

# PRACTICE EXAM 7: A7 SIMULATION

## — HEATING AND AIR CONDITIONING

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1. A vehicle has been brought in with the following findings: complaint of inadequate A/C cooling, low refrigerant charge, refrigerant leak at condenser fitting, contaminated refrigerant, and worn O-rings. The MOST appropriate action is:

- A. Address all findings: repair the leak, replace worn O-rings, recover and address contamination, evacuate, recharge with proper refrigerant, and verify operation
- B. Replace only the refrigerant as the most direct repair
- C. Apply compressed air to the system
- D. Replace the brake fluid as the only step

2. Technician A says addressing only the refrigerant resolves cooling issues. Technician B says all related findings must be addressed for complete repair. Who is correct?

- A. Technician A only
- B. Both Technician A and Technician B
- C. Neither Technician A nor Technician B
- D. Technician B only

3. The proper procedure for diagnosing a complex multi-symptom A/C complaint is to:

- A. Replace components individually as each symptom is identified
- B. Verify each customer concern, identify findings systematically, address all causes, and verify resolution
- C. Apply compressed air to the system

D. Replace the brake fluid as the only step

4. A vehicle has been brought in with the following findings: complaint of A/C compressor noise and reduced cooling, internal compressor wear verified through inspection, contaminated refrigerant, worn drive belt, and refrigerant leak at the compressor. The MOST appropriate action is:

A. Replace only the compressor as the most direct repair

B. Apply compressed air to the system

C. Replace the brake fluid as the only step

D. Replace the compressor, flush the system, replace the receiver-drier or accumulator, replace the worn belt, evacuate, recharge with proper refrigerant, and verify operation

5. Technician A says compressor wear typically affects multiple system components. Technician B says addressing all related findings is required for complete repair. Who is correct?

A. Technician B only

B. Neither Technician A nor Technician B

C. Both Technician A and Technician B

D. Technician A only

6. The proper procedure for verifying complete compressor service is to:

A. Verify proper installation, verify clutch engagement, verify proper system pressures and temperatures, road test, and verify proper operation

B. Apply compressed air to the system

C. Replace the compressor as a precaution

D. Replace the brake fluid as the only step

7. A vehicle has been brought in with the following findings: complaint of multiple A/C and heating issues, low engine coolant level, restricted heater core, marginal refrigerant charge, contaminated refrigerant, and worn drive belt. The MOST appropriate action is:

- A. Apply compressed air to the system
- B. Address all findings: refill coolant, replace heater core, address contaminated refrigerant, replace drive belt, evacuate, recharge, and verify proper operation of both systems
- C. Replace only the heater core as the most direct repair
- D. Replace the brake fluid as the only step

8. Technician A says combined heating and A/C issues can have multiple coexisting causes. Technician B says only the loudest cooling symptom needs to be addressed. Who is correct?

- A. Technician B only
- B. Both Technician A and Technician B
- C. Neither Technician A nor Technician B
- D. Technician A only

9. The proper procedure for verifying combined heating and A/C service is to:

- A. Apply compressed air to the system
- B. Replace the heating and A/C systems as a precaution
- C. Verify all repairs, verify proper heating operation, verify proper A/C operation, road test under varied conditions, and verify proper performance
- D. Replace the brake fluid as the only step

10. A vehicle has been brought in with the following findings: complaint of multiple HVAC system issues, multiple actuator faults, network communication faults, DTCs across multiple modules, and water intrusion at a connector. The MOST appropriate action is:

- A. Apply compressed air to the system
- B. Replace the affected systems as a precaution
- C. Replace the brake fluid as the only step
- D. Address all findings: identify the source of water intrusion, address the cause, repair affected connectors, perform required service, clear DTCs, and verify proper operation

11. The proper procedure for verifying multi-domain HVAC service is to:

- A. Verify all repairs, perform proper service procedures, clear DTCs, road test under varied conditions, and verify all symptoms resolved
- B. Apply compressed air to the system
- C. Replace the HVAC system as a precaution
- D. Replace the brake fluid as the only step

12. A vehicle has been brought in with the following findings: complaint of intermittent A/C issues, scan data showing intermittent symptoms during specific conditions, marginal refrigerant charge, and worn refrigerant lines. The MOST appropriate action is:

- A. Apply compressed air to the system
- B. Verify the symptom under matching conditions, identify the specific cause, address the marginal charge and worn lines, and verify proper operation
- C. Replace the A/C system as a precaution
- D. Replace the brake fluid as the only step

13. The proper procedure for diagnosing intermittent A/C issues is to:

- A. Apply compressed air to the system
- B. Replace the A/C system as a precaution
- C. Verify the symptom under matching conditions, monitor scan data, inspect for marginal connections or worn components, and identify the specific cause
- D. Replace the brake fluid as the only step

14. A vehicle has been brought in with the following findings: complaint of multiple climate control issues, multiple sensor inaccuracies, multiple actuator faults, and DTCs across the climate control module. The MOST appropriate action is:

- A. Verify each sensor, address each fault, clear DTCs, verify climate control operation, and verify resolution
- B. Apply compressed air to the system
- C. Replace the climate control module as the most direct repair
- D. Replace the brake fluid as the only step

15. Technician A says climate control issues can have multiple coexisting causes. Technician B says addressing all related findings is required for complete repair. Who is correct?

- A. Technician B only
- B. Technician A only
- C. Neither Technician A nor Technician B
- D. Both Technician A and Technician B

16. The proper procedure for verifying climate control service is to:

- A. Apply compressed air to the system

B. Verify all repairs, verify sensor accuracy, verify actuator operation, clear DTCs, road test, and verify proper operation

C. Replace the climate control module as a precaution

D. Replace the brake fluid as the only step

17. A vehicle equipped with hybrid technology has been brought in with the following findings: complaint of multiple HVAC issues, hybrid system warnings, DTCs across multiple modules, and reduced A/C performance. The MOST appropriate action is:

A. Apply compressed air to the system

B. Replace the hybrid HVAC system as a precaution

C. Verify the customer concern, follow manufacturer-specified diagnostic procedure with proper PPE, retrieve DTCs from all modules, perform required service, and verify proper operation

D. Replace the brake fluid as the only step

18. Technician A says hybrid HVAC service requires high-voltage isolation procedures. Technician B says all related findings must be addressed. Who is correct?

A. Both Technician A and Technician B

B. Technician A only

C. Technician B only

D. Neither Technician A nor Technician B

19. The proper procedure for verifying hybrid HVAC service is to:

A. Apply compressed air to the system

B. Replace the hybrid HVAC system as a precaution

C. Replace the brake fluid as the only step

D. Verify all repairs, restore the high-voltage system properly, verify proper operation, and verify resolution per the manufacturer's procedure

20. A vehicle has been brought in with the following findings: complaint of A/C performance issues only at extreme temperatures, marginal refrigerant charge, marginal condenser airflow, fault in the cooling fan, and worn radiator. The MOST appropriate action is:

A. Apply compressed air to the system

B. Address all findings: address marginal charge, address airflow issues, address cooling fan, address worn radiator, and verify proper operation under extreme conditions

C. Replace the A/C system as a precaution

D. Replace the brake fluid as the only step

21. The proper procedure for verifying extreme-temperature A/C service is to:

A. Apply compressed air to the system

B. Replace the A/C system as a precaution

C. Verify all repairs, verify proper operation under extreme conditions, road test, and verify proper performance

D. Replace the brake fluid as the only step

22. A vehicle has been brought in with the following findings: complaint of musty odor and cooling issues, microbial growth on evaporator, contaminated cabin air filter, refrigerant leak at evaporator, and contaminated refrigerant. The MOST appropriate action is:

A. Apply compressed air to the system

B. Replace only the cabin air filter as the most direct repair

C. Replace the HVAC system as a precaution

D. Address all findings: replace the evaporator, replace the cabin air filter, address contaminated refrigerant, evacuate, recharge with proper refrigerant, and verify proper operation

23. The proper procedure for verifying evaporator service after multi-component repair is to:

- A. Verify proper installation, verify proper seal integrity, evacuate, recharge with proper refrigerant amount, road test, and verify proper operation
- B. Apply compressed air to the system
- C. Replace the evaporator as a precaution
- D. Replace the brake fluid as the only step

24. A vehicle has been brought in with the following findings: complaint of refrigerant leak, multiple leaks throughout the system, contaminated oil, worn O-rings, and corroded refrigerant lines. The MOST appropriate action is:

- A. Apply compressed air to the system
- B. Address all findings: replace worn O-rings, replace corroded lines, address contaminated oil, evacuate, recharge with proper refrigerant, and verify proper operation
- C. Replace only the refrigerant as the most direct repair
- D. Replace the brake fluid as the only step

25. The proper procedure for verifying multi-leak A/C service is to:

- A. Apply compressed air to the system
- B. Replace the A/C system as a precaution
- C. Verify the system is leak-free through proper testing, perform proper evacuation, recharge to specification, road test, and verify proper performance
- D. Replace the brake fluid as the only step

26. A vehicle has been brought in with the following findings: complaint of A/C system that does not engage, low refrigerant charge, faulty low-pressure cutoff switch, fault in the climate control module, and DTCs related to A/C operation. The MOST appropriate action is:

- A. Apply compressed air to the system
- B. Replace the climate control module as the most direct repair
- C. Replace only the cutoff switch as the most direct repair
- D. Address all findings: address the low charge, replace the failed switch, address the climate control fault, clear DTCs, and verify proper operation

27. The proper procedure for verifying A/C engagement service is to:

- A. Verify proper system charge, verify proper switch operation, verify proper compressor engagement, clear DTCs, and verify proper operation
- B. Apply compressed air to the system
- C. Replace the A/C system as a precaution
- D. Replace the brake fluid as the only step

28. A vehicle equipped with EV technology has been brought in with the following findings: complaint of cabin heating issues, heat pump efficiency issues, fault in the PTC heater, and DTCs across the climate control system. The MOST appropriate action is:

- A. Apply compressed air to the system
- B. Replace the heat pump as a precaution
- C. Address all findings: address heat pump efficiency, address PTC heater fault, clear DTCs, and verify proper operation per the manufacturer's procedure with proper PPE
- D. Replace the brake fluid as the only step

29. The proper procedure for verifying EV cabin heating service is to:

- A. Apply compressed air to the system
- B. Verify all repairs, verify proper heat pump operation, verify proper PTC operation, road test, and verify proper operation
- C. Replace the EV heating system as a precaution
- D. Replace the brake fluid as the only step

30. A vehicle has been brought in with the following findings: complaint of multiple HVAC issues following a battery replacement, multiple actuator relearns required, multiple module faults, DTCs in multiple modules, and HVAC system not operating properly. The MOST appropriate action is:

- A. Apply compressed air to the system
- B. Replace the climate control module as a precaution
- C. Replace the brake fluid as the only step
- D. Identify all required relearn procedures, perform each manufacturer-specified procedure, clear DTCs, and verify proper operation of all HVAC functions

31. The proper procedure for verifying post-battery-replacement HVAC service is to:

- A. Apply compressed air to the system
- B. Verify all relearn procedures completed, verify all HVAC functions, clear DTCs, road test, and verify proper operation
- C. Replace the climate control module as a precaution
- D. Replace the brake fluid as the only step

32. A vehicle has been brought in with the following findings: complaint of multiple HVAC issues following a software update, multiple module faults, DTCs across multiple modules, and HVAC system not operating properly. The MOST appropriate action is:

- A. Verify the update was completed successfully, contact the manufacturer for the appropriate response, perform recommended service, and verify proper operation
- B. Apply compressed air to the system
- C. Replace the affected modules as a precaution
- D. Replace the brake fluid as the only step

33. The proper procedure for verifying post-update HVAC service is to:

- A. Apply compressed air to the system
- B. Replace the affected modules as a precaution
- C. Verify all repairs, verify successful update or rollback, verify all HVAC functions, clear DTCs, road test, and verify proper operation
- D. Replace the brake fluid as the only step

34. A vehicle has been brought in with the following findings: complaint of A/C performance issues, refrigerant identifier shows mixed refrigerant contamination, multiple worn components, and DTCs related to A/C operation. The MOST appropriate action is:

- A. Apply compressed air to the system
- B. Replace only the refrigerant as the most direct repair
- C. Replace the A/C system as a precaution
- D. Recover the contaminated refrigerant per the manufacturer's procedure, address the contamination cause, replace the worn components, evacuate, recharge with proper refrigerant, and verify operation

35. The proper procedure for verifying refrigerant contamination service is to:

- A. Apply compressed air to the system
- B. Verify the system is properly serviced, verify the proper refrigerant type, verify proper performance, clear DTCs, and verify resolution
- C. Replace the A/C system as a precaution
- D. Replace the brake fluid as the only step

36. A vehicle has been brought in with the following findings: complaint of multiple HVAC issues that occur only at certain ambient temperatures, scan data showing temperature-related symptoms, multiple worn components, and DTCs across multiple modules. The MOST appropriate action is:

- A. Verify the symptom under matching temperature conditions, identify the specific cause, address all findings, and verify proper operation
- B. Apply compressed air to the system
- C. Replace the affected systems as a precaution
- D. Replace the brake fluid as the only step

37. The proper procedure for verifying temperature-related HVAC service is to:

- A. Apply compressed air to the system
- B. Replace the affected systems as a precaution
- C. Verify all repairs, verify proper operation in the conditions producing the original symptom, clear DTCs, and verify proper operation
- D. Replace the brake fluid as the only step

38. A vehicle has been brought in with the following findings: complaint of A/C performance issues following a recent service, multiple worn components, oil contamination, and DTCs related to A/C operation. The MOST appropriate action is:

- A. Apply compressed air to the system
- B. Identify the service-related cause, address all findings, perform proper service procedures, clear DTCs, and verify proper operation
- C. Replace the A/C system as a precaution
- D. Replace the brake fluid as the only step

39. The proper procedure for verifying post-service A/C issues is to:

- A. Verify all repairs, verify successful resolution of the original concern, road test, clear DTCs, and verify proper operation
- B. Apply compressed air to the system
- C. Replace the A/C system as a precaution
- D. Replace the brake fluid as the only step

40. A vehicle has been brought in with the following findings: complaint of intermittent HVAC issues only when the vehicle is in motion, scan data showing intermittent symptoms during motion, marginal connections, and DTCs related to HVAC operation. The MOST appropriate action is:

- 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 symptom during motion, perform wiggle testing during operation, address marginal connections, clear DTCs, and verify proper operation

41. The proper procedure for verifying motion-related HVAC service is to:

- A. Apply compressed air to the system
- B. Verify all repairs, verify proper operation during motion, road test, and verify resolution
- C. Replace the affected components as a precaution
- D. Replace the brake fluid as the only step

42. A vehicle has been brought in with the following findings: complaint of multiple HVAC system symptoms, multiple worn components across the HVAC system, multiple service items required across A/C system, refrigeration components, HVAC distribution, electronic controls, and refrigerant handling. The MOST appropriate action is:

- A. Apply compressed air to the system
- B. Replace components individually as each symptom is identified
- C. Address all findings comprehensively: repair each component requiring service, perform proper service procedures, clear DTCs, road test, and verify all symptoms resolved
- D. Replace the brake fluid as the only step

43. The proper procedure for verifying complete HVAC service after multi-domain repair is to:

- A. Apply compressed air to the system
- B. Replace the HVAC system as a precaution
- C. Verify all repairs, perform proper service procedures, clear DTCs, road test under varied conditions, and verify all symptoms resolved
- D. Replace the brake fluid as the only step

44. A vehicle has been brought in with the following findings: complaint of multiple HVAC issues that occur only after extended driving, scan data showing heat-related symptoms, multiple worn components, and DTCs related to HVAC operation. The MOST appropriate action is:

- A. Verify the symptom under matching heat conditions, identify the specific cause, address all findings, perform proper service, clear DTCs, and verify proper operation
- B. Apply compressed air to the system
- C. Replace the affected systems as a precaution
- D. Replace the brake fluid as the only step

45. The proper procedure for verifying heat-related HVAC service is to:

- A. Apply compressed air to the system
- B. Verify all repairs, verify proper operation under matching heat conditions, road test under those conditions, and verify proper performance
- C. Replace the affected systems as a precaution
- D. Replace the brake fluid as the only step

46. A vehicle has been brought in with the following findings: complaint of multiple HVAC and engine cooling issues, low engine coolant level, restricted radiator, failed cooling fan, refrigerant leak at the condenser, and worn condenser mounts. The MOST appropriate action is:

- A. Apply compressed air to the system
- B. Replace only the radiator as the most direct repair
- C. Replace the cooling and A/C systems as a precaution
- D. Address all findings: refill coolant, address radiator restriction, replace cooling fan, replace condenser, replace worn mounts, evacuate, recharge with proper refrigerant, and verify proper operation of both systems

47. The proper procedure for verifying combined cooling and A/C service is to:

- A. Apply compressed air to the system
- B. Replace the cooling and A/C systems as a precaution
- C. Verify all repairs, verify engine cooling operation, verify A/C operation, verify cooling fan operation, road test, and verify resolution
- D. Replace the brake fluid as the only step

48. A vehicle has been brought in for routine HVAC inspection. The technician finds multiple components past the manufacturer's typical service interval and showing signs of wear. The MOST appropriate action is:

- A. Apply compressed air to the components
- B. Replace all worn components as a precaution
- C. Replace the brake fluid as the only step
- D. Inform the customer of all findings, document the wear pattern, and provide recommendations based on the manufacturer's interval and the customer's expected use

49. The proper procedure for documenting HVAC inspection findings is to:

- A. Inspect all relevant components, measure relevant specifications, record findings, identify required service, document actual service performed, and provide recommendations to the customer
- B. Apply compressed air to the components
- C. Replace the components as a precaution
- D. Replace the brake fluid as the only step

50. The proper procedure for recommending HVAC service is to:

- A. Apply compressed air to the system
- B. Test relevant components, verify performance and condition, evaluate against the manufacturer's interval, and provide recommendations based on test results, service interval, and the customer's expected use
- C. Replace the system as a precaution
- D. Replace the brake fluid as the only step

# PRACTICE EXAM 7: A7 SIMULATION

## — ANSWER KEY, EXPLANATIONS, AND TASK REMEDIATION

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1. A — Address all findings: repair the leak, replace worn O-rings, recover and address contamination, evacuate, recharge with proper refrigerant, and verify operation. Multiple A/C findings each contribute to the symptoms. Comprehensive repair addresses each cause; partial repair leaves issues unresolved. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
2. D — Technician B only. A/C issues with multiple findings require comprehensive repair. Component wear progresses together; addressing only one leaves other contributing causes unresolved. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
3. B — Verify each customer concern, identify findings systematically, address all causes, and verify resolution. Complex multi-symptom diagnosis requires systematic approach. Each step builds on the previous to identify and address all causes. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
4. D — Replace the compressor, flush the system, replace the receiver-drier or accumulator, replace the worn belt, evacuate, recharge with proper refrigerant, and verify operation. Compressor failure with multiple findings requires comprehensive system service. *ASE Task Reference: A7 Domain B — Refrigeration System Component Diagnosis and Repair. Review subsection 7.2.*
5. C — Both Technician A and Technician B. Compressor wear typically affects multiple system components (correct), and addressing all related findings is required for complete repair (correct). Both observations describe accurate principles. *ASE Task Reference: A7 Domain B — Refrigeration System Component Diagnosis and Repair. Review subsection 7.2.*
6. A — Verify proper installation, verify clutch engagement, verify proper system pressures and temperatures, road test, and verify proper operation. Compressor service verification requires comprehensive approach. *ASE Task Reference: A7 Domain B — Refrigeration System Component Diagnosis and Repair. Review subsection 7.2.*
7. B — Address all findings: refill coolant, replace heater core, address contaminated refrigerant, replace drive belt, evacuate, recharge, and verify proper operation of both systems. Multiple

heating and A/C findings each contribute to symptoms. *ASE Task Reference: A7 Domain C — Heating, Ventilation, Engine Cooling, and A/C Air Distribution. Review subsection 7.3.*

8. D — Technician A only. Combined heating and A/C issues can have multiple coexisting causes because multiple components contribute to both systems. Addressing only the loudest symptom leaves other contributing causes unresolved. *ASE Task Reference: A7 Domain C — Heating, Ventilation, Engine Cooling, and A/C Air Distribution. Review subsection 7.3.*
9. C — Verify all repairs, verify proper heating operation, verify proper A/C operation, road test under varied conditions, and verify proper performance. Combined heating and A/C service verification requires comprehensive approach. *ASE Task Reference: A7 Domain C — Heating, Ventilation, Engine Cooling, and A/C Air Distribution. Review subsection 7.3.*
10. D — Address all findings: identify the source of water intrusion, address the cause, repair affected connectors, perform required service, clear DTCs, and verify proper operation. Multiple HVAC findings with water intrusion require source elimination plus comprehensive repair. *ASE Task Reference: A7 Domain D — Operating Systems and Related Controls. Review subsection 7.4.*
11. A — Verify all repairs, perform proper service procedures, clear DTCs, road test under varied conditions, and verify all symptoms resolved. Multi-domain HVAC service verification requires comprehensive approach. *ASE Task Reference: A7 Domain D — Operating Systems and Related Controls. Review subsection 7.4.*
12. B — Verify the symptom under matching conditions, identify the specific cause, address the marginal charge and worn lines, and verify proper operation. Intermittent A/C diagnosis requires symptom-matching conditions. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
13. C — Verify the symptom under matching conditions, monitor scan data, inspect for marginal connections or worn components, and identify the specific cause. Intermittent A/C diagnosis requires comprehensive systematic approach. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
14. A — Verify each sensor, address each fault, clear DTCs, verify climate control operation, and verify resolution. Multiple climate control findings each contribute to symptoms. Each sensor and actuator must be verified. *ASE Task Reference: A7 Domain D — Operating Systems and Related Controls. Review subsection 7.4.*
15. D — Both Technician A and Technician B. Climate control issues can have multiple coexisting causes (correct), and addressing all related findings is required for complete repair (correct). Both observations describe accurate principles. *ASE Task Reference: A7 Domain D — Operating Systems and Related Controls. Review subsection 7.4.*
16. B — Verify all repairs, verify sensor accuracy, verify actuator operation, clear DTCs, road test, and verify proper operation. Climate control service verification requires comprehensive approach

including sensors and actuators. *ASE Task Reference: A7 Domain D — Operating Systems and Related Controls. Review subsection 7.4.*

17. C — Verify the customer concern, follow manufacturer-specified diagnostic procedure with proper PPE, retrieve DTCs from all modules, perform required service, and verify proper operation. Hybrid HVAC service requires PPE, manufacturer specifications, and systematic approach. *ASE Task Reference: A7 Domain B — Refrigeration System Component Diagnosis and Repair. Review subsection 7.2.*
18. A — Both Technician A and Technician B. Hybrid HVAC service requires high-voltage isolation procedures (correct), and all related findings must be addressed (correct). Both observations describe accurate principles. *ASE Task Reference: A7 Domain B — Refrigeration System Component Diagnosis and Repair. Review subsection 7.2.*
19. D — Verify all repairs, restore the high-voltage system properly, verify proper operation, and verify resolution per the manufacturer's procedure. Hybrid HVAC service verification requires comprehensive approach. *ASE Task Reference: A7 Domain B — Refrigeration System Component Diagnosis and Repair. Review subsection 7.2.*
20. B — Address all findings: address marginal charge, address airflow issues, address cooling fan, address worn radiator, and verify proper operation under extreme conditions. Multiple extreme-temperature A/C findings each contribute to symptoms. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
21. C — Verify all repairs, verify proper operation under extreme conditions, road test, and verify proper performance. Extreme-temperature A/C service verification requires verification under extreme conditions. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
22. D — Address all findings: replace the evaporator, replace the cabin air filter, address contaminated refrigerant, evacuate, recharge with proper refrigerant, and verify proper operation. Multiple evaporator and odor findings each contribute to symptoms. *ASE Task Reference: A7 Domain B — Refrigeration System Component Diagnosis and Repair. Review subsection 7.2.*
23. A — Verify proper installation, verify proper seal integrity, evacuate, recharge with proper refrigerant amount, road test, and verify proper operation. Evaporator service verification requires comprehensive approach. *ASE Task Reference: A7 Domain B — Refrigeration System Component Diagnosis and Repair. Review subsection 7.2.*
24. B — Address all findings: replace worn O-rings, replace corroded lines, address contaminated oil, evacuate, recharge with proper refrigerant, and verify proper operation. Multiple leak findings each contribute to symptoms. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*

25. C — Verify the system is leak-free through proper testing, perform proper evacuation, recharge to specification, road test, and verify proper performance. Multi-leak service verification requires comprehensive testing. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
26. D — Address all findings: address the low charge, replace the failed switch, address the climate control fault, clear DTCs, and verify proper operation. Multiple A/C engagement findings each contribute to symptoms. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
27. A — Verify proper system charge, verify proper switch operation, verify proper compressor engagement, clear DTCs, and verify proper operation. A/C engagement service verification requires comprehensive approach. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
28. C — Address all findings: address heat pump efficiency, address PTC heater fault, clear DTCs, and verify proper operation per the manufacturer's procedure with proper PPE. EV cabin heating findings each contribute to symptoms. *ASE Task Reference: A7 Domain B — Refrigeration System Component Diagnosis and Repair. Review subsection 7.2.*
29. B — Verify all repairs, verify proper heat pump operation, verify proper PTC operation, road test, and verify proper operation. EV cabin heating service verification requires comprehensive approach. *ASE Task Reference: A7 Domain B — Refrigeration System Component Diagnosis and Repair. Review subsection 7.2.*
30. D — Identify all required relearn procedures, perform each manufacturer-specified procedure, clear DTCs, and verify proper operation of all HVAC functions. Multiple HVAC findings after battery replacement require relearn procedures. *ASE Task Reference: A7 Domain D — Operating Systems and Related Controls. Review subsection 7.4.*
31. B — Verify all relearn procedures completed, verify all HVAC functions, clear DTCs, road test, and verify proper operation. Post-battery-replacement HVAC service verification requires comprehensive approach. *ASE Task Reference: A7 Domain D — Operating Systems and Related Controls. Review subsection 7.4.*
32. A — Verify the update was completed successfully, contact the manufacturer for the appropriate response, perform recommended service, and verify proper operation. Post-update HVAC issues require manufacturer guidance. *ASE Task Reference: A7 Domain D — Operating Systems and Related Controls. Review subsection 7.4.*
33. C — Verify all repairs, verify successful update or rollback, verify all HVAC functions, clear DTCs, road test, and verify proper operation. Post-update HVAC service verification requires comprehensive approach. *ASE Task Reference: A7 Domain D — Operating Systems and Related Controls. Review subsection 7.4.*

34. D — Recover the contaminated refrigerant per the manufacturer's procedure, address the contamination cause, replace the worn components, evacuate, recharge with proper refrigerant, and verify operation. Refrigerant contamination service requires comprehensive approach. *ASE Task Reference: A7 Domain E — Refrigerant Recovery, Recycling, Handling, and Retrofit. Review subsection 7.5.*
35. B — Verify the system is properly serviced, verify the proper refrigerant type, verify proper performance, clear DTCs, and verify resolution. Refrigerant contamination service verification requires comprehensive approach. *ASE Task Reference: A7 Domain E — Refrigerant Recovery, Recycling, Handling, and Retrofit. Review subsection 7.5.*
36. A — Verify the symptom under matching temperature conditions, identify the specific cause, address all findings, and verify proper operation. Temperature-related HVAC diagnosis requires symptom-matching conditions. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
37. C — Verify all repairs, verify proper operation in the conditions producing the original symptom, clear DTCs, and verify proper operation. Temperature-related HVAC service verification requires verification under matching conditions. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
38. B — Identify the service-related cause, address all findings, perform proper service procedures, clear DTCs, and verify proper operation. Post-service A/C issues require consideration of the recent service. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
39. A — Verify all repairs, verify successful resolution of the original concern, road test, clear DTCs, and verify proper operation. Post-service A/C verification requires comprehensive approach. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
40. D — Verify the symptom during motion, perform wiggle testing during operation, address marginal connections, clear DTCs, and verify proper operation. Motion-related HVAC diagnosis requires testing during motion. *ASE Task Reference: A7 Domain D — Operating Systems and Related Controls. Review subsection 7.4.*
41. B — Verify all repairs, verify proper operation during motion, road test, and verify resolution. Motion-related HVAC service verification requires testing during motion. *ASE Task Reference: A7 Domain D — Operating Systems and Related Controls. Review subsection 7.4.*
42. C — Address all findings comprehensively: repair each component requiring service, perform proper service procedures, clear DTCs, road test, and verify all symptoms resolved. Multi-domain HVAC findings require comprehensive approach. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*

43. C — Verify all repairs, perform proper service procedures, clear DTCs, road test under varied conditions, and verify all symptoms resolved. Multi-domain HVAC service verification requires comprehensive approach. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
44. A — Verify the symptom under matching heat conditions, identify the specific cause, address all findings, perform proper service, clear DTCs, and verify proper operation. Heat-related HVAC diagnosis requires matching conditions. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
45. B — Verify all repairs, verify proper operation under matching heat conditions, road test under those conditions, and verify proper performance. Heat-related HVAC service verification requires testing under heat conditions. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
46. D — Address all findings: refill coolant, address radiator restriction, replace cooling fan, replace condenser, replace worn mounts, evacuate, recharge with proper refrigerant, and verify proper operation of both systems. Combined cooling and A/C findings each contribute to symptoms. *ASE Task Reference: A7 Domain C — Heating, Ventilation, Engine Cooling, and A/C Air Distribution. Review subsection 7.3.*
47. C — Verify all repairs, verify engine cooling operation, verify A/C operation, verify cooling fan operation, road test, and verify resolution. Combined cooling and A/C service verification requires comprehensive approach. *ASE Task Reference: A7 Domain C — Heating, Ventilation, Engine Cooling, and A/C Air Distribution. Review subsection 7.3.*
48. D — Inform the customer of all findings, document the wear pattern, and provide recommendations based on the manufacturer's interval and the customer's expected use. HVAC inspection recommendations support proper service planning. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
49. A — Inspect all relevant components, measure relevant specifications, record findings, identify required service, document actual service performed, and provide recommendations to the customer. HVAC inspection documentation requires comprehensive recording. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*
50. B — Test relevant components, verify performance and condition, evaluate against the manufacturer's interval, and provide recommendations based on test results, service interval, and the customer's expected use. HVAC service recommendations require comprehensive evaluation. *ASE Task Reference: A7 Domain A — A/C System Diagnosis and Repair. Review subsection 7.1.*