

INSTALLING REAR SPROCKET

STEP 1

There are two rear sprocket rubber packers. Cut one of them and only one. Cut only between the drilled holes.



STEP 2

Place the cut one inside of the spokes.



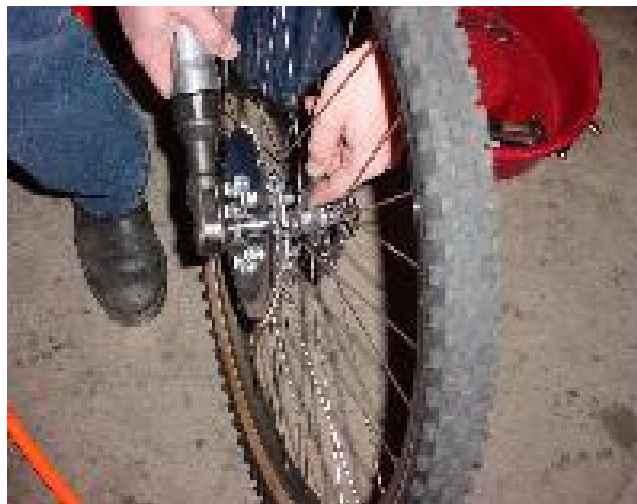
STEP 3

Place the other packer on the outside of the spokes.



STEP 4

Thread the nine bolts through the sprocket and use the half moon backing plates on the inside. Tighten all nine bolts moving across in a star fashion and a little at a time to allow for an even pull down. Once the sprocket is tight spin the wheel and check that the sprocket runs true. Deviation can be no more than 1.5mm both ways. Any side-to-side excess deviation can be corrected by spinning the wheel and then tightening the sprocket where needed in order to get correct alignment. Make sure bolts are tight. Notice that concavity or indentation of teeth of the rear sprocket is inward towards spokes. This helps keep the chain closer to the inside of the wheel and spokes and allows for better clearance of the rear stays of the bicycle frame.



STEP 4 COMPLETED

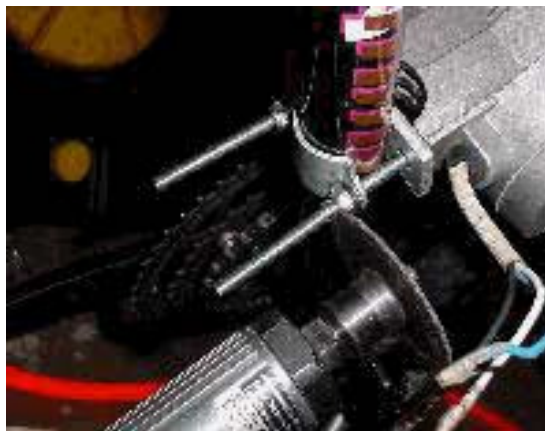
Here is how it looks when completed. Nice, tight and true.



MOUNTING ENGINE TO FRAME

STEP 5

Mount the engine into the frame. This is the front motor mount. Some bikes have a large diameter lower bar and some need clearance for the air box intake so you need to use the parts provided in the kit. Use spacer provided with the kit. This spacer normally would require the drilling of a hole in the frame to bolt the centre of the spacer through (shown below). I prefer the method shown, which is to pull the studs and replace them with longer ones (threaded rod) that you can get at the local hardware store. Then, you can use the steel motor mount clamp that came with the kit and not have to drill a hole in your frame . Then cut the excess off. My bike had an ovoid shaped lower bar about 50mm across. I used this method.



Here is how the front motor mount looks if you have to use the 3 hole adaptor. Yes, you drill and as you can see it works perfectly and you may have to get a longer bolt and bend the exhaust pipe some too. To bend the pipe, simply get a vice and use some wood to block the pipe and then bend it.



STEP 5

Here is step 5 complete with studs nipped and looking good!! Notice how well the intake inlets clear. Always mount air intake with inlets down! Always! If you need to, you can put the air box on a grinder and cut down on the inlet tubes a little to make sure they clear the frame. If you use the spacer on the front motor mount, usually this is enough to clear. Also, you may need to file down any water bottle screw mounts if they protrude and are in the way of a motor mount.



FITTING CONTROLS

STEP 6

The new style throttle is fitted to the r/h side of the handle bars - before you slip the throttle onto bars you will need to drill a 5mm hole in the handle bar 125mm from the end to locate the plastic throttle location tit. Put a drop of machine oil into the cable sheath whilst you have it apart. Care should be taken with the cable location groove - if you are too rough with it, you will break it. Be gentle when installing the throttle. The new style throttle has a kill switch incorporated into it. Wire one kill switch wire to the black wire from engine and the other kill switch wire to the blue wire from the engine. Pressing kill switch will cut power to the

spark plug and stop engine running. The kill switch can also be wired as follows: 1 wire to earth (anywhere on bike frame) and the 2nd wire to the white wire (from engine). It is not important which method you choose - both wiring methods are equally effective.



STEP 7

Mount the clutch lever.

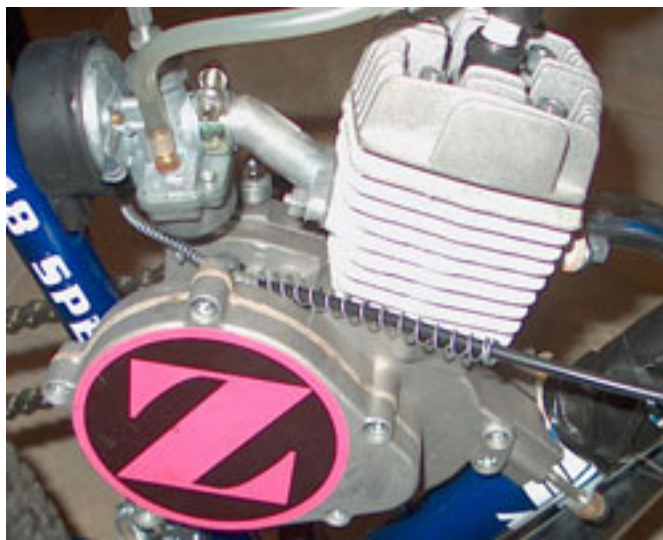


STEP 7 COMPLETE

Here is what the clutch cable connection should look like at the motor.



The larger spring is a heat shield for the clutch cable:



STEP 8

Screw in the fuel valve filter combo into the tank and then mount the tank. Tip... Wrap top frame tube with bar wrap where tank clamps are. Also, if you have cable runs on the top bar that are open cables, you may need to run them through cable sheath the length of the tank in order for them to work once tank is clamped over them. Apply plumber's tape to thread if leaking.



STEP 9

Mount your coil. Tip...Use 2 high quality cable zip ties. Go up and over and around the coil and zip tie it to the frame. Loop one zip tie up and over and also through the holes that would normally have the screws going through them. This is a better method than using the screws that come with the kit. You will have a more solid mount and not break the coil. It is not hard to break the coil ears off using the screws. Wire Connections: Blue to Blue and Black To Black. Also wire in kill switch to black and blue wires as previously explained. The white wire is generator and has a max output of .5A 7.5V. Anything that draws more current connected to the white wire will kill the motor. You can use the white wire to run a 6 volt lamp.

The kill switch can also be wired as follows: 1 wire to earth (anywhere on bike frame) and the 2nd wire to the white wire (from engine). It is not important which method you choose - both wiring methods are equally effective.

It is very important to ensure the cover plate on the magneto remains tightly sealed (use 'Loctite' on screws). If water is allowed to get into the magneto chamber, it will cause the magneto to fuse out.



Testing resistance on Magneto coil should read:
blue to black = 323ohms; black to white = 2.3ohms

Special Note: If your spark plug has its crown screwed on. Unscrew it and remove it so that you can put your Spark Plug Cap on. Failure to remove this Crown can damage or ruin the Spark Plug Cap.



Here is what the idler pulley looks like installed. Notice the wheel is at the most down position so as the chain gets slack, you simply move the wheel upwards to take out the slack.



STEP 10

Remove the 3 screws from Counter shaft side cover and also remove spark plug. Remove clip from master link of chain and then thread chain up and over counter shaft sprocket by rotating the sprocket using tool. Having the spark plug removed allows engine to be turned easily to thread chain. Tip... Since you have this cover off, hold clutch arm and rotate cover and pull clutch arm out of cover and then grease it and rotate it back in.



STEP 11

Put some molly grease on the shaft and in the hole.



STEP 12

Cut chain to length and using master link put chain back together. Do not cut chain too short! Install Idler pulley. Make sure you grease the plastic wheel metal shaft. Do not over tighten chain. Install chain guard. Use some tin snips to cut cover at the rear if needed. Use a good zip tie at the rear and the extra long bolt for the counter shaft cover will hold the front. With the heavyweight chain, it is a good idea to knock the points off the top of the small 10 tooth drive sprocket to allow free travel of the chain over the sprocket teeth. You can do this with a file or grinder when cover plate is removed.

If you ever need a new chain and can't buy the 415 chain locally, you can buy BMX stunt chain (probably even better than 415 heavy) from any good bicycle shop - save the waiting time and save on the freight costs from Bellingham to you.



STEP 13

Install exhaust pipe. If you need to bend the pipe some so it will not hit the frame or bolts, clamp the pipe into wood blocks and bend. Do not bend exhaust mounted to engine. If you do, you will not bend the exhaust, you will break the motor! Exhaust pipe is very strong - much stronger than the 2 mounting studs on the motor.



STEP 14

Mount the carburetor. Check the other screws including the brass fuel inlet screw for tightness. Typically they need some slight turning. Once the carburetor is on and tight, you are ready to connect the tank line to the carburetor. Tip ...Get an inline fuel filter. Even though the fuel petcock has a screen filter, it is porous and allows sediment through. A high quality inline fuel filter with paper element is a super way to go and to keep fine particulate out of the carburetor and the engine running fantastic and like new. Well the install is done. Mix your oil with the petrol before adding to tank. Fuel up the bike and go baby go! Enjoy! Ah!..do not get too excited... This is a new motor and you need to take it easy for the first 500 kilometers in accordance with the run-in procedure. Oh well - the price of owning a new engine. You have to run it in but that is fun too...Enjoy!



NOTE: During run in, keep drive chain snug. During run in keep the mix ratio at 16:1 for 500 kilometers and keep your speed down to a maximum of 20kph and do not run your motor for longer than 30 minute periods.

After run in you can allow the chain a little slack. Also, keep mix ratio at 20:1 and use high quality synthetic Motorbike / Lawnmower Two Stroke oil.

FAILURE TO FOLLOW THIS RUN-IN PROCEDURE WILL CAUSE YOUR ENGINE TO SIEZE UP.