



364 Edward Street P. +61 2 6925 4348  
Wagga Wagga NSW 2650 F. +61 2 6925 3314

**if it's diesel injection or turbo DENCO DO IT.**

## **FITTING INSTRUCTIONS**

### **TOYOTA 100 SERIES**

As at 8/8/05

1. Remove air cleaner assembly for accessibility.
2. Remove complete exhaust system from the manifold to tail pipe including the exhaust support bracket on the flywheel housing. Some pipes will have to be cut for removal.
3. Remove the exhaust manifold. Fit new gaskets if required.
4. Remove last 2 cylinders from manifold and make sure piston ring seals are free.
5. Fit turbo and manifold assembly using original two cylinder manifold but without the inner sleeve. If EGR is fitted to vehicle, blank exhaust manifold end with solid stainless steel gasket supplied. Refit the original Heat shield to the new manifold.
6. Drain oil and remove oil level switch from the side of the sump.
7. Mark the sump for the oil drain position to line up with the turbo outlet, then remove sump. Drill and weld oil return elbow to sump. Clean sump and refit with new sealing material. Connect oil drain to turbo with  $\frac{3}{4}$ " hose and clamps supplied. Refill sump with oil and refit oil level switch
8. Remove oil filter and drip tray to gain access to oil pressure sender. Remove sender from block and fit nipple and T piece then refit sender unit into T piece on top at a round the 11 o'clock position. Now fit oil line to 90° fitting on end of T piece and connect to turbo over engine. A support bracket is then fixed to rear bolt on crossover pipe and using large and small clamp support oil line to breather pipe on crossover pipe. Bolt together with 6mm bolt and nut.
9. Refit oil filter and tray. Replace filter if damaged on removal.

10. Connect the turbo outlet to engine crossover pipe using 2" and 2 3/4" turbo hoses with cast HZ001 turbo pipe. Re fit air cleaner assy.
11. Fit HZ03 Cast Elbow to the inlet of turbocharger with hose supplied (long end vertical). Fit HZ2B Casting to Air cleaner using 3" hose supplied and connect with convoluted hose to castings.
12. Remove engine breather rubber pipe from rocker cover and crossover pipe and discard. Blank crossover pipe breather with 5/8-cap plug and clamp. Join rocker cover breather to HZ03 intake casting with 5/8 hose and clamps provided.
13. Fit new exhaust system in order, leaving loose until all pipes are in place. Align and tighten.
14. Fit boost gauge and pyrometer.
15. Start engine and allow to idle for 5 minutes after oil pressure has been attained and check for air and oil leaks.
16. Dyno or road test vehicle and ensure maximum boost does not exceed 60KPA and exhaust gas temperature does not exceed 500°C under full load after adjusting maximum fuel screw. Make sure fuel and air filters are clean.

NOTE: Maximum exhaust temperature will not be attained until at least two minutes of full throttle operation on dyno or road test. If road testing, brakes or trailer may have to be used to keep within state speed laws.

## **WARNING TO ALL FITTING STATIONS**

INSTALLATION OF DIESEL TURBOCHARGER EMISSION CONTROL SYSTEMS SHOULD NOT BE UNDERTAKEN UNLESS YOU HAVE A BOOST GAUGE AND A PYROMETER.

**ALL DENCO DIESEL SYSTEMS RUN AT 60 KPA BOOST MAXIMUM AND A MAXIMUM OF 500° UNDER POWER LOAD UNLESS OTHERWISE STATED.**

REMEMBER: OVER FUELLING NOT ONLY CAUSES BLACK SMOKE, IT ALSO GENERATES EXCESS HEAT. EXCESS HEAT CAN ALSO BE CAUSED BY AIR AND EXHAUST RESTRICTIONS SO CHECK ALL AIR CLEANERS AND DUCTING TO THEM FOR RESTRICTIONS BEFORE TESTING. EXHAUST BRAKES AND EXHAUST SYSTEMS SHOULD ALSO BE CHECKED FOR CORRECT OPERATION AND RESTRICTION.

EXCESS HEAT CAUSES MANY PROBLEMS INCLUDING HIGH N<sup>o</sup>X EMISSIONS, LAMINATION OF TURBINE HOUSING AND MANIFOLD, STUD STRETCH AND PREMATURE ENGINE FAILURE.

DENCO DIESEL WILL NOT ACCEPT LIABILITY FOR ANY PARTS RETURNED FOR WARRANTY THAT SHOW ANY OF THE ABOVE SIGNS.

WARRANTY WILL NOT BE CONSIDERED IF REPAIRS ARE CARRIED OUT WITHOUT DENCO DIESEL'S AUTHORISATION.

ALL KITS NOW HAVE DUMP PIPES WITH THE PROVISION FOR VDO PYROMETERS.

REMEMBER: IF SET CORRECTLY OUR PRODUCT IS ENVIRONMENTALLY FRIENDLY AND SAFER TO THE ENVIRONMENT THAN PETROL ENGINES.

**TOYOTA 100 SERIES****Check List**

<b>NO.</b>	<b>QTY.</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>BIN NO.</b>	<b>CHECK.</b>
1	1	318276-51	Schwitzer S2A turbocharger with hi-flow turbine housing		
2	1	TDM312	Turbo Dynamics twin pulse manifold		
3	4	000-106	M10 studs	X30	
4	4	0366 7	1.25 x M10 exhaust nuts	X6	
5	1	3LD1	Alloy oil in fitting	X21	
6	1	SP8-450504	¼ BSP X 5/16 fitting x 45°	T18R	
7	4	826 0651	8mm x 20mm bolt	X13	
8	4	8267170	8mm Spring washer	X10	
9	1	TDM106	1HZ oil out pipe	S8	
10	1	6020-002	V clamp (exhaust out)	H19	
11	2	DSF82	Manifold gasket	S7	
<b><u>AIR IN</u></b>					
12	1	670-BLK300	2 1/2" X 3" Turbo hose	V6	
13	2	HS48	No 48 Hose clamp	HCB13	
14	2	HS44	No 44 Hose clamp	HCB12	
15	1	TDM318	Cast elbow with breather fittings	S13	
16	1	HZ002B	Cast elbow	S14	
17	1	670-BLK275	2" of 2 ¾" Turbo hose	V5	
18	1	17881-64420	Convoluted air hose		
19	2	HS44	No 44 Hose clamp	HCB12	
<b><u>AIR OUT</u></b>					
20	1	670-BLK200	2 1/2" x 2" turbo hose	V2	
21	2	HS32	No 32 Hose clamp	HCB9	
22	1	670-BLK275	2 ½ x 2 ¾" turbo hose	V5	
23	2	HS44	No 44 Hose clamp	HCB12	
24	1	TDM198	Cast turbo air out pipe	S12	
25	1	A64-02	Boost gauge plug	T13	
<b><u>OIL IN</u></b>					
26	1	TDM005	Oil line support bracket	B13	
27	1	A35-02	1/8 BSP brass T piece	T14F	
28	1	A8-0502	1/8 BSP x 90° -5 fitting	T16F	
29	1	A27-02	1/8 x 1/8 BSP straight fitting	T15F	
30	1	HOS32	Oil Supply hose cont-32"	H19	
31	2	5421215	12 x 15 pipe clamp	H4	
32	1	5421815	18 x 15 pipe clamp	H4	
33	1	57612	13 x 5mm bolt	C12	
34	1	36805	5mm nyloc nut	C12	

35	1	826 0602	20mm x 6mm bolt	U47	
36	1	826 6034	6mm nyloc nut		
<b><u>OIL OUT</u></b>					
37	1	TDM107	1HZ oil out elbow sump	S2	
38	1	LOL-12	¾" x 6" oil hose		
39	2	HS10	No 10 hose clamp	HCB5	
<b><u>ENGINE BREATHER</u></b>					
40	1	NG-FS6069	5/8 cap plug	B12	
41	3	HS10	No 10 hose clamp	HCB5	
42	1	LOL-10	5/8" oil hose x 19" long		
<b><u>EXHAUST</u></b>					
43	1	TDM212	Turbo exhaust dump pipe	S2	
44	1	TDM435	Bell housing replacement bracket		
45	1	DDHZ105R-2MB	No 2 pipe Toy 100		
46	1	TDM115	No 1 pipe hanger and clamp		
47	1	TR616CC250-GP	2 ½" muffler		
48	1	DDHZ105R-3MB	No 3 locating pipe		
49	1	TDM110	No 3 locating pipe clamp		
50	1	DDHZJ105R-4MB	No 4 pipe over chassis		
51	1	DDHZJ105R-5MB	No 5 tail pipe		
52	1	TDM114	No 3 rear pipe hanger		
53	4	C12	Exhaust clamp	W11	
<b><u>EXTRAS</u></b>					
54	1	TDSTI	Stickers and instructions		
55	1	TDMLE680	EGR Blanking Plate Gasket		

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