



Brown Davis Automotive Pty. Ltd.
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TL76A2

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Last edited: 1/09/2010

Fuel Tank Part List and Installation Instructions

TANK P/N: TL76A2

LANDCRUISER HZJ75 – TRAY (REAR)
170ltr AUXILIARY PETROL TANK

Item	Description	Quantity	Part number	P	C
1	TANK - AUXILIARY	1	TL76A2		
2	HOSE – TMP – 6mm	1.0m			
3	HOSE – TMP – 12.5mm	1.2m			
4	HOSE – FUEL AND EMISSION - 10mm	3.5m			
5	HOSE – FILLER - 51mm	150mm			
6	HOSE CLAMP – STAINLESS – 8-16mm	18			
7	HOSE CLAMP – STAINLESS – 12-20mm	4			
8	HOSE CLAMP – STAINLESS – 40-60mm	2			
9	FUEL PICK UP – 3/8 x 1/4 BSP ELBOW	1			
10	BRASS - ELBOW – 1/4 x 1/4 BSP	1			
11	BRASS - ELBOW – 5/16 x 1/4 BSP	1			
12	BRASS - ELBOW – 1/2 x 1/4 BSP	3			
13	DRAIN PLUG – MAGNETIC – M14 (fitted to tank)	1	DP-M14		
14	T-PIECE - NYLON BARBED – 1/4	1			
15	CRIMP FITTING – SPADE FEMALE 1/4 - RED	7			
16	CRIMP FITTING – RING 5mm – RED	3			
17	CRIMP FITTING - JOINER 1/4 - RED	7			
18	WIRE – TWIN CORE – 3.0mm – RED/BLACK	6.0m			
19	SCOTCH LOCK	1			
20	SWITCH – TOGGLE DPDT	1			
21	LABEL PLATE - AUX/MAIN	1			
22	BOLT – HEX – M10 x 70mm – PLATED 8.8	3			
23	NUT – STANDARD PLATED – M10	6			
24	WASHER – PANEL PLATED – M10	4			
25	WASHER – FLAT PLATED – M10	3			
26	SET SCREW – HEX – PLATED – 5/16 x 3/4 UNC	2			
27	SET SCREW – HEX - M8 x 25mm – PLATED 8.8	4			
28	C-CLAMP EXHAUST – 5/16 THREAD – C9 2 1/8"	3			
29	NUT – STANDARD PLATED - 5/16 UNC	6			
30	WASHER – FLAT PLATED - 5/16"	4			

PH: +61 (3) 9762 8722 FAX: +61 (3) 9762 9829
47 Holloway Drive, Bayswater, Victoria, Australia 3153

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31	WASHER – SHAKEPROOF INTERNAL PLATED - 5/16"	6			
32	SELF TAPER SCREW – BUTTON HEAD - 13mm - STAINLESS	4			
33	SENDER UNIT - 77501-87606 (fitted to tank)	1			
34	FUEL FILTER – INLINE – 10mm	1			
35	FILLER CAP – LOCKING (15X)	1			
36	CHANGEOVER VALVE – 6-PORT (42-159c)	1			
37	LOOM – CHANGEOVER VALVE – 6-PORT (42-203)	1			
38	TANK BRACKET – CHANGEOVER VALVE BRACKET	1	TB-CV		
39	CROSSMEMBER	1	CM-TL75A5		
40	FILLER NECK COVER PANEL	1			
41	FILLER NECK	1	FN-TL75A2		
42	WARRANTY CARD & INFORMATION SHEET	1			
43	BROWN DAVIS AUTOMOTIVE STICKER	1			

Packed by (P): _____

Checked by (C): _____

Date Packed: ____ / ____ / ____

PH: +61 (3) 9762 8722 FAX: +61 (3) 9762 9829
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All Brown Davis Automotive fuel tank kits are manufactured to Australian Standards and the Australian Design Rules where applicable and carry a full **3 Year Warranty**. Construction in 2.0 mm (14 gauge) cold rolled, aluminium coated, steel ensures maximum strength and durability and minimum corrosion susceptibility. This gauge of steel is sufficiently impact resistant that an additional tank guard is not necessary (most standard tank guards are thinner than 1.5 mm).

All tanks are M.I.G. (Metal Inert Gas) welded to assure the strongest possible seams and are baffled to prevent fuel surge. They are then pressure tested using two different techniques to eliminate the possibility of leaks. Drain plugs are fitted horizontally to prevent them being damaged if the tank is scraped over rocks and are magnetic to collect any metallic dirt that may enter your fuel system.

In all cases, Brown Davis Automotive fuel tanks are designed with severe off road use in mind and will not compromise ground clearance, entry, exit or ramp over angles.

AUXILIARY TANKS Are designed to be installed in addition to the original factory fuel tank, with its own fuel gauge. An electrical changeover system simultaneously changes the source of fuel from the original (main) tank to the auxiliary tank (or vice versa), the vehicles fuel gauge is simultaneously changed over to indicate the level in the tank from which the fuel is being drawn.

FITTING

- 1 Place vehicle on hoist (or similar) and raise to convenient working height.
- 2 Remove spare wheel and unbolt and discard wheel chain mount.
- 3 Confirm that the Brown Davis long range tank is perfectly clean inside before assembly and installation by rinsing out the inside thoroughly, as should always be done with any new component installed into the fuel system of any vehicle. Use 4 to 5 litres of petrol, kerosene or methylated spirits for this rinsing process which should be drained and discarded afterwards, and to confirm absolute cleanliness it is not a bad idea for a second rinse.
- 4 Install the fuel gauge sender into the new auxiliary tank using gasket, screws and washers supplied. Check adjustment of gauge float arm, it should stop just short of the top (5mm) and just short of the bottom (5mm) to assure correct reading (this may already have been done for you). Install brass fittings into the tank using TEFLON tape to seal the threads (refer Diagram 1).

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- 5 Install the new fuel tank support crossmembers, "U" bolts, washers and double nuts (supplied) across the chassis rails at the front and rear of the new fuel tank location. Leave these loose for the present so as to allow final adjustment during the tank installation.
- 6 Support the tank up against the new crossmembers just fitted and confirm approx 5mm of clearance on front and back of the (old wheel mount) chassis crossmember. Mark the 6 mounting holes on the floor. Then drill the mounting holes up through the crossmembers.
- 7 Connect 1/2 of the 8mm black fuel pickup hose to the pickup fitting, the other 1/2 of the 8mm black fuel return hose to the return fuel hose fitting and the 6mm clear vent hose to their respective fittings on the new tank, also connect the twin wire to the new fuel gauge installed and let all the hoses and wire drape across the top of the tank to the drivers side front corner (refer Diagram 1). The tank can now be bolted into position using the 6 x 2" long bolts supplied. The hoses are connected to the top of the tank first, because access to connect them later with the tank in position is very limited. Fit also the 1/2" balance breather hose and hose clamps (supplied) across the channel in the new tank.
- 8 Bolt the FUEL CONTROL VALVE to its bracket supplied, then screw the assembly up under the floor just inside the driver's side chassis rail, forward of the standard fuel tank on the angled floor pan face, below the driver's seat with the self tapping screws supplied. The four fitting side of the valve should be pointed toward the passenger side of the vehicle.
- 9 The original rubber fuel lines can be used from the standard fuel tank to the valve by disconnecting it at the steel fuel pipes end and connecting them to the valve, then connect the new fuel hose from the auxiliary tank to the valve and down along the chassis rail to the rear of the vehicle (fit fuel filter supplied into this hose), then run new hoses from the standard steel fuel pipes to the valve (refer Diagram 2).
- 10 Run the 6mm clear vent hose from the side of the expansion canister on the new tank, up along the chassis rail and connect into one of the vent hoses on the standard tank, using the 1/4" Nylon "TEE" piece supplied.
- 11 Fit the fuel gauge relay under the floor next to the fuel control valve just fitted.
- 12 Run two (2) Twin wires from the fuel valve, up along the chassis rail tied to the fuel lines, and up through the firewall to the DPDT toggle switch which can be conveniently located on the dash. Join the switch active to an Ignition switched power using the SCOTCH LOCK joiner supplied. With the switch in the UP position the vehicle runs on the auxiliary tank and with it DOWN the vehicle runs on the standard tank. Wire up the FUEL CONTROL VALVE and fuel gauges (refer Diagram 2). Connect the switch wire to terminals "D" & "E" appropriately. Run another Twin wire from "A" & "B" terminals on the control valve to the original fuel gauge wiring loom up above the transfer case where the wires plug onto the standard fuel gauge sender, where you should be able to locate standard fuel gauge active wire (Yellow/Red), cut this wire and join (using red joiner terminals supplied) the twin wire to these. Run a wire from terminal "C" to Auxiliary fuel

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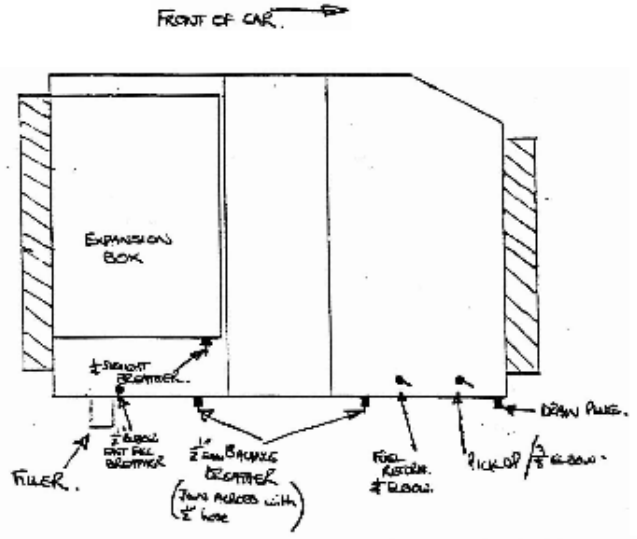
gauge sender and connect using red spade terminal supplied. Test wiring circuit, and if auxiliary gauge does not rise up to the Empty line, you may have fitted "A" & "B" backwards and will need to swap them.

- 13 Fit the new filler neck, up under the tray, keeping the fuel cap end as high as possible above the top of the new tank. Make up a mounting bracket/strap to hold the outer end rigid (different trays may require different mounting methods). Then connect from this new filler across to the tank using the 51mm filler hose and clamps supplied. Run the 12mm fuel hose from the fast fill breather fitting on the new tank, up to the top of the new filler neck.
- 14 Return vehicle to ground level and remove from hoist (or similar). Fit new spare wheel carrier (not supplied) or mount wheel in back of vehicle.
- 15 Fill the new auxiliary tank and check all fittings for leaks. This vehicle being diesel will need to be bled to remove any airlocks from both fuel tanks, this is achieved by turning the ignition ON and switching the control switch to the tank you wish to bleed, and then bleed as suggested in the vehicle handbook. Replace fuel filter fitted, after 1000km or 2 to 3 tank fills of the new tank and double check mounting bolts.



47 Holloway Drive, Bayswater Vic
Phone (03) 9762 8722 Fax (03) 9762 9829

DIAGRAM 1



POLLAK 42-159 SELECTOR VALVE INSTALLATION SHEET

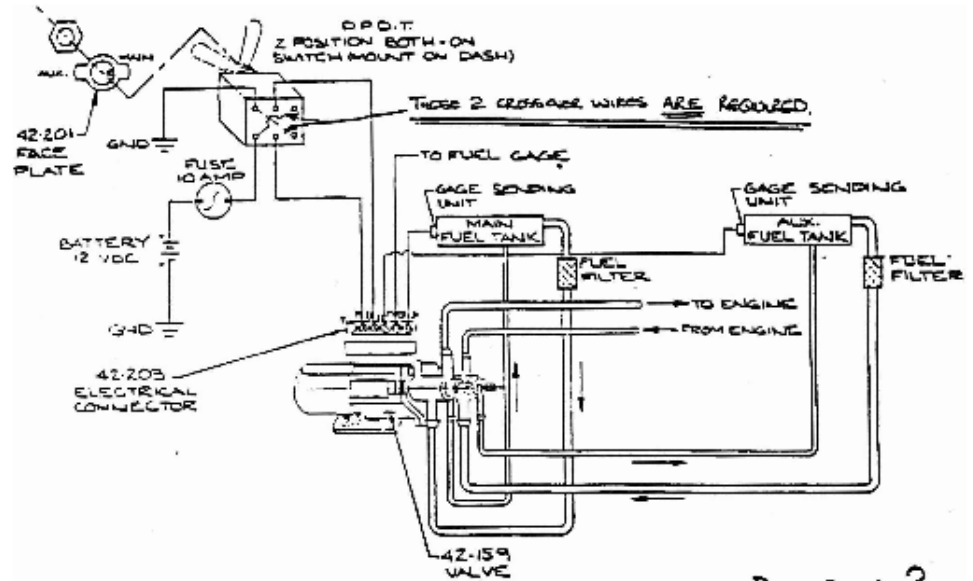


DIAGRAM. 2.

- I. GENERAL INFORMATION**
 THE POLLAK 42-159 SELECTOR VALVE IS INTENDED FOR USE WITH THE FOLLOWING:
- VEHICLES WITH ONE MAIN AND ONE AUXILIARY FUEL TANK,
 - VEHICLES WITH FUEL RETURN LINES,
 - 12 VDC ELECTRICAL SYSTEMS,
 - VEHICLES WITH IN-TANK FUEL PUMPS OR VEHICLES WITH A SINGLE FUEL PUMP BETWEEN THE VALVE AND ENGINE.
 - AMBIENT TEMPERATURES BETWEEN -40°F AND +180°F.
 - GASOLINE AND DIESEL FUEL SYSTEMS ONLY.
- NOTE THE USE IN FUEL SYSTEMS OPERATING AT 45 bar

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OPERATION INFORMATION

The operation of your new Brown Davis Automotive gas conversion fuel tank is little different from the original main tank, however very similar.

Filling the tank may be via a dual filler neck in the factory fuel fill position, or may be a remote filler at another location as identified to you upon installation. Simply fill the auxiliary petrol tank exactly as with a standard tank via the appropriate filler type.

The fuel gauge is separate to the main tank, however will read as with a standard gauge indicating empty/full and the progression in between. It should read with the same degree of accuracy as with a standard tank other than the difference in capacity to the standard tank.

The low fuel light for the main tank will still function as normal.

Maintenance and service of your new Brown Davis Automotive auxiliary fuel tank other than the recommended 1000km check and filter change should be in align with the normal vehicle Manufactures service schedule and guidelines. Remember the long range tank has a magnetic drain plug that the standard tank did not. With the fuel level low the drain plug can be removed and cleaned to remove any metal fragments introduced from the filler bowser scraping on the filler tube when filling or particles and rust flakes from jerry cans used on long trips. This facility is supplied to protect the in-tank fuel pumps fitted to most modern vehicle fuel tanks.

Finally make sure the warranty card is filled out completely and returned to Brown Davis Automotive and that the warranty information is read and understood. If there are any queries about this or any of the above information please contact us at Brown Davis at the attached address or phone and fax numbers for assistance.

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