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

FITTING INSTRUCTIONS

TOYOTA HILUX WITH 5L DIESEL ENGINE

AS AT 18/11/08

- 1 Remove complete exhaust system, exhaust manifold and plastic air box on top of engine.
- 2 Remove oil pressure plug from oil gallery just behind alternator and fit small flare nipple then loosely fit oil supply line.
- 3 Remove oil drain on block for vacuum pump. Now fit banjo assembly with extended hose banjo bolt and connect vacuum pump oil return to banjo and fit oil drain hose for turbo.
- 4 Fit two hole stainless steel Heatshield to firewall by using the two existing protruding screws and two nuts supplied.
- 5 Fit exhaust manifold with assembled turbo to engine using new gasket if required. Now connect turbo oil feed line and oil return line. When you have oil feed and return line situated so they don't rub on anything, tighten both ends using a spanner and hose clamps respectively.
 - a. Note: oil feed line should be on outside of turbo.
- 6 Remove engine breather from intake manifold and rocker cover, now block the outlet on the intake manifold with rubber cap plug and clamp. Attach the new breather hose loosely to rocker cover ready for attaching to new position.
- 7 Remove throttle cable holder from engine head and discard. Now remove the two rubber inserts and sleeves from the previously removed plastic air box and insert them into the two mounting holes at the front of the four outlet air box mounting. Fit new air box to front hold down bracket with

original 6mm screws and connect to intake manifold with turbo hose and clamps supplied. Now connect air cleaner

and turbo to air box using cast elbows, turbo hose and clamps. You may now connect engine breather to elbow underneath air box making sure that breather pipe does not kink as this will cause turbo to pass oil.

- 8 Using exhaust V clamp attach the exhaust dump pipe to turbine outlet and tension so as dump pipe can still swivel from side to side.
- 9 Fit the short rod exhaust bracket to the rubbers near transfer case facing up and insert from rear of rubbers. Now fit long rod exhaust bracket over diff from rear of rubbers and then short single rod to rear of vehicle.
- 10 Fit first section of exhaust with flexi coupling to dump pipe so as to position 90° section under front drive shaft. Now position short double bent section of exhaust so as to face over first exhaust bracket assembly. Fit expanded section of intermediate pipe over bracket then fit muffler so as to rest over diff bracket. Now fit tail pipe and wire into position ready for welding. Mark rear hanger position on pipe. Remove and weld. Clamp all joints and clamp first pipe to original engine bracket.
- 11 Because of the restrictive nature of the air pickup inside the LHS mudguard it is necessary to
 - (i) Disconnect the plastic pipe from the aircleaner to the inner guard:
and
 - (ii) Fit a cold air pickup or snorkel.
- 12 Fit boost gauge and pyrometer start engine and allow it to idle for 5 minutes whilst checking for air and oil leaks.
- 13 Road or dyno test vehicle and set maximum turbo boost to 60 KPA by adjustment of actuator rod. Set maximum fuel approximately ¼ turn in from factory standard and check pyrometer reading (with clean air cleaner) does not go above 500°C maximum.

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 AND TURBO SYSTEMS RUN AT 60 KPA BOOST MAXIMUM AND A MAXIMUM OF 500° UNDER POWER LOAD UNLESS OTHERWISE STATED.

REMEMBER: OVERFUELING 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^oX 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 OF 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.

No.	Qty.	Part No.	Description.	Check.	
Item 1-17 preassembled for your convenience					
1	P R E A S S E M B L E D	1	313798	S1BG Turbocharger	
2		1	TDMT0Y5L	Turbo Exhaust Manifold	
3		1	TDM058	Actuator Bracket 5L	
4		1	TDM059	Manifold Heatshield	
5		1	826-0650	M8 x 16mm bolts for Heatshield	
6		1	826-7170	M8 stainless steel spring washers	
7		1	TDM010	M8 incanol studs for manifold	
8		1	DNF	M8 Hi tensile nuts	
9		1	SP3-0407	¼ hose x 7/16 x 24 UNS fitting	
10		1	80-024	24cm Purosil hose	
11		1	MS8241	Goss Hose Clamps	
12		1	TDM060	5L oil out pipe assembly	
13		1	TDM061	Turbo back plate S1BG	
14		1	826-0652	M8 x 25 Exhaust bolts	
15		1	826-7170	M8 stainless spring washers	
16		1	6020-002	3" V-clamp for dump pipe	
17		1	DSF52	Manifold gasket	
18	1	TD5L001	Four way casting		
19	1	A64-02	1/8 BSP plug for boost gauge		
20	1	BP6-0806	½ x 3/8 BSP hose elbow		
21	1	TD5L002	Air in pipe		
22	1	TD5L003	Air out casting		
23	3	670BLK-250	2 ½" Turbo Hose 2 ½" long		

No.	Qty.	Part No.	Description.	Check.
24	6	HS040P	No. 40 hose clamps	
25	1	670BLK-225	2 ¼" Turbo Hose 2 " long	
26	2	HS036P	No. 36 hose clamps	
27	1	670BLK-200	2" Turbo Hose 2 1/2" long	
28	2	HS032P	No. 32 hose clamps	
29	1	N6FS6068	½" Blanking plug	
30	1	MH006P	No. 06 hose clamps	
31	1	FH1013	13mm breather hose 15" long	
32	1	A7-0402	¼" x 1/8" BSP fitting	
33	1	HOS445	445mm stainless steel oil supply hose	
34	1	TD80X270X16	90° oil out hose	
35	2	HS010P	No. 10 hose clamps	
36	1	PRE162	5/8 Adaptor	
37	2	NW543	Copper washer	
38	1	B317	Banjo	
39	1	TDS1DP	Dump pipe (TDM157)	
40	1	TDM-PLUG	Dump pipe plug	
41	1	TDM084	Fire wall heat shield	
42	2	826-6200	6mm nuts	
43	2	826-7051	¼" spring washers	
44	1	TDM085	Curved heat shield	
167 Exhaust.				
45	1	TDM086	No. 2 & 3 pipe with flex joint	
46	1	DDLN167-4MB	No. 4 short cross under pipe	
47	1	DDLN167-5MB	No. 5 long intermediate pipe	
48	1	TR616CC250-GP	2 ½" x 15 Turbo muffler	
49	1	DDLN167-6MB	No. 6 Triple bend tail pipe	
50	1	TDM087	Short rod and clamp bracket	

No.	Qty.	Part No.	Description.	Check.
51	1	TDM088	Long rod and clamp bracket	
52	1	TDM089	Short rear hanger-weld	
53	4	C12	2 5/8 exhaust clamps	

172 Exhaust.				
54		TDM086	No. 2 & 3 pipe with flex joint	
55	1	DDLN172-4MB	No. 4 short cross under pipe	
56	1	DDLN172-5MB	No. 5 long intermediate pipe	
57	1	TR616CC250-GP	2 ½" x 15 Turbo muffler	
58	1	DDLN172-6MB	No. 6 Triple bend tail pipe	
59	1	TDM093	Short rod and clamp bracket	
60	1	TDM088	Long rod and clamp bracket	
61	1	TDM089	Short rear hanger-weld	
62	4	C12	2 5/8 exhaust clamps	
LN147 2WD Exhaust.				
63	1	DDLN147-2MB	No. 2 Adaptor pipe	
64	1	DDLN147R-3MB	No. 3.3 Bend pipe exp short end	
65	1	DDLN147R-4MB	No. 4 single bend pipe exp short end	
66	1	DDLN147R-5MB	No. 5.3 bend pipe exp shortened	
67	1	TR616CC250-GP	2 ½" turbo muffler	
68	1	DDLN147R-6MB	No. 6 tail pipe 3 bend	
69	1	TDM090	Short rod bracket (147)	
70	1	TDM088	(147) long rod bracket	
71	1	TDM092	Short rear hanger-weld	
72	6	C12	2 5/8 exhaust clamp	

TOYOTA 5L DIESEL ENGINE

Check List

PREASSEMBLED.

No.	Qty.	Part No.	Bin No.	Description.	Check.
1	1	313798		S1BG Turbocharger	
2	1	TDMTOY5L		Turbo Exhaust Manifold	
3	1	TDM058	G10R	Actuator Bracket 5L	
4	1	TDM059	G7	Manifold Heatshield	
5	1	826-0650	X12	M8 x 16mm bolts for Heatshield	
6	1	826-7170	X11	M8 stainless steel spring washers	
7	1	TDM010	X18	M8 incanol studs for manifold	
8	1	DNF	X17	M8 Hi tensile nuts	
9	1	SP3-0407	X5	¼ hose x 7/16 x 24 UNS fitting	
10	1	80-024	W6	24cm Purosil hose	
11	1	MS8241	X2	Goss Hose Clamps	
12	1	TDM060	X29	5L oil out pipe assembly	
13	1	TDM061		Turbo back plate S1BG	
14	1	826-0652	X14	M8 x 25 Exhaust bolts	
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16	1	6020-002	H19	3" V-clamp for dump pipe	
17	1	DSF52	G6	Manifold gasket	
18	1	TD5L001	G1	Four way casting	
19	1	A64-02	T13	1/8 BSP plug for boost	

				gauge	
20	1	BP6-0806	T20	½ x 3/8 BSP hose elbow	
21	1	TD5L002	G2	Air in pipe	
22	1	TD5L003	G5	Air out casting	
23	3	670BLK-250	V4	2 ½" Turbo Hose 2 ½" long	
24	6	HS040P	HCB11	No. 40 hose clamps	
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27	1	670BLK-200	V2	2" Turbo Hose 2 1/2" long	
28	2	HS032P	HCB9	No. 32 hose clamps	
29	1	N6FS6068	F13	½" Blanking plug	
30	1	MH006P	HCB5	No. 06 hose clamps	
31	1	FH1013	W5	13mm breather hose 15" long	
32	1	A7-0402	T11	¼" x 1/8" BSP fitting	
33	1	HOS445	F8	445mm stainless steel oil supply hose	
34	1	TD80X270X16	W22	90° oil out hose	
35	2	HS010P	HCB5	No. 10 hose clamps	
36	1	PRE162	G8R	5/8 Adaptor	
37	2	NW543	G8C	Copper washer	
38	1	B317	G8F	Banjo	
39	1	TDS1DP	RACK	Dump pipe (TDM157)	
40	1	TDM-PLUG	RACK	Dump pipe plug	
41	1	TDM084	I25	Fire wall heat shield	
42	2	826-6200	U60	6mm nuts	

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