
INSTALLATION GUIDE

NISSAN NAVARA
INTERCOOLER KIT



P/N PWI65094K



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CONDITIONAL MANUFACTURERS WARRANTY

PWR Custom Aluminium Radiators, Intercoolers and Oil Coolers along with cores only for these units are warranted to the original purchaser to be free of fault for materials and workmanship for a period of 1 year from the date of purchase and only when used under normal operating conditions. Claims for internal damage to engine or other related components of user's vehicle are not covered by this warranty. The PWR product user is responsible for the monitoring of engine temperature operations and for having the appropriate detection devices in place to warn the user of overheating and other engine related malfunctions. At time of installation an approved coolant must be added to the cooling system. (See important information – Radiator point 3) Responsibility for any damage, injury or loss attributed to any fault in material or workmanship in the above listed products shall be limited by replacing the unit on return of the defective product.

Warranty voids

If the product is repaired or welded by another party other than PWR Performance Products. * If any defect is attributable to an accident, abuse or negligence. * Where the product is used for an application for other than it was intended. * If any parts or accessories are fitted which adversely affect the product

Warranty does not cover

Charge relating to removal and replacement to vehicle. *Internal or external corrosion. * Any consequential damage. * Freight cost incurred to send the item back to PWR

LIMIT OF LIABILITY STATEMENT

The information contained in this publication was accurate and in effect at the time the publication was approved for printing and is subject to change without notice or liability. PWR Performance Products reserves the right to revise the information presented herein or to discontinue the production of parts described at any time.

SAFETY PRECAUTIONS

STOP

CAREFULLY READ THE IMPORTANT SAFETY PRECAUTIONS and WARNINGS BEFORE PROCEEDING WITH THE INSTALLATION!

Appropriate disassembly, assembly methods and procedures are essential to ensure the personal safety of the individual performing the kit installation. Improper installation due to the failure to correctly follow these instructions could cause personal injury or death. Read each step of the installation manual carefully before starting the installation.

- Always wear safety glasses for eye protection.
- Place the ignition switch in the OFF position.
- Always apply the parking brake when working on the vehicle.
- Block the front and rear tyre surfaces to prevent unexpected vehicle movement.
- Operate the engine only in well-ventilated areas to avoid exposure to carbon monoxide.
- Do not smoke or use flammable items near or around the fuel system.
- Use chemicals and cleaners only in well ventilated areas.
- Batteries can produce explosive hydrogen gas which can cause personal injury. Do not allow flames, sparks or flammable sources to come near the battery.
- Keep hands and any other objects away from the radiator fan blades.
- Keep yourself and your clothing away from moving parts when the engine is running.
- Do not wear loose clothing or jewellery that can be caught in rotating or moving parts.

IMPORTANT INFORMATION FOR FITTING

Please read the following before fitting your PWR Performance Product.

WARNING

WARNING: Failure to follow this procedure will void your warranty.

- Do not use this product in any other motor vehicle for which it is not designed.
- Do not use any other mounting location / method other than described in this instruction.
- It is advisable to seek assistance of another person when installing this product.
- Do not repair or modify this product and / or its mounting bracket in any way - repair or modification may affect proper operation of the vehicle or cause destruction of property.
- Ensure all torque settings are followed.
- Be sure to clean and remove any loose debris before removing pipe work as debris entering the engine could be detrimental to the engine and or components

Radiators:

- Before removing the old radiator check the existing coolant for stray current. This is done by connecting a voltmeter between the coolant and the battery ground. The meter should have a range of at least 12 volts (assuming the vehicle have a 12 volt charging system) and a sensitivity of at least one-tenth of a volt. By connecting one test lead to battery ground and placing the other lead into the coolant (DO NOT TOUCH THE METAL CORE OR FILLER NECK) any voltage indicates current passing through the coolant-ELECTROLYSIS.
- If no current found flush cooling system with distilled water to remove the existing coolant/inhibitors. When the entire system has been flushed including the over flow bottles, you can fit the new radiator. DO NOT MIX COOLANTS
- Select a coolant that is recommended by the manufacturer or by PWR. Product must meet the current AS2108 or manufacturer's engine coolant/inhibitor standard and refill system. Bring engine up to temperature and let cool. Re-Check the coolant level and top up if necessary. USE ONLY DISTILLED WATER.
- IMPORTANT- again recheck step 1 for any stray current.
- PLEASE be careful when fitting and make sure all mounting points are tight (to manufacturer's specifications) and there is sufficient clearance so no rubbing occurs.
- PLEASE ensure that all hose clamps are done up.
- Correct cap must be used for each individual system.

Intercoolers:

- PLEASE be careful when fitting and make sure all mounting points are tight (to manufacturer's specifications) and there is sufficient clearance so no rubbing occurs.
- PLEASE ensure that all hose clamps are done up.

Oil Coolers:

- PLEASE be careful when fitting and make sure all mounting points are tight (to manufacturer's specifications) and there is sufficient clearance so no rubbing occurs.
- PLEASE ensure that all hose clamps are done up.
- Do not run over 80 psi rating.

Liquid to Air Barrel Intercooler kits:

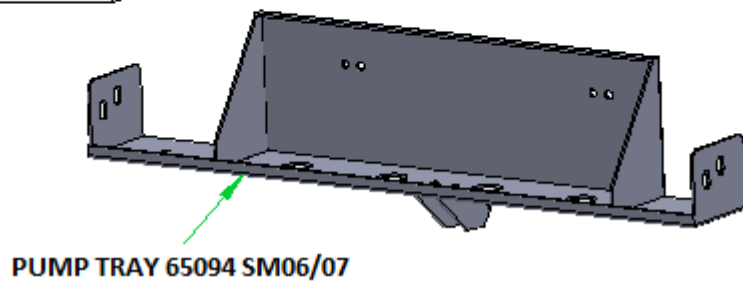
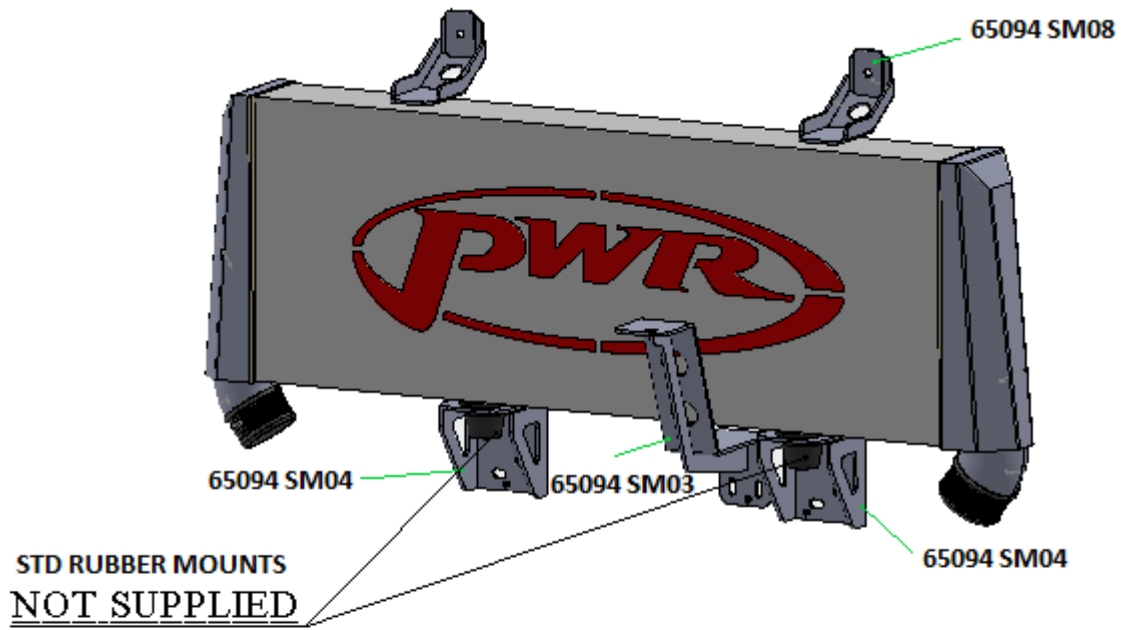
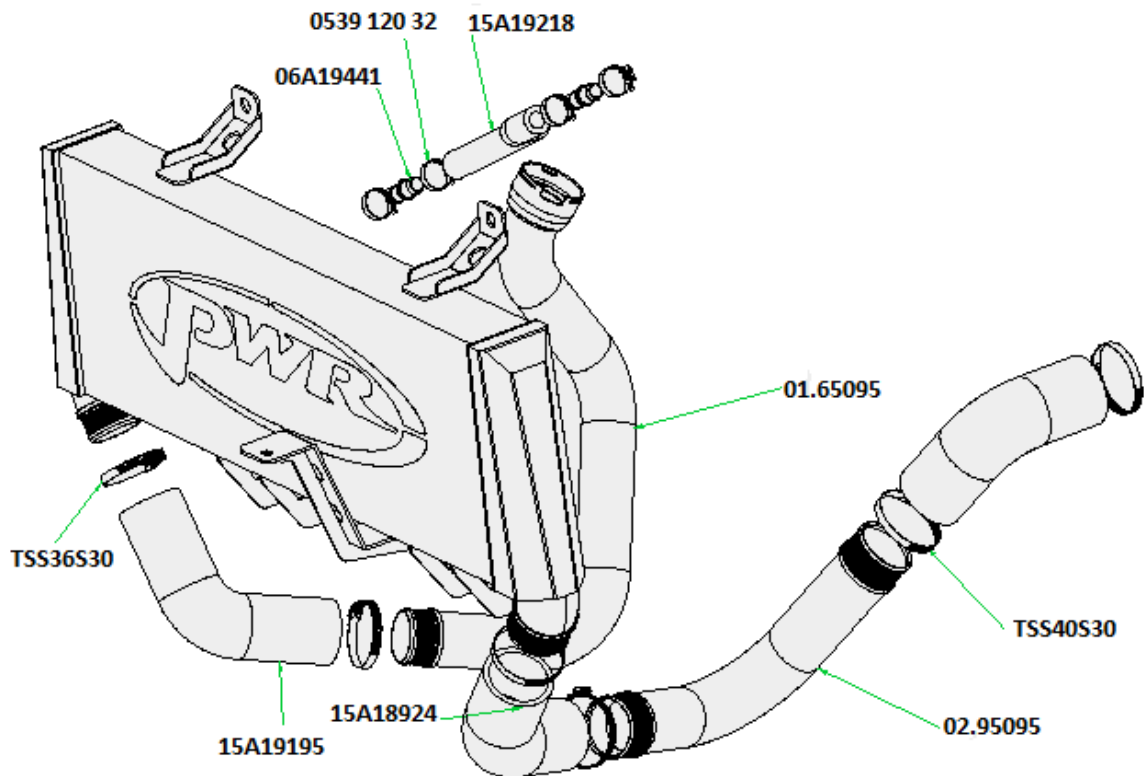
- Select a coolant that is recommended by the manufacturer or by PWR. Product must meet the current AS2108 engine coolant/inhibitor standard and refill system. Cycle the fluids through the system to remove air locks. Re-Check the coolant level and top up if necessary. USE ONLY DISTILLED WATER
- PLEASE be careful when fitting and make sure all mounting points are tight (to manufacturer's specifications) and that there is sufficient clearance so no rubbing occurs.
- PLEASE ensure that all hose clamps are done up.
- Pump must be fitted in accordance to fitting instructions supplied and by a qualified auto electrician.

APPLICATION

Before commencing the procedures outlined please read the guide and verify all parts are present and not damaged. If anything is missing or damaged, please notify PWR Performance Products on 07 5547 1600.

PACKING LIST

Description	Part Number	Quantity
Air Induction		
68mm Intercooler	PWI65094	1
Punched Washers Rectangle 3mm	65094 SM08	2
Lower Tray and Water Pump Relocation Bracket (WELDED ASSEMBLY)	65094 SM07 & 06	1
Bumper Bar Z Bracket	65094 SM03	1
Lower Intercooler Mounts	65094 SM04	2
Hot Intercooler Intake Pipe	01.65095	1
Cold Intercooler Outlet Pipe	02.65095	1
Silicone Hose 57mm x 113 Degree	15A18924	2
Silicone Hose 51mm x 67degree	15A19195	1
Murray Hose Clamps 50-73mm	TSS36S30EP00C	2
Murray Hose Clamps 57-79mm	TSS40S30EP00C	4
Silicone Hose 5/8" x 250mm Water Pump Pipe	15A19218	1
5/8" (16mm) Hose barb Joiner	06A19441	2
Wurth 16-27mm hose clamp	054921627	4
Double Loop (Handcuff) Zip Ties	HC1	2
Socket Head Cap Screw M6 x 16	SHCSM616ZP	1
Socket Head Cap Screw M6 x 10	SHCSM610ZP	2
Nylon Nut M6	NNM6	1
Washer M6 Flat	MSFWM6Z	4
Washer M6 Spring	SWM6MZ	2
Rubber Isolation Bush	M10162040	1
Decals/Labels		
Warranty Card		1



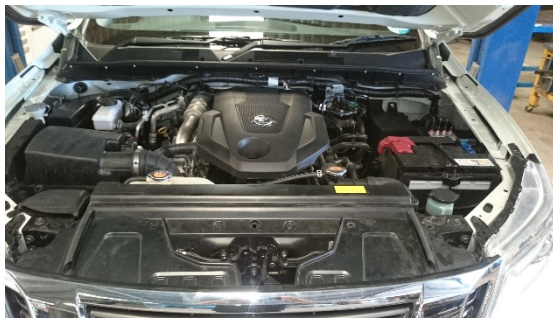
EQUIPMENT AND SUPPLIES REQUIRED FOR FITMENT

- Fender Cover (2)
- 1/4" and 3/8" Drive Ratchets with Extensions
- 3/8" Drive Torque Wrench (7-35 ft-lb range)
- Metric Socket Sets (short and deep recommended)
- Metric Wrench Sets
- Metric Allen Key Set
- Torx Bit Screwdrivers or Sockets
- Short Phillips-head Screwdriver
- Small flat screw driver
- Trim Pad Tool (for pushpin removal)
- Assembly Lubricant (White Lithium Grease or Petroleum Jelly)
- Sharp Knife or Razor Blade
- Hacksaw or snips (to cut plastic)
- Medium Strength Thread Locker – Loctite® 242 (blue) or equivalent
- Writing equipment (pen or marker)
- Hose line clamp
- Zip lock / reseal able bags (to store and label removed nuts / bolts clips etc.)

DISASSEMBLY

The following section will guide you through the disassembly of the OEM parts on your vehicle. Special care should be taken to label parts and avoid damaging items as removed since many items will be reused.

1. Open bonnet.
2. Cover guards with fender covers to protect vehicle finish.
3. Disconnect battery.



4. Remove grille starting with the top edge of the grille using screw driver.



5. Next twist the screws through the front of the grille.



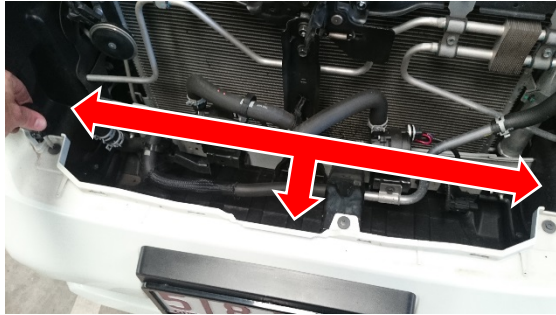
6. Release the clips holding the grille to the bumper.



7. Once the grille is removed, it is recommended to begin removal of the front bumper by first undoing the inner guard to gain access to the bolts securing the bumper and to disconnect the fog lights at this stage if fitted.



- Continue to remove all the the bolts and clips under the bumper and on top of the bumper.



- Once all the bolts are undone pull the bar out to free from the clips under the head light to remove bar.



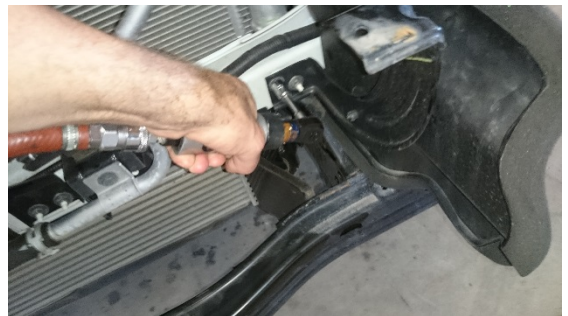
- Once the bar is removed, the original ducting needs to be removed from the front of the car.



- Undo the factory bash plate (sump guard) to gain access to the OE intercooler.



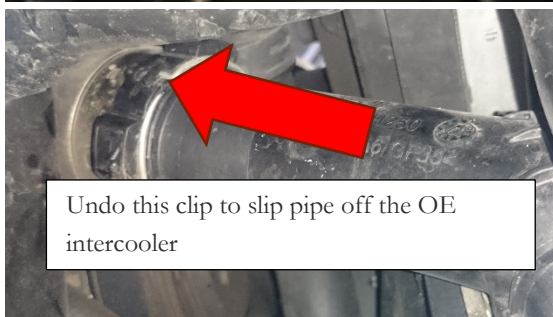
- Next step is to continue removing the ducting.



13. Undo and remove the air box intake pipe to gain access to the top of the hot intercooler pipe.



14. Release the quick connect fittings holding the hot pipes on. Avoid damaging the metal spring and keep these pipes as you will later need to remove the plastic clip to remove and reuse metal spring in your new PWR intercooler and pipe kit. The O-ring will also need to be removed and reused.



15. Using sockets undo the cold side pipe and remove from the throttle body end of the pipe.



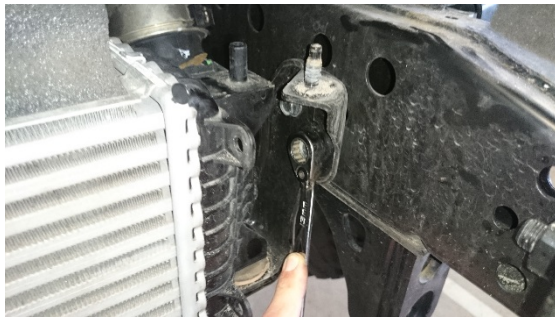
16. Release quick connect fitting on cold side of intercooler and remove pipe.



17. Once the pipes are all undone begin to undo the mounting bolts holding the OEM intercooler in place.

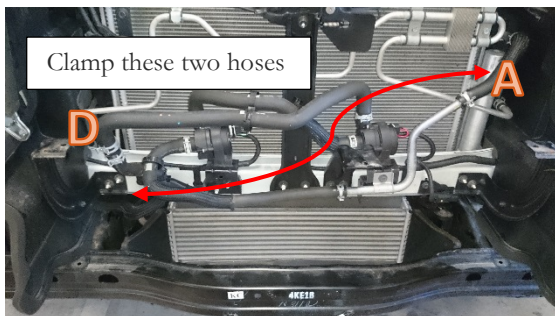


18. Once the top mounts are undone begin to loosen the lower mounts and pull the intercooler away from the chassis. Retain the bolts and rubber mounts for use later.

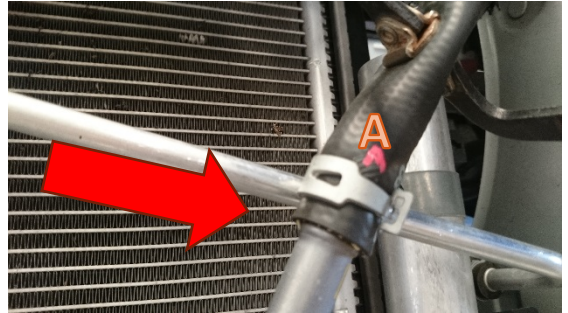


⚠ WARNING

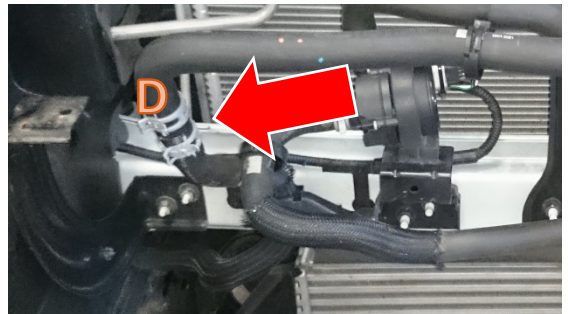
19. Next step requires the removal of the 2 water pumps and hoses for relocation to suit your new PWR intercooler. It is recommended to label the top RH hose as "A" at this stage and to use a hose line clamp as shown in images on step 20 to reduce coolant loss. Please make sure that you capture any coolant that is lost and dispose of correctly or reuse if it is free of contamination.



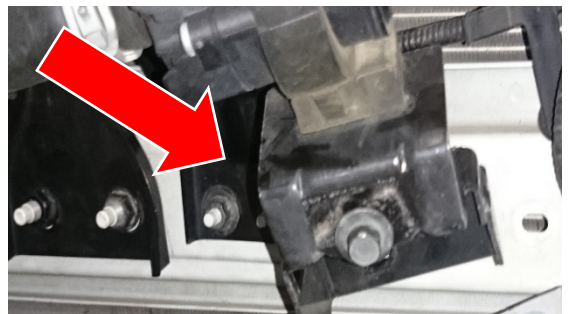
20. Release the clamp and undo and remove the hard pipe "A" shown here.



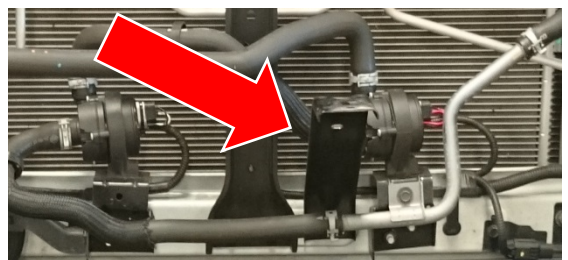
21. Split hose "D" at the join here and prepare to remove the assembly of hoses and pumps.



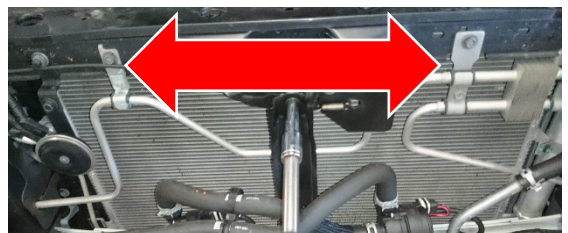
22. Undo the pump mounts and the remove pumps from the brackets. Retain the clips for reuse later.



23. Remove the OEM bumper support bracket when removing the pumps.



24. Undo these 2 x M6 bolts and retain for use later to install the new intercooler.



ASSEMBLY

The following section will guide you through the assembly of the PWR Performance Products upgraded intercooler and pipe kit installation in your vehicle.

Assembly Intercooler and Pipe Kit

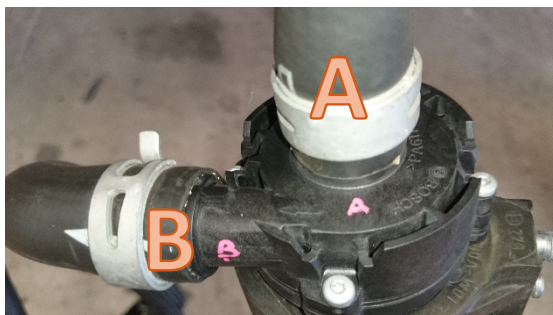
25. After the OEM intercooler has been removed the next step is to begin the installation process of your new PWR intercooler.



26. The first step in the installation process is the modification of the water pipes that have been removed to allow for the pump relocation. Start by laying the assembly out on a bench with Hose "A" to the top.



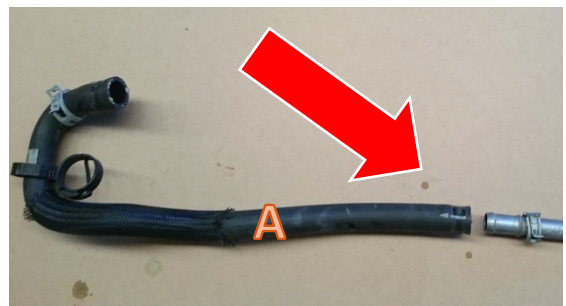
27. Next label the rest of the hoses and pump outlets as shown in the following images.



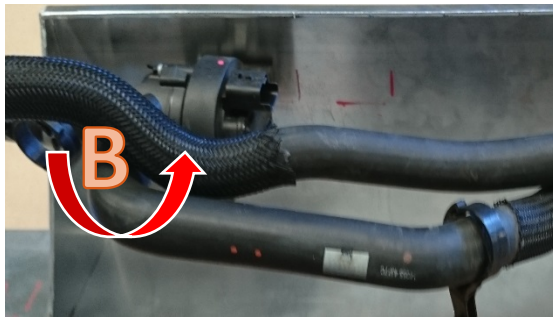
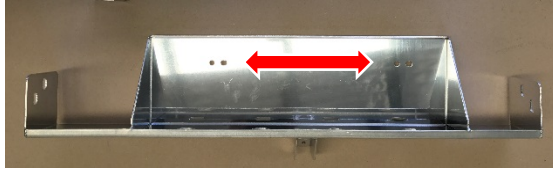
28. Take hose "D" and mark a line approximately 60mm back from the bend and cut down as shown.



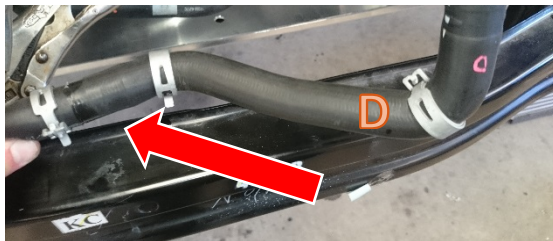
29. Disconnect the "A" hose and lay out as below. Then trim approximately 20mm of the end indicated by the arrow.



30. Place the pump relocation tray on a bench and mount the pumps through the holes in the tray as shown in the next image. Use the OEM clips that held the pumps to the original brackets.
Note: Hose "B-C" will have to be slightly rotated around the outlet "B" to ensure it sits level in the tray as indicated in the photo's below.



31. Next step is to join the shortened hose "D" back together using the original hose clamps and barb.



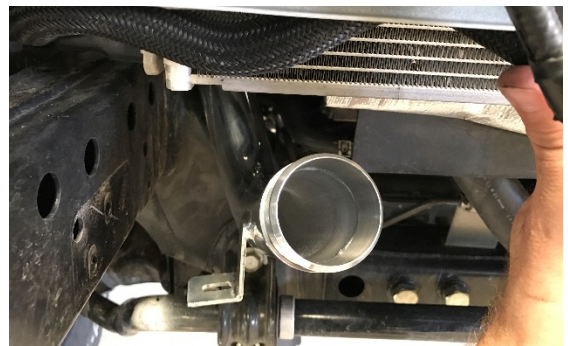
32. Next step involves the assembly of the hot intercooler pipe. Carefully remove the O-ring from the OEM hot pipe as indicated in step 14. Clean, lubricate and assemble the O-ring into the new PWR hot pipe 01.65095



33. Next install the metal spring from the OEM hot pipe.



34. Slide the hot pipe up from under the radiator and connect to the turbo outlet pipe. **NOTE:** The airbox intake pipe can be reinstalled at this point once the hot pipe is firmly secured



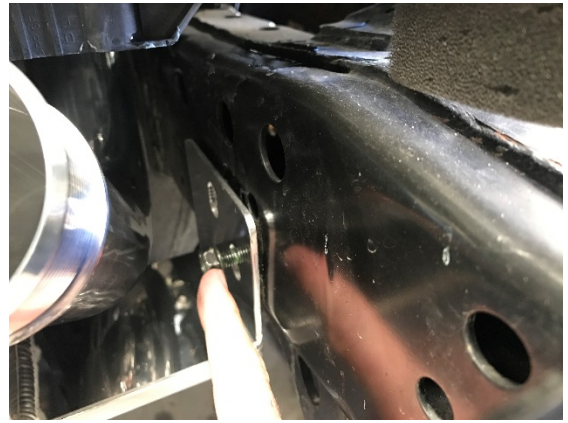
35. Assemble the cold pipe 02.65095 with one of the silicone pieces 15A18924 as below. Don't install hose clamps tight at this stage.



36. Next slip the cold pipe on to the throttle body pipe.



37. Next mount the PWR pump mount relocation tray in between the chassis rails where the OEM intercooler was mounted using the original mounting bolts. **Note:** Ensure the tray is as high and far back as possible to cover the hole in the fan duct under the radiator.



38. Install the two lower intercooler brackets onto the radiator core support panel.



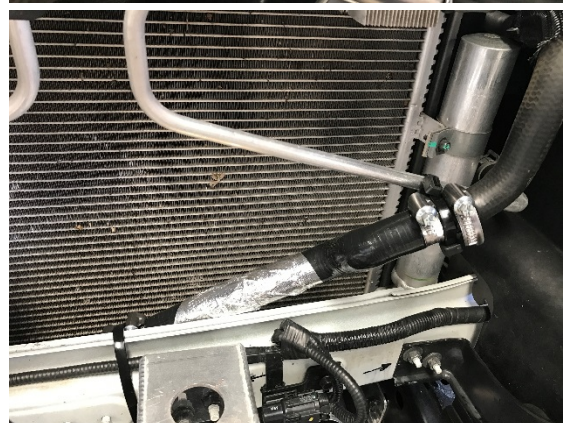
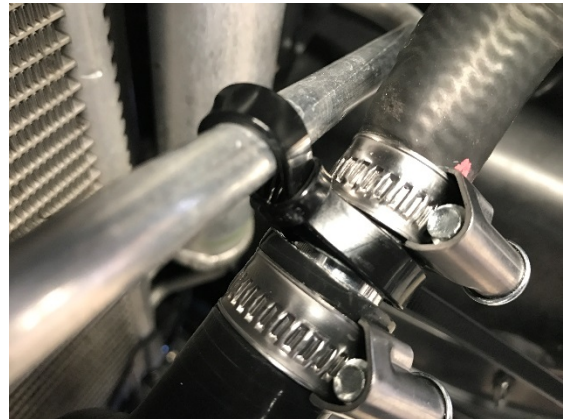
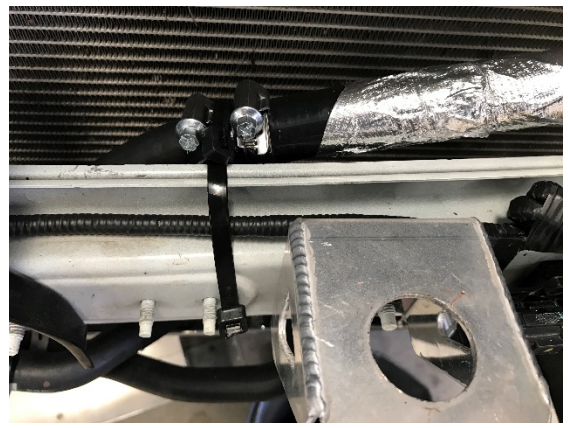
39. Reinstall the rubber bushes from the OEM intercooler brackets into the PWR intercooler mounts as indicated below.



40. Join the trimmed side of water pump hose "A" back onto the pump using original clamps and rotate so it can be routed behind the radiator core support and bonnet latch where it will be joined to silicone hose 15A19218 using the 06A19441 hose barbs at each end. Secure with the 0539 120 32 hose clamps.

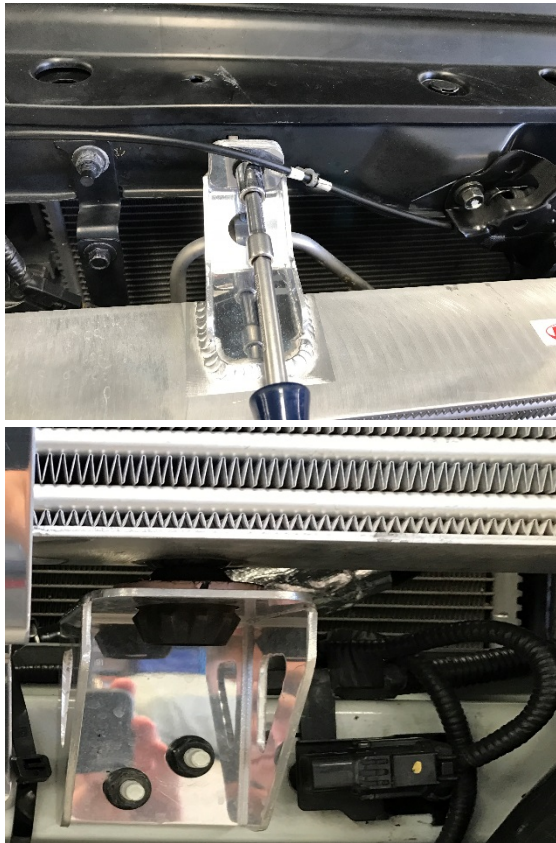


41. It is recommended that the installer use insulation foam or tape to avoid the hoses rubbing through as in the following images. And secure tight using the dual loop zip ties supplied in the kit.



42. Make sure all the hose clamps are tight and check for leaks before installing the intercooler.
43. Install the intercooler by sliding in the bottom mounts. Then secure the top mounts using the 6mm bolts that were previously removed along with the square washers supplied in the kit. Make sure nothing rubs on the intercooler.

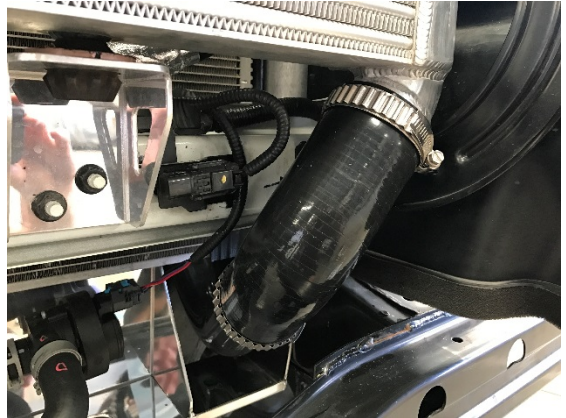




44. The image above shows that the sensor next to the bracket has also been rotated 180 degree this may have to be done to allow clearance of the wiring harness and mounting bracket.
45. Next step install the silicone 15A19195 between the hot pipe and the intercooler.



46. Followed by installing silicone 15A18924 between the Intercooler and the cold pipe.



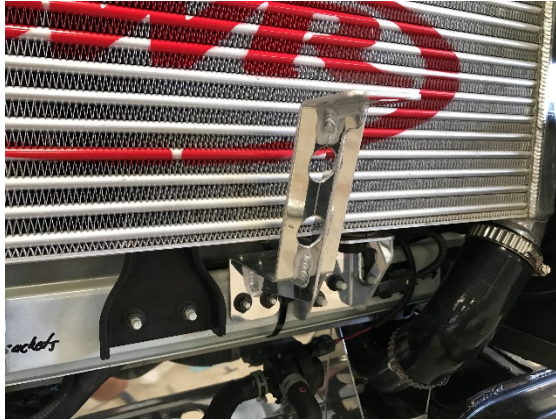
47. Next step is to install the hot pipe bracket support onto the pump relocation tray. Securing the M6 socket head cap screws with washers and lock washers to the bush M10162040



48. Secure all hose clamps firmly at this stage at this stage.
49. Next secure the hose shown to the bracket under the water pump relocation panel using the original bolt.



50. Install the new bumper bar center support bracket.



51. Reinstall the bash plate (sump cover) before installing the bumper bar using the original clips and fasteners. Push firmly under the headlights to ensure the bar clips in and is secure.



52. Make sure fog lights are reconnected before doing up the inner guards.



53. Replace the grille ensuring the lower clips are in firmly. You will need to make sure the twist fasteners are removed from the brackets on the side of the headlights and reinstalled into the grille correctly to allow it to be easily clipped back onto the brackets.



54. Push grille firmly and reinstall lock panel cover.



55. Ensure that the pipes do not rub anywhere and tighten up all clamps to tension.

NOTE: The OE plumbing may vary from auto to manual so please pay particular attention to ensure that there is no rubbing on other hoses. If you find hoses are touching insulate contact areas and zip tie to secure ensuring there is no rub through.

56. Reconnect the battery and confirm that all nut bolts, washers, clips and clamps are done up.
57. Ensure there are no tools or obstructions left under the bonnet and your PWR intercooler and pipe kit is now installed. Enjoy and thank you from the team at PWR.