RJM 370Z, G37 & G35 2nd Gen Sedan
V2. AFP Pedal Assembly Installation Guide

Getting Started:

- **Installation time varies with skill level!**
- Average Installation time should take around 2Hrs working at a casual pace.
- Shop Installs should take ~ 1hr + ½ hr for tuning with Customer Involved for best results.
- The hardest part of the installation is working in the confined space under the dash. There is no way around this fact and I've tried to make the install steps easy as possible.
- Installation should be performed on Level Ground. Parking Brake Applied.
- Have the driver's seat rolled all the way back and the steering wheel full up.

**** NOTE****

If you are attempting to bleed the hydraulic system with the AFP system installed you must reduce the AFP setting to 0% (Turned fully Clockwise until it stops) restoring full stroke to the master cylinder in order to get all the air out of the system. Failure to do so won't allow proper bleeding of the clutch hydraulic system. If installing the RJM Pedal at the same time as a new Clutch, MC, CSC or SS Line it's recommended to install and bleed the system first with the OEM pedal and install the RJM Pedal once everything has been bled and checked

Tools & Required Items: (Have these Ready BEFORE Starting)

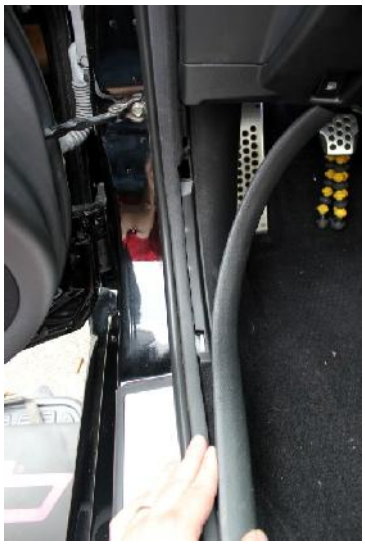
- Standard 3/8 Drive Ratchet.
- Long 3/8 Drive Extension or (2) Short ones together.
- 3/8 Drive Universal Joint (Swivel Joint)
- M12 Deep Socket (For Stud Nuts and Upper Dash Bolt)
  (Optional M12 Short Socket is better for upper dash bolt but can use deep as well)
- Needle Nose Pliers
- 7/16 Socket (Pedal Arm Nuts and Side Tension Bolts)
- M12 Open End Wrench (Clutch Rod Lock Nut)
- M14 Open End Wrench (Factory Switch Lock Nuts)
- 3/16 Allen Key or Allen Socket (AFP Slider Lock Bolt)
- Work light or Flashlight you can position under the dash to help see.
- Blanket or something to kneel on while working.
- Another Blanket or thick bath towel to fold over the door sill to pad your ribs & side.

Other Tools- If you have a 1/4 Inch Drive Ratchet, Deep Socket and Extensions you may find it slightly easier to maneuver the smaller sized ratchet and tools in the tight space under the dash but these are not required for install.

Go ahead and look under the dash to get the lay of the land. Note that the factory clutch pedal is only held in by 2 Nuts and 1 Upper Bolt. The Clutch rod simply gets unpinned, the 2 switches get unplugged and then the whole pedal assembly can be guided out from under the dash. The installation of the new pedal unit is a little more involved but is basically just the reverse operation with some AFP System specific steps and adjustments along the way. Now let's get started.

Removing the Stock Pedal Assembly:

1.) Remove the black plastic thumb nut above the dead pedal which holds the LH Trim Panel.



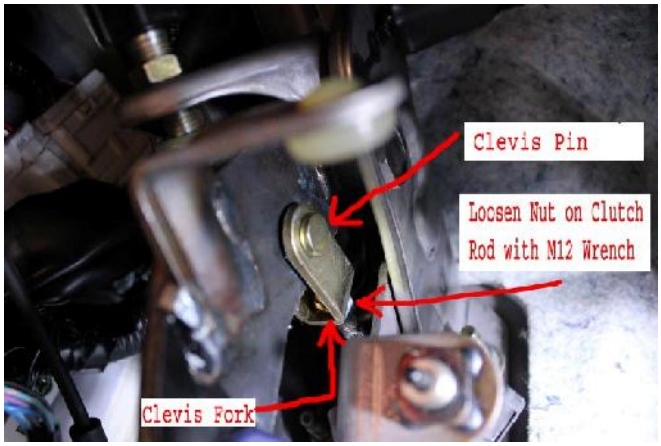
2.) Next gently pull up the Door Sill Trim starting at the front where it meets the LH Trim Panel.

3.) Once the Door Sill Trim has 2 or 3 clips pop free you can pull the LH Trim Panel Out.

4.) Set aside the LH trim panel and push the Door Sill Trim back down temporarily to work.

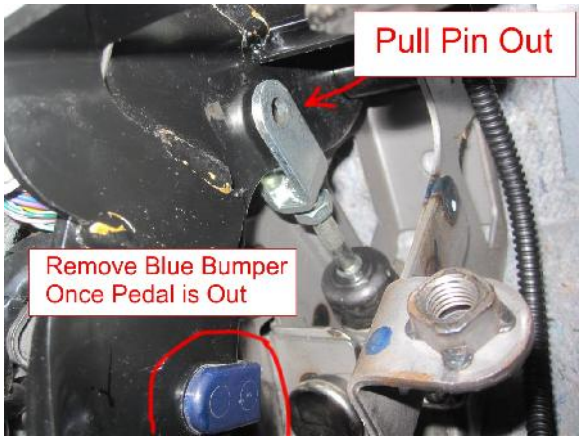
5.) Now go under the dash and start by unplugging the two switches. Find & Depress the release tab on each switch while gently pulling the wiring connector out from the switch.

6.) Now using needle nose pliers locate the black clip holding the lower wire to the side of the clutch bracket. Squeeze the inside tabs together so the clip can be pulled outward to release it.



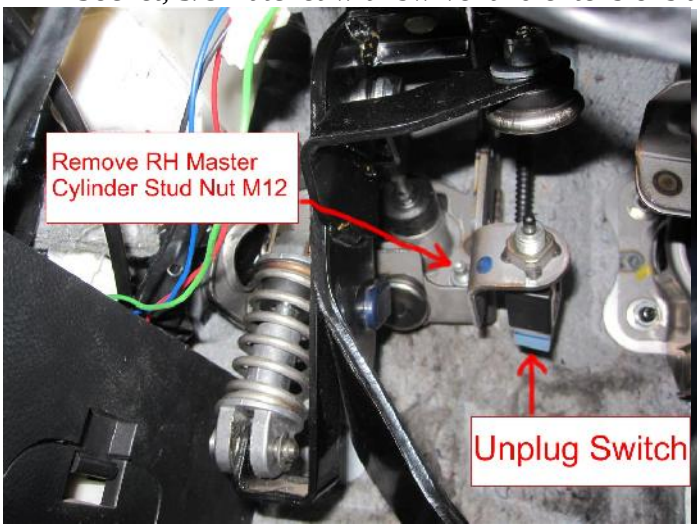
7.) Use an M12 Wrench to loosen the clutch rod nut located behind the clevis fork (Seen in photo below)

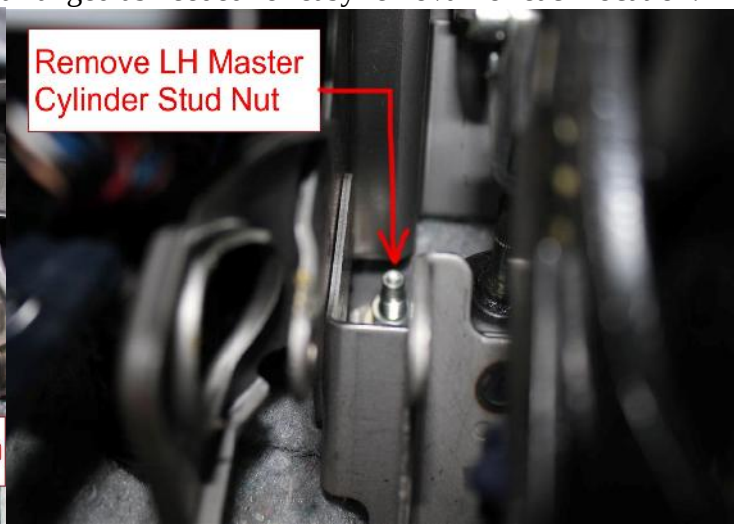
8.) Locate the hairpin clip holding the clevis pin on the clevis fork. Rotate the clip if needed and simply pull it out with needle nose pliers.

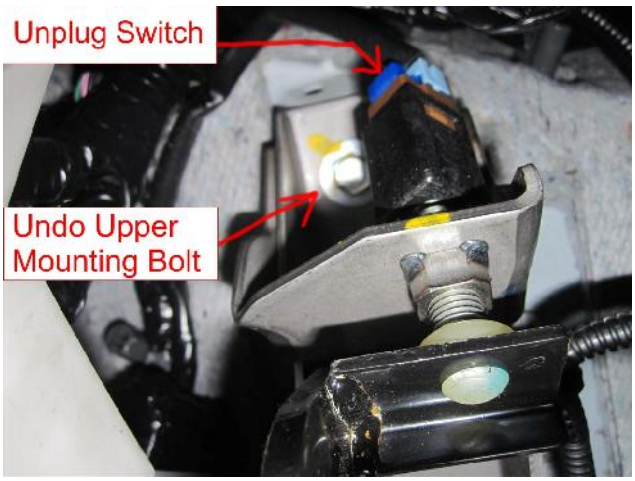


9.) Push the gold colored clevis pin out of the clutch fork and set it aside along with the hairpin.

10.) Now remove the two nuts holding the bracket to the master cylinder and the upper bolt using an M12 Socket, 3/8 Ratchet with swivel and extensions arranged as needed for easy removal for each location.







11.) Next maneuver the factory bracket up off the Master cylinder and then slide it carefully out from under the dash. This may take a little moving up and around until you find the correct angle and path to let the assembly drop out from under there.

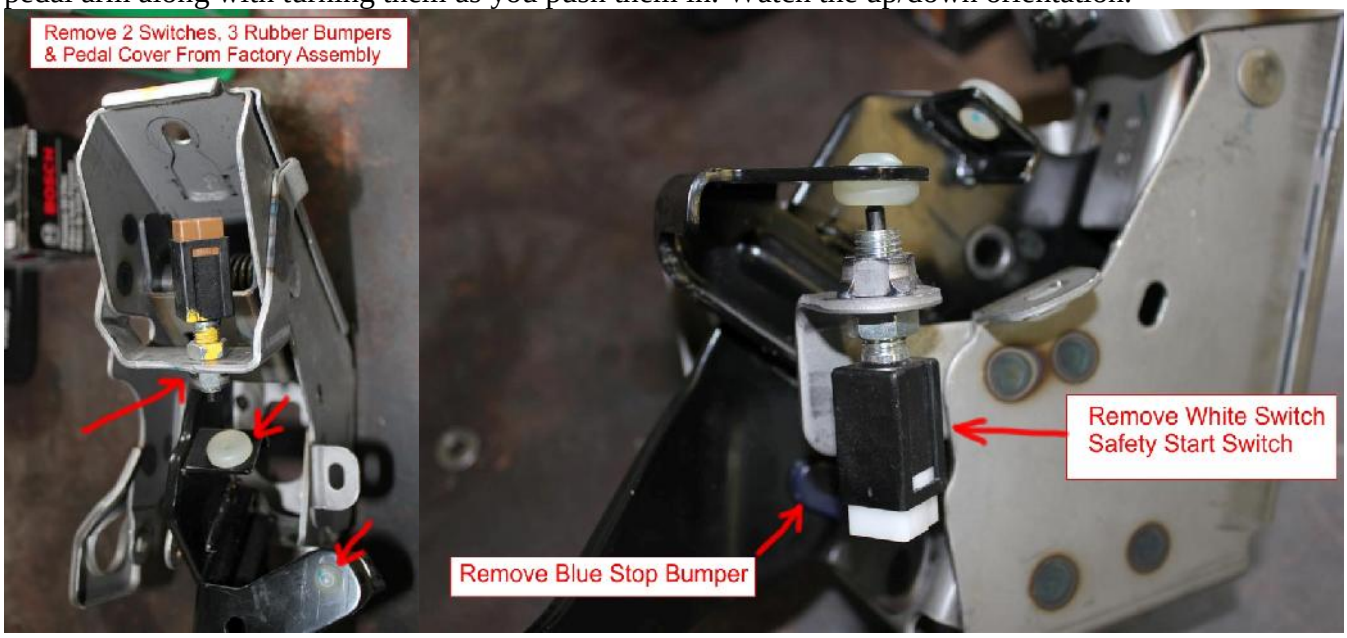
12.) Spin gold or silver colored clevis fork off of the clutch rod.

Part 2- Swap Switches and Pads to New Pedal Assembly:

13.) Take the factory pedal unit to a suitable table or work space. Then loosen and remove the two safety switches using an M14 wrench on the lock nuts. Use pliers to squeeze the back of the blue stop bumper and push it out then press it into position on the new pedal arm.

14.) Remove the upper and lower rubber bumper pads by pushing them out from the back side of the factory pedal locations. Needle Nose Pliers work well- Squeeze it from the top & bottom in the center to and twist up slightly and they'll pop right out.

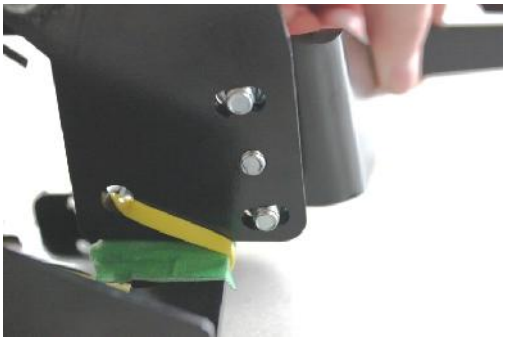
15.) A little grease or soapy water will help the rubber bumpers slip into their respective holes on the new pedal arm along with turning them as you push them in. Watch the up/down orientation.



16.) Next carefully pull the pedal cover from the factory pedal starting at the back by rolling the rubber lip back out of the way while carefully pulling the cover off.

17.) Place the pedal pad in some hot water for a minute to soften up the rubber. Then wet the new pedal arm and the pedal cover with some soapy water to help make it slip on easier. Slide the cover over the new pedal arm starting at the narrow end and pushing the cover on firmly to get the cover seated down as far it can go before pulling/pushing the rear lip of the cover over the back edge of the pedal pad to fully seat it on the new pedal arm. Use a small flat blade screwdriver or kitchen knife to roll the edges up and around if needed

18.) Now take the pedal arm and remove the 3 nuts, lock washers and flat washers from the bolts and set aside. Line the pedal arm bolts up with the pattern of 3 holes/slots in the upper arm. Align the arm so that the bolts are centered in the slots and the bottom of the lower arm should be parallel to the bottom of the upper arm. While holding it centered drop the 3 flat washers on, followed by the lock washers and then start any nut you wish finger tight. Following with the others while keeping it roughly centered. Tighten them starting in the center with a 7/16 socket. Tighten them until snug + ¼ turn only, over tightening can cause the bolts to stretch and fracture. *Photo for Ref Only to show Centered position on slots*



19.) In the parts bag find the two pre-greased bronze bearings. Take them out, clear the excess globs of grease from inside them (Keep the excess for greasing the main bracket) and insert one bearing into each end of the pivot tube making sure they are pressed in tight.

20.) Now take the parts bag, pedal arm and main bracket body over to the car and lay everything out on the floor where you're working. Careful not to let the greased bearings touch anything where they'd pickup dirt or gravel. Pull the large hairpin clip on the main bracket that retains the fulcrum shaft and slip the shaft out of the bracket. Set the pin and the clip aside for use in an upcoming step.

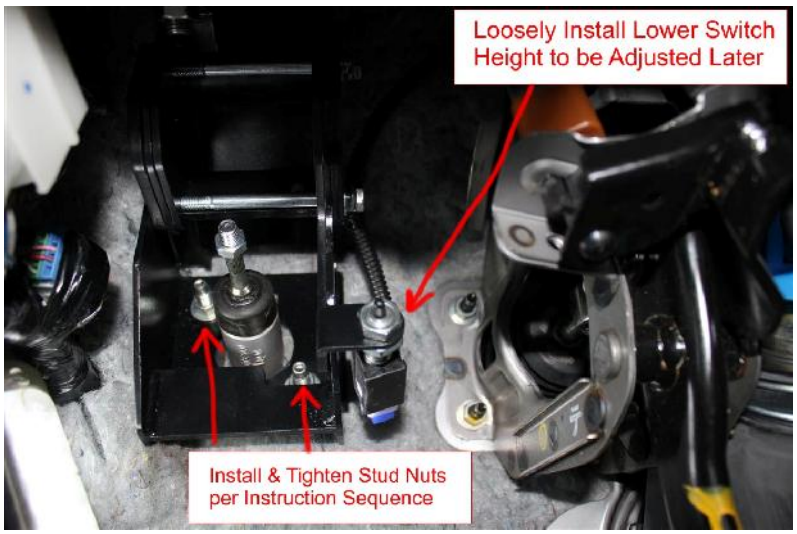
21.) Next locate the two stud nuts and the upper bolt to have them ready to go back in.

22.) Take the two white nylon spacer bushings included in the parts bag and place one over each of the master cylinder studs. These hold the bracket up over the firewall padding. Spin the lock nut on the clutch rod all the way down lightly by finger.

23.) Take the main bracket and guide it under the dash into position over the master cylinder studs making sure the clutch rod passes through the center opening and the stud's line up on the holes in the bracket. To make this easier the master cylinder can be gently pushed down into the firewall to gain more room to get over the studs. Once the bracket is lined up on the studs pull the master cylinder rod towards you firmly.

24.) While holding the bracket up with one hand, take the first nut and start it onto the left hand stud spinning it down most of the way with your fingers. Then start the second one again going most of the way down. Take your M12 socket (short socket is better here) with just the extension (no ratchet) and place the upper bolt into the socket ready to install. Next look to the upper mounting hole and maneuver the bracket so it lines up with the hole in the dash support while starting the upper bolt using just your socket and extension to spin it in.

25.) Starting with the upper left stud, run the nut down until it reaches bottom but is still loose. You'll need a swivel to reach this nut along with pushing the sliding center section of the new main bracket straight up out of the way.



26.) Then tighten the upper bolt in so its also touching the bracket, followed by the lower left master cylinder stud nut. Doing this torque sequence in steps ensures everything is lined up and tightens down evenly.

27.) Now repeat the tightening pattern one more time to snug them all down starting from the left master cylinder stud. These 3 should be tightened firmly but don't over torque them.

28.) At this point you can take the brown switch, plug it back into its upper switch plug and insert it into the new main bracket, followed by its lock nut. Only put the lock nut on a few threads, just enough to hold it so the switch stays up & completely loose at this point. It'll be adjusted later. Next loosely install the White switch into the lower switch position, plug it in and secure the wire with the provided zip tie to the bracket.

29.) Find the new clutch fork with the clevis pin preinstalled. Remove the hairpin clip holding the pin, remove the washers and clevis pin making note of how they will be reinstalled later. The two bronze bearings stay in the fork but careful not to drop or lose them as they can fall out if not careful. If one happens to be really loose you can keep it aside and insert it later.

30.) Take the new fork and spin it onto the clutch rod until it just about bottoms out against the lock nut. You may need to hold the clutch rod while doing this so it threads all the way on.

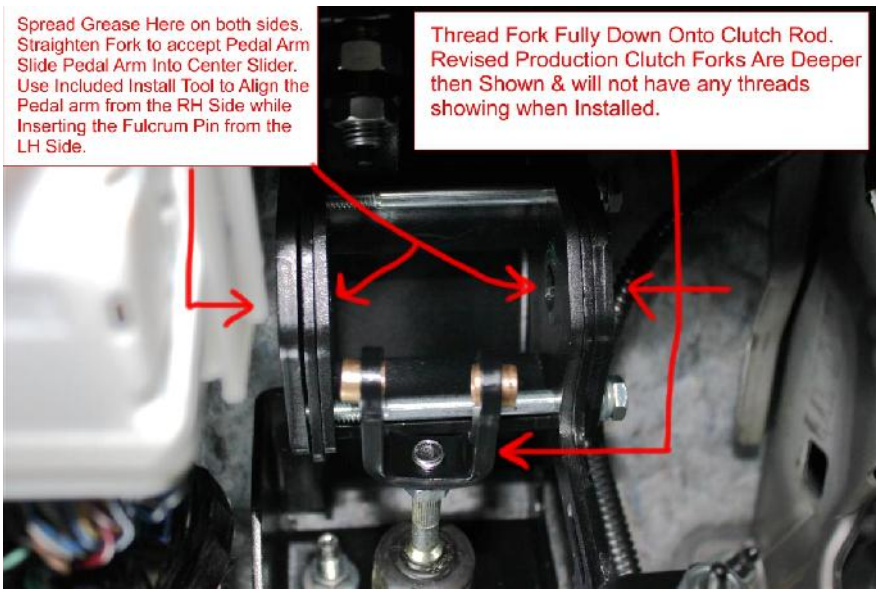
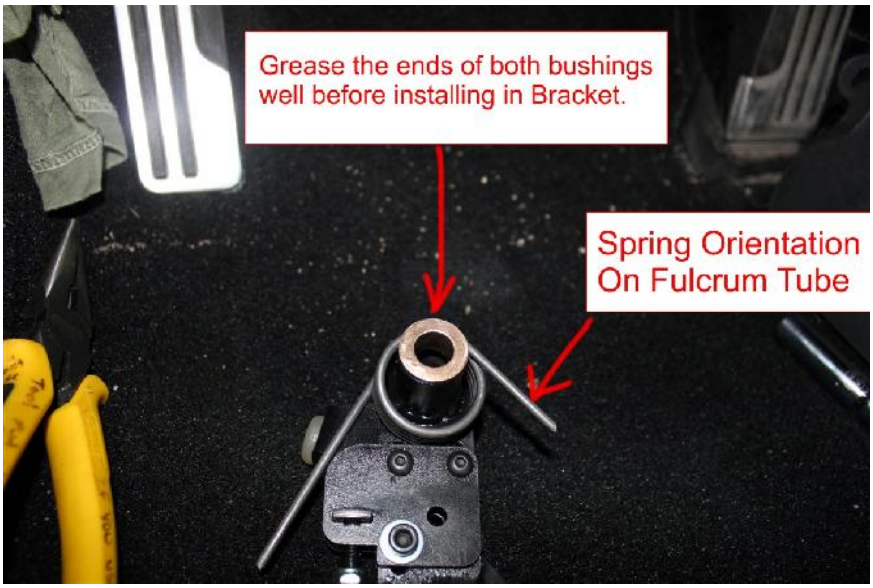


***PHOTO EDIT- Contrary to description (Left) on new V2 Models you <u>will see threads</u> showing on the fork.**

31.) Take some of the extra grease from the main bearing bag and smear some around each large hole in the moveable section of the main bracket where the pedal arm will eventually rotate. Pull the sliding center section down towards you until it stops.

32.) From the parts bag find the main return spring and the silver 1”pin that I’ve provided as an installation tool to aid for the next few steps.

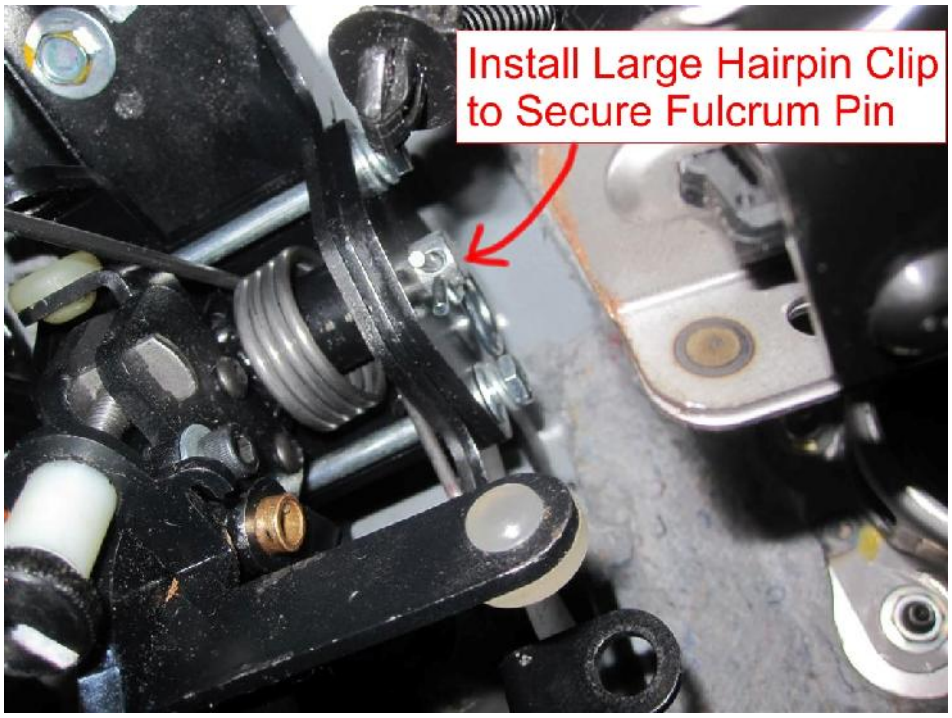


33.) Next take the spring and place it over the RH side of the pedal arm pivot tube. Don’t clip it into its keeper yet. Leave it floating loose with the long side pointing somewhat upwards.

34.) (See Ref Photo next Page) Now take the pedal arm with the spring and guide it up into the center section of the main bracket so it lines up with the holes for the fulcrum shaft and so that the new fork straddles the AFP adjuster. Using the installation tool (short silver pin) insert the pin into the fulcrum shaft hole from the RH side of the pedal assembly (closest to the brake pedal) Guide the pin into the hole and carefully move the pedal arm around until the pin slips through the bearing. This will help hold the pedal arm in place and in general alignment while you install the main fulcrum pin from the LH side of the bracket.

Reference Photo of LH Pin Install Only- Pedal Arm and Install Tool Are Not Shown In Photo

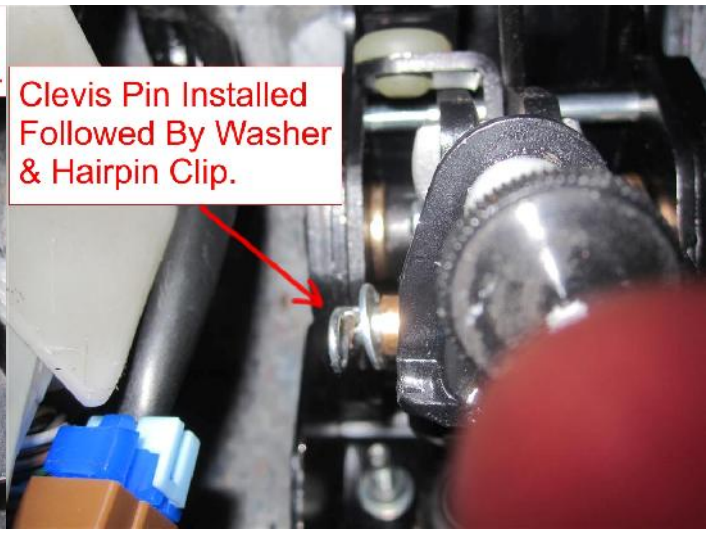
35.) Take the long silver pin (fulcrum pin) and get into position to push the pin into the main bracket from the LH side, maneuvering your way around the large bundle of wires that are also right in that area. Get the tip of the pin started in the hole and then work the pin in slowly while moving the pedal arm as needed to get the pin to pass through the LH bearing. Once ½ pushed thru you can pull the RH installation tool out a little so the long pin can be pushed fully through the RH bearing. Keep working it deeper until the long pin pushes the short pin out the other side.



36.) Now take the large hairpin clip and secure the fulcrum pin in place.

37.) Next find the silver clevis pin for the clutch rod fork and place one washer on it. Have the 2nd washer & clip handy for the next steps.

38.) Lineup the bronze bearings in the new fork with the thru hole in the AFP slider mechanism. Slowly push the clevis pin thru the RH side bearing, thru the pedal arm and out thru the other bearing. Push the bearings tight together so you have room to put the second washer on followed by the hairpin clip to hold everything.



Almost Done- Time for Adjustments.

Notes: The full range of the AFP Adjuster is approximately 10 full turns of the knob from Highest Setting to the Lowest Setting. The lowest setting is considered 0% AFP and is equivalent to the factory pedal. The highest setting is considered 100% AFP and is simply the maximum adjustment available in this design.

Raising the AFP Setting: (Turn knob LEFT)

- Lowers the Initial Friction Point
- Increases Pedal Leverage Ratio, making the clutch feel Lighter.
- Widens the Modulation Zone, making the clutch easier to modulate.
- Reduces Master Cylinder Stroke.

Lowering the AFP Setting: (Turn knob Right)

- Raises the Initial Friction Point
- Decreases Pedal Leverage Ratio, making the clutch feel Heavier.
- Narrows the Modulation Zone, making the clutch more on/off & harder to modulate like stock.

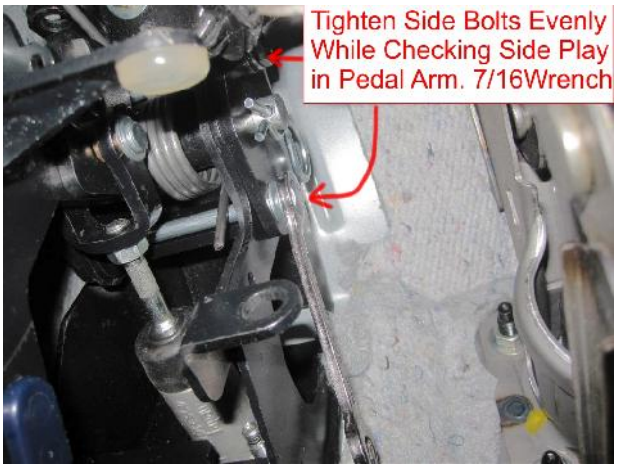
Clutch Rod Adjustment: Turning Left (Counter Clockwise)

- Lower the Initial Friction Point (Only a few turns of adjustment available in total)
- Decreases the overall pedal stroke length.
- Friction point should never be set less than 1” up from the floor. Around 1.5” up is ideal.

Clutch Rod Adjustment: Turning Right (Clockwise)

- Raises the Initial Friction Point (Only a few turns of adjustment available in total)
- Increases the overall pedal stroke length.

39.) At this point turn the AFP Adjuster knob all the way to the Left (Counter clockwise) so the slider moves up towards the fulcrum tube until it just stops. This is the maximum AFP adjustment or 100%. Now turn the knob Right (Clockwise) about 3 full turns bringing the setting to around 70%. This will be the base point for our initial setup. Using a 3/16 Allen Key or Allen Socket tighten the AFP Lock Bolt located on the right sliding plate just ahead of the adjustment knob. (For ref its clearly shown in Step 31 photo)



40.) The clutch rod it should be straight with the master cylinder. If this needs adjustment slide the entire center section of the pedal assembly up or down as needed to get the rod generally level. Then tighten the two bolts on the RH side of the bracket with a 7/16 wrench or short socket. These should just be snugged up enough to hold position. Do not over tighten these. Now check the pedal arm for free side to side play. If the pedal can still rock slightly side to side then tighten the two side bolts evenly a ¼ turn at a time until you just feel the side play just disappears. This sets the side-load on the fulcrum shaft bearings and if over tightened will cause the pedal arm to become stiff and bind up the bearings.

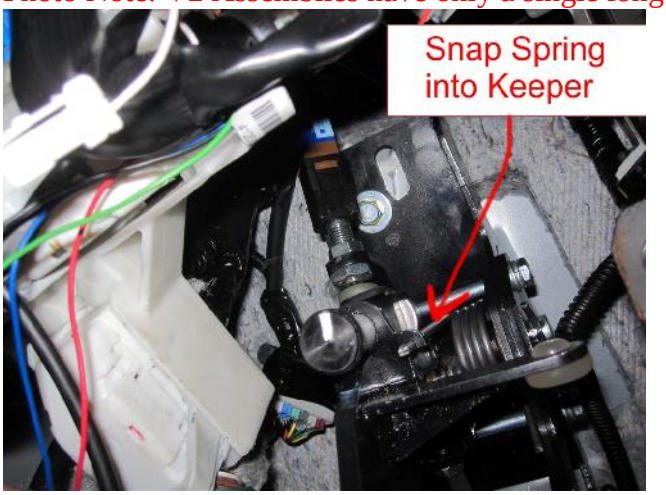
41.) With the AFP Adjuster set to roughly around 70% (doesn't need to be exact) and the return spring still sitting loose have a look at how high the new clutch pedal is relative to the brake pedal height. Using your Needle nose pliers turn the clutch rod Right (Counter Clockwise) until the clutch pedal is leveled up with the brake pedal height while leaving the 2pc arm adjustment centered.

42.) Now you can adjust the upper switch so that the button is just fully depressed with the pedal hanging free in the up position. To check pull up on the clutch rod to ensure it's fully extended and can't move out any further without pulling up on the pedal arm at all. Adjust the nuts on the switch to get the correct depth to where the switch is fully depressed with the while bumper just barely touching the threads of the switch while pulling the clutch rod. Spin the nuts as tight as you can by finger to hold the position and then you can depress the pedal slightly while tightening the lock nut with your M14 wrench on the factory nuts.
** NOTE : The Upper Switch much be re-adjusted (with return spring unclipped) per the above procedure after every change to the AFP or clutch rod settings. Failure to do so can keep the Master Cylinder from balancing fluid to and from the reservoir causing the friction point to change wildly from hot to cold. **

43.) Next fully depress the clutch pedal until the blue stop bumper is touching the stop plate on the main bracket. Then adjust the nuts on the lower white switch so that its button clicks in but still has a small gap left before the rubber bumper hits the silver threads of the switch. This small gap allows for the blue bumper to compress slightly when under pressure without bottoming out the switch.

44.) Go back to the return spring and snap the long end into its keeper just to the right side of the adjuster knob. There should be about ¼ to ½" of soft travel at the top of the pedal stroke before you feel strong clutch pressure. This is normal and should be there; do not try to adjust it out as this slight take-up at the top of the stroke is your Throw Out Bearing moving forwards to make contact with the Clutch pressure plate.

Photo Note: V2 Assemblies have only a single long slot.



45.) Now clear your tools up and prepare to start the car for the first test. You can leave the trim panels off for now until the very end. Adjust the seat so you're comfortable and pump the pedal a few times. It should feel smooth and linear.

46.) Important Shift into Neutral -> BEFORE <- Starting the Engine if not already there.

47.) Once the engine is started its time to test the clutch is fully disengaging. Depress the clutch fully, wait about 5 seconds and then move the shifter into first gear. If you encounter any new or unusual resistance going from neutral into 1st gear Stop and either reduce the AFP setting by 1 turn counter clockwise OR by turning the clutch rod clockwise 1 turn to raise the pedal height slightly and try the test again. Do this until you can shift into 1st normally with no unusual resistance and check neutral to Reverse as well.

48.) If it felt good in step 46 you can now take the parking brake off and check to see where the friction point is up from the floor. Shift into 1st once more and very slowly lift the pedal until you just feel the clutch start to catch. A good rule of thumb is to have the friction point at Minimum 1" up from the floor. If the friction point is too low reduce the AFP setting by 1 full turn (Right) and try again until you're happy with the friction point remembering to also adjust the upper switch. You can also adjust the friction point by turning the clutch rod to raise or lower it.

49.) If you adjust the AFP adjuster significantly up or down you should check that the upper switch is still making proper contact (Adjust if Necessary) and that the clutch rod angle isn't excessive. Adjust the angle as necessary by loosening the side bolts and correcting this angle. Excessive clutch rod angle can cause damage to the seals within the Master Cylinder over time and should be avoided.

50.) After all adjustments have been made and you're happy with the clutch feel make sure to tighten clutch rod lock nut behind the fork and the lock nuts on the switches so they don't come loose while driving.

51.) Reinstall the LH trim panel by aligning it with the door edge and snapping back into place. Followed by the plastic nut near the dead pedal. Then snap the door sill back down and you're all done.

Enjoy!

If you should encounter any questions or issues during your install please don't hesitate to contact me and I'll get back to you as soon possible.

Thank you for Purchasing an RJM Performance Product.