



TCRA 2010 Seminar



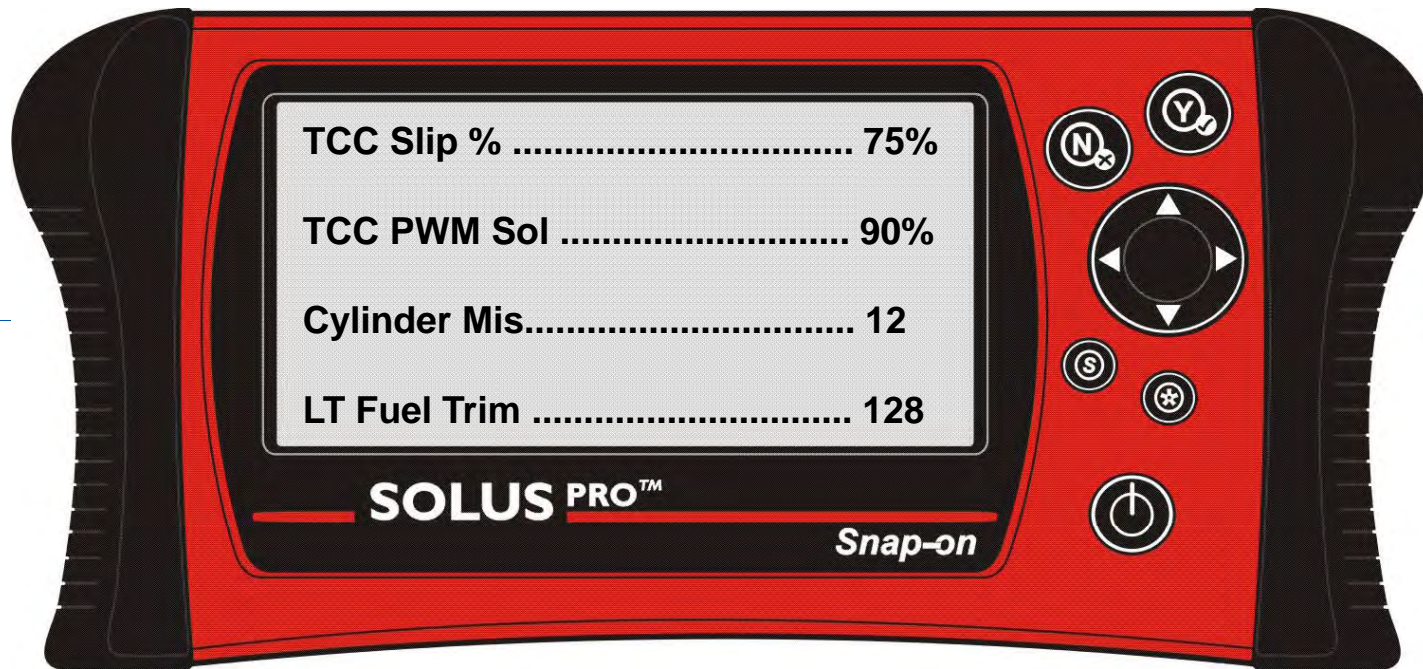
Everything Gets Blamed On The Converter

By

Mike Souza

ATRA Technical Advisor

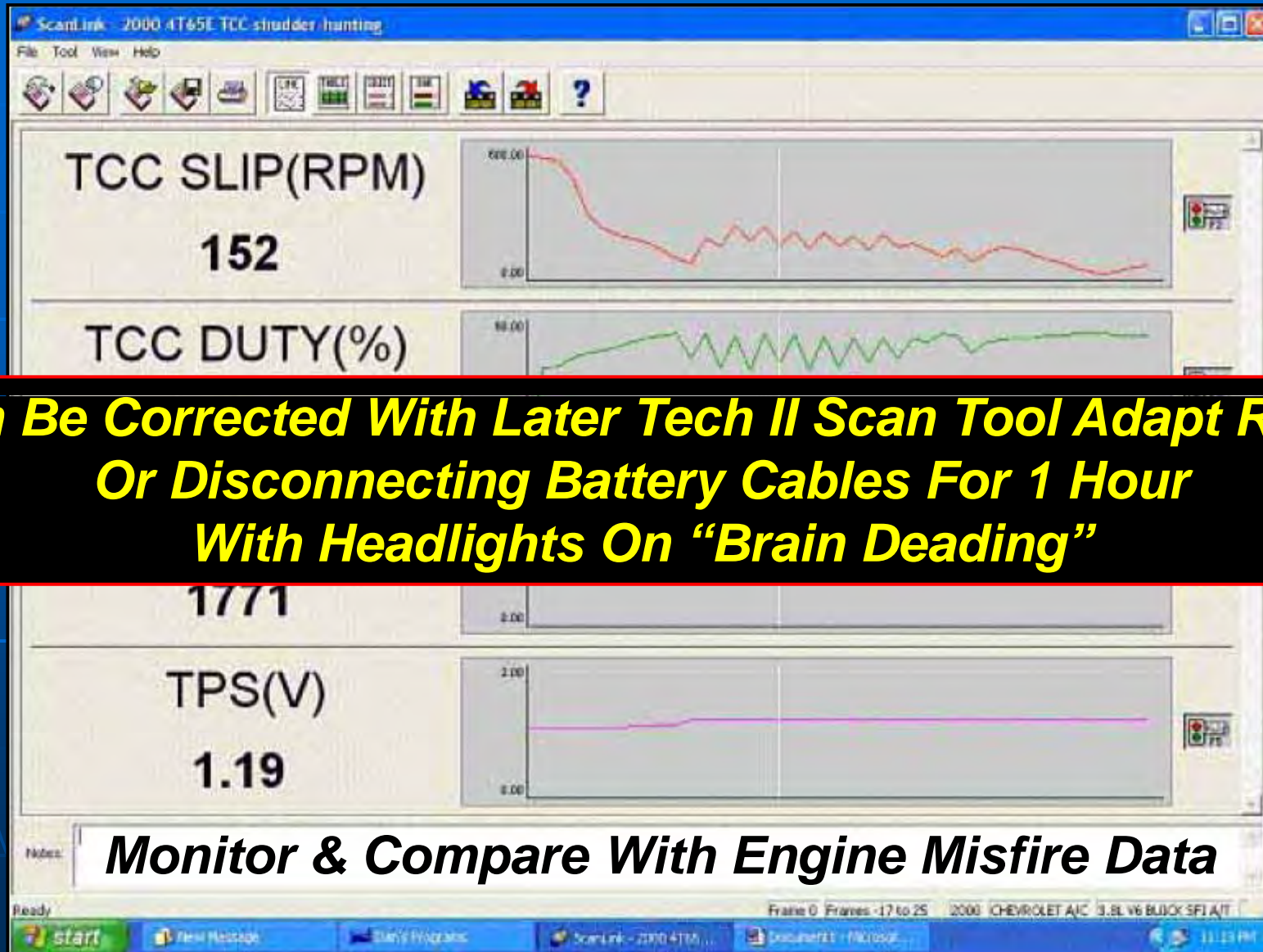
TCC Surge Or Engine Misfire?



Check Engine Miss & Fuel Trim Data
Check Freeze Frame History
Or
Take A Movie Snap Shot

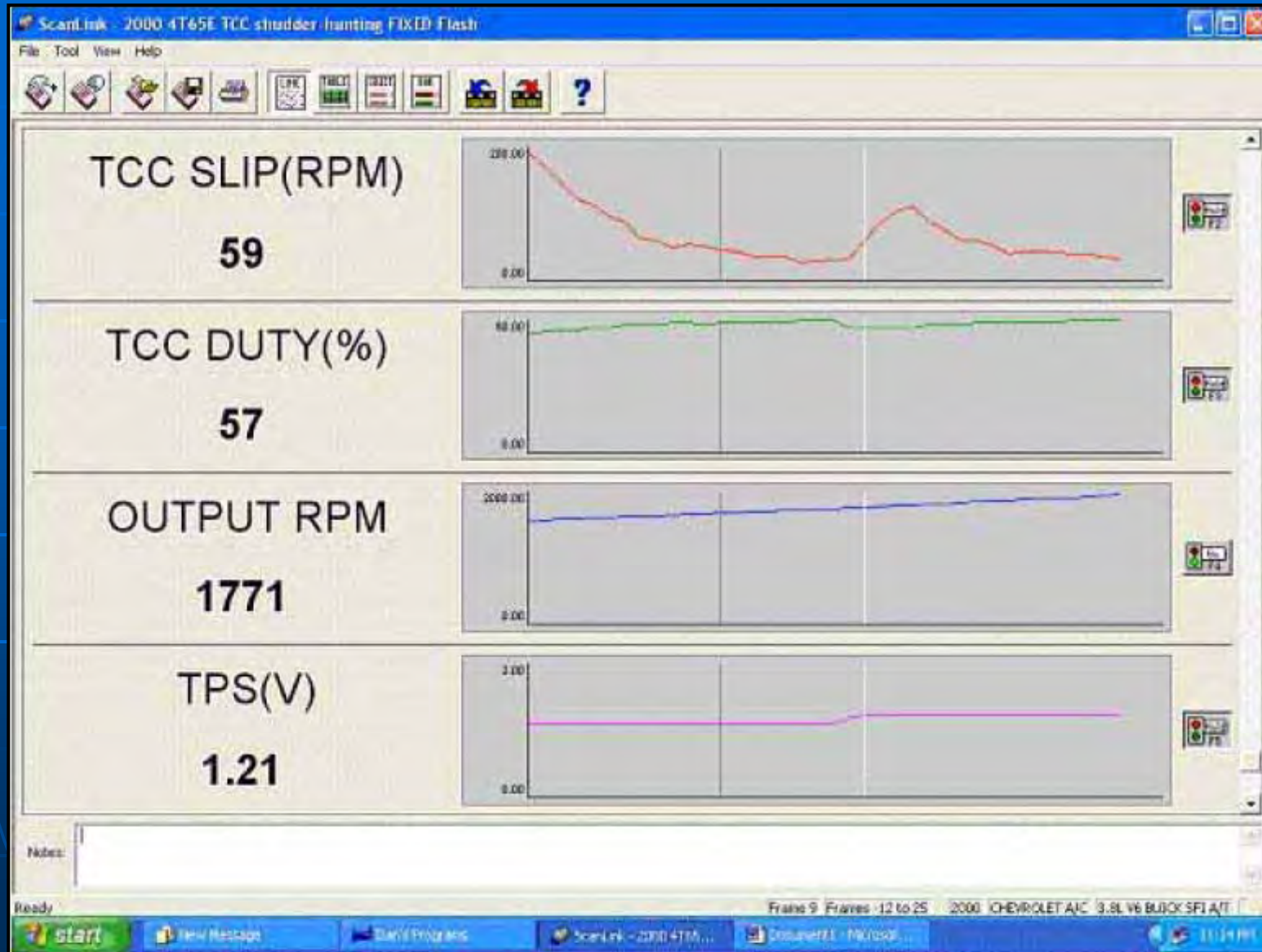
TCC Surging Or Slipping

2

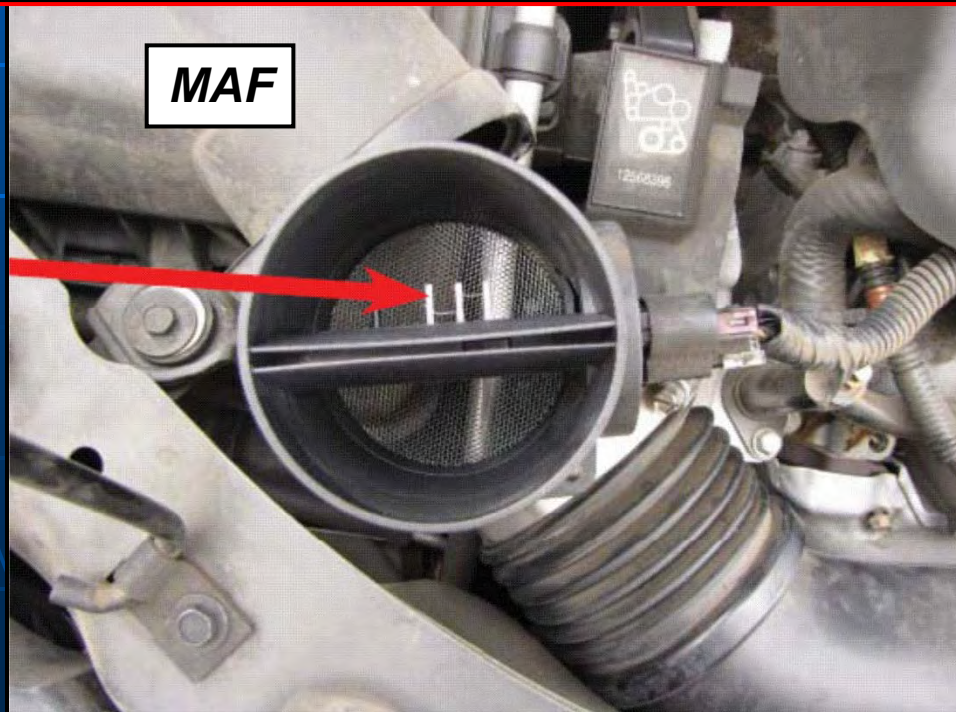
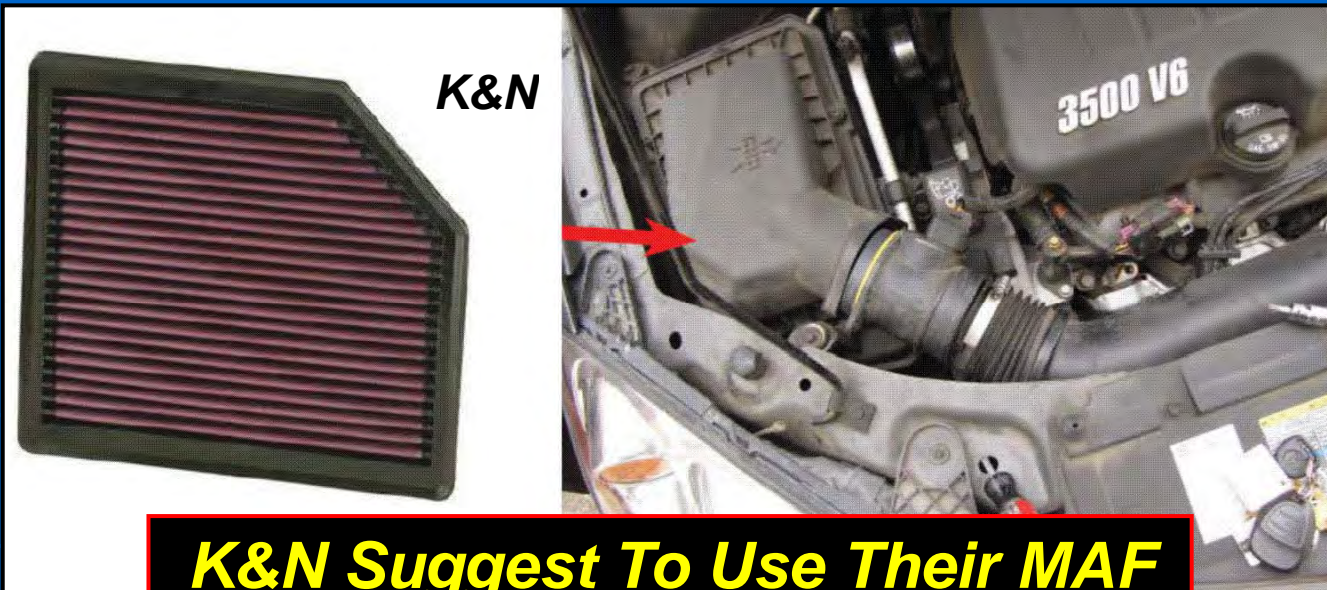


TCC Working Correctly

2



Aftermarket Air Filters



Scan Tool Movie Snap Shot Taken By A Tech



Blamed This Problem On A CVC Converter

***When In Fact The
CVC Converter
(Consolidated Vehicle Converters)
Was The Only Part That Was Not
Destroyed!***



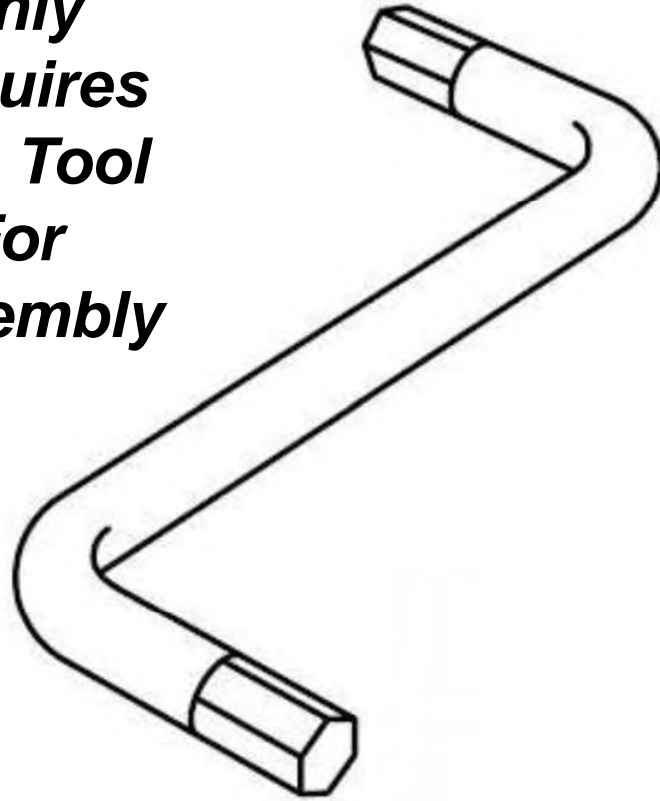
Complete Kit Available Direct From CVC



**“SORRY”
CONVERTER NOT INCLUDED**

"GOOD NEWS"

***Only
Requires
One Tool
For
Assembly***



1x

Thank You



Tour

4T65E P0741 After Overhaul

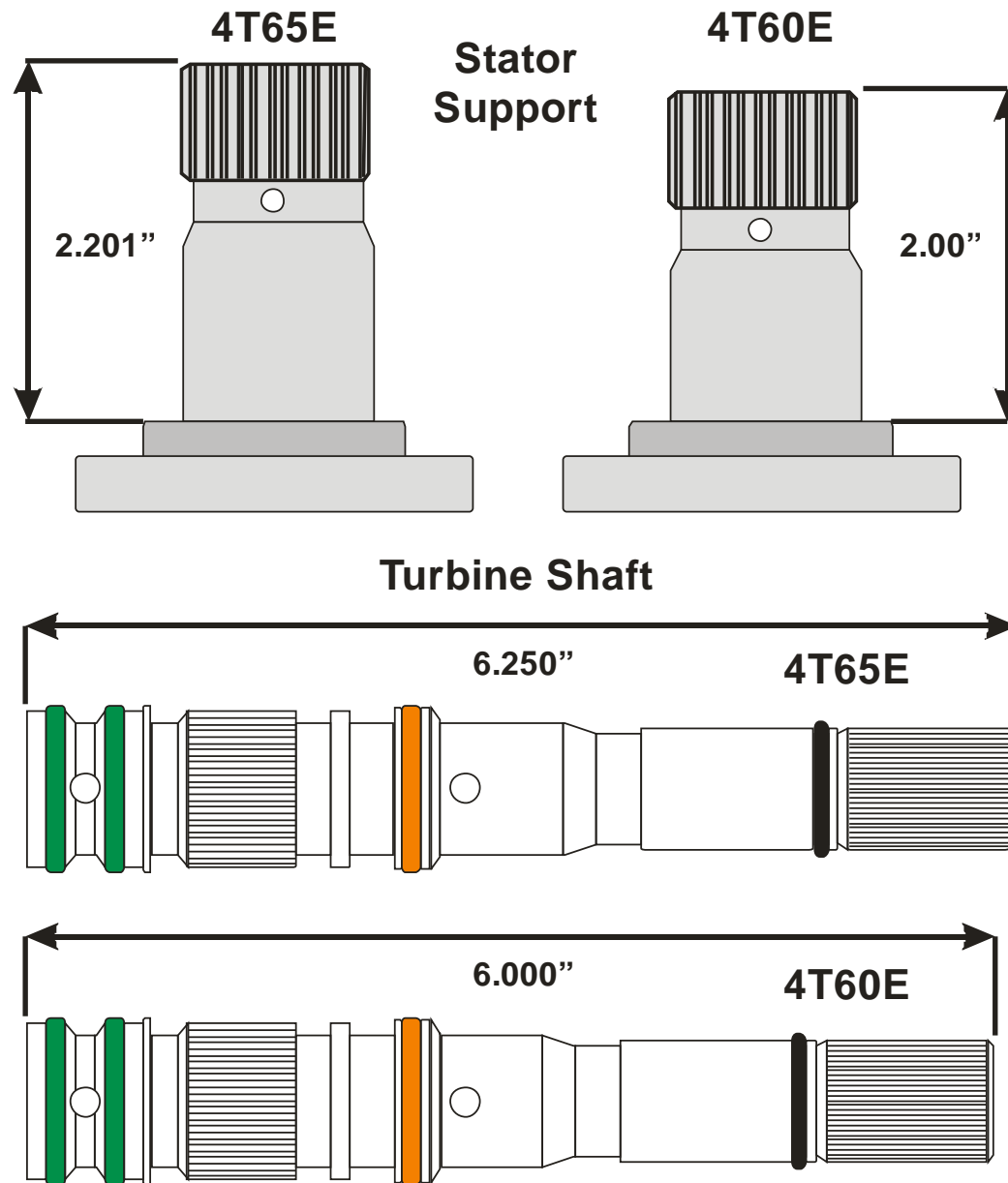
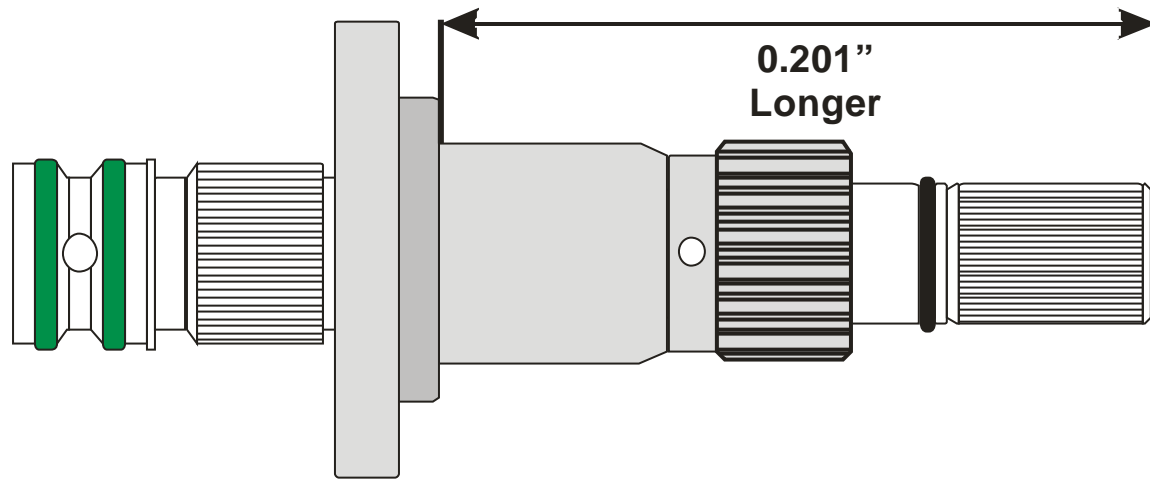


Figure 1

4T65E P0741 After Overhaul

5

4T65E Stator Support & Turbine Shaft



4T60E Stator Support & Turbine Shaft

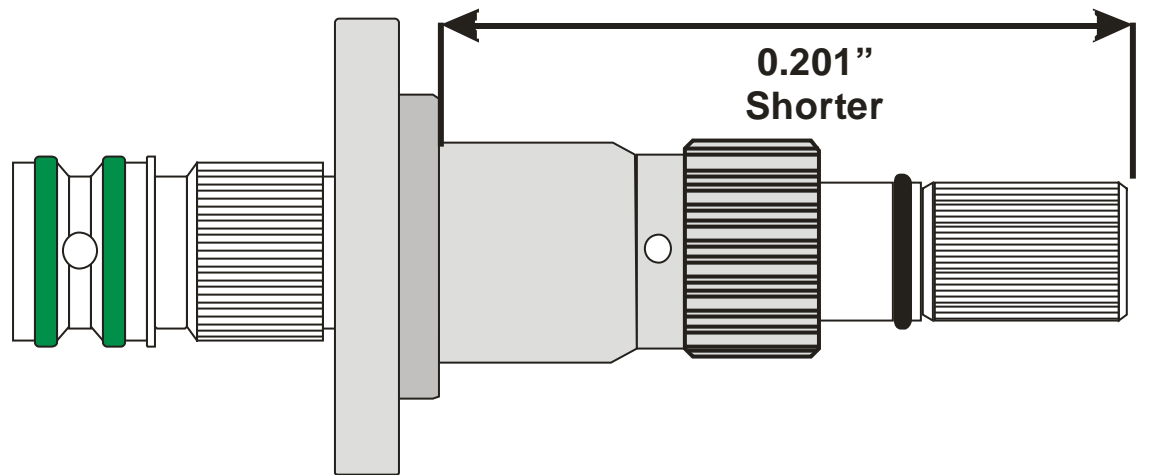
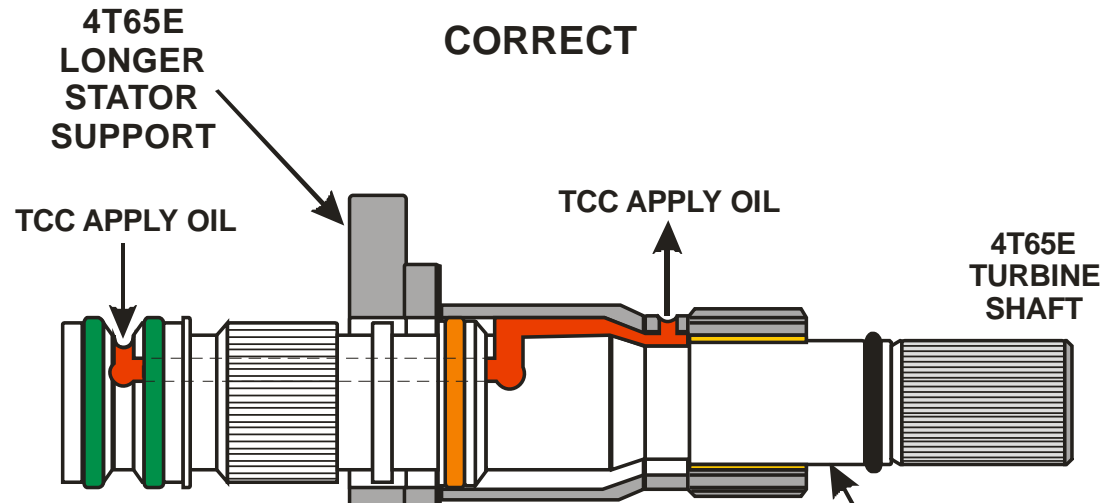


Figure 2

4T65E P0741 After Overhaul



***This Mis-Match Has
Been Found In Reman
Transmissions***

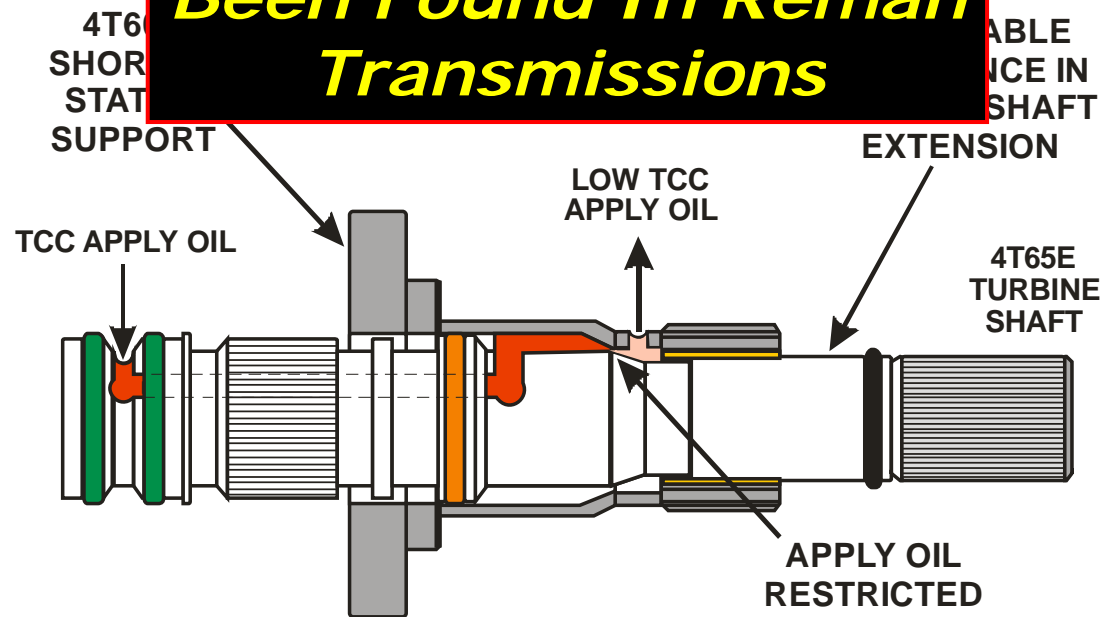
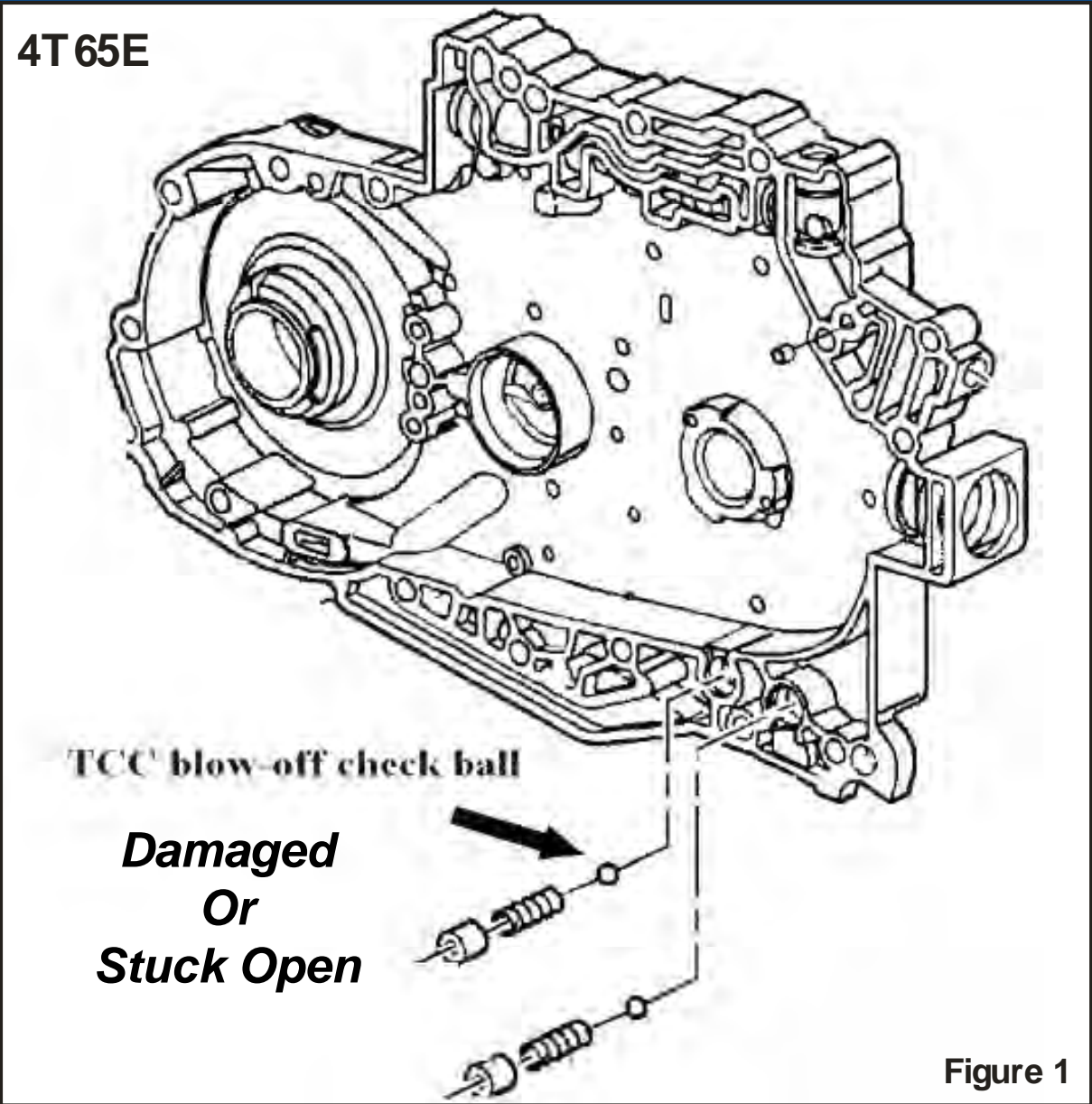
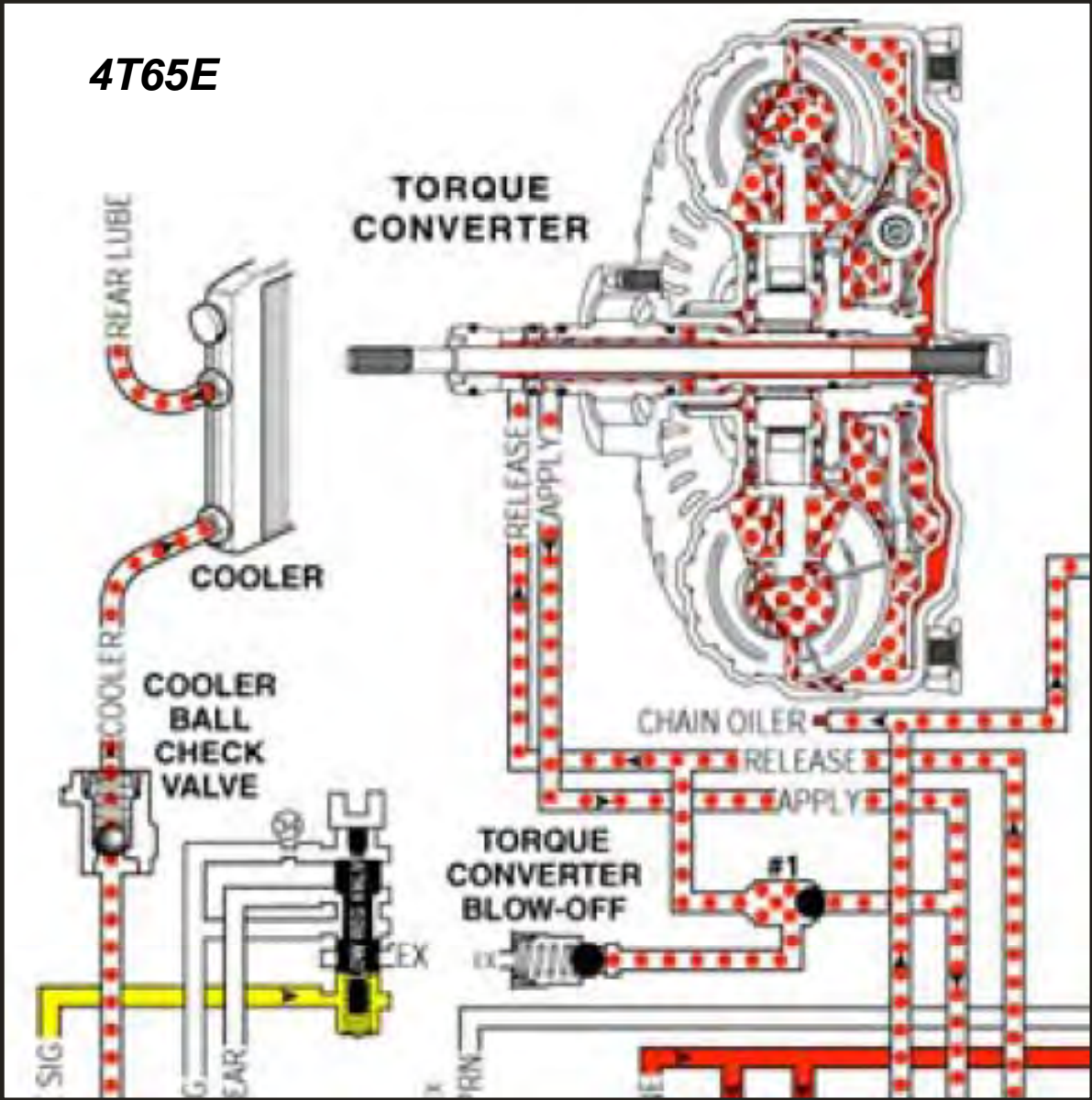


Figure 3

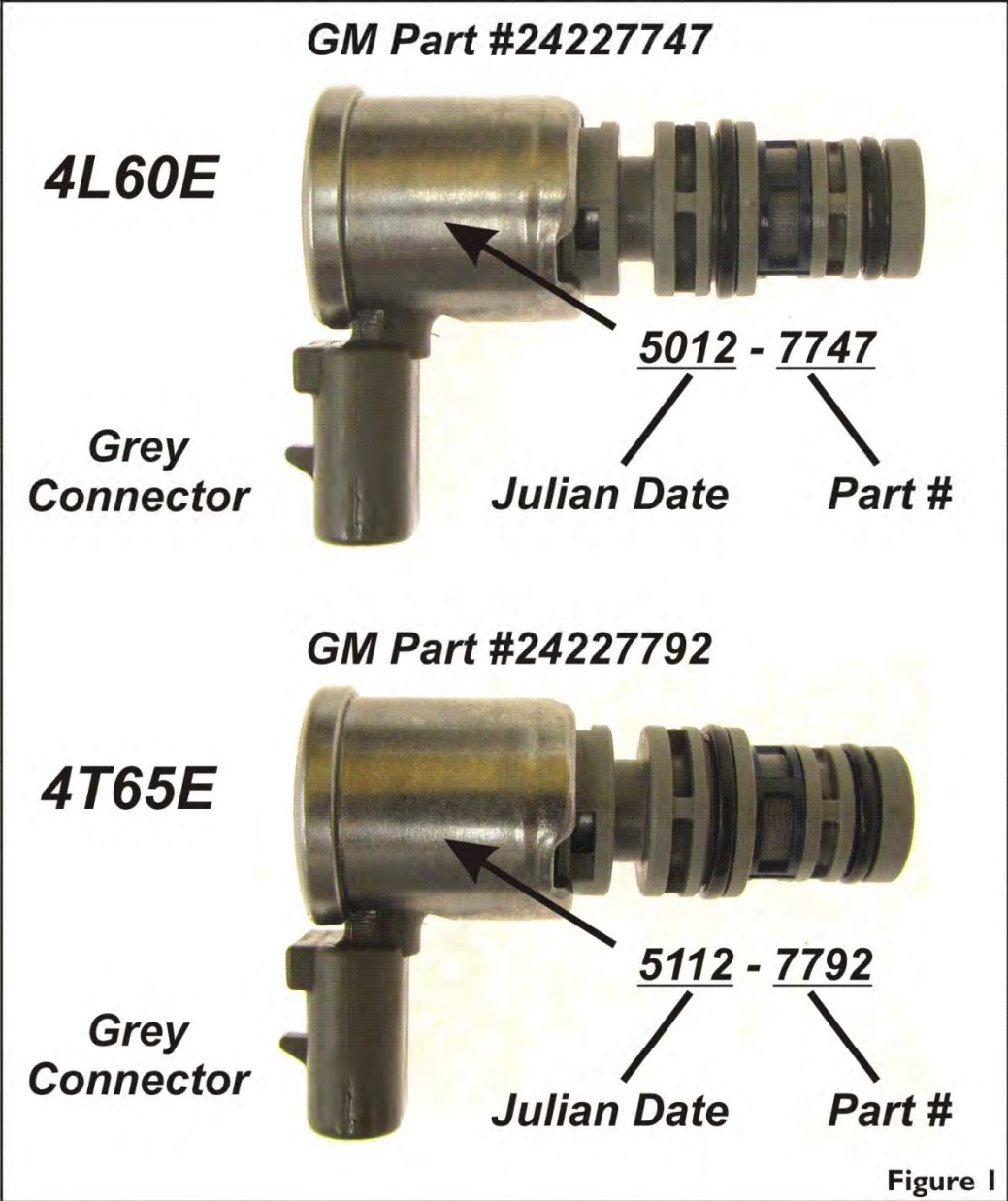
4T65E P0742 Before And/Or After Overhaul



4T65E P0742 Before And/Or After Overhaul



4T65E Code P0742 "TCC Stuck On" After Rebuild

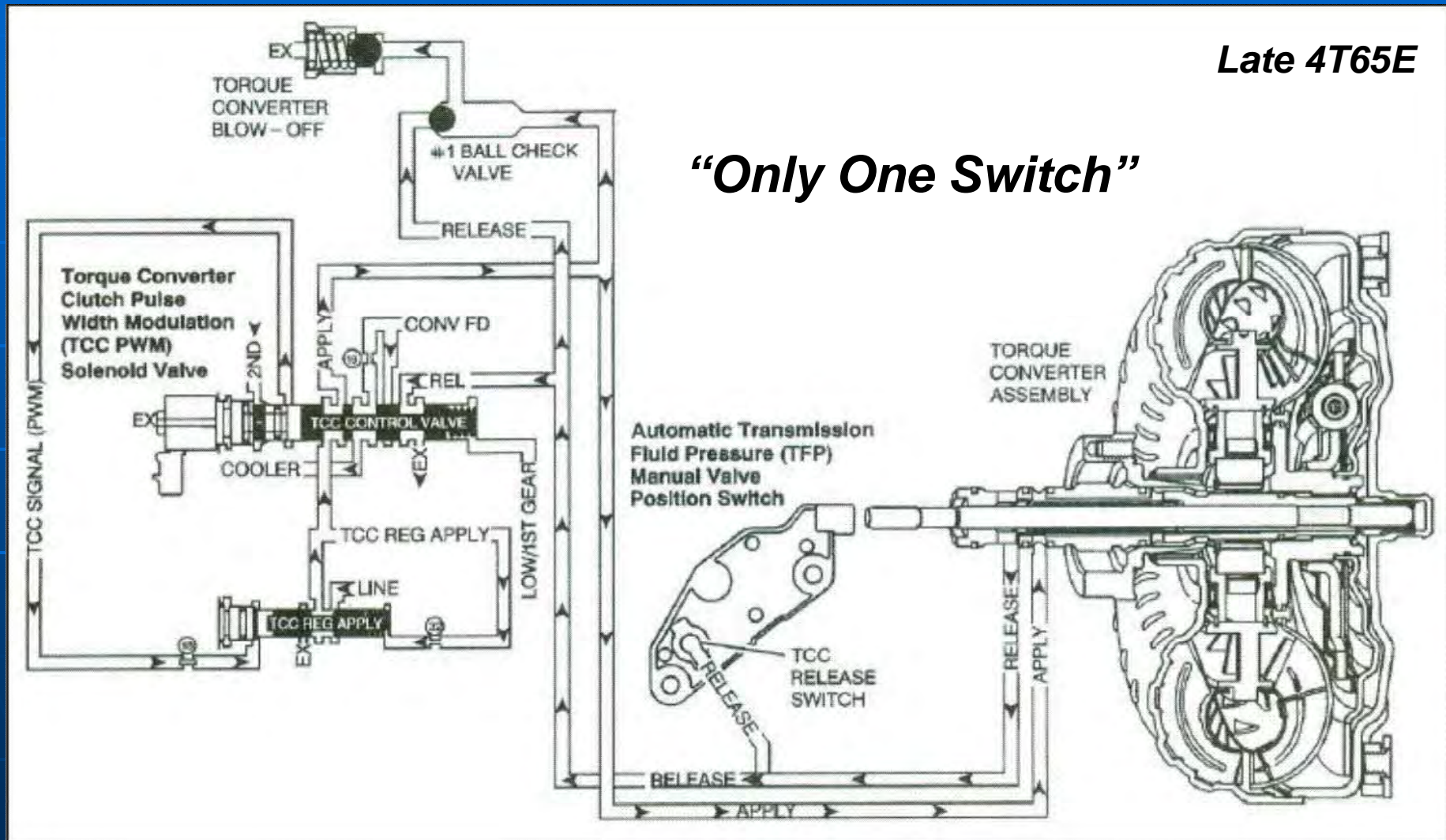


4T65E & 4T40/45E

TCC Applying on Top of 2nd Gear and P0742

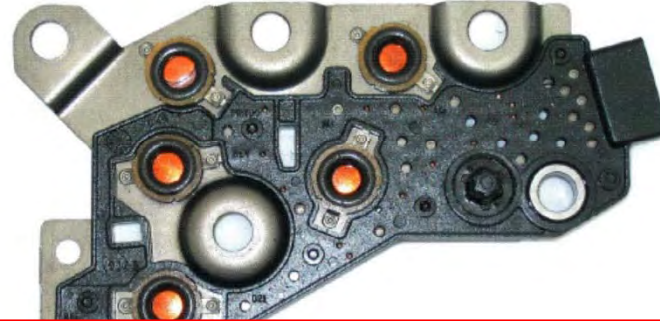
Late 4T65E

“Only One Switch”

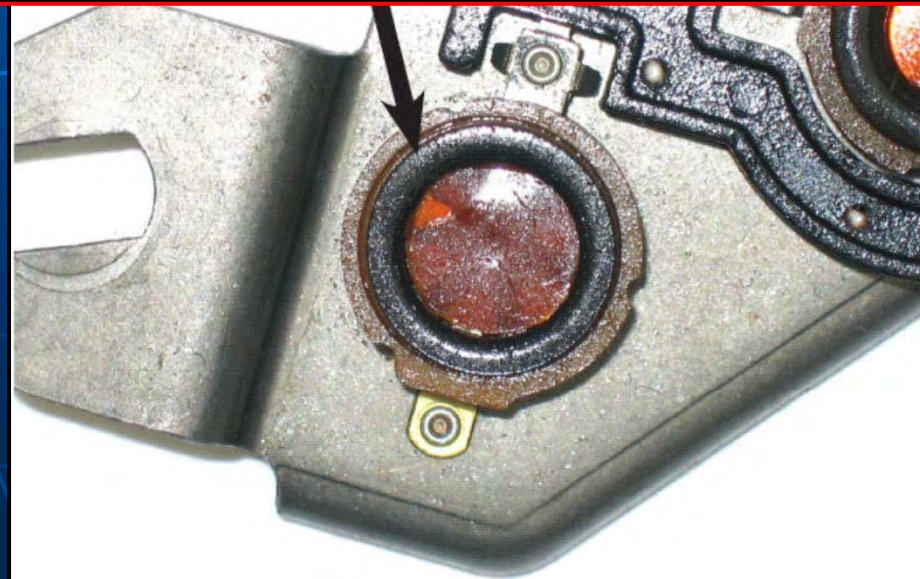


Always Check Switch For Debris And/Or Damage

*Early
4T65E
& All
4T40/45E*



***Quick Check; Disconnect Trans Harness Place
Shifter In Drive If Engine Stumbles Or Stalls
Change Solenoid With "4T65E Type Only"***



***4T65E May Moan Or Growl After TCC Applies
Update Cooler Line Retaining Bracket***



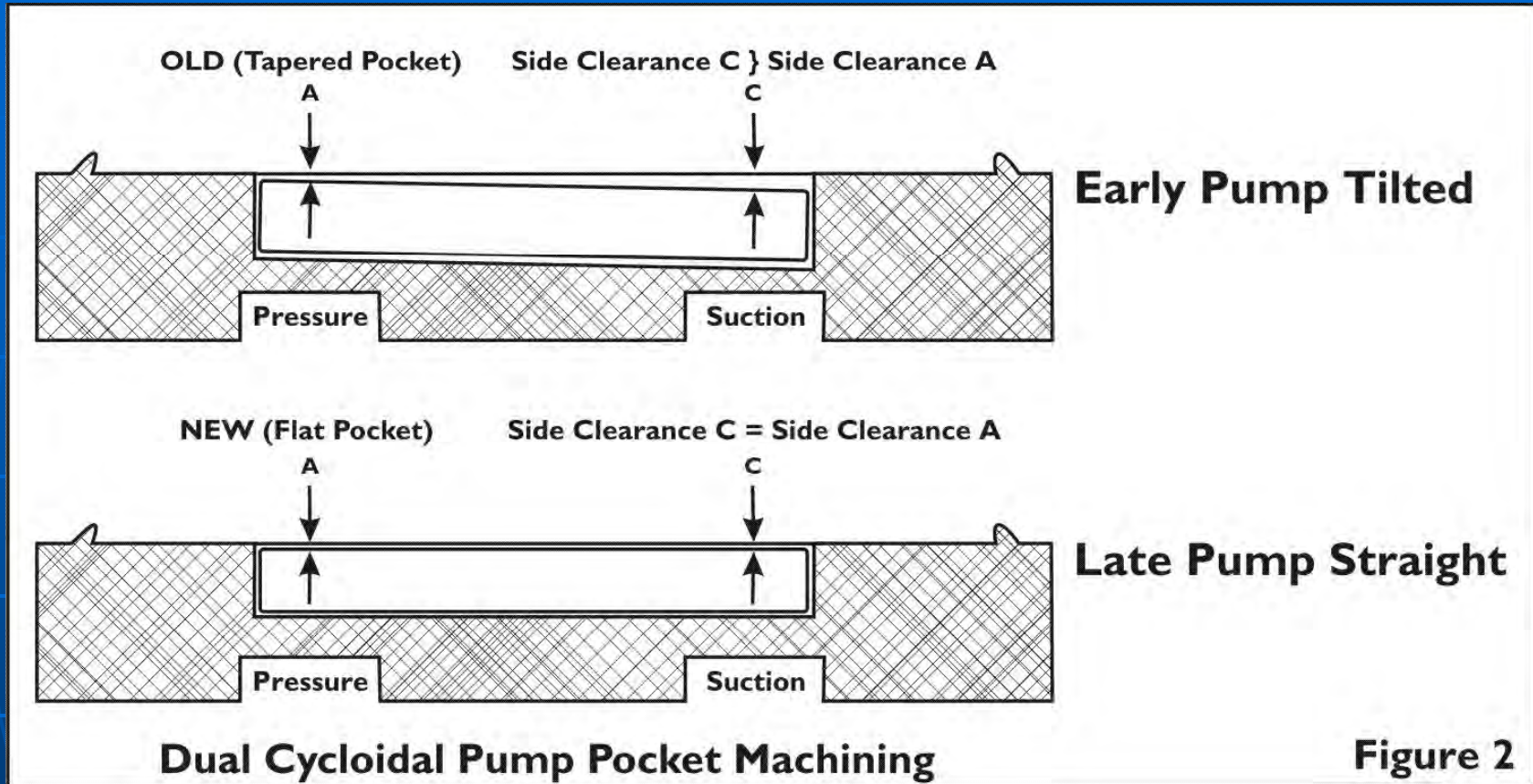
***Bracket Mounts To The Support Bar Behind
The Passenger-Side Cooling Fan.***

Jeep 42RLE P0740



Dual Cycloidal

Figure 1



Note: Difference of 55 microns of air gap across the face of the "early" pump gears, and pump face, allowing the torque converter to drain back. This machining issue resulted in air, rather than volume, and pressure, setting code P0740 of prime condition to occur. The crescent and gears on the Dual Cycloidal pump are narrower than the first design pump.

Jeep 42RLE P0740

**Check Underdrive & Low/Reverse Pressure
Cold & Compare Results When Hot**

1 = Torque Converter Clutch Off

2 = Reverse

3 = Low / Reverse

4 = 2 / 4

5 = Underdrive

6 = Torque Converter Clutch On

7 = Overdrive

42RLE

**Pressure
Chart On
Page 15**

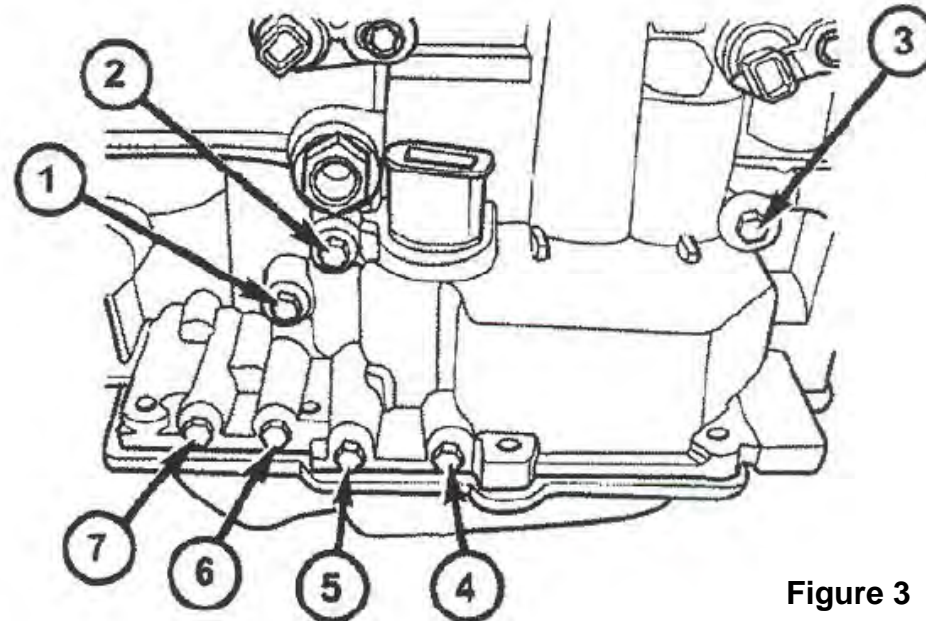


Figure 3

Jeep 42RLE P0740

Crescent

Dual Cycloidal



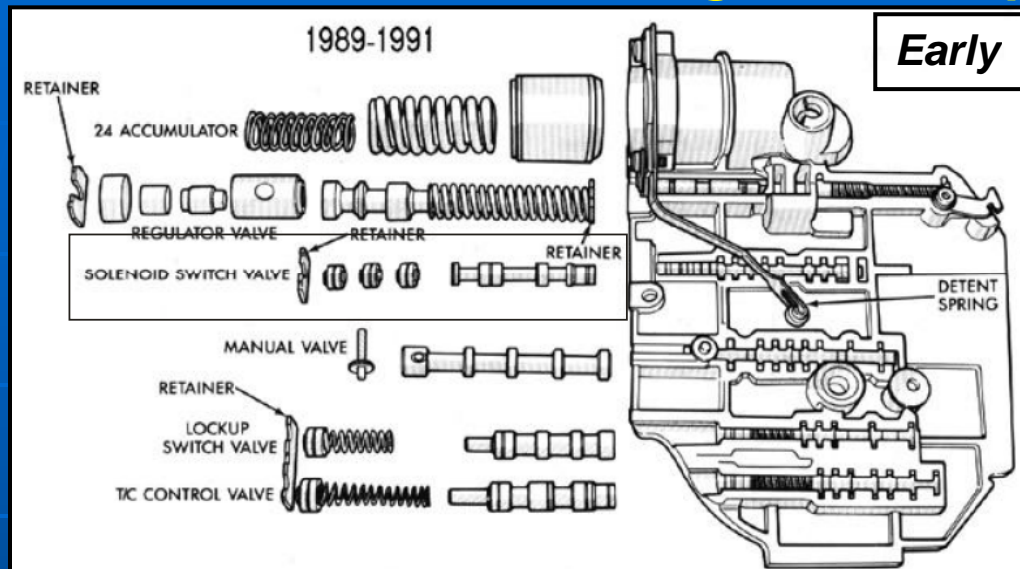
Also Found In 41TE/42LE



Figure 5

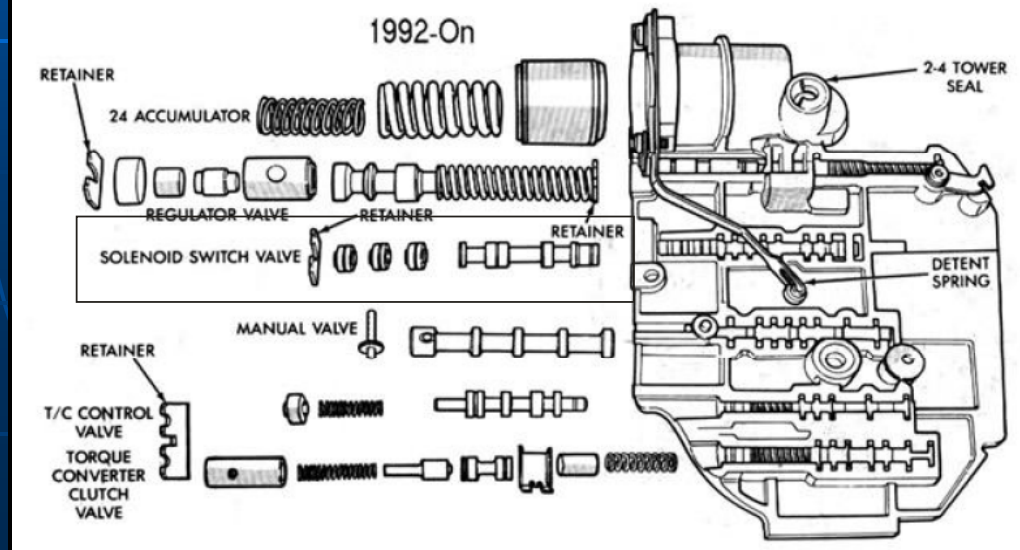
41TE/42LE/42RLE

Stumble Or Stall Coming To A Stop



Stuck Solenoid Switch Valve

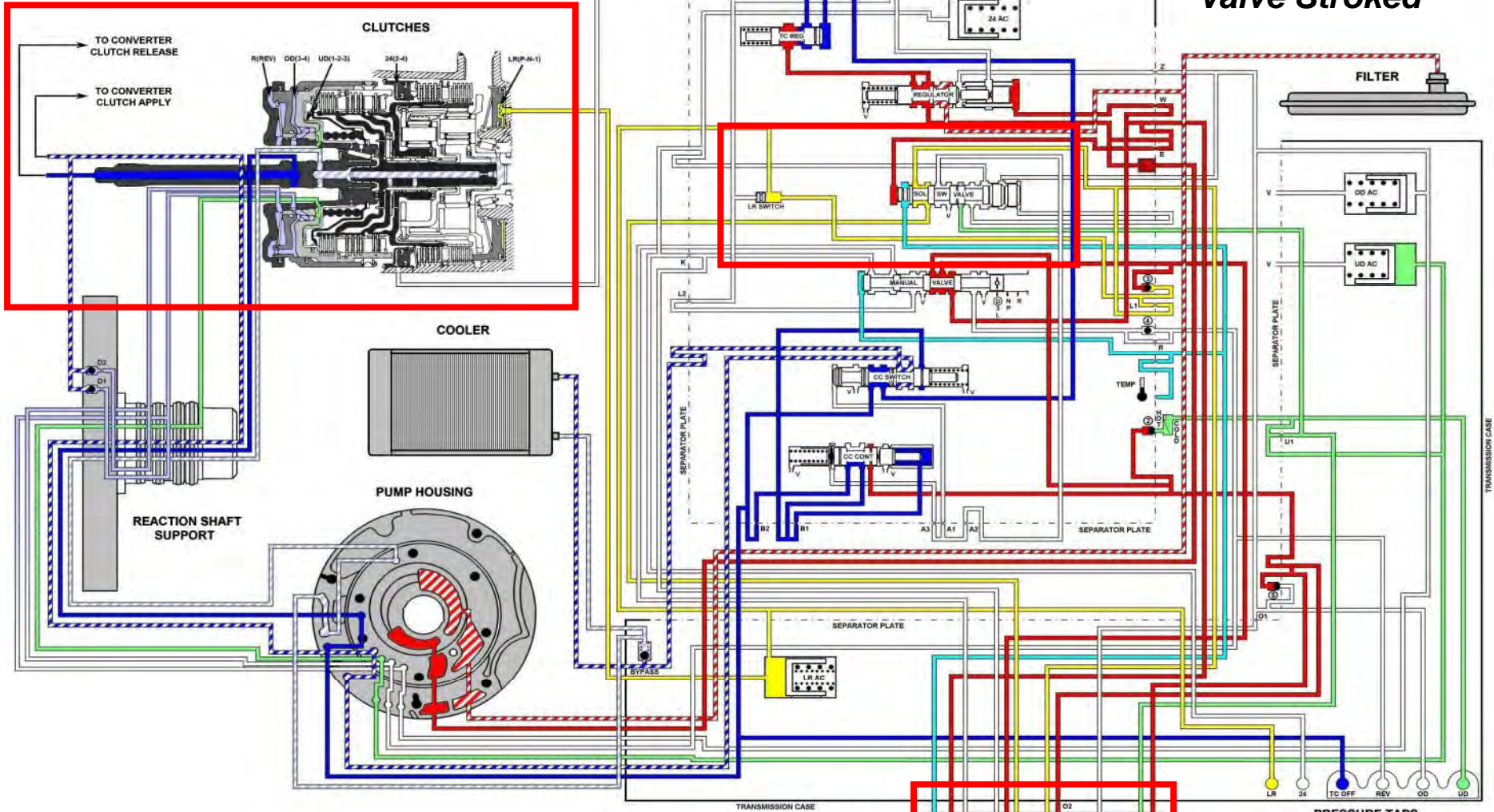
Late



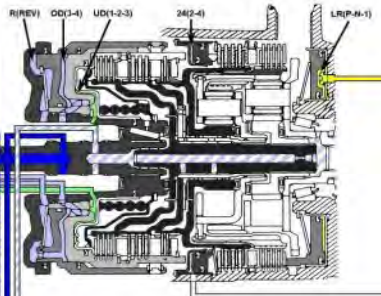
FIRST GEAR

*L/R Clutch
Is Applied*

*Solenoid Switch
Valve Stroked*

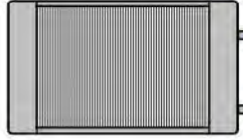


CLUTCHES

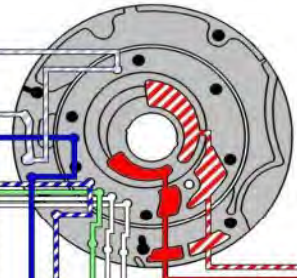


TO CONVERTER CLUTCH RELEASE
TO CONVERTER CLUTCH APPLY

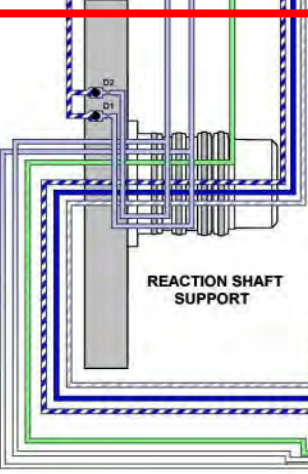
COOLER



PUMP HOUSING

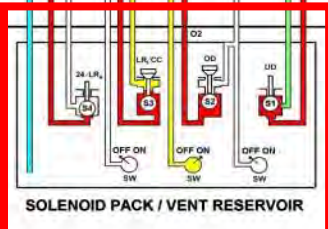


REACTION SHAFT SUPPORT



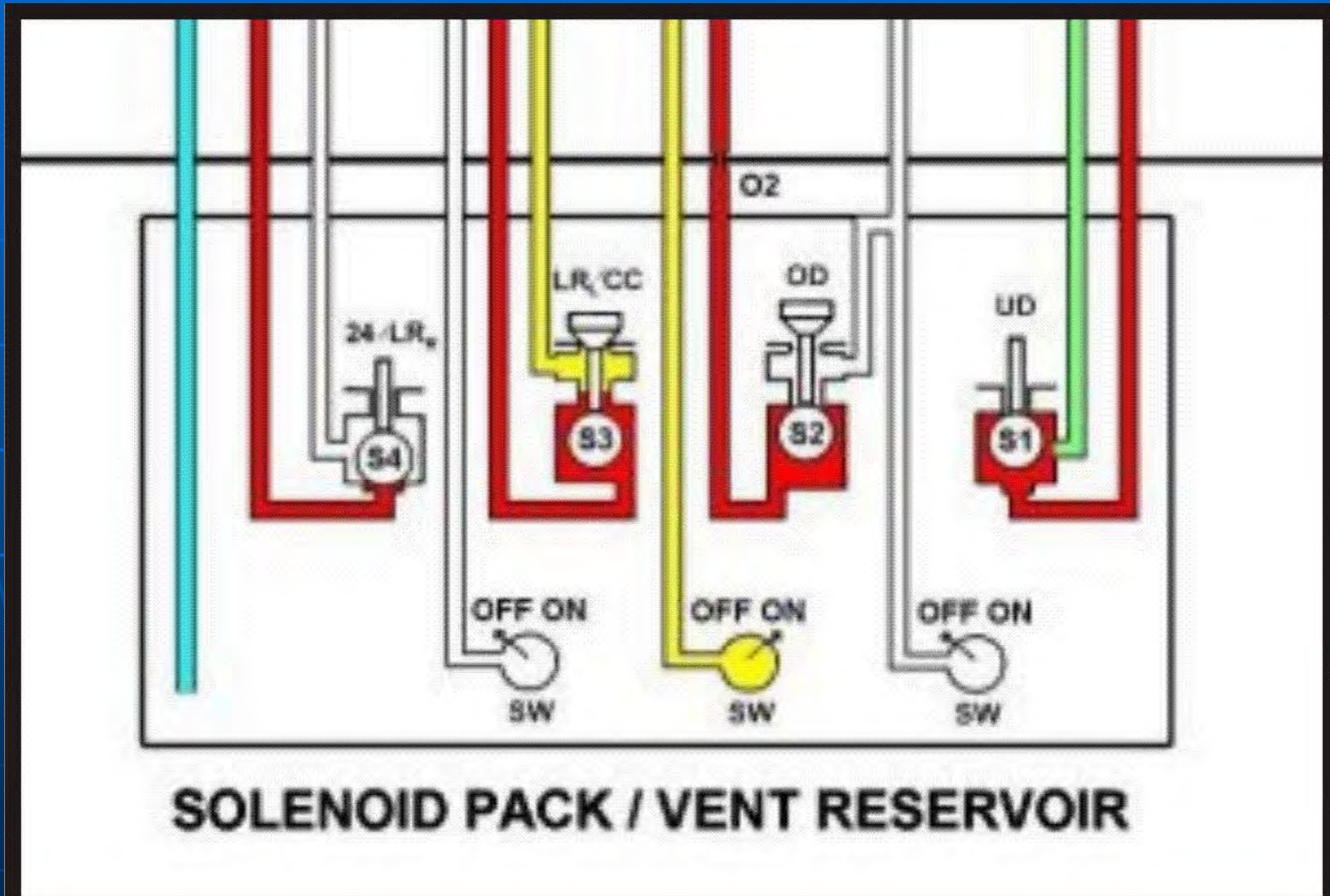
CIRCUIT IDENTIFICATION

PUMP	24/LR SOL SWITCHED	LR/CC SOL SWITCHED	OD SOL SWITCHED	UD SOL SWITCHED	TC REG	LR/CC CTRL'D	VENT RES	RESIDUAL	TC OFF RETURN	LUBE	SUCTION

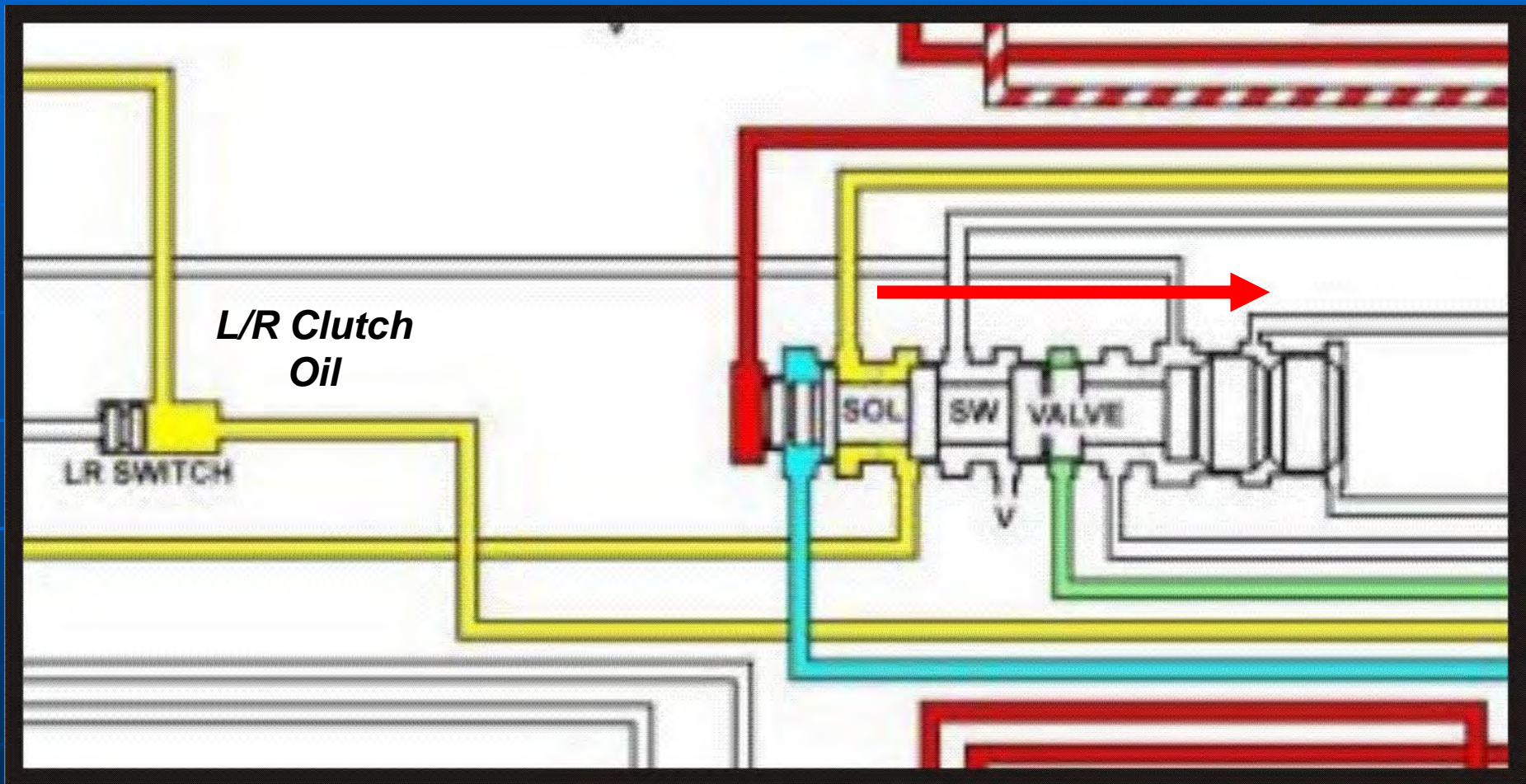


*Low/Reverse
Converter Clutch
Solenoid "On"*

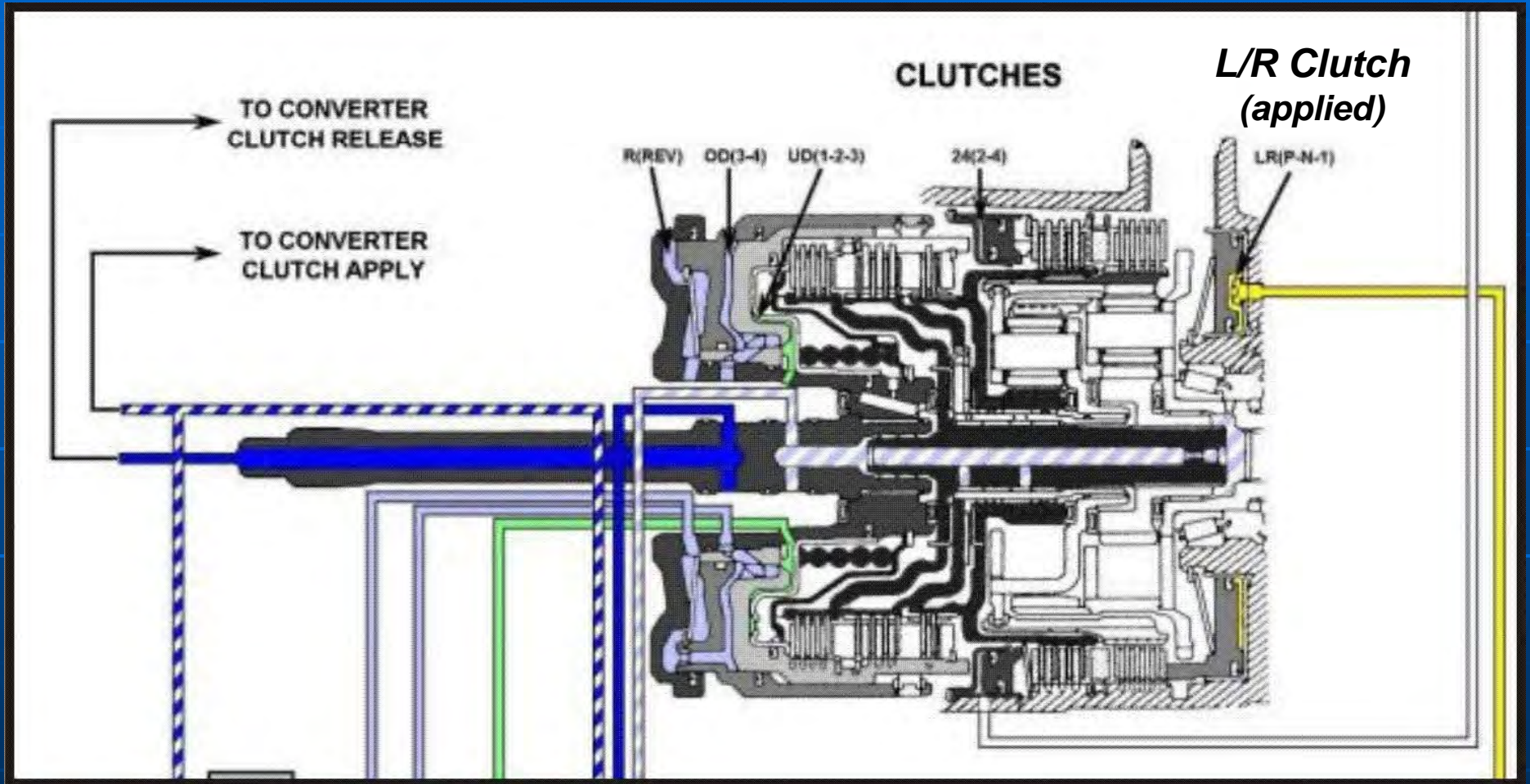
L/R – Converter Clutch Solenoid Is On 1st Gear



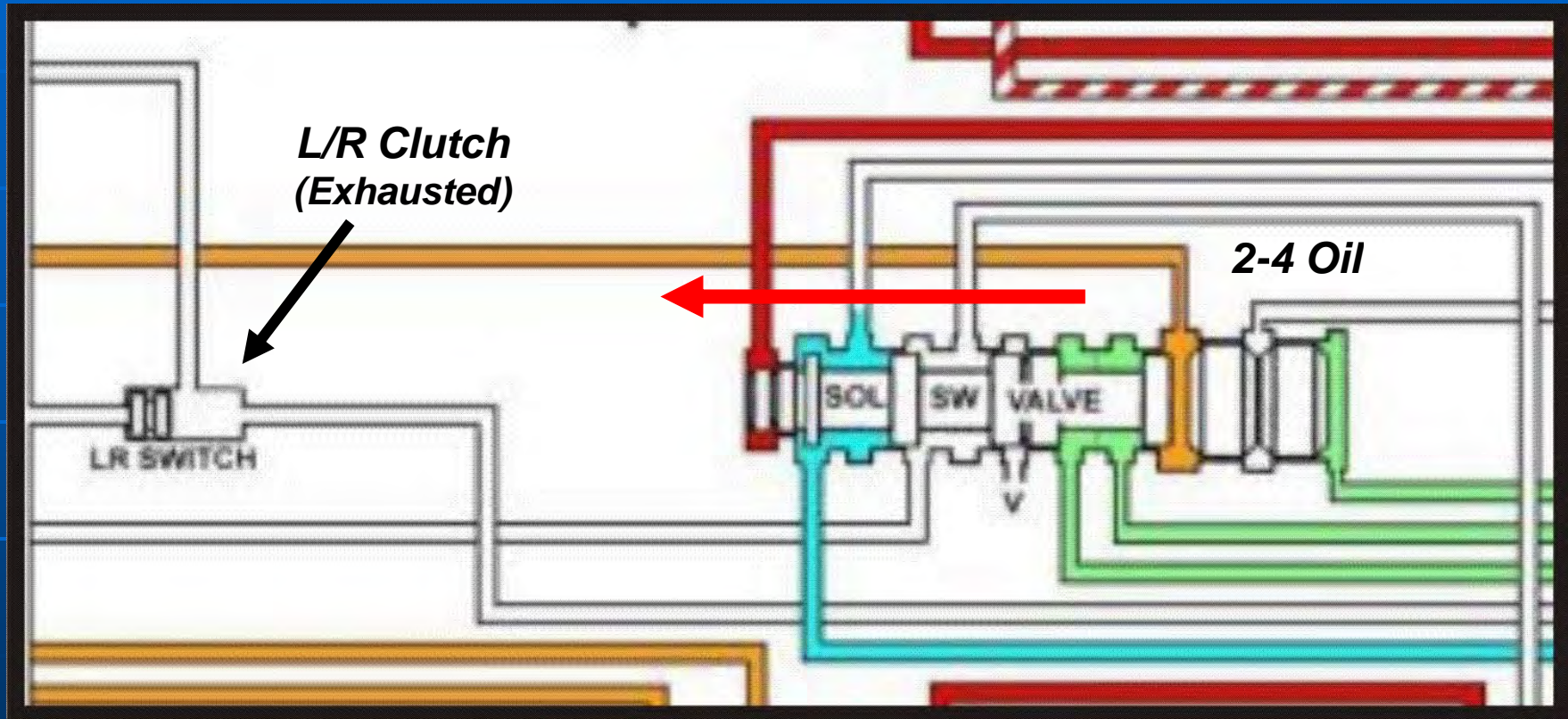
***Solenoid Switch Valve Is Stroked
To The Right In 1st Gear***



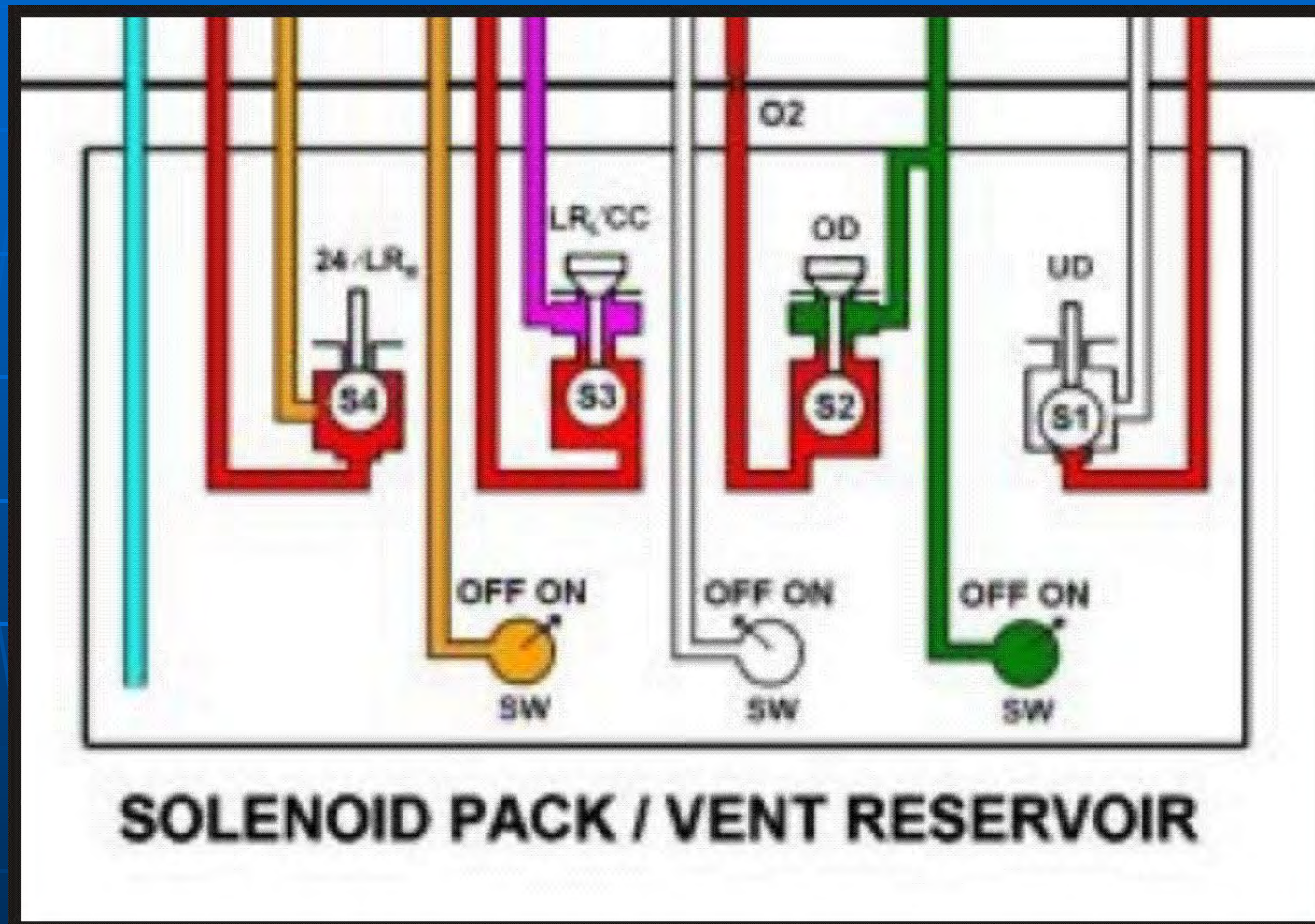
L/R Clutches Are Applied



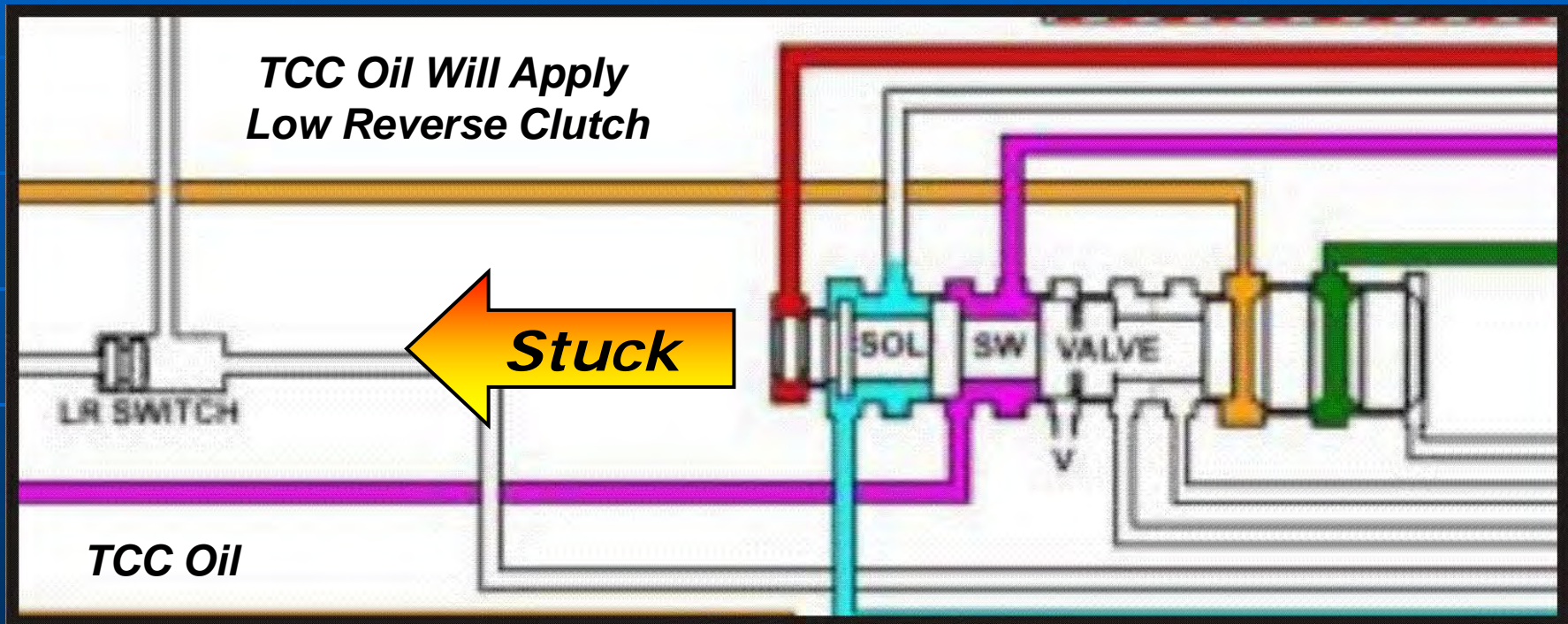
Solenoid Switch Valve Position After Shift Into 2nd Gear



L/R – Converter Clutch Solenoid Is On In Lock Up



***So There is a Switch Stuck in P Position During Drive
When The L/R Solenoid Comes Back On In 1st Gear
It Will Apply The Torque Converter
And Stumble Or Stall The Engine***



SERVICE BULLETIN

NUMBER: 18-027-08

GROUP: Vehicle Performance

DATE: Approval Pending

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THE StarSCAN® FLASH FILES FOR THIS BULLETIN MUST BE RETRIEVED FROM THE INTERNET.

StarSCAN® SOFTWARE LEVEL MUST BE AT RELEASE 8.05 OR HIGHER FOR THIS

Torque converter clutch cycling in and out of lockup. The TCC cycling was being commanded by the TCM during the same time as the Air Conditioner was cycling on and off. This was caused by the air condition being low on Freon.

2008 (KK) Liberty

NOTE: This bulletin applies to the above listed vehicles equipped with a 3.7L engine (sales code EGK) built before June 14, 2008 (MDH 0614XX).

SYMPTOM/CONDITION:

Some customers may experience one or more of the following:

- A. Torque converter shudder on A/C engagement and disengagement or torque converter shudder on torque converter pull-ins or during a partial lock operation. Pull-ins are when the torque converter goes from unlock to a partial lock or a full lock condition. This condition affects vehicles equipped with automatic transmissions only.
- B. High cabin temperature following engine start up. This is caused by a delayed A/C compressor engagement. This condition affects vehicles equipped with automatic transmissions only.

DIAGNOSIS:

Using a Scan Tool (StarSCAN®) with the appropriate Diagnostic Procedures available in TechCONNECT, verify all engine systems are functioning as designed. If DTC's are present record them on the repair order and repair as necessary before proceeding further

42RLE Transmission, Setting Code P0740 TCC Out Of Range

19

FLASH: DIAGNOSTIC TROUBLE CODE DTC P0740 OR P1798 AND AUTOMATIC TRANSMISSION SHIFT IMPROVEMENTS 1-2 OR 2-3 COLD SHIFT IMPROVEMENTS

TECHNICAL SERVICE BULLETIN

Reference Number(s): 21-018-08 REV. A, Date of Issue: September 17, 2008
: 2008 (DR) Ram Truck, (HB) Durango, (KA) Nitro, (KA) Nitro (International Markets), (KK) Liberty, (KK) Liberty (International Markets);**2007** - 2008 (JK) CHRYSLER: Wrangler, (LE) 300C/300 Touring (International Markets), (LX) 300/Magnum/Charger, (ND) Dakota

GROUP: : Transmission

Superseded Bulletin(s): 21-018-08, Date of Issue: JULY 12, 2008

Related Ref Number(s): 21-018-08, 21-018-08 REV. A

ARTICLE BEGINNING

SUBJECT

NOTE: THIS BULLETIN SUPERSEDES TECHNICAL SERVICE BULLETIN 21-018-08, DATED JULY 12, 2008, WHICH SHOULD BE REMOVED FROM YOUR FILES. ALL REVISIONS ARE HIGHLIGHTED WITH ****ASTERISKS**** AND INCLUDE THE ADDITION OF A 2007 JK MODEL.

NOTE: THE StarSCAN® FLASH FILES FOR THIS BULLETIN MUST BE RETRIEVED FROM THE INTERNET.

NOTE: StarSCAN® SOFTWARE LEVEL MUST BE AT RELEASE 9.02 OR HIGHER.

NOTE: StarMOBILE DESKTOP CLIENT -OR- StarMOBILE STANDALONE MODE MAY ALSO BE USED TO PERFORM THE FLASH.

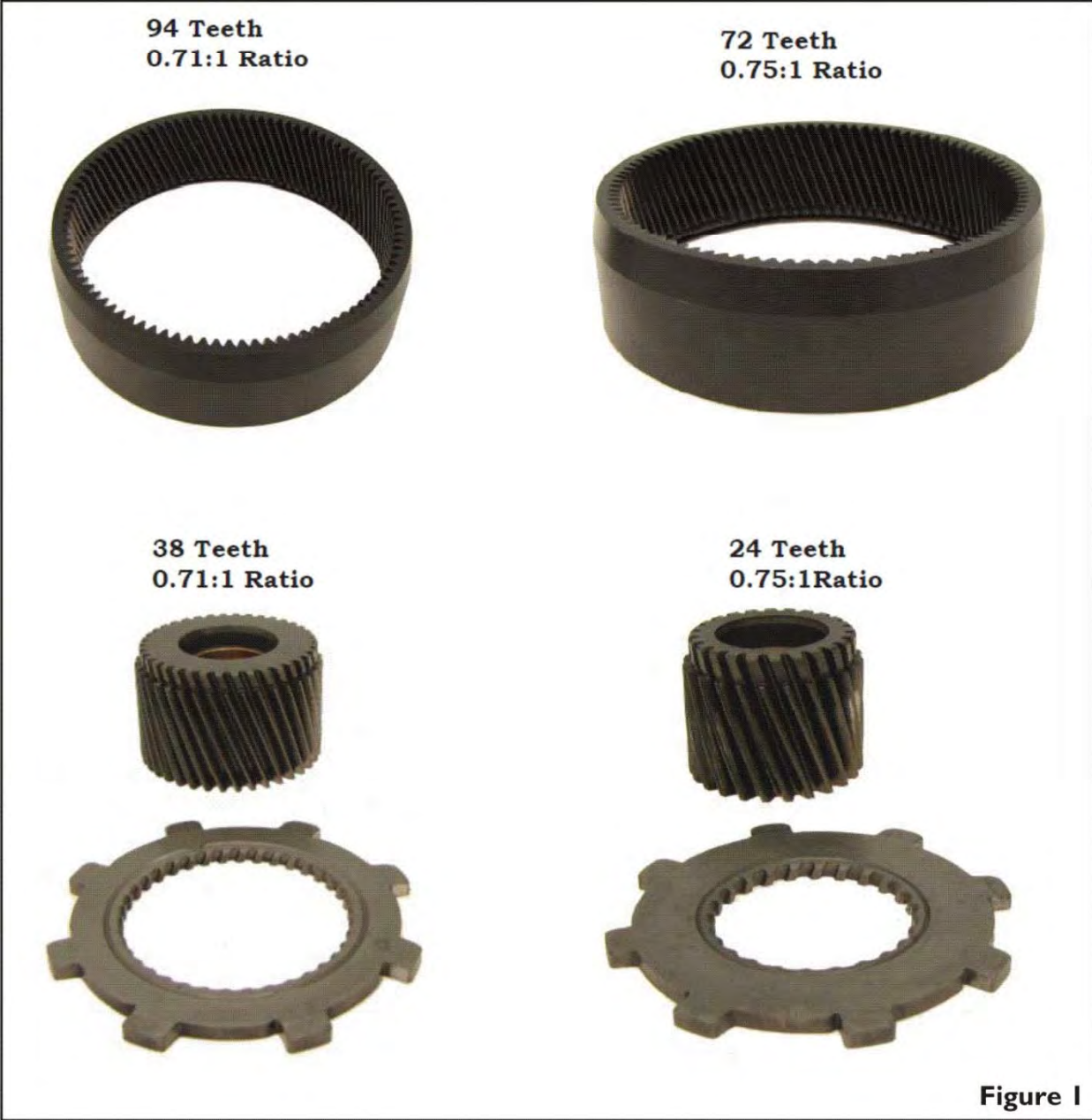
Flash: Diagnostic Trouble Code DTC P0740 Or P1798 And Automatic Transmission Shift Improvements 1-2 Or 2-3 Cold Shift Improvements

OVERVIEW

This bulletin involves selectively erasing and reprogramming the Powertrain Control Module (PCM).

NOTE: This Bulletin applies to LX/LE models equipped with a 42 RLE transmission (Sales Code DGV) built before April 28, 2008 (0428XXMDH). This Bulletin applies to all 2008 KA/KK/HB/DR and 2007 - 2008 ****JK****/ND vehicles equipped with a 42 RLE transmission (Sales

5R55W/S/N With TCC slip code P0741 Wrong O/D Planets



Planetary Ratio Identification

5R55W provides the following gear ratios:

Reverse: 3.07:1

1st : 3.22:1

2nd : 2.41:1

3rd : 1.54:1

4th : 1.00:1

5th : 0.75:1

5R55S provides the following gear ratios:

Reverse: 3.07:1

1st : 3.22:1

2nd : 2.29:1

3rd : 1.54:1

4th : 1.00:1

5th : 0.71:1

5R55N provides the following gear ratios:

Reverse: 3.07:1

1st : 3.22:1

2nd : 2.41:1 (early production) or 2.29:1 (late production)

3rd : 1.54:1

4th : 1.00:1

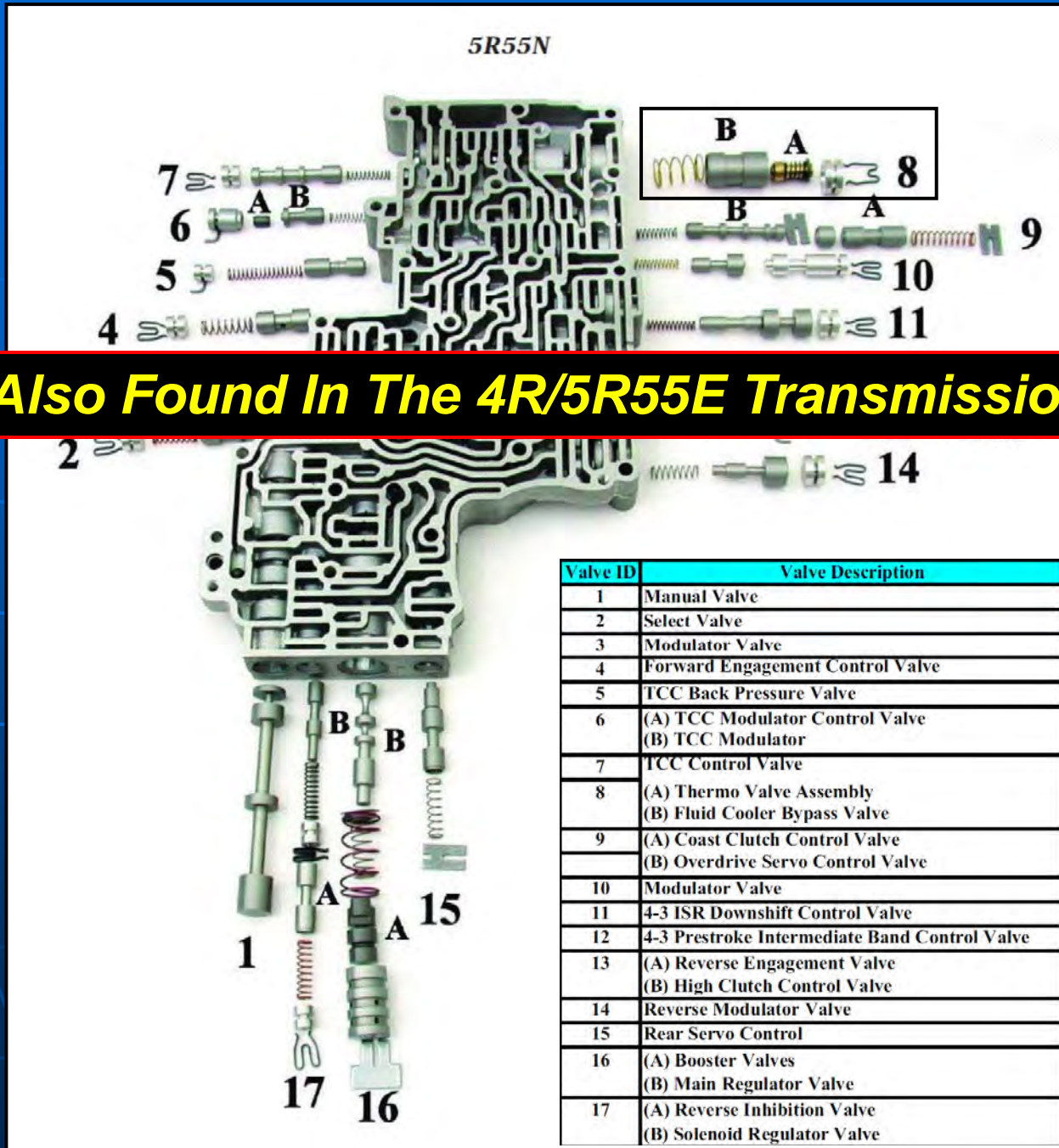
5th : 0.75:1 (early production) or 0.71:1 (late production)

Figure 2

5R55W/S/N Over Heating And/Or Intermittent Code P0741

5N55W, S

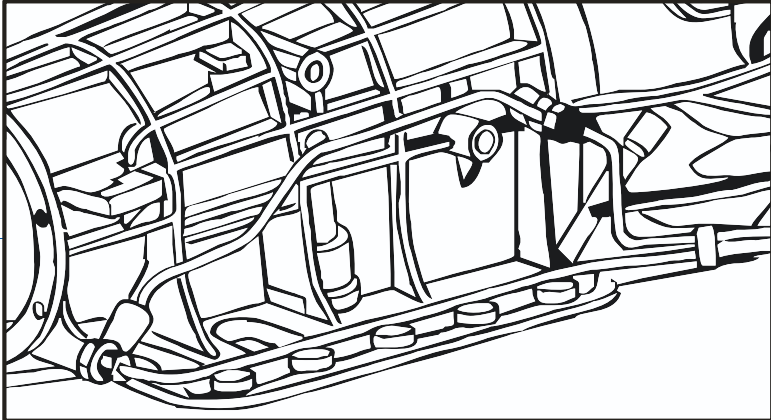
Valve ID	Valve Description
1	Manual Valve
2	Rear Servo Control Valve
3	RS ISA Select Valve
4	Forward Engagement Control Valve
5	Overdrive Servo Control Valve
6	(A) TCC Modulator Control Valve (B) TCC Modulator
7	(A) Thermo Valve Assembly (B) Fluid Cooler Bypass Valve (C) TCC Control Valve
8	(A) Coast Clutch Valve (B) TCC Back Pressure Valve
9	VFS2 Modulator Valve
10	Intermediate Servo Release Valve
11	Direct Clutch Control Valve
12	Reverse Modulator Valve
13	Reverse Engagement Valve
14	VFS1 Modulator Valve
15	(A) Booster Valve (B) Main Regulator Valve
16	(A) Converter Rielief Valve (B) Solenoid Regulator Valve



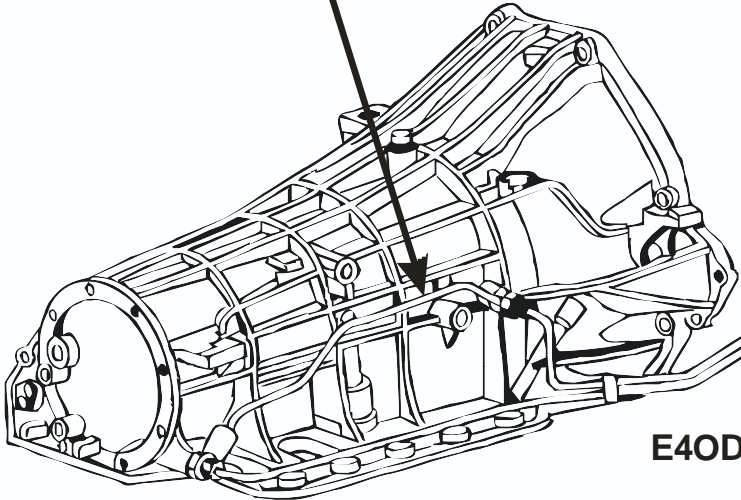
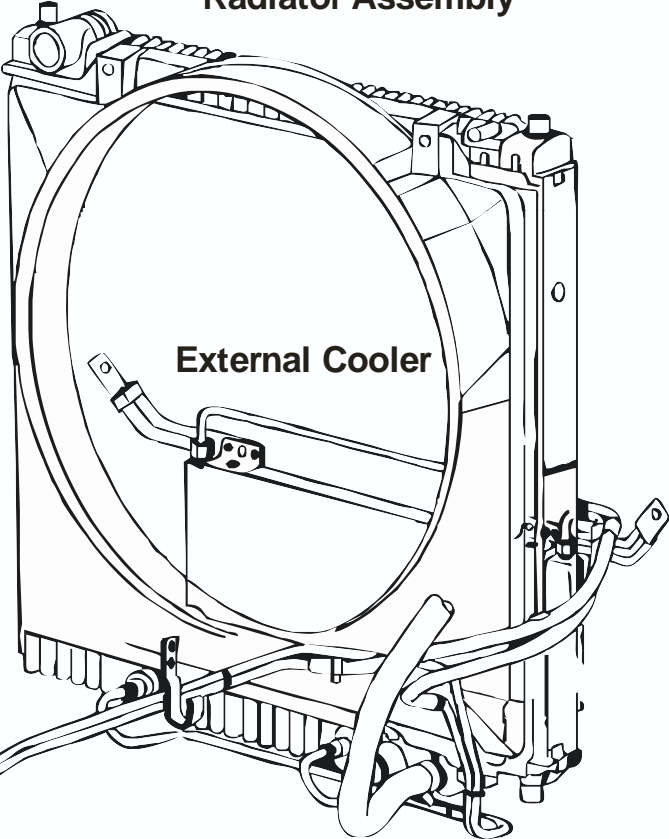
E4OD/4R100 Transmission Fluid & Converter Over Heating

Bypass Tube "Stuck Open"

Bypass Tube Assembly

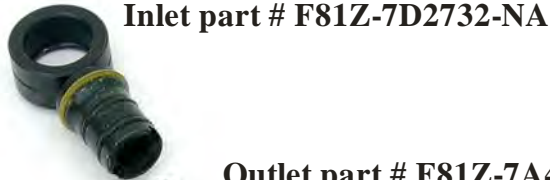


Radiator Assembly



E4OD/4R100

Figure 1



Inlet part # F81Z-7D2732-NA



Outlet part # F81Z-7A443-MA



Tube Assembly part # F81Z-7II322-AA

**Front Fitting
part # F81Z-7A443-MA**

**Rear Fitting
(has a check ball)
part # F81Z-7A443-MA**



Figure 2

Any Questions ?





*Thank You
For Attending*



TTCRA

Torque Converter Rebuilders Association

2010 Seminar