

01M / 096

Rebuilding Tips

This unit can be a money maker. The owners like driving their VWs, and these cars hold their resale value. The dealers charge \$4,000-5,000 for an exchange unit plus any computer and/or electrical repairs the car may need. In some areas, the closest dealer maybe 100+ miles away.

The truth is, this unit is very easy to build. Service parts, information and scan tools are now readily available. The aftermarket has or will soon release replacement parts for the valve body. Most of the units don't require any more than a master kit, filter, a couple of solenoids, a new wire harness, converter and don't forget \$100.00 in VW ATF (if it's an 01M). This still leaves at least a \$3,000 margin. The most common hard part damage seems to be the K3 clutch, the pump and occasionally the planets. The only red herring left is the valve body. If it's worn out or can't be fixed, the only options would be to spend \$500.00 at the dealer or get a guaranteed valve body from a supplier.

NOTE: Replace all moulded pistons during overhaul.

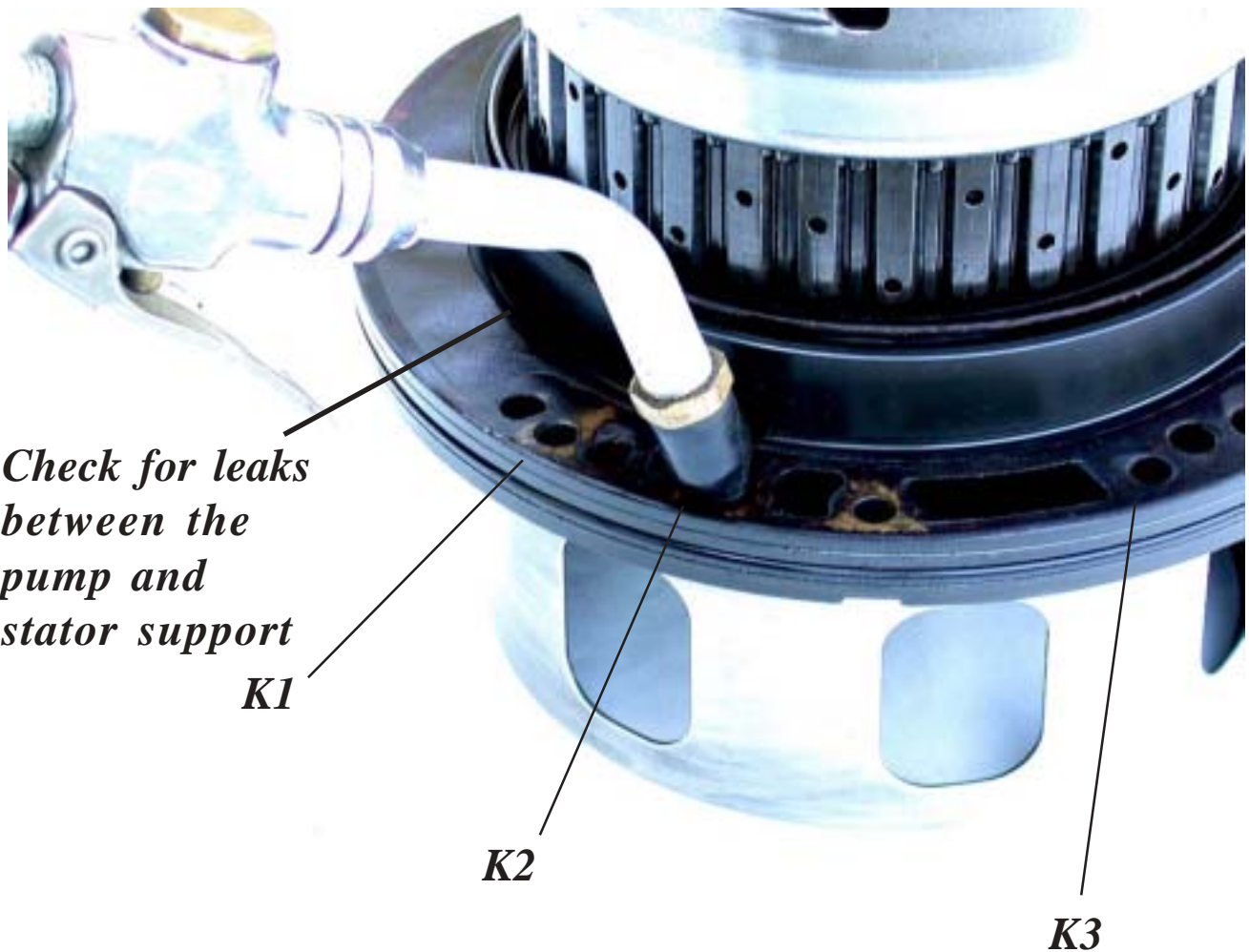


01M / 096

Rebuilding Tips

Pump Warpage

To check for proper clutch operation, air check the clutches stacked on top of oil pump before disassembly and during reassembly. This checks for leaks in the oil pump assembly.

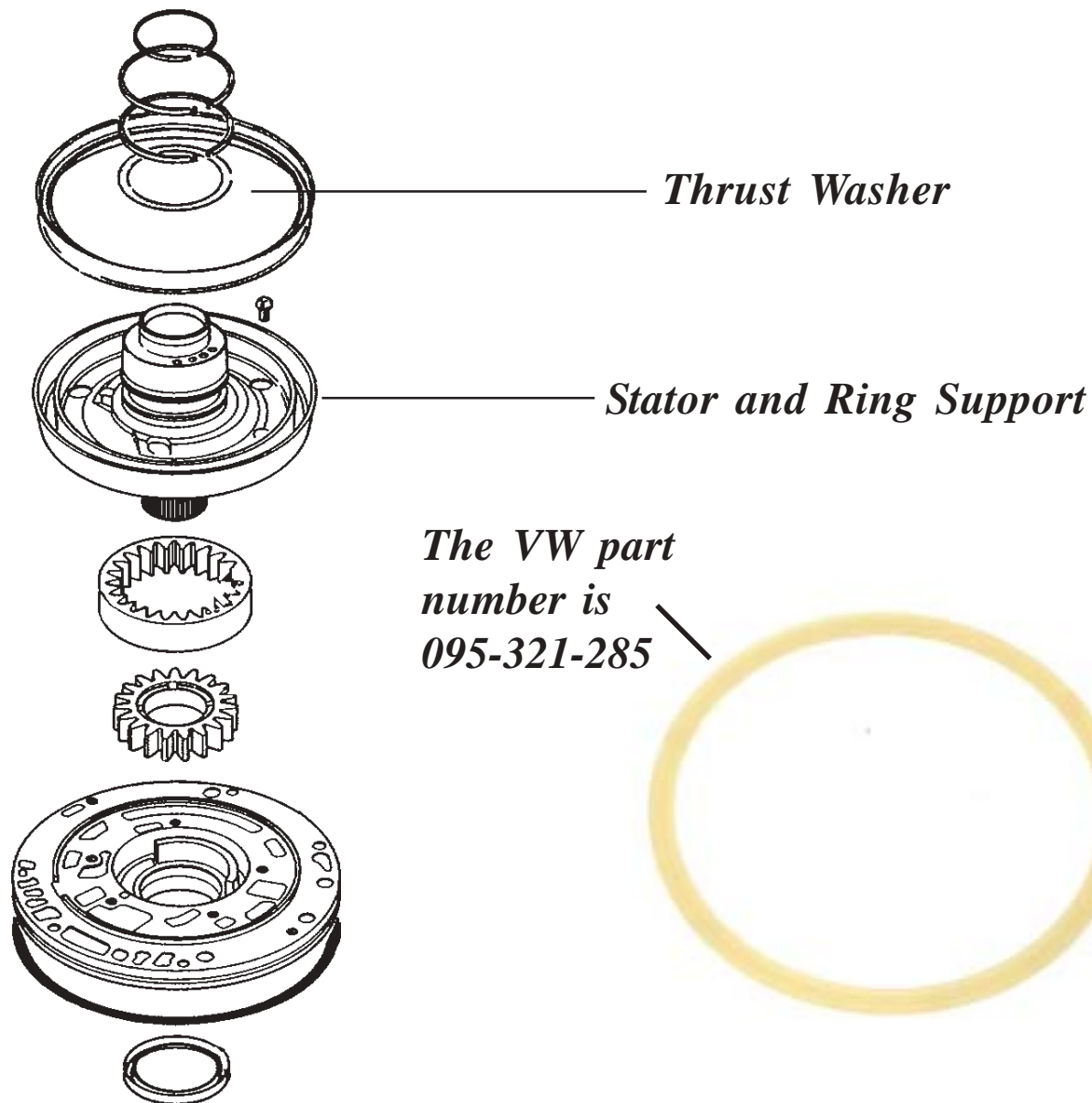


01M / 096

Rebuilding Tips

Stator Support Thrust Washer

Always replace the Stator Support thrust washer during the rebuild. This washer retains a major amount of heat and becomes very brittle. Failing to replace this washer may lead to premature failure of the washer after overhaul and major damage to the transmission.



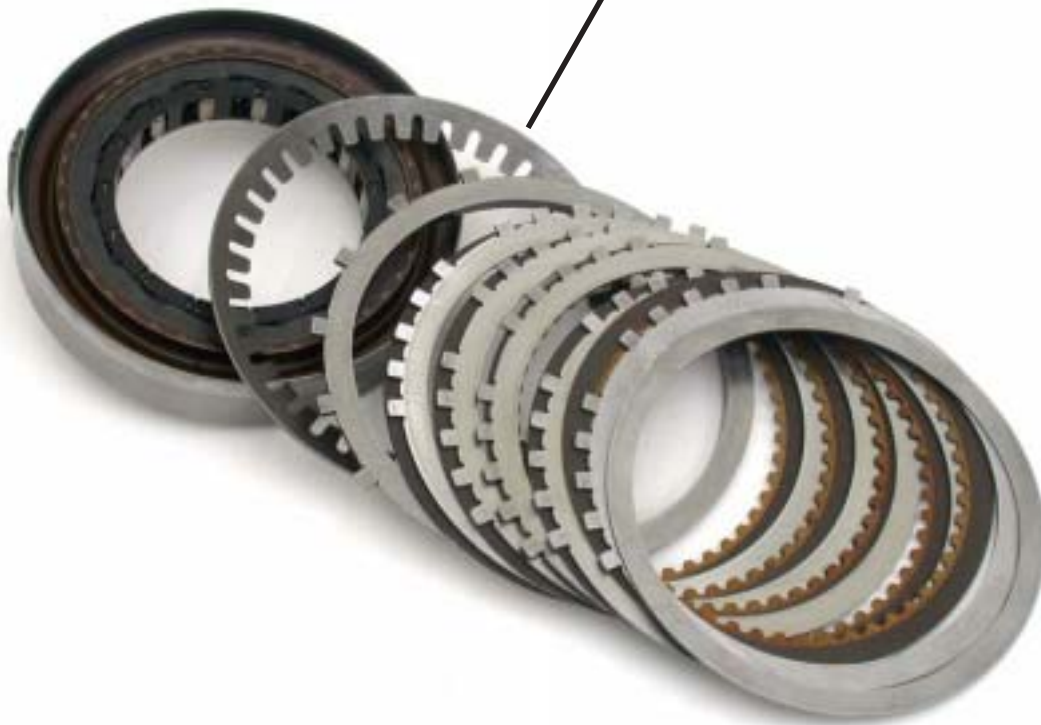
01M / 096

Rebuilding Tips

B1 clutch

During the assembly of the B1 clutch make sure to install the diaphragm spring with the cone up. Always be aware of the location of the wave spring. If the wave spring is installed incorrectly a clutch failure or harsh/soft engagements may be felt.

**Wave
Spring
Location**



01M / 096

Rebuilding Tips

B2 clutch

During the assembly of the B2 clutch make sure the wave plate is installed against the B2 piston.

**Make sure
the wave
plate sits
under the
thick
pressure
plate**



01M / 096

Rebuilding Tips

Solenoid Description (NXX shown on scanner)

- #1 N88 = K1/B1 Shift Solenoid (EV1)
- #2 N89 = B2 Shift Solenoid (EV2)
- #3 N90 = K3 Shift Solenoid (EV3)
- #4 N91 = TCC Solenoid (EV4) (Non-PWM on 096 / PWM on 01M)
- #5 N92 = Shift Apply Feel Solenoid (EV5)
- #6 N93 = EPC Solenoid (EV6)
- #7 N94 = 3rd and 4th Control Solenoid (EV7) (O96)
- #7 N94 = K1 Clutch Kickdown Control Solenoid (EV8) (O1M)

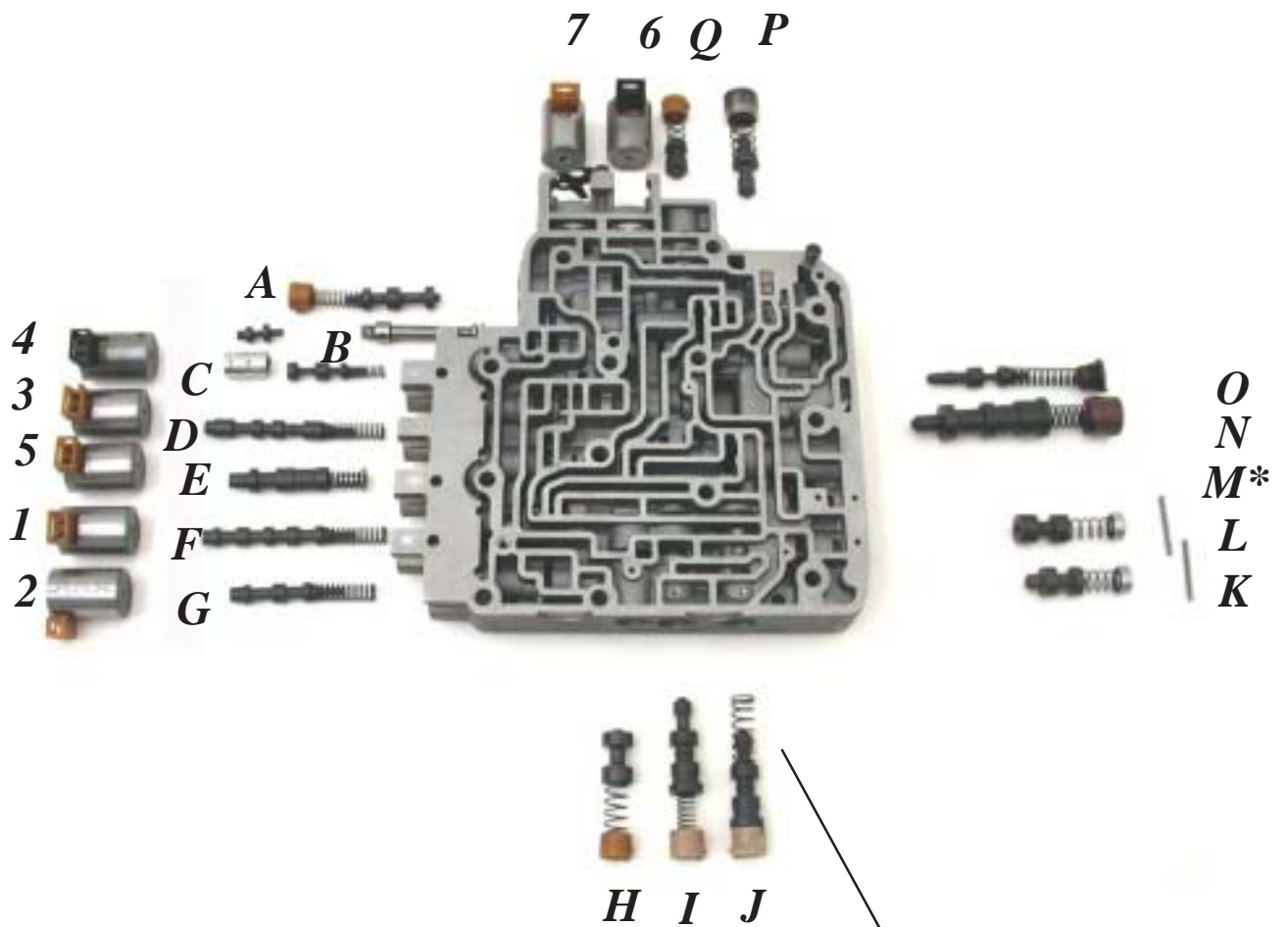
Valve Description

- A = Manual Low Valve
- B = Manual Valve
- C = TCC Modulator Valve
- D = K3 Shift Valve
- E = B1/Shift Control Valve
- F = K1/B1 Shift Valve
- G = B2 Shift Valve
- H = B2 Orifice Control Valve
- I = 3-4 Regulator Valve
- J = 2-3 Regulator Valve (O96)/Blocked (O1M)
- K = K1 Orifice Control Valve
- L = K2 Orifice Control Valve
- M = Boost Control Valve (Not Shown)
- N = Main PR
- O = Converter Regulator Valve
- P = Solenoid Feed Limit Valve
- Q = Manual 1 Regulator Valve

01M / 096

Rebuilding Tips

01M Valve Body Exploded View



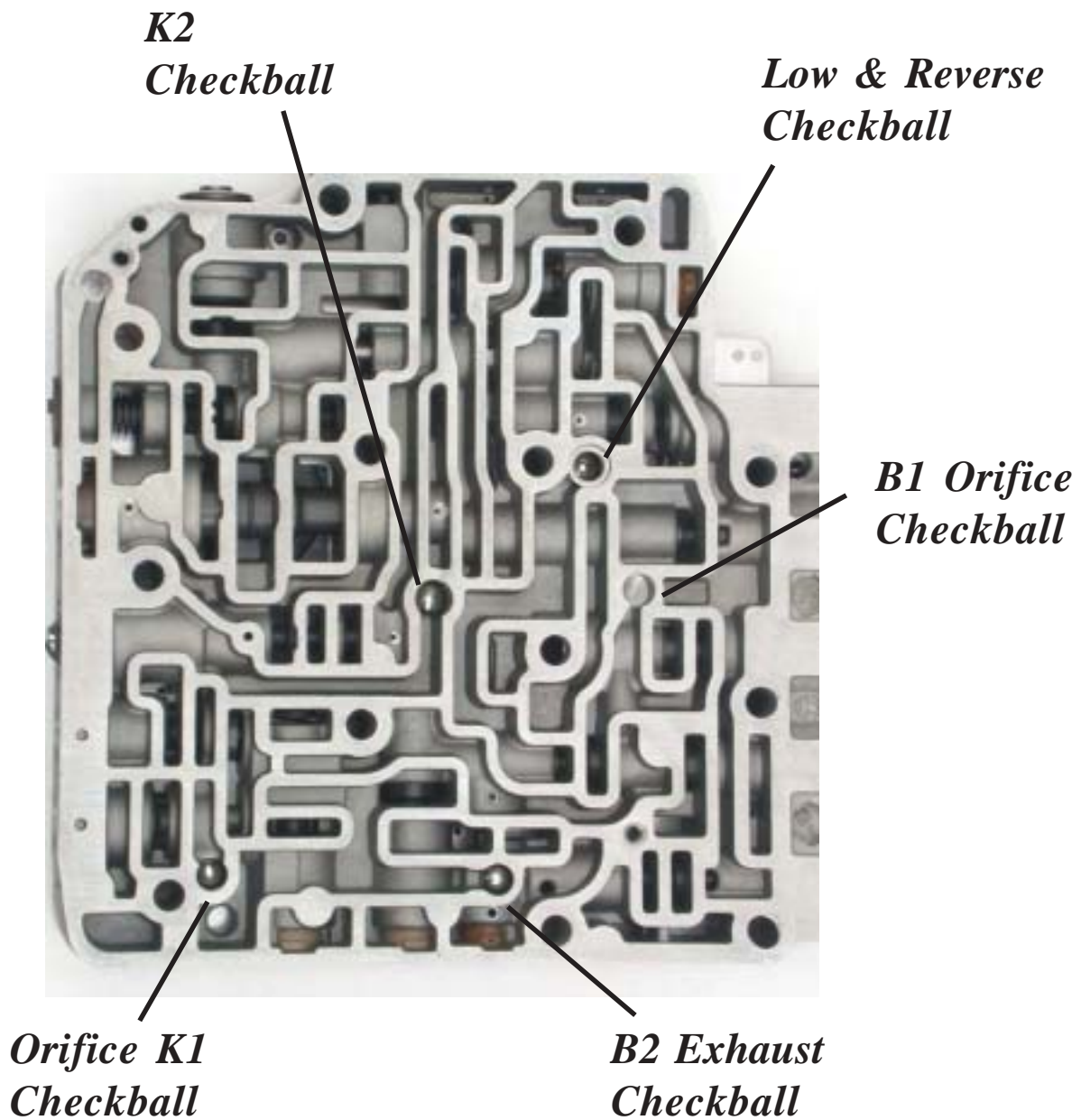
*096 Valve First
01M Spring First*

** M - Not Shown*

01M / 096

Rebuilding Tips

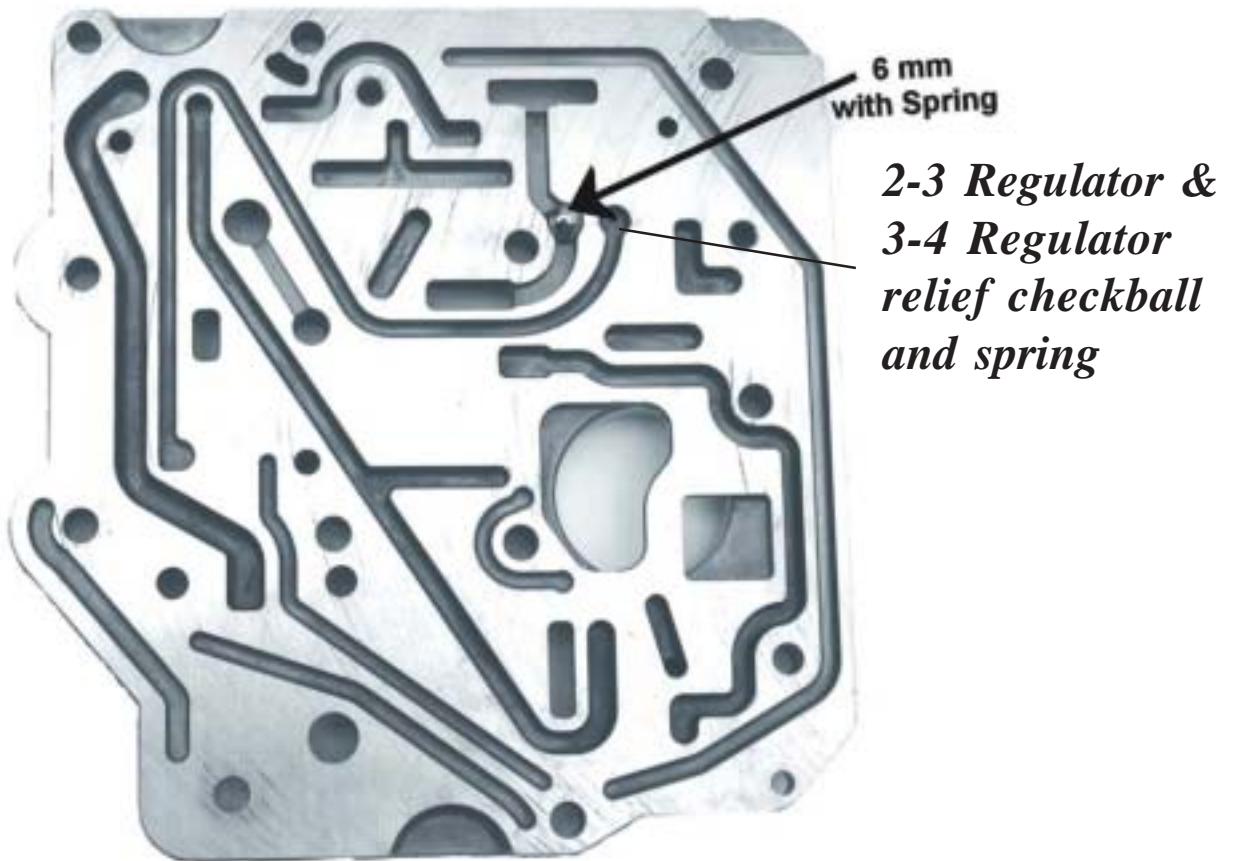
01M Check Ball Locations



01M / 096

Rebuilding Tips

Check Ball Locations

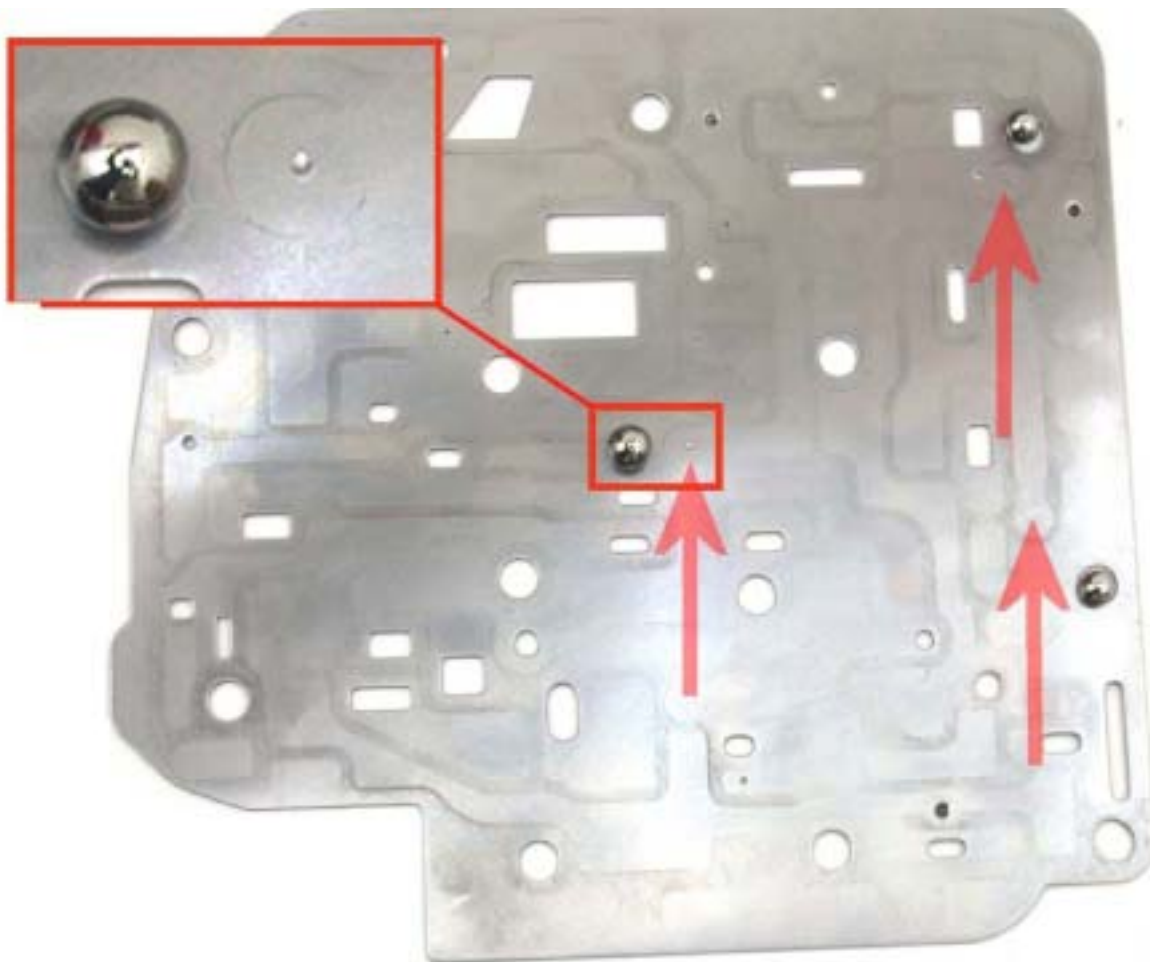


01M / 096

Rebuilding Tips

01M Check Ball Locations

Another way to identify the checkball location is to locate the “Dimples” in the separator plate. However not all separator plates will have these dimples, locate the check ball area if a check ball was in the valve body it will surely leave a mark on the separator plate.



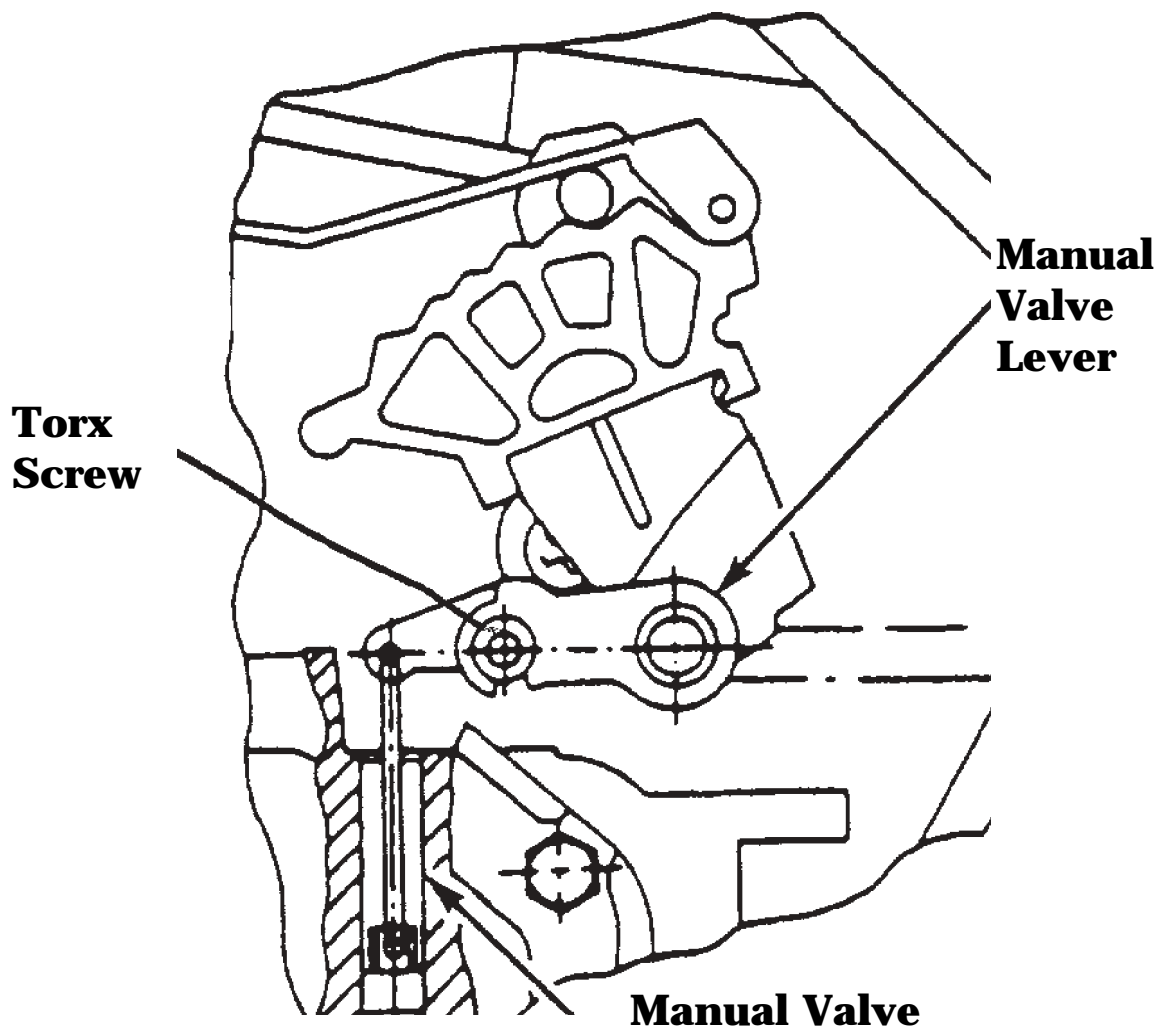
01M / 096

Rebuilding Tips

Adjusting the Manual Valve

If the line pressure in D is low, but correct in Manual 3, suspect a misadjusted manual valve. To Adjust the manual valve properly you must first:

1. Select the Park position
2. Loosen the Torx screw
3. Bottom out the Manual Valve in the Valvebody
4. Tighten Torx screw



01M / 096

Rebuilding Tips

Rebuild Specifications		
Clutch Clearances		
B1	5 Clutches	.047"
B2	5 or 6	.070"-.076"
K1 ¹	5 Plates	.060"-.075"
K2 ¹	5 Plates	.070"-.080"
K3		.010"- .012" / friction
Endplay		
Planet geartrain / carrier		.009"-.014"
K2 to K1		.023"-.040"
Input shaft		.019"-.047"
Torque Specifications		
Drive gear hex head nut		184 ft. lbs.
Driven gear nut		184 ft. lbs.
Diff. cover bolt		84 Inch lbs.
Input shaft / Planet bolt		22 ft. lbs.
Manual valve lever screw		35 Inch lbs.
Oil pan bolt		108 Inch lbs.
Oil pump bolt		70 Inch lbs. + ¼ Turn
Transfer gear cover bolt		70 Inch lbs.
Transfer / Pinion shaft seal retainer		150 ft. lbs.
Valve body bolt		44 Inch lbs.

¹ personnel observations