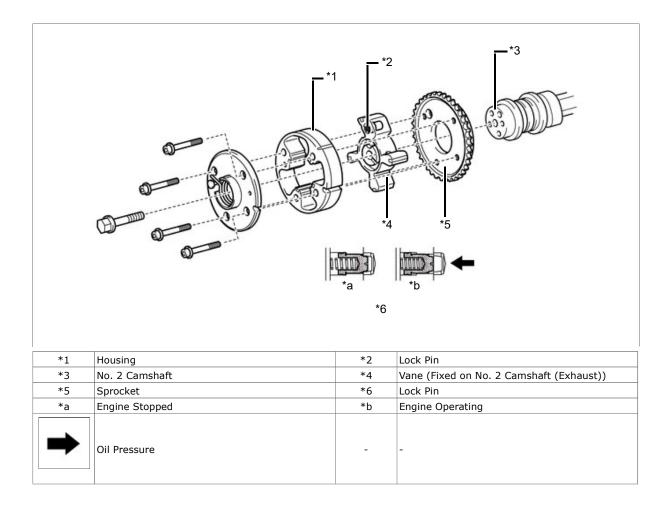
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## 2AR-FE ENGINE MECHANICAL ENGINE UNIT DETAILS CAMSHAFT TIMING EXHAUST GEAR

## **CONSTRUCTION**

- **a.** The camshaft timing exhaust gear assembly consists of an outer housing that is driven by the timing chain sprocket, and a vane sub-assembly that is coupled to the camshaft.
- **b.** The camshaft timing exhaust gear assembly uses a vane with 4 lobes.
- c. When the engine stops, the camshaft timing exhaust gear assembly is locked at the most advanced angle. This ensures excellent engine startability.
- **d.** The oil pressure sent from the advance or retard side passages of the exhaust camshafts causes rotation of the vane sub-assembly relative to the timing chain sprocket, varying the valve timing continuously.
- e. An advance assist spring is provided on the camshaft timing exhaust gear assembly. This helps to apply torque in the advance angle direction so that the vane lock pin securely engages with the housing when the engine stops.



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