PRACTICE EXAM 6: L1 SIMULATION — ADVANCED ENGINE PERFORMANCE SPECIALIST

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1. A vehicle equipped with hybrid technology has been brought in with: complaint of MIL on, multiple DTCs across hybrid and engine modules, hybrid system warnings, and engine performance issues. The MOST appropriate first diagnostic step is to:

A. Apply compressed air to the system

B. Verify the concern, retrieve DTCs from all modules, follow manufacturer procedure with PPE

C. Replace the hybrid system as a precaution

D. Replace the brake fluid as the only step

2. The proper procedure for L1 diagnosis of hybrid powertrain issues is to:

A. Apply compressed air to the system

B. Replace the hybrid system as a precaution

C. Visually inspect for visible damage only

D. Verify the concern, follow manufacturer-specified procedure with proper PPE, identify the cause

3. A vehicle equipped with hybrid technology has been brought in with: complaint of stop-start issues, hybrid system DTCs, engine restart faults, and battery state issues. The MOST likely cause is:

A. Multiple coexisting hybrid system issues affecting stop-start operation

B. Apply compressed air to the system

C. Replace the engine as a precaution

D. Replace the brake fluid as the only step

4. The proper procedure for diagnosing hybrid stop-start issues is to:

A. Apply compressed air to the system

B. Replace the hybrid system as a precaution

C. Verify the concern, retrieve DTCs, follow manufacturer procedure, identify the cause

D. Replace the brake fluid as the only step

5. A vehicle equipped with GDI has been brought in with: complaint of MIL on, P0301 (cylinder 1 misfire), high-pressure fuel pump DTCs, and reduced fuel rail pressure. The MOST likely cause is:

A. Apply compressed air to the system

B. High-pressure fuel system fault affecting cylinder 1 fuel delivery

C. Replace the spark plugs as a precaution

D. Replace the brake fluid as the only step

6. The proper procedure for diagnosing GDI cylinder-specific misfire is to:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. Replace the engine as a precaution

D. Verify the concern, monitor fuel rail pressure, evaluate cylinder-specific fuel delivery

7. A vehicle equipped with GDI has been brought in with: complaint of poor performance, P0299 (turbo underboost), GDI carbon buildup on intake valves, and reduced engine breathing. The MOST appropriate action is:

A. Address all findings: clean intake valves with manufacturer-approved method, address boost issues, verify operation

B. Apply compressed air to the system

C. Replace the engine as a precaution

D. Replace the brake fluid as the only step

8. The proper procedure for verifying GDI carbon cleaning is to:

A. Apply compressed air to the system

B. Replace the engine as a precaution

C. Replace the brake fluid as the only step

D. Verify all repairs, road test, monitor scan data, verify proper operation

9. A vehicle equipped with VVT has been brought in with: complaint of MIL on, P0011 (cam timing over-advanced bank 1), oil pressure issue, and reduced engine performance. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the cam phaser as a precaution

C. Oil pressure issue or oil contamination affecting VVT operation

D. Replace the brake fluid as the only step

10. The proper procedure for diagnosing VVT issues is to:

A. Apply compressed air to the system

B. Verify the concern, evaluate oil condition and pressure, monitor cam position, identify the cause

C. Replace the cam phaser as a precaution

D. Visually inspect for visible damage only

11. A vehicle equipped with cylinder deactivation has been brought in with: complaint of poor performance, P0507 (idle high), cylinder deactivation DTCs, and rough operation. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the cylinder deactivation system as a precaution

C. Cylinder deactivation system fault preventing proper transitions

D. Replace the brake fluid as the only step

12. The proper procedure for diagnosing cylinder deactivation issues is to:

A. Verify the concern, retrieve DTCs, monitor scan data for cylinder operation, identify the cause

B. Apply compressed air to the system

C. Replace the engine as a precaution

D. Replace the brake fluid as the only step

13. A vehicle equipped with electric water pump has been brought in with: complaint of MIL on, P0480 (cooling fan circuit), electric water pump DTCs, and overheating risk. The MOST likely cause is:

A. Apply compressed air to the pump

B. Replace the pump as a precaution

C. Replace the engine as a precaution

D. Electric water pump fault affecting cooling system operation

14. The proper procedure for diagnosing electric water pump issues is to:

A. Apply compressed air to the pump

B. Verify the concern, retrieve DTCs, monitor pump operation through scan tool, identify the cause

C. Replace the pump as a precaution

D. Visually inspect for visible damage only

15. A vehicle equipped with start-stop technology has been brought in with: complaint of MIL on, start-stop system not engaging, multiple system DTCs, and battery state issues. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the start-stop system as a precaution

C. Replace the engine as a precaution

D. Multiple conditions preventing start-stop (battery state, transmission, sensors, climate)

16. The proper procedure for diagnosing start-stop issues is to:

A. Verify the concern, retrieve DTCs, monitor scan data, identify the blocking conditions

B. Apply compressed air to the system

C. Replace the start-stop system as a precaution

D. Replace the brake fluid as the only step

17. A vehicle has been brought in with: complaint of MIL on, P0420 set, freeze frame at 1,800 RPM/35 kPa MAP, mode 6 catalyst data shows test value at 95% of limit. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the catalyst as a precaution

C. Catalyst aging confirmed by Mode 6 data; the catalyst is approaching failure threshold

D. Replace the brake fluid as the only step

18. The proper procedure for synthesizing OBD-II case study data is to:

A. Apply compressed air to the system

B. Read all available data (DTCs, freeze frame, Mode 6, live data), synthesize information, identify cause

C. Replace the affected components as a precaution

D. Visually inspect for visible damage only

19. A vehicle has been brought in with: complaint of misfire, P0301 set, freeze frame at 2,500 RPM/45 kPa MAP, secondary ignition shows elevated firing voltage on cylinder 1, fuel injector waveform shows extended pulse on cylinder 1. The MOST likely cause is:

A. Multiple findings on cylinder 1 (high voltage and extended pulse) suggesting cylinder-specific issue

B. Apply compressed air to the system

C. Replace the engine as a precaution

D. Replace the brake fluid as the only step

20. The proper procedure for synthesizing multi-source diagnostic data is to:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. Replace the engine as a precaution

D. Synthesize DTCs, freeze frame, scan data, oscilloscope data to identify root cause

21. A vehicle has been brought in with: complaint of MIL on, P0171 set, freeze frame conditions show idle, fuel trims +20% at idle but +5% at cruise, smoke test reveals leak at PCV system. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. PCV leak that is significant at idle but minimal at cruise

D. Replace the brake fluid as the only step

22. The proper procedure for diagnosing condition-specific lean conditions is to:

A. Apply compressed air to the system

B. Verify the concern, monitor trims at varied conditions, perform smoke test, identify the leak

C. Replace the affected components as a precaution

D. Visually inspect for visible damage only

23. A vehicle has been brought in with: complaint of poor performance, P0300 set, multiple cylinder misfires, freeze frame shows MAP at 70 kPa under load, secondary patterns show high firing voltages on multiple cylinders, fuel pressure normal at idle but low at WOT. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the engine as a precaution

C. Replace the spark plugs as a precaution

D. Multiple findings (high firing voltages plus low fuel pressure under load) suggesting load-related fuel and ignition issues

24. The proper procedure for diagnosing multi-system load-related issues is to:

A. Verify the concern, monitor scan data, secondary patterns, fuel pressure under load, identify the common cause

B. Apply compressed air to the system

C. Replace the engine as a precaution

D. Replace the brake fluid as the only step

25. A vehicle has been brought in with: complaint of MIL on, P0420 set after recent oxygen sensor replacement, freeze frame conditions normal, downstream sensor activity normal, upstream sensor switching properly. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the catalyst as a precaution

C. Catalyst issue not addressed by recent oxygen sensor service

D. Replace the brake fluid as the only step

26. The proper procedure for evaluating P0420 after recent O2 sensor service is to:

A. Apply compressed air to the system

B. Verify all repairs, evaluate catalyst efficiency, distinguish catalyst from sensor issue

C. Replace the catalyst as a precaution

D. Visually inspect for visible damage only

27. A vehicle has been brought in with: complaint of failed I/M test for monitor incomplete, multiple drive cycles attempted, oxygen sensor monitor not completing, EVAP monitor not completing. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. Specific monitor enabling criteria not being met during drive cycles

D. Replace the brake fluid as the only step

28. The proper procedure for completing stuck monitors is to:

A. Identify each monitor's enabling criteria, follow manufacturer drive cycle, verify criteria are met

B. Apply compressed air to the system

C. Replace the affected components as a precaution

D. Replace the brake fluid as the only step

29. A vehicle has been brought in with: complaint of MIL on, P0455 (gross EVAP leak), smoke test reveals no leak, fuel cap properly tightened, P0455 returns after clearing. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the EVAP system as a precaution

C. Replace the PCM as a precaution

D. Internal EVAP fault (purge valve, vent valve, sensor, or other internal component)

30. The proper procedure for diagnosing internal EVAP faults is to:

A. Apply compressed air to the system

B. Replace the EVAP system as a precaution

C. Replace the brake fluid as the only step

D. Test individual EVAP components, identify the internal fault, address the cause

31. A vehicle has been brought in with: complaint of poor fuel economy, no DTCs, all monitors complete and ready, fuel trims within normal range, all scan data within spec. The MOST likely cause is:

A. Apply compressed air to the system

B. Mechanical issue, driving habits, or factor outside OBD-II scope

C. Replace the affected components as a precaution

D. Replace the brake fluid as the only step

32. The proper procedure for diagnosing fuel economy issues outside OBD-II scope is to:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. Verify the concern, perform mechanical testing, evaluate factors outside OBD-II scope

D. Replace the brake fluid as the only step

33. A vehicle has been brought in with: complaint of intermittent stall, no DTCs, customer reports stall occurs during specific driving conditions, all current scan data normal. The MOST likely cause is:

A. Intermittent issue requiring symptom verification under matching conditions

B. Apply compressed air to the system

C. Replace the affected components as a precaution

D. Replace the brake fluid as the only step

34. The proper procedure for diagnosing intermittent issues with no current symptoms is to:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. Use scan tool data recorders, monitor for symptom recurrence, capture data when fault occurs

D. Visually inspect for visible damage only

35. A vehicle has been brought in with: complaint of multiple drivability symptoms, multiple stored DTCs, customer reports symptoms appeared simultaneously, all symptoms are related to engine performance. The MOST likely cause is:

A. Apply compressed air to the system

B. A common cause affecting multiple systems simultaneously

C. Replace the affected components as a precaution

D. Replace the brake fluid as the only step

36. The proper procedure for diagnosing simultaneous multi-system issues is to:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. Replace the brake fluid as the only step

D. Verify the concern, identify common causes, address findings systematically

37. A vehicle has been brought in with: complaint of MIL on, P0700 (transmission control system fault), engine and transmission DTCs related to common sensor data. The MOST likely cause is:

A. Common sensor or shared data issue affecting both engine and transmission control

B. Apply compressed air to the system

C. Replace the transmission as a precaution

D. Replace the brake fluid as the only step

38. The proper procedure for diagnosing engine-transmission interaction issues is to:

A. Apply compressed air to the system

B. Verify the concern, retrieve DTCs from both modules, identify common causes

C. Replace the transmission as a precaution

D. Visually inspect for visible damage only

39. A vehicle has been brought in with: complaint of poor performance, P0335 (CKP circuit) set intermittently, scan data shows CKP signal degradation under load. The MOST likely cause is:

A. Apply compressed air to the sensor

B. Replace the CKP as a precaution

C. Marginal CKP sensor or wiring causing signal degradation under load

D. Replace the brake fluid as the only step

40. The proper procedure for diagnosing intermittent CKP issues is to:

A. Verify the concern under load, monitor CKP signal, perform wiggle testing, identify the cause

B. Apply compressed air to the sensor

C. Replace the CKP as a precaution

D. Replace the brake fluid as the only step

41. A vehicle has been brought in with: complaint of MIL on, P0011/P0014 (cam phaser correlation), recent oil change with synthetic blend, scan data shows cam phaser response slow. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the cam phasers as a precaution

C. Replace the PCM as a precaution

D. Oil-related issue (wrong viscosity, contamination) affecting cam phaser hydraulic operation

42. The proper procedure for diagnosing cam phaser issues after oil change is to:

A. Apply compressed air to the system

B. Verify the concern, evaluate oil condition, monitor cam phaser operation, identify the cause

C. Replace the cam phasers as a precaution

D. Visually inspect for visible damage only

43. A vehicle has been brought in with: complaint of poor performance, no DTCs, normal scan data, customer reports performance issues only after extended highway driving. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the affected components as a precaution

C. Heat-related component sensitivity (sensor drift, marginal connection at temperature)

D. Replace the brake fluid as the only step

44. The proper procedure for diagnosing heat-related drivability issues is to:

A. Verify the concern under matching heat conditions, monitor scan data, identify the cause

B. Apply compressed air to the system

C. Replace the affected components as a precaution

D. Replace the brake fluid as the only step

45. A vehicle has been brought in with: complaint of MIL on, multiple DTCs across modules, recent battery replacement, scan data shows multiple modules requiring relearn. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the affected modules as a precaution

C. Replace the brake fluid as the only step

D. Calibration loss requiring relearn (multiple modules affected by battery disconnect)

46. The proper procedure for performing post-battery-replacement multi-module relearn is to:

A. Apply compressed air to the system

B. Identify required relearn procedures, perform each manufacturer-specified procedure, verify operation

C. Replace the affected modules as a precaution

D. Visually inspect for visible damage only

47. A vehicle has been brought in with: complaint of MIL on, multiple DTCs across modules, recent OTA software update, scan data shows post-update fault behavior. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the affected modules as a precaution

C. Post-update issue requiring rollback, additional update, or manufacturer-specified procedure

D. Replace the brake fluid as the only step

48. The proper procedure for diagnosing post-OTA issues is to:

A. Apply compressed air to the system

B. Replace the affected modules as a precaution

C. Replace the brake fluid as the only step

D. Verify the update was completed, contact the manufacturer, follow recommended procedure

49. A vehicle has been brought in with: complaint of intermittent symptoms, no DTCs, scan data shows occasional anomalies, customer reports symptoms occur at random. The MOST likely cause is:

A. Marginal connection, intermittent component fault, or condition-specific issue

B. Apply compressed air to the system

C. Replace the affected components as a precaution

D. Replace the brake fluid as the only step

50. The proper procedure for diagnosing random intermittent symptoms is to:

A. Apply compressed air to the system

B. Use scan tool data recorders, perform wiggle testing, monitor for symptom recurrence

C. Replace the affected components as a precaution

D. Replace the brake fluid as the only step

PRACTICE EXAM 6: L1 SIMULATION — ANSWER KEY, EXPLANATIONS, AND TASK REMEDIATION

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1. B — Verify the concern, retrieve DTCs from all modules, follow manufacturer procedure with PPE. Hybrid powertrain diagnosis requires multi-module data and PPE. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

2. D — Verify the concern, follow manufacturer-specified procedure with proper PPE, identify the cause. Hybrid powertrain diagnosis requires PPE and manufacturer specifications. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

3. A — Multiple coexisting hybrid system issues affecting stop-start operation. Hybrid stop-start issues with multiple DTCs indicate multiple causes. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

4. C — Verify the concern, retrieve DTCs, follow manufacturer procedure, identify the cause. Hybrid stop-start diagnosis requires comprehensive systematic approach. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

5. B — High-pressure fuel system fault affecting cylinder 1 fuel delivery. P0301 with high-pressure fuel pump DTCs and reduced pressure indicates fuel system issue. *ASE Task Reference: L1 Domain D — Fuel Systems and Air Induction Diagnosis. Review subsection L.4.*

6. D — Verify the concern, monitor fuel rail pressure, evaluate cylinder-specific fuel delivery. GDI cylinder-specific misfire diagnosis requires fuel system evaluation. *ASE Task Reference: L1 Domain D — Fuel Systems and Air Induction Diagnosis. Review subsection L.4.*

7. A — Address all findings: clean intake valves with manufacturer-approved method, address boost issues, verify operation. GDI carbon buildup with boost issues requires comprehensive approach. *ASE Task Reference: L1 Domain D — Fuel Systems and Air Induction Diagnosis. Review subsection L.4.*

8. D — Verify all repairs, road test, monitor scan data, verify proper operation. GDI carbon cleaning verification requires comprehensive approach. *ASE Task Reference: L1 Domain D — Fuel Systems and Air Induction Diagnosis. Review subsection L.4.*

9. C — Oil pressure issue or oil contamination affecting VVT operation. P0011 with oil pressure issue indicates oil-related cause. VVT depends on proper oil pressure. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

10. B — Verify the concern, evaluate oil condition and pressure, monitor cam position, identify the cause. VVT diagnosis requires oil evaluation and scan tool monitoring. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

11. C — Cylinder deactivation system fault preventing proper transitions. Cylinder deactivation DTCs with rough operation indicate system fault. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

12. A — Verify the concern, retrieve DTCs, monitor scan data for cylinder operation, identify the cause. Cylinder deactivation diagnosis requires scan tool integration. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

13. D — Electric water pump fault affecting cooling system operation. Electric water pump DTCs with overheating risk indicate pump-related cause. *ASE Task Reference: L1 Domain D — Fuel Systems and Air Induction Diagnosis. Review subsection L.4.*

14. B — Verify the concern, retrieve DTCs, monitor pump operation through scan tool, identify the cause. Electric water pump diagnosis requires scan tool integration. *ASE Task Reference: L1 Domain D — Fuel Systems and Air Induction Diagnosis. Review subsection L.4.*

15. D — Multiple conditions preventing start-stop (battery state, transmission, sensors, climate). Start-stop non-engagement has multiple potential causes. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

16. A — Verify the concern, retrieve DTCs, monitor scan data, identify the blocking conditions. Start-stop diagnosis requires comprehensive scan tool monitoring. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

17. C — Catalyst aging confirmed by Mode 6 data; the catalyst is approaching failure threshold. Mode 6 at 95% of limit confirms aging. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

18. B — Read all available data (DTCs, freeze frame, Mode 6, live data), synthesize information, identify cause. OBD-II case study analysis requires multi-source synthesis. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

19. A — Multiple findings on cylinder 1 (high voltage and extended pulse) suggesting cylinder-specific issue. Multiple cylinder 1 findings point to cylinder-specific cause. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

20. D — Synthesize DTCs, freeze frame, scan data, oscilloscope data to identify root cause. Multi-source diagnostic data requires synthesis to identify root cause. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

21. C — PCV leak that is significant at idle but minimal at cruise. Trim higher at idle than cruise indicates idle-specific leak. *ASE Task Reference: L1 Domain D — Fuel Systems and Air Induction Diagnosis. Review subsection L.4.*

22. B — Verify the concern, monitor trims at varied conditions, perform smoke test, identify the leak. Condition-specific lean diagnosis requires varied condition monitoring. *ASE Task Reference: L1 Domain D — Fuel Systems and Air Induction Diagnosis. Review subsection L.4.*

23. D — Multiple findings (high firing voltages plus low fuel pressure under load) suggesting load-related fuel and ignition issues. Multi-system findings point to multiple causes. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

24. A — Verify the concern, monitor scan data, secondary patterns, fuel pressure under load, identify the common cause. Multi-system load-related diagnosis requires comprehensive monitoring. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

25. C — Catalyst issue not addressed by recent oxygen sensor service. P0420 after O2 service with normal sensor activity points to catalyst. *ASE Task Reference: L1 Domain E — Emissions Control Systems Diagnosis. Review subsection L.5.*

26. B — Verify all repairs, evaluate catalyst efficiency, distinguish catalyst from sensor issue. Post-service P0420 evaluation requires distinction. *ASE Task Reference: L1 Domain E — Emissions Control Systems Diagnosis. Review subsection L.5.*

27. C — Specific monitor enabling criteria not being met during drive cycles. Multiple incomplete monitors after multiple drives indicates criteria not met. *ASE Task Reference: L1 Domain F — I/M Failure Diagnosis. Review subsection L.6.*

28. A — Identify each monitor's enabling criteria, follow manufacturer drive cycle, verify criteria are met. Stuck monitor completion requires criteria verification. *ASE Task Reference: L1 Domain F — I/M Failure Diagnosis. Review subsection L.6.*

29. D — Internal EVAP fault (purge valve, vent valve, sensor, or other internal component). P0455 with negative smoke and recurrence indicates internal fault. *ASE Task Reference: L1 Domain E — Emissions Control Systems Diagnosis. Review subsection L.5.*

30. D — Test individual EVAP components, identify the internal fault, address the cause. Internal EVAP diagnosis requires component-specific testing. *ASE Task Reference: L1 Domain E — Emissions Control Systems Diagnosis. Review subsection L.5.*

31. B — Mechanical issue, driving habits, or factor outside OBD-II scope. Fuel economy issue with proper OBD-II data indicates issues outside OBD-II scope. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

32. C — Verify the concern, perform mechanical testing, evaluate factors outside OBD-II scope. Outside-OBD-II diagnosis requires mechanical and operational evaluation. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

33. A — Intermittent issue requiring symptom verification under matching conditions. Intermittent stall with normal current data requires symptom-matching. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

34. C — Use scan tool data recorders, monitor for symptom recurrence, capture data when fault occurs. Intermittent diagnosis requires data capture during the fault. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

35. B — A common cause affecting multiple systems simultaneously. Simultaneous multi-system symptoms with no recent service indicate common cause. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

36. D — Verify the concern, identify common causes, address findings systematically. Simultaneous multi-system diagnosis requires identification of common causes. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

37. A — Common sensor or shared data issue affecting both engine and transmission control. P0700 with engine DTCs from common sensor data indicates shared cause. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

38. B — Verify the concern, retrieve DTCs from both modules, identify common causes. Engine-transmission interaction requires multi-module approach. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

39. C — Marginal CKP sensor or wiring causing signal degradation under load. Intermittent P0335 under load indicates load-specific marginal failure. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

40. A — Verify the concern under load, monitor CKP signal, perform wiggle testing, identify the cause. Intermittent CKP diagnosis requires symptom-matching and physical testing. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

41. D — Oil-related issue (wrong viscosity, contamination) affecting cam phaser hydraulic operation. P0011/P0014 after oil change strongly indicates oil-related cause. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

42. B — Verify the concern, evaluate oil condition, monitor cam phaser operation, identify the cause. Cam phaser diagnosis after oil change requires oil evaluation. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

43. C — Heat-related component sensitivity (sensor drift, marginal connection at temperature). Heat-only symptoms indicate heat-related issue. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

44. A — Verify the concern under matching heat conditions, monitor scan data, identify the cause. Heat-related diagnosis requires symptom-matching conditions. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

45. D — Calibration loss requiring relearn (multiple modules affected by battery disconnect). Multi-module DTCs after battery replacement indicate relearn requirement. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

46. B — Identify required relearn procedures, perform each manufacturer-specified procedure, verify operation. Multi-module relearn requires identification and execution of each procedure. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

47. C — Post-update issue requiring rollback, additional update, or manufacturer-specified procedure. Post-OTA issues require manufacturer guidance. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

48. D — Verify the update was completed, contact the manufacturer, follow recommended procedure. Post-OTA diagnosis requires manufacturer guidance. *ASE Task Reference: L1 Domain B — Computerized Powertrain Controls Diagnosis. Review subsection L.2.*

49. A — Marginal connection, intermittent component fault, or condition-specific issue. Random intermittent symptoms have multiple potential causes. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*

50. B — Use scan tool data recorders, perform wiggle testing, monitor for symptom recurrence. Intermittent diagnosis requires comprehensive monitoring approach. *ASE Task Reference: L1 Domain A — General Powertrain Diagnosis. Review subsection L.1.*