

RJM 350Z, G35 & G35 Sedan

Rev3.1 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)
- M12 Short Socket (For Upper dash bolt and starting stud nuts)
- 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. 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. 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.

Now let's get started.

Removing the Stock Pedal Assembly:

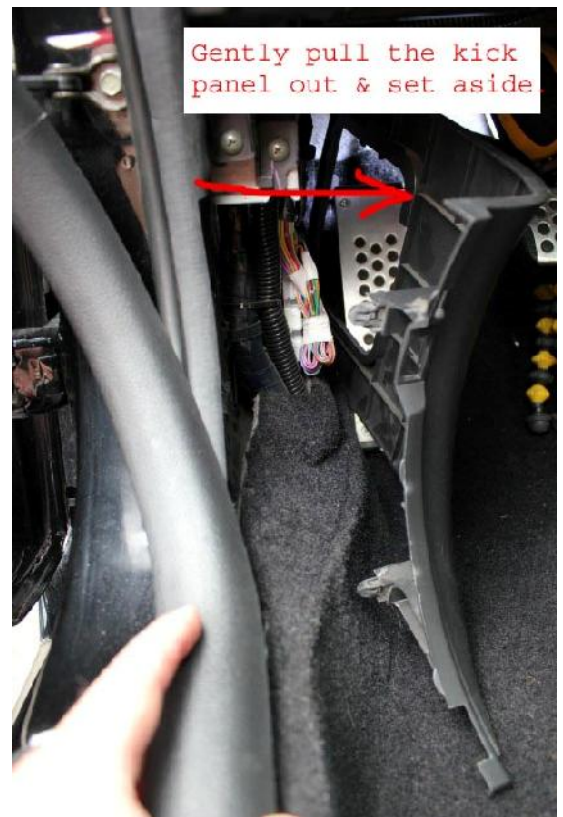


- 1.) Remove the black plastic thumb nut above the dead pedal which holds the LH Trim Panel.

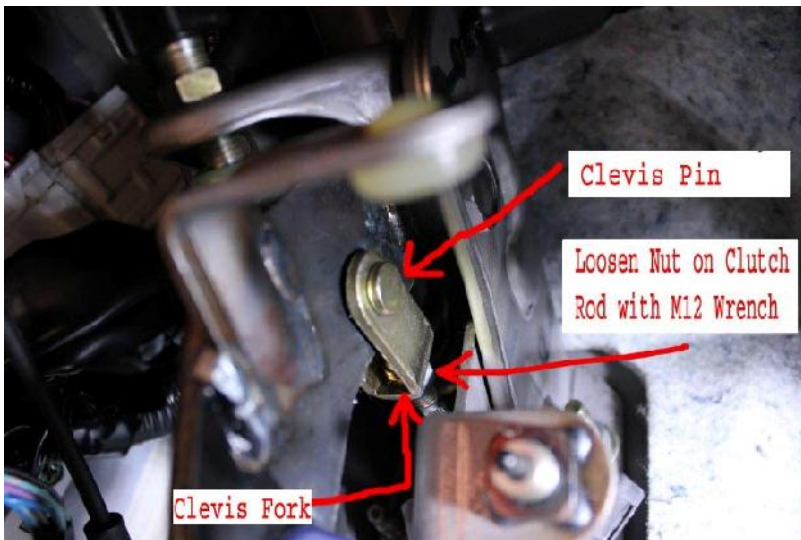


- 2.) Next gently pull up the Door Sill Trim starting at the front where it meets the LH Trim Panel.

- 3.) Once the Door Sill Trim has 2 or 3 clips pop free you can pull the LH Trim Panel Out and set it aside. Then push the Door Sill Trim back down temporarily to continue working.
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- 4.) 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. If the upper switch is hard to reach for unplugging leave it until the bracket is unbolted and free to make it easier.
- 5.) Now using needle nose pliers locate the black clip holding the lower wire to the side of the clutch bracket. Pull from the base of the clip until it pops free or it may simply break however it's not reused and a zip tie is included to secure the wire to the new bracket.

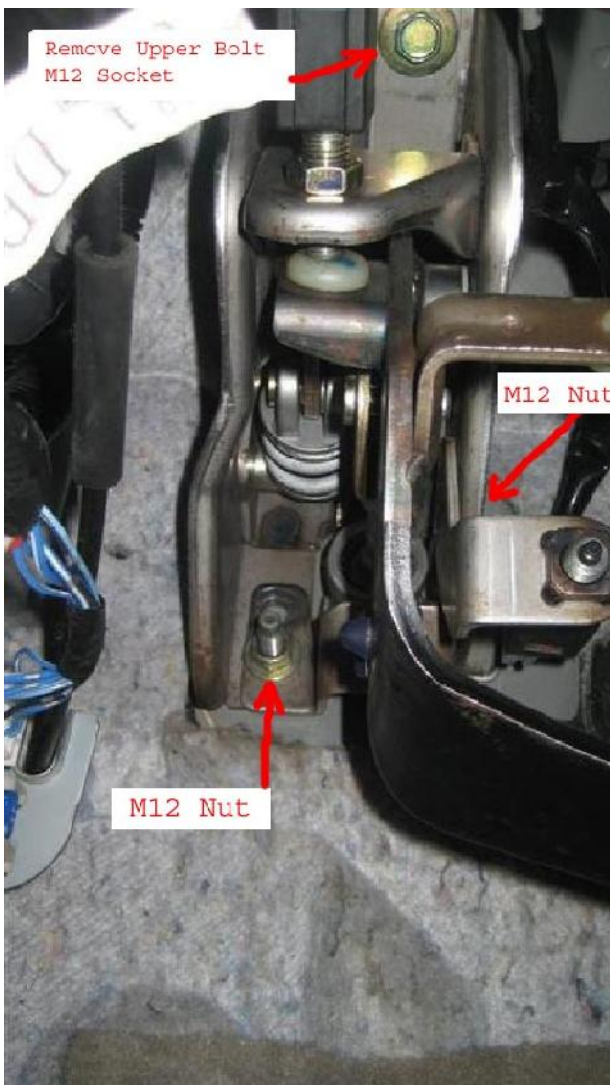


- 6.) Use an M12 Wrench to loosen the clutch rod nut located behind the clevis fork
- 7.) Locate the hairpin clip holding the clevis pin on the clevis fork (It could be on either side if has ever been removed in the past) Rotate the clip if needed and simply pull it out with needle nose pliers.



8.)

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

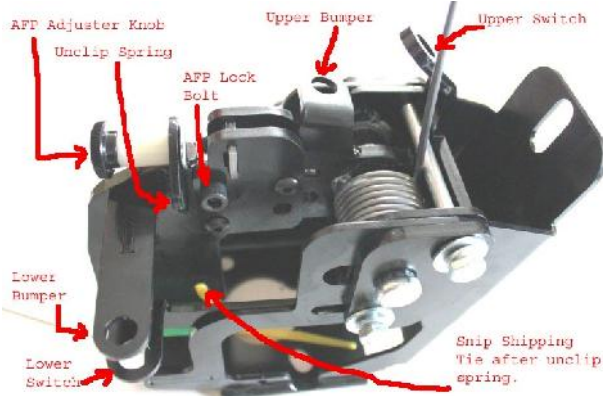


- 10.) Now remove the two nuts holding the bracket to the master cylinder and the upper bolt using an M12 Socket, 3/8 Ratchet with swivel and extensions arranged as needed for easy removal for each location.
- 11.) Next maneuver the factory bracket up off the Master cylinder studs and then slide it carefully 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 the dash.
- 12.) Unscrew the factory clevis fork from the clutch rod and spin the lock nut on the clutch rod all the way down lightly by finger.
- 13.) Now take the factory pedal unit to a suitable table or work space along with the new RJM Pedal & parts 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 bear trap at the tipping points. If you accidentally get your fingers in the wrong place and actuate the arm downward it could easily smash a finger. Please use caution as you proceed.**

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

- 13.) On the bench you can unclip the return spring on the new pedal assembly to release the tension and then cut the zip tie installed for shipping. Note with the spring unclipped it will be binding up slightly making the pedal motion rough. Don't worry as once the spring is tensioned again it will be perfectly smooth.



- 14.) On the new pedal arm turn the black AFP adjuster dial Right(Clockwise) until it stops and then Left (CCW) 1 turn. This will bring the slider back to make installing the clevis pin easier later on.



- 15.) Loosen and remove the two safety switches from the OEM pedal 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.
- 16.) 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. A little grease or soapy water will help them slip into their respective holes on the new pedal arm along with turning them as you push them in. Watch the up/down orientation.



- 17.) Find the new clutch fork with the clevis pin preinstalled, this will either be OEM or Wilwood threaded depending on your order. 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 push out as well so they don't fall out and get lost during the next steps. There will also be 2 lock nuts for the switches pinned together with the fork during shipping.



- 18.) Take the factory lock nut off both switches and swap them for the larger lock nuts supplied in the kit. Then install the white clutch switch into the lower position in the new bracket followed by the OEM switch lock nut. Set the switch so that when the arm is fully down (with Blue stop in place) that there is just a slight gap between the rubber bumper and the threaded body of the switch. Tighten the lock nut using an M14 wrench.

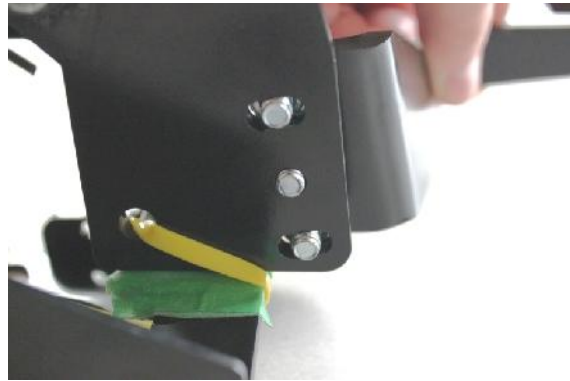
- 19.) Next carefully pull the pedal cover from the factory pedal starting at the back by rolling the rubber lip back out of the way while carefully pulling the cover off.



- 20.) Place the pedal pad in some hot water for a minute to soften up the rubber. Then wet the new pedal arm pad 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. Start in one corner using a small flat blade screwdriver or kitchen knife to roll the edges up and around as needed.

- 21.) 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 + 1/4 turn only, over tightening can cause the bolts to stretch and fracture.

Photo for Ref Only to show Centered position on slots.

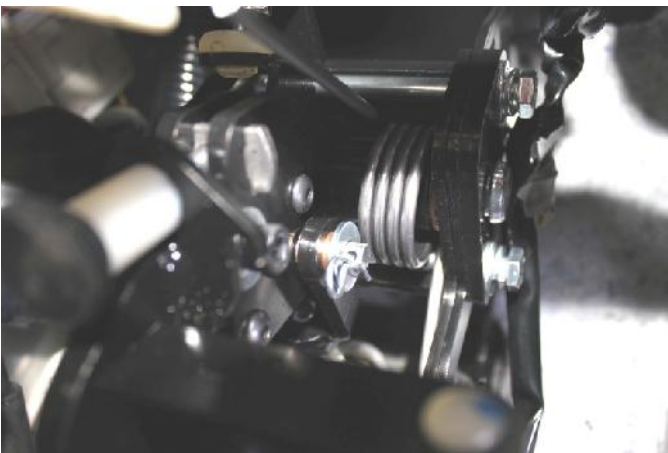


- 22.) Now take the clevis fork parts bag, upper switch and new pedal assembly over to the car laying everything out on the floor where you're working.
- 23.) Take the new fork and spin it onto the clutch rod until it just about bottoms out against the lock nut. You may need to hold the clutch rod while doing this so it threads all the way on.
- 24.) Locate the two stud nuts and the upper bolt. Get just the long 3/8 extension with an M12 Short socket and insert one of the stud nuts into the socket so its ready go for the next steps.
- 25.) Take the main bracket and guide it under the dash into position over the master cylinder studs making sure the clutch rod and fork 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 forward towards the firewall to gain more room to get over the studs. The new clevis fork should also be lined up with the arm so its ready to pin in place later on. Once the bracket is lined up on the studs pull the master cylinder rod towards you firmly.

- 26.) While holding the bracket up with one hand, start the first nut onto the lower left hand stud spinning it down most of the way with the socket and extension. Then start the second one again going most of the way down. Take your M12 socket + extension again 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 and spinning it in 90% of the way.
- 27.) Starting with the upper left stud, run the nut down until it reaches bottom but don't torque it. You'll need to push the sliding center section of the new main bracket straight up as high as it goes so you can get a straight shot at the upper right stud nut.
- 28.) Then firmly tighten the upper bolt. Then just snug the upper right stud nut followed by the lower left stud nut. Then go back and firmly tighten both nuts as the final step. Doing this torque sequence in steps ensures everything tightens down evenly.
- 29.) At this point you can take the brown switch, plug it back into the 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.
- 30.) Next find the silver clevis pin for the clutch rod fork and place one washer followed by 1 bearing onto it. Have the 2nd bearing, washer & clip handy for the next steps.



- 31.) Lineup the new fork with the thru hole in the AFP slider mechanism.
- 32.) Slowly push the clevis pin thru the LH side of the fork, thru the pedal arm mechanism and out thru the other side of the fork. Push the bearing firmly thru the LH hole in the clevis fork, then slide the RH bearing onto the pin from the other side pushing it into the clevis fork hole as well.



- 33.) Push the pin and bearings tight together so you have room to put the RH washer on the pin followed by the hairpin clip to hold everything. As seen in photo left.

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.

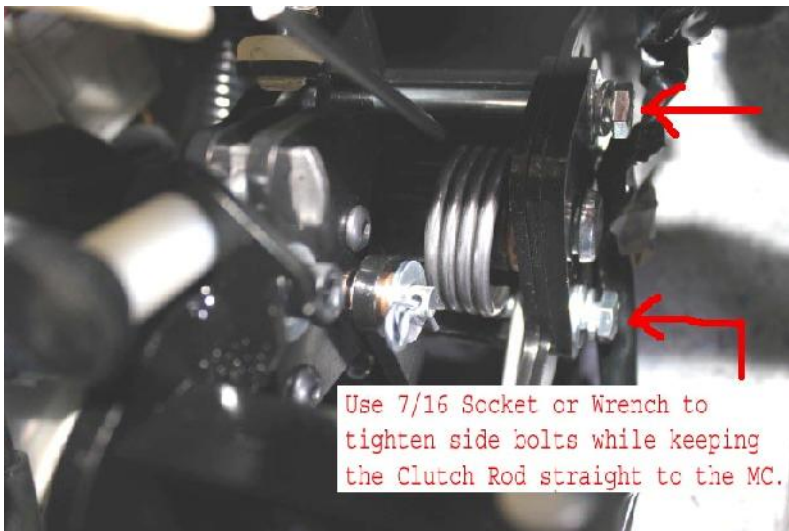
Clutch Rod Adjustment: Turning Left (Counter Clockwise)

- 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.

- 34.) 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 3-4 full turns bringing the setting down to around 60-70%. 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 side of the arm just ahead of the adjustment knob. (Reference Photo see Step 13)
- 35.) The clutch rod it should be straight with the master cylinder. Adjustment is made by sliding the entire center section of the pedal assembly up or down as needed to get the rod generally level. Then tighten the two bolts evenly on the RH side of the bracket going back and forth between them with a 7/16 wrench or short socket. These should just be snugged just up enough to hold position. Do not over tighten these.



- 36.) 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 1/4 turn at a time until you feel the side play just disappears and no more. 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.

- 37.) With the AFP Adjuster set to roughly around 60-70% (doesn't need to be exact) and the return spring still sitting loose have a look at how high the new clutch pedal is compared to the brake pedal height. Using your Needle Nose Pliers turn the clutch rod Right (Clockwise) until the clutch pedal is about level or just above the brake pedal height while leaving the 2pc arm adjustment centered for now.
- 38.) 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 white 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 nut.
**** 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. ****
- 39.) 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 pressure plate.
- 40.) 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.
- 41.) Important Shift into Neutral -> BEFORE <- Starting the Engine if not already there.**
- 42.) 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 then **Stop!** Unlock and lower the AFP setting by 1 turn to the Right (Clockwise) followed by turning the Clutch Rod Right(Clockwise) to raise the pedal height. Check the upper switch adjustment is good and try the test again. Adjust the AFP % Down and the Pedal height UP until you can shift into 1st normally with no unusual resistance and then check Neutral to Reverse as well.
- 43.) If it felt good in step 42 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(Clockwise) 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.
- 44.) 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.
- 45.) 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.
- 46.) 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!