

RJM – RHD AFP Pedal Assembly Installation Guide for All 350Z 6MT (03-08) and 350GT Coupe 6MT (03-07)

Install General Info:

- Average Installation time of the pedal assembly should take around 2 Hrs for DIY Installs to be ready for the first test drive *
*This is time assumes you've collected everything you need listed below ahead of time so you can get to work without having to run crawl out of the car and hunt for tools. Preparation is key to a smooth install.
- Some additional time may be required for fine tuning after test driving depending on how you like the initial setup recommended in this guide.
- Installation of this pedal assembly is mostly a Nuts & Bolts operation so anyone with a set of both SAE/Metric sockets and some basic hand tools can do this installation.
- Installation is meant to be a DIY Project and 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 do so have a far greater satisfaction.
- **I've received many stories of customers paying reputable shops excessive amounts for very basic installs and then being sent home with little or no setup/tuning done. These customers are then stuck trying to adjust the pedals on their own and in many cases end up fixing setup problems left behind by poor shop 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 as it often turns out much better.**
- 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.
- 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 2hrs of shop labor for the basic installation of the RJM pedal assembly to be ready for test driving and further tuning if needed.
- 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 30-40 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 & basic level of technical ability as installations so beware any shop that would send you home to attempt further tuning of the pedal on your own.

**** Note On Bleeding Clutch System****

If you are attempting the pump/hold method of bleeding the hydraulic system with the RJM Pedal installed you must reduce the AFP setting to 0% restoring full stroke to the master cylinder in order to get full strokes and get all the air out. 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 for proper operation.

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

- Standard 3/8 Drive Ratchet.
- 3/8 Drive Extension Set – 1 Each Long, Medium & Short Extensions are helpfull.
- 3/8 Drive Swivel Joint
- 12mm Deep Socket
- 12mm Short Socket
- Needle Nose Pliers and Side Cutters (Snips)
- 11mm Socket
- 14mm Socket
- 12mm Wrench
- 14mm Wrench
- 17mm Wrench
- 3/16" Allen Key or Allen Socket (Sorry there is no metric equivalent. Will need SAE tool for this)
- Work light or Flashlight you can position under the dash to help see.
- Blanket or other padding to kneel on while working.
- A second Blanket or thick Bath towel folded over the door sill to pad your ribs & side.
- A Thin Flat Blade Screw Driver or a Pick Tool to aid reinstalling the pedal pad.

Getting Started:

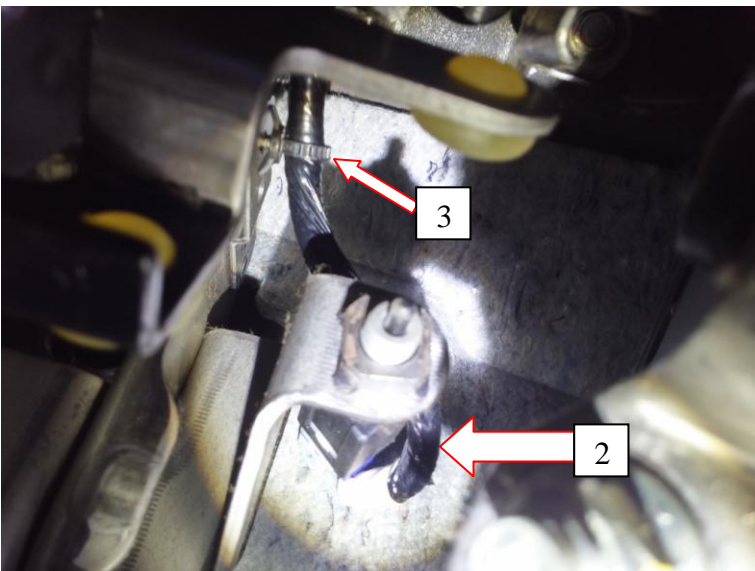
Go ahead and put you light up under the dash so you can get a good look at the factory pedal. The pedal is only held in by (2) Nuts and (1) Upper Bolt. The Clutch rod simply gets unpinned, the 2 switches get unplugged and then the whole pedal assembly can be guided out from under the dash. The installation of the new pedal unit is a little more involved but is basically just the reverse operation with some 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 possible.

NOTE: Some Customers have found it easier to install with the Driver's Seat Removed. If you wish to remove the drivers seat remove the 4x Nuts Holding the Seat and carefully unplug the wiring plugs found below. Lift Out and carefully set aside.

Removing the OEM Pedal Assembly:



1.) Start by removing the dead pedal. To do this grab in the top center and pull towards yourself. The clip will disengage from the floor. Next grab the bottom and pull it up as well. If you see round black plastic pieces sticking up from the floor then spin these off the little studs welded to the floor and snap them back into the holes in the bottom of the dead pedal.



2.) Find the Lower Safety Switch & Depress the **Blue** release tab on the switch while gently pulling the wiring plug out.

3.) Now using needle nose pliers locate the black clip holding the switch wires to the right side of the clutch bracket and Pry the plastic push clip out from the right side of the pedal assembly until it pops free. Alternately you may simply snip the plastic clip off flush at the side of the pedal assembly with side cutters as it's not being reused. Careful not to cut or damage the wire harness.

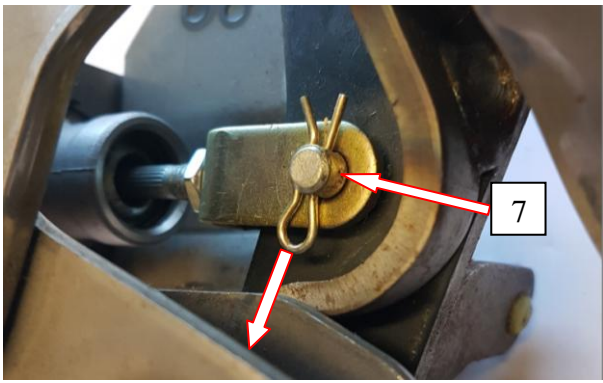
4.) Pull the lower switch wiring plug/harness up and away from the pedal assembly. Tuck it in somewhere out of the way above the pedal assembly so it doesn't hang down and get in the way as you continue removing the pedal assembly.

5.) * If you have a base model Without Cruise Control then Skip This Step.*

On cars **with** Factory Cruise Control - Locate the Upper Cruise Control switch at the top of the pedal assembly and once again depress the **Blue** release tab on the switch while gently pulling the wiring plug out.



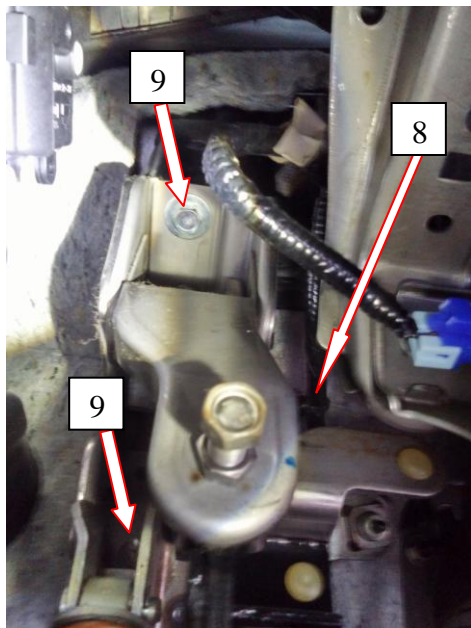
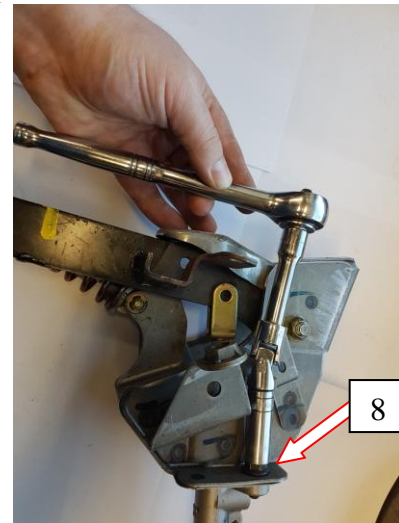
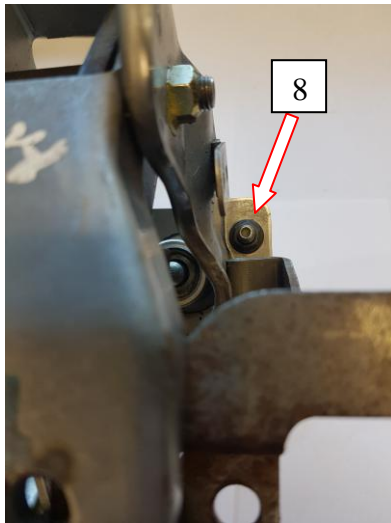
6.) Next Locate the Clutch Rod going into the master cylinder that connects to the Factory Clevis End as shown in the photo. There is a Lock Nut behind the clevis on the threaded section of the master cylinder rod. Using a 12mm Open End Wrench, come in from below the pedal arm and find the best wrench position to get onto the flats of the nut to turn it Clockwise and loosen the nut - Just need to turn it enough to break it free so the clevis end can be removed later.



7.) Locate the hairpin clip holding the pin in the clevis fork, turn the pin so that the closed end of the clip is point to where you can remove it as shown and simply pull it out with needle nose pliers. Push the gold colored pin out of the factory clevis (make sure not to drop it) and set it aside along with the hairpin clip.

8.) Using a 3/8" Drive Ratchet with Extension, Swivel Joint and 12mm Deep Socket as shown to reach the master cylinder nut on the upper right side of the assembly. See Photos Below for correct Tool Setup and best Tool Path to reach this somewhat hidden nut. Also see photo at Step #9 for in car reference.

**Photos are shown outside the car for reference to give a clearer picture of how this nut is removed.*



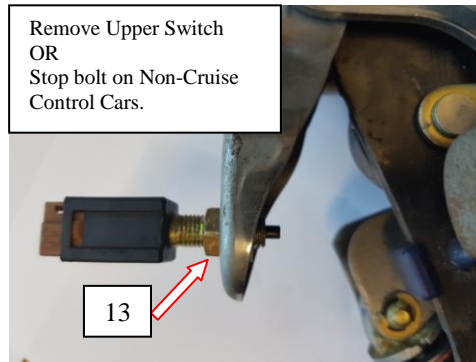
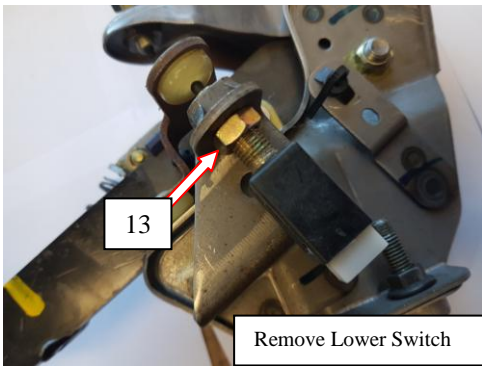
9.) Now remove the remaining (lower left) master cylinder nut holding the bracket to the master cylinder and then remove the upper dash bolt. Using your 12mm deep socket and extensions. **(Note you can remove the swivel joint to make these steps easier so the socket doesn't wobble if you wish.)**

10.) Next maneuver the factory bracket forwards and down off the firewall. Lifting it off the Master cylinder studs and then 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.

11.) Now take the factory pedal unit to a suitable table or work space along with the new RJM Pedal to swap a few things over.

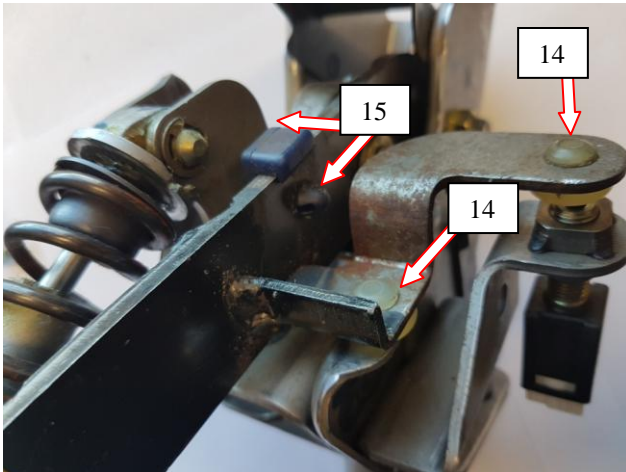
****Warning- Be extremely careful around the factory pedal as the OEM Return/Assist spring mechanism is powerful and snaps up or down like a mouse trap at the tipping points. If you accidentally get your fingers in the wrong place and trip the spring it could easily smash a finger. Please use caution as you work on the factory pedal.**

Remove Required Parts from OEM Pedal:



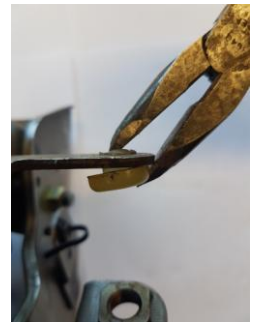
- 13.) Next Take a 14mm Wrench and Loosen the gold retaining nut on each of the switches, then unthread from the pedal assembly to remove them.

Note: Cars Without Cruise Control will have a Stop Bolt in the upper switch position. Remove this and treat the same as the switch in later steps.



- 14.) Remove the upper & lower Round Plastic Switch Bumpers by pushing them out from the back side of the factory pedal locations. Needle Nose Pliers work well- Squeeze them from the top & bottom in the center with the pliers and twist up slightly and they'll pop right out. See Photo for Reference.

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

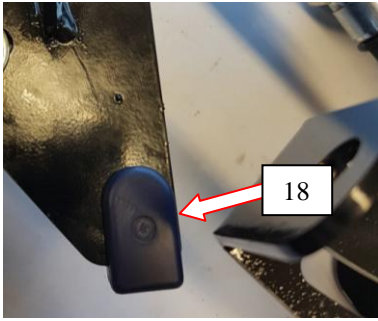


- Next carefully pull the pedal cover from the factory pedal starting at the top left corner by rolling the rubber lip back out of the way and pulling the cover off.

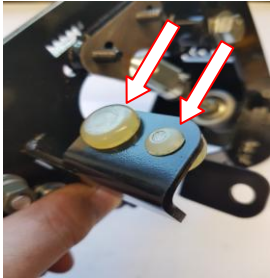


You can now set the factory pedal assembly aside as you're done with it and Proceed to Page #5 – Preparing the New Pedal

Preparing the New RJM Pedal:



- 17.) On the new assembly start by cutting the zip tie installed to hold the arm down during shipping and gently let the pedal arm come up under spring tension. Remove any protective shipping tape as well.
- 18.) Take the Blue Stop bumper and press it thru the lower most hole at the bottom of the new RJM Pedal Arm as shown so the flat face is on the RH Side of the arm facing you as shown. This bumper makes contact with the bottom plate of the pedal assembly and is your Bottom Stop Bumper.



- 19.) Next you can install the Round Switch Bumpers in their respective holes in the Upper Pedal Arm mount. 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:** Inner hole (left) the bumper faces UP and outer hole (right) the bumper faces DOWN.

- 20.) Install the White Starter Safety switch into the lower position in the new bracket followed by an oem switch lock nut. Set the switch so that when the arm is held down against the bottom stop (Blue Rubber foot must be in place) the round rubber bumper fully presses the black button of the switch but also leaves a very slight gap between the rubber and the threads of the switch as shown.
- 21.) Tighten the lock nuts using a 14mm and 17mm wrench together.



- 22.) Next install the Brown Cruise Control switch into the upper switch mount followed by an oem switch lock nut. Orient the switch straight so you know which direction the release button on the wiring plug needs be in order to plug it back in later. Set this switch depth so there is about a 2 threads showing out the bottom side of the silver nut (towards the rubber bumper) and tighten both lock nuts using your 14mm & 17mm wrenches together.

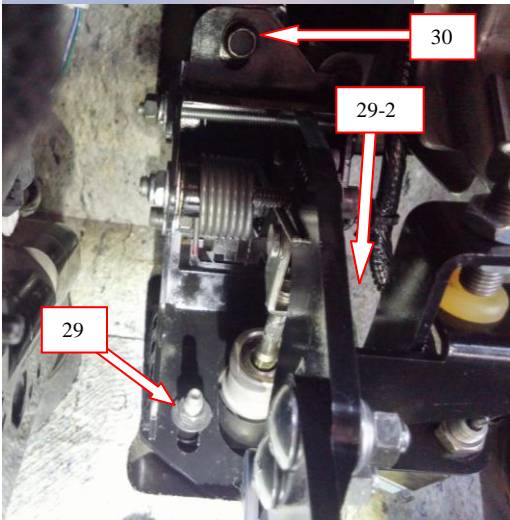
- 23.) Get the pedal pad removed earlier and slide the pedal cover onto the Lower Pedal Arm foot pad starting at the narrow end and working the cover on firmly to get the cover seated at the bottom as far it can go before pulling/pushing/working the sides and top lip of the cover around the edges to fully seat it in place. You can use a thin flat blade screwdriver or pick tool to work along the edges, rolling them up and around the new pedal arm as needed.
- 24.) Next take the Lower Pedal arm section and remove the 2 nuts, 2 lock washers and 2 flat washers from the bolts. Loosely install the Lower Pedal Arm to the Upper Pedal Arm using the bolts and hardware provided. The arm is oriented to the bolts pass from Left to Right, washers and nuts face the RH side of the assembly. Set the arm to about the middle of its pivoting adjustment range and tighten down both bolts just lightly with a 14mm wrench. This will get fine tuned later and is just a place to start so don't over tighten it now.

Install New Pedal into Car:

- 25.) Take the prepared pedal assembly back to the foot well of the car. Locate the two stud nuts and the upper dash bolt removed earlier. Retrieve your 3/8 Ratchet with extensions, 12mm deep socket and swivel joint so they're ready for the next steps.
- 26.) Next go under the dash and while holding the master cylinder rod with pliers, remove the OEM clevis end while counting the number of turns required to remove it. Remove the Snap-in-Place Pin from the new HD Clevis and set aside in the foot well. Next while again holding the rod from turning, spin the new HD Clevis end provided in your kit onto the rod * Thread it the Same Number of Turns* required to remove the old one. This will give you a good starting point before fine tuning later.



- 27.) In your kit you received a 6mm flat plate with a large hole thru the center a smaller hole and a slotted hole as shown in the photo. This is the firewall spacer and it gets slipped into place over the master cylinder rod and studs. The slotted hole should be oriented to the Upper Right Side and push it down tight to the firewall before Step 28.



- 28.) Take the main bracket and guide it under the dash into position over the master cylinder studs so they are lined up thru the slotted holes in the bracket. As you get the bracket in place the HD clevis fork should be oriented straight up/down so it slots around the pedal arm, ready to be pinned in place. If the clevis is shoved off to one side or the other as the bracket goes onto the firewall it's very difficult to line up later so take an extra moment to ensure this is correct before continuing.

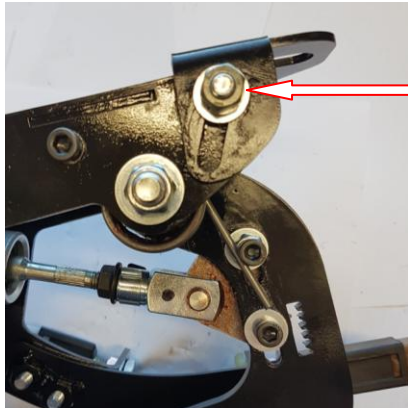
- 29.) Now while still holding the bracket up with one hand, start the first 12mm nut onto the Lower Left stud spinning it down as far as you can with your fingers. Then start the second nut onto the Upper Right Stud, again going most of the way down by finger as it should spin on easy.

- 30.) Take the short M12 socket + a long extension to use as a handle and place the upper bolt into the socket ready to install. Now maneuver the upper dash mount plate so it lines up with the hole in the dash support. You can also loosen the cross bolt holding the upper mount plate with an 11mm wrench if needed so it can be more easily moved into position. Once you can see the mount is lined up to the hole you can start the upper bolt and spin it in 90% of the way by hand turning the long extension.



- 31.) Next find the Snap Pin from the HD Clevis. Lineup the clevis fork with the bushing hole in the upper pedal arm and insert the Pin from Right to Left thru the arm to pin the clevis in place. The barrel of the snap clip should be oriented to the bottom side and rotates UP to snap over the round body of the clevis as shown in reference photo provided.

- 32.) Now get a Deep 12mm socket, extension and swivel joint ready for this step. Moving the bracket up or down alters the angle of the clutch rod which needs to push straight in/out of the master cylinder. Move the bracket to where the rod looks to be going straight into the master cylinder or just very slightly angled upwards towards the clevis by no more than 1-2mm and tighten the Lower Left nut firmly, followed by tightening the Upper Right nut firmly and finish by tightening the upper dash bolt firmly.



- 33.) Use an 11mm wrench or socket on your ratchet and tighten the Cross Bolt that clamps the upper dash mount to the main bracket. This nut should be just snug + 1/2 turn. Don't crank this down overly tight or it could start to collapse the main bracket or stretch the bolt.

(Photo for reference and taken out of the car for clarity)



- 34.) Now you can adjust the upper switch so that the button is fully depressed with the pedal up. You'll need a 7/16 or 11mm wrench for this. Press the arm down lightly and note the small amount of slack in the linkage before the master cylinder rod actually moves. Next squeeze the upper switch mount into the rubber bumper and rotate the whole arm down slightly to just take up the linkage slack. While holding the pedal there, tighten the upper switch mount bolts with your wrench to hold the position as shown in the photo provided.

**** NOTE : The Upper Switch must be re-adjusted per the above procedure after every change to the AFP or clutch rod settings. Failure to do so can keep the Master Cylinder from fully returning to the top of its stroke which can cause problems. ****

- 35.) Now you can finish up by plugging in each of the switches with their respective wiring plugs.
Note: If these plugs happen to get swapped top to bottom the car simply won't start with the pedal down. If you have this happen simply swap the plugs around to correct this.
- 36.) At this point you can loosen up the two nuts holding the Lower Pedal Arm to the Upper Pedal Arm to adjust the height of the foot pad relative your brake pedal pad with a 14mm wrench. This should be set level to the brake or just slightly higher to allow for the small amount of soft take up the master cylinder naturally has without the stiff OEM spring mechanism. This soft take up of about 12 to 18mm of initial travel is perfectly normal and cannot be tuned out. Once you're happy with the height of the pad firmly retighten the nuts with a 14mm wrench.

37.) * IF You Removed the Driver's Seat, Reinstall it Now. *****

Failure to do so on vehicles with Side Impact Airbags will cause an Airbag Warning/ Malfunction light to come on if the ignition is turned on at any point with the seat removed. If you accidentally do this you'll have to perform an "Airbag Reset Procedure" which you can find details for online or can be done at your Nissan dealer.

- 38.) Now clear your tools up and prepare to start the car for the first test. Adjust the seat so you're comfortable and pump the pedal a few times. It should feel smooth and linear without any clicking.

- 39.) **Important Shift into Neutral -> BEFORE <- Starting the Engine if not already there.**
- 40.) 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 1st gear then **Stop! and go to Step 41.**
If the Test Was Successful then Skip to Step #42.
- 41.) **If in Step #39 The Friction Point was too Low, you Encountered Resistance or Grinds:**
- The first step to remedy this is to adjust the clutch rod to raise the pedal higher by full 2 turns Clock Wise (while facing the front). This will directly raise the friction point height on the bottom. **You MUST** also adjust the upper cruise control/stop bolt Mounting Tab (2x 11mm bolts) to allow the pedal to rise to it's new higher resting position. Failure to do so will prevent the master cylinder from fully returning and cause issues. Go back to Step #39 and Repeat the Test. Adjust rod further if necessary.
 - If it still fails the test after raising the clutch rod to its maximum position **(the rod MUST maintain a minimum of 3 threads into the clevis at all times)** then you will need to reduce AFP setting.
See Tuning Section – Adjusting AFP Setting.
- 42.) Next take the parking brake off and check to see where the friction point is up from the floor on level ground. **(DO NOT Attempt to Drive the Car unit Step 42 is completed)** Shift into 1st 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 between 1” - 2” up from the floor to ensure complete clutch disengagement. **If lower than 1” up see Step 41 to raise friction point.** If the friction point is good then proceed to Step 43
- 43.) If it felt ok in step 39 you can now tighten the Lock Nut behind the HD Clevis with a 12mm Wrench. This nut **MUST** be firmly tightened at all times while driving the vehicle. Failure to do so could lead to the rod uncoupling from the Clevis while driving leading to total loss of clutch control. **NEVER** drive with this loose, I can't stress this enough.
- 44.) Reinstall the plastic Dead Pedal by snapping it back down over the studs on the firewall, press firmly to make sure it's seated down all the way.

Thank you for Purchasing an RJM Performance Product. This Completes the Basic Install Procedure. You can now test drive the vehicle and See the Tuning Section of the Guide for Fine Tuning of the new pedal setup (Page 8)

Tuning Section and FAQ's

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 lowest tooth (towards the floor) is 0% and the top tooth (towards the dash tooth is 100%.

The AFP setting on all RHD Pedals is Pre-Set to the recommended starting position of 75% AFP.

Raising the AFP Setting: (Slide Plate Moves Up Towards the Pivot Point)

- Raising AFP causes a Lowering of 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 (Cause if lower friction point)
- Max is 100% AFP and only for Aftermarket Clutches with short engagement.
- Above 75% is Not recommended with a Factory Clutch or poor disengagement could occur.

Lowering the AFP Setting: (Slide Plate Moves Down away from the Pivot Point)

- 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 and there is no clutch rod adjustment left AFP must be lowered.

Adjustment Procedure AFP in either direction:

-Loosen the Two AFP Lock Bolts on the Left Side of the pedal assembly with a 3/16 Allan Key

-Slide the AFP Plate Up to Raise, Down to Lower the AFP Setting, Each Tooth is 25%.

-Once adjusted retighten the Two AFP Lock Bolts Firmly.

-Reset the Upper Switch Gap, See Install Step 34.

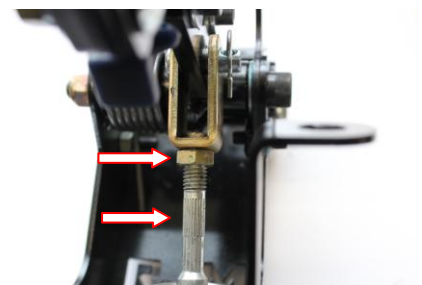
-When changing AFP the Clutch Rod Angle must be corrected for by moving the bracket up/down on the firewall. **See Clutch Rod Angle Adjustment Page 10.**

Clutch Rod Adjustment Information:

The clutch rod threads in and out of the clevis to raise and lower the overall pedal height and fine tunes the initial friction point. The 12mm lock nut must be firmly tightened at all times. Driving with this lose could cause the rod to disengage from the clevis causing complete loss of clutch control.

Clutch Rod Adjustment: Lower Pedal - Turning Counter Clockwise

- Lowers 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 1.5" up from the floor.
- Around 1.5" to 2" up is what many will find to be most comfortable.
- Max adjustment is when the rod is threaded fully into the clevis.



Clutch Rod Adjustment: Higher Pedal - Turning 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 NO LESS Than 3 Full Threads Remain Engaged in the Clevis.

Reference photo only.

Clutch Rod Angle Adjustment:

The clutch rod needs to be set for as straight of a push in/out of the master cylinder as possible. Anytime there is a change in AFP setting this Procedure MUST be done to avoid pushing the master cylinder rod at an extreme angle. The rod Angle Should **NEVER be angled Downward towards the Clevis** as this can cause binding. It is preferable to have the Rod Angled very slightly upward towards the clevis (1-2mm max) as the linkage angle will naturally drop slightly during the stroke of the pedal, making the angle level out by mid-stroke.

Procedure:

- Loosen the two stud nuts holding the bracket to the firewall with your 12mm socket setup.
- Loosen the cross bolt clamping the upper mounting plate to the bracket using an 11mm wrench.
- Slide the bracket up or down slightly on the firewall to adjust rod angle.
- Retighten both nuts firmly.
- Retighten the cross bolt snug + half a turn.

Adjustable Lower Pedal Arm Information: The RJM RHD AFP Clutch System 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 2 bolts and rotate up or down to desired location. Retighten the bolts until snug + 1/2 turn. Do not over tighten.