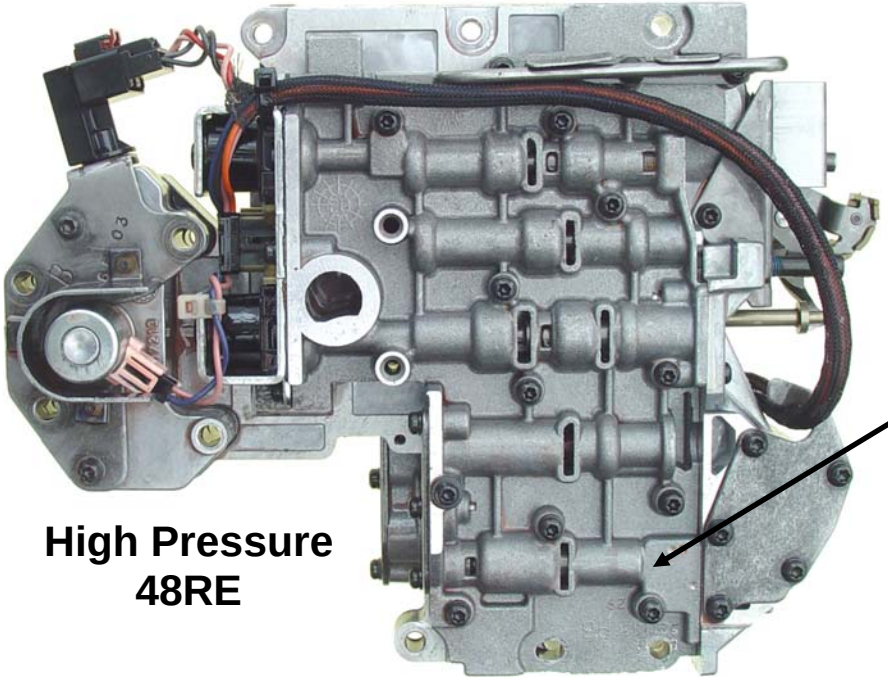
See Valve Body data
on page two.
Four pressure ports on
this side of the trans.

Governor is 0 PSI at stop
and climbs with MPH



Identification

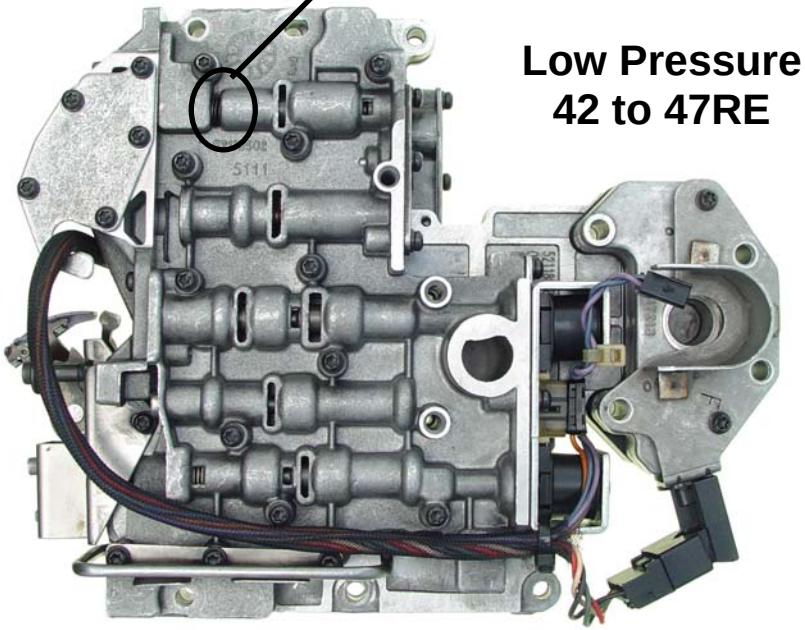
2003-05 48RE: To increase lockup holding capacity the 48RE has higher pressure than the 42 to 47 RE models.
Max pressure: 48RE is prox 170.
The 42-47RE's it is prox 135.
More pressure data, see page one.



No vent here

Has vent here with Spring visible.

High Pressure 48RE

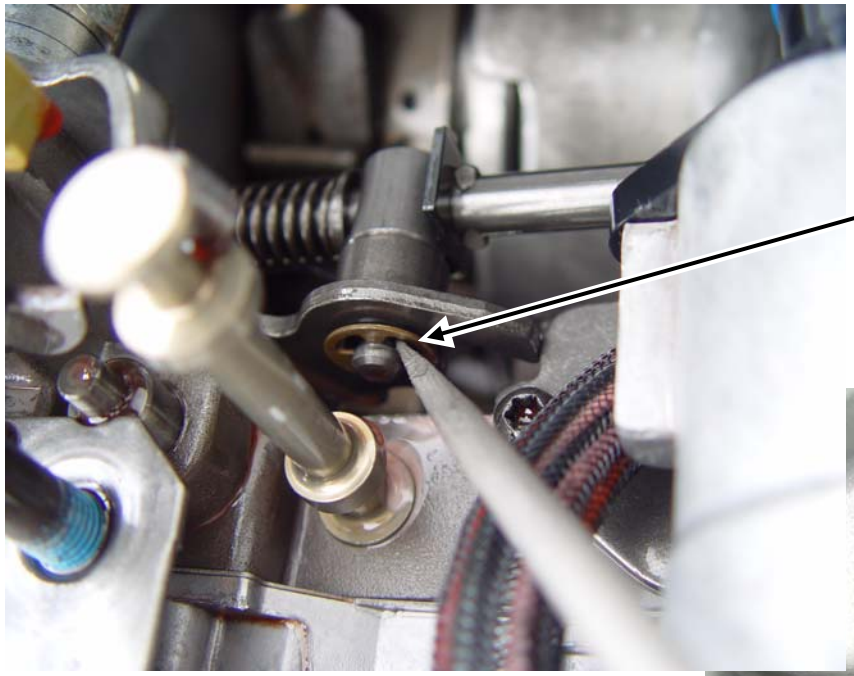


Low Pressure 42 to 47RE

48RE Valve body and a TFOD-Jr kit is Perfect for hopped up Diesels.
Plastic or hard chromed rings are best for this trans.

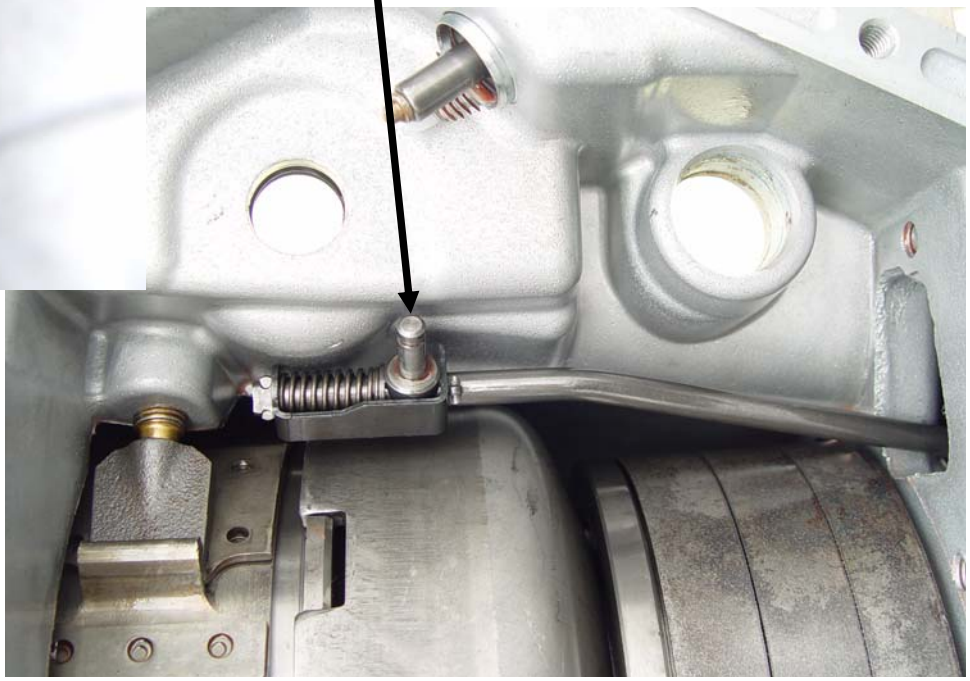
Let us hear from you, Tech Team

Fast Reference



Park rod snap ring

Remove park rod snap ring to remove the VB from the case.



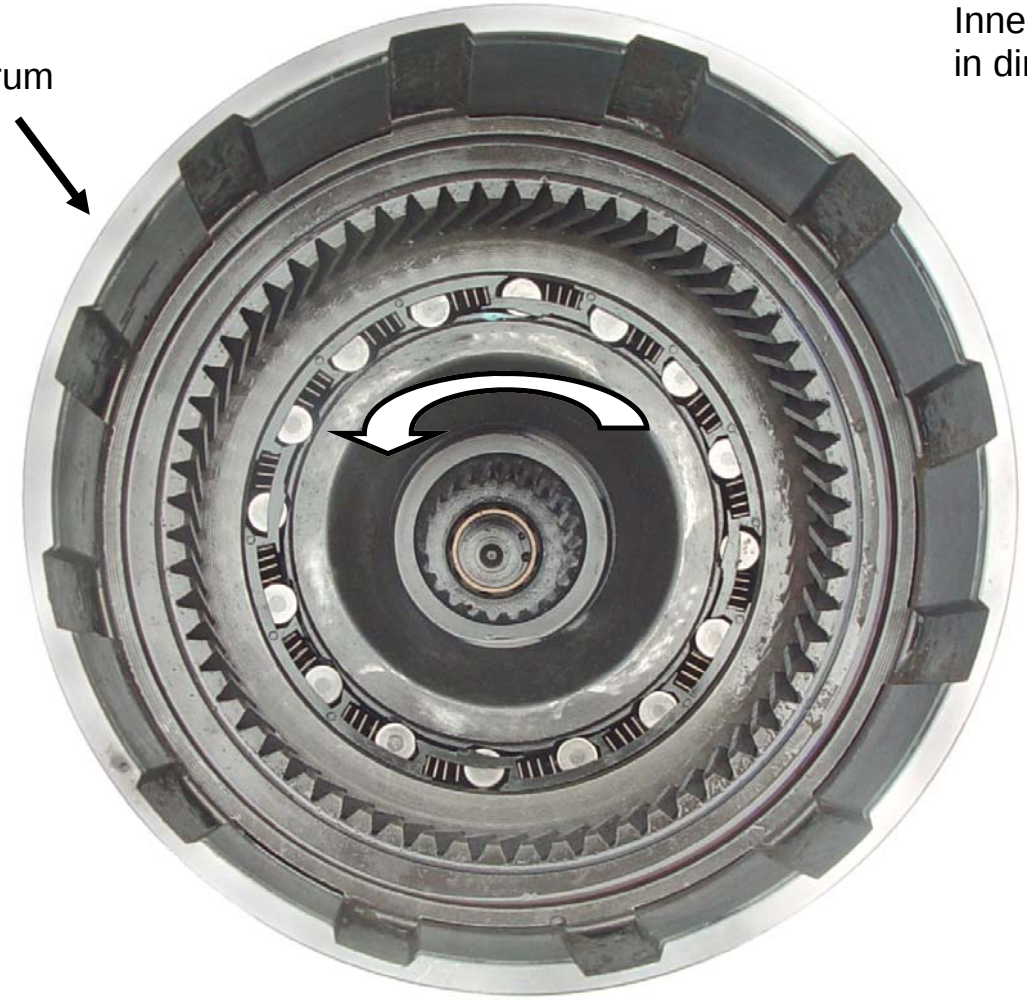
Fast Reference

This Kit is About

Preventing Morning Sickness
And Crisper Shifts

OD Overrunning Clutch

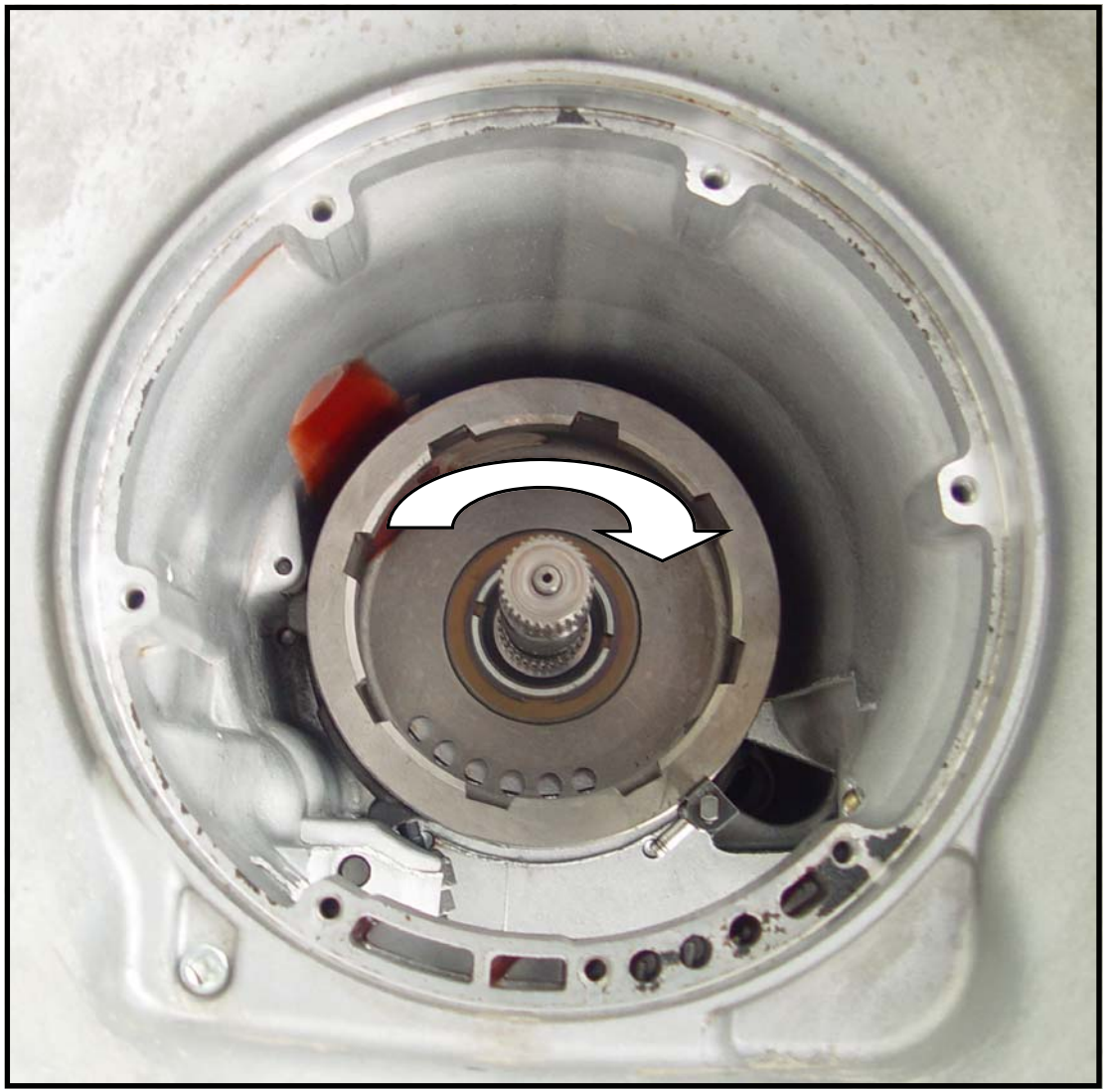
Hold drum



Inner Race freewheels
in direction of arrow.

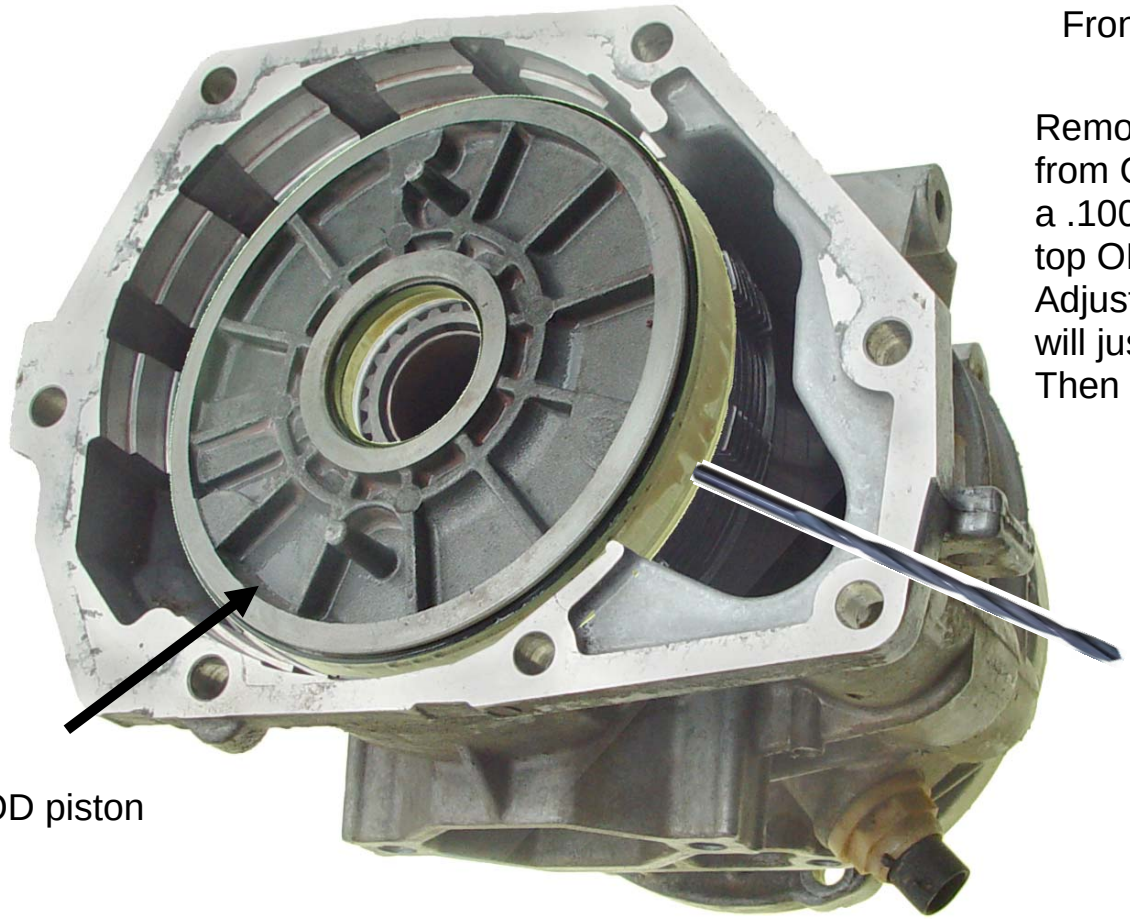
Low Overrunning Clutch

Low and reverse drum should free-wheel in the direction of the arrow.



Fast Reference

OD housing



OD piston

.100 drill

Clutch Clearances

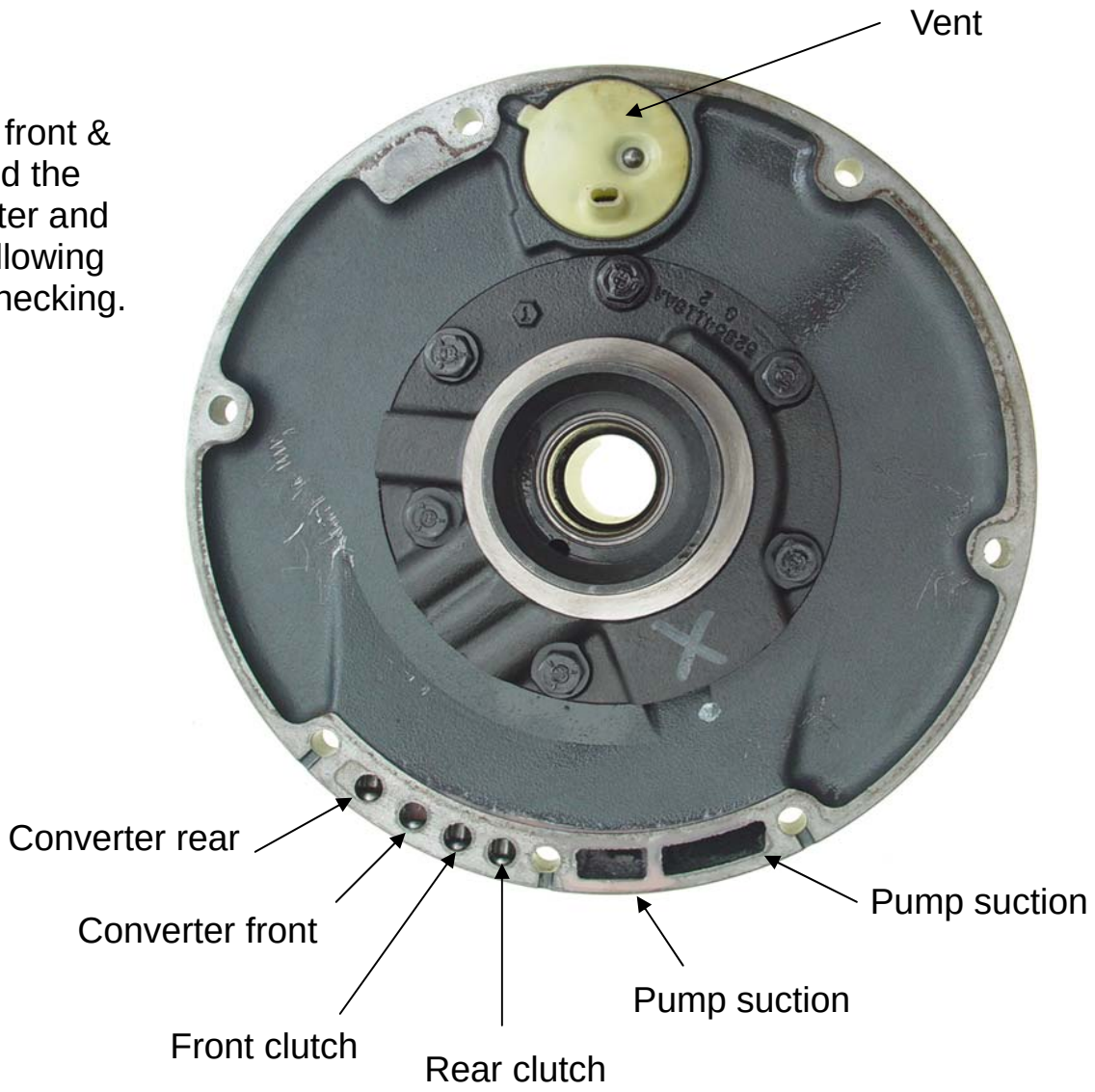
Overdrive = .090 –.110”
Rear Clutch = .016 –.036"
Front Clutch = .070 –.129”

Remove .100 round retaining ring from OD housing and then use a .100 drill between OD piston and top OD steel plate.
Adjust selective OD shim until drill will just fit between piston and steel.
Then reinstall .100 round snap ring.

More OD data see pages 51-55.

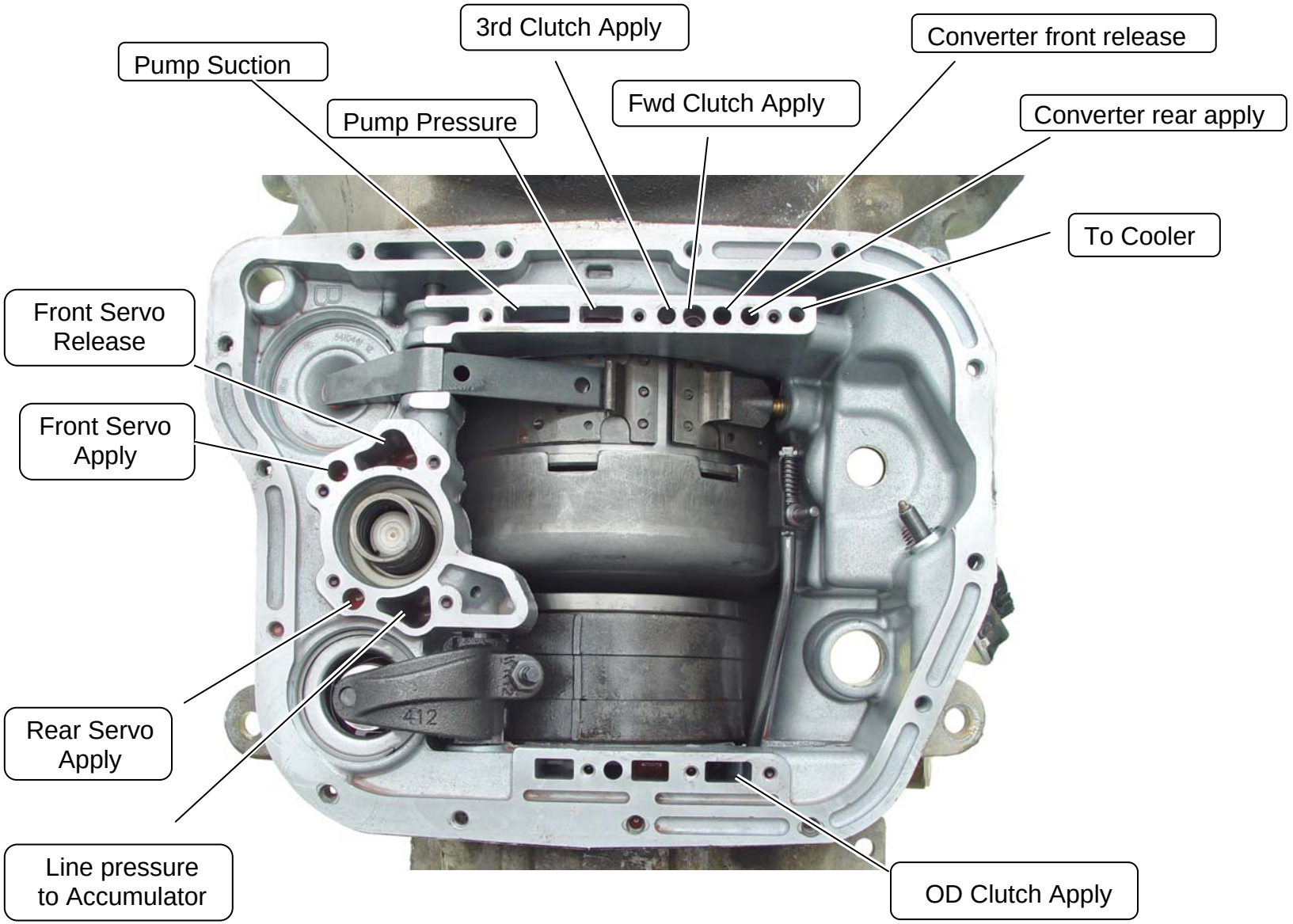
Air Checks

Assemble the front & rear drums and the torque converter and the use the following holes for air checking.



Fast Reference

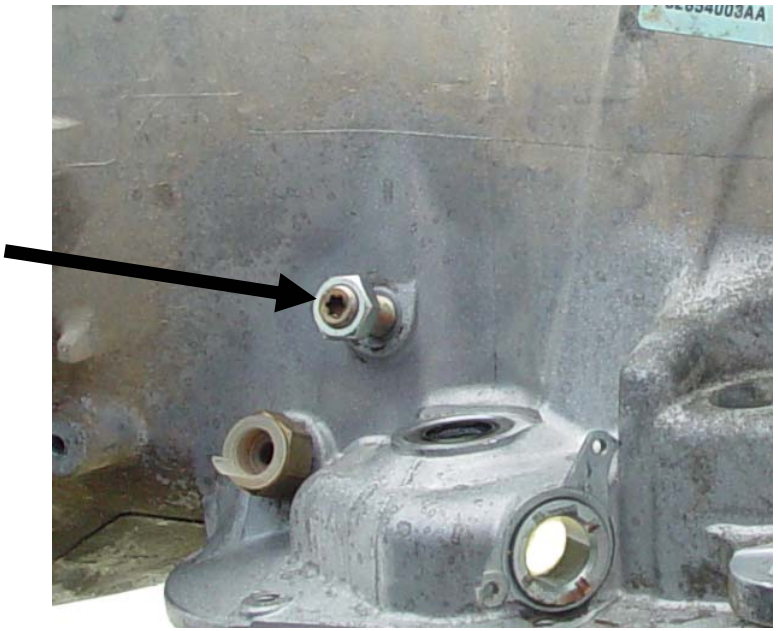
Air Checks



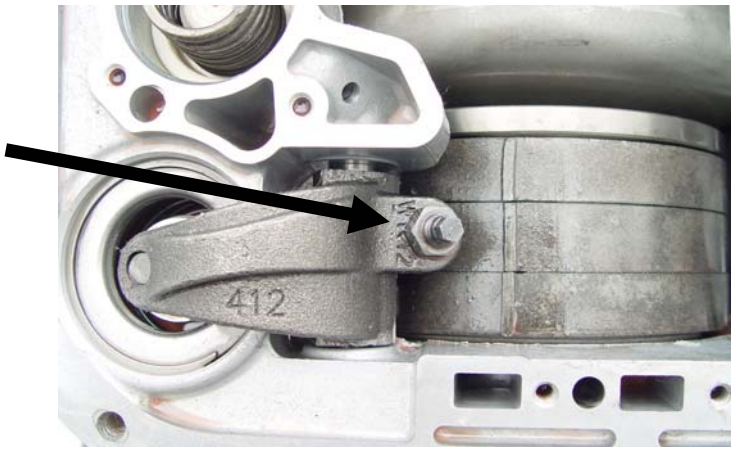
Fast Reference

Band Adjustments

Front band adjustment:
Back lock nut off several turns.
Use Torx T40 and tighten band to 72 in lb then back off 1 3/4 turns.
Torque locking nut 25 ft lb



Rear band adjustment:
Back lock nut off several turns.
Tighten band to 72 in lb then back off 3 turns.
Torque locking nut 30 ft lb

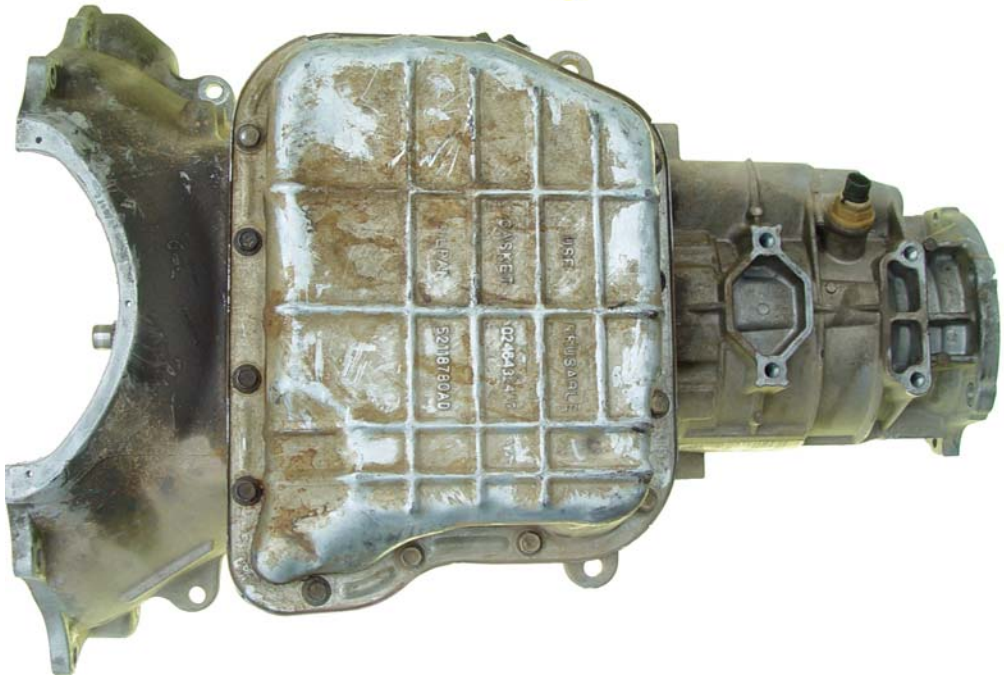


Pan & Filter

Fast Reference

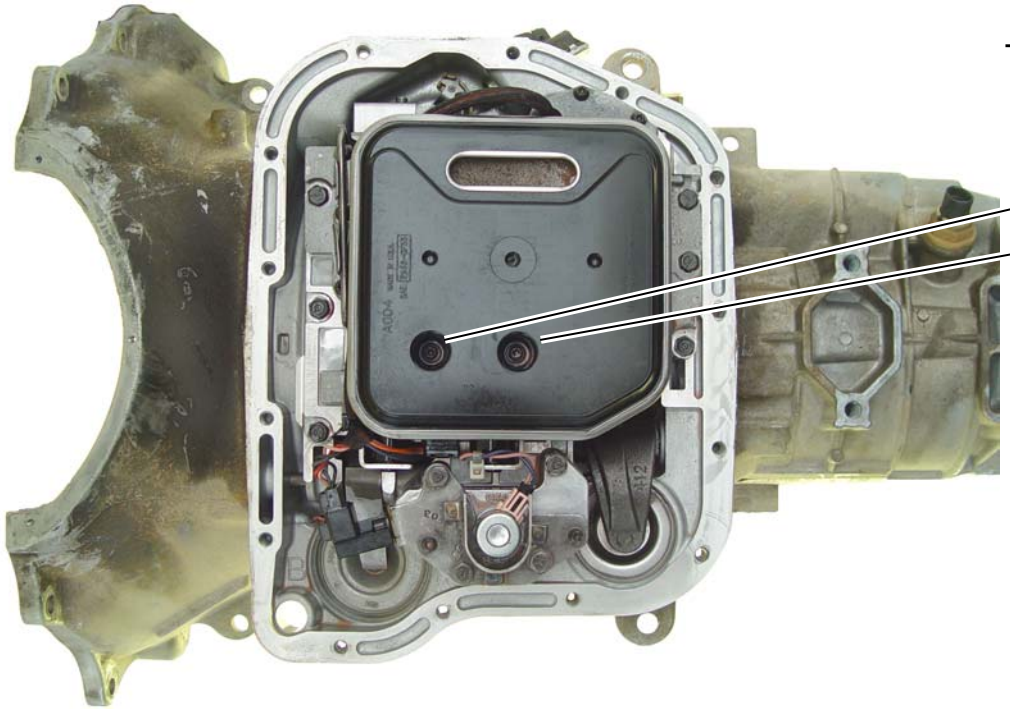
Torque 13 MM x .950" pan bolts to 13 ft lbs.

Pan Gasket (reusable)



Pan

Fast Reference

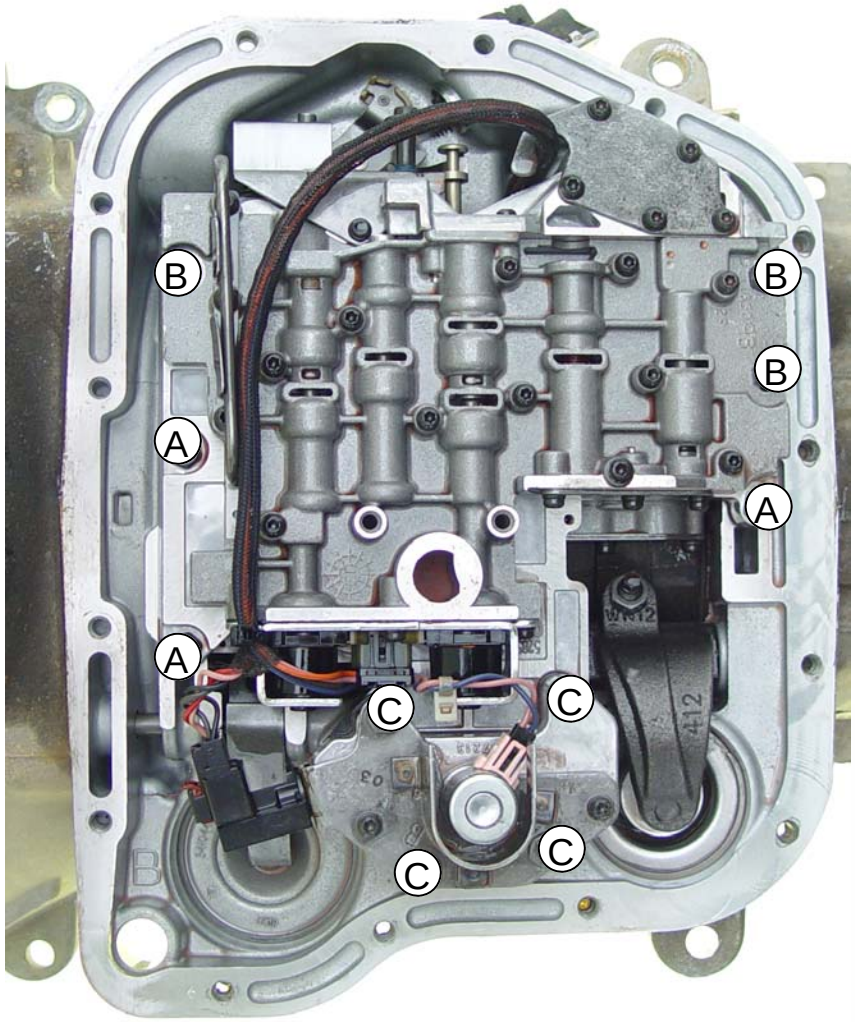


Torx T25 x 2.637" filter screws

Torque filter screws to
35 inch lbs

Filter gasket

Valve body to Case Bolts



Valve Body to case bolts.
7/16" torque to 100 in lbs.

See next page for parking pawl rod snap ring removal. This allows the VB to be removed from the case.

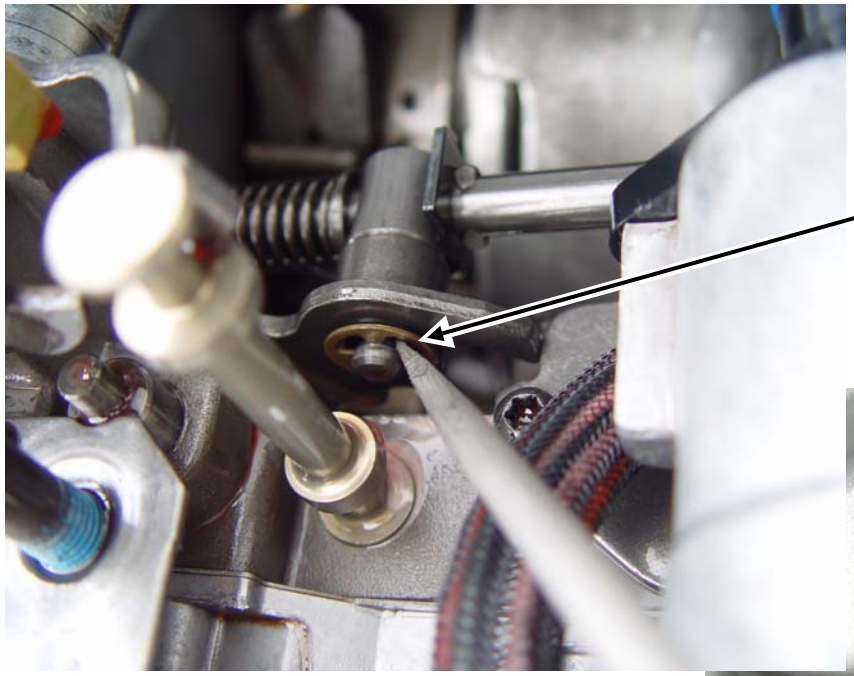
"A" 1.262 bolts 3 pieces

"B" 1.887 bolts 3 pieces

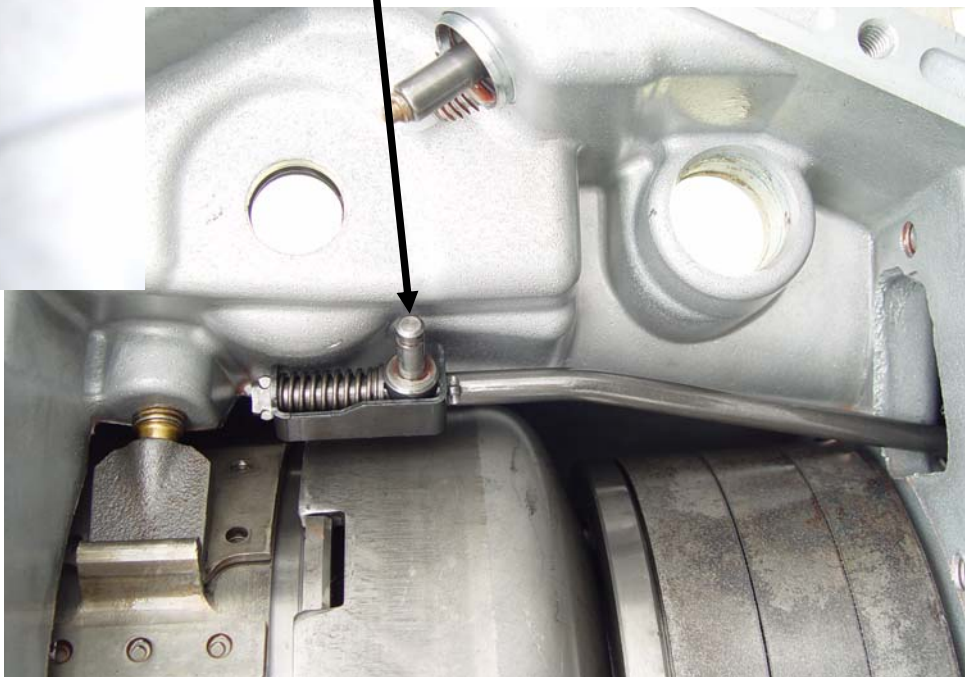
"C" 2.412 bolts 4 pieces

Valve Body

Park rod snap ring

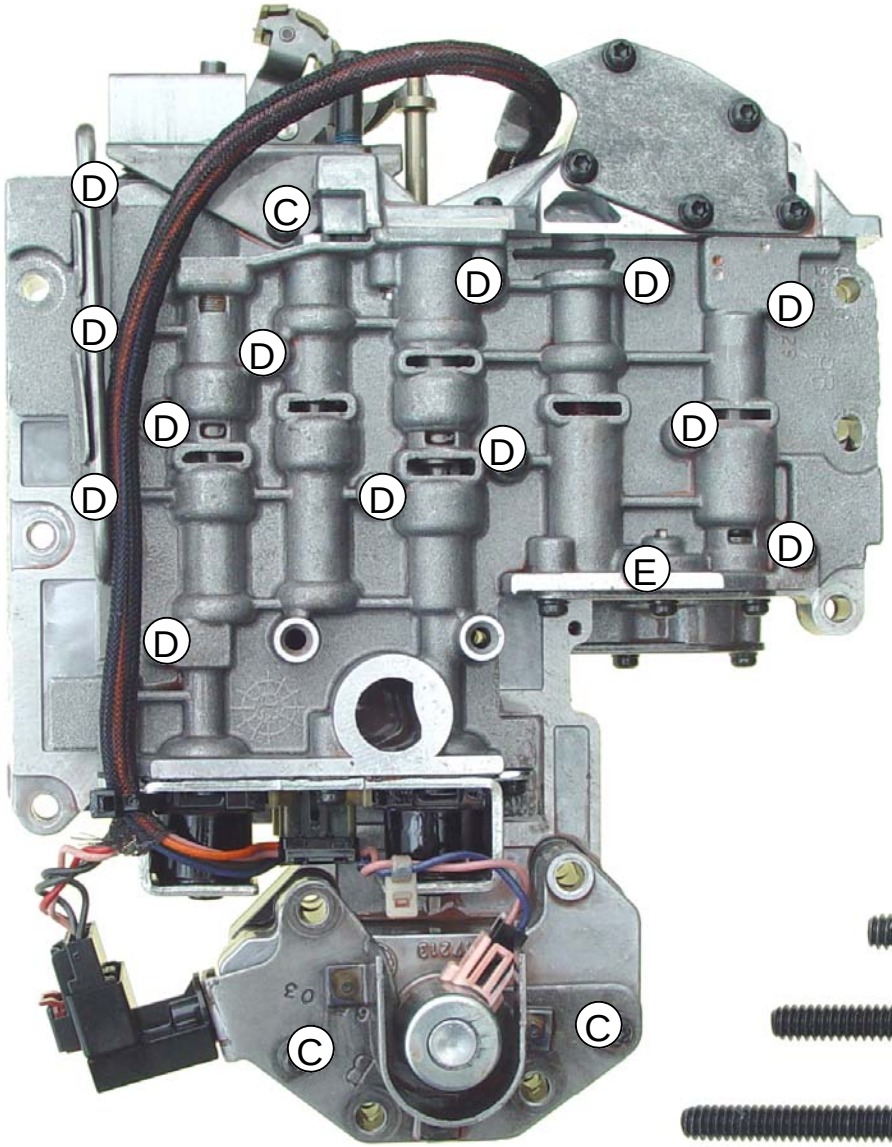


Remove park rod snap ring to remove the VB from the case.



Valve Body

Valve Body Screws



Torx T25 valve body screw.
Torque to 35 in lbs.

"A" .550 screw 1 piece

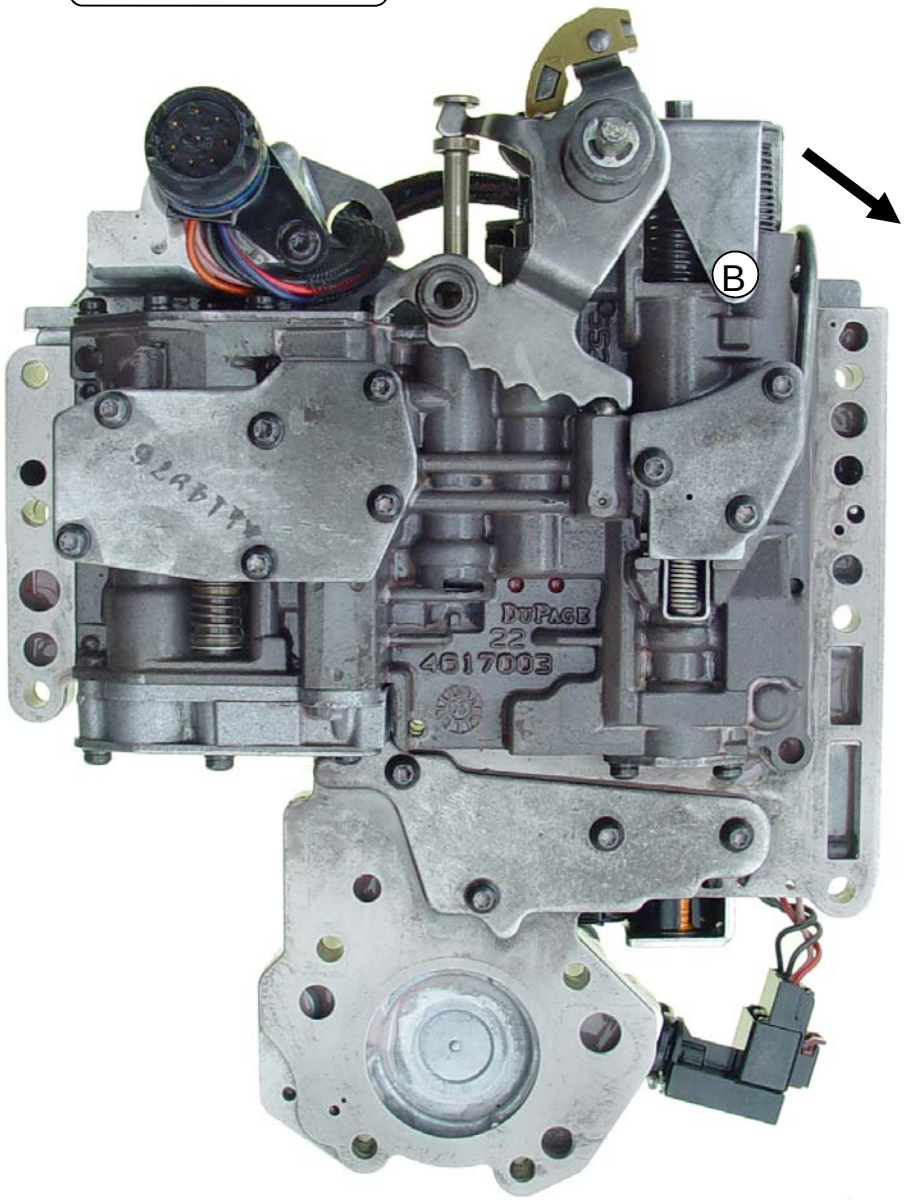
"B" .725 screw 1 piece

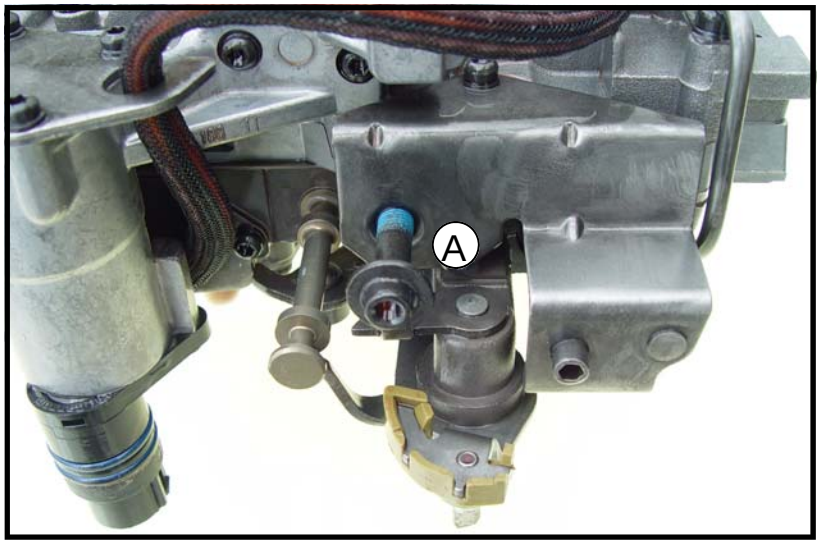
"C" 1.712 screws 3 pieces

"D" 2.187 screws 13 pieces

"E" 2.637 screw 1 piece

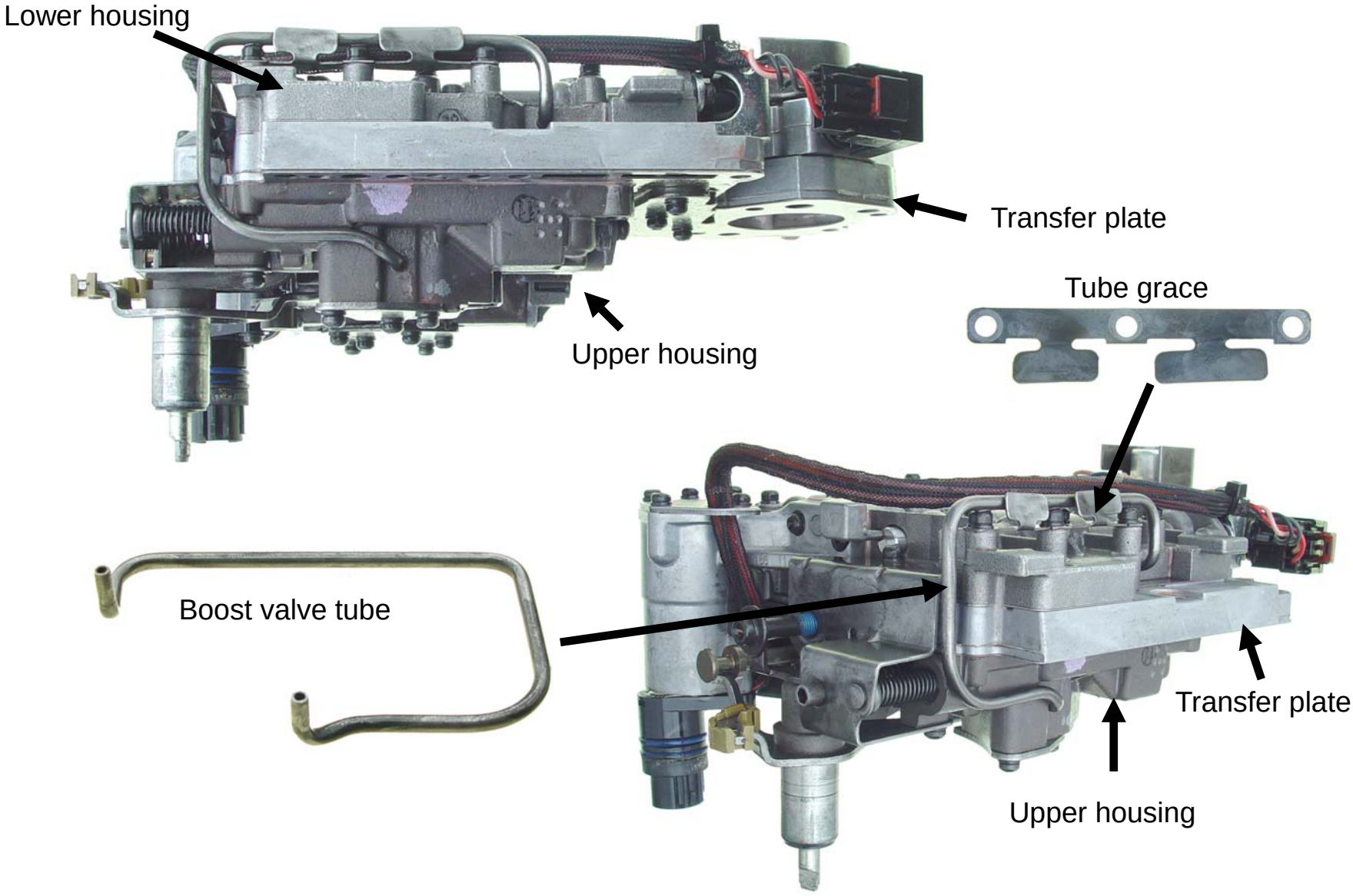
Valve Body



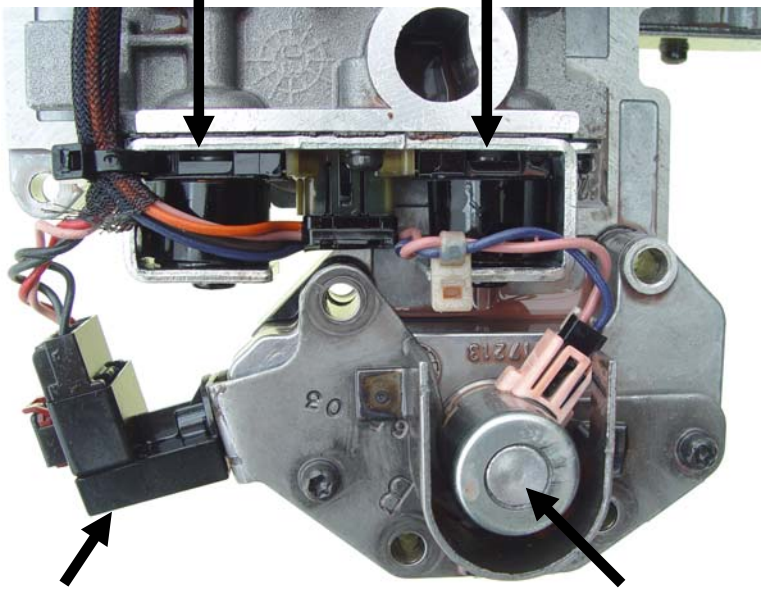


Valve body screws located on pressure regulator adjusting bracket.

Valve Body Section ID

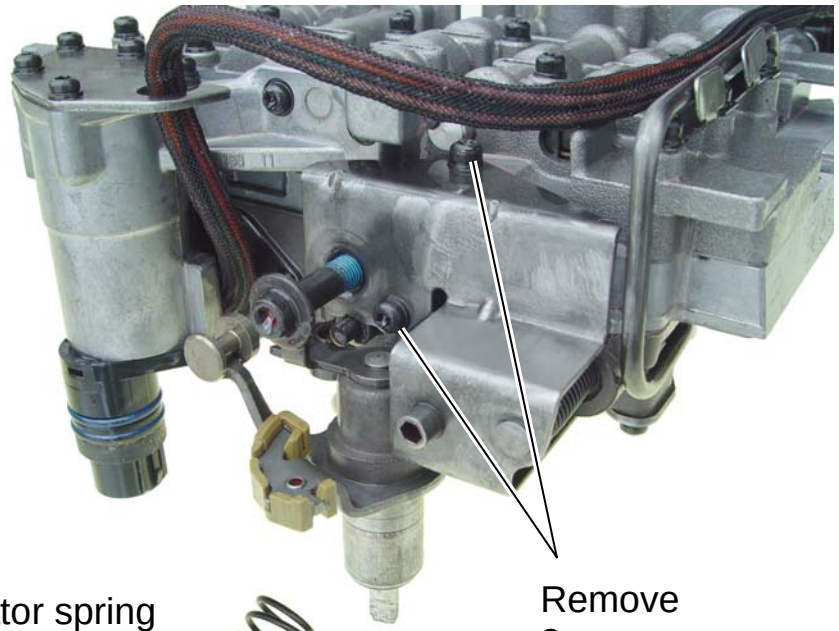


Valve Body

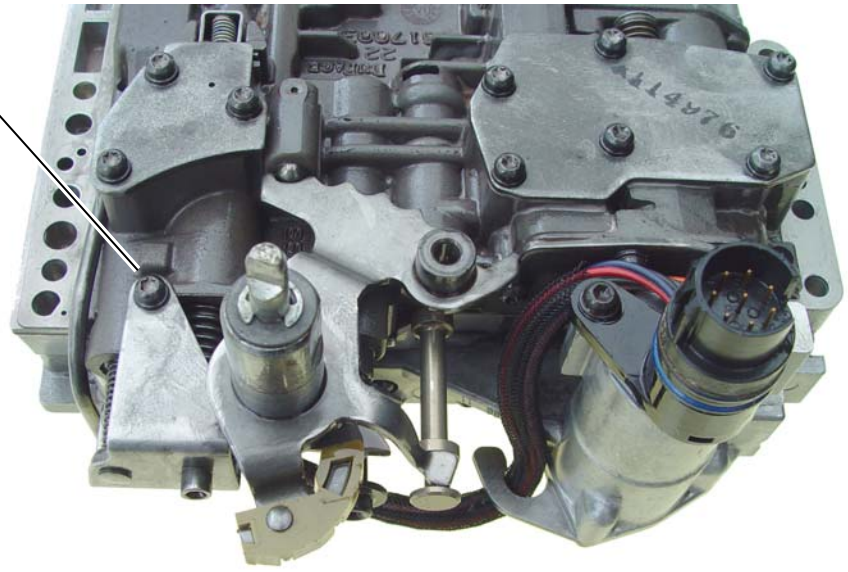



Governor retainer plate

Valve Body



Remove
3 screws



Pressure regulator spring

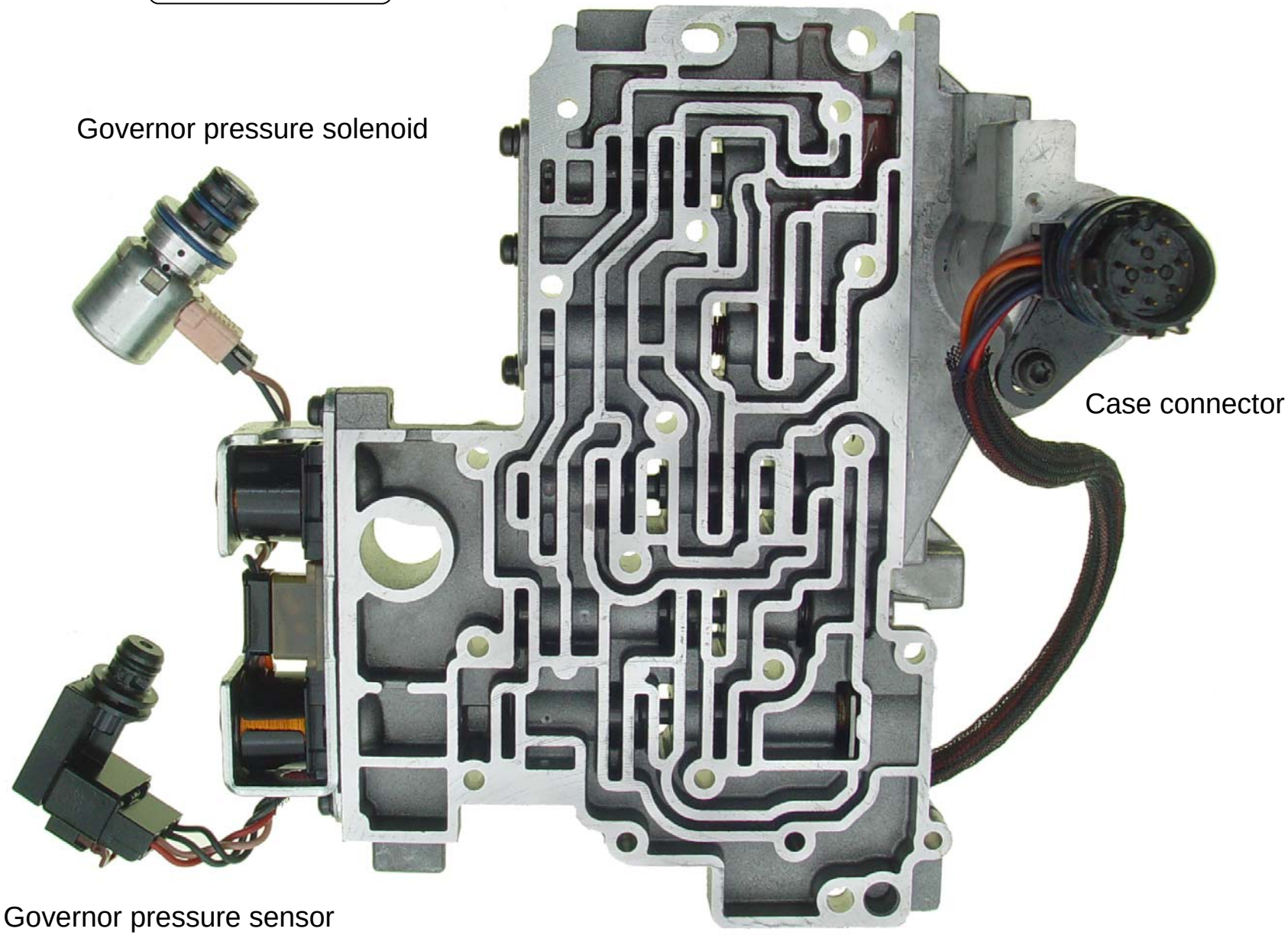
Line pressure screw

Switch
valve
spring

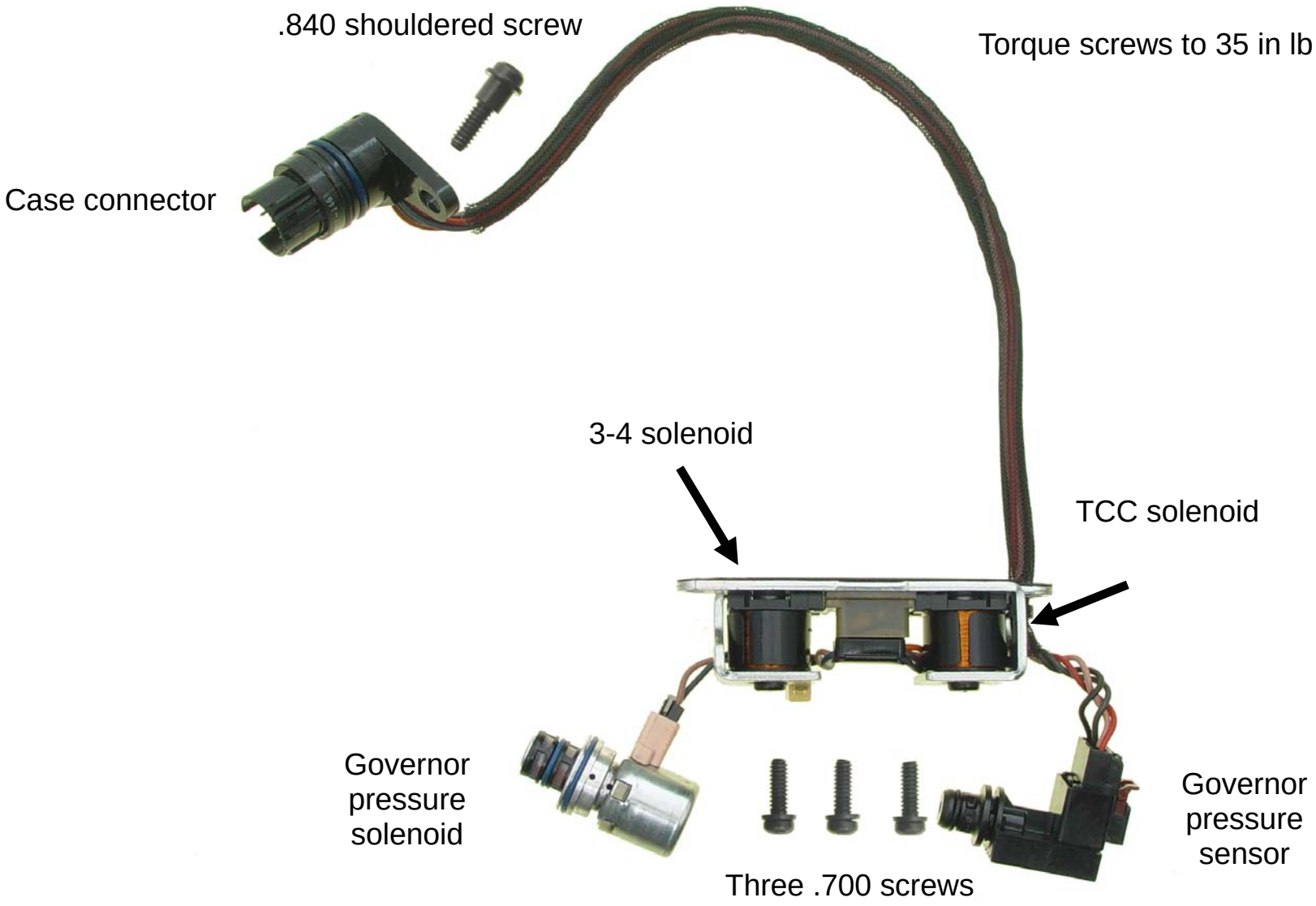
Adjusting screw bracket

Throttle pressure
adjusting screw

Valve Body

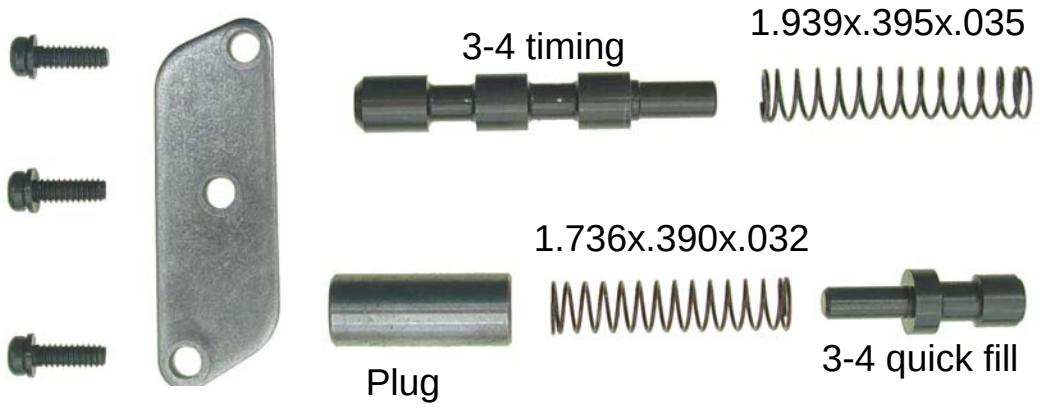


Internal Harness



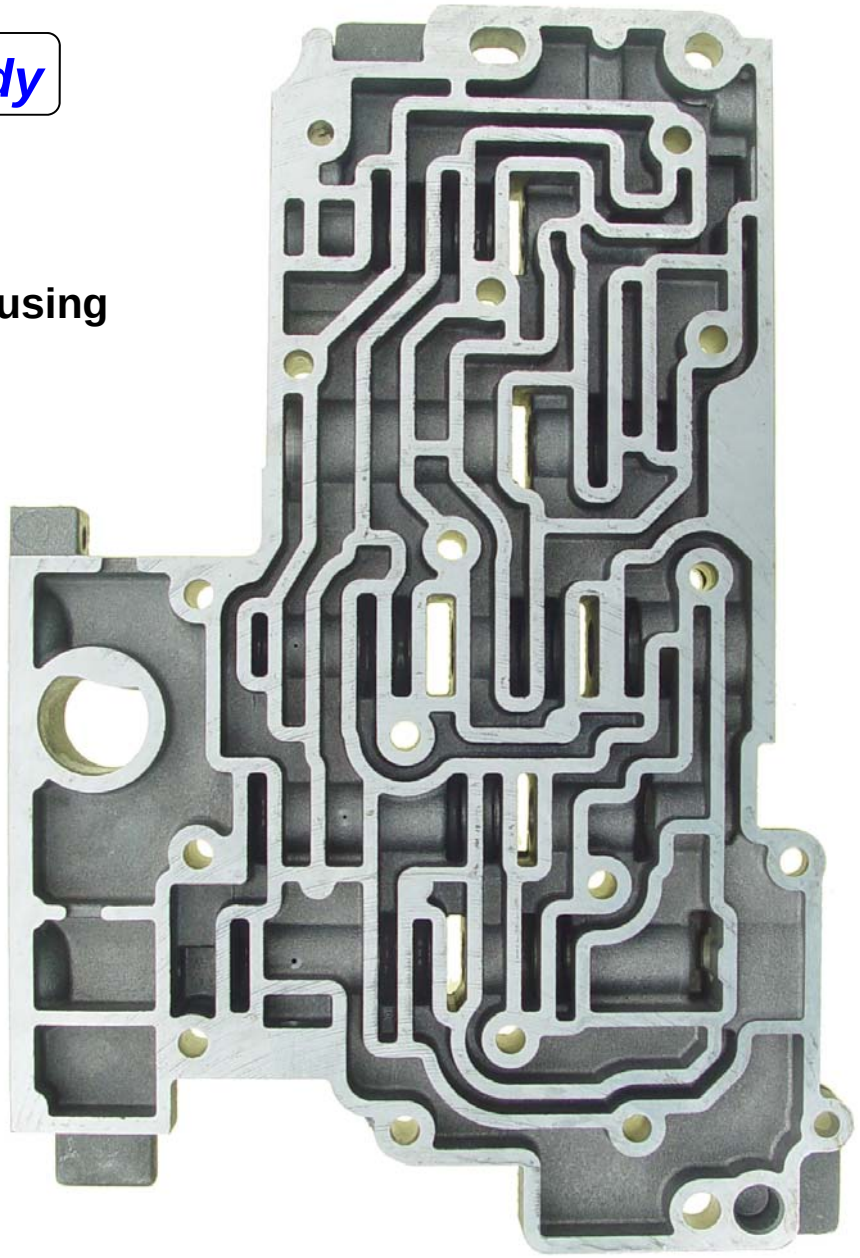
Valve Body

.737 screws
torque 35 in lb



Valve Body

Lower Housing



Valve Body

3-4 accumulator housing

.737 screws torque 35 in lb

3-4 shift

2.586x.552x.041

Converter clutch

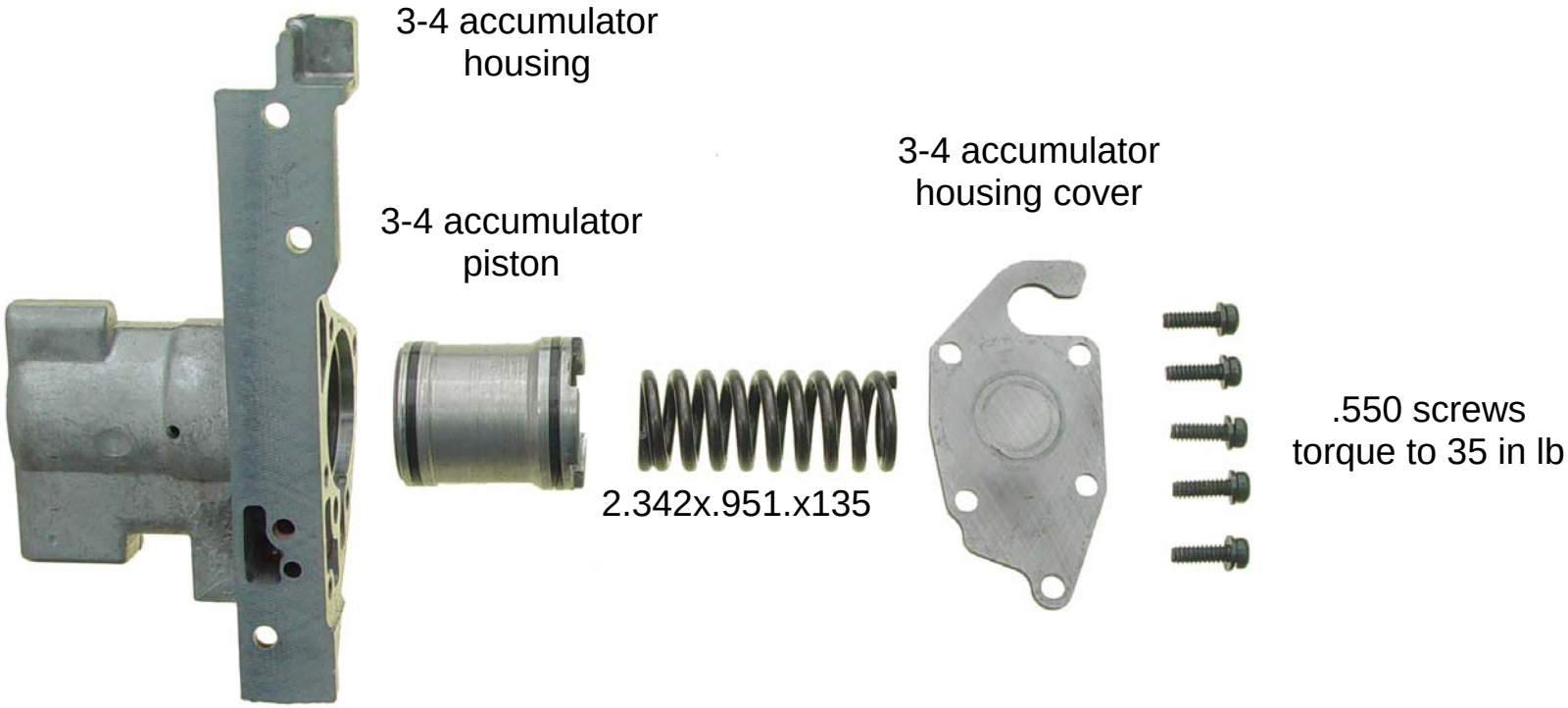
1.925x.397x.035

Plug

Converter clutch timing

1.909x.389x.033

Valve Body

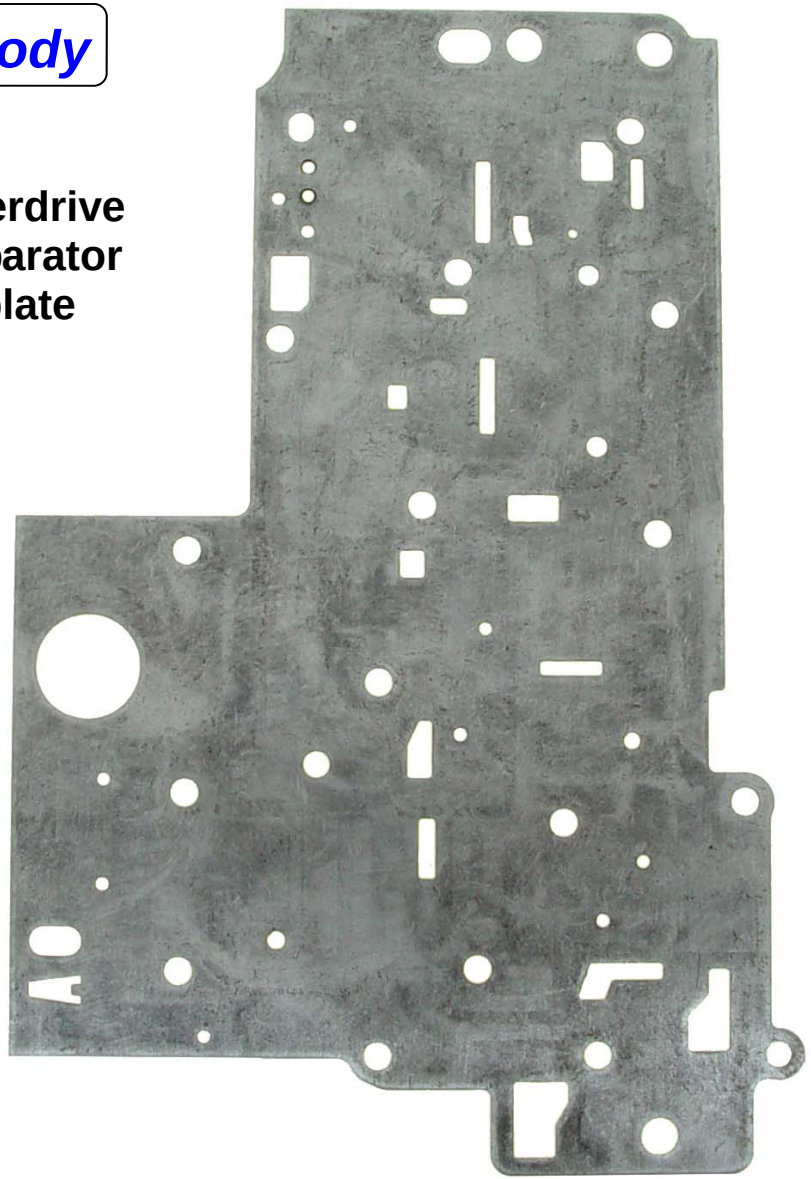


Valve Body

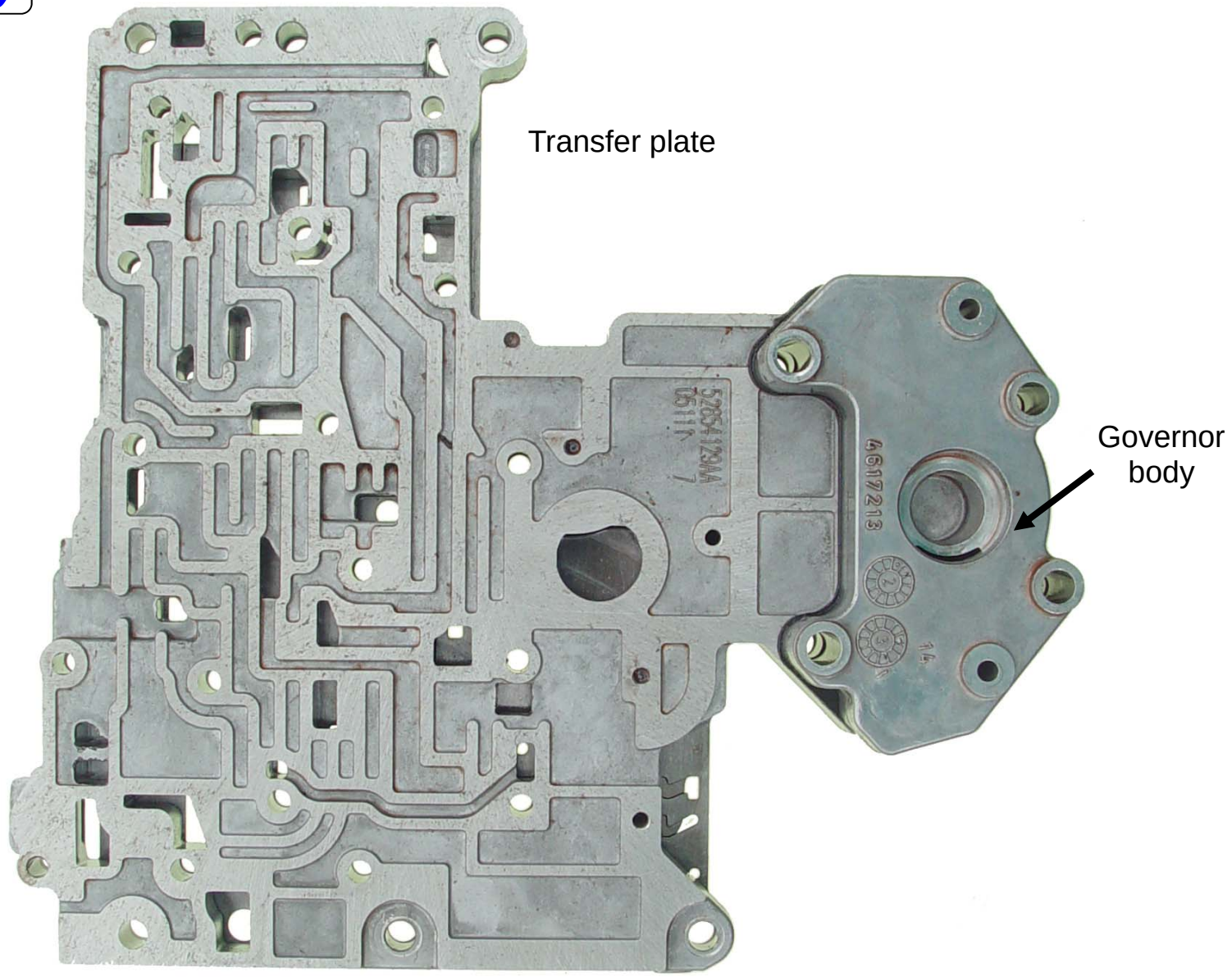
Lower Housing

Valve Body

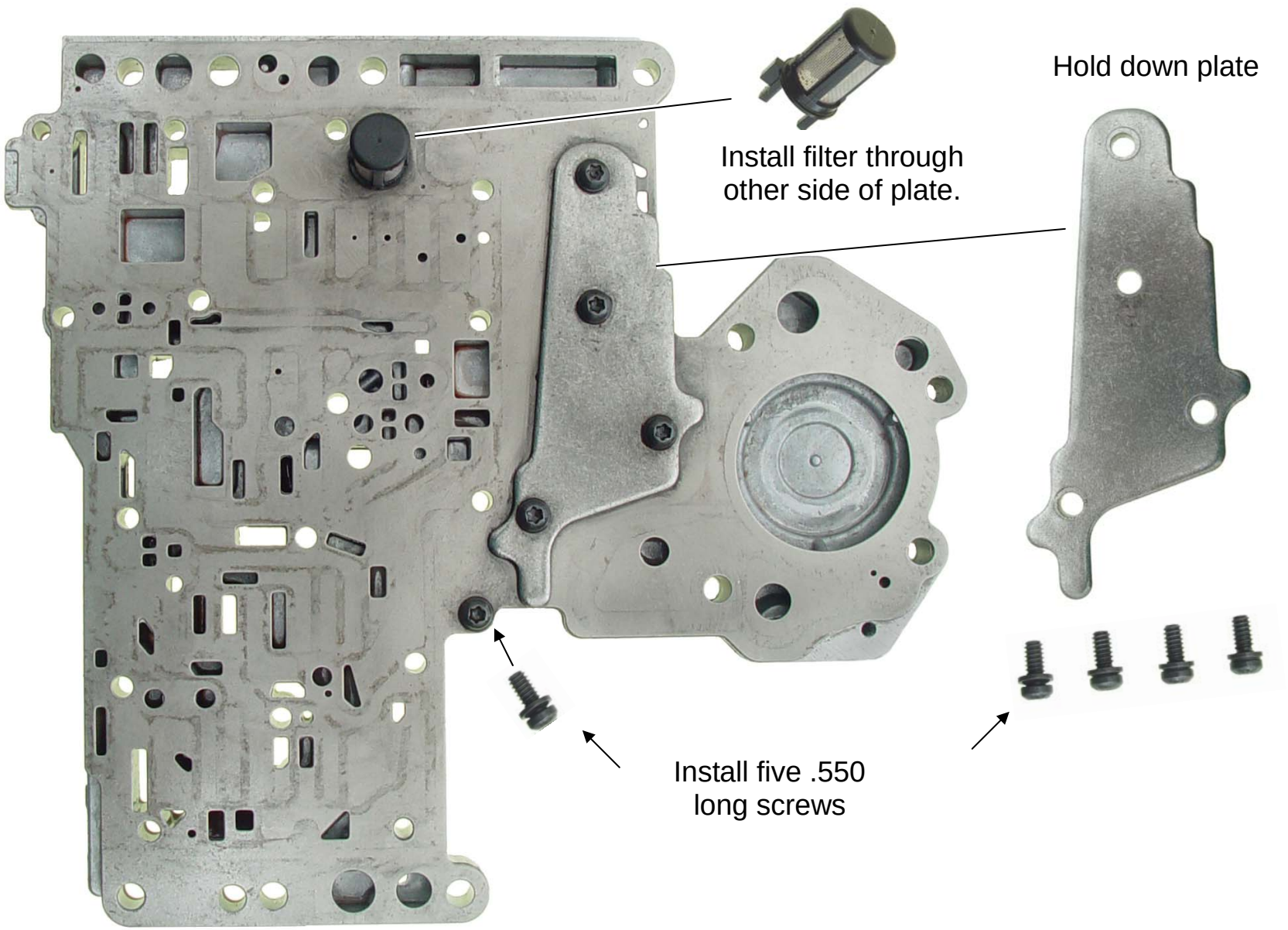
Overdrive separator plate



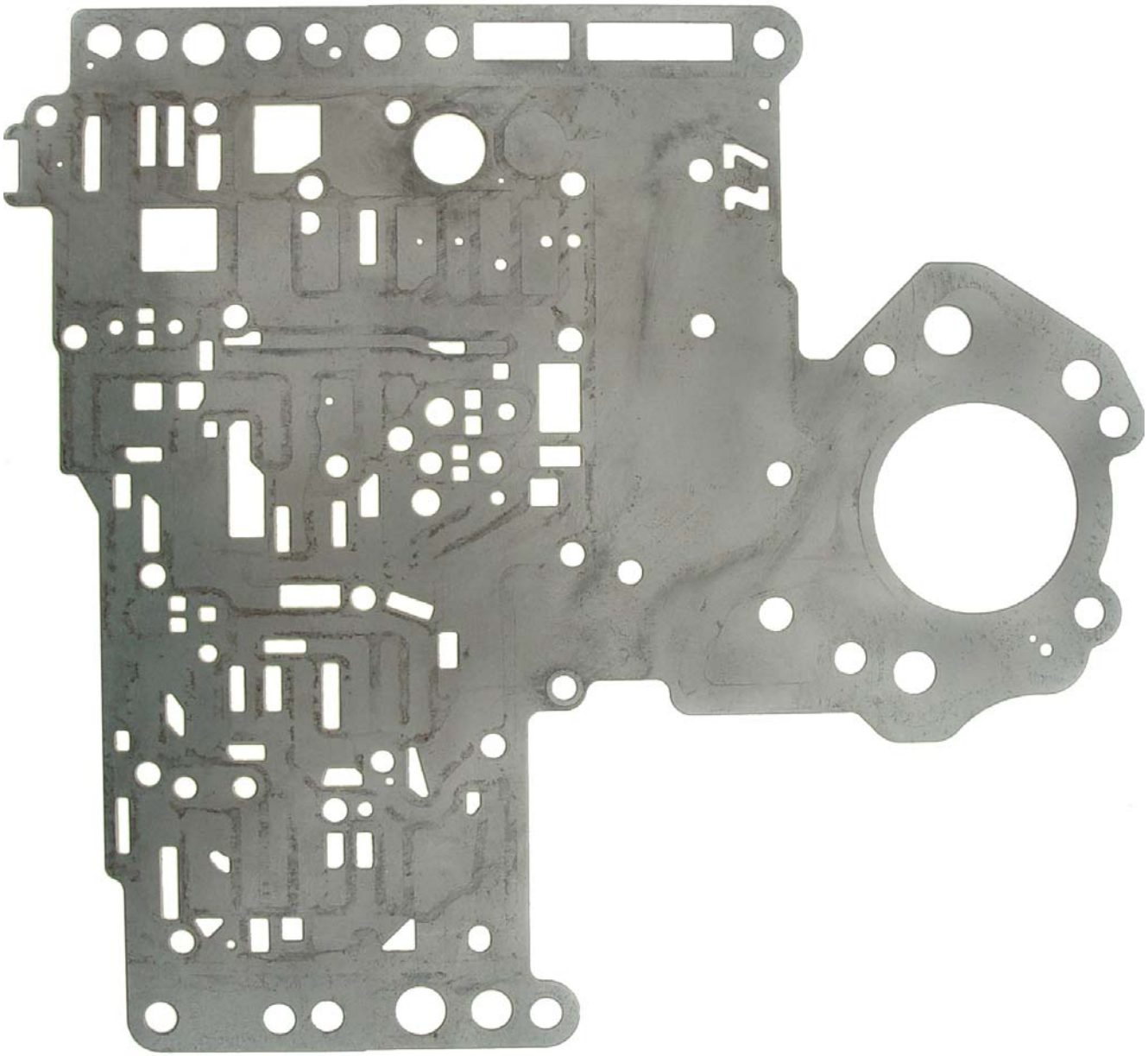
Valve Body



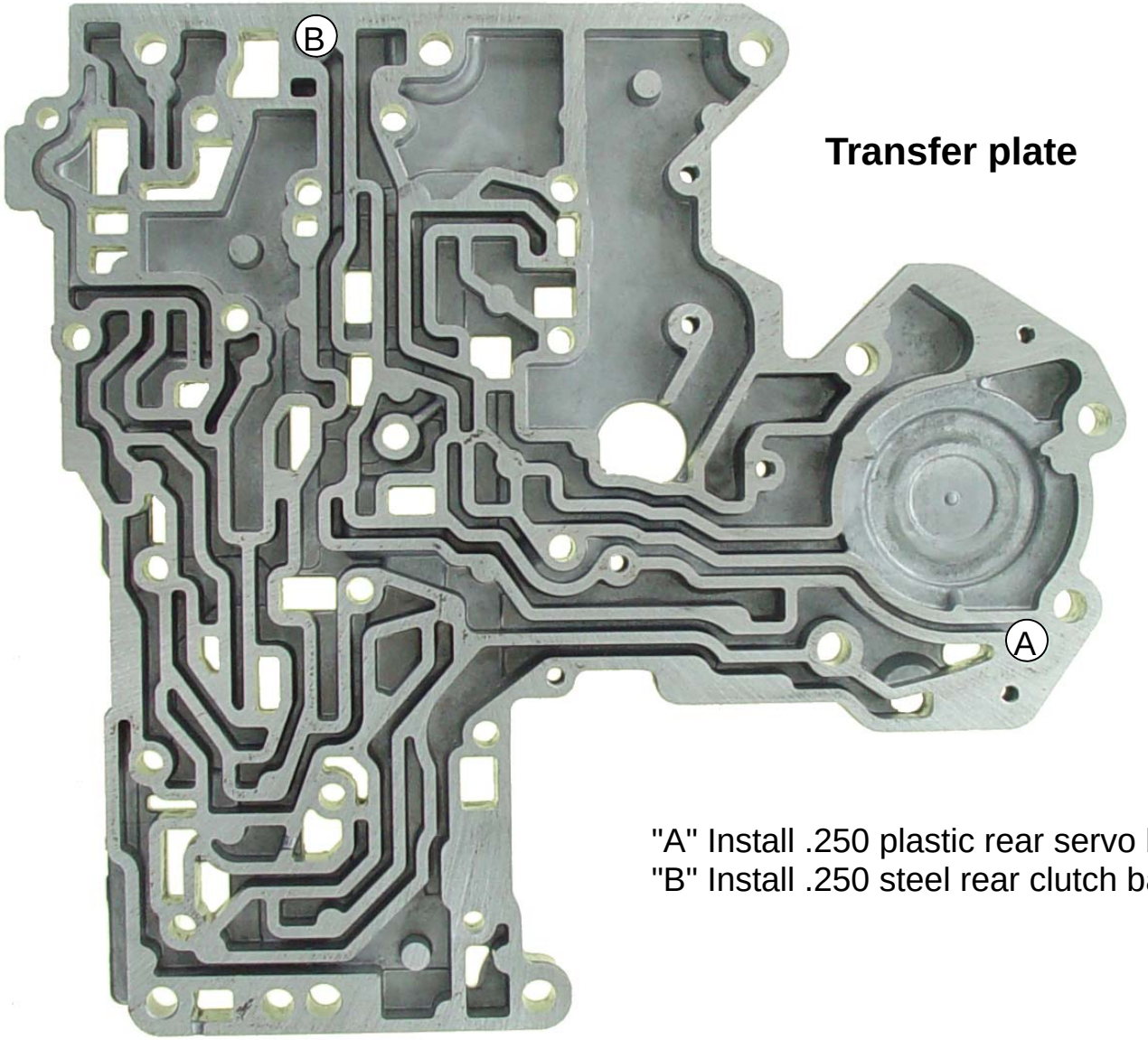
Valve Body



Separator plate



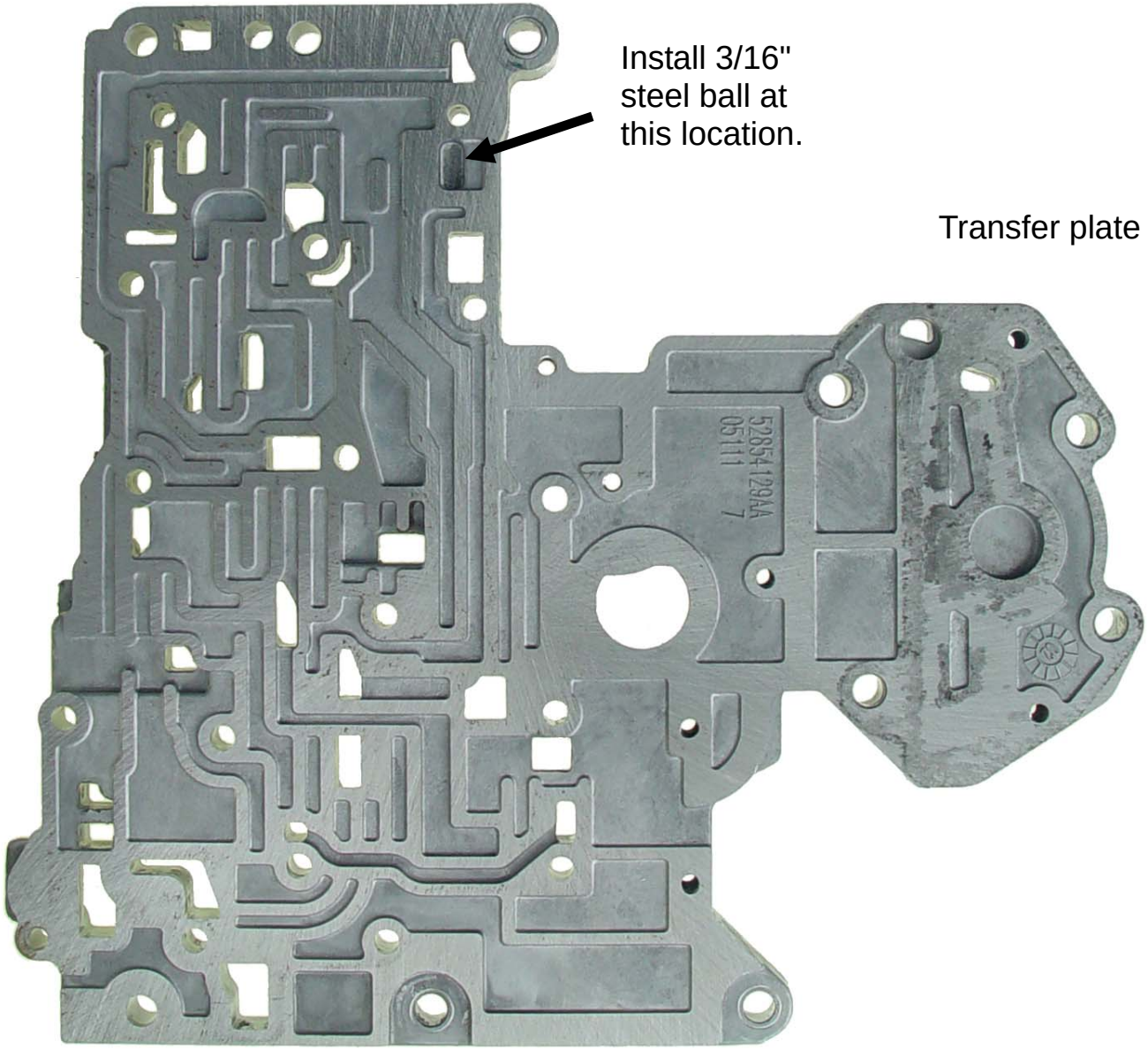
Valve Body



Transfer plate

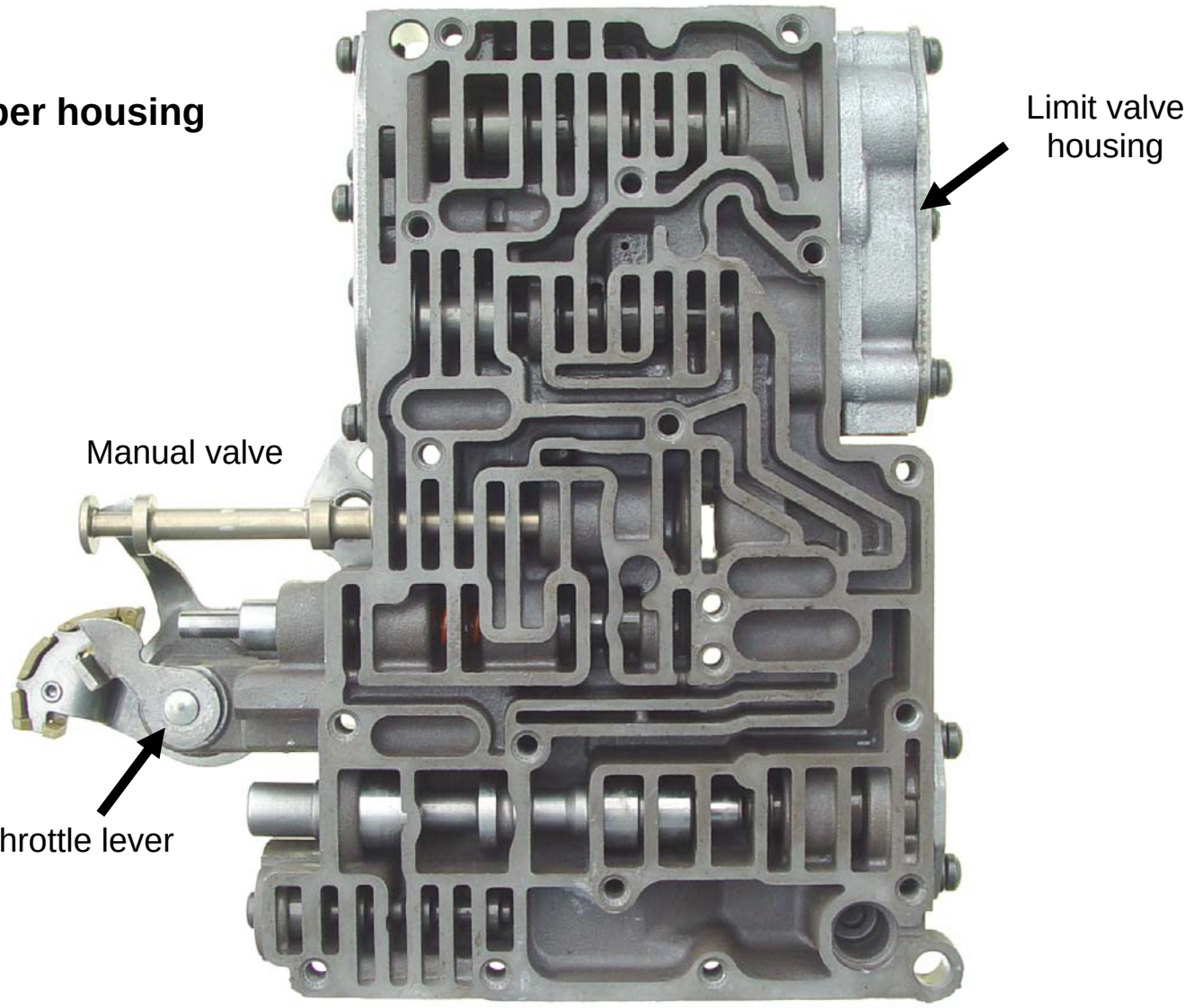
"A" Install .250 plastic rear servo ball.
"B" Install .250 steel rear clutch ball.

Valve Body

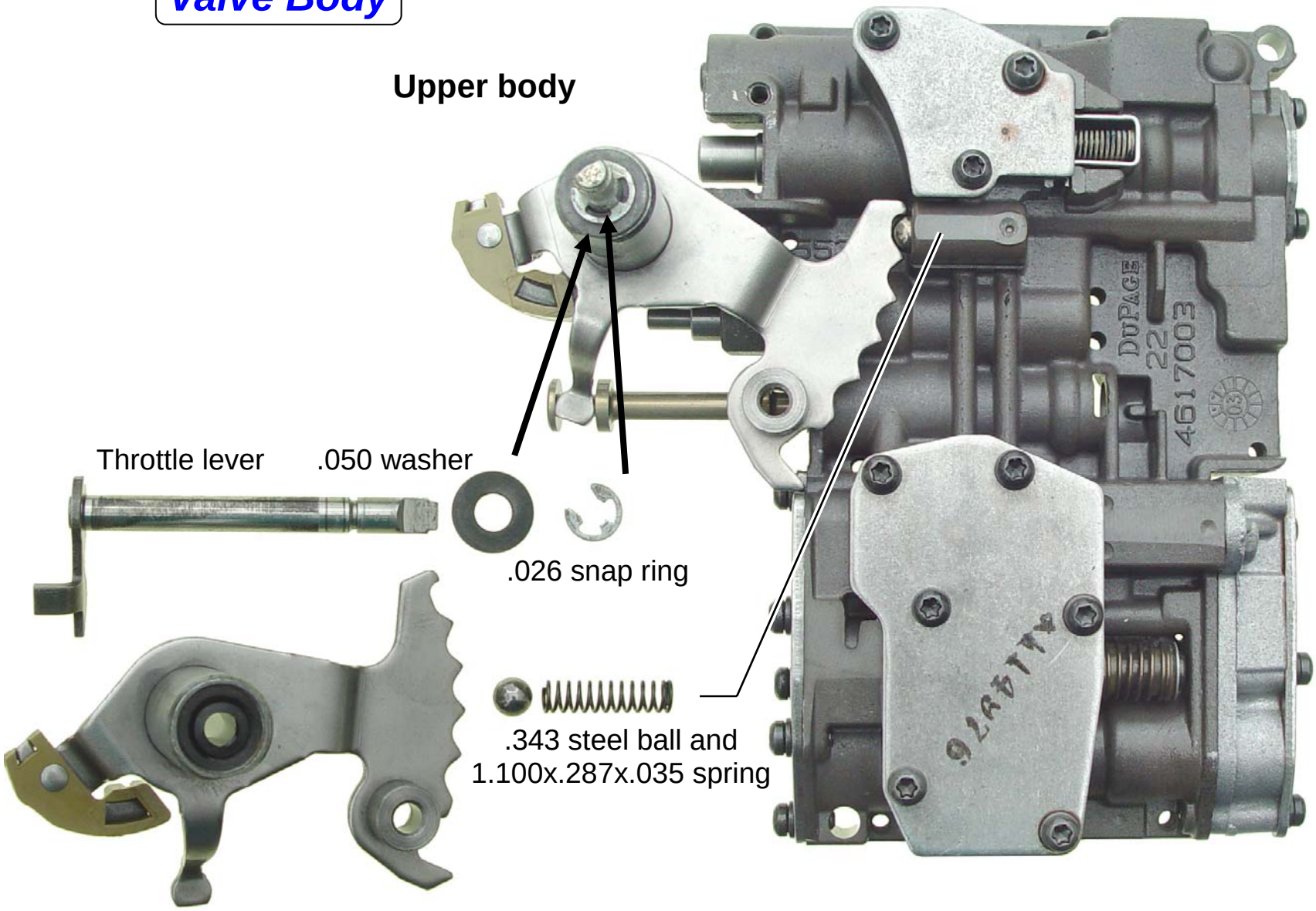


Valve Body

Upper housing



Valve Body



Valve Body

Install .550 screws
Torque to 35 in lb

2-3 governor plug

.937x.525x.041

.026 snap ring

Plug

Shuttle

1.109x.347x.047

1-2 governor plug

Manual valve

.890

Smaller hole
this side.

Kickdown

1.287x.375x.050

Throttle

.570

2.537x637x.062

Pressure regulator

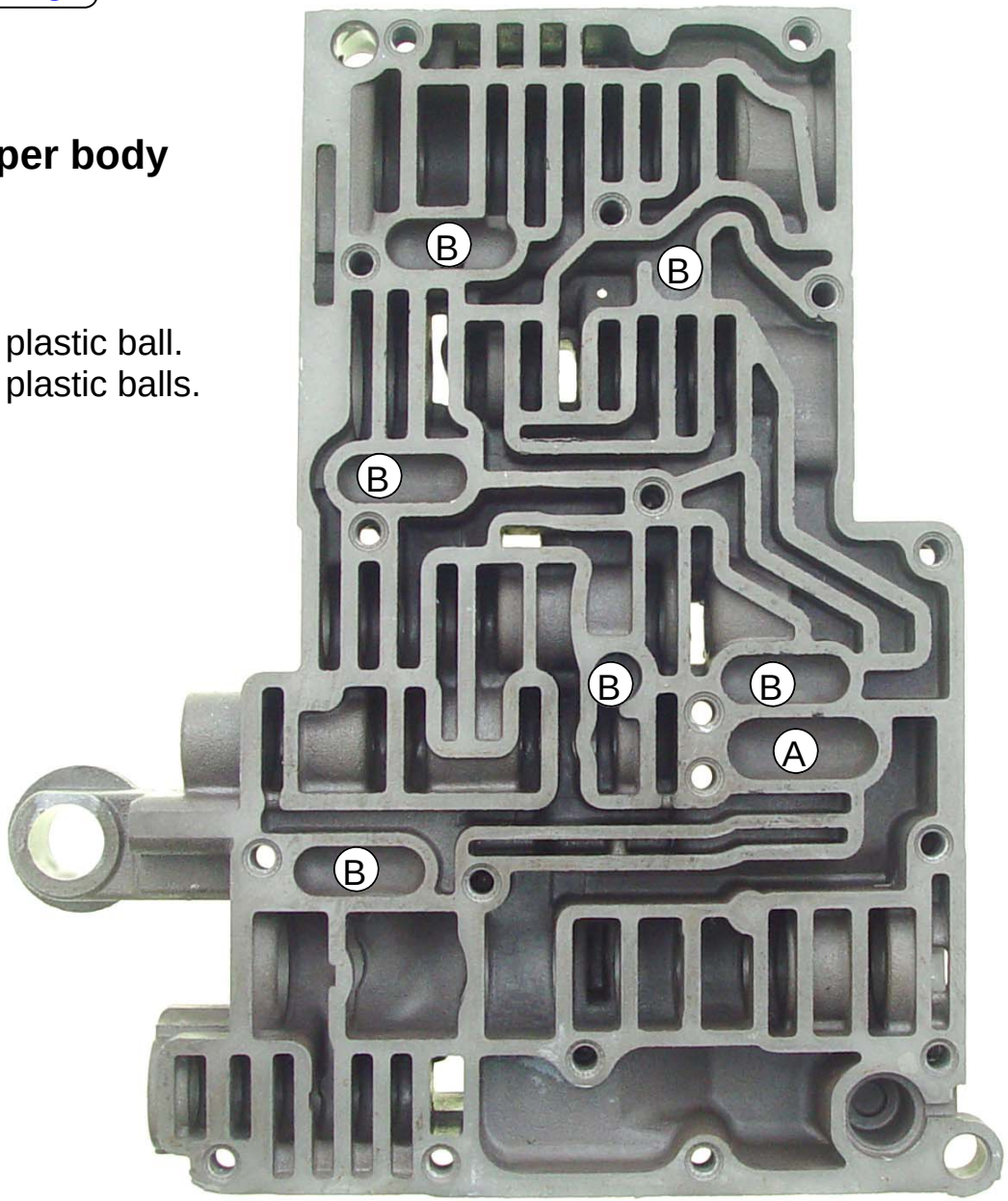
1.412x.408x.040

Switch

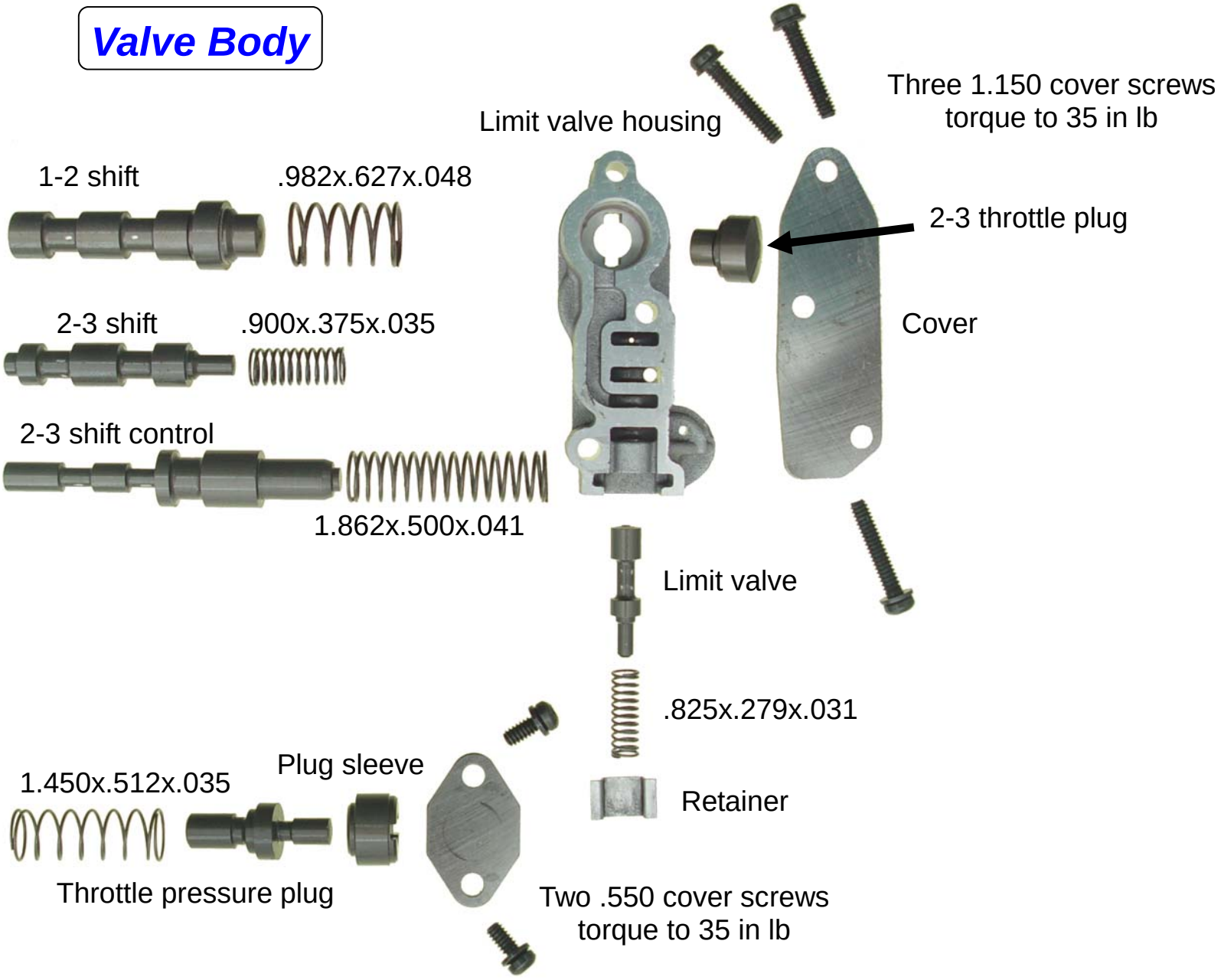
Valve Body

Upper body

"A" Install .343 plastic ball.
"B" Install .250 plastic balls.

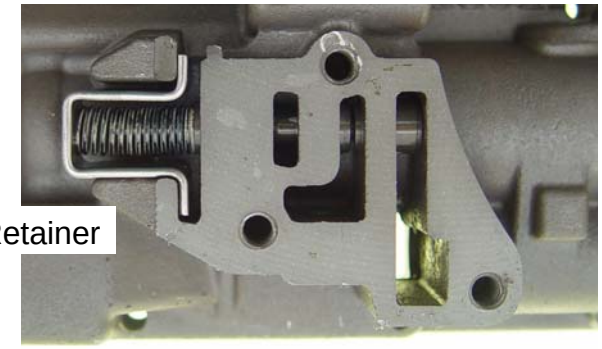


Valve Body



Valve Body

Sooner or later the retainer breaks . If just one leg breaks it will have a lockup and burn the converter. If two legs break it will cause total burn up.



Retainer

Three .550 screws 35 in lb.

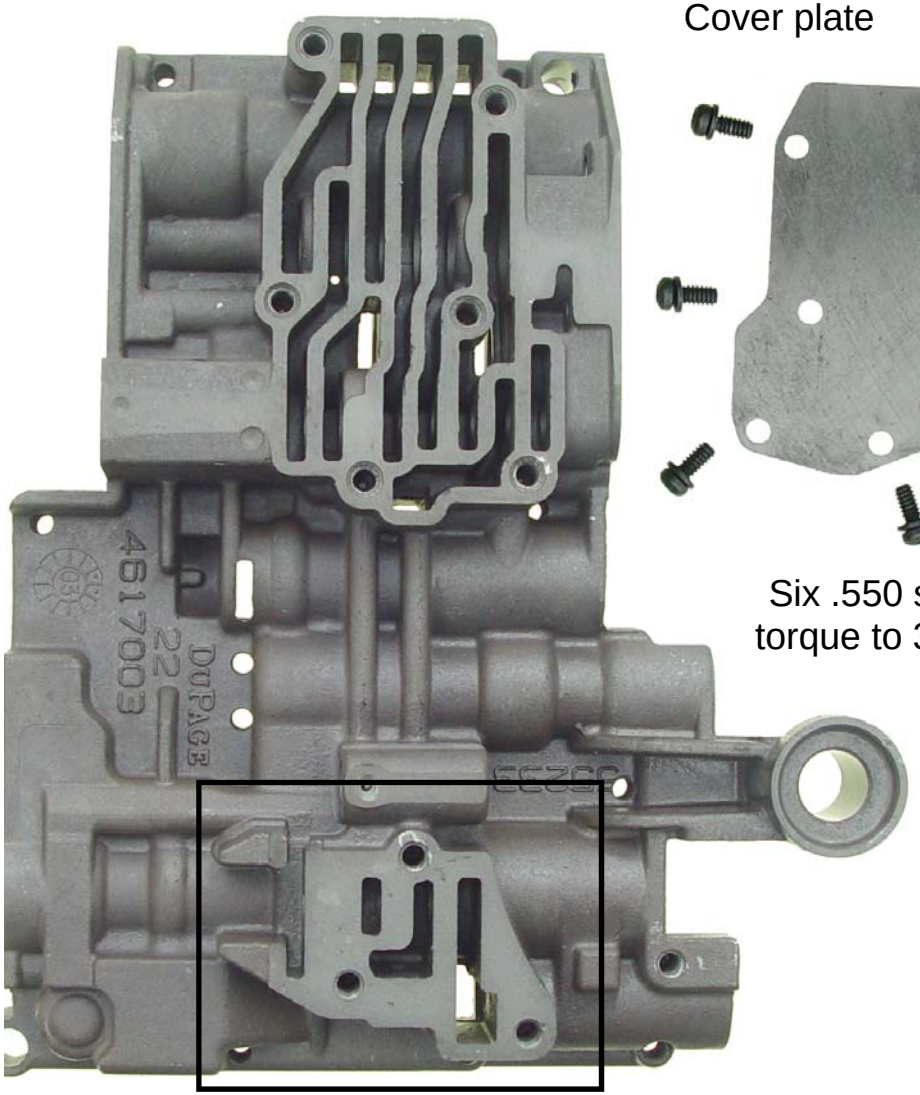
Retainer

Lockup Boost valve

.937x.275x.029

Plug

Save a comeback
Get new retainer.



Cover plate

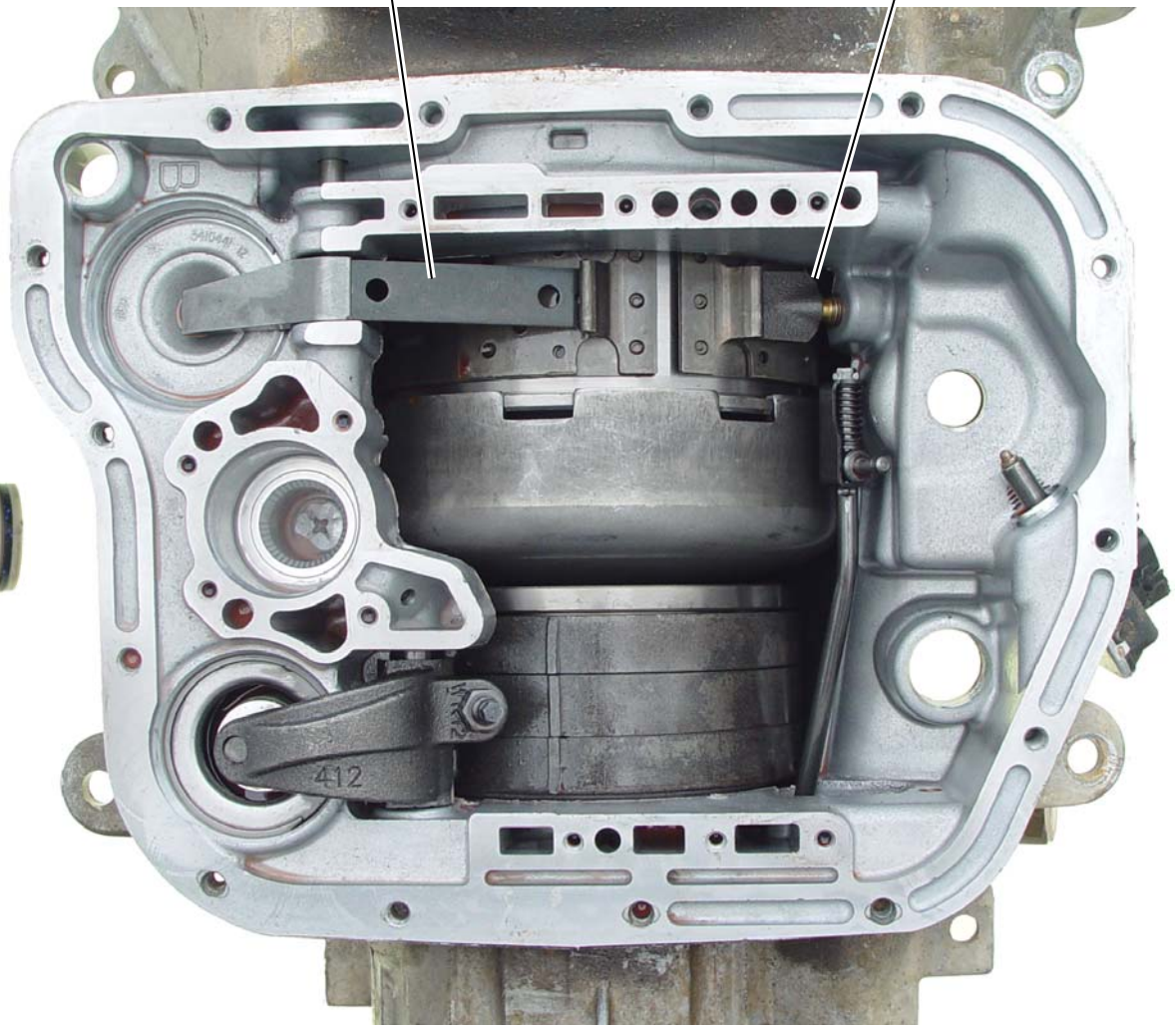
Six .550 screws torque to 35 in lb.

Bands-Pistons

2nd Accumulator and 2nd Struts

2nd band strut

2nd band anchor

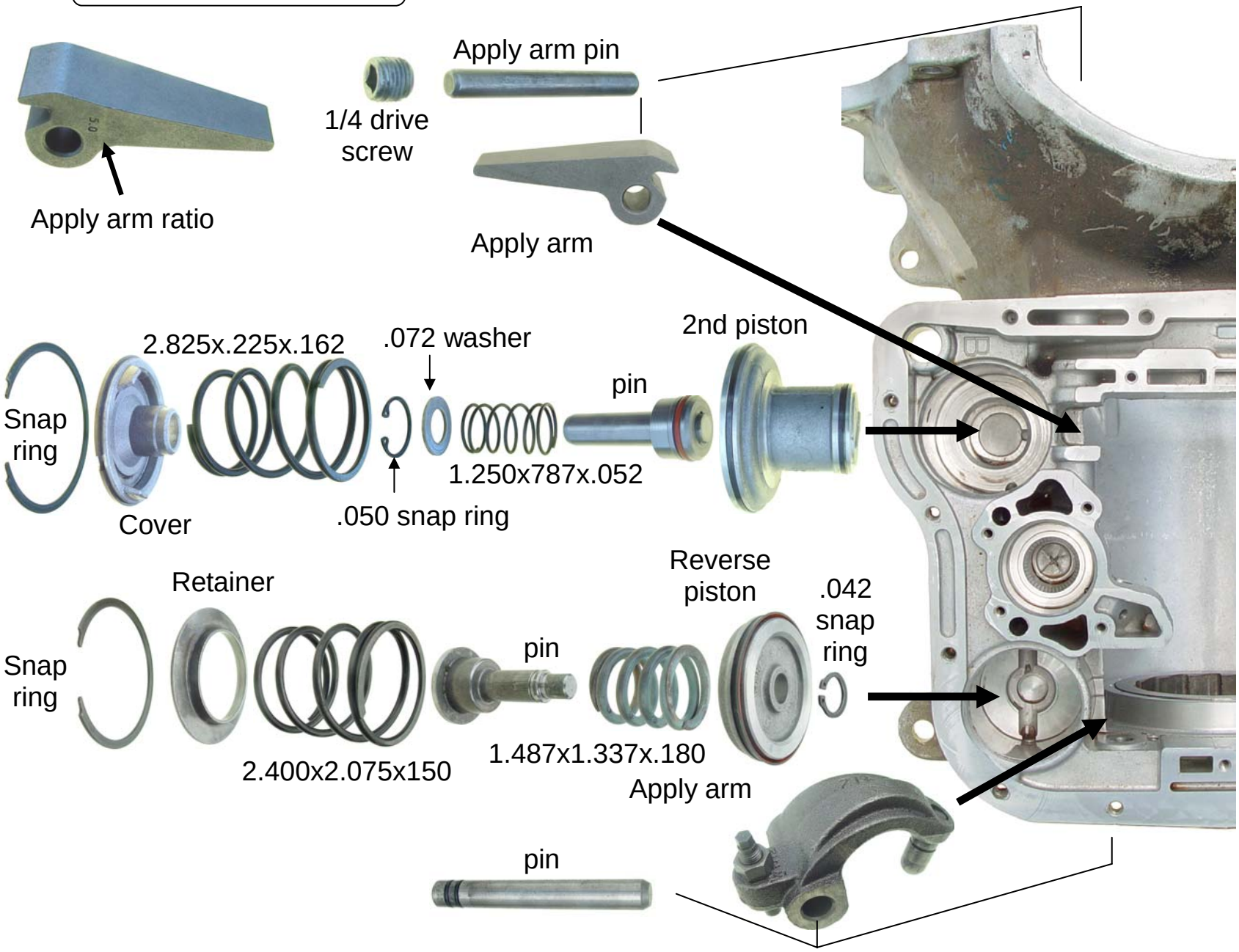


2nd accumulator

1.525x1.362x.154

Bands-Pistons

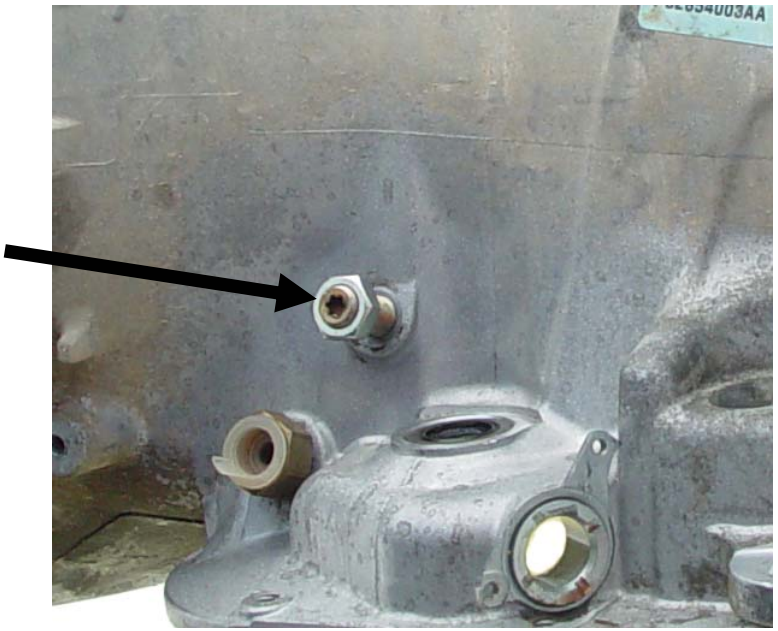
Servos and Apply Arms



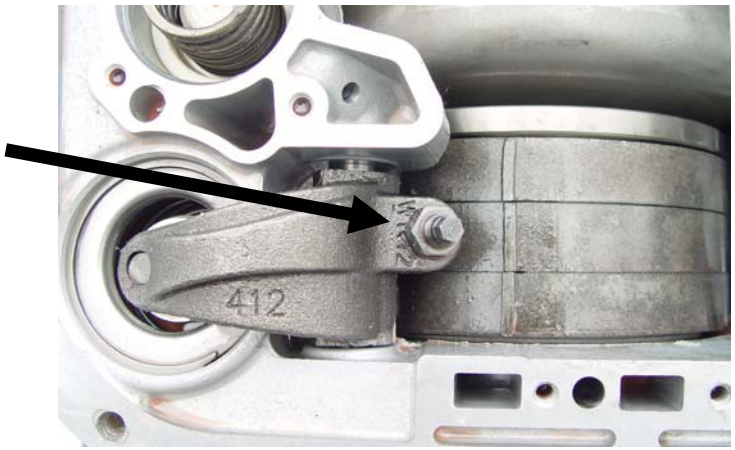
Band Adjustments

Bands-Pistons

Front band adjustment:
Back lock nut off several turns.
Use Torx T40 and tighten band to 72 in lb then back off 1 3/4 turns.
Torque locking nut 25 ft lb



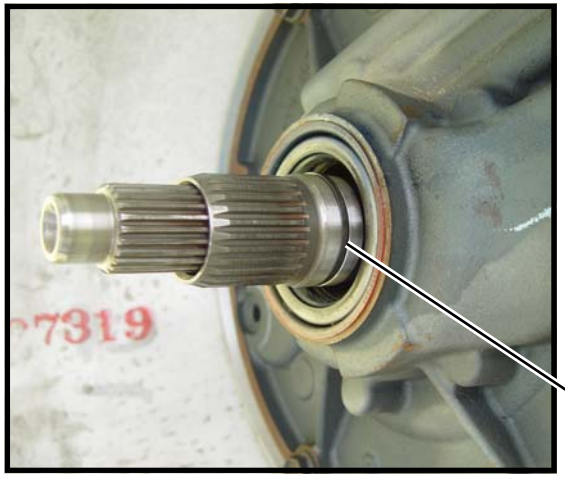
Rear band adjustment:
Back lock nut off several turns.
Tighten band to 72 in lb then back off 3 turns.
Torque locking nut 30 ft lb



Pump

Pump Body

Seven pump bolts
torque to 15 ft lb.



Converter seal

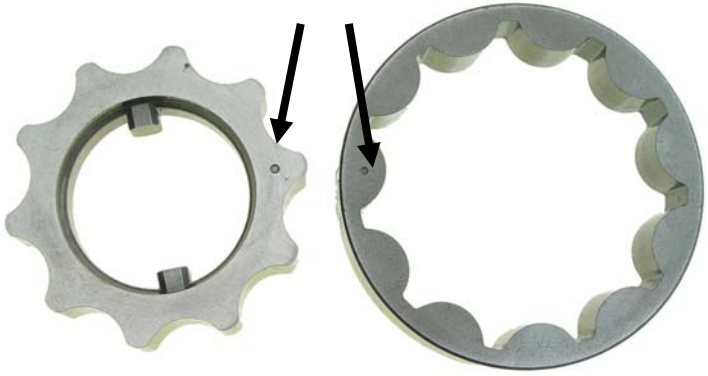
Pump

Six pump bolts torque
to 15 ft lb.

Converter seal

Pump Assembly

Dimple on outer pump gear faces up.



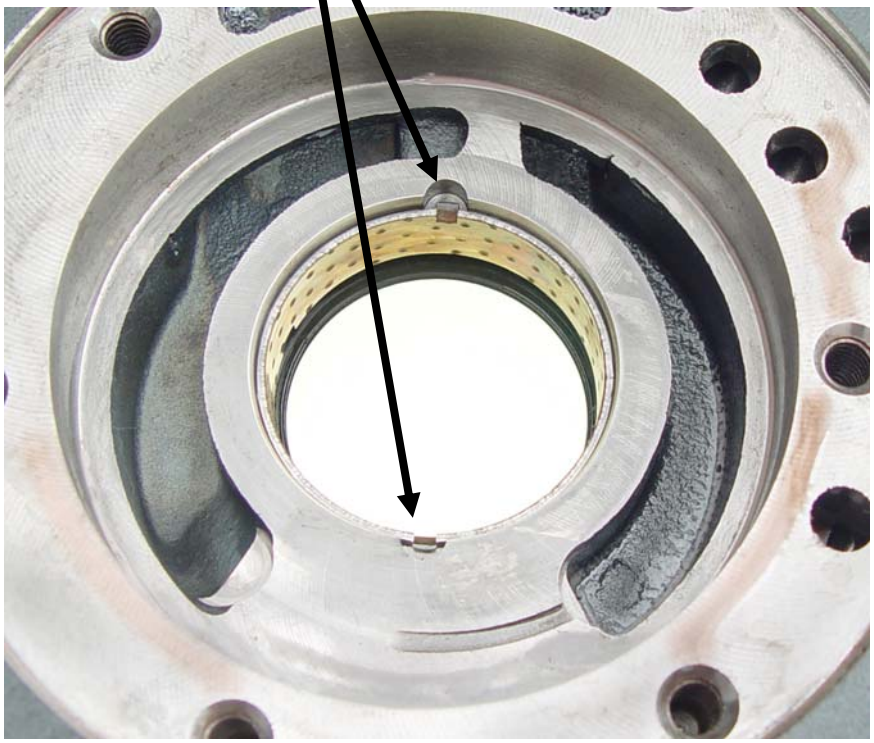
Inner gear has dimples on both sides.

Long Chamfer with no step faces torque converter.

Pump

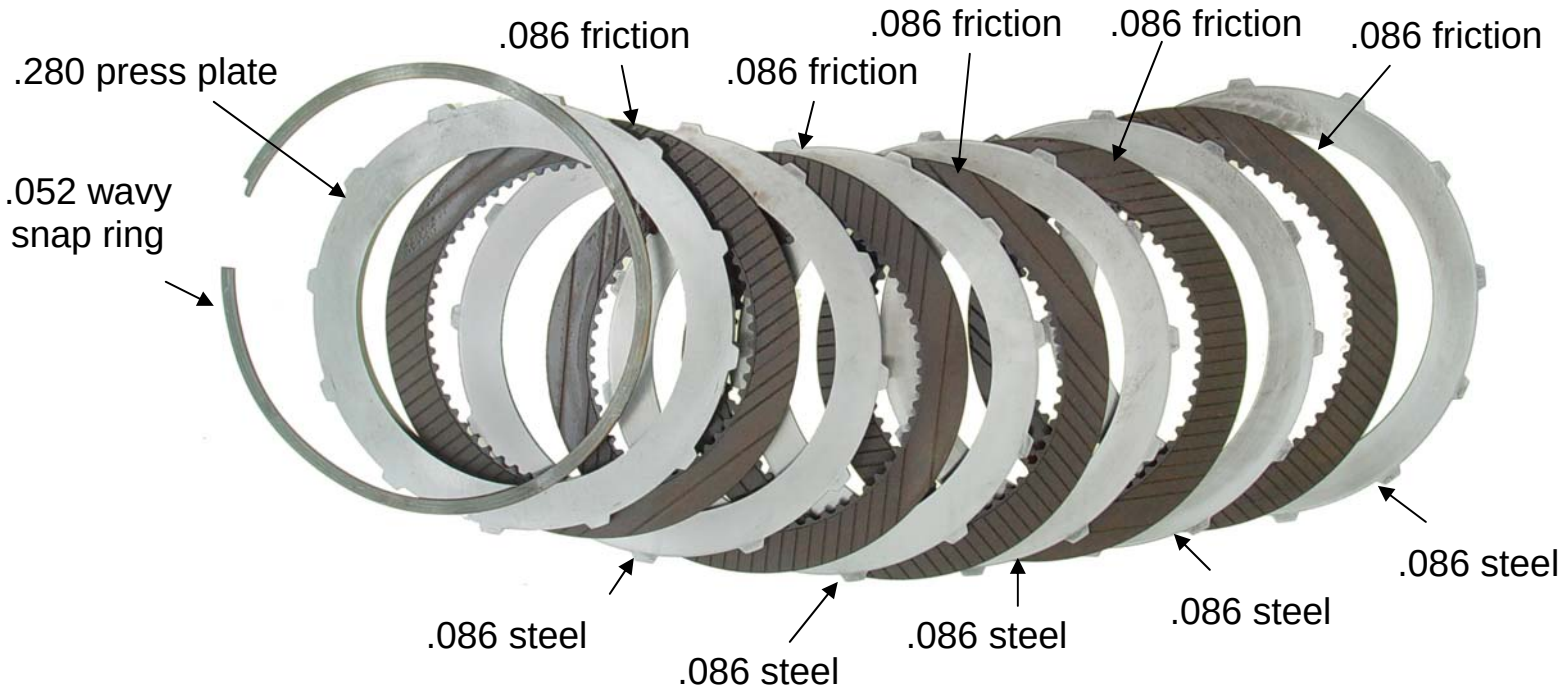
Pump pocket needs to be scratch free.

Bushing should be staked as shown.



Clutch Packs

Front Clutch



Clearance should be .070-.129
Measure at high spot of wavy snap ring

Front Clutch

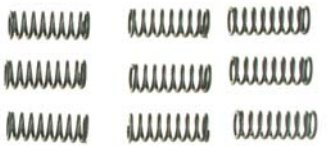
Clutch Packs

Stack spring as shown on piston. Stack 3 on a post then skip 2 as shown.

.062 snap

Retainer

Nine 1.412x525x072 return springs

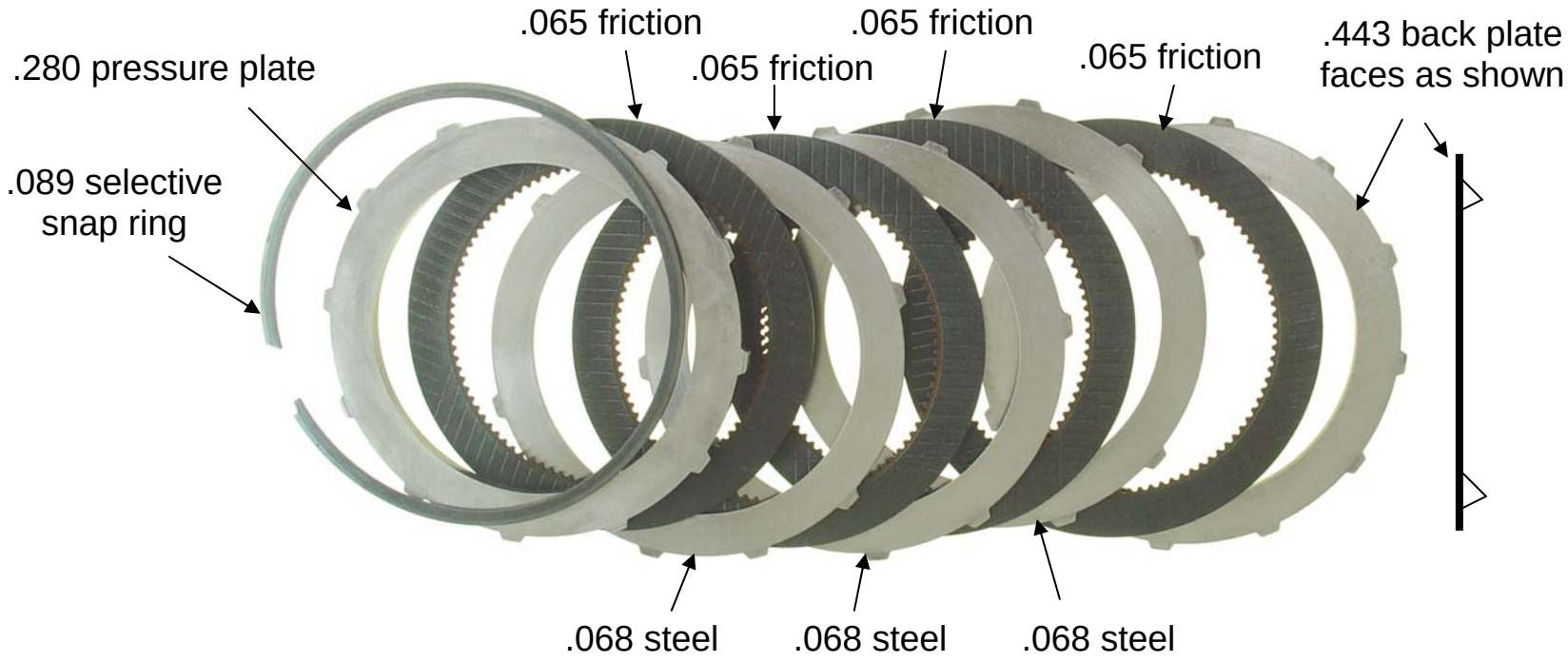


piston

Drum

Clutch Packs

Rear Clutch



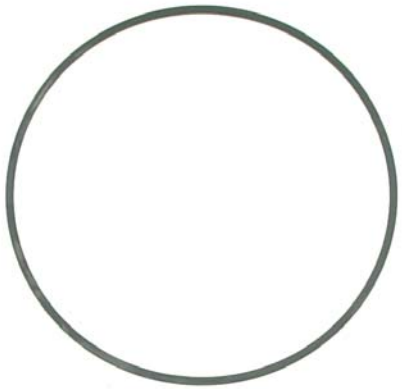
Clearance should be .016-.036. Check between snap ring and pressure plate.

Clutch Packs

Rear Clutch

.051 wavy snap ring

.100 plastic spacer



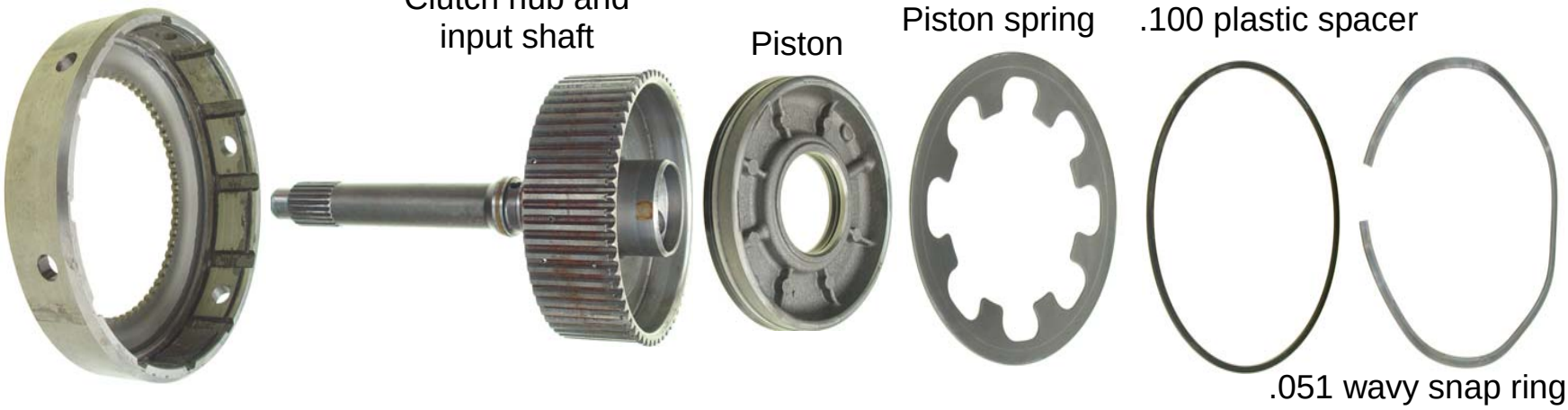
Piston spring

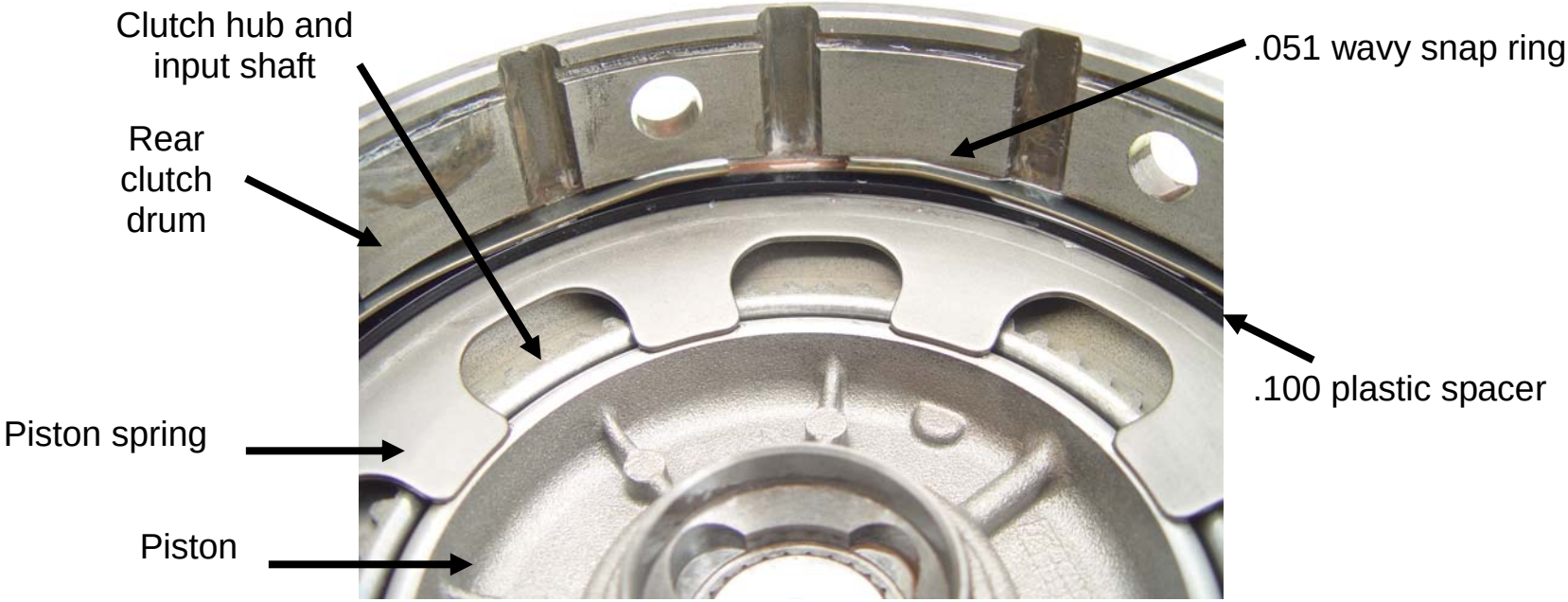
Piston

Clutch hub and input shaft

Clutch Packs

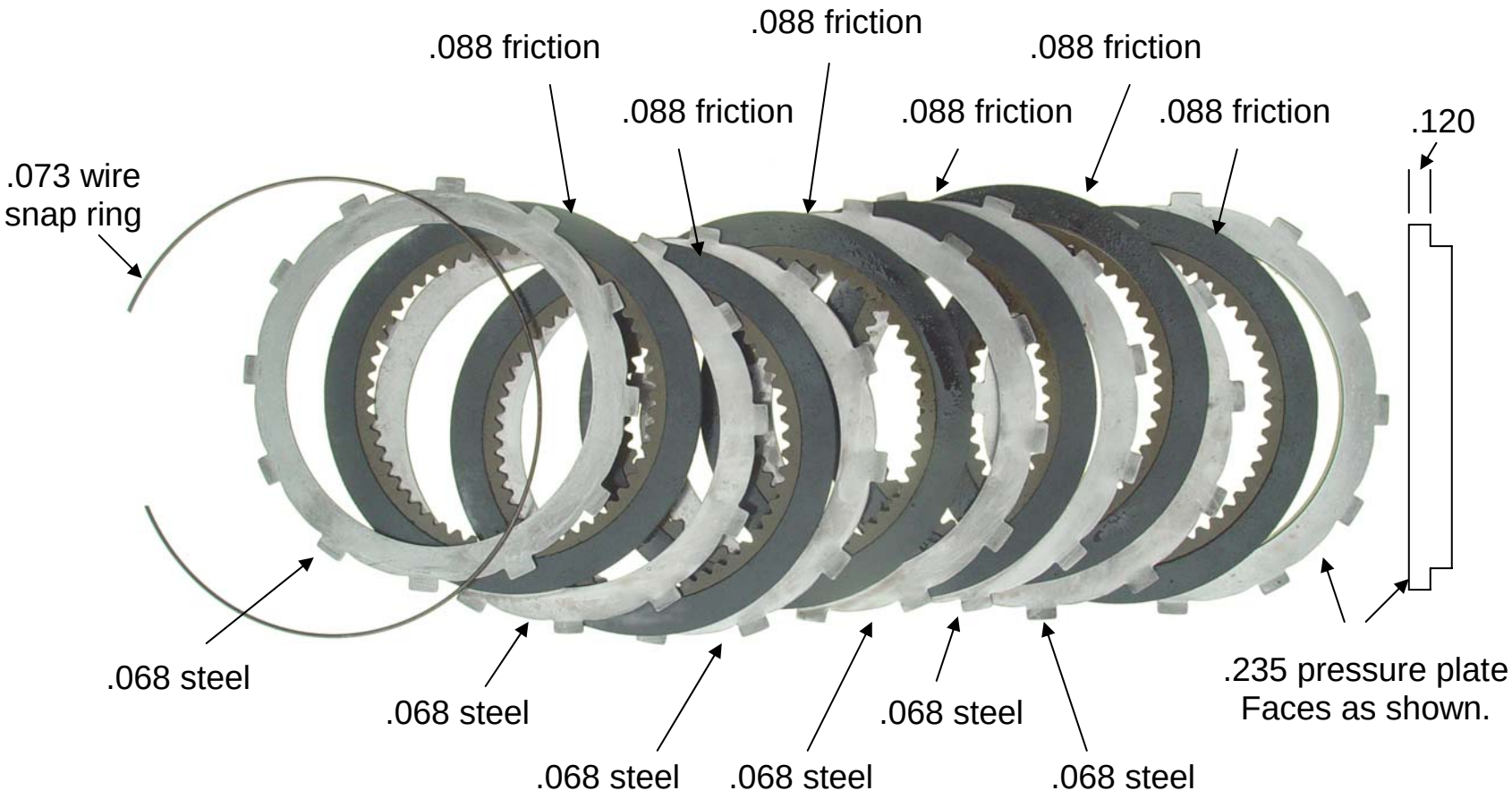
Rear Clutch





Clutch Packs

Overdrive Clutch



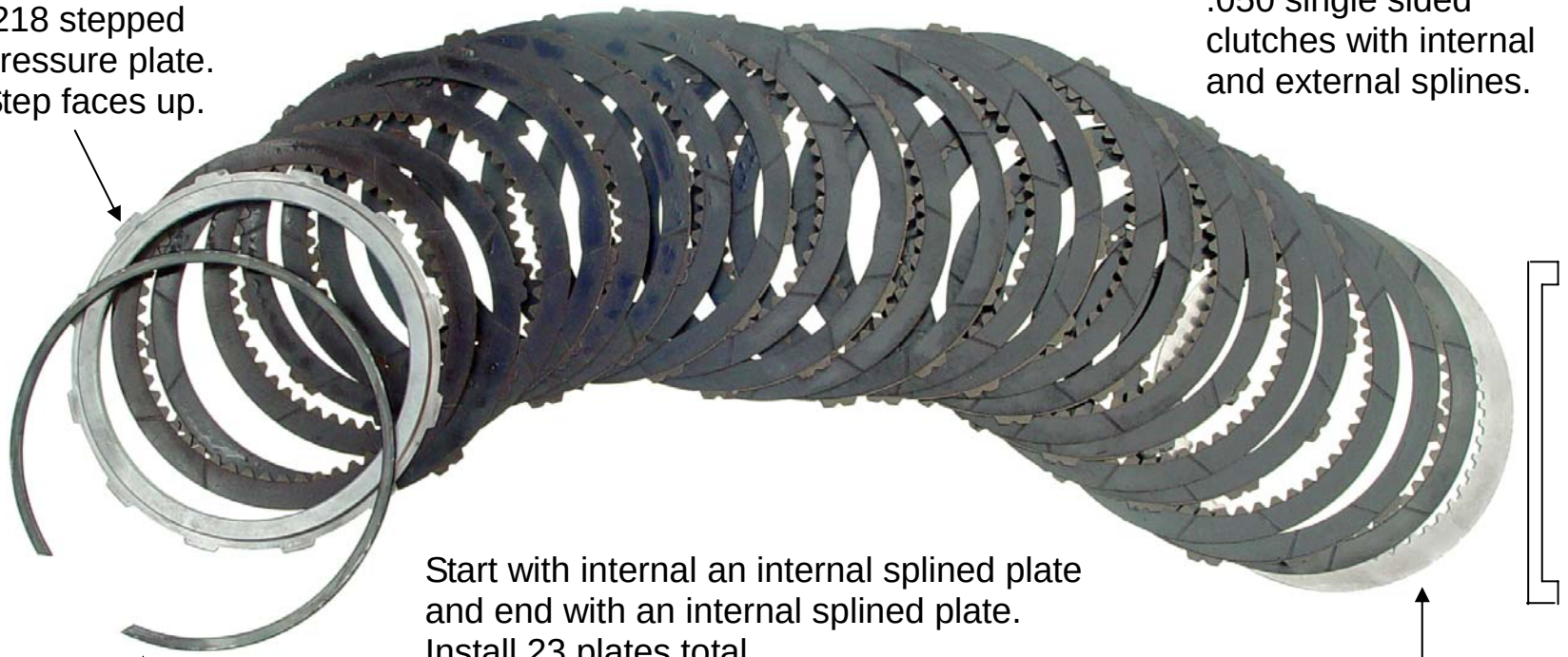
Some models use 5 frictions and have an additional wavy case snap ring.

Clutch Packs

OD Direct Clutch

.218 stepped pressure plate. Step faces up.

.050 single sided clutches with internal and external splines.



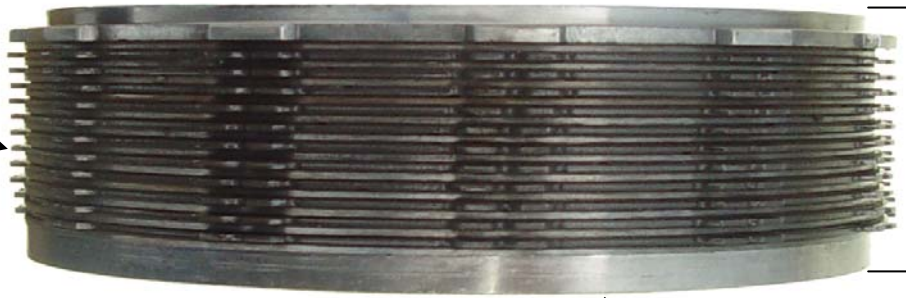
.079 waved snap ring

Start with internal an internal splined plate and end with an internal splined plate.
Install 23 plates total.
12 Internal spline plates and 11 external spline plates.
Be sure to alternate one internal and then one external plate.

.216 pressure plate faces as shown.

Single sided plates have friction on one side and are steel on the other.

Clutch Packs



.087

Top stepped .218 pressure plate.

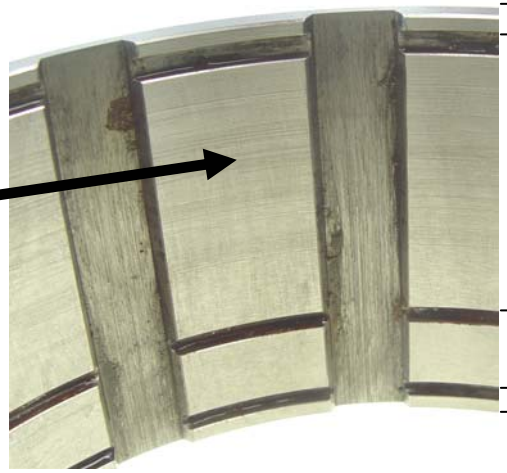
1.560 total height

Single sided or traditional friction steel clutch plates will work just make sure the total heights are the same.

Bottom stepped .216 pressure plate.

.104

OD direct drum



.100

2.730 overall

1.908

2.500

Clutch Packs

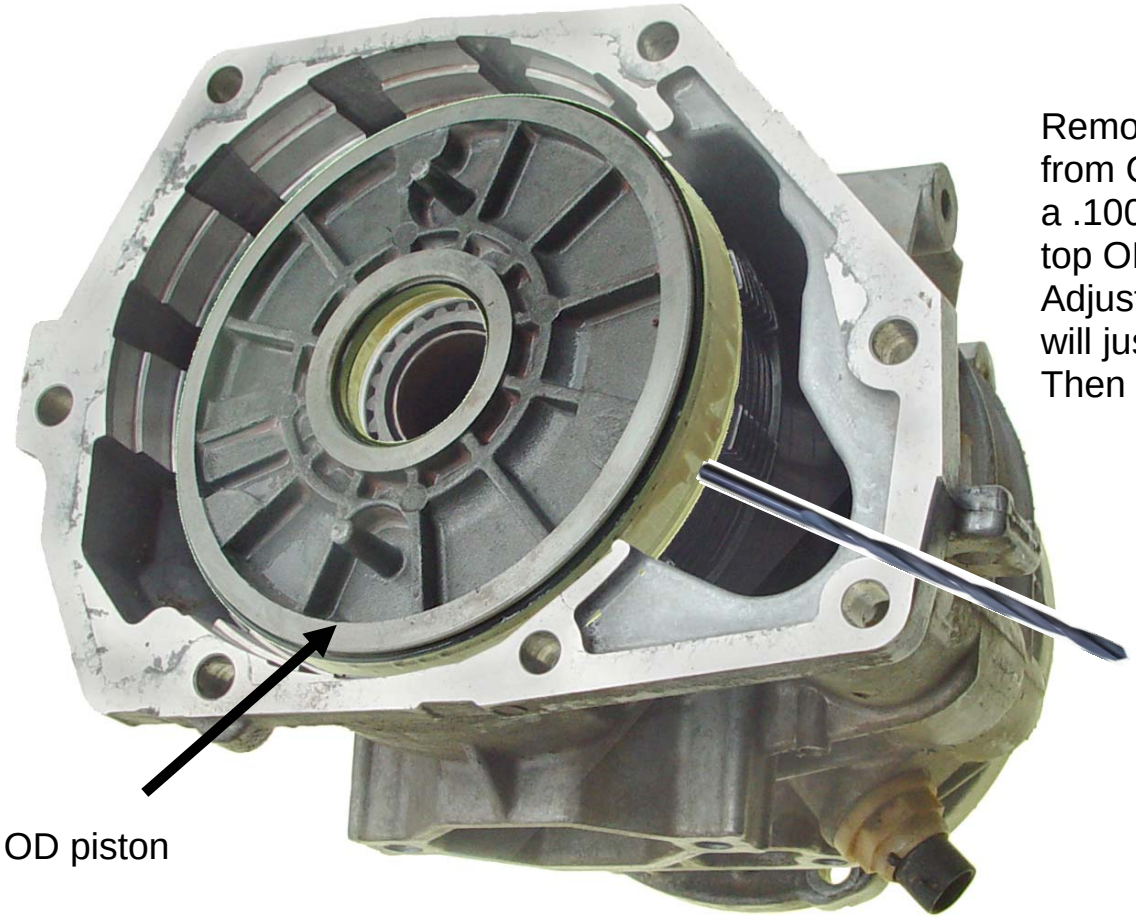
A press must be used to remove the two snap rings.

Remove the OD direct clutch snap ring.

Remove the sun gear snap ring.

To reassemble, install the sun gear snap ring then remove from the press and install the OD direct clutch pack. Then place back in the press and install the OD direct clutch snap ring.

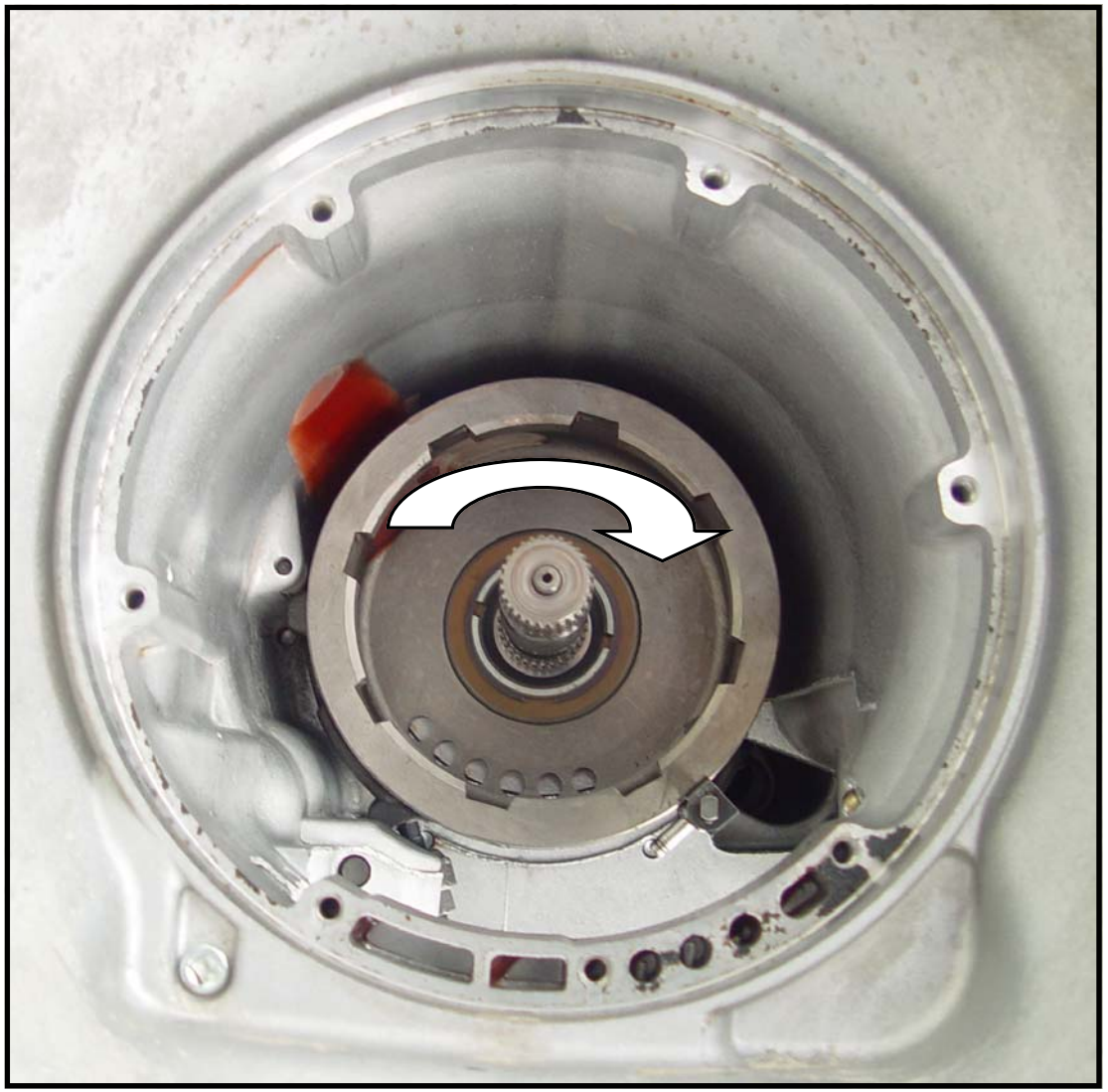
Clutch Packs



Remove .100 round retaining ring from OD housing and then use a .100 drill between OD piston and top OD steel plate.
Adjust selective OD shim until drill will just fit between piston and steel.
Then reinstall .100 round snap ring.

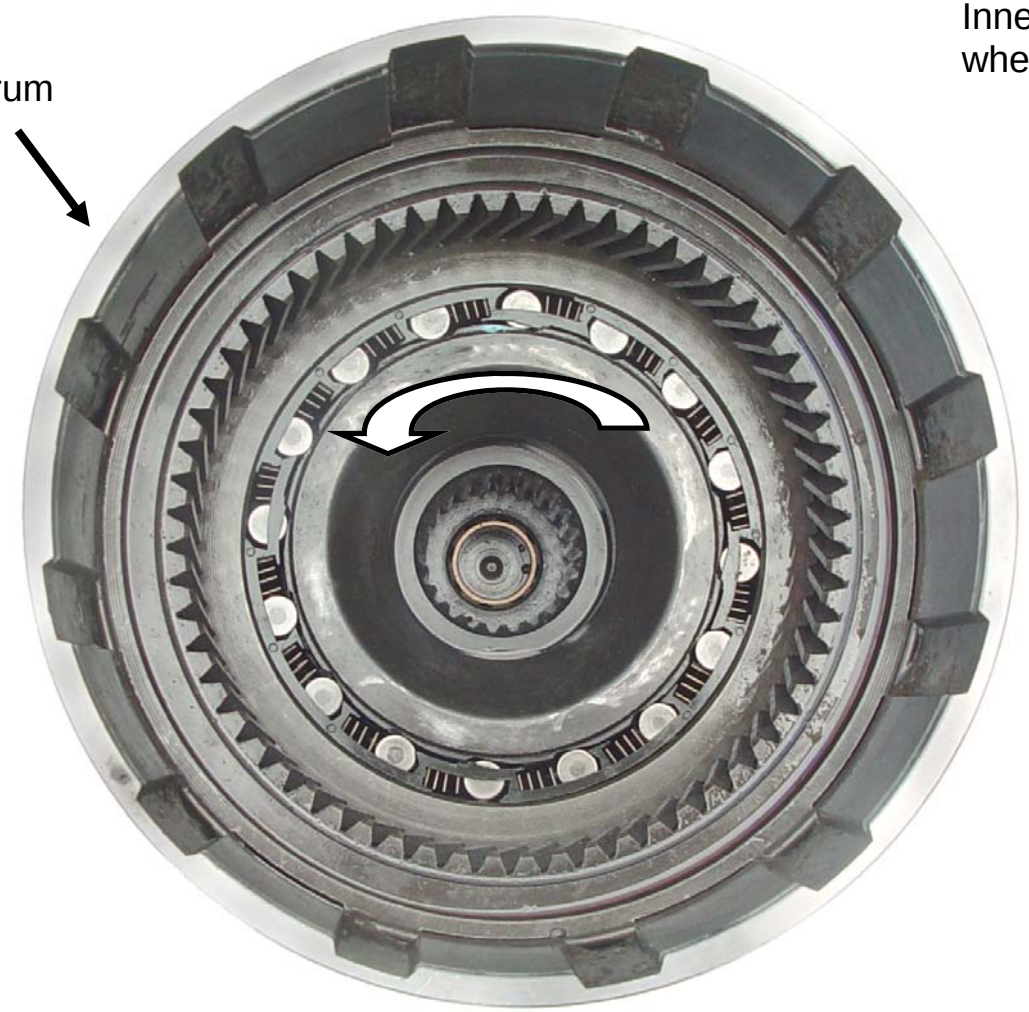
Low Overrunning Clutch

Low and reverse drum should free-wheel in the direction of the arrow.



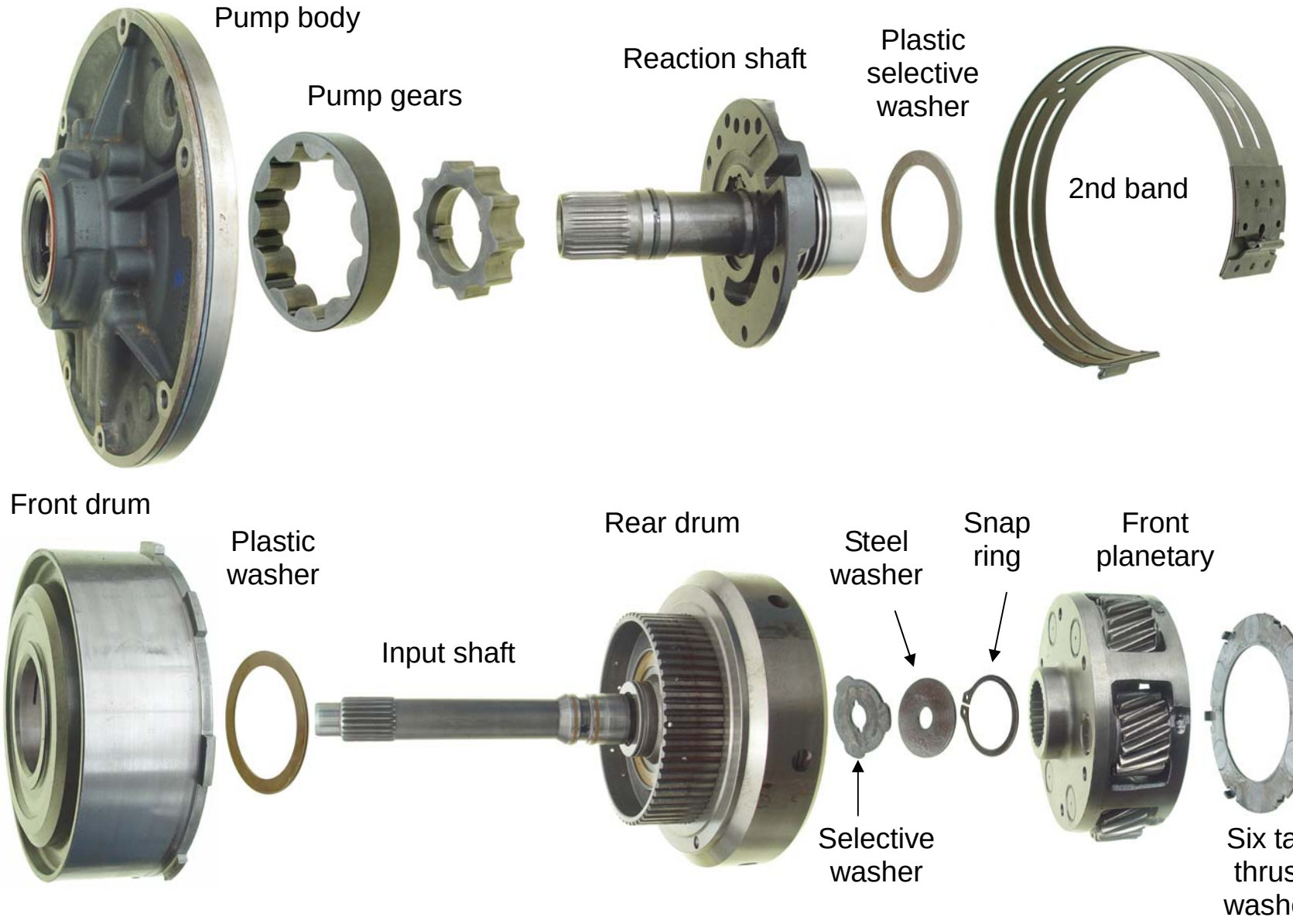
OD Overrunning Clutch

Hold drum

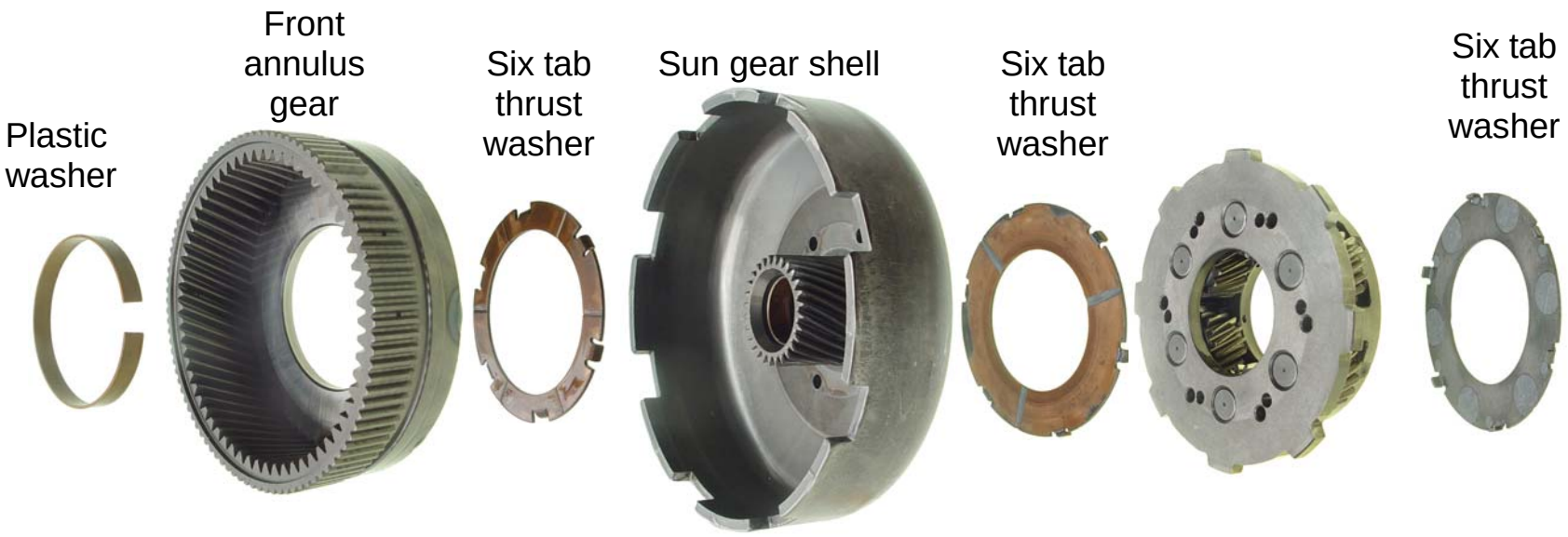


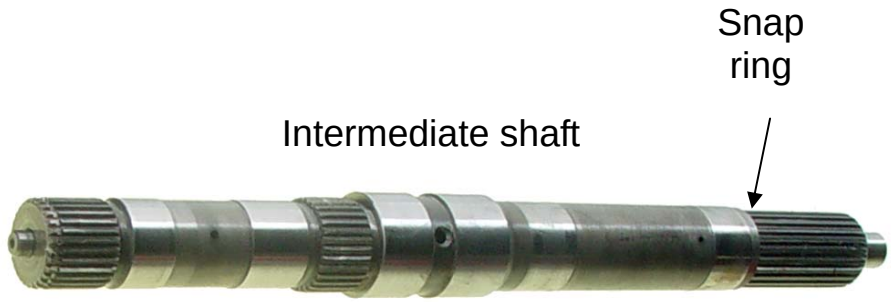
Inner Raceshould free-wheel direction of arrow.

Internal Components



Internal Parts





Internal Parts

Snap ring

Plastic Washer

Low/Rev Drum

Rear band

Low roller clutch

Park rod

Case

Internal Parts

Case

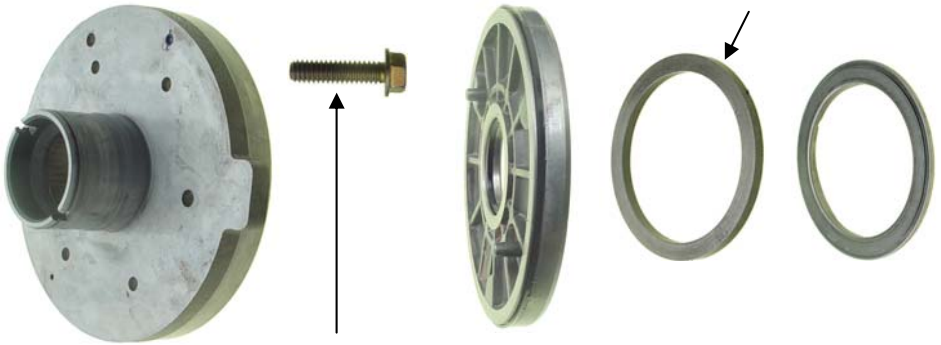
Rear band anchor

OD housing gasket

OD piston retainer

OD piston

Selective .214 OD shim.



Roller bearing inner lip faces away from selective OD shim.

1.212 OD piston housing bolts torque to 13 ft lb

Internal Parts

Overdrive clutch pack

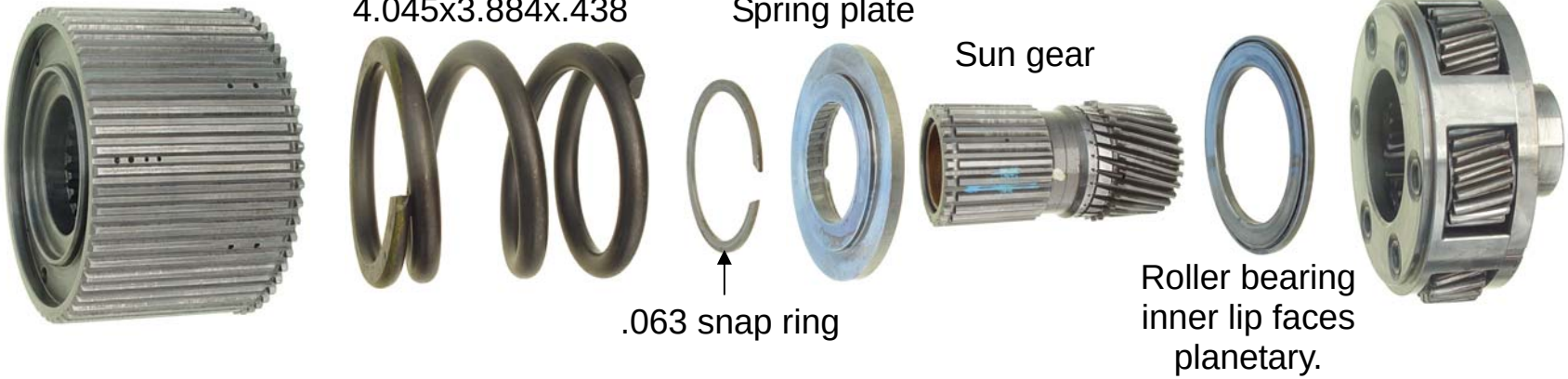
.078 case snap ring

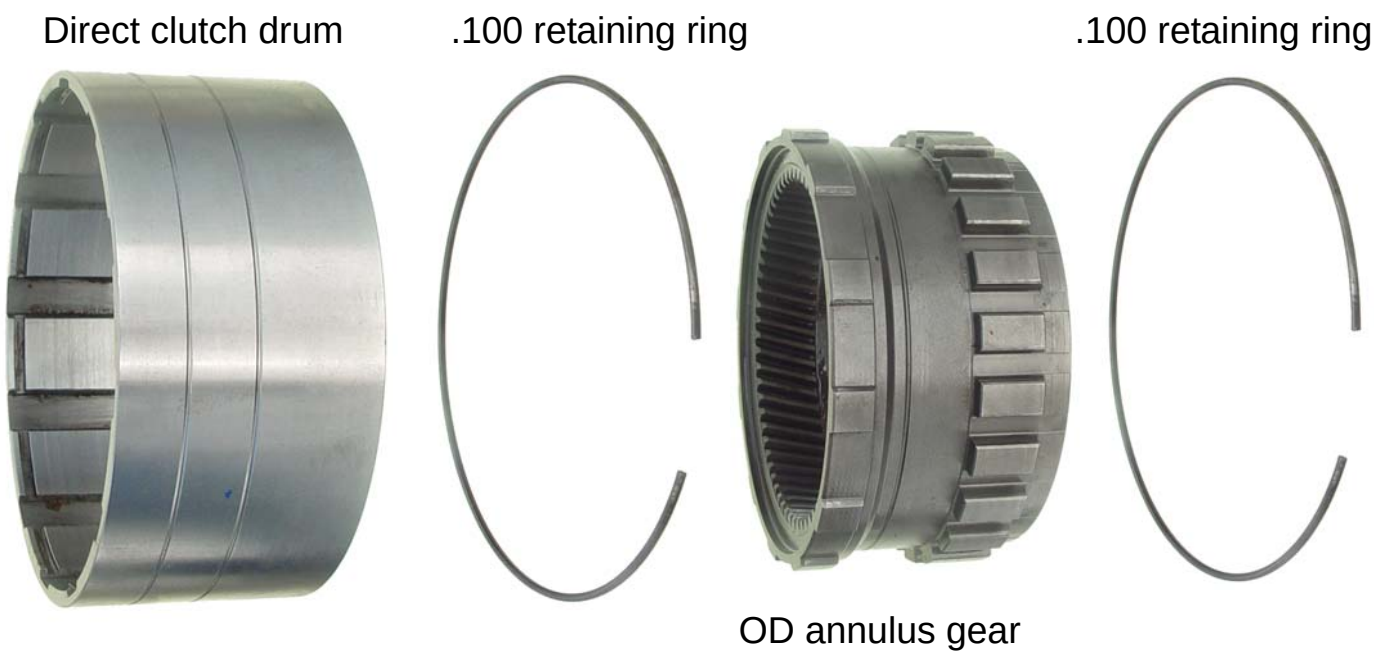
If only 5 OD clutch frictions will use a wavy snap ring on top of the .078 case snap ring.

Direct clutch pack

.073 snap ring

Internal Parts





Internal Parts

Overrunning clutch hub

Roller bearing inner lip faces output shaft

Overrunning clutch

Output shaft

.095 snap ring

.100 snap ring

Roller bearing

.093 snap ring

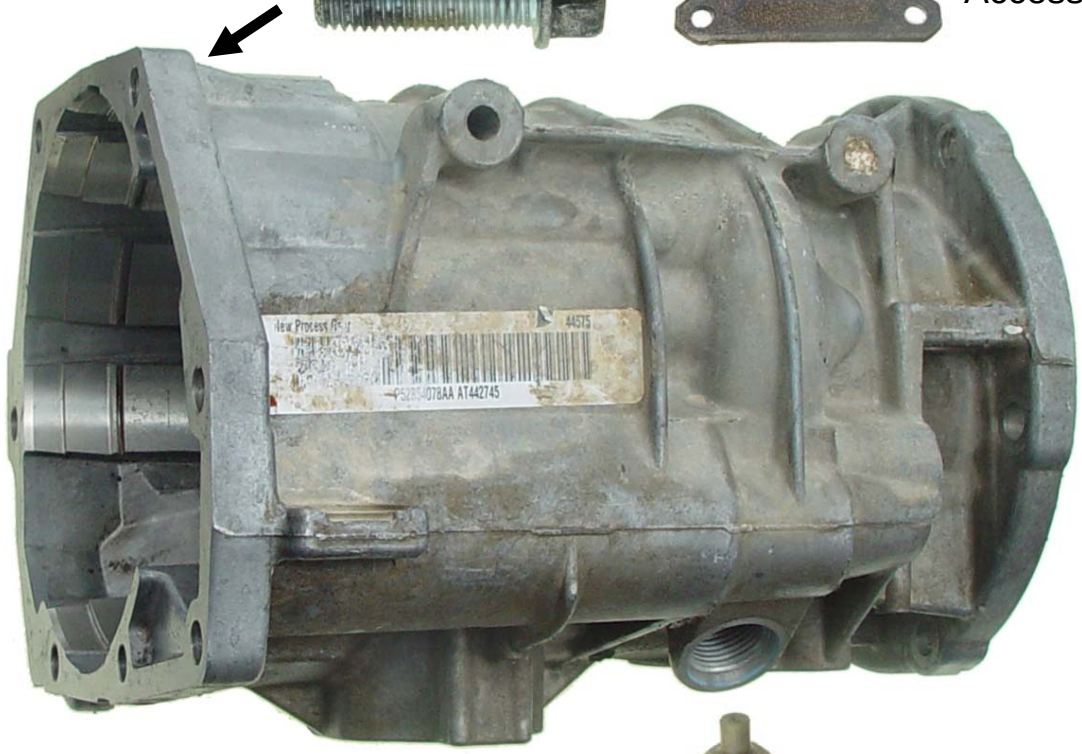
Internal Parts

OD housing

7/16 OD housing bolts 1.762 long torque to 25 ft lb

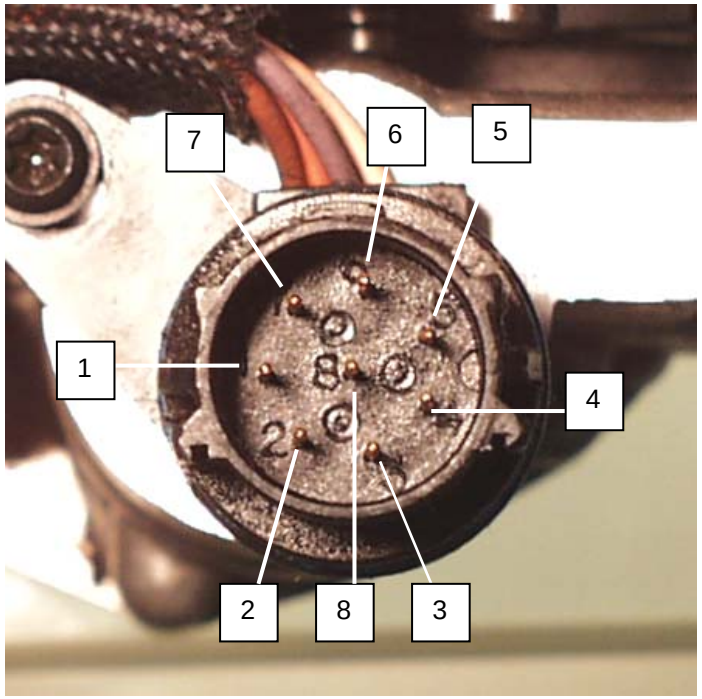
Access cover screws. Torque to 35 in lb.

Access cover & gasket



Speed sensor

Case Connector



Thermistor = 1000 ohms at room temp.
OD Solenoid = 31.5 ohms and is normally open.
TCC Solenoid = 31.5 ohms and is normally open.
Governor Pressure Solenoid = 3.9 ohms and is normally open.

1. TCC, Gov. and shift solenoid 12V common positive.
2. 5 Volt feed to governor pressure sensor.
3. Ground for governor pressure sensor and thermistor.
4. Gov. pressure signal to the TCM.
5. Variable ground to gov. pressure solenoid.
6. Ground from TCM to OD. solenoid.
7. Ground from the TCM to the converter clutch solenoid.
8. Temp. sensor (Thermistor) signal to the TCM.

Notes: TCM will inhibit 4th gear if temperatures are below -30 F or above 260 F.
No ground or voltage to governor solenoid = high gov. oil pressure.
Gov. oil pressure should be 0 psi at a stop.

Lever Switch

Torque Specifications

Torque Specifications

Bolt, valve body to case 100 in lb
Sensor, trans speed 20 ft lb
Screw, solenoid wiring connector 35 in lb
Screw, solenoid to transfer plate 35 in lb
Bracket, transmission range sensor mounting 25 in lb
Screw, transmission range sensor to mounting bracket 45 in lb
Screws, fluid filter 35 in lb
Bolt, oil pump 15 ft lb
Bolt, O/D to trans. 25 ft lb
Bolt, O/D piston retainer 13 ft lb
Plug, pressure test port 10 ft lb
Bolt, reaction shaft support 15 ft lb
Locknut, rear band 30 ft lb
Fitting, cooler line at transmission 13 ft lb
Bolt, torque converter 35 ft lb
Bolt, clevis bracket to cross member 35 ft lb
Bolt, clevis bracket to rear support 50 ft lb
Bolt, drive plate to crankshaft 55 ft lb
Plug, front band apply arm shaft 13 ft lb
Locknut, front band adj. 25 ft lb
Bolt, fluid pan 120 in lb

Apply Chart & Gear Ratios

Clutch Apply Chart

1st	Rear clutch, OD direct clutch & Overrunning clutch
2nd	2nd band, rear clutch, OD direct clutch & Overrunning clutch
3rd	Front clutch, rear clutch, OD direct clutch & Overrunning clutch
4th	OD clutch, Front clutch, Rear clutch, OD clutch
Reverse	Front clutch, reverse band, OD direct clutch & Overrunning clutch

Gear Ratios

Gear	Ratio
1ST	2.45:1
2ND	1.45:1
3RD	1.0:1
4TH	0.69:1
Reverse	2.20:1

Specification Reference

Specifications

Recommended fluid Mopar® ATF +4
Planetary end play .006-.048 in.
Input shaft end play .034-.084 in.
Clutch pack clearance/Front = .070-.129
Clutch pack clearance/Rear = .016-.036
Overdrive clearance = .090-.110
Front clutch 5 discs
Rear clutch 4 discs
Overdrive clutch 5(STD) or 6(Diesel HO) discs
Direct clutch 23 Single Sided discs
Band adjustment from 72 in. lbs.
Front band Back off 1 3/4 turns
Rear band Back off 3 turns

The Technology IS the Ethic

If the sign on the building or any advertising says, “Transmissions” that is declaration to the Universe that you know how to fix them.

When a product or service is offered, the offer itself is a specific claim by the seller that he is accepting the MORAL and TECHNICAL responsibility for correct function, for a reasonable length of time, in exchange for money.

Regardless what you may call your repair, the job is in your shop to have the complaints and failures corrected. It doesn’t matter how honest you are, as a person, if you do not fix the causes of the complaints and failures where is the ethic?

Each transmission develops 3 to 5 complaints and failures you see over and over again and again.

A service is ethical and deserving to the exact extent that your service corrects the causes of those complaints and failures; and does not include a whole bunch of parts that were not needed.

No more and no less, Gil