

Cranking Motor Application Considerations -SAE J1375 MAR82

SAE Recommended Practice
Approved March 1982

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CRANKING MOTOR APPLICATION CONSIDERATIONS—SAE J1375 MAR82

SAE Recommended Practice

Report of the Electrical Equipment Committee, Cranking Motor Subcommittee, approved March 1982.

1. Purpose—This SAE Recommended Practice identifies some basic and general conditions that should be considered when making electrical cranking motor applications.

2. Application Conditions for Consideration:

2.1 Components for cranking motor system shall be selected according to the current edition of SAE J1253. A cranking cycle shall be limited to 15 s "on" followed by 2 min "off" for automotive gasoline engines. On diesel applications, allow a maximum of 30 s cranking time followed by 2 min "off."

2.2 Pinion and ring gear data and center distances shall be compatible with the current edition of SAE J543.

2.3 Maximum voltage drop in the battery cables shall not exceed limits shown in the current edition of SAE J541.

2.4 Wire size versus length for the control circuit of magnetic switching devices shall be selected to insure proper design function.

2.5 It is recommended that solenoid-actuated positive shift starting motors be mounted with the solenoid location at least 15 deg above the horizontal center line.

2.6 Engine rotation and mounting arrangement shall be known for fitting the cranking motor. System voltage shall be specified, and not exceeded.

2.7 Heat shields shall be provided as required to insure protection from damage to insulating materials and function of magnetic devices.

2.8 All relevant environmental conditions including wet or dry transmission clutch construction shall be considered.

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