



Thank you for purchasing your R150 (3VZE) to VW 1.9 adapter from Doomsday Diesel LLC! Please read this entire page **BEFORE** installation. Please be aware of potentially sharp edges!

It is always a good idea to install the bellhousing on the adapter plate (with dust shield in between, if supplied) and fully install hardware to ensure hardware does not protrude out the back side in areas that may cause interference. If a bolt protrudes beyond the back side of the adapter plate, you will need to grind/sand it to where it rests flush. This will also give you the opportunity to drill out bellhousing holes if they are not big enough for the supplied hardware.

What's Included:

- Adapter Plate
- Dust Shield
- Starter Shim
- Flywheel
- (2) Pilot bearings
- Hardware
- ARP Flywheel Bolts

This kit utilizes the Toyota starter. A 1.8KW "cold weather option" starter from a 1996-2004 Tacoma will perform the best. Off-the-shelf pilot bearings are utilized. 2 are used because of the unavailability of a 10mm wide bearing.

Adapter Plate to Engine:

- (2) M12-1.75x30 10.9 FHCS (flat head) Position 1 in diagram
Use medium strength thread locker and torque to 40 lb*ft.
- (1) M12-1.75x25 8.8 SHCS Position 2 in diagram
Use medium strength thread locker and torque to 40 lb*ft.
- (1) M12-1.75x40 10.9 FHCS (flat head) Position 3 in diagram
Use medium strength thread locker and torque to 40 lb*ft.
- (1) M12-1.75x50 10.9 FHCS (flat head) Washer and Nut - Position 4 in diagram
Torque to 60 lb*ft.

The adapter plate must first be mated to the engine block. The back of the block should be bare. Make sure both dowel sleeves are in the engine block. Install the plate over the dowels and tap it tight against the block with a dead-blow hammer. You may install a couple bolts dry to secure the plate. Take note of the dowel sleeves - they must rest below the counter-sunk portion of the adapter plate so the FHCS can fully seat. You may need to use a flap disc or other suitable method to shorten the dowel sleeves. If the dowel sleeves are too long, the FHCS's will bottom out on the dowel sleeves instead of the plate. During final installation, the FHCS's used for the dowel holes won't sit flush with the adapter plate, but should rest below the dust shield. It is highly advised that you mock up the dust shield and bellhousing before final installation of the adapter plate.

Flywheel to crankshaft:

After installing the adapter plate, the dust shield must be installed. If you install the flywheel first, you won't be able to get the dust shield on. You may cut a slot into the dust shield, if you desire. This will allow you to install/uninstall the shield with the flywheel installed. This will also allow dirt/water in easier, however.

- (6) M10x1.0 ARP Flywheel Bolts

Use medium strength thread locker and torque to 60 lb*ft in a star pattern. The thread locker is mandatory. The crankshaft bolt holes are thru-holes which will leak engine oil if not sealed.

You may also now install the supplied pilot bearing. The pilot bearing dimensions are \varnothing 21mm OD x \varnothing 12mm ID.

Bellhousing to Adapter Plate:

Begin by installing the dowel pins in the adapter plate. This will help ensure the bellhousing goes on straight.

*****Holes may have to be drilled out on bellhousing for hardware to fit thru*****

- (1) M12-1.25x60 HCS (no washer) – Position 5 on diagram
Use medium strength thread locker and torque to 60lb*ft.
- (2) M12-1.25x65 HCS and Washer – Positions 6 on diagram
Use medium strength thread locker and torque to 60lb*ft.
- (1) M12-1.75x80 HCS, Washer, and Nut – Position 7 on diagram
Torque to 60lb*ft.
- (4) M10-1.25x50 HCS (flanged head), Washer, and Nut– Positions 8 on diagram
Torque to 32lb*ft.

All torque values were attained from Fastenal. This product is for off road use only. This kit carries no warranty.

