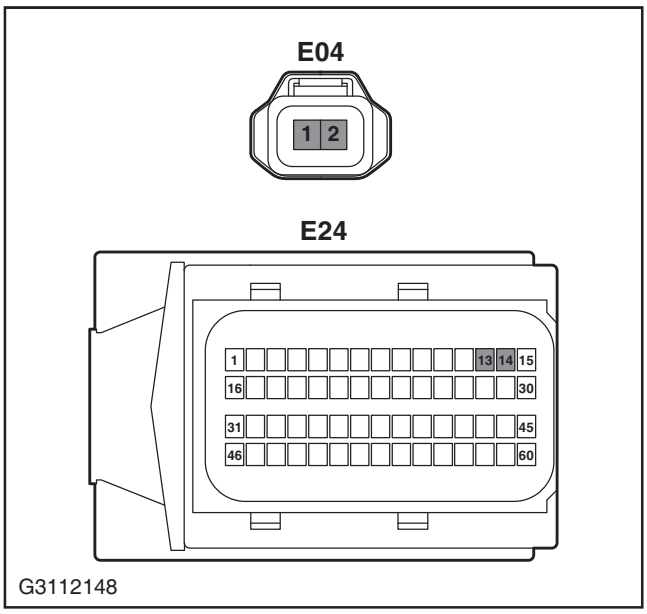
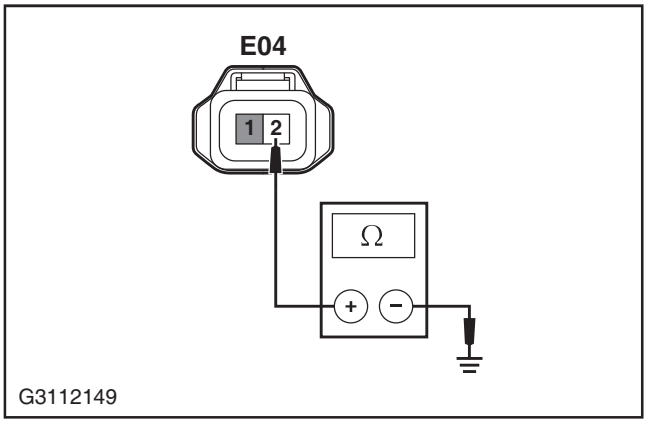
DTC P033629, P261937, P034A30, P261738, P261836, P034A31, P033531

1. DTC Description

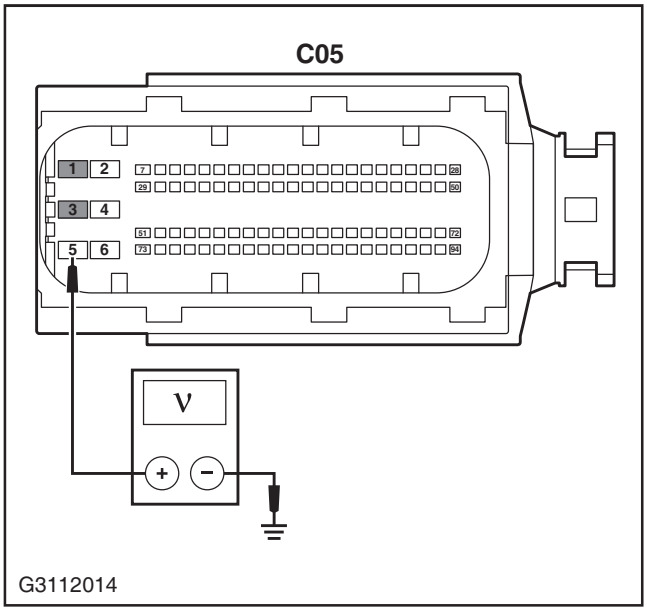
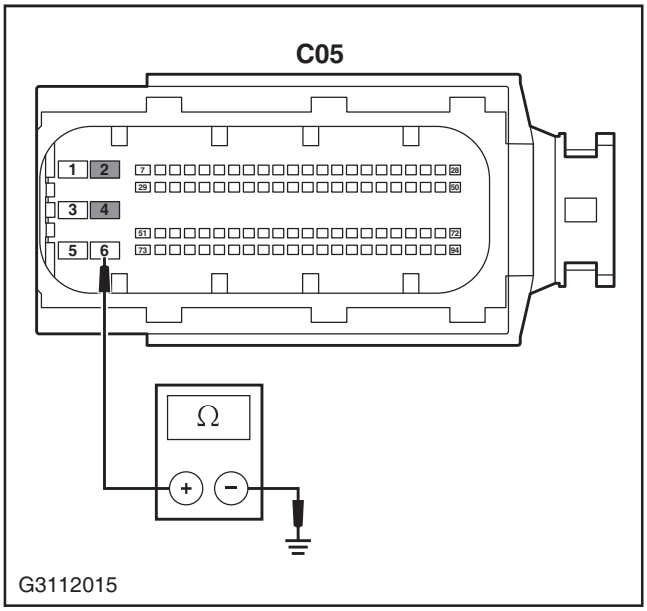
DTC	Description	Faulty Area
P033629	DFC for Crankshaft Signal Diagnose - Disturbed Signal	• ECU • Wiring harness and connector • Crankshaft speed sensor
P261937	CrS Signal Frequency Higher than Threshold	
P034A30	At the Expected Position the Gap was not Detected Again	
P261738	Dynamic Timeout of Two Consecutive Tooth Periods	
P261836	CrS Signal Below Speed Threshold	
P034A31	No Gap could be Detected in the Signal	
P033531	DFC for Crankshaft Signal Diagnose - No Signal	

2. Diagnosis Procedure

Test Conditions	Details/Results/Actions
1. General inspection	
	A. Inspect ECU wiring harness connector E24 for looseness, aging and poor contact, etc. B. Inspect crankshaft speed sensor wiring harness connector E04 for looseness, aging and poor contact, etc. Is it normal? **Yes** Go to step 2. **No** Repair the faulty area.

Test Conditions	Details/Results/Actions
2. Inspect wiring harness for open circuit	
 G3112148	A. Turn the ignition switch to "LOCK" position. B. Disconnect the ECU wiring harness connector E24. C. Disconnect the crankshaft speed sensor wiring harness connector E04. D. Measure resistance between terminals 13, 14 of ECU wiring harness connector E24 and terminals 1, 2 of crankshaft speed sensor wiring harness connector E04 with a multimeter. **Standard resistance: Less than 5 Ω** Is resistance normal? **Yes** Go to step 3. **No** Inspect circuit between terminals 13, 14 of ECU wiring harness connector E24 and terminals 1, 2 of crankshaft speed sensor wiring harness connector E04.
3. Inspect for short circuit to ground in wiring harness	
 G3112149	A. Turn the ignition switch to "LOCK" position. B. Disconnect the ECU wiring harness connector E24. C. Disconnect the crankshaft speed sensor wiring harness connector E04. D. Measure resistance between terminals 1, 2 of crankshaft speed sensor wiring harness connector E04 and reliable ground with a multimeter. **Standard resistance: 10 MΩ or more** Is resistance normal? **Yes** Go to step 4. **No** Inspect circuit between terminals 1, 2 of crankshaft speed sensor wiring harness connector E04 and reliable ground.

Test Conditions	Details/Results/Actions
4. Inspect for internal short circuit in wiring harness	
	A. Turn the ignition switch to "LOCK" position. B. Disconnect the ECU wiring harness connector E24. C. Disconnect the crankshaft speed sensor wiring harness connector E04. D. Measure resistance between terminals 1 and 2 of crankshaft speed sensor wiring harness connector E04 with a multimeter. **Standard resistance: 10 MΩ or more** Is resistance normal? **Yes** Go to step 5. **No** Inspect the crankshaft speed sensor wiring harness circuit.
5. Inspect resistance	
	A. Turn the ignition switch to "LOCK" position. B. Disconnect the crankshaft speed sensor wiring harness connector E04. C. Measure resistance between terminals 1 and 2 of crankshaft speed sensor with a multimeter. **Standard resistance: 850 ~ 950 Ω at 20°C** Is resistance normal? **Yes** Go to step 6. **No** Replace the crankshaft speed sensor.

Test Conditions	Details/Results/Actions
6. Inspect engine control module power supply circuit	
 G3112014	A. Turn the ignition switch to "LOCK" position. B. Measure from back side of ECU wiring harness connector C05. C. Turn ignition switch to "ON", and measure voltage between terminals 1, 3 and 5 and reliable ground. **Standard voltage: 11 ~ 14 V** Is measurement normal? **Yes** Go to step 7. **No** Inspect and repair ECU power supply circuit.
7. Inspect engine control module ground circuit	
 G3112015	A. Turn the ignition switch to "LOCK" position. B. Measure from back side of ECU wiring harness connector C05. C. Measure resistance between terminals 2, 4 and 6 of ECU wiring harness connector C05 and reliable ground with a multimeter. **Standard resistance: Less than 5 Ω** Is measurement normal? **Yes** Replace the engine control module. **Refer to: Engine Control Module (3.1.13 Electronic Control System, Removal and Installation).** **No** Inspect and repair ECU ground circuit.