INSTALLATION MANUAL

Triple Fuel Pump Carrier – 39mm Fuel Pumps

PFEFCA003-1

Included Items	QTY
Fuel Pump Carrier Assembly	1
Fuel Pump Carrier Filler Cap + O-ring	1
Fuel Pump Sleeve	3
PFEBT-0105 Electrical Post Connector	6
PFE814-08BK AN8 Plug + O-Ring	1
PE814-06BK AN6 Plug + O-Ring	2
PFE790-06BK AN6 Male to 3/8’’ Barb + O-Ring	3
ISO 3601 O-Ring 61.0 ID x 2.0 CS Viton	1
ISO 3601 O-Ring 152.0 ID x 3.0 CS Viton	1
M5 x 12mm Socket Head Cap Screw A2 Stainless Steel	6
M6 x 10mm Socket Head Cap Screw A2 Stainless Steel + Washers	12
M6 x 16mm Socket Head Cap Screw A2 Stainless Steel	1

WARNING: PLEASE READ ALL INSTRUCTIONS BEFORE PROCEEDING. PROFLOW WILL NOT BE RESPONSIBLE FOR ANY DAMAGE AS A RESULT OF THE INCORRECT INSTALLATION OF THIS PRODUCT. IT IS RECOMMENDED THAT A QUALIFIED AUTOMOTIVE TECHNICIAN PERFORMS THIS INSTALLATION. PLEASE WORK IN A WELL-VENTILATED AREA WHEN HANDLING FUEL.

TYPICAL INSTALLATION

Carrier Assembly

1. Attach the fuel pump merger to the top plate by fastening the 6x supplied M5 x 12mm socket head cap screws. Ensure the O-ring is in the groove of the pump merger.
2. Install the supplied 3/8" hose barb fittings with O-rings into the pump merger underneath the top plate. If you are using only one or two pumps, block unneeded ports with the supplied plug and O-rings.
3. Fasten the shaft into the pump merger and ensure its tightened.
4. Fasten the fuel pump bracket to the return shaft with the supplied M6 x 16mm socket head cap screw. You may need to loosen this bolt afterward when aligning the fuel pumps with the ports on the fuel pump merger.
5. Install the fuel pumps into the fuel pump bracket with the sleeves installed. Lubrication may be required to insert the pumps into the sleeves.
6. Cut a length of submersible hose depending on the depth of your tank and fasten with 2 stainless steel clamps. We recommend using the PTFE corrugated hose if possible.

   Note: If installing this hanger into a shorter depth tank, you can cut the central shaft down to suit. There is approximately 50mm of thread depth in the bottom of the shaft.
7. Plug the wiring connector into the pump and strip and crimp two ring terminal ends onto the ends of the fuel pump wiring with heat shrink. Fasten the ring terminals to the corresponding positive and negative electrical connectors in between the bottom lock nut and nylon nut. Repeat this process if using more than 1 pump.

   Note: Upgraded high amperage wiring can be purchased separately (PFEBT-0101) if required.
8. Install the pump's filter sock onto the bottom of the pump inlet (this process may be different for varying pumps).
9. Ensure all threaded fasteners (such as the central shaft screw and M5 screws on the top plate holding the pump collector) are tightened with a low strength thread-locker before proceeding.
10. Drop the fuel pump carrier assembly into the fuel cell or tank with the provided 152 x 3mm O-ring and fasten using the supplied M6 x 10mm socket head cap screws using a low strength Loctite.
11. If installing on a custom fuel cell or tank, aluminium or steel ring adaptors can be purchased separately which can be welded to the tank (PFEFCWR – 170mm PCD).
12. Screw the filler cap into the top plate with the supplied O-ring.
13. Plug the return port with the supplied AN8 plug if not in use.

Wiring

This fuel pump carrier is designed so you have the ability to activate multiple pumps in stages. Running two or more pumps at the same time is not necessary for light driving or while the car is idling. This will add excess heat to the fuel system and potentially damage the fuel pumps. There are 3x sets of terminals on this fuel pump carrier so you can run all pumps independently if required.

- → **Stage 1 (Primary):** This pump should be wired to activate when the vehicle is started.
- → **Stage 2 (Second & Third):** These stages can be triggered in several different ways depending on your vehicle's setup. Cars with forced induction can trigger this stage with a Hobbs switch that activates at low boost pressure, or a WOT switch for naturally aspirated setups. If you are running a standalone ECU, you can setup a second or third pump output and use that wire to trigger this stage.

Note: If using multiple pumps on one set of terminals to activate together, it is recommended to use upgraded wiring to handle the excess current draw of two pumps running together (PFEBT-0101 purchased separately).

Plumbing

The central pump outlet is threaded with -10AN ORB threads and the singular return port is -08AN ORB. This return port can accept the excess low-pressure fuel from the fuel pressure regulator's return port. If not needed, please plug with the supplied AN8 ORB plug. The central PUMP outlet port will be the high-pressure outlet to the vehicles fuel rail. The main fuel tank must always be vented to prevent pressure build up.

Figure 1: Triple fuel pump carrier port configuration.