

PM Tuning Racing Products.

PM998/7 PRO-STREET BILLET HEAD 180cc

Fitting instructions

Please read these instructions before starting any work. If you are in anyway unsure about the instructions please take you scooter to your local dealer or someone who understands the work involved.

PM Tuning Racing Products recommend you have the following items.

- High temperature silicone sealant (clear)
- NGK spark plug B85EGV
- Anti-freeze/summer coolant suitable for aluminium engines.
- High temperature grease, preferably copper grease (very small amount required.)

Before you start please check you have all the components required that should have come with this sheet. They are:-

- Billet head.
- One small and one large Viton 'O' ring.

Because this head fits a few machines no instructions can be supplied for bodywork removal.

Please follow the following instructions **carefully**.

- Wait until the engine has fully cooled down before commencing any work.
- Remove the high-tension lead from the spark plug but leave the spark plug in place.
- Remove the 4 bolts from the water jacket cap and remove the cap. (Place a bowl under the engine to catch the water or remove a coolant pipe and drain the engine coolant before removing the water jacket cap)
- With the cap removed use a rag to soak up some more engine coolant so the water level is below the cylinder head and barrel joint line otherwise water will enter the engine.
- Slowly remove the 4 bolts holding the cylinder head. Then remove the cylinder head. If there is a *large* carbon build up on the piston crown now may be a good time to remove it, otherwise do not disturb either piston or barrel.
- Make sure the matting face on the barrel is clean and dry and if necessary clean it with a cloth wet with petrol or thinners.
- Smear a *small* amount of silicone sealant on the barrel face.
- Rub a small amount of silicone sealant onto the large Viton 'O' ring.
- Place the Viton 'O' ring into the groove on the billet head and then smear the face with a small amount of silicone sealant.
- Leave the silicone to cure for approximately 15 minutes.
- Place the billet head into position. Note it will only go on one way; if you are unsure which way check this before applying the silicone.
- Clean the threads on the cylinder head bolts and apply a very small amount of copper grease to the thread or a *drop* or two of engine oil.
- Put the cylinder head bolts in position and screw down until they engage the head *very* lightly.
- Then using a torque wrench tighten all 4 bolts in a diagonal pattern using a few torque settings until they are tightened up to 19-21 LBS. ft
- Then check the squish clearance using soft solder inserted through the spark plug hole. This is done by pushing the solder up to the cylinder wall and then using the kick-start lever taking the piston past top dead centre. This should be done at the 12, 3, 6 and 9 'O' clock positions. At each position measure the solder thickness, which should fall in the range of 0.80 to -1.20mm.
- If the squish clearance is satisfactory then place the smaller Viton 'O' ring into it's groove on the spark plug boss after smearing it lightly with silicon.
- Smear the inside of the cap with a small amount of copper grease to allow the cap to slide over the Viton 'O' ring.
- Place the cap seal in position and replace the cap. Check the seal is correctly located.
- Tighten the cap bolts to 8-10 Nm.
- Replace the spark plug and tighten to the manufacturers instructions and refit the high-tension lead.
- Fill the cooling header tank with a 50/50 mix of water and antifreeze. (Do not use water only)
- Unscrew the water bleed screw on the cap until all the air is bled from the water jacket. Try gently shacking the scooter or tapping the engine to dislodge any air bubbles. Repeat until no more air comes out.
- Refill the header tank to the recommended level.
- Set the carburetion to the recommended settings depending the state of engine tune
- Check all hoses, seals and bolts etc then start the engine and allow to idle.
- Allow the engine to warm up keeping an eye on the water level. If the water level drops out of the header tank altogether stop the engine and allow it to cool before refilling to the recommended level, then repeat the process.
- Finally fill the water level to the recommended level and replace the bodywork.
- After your first journey re-check the water level all hoses, seals and bolts.

SPARK PLUG

USE **NGK B95EGV** FOR HIGH SPEED PROLONGED MOTORWAY USE. **NGK B85EGV** WINTER AND GENRAL RIDING SET ELECTRODE GAP TO 20 THOU.

LUBRICATION.

WE ENDORSE AND RECOMMEND THE USE OF **CASTROL TTS** FULLY SYNTHETIC OIL.

SETTING UP

PLEASE NOTE BECAUSE OF THE IMPROVED COOLING EFFICIENCY OF THE ABOVE CONVERSION ON COLD DAYS IT MAY BE NECESSARY TO BLANK OUT 1/2 TO 3/4 OF THE FRONT RADIATOR GRILL USING DUCT TAPE OR SIMILAR IN ORDER TO MAINTAIN THE ENGINE TEMP- AT JUST BELOW THE MID WAY POSITION ON THE TEMP GAUGE. (E.G. OUTSIDE TEMP 10c MASK RADIATOR JUST OVER HALF WAY.)

THE ABOVE DETAILS ARE TYPICAL TO MOST GILERA 180 MODELS AND HAVE BEEN TRIED AND TESTED TO THE BEST OF OUR ABILITY. HOWEVER WE CANNOT BE HELD RESPONSIBLE OR, CONTROL THE MANY FACTORS THAT AFFECT AN ENGINES PERFORMANCE, IF YOUR ENGINE DOES NOT RESPOND TO THE ABOVE BASE LINE SETTINGS IT MAY BE NECESSARY TO RE JET AND/ OR ADJUST, IN ANY CASE YOU WILL NEED TO CHECK THE COLOUR OF THE SPARK PLUG CENTRE ELECTRODE FOR SIGNS OF CORRECT JETTING E.G. BLACK TOO RICH WHITE TOO WEAK OATMEAL / LIGHT BROWN IS THE IDEAL. . ALWAYS USE SUPER UNLEADED OR LRP.

DISCLAIMER

While every effort has been made to ensure that these instructions are accurate and concise, they are only intended as a guide for general fitting. Your machine may differ slightly from the one described.

PM Tuning accept no responsibility for any damage or injury caused by the fitting of a PM Tuning PM998 system. Please consult a workshop manual. If you feel that you are insufficiently equipped to carry out the PM998 fitting safely and correctly, we recommend you consult your nearest dealer.

Optional thickness base gaskets are available to adjust squish clearance to required tolerance.