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# INSTALLATION GUIDE

TOYOTA LANDCRUISER 70 SERIES VD J4.5D  
INTERCOOLER AND THERMO KIT



P/N PWI85932K - COMPLETE KIT | P/N PWI85932 - INTERCOOLER | P/N PWA81932 - FAN KIT



ENGINEERING THE UNFAIR ADVANTAGE

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## CONDITIONAL MANUFACTURERS WARRANTY

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PWR Custom Aluminum 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

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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

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**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 jewelry that can be caught in rotating or moving parts.

# IMPORTANT INFORMATION FOR FITTING

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Please read the following before fitting our 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.

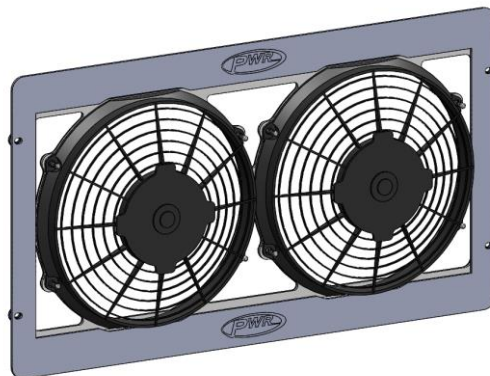
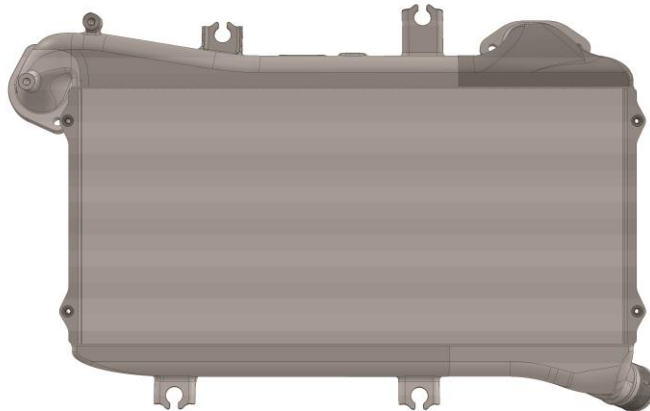


# APPLICATION

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
<b>Air Induction</b>		
PWR Intercooler	PWI85932	1
PWR Alloy Shroud + Thermos + Wiring loom Kit	PWA81932	1
M8 Nyloc Nuts	NNM8	4
M8 Washers	M8WASHERS	4
Rubber O ring Small	OringV7-037	1
Rubber O ring Large	OringV7-038	1
<b>Decals/Labels/Warranties</b>		
Warranty Card		1



# EQUIPMENT AND SUPPLIES REQUIRED FOR FITMENT

- 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
- T-25 TORX bit screwdrivers or sockets
- Short Phillip's-head and Flat head screwdriver
- Assembly lubricant (White Lithium Grease or Petroleum Jelly)
- Optional- Hack-saw, Wood saw or grinding disk (to cut plastic)
- Rags
- Zip lock / resealable bags (to store and label removed nuts / bolts clips etc.)



# Disassembly

## Removal of factory Intercooler:

- Make sure the vehicle is parked safely on flat ground in neutral with the hand brake fully secured.
- Open bonnet of vehicle.
- Disconnect positive battery terminal in engine bay to cut power with a 10mm open end spanner.



- Unclip two sensors at the rear of the intercooler.
- Pull off the vacuum hose that is connected to the black sensor.
- Loosen the front intercooler hose clamp with a 10mm socket.
- Retain the intercooler hose clamp on the existing intercooler piping.
- Remove the front two intercooler mount nuts and washers with a 12mm socket and retain.
- Remove the two rear intercooler mount nuts using a 12mm socket.
- Remove and retain the two bolts holding the heater hose in place with a 12mm socket.
- Remove the two rear intercooler flange inlets nuts and washers (x4) using a 12mm socket.
- Remove the front intercooler hose by wiggling back and forth.

- Remove factory intercooler by raising the front first slightly then the rear and lift off the intercooler.



- Remove the two factory flange gaskets.



- Clean factory intercooler flanges of excess fuel and grime.



# Assembly

## Installation of PWR Intercooler and twin thermo fan set up:

- Once the factory intercooler is removed, remove the four-rubber mounts and internal metal sleeves and retain.



- Install the four rubber mounts and internal metal sleeves to the PWR intercooler.
- Remove the factory black sensor from the factory intercooler using a 10mm spanner and retain.
- Install the black factory sensor with the factory bolts using a 10mm open ring spanner.



- Remove the grey sensor from the factory intercooler using a 22mm spanner and retain.
- Install factory grey sensor into PWR intercooler using a 22mm spanner.



- Remove PWR intercooler outlet protectors.
- Insert rubber O-rings supplied by PWR into the rear flanges of the PWR intercooler.
- Lift the PWR intercooler in place by lowering and placing the cooler on the rear flange mounts first. (be sure to have the sensors clear of the intercooler mounts).



- Once the rear of the cooler is lowered into place maneuver the front intercooler hose so that the cooler drops into the front mounts.
- Wriggle the cooler and hoses together so that the PWR intercooler outlets and hoses join up and slide in together.
- There is flexibility with mounting the PWR intercooler in place as the whole unit is rubber mounted.
- Fit the vacuum hose back onto the bottom of the black sensor on the PWR intercooler.
- Plug in the black sensor at the rear of the intercooler.
- Plug in the grey sensor next to the black sensor.
- Install the two rear factory bolts and washers using a 12mm socket.
- Install the 4 x PWR supplied M8 nuts and washers for rear flanges with a 12mm socket.



- Install the factory heat hose and bracket using two factory bolts to the PWR intercooler with a 12mm socket.
- Install the front two factory supplied nuts and washers using a 12mm socket.
- Tighten the existing factory intercooler hose clamp onto the PWR intercooler using a 10mm socket.

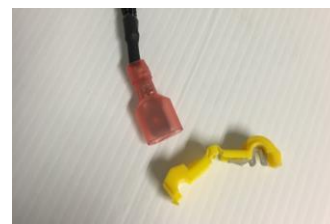
### ***Wiring and thermo fan set up***

- Connect the 8mm eyelets to the battery posts.

- Red to positive battery post (the wiring with the fuses close to termination).
- Black to negative battery post.
- (This will connect the main power supply to the fans and relays)
- Connect the trigger wire using the EZ tap joiner supplied (yellow clip) to the blue wire powering the washer bottle near the firewall. Soldering the wires is an option if available.



- Use the supplied EZ Yellow clip by opening the clip, place it over the white wire as indicated, close the clip until it locks. Insert the EZ clip into the connector as shown below.



- This will connect ignition to the relays enabling the fans to be only switched ON with ignition.
- Switch ignition on, the fans should now be working.
- There is an optional trigger plug in the harness for an external toggle or temp switch Deutsch DTM2 way plug in the loom (This will allow the fans to be triggered by ignition via an external switching method, only if required.)