

# How-To/DIY: TRANSMISSION

A Guide to Working on A Honda B-Series Transmission

By Randolph Do of The How-To/DIY Honda Integra Blog @

http://www.howtodiyintegra.com



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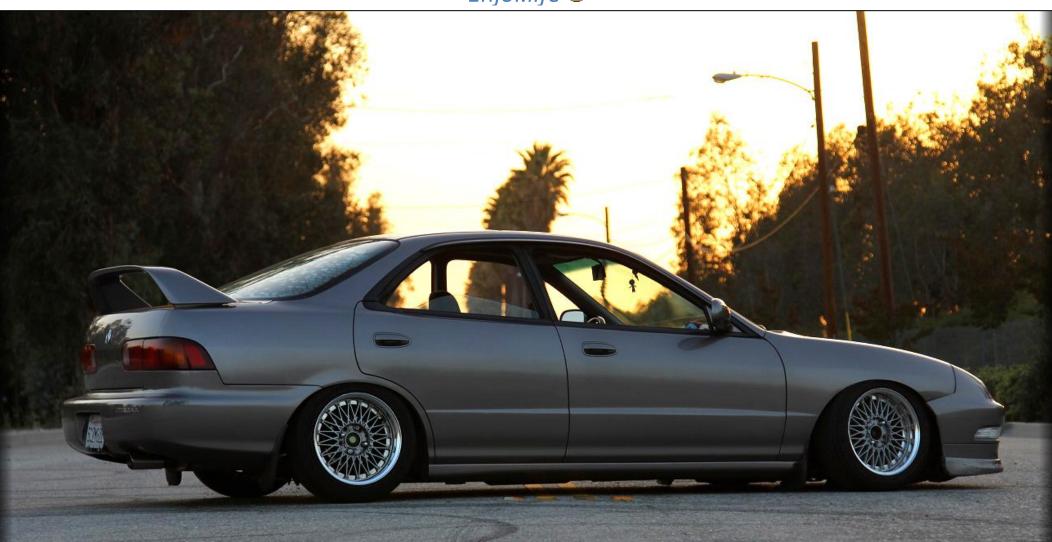
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## **A Preface**

These eBooks are dedicated and made possible to my old 1996 Acura Integra LS sedan. We went through a lot, numerous of ups and downs, but you made me a better mechanic and helped me grow as a person, only strengthening my character and helping me find myself. I can only hope whoever owns you now is taking care of you. Your spirit lives on through these publications in eBooks and How-To/DIY tutorials on the website.

All the information presented in these eBooks were recorded these past several years & finally now being publicly published to help others. In due time, I will provide more thorough, easy-to-follow tutorials & eBooks. As of now, I hope you, the reader, learn something new & strive on diligently! Most the information illustrated and presented are of me simply following step-by-step instructions from my service maintenance manual. Some information is simply by my creativity and strive to achieve a modification. I have a lot more unpublished rich-information content so these eBooks will be updated later on with more detailed How-To/DIY tutorials. As of now, I hope you learn and enjoy the read throughout this and the other eBooks.

#### Enjoi.life 😊



### **About the Author**

I hope you, as the unique visitor, enjoy the tutorials, my photography and learn something new. I hope you revisit this site for more thorough tutorials, detailed images & different topics from different generation Integra models to the Honda CBR600RR motorcycle. Yep! I'm a rider too! 
My website and eBook publications gives me the opportunity to be a teacher and share my knowledge & passions through photography. It also gives me the opportunity to monetize my content through publication of eBooks & affiliate marketing. Giving me the chance to become a writer entrepreneur and a teacher in my own way.

I am by no means a professional mechanic nor professional writer. I am simply following my passions because I know the rest will follow. So if you are wondering how I am able to provide these tutorials, just know I have always had a mindset of exploration and how things work. As a young lad, I played games a lot and always wondered how they work. My first How-To/DIY type project was opening up a console gaming controller and seeing all its circuitry and then putting it all back together. From there, I learned to build a computer on my own through the information provided online. After becoming bored with computers and gaming, I moved onto cars and fell in love with the Honda Integra Type R and the rest is history, shown through numerous of photo shoots, the How-To/DIY tutorials on my website and exclusive information only provided in these eBooks.

This eBook will be the first of many so stay tuned to @ <a href="http://www.howtodiyintegra.com">http://www.howtodiyintegra.com</a> for an upcoming Kawasaki Ninja EX500, Honda CBR600RR and other Integra generation eBooks in the future! Because my joys in life are applicable in a way where I can transform them to monetizing resources for myself, I intend to share my experiences with a library of eBooks which I hope becomes valuable resources of information to all readers.

I hope you the reader will keep this collection of eBooks and use them as a reference anytime you need help or images to help finish whatever project you plan to work on. As a provider in information, I hope you understand the content and information provided. I advise to have patience, go steady in work and careful at all times whenever doing any work. I want to stress safety as much as possible now and throughout the eBooks because I only hope success for you and continuance of living an awesome life! It is always crucial to have proper safety measures so please, take a promise now to ensure safety for yourself, your vehicle and others/things around.

So if you are reading this, thank you. I am truly honored and blessed to be a helpful hand in any way or form possible. Because in the end, I am simply trying my best to help others and am living by a personal philosophy & universal law: the Will to Do Good.

Thank you and I hope you have great present-time moments fulfilled with happiness, always.



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#### **Remove Honda B-Series Transmission**

So I have been hearing a weird and loud whining noise coming from my transmission and from research, it sounded like either the Input Shaft Bearing or Throw-out Release Bearing were slowly becoming faulty. Normally an easy indication of a faulty Throw-out Release Bearing would to depress the clutch pedal back and forth to see if the noise would continue or not. It would happen sometimes on my transmission but at times, the noise would occur even without touching the clutch pedal. It was a very random whining, loud noise that did not affect the transmission functioning properly at all but I did not want to risk any catastrophe later so I decided to just replace both bearings as it requires the transmission removal anyways.

After I finished replacing both bearings, I later learned it was my

cooling fan motor making a loud noise.

It seems like a lot of wasted time on my end but I do not mind. It was an overall good learning experience that made me grow as a mechanic and also a teacher since I get to share this How-To/DIY guide with you, the reader! So I hope you get to enjoy these Transmission-related How-To/DIY guides, learn something new and grow much more than the person you were yesterday!

Well let's begin! 😊

Before starting, read these helpful tips first:

- I suggest jacking up the car, remove the wheels and its center caps, place the wheel back on and hand tighten the wheels on, jack back down so all the weight is back on the floor. This gives you the leverage needed to remove the axle nuts.
- Since I did not use any air tools, I recommend using a long breaker bar to leverage torque when removing the axle nuts.
- Do not force yourself to loosen the spindle castle nut because it is not worth the possible injury or stripping of the nut. Get a longer, sturdier breaker bar.
- After the axle nuts are loosen, leave it on and proceed to jack the car up and have it properly supported by jack stands and proceed on to the next steps.
- It is also a good idea to place your wheels under the car just for added safety.
- I did this all alone and am pretty small guy so use every tool you can to your advantage. In this case, having an extra jack is handy because it provides an "extra hand" when carrying the weight of the transmission away from the motor and gives control to where you need to move the transmission.

A Good Thought: Better to be safe than sorry.

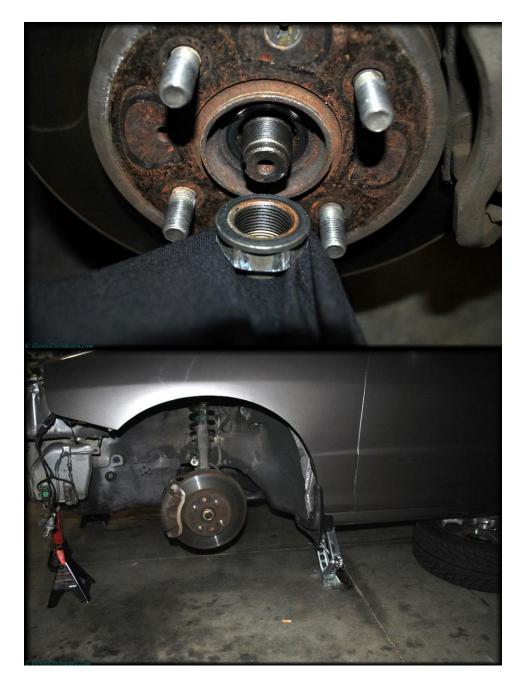
**Remember: SAFETY FIRST!** 

#### Step 1:

Disconnect the battery cables. Remove the center caps off wheels. Loosen the 32mm spindle/axle nuts with a 1 1/4" socket on both sides with a 1/2" ratchet with a long breaker bar.







In the above image, that breaker bar was only for image-purposes. The actual break bar I used was the one from my hydraulic jack which is detachable. I *highly recommend* using that as the breaker bar because of its durability & leverage.

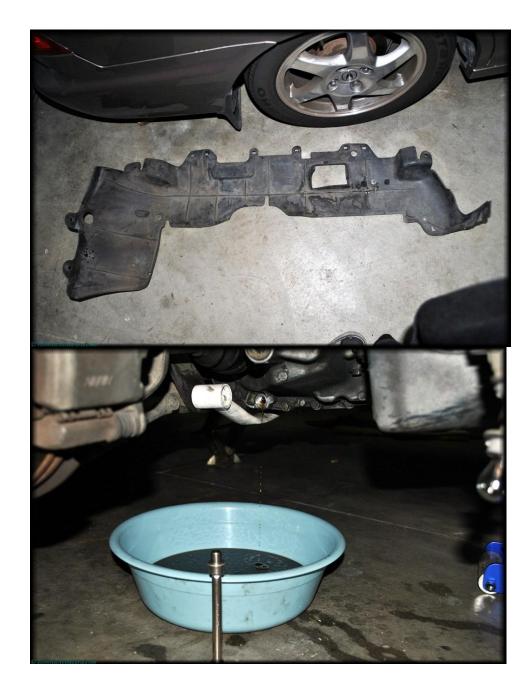
Now that this difficult part is over, you can now jack the car up, remove the wheels and properly have the front of the car supported with jack stands, scissors jacks & wheels underneath the car. Never a bad thing to be too safe when working alone under tons of weight that can injury or even kill you.



Step 2:

Remove the splash-guard. Drain the transmission fluid by removing the drain plug with a 3/8" ratchet.





#### Step 3:

Remove the intake arm & box. On the stock intake system, there should be two clamps holding the intake arm & four bolts holding the intake box. If you have an intake like my AEM Short Intake System, then loosen the clamps and remove altogether.





#### Step 4:

Disconnect the grounds and starter motor cables off the transmission. Remove the starter held by two 14mm bolts.



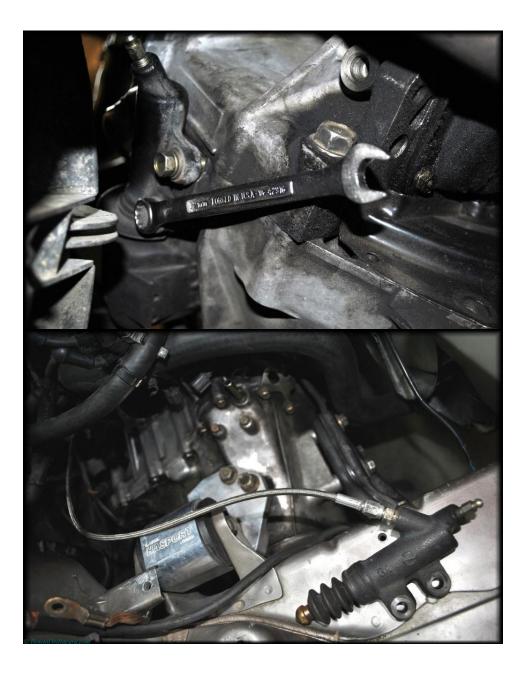
#### Step 5:

Disconnect the vehicle speed sensor (VSS) connector and the back-up light switch connector.



#### Step 6:

Uninstall the slave cylinder held by two 12mm bolts and place the slave cylinder to the side. I had a stainless steel braided clutch line which allowed for free movement. If you have a stock clutch line, then it is likely a hard-lined with a rubber hose and brackets. Simply remove the 10mm bolts and set aside.



#### Step 7:

Uninstall the exhaust pipe A/catalytic converter or header. This applies to those with an engine stiffener or need the extra space to work on the car. I didn't remove it on mines as I could maneuver around the bolts I needed to remove so no images here.

#### Step 8:

Uninstall the damper forks held by a 17mm bolt/nut on the bottom & a 14mm bolt on the top behind it. On the bottom, remove the cotter pin with pliers and remove the 17mm castle nut. Separate the ball joints loose to allow for free play of the knuckle.

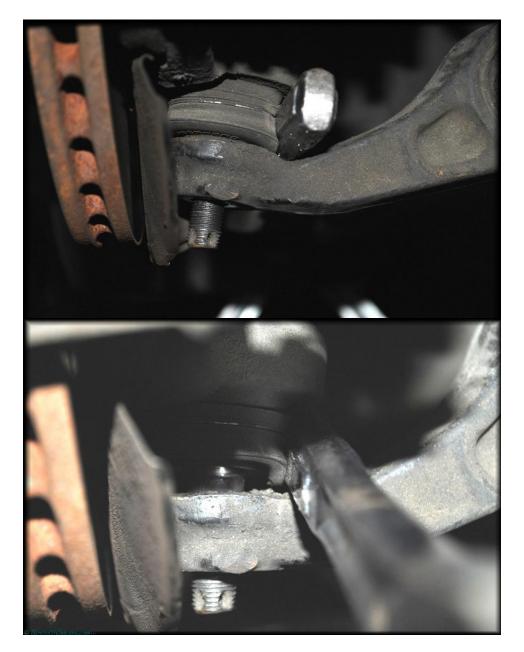




#### **Helpful Tip to separate the ball joints:**

Use a jack to lift the knuckle high enough to place a 1/2" ratchet between the lower control arm & the lower part of the knuckle. Lower the jack, ensuring the ratchet is squared & stuck in place. With the ratchet in place, smack the ratchet downward with a hammer. This will require a few tries due to the grease being seized. Be patient, ensure the ratchet has a good hold to avoid any rips to the ball joint boots. The images below will illustrate the separation of ball joints.





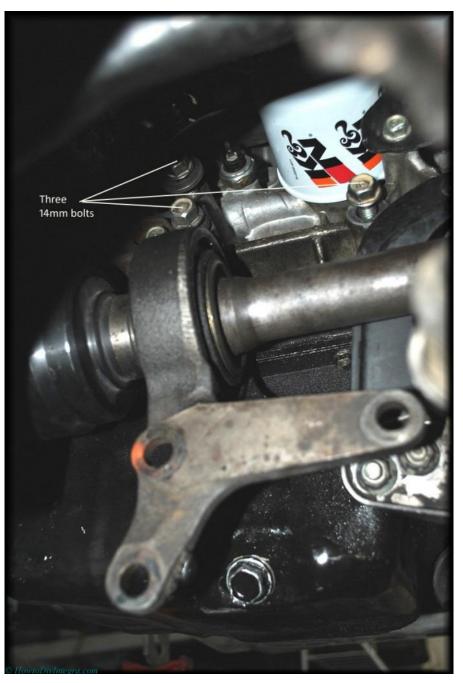


This trick basically allows a 1/2" ratchet's handle to rest in between both metal suspension components and separate the two without damaging the rubber ball joints. An alternative is to use a pickle fork which may tear at the grease ball joints if done improperly. If you have access to a ball joint separator, then I *recommend* using it as this is the proper method for ball joint separation.

#### Step 9:

Remove the 32mm axle castle nuts. Move the knuckle out of the lower control arm and outward to have the axle slide out. Remove the three upper 14mm bolts to remove the driver side intermediate shaft, located near the oil filter. Loosen the set rings with a flat-head and jiggle the axle shafts out the transmission housing; this will require a few attempts but be patient & pull outward.





Be careful not to pull to hard as it can dislodge the axle's inner joints. Remove the axles and place plastic bags over the drive-shaft ends to avoid contaminants.





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