

Madass Engine change:

By Stu

Firstly, which engine to use. Well, I went for the 110 4 A t e. It is electric start, and semi automatic which suits me fine. If the bike already has a clutch handle and cable, or if you want a manual gear change, you could go for the 125 4M i. Also consider which shift pattern you are used to, or want to use.

You will need a new air filter as the standard one is quite restricting, even for 50cc's. I suggest a foam one, as the metal one I had needed some slight bending to avoid the frame-I used some sticky pads so that the filter doesn't rub against the frame. Point the carb straight back, remove/refit the throttle cable in the top of the old/new carb. The 12 position carb adaptor plate gives you more choice, if you like. Tape up the choke cable, or remove it from the bike.

Buy a 17 tooth sprocket. The 50cc Madass has a 53 tooth rear sprocket, and first gear is practically unusable with the factory fitted 15 tooth of the Lifan.

You will need to add 2 links to the chain to make it fit. If your old chain is old, just buy a new 120 link chain and cut off the required number of links to make it fit.

Buy some new petrol pipe. Get 2 feet in the required size.(5/16 or 3/8, from memory-take a piece of the old one with you). The old stuff gets brittle quickly, and won't be the right length.

If I ever need to remove the engine again, I might consider drilling the mounting holes larger, and fitting the rubber mountings from the Madass to reduce vibration. You might want to try this, but it would be a delicate job with a big old drill bit!

The standard new straight kick start lever will not work with the Madass because of the exhaust. Refit the old one, or buy one that will fit-I think the 45 degree one would work, but check for yourself. Or leave it off, you can always push start it if you need to.

As for wiring, these are the "different" parts. The rest is simply disconnect/reconnect. You can also re use the starter cable from the Madass, the earth cable is unnecessary as supplied on the Lifan engine.

You can re-use the old coil and starter relay already on the Madass-the new coil would need some work to get it to fit in the same place on the Madass. Unsolder the black/yellow wire from the new coil, you will use it later.

There is a bundle of 5 wires coming from behind the chain cover. These are for the gear indicator and I didn't use them. Insulate the bare ends and bundle them up and stash them in the frame in case you want to use them later.

The NEW CDI unit is practically the same with one VERY IMPORTANT difference. Re-use the original wiring plug from the Madass, but swap over the wires going in to the green and black terminals. Easiest way is to remove both connectors from the plug gently and then re-insert in the other holes. Or you can cut and solder them.

For the NEW rectifier, remove the plug from the old rectifier by cutting the red and green wires close to the rectifier, but leave 1 inch of wire in case you ever want to replace it. Cut the black wire close to the connector-it is not used, so you don't need it to be any length. Solder spade connectors to the ends of the red and green wires.

Obtain 3 pieces of wire about 8 inches long, the same thickness (or slightly more) than the white and yellow wires coming from the Lifan engine. Solder spade connectors to one end of two pieces of this wire. Solder the other ends to the white and yellow wires coming from the generator of the Lifan engine. Solder another piece of wire to the green wire coming from the Lifan engine. This will be earthed later, so you can solder it to a washer to fit one of the small engine bolts, or form the end to a curve and clamp that under a bolt later. Finally, solder the black/yellow wire you removed from the new coil to the blue/white wire coming from the Lifan engine. This wire has the correct plug on the end of it to plug in to the wiring harness on the Madass. The Madass connector has a blue/white wire attached.

Ensure all soldered joints are insulated-insulating tape is fine. Mark each wire to identify it by (eg) wrapping masking tape round it and writing on it, or use colour coded wires AND WRITE DOWN what they are if they are not the same colour as the original.

Now, re-install the engine.

Run the cables from the Lifan engine to the area above the battery. The new rectifier can be attached using one of the bolt holes in the battery carrier that attached the old rectifier.

Now the fun part! For reference, if you look down at the rectifier with the "knobbly bit" at the top, number the connectors from top left, to top right, to bottom left, to bottom right:

1 2  
3 4

Connect the spade connector on the red cable attached to the old rectifier plug to position 1.  
Connect the spade connector on the green cable attached to the old rectifier plug to position 4  
Connect the spade connector on the yellow cable from the Lifan engine to position 2  
Connect the spade connector on the white cable from the Lifan engine to position 3.  
Cover the end of the rectifier in insulating tape, taking care not to bend/short circuit the connections, to water proof it.

Connect the blue/white wire (now ending with a black/yellow wire and a bullet connector) from the Lifan engine to the Madass wiring harness (blue/white wire and bullet socket).

Earth the extended green wire from the Lifan engine.

Remember to earth the battery lead, a black wire, to the engine bolt near the front sprocket/chain cover, and then reconnect the battery terminals-positive first, then negative(this prevents accidental short circuits.

That should be it-good luck!

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