Honda 6 Speed Rebuilding Tips

The Honda/Acura 6 Speed: How to disassemble and assemble quickly and efficiently

Presented by:
Bill Brayton
ATRA Senior Research Technician

© 2015 ATRA All Rights Reserved

Any Questions Or Comments Please Contact Lance Wiggins At ATRA

lwiggins@atra.com

© 2015 ATRA All Rights Reserved

6-speed applications

- 2011 – current
  Honda Odyssey

- 2013 – current
  Honda Accord

© 2015 ATRA All Rights Reserved

6-speed applications
Acura

- 2011 to 2015 TL/TLX
- 2011 and 2015 RL/RLX
- 2013 to current RDX
- 2010 - 13 ZDX
- 2010 to current MDX
- 2014 to current RLX






© 2015 ATRA All Rights Reserved

Honda 6 Speed Rebuild Tips

Remove The four end covers and the two shaft nuts. Note: The twelve point nut is left handed threads.
The washers have an "X" stamped on the top of the washer. The washers have a small press fit and will need to be pried off the shafts.

34mm 12 point left handed thread nut
"Righty Loosy, Lefty Tighty"

42mm 6 point right handed thread
"Righty Tighty, Lefty Loosy"

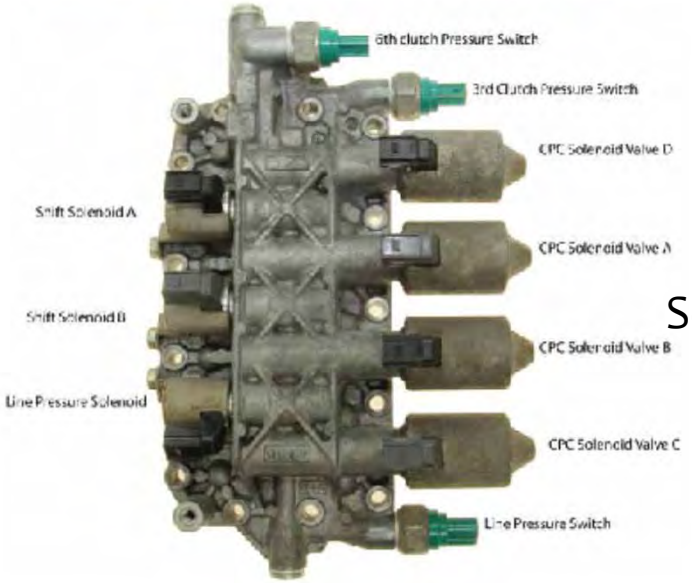
2014 ATRA. All Rights Reserved. Printed in U.S.A.

© 2015 ATRA All Rights Reserved

Honda 6 Speed Rebuild Tips

Remove the MLP sensor, filler tube, speed sensors (2), cooler lines, trans temp sensor. If your not sure about locations or don't have a book. Take a picture! Remove the thirteen 10mm bolts and remove the solenoid body.

ON/Off solenoids

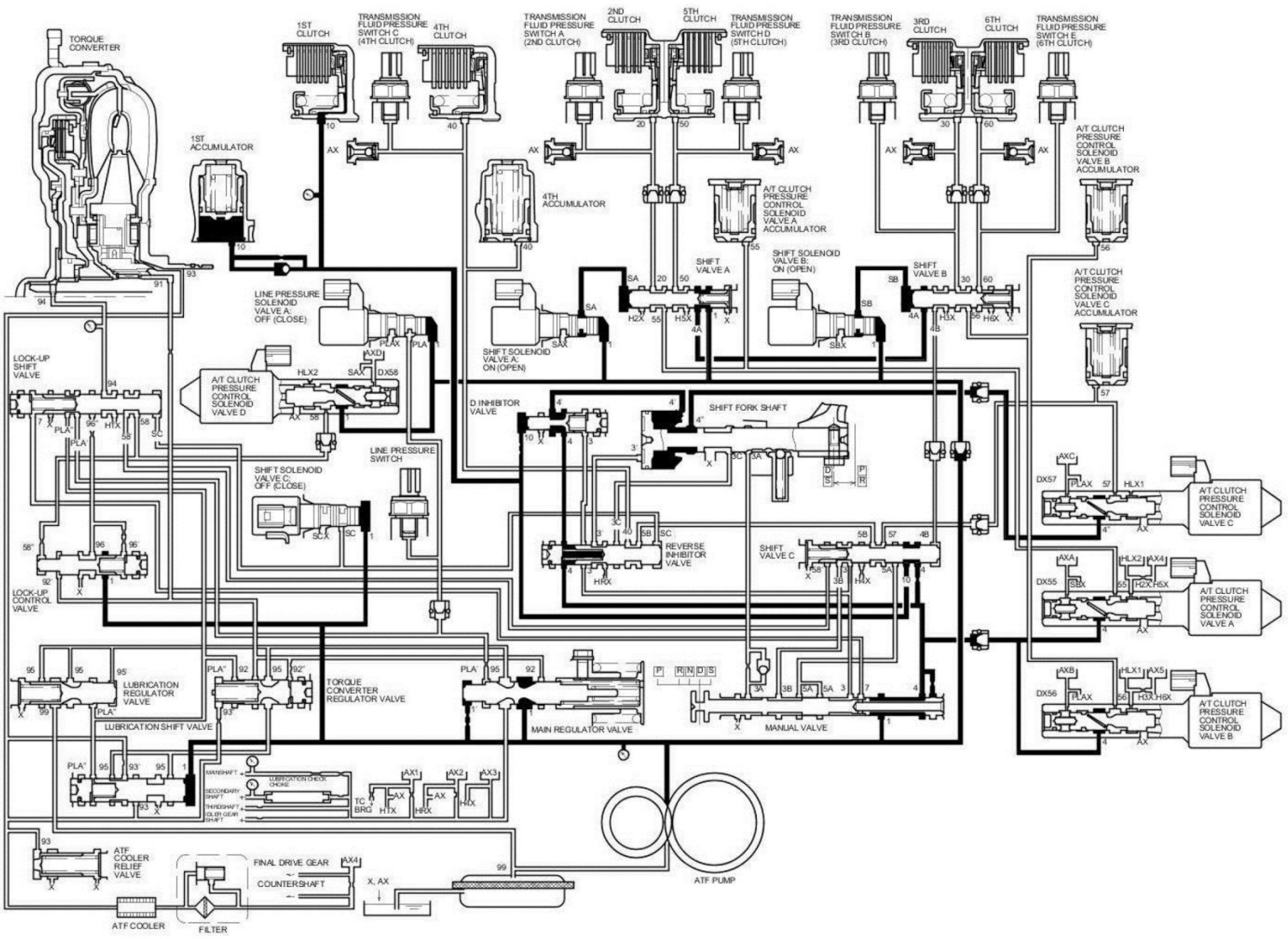


PWM Solenoids

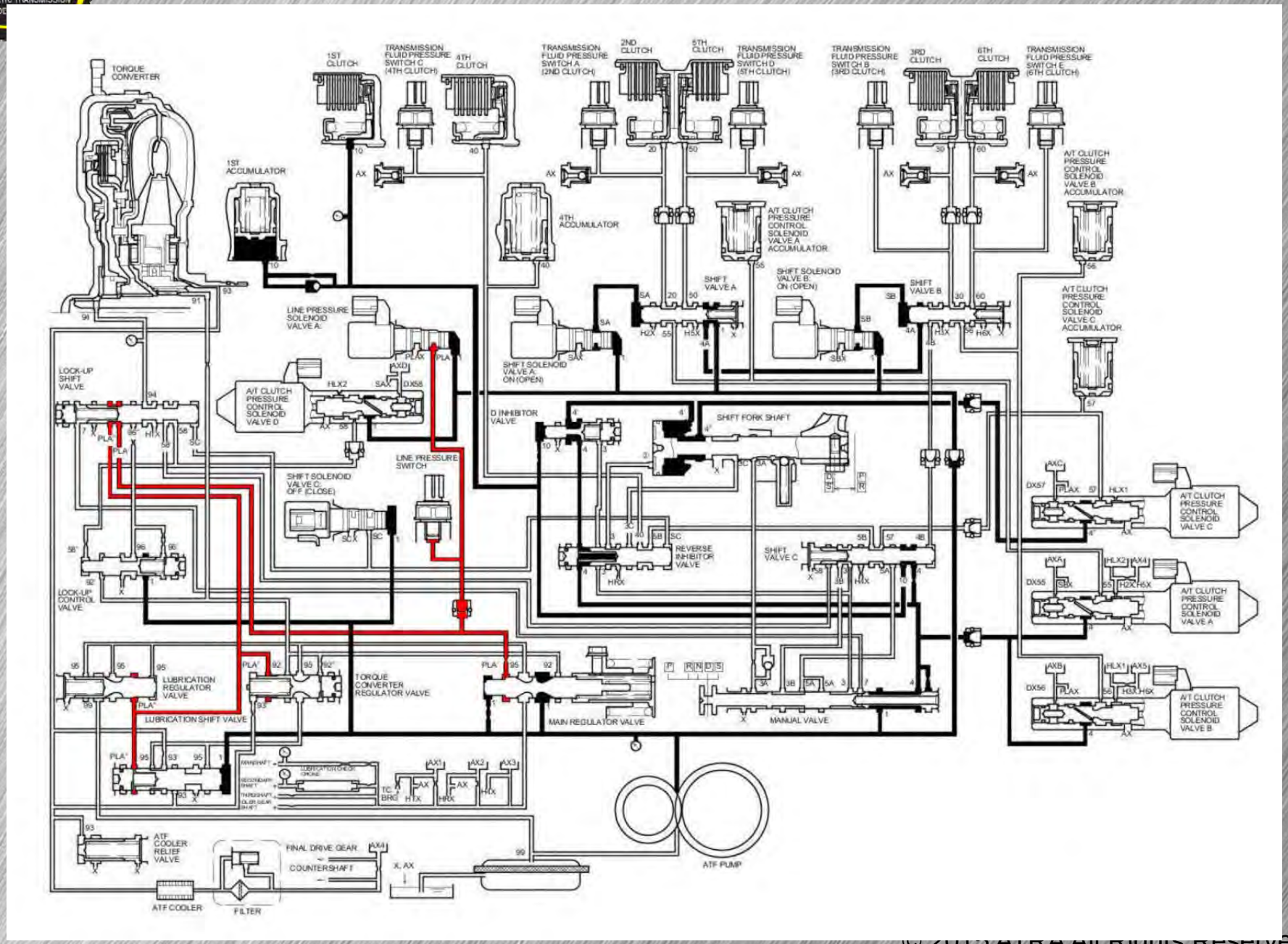
2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Line Pressure Solenoid "Off"



Line Pressure Solenoid “On”



© 2015 ATRA All Rights Reserved

Honda 6 Speed Rebuild Tips

It may take a bit of a careful pry to get the solenoid body separated from the case. There are 11 feed pipes with O-rings between the solenoid body and the inner valve body.

All the tubes have filters in the end that goes into the Solenoid body. All need to be cleaned and inspected for debris

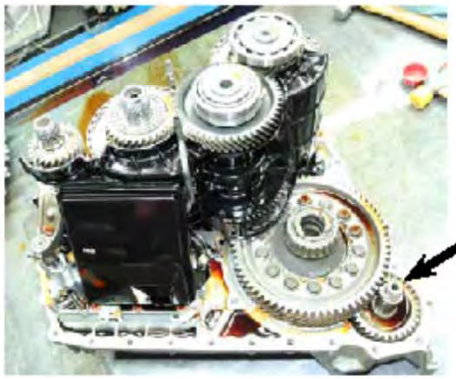
Remove the main case to bellhousing bolts. Sixteen 12mm bolts and fourteen 14mm bolts.

2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Honda 6 Speed Rebuild Tips

Spread the snap ring and separate the main case from the bellhousing.



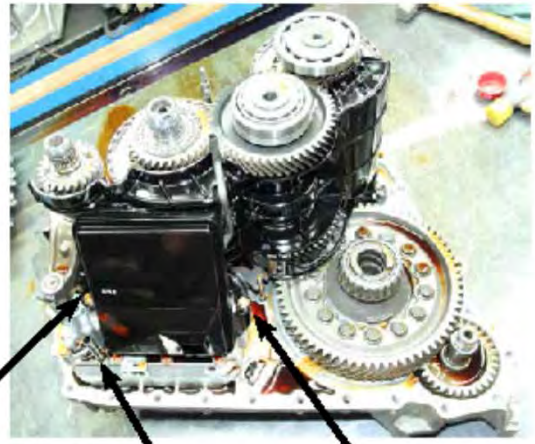
Be very careful with this spacer. It may stick to the case and fall on the floor and the tech would never know it was there.

2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Honda 6 Speed Rebuild Tips

Remove and discard the filter and remove the feed pipe.



Filter Bolt
Best to use a deep
1/4 inch drive
10mm socket here

Feed Pipe

Filter Bolt

To get the lube dam out of the way the reverse gear, selector lever and slider must be removed.

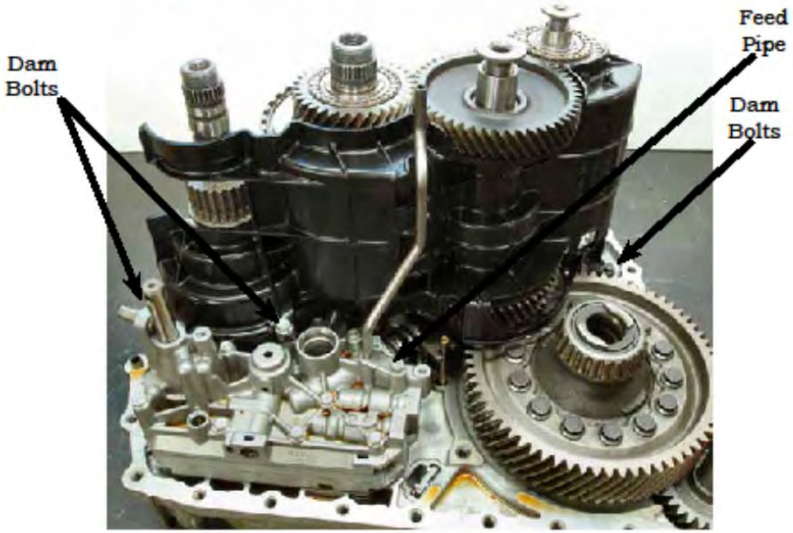
2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Honda 6 Speed Rebuild Tips

Remove the retaining bolt from the fork. Remove the fork and the selector gear.
Note: The ID ring on the selector gear faces down.

Remove the lube feed pipe and 3 bolts to remove the lube dam.



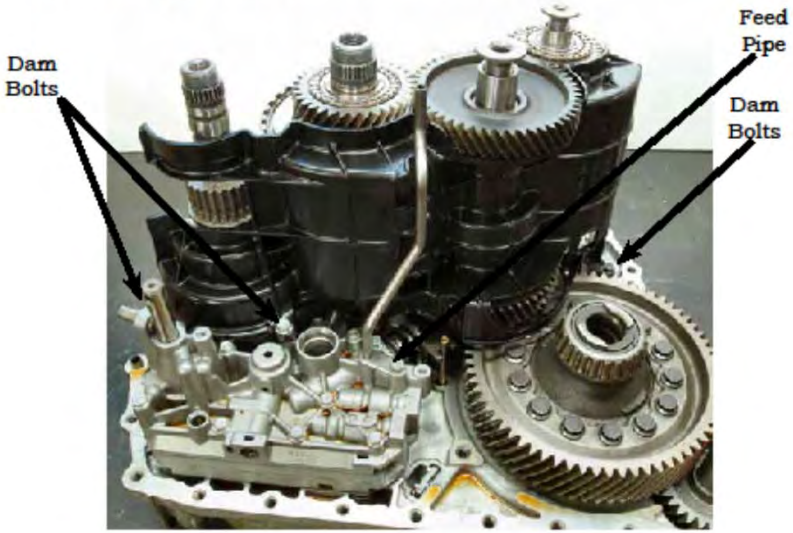
2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Honda 6 Speed Rebuild Tips

Remove the retaining bolt from the fork. Remove the fork and the selector gear.
Note: The ID ring on the selector gear faces down.

Remove the lube feed pipe and 3 bolts to remove the lube dam.



2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Honda 6 Speed Rebuild Tips

Remove the allen head bolts that keep the bearings on the Secondary and Counter Shafts. The larger allen head bolt is 12mm and has left handed threads. The smaller allen is 8mm and has right handed threads

The counter shaft bolt has an arrow showing that the bolt has left handed threads

Remove the secondary shaft bearing.

2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Honda 6 Speed Rebuild Tips

Remove the allen head bolts that keep the bearings on the Secondary and Counter Shafts. The larger allen head bolt is 12mm and has left handed threads. The smaller allen is 8mm and has right handed threads

The counter shaft bolt has an arrow showing that the bolt has left handed threads

Remove the secondary shaft bearing.

2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Honda 6 Speed Rebuild Tips

Use a proper puller to remove the counter shaft bearing. DO NOT pull on the gear to get the bearing off. This can chip the teeth of the gear.

Wrong Way

Right way

The lower race will stay on the counter shaft. Use a proper puller to remove the race from the counter shaft.

2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Honda 6 Speed Rebuild Tips

Remove the third shaft.

Remove the 2nd & 5th drum from the secondary shaft.

2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Honda 6 Speed Rebuild Tips

Remove the feed pipes.

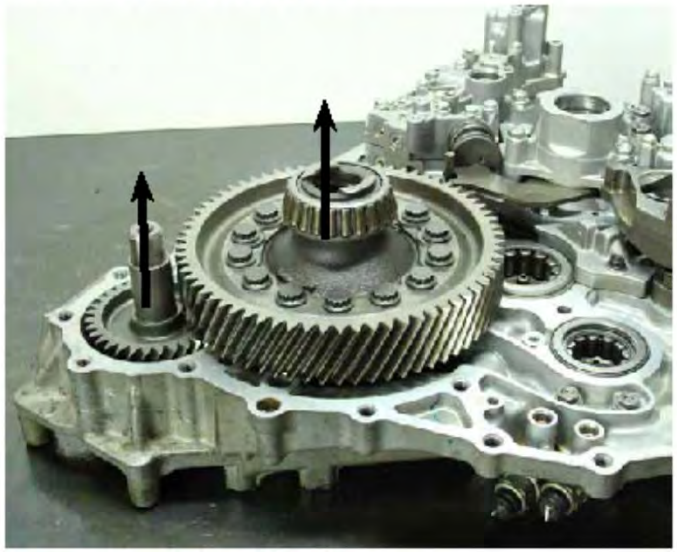
Remove the idler gear.

2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Honda 6 Speed Rebuild Tips

Remove the differential and the transfer shaft.



Always replace the O-rings on the sleeve in the third shaft.

2014 ATRA. All Rights Reserved. Printed in U.S.A.

ATRA All Rights Reserved

Honda 6 Speed Rebuild Tips

Remove the spacer washer and sleeve from the counter shaft. This step makes pulling the shaft up easier.

Remove the counter shaft and the secondary shaft.

2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Honda 6 Speed Rebuild Tips

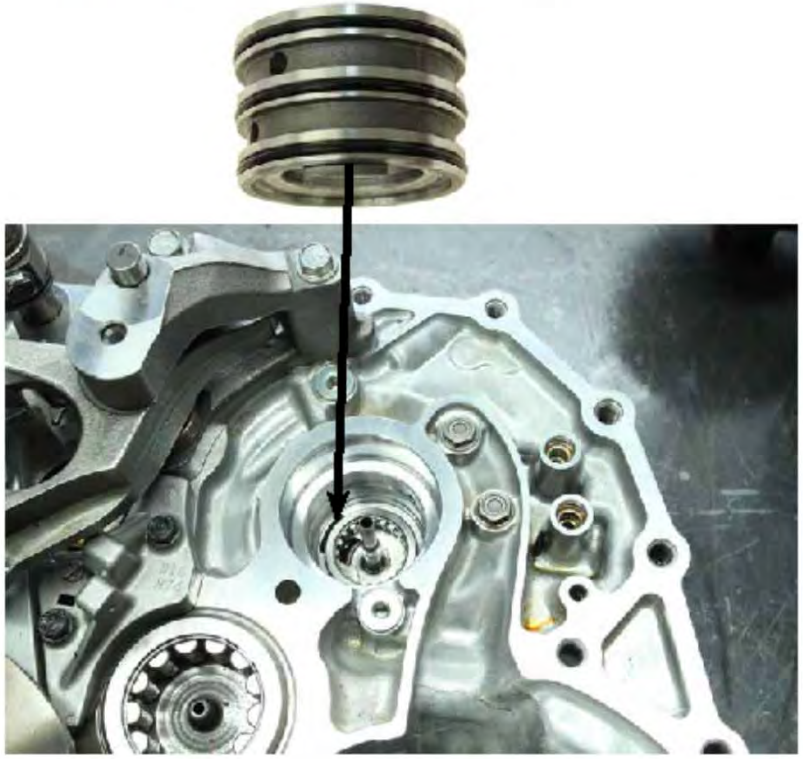
It is extremely important to have a stout puller set up to get this bearing out of the case. Its a very tight fit!
The collar under sleeve that has three O-rings that need to be changed on every build.
If the O-rings are not changed it can lead to a slips on take off complaint. This collar feeds the first clutch.
This puller is a Toyota factory tool for removing oil seals. OTC#09308-10010.

2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Honda 6 Speed Rebuild Tips

It is important to line the collar up correctly for installation. The tab on the collar goes into the slot in the case



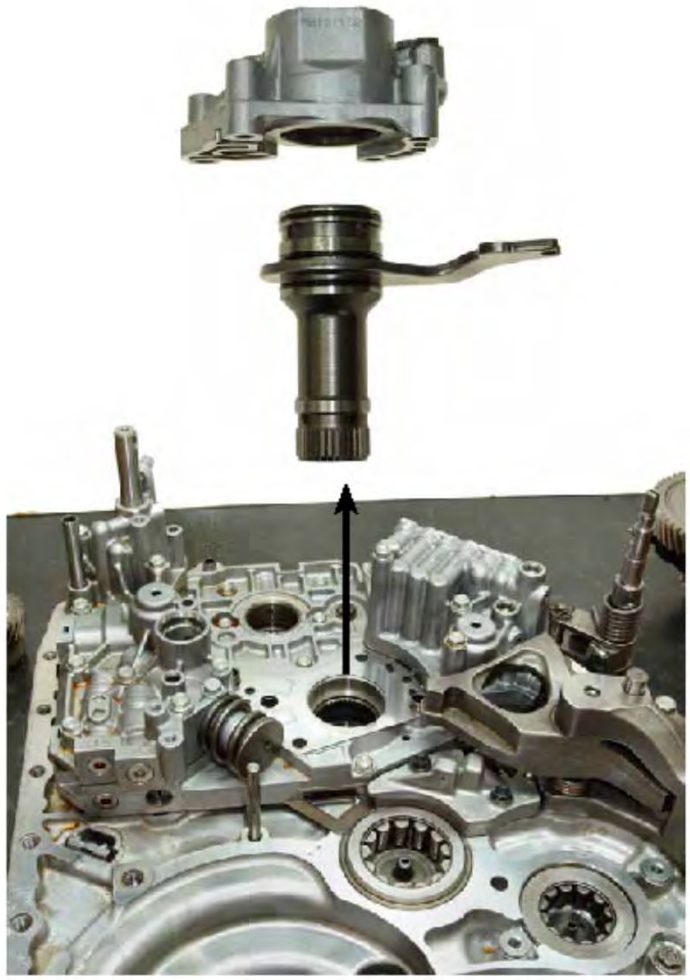
CAUTION!
It is easy to damage the sleeve when removing it from the case. Don't worry, they're cheap. Honda part# 23236-RT4-010. Last check on line 22 dollars and change

2014 ATRA. All Rights Reserved. Printed in U.S.A.

RA All Rights Reserved

Honda 6 Speed Rebuild Tips

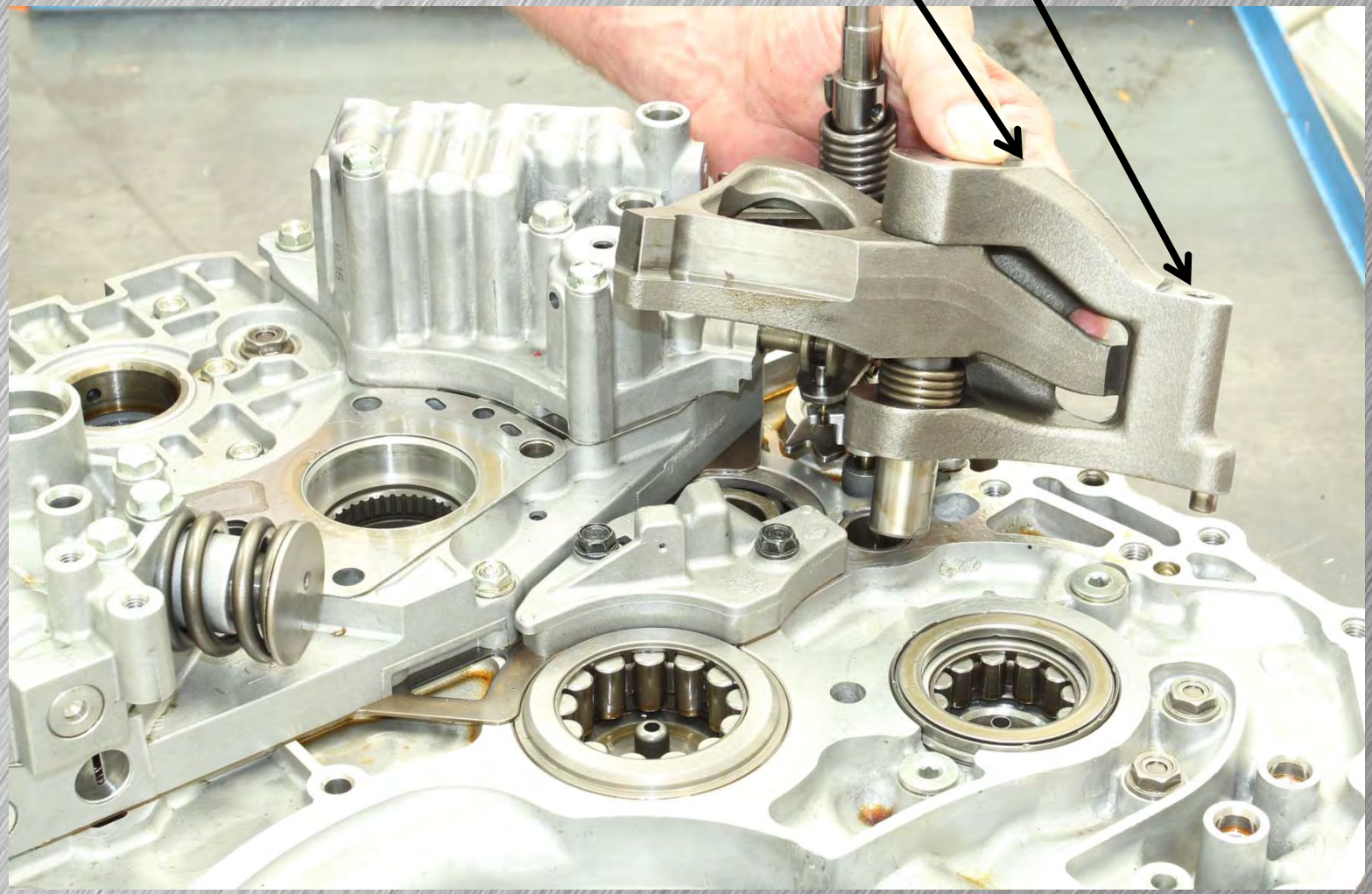
The sleeve where the input shaft sealing rings ride is now a separate piece. This also support the stator tube that now has two O-rings instead of one as in years past.



2014 ATRA. All Rights Reserved. Printed in U.S.A.

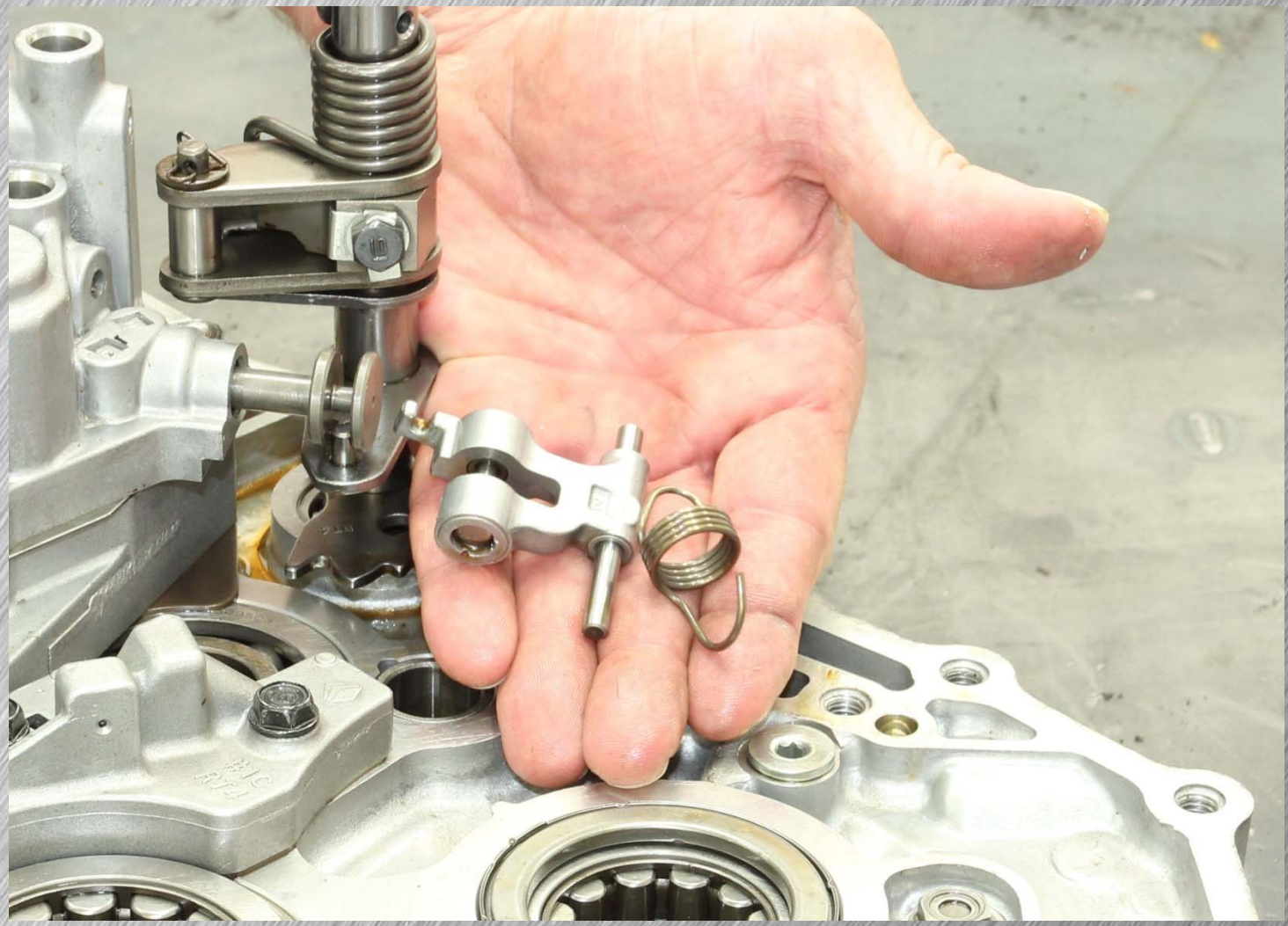
RA All Rights Reserved

Remove (2) two 12 mm bolts to remove the park pawl assembly.



© 2015 ATRA All Rights Reserved

Use a hooked scribe to remove the detent spring from the detent arm and
Remove the detent arm and pivot post.



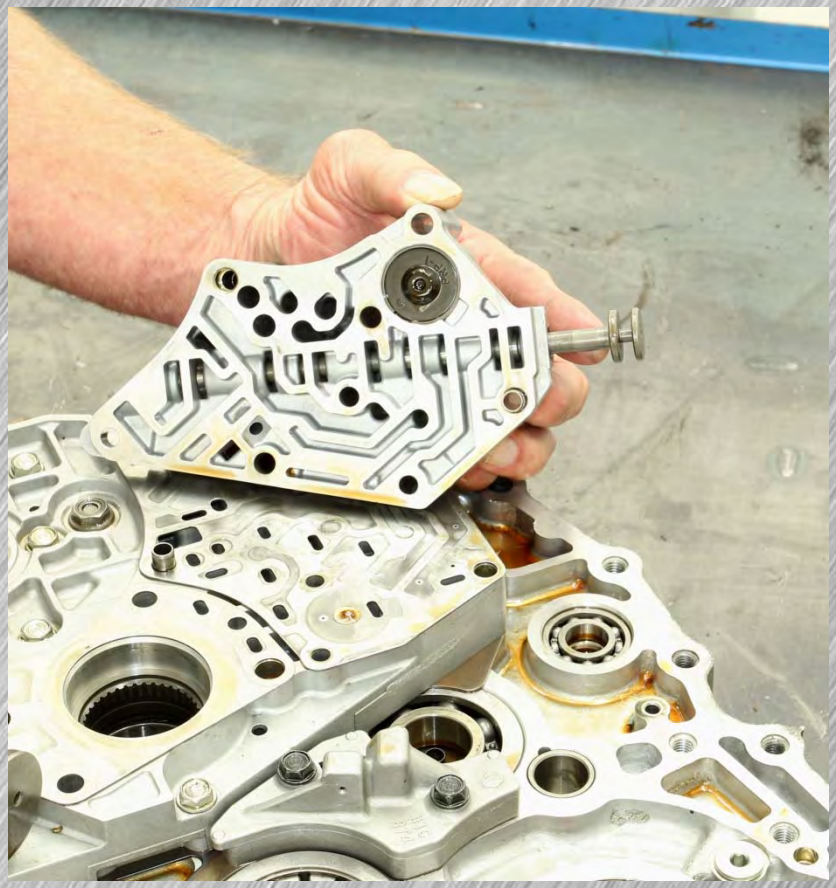
© 2015 ATRA All Rights Reserved

Twist the manual lever counter clockwise to disengage it from the manual valve.

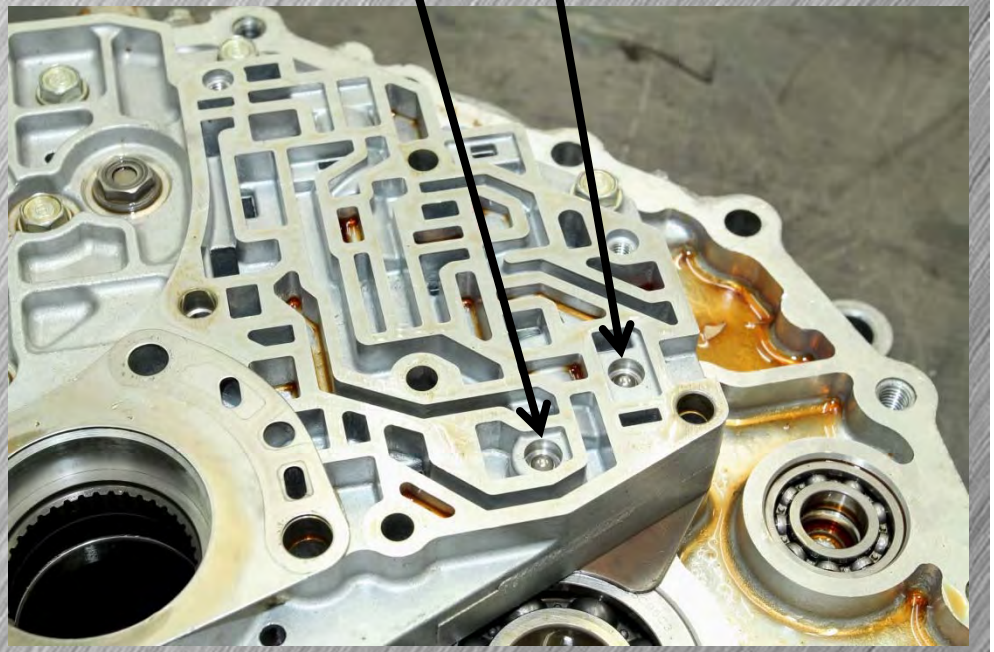
It is not necessary to disassemble the manual lever unless there are broken parts

© 2015 ATRA All Rights Reserved

Remove the manual lever body and separator plate

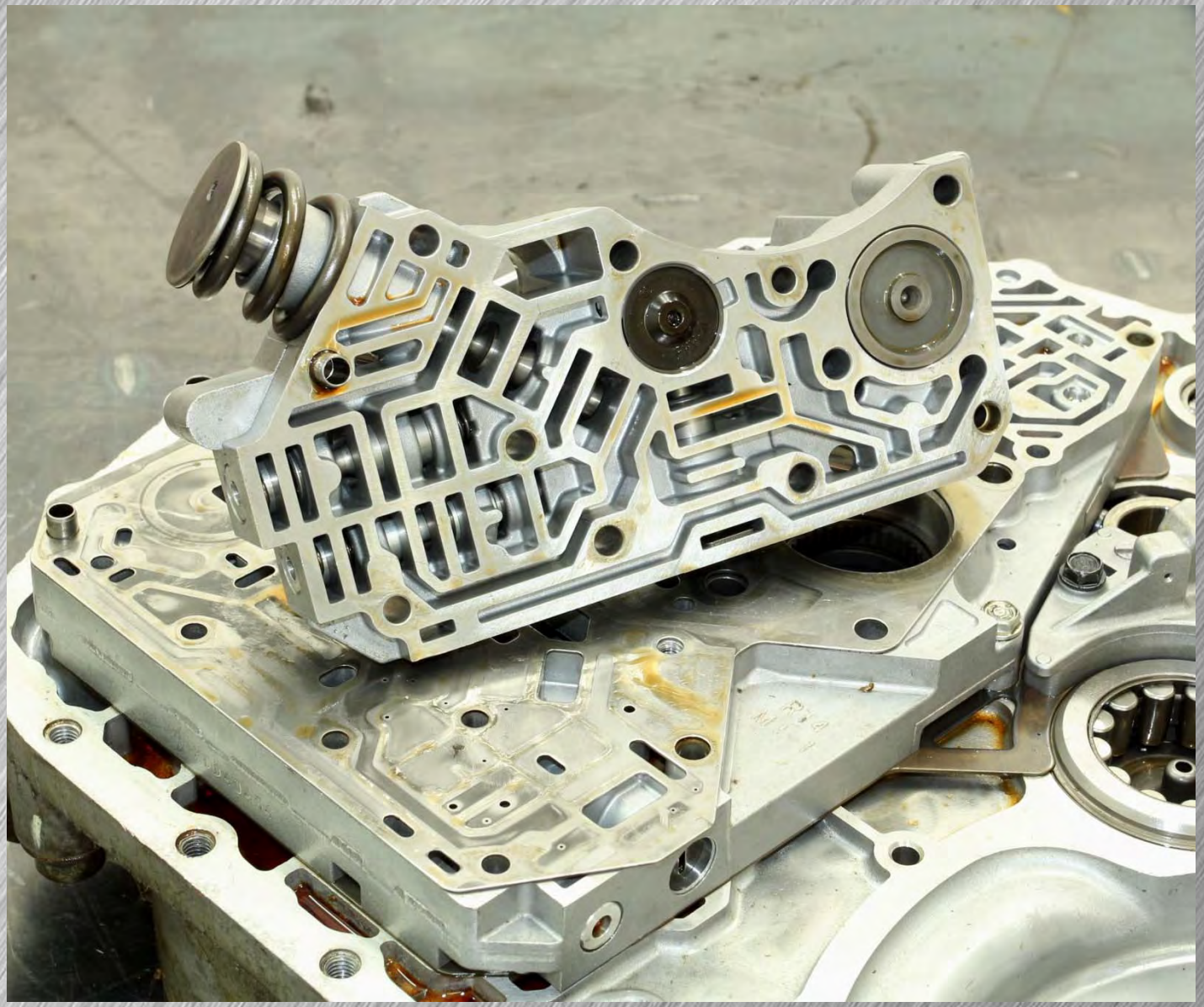


Remove the (2) two check balls



© 2015 ATRA All Rights Reserved

Remove the pressure regulator body and then finally the main control valvebody.



© 2015 ATRA All Rights Reserved

Here is a link to the complete video presentation of disassembling the Honda/Acura 6 Speed transmission

https://vimeo.com/111879078

© 2015 ATRA All Rights Reserved

Thank You for Attending Today's Presentation!

© 2015 ATRA All Rights Reserved