



Brown Davis Automotive Pty. Ltd.

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MTR4

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Last edited: 1/09/2010

Fuel Tank Part List and Installation Instructions

TANK P/N: MTR4

MITSUBISHI TRITON (4WD) SINGLE CAB - (CARB/DIESEL)
REPLACEMENT TANK

Item	Description	Quantity	Part number	P	C
1	TANK – REPLACEMENT	1	MTR4		
2	HOSE – FUEL INJECTION - 8mm	1.2m (x2)			
3	WIRE – TWIN CORE – 3.0mm – RED/BLACK	0.3m			
4	HOSE CLAMP – STAINLESS - 8-16mm	4			
5	BRASS – TAIL BARB - 1/4" x 1/4" BSP	1			
6	BRASS – TAIL BARB - 5/8" x 1/4" BSP	1			
7	BRASS – ELBOW - 1/4" x 1/4" BSP	1			
8	FUEL PICK UP - 5/16" x 1/4" BSP ELBOW - 400mm	1			
9	BRASS – PLUG - 1/4" BSP	1			
10	DRAIN PLUG – MAGNETIC – M14 (fitted to tank)	1	DP-M14		
11	CRIMP FITTING – JOINER 1/4" – RED	4			
12	BOLT – HEX – M10 x 75mm – PLATED 8.8	1			
13	NUT – STANDARD PLATED – M10	2			
14	WASHER – SHAKEPROOF INTERNAL PLATED – M10	1			
15	WASHER – FLAT PLATED – M10	1			
16	WASHER – PANEL PLATED – M10	4			
17	SET SCREW – HEX – M8 x 25mm – PLATED 8.8	2			
18	NUT – STANDARD PLATED – M8	4			
19	WASHER – FLAT PLATED – M8	2			
20	WASHER – SPRING PLATED – M8	2			
21	SET SCREW – PAN HEAD - M4 x 10mm – PLATED 8.8	9			
22	WASHER – SPRING PLATED – M4	9			
23	CABLE TIE – 8" BLACK	2			
24	WARRANTY CARD & INFORMATION SHEET	1			
25	BROWN DAVIS AUTOMOTIVE STICKER	1			

Packed by (P): _____

Checked by (C): _____

Date Packed: ____ / ____ / ____

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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 cold rolled, aluminium coated steel ensures maximum strength and durability and minimum corrosion susceptibility. More than 30 years of testing within the field has shown that 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 ensure 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 general off road use in mind and are designed not to compromise ground clearance, entry, exit or ramp over angles.

Please remember it is the driver's responsibility to operate their vehicle in a sensible manner in 4WD conditions, Brown Davis Automotive cannot be held responsible for the abuse of your vehicle and subsequent possible fuel tank damage.

REPLACEMENT TANKS This tank is a replacement for the standard tank and fits in the same location. The standard filler is retained as is the fuel gauge sender unit which still works in the same manner except it takes longer to reach empty. Rearrangement of the exhaust system **IS NOT** necessary with this fitment.

ANY QUESTIONS OR INFORMATION REQUIRED IN RELATION THE BELOW INSTRUCTIONS PLEASE DO NOT HESITATE TO CONTACT BROWN DAVIS HEAD OFFICE OR ONE OF OUR DISTRIBUTORS.

PLEASE ENSURE ALL CONNECTIONS AND MOUNTINGS ARE CHECKED A SECOND TIME AFTER FINISHING YOUR INSTALLATION TO CONFIRM THERE ARE NO LEAKS AND THAT ALL BOLTS ARE TIGHT. ALWAYS ROAD TEST THE VEHICLE AND MAKE SURE THERE IS COMPLETE SUSPENSION TRAVEL CLEARANCE.

BROWN DAVIS CAN TAKE NO RESPONSIBILITY FOR AFTER MARKET SUSPENSION SYSTEMS INTERFERING WITH THE TANK, IF FITTED.

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FITTING

- 1 Remove the inner guard cover from the passenger side rear wheel arch, to gain access to the filler and tank hoses.
- 2 Disconnect the rubber (50mm) fuel filler hose and (16mm) fast fill breather hose from the steel filler neck in the cabin body.
- 3 Remove the filler cap and drain the remaining fuel out of the standard tank. Disconnect the old pump pickup and return fuel flexible fuel hoses, located near the front corner of the standard tank next to the tailshaft, at both ends and discard them.
- 4 Support the standard tank under the vehicle, unbolting it front and rear and lower tank to the ground and remove from under the vehicle.
- 5 Disconnect the exhaust at the rear of the catalytic converter and remove the entire system from there back to the rear of the vehicle.
- 6 Remove the tailshaft, by unbolting it at the differential flange end; remove the bolts holding the tailshaft centre bearing housing. Remove tailshaft from the rear of the transfer case, making access room for the new tank installation.
- 7 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, diesel or methylated spirits for this rinsing process which should be drained and discarded afterwards. Wiping out the inside of the injection pump swirlpot with a clean rag down through the pump entry boss in the top of the tank to confirm absolute cleanliness is not a bad idea, nor is a second rinse.
- 8 Install all brass fittings into the new replacement long range fuel tank using teflon tape or the like on all threads. Do not forget the drain plug. **(Refer diagram 1)**
- 9 Remove the fuel pump assembly from the standard tank and install it into the new long range tank using the original gasket, but with new M4 screws and washers supplied. The high pressure steel pipes need to be bent up and forward along the top of the new tank so that they point towards the front of the vehicle.
- 10 Remove the fuel gauge sender assembly from the standard tank. Modify float arm as shown in **Diagram 2**. Check accuracy of calibration by holding it against the side of the new tank, in line where it fits and make sure float reaches from top to bottom without striking anything inside the tank (eg: baffles, etc). Install it into the new long range tank using the original gasket, but also with new M4 screws and washers supplied.



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- 11 Transfer the expansion vent hoses and check valve from the top of the standard tank, to the 1/4" brass tailbarb in the side of the steel expansion box welded to the top of the new long range tank. Replace shortest hose with one of the longest hoses which can be removed from the top of the standard tank.
- 12 New high pressure fuel hose can be cut in 1/2, creating 2 longer pickup and return hoses. Push them over the flaired ends of the two steel fuel pipes (modified in step 9). Slide the old flair nut back along the pipe to leave room for the hose. Push new hose on by 30mm and clamp with new stainless steel hose clamps supplied, behind the end flair on the steel pipes. Mark as to which one is the fuel pickup hose at their other end, so as to ensure correct fitment later when the tank is in position. **WARNING: Incorrect refitting of hoses to the pump assembly can damage unit.**
- 13 Remove heat shield from under the driver's floor, at back edge of the rear of the cabin.
- 14 Extend fuel gauge sender wiring, using 4 joiner terminals and twin flex (figure 8) wire supplied. Cut standard loom to lengthen it by 300mm to reach the new fuel gauge sender position.
- 15 Brake pipe position on chassis near passenger side rear corner of new tank position, will need to be bent over closer to chassis by 5-10mm for clearance to tank.
- 16 Lift the new tank into position; allow the 2 high pressure fuel hoses to be fed over the chassis. Hold up in place with a jack or similar. Align brackets on new tank to standard bracket positions on chassis and refit the 4 original nuts with new panel washers supplied. Fit two M8 screws, nuts and washers supplied into front driver's side bracket position where it aligns with holes in chassis crossmember. Rear driver's side bracket onto round chassis crossmember can now be drilled through and bolted in place (using the 75mm bolt, nuts and washer supplied). *Note: Double nut all new bolts, nuts supplied.
- 17 Tighten bolts, check clearances.
- 18 Connect new red pickup (marked in step 12) and return hoses to the standard fuel pipes on chassis rail. As before, slide the flair nut back out of the way again. Use new hose clamps supplied. **WARNING: Incorrect refitting of hoses to the pump/sender can damage pump unit.**
- 19 Reconnect wiring loom to fuel gauge sender (extended in step 14). Reconnect wiring loom to fuel pump assembly (Cable tie excess wiring out of the way using ties supplied).
- 20 Reconnect vent hose (as fitted in step 11) to original position onto the purge pipe on the passenger chassis rail. Reuse standard hose clamp.
- 21 Transfer the filler hose and fast fill breather hose from the standard tank to the new long range tank. Cut off 50mm approx from tank end length of the 50mm filler hose. Cut off

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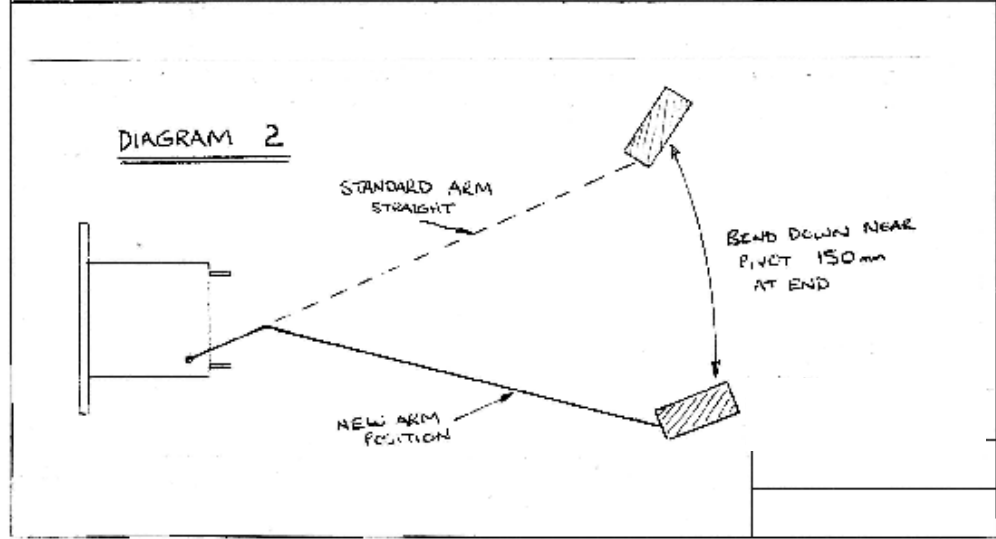
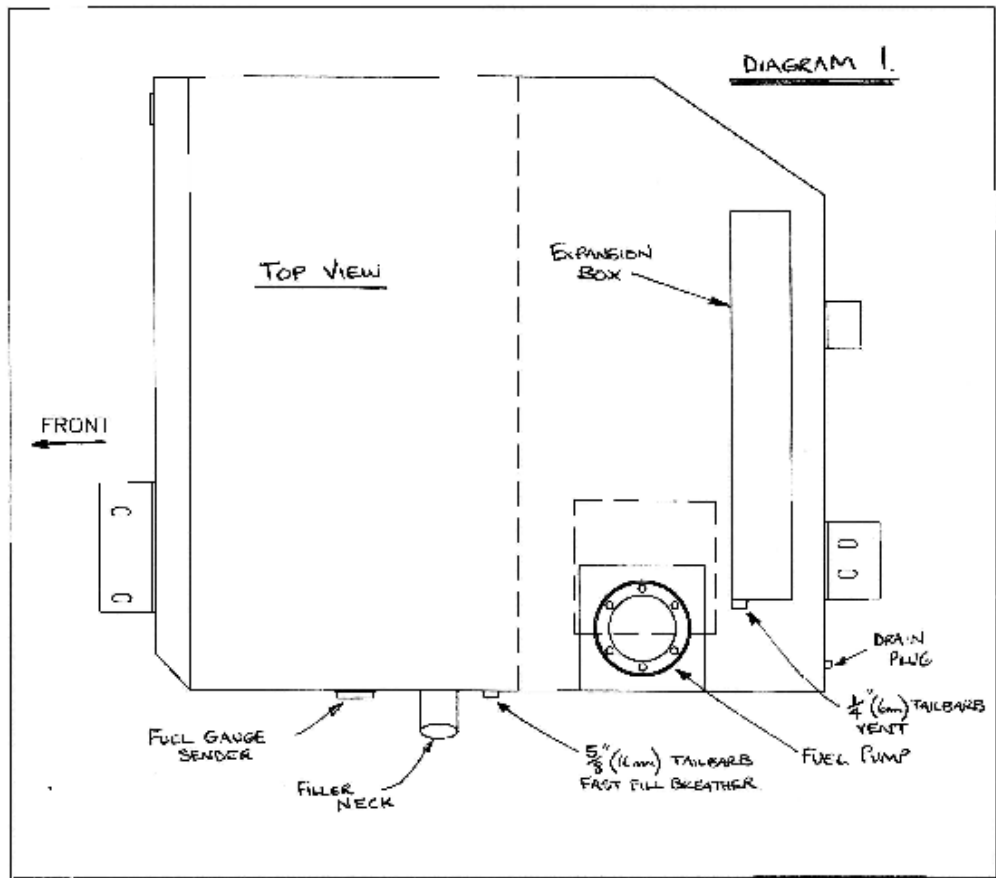
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- approx 140mm from length of the 16mm fast fill breather hose. Reuse standard hose clamps.
- 22 Refit inner guard cover (removed in step 1).
 - 23 Refit exhaust (removed in step 5).
 - 24 Refit centre bearing and tailshaft (removed in step 6).
 - 25 Confirm the drain plug has been sealed into the tank and fill with the fuel (drained in step 3). Replace the fuel filter under the bonnet after the first 1000km or 2 to 3 tank fills of the new tank and double check mounting bolts.





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OPERATION INFORMATION

The operation of your new Brown Davis Automotive long range fuel tank is little different from the original tank.

Simply fill the long range/auxiliary tank exactly as with a standard tank. (It just takes more fuel to fill, and a dual filler will be used for filling auxiliary tanks).

The fuel gauge on the vehicles dash will read as with the standard tank. It should read with the same degree of accuracy as it did with the standard tank other than staying on full for most of the new increase in capacity. For about 20% more than the standard tank held the gauge will now read in proportion from full down to empty. Auxiliary tanks come with a separate tank gauge to show separate fuel level to main tank.

The low fuel light will still function as normal with it coming "on" at about 20% more fuel volume left to go than it used to, to warn you of low fuel.

Remember your new long range tank(s) are carrying a lot more fuel than standard. Remain aware of how much fuel has been used during the initial period of the gauge remaining on full for future reference in estimating fuel usage and consumption.

Maintenance and service of your new Brown Davis Automotive long range 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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