Technical Bulletin

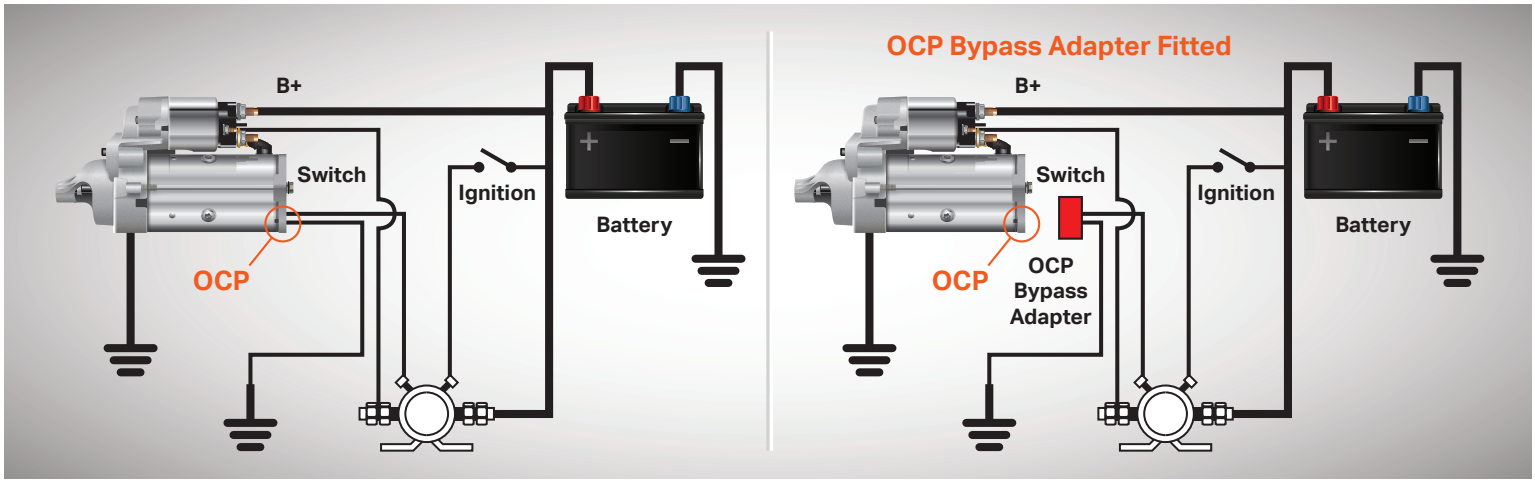
The Power of WAI

Over-cranking Damage

Cranking is the term used for the start-up sequence of the engine where the starter motor is engaged with the flywheel via the pinion and is rotating the crank shaft.

The condition of the engine and other factors can prevent immediate starting due to low battery capacity, high resistance in the wires, high mileage of the engine and its condition, problems with fuel injection, and even cold weather. During the cranking process, heat is generated due to the current flowing through the unit. The size of the unit determines its heat dissipation properties. The larger the unit, such as a 50MT, allows the continued cranking, before heat reaches a limit that is detrimental to the starter motor.

Delco Remy developed a simple controller preventing motor damage as a result of overheating the starter motor critical components such as the solenoid and armature. OCP technology is a built-in circuit breaker that protects the starter from thermal damage and automatically resets at a safe operating temperature when the starter cools down.



The starting sequence is interrupted by a thermistor within the sensor once the temperature gets above 135°C. This opening of the thermistor cuts the current to the switch terminal, thus stopping the cranking procedure. The thermistor does not close and allow continued cranking until the temperature drops down below 85°C. OCP protects the starter in adverse starting conditions, such as cold weather cranking, lower battery capacity, high-starting circuit resistance, or operator misuse. OCP is an option available today on 41MT™, 42MT™, 39MT™

However OCP can be inconvenience for some end users specifically with older vehicles which required longer cranking time to start the engine or with older batteries. There are available on the market adapters allowing bypassing OCP. This type of modification is not allowed and voids the starter warranty since it allows the starter exposure to excessive heat stress and leads to over crank symptoms.

Over crank symptoms are defined as a disqualifier for warranty claims.

USA
WAI Corporate Florida
3300 Corporate Way
Miramar, FL 33025

www.waiglobal.com

Toll Free: 1-800-877-3340

Technical Help: 1-800-327-6903