

If there is a fitment issue please contact us, we will endeavor to resolve the issue. info@titanperformanceproducts.com.au

## Installation

**SAFETY FIRST** - Before installation always isolate power by removing the negative (-) battery lead from the battery. If working beneath a car using a floor jack, always work on a flat, level, concrete surface using load rated jack stands. Never get under a car without jack stands.

- 1. Disconnect Negative battery cable from battery.
- 2. Disconnect cables and wiring from original starter.
- 3. Remove starter mounting bolts and remove old starter from the car.
- 4. Ensure starter mounting flange is clean and free from damage and paint, as this is where the starter is earthed.
- 5. Select the correct rotational position of your starter Your starter will be delivered with front plate in the most common position, but some applications may require adjustment. Test fit in position. If your starter does not need adjustment, please continue to step 8.
- 6. Remove front drive plate from starter motor and fit plate to the starter mounting flange on the car with hardware finger tight. Hold starter motor temporarily into position in the drive plate and rotate to allow equal clearance on both sides of the motor. With a pen mark across the drive plate and motor body. Remove motor and drive plate from car.
- 7. Refit Drive plate to starter motor using closest holes to your pen mark
- 8. Install drive plate 2x M5 cap-head bolts using a Low Thread Lock compound
- 9. Install starter in car using original or supplied hardware. Torque bolts evenly to manufactures specs.
- 10. Connect wiring to starter. Fit main power cable to M8 stud post ensuring not to over tighten this nut (over tightening can twist the internal solenoid contact causing starter to fail). Fit the solenoid ignition wire with supplied 6.5mm Lucar terminal block. If your car is still using original points ignition system it may also have a 3<sup>rd</sup> wire which is most likely a 9v "cold start" wire In most cases this is not required for operation as our starters draw less current, it recommended to insulate the end of wire with heat shrink and tie out of the way. However, if your car does crank but fails to start then if may be necessary to connect the cold start wire with a bypass Diode (please contact us if you wish to purchase)
- 11. Reconnect negative battery cable to battery.
- 12. Operate starter.

## **Notes**

**Denso style offset gear reduction (OSGR) starters** are pre-engaged, meaning the solenoid is part of the starter motor. These starters can be wired in two ways to suit modern pre-engaged style, or alternatively can be run in conjunction with engine bay mounted solenoid.

Fitting as a replacement for single wire style starter (Inertia, Rat-trap /Clapper etc) with engine bay mounted solenoid.

Where our Denso (OSGR) style starters directly replace early OE single wire starter we will fit the unit with a black link wire between the ignition trigger terminal and the battery stud post, so no wiring mods are required to the car. If you wish to bypass the engine bay mounted solenoid, you can remove the black link wire and you can re-route trigger wire going to your current solenoid down to your new starter motor, so starter is pre-engaged. Please see wiring diagram.

If you purchased a **Permanent magnet (PMGR)** Hitachi style starter in conjunction with original engine bay mounted solenoid the above direction does not apply. For correct operation starter must be wired as per diagram below (no link wire, and new trigger wire). The polarity of the vehicle is also critical as all PMGR starters suit conventional negative earth vehicles.

