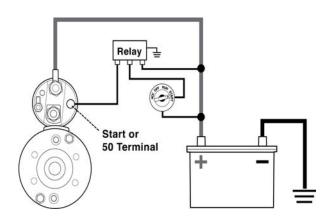
Repeated Starter Replacement or Poor Cranking Performance

Early VW Applications 6 & 12 Volt systems

Field reports are indicating various problems with high electrical resistance caused by loose, rusted, corroded, or open connections on the Negative/ Ground paths in the starting system and in the ignition to solenoid wiring, contacts and connections.

Possible solutions:

 Inspect the ground strap from the Transmission to the Chassis. Clean and tighten connections, replace deteriorated straps or reinstall nonexistent straps. 2. Review your application for a starter assist relay and replace as needed. Adding a starter assist relay between the ignition switch and starter solenoid (terminal 50) can solve a poor or no start problem in vechiles not previously equipped with one. The relay will by-pass difficult to repair electrical resistance areas and increase voltage to the terminal. Various early model vehicle horn relays are often used. Typical wiring example:



3. Models with starters having the front support bushing located in the bell housing/transmission may need the bushing replaced. Bad bushings often cause slow or no cranking to occur.