

ROCK SOLID TECHNICAL BULLETIN 0312: Reed Valve Installation

The Reed Valve has been assembled & checked by Rock Solid Engine Team personally, all tolerances are within our design parameters & should NOT BE ALTERED. The Rock Solid Reed Valve kit has been designed around countless hours of Dyno testing to ensure the best design possible for the cage has been used; any modifications no matter how small will lessen the affect. For example, Rock Solid Engines could have quite easily lengthened the intake runner, but testing has proven even 1mm of additional length from the tip of the Reed valve to the leading edge of the manifold runner would decrease performance. The team at Rock Solid Engines are all about designing components which attain the best results possible.

KIT CONTENT

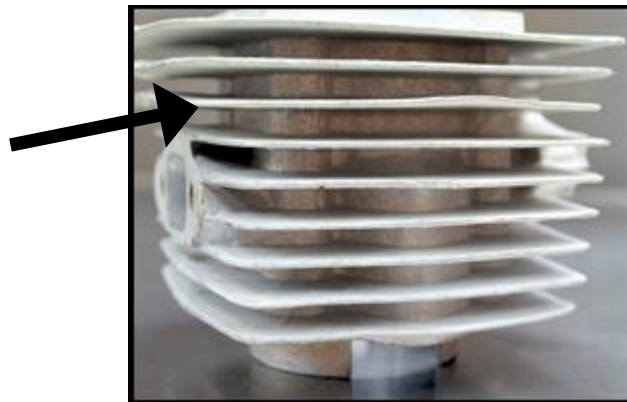
1 x Complete & assembled Reed Kit
2 x M6 Washers
2 x 304 Stainless M6 x 30 button head socket screws
1 x Inlet gasket

Step 1: Remove existing carburettor, accelerator cable & inlet manifold from engine.

Step 2: Clean thoroughly the inlet face of the barrel to ensure no old inlet gasket is remaining.

Step 3: Place the reed valve cage & gasket up against the face of the inlet flange of the barrel to check if any of the cooling fins of the barrel will foul against the reed cage body. Not all engine barrel castings are the same, if the back of the reed cage fouls against a cooling fin simply use a flat file and gently file back only the cooling fin which is stopping the reed cage from sitting against the inlet manifold face. This is very important that there is enough clearance so the Reed cage, when fitted can be tightened down correctly, ensure you place a strip of masking tape against the inlet flange face to stop any filings entering the inlet runner.

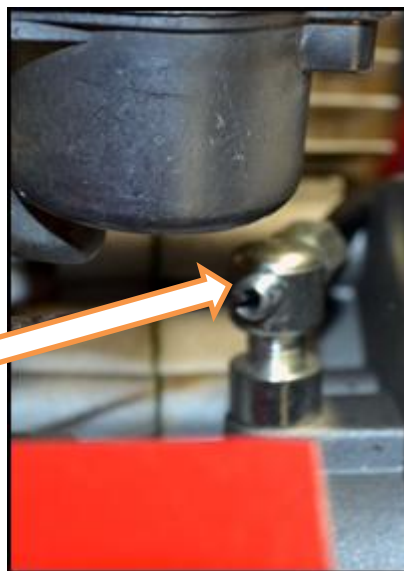
This is the cooling fin which may have to be filed down a little to ensure the reed cage body does not foul against it.



Step 4: Insert the two M6 x 30mm bolts into the Reed cage along with the washers. Do not force the bolts all the way through by hand, stop when you feel resistance & use a allen key to screw the remaining of the bolt through the cage just enough so you can place the gasket on the back of the Reed cage and it will hold itself there. Now gently commence screwing the bolts into the barrel, ensuring you keep screwing the bolts in evenly on both sides. DO NOT screw one side entirely before starting the other, some barrel castings differ in thread length, we have provided bolts which are long enough to ensure the entire thread of the barrel is used. If your barrel threads are too shallow, you can simply grind a little of the end of the bolt, but if this needs to be done it would only just be 1mm - 2mm. We personally do not use the washers & we simply file back the bolt until it will tighten up as much as possible without bottoming out. The reason why we want to use up all the thread which is in the barrel is due to wanting to tension the reed cage as much as possible without stripping the thread & ensuring its going to be a strong hold, any leaks here will decrease the Reed Valve's performance.

Step 5: Fit the carburettor back on & ensure the carburettor neck is tighten enough so it seals well. You can apply a little aeronautical gasket sealant or any similar product if so desired around the neck of the manifold before sliding the carburettor on, but if you do ensure no sealant makes its way into the manifold itself and into the reed cage. If the bottom of the carburettor fouls against the clutch cable post & hinders the positioning of the carburettor, you can either unscrew the clutch cable post and file down the top of the post so the carburettor doesn't foul with the post, or place the carburettor on the manifold just enough so it does not foul with the clutch cable post. It would be advised to file down the clutch cable post as by not placing the carburettor all the way on the manifold you are affectively lengthening the inlet runner. Now insert the accelerator cable to the carburettor & you're done.

This is where you may have to file back the clutch cable post if it hinders the carburettor



Step 6: From our Dyno testing it has been shown that a decrease in jet size increased the performance, as now the engine is not losing any of its fuel back through the carburettor due to the pulse frequency generated by the engine. It's best to simply read the colour of your spark plug to ensure you have the correct fuel air mixture. You want a light tan colour & the negative strap to be consistent in colour and become darker on the curve of the electrode strap for perfect fuel/air mixture.

For any assistance please do not hesitate to contact us as we are more than happy to assist all our clients, simply email us a picture to info@rocksolidengines.com.au of the spark plug & we can recommend which way to go.

Note:

Your engine may be hard to start for the first time, once the petals have flexed, engine starting will become easier.

Rock Solid Engines can offer a Walbro Carburettor upgrade kit for the fastidious engine tuner, which is fitted with external Low & High adjustable jets. The crankcase will have to be drilled & tapped for plumbing the carburettors accelerator pump, for which all components are supplied.

Don't worry if any of the petals break and go into the engine, we have purposely designed them to be made out of fibreglass & it will not damage any internals of the engine, they are available as a spare part if ever needed.