



KNOW HOW

EXPERT EDITION

WITH MATT MASTERS



STARTER MOTOR DIAGNOSIS

When troubleshooting a starter motor, narrowing down the source of a potential fault can be daunting. The problem can be as simple as loose wiring or as costly as replacing other components, but the bottom line is that accurate diagnosis can make all the difference. For a few quick tips on starter motor diagnosis, NAPA Know How is here to help.



REASONS FOR FAILURE

Most starter motor failures manifest when trying to turn the engine:

Engine does not crank when ignition key is turned, starter makes no sound:

- **Battery in low state of charge**
- **Possible Ignition key switch or starter fault**
- **Connections are loose, broken or corroded**

Starter clicks when key is turned, but engine does not crank/cranks slowly:

- **Battery in low state of charge**
- **Possible starter fault**
- **Connections are loose, broken or corroded**

Engine turns over, but piston remains in mesh:

- **Ignition key switch held in "start" position**
- **Ignition key switch, wiring or starter fault**
- **Faulty starter/solenoid or damaged pinon/flywheel**

Engine turns over, but will not start:

- **Battery in low state of charge**
- **Possible fuel/ignition problem**

TECHNICAL HELPLINE
03333 136597



TROUBLESHOOTING

A battery condition tester can be used to test for a low or poor charge. When measuring open circuit battery voltage, a reading of 12.5V or greater indicates a charged battery. Anything less means your battery is faulty or depleted.

With a multimeter or test light, you can check to see if the starter is receiving a signal from the solenoid. When the ignition key is cranked, you should receive a battery voltage reading (or the test light should illuminate).

You can also test the Earth for an ideal resistance between 0 and 0.5mm ohm. Cleaning or replacing Earth connections could be a solution to a starter fault. Always make sure to check the condition of the other connections to the starter as well - some faults can be the result of a loose wires or corrosion.



DID YOU KNOW?

Excessive heat can be generated if the starter is continuously engaged, which may lead to internal damage. This could be due to faults such as freezing weather, damaged pinion/flywheel teeth, faulty wiring or a sticking solenoid.



For further information and advice, speak to one of our experts at **03333 136597** or visit www.NAPAautoparts.eu for more braking Know How.