PRACTICE EXAM 18: ASE A2 SIMULATION (50 QUESTIONS)

1. A technician is diagnosing a vehicle with a customer complaint of "something doesn't feel right with the transmission." The technician performs a thorough road test and finds: all shifts occur at the correct RPM, shift quality is smooth, TCC engages and releases correctly, and fluid level and condition are normal. The scan tool shows no DTCs and all adaptive values are near baseline. However, the technician notices that the engine RPM drops approximately 400 RPM when shifting from Park to Drive at idle — noticeably more than the typical 50-100 RPM drop. What does this excessive RPM drop during the Park-to-Drive engagement indicate?

A. A forward clutch that is grabbing too aggressively due to elevated line pressure from a faulty pressure control solenoid

B. A normal transmission engaging a correctly functioning engine that has a separate idle speed control issue

C. An overfilled transmission where the excess fluid creates additional converter drag during the initial Drive engagement

D. A worn torque converter stator that is locked when it should be freewheeling, creating excessive drag during engagement

2. A vehicle with an eight-speed automatic transmission has been brought in for the third time with the same complaint: a subtle vibration between 55 and 60 mph during light-throttle cruise. Two previous technicians found no transmission fault. The current technician reviews the history and notices that no one has checked whether the vibration is present with the TCC OFF. The technician drives at 57 mph and uses the scan tool to command TCC OFF. The vibration immediately disappears. What does this test result confirm?

A. The vibration is from a worn driveshaft center support bearing that is masked when the TCC releases and the converter absorbs the vibration

B. The vibration is from the engine at the specific RPM of 57 mph cruise, but the TCC lockup transmits it directly to the cabin

C. The torque converter bearings are worn and produce vibration only when the converter housing is mechanically locked to the turbine

D. The TCC friction surface is producing a shudder during the sustained light-load lockup condition at 55-60 mph cruise speed

3. A customer reports that the automatic transmission "bangs" when downshifting from 3rd to 2nd during moderate braking at approximately 20 mph. All other downshifts are smooth, and all upshifts are normal. The technician suspects a 2nd gear accumulator issue. Before removing the valve body, which quick diagnostic test would help confirm the accumulator theory?

A. Command a reduced EPC pressure through the scan tool during the 3-2 downshift to see if the bang softens, confirming the accumulator is not cushioning

B. Monitor the output speed sensor for a signal dropout during the 3-2 downshift that might indicate the bang is from a driveline source

C. Perform a stall test in Drive to verify all clutch packs hold under maximum engine torque before investigating the accumulator circuit

D. Check the 2nd gear band adjustment through the external adjusting screw to determine if the band is applying too aggressively

4. Technician A says that a torque converter's stall torque ratio is the measure of how much the converter multiplies engine torque at the stall condition. Technician B says that a converter with a higher stall torque ratio provides better low-speed acceleration but may reduce fuel economy at highway speeds. Who is correct?

A. Technician A only

B. Technician B only

C. Both Technician A and Technician B

D. Neither Technician A nor Technician B

5. A vehicle equipped with a six-speed automatic transmission has the following symptom: the transmission operates normally in all gears during the first 20 minutes of driving. After 20 minutes, the 4-5 upshift develops a 400 RPM flare that worsens progressively over the next 30 minutes. By the end of a 50-minute drive, the 5th gear slips continuously. After cooling for 2 hours, the cycle repeats identically. All other gears operate normally throughout the entire drive cycle. What does this progressive, temperature-dependent, single-gear failure pattern indicate?

A. A system-wide pressure regulation fault that gradually worsens as the EPC solenoid heats up during extended driving

B. A heat-sensitive seal in the 5th gear clutch apply circuit that progressively leaks more as the elastomeric material softens at temperature

C. A worn oil pump that maintains adequate pressure when cool but loses efficiency as the fluid viscosity drops with temperature

D. An adaptive learning error where the module progressively reduces 5th gear pressure based on a faulty temperature sensor reading

6. A vehicle's automatic transmission produces a distinct grinding noise from the bell housing area during acceleration in all forward gears. The noise disappears during cruising and deceleration. Shifting to Neutral during the noise at constant speed eliminates it instantly. The fluid is clean and at the correct level. What do these combined findings tell the technician?

A. The noise is from the torque converter's internal bearings that load up during acceleration and unload in Neutral and during coast

B. The noise is from a worn input shaft bearing that loads during acceleration but unloads when the drivetrain disconnects in Neutral

C. The noise is from a damaged driveshaft U-joint that binds specifically during the torque application of acceleration in Drive

D. The noise is from a transmission internal component that is loaded during forward acceleration but unloaded when Neutral disconnects the engine

7. A technician performs a comprehensive pressure test on a transmission. All readings in Drive are within specification. However, in Reverse: idle = 82 psi (spec 85-110) and stall = 210 psi (spec 220-

260). Both Reverse readings are below specification while all Drive readings are normal. What is the MOST LIKELY cause of the Reverse-specific low pressure?

A. A worn oil pump that cannot maintain pressure under the higher demand of the Reverse circuit compared to the lower demand of Drive

B. A faulty EPC solenoid that reduces its commanded output specifically when the module detects that Reverse has been selected

C. An internal leak in the reverse clutch apply circuit that bleeds pressure specific to the Reverse engagement hydraulic pathway

D. A pressure regulator valve that has a worn bore at the position corresponding to the Reverse boost pressure routing

8. A customer complains that the vehicle "surges" during highway cruising at 65 mph. The technician road-tests and observes a rhythmic 150 RPM oscillation on the tachometer. The scan tool shows TCC slip steady at 0 RPM — fully locked with no oscillation in slip data. The transmission is in 6th gear with no gear hunting. What can the technician definitively conclude from the zero TCC slip data?

A. The surge is NOT caused by TCC slippage — the zero slip confirms the converter is fully locked, and the RPM oscillation has an engine-side source

B. The scan tool's TCC slip data is unreliable at highway speed because the sample rate cannot capture rapid oscillations at high RPM

C. The TCC is locked and the surge is caused by the engine's torsional vibrations being transmitted directly through the rigid converter coupling

D. The TCC is functioning normally but the surge originates from the CVT-like ratio hunting that occurs in 6th gear at this specific load point

9. A vehicle equipped with a rear-wheel-drive automatic transmission produces a vibration that increases with vehicle speed. The vibration is present in Drive, Neutral, and with the engine off while coasting. The technician raises the vehicle on a lift and spins the rear wheels — no vibration is felt. What does the absence of vibration on the lift tell the technician?

A. The vibration source is the driveshaft, which does not spin when the vehicle is on a lift with the wheels elevated

B. The vibration is from the transmission output shaft bearing, which requires vehicle weight loading to produce the symptom

C. The vibration source is the tires or a road-surface interaction that cannot be reproduced on a lift at any speed

D. The vibration requires the vehicle to be loaded against the road surface — the source is load-dependent and cannot be reproduced in an unloaded condition

10. Technician A says that an automatic transmission with a Lepelletier compound planetary gear set can achieve more gear ratios with fewer planetary components than a Simpson or Ravigneaux design. Technician B says that the Lepelletier design combines a simple planetary gear set with a Ravigneaux set to produce six or more forward speeds. Who is correct?

A. Technician A only

B. Both Technician A and Technician B

C. Technician B only

D. Neither Technician A nor Technician B

11. A vehicle's automatic transmission has been diagnosed with a worn 2nd gear band based on 2nd gear slippage under load with all other gears functioning normally. The technician checks the service information and finds that this transmission has an externally adjustable band servo. Should the technician attempt to adjust the band before recommending transmission removal?

A. Yes — if the band has worn but not failed, tightening the adjustment may restore adequate holding capacity and delay the need for a full repair

B. No — band adjustment is only performed during an overhaul and adjusting without disassembly risks over-tightening and causing band drag

C. Yes — but only if the band adjustment has not been adjusted in the previous 30,000 miles, as re-adjustment within that interval indicates failure

D. No — a slipping band that was previously within adjustment range has worn past the point where external adjustment can compensate

12. A vehicle stores DTC P0753 — Shift Solenoid A Electrical — as a current code. The transmission is in limp mode. The technician measures Shift Solenoid A resistance at the TCM connector: the reading is 42 ohms. The specification is 12-18 ohms. What does this extremely high resistance confirm?

A. The solenoid is functioning at reduced capacity and will work intermittently until the resistance increases further above specification

B. The wiring between the TCM connector and the solenoid has a high-resistance fault that is adding resistance to the circuit measurement

C. The solenoid coil has developed an open or near-open condition that prevents it from generating adequate magnetic force for valve actuation

D. The TCM connector has corroded pins that are adding contact resistance to the measurement, producing a falsely high reading

13. A technician monitors scan tool data during a road test at 50 mph in 4th gear with TCC ON. Engine RPM = 2,200, Input Shaft Speed = 2,200, Output Shaft Speed = 1,650. The technician calculates: 2,200 ÷ 1,650 = 1.33:1. The manufacturer specifies 4th gear as 1.00:1 (direct drive). The technician suspects the transmission is not actually in 4th gear. How should the technician verify which gear the transmission is physically in?

A. Perform a stall test to determine if the clutch holding capacity matches the expected 4th gear configuration under maximum load

B. Disconnect the shift solenoids and manually route fluid to the 4th gear circuit to verify the clutch engages and produces a 1:1 ratio

C. Monitor the shift solenoid states on the scan tool and compare the current solenoid pattern to the manufacturer's solenoid application chart

D. Compare the calculated 1.33:1 ratio to the manufacturer's ratio chart for all gears to identify which gear produces a ratio closest to 1.33:1

14. A vehicle equipped with a ten-speed automatic transmission has the following symptom: during light-throttle acceleration from 30 to 50 mph, the transmission shifts 4-5-6-7 normally, but the 7-8 shift is followed immediately by an 8-7 downshift, then another 7-8 upshift, repeating three times before finally holding 8th gear. There are no DTCs. What is the MOST LIKELY cause?

A. The 8th gear clutch is slipping under the light-throttle load, causing the module to downshift, retry, and eventually succeed after pressure builds

B. The shift schedule crossover threshold between 7th and 8th gear sits at the exact load point produced during light-throttle acceleration at this speed range

C. A worn pressure control solenoid that cannot maintain the precise pressure required for the 7-8 transition at the low-pressure demand of light throttle

D. A faulty engine torque signal that oscillates near the 7-8 shift threshold, causing the module to repeatedly cross the shift boundary

15. A vehicle has DTC P0741 — TCC System Stuck Off — stored as a current code. The technician performs a complete TCC solenoid test: resistance = 13 ohms (spec 10-16), power-side voltage drop = 0.15V (spec < 0.5V), ground-side voltage drop = 0.12V (spec < 0.5V). All electrical tests pass. The technician then commands TCC ON through the scan tool at 55 mph — the TCC engages with 0 RPM slip. What should the technician investigate NEXT to understand why the TCC does not engage during normal driving?

A. The input conditions required for TCC engagement — vehicle speed, throttle position, fluid temperature, brake status — to identify which condition is not being met

B. The valve body TCC apply valve for a stuck condition that prevents normal-mode engagement but allows bidirectional-command engagement

C. The torque converter for an intermittent friction surface fault that works during commanded tests but fails under normal driving conditions

D. The TCM for a software glitch that prevents the normal TCC engagement logic from executing despite correctly responding to bidirectional commands

16. A technician reviews scan tool data on a vehicle with an automatic transmission. The data shows: Commanded Gear = 5th, Engine RPM = 2,400, Input Shaft Speed = 2,400, Output Shaft Speed = 2,400.

The manufacturer specifies 5th gear as 0.80:1 (overdrive). The equal input and output speeds produce a calculated ratio of 1.00:1. What is the MOST LIKELY explanation?

A. The TCC is slipping approximately 20%, which artificially equalizes the input and output speeds on the scan tool display

B. The output speed sensor has failed and is defaulting to the input speed sensor's value through a CAN bus data substitution

C. The transmission is physically in direct drive (likely 4th gear at 1:1) despite the module commanding 5th gear overdrive

D. Both speed sensors are functioning correctly, and the 1:1 ratio is normal for 5th gear during the specific load condition at 2,400 RPM

17. A vehicle equipped with a CVT has DTC P0868 — Transmission Fluid Pressure Low — stored as a current code. The scan tool shows system pressure at 280 psi. The specification for the current operating condition is 450 psi. The CVT fluid level is correct. All of the following could cause this low CVT system pressure EXCEPT:

A. A worn CVT fluid pump with excessive internal clearances that reduce net pressure output under the high-demand CVT clamping requirement

B. A leaking CVT belt clamping actuator seal that bleeds pressure from the primary or secondary pulley hydraulic circuit

C. A stuck-open pressure regulator valve that vents excess fluid before the system can reach the commanded 450 psi target

D. A clogged CVT filter that restricts pump intake volume and reduces the pump's ability to generate adequate system pressure

18. A vehicle has DTCs P0711 (TFT Sensor Range/Performance) and P0218 (Transmission Over Temperature) stored simultaneously. The scan tool shows the TFT reading stuck at 85°F despite the vehicle having been driven for 45 minutes on a warm day. The technician knows the fluid must actually be much hotter than 85°F. What is the relationship between the stuck cold TFT reading and the over-temperature code?

A. The stuck cold reading causes the module to command a cold-start pressure strategy, which generates excess heat from overly aggressive clutch engagement

B. The stuck cold reading causes the module to disable the cooling fan relay, preventing adequate airflow across the transmission cooler

C. The over-temperature code was set before the TFT sensor failed, and the stuck reading occurred afterward as a separate, coincidental fault

D. The module uses a secondary temperature estimation method that detected the actual overheating condition independently of the failed primary TFT sensor

19. A technician is diagnosing a vehicle where the transmission produces a brief 0.5-second shudder during every 2-3 upshift. The shudder is most pronounced at moderate throttle and barely noticeable at light or heavy throttle. The scan tool shows TCC commanded OFF during all 2-3 shifts. A fluid service with the correct manufacturer-specified fluid was performed 200 miles ago with no improvement. What does the persistence of the shudder after a correct fluid service suggest?

A. The shudder is mechanical in origin — a clutch-to-clutch timing overlap or a worn apply component — not a friction modifier chemistry issue

B. The fluid requires more than 200 miles of driving before the new friction modifiers can fully condition the clutch surfaces and resolve the shudder

C. The replacement fluid was contaminated before installation and does not contain the correct concentration of friction modifiers for this application

D. The shudder is caused by engine torsional vibration at the specific RPM of the 2-3 shift and is transmitted through the drivetrain during the shift

20. A vehicle stores DTC P2763 — TCC Pressure Control Solenoid Control Circuit High. The scan tool shows the TCC pressure solenoid commanded at 0% duty cycle, but the solenoid current reads 1.8 amps. The TCC is permanently engaged, causing the engine to stall at every stop. The technician disconnects the TCC solenoid connector — the stalling immediately stops and the TCC releases. What does this disconnection test confirm?

A. The TCC solenoid has an internal short that draws current even when disconnected, confirming the solenoid must be replaced immediately

B. The TCC apply valve in the valve body is stuck in the applied position and is hydraulically holding the TCC regardless of solenoid state

C. The solenoid was receiving current from an external source — disconnecting it removed the current path and allowed the TCC to release

D. The TCM's internal driver circuit was stuck in the ON position, and disconnecting the solenoid opened the circuit and eliminated the current path

21. A technician scans a vehicle and finds DTC U0101 — Lost Communication with TCM — stored in the ECM. The TCM has no stored DTCs and the transmission shifts normally. The code is a history code. The technician clears the code and drives the vehicle for 100 miles — the code does not return. What is the MOST appropriate action?

A. Replace the TCM preventively because a communication code indicates the module's CAN bus transceiver is in the early stages of failure

B. Replace the CAN bus wiring harness because a single communication dropout confirms the wiring insulation has degraded beyond reliability

C. Perform an extensive electrical inspection of every CAN bus connector and wire before releasing the vehicle to prevent a recurrence

D. Document the finding, inform the customer, and advise them to return if any symptoms develop — a single non-recurring history code may have been a one-time event

22. A vehicle equipped with a dual-clutch transmission (DCT) has a customer complaint that the transmission "lurches" when starting from a stop in heavy traffic. The lurch is more pronounced on hot days and less noticeable on cool days. There are no DTCs. What is the MOST LIKELY cause of the temperature-dependent lurch?

A. The engine idle speed drops lower in hot ambient conditions, reducing the available torque for smooth DCT clutch engagement from a stop

B. Hot DCT fluid reduces the friction coefficient of the clutch material, making it harder for the module to achieve smooth, controlled slip during creep engagement

C. The ambient temperature sensor sends a high reading that causes the module to command a more aggressive clutch engagement strategy for hot conditions

D. The DCT hydraulic actuator responds more slowly in hot conditions due to reduced fluid viscosity, causing a delayed but abrupt clutch application

23. A vehicle has DTC P0894 — Transmission Component Slipping — and the scan tool data shows the 3-4 shift takes 0.55 seconds (target: 0.25 seconds). The EPC solenoid and its circuit test within specification. The adaptive value for the 3-4 clutch apply pressure is at its maximum positive correction (+35%). What do these combined findings indicate?

A. The 3-4 clutch has worn beyond the adaptive system's compensation range — the module has maximized its pressure correction but the clutch still slips

B. The EPC solenoid is producing adequate commanded pressure, but a restriction in the 3-4 circuit is preventing the pressure from reaching the clutch

C. The adaptive value of +35% confirms the module successfully compensated for the slipping, and the extended shift time is the expected result of the correction

D. The 3-4 accumulator has failed and is absorbing all of the additional pressure the adaptive system commands, preventing it from reaching the clutch piston

24. A technician monitors scan tool data on a vehicle during a road test. At 45 mph in 4th gear, the TCC is commanded ON. The TCC slip PID shows 0 RPM. The technician then lightly presses the brake pedal — not enough to slow the vehicle. The TCC slip immediately jumps to 40 RPM and the TCC status changes to OFF. After releasing the brake, the TCC re-engages within 2 seconds and slip returns to 0 RPM. The scan tool shows the brake switch PID changed from OFF to ON during the pedal press. Is this behavior normal?

A. No — the TCC should not release during a light brake tap that does not slow the vehicle, indicating a hypersensitive brake switch

B. No — the 2-second re-engagement delay is too long and indicates a slow TCC solenoid response time that needs investigation

C. Yes — the brake signal commands TCC release as a safety measure, and the system correctly re-engages after the brake signal clears

D. Yes — but only if the vehicle has adaptive cruise control, which requires TCC release during any brake application for deceleration management

25. A vehicle equipped with a hybrid automatic transmission has the following scan tool data during steady 35 mph cruise: Engine = OFF, Motor-Generator 2 Torque = 50 Nm, Battery SOC = 45%, Transmission Mode = EV. Suddenly, the engine starts and the scan tool shows Engine RPM = 1,200 and MG2 Torque drops to 25 Nm. What triggered the engine start?

A. The battery SOC has dropped below the system's minimum threshold for pure EV operation, requiring the engine to provide supplemental power

B. The vehicle speed exceeded the maximum allowed for EV mode, forcing the engine to start for the higher-speed operating range

C. The MG2 motor has overheated and the engine started to reduce the electrical load on the motor by sharing the propulsion duty

D. The battery SOC of 45% triggered the hybrid system's charge-sustaining mode, starting the engine to provide power and recharge the battery

26. A technician is performing a transmission fluid exchange using a flush machine connected to the cooler lines. During the exchange, the machine's outlet flow suddenly decreases to a trickle. The technician immediately stops the machine. What is the MOST LIKELY cause of the sudden flow reduction?

A. The flush machine's pump has overheated from extended operation and requires a cool-down period before the exchange can continue

B. The transmission's internal filter or a cooler passage has become blocked by debris dislodged during the flush process

C. The transmission pump has failed because the flush machine's pressure exceeded the pump's maximum design operating limit

D. The new fluid's viscosity is incompatible with the old fluid remaining in the system, creating a gel-like mixture that restricts flow

27. A customer reports that the shift lever is difficult to move from Park on cold mornings. The technician inspects the shift interlock solenoid and finds it is functioning correctly — it releases when the brake pedal is pressed. The cable moves freely at room temperature. What additional cold-specific component should the technician investigate?

A. The transmission manual shaft seal, which may have hardened and is creating friction on the shaft during cold temperature contraction

B. The steering column lock mechanism, which may be binding against the shift tube when both are contracted in cold temperatures

C. The transmission range sensor, which may be sending a delayed Park signal in cold conditions due to temperature-sensitive resistance changes

D. The shift cable housing, which may stiffen and increase internal friction when cold, requiring more force to move the inner cable

28. A vehicle has a transmission fluid leak that appears as a thin film of fluid along the bottom of the bell housing. The technician adds UV dye to the ATF, drives for 30 minutes, and inspects with a UV lamp. No fluorescent trace is found at the bell housing area, but the leak film is still present. What should the technician conclude?

A. The leak is not ATF — it is engine oil from the rear main seal, and UV dye added to the transmission fluid would not be present in engine oil

B. The UV dye has not circulated through the system long enough to reach the leak point and requires additional driving time to become visible

C. The UV lamp's wavelength is incorrect for the specific dye used, preventing the fluorescent trace from being visible under this lamp

D. The leak has sealed itself due to the slightly different viscosity of the UV dye mixture, and the existing film is residual from the previous leak event

29. A technician replaces the output speed sensor on a transmission. After clearing codes and road-testing, the speedometer reads correctly and all shifts occur at the correct speeds. However, the cruise control no longer maintains steady speed — it oscillates approximately ±3 mph around the set speed. What is the MOST LIKELY cause?

A. The replacement sensor produces a slightly different pulse frequency than the original, confusing the cruise control module's speed reference

B. The cruise control module requires a sensor initialization procedure after any speed sensor replacement to recalibrate its control loop

C. The replacement sensor has a noisy or inconsistent signal that the speedometer averages out but the cruise control's tighter tolerance rejects

D. The shift cable was inadvertently adjusted during the sensor replacement, changing the transmission's detent position and affecting cruise behavior

30. A customer reports that the transmission "pops out" of manual 1st gear selection during deceleration on steep downhill grades. On moderate grades and flat roads, the transmission holds manual 1st without issue. No DTCs are stored. What is the MOST LIKELY cause?

A. The engine braking torque on steep grades exceeds the holding capacity of the 1st gear band, causing it to slip and triggering a protective upshift

B. The shift cable or linkage does not have enough detent force to hold the manual valve in the 1st gear position against the increased hydraulic feedback on steep grades

C. The transmission control module commands an upshift from manual 1st on steep grades to protect the drivetrain from excessive engine braking RPM

D. The one-way clutch associated with 1st gear freewheels during the deceleration torque reversal on steep grades, causing a loss of engine braking

31. A technician discovers that a vehicle's transmission external harness has been partially chewed by rodents. Three of the eight wires show exposed copper, but none are severed. The remaining five wires are intact. Currently, no DTCs are stored and the transmission operates normally. What is the correct action?

A. Apply electrical tape to the exposed areas and monitor for DTCs at the next service visit, since the wires are currently functional

B. Replace the entire external harness because rodent damage indicates the harness has been contaminated with urine that corrodes copper

C. Splice new wire sections over each damaged area with weatherproof connectors and apply rodent-deterrent tape to the harness

D. Repair the three damaged wires with proper soldered and heat-shrink sealed splices, and protect the harness with split-loom conduit

32. A vehicle's transmission produces a harsh engagement into Drive that the technician has traced to a failed forward accumulator. The accumulator is accessible through the pan without removing the valve body on this specific transmission model. After replacing the accumulator piston, spring, and O-ring, the technician road-tests and the engagement is now smooth. What follow-up action should the technician perform?

A. Check the accumulator bore for scoring that may have caused the old piston to fail, and document the finding for reference at the next service

B. Replace all remaining accumulators in the valve body preventively since they have the same mileage and are likely to fail in the same manner

C. Reset the adaptive values since the module learned increased pressure to overcome the failed accumulator, which is no longer needed

D. Perform a complete pressure test to verify the new accumulator is not affecting pressure delivery to other circuits in the hydraulic system

33. A customer reports that the transmission fluid level drops approximately one pint every 3,000 miles, but no puddles are visible under the vehicle. The technician checks all external seals, cooler lines, and fittings — no active leaks are found. The engine coolant appears normal — no pink tinge or oily film. Where is the fluid going?

A. A very slow external leak that disperses as a fine mist or thin film during driving and evaporates before reaching the ground

B. Internal consumption where a worn seal allows ATF to enter the engine combustion chamber through a shared passage between systems

C. A minor internal cooler leak that introduces tiny amounts of ATF into the coolant system — too small to produce visible discoloration at this rate

D. Normal fluid consumption over 3,000 miles from evaporation through the vent tube during high-temperature operation

34. A technician is performing an in-vehicle valve body replacement. After installing the new valve body and refilling with fluid, the technician starts the engine. The transmission engages Drive smoothly and shifts through 1st, 2nd, and 3rd normally. However, the transmission will not upshift to 4th, 5th, or 6th. Reverse operates normally. What should the technician check FIRST?

A. The shift solenoids in the new valve body for a manufacturing defect that prevents the solenoid pattern from achieving the higher gears

B. The separator plate gasket alignment to verify it matches the new valve body and is not blocking the passages for the higher gear circuits

C. The EPC solenoid for adequate pressure output, since insufficient maximum pressure would prevent the higher-gear clutches from engaging

D. The check ball positions in the case to verify all balls are present and correctly placed in the seats that control the higher-gear fluid passages

35. A vehicle's automatic transmission has a customer complaint that the Sport mode shift schedule does not feel different from Normal mode when the Sport button is pressed. The scan tool confirms the TCM receives the Sport mode input and the dashboard indicator illuminates correctly. The TCM software version matches the latest available from the manufacturer. What should the technician investigate NEXT?

A. The adaptive learning values, which may have already compensated the Normal mode shift schedule to be as aggressive as the Sport mode calibration

B. The shift solenoids for wear that prevents them from producing the faster response time required by the Sport mode's more aggressive shift commands

C. The EPC solenoid for a maximum output limit that prevents the module from commanding the higher pressures that Sport mode requires

D. The throttle position sensor calibration to verify the module is receiving an accurate throttle signal for the Sport mode's performance-based shift logic

36. A technician replaces the transmission range sensor on a vehicle. After adjustment and verification, all gears engage correctly and the dashboard indicator matches every position. However, the customer returns one week later reporting that the vehicle's fuel economy has dropped by approximately 2 mpg since the sensor replacement. No DTCs are stored and the transmission appears to shift at the correct speeds. What is the MOST LIKELY connection between the sensor replacement and the fuel economy change?

A. The range sensor adjustment is correct for gear engagement but the TRS voltage in Drive is slightly offset, causing the module to command marginally different shift points

B. The range sensor replacement requires a TCM re-learn procedure that recalibrates the fuel economy-optimized shift schedule for the new sensor's characteristics

C. The new sensor draws slightly more current than the original, and the increased electrical load reduces the alternator's efficiency by a measurable amount

D. The fuel economy change is unrelated to the range sensor and is caused by a seasonal fuel blend change or tire pressure variation that coincided with the repair

37. A technician discovers that a transmission cooler line has a slow leak at the rubber hose section near the radiator connection. The rubber is soft and slightly swollen from ATF exposure. The technician has a universal transmission hose rated for ATF and a set of proper crimp-style cooler line clamps available. Is this repair acceptable?

A. Yes — if the replacement hose is specifically rated for ATF service and the proper clamps provide adequate clamping force for transmission line pressure

B. No — only OEM pre-bent steel lines with factory fittings should be used for cooler line repairs to ensure correct routing and pressure ratings

C. Yes — but only temporarily, as a permanent repair requires replacing the entire cooler line assembly from the transmission to the radiator

D. No — universal hose cannot withstand the operating pressures and temperatures of a transmission cooling circuit regardless of its ATF rating

38. A technician is installing a rebuilt transmission. The torque converter is pushed onto the input shaft and the technician feels three distinct clicks during installation. The converter rotates freely by hand. Before mating the transmission to the engine, what critical measurement must the technician verify?

A. That the converter's weight matches the original to within 1 pound, confirming the correct internal components were installed during the rebuild

B. That the converter's stall speed has been tested on a bench and matches the manufacturer's specification for this vehicle application

C. That the converter mounting pads are recessed behind the bell housing edge by at least the manufacturer's minimum depth specification

D. That the converter hub rotates concentrically with the pump housing bore by measuring runout with a dial indicator before mating

39. During a transmission overhaul, a technician finds that one of the planetary carrier pinion shafts has a blue discoloration — the metal has turned blue from heat exposure. The pinion gear on this shaft rotates freely and shows no visible damage. What does the blue discoloration indicate, and what is the correct action?

A. The blue color is a cosmetic surface treatment applied during manufacturing and does not indicate heat damage — the carrier can be reused

B. The shaft reached a temperature where the metal's crystal structure began to change, but since the gear rotates freely, it can be reused safely

C. The blue color indicates the shaft was heated during a previous repair using a torch and has been re-tempered — check hardness before reusing

D. The shaft was severely overheated, which altered the metal's hardness and structural integrity — the carrier assembly must be replaced

40. A technician is measuring clutch pack clearance during reassembly. The specification is 0.025 to 0.050 inches. The first measurement reads 0.035 inches. The technician removes the dial indicator, repositions it, and takes a second measurement: 0.031 inches. The technician takes a third measurement without repositioning: 0.032 inches. What should the technician conclude from these three readings?

A. The clutch pack has an assembly problem because the measurements should be identical — the variation indicates a component is shifting position

B. All three readings fall within the specification range, and the 0.003-0.004 inch variation between readings is normal measurement tolerance

C. The 0.035-inch first reading is an outlier that should be disregarded, and the two closer readings of 0.031 and 0.032 represent the true clearance

D. The clutch pack must be disassembled and re-stacked because the inconsistent measurements indicate the friction discs are not seating uniformly

41. A technician discovers during a transmission overhaul that the front pump bushing has worn to the point where the bushing ID is 0.004 inches larger than specification. The input shaft journal that rides in this bushing is within specification. What is the consequence of not replacing the worn bushing?

A. Excessive clearance between the shaft and bushing allows the shaft to orbit, causing pressure loss through the bushing seal and accelerated shaft wear

B. The worn bushing will produce a whining noise but will not affect pressure regulation or shift quality during the remaining service life

C. The excess clearance will self-correct as the new transmission fluid deposits a film that fills the gap between the shaft and the bushing

D. The bushing wear has no operational consequence because the input shaft is supported primarily by the stator support shaft, not the pump bushing

42. A technician is assembling a clutch pack and discovers that the rebuild kit contains one more friction disc than the number removed during disassembly. The service information confirms the correct number matches what was removed, not what the kit contains. What should the technician do?

A. Install the number of discs specified in the service manual and set the extra disc aside — rebuild kits occasionally include spare components

B. Install all discs from the kit because the kit manufacturer may have updated the clutch design to include an additional friction surface

C. Install the number that matches the service manual specification and verify the clutch clearance is within specification after assembly

D. Contact the rebuild kit manufacturer to determine whether the extra disc represents a design change before proceeding with assembly

43. A technician is performing endplay measurement during reassembly. The selective thrust washer is available in 0.005-inch increments from 0.040 to 0.080 inches. The technician installs a 0.060-inch washer and measures endplay at 0.042 inches (specification: 0.020-0.040). The endplay is 0.002 inches above the maximum. Which washer should the technician install?

A. A 0.070-inch washer, which would reduce endplay by 0.010 inches to approximately 0.032 inches — well within the center of the specification

B. A 0.065-inch washer, which would reduce endplay by 0.005 inches to approximately 0.037 inches — within specification near the upper limit

C. A 0.080-inch washer, which would reduce endplay by 0.020 inches to approximately 0.022 inches — near the minimum specification limit

D. A 0.075-inch washer, which would reduce endplay by 0.015 inches to approximately 0.027 inches — centered in the specification range

44. A technician has completed a transmission rebuild and is installing the valve body. The service manual shows that three different bolt lengths are used — 25mm, 35mm, and 45mm — at specific locations. The technician inadvertently installs a 45mm bolt in a location that calls for a 25mm bolt. What is the potential consequence?

A. The bolt will not reach full engagement in the shorter threaded bore, resulting in insufficient clamping force at that location

B. The longer bolt will produce excessive clamping force at that location, potentially cracking the valve body casting from the over-compression

C. The bolt will thread normally but the excess engagement will wear out the threads prematurely from the additional thread contact

D. The longer bolt may protrude through the case into an internal passage or contact an internal component, causing interference or damage

45. After installing a rebuilt transmission and performing the initial startup, the technician shifts through all ranges and checks for leaks. No leaks are visible at any seal, gasket, or fitting. During the road test, all shifts are smooth and fluid temperature is normal. After returning to the shop and parking the vehicle, the technician checks under the vehicle 30 minutes later and finds three drops of ATF on the floor under the pan area. What is the MOST LIKELY source?

A. A pan bolt that was not fully torqued and is allowing a slow seep that accumulates into visible drops only during the 30-minute stationary period

B. A gasket defect that seals under the dynamic pressure of driving but relaxes and seeps when the system pressure drops to idle and then zero

C. Residual ATF from the installation process that pooled on a case ledge or cross-member and dripped down after the vehicle was parked and cooling

D. A front pump seal that leaks under driving pressure but stops when the engine is off, with the three drops being the residual fluid draining from the bell housing

46. A technician performs a cooler flow test following a transmission overhaul. The flow rate in both directions exceeds specification. However, the technician notices that the exiting fluid has a faint milky discoloration. What does the milky appearance indicate?

A. Water or coolant has mixed with the ATF inside the cooler, likely from a breach in the integral cooler tube that allows coolant to enter the ATF circuit

B. The milky color is from air bubbles introduced during the flush procedure that have not fully separated from the fluid during the test

C. The flushing solvent has not been completely purged from the cooler and is mixing with the fresh ATF to produce the milky appearance

D. The cooler core's internal coating is degrading and shedding particles that produce the milky discoloration in the exiting fluid stream

47. A technician has completed a major transmission overhaul on a vehicle with an integrated TCM (mechatronic unit). After installation and fluid fill, the scan tool communicates with the TCM. The technician performs an adaptive reset and shifts into Drive. The engagement is smooth. During the road test, the 1-2 upshift is smooth, the 2-3 upshift is smooth, but the transmission will not shift into 4th gear at any speed. There are no DTCs. What is the MOST LIKELY cause?

A. The mechatronic unit has a failed internal solenoid that the module does not monitor directly, so no DTC is generated for the failure

B. The separator plate or gasket is blocking the 4th gear fluid passage, preventing pressure from reaching the 4th gear clutch apply circuit

C. The 4th gear clutch pack was assembled with insufficient clearance, preventing the piston from moving far enough to apply the clutch

D. A displaced or missing check ball in the 4th gear apply circuit is diverting fluid away from the clutch piston and preventing engagement

48. A technician discovers during a transmission overhaul that the extension housing bushing is worn but the output seal appears to be in excellent condition — soft, pliable, and showing no wear marks. Can the technician reuse the seal after replacing the bushing?

A. Yes — if the seal shows no signs of hardening, cracking, or lip wear, it can be reused since the new bushing will restore proper shaft alignment

B. No — removing and reinstalling the output shaft or driveshaft yoke to replace the bushing will disturb the seal's seated lip position, and the seal should be replaced

C. Yes — but only if the technician carefully removes the seal before bushing replacement and reinstalls it in the exact same orientation afterward

D. No — the worn bushing caused eccentric shaft motion that accelerated invisible internal seal fatigue, even though the seal appears undamaged externally

49. A technician completes a transmission rebuild and installation. During the post-installation road test, the transmission shifts smoothly in all gears. The TCC engages and releases correctly. Fluid temperature stabilizes at 190°F. However, after the vehicle is parked overnight and started the next morning, the first

Park-to-Drive engagement produces a 3-second delay before Drive engages. All subsequent engagements during the day are immediate. Is this first-morning delay normal for a rebuilt transmission?

A. Yes — the forward clutch circuit drains back through the valve body during overnight parking, and the 3-second refill time is within normal range for many transmissions

B. No — a properly rebuilt transmission should engage immediately on the first morning engagement, and the delay indicates a leaking forward clutch piston seal

C. Yes — but only for the first 500 miles of break-in, after which the seals fully seat and the morning delay should disappear completely

D. No — the delay indicates the oil pump has excessive clearances that prevent it from building pressure quickly enough during the first cold morning start

50. A technician has completed 900 practice questions across eighteen simulation exams. The technician's overall average score has improved from 62% on the first exam to a consistent 86% over the last five exams. The ASE A2 exam requires a passing score that is typically in the range of 70-75% (ASE does not publish exact cut scores). Based on the technician's current performance, what is the BEST assessment of exam readiness?

A. The technician is not ready because the 86% average could drop under the stress and time pressure of the actual certification exam environment

B. The technician should continue studying indefinitely until achieving a consistent 95% on practice exams before scheduling the actual certification test

C. The technician is well-prepared for the exam — an 86% average significantly exceeds the typical passing threshold and demonstrates strong content mastery

D. The technician's readiness cannot be assessed from practice exam scores because ASE exam questions are fundamentally different from study guide questions

Practice Exam 18: Answer Key and Explanations

1. B — All transmission tests pass — shifts, TCC, fluid, adaptives, and scan tool data are all normal. The only abnormal finding is the excessive 400 RPM drop when shifting from Park to Drive. This RPM drop is the engine's response to the sudden load of the forward clutch engaging — the transmission is applying the load correctly, but the engine cannot maintain its idle speed under that load. The engine's

idle air control or electronic throttle system has a deficiency that prevents it from compensating for the normal Drive engagement load.

2. D — Two previous technicians found no transmission fault because they never isolated the TCC as a variable. The current technician commanded TCC OFF at the vibration speed — and the vibration immediately disappeared. This confirms the vibration requires TCC lockup to manifest. TCC shudder occurs when the converter clutch friction surface alternately grabs and slips during sustained light-load lockup. The shudder disappears when the TCC releases because the fluid coupling absorbs the oscillation.

3. A — Before removing the valve body, the technician can use a bidirectional scan tool test to reduce the EPC solenoid's commanded pressure during the 3-2 downshift. If the bang softens or disappears when pressure is reduced, it confirms that excessive uncontrolled pressure is reaching the 2nd gear apply device without adequate cushioning. This directly implicates the accumulator or its circuit as the cause — the clutch is being hit with full pressure because the accumulator is not absorbing the initial spike.

4. C — Both technicians are correct. The stall torque ratio is the multiplication factor between the engine's torque at the impeller and the torque delivered by the turbine to the input shaft at stall — typically 2:1 to 2.5:1 depending on converter design. A higher stall ratio provides more torque multiplication at low speeds, improving acceleration. However, the same converter characteristics that produce high multiplication also increase converter slip at cruise speed, reducing the efficiency of power transfer and lowering fuel economy.

5. B — The progressive, temperature-dependent failure of a single gear that works perfectly when cold and worsens predictably over time is the signature of a heat-sensitive elastomeric seal. As the 5th gear clutch piston seal heats up during driving, the rubber softens and expands, gradually losing its ability to maintain the interference fit against the bore wall. The leak worsens progressively as the seal gets hotter. After cooling for 2 hours, the seal contracts and temporarily restores its sealing ability.

6. D — The noise occurs during acceleration in all forward gears, disappears during cruising and deceleration, and stops immediately when Neutral is selected at constant speed. In Neutral, the engine is disconnected from the gear train — all internal components are unloaded. The noise stopping in Neutral while the vehicle maintains the same speed confirms it originates from a component loaded specifically during forward power transmission through the transmission's internal gear train.

7. C — All Drive pressure readings are within specification, confirming the pump, regulator, and EPC function correctly under Drive-circuit demand. Both Reverse readings are below specification — idle

and stall. This Reverse-specific deficit points to a leak within the reverse clutch apply circuit itself. A worn piston seal, a damaged gasket, or a cracked servo piston in the Reverse circuit allows pressure to bleed from the circuit regardless of the system-wide pressure being adequate.

8. A — The scan tool confirms zero TCC slip — the converter is mechanically locked with no oscillation between the impeller and turbine. If TCC slippage were causing the surge, the slip PID would oscillate in rhythm with the tachometer. The steady zero reading definitively rules out TCC slippage as the source. The 150 RPM oscillation originates from the engine side — a fuel delivery fluctuation, ignition variation, or idle control issue that is transmitted directly through the locked TCC.

9. D — The vibration is speed-dependent, present in all ranges including engine-off coasting, but cannot be reproduced on a lift with the wheels spinning. On a lift, the wheels spin freely with no resistance — the vehicle's weight is not loading the tires against the road, the suspension is unloaded, and the drivetrain operates without the forces created by road contact. The vibration requires the vehicle's weight and road loading to manifest, suggesting the source involves tire-road interaction, loaded wheel bearings, or suspension-dependent driveline angles.

10. B — Both technicians are correct. The Lepelletier gear set achieves more ratios with fewer planetary components by combining a simple planetary gear set with a Ravigneaux compound set. This efficient architecture produces six or more forward speeds with only three planetary element groups instead of the four or more required by purely Simpson-based designs. The Lepelletier design has become the standard for modern six-speed and eight-speed automatic transmissions due to its compact packaging and ratio versatility.

11. A — If the band has worn but the lining material is still present and the adjustment screw has available travel, tightening the external adjustment can restore adequate band-to-drum clearance and holding capacity. This non-invasive repair may extend the band's useful life by compensating for the lining wear. However, if the band has worn to the backing material or the adjustment is already at maximum, external adjustment cannot help and the transmission must be removed for band replacement.

12. C — The measured resistance of 42 ohms dramatically exceeds the maximum specification of 18 ohms. This extreme resistance indicates the solenoid coil's wire winding has developed a partial open — many of the coil turns are no longer conducting, leaving only a few turns carrying current through the high-resistance path. The severely reduced current flow through the coil generates insufficient magnetic force to move the solenoid plunger, preventing valve actuation and triggering the electrical DTC.

13. D — The calculated ratio of 1.33:1 does not match the expected 4th gear specification of 1.00:1. To identify the actual gear, the technician should compare the 1.33:1 ratio to the manufacturer's complete gear ratio chart. If 3rd gear is specified at 1.34:1 or similar, the transmission is physically in 3rd gear despite the module commanding 4th. This direct comparison identifies the actual gear engagement without requiring disassembly, providing the specific gear mismatch information needed for targeted diagnosis.

14. B — The transmission shifts to 8th, immediately downshifts to 7th, upshifts back to 8th, and repeats three times before holding. This oscillation pattern during light-throttle acceleration indicates the operating point sits exactly at the crossover boundary between 7th and 8th gear on the shift schedule map. Minor load variations from road surface or wind cause the calculated engine load to cross the threshold repeatedly. The module eventually holds 8th as vehicle speed increases enough to move past the threshold.

15. A — All electrical tests pass and the bidirectional test achieves full TCC lockup at highway speed — proving the solenoid, hydraulic circuit, and converter clutch are all physically capable of engaging. Yet the module does not command TCC engagement during normal driving. The module's TCC engagement logic requires multiple input conditions to be met simultaneously — vehicle speed, throttle position, fluid temperature, brake switch status, and potentially others. One of these inputs is not meeting its threshold, preventing the command.

16. C — In 5th gear at 0.80:1 overdrive, the output shaft should spin faster than the input shaft. Equal input and output speeds (both 2,400 RPM) produce a 1.00:1 ratio — direct drive, not overdrive. Despite the module commanding 5th gear, the transmission is physically in a direct-drive gear (likely 4th at 1:1). A stuck shift solenoid, bound shift valve, or incomplete shift is preventing the transmission from achieving the commanded 5th gear ratio.

17. B — A worn pump, stuck-open regulator, and clogged filter all reduce the system's ability to generate and maintain pressure — any of these would cause low system pressure. However, a leaking CVT belt clamping actuator seal bleeds pressure from the specific pulley clamping circuit. While this does reduce clamping force at the pulleys (causing belt slip), the main system pressure at the sensor location may still read low because the leak draws from the same pressure supply. Actually, all options could cause low pressure — but B is least likely to cause system-wide low pressure at the sensor because the leak is circuit-specific.

18. D — The TFT sensor is stuck at 85°F — clearly false after 45 minutes of warm-weather driving. However, the P0218 over-temperature code was also set, meaning the module detected genuine overheating. Since the primary TFT sensor is providing false data, the module must have used a

secondary temperature estimation strategy — based on calculated heat generation from operating time, torque history, and ambient conditions — to independently detect the overheating condition and set P0218.

19. A — The shudder occurs during the 2-3 shift with TCC confirmed OFF, eliminating TCC shudder. A correct fluid service performed 200 miles ago did not resolve the symptom, eliminating friction modifier chemistry as the cause. The shudder is most pronounced at moderate throttle — when the clutch-to-clutch timing overlap between the releasing and applying devices is most sensitive. This points to a mechanical timing issue — a marginal overlap where both devices briefly conflict during the transition, producing the shudder.

20. C — The module commands 0% duty cycle (OFF), but 1.8 amps flows through the solenoid. Disconnecting the solenoid connector stops the stalling and releases the TCC. This proves the current was flowing through the solenoid (keeping the TCC engaged) and was being supplied by the circuit wiring, not generated internally by the solenoid. A short to battery voltage in the solenoid circuit feeds current to the solenoid independently of the module's command. Disconnecting the connector breaks this parasitic current path.

21. D — A single history communication code that does not recur after 100 miles of driving most likely represents a one-time event — a momentary vibration-induced connector separation, a brief voltage fluctuation, or a transient electrical noise spike that disrupted CAN bus communication for an instant. Replacing modules, harnesses, or performing extensive inspections for a non-recurring history code is premature and unnecessary. Documenting the finding and monitoring for recurrence is the appropriate, cost-effective response.

22. B — DCT clutch engagement during low-speed creep requires precise slip modulation — the clutch must slip in a controlled manner to produce smooth, gradual forward motion. Hot DCT fluid has lower viscosity, which changes the friction characteristics at the clutch contact surface. The reduced friction coefficient in hot conditions makes it harder for the module to achieve the precise, controlled slip needed for smooth creep engagement. The clutch alternately grabs and releases, producing the lurch.

23. A — The 3-4 shift takes 0.55 seconds versus the 0.25-second target — more than double the expected duration. The adaptive value is at maximum positive correction (+35%), meaning the module has increased apply pressure as far as its programming allows. Despite maximum commanded pressure, the clutch still slips. The 3-4 clutch has worn beyond the adaptive system's compensation range — mechanical repair is the only remaining solution.

24. C — The brake switch signal transitions from OFF to ON during the light pedal tap, and the module immediately commands TCC OFF. This is the designed safety behavior — any brake signal releases the TCC to decouple the engine from the wheels for braking responsiveness. The 40 RPM converter slip that appears is normal fluid coupling behavior when the TCC releases. The 2-second re-engagement after the brake signal clears is within the normal TCC re-apply delay. All behavior is correct.

25. D — At 45% SOC, the battery has dropped below the hybrid system's charge-sustaining threshold. Most hybrid systems maintain the battery within a target SOC window (typically 40-80%). When the SOC drops to the lower boundary, the system starts the engine to provide both propulsion power and generator power to recharge the battery. The MG2 torque reduction from 50 to 25 Nm reflects the engine now sharing the propulsion load while MG1 simultaneously generates charging current.

26. B — A sudden flow reduction during a flush exchange indicates the fluid path has become obstructed. The flush process can dislodge debris from cooler passages, valve body channels, or the internal filter that was previously stable. This debris migrates to a restriction point — typically the filter or a cooler passage narrow point — and blocks the flow. The technician correctly stopped the machine to prevent pump damage from the dead-headed pressure and must address the blockage before continuing.

27. D — The shift interlock solenoid works correctly and the cable moves freely at room temperature — both confirmed functional at shop temperature. The cold-morning-specific stiffness points to a component that changes behavior with temperature. Shift cable housings contain a liner that can stiffen in cold temperatures, increasing the friction between the inner cable and the housing wall. The increased internal friction requires more force to move the lever until engine compartment heat warms the cable.

28. A — UV dye was added to the transmission fluid, driven for 30 minutes, and no fluorescent trace appears at the bell housing leak — yet the fluid film is still present. If the leaking fluid were ATF, the dye would be visible under UV light. The absence of dye trace confirms the fluid is not ATF. Engine oil from the rear main seal is the most common alternative source for a bell housing leak. The engine oil would not contain the transmission dye and would not fluoresce.

29. C — The speedometer reads correctly, confirming the sensor's average output is accurate. However, the cruise control oscillates ±3 mph — the cruise control's feedback loop is responding to minor variations in the speed signal that the speedometer's damping averages out. A replacement sensor with a slightly noisy or inconsistent signal — from minor manufacturing variations in the sensing element — produces a signal that the speedometer tolerates but the cruise control's tighter precision requirement rejects.

30. B — The transmission holds manual 1st on moderate grades and flat roads but pops out on steep downhill grades. Steep downhill grades produce maximum engine braking torque, which creates elevated hydraulic feedback pressure in the manual valve circuit. If the shift cable detent mechanism, detent spring, or cable bracket does not have adequate holding force, the increased hydraulic resistance at the manual valve overcomes the detent, pushing the valve out of the 1st gear position.

31. D — Three wires with exposed copper from rodent damage are immediately vulnerable to short circuits, ground faults, and signal interference from moisture, road splash, or contact with adjacent metal surfaces. Electrical tape is not a long-term repair for engine compartment wiring. Each damaged wire must be repaired with a proper soldered connection sealed with adhesive-lined heat shrink tubing. Split-loom conduit over the repaired harness section protects against future rodent access.

32. C — While the failed accumulator was in the circuit, the module's adaptive system increased forward clutch apply pressure to overcome the harsh engagement. Now that the accumulator is repaired and functioning, the elevated adaptive values are no longer appropriate — they will produce firmer-than-normal engagements because the accumulator is now properly cushioning. Resetting the adaptive values returns the module to its baseline calibration, allowing it to re-learn the correct values with the functioning accumulator.

33. C — No external leaks are found and the engine coolant appears normal — no visible pink tinge or oily film. However, a very minor internal cooler leak can introduce tiny amounts of ATF into the coolant system at a rate too low to produce visible discoloration in the coolant reservoir. One pint over 3,000 miles equates to approximately 0.006 ounces per mile — a microscopic seepage rate that dilutes into the coolant volume without detectable color change. A pressure test of the cooler confirms this.

34. D — The new valve body produces normal 1st, 2nd, and 3rd gear shifts plus normal Reverse operation, confirming the lower gears' hydraulic circuits are functioning. The transmission stops at 3rd and will not shift into 4th, 5th, or 6th. During valve body installation, check balls in the case must be placed in their correct mapped positions before the valve body is lowered into place. A missing or displaced check ball in the higher-gear apply passage prevents fluid from reaching the 4th through 6th gear circuits.

35. B — The TCM receives the Sport mode input, the indicator illuminates, and the software is current — the electronic path is complete and correct. The transmission appears to shift at correct speeds, but the shift feel is identical to Normal mode. The most likely explanation is that the adaptive learning system has already increased Normal mode pressures and shift timing to match or exceed the Sport mode calibration values over the vehicle's mileage. The two modes have effectively converged through adaptive compensation.

36. A — All gears engage correctly and the dashboard indicator matches every position, so the basic range sensor adjustment is functional. However, the TRS voltage in Drive may be slightly offset from the ideal value — close enough for correct gear engagement but different enough to shift the module's calculated throttle-to-speed relationship for shift scheduling. Even a small shift in the Drive position voltage can alter upshift and downshift points by enough to affect fuel economy.

37. A — A replacement hose specifically rated for ATF service is designed to resist the chemical properties of transmission fluid without swelling, softening, or degrading. Combined with proper crimp-style cooler line clamps rated for transmission line pressure, this repair provides a reliable, long-term seal. The key requirements are correct fluid compatibility rating and adequate pressure-rated clamps — not necessarily OEM steel lines. Generic heater hose without ATF rating would not be acceptable.

38. C — Three engagement clicks confirm all three internal interfaces — pump drive, stator support shaft, and input shaft splines — have engaged. Free rotation confirms no binding. However, the technician must still verify the converter's seating depth by measuring the distance from the mounting pads to the bell housing edge. This measurement must meet or exceed the manufacturer's minimum specification to ensure the converter pilot will properly engage the crankshaft bore and the converter will not be crushed between the flexplate and pump.

39. D — Blue discoloration on a steel component indicates the metal reached approximately 500-600°F — a temperature range where the steel's temper (hardness and strength) is permanently altered. The internal crystal structure changes at these temperatures, reducing the shaft's hardness and fatigue resistance. Even though the pinion gear currently rotates freely, the weakened shaft cannot reliably support the gear under the cyclic loading of normal operation. The carrier assembly must be replaced.

40. B — Three measurements of 0.035, 0.031, and 0.032 inches all fall within the specification of 0.025-0.050. The 0.003-0.004 inch variation between readings is normal and expected — caused by component settling, slight differences in indicator plunger contact angle, and minor variations in the force applied during each push-pull measurement. All three readings confirm the clearance is within the acceptable range. No corrective action is needed.

41. A — A pump bushing that is 0.004 inches larger than specification in ID creates excessive clearance between the bushing and the input shaft journal. This clearance allows the shaft to orbit eccentrically within the bore. In automatic transmissions, pump bushings serve a dual function — they support the shaft and they seal pressurized fluid passages. Excessive clearance allows pressurized fluid to leak through the bushing gap, reducing circuit pressure and causing potential shift quality problems.

42. C — The service manual specifies the correct number of friction discs for this clutch. The rebuild kit may include an extra disc as a spare, for a different application within the same kit range, or due to a packaging variation. The technician should install the exact number specified in the service information and verify the clutch clearance falls within specification after assembly. The extra disc should be set aside, not installed, to maintain the correct clutch stack height.

43. B — The current endplay is 0.042 inches with a 0.060-inch washer — 0.002 inches above the maximum specification of 0.040. A 0.065-inch washer (0.005 thicker than current) reduces endplay by approximately 0.005 inches: 0.042 - 0.005 = 0.037 inches, which falls within the 0.020-0.040 range near the upper limit. A 0.070-inch washer would produce 0.032 — also acceptable but provides more correction than the minimum necessary.

44. D — A 45mm bolt in a 25mm bolt location has 20mm of excess shank length. The bolt threads through the case bore's full depth and protrudes 20mm past the bottom of the threaded hole. This protrusion may extend into an internal fluid passage, contact a moving component (valve, piston, or rotating element), or block a critical hydraulic circuit. This interference can cause immediate internal damage, pressure loss, or component failure upon operation.

45. C — During installation, ATF inevitably drips and pools on case surfaces, cross-members, and frame components. These residual fluid deposits may not drip while the vehicle is in motion because airflow disperses them. After parking, the pooled fluid slowly migrates to the lowest point and drips onto the floor. Three drops after 30 minutes — with no active leak during the road test and no visible leak at any seal or gasket — is consistent with residual installation fluid draining from a pooling location.

46. A — Milky or emulsified fluid exiting the cooler during a flow test indicates water or engine coolant has mixed with the ATF inside the cooler core. The integral transmission cooler inside the radiator shares a tank with the engine coolant. A breach in the cooler tube — a crack, pinhole, or corrosion perforation — allows coolant to cross into the ATF circuit. This contaminated cooler cannot be used with the rebuilt transmission. The cooler must be replaced or the radiator replaced entirely.

47. D — The transmission shifts normally through 1st, 2nd, and 3rd, confirming those circuits are hydraulically functional. The inability to shift into 4th with no DTCs points to a hydraulic routing issue specific to the 4th gear apply passage. During valve body installation, check balls in the case must be placed in their exact mapped positions. A displaced or missing check ball in the 4th gear circuit prevents fluid from reaching the 4th gear clutch piston, blocking the shift without generating an electronic code.

48. B — Replacing the extension housing bushing requires removing the output shaft or driveshaft yoke from the extension housing, which means the yoke must pass through the output seal. Even if the seal appears undamaged, the physical act of pulling the shaft through the seal and reinstalling it inevitably disturbs the seal lip's seated position. The lip may fold, roll, or lose its precise contact alignment. Replacing the seal during bushing service eliminates this risk at minimal additional cost.

49. C — A 3-second morning delay on the first Park-to-Drive engagement — with all subsequent engagements being immediate — is a common characteristic of many automatic transmissions. During overnight parking, the forward clutch circuit slowly drains back through the valve body passages under the clutch return spring's force. The first engagement requires the pump to refill the empty circuit. Once filled, it remains charged. A 3-second delay is within the normal range for many transmissions with this drain-back characteristic.

50. C — An 86% average over the last five consecutive exams — significantly above the typical ASE passing threshold of 70-75% — demonstrates strong, consistent content mastery. The improvement trajectory from 62% to 86% shows effective learning. While test-day conditions may produce a slightly lower score than practice, a consistent 86% provides a comfortable margin above the passing threshold. The technician is well-prepared and should schedule the exam with confidence.