



## Starter motor Fitting Instructions & Tips

Applies to all rear-engine Vehicles

- Beetle / Karmann Ghia / VW Trekker
- VW Type3 (Notchback, Squareback / Variant, Fastback)
- Splitscreen Bus / Bay-Window / T25 Bus
- VW Brazil Kombi (Aircooled & Watercooled)

<b>Code</b>	<b>Name</b>
003-911-023/BX	Starter motor, Automatic Beetle/Bus/Ghia
003-911-023/DX	Starter Motor, Automatics T25 81-90
025-911-023/AX	Starter Motor,1.9>2.1 12/86>90 Inc Syncro
068-911-023/JX	Starter Motor,Diesel T25 >1/84
068-911-023/MX	Starter Motor, T25 Diesel 2/84 > CS JX KY
091-911-023/BX	Starter Motor, T25 Petrol 5/81-12/86 (Not Auto)
091-911-023/X	Starter motor, T2,8/75-4/81 New Outright
091-911-023/X/BQ	Starter motor, T2,8/75-4/81, Bosch unit
113-911-021/B	Starter motor, new, 6volt 1946-66, outright
113-911-021/BX	Starter motor 6v rebuilt -66 Outright
311-911-023/DX/	Starter motor,8/67-,type 2 -75
311-911-023/GEN	Starter motor 12v, Gen VW or BOSCH VWB A/C & W/C 8/67-

When fitting a new starter motor to these vehicles it is important to do the following to ensure correct operation:

- Always fit a new bushing into the gearbox (Not Diesel or Auto). Old bushes may have worn allowing the starter motor to engage off-centre and lock. Bush part numbers are:
  - 6-Volt Starter/Gearboxes = 111-301-155/ /
  - 12-Volt Starter/Gearboxes = 113-301-155/ /
  - 6-Volt Starter into 12Volt Gearbox = 113-301-155 6/12
  - 12-Volt Starter into 6-Volt Gearbox = 113-301-155 12/6
- Grease the tip of the starter motor shaft prior to fitting.
- Check your wiring!! The majority of units returned as faulty are tested and function correctly. Due to the age of these vehicles and the length of the wiring (from battery to ignition switch and back to the engine) it is common to see low voltage at the starter solenoid. If your new starter motor just clicks but does not spin then this is most likely to be the problem. You can check if this is the case by temporarily taking a feed direct from the battery to the solenoid – if the starter now spins then it the wiring at fault. If in doubt about how to do this safely then consult a specialist!
- A “Hard Start” relay kit (AC9112917) is available which resolves the low voltage issue, using the feed from the ignition to directly switch a good voltage feed straight to the solenoid.