



Eccleston Aviation Rotax 912 Coolant Carb Heaters.

Please Read these instructions thoroughly before attempting to fit or use the carburettor heaters.

Note. The installation of these coolant Carb heaters will move both carburettor bodies back approx 16.5mm. If your engine installation will not permit this change please do not attempt to fit the system as it will be difficult for the heater jackets to be removed.

Warning. Incorrect installation of the carburettor heat system could result in engine/ carburettor damage or a complete engine failure. This could lead to personal injury or death. Eccleston Aviation cannot be held responsible for loss or damage caused by incorrect fitment. If the procedure for fitment is not completely understood please contact us before proceeding.

Installation.

1. Disconnect aircraft battery. Drain all coolant from the engine and collect it in a suitable container. Turn off fuel supply from aircraft tank.
2. Remove air filters from the carburettors. Disconnect throttle and choke cables and fuel lines from the carburettors.
3. Preparing the Carburettor - Remove each carburettor from the engine by loosening the clamp around the rubber flange assy, disconnecting the support spring from the tang on the balance tube.

Remove the float chambers to dispose of the fuel safely & refit ensuring correct fitment.

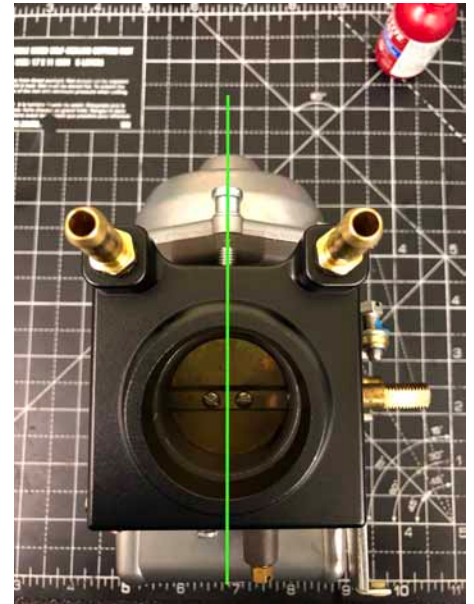
Looking at the carburettor from the butterfly end (the part which fits into the rubber carb socket), you will see a small casting mark at the top & bottom of the opening, if this is raised carefully remove it using a small file or emery cloth. This can be seen in the picture adjacent. On later carburettors this is negligible & may not need removing.



4. Fitment of the heater blocks.

Clean & degrease the bore of each heater block & the mating surface of the carburettor.
Position the heater block square onto the carb and give a light tap with a rubber mallet.

Small alterations can now be made to achieve square, use the grub screw as a datum point to help you align the heater body squarely.

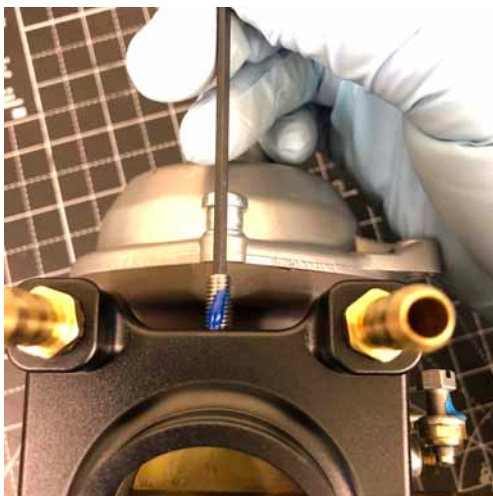


Warning Before pressing into place make sure the retaining grub screw is out enough to not make contact with the carb body.

Using a small press or large vice carefully press the heater jacket all the way on until it stops snugly. The use of some flat pieces of wood either side of the carb & jacket is required to stop any damage to either the carb or jacket.

Please note no loctite is required in the fitting of the heater bodies as it is an interference fitment.

Once fully home repeat with the 2nd Carburettor. Then apply a drop of loctite 243 to the grub screw and fully tighten as in the pictures below.



You can now refit the Carbs to the engine in the reverse way as removed, ensuring all hose clamps & fittings are secure.

5. You will now need to remove the Clamps & brackets from the compensating pipe and rotate them 180 deg to face the opposite way (as shown in the photo below left) as well as flipping the small bracket on the clamp to allow the spring to be refitted.



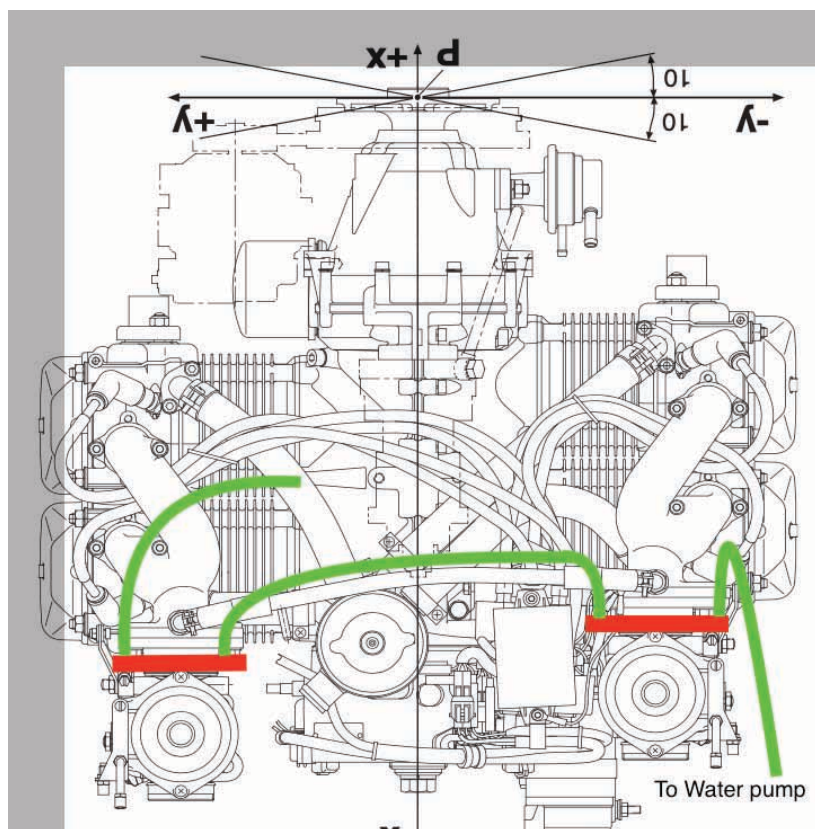
6. Fitting the coolant hoses.

Cut the hose of cylinder head 2 between the head & expansion tank. Fit the smaller of the 2 T pieces into the pipe (pictured above right). Secure using the provided hose clamps. You may need to slightly angle the barb to have the hose curve neatly to the heater block. (Do not yet connect this hose to the heater body as this will be used later to purge the heater bodies)

The 2 inner most barb connections on the heater bodies link together with the supplied 6mm hose & clamps.

Fit the larger of the 2 T pieces as close to the water pump as possible (underneath the magneto, picture on next page) but make sure there is adequate room to route the pipe away. This connects to the outermost connection on the heater jacket on the carb for cylinders 1&3.

(If you so wish you could add a tap into this pipe to be able to turn the heater on or off)



(Below) Larger T piece Fitted into 25mm pipe below magneto, with enough space to make sure of room to route pipe away from any obstacles.



This is a rough layout of the plumbing, it may need to be routed differently depending on your installation. (Above)

7. Priming of the system

Refill the system with suitable coolant, (this can be found on the latest service letter on flyrotax.com)

You will now need a small container under the outermost barb on the heater jacket on the carb on the 2/4 side on the engine.

Gently blow (not suck!) into the hose going into the T piece to cylinder 2 coolant pipe until coolant comes out of the barb on the carb heater.

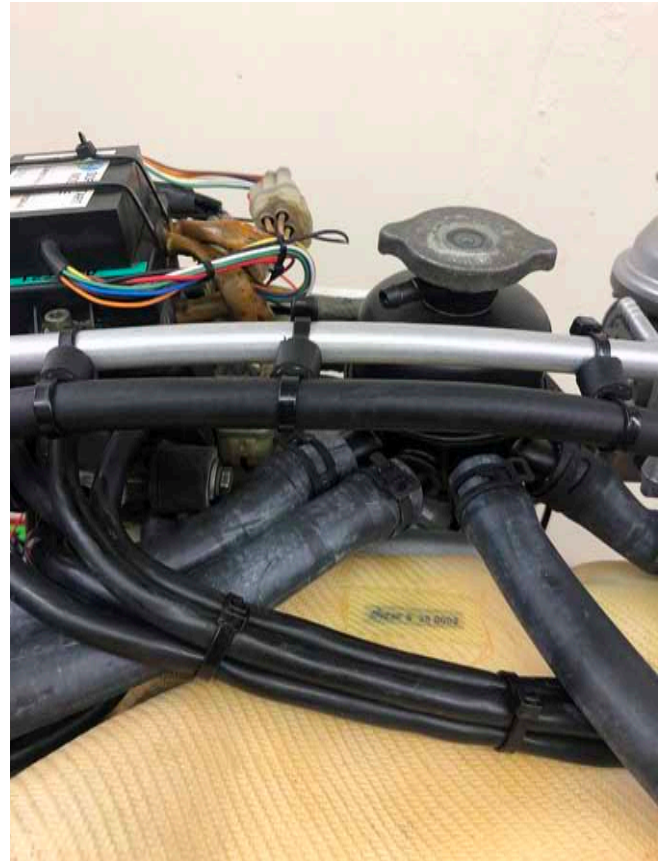
Connect the hose to the carb heater & check all connections for correct fitment & suitable routing.

The engine can now be started observing all of the normal precautions. Run the engine at around 2500rpm for 10 minutes, after this shut the engine down & allow to cool slightly.

Check for leaks on any of the made connections & feel the heater bodies to confirm they are warm. If not the priming sequence must be carried out again.

Once completed make sure to secure all pipes with supplied tie wraps in a way to avoid damage as pictured below.

It would also be recommended to re synchronise the carbs at this stage due to being disconnected.



8. Maintenance

Your preflight inspections should now include the heater bodies & corresponding hoses & connection to check for leaks or chafing. We advise following the 5 year rubber replacement advised by Rotax for the carb heater hoses as well.