

# **ARB** FITTING INSTRUCTIONS

**Product No's 4217060 / 4317070**

## **AUXILIARY BATTERY TRAY TO SUIT NISSAN GU PATROL 3.0 & 4.2 LITRE INTERCOOLED TURBO DIESEL.**

**Battery tray kit. (6171883 / 6171360)**

**This battery tray kit is designed to fit a CENTURY (122106) N70ZZL battery or equivalent.  
Battery weight not to exceed 25kg.**

### FASTENER TORQUE SETTINGS:

SIZE	Torque Nm	Torque lbft
M6	9Nm	7lbft
M8	22Nm	16lbft
M10	44Nm	32lbft
M12	77Nm	57lbft

USE	PART NO.	QTY.	DESCRIPTION
<b>BATTERY TRAY TO ENGINE BAY</b>	6542032	1	Battery tray
	6151180	3	M6 x 20mm bolt
	6151207	2	M6 x 25mm bolt
	4581072	6	M6 large flat washer
	4581036	3	M6 spring washer
	4581310	1	M6 X 40mm flat washer
	6151162	2	M6 nyloc nut
	6151303	1	M8 cage nut
	6151022	1	M8 x 25mm bolt
	4581063	1	M8 large flat washer
	4581094	1	M8 spring washer
	3199946	1	Support plate
<b>BATTERY TO TRAY</b>	6582415	1	Battery retainer
	6151115	2	M8 x 165mm "L" bolt
	4581044	2	M8 flat washer
	6151032	2	M8 nyloc nut

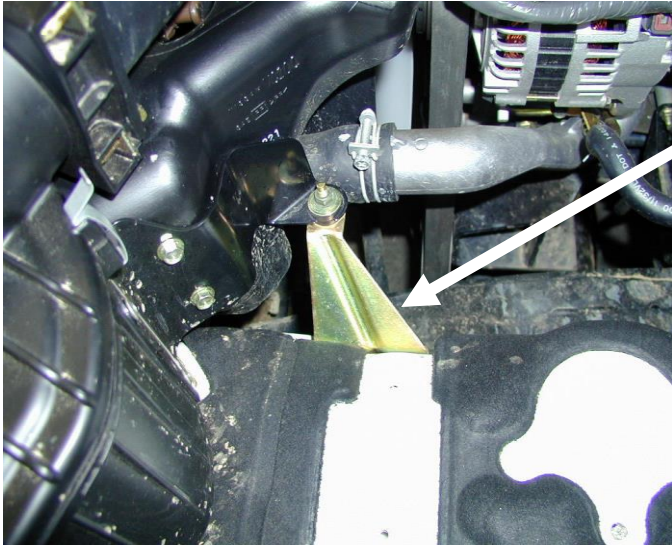
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**Wiring kit. (6171883 only)**

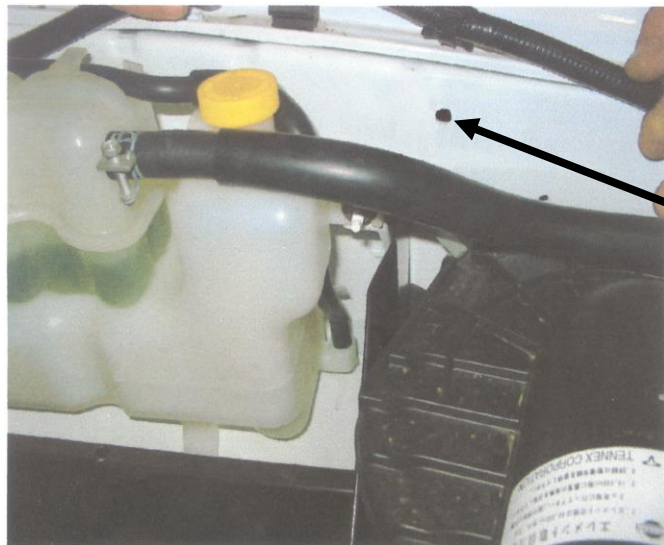
USE	PART NO.	QTY.	DESCRIPTION
<b>WIRING KIT</b>	1314	1	Battery separator
	3751866	1	Battery separator bracket
	6151180	5	M6 x 20mm bolt
	4581072	7	M6 large flat washer
	6151046	2	M6 flat washer
	6151162	4	M6 nyloc nut
	4581036	1	M6 spring washer
	6821153	1	Battery cable positive
	6821107	1	Battery cable negative
	6821141	1	Earth cable - separator
	6821149	1	Loom main battery to separator
	180302	12	Cable tie
	180701	1	Scotch Lock

**Tools Required:** Metric socket set, Phillips head screwdriver, 10, 12, 13mm spanners, side cutters, pliers, power drill, 10mm drill bit and hacksaw.

## BATTERY TRAY INSTALLATION

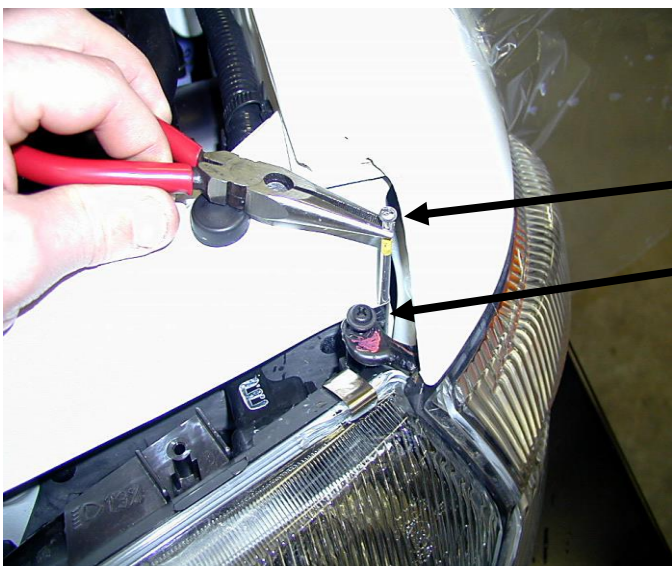


1. Disconnect the battery.
2. Remove the air cleaner bracket and discard.



3. Unclip and discard the second wiring loom plastic clip on the LHS inner guard, back from the headlight.
4. Drill out this hole to Dia 10mm. Touch up bare edges with paint to prevent rusting

**Note:** This hole is used later for the top support mount on the battery tray.



### FOR MODELS PRE 2005.

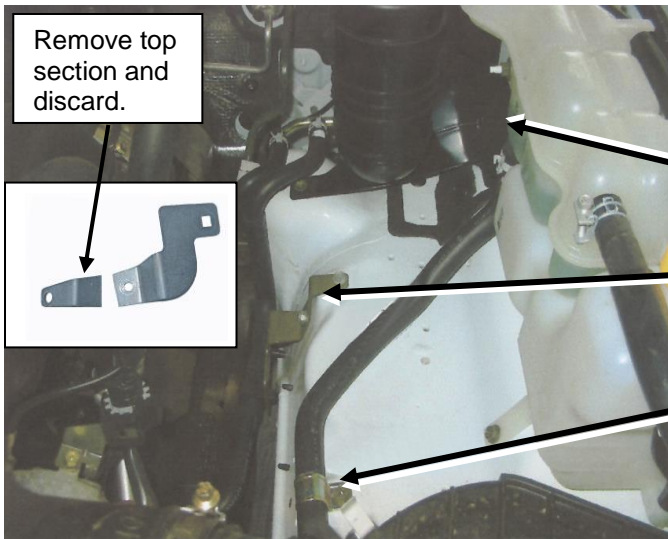
5. The LHS indicator must be removed to allow access to the inner guard.
  - Pull up and out the silver gravity pin using pliers.
  - Remove black Phillips head screw.

## BATTERY TRAY INSTALLATION

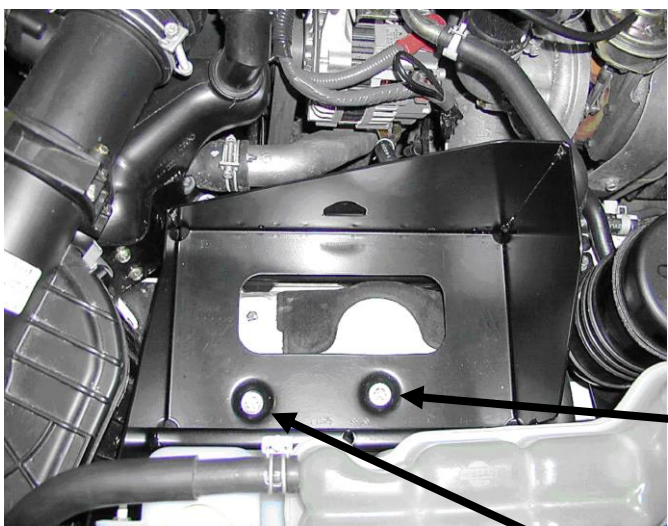


### FOR MODELS PRE 2005.

6. Remove the lower headlight trim by unscrewing the two Phillips head screws located underneath the trim.
  - Carefully pull the indicator forward to remove.
  - Unplug the wiring socket.

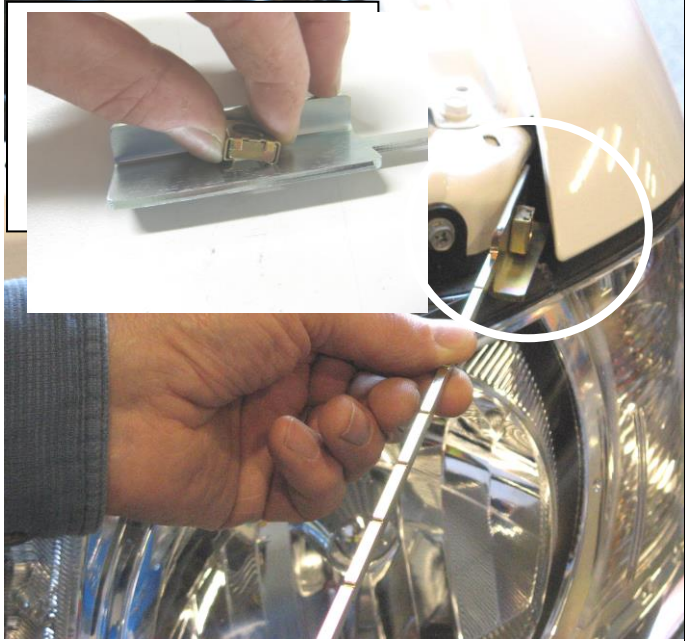


7. On the 4.2 litre models, the coolant hose runs across the surface of the engine bay where the battery tray sits and must be moved.
  - Remove and discard the overflow bottle bracket closest to the fire-wall.
  - Remove the lower bracket, trim the top section with a hacksaw and replace.
  - Remove the "P" clip from the hose and retain the clip for later use.

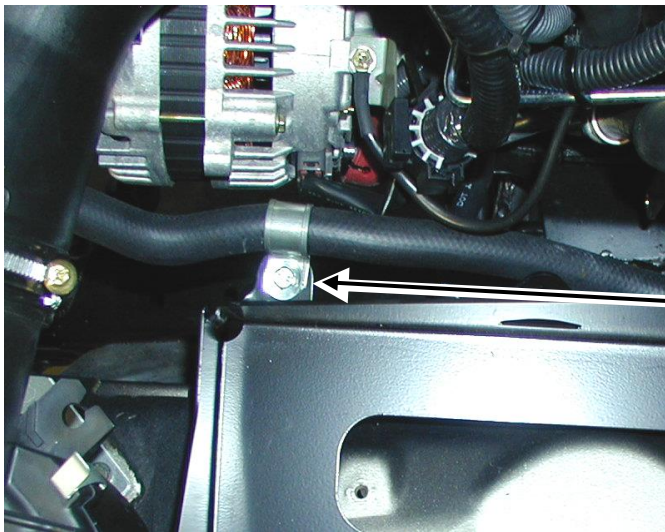


8. Place battery tray in position. Make sure the wiring loom is sitting above the tray on the inner guard. On 3.0L versions, ensure tag is positioned below the air cleaner mount. On 4.2L versions the coolant hose must run around the outside of the tray.
9. Starting with the two lower mounting holes, attach the tray using M6 x 20mm bolts, two large flat washers and two spring washers. (Do not tighten)
10. Next attach the tray to the top of the inner guard using one M6 x 25mm bolt, large flat washers nyloc nut and 40mm flat washer. The 40mm washer is fitted to the wheel well side. (Do not tighten)
11. Fit an M6 x 20mm bolt, large flat washers and spring washer. (Do not tighten)

## BATTERY TRAY INSTALLATION

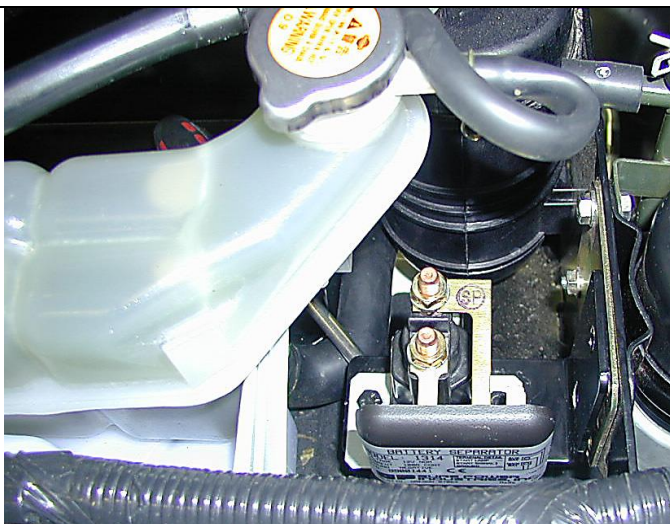


12. Fit an M8 cage nut into the support plate as shown in the photo.
13. Carefully insert the support plate into the cavity between the LH headlight and inner guard as shown in the photo until it lines up with the mounting hole shown in step 3.
14. For the top support mount to the inner guard use a M8 x 25mm bolt, large flat washers and spring washer. Tighten all bolts.
15. Break off the tail of the cage nut support plate to clear the bonnet.



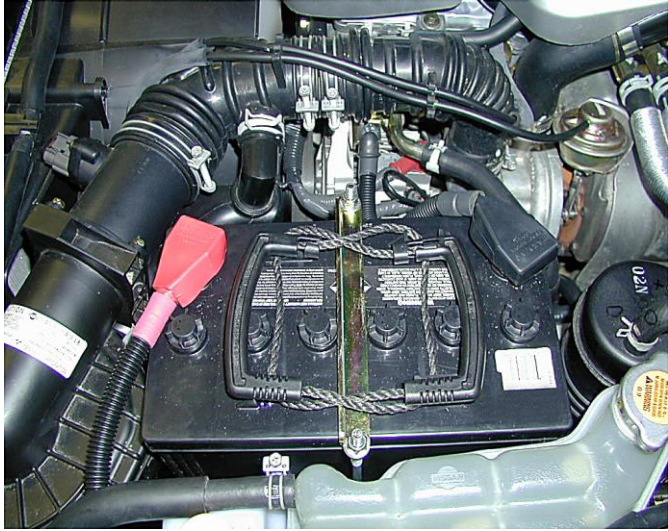
16. For 3.0L versions, attach the air cleaner to the tag on side of the tray using a M6 x 25mm bolt, two large flat washers and a nyloc nut.
17. For 4.2L versions, using the "P" clip removed in step 7. Attach the coolant hose to the tab on the side of the battery tray with a M6 x 25mm bolt, two large flat washers and a nyloc nut as shown opposite.

## BATTERY AND WIRING INSTALLATION

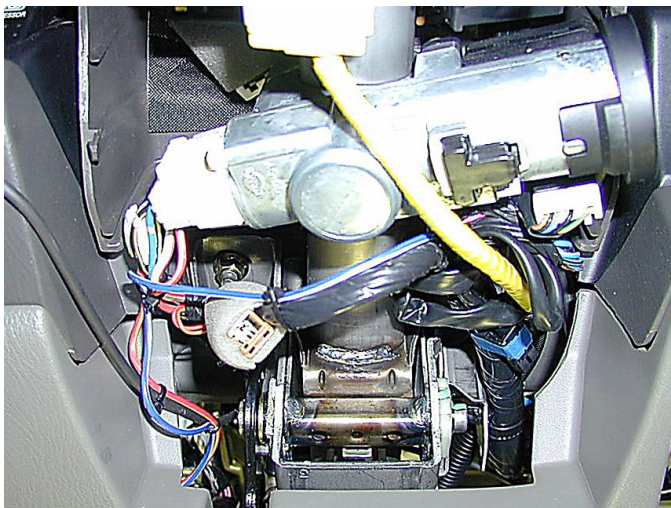


18. The separator is mounted behind the overflow bottle as shown. Bolt the separator to the supplied right angle mounting plate using two M6 x 20mm bolts, two small washers, two large washers and nylock nuts.
19. The mounting plate is bolted to the charcoal canister bracket using two existing holes. Use two M6 x 20mm bolts, four large flat washers and two nyloc nuts.

## BATTERY AND WIRING INSTALLATION



20. Place battery (N70ZL or equivalent) into tray making sure that the terminals are closest to the engine. Securely fasten using the battery retainer, "L" bolts, flat washers and nyloc nuts.
21. Wire as shown in the wiring diagram which is on the last page of the instructions.



22. Cable tie the supplied wiring loom along the firewall behind the engine. Take care not to run the wiring over sharp edges, moving components or near hot surfaces.
23. Run the red ignition wire through the rubber boot in the firewall on the RHS of vehicle.
24. Remove lower plastic cover off steering column. Connect to the (red wire with white trace) on the ignition switch using the supplied scotch lock. Cable-tie all wiring into place. Replace steering column cover and indicator.
25. Connect both batteries.

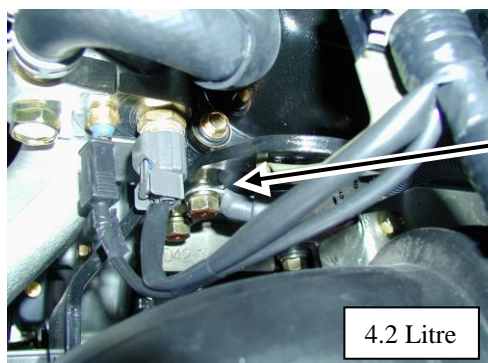
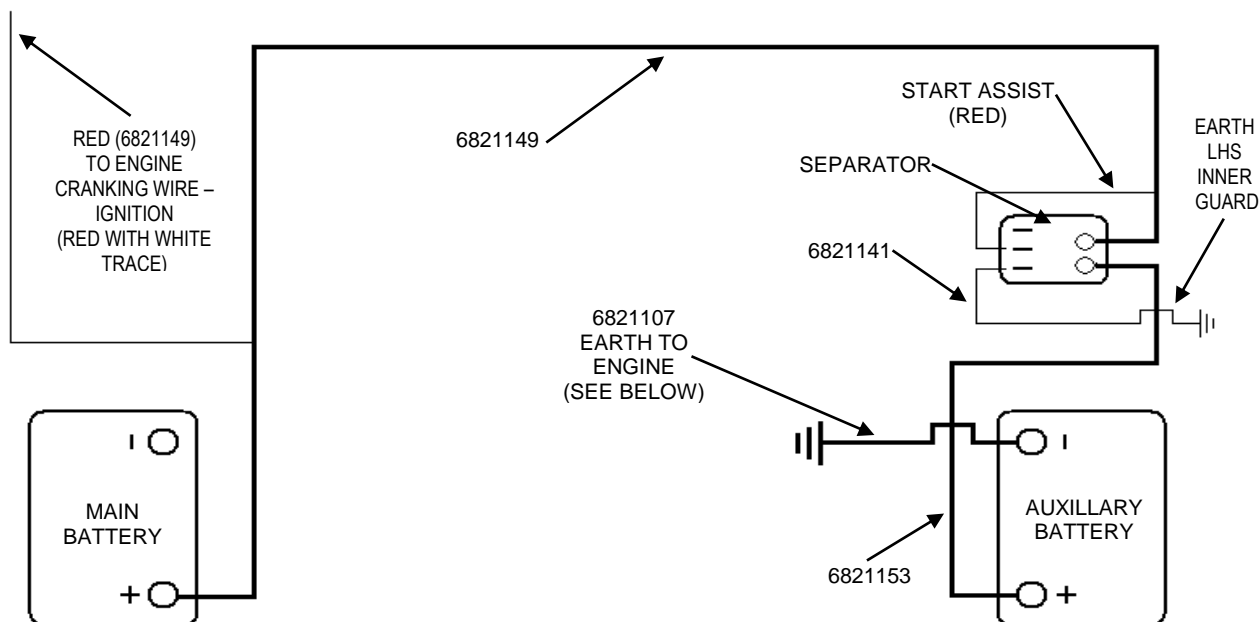
To test the system:

1. Ensure all wiring is as per instructions.
2. Record voltage from both batteries.
3. Start vehicle and measure main battery voltage. It should rise as charging circuit stabilizes. (Approx 13.5 to 14.5 volts) May require fast idle to initiate charge.
4. Separator will turn on after a delay when voltage rises over approx 13.2 volts.
5. Both battery voltages will now be the same as charge is directed to both.
6. Stop engine. Separator will stay engaged until voltage drops to approx 12.8 volts.
7. To test drop out, turn on headlights and separator will drop out due to main battery voltage falling.
8. If start assist is connected, separator will come in during start (auxiliary battery condition dependant) and will drop out when started until charge voltage reaches approx 13.2 volts as per 4.above.

**INFORMATION ON THE BATTERY SEPARATOR:**

- **MULTIPLE BATTERY CHARGING.** The battery separator allows multiple batteries to be charged from one charging source. When the batteries are not being charged, the battery separator separates or isolates the batteries.
- **PRIORITIZED CHARGING.** The battery separator waits until the battery connected to the active charging source reaches approximately 13.2V before paralleling and charging the remaining batteries. The system disconnects at approximately 12.8V. The primary battery is the priority charged battery.
- **PREVENTS CHARGING SYSTEM OVERLOAD.** If the current requirements are greater than the charging source can produce, the battery separator will automatically separate the batteries, thus directing all available charge current to the battery directly connected to the charging source. The system will then reset and re-attempt charging the auxiliary battery. A time delay prevents false switching.
- **START ASSIST FEATURE.** An optional input from the key switch or a manual switch will program the battery separator to parallel the batteries during starting. This feature will only engage if the auxiliary battery has sufficient power available to assist in starting.
- **WIRING ACCESSORIES** As the battery separator priority charges, it is desirable to wire additional driving lights to the primary battery. Other accessories such as a refrigerator should be wired to the auxiliary battery.

**WIRING DIAGRAM**



**ENGINE EARTH FITTMENT**

4.2L (left) earth to engine lifting bracket.

3.0L (right) earth to alternator bracket.

