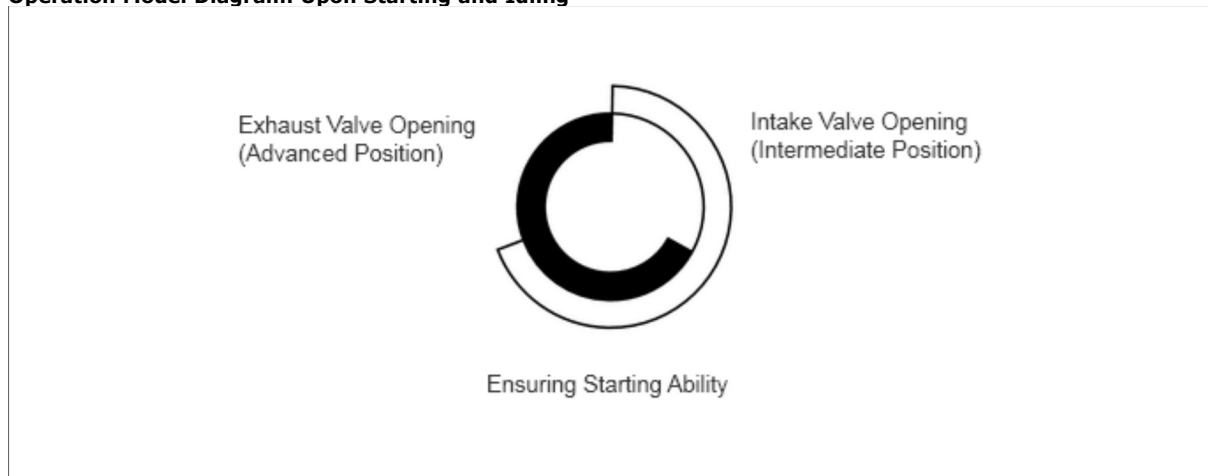
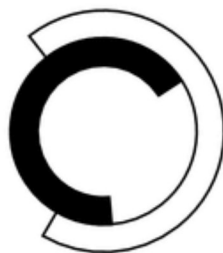


[Print](#)[Exit](#)**6AR-FSE ENGINE CONTROL SFI SYSTEM CONTROL VVT-iW CONTROL****FUNCTION**

- a.** The Variable Valve Timing-intelligent Wide (VVT-iW) system is designed to control the intake camshaft within a range of 80° (of crankshaft angle) to provide valve timing that is optimally suited to the engine operating conditions. This improves torque in all speed ranges as well as increasing fuel economy, and reducing exhaust emissions.
- b.** The operation angle for the VVT-iW has been made larger for the retarded side compared to the VVT-i. During partial load driving, the Atkinson cycle is entered, pumping loss is further reduced and fuel economy is enhanced.
- c.** In order to ensure engine startability, an intermediate lock mechanism is used for the VVT-iW. For details, refer to VVT-iW Controller of 6AR-FSE Engine Mechanical section.
- d.** The following effects can be achieved due to the advanced angle and retarded angle of the intake and exhaust valves.

Operation Model Diagram: Upon Starting and Idling**Operation Model Diagram: At Partial Load****Operation Model Diagram: At Partial Load to Heavy Load**

Exhaust Valve Opening
(Retarded Position)



Intake Valve Opening
(Advanced Position)

Using Internal EGR or Improving Exhaust Ability

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