

# RE4F04B-HD2

## *Reprogramming Kit*™

NISSAN Maxima-Altima 2000-04 Quest 2003-04  
MERCURY Villager 4F2OE 2003-04 Infinity i30 2000-04  
See page 12 for positive ID

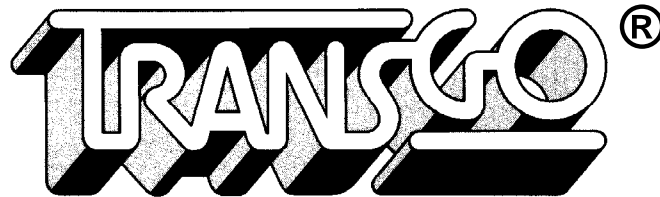
### *Corrects/Reduces/Prevents*

No 3rd after a 3-2 or 4-2 kickdown.

Direct clutch (3rd) inner seal leaks, wears or opens up, etc.

Corrects Soft 1-2. Long 2-3 at heavy throttle. Firmer 4th & Lockup.

Nissan never shifted this good, until now.

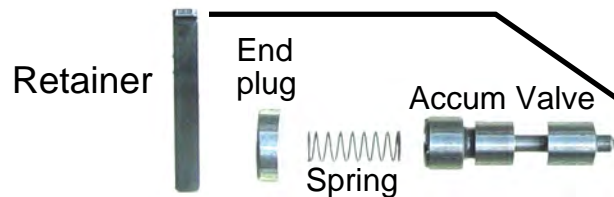


**You never felt a Nissan shift this good, Hot or COLD.**

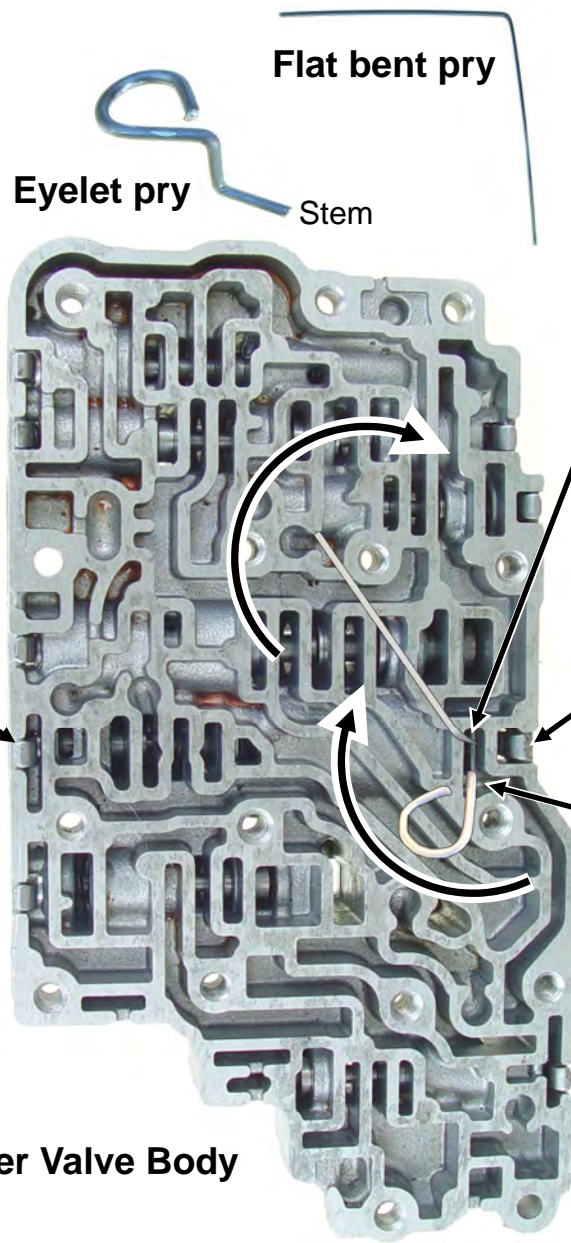
**This Kit is about:**

Rough 2nd cold. No 3rd after a 3-2 or 4-2 kickdown. Direct clutch (3rd) inner seal **leaks**, wears or opens up, etc. Corrects Hard and Soft 1-2. Long 2-3 heavy throttle. **Firmer 4th and Lockup.**

Use a skinny punch from other side of VB to *push* accum valve out of bore.



*Mr. Shift*



**LISTEN UP:** If trans is out of vehicle do page 8 first.

**Step 1.** Remove **Retainers**. With sand paper smooth the small burr where the retainer was against bore.

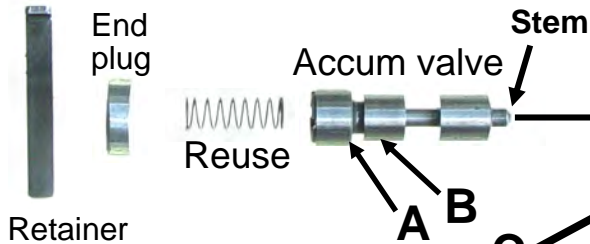
**Step 2.** Insert **Flat Bent Pry** between the end plug & accum piston. Push piston inward away from the end plug far enough to insert the stem end of eyelet pry.

**Step 3.** With **Eyelet Pry** *push* the end plug **GENTLY** in various spots to remove it. Then remove 2nd accum piston, spring & washer on **Page 2**. Then *push* accum valve and end plug from this side of VB with a thin punch.

# Upper Valve Body

## Step 1. Accum Valve

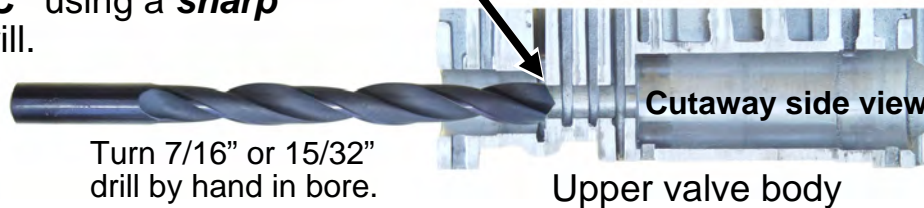
Remove the accum valve. Chamfer partition as shown at bottom of page. Clean the bore. Reinstall the valve, spring, end plug and retainer.



**Here's Why:** Edge **A** on the valve hits partition at **C**. This deforms the bore which sticks the valve at land **B**.

### Here's how to fix it:

By **HAND**, make a slight chamfer in valve bore at "**C**" using a **sharp** 7/16" or 15/32" drill.

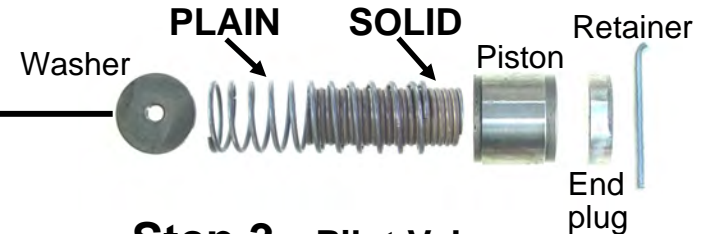


## Hello Mechanic:

Install accumulator valve first. Then, from this is side, install the flat washer on the stem of Accum Valve, then the remaining parts as shown. **You're going to love the 1-2 shifts**

## Step 2. 2nd Accum Piston

Remove & discard original spring. Install **PLAIN & SOLID** Springs.



## Step 3. Pilot Valve

Remove & discard original spring. Install **RED** spring.



## © Checkballs:

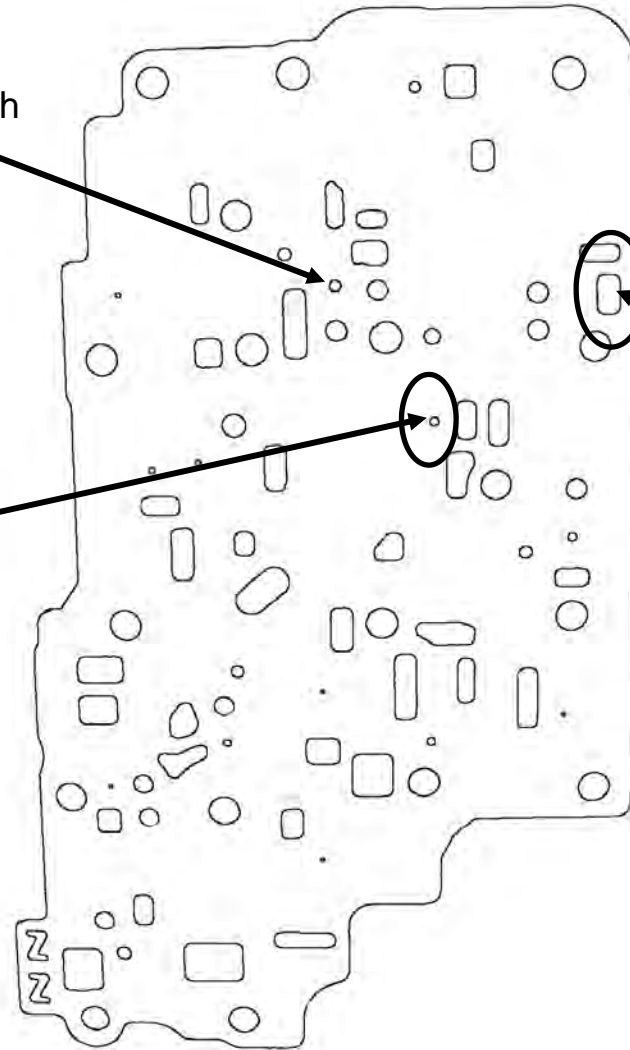
Seven Steel .214 to .218  
Don't use plastic balls.

Use some **Vaseline** to keep the checkballs in place **NOT** grease.

# Upper Separator Plate (Small Plate)

**1.** Enlarge this hole with the .125 drill furnished.

**2. LOOK**  
If the plate **HAS** hole here, Main VB **MUST HAVE** Steel One Way Ball and Spring.  
**No Hole, No Ball & Spring.**  
See main VB **Page 6.**



### **3. LOOK**

If Plate **Has Square** hole here, **MUST** install "R" ball in the channel casting.  
If Plate **Has Round** hole here **Do NOT** install "R" ball in the channel casting.  
See Channel Casting **Page 4.**





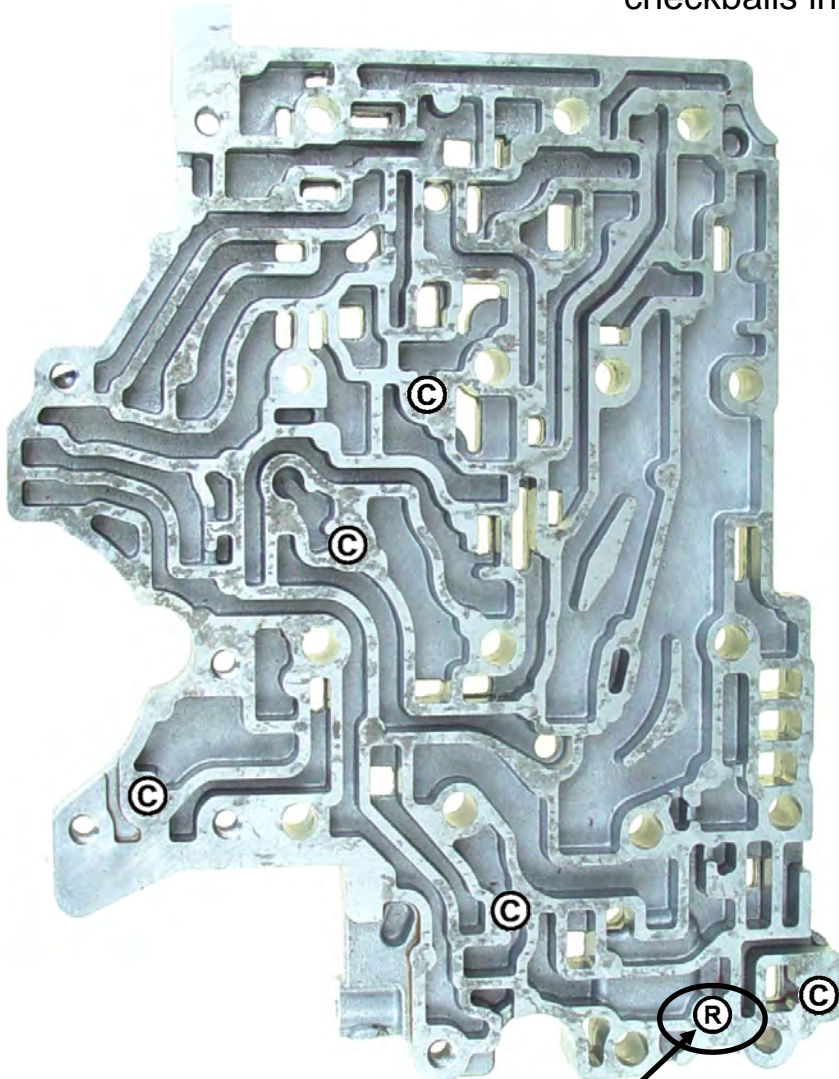
**Checkballs:** Steel .214 to .218  
Don't use plastic balls

Ⓒ Five, all models.

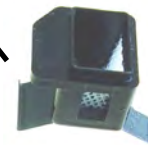
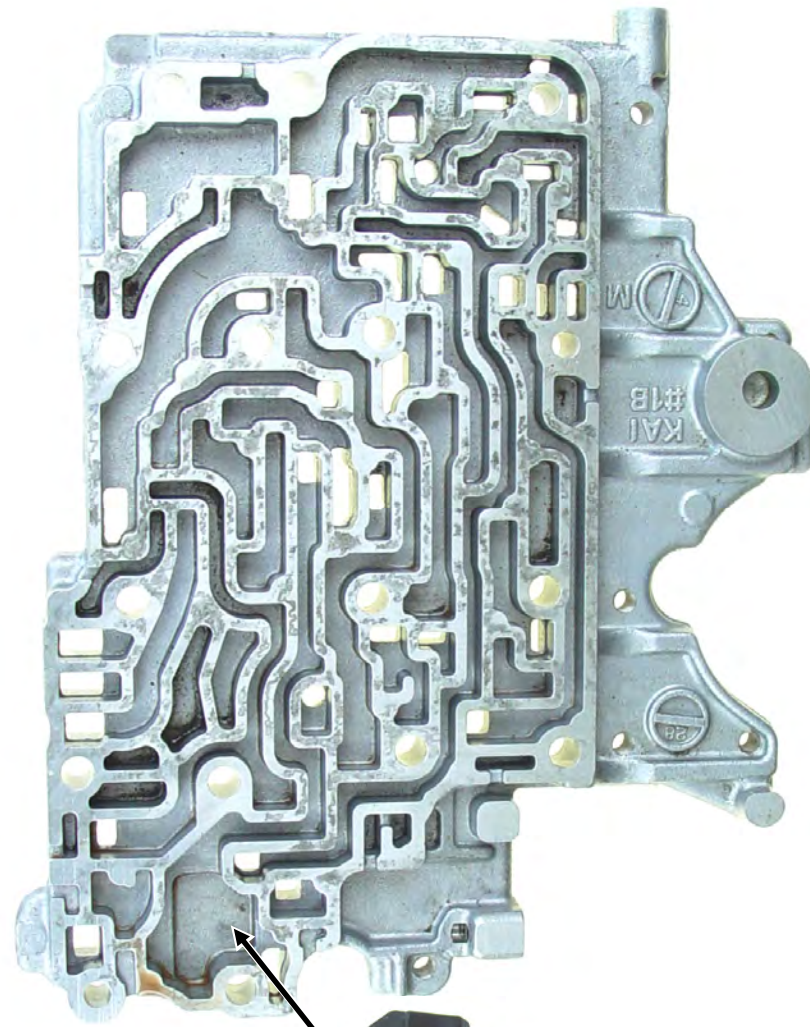
Ⓓ Model Dependant see **Page 3**.

# Channel Casting

Use some **Vaseline** to keep the checkballs in place **NOT** grease.

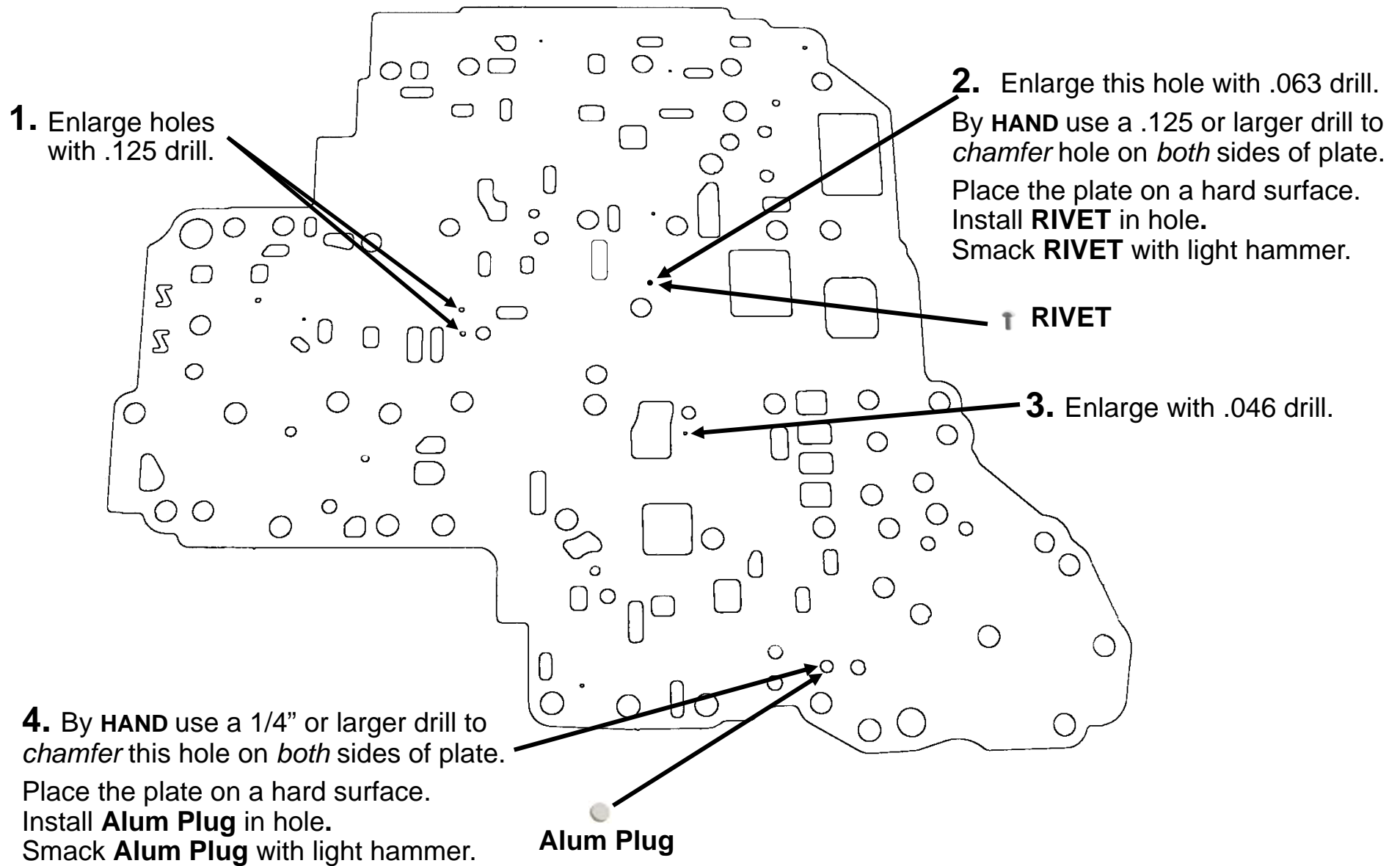


**LISTEN UP:**  
Do **NOT** install ball "R" if Upper Plate  
**HAS** a Round hole. See **Page 3**.



Filter screen

# Main Separator Plate (Large Plate)





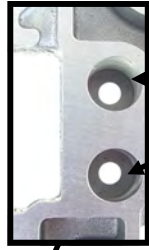
Retainer

# Main Valve Body



**5.** Remove and discard original modifier valve and spring. Install new valve, balls and springs as shown.

-  **WHITE**
-  **1/4" Steel Ball**
-  **WHITE**
-  **3/16" Steel Ball**
-  **Modifier Valve**
-  **ORANGE**



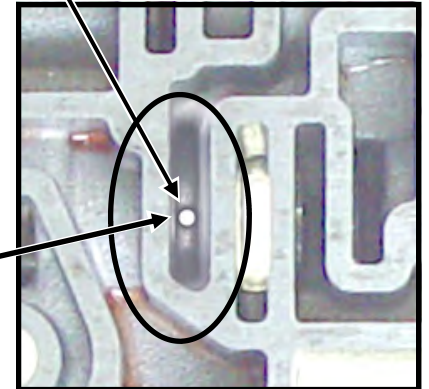
**1.** Enlarge the limit drain holes with a 1/4" drill.



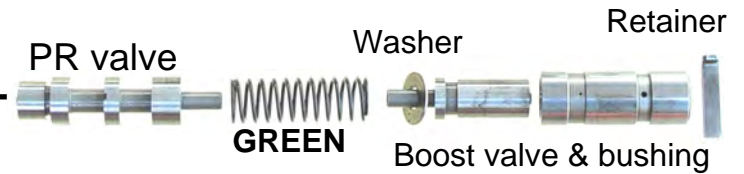
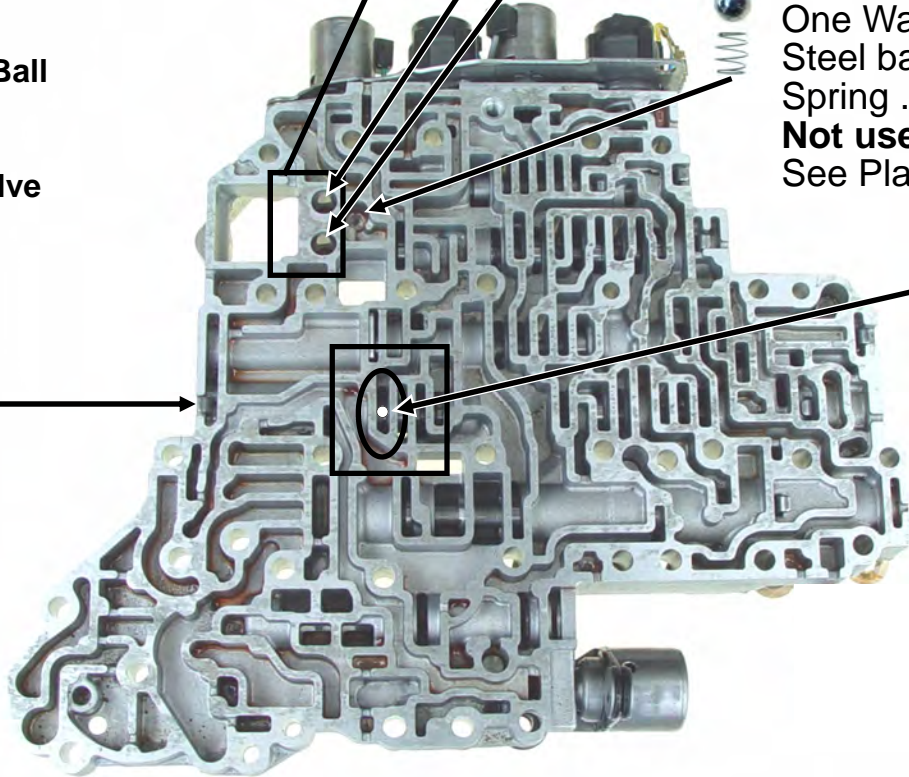
**Steel balls**  
.265 diam  
**ORANGE**

**2.** Install springs & steel balls furnished.

**3.** Drill .063 hole **straight down** into this passage thru bottom of the valve body.

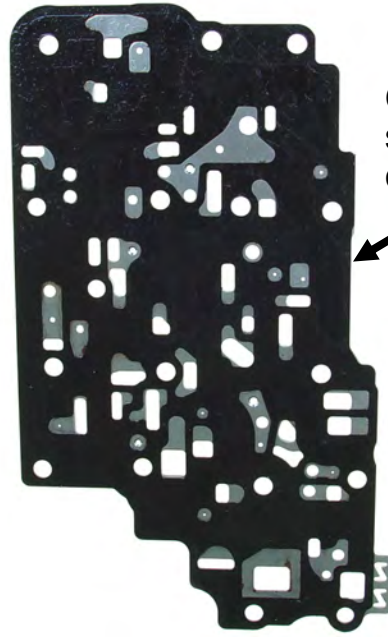


One Way Ball & Spring  
Steel ball 5/16" (.312)  
Spring .012 x .285 x .330  
**Not used all models.**  
See Plate on **Page 3.**



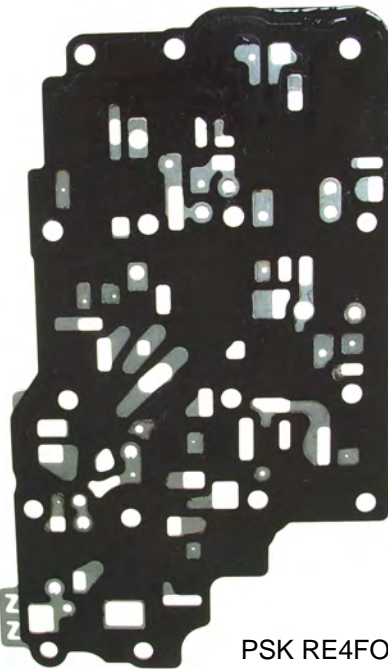
**4.** Install **GREEN** Pressure regulator spring furnished.

# Valve Body Gasket ID



Gasket between small plate and channel casting.

## Small Plate Gaskets



Gasket between small plate and upper valve body.

Plates with bonded gaskets can be reused. If gaskets are damaged, scrape off old gaskets and install new gaskets. Identify correct gasket for each location. Use oil to keep gaskets in place during assembly

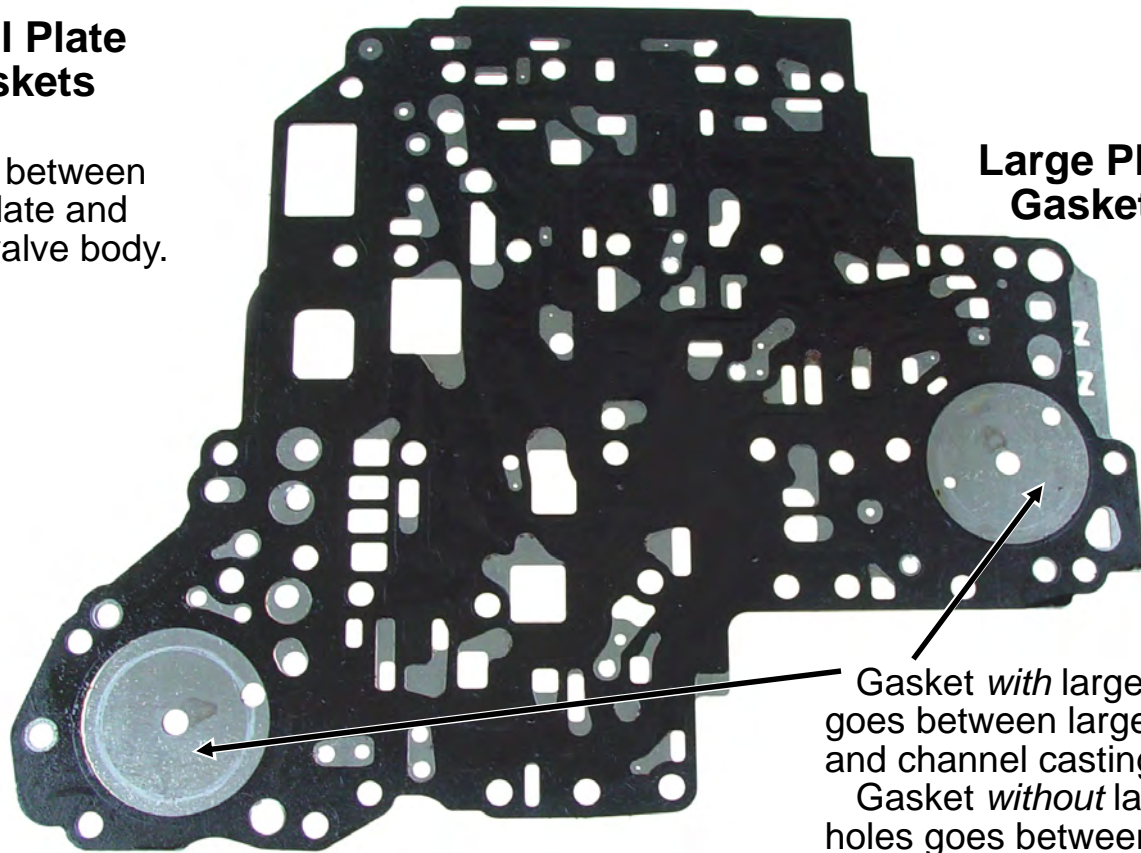
Replacement plates with bonded gaskets are available.

Nissan # 31719-85X10 Large plate

Nissan # 31715-85X11 Small Plate

**LISTEN UP:** If **SMALL** plate is replaced, Match check-ball and steel ball & spring usage to the **NEW** plate being installed. **Follow Steps 2 and 3 on Page 3.**

It's OK if replacement plate is different than original.



## Large Plate Gaskets

Gasket *with* large holes goes between large plate and channel casting.

Gasket *without* large holes goes between large plate and main valve body.

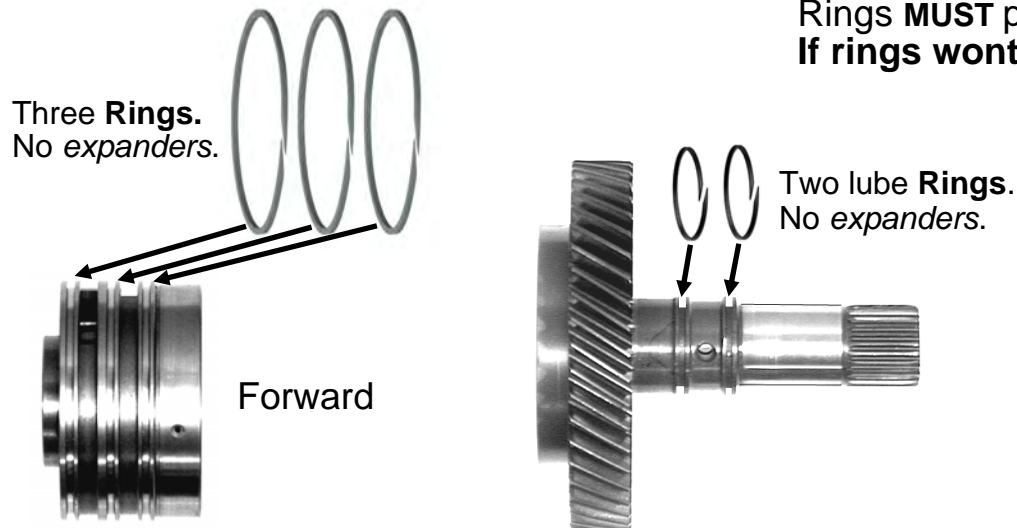


# Hi-Temp Low-Shrink Rings

If trans is in vehicle skip this page.

## 1. Forward & Lube Rings

Use Trans Jel and **GENTLY** push rings down into grooves. Ends of rings should just touch or have small gap. If pushed together **FIRMLY** they **BIND** in groove & **WON'T SEAL**.

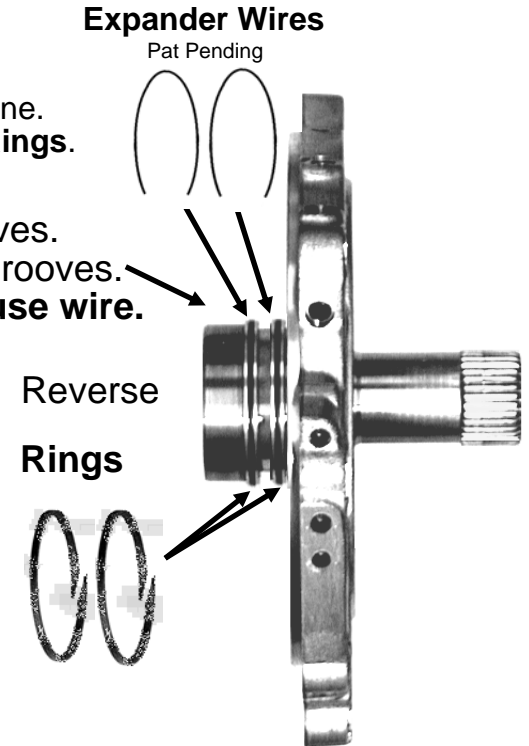


## 2. Reverse Rings

Fill grooves with Trans Jel or Vaseline. Install **Expander Wires**, then two **Rings**.

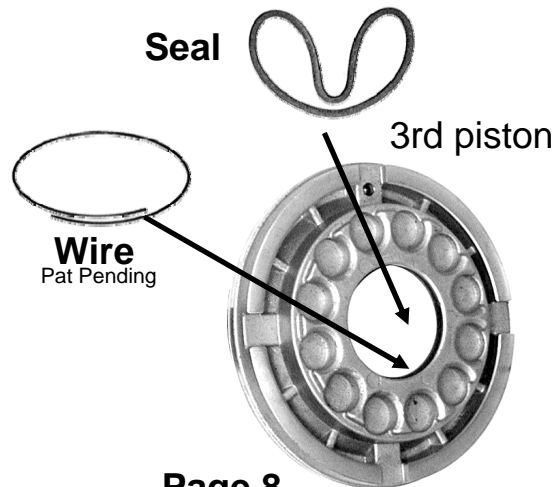
### LISTEN UP:

Some models have shallow grooves. Rings **MUST** push **flush** into the grooves. **If rings wont push flush don't use wire.**



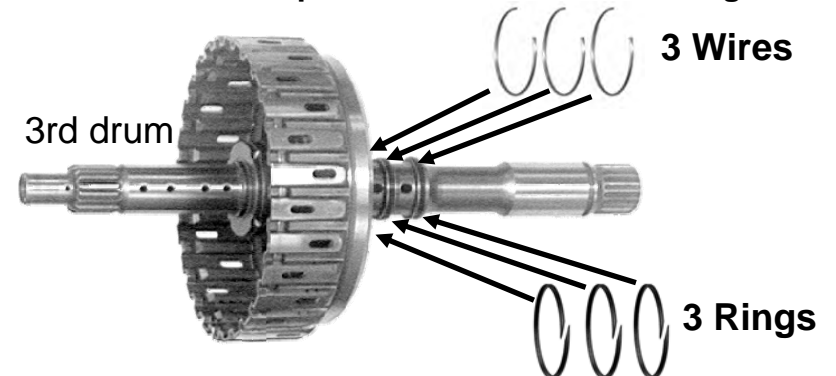
## 3. Third Clutch (Direct) Inner Piston Seal

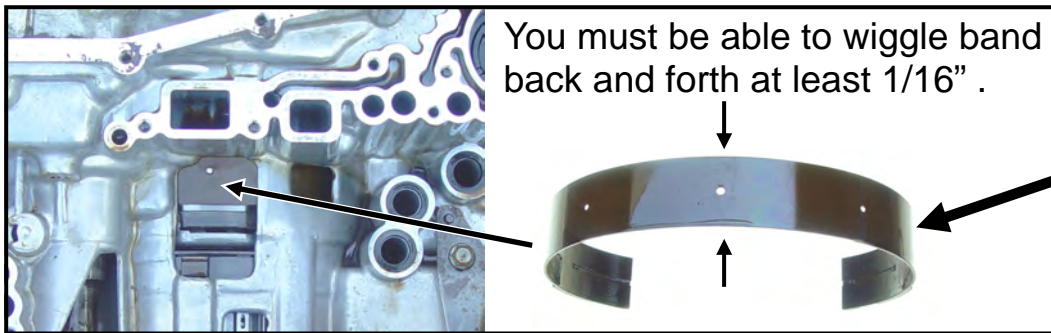
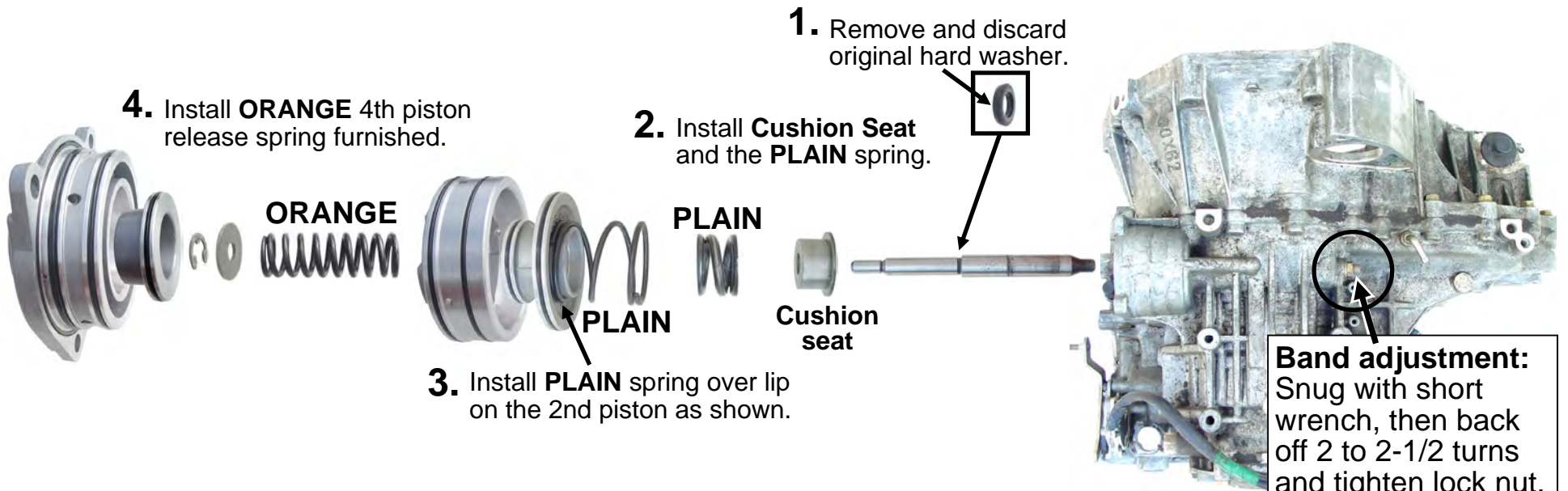
Insert overlap part of **Wire** into groove at 6 O'clock. Then shape the **Seal** as shown and install into the piston groove.



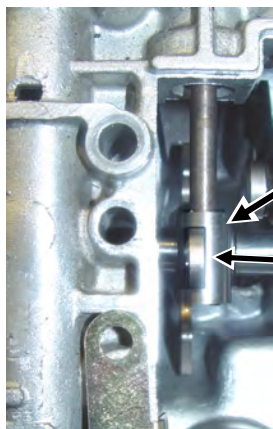
## 4. Third Clutch Drum Rings

Fill the grooves with Trans Jel or Vaseline. Install **Expander Wires**, then three **Rings**.

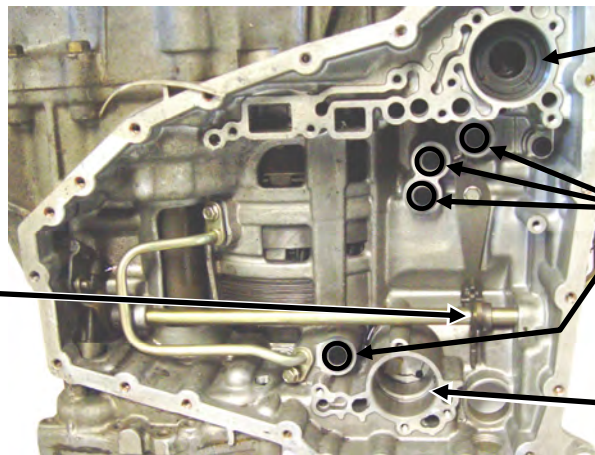




**Check Band Adjustment:** Install 2nd piston with new cushion seat and spring. If band will wiggle on drum 1/16" by hand, you can skip the band adjustment shown above.



Align manual valve as shown.



This accum piston installs into case first then spring.

Make sure 4 rubber o-rings are in place before installing the VB.

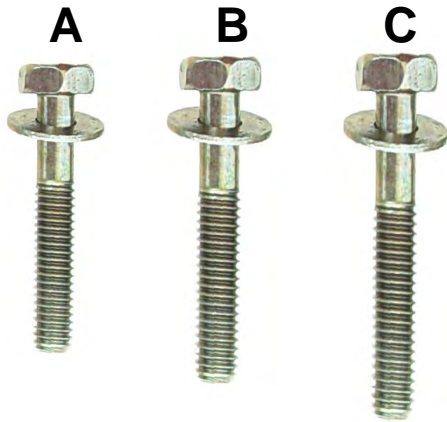
This accum piston installs with spring in case first then piston.



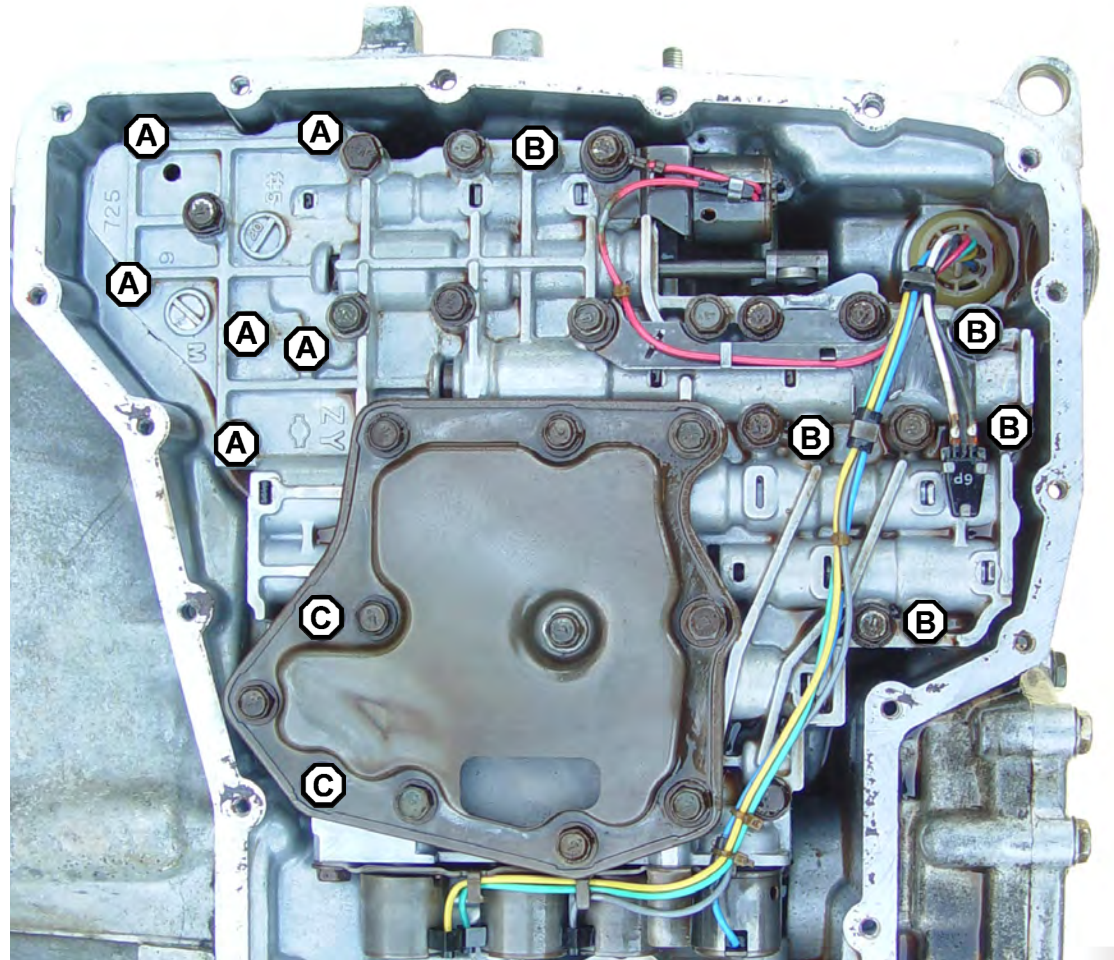


# VB to Case Bolts

- "A" Six bolts 1.455"
- "B" Five bolts 1.725"
- "C" Two bolts 1.885"



Tighten VB bolts to 95 IN. LB.  
Pan bolts to 65-80 IN. LB.  
Drain plug to 25 FT. LB.

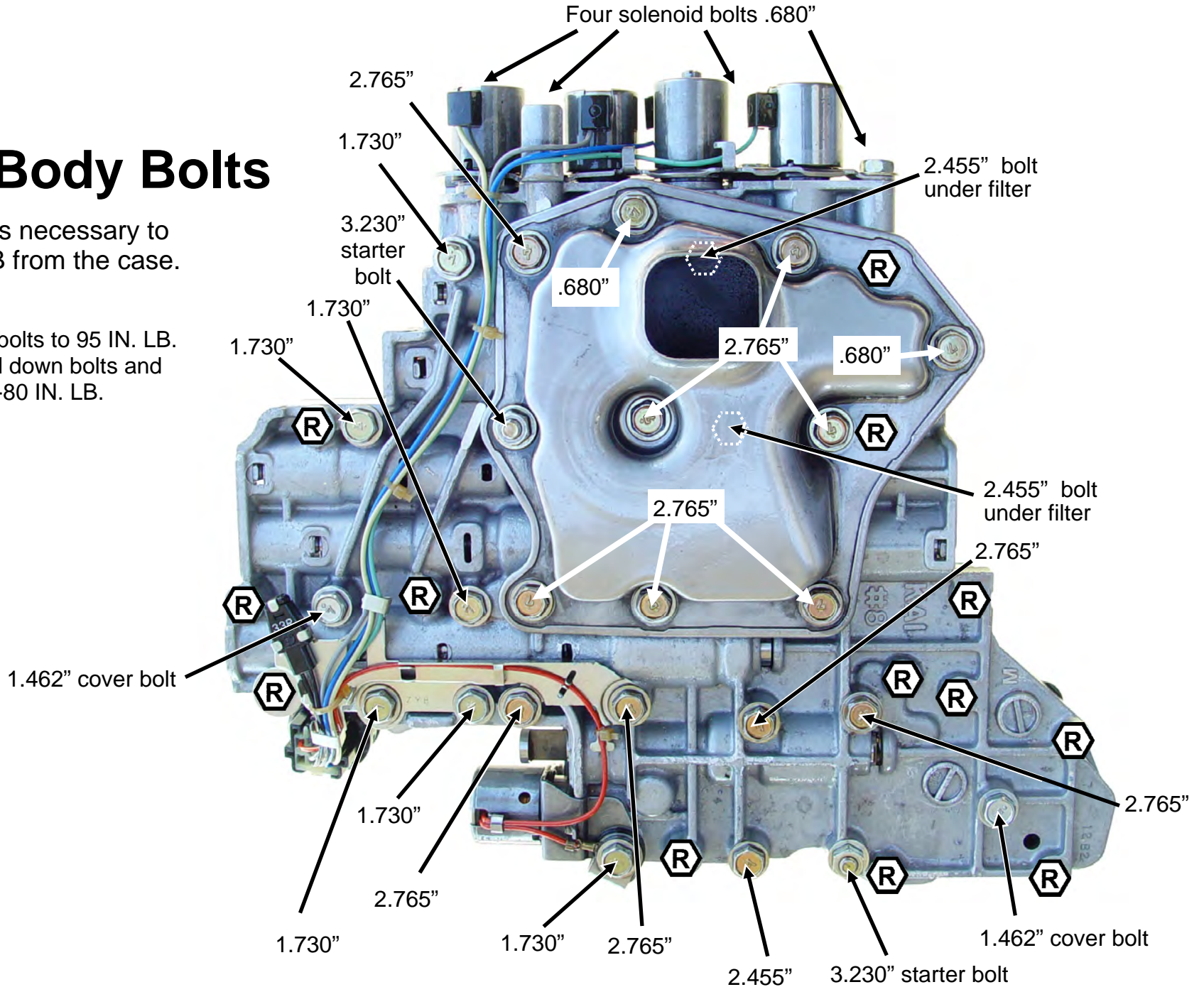




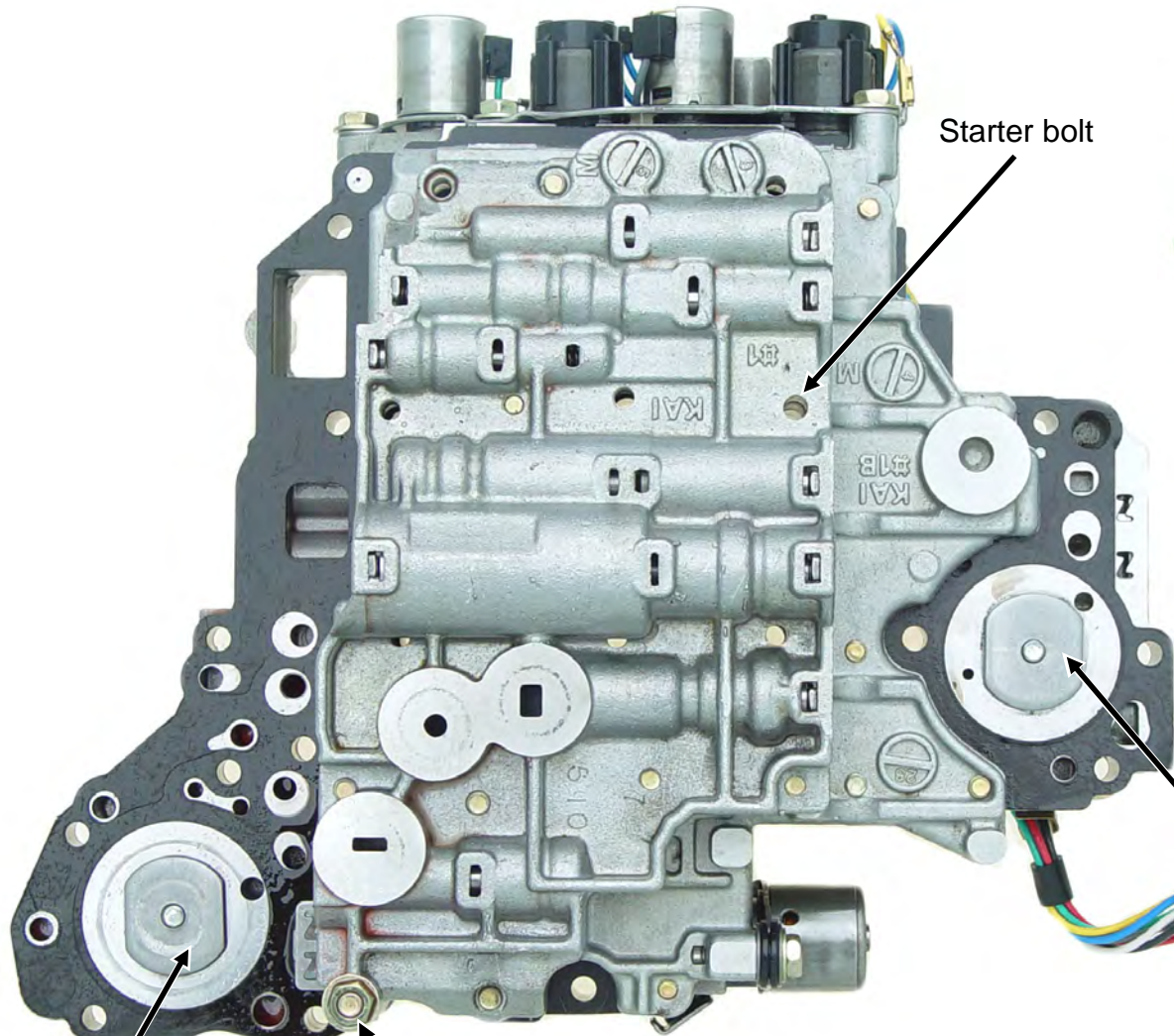
# Valve Body Bolts

**R** 13 bolts necessary to remove VB from the case.

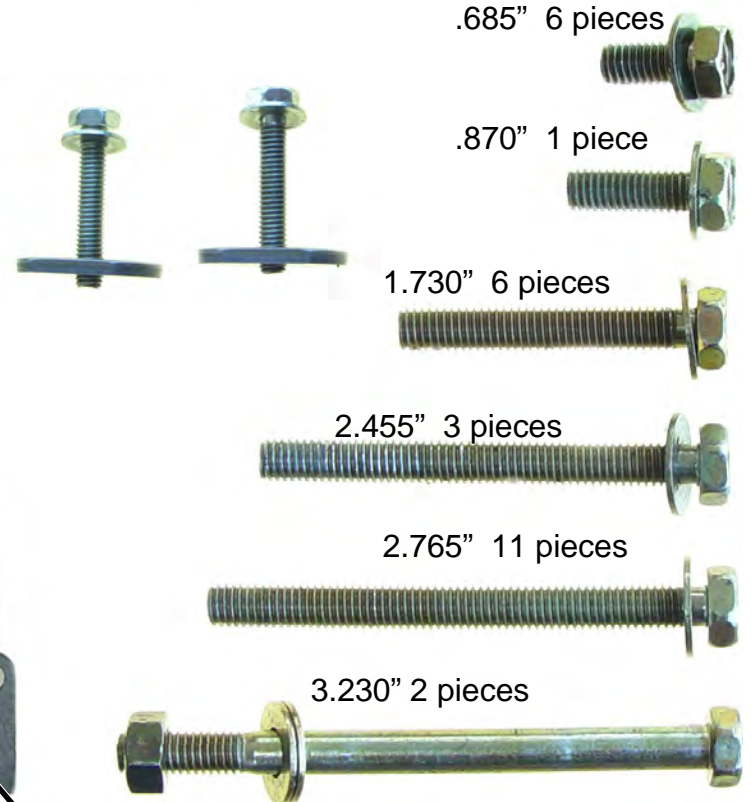
Tighten VB bolts to 95 IN. LB.  
Tighten hold down bolts and plates to 70-80 IN. LB.



Tighten VB bolts to 95 IN. LB.  
Tighten hold down bolts and plates to 70-80 IN. LB.



1.462" length cover bolts



Cover

**Trans ID**

**RE4FO4B** has a black case connector and has wires 7" long from VB as shown.  
**RE4FO4A** has a tan plastic case connector and has wires that are 21" long from VB.  
This Kit fits **RE4FO4B** trans.

Cover

Starter bolt