

## HARDWARE KIT CONTENTS

ITEM NO.	DESCRIPTION	QTY	ITEM NO.	DESCRIPTION	QTY	PART NO.	DESCRIPTION	QTY
1	12V Diaphragm Pump	1	13	Pump mounting bracket	1	25	½" Pump Filter with 90 barb	1
2	Heat exchanger	1	14	Inlet/Outlet mounting bracket	1	26	½" Straight barb pump	1
3	Ring clamps for HE	2	15	M5x30mm Philips hd screw	4	27	On/Off LED switch	1
4	"T" brackets for HE	2	16	M5 nyloc nut	4	28	Fuse holder	1
5	"J" brackets for HE	2	17	M5 flat washer	8	29	10amp fuse	1
6	M5x25mm S/S button hd	2	18	13mm inline filter	1	30	Wire joiners	2
7	M5 Hex Nuts S/S	2	19	3/4" to 1/2" male reduce	1	31	Spade connectors	3
8	M5 S/S spring washers	2	20	Snap connector ¼" BSP	1	32	Ring terminals	2
9	M5 S/S flat washers	2	21	Snap connector to 13mm Barb	1	33	Unicoil S/S	3
10	Shower faucet & hose	1	22	Male connector to 13mm Barb	2	34	Fitting instructions	1
11	Shower mounting bracket & Screws	1	23	Red bug cap	2	35	Drawstring Bag	1
12	Hose clamps 14-27mm	10	24	½" 90 barb pump	1	-	-	-

**BEFORE INSTALLATION:** PLEASE READ THESE INSTRUCTIONS CAREFULLY, PAYING SPECIAL ATTENTION TO ALL 'NOTES'. FAILURE TO DO SO MAY RESULT IN DAMAGE OF PARTS AND/OR INJURY TO INSTALLER OR CUSTOMER.

### TOOLS REQUIRED:

- Electric Drill (or equivalent) • Screw Driver Set • Drill Bits • Socket & Ratchet Set • Ring/Open Spanners • Marking Pen
- Centre Punch • Electrical Crimper and Wire Stripper

### ADDITIONAL PARTS REQUIRED:

- Suitable length of 5/8" – 3/4" heater hose (vehicle dependant)
- Suitable length of 12mm fresh water hose
- Corrugated electrical wire tubing

**FITTING TIME:** Approximately 3 hours

### WARNINGS:

- If water is switched off, while the engine is running, a burst of very hot water will flow. The burst of hot water can be dangerous. Always allow to run for 10-20 seconds before use.
- Periodically check system for leaks.
- Ensure heater hoses are secured to areas on the vehicle that do not cause wear overtime.
- The use and installation of this product is entirely at the users/owners own risk.

## **INSTALLING THE HEAT EXCHANGER**

- 1) Locate the vehicles main heater line. This hose runs from the engine towards the firewall. **Note:** there will also be a line returning to the engine, no need to use this hose. (*Tip: To determine the direction of flow, start the cold engine and touch both hoses. Whichever hose heats up first shows the direction of flow.*)
- 2) Remove this moulded heater hose and store. (*Tip: It is handy to store this hose in the car in case of emergencies.*)
- 3) Find a suitable location to fit the heat exchanger and secure to the vehicle. (*Tip: The kit contains 2 types of heat exchanger mounting brackets. i) Traditional 'T' style bracket. This bracket is good for mounting to flat surfaces, e.g. firewall. ii) New 'J' style bracket.*)
- 4) Use a suitable length of Heater hose (not supplied in the kit) along with unicoil stainless steel bends to connect between the engine outlet and the heat exchanger. Use stainless steel hose clamps supplied in the kit. (*Tip: For ease of hose fitment use a heat gun to soften hoses prior to pushing over barb.*)
- 5) Again using a suitable length of heater hose (not supplied in this kit) along with unicoil stainless steel bends connect between the outlet of the heat exchanger and the heater control valve inlet on the firewall.
- 6) Check that the hoses do not have kinks or rub against any parts of the engine. Secure the hose if necessary.
- 7) Now bleed the cooling system by removing any air pockets that may have occurred during installation.
  - i. If the heat exchanger is mounted in the highest position, open up the bleeder plug on the heat exchanger.
  - ii. Set the engine speed to approx 1,500 rpm
  - iii. Turn off the engine once coolant runs from the heat exchanger outlet.
  - iv. Place new sealant tape around thread of plug and tighten.
  - v. Turn engine on and check for any leaks. Check coolant level and top up if necessary.

## **INSTALLING THE 12V PUMP**

- 1) Install the pump mounting bracket in a suitable high and dry position in the engine bay to avoid any contact with water from river/creek crossings, as the pump is not waterproof.  
*Important: The pump must be installed with the motor facing upwards.*
- 2) Secure the pump to the bracket by using the hardware provided. 4 x M5 x 30mm Philips head screws, 8 x M5 Flat washers and 4 x M5 nyloc nuts. Drilling will be required to orient the pump into the desired position.
- 3) Install inlet/outlet hose mounting bracket. This can be installed inside or outside the vehicle.
- 4) Using the ½" pump connectors (*Tip: The kit provides straight and elbow pump connectors, use whichever is more suitable*) connect a suitable length of 12mm fresh water hose from the pump inlet to the inlet/outlet mounting bracket. Attach the 12mm hose onto the bracket using the snap connector and bug cap. Secure all hoses with stainless steel hose clamps. (*Recommended: Installing the additional filter at inlet of pump*).
- 5) Attach from the outlet of the pump a suitable length of 12mm fresh water hose to the inlet of the heat exchanger. **Ensure attachment onto the heat exchanger is onto the small barbs and is in the reverse direction of the flow of engine coolant.** Use stainless steel hose clamps to secure all hoses.
- 6) Attach from the outlet of the heat exchanger a suitable length of 12mm fresh water hose to the inlet/outlet mounting bracket. Attach the hose onto the bracket using the male snap connector with bug cap. Secure all hoses with stainless steel hose clamps.
- 7) Now wire up the 12V pump to the vehicles electrical system. Begin with attaching the on/off switch to the red wire on the pump. Crimp on the female spade terminals. Only use the required length of wire. (Shorten wires if necessary). Now connect the red fuse holder to the other side of the switch, again crimp on spade connectors. Now Crimp the ring terminal to the end of the red wire and attach to the positive terminal on the cars battery. Secure all wires and cover with corrugated tubing.
- 8) Connect the black earth wire to the vehicle chassis using the ring terminal. Ensure good connection. i.e. no paint interference, metal on metal.

### **INSTALLING THE SHOWER**

- 1) Connect the 3/4" to 1/2" reducer to the end of the white shower hose. Ensure rubber washers are inserted before tightening.
- 2) Now fasten the 1" snap connector onto the reducer. Do not over torque.
- 3) The shower is now ready to be fitted onto the inlet/outlet mounting bracket.
- 4) *(Tip: These connectors are push fittings. To install place female connector over the male connector and push collar forward until it clicks into position).*

### **INSTALLING THE FEED LINE**

- 1) Using a suitable length of 12mm fresh water hose connect to one end of the line a snap connector with 13mm barb. Secure using stainless steel hose connectors.
- 2) To the other end of the feed line install the inline filter. The filter has an arrow indicating the direction of flow.

### **SYSTEM CHECK**

- 1) Start the engine and allow it to reach normal operating temperature.
- 2) Check all heater hose lines for any leaks. Tighten hose clamps if necessary.
- 3) Insert cold water feed line into a water source.
- 4) Switch on pump.
- 5) Check all fresh water lines for any leaks. Tighten hose clamps if necessary.
- 6) Switch on shower hose.

### **SPECIFICATIONS:**

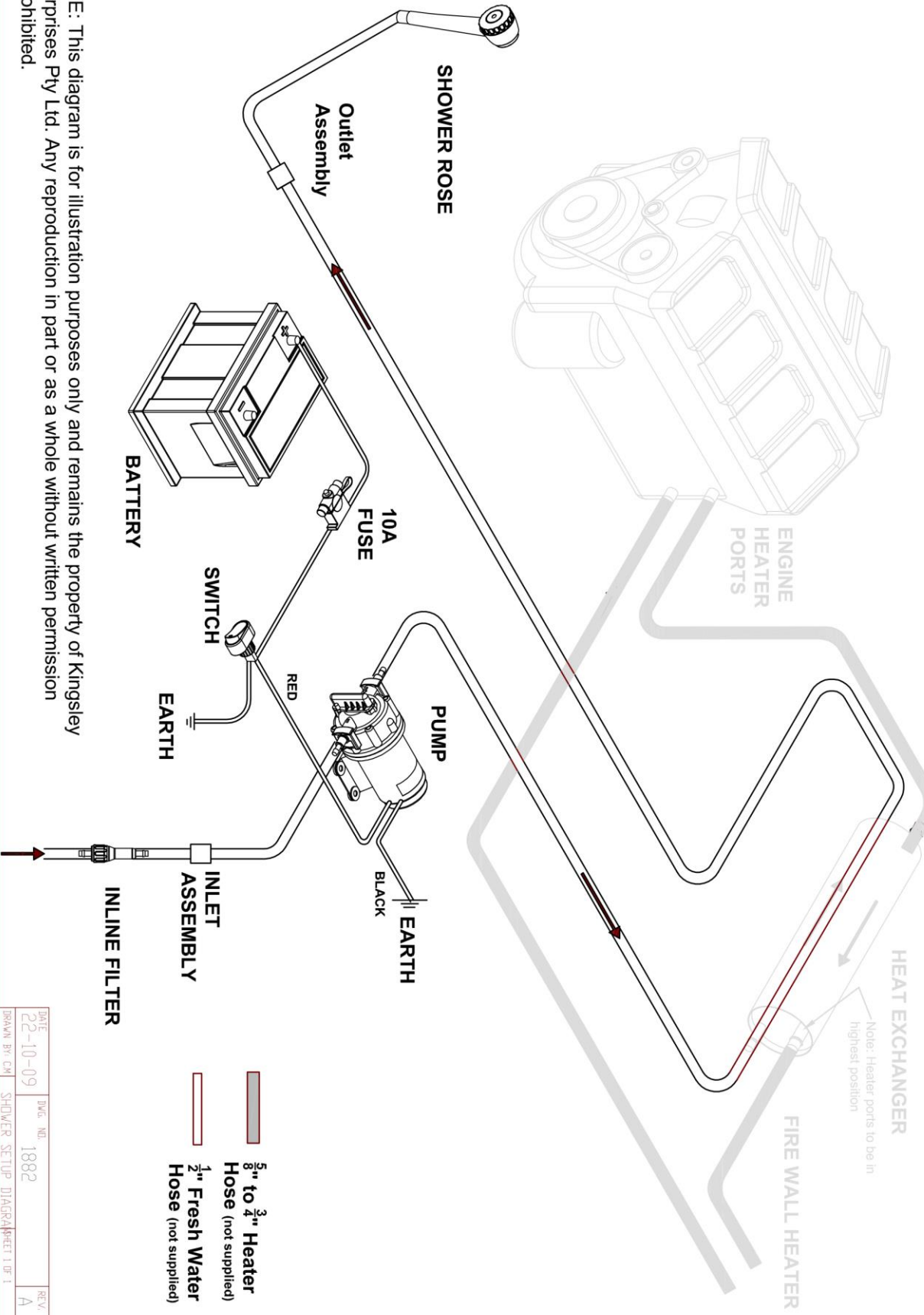
Pump:	12V positive displacement diaphragm.
Pump head height:	6.0m height, self-priming
Pump amp draw:	Max 10 amps
Pump pressure:	Shut in 25psi, shut off 55psi
Shower flow rate:	Max 6.0 Lpm
Duty cycle:	20 minutes
Complete kit weight:	5.4 kgs
Heat exchanger:	100% copper, stainless steel housing, powder coated

### **MOUNTING AREA REQUIREMENTS:**

Pump:	Approx 160 x 160 x 200 (plus hoses & fittings)
Heat exchanger:	Approx 120 x 80 x 340 (plus hoses & fittings)

### **CARE & MAINTENANCE:**

- 1) The pump can run dry without damage, however it is not recommended for long periods.
- 2) When drawing water from a sandy area ensure that the suction hose is suspended from the bottom to avoid picking up sand. Sand will destroy diaphragms and operation of pump. Always use a filter.
- 3) Always check and clean filters prior to use.
- 4) Run pump dry after use to prevent any water leakage and resultant damage to motor.
- 5) Temperature can be varied by the following methods. (i) Adjusting the cabin heater control to the hottest setting, (ii) Increase engine revs, (iii) Reduce flow at shower rose using the on/off dial.



5" to 3" Heater Hose (not supplied)  
 1/2" Fresh Water Hose (not supplied)

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DATE	22-10-09	DWG. NO.	1882	REV.	A
DRAWN BY: CM	SHOWER SETUP DIAGRAM SHEET 1 OF 1				

## **WARRANTY:**

### **1. Our Warranty**

We warrant to you that the Kingsley product is free from defects in workmanship and materials for the warranty period.

### **2. Fitting and use**

- a. Fit the Kingsley product in accordance with the product information and all relevant vehicle safety and compliance laws
- b. Use the Kingsley product for the purpose for which it was originally designed and in accordance with the product information and all relevant vehicle safety and compliance laws

### **3. Exclusions**

Our warranty doesn't cover:

- a. Normal wear and tear
- b. Fitting the Kingsley product other than in accordance with the product information and any relevant vehicle safety and compliance laws, including incorrect fitting
- c. Using the Kingsley product other than for the purpose for which it was originally designed or other than in accordance with the product information and any relevant vehicle safety and compliance laws, including unusual, improper or negligent use or misuse or overloading
- d. Misuse or neglect of the Kingsley product, including improper repair or maintenance or failing to repair or maintain, alteration, abuse, acts of nature, terrorism, vandalism, collision, road hazards or adverse conditions

### **4. Making a claim**

Please immediately contact us as soon as you become aware of a possible defect in the Kingsley product. We'll arrange for you to either attend a Kingsley outlet (at your cost) for a Kingsley representative to inspect the Kingsley product (as fitted to your vehicle) or for you to return the Kingsley product to us. We'll also request you to provide the purchase receipt and complete a warranty claim form. In order to ensure our warranty is not voided, please keep the purchase receipt as proof of purchase and don't remove the fitted Kingsley product from your vehicle before contacting us. If your claim's in order, we'll notify you and (at our sole discretion) either repair or replace the defective workmanship or materials (at our cost) or refund to you the purchase price you paid for the defective Kingsley product. If further information or investigation is required or if the claim does not meet the requirements under our warranty, we'll let you know.

### **5. Australian Consumer Law**

The Kingsley product comes with guarantees that can't be excluded under the Australian Customer Law. You're entitled to a replacement or refund if there's a major failure and compensation for any other reasonably foreseeable loss or damage. You're also entitled to have the Kingsley product repaired or replaced if it fails to be of acceptable quality and the failure doesn't amount to a major failure.

### **6. Other consumer rights**

The benefits to you under our warranty are in addition to any other rights and remedies you are entitled to under relevant consumer laws. Our warranty replaces any other warranty given by Kingsley or it's supplier in respect of the Kingsley product.

### **7. Terms**

Term	Meaning
Product information	information about the Kingsley product which may be contained in any of the documentation provided with the Kingsley product, including safety instructions, installation instructions, operating instructions, owner's manual, service manual, labels and packaging
Purchase date	the date you purchased the Kingsley product from a Kingsley outlet, as specified in the purchase receipt
Kingsley outlet	an outlet authorised by Kingsley to sell Kingsley products
Kingsley products	products or components which Kingsley manufactures or sells through Kingsley outlets
Warranty period	commences on and from the purchase date and ends as follows: Hot Water Shower - 1 year
We/Us	Kingsley Enterprises Pty Ltd (ABN 23 001 592 749) E: sales@kingsleyenterprises.com.au A: 6A Brooks Road, Ingleburn NSW 2565 P: 1800 654 767 W: www.kingsleyenterprises.com.au
You	the purchaser of the Kingsley product from a Kingsley outlet