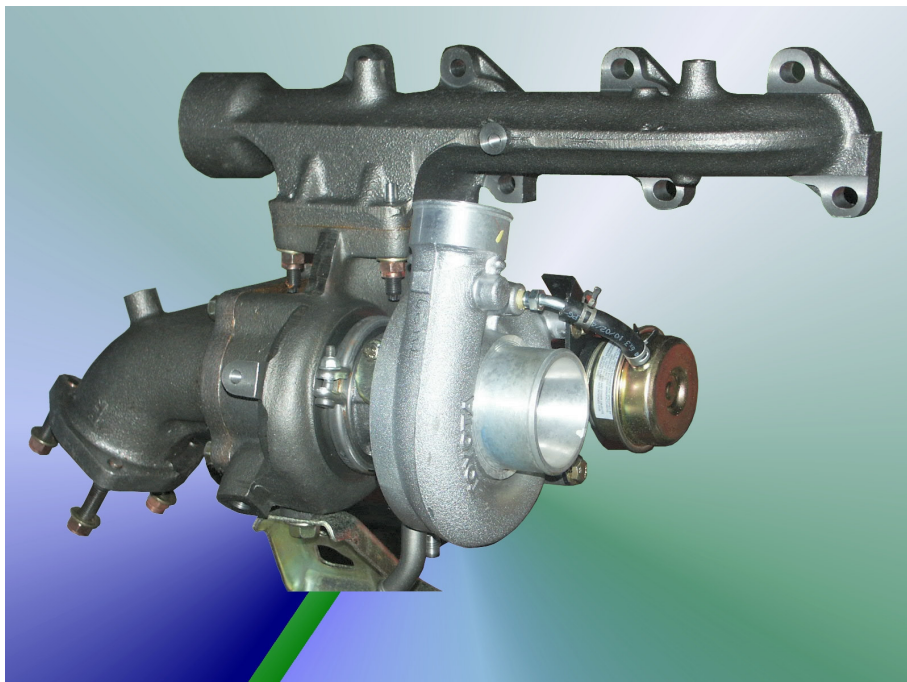


Fitting instructions Turbo for the Toyota *Landcruiser* with 1HZ engine.



Will fit the following models with the 1HZ engine: LC 70, 71, 73, 74, 75, 76, 78, 79, 80, 105 series *

Please go through these instructions carefully, it clarifies things and saves you time fitting.

IMPORTANT NOTE:

THIS TURBOKIT IS DESIGNED TO BE FITTED BY EXPERIENCED MECHANICS ONLY, PREFERABLY TOYOTA DIESEL QUALIFIED.

EXPERIENCE WITH TURBOCHARGERS AND DIESEL FUELPUMPS IS AN ABSOLUTE NECESSITY TO REACH A PROFESSIONAL LEVEL OF INSTALLATION QUALITY.

* The mechanical parts are identical, the aircleanerparts and exhaustparts are different.
The correct parts will be in the kit you have ordered. See last chapter of this fitting guide.

In order to fit this kit, you need the following:

Well equipped workshop

Hoist

Tap **M 18 x1,5 metric** for the turbo pressure fitting in the **AIRDUCT**.

Tap **3/8 BSP** thread for the **OIL RETURN** fitting.

16 mm drill

90 degree angle drill.

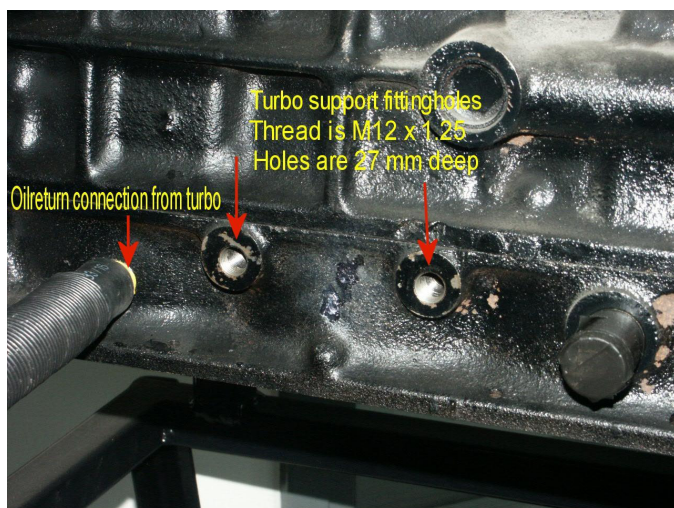
Specific for a LC 105 model:

Welding material, needed for the exhaust, stainless steel.

In case not present turbo support fitting holes :

Drill 10.8 mm, see below this page

Tap M12 x 1.25, see below this page



It has come to our attention that in some older models the turbo-support fitting holes in the cylinderblock are still blank.

The position is indicated in the picture above, you can use the support itself to determine the exact position.

The 2 holes that have to be drilled (if not already there) should be 27 mm deep .(the casting itself is about 35 mm thick).

Thread to be tapped is M12 x 1.25, drill diameter is 10.8 mm .The bolts are supplied with the kit

Start with removing the following parts:

First exhaust pipe, including the support that is fitted to the engine.

Heathshield on the exhaust manifold

Exhaustmanifold

Aircleanerhousing

Alloy airduct that crosses the engine to the intake manifold.

If the car is equipped with airconditioning: you can leave this in its original position.

Remove the smaller part (cylinder 5 and 6) of the original exhaust manifold, and fit this to the manifold that is pre-fitted on the turbo. Make sure the gasket surface on the cylinderhead is clean. Fit the oil supply and return flange to the underside of the turbo, use the supplied gasket: NOT liquid gasket !

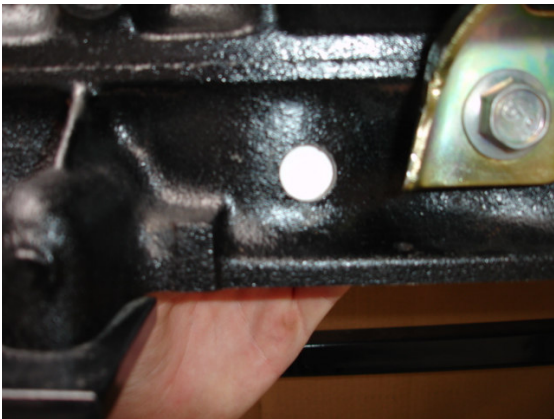
Drain the engine oil, and save it in a clean canister.

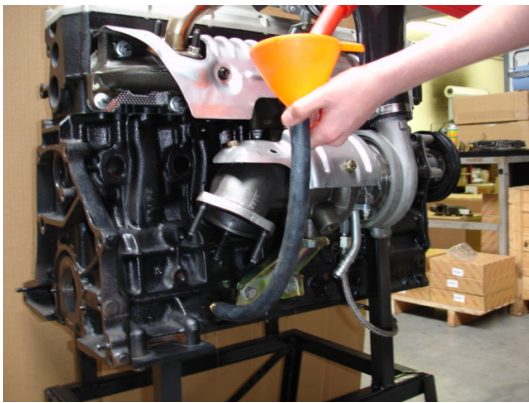
Drill a **16 mm** hole, as in the diagram next page, and tap the indicated thread.

Fit the oilreturn connection, supplied with the kit.

Having done this, we flush the oilpan through this connection with some diesel, and with the old engine oil, just as long as needed, until there is no more drilling residue in the oil.

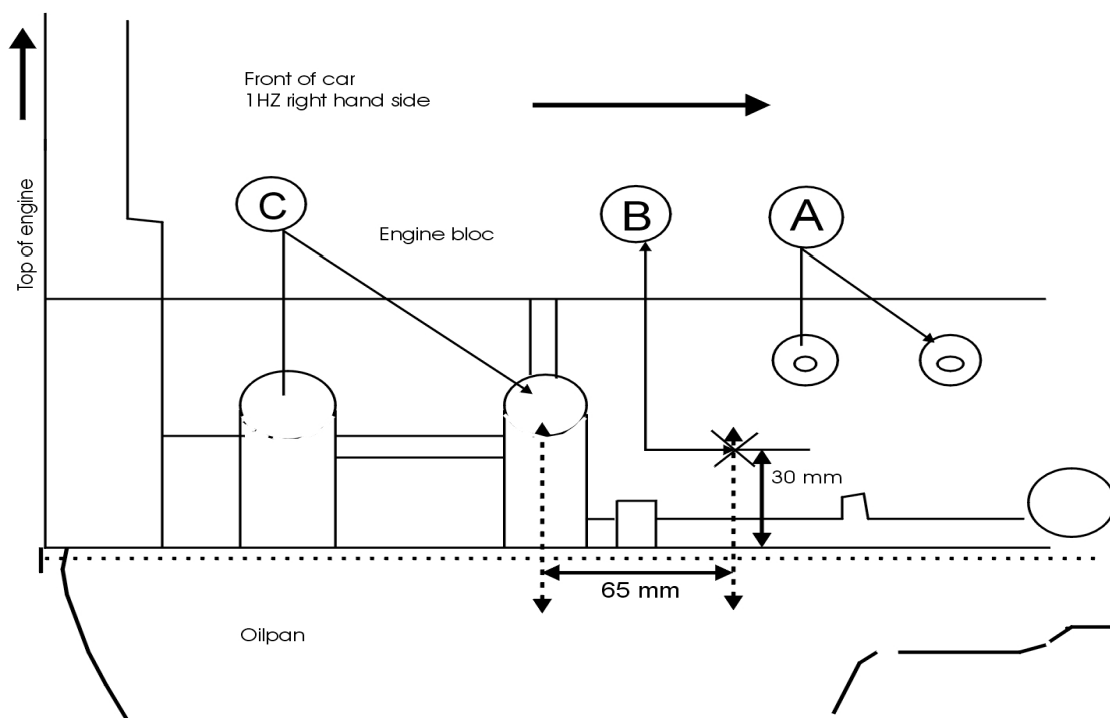
Re-fit the drainplug





Flushing the engine

OIL RETURN CONNECTION 1HZ TURBOKIT



Casting on 1 HZ bloc is partly the same as 1HD-T Turbodiesel.

Points A are not machined on 1HZ, but on some cars/engines they are already machined.

Points C are where the bracket from bell housing fits to the engine bloc.

From the hart line of the frontbolt, 65 mm forward, and from oilpan seam 30 mm upward we drill a hole off 16 mm, and tap 3/8 BSP thread. This is point B in drawing Before that we drain the engine oil.

After tapping the thread we flush the oilpan with dieseloil and /or engineoil.

The oil supply line, supplied in the kit with a hexagonal adapter, is fitted at the position where the oil-pressure sender is located.

This adaptor enables you to fit both the oil supply line, and the oil pressure sender.

Re-fitting this oil pressure sender should be done with care: use some liquid gasket, BUT NOT TOO much ! You might end up with blocking the oil supply line.

Fitting the oil supply line: use a counter wrench !



Position oil supply line.



The oil supply line is guided downwards, around the oilpan, and supported with the steel distance bushes as indicated in the picture above, to the other side where it meets the turbo connection.

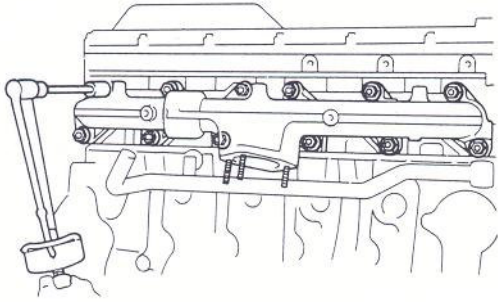
Remove crankcase ventilation connection pipe that is fitted in the alloy airduct.



Tap thread **M18 x 1,5** , and fit the plug with the rubber cap supplied with the kit.
This point can be used to connect a turbopressure gauge.



Now fit the complete turbo unit to the cylinderhead, using the new gaskets supplied.



Torque setting is 39 Nm

Connect the oilreturnhose

Connect the oilsupply line: use a counter wrench. The connection is conical: tight is tight enough !

Replace the aircleanerhousing, and use the cap supplied, or re-use the original cap if your kit is supplied with the hose as pictured in the 2nd picture.

Connect the crankcase ventilation with the supplied pipe and hose to the new cap.



Put on a fresh oilfilter, and fill the engine with oil.

Before re-fitting the airduct, start the engine, just to be on the safe side, in case of any residu .

When starting, you must put your finger on the balancing nut of the compressor wheel: this way you prevent the turbo from spinning, and allow the oilline and turbo to fill with oil, and when you get a signal from the man whom is starting that the oilpressure is OK, you can take your finger away.

A few seconds will do.

ATTENTION: Make sure **NOTHING** can enter the inlet of the turbo while spinning: this will damage the compressorwheel/turbo permanently !

Now connect the turbo to this airduct with the supplied silicon hose.

Connect the aircleaner connection hose to the aircleaner-cap, and to the turbo.

Re-fit all other parts that you might have taken out of the enginebay.

Check all connections.

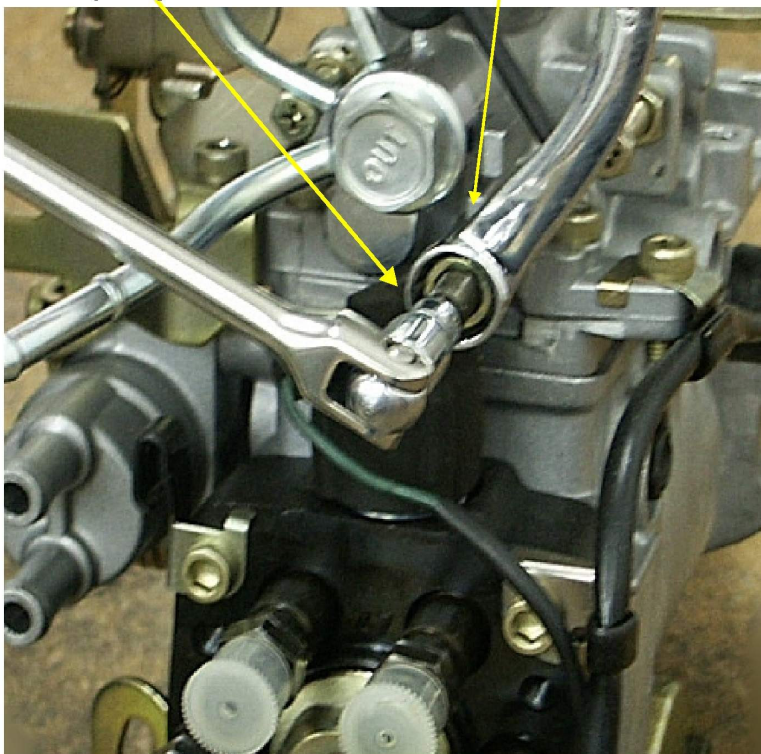
Turbo 1 HZ full load screw adjusting



Important note:
Turning the screw inwards
(clockwise), increases the
fuel setting
Turning the screw outwards
(counterclockwise) decreases
the fuel setting

Locking nut

Adjusting screw



Note: no need to remove the fuel pump ! Only done to get a clear /good picture.

You have to give the engine some more fuel, by adjustments as above.
This has to be done by trial and error, not 2 cars / injection pumps are the same.
Just give so much more fuel, until the engine produces a little black exhaust gas when pulling up,
while during driving the engine should not produce black exhaust gas anymore.
This is a pretty critical point in the setting of the screw.
Poor settings will affect the performance of the engines performance.

EXHAUST:

Exhaust pipe fitting for Landcruiser HZJ 105 turbo.

We have done it more than once and if followed accordingly, this exhaust will fit like a 'glove', and sits nicely inside the chassis rail.

You can only fit the exhaust pipe after having fitted the turbo itself

Follow the next instructions carefully:

Put the car on a hoist

Fit a gearbox support underneath the gearbox housing:

Just support the gearbox, do NOT lift the gearbox, not even a little !!!

Remove the cross member that sits beneath the gearbox.

Fit the first part of the exhaust pipe to the turbo, make sure all nuts are tightened.

Fit the second part of the exhaust pipe into its position, and tighten to the original exhaust.

In order to fit the second part it might be necessary to temporarily loosen the exhaust rubber of the original exhaust, just so much that the second half of the new exhaust can slide into its place, then replace the rubber hinge.

REFIT the cross member that carries the gearbox, and remove the gearbox support.

Now move the new exhaust just a little, until you feel that there is no strain at the place where the 2 parts join, and have to be welded.

Now make a weld as good and as large as possible, and let it cool down a little.

Replace the gearbox support underneath the gearbox housing, make sure: again JUST supporting, NOT lifting.

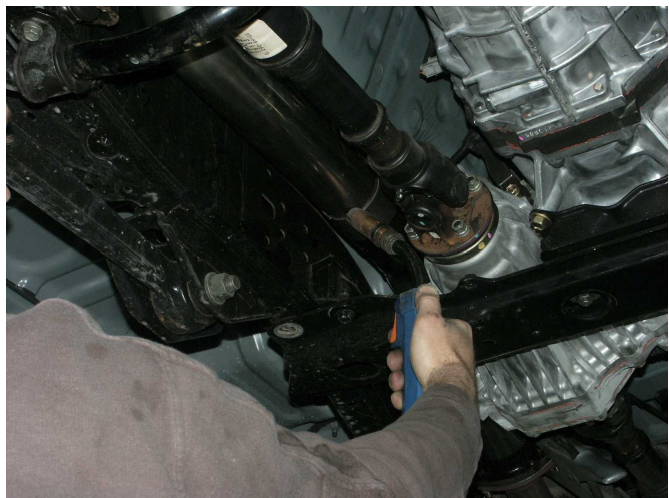
Now remove again the cross member, undo all nuts at the turbo and at the original exhaust, and slide the exhaust pipe out to the rear.

You can now make a complete circular weld.

Having done this, you can replace the exhaust into its position, make sure to tighten all nuts.

Replace the cross member, tighten the bolts to correct settings and remove the gearbox support. Do not forget the 2 bolts/nuts that connect the gearbox support rubber.

Job is finished now.



Exhaust fitting on the other models is not as extensive as with the HZJ 105 series.

We supply the exhaust ready to fit between the turbo and the second original exhaust part.

However some customers do have extra's, like side protection, fitted on the chassisrail, which might meet the exhaust, in which case some extra modification MIGHT be necessary.

