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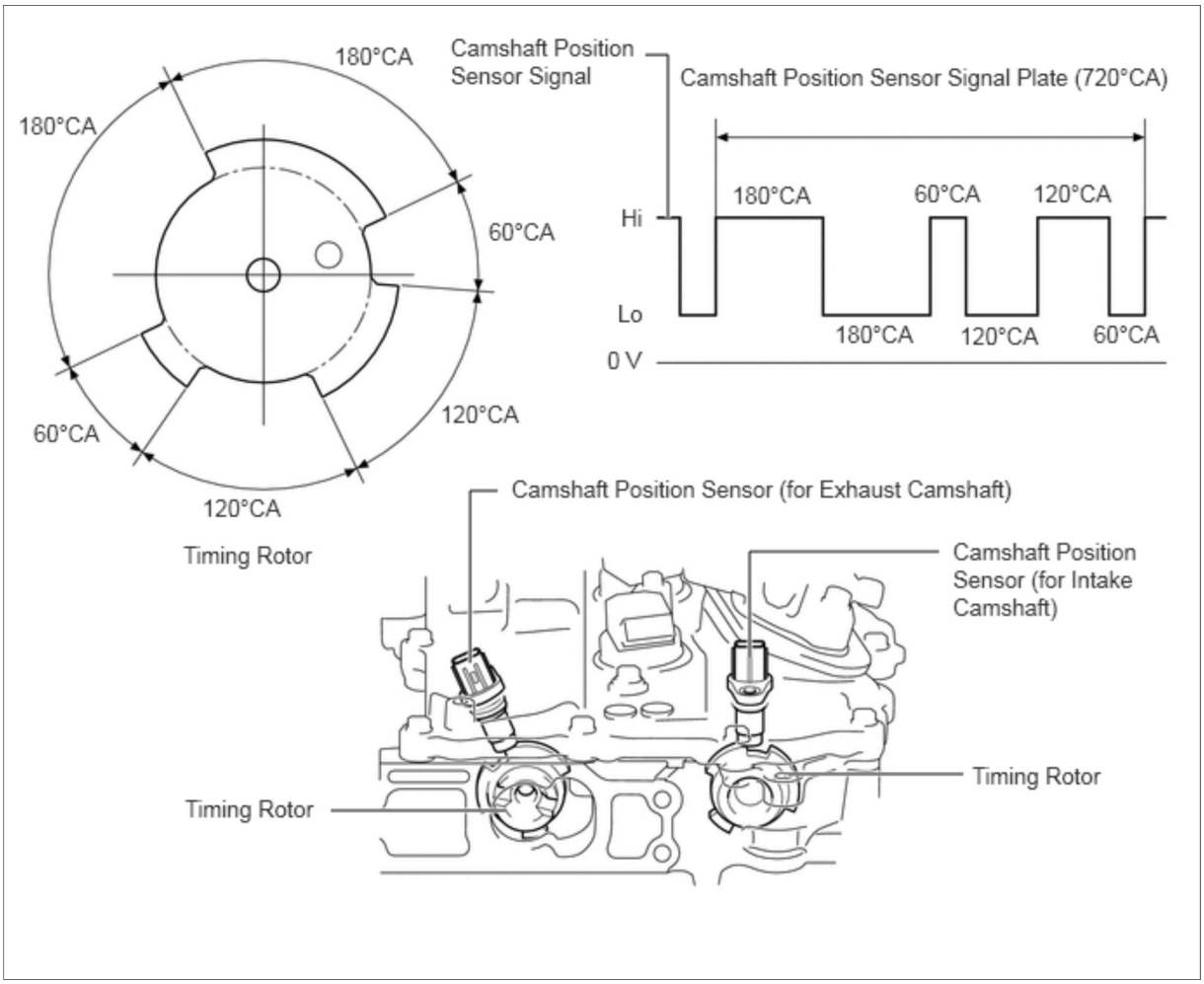
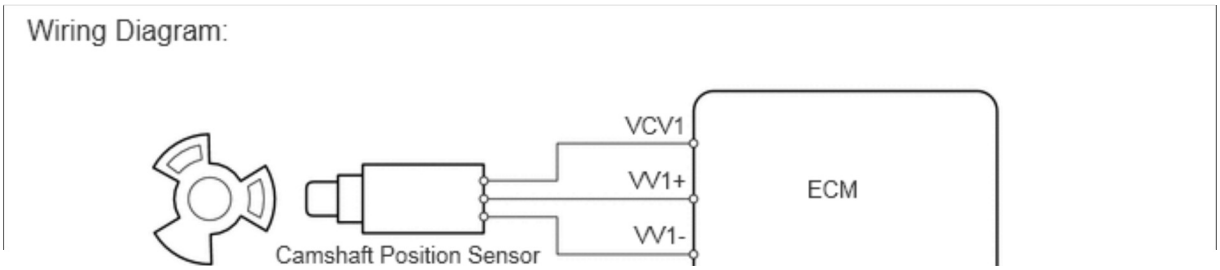
6AR-FSE ENGINE CONTROL SFI SYSTEM DETAILS CAMSHAFT POSITION SENSOR

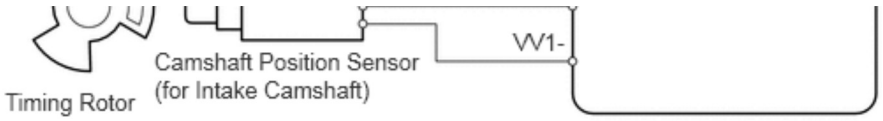
CONSTRUCTION

a. Magneto-Resistance Element (MRE) type camshaft position sensors (intake and exhaust) are used. To detect each camshaft position, a timing rotor that is secured to the camshaft is used to generate 3 pulses for every 2 revolutions of the crankshaft. The timing rotor for each camshaft is part of the respective camshaft.



b. An MRE type camshaft position sensor consists of an MRE, a magnet and a sensor. The direction of the magnetic field changes due to the profile (protruding and non-protruding portions) of the timing rotor, which passes by the sensor. As a result, the resistance of the MRE changes, and the output voltage to the ECM changes to high or low. The ECM detects the camshaft position based on this output voltage.





MRE Type and Pick-up Coil Type Output Waveform Image Comparison: