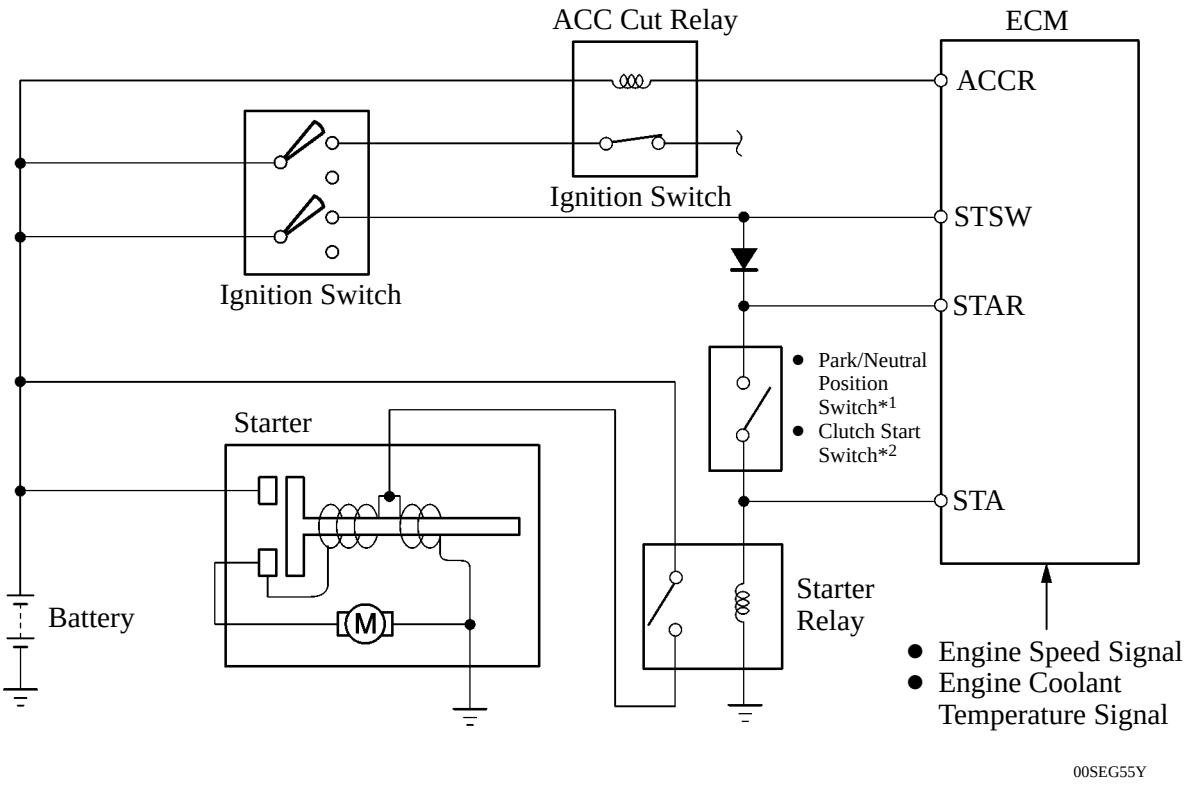
11. Cranking Hold Function

General

- Once the ignition switch is turned to the START position, this control continues to operate the starting until the engine starts, without having to hold the ignition switch in the START position. This prevents starting failures and the engine from being cranked after the engine has started.
- When the ECM detects a start signal from the ignition switch, this system monitors the engine speed (NE) signal and continues to operate the starter until it determines that the engine has started.

▶ System Diagram ◀



*1: for Automatic Transaxle Models
*2: for Manual Transaxle Models

Operation

- As indicated in the following timing chart, when the ECM detects a start signal from the ignition switch, it energizes the starter relay to operate the starter. If the engine is already running, the ECM will not energize the starter relay.
- After the starter operates and the engine speed becomes higher than approximately 500 rpm, the ECM determines that the engine has started and stops the operation of the starter.
- If the engine has any failure and does not work, the starter operates as long as its maximum continuous operation time and stops automatically. The maximum continuous operation time is approximately 2 seconds through 25 seconds depending on the engine coolant temperature condition. When the engine coolant temperature is extremely low, it is approximately 25 seconds and when the engine is warmed up sufficiently, it is approximately 2 seconds.
- In case that the starter begins to operate, but cannot detect the engine speed signal, the ECM will stop the starter operation immediately.

▶ Timing Chart ◀

