Installation Instructions for MCHPBRA
Mitsubishi PB Challenger
135lt Auxiliary Tank

This Auxiliary Fuel Tank fits up under the rear of the vehicle and takes the place of the spare wheel. The standard filler neck is replaced with a new twin filler neck.

Fuel is transferred via an electric pump that will pump fuel from the auxiliary tank into the OEM tank. A combination switch/gauge will be located into a suitable position in the dash. When the switch is in operation an ORANGE light will be on, indicating that the transfer pump is in operation. A series of lights will also indicate fuel level. All GREEN lights on showing full, one RED light flashing showing empty.

1. Select a suitable location on the dash for the switch gauge unit and carry out wiring as per instructions. A 12volt ignition power source can be found under the fuse cover area, blue wire with a pink trace. Run the twin core to the rear of the vehicle for connection to fuel pump and sender unit.

2. Remove the spare wheel and winder mechanism. Remove LH rear inner wheel arch cover to reveal OEM fuel fill pipe. Remove fill pipe assembly from vehicle and cut as shown in diagram Install-1. File the cut ends smooth. Screw brass fittings into twin filler neck as per diagram Install-2. Fit 350mm length of 16mm hose to the main tank fast fill elbow on the twin filler and the 700mm length of 16mm hose to the auxiliary fast fill elbow on the twin filler. Fit twin filler to vehicle and connect to 35mm hose on the original fill pipe.

3. You need to modify the exhaust tail pipe rear hanger to transfer it to the outside of the chassis rail. Cut the top rear exhaust hanger stud 60mm long (Refer Pic). This then gets welded to the mount plate to become the new mount. Carefully trim the lower hanger mount from the tail pipe and shorten its height by 25mm. (Refer Pic) Remove the R/H tie down hook and leave the bolt plate in the rail. Use the forward stud of this bolt plate to mount the new top mount to. Block the tail pipe near the panhard rod and bend the tail pipe until it runs parallel with the chassis rail. Reassemble the rubber mount and weld the lower hanger in position.

4. Fitting Secondary brackets. Using a straight edge ruler measure 127mm for RHS and 135mm for LHS to the rear from the hole that is in the underside of the spare wheel crossmember. Keep the new bracket parallel with the underside of this crossmember, drill a 10.5mm hole for the top hole in the new bracket and bolt in place with the bolt plate that has the M10 and M8 bolts welded to it. Repeat for the other side. Open the hole up in the crossmember to 10.5mm and place the 120mm x 30mm plate with the M10 bolt welded inside the crossmember and out through this hole.

5. Using the C9 exhaust clamp mount the fuel transfer pump to the round crossmember with the inlet to the RHS. Fit the rollover valve and grommet to the tank facing forward and attach the 1300mm length of 6mm hose to this. Screw the P6 5/16 x 1/4 Elbow into the front of the tank pointing to the RHS and slightly up, this is the fuel pick up. Screw the P3 5/8 x 3/8 Straight into the side of the tank near the filler.

6. If you are retaining the original rear bar you must bend the two brackets on the bottom edge of the bar 90 deg up and refit the plastic clips (This gives clearance to the rear of the tank). Lift the tank into position and secure with M10 Bolts and Nyloc nuts along with the 3 x C11 Clamps for the front of the tank. Connect the remaining Fuel transfer lines from the tank to the filter and the pump to the transfer port on the twin filler neck. Connect the 6mm line from the roll over valve to the P6 1/4 x 1/8 elbow on the twin neck. Connect the fill pipe to the tank and the twin filler. Connect the remaining 16mm fast fill vent hoses. Complete wiring and sender unit earth neatly cable tie all hoses and wiring out of the way. Refit the inner wheel arch cover. (You will need to make a new hole in the cover to bolt to the M6 stud on the twin filler neck.) Fill with fuel and check for leaks.

NOTE 1: QUALITY SEALER SHOULD BE USED ON ALL FITTINGS. Eg PERMATEX 3J

FITTING KIT CONTENTS MCHPBRA

Updated 3/2023 - TL

Brass:

- 1 x P6 1/4 x 1/8 Elbow
- 1 x P3 5/16 x 1/8 Straight
- 1 x P6 5/16 x 1/4 Elbow
- 1 x P3 5/8 x 3/8 Straight
- 2 x P6 5/8 x 3/8 Elbow

Electrical:

- 1 x LRA-PG210 Switch Gauge
- 1 x 3mm Two Core Wire @ 5000mm
- 1 x 4mm Blue Wire @ 300mm
- 1 x 5 AMP Fuse
- 1 x Fuse Holder
- 2 x Fuse Holder Terminals
- 1 x Blue Eye Terminals
- 2 x Red Eye Terminals
- 1 x Red Insulated Terminal
- 3 x 3mm Heat Shrink @ 30mm

Bolts / Nuts:

- 2 x M10 x 30 Bolts
- 1 x M12 x 30 Bolt
- 1 x M6 x 20mm Washer
- 2 x M8 x 17mm Washer
- 1 x M12 x 25mm Washer
- 8 x M10 x 25mm Washer
- 2 x M8 Nyloc Nut
- 6 x M10 Nyloc Nut
- 1 x M12 Nyloc Nut
- 1 x M6 Nyloc Nut
- 5 x M5 x 10mm Pan Head Screws
- 5 x M5 Spring Washers
- 1 x Tek Screw
- 2 x M5 x 20mm CS Screws
- 2 x M5 Nuts
- 1 x C9 Clamp (For Pump Mount)
- 3 x C11 Clamps with Nyloc and Washers (No Saddle required)

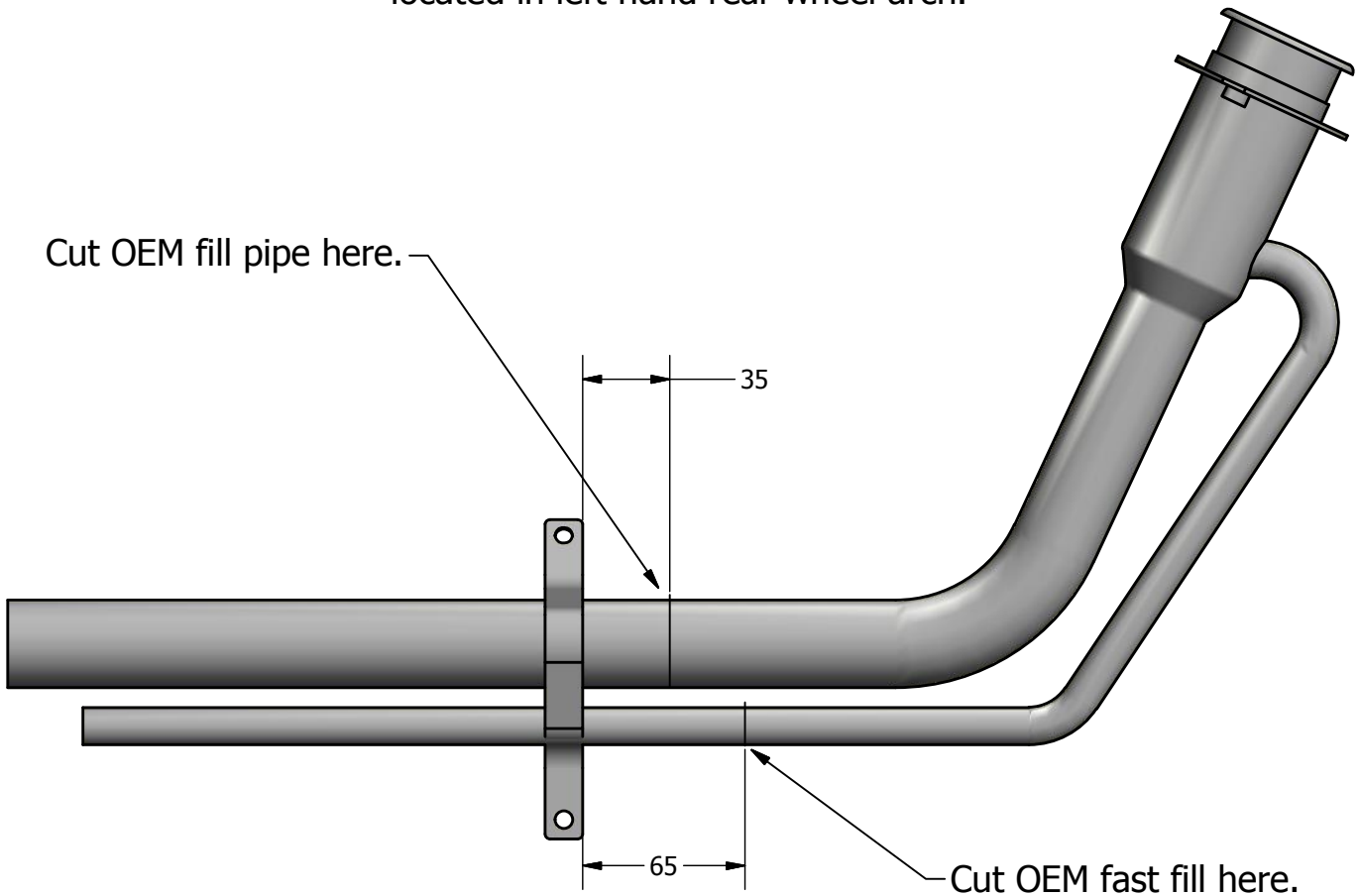
Misc Parts:

- 1 x LD3A Pump Bracket
- 2 x Angle Secondary Brackets
- 2 x Bolt plate with M8 + M10 Bolt Welded
- 2 x 120mm x 30mm with M10 Bolt Welded
- 1 x Exhaust Hanger Bracket.
- 1 x 16mm Conduflex @ 600mm
- 1 x Roll Over Valve
- 1 x Grommet Roll Over Valve
- 1 X FNMCHPBRA Twin Filler Neck
- 1 X FPMCHPBRA Fill Pipe

Hose Clamps:	Cable Ties:
○ 8 x 1/4" Hose Clamps ○ 4 x 5/8" Hose Clamps ○ 6 x 11/4" Hose Clamps	○ 5 x 7" Cable Ties ○ 4 x 11" Cable Ties
Sender:	**Pumps & Filters:**
○ 1 x 0-90 OHM Sender Unit with 400mm Earth	○ 1 x Z14 Filter ○ 1 x Fuel Pump
Hose:	**9 Pages of Fitting Instructions Consisting of:**
○ 1 x 6mm CMP Hose @ 1300mm ○ 1 x 8mm Hose @ 75mm ○ 1 x 8mm Hose @ 560mm ○ 1 x 8mm Hose @ 1100mm ○ 1 x 35mm Fuel Hose @ 80mm ○ 2 x 38mm Fuel Hose @80mm ○ 1 x 16mm NTP Hose @ 350mm ○ 1 x 16mm NTP Hose @ 700mm	○ 2 x Pages Fitting Instructions ○ 2 x Pages Fitting Kit Contents ○ 1 x Wiring Diagram #WDSGPG210 ○ 1 x MCHPBRA Install-1 ○ 1 x MCHPBRA Install-2 ○ 2 x Pages of Install Pictures

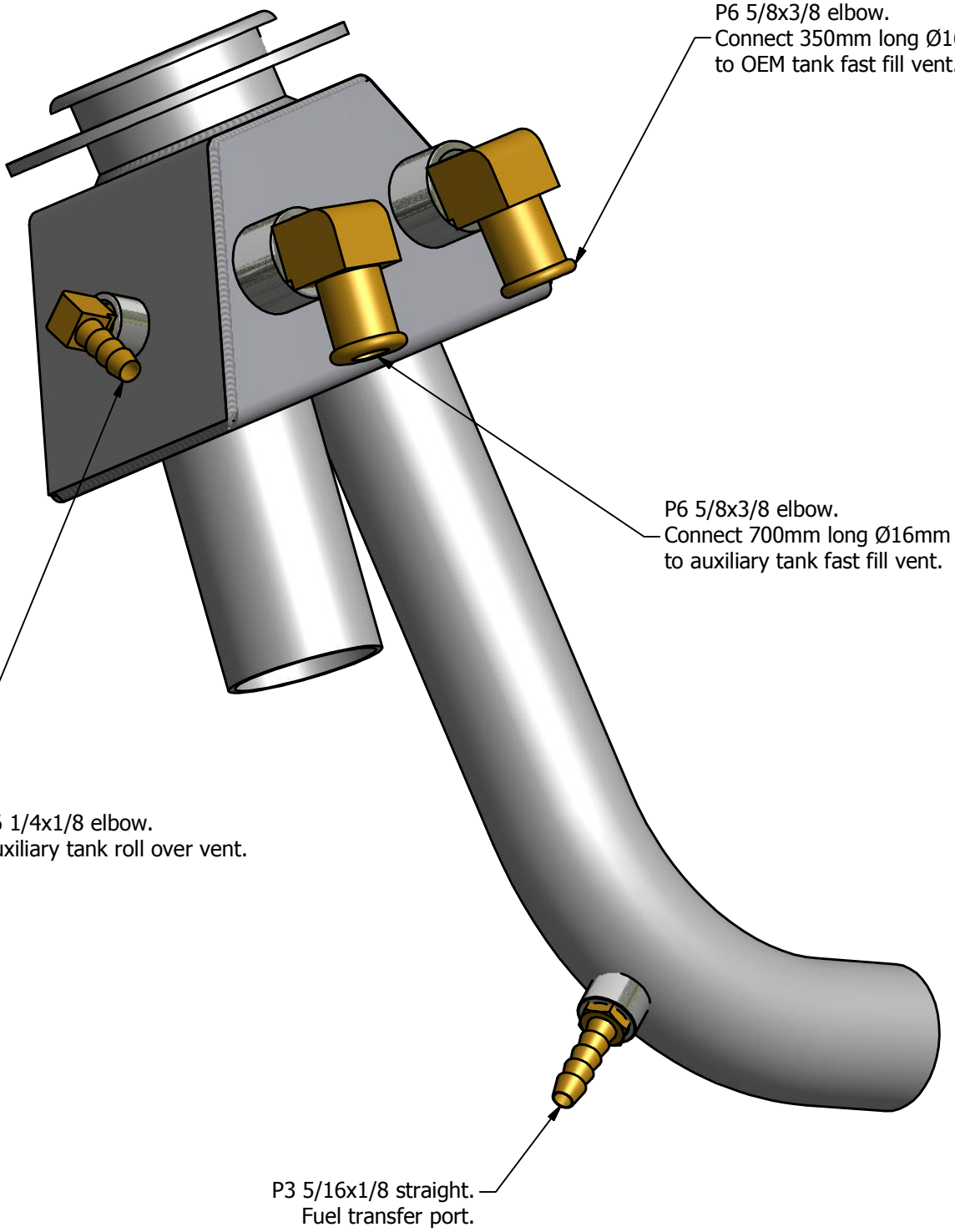
Kit Packed By_____ Checked By _____

NOTE:
Cutting positions for OEM tank fill pipe and fast fill pipe
located in left hand rear wheel arch.

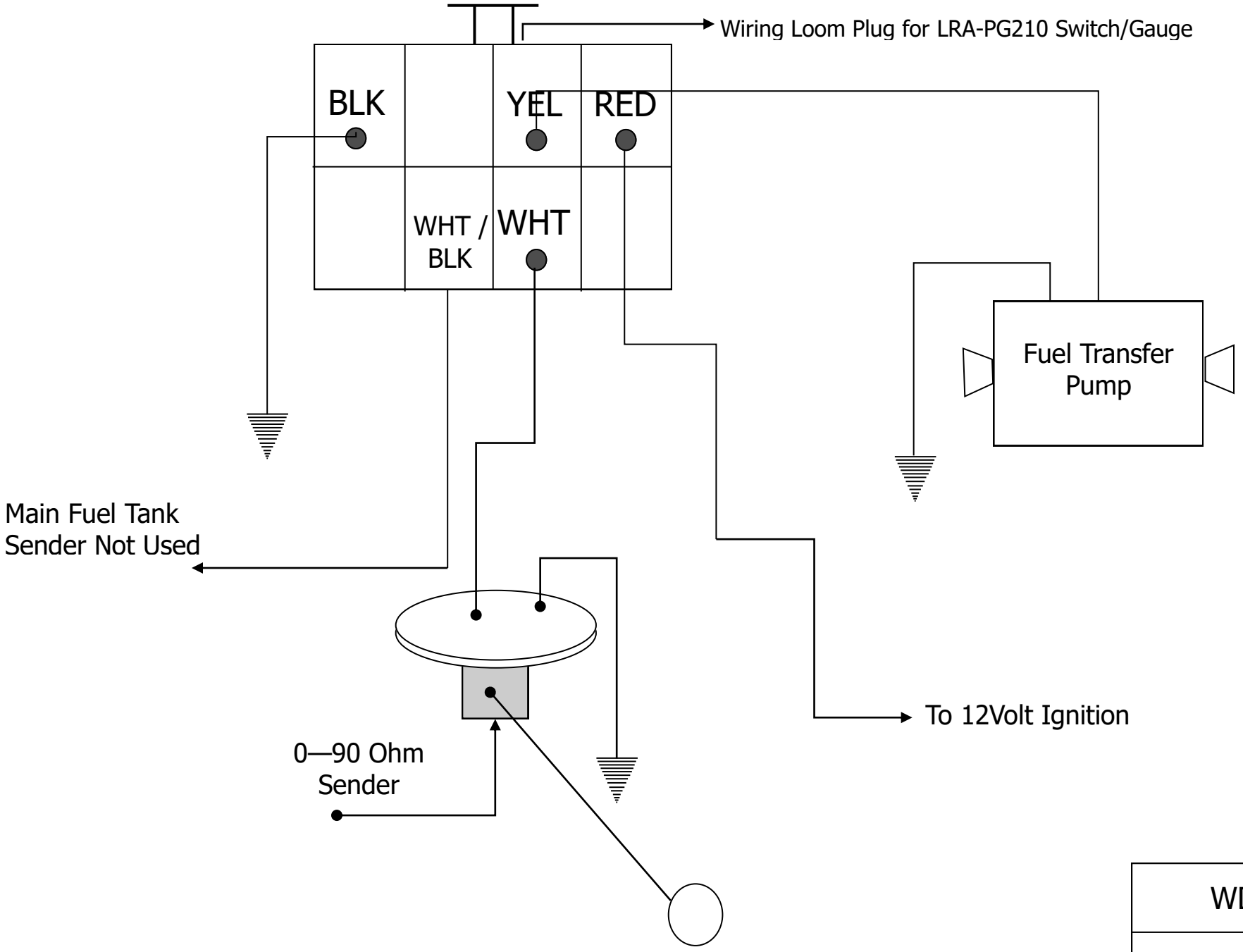


MCHPBRA	INSTALL-1

Mitsubishi PB challenger rear auxiliary OEM filler modifications.



MCHPBRA	INSTALL-2
Mitsubishi Challenger PB rear auxiliary twin filler assembly.	


Wiring Loom Plug for LRA-PG210 Switch/Gauge
BLK
YEL
RED
WHT / BLK
WHT
Fuel Transfer Pump
Main Fuel Tank Sender Not Used
To 12Volt Ignition
0—90 Ohm Sender

WDSGPG210