

# PRACTICE EXAM 15: ASE L4 SIMULATION (50 QUESTIONS)

---

1. A scan tool reports DTC "U0140-00 Lost Communication with Body Control Module" with current-fault status. The most accurate interpretation is:

- A. An active communication fault with the BCM warranting CAN bus investigation
- B. A historical fault that has resolved itself during the last ignition cycle
- C. A scan tool software error that requires updating before further diagnosis
- D. Normal operation that should not require any investigation or action now

2. A scan tool shows the forward radar module at "Firmware Version 3.2.1" while the OEM service portal indicates "Current Version 3.5.0." The most accurate interpretation is:

- A. The module has failed and requires replacement with a new unit immediately
- B. The module is running older firmware; check TSBs for applicable updates
- C. Normal operation since firmware versions do not affect ADAS function at all
- D. The scan tool is reading incorrectly and should be replaced with a new tool

3. A scan tool data stream shows "Forward Radar Target Range: 52m" with a known target vehicle at approximately 50 meters ahead. The reading is:

- A. Within expected accuracy indicating the forward radar is functioning correctly
- B. Significantly incorrect indicating a defective radar requiring replacement now
- C. Below the radar's minimum detection threshold for target acquisition range
- D. Above the radar's maximum detection range of 25 meters for this specific model

4. A scan tool reports a "C-code" in the DTC format. C-codes relate primarily to:

- A. Powertrain and engine management systems on the vehicle during operation
- B. Body control systems including lighting and comfort features always
- C. Chassis systems including brakes, suspension, and steering components
- D. Network communication faults between vehicle modules during operation

5. Freeze frame data from a stored ADAS DTC shows: "Vehicle Speed: 0 mph, Engine: Off, Battery: 11.4V." The most accurate interpretation is:

- A. The code was set while the vehicle was parked with key on and low battery
- B. The code indicates a current fault occurring during normal highway operation
- C. The freeze frame data is corrupted and should be ignored during diagnosis
- D. The code requires immediate module replacement regardless of conditions

6. A bidirectional test commands the steering wheel haptic actuator; the scan tool reports "Actuator Current: 0.3A" against a spec of 0.4–0.6A. The reading is:

- A. Within normal range indicating the actuator is functioning correctly now
- B. Below specification suggesting actuator or circuit issues warranting investigation
- C. Above specification indicating the actuator is drawing excessive current flow
- D. An indication that the circuit has a direct short to ground currently

7. A scan tool shows "ADAS Central Module — Communication Status: Not Responding" during an all-systems scan. The most productive investigation considers:

- A. Immediate replacement of the ADAS Central Module with a new OEM unit
- B. Normal operation that frequently occurs during any scan tool session

- C. Module power supply, ground connections, and CAN network pathway
- D. Complete reprogramming of every other module on the vehicle as a precaution

8. A scan tool data stream shows "Forward Camera — Lane Detection: Active" and "Lane Position: Center" while driving. The most accurate interpretation is:

- A. The camera has failed and is reporting false data to the scan tool
- B. The camera is functioning and detecting lane position during operation
- C. Normal scan tool display regardless of the camera's actual state
- D. The camera requires immediate replacement with a new OEM unit

9. A scan tool bidirectional self-test of the forward radar reports "Test Complete — All Parameters Within Specification." The customer still reports ACC failures during driving. The most accurate interpretation is:

- A. The radar is fully verified and the customer's driving must be incorrect
- B. The radar should be replaced despite the passing self-test result
- C. Normal operation that will resolve itself during extended customer driving
- D. Basic function confirmed — calibration or downstream pathways still need investigation

10. A scan tool displays "Calibration Required — Forward Camera" after a module replacement. The most accurate interpretation is:

- A. The replacement module is defective and requires exchange with another unit
- B. The expected post-replacement state — calibration is a required separate step
- C. The scan tool has malfunctioned and should be restarted immediately
- D. The vehicle's battery voltage is insufficient for proper module operation

11. A scan tool shows freeze frame data: "Ambient Temp: 14°F, Battery: 11.9V" during a U-code event. The most productive diagnostic focus is:

- A. Normal operating conditions that should not have triggered any DTC to set
- B. High engine RPM as the likely trigger for the code being stored
- C. Incorrect scan tool reporting requiring a factory reset of the tool
- D. Low voltage combined with cold temperature affecting module operation

12. A scan tool shows "CAN bus resistance: 60 ohms (Expected: 60 ohms)" during network testing. The reading is:

- A. Below specification indicating a direct short between the bus wires
- B. Above specification indicating missing terminators somewhere on the bus
- C. Within specification indicating a healthy CAN bus configuration
- D. Unreliable data that cannot be interpreted without further testing performed

13. A scan tool reports "Forward Camera — Initialization Complete" followed by "Calibration Required." The required next action is:

- A. Delivering the vehicle since initialization completed successfully on the tool
- B. Replacing the forward camera module with a new unit as a precaution step
- C. Reprogramming the ADAS Central Module to address the calibration message
- D. Performing the OEM-specified camera calibration procedure before delivery

14. During an all-systems scan, the tool shows "Module Not Present — Forward Radar" on a vehicle known to have one installed. The most productive investigation considers:

- A. The scan tool's software version requires an immediate update before continuing

- B. Normal operation during any all-systems scan session on the vehicle
- C. Forward radar power supply, ground, or CAN communication pathway
- D. Complete replacement of every ADAS module on the vehicle as a precaution

15. A scan tool displays "Programming Failed — Module Unresponsive" during a programming session. The most productive next action is:

- A. Repeating the programming with exactly the same settings immediately after
- B. Replacing the module and attempting programming on a new unit without delay
- C. Clearing all codes and delivering the vehicle without completing programming
- D. Following OEM service procedure for recovery of the interrupted programming

16. A scan tool bidirectional test reports "Test Aborted — Preconditions Not Met." The most productive response is:

- A. Proceeding with the test despite the preconditions warning message shown
- B. Reviewing each flagged precondition and addressing them before retrying
- C. Replacing the module being tested based on the precondition error alone
- D. Performing a different test to bypass the precondition requirement completely

17. A scan tool reports a "B-code" in the DTC format. B-codes relate primarily to:

- A. Body control systems including lighting, climate, and comfort features
- B. Network communication faults between modules on the vehicle during operation
- C. Chassis systems including brakes, suspension, and steering components
- D. Powertrain faults including engine and transmission controls during driving

18. A scan tool reports "Battery Voltage: 12.2V, Calibration Minimum: 12.6V" before a calibration. The correct action is:

- A. Proceeding with the calibration since 12.2V is close enough to the minimum
- B. Starting the engine and performing the calibration at higher voltage level
- C. Connecting a battery support unit to raise voltage above the minimum value
- D. Reprogramming the ADAS Central Module to lower the voltage threshold

19. A scan tool lists a DTC labeled "PERMANENT" in its status. This code type:

- A. Will be cleared by the scan tool using a standard code-clear command
- B. Indicates the vehicle is currently undergoing ongoing diagnostic testing session
- C. Sets automatically on every ignition cycle regardless of any fault status
- D. Requires the relevant monitor to pass successfully before the code clears

20. A scan tool shows "DTC Status: Pending, History Status: 0 events." The most accurate interpretation is:

- A. The code has been active for many ignition cycles without resolving itself
- B. A new fault is developing but has not yet met confirmation criteria fully
- C. A legacy code from a previous ownership that is no longer relevant now
- D. The scan tool is reporting incorrectly and should be restarted immediately

21. A scan tool data stream shows "Module Temperature: 85°C" with "Max Operating Temp: 75°C." The most accurate interpretation is:

- A. Normal operation since temperatures vary widely across all ADAS modules
- B. The module has failed and requires immediate replacement with a new unit

- C. The scan tool is reading incorrectly and should be factory reset now
- D. Thermal conditions exceed specification — investigate cooling or mounting

22. A scan tool shows "Forward Camera — Lens Heater: Active" with ambient temperature displayed at 35°F. The reading is:

- A. Consistent with the heater activating at approximately 50°F or colder ambient
- B. Unusual since the camera heater should not activate in any conditions
- C. An indication the heater is malfunctioning and requires replacement now
- D. Above the ambient threshold for heater activation requiring investigation now

23. A scan tool shows "Forward Radar — Calibration Status: Valid" with a date from 6 months ago. The most accurate interpretation is:

- A. The radar requires immediate recalibration since 6 months have elapsed fully
- B. The calibration has expired and the radar is no longer functional safely
- C. Calibration is valid unless a triggering event has occurred since that date
- D. The scan tool is displaying incorrect date information requiring a reset

24. A scan tool displays "Module Coding: Default Values Detected." The most accurate interpretation is:

- A. The module is operating optimally with factory default settings intact
- B. The module requires vehicle-specific coding to be applied for full function
- C. Normal scan tool display during any module coding verification check
- D. A scan tool error requiring immediate factory reset of the tool now

25. A scan tool bidirectional test activates the forward collision warning chime. The tool reports "Test Complete — No Output Detected." The most productive investigation considers:

- A. The chime circuit, the warning output pathway, and the chime itself
- B. Replacing the forward radar as a starting point for chime output issues
- C. Reprogramming the ADAS Central Module with current firmware immediately
- D. Normal behavior that occurs during any forward collision warning test session

26. A scan tool reports both "U0121-00 Lost Communication with EBCM" and "C1234-00 ABS Module Internal Fault." The most accurate interpretation is:

- A. Two completely unrelated faults that happen to appear together on the scan
- B. Related faults — the EBCM internal fault is causing the communication loss
- C. Only the U-code is significant; the C-code can be safely ignored today
- D. Scan tool software errors that require complete tool reset immediately

27. A scan tool shows "Fuel Level: 1/8, Calibration Requirement:  $\geq$  1/2 tank." Before forward radar calibration, the correct action is:

- A. Proceeding with the calibration since the radar doesn't directly need fuel
- B. Completing the calibration and documenting the fuel level for service records
- C. Reprogramming the ADAS Central Module to ignore the fuel level requirement
- D. Adding fuel to meet the OEM precondition before beginning the calibration

28. A scan tool displays "Tire Pressure: FL 28 psi, FR 35 psi, RL 35 psi, RR 35 psi" before calibration (placard 35 psi). The correct action is:

- A. Adjusting the front-left tire to match placard before beginning calibration

- B. Proceeding with the calibration since three tires are at correct pressure
- C. Reprogramming the ADAS Central Module to ignore the tire pressure variance
- D. Completing the calibration and adjusting pressures after customer delivery

29. A scan tool shows "ADAS Central Module — Battery Voltage at Last Code Set: 11.6V." The most productive investigation considers:

- A. Replacing the ADAS Central Module as a likely cause of the stored code
- B. Complete reprogramming of the ADAS Central Module with new firmware release
- C. Investigating the charging system and battery condition for the root cause
- D. Normal operation that occurs on all ADAS vehicles during any driving event

30. A scan tool reports "Post-Repair Scan — Previous DTC Count: 5, Current DTC Count: 6." The most productive response is:

- A. Delivering the vehicle since most codes have been cleared successfully now
- B. Investigating the new DTC that appeared during the repair work performed
- C. Clearing all current codes and delivering the vehicle immediately to owner
- D. Replacing every module that shows any code as a general precaution step

31. A scan tool displays freeze frame: "Target Detected: Yes, Range: 15m, Speed: 65 mph, Warning Issued: Yes." The data is:

- A. Inconsistent and indicates scan tool malfunction requiring factory reset now
- B. Showing normal operation with no actionable information for diagnosis work
- C. Evidence of complete radar failure requiring immediate replacement unit
- D. Consistent with a forward collision warning event during highway driving

32. A scan tool reports "Calibration Procedure — Static Complete" followed by "Dynamic Calibration Required." The correct next action is:

- A. Delivering the vehicle since static calibration has been completed already
- B. Clearing all codes and considering the workflow complete at this single step
- C. Performing the dynamic calibration drive cycle per the OEM procedure
- D. Replacing the calibrated module as a precaution against future issues

33. A scan tool shows "Corner Radar — Left Rear — Communication Error" with other three corner radars reporting normal. The most productive investigation considers:

- A. Replacing all four corner radars simultaneously as a general precaution
- B. Normal operation during any all-systems scan session on the vehicle today
- C. Complete reprogramming of the ADAS Central Module with current firmware
- D. The left rear corner radar's supply, ground, or CAN communication pathway

34. A scan tool displays "DTC C1340-72: Actuator Performance" for the steering wheel haptic actuator. C1340-72 indicates:

- A. A powertrain code related to engine performance issues during operation
- B. A body code related to lighting system performance during operation
- C. A chassis code related to actuator performance issues in the system
- D. A network code related to communication bus issues between modules

35. A scan tool bidirectional test reports "Test Result: Passed — Current: 0.5A, Voltage: 12.0V, Duration: 2s." The most accurate interpretation is:

- A. Test failure requiring actuator replacement with a new unit immediately

- B. Normal operation that should not have completed the test successfully now
- C. Scan tool error requiring an immediate factory reset of the tool today
- D. Successful activation verifying the commanded output circuit works properly

36. A scan tool reports "Firmware Update Available — Module: Forward Radar, Current: 2.1, Update: 2.4." The correct response is:

- A. Reviewing the TSB or service information for applicable update scope
- B. Installing the update immediately without consulting any service information
- C. Ignoring the update notification since updates are optional for ADAS modules
- D. Replacing the forward radar with a module pre-loaded with the new firmware

37. A scan tool displays "Forward Radar Status: Learning" during a dynamic calibration drive. The most accurate interpretation is:

- A. The radar has failed and is attempting to self-repair during customer driving
- B. The calibration is progressing normally during the dynamic learning phase
- C. Normal radar behavior during any driving session after code clearing action
- D. The scan tool is displaying incorrect information requiring a tool reset now

38. A scan tool reports "Post-Repair Scan: No Codes Present." Before customer delivery, the required additional step is:

- A. Operational road test of the repaired feature under real-world conditions
- B. Delivering the vehicle since the scan shows no codes are present now
- C. A second complete pre-repair scan to verify the first scan was correct
- D. Keeping the vehicle overnight without any additional testing needed now

39. A scan tool reports "Vehicle Identification Number Mismatch — Module VIN  $\neq$  Vehicle VIN." The most productive action is:

- A. Proceeding with service since VIN mismatch does not affect anything else
- B. Investigating the mismatch — the module may be from another vehicle
- C. Ignoring the warning since VIN validation is not important for ADAS work
- D. Clearing all codes and delivering the vehicle without further action now

40. A scan tool shows "Steering Angle Sensor — Position Invalid" after a battery replacement service. The correct response is:

- A. Replacing the steering angle sensor with a new unit immediately afterward
- B. Complete reprogramming of the Electronic Power Steering Module today now
- C. Performing the OEM-specified steering angle sensor relearn procedure
- D. Replacing the battery again with a different manufacturer's unit today

41. A scan tool reports "Calibration Status: Silent Miscalibration Suspected — Performance Concerns Reported." The most productive response is:

- A. Recalibrating on a verified level surface with preconditions correctly met
- B. Replacing the affected module with a new unit as the primary response today
- C. Delivering the vehicle since the scan tool cannot verify miscalibration alone
- D. Reprogramming the ADAS Central Module with the current firmware release now

42. A scan tool data stream shows "Forward Radar — Target Data: [--]" with dashes instead of values. The most accurate interpretation is:

- A. Normal display when no targets are currently detected by the radar always

- B. Evidence of complete radar hardware failure requiring replacement unit now
- C. Either no targets detected or a data stream communication issue
- D. Scan tool software error requiring an immediate factory reset of the tool

43. A scan tool reports "Module Security Access Required — Invalid Authentication." The most productive response is:

- A. Completing the service without attempting to access the locked module now
- B. Consulting OEM service information for the correct security access procedure
- C. Replacing the module that requires security access with a new unit today
- D. Reprogramming the module to remove the security access requirement today

44. A scan tool shows freeze frame: "RPM 0, Engine State: Off, Battery: 10.8V, Event: U-code set." The most accurate interpretation is:

- A. The code set during normal engine operation at highway cruise speeds always
- B. The vehicle experienced a network failure during engine operation today now
- C. Low battery voltage with ignition on, engine off, caused the communication loss
- D. The freeze frame is corrupted and should be disregarded during diagnosis now

45. A scan tool shows "Road Test Data: Drive 15 min, Distance 12 mi, Calibration Incomplete." The most productive investigation considers:

- A. Whether driving conditions met requirements for speed range and markings
- B. Immediate replacement of the forward camera module with a new unit now
- C. Complete reprogramming of the ADAS Central Module with current firmware today
- D. Normal behavior that resolves automatically during subsequent drive cycles

46. A scan tool bidirectional test of an ultrasonic sensor reports "Echo Return: 4.5m, Expected: 1.2m ± 0.1m." The most accurate interpretation is:

- A. Normal operation within expected tolerance for the ultrasonic sensor output
- B. The sensor is detecting a legitimate obstacle at 4.5 meters distance away
- C. Scan tool error requiring complete factory reset of the tool right now
- D. The sensor is reporting incorrectly and warrants investigation for failure

47. A scan tool reports "Ultrasonic Sensor — Front Center: Not Responding" with other sensors normal. The most productive action considers:

- A. Replacing every ultrasonic sensor on the vehicle simultaneously as a precaution
- B. Investigating the specific non-responding sensor's supply, ground, and signal
- C. Reprogramming the Ultrasonic Control Module with current firmware immediately
- D. Normal behavior during any scan tool session on the vehicle during service

48. A scan tool displays "Ultrasonic Sensor Data: FL 0.8m, FR 2.3m, RL constant 0.3m, RR 1.5m." The left rear reading is:

- A. Within expected tolerance given the vehicle is in an empty parking lot area
- B. Consistent with normal operation of all ultrasonic sensors during testing
- C. Scan tool display error requiring a reset of the tool during this session
- D. Suspicious — constant low reading may indicate sensor failure or contamination

49. A scan tool bidirectional test activates ultrasonic sensors in sequence. One reports "Test Failed — No Echo Return." The most productive action is:

- A. Inspecting the non-responding sensor for contamination, damage, or wire issues
- B. Replacing every ultrasonic sensor on the vehicle as a general precaution now
- C. Reprogramming the Ultrasonic Control Module with current firmware immediately
- D. Normal operation that occurs during any bidirectional test session activity

50. A scan tool shows "Rear Parking Sensor — Distance Readings Fluctuating" in an empty parking lot. The most accurate interpretation is:

- A. Normal operation that all parking sensors exhibit during testing sessions
- B. The Ultrasonic Control Module has failed requiring replacement with new unit
- C. The ADAS Central Module requires complete reprogramming with new firmware
- D. Possible sensor contamination, damage, or interference requiring investigation

# PRACTICE EXAM 15: ANSWER KEY AND EXPLANATIONS

---

1. A — A U-code with current-fault status indicates an active communication fault requiring investigation of the CAN bus, shared power, or shared ground for the affected module. U-codes dominate network troubleshooting, and "current-fault status" means the fault is presently active rather than historical, warranting immediate diagnostic attention.
2. B — A firmware version mismatch (module running older firmware than the OEM's current release) should be addressed by reviewing TSBs for applicable updates. Not every firmware update applies to every complaint, and TSB review identifies whether the update is relevant to the current symptoms before installation.
3. A — A forward radar reporting 52m for a target actually at 50m is well within expected accuracy for automotive radar. Small variances of a few meters at this range are normal and expected, not indicative of failure, miscalibration, or range issues. This reading confirms the radar is functioning correctly.
4. C — C-codes in the OBD-II DTC format relate to chassis systems including brakes, suspension, and steering. Powertrain faults are P-codes, body faults are B-codes, and network faults are U-codes. Understanding DTC prefix conventions is essential for rapid diagnostic focusing during scan tool review.
5. A — Freeze frame showing Vehicle Speed 0 mph, Engine Off, Battery 11.4V describes a key-on/engine-off condition with low battery — the code was set while the vehicle was parked and the battery was weak. This context points to a charging or battery condition rather than a driving-related fault requiring module investigation.
6. B — An actuator current reading of 0.3A against a spec of 0.4–0.6A is below specification and suggests actuator coil, circuit resistance, or supply issues warranting investigation. This reading does not yet confirm failure, but it is outside the normal operating range and requires systematic diagnosis of the circuit and component.
7. C — "Not responding" from the ADAS Central Module during a scan typically traces to module power supply, ground connections, or CAN network pathway issues. Investigation of these factors is the productive first step — module replacement is premature without confirming basic electrical and communication integrity first.

8. B — The data stream showing lane detection active with a specific position value confirms the forward camera is functioning and detecting lane position in real time. This is a working camera reporting its detection output during operation, not a failure or scan tool display error.
9. D — A passed bidirectional self-test confirms basic module-internal function but does not verify calibration parameters or downstream pathway integrity. When real-world failures persist despite passing self-tests, the investigation must extend to calibration status, communication pathways, and external conditions like bumper cover transparency.
10. B — "Calibration Required" displayed on a scan tool after module replacement is the expected post-replacement state before calibration has been performed. This is not an error or defect — it is correctly indicating that the calibration step remains to be completed before the module is fully operational.
11. D — Freeze frame showing ambient temperature of 14°F and battery at 11.9V indicates low voltage combined with cold temperature at the time the code set. Cold-weather low-voltage conditions are a well-documented cause of ADAS faults, and the charging system and battery condition should be investigated as the root cause.
12. C — A CAN bus resistance measurement of exactly 60 ohms matches the expected value for a healthy bus with two 120-ohm terminators in parallel. This reading confirms the bus termination is correct and provides a healthy baseline for further waveform-level diagnosis if needed.
13. D — After initialization is complete, "Calibration Required" means the OEM-specified calibration procedure is the next step. This is the expected workflow — programming, coding, initialization, then calibration — and the calibration must be performed before the module is operational regardless of the initialization completion.
14. C — "Module Not Present" for a module that is known to be installed means the scan tool cannot communicate with that module. Investigation of the forward radar's power supply, ground connections, and CAN communication pathway is the productive approach rather than blaming the scan tool, dismissing as normal, or replacing unrelated modules.
15. D — An interrupted programming session requires following the OEM service procedure for recovery. The OEM portal typically provides a specific recovery sequence, and this is always the correct path rather than repeated programming attempts with the same settings or speculative module replacement.
16. B — A "Preconditions Not Met" test abort is the scan tool specifically identifying what must be corrected before the test can proceed. Reviewing each flagged precondition and addressing it is the professional response — ignoring the error, replacing modules, or switching procedures all fail to address the actual cause.
17. A — B-codes in the OBD-II DTC format relate to body control systems including lighting, climate, comfort features, and related electrical accessories. Understanding DTC prefix conventions — P

(powertrain), B (body), C (chassis), U (network) — is essential for rapid diagnostic category identification.

18. C — Battery voltage of 12.2V against a 12.6V calibration minimum requires connecting a battery support unit to raise voltage above the specified threshold before beginning. Starting the engine introduces electrical noise that can disturb calibration, and proceeding below minimum produces silent miscalibration risk the scan tool cannot detect.
19. D — A permanent DTC is a special code type that cannot be cleared by the scan tool's clear-codes command; it requires the relevant monitor to run and pass successfully before it will clear automatically. This design ensures that critical faults receive operational verification before the code is removed from the vehicle's records.
20. B — "Pending" DTC status with zero history events indicates a new fault is developing but has not yet met the confirmation criteria that would establish it as confirmed. Pending codes provide early warning of developing issues and should be monitored during subsequent drive cycles to determine whether they confirm or resolve.
21. D — Module temperature of 85°C against a max operating temperature of 75°C indicates thermal conditions exceeding specification. Investigation of cooling, mounting, and heat management is productive before assuming module failure — ADAS modules have thermal limits, and addressing the heat source often resolves the issue without replacement.
22. A — The camera heater activating at an ambient temperature of 35°F is consistent with the composite vehicle's specified activation at approximately 50°F or colder. This is normal heater operation responding correctly to the cold ambient condition, not a malfunction requiring replacement.
23. C — Calibration validity does not simply expire after a period of time. It remains valid until a triggering event has occurred — windshield replacement, bumper cover work, alignment, impact, or similar events. Date alone is not sufficient reason to recalibrate; the triggering event matters, not elapsed time.
24. B — "Default Values Detected" in module coding means the module is operating with factory-generic settings rather than vehicle-specific coding. Vehicle-specific coding must be applied for the module to function correctly on the specific vehicle — defaults do not enable full function, which is why coding is a required step after programming.
25. A — No output detected during a chime bidirectional test isolates the issue to the chime circuit, the warning output pathway from the commanding module, or the chime itself. This targeted investigation is far more productive than replacing unrelated modules or reprogramming — the test has already identified where the failure occurred.
26. B — A U-code for lost communication with the EBCM combined with a C-code for EBCM internal fault represents related faults: the EBCM's internal fault has likely caused the

communication loss. Treating these as related — rather than ignoring the C-code or dismissing as unrelated — leads to the correct root-cause diagnosis.

27. D — Fuel level at 1/8 tank violates the OEM calibration precondition requiring at least 1/2 tank. Adding fuel to meet the precondition before beginning is the correct action — proceeding without meeting the precondition produces silent miscalibration because fuel weight affects ride height and sensor geometry.
28. A — One tire at 28 psi against a 35 psi placard specification must be corrected before calibration. Vehicle ride height is affected by tire pressure on any individual wheel, and uncorrected pressure variance produces silent miscalibration that the scan tool cannot detect during the procedure.
29. C — Battery voltage at 11.6V at the time the code set points directly to a charging system or battery condition as the root cause of the ADAS fault. Investigation of the charging system capacity and battery state is the productive response, not module replacement or reprogramming, which address symptoms rather than causes.
30. B — A new DTC appearing in the post-repair scan that was not present in the pre-repair scan requires investigation before delivery. A repair that introduces a new fault has not been completed correctly, and clearing the new code or dismissing as acceptable are both inappropriate responses to the new finding.
31. D — Freeze frame showing target at 15m with vehicle at 65 mph and a warning issued is consistent with a forward collision warning during highway driving — the situation logically generates a warning. The data tells a coherent story of the system operating as designed, not a malfunction requiring investigation.
32. C — Static calibration complete followed by "Dynamic Calibration Required" means the OEM procedure requires both calibrations, and the dynamic portion has not yet been performed. Performing the required dynamic calibration drive cycle is the correct next action per OEM procedure before considering the work complete.
33. D — One corner radar showing communication error while others report normal isolates the fault to the specific affected unit's supply, ground, or CAN communication pathway. Targeted investigation is more productive than wholesale replacement, reprogramming unrelated modules, or dismissing as normal behavior.
34. C — A C-code prefix indicates chassis-related faults, and the "Actuator Performance" description on C1340-72 describes a chassis component (the steering wheel haptic actuator) not meeting its performance specification. Understanding DTC format combined with the specific description provides the correct interpretation.
35. D — A test result showing normal current, voltage, and duration with "Passed" indicates successful activation verifying the commanded output circuit works correctly. This is confirmation of proper

circuit and actuator function, not failure, error, or anomaly — the bidirectional test has successfully verified the output.

36. A — A firmware update notification should be evaluated through the TSB or service information to understand the update's scope, purpose, and applicability. Blindly installing updates without review can introduce unintended issues, and TSB review ensures the update is appropriate for the current vehicle and complaint.
37. B — "Forward Radar Status: Learning" during a dynamic calibration drive is the expected status as the calibration is progressing through its learning phase. This indicates the calibration is running correctly, not a failure or scan tool error, and the status will change to complete once the learning finishes.
38. A — "No codes present" after a post-repair scan does not complete the verification process. An operational road test of the repaired feature under real-world conditions is required because scan-tool-only verification cannot confirm real-world function — only road testing does that.
39. B — A VIN mismatch between the module and the vehicle indicates the module may have been installed from another vehicle without proper configuration. Investigation of this discrepancy is critical because the module's programming and coding may not match the current vehicle's systems, producing compatibility and operational issues.
40. C — Steering angle sensor "Position Invalid" after battery replacement indicates the sensor has lost its learned zero-position reference that battery disconnection clears. The OEM-specified relearn procedure re-establishes this reference — sensor replacement is unnecessary, and battery replacement does not address the cause.
41. A — When silent miscalibration is suspected due to performance concerns, recalibrating on a verified level surface with all preconditions correctly met is the professional response. The original calibration likely had an unmet precondition that the scan tool could not detect, and addressing the preconditions produces a correct calibration.
42. C — A data stream showing dashes for target data indicates either no targets are currently detected in the radar's field of view, or a data stream communication issue is preventing the value from being reported. Both possibilities should be investigated — context determines which is the correct interpretation.
43. B — Security access required during scan tool operation means the module has authentication requirements that must be satisfied through the OEM-specified procedure. Modern ADAS modules use security access to prevent unauthorized reflashing, and consulting OEM service information for the procedure is the correct professional response.
44. C — Freeze frame showing RPM 0, Engine Off, Battery 10.8V, and a U-code set clearly identifies a key-on/engine-off scenario with severely low battery voltage that caused network

communication loss. This is a charging-system or battery-condition issue, not an engine-operation or module-level communication fault.

45. A — An incomplete dynamic calibration after 15 minutes and 12 miles points to driving conditions not meeting the requirements — speed range, lane markings, weather, or traffic density may not have allowed convergence. Investigating actual conditions is productive before speculating on module failure or reprogramming needs.
46. D — An ultrasonic sensor reporting echo return of 4.5m against an expected  $1.2\text{m} \pm 0.1\text{m}$  is significantly outside tolerance and warrants investigation for sensor failure, contamination, mounting, or wiring issues. This substantial deviation is not normal tolerance variance, legitimate obstacle detection at unexpected distance, or scan tool error.
47. B — A single non-responding ultrasonic sensor while others report normally isolates the fault to that specific sensor's supply, ground, or signal pathway. Investigation of these circuit elements for the specific affected sensor is far more productive than wholesale replacement, reprogramming, or dismissing as normal behavior.
48. D — A sensor reporting a constant 0.3m reading regardless of actual conditions is suspicious — consistent low-distance readings suggest sensor failure or contamination producing false echoes. This pattern differs from normal sensors in empty lots (which should report maximum range) and warrants targeted inspection and possibly replacement.
49. A — A bidirectional test reporting no echo return from a specific sensor should trigger physical inspection of that sensor for contamination, damage, or wire issues. This targeted investigation addresses the most likely causes before speculative replacement or unnecessary reprogramming procedures.
50. D — Distance readings fluctuating in an empty parking lot is suspicious and typically traces to sensor contamination, physical damage, or interference from external sources. Investigation of these factors is productive before assuming normal operation, replacing the control module, or unnecessary reprogramming of unrelated modules.