

Fitting Engine

Richard Knight

September 1, 2007

Just a few lines to help with fitting the Prima engine I removed from my Land Rover. I left as much still connected as I could, the wiring is all plugged in and I cut the fuel hoses. I supplied another wiring connector, the wires on it might not be long enough to reach the dash but it's a start. All the hoses should connect to your Land Rover. The exhaust should fit fine.

1 Wiring

When I extended the wires on the harness connector I didn't have all the correct colours, so I used almost correct colors, I think I used Brown/Red instead of Brown/Orange and Black/White Instead of White/Black. it should be fairly obvious. Thought I better mention that;-)

1. Brown/Yellow. This wire is from the charge light to the alternator. There is a spur in the engine harness from this to the glow plug relay, it lets the relay know when the engine is running.
2. Brown/Orange. This grounds the glow plug warning light through the glow plug relay. You probably had a choke warning light, I would use that as your glow plug warning light.
3. Red/White. This is the starter relay coil power wire. This connects to the ignition switch, basically this is connected to the coil wire for the original starter solenoid.
4. White. This is the fused and switched 12V for the engine and chassis wiring harnesses. You can connect this to any convenient white, I think I found one which had gone to the engine originally to connect to.
5. White/Black. I think this was the W terminal wire, that is an un-rectified signal used by the rev counter. I am not sure why I left it I will check it didn't go any where in my Landy. You can leave this as a spare, I like leaving some spare wires.
6. Green. I just mentioned I like leaving spare wires. This is the green you will see peering out of the engine harness. Spare so what you do with it is up to you.
7. Green/Black. Temp gauge wire. This goes to your temp gauge.
8. Green/Brown. This is the power to the relay coil for an electric fan. One of the yellow relays is for an electric fan. I used my panel light switch. The two wires extended out of the front of the harness are the fan wires. I haven't had a fan on it for a couple of years, most of the time a fan isn't needed, you should really have one though..
9. err that's it just 8 wires and 2 were spares.....

The alternator brown wires are attached to the starter terminal post. You will run your battery lead to the starter terminal as well. Some people use the original land rover starter cables, they bolt both of the cables to the same post on the old starter solenoid[using it purely as a terminal post] and the ends to the battery and starter terminal. I fitted a new lead and ran it around the other side of the motor, leaving the bulkhead clear where the inlet hose runs.

The original oil pressure switch wire just needs extending a bit to reach.

I am not a fan of crimp fittings, I find soldered butt joints are more reliable. Usually I put a sleeve of adhesive lined shrink tube over the 'splices' but I ran out of it, so the bit's I extended on the harness connector I wrapped in amalgamating tape.

2 Fuel Hoses and Filter.

I cut the fuel hoses, you shouldn't have any problems seeing what goes where. The blue that's been cut is the fuel feed and the clear braided is the return. The filter pipes are still connected. I had the filter bolted to a bracket that was bolted on where a LHD steering box would live, if you look in the picture you will see where it went; I guess your going to have to move it as your heater will be in the way. The usual place to mount it is on the bulkhead, look at pics of other peoples engine bays on the Internet. I have mounted it on a steel bracket on the engine on my spare engine. You can return to a T piece in the fuel line, I ran around like that for 18 months, but it's better to return to the tank..

3 Coolant Hoses.

I left the coolant hoses as they came off the radiator. I think you will find the bottom hose is two SIII bottom hoses and the top is a SIII top hoses and a Montego hose. The branches going off to the oil cooler are 19mm 90° Silicon hose bends. The heater hoses should be connected to the thermostat housing and the oil cooler. I left the adapters from the Prima's 19 mm heater hose to the 1/2 inch Land Rover hoses in place, so it's just a matter of extending or re-routing your existing hoses. The oil cooler hoses haven't been disturbed.

4 Exhaust.

It all came undone and came apart fine, well the tube clamps snapped.. The exhaust bolts to the original exhaust hangers. You should be able to see how the exhaust ran over the cross-member and down between the chassis and handbrake drum. Make sure the exhaust doesn't run against the handbrake and that you can't push it against any thing. The exhaust down pipe could have been a bit shorter, I think I did alter it but another 3/4 inch would be cool; the exhaust looked like it was against the cross-member but it was clearing it[just], the shiny bit on the pipe looks like it is from touching the cross member rather than from me wiggling the tube getting the exhaust apart and off. A small dent in the tube, if it touches would be the easiest thing to do[if it touches]. The exhaust is made from a Montego exhaust.

5 Mounts, Alternator and other Stuff.

The adapter was my first. It has M10 threads instead of taking the original studs. I used cap head bolts, which were fine, I have supplied you with new M10 bolts. If there are any problems with spanner access pinch an easily accessible flange head bolt from an engine mount. Some of the engine mount bolt's aren't easily accessible with a 17mm spanner and require flange head bolts with 13mm heads..

The alternator needs to be completely unbolted to get the belt on. The alternator might touch the back leg of you battery tray. If so chop the outside of the leg away; My pictures show my altered battery tray but the leg is the original. The lower alternator bolt goes thru the engine mount, I welded a bit of steel in so a loose nut is captivated and you don't have to get a spanner on it.

Leave the engine mounts and the alternator off the engine untill the engine has been mated to the box. Put the mounts on when the engine is in place. If you can find two M10 studs, or bolts with the heads chopped off put them in two horizontal opposite adapter holes and use them to guide the engine in. If the clutch is lined up the engine should slip in really easily. If it doesn't something is wrong.

It's due a service. The cam belt was done 10,000 miles ago.

The air filter was bolted to a[rusty] bracket bolted to the clutch pedal box and the steering box support, see the pictures..

There is a file which[is long winded and unfinished] might be of some help:

http://integerspin.co.uk/downloads/perkins_conversion03.pdf