

# RJM V3.x AFP Pedal Assembly Installation Guide

## For 370Z, G37, G35 2<sup>nd</sup> Gen Sedan & Q60

### Install General Info:

- Average Installation time of the Rev 3 pedal assembly should take about 1 Hr for DIY Install, less for a skilled installer.
- Some additional time may be required for fine tuning after test driving depending on how you like the initial setup recommended in this guide. Allow 15-30 minutes for test driving and any additional fine tuning after basic installation.
- Installation of this pedal assembly is a Nuts & Bolts operation so anyone with a set of sockets and some basic hand tools can do this installation.
- Installation is meant to be a DIY Project. Doing the installation yourself means you'll learn how everything works and you'll be able fine tune it exactly to your liking. It's my experience that customers who DIY have a far greater satisfaction.
- **I've received many stories over the years of customers paying shops excessive amounts for very basic installs and then being sent home with little or no setup/tuning done. Leaving the customers stuck trying to adjust the pedals on their own and in many cases end up having to fixing setup issues caused by sloppy installs. So please do not get yourself into this situation and consider installing my product DIY as intended or with the help of a handy friend.**
- 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 to help this.
- Installation should be performed on Level Ground, Parking Brake Applied and have a good work light.
- Have the driver's seat rolled all the way back and the steering wheel full up before you start.

### Shop Installs:

- Shop Installs should cost about 1Hr of shop labor for the basic installation of the RJM Rev 3 pedal assembly to be ready for test driving plus any tuning time needed. Install/Setup time is reduced on this version compared to previous Rev 2.
- Ask upfront if they are willing to work with you on tuning after the install, if they do not agree to this Find Another Shop!
- Allow an additional 15-30 minutes of shop labor for test driving the car and have the Tech make all final adjustments.
- Do Not leave the shop until they have worked with you to make sure everything feels right & is to your liking.
- Tuning requires the same tools & level of technical ability as installation, so beware any shop that would send you home to attempt further tuning of the pedal on your own if you felt it necessary to have a shop install it for you in the first place.

### *\* Note On Bleeding Clutch System\**

**If you are attempting to manually bleed the hydraulic system (without a Power Bleeding System) while the RJM Pedal is installed then you must reduce the AFP setting to 0% restoring full stroke to the master cylinder in order to get all the air out. Failing to do so will make manual bleeding extremely difficult of not impossible. You must also adjust the Clutch Rod angle to ensure the master cylinder rod is moving straight in/out of the master cylinder after adjusting the AFP setting to Zero. Failure to adjust the clutch rod angle may cause binding of the pedal linkage and potentially damage to the master cylinder internally. Please see the Tuning Section of this RJM Installation Guide for Specific Steps Required.**

### Tools & Required Items: (Have these ready Before starting)

- Standard 3/8 Drive Ratchet
- Universal Swivel Joint for 3/8 Drive.
- Long 3/8 Drive Extension or several shorter ones.
- 12mm Deep Socket (used on master cylinder nuts)
- 12mm Short Socket (used on upper dash bolt)
- Needle Nose Pliers (for removing/installing hairpin clips)
- 7/16 Socket (used on pedal angle nuts & clutch rod adjustment nuts)
- 12mm Wrench (clutch rod lock nut)
- 14mm Wrench (for small electrical switch nuts)
- 17mm Wrench (for large electrical switch nuts)
- 3/16" Allen Key or Allen Socket (for AFP Adjuster and Upper Switch Mount)
- Good Work light or Lantern you can position under the dash.
- A Foam Work Mat or folded blanket to kneel on while working.
- A second Blanket or Large Bath towel folded over the door sill to pad your ribs & side.
- A Butter Knife or a Thin Flat Blade Screw Driver.
- Cup of hot water with a little dish soap (helps with pedal pad install)

## Getting Started:

Go ahead and put your light up under the dash so you can get a good look at the factory pedal. The pedal is only held in by (2) Nuts on the master cylinder studs and (1) Bolt into the upper dash support. Once the (2) nuts and (1) bolt are removed the Clevis 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 basically just the reverse operation with some specific setup steps and adjustments along the way. 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 as possible.

## Removing the OEM Pedal Assembly:

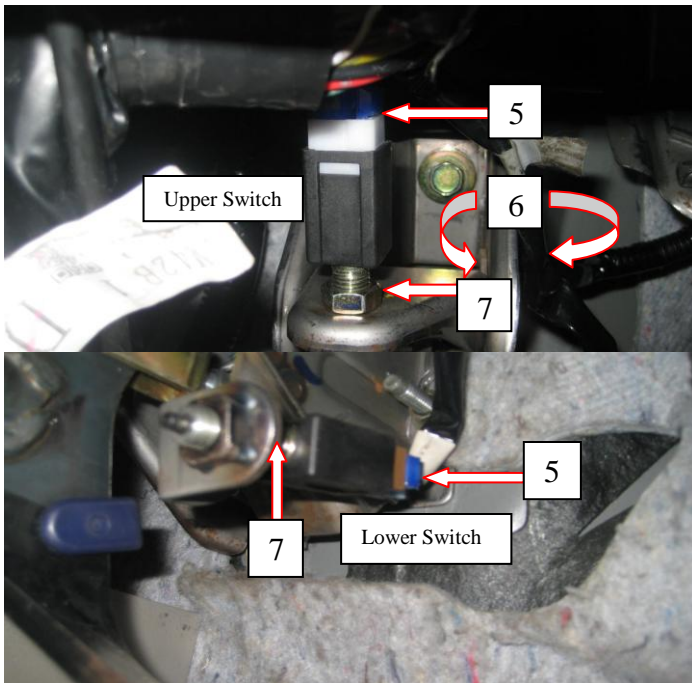
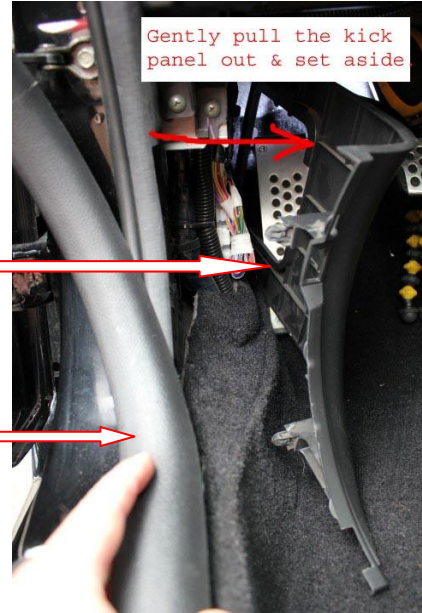
- 1.) Remove the black plastic (finger tight) nut above the dead pedal which holds the LH Trim Panel at the firewall.



- 2.) Next gently pull up the Door Trim starting at the top corner and work down to pop the clips out.

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

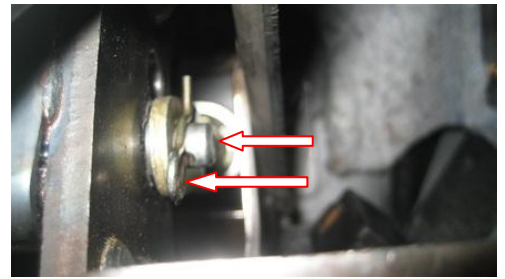
- 4.) Set aside the LH trim panel and allow the Door Trim to go back into place temporarily while you work.



- 5.) Find & Depress the **Blue** release tab on each switch while gently pulling the blue wiring plug out. If the upper switch is hard to reach for unclipping leave it until later when the bracket is being dropped down from the firewall to make it easier.
- 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.) Next Take a 14mm Wrench and Loosen the gold retaining nut on each of the switches. They will be tight and doing this while the pedal is still bolted up is somewhat easier than after it's removed. If you aren't able to reach them or they are too tight, leave them until the bracket is removed.

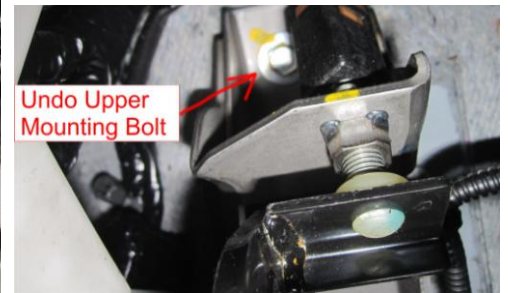
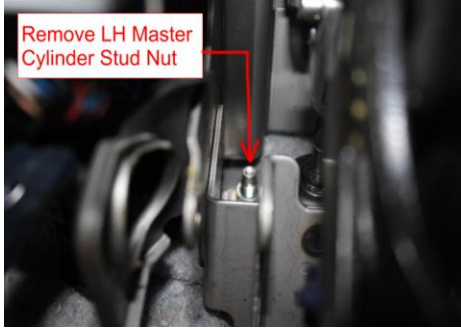
**\*\*\* NOTE: If Installing an RJM Heavy Duty Clevis End you Must loosen the lock nut behind the gold factory clevis now. Use a 12mm Wrench to break the nut free before continuing to step #8. \*\*\***

- 8.) Locate the hairpin clip holding the pin in the clevis fork and simply pull it out with needle nose pliers. (It could be on either side) Push the gold colored clevis pin out of the clevis fork (make sure not to drop it) and set it aside along with the hairpin clip. These are not being reused as new ones are supplied in the kit.

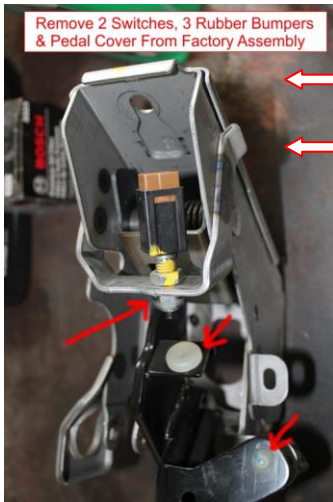


- 9.) Now remove the two nuts holding the bracket to the master cylinder studs and the upper dash bolt using a 12mm deep socket. Use extensions & or swivel on your ratchet as needed to reach each location.

**NOTE: - Careful not allow any of them to drop as they can easily get lost into the space under the floor.**



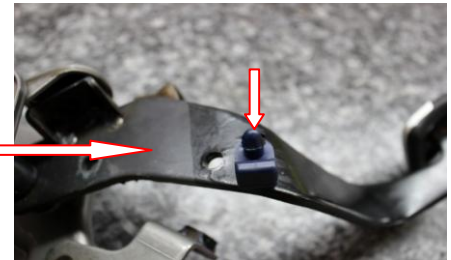
- 10.) Now maneuver the factory bracket down off the firewall. Lifting it off the Master cylinder, clearing the clutch rod with clevis and carefully guide it out from under the dash. This may take a little moving around until you find the correct angle and path to let the assembly drop out. It also helps to push the large bundles of wires that are near the upper switch out of your way as it comes down. Take the factory pedal unit to a suitable table or work space along with the new RJM unit.



- 11.) Remove the two safety switches from the OE bracket.

- 12.) Remove the upper and lower white switch bumper pads. Use Needle Nose pliers to squeeze from the top & bottom in the center of each pad and twist up, they'll pop right out.

- 13.) Use pliers to squeeze the back of the blue stop bumper and push it out of its hole in the factory pedal arm.



- 14.) 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. It'll just peel off.

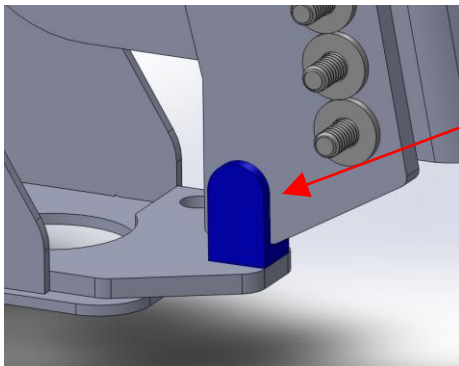
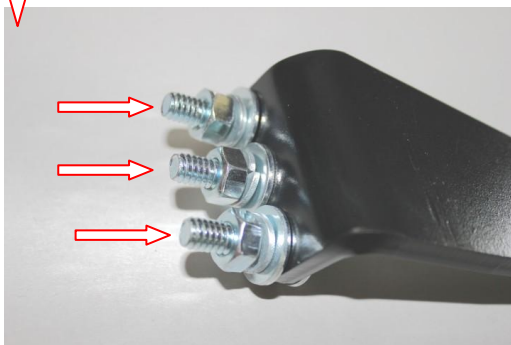
## Preparing the New RJM Pedal:

15.) Start by cutting the shipping zip tie installed to hold the pedal arm down during shipping and gently let the pedal arm come up so it doesn't slam into the top of the bracket under spring tension. Discard the piece of tape covering the bottom stop pad area.

16.) Place the factory pedal cover in some hot water for a minute to soften up the rubber. Next wet the pedal pad on the new lower arm section and the pedal cover with some soapy water to help make it slip on easier. Slide the cover over the foot pad 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. Use of a small flat blade screwdriver or a butter knife can aid in rolling the edges up and around as needed.

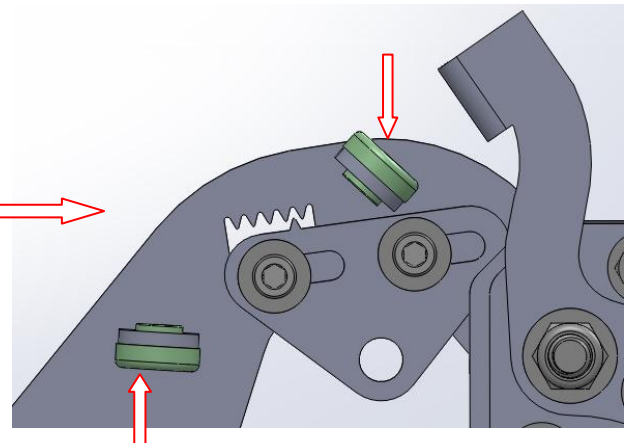


17.) Take the lower pedal arm and remove the 3 nuts, lock washers and flat washers from the bolts and set aside. Line the pedal arm bolts up with the pattern of 3 holes/slots in the upper arm. Align the arm so that the bolts are about centered in the slots. While holding it centered place the 3 flat washers on, followed by the split 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 lightly + 1/4 turn only - Over tightening can cause the bolts to stretch and fracture.



18.) Take the Blue Stop bumper and press it thru the hole on the new pedal arm as shown so the flat face is on the Left Side.

19.) Next you can install the Round Switch Bumpers in their respective holes in the RJM Pedal. Give them a twist as you push them down into the holes to make them go in easier or use pliers to squeeze them into the holes. Watch the orientation: Upper tab the bumper faces UP and lower tab the bumper faces DOWN.





- 20.) Spin the factory lock nuts off both switches and swap them for the larger silver nuts supplied in the kit. The OE Nuts will be Reused Later.
- The nut on the White Switch should be threaded almost all the way down.
  - The nut on the brown switch should be threaded about as shown.
- (These will be adjusted further during later setup steps)
- Now take the new pedal assembly, the switches and the RJM hardware bag to the car.

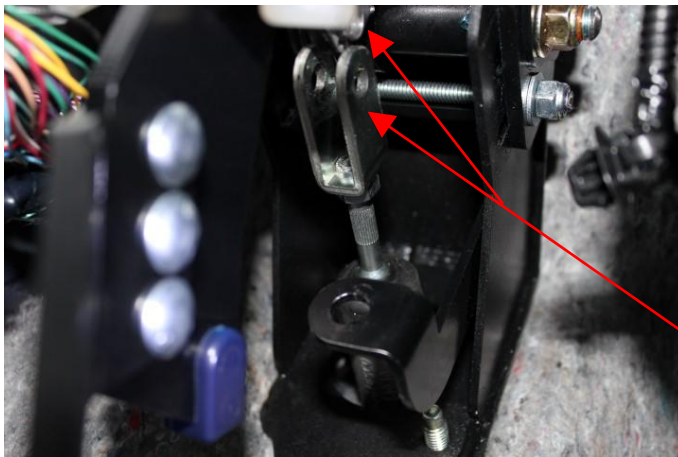
\*\*\* NOTES For Installing an RJM Heavy Duty Clevis End \*\*\*

Before Starting Step #21 - While holding the master cylinder clutch rod from turning with some pliers you need to spin the factory clevis end off the master cylinder rod by turning it Counter Clockwise.  
 \*IMPORTANT\* Count the number of complete turns it takes to unthread the clevis.

Next while again holding the clutch rod from spinning you need to thread the HD clevis in place. \*IMPORTANT\* As you thread the new clevis in place you need to thread it down the same number of turns as the old clevis. This will be a good place to start and can be fine tuned later.

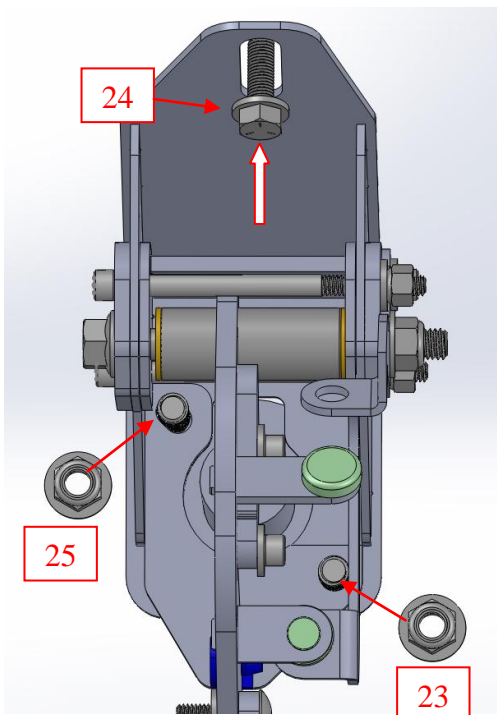


- 21.) Take the (2) round white nylon spacer bushings included in the hardware bag and place (1) over each of the master cylinder studs against the firewall. These spacers hold the bracket up above the firewall padding.

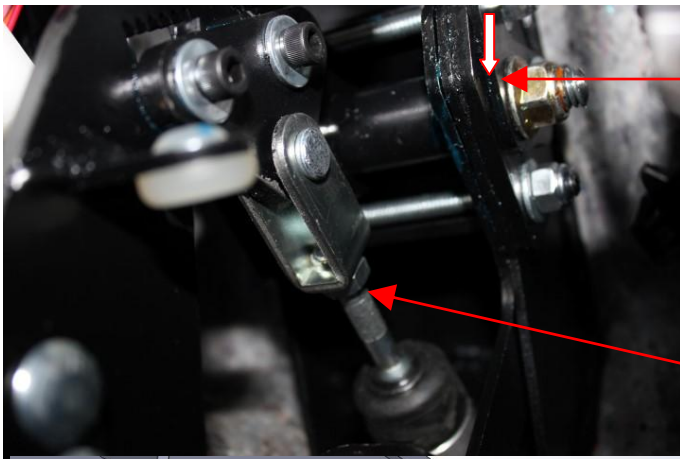


- 22.) Now take the new pedal assembly and guide it under the dash into position. When guiding the new unit up, tip the top of the unit into the open space above you inside the dash. This will make the bracket tilt forwards away from the firewall enough so you can get the clevis and master cylinder rod to pass thru the center opening in the bracket.

Then bring it down over the studs making sure the clevis fork is lined up so it forks over the arm, ready to be pinned in a later step.



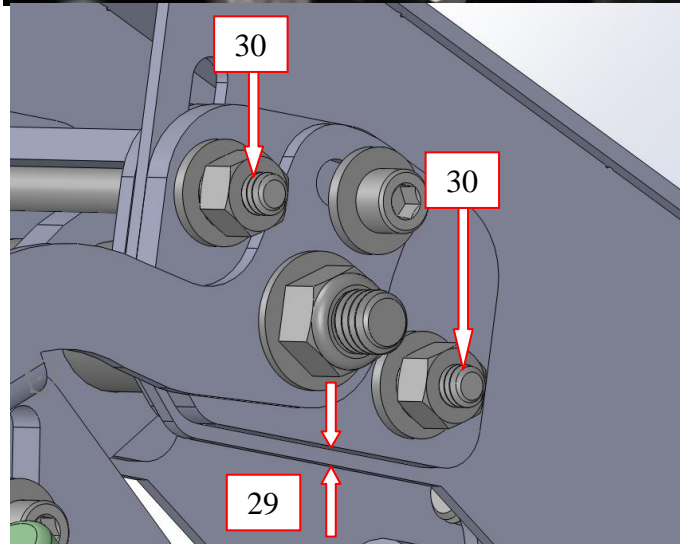
- 23.) While holding the bracket up with one hand, take the first nut and start it onto the bottom right master cylinder stud. Spin it down as far as it'll go finger tight.
- 24.) Next line up the bracket with the upper dash mount hole and get the bolt started using a short 12mm Socket with a Long extension as a handle to spin the bolt in. Leave it loose at this time, do not tighten it.
- 25.) To install the upper left stud nut - Push the sliding center section of the bracket assembly fully upwards to gain as much room as possible. Push the bracket down firmly towards the firewall as you get the nut started using a 12mm socket, swivel joint and long extension as a handle.
- 26.) Tighten the upper left master cylinder nut so the bracket draws down snug. Tighten the lower right master cylinder nut until snug (a 12mm wrench may be used here as well.) Go back to the upper left nut and tighten it firmly, tighten the lower right nut firmly and finish up by tightening the upper dash bolt firmly.



27.) Pull the sliding center section of the pedal assembly down towards the floor as far as it'll go.

**\*\*\* If Installing HD Clevis - Line the HD Clevis up with the hole in the pedal arm and use the spring clip to secure the clevis to the arm (pin right to left). Snap the spring clip up to secure it around the base of the HD clevis. !! Firmly tighten rod lock nut with 12mm !! SKIP STEP 28 Below. \*\*\***

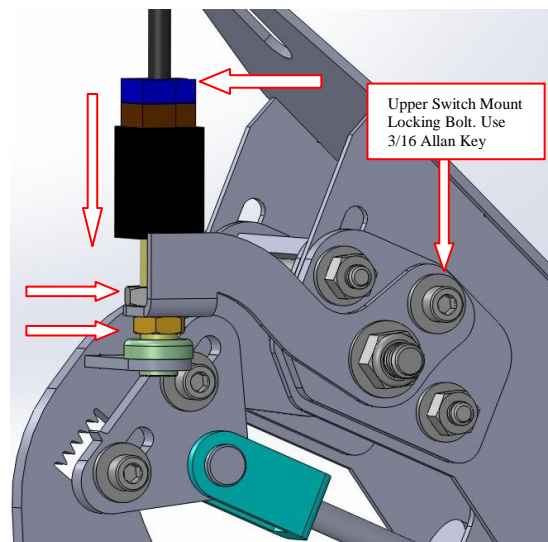
28.) Line the arm up with the OE clevis fork and slip the new silver pin thru from right to left. Use some needle nose to insert the hairpin clip thru the hole in the clevis pin on the left side of the arm to secure it.



29.) Move the sliding center section (about 1/8" up for initial setup should be close) to adjust the angle of the master cylinder rod. The rod should be very slightly angled up so the clevis end is a touch higher than the center line of the master cylinder just like with the OE unit. Adjust UP or DOWN as required to achieve this slight angle up.

30.) Tighten the two side tension nuts with a 7/16 socket until the nuts are just start to clamp the sliding plates and then go 1 more turn MAX. Too tight will cause the bolts to squeeze the bracket sides together until the bearings bind so you just need to snug up to where the sliding center section is locked from moving up/down which doesn't take very much.

**\*NOTE - Steps 29 & 30 must be done ANYTIME the AFP Plate is adjusted to maintain a slightly upward clutch rod angle. Failing to do so can cause rapid master cylinder failure due to pushing the rod at an extreme angle.**

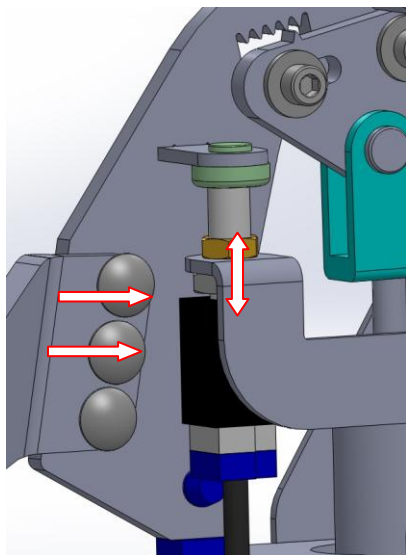


31.) Plug the **Brown** Upper switch in and insert the switch into the upper switch bracket. Move the switch bracket up or push the pedal down a little so you can start a smaller OE (gold color) switch nut onto the threaded body of the switch.

32.) Adjust the nuts up or down together so the switch button hits roughly centered on the rubber pad when the pad & switch holder are parallel to each other as shown. Tighten the bottom OE switch nut with a 14mm wrench while holding the switch body from spinning with pliers to lock it.

33.) Next push down slightly on the pedal arm and note the small amount of linkage slack before the master cylinder rod moves. Push down just enough to remove linkage slack (don't drive the MC down), draw the upper switch bracket down tight so the button is pressed fully and tighten the single lock bolt snugly with a 3/16" Allan Key to stop the upper mount from rotating. This will eliminate linkage slack and correctly set the upper switch.

**\*NOTE - Adjustment in Step 33 Must be Completed ANYTIME the AFP is adjusted or the clutch rod is threaded in/out to account for changes in pedal height that affect top stop position.**



34.) Plug the **White** Lower switch in, make sure the nut is spun almost entirely down, insert the switch into the lower switch holder and thread the remaining OE switch nut (Gold color) down to hold it.

35.) Push the pedal down until it hits the bottom stop and note how much the switch needs to be adjusted. Spin the nuts up or down as required so the switch is fully depressed with the pedal pressed down as shown. Tighten the upper nut with a 14mm wrench while holding the switch body from spinning to lock it.

36.) Lastly look at where the pedal pad height ended up. Loosen the 3 bolts that connect the lower arm and you can rotate the pad up/down about  $\frac{3}{4}$ " each way of center. The clutch pad should be aligned between  $\frac{1}{4}$ " to  $\frac{1}{2}$ " above the brake pedal pad for starting out. Retighten the bolts until snug +  $\frac{1}{4}$  turn. Over tightening can cause the bolts to stretch and fracture.

**NOTE:** If you prefer it higher or lower then please setup to where you are comfortable. The above is just the recommended starting point.



**The basic install is now complete and all items have been setup to the recommended initial setup points. If you followed the guide carefully you'll now be ready for testing at this point. 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 without any clicking.**

### **Initial Setup Testing**

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

38.) Once the engine is started its time to test the clutch is fully disengaging. Depress the clutch fully, wait a few seconds and then move the shifter into first gear. If you encounter unusual resistance or a grind going from neutral into 1<sup>st</sup> gear then **Stop! See Tuning Guide - Adjust Clutch Rod for Higher Friction Point**

39.) If everything felt ok in step 38 you can now take the parking brake off and check to see where the friction point is up from the floor on level ground. Shift into 1<sup>st</sup> once more and very slowly lift the pedal until you feel the clutch start to catch. A good rule of thumb is to have the friction point not less then 1.5" up from the floor to ensure complete clutch disengagement.

**If friction point is lower than 1.5" up then see Tuning Guide – Adjust Clutch Rod for Higher Friction Point. If the friction point is good then proceed to Step 40 below.**

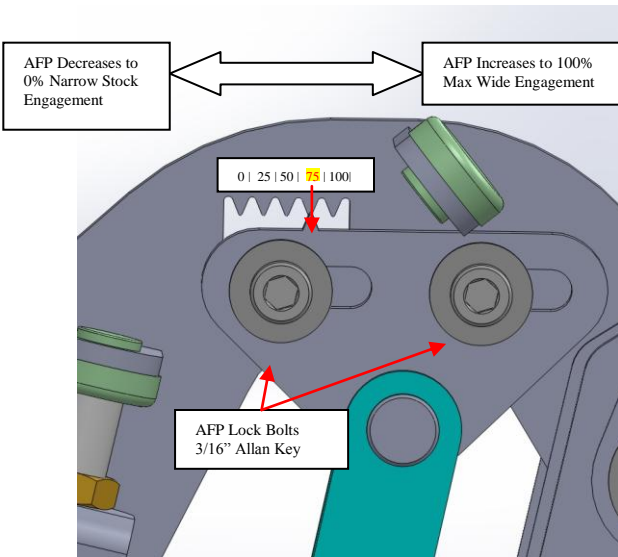
40.) Reinstall the LH trim panel by aligning it with the door edge and snapping back into place. Followed by the plastic nut near the dead pedal. Then snap the door sill back down and you're all done.

**Thank you for Purchasing an RJM Performance Product. Enjoy!**

## Tuning Guide

**AFP Setting Information:** The lowest setting is considered 0% AFP and is equivalent to the factory pedal assembly for leverage & master cylinder stroke. The highest setting is considered 100% AFP and is simply the maximum adjustment available in this design with increased pedal leverage and decreased master cylinder stroke over stock. There is a viewing window in the arm with triangular teeth that line up with a pointer on the AFP slider plate. Each tooth represents 25% AFP. So the left most tooth is 0% and the right most tooth is 100%.

**The AFP setting on Rev 3 comes Pre-Set to the recommended starting position of 75% AFP.**



### **Raising the AFP Setting: (Slide Plate Moves Right)**

- Raising AFP causes a Lowering of the Initial Friction Point.
- Increases Pedal Leverage, making the clutch feel Lighter.
- Widens the Modulation Zone, easier to modulate clutch.
- Causes a lower friction/engagement point.
- Above 90% is Not recommended with a Factory Clutch or a very Mild Stock type replacement.
- **\*Most\*** Quality aftermarket clutches can utilize a higher AFP range up to 100% without the engagement height becoming too low for complete disengagement if you choose to do so. However as AFP increases the pedal pressure will also drop and some may prefer a heavier feel. (Stage 2/3/4, 6-Puck types, Multi-Plate Twin/Triple etc)

### **Lowering the AFP Setting: (Slide Plate Moves Left)**

- Lowering AFP causes a Raise 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.
- Minimum is 0% Same as Stock Pedal.
- **\*If friction point is too low or clutch fails to disengage then AFP must be lowered if the clutch rod adjustment has already been maxed out first.**

### **Adjustment Procedure AFP in either direction:**

-Loosen the Two AFP Lock Bolts with a 3/16 Allan Key

-Slide the AFP Plate Left to Lower / Right to Raise AFP%

-Once adjusted retighten the Two AFP Lock Bolts Firmly.

-**You Must Reset the Upper Switch Gap after any adjustments - See Install Guide Step 33 for procedure.**

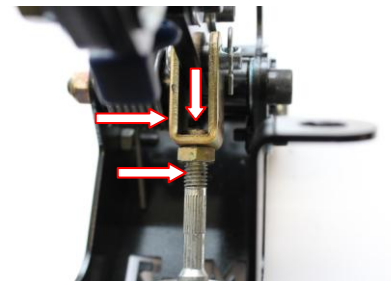
-**If changing AFP more than one Tooth in the viewing window in either direction the Clutch Rod Angle must be corrected for by moving the bracket up/down on the firewall. See Clutch Rod Angle Adjustment Below.**

**Clutch Rod Adjustment Information:** The clutch rod threads in and out of the clevis to fine tune the initial friction point. **The 12mm lock nut must be firmly tightened at all times when Driving.** Failure to retighten after adjustment can cause the rod to disengage from the clevis leading to a complete loss of clutch function.

**You Must Reset the Upper Switch Gap after any adjustments - See Install Guide Step 33 for procedure.**

### **Clutch Rod: Lower Friction Point – Turn Left (Counter Clockwise)**

- Lowers the Initial Friction Point (Only a few turns of adjustment available)
- Decreases the overall pedal stroke length.
- Friction point should never be set less than 1" up from the floor.
- Around 1.5" up is what many will find to be most comfortable.
- Max adjustment is when the rod is threaded fully into the clevis.





### **Clutch Rod: Higher Friction Point - Turning Right (Clockwise)**

- Raises the Initial Friction Point (Only a few turns of adjustment available in total)
- Increases the overall pedal stroke length.
- Max adjustment is when the tip of the rod is flush with the inside of the clevis.

### **Clutch Rod Angle Adjustment:**

- The clutch rod angle needs to be corrected anytime there is a change in AFP setting to avoid pushing at an off angle which can damage the seals in the master cylinder - **See Install Guide Step 33 for procedure.**

**Adjustable Lower Pedal Arm Information:** The Rev3 has an adjustable lower pedal arm section that can be rotated up or down to adjust the height of the pedal pad independently of the upper arm. This allows fine tuning of height without any change to the feel of the pedal or friction point height.

To adjust simply loosen the 3 bolts and rotate up or down to desired location. Retighten the bolts until snug + ¼ turn. Do not over tighten as these can stretch or fracture is over torqued.

## **FAQ Section**

### **1.) New Noises - Clutch/Flywheel/Transmission Noises**

-The RJM Pedal does not cause any new noises from the transmission whatsoever. It's extremely common for customers to be looking for or noticing new to you noises after an install. The classic flywheel chattering noise in neutral, the transmission roll over noise in neutral, the noticeable "hiss" as you release the clutch slowly or the clunk as you release the clutch quickly in neutral which slams the transmission internals into rotation from stopped are all normal and were all present before the install whether you noticed them before or not.

### **2.) Why does the engagement go super low when it's cold in the morning**

-This is classically caused by one of two things. Either the upper switch was not setup correctly/ not adjusted after making other changes and is now stopping the master cylinder from fully returning to the top in which case the upper switch needs adjustment per Install Guide Step #33

-OR-

The two side tension bolts have been over torqued at Install Guide Step #30 causing the main pivot bearings to bind up in which case you need to loosen the bolt tension a little for free pedal rotation.

### **3.) In testing the new pedal the Friction Point is way too low or gears are blocked**

- This is common of OEM clutches with high miles or where other clutch system components with high miles and aren't operating at peak capacity (namely the Master cylinder or CSC). In this case you'll need to drop the AFP setting a little at time until a suitable disengagement point is found or you replace the weak components in your clutch system. Another item you can try to gain a little additional margin for disengagement is to adjust the clutch rod setting to Raise the friction point. Typically the better your clutch and other system components, the higher the AFP you can run safely.

**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.**