



## 88-91 Honda Prelude B-series Swap Brackets



### Installation Notes

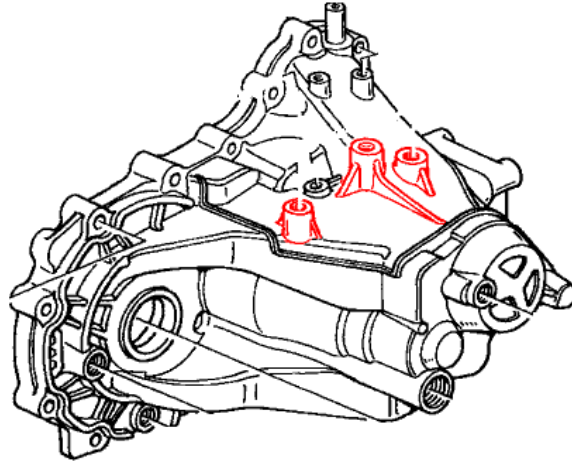
(v7)

So what exactly did you get? These are a little different than most aftermarket swap mounts as it is more accurate to call them mount brackets or swap brackets. These brackets bolt onto regular B-series motors and the brackets mate up to the stock 3G Prelude **manual transmission** engine mounts.

## These mount brackets work with the following B-series stuff:

Any VTEC or non-VTEC block/head combo. B20b, B20z, B16, B17, B18a, B18b, B18c, etc.  
94-01 Integra or 99-00 Civic SI hydraulic transmissions only. No cable transmissions or AWD transmissions from the AWD Integra or CRV.

The top of the transmission needs to have a bolt pattern that looks like this, or the mount won't fit:



## Besides the engine/transmission what other stuff do you need?

### Axles:

Use the 94-01 Integra or 97-01 CR-V intermediate shaft.

**88-89 Prelude (Small hubs):** Use 94-01 Integra LS, RS, GSR axles (Tested and working)

**90-91 Prelude (Large hubs):** Use 98-01 JDM Integra Type-R axles (They must be from the JDM Type-R, because the USDM Type-R uses the smaller 88-89 style splines. Alternatively you can get regular Integra axles and just swap the outer CV joint from your 90-91 Prelude axles onto the Integra axles.)

**90-91 Additional:** The following axles \*should\* fit according to listed lengths, but are not yet tested:

**Right:** 90-93 Accord, 97-01 Prelude Type-SH\*

**Left:** 97-01 Prelude\*, 02-06 RSX Type-S\* (NOTE: You need the RIGHT RSX Type-S axle to fit the LEFT side on the Prelude, it must have a female inner CV.)

\*Requires trimming or removing inner hub dust shield

### Shifter & Linkage:

Prelude Engineering LLC sells new lengthened 94-01 Integra shifter rods.

[prelude-engineering.com/b-series-swap-shifter-rods/](http://prelude-engineering.com/b-series-swap-shifter-rods/)

The swap brackets come with a shifter rod adapter plate (finish may vary). This allows you to bolt the shifter rods to the chassis without drilling holes:



Please see the shifter rod install instructions for more info:  
[Prelude Engineering LLC B-Series Shifter Rods Instructions.pdf](#)

**Clutch Slave Cylinder:**

Buy one for a 94-01 Integra or 99-00 Civic SI

**Wiring Harness:**

We recommend buying a B series harness from Rywire.

**Radiator Hoses:**

For the upper hose you need this one: **Gates 21229**

Alternatively, you can build an upper hose out of generic silicone pieces:

Order the following part numbers from [Pegasus Auto Racing Supplies](#):

**E135.32-BLACK** (135 ° bend)

**E45.32-BLACK** (45 ° bend)

**HJ32** (1 ¼" coupler)

You can replace "BLACK" with "RED" or "BLUE" if you want different colors.

Lower hose: Use one from a 98-01 CRV, the stock Prelude hose will probably work as well.

**Power Steering Pressure Hose:**

We can make you a hybrid power steering pressure hose for this swap. You will need to provide your stock 3G Prelude pressure line plus the pressure line that matches the P/S pump you are using with your swap. With those we will splice each side together to create a hybrid pressure line.

[prelude-engineering.com/engine-swap-hybrid-power-steering-line-service/](http://prelude-engineering.com/engine-swap-hybrid-power-steering-line-service/)

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## Basic Installation Procedure:

**NOTE:** These instructions are not meant to be a complete detailed B series engine swap guide. They will hit the major points and most minor points but not necessarily every single detail.

**NOTE #2:** These instructions currently show pictures of the raw prototype mounts. The production mounts you received will look a bit different but fit onto the engine/chassis exactly the same.

Starting with an empty engine bay install your stock front and rear manual transmission B20a/B21a mounts onto the subframes. You will leave out the side mounts until the engine is in.

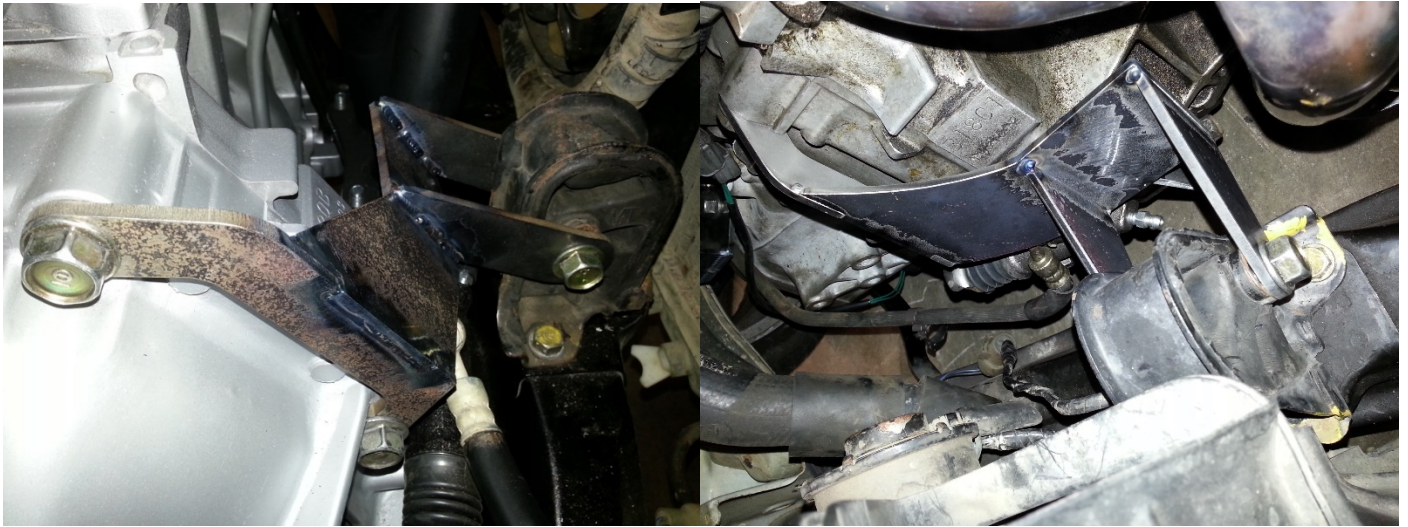
Make sure the stock shifter assembly and cables are removed from the car. Plug the hole with the provided cover(finish may vary):



Install the rear mount bracket onto the motor. It goes on just like the stock one.



Install the front mount bracket onto the motor. Because B-series motors don't use a front mount this bracket bolts onto the engine using 3 of the transmission bell housing bolts:



To install the timing side bracket start by removing the crank pulley and the lower timing cover. Next remove the factory mount bracket from the block, you should be at this point:



Install the timing bracket base onto the block with all 3 bolts:



Torque the bottom bolt and remove the 2 top bolts:



Install the lower timing cover:



Now install the mount side of the bracket using the 2 bolts you removed:



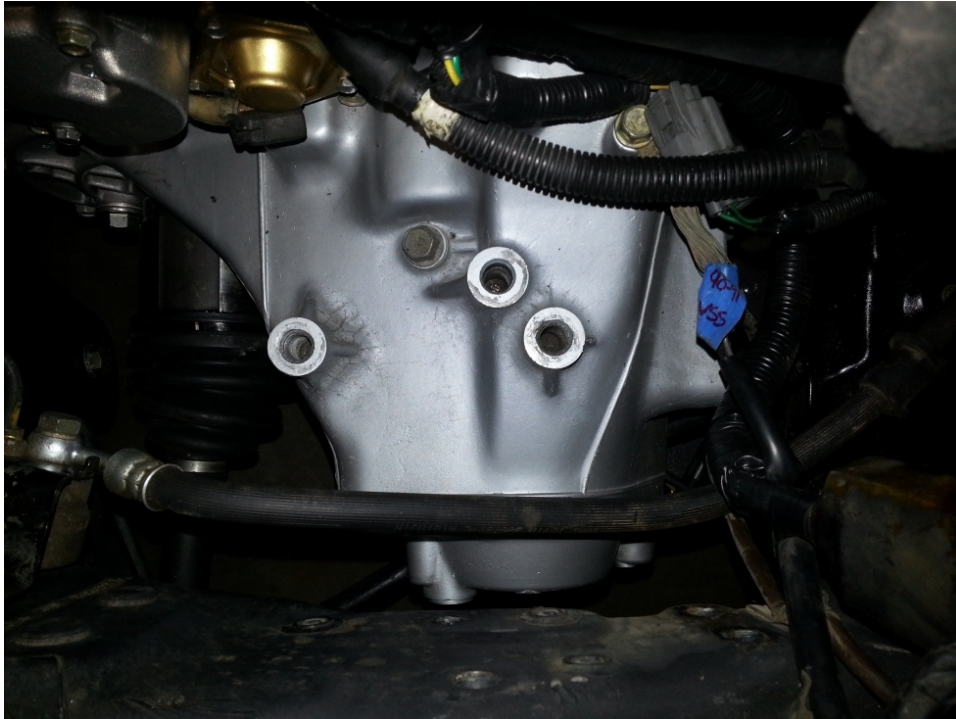
Leave the crank pulley and transmission mount bracket off until the motor is installed in the bay.

Drop the motor into the bay aligning the front and rear mount bracket holes with the holes in the front and rear mounts. Slip the mount bolts through but don't tighten them yet.





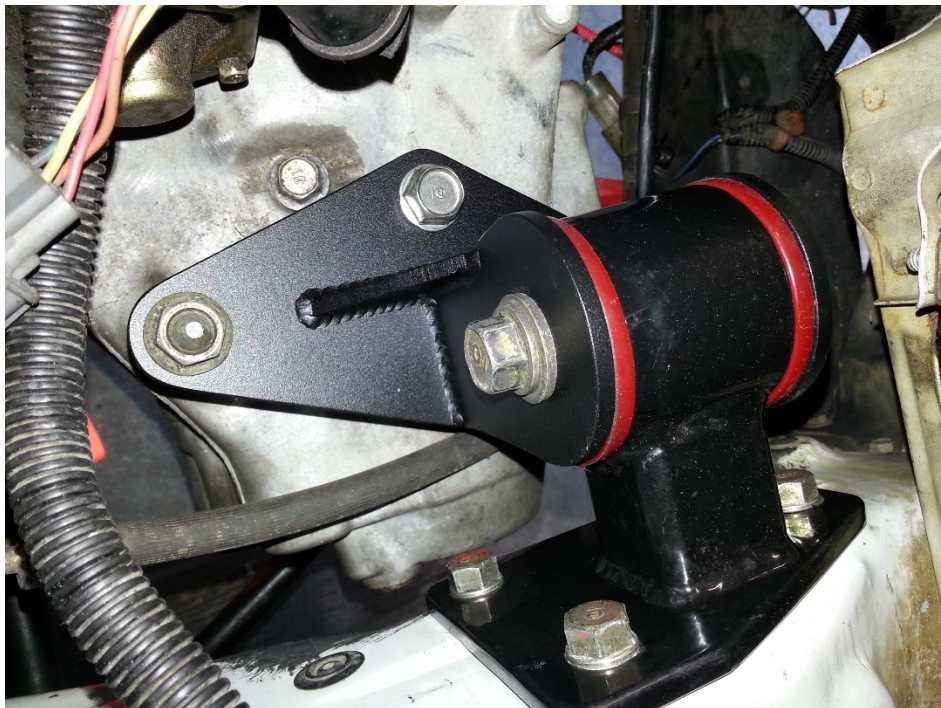
Install the transmission bracket:



You can use the factory studs and nuts to install it except for the hole that sits under the mount. For that one remove the stud and use a **M12x1.25 (25-30mm long) (Honda # 95701-12025-08)** bolt:



Install the transmission mount onto the chassis and then install the mount bolt:



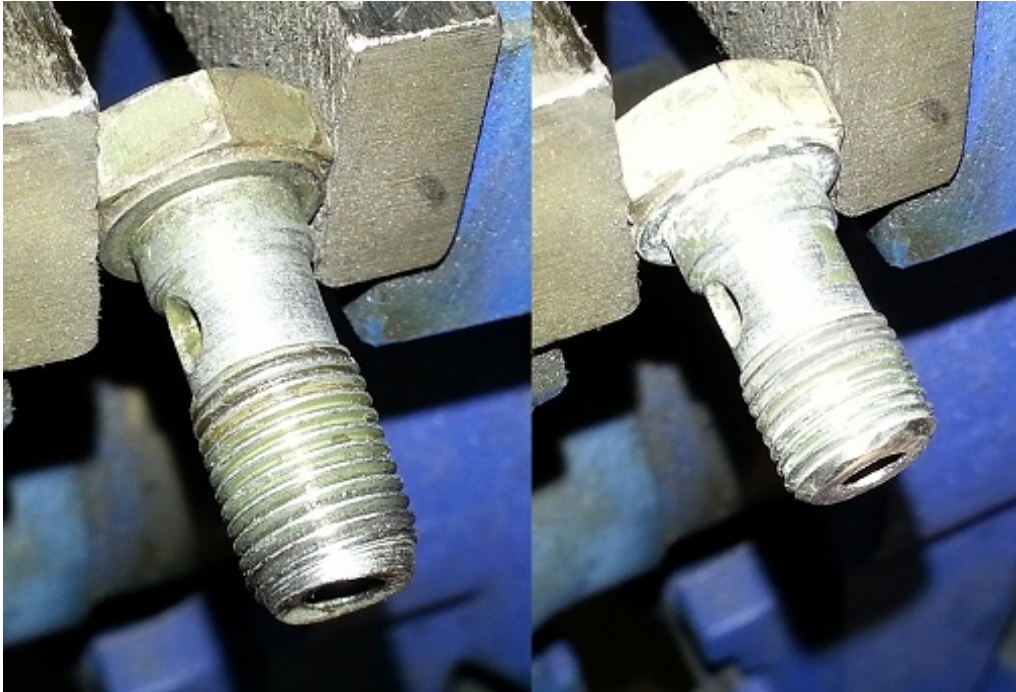
For the timing side install a B20a style mount and chassis side bracket. You can not use a B21 mount and chassis bracket:



Now tighten the front and rear mount bolts and the engine is installed.

### Clutch Hydraulics:

For the clutch hydraulic system you will use everything from the 3G setup except the clutch slave cylinder. First shorten the 3G slave cylinder bolt a few mm by cutting or filing it down (you must do this or it will bottom out in the new slave cylinder before it is fully torqued):



Now you can install the soft line onto the 94-01 Integra slave cylinder like this:



There is tight clearance between the slave cylinder and front mount bracket so you may need to install the soft line first, then bolt the slave cylinder onto the transmission.

## Power Steering:

For power steering pulley clearance you will need to remove the reservoir from it's mounting bracket, remove the bracket, and zip tie the reservoir a little further to the front and side of the car (Like it's done on H-swaps).

For the feed line combine a 98-01 CRV feed hose with the stock 3G feed hose using a coupler like this:



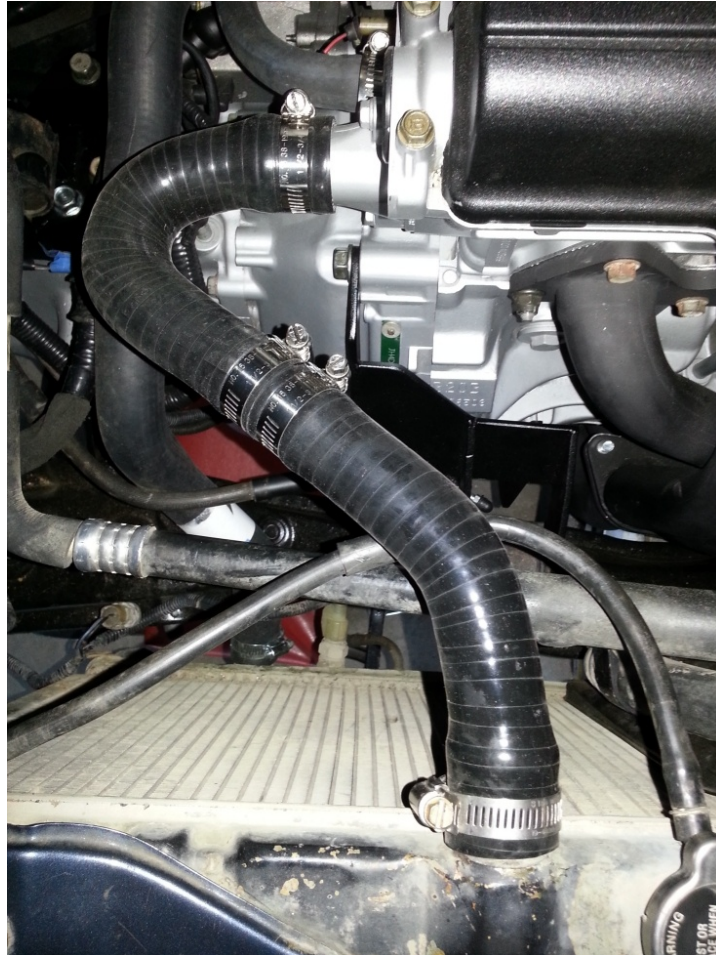
You might need to do something different depending on which P/S pump you are using but this works for the B20b pump.

You will also need a shorter P/S belt for maximum clearance. Here are some part numbers:

VTEC/P72 Bracket and P/S Pump: **Gates K040353**  
CR-V B20B/Z Bracket and P/S Pump: **Gates K040347**

## Radiator Hoses:

Install the **Gates 21229** upper radiator hose (may need some trimming) or combine the Pegasus Auto Racing hoses using the coupler so that you end up with an upper hose that looks like this:



### Speed Sensor:

Install your stock 3G speed sensor into the transmission. Both 88-89 and 90-91 sensors fit but you will need to use longer P/S hoses (Use hose made to carry oil, not coolant).

88-89:



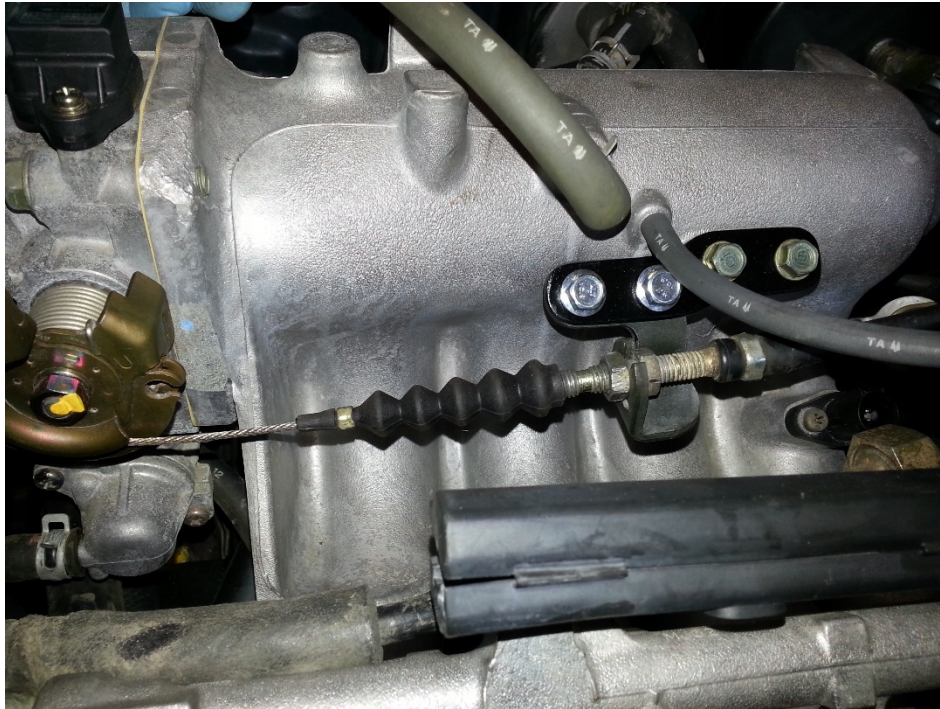
90-91: Unlike this picture you should stack some washers or use a spacer between the mounting ear and transmission, or the ear will snap when you tighten the bolt:



### Other Connections:

All the other stock 3G lines should hook up to the motor with little tweaks and/or slightly longer sections.  
(Brake booster hose, heater hoses, fuel supply and return line, vacuum, etc.)

The throttle cable will most likely need an adapter. There are a number of different B-Series intake manifolds and each will probably require a different solution. Right now we can supply an adapter for B20b manifolds:



Here is what someone has done for their B18C swap with a GSR manifold. He welded the Prelude throttle bracket onto the GSR bracket. The throttle cable is just long enough:





### **Intake:**

Air intake will be the same DIY stuff we have been doing on 3Gs for years. Try a 94-01 Integra intake and cut it as needed for fit.

### **Header:**

Use a header that matches the engine/head combo you are using. It will need to be modified by you or an exhaust shop to mate up to the exhaust.

### **Crossmember (when not using a traciton bar):**

The lower crossmember may need some trimming to clear the downpipe or transmission support brackets. Here is what our aftermarket B20b header required, just a little taken off one side:



Additionally, because the B-series hangs lower than the B20a/B21a you will need to cut some spacers for the crossmember so that it sits low enough to protect your downpipe. The thickness of the spacers will depend on how low your downpipe hangs but on our car we used 1.5" (38mm) spacers. The spacers can be cut from 7/8" O.D. .156" wall DOM tube, or some metric equivalent. Longer **M10x1.25** bolts will also be required. Here are the pics of them:





### Shifter:

You still need custom shifter rods so you can shift. 94-01 Integra shifter rods can be lengthened to work.

We sell pre-modified shifter rods on Prelude-engineering.com:

<https://prelude-engineering.com/b-series-swap-shifter-rods/>

Please see the shifter rods install instructions for info on how they are fit:

[Prelude Engineering LLC B-Series Shifter Rods Instructions.pdf](#)

To seal the shifter hole from above you can use generic rubber shifter or transfer case boots, this is an **Omix-Ada 18606.04** boot. To secure it you can drill holes and use screws or use 3M outdoor rated double sided tape:



## Air Conditioning:

In order to have enough clearance to fit the AC compressor a Prelude Engineering LLC traction bar is required:

[prelude-engineering.com/traction-bar/](http://prelude-engineering.com/traction-bar/)



Prelude Engineering LLC sells AC lines that will work with this swap. We also sell a wiring conversion kit that will eliminate the 3G Prelude compressor control system and allow the engine swap compressor to work.

[prelude-engineering.com/engine-swap-ac-lines-b-h-series-v2/](http://prelude-engineering.com/engine-swap-ac-lines-b-h-series-v2/)

[prelude-engineering.com/ac-compressor-control-unit-bypass-plug-and-play-kit/](http://prelude-engineering.com/ac-compressor-control-unit-bypass-plug-and-play-kit/)



The AC components you need to acquire are the AC compressor bracket + tensioner and AC compressor from a 97-01 CRV. Prelude Engineering LLC AC lines do not work with the earlier AC compressors.

Please contact us if you have any more questions about this swap.

## Swap Wiring:

Prelude Engineering LLC does not officially support any engine harness but we do strongly recommend a Rywire.com swap harness. We have experienced quality and consistency issues with other brands. Here are 2 different harnesses from Rywire you can use for this swap:

<https://www.rywire.com/product-p/b1-milspec.htm>

<https://www.rywire.com/product-p/b1-base.htm>



Although we do not offer free support for any engine swap harness (please contact the company that made your harness). We do maintain a blog post about 3g Prelude specific engine swap wiring which should be very helpful when wiring up your swap:

[prelude-engineering.com/blog/3g-prelude-engine-swap-wiring-information/](http://prelude-engineering.com/blog/3g-prelude-engine-swap-wiring-information/)

### **Bolt Information:**

These are the bolt lengths in case you get them mixed up or need to buy a replacement. It's not common but supplied bolts may vary in length 5-10mm due to supply issues. When measuring bolts you measure from under the head to the end of the threads:









