PRACTICE EXAM 18

1. Which operating principle best describes how a radar-based ADAS sensor determines the distance to a forward object?

A. It measures the visible light reflected from the object's surface

B. It reads painted lane markings to estimate the gap to the vehicle

C. It analyzes image pixels to interpret the shape of the object

D. It emits radio waves and measures their return from the object

2. Why is a camera, rather than radar, used for traffic sign recognition?

A. Sign recognition requires interpreting visual shapes and characters

B. Radar penetrates signs and cannot detect their painted surfaces

C. Cameras measure closing distance more precisely than radar units

D. Signs emit radio frequencies that only a camera can decode reliably

3. Ultrasonic sensors are well suited to park assist primarily because they:

A. Detect objects accurately at distances beyond one hundred meters

B. Interpret lane markings and roadway signs at highway speeds

C. Provide reliable short-range object detection at low speeds

D. Penetrate bumper material to read radio reflections behind it

4. A forward camera requires a known vehicle geometry before static calibration because the:

A. Target must be aimed relative to the vehicle's true reference axis

B. Camera draws its operating voltage from the alignment rack sensors

C. Radar frequency band shifts when the vehicle geometry is unknown

D. Ultrasonic firmware will not load without a stored thrust angle

5. A static calibration and a dynamic calibration differ mainly in that a static calibration:

A. Is always performed while driving on a marked public roadway

B. Uses a fixed target in a controlled bay rather than a road drive

C. Requires the vehicle to exceed a set speed for completion

D. Relies on the camera reading lane markings during the procedure

6. Which statement best explains why ride height must be correct before ADAS calibration?

A. Ride height sets the angle at which sensors aim toward the road

B. Ride height determines the radar module's internal clock speed

C. Ride height controls the voltage supplied to the camera module

D. Ride height selects whether calibration is static or dynamic

7. A medium-range forward radar covers roughly 0–160 meters. This range is chosen because the feature it serves needs to:

A. Detect objects only within a meter for tight parking maneuvers

B. Read small roadway signs positioned far down the highway ahead

C. Track vehicles far enough ahead to manage cruising and warnings

D. Interpret faded lane markings under poor lighting conditions

8. Why do the rear corner radars communicate over a private CAN bus rather than only the main ADAS bus?

A. The private bus increases the radar's maximum detection range

B. The private bus lowers the supply voltage to the corner modules

C. A dedicated bus isolates corner-radar traffic from the main network

D. The private bus converts the radar return into a camera image feed

9. The 120-ohm resistor in each rear corner radar exists because a CAN bus requires termination to:

A. Prevent reflected signals from corrupting bus communication

B. Step the battery supply down to a safe level for the emitter

C. Convert the analog radar return into a usable digital value

D. Filter electromagnetic noise produced by the forward camera

10. Adaptive cruise control on the Composite Vehicle is active in any forward gear above about 5 mph because the feature is designed to:

A. Operate only at very high highway speeds on level roads

B. Function while the vehicle is fully stopped in any gear

C. Manage following distance while the vehicle is in motion

D. Engage exclusively when the transmission is placed in reverse

11. A technician must explain why a windshield replacement triggers a camera recalibration. The best explanation is that:

A. Moving the glass changes the camera's mounting reference and aim

B. The new glass alters the radar module's transmit frequency band

C. The replacement resets the ultrasonic park assist firmware level

D. The glass change reprograms the powertrain control module software

12. Why is a level floor a requirement specifically for accurate calibration?

A. A level floor keeps the battery electrolyte from spilling out

B. An unlevel floor tilts the vehicle and misaims its sensors

C. A level floor lowers the radar's transmit frequency to spec

D. An unlevel floor prevents the ultrasonic sensors from charging

13. The forward radar and forward camera are both described as primary inputs because several ADAS features:

A. Depend on the data these two sensors provide to operate

B. Use them only to illuminate dashboard warning indicators

C. Route their signals exclusively through the ultrasonic module

D. Share a single private CAN bus with the rear corner radars

14. Why would reflective metal near a target degrade a static radar calibration?

A. The metal lowers the battery voltage feeding the radar module

B. The metal blocks visible light the radar needs to see the target

C. The metal reprograms the radar's internal frequency settings

D. The metal creates stray reflections that distort the radar return

15. A blind spot warning uses radar at the rear corners because the system must:

A. Read traffic signs positioned along the side of the roadway

B. Measure the precise color of vehicles in the next lane over

C. Interpret lane markings to confirm the host vehicle's position

D. Detect vehicles in the rear adjacent-lane zone reliably

16. Why does the Composite Vehicle's ACC default to ON after an ignition cycle rather than staying off?

A. The system is permanently disabled until a scan tool re-enables it

B. The design returns the system to a known ready state on each restart

C. The system locks out entirely below a 45 mph activation threshold

D. The design preserves whatever custom setting was last selected

17. A module that needs both battery and switched-ignition voltage is designed that way so it:

A. Stays unpowered when the ignition is off but battery is present

B. Operates continuously even after the ignition is switched off

C. Draws all power from the camera's regulated reference voltage

D. Raises its transmit frequency whenever the key is removed

18. Rear cross traffic alert relies on the rear corner radars because the feature must:

A. Read posted speed limit signs while the vehicle is reversing

B. Measure the exact distance to lane markings behind the car

C. Detect vehicles approaching from the sides during a backup

D. Interpret the color of crossing traffic in the rear camera view

19. Why is a pre-scan performed before, rather than after, the repair begins?

A. To verify the repair resolved every code at the end of the job

B. To document which faults already existed prior to the repair

C. To raise the system voltage needed to power the calibration

D. To establish the vehicle's thrust line before placing the target

20. A technician explains why dynamic calibration needs a road drive. The reason is that the camera must:

A. Observe real lane markings at speed to establish its reference

B. Reach a fixed target board mounted at the rear of the bay

C. Draw additional current available only at idle in the bay

D. Disconnect from the ADAS CAN bus while the engine runs

21. Why does a bent radar bracket cause incorrect target readings even when the module tests good?

A. A bent bracket misaims the sensor so it points the wrong way

B. A bent bracket lowers the supply voltage reaching the module

C. A bent bracket reprograms the radar's internal frequency band

D. A bent bracket converts the radar return into a camera image

22. The forward camera is mounted to the windshield primarily because that location:

A. Shields the camera entirely from any roadway vibration forces

B. Keeps the camera nearest the battery for a shorter power feed

C. Gives a clear forward view of the road, lanes, and signs ahead

D. Allows the camera to share a bracket with the forward radar

23. Why is the manufacturer's specified procedure, not technician preference, used to choose static versus dynamic calibration?

A. Technician preference produces faster results in every situation

B. Ambient temperature alone determines the correct method to use

C. Each sensor and vehicle has a validated method defined by the maker

D. Battery state of charge selects the appropriate calibration type

24. A scan tool shows several ADAS modules silent while powertrain modules respond. The best explanation is that:

A. A single ultrasonic sensor element failed inside the bumper

B. The forward camera lens is obstructed by accumulated debris

C. The powertrain control module's internal processor has failed

D. A fault on the ADAS bus segment silenced those ADAS modules

25. Why does an aftermarket suspension lift commonly require radar recalibration?

A. The lift increases the radar module's transmit frequency band

B. The lift lowers the supply voltage delivered to the radar module

C. The lift changes vehicle attitude, shifting where the radar aims

D. The lift reprograms the ultrasonic sensors to a new sensitivity

26. A technician must explain why ultrasonic sensors are not used for adaptive cruise control. The reason is that ultrasonic sensors:

A. Operate only at short range, too close for cruise control needs

B. Read traffic signs that conflict with the cruise control function

C. Penetrate bumper material and cannot detect forward vehicles

D. Generate radio frequencies that interfere with the main CAN bus

27. Why is documenting codes with a pre-scan and post-scan valuable to both shop and customer?

A. It permanently erases all fault history from the vehicle modules

B. It raises the calibration voltage required to complete the job

C. It selects the correct tire pressure for the verification drive

D. It records the vehicle's condition before and after the repair

28. A camera-only loss of traffic sign recognition, with radar features intact, is best explained by:

A. An open fault in the private CAN bus between the corner radars

B. A failed ultrasonic park assist sensor mounted in the bumper

C. A bent forward radar bracket positioned behind the front fascia

D. A camera fault, miscalibration, or an obstructed camera lens

29. Why must the calibration target be precisely centered on the vehicle's axis?

A. Centering raises the battery voltage available to the camera

B. An off-center target gives the camera a wrong aim reference

C. Centering selects whether the calibration is static or dynamic

D. An off-center target reprograms the radar's frequency band

30. The forward radar measures closing distance for forward collision warning because radar is well suited to:

A. Interpreting the visual shape of an approaching vehicle ahead

B. Determining range and closing rate to objects in the path

C. Reading the posted speed limit on signs along the roadway

D. Detecting painted lane markings to keep the vehicle centered

31. Why does the left rear corner radar serve as the primary node on the ADAS CAN bus?

A. It is the only module physically connected to the main bus

B. It has the highest detection range of all the radar modules

C. It contains the only camera feed used by the rear systems

D. The design assigns it the primary communication role per the reference

32. A technician explains why a post-scan follows calibration. The reason is to:

A. Document the pre-existing faults before any repair was started

B. Raise the voltage required for the calibration to proceed

C. Confirm codes are cleared and the systems operate correctly

D. Establish the thrust line needed before placing the target

33. Why is understanding which modules share a bus segment useful during a communication-fault diagnosis?

A. It determines the correct engine oil viscosity for the road test

B. It sets the proper transmission fluid level before calibration

C. It identifies which bus and modules a given fault could affect

D. It selects the correct headlight bulb wattage for night testing

34. Underinflated, unevenly worn tires must be corrected before calibration because they:

A. Increase electromagnetic noise carried on the ADAS CAN bus wiring

B. Change the vehicle's ride height and therefore the sensor aim

C. Raise the radar module's transmit frequency above its legal band

D. Discharge the battery below the minimum voltage for calibration

35. Why does a dynamic calibration fail in heavy stop-and-go traffic despite clear weather?

A. The reflective lane markings overwhelm the camera in slow traffic

B. The forward radar bracket bends under repeated braking forces

C. The ultrasonic sensors interfere with the camera at low speeds

D. The required sustained speed cannot be maintained in the congestion

36. A radar that communicates on the bus but reports implausible data after a crash is best explained by:

A. A lost ACC configuration stored in the instrument cluster module

B. A physical disturbance to the radar's aim or mounting in the crash

C. A required reinitialization of the ultrasonic park assist controller

D. An opened private CAN terminating resistor inside a corner radar

37. Why is the first step for an intermittent ADAS fault to capture codes and network status rather than replace parts?

A. Captured data preserves the evidence needed to trace the fault

B. Replacing the costliest module first resolves most intermittent faults

C. Clearing all codes immediately speeds up the diagnostic process

D. Performing a calibration first reveals the fault more reliably

38. A vehicle's ADAS control panel switch lets the driver disable certain systems because some situations require:

A. Temporarily turning a feature off from inside the vehicle cabin

B. Adjusting the radar's transmit frequency band on the fly

C. Re-aiming the rear corner radars without a calibration step

D. Initializing a replacement module directly from the dashboard

39. Why is forward radar, not the camera, primarily responsible for adaptive cruise control distance keeping?

A. The camera measures closing range more accurately than radar

B. Radar directly measures range and closing rate to a lead vehicle

C. The camera penetrates weather better than radar for ranging

D. Radar reads the posted speed limit to set the following gap

40. A static camera calibration produces in-lane drift afterward. The best explanation for a marginally inaccurate calibration is that:

A. The engine idled throughout the static calibration procedure

B. The target sat slightly off-center from the vehicle's axis

C. A rear-seat passenger remained aboard during the calibration

D. The audio system played during the static calibration step

41. Why is the ADAS CAN bus, rather than the body lighting circuit, used to carry ADAS data?

A. The lighting circuit supplies a higher voltage to each sensor

B. The lighting circuit offers a faster path for camera image data

C. A dedicated network reliably carries the modules' ADAS data

D. The lighting circuit terminates each radar's private CAN bus

42. Why must a forward radar be re-aimed and calibrated after its bracket is repaired?

A. The repair resets the ultrasonic sensors to a default sensitivity

B. The repair reprograms the camera module's calibration file

C. The repair lowers the supply voltage feeding the radar emitter

D. The aim was disturbed, so it must be restored for correct readings

43. Why is replacing both corner radars a poor first response to a one-sided communication code?

A. The fault may lie in one module's power, ground, or bus path

B. Both modules always fail together when one loses communication

C. The forward camera must be replaced before either corner radar

D. The instrument cluster must be reflashed before any radar work

44. A forward collision warning that false-activates after a fascia repair, with good radar and a straight bracket, is best explained by:

A. A failed instrument cluster module generating the false alerts

B. A required reinitialization of the rear ultrasonic park sensors

C. A transmission control module needing a current calibration file

D. Excess paint or material on the fascia disturbing the radar's view

45. Why does the forward camera read signs and lanes while radar handles ranging, rather than the reverse?

A. Radar interprets characters and shapes better than a camera does

B. The camera measures closing distance more precisely than radar

C. Cameras and radar are interchangeable for any ADAS function

D. Each sensor's physics suits it to either imaging or ranging tasks

46. Why is the bracket serviced separately from the forward radar module?

A. The bracket and module are permanently welded into one unit

B. The reference defines them as distinct, replaceable components

C. The module is self-aiming and needs no mounting bracket at all

D. The bracket carries the radar's only power and ground supply

47. A technician explains why skipping a required calibration is a safety concern. The reason is that:

A. The vehicle's fuel economy will immediately drop after the repair

B. The transmission will begin to shift erratically at road speed

C. A misreferenced sensor may cause the feature to act unreliably

D. The battery will discharge faster than normal during driving

48. Why does a single open in the private CAN bus knock both rear corner radars offline?

A. Each radar contains its own independent backup communication line

B. The forward camera relays all rear radar data through the windshield

C. The cabin air filter restricts airflow and overheats both modules

D. The two radars depend on that shared bus to communicate together

49. Why is overhead lighting largely irrelevant to a static radar calibration?

A. Bright lighting reprograms the radar's internal frequency settings

B. Lighting changes the supply voltage reaching the radar module

C. Lighting determines whether the calibration is static or dynamic

D. Radar relies on radio reflections, not visible light, to function

50. Why does a camera calibration, not just initialization, restore proper lane keep assist after camera replacement?

A. Initialization recharges the battery the camera needs to operate

B. Calibration establishes the camera's aim reference for accuracy

C. Initialization re-aims the rear corner radars to the new camera

D. Calibration reprograms the powertrain control module software

Answer Key & Full Answer Explanations

1. D — Radar emits radio waves and measures their return from an object to determine distance. The time and characteristics of the reflected signal yield range and closing rate. It does not rely on visible light, lane markings, or pixel-based image analysis.

2. A — Sign recognition requires interpreting visual shapes and characters, which is an imaging task suited to a camera. Radar measures range, not appearance, so it cannot read sign content. The other options misstate how radar and cameras work.

3. C — Ultrasonic sensors provide reliable short-range object detection at low speeds, making them well suited to park assist. Their effective range is close, exactly what parking needs. They do not detect at long range, read lanes or signs, or read radio reflections.

4. A — The target must be aimed relative to the vehicle's true reference axis, which requires known geometry before static calibration. Without correct geometry the target relationship is wrong. The camera does not draw power from alignment sensors, and geometry does not change radar frequency or ultrasonic firmware loading.

5. B — A static calibration uses a fixed target in a controlled bay rather than a road drive, which is the key difference from dynamic calibration. Dynamic calibration is the one performed while driving. The driving, speed, and lane-marking descriptions apply to dynamic, not static.

6. A — Ride height sets the angle at which the sensors aim toward the road, so it must be correct before calibration. An incorrect height tilts the sensors' aim. Ride height does not set radar clock speed, camera voltage, or the calibration type.

7. C — A 0–160 meter range lets the radar track vehicles far enough ahead to manage cruising and collision warnings. The feature needs forward reach at speed. It is not a one-meter parking range, a sign-reading function, or a lane-marking task.

8. C — A dedicated private bus isolates corner-radar traffic from the main ADAS network. This separation keeps that communication independent. The private bus does not increase range, lower voltage, or convert returns to images.

9. A — Termination with the 120-ohm resistor prevents reflected signals from corrupting bus communication. Proper CAN termination maintains signal integrity. It does not step down voltage, convert returns to digital, or filter camera noise.

10. C — ACC is active above about 5 mph because it is designed to manage following distance while the vehicle is in motion. The feature operates during driving, not at a stop or only at high speed, and not in reverse.

11. A — Moving the glass changes the camera's mounting reference and aim, which is why a windshield replacement triggers recalibration. The camera's reference shifts with the new glass. It does not alter radar frequency, reset ultrasonic firmware, or reprogram the PCM.

12. B — An unlevel floor tilts the vehicle and misaims its sensors, which is why a level floor is required for accurate calibration. Sensor aim references the vehicle's level attitude. Electrolyte spillage, radar frequency, and ultrasonic charging are not the reason.

13. A — Several ADAS features depend on the data the forward radar and camera provide, which is why both are primary inputs. They supply sensing data to multiple functions. They are not mere warning outputs, ultrasonic-routed, or sharing the rear private bus.

14. D — Reflective metal creates stray reflections that distort the radar return, degrading a static radar calibration. Radar needs clean returns from the intended target. The metal does not lower voltage, block needed light, or reprogram frequencies.

15. D — Blind spot warning uses rear corner radar because the system must reliably detect vehicles in the rear adjacent-lane zone. Radar detects presence and range in that zone. It does not read signs, measure color, or interpret lane markings for this function.

16. B — The ACC defaults to ON after an ignition cycle to return the system to a known ready state on each restart. This predictable default is by design. It is not permanently disabled, speed-locked, or retaining a custom setting.

17. A — A module needing both battery and switched-ignition voltage stays unpowered when the ignition is off but battery is present. The switched feed gates operation to key-on. It does not run continuously, draw all power from the camera reference, or change frequency with the key out.

18. C — Rear cross traffic alert relies on the rear corner radars to detect vehicles approaching from the sides during a backup. That is the radar's role in this feature. It does not read signs, measure lane-marking distance, or interpret crossing-traffic color.

19. B — A pre-scan is performed before the repair to document which faults already existed prior to the work. This establishes a baseline record. Verifying the final repair is the post-scan's role, and the pre-scan does not raise voltage or set thrust line.

20. A — Dynamic calibration needs a road drive so the camera can observe real lane markings at speed to establish its reference. The procedure depends on driving conditions. The camera does not reach a bay target, need idle current, or disconnect from the bus for this.

21. A — A bent bracket misaims the sensor so it points the wrong way, producing incorrect readings even when the module tests good. The fault is physical aim, not electronics. A bracket does not lower voltage, reprogram frequency, or convert returns to images.

22. C — The windshield mounting gives the camera a clear forward view of the road, lanes, and signs ahead. That vantage is why it is placed there. It is not about vibration shielding, battery proximity, or sharing the radar bracket.

23. C — The manufacturer's procedure is used because each sensor and vehicle has a validated method defined by the maker. The correct static-versus-dynamic choice is engineered, not preference-based. Preference, temperature alone, and battery charge do not determine it.

24. D — Several ADAS modules silent while powertrain modules respond is best explained by a fault on the ADAS bus segment that silenced those modules. The pattern localizes to the shared ADAS network. A single sensor, a dirty lens, or a PCM processor failure would not silence multiple ADAS modules at once.

25. C — A suspension lift changes vehicle attitude, shifting where the radar aims, which is why recalibration is commonly required. The altered stance moves the aim. The lift does not change radar frequency, lower voltage, or reprogram ultrasonic sensitivity.

26. A — Ultrasonic sensors operate only at short range, too close for cruise control needs, which is why they are not used for ACC. ACC needs longer forward reach that radar provides. Ultrasonics do not conflict by reading signs, penetrate bumpers, or generate interfering radio frequencies for this reason.

27. D — Pre-scan and post-scan documentation records the vehicle's condition before and after the repair, which is valuable to both shop and customer. This creates an accountable record. It does not erase history, raise voltage, or set tire pressure.

28. D — A camera-only loss of sign recognition with radar intact is best explained by a camera fault, miscalibration, or obstructed lens. Sign recognition is a camera function, so the fault tracks to the camera path. The corner-radar bus, an ultrasonic sensor, or a radar bracket are not involved.

29. B — An off-center target gives the camera a wrong aim reference, which is why precise centering on the vehicle axis is required. Centering establishes the correct reference relationship. It does not raise voltage, select calibration type, or reprogram radar frequency.

30. B — Radar determines range and closing rate to objects in the path, which is why it measures closing distance for forward collision warning. Ranging is radar's strength. It does not interpret visual shape, read signs, or detect lane markings.

31. D — The design assigns the left rear corner radar the primary communication role per the reference. That assignment is by design, not because it is the only connected module, has the most range, or carries a camera feed.

32. C — A post-scan follows calibration to confirm codes are cleared and the systems operate correctly. It validates the completed work. Documenting pre-existing faults is the pre-scan's role, and the post-scan does not raise voltage or set thrust line.

33. C — Knowing which modules share a bus segment identifies which bus and modules a given fault could affect, aiding communication-fault diagnosis. Network mapping focuses the diagnosis. Oil viscosity, transmission fluid level, and headlight wattage are unrelated.

34. B — Underinflated, unevenly worn tires change the vehicle's ride height and therefore the sensor aim, so they must be corrected first. Calibration assumes the specified reference height. Tire condition does not raise bus noise, change radar frequency, or discharge the battery for this reason.

35. D — The required sustained speed cannot be maintained in congestion, which is why a dynamic calibration fails in heavy stop-and-go traffic despite clear weather. Dynamic calibration needs sustained speed. Reflective markings, a bent bracket, and ultrasonic interference are not the cause here.

36. B — A radar that communicates but reports implausible data after a crash is best explained by a physical disturbance to its aim or mounting. Bus communication is intact, so the fault is mechanical aim. A lost cluster setting, ultrasonic init, or open resistor would present differently.

37. A — Capturing codes and network status first preserves the evidence needed to trace an intermittent fault. Recording data before acting protects diagnostic information. Replacing the costliest module, clearing codes, or calibrating first does not reliably resolve or reveal the fault.

38. A — The ADAS control panel switch lets the driver temporarily turn a feature off from inside the cabin, which is why it exists. Some situations call for disabling a system. It does not adjust radar frequency, re-aim radars, or initialize modules.

39. B — Radar directly measures range and closing rate to a lead vehicle, which is why it, not the camera, handles ACC distance keeping. Ranging is radar's strength. The camera does not measure range better, penetrate weather better for ranging, or read signs to set the gap.

40. B — A target slightly off-center from the vehicle axis best explains a marginally inaccurate static calibration that causes in-lane drift. Centering precision governs accuracy. An idling engine, a rear passenger, or audio playback are not the aiming cause.

41. C — A dedicated network reliably carries the modules' ADAS data, which is why the ADAS CAN bus is used rather than the lighting circuit. The dedicated bus suits the data needs. The lighting circuit does not supply needed voltage, carry image data faster, or terminate the private bus.

42. D — The radar's aim was disturbed, so it must be restored, which is why re-aiming and calibration follow a bracket repair. The repair affects physical aim. It does not reset ultrasonics, reprogram the camera file, or lower emitter voltage.

43. A — Replacing both corner radars is a poor first response because the fault may lie in one module's power, ground, or bus path. Testing isolates the cause before parts are replaced. Both modules do not always fail together, and neither the camera nor the cluster must be addressed first.

44. D — Excess paint or material on the fascia disturbing the radar's view best explains false FCW after a fascia repair with good radar and a straight bracket. Material in front of the radar can cause false alerts. A failed cluster, ultrasonic init, or transmission file are not the cause.

45. D — Each sensor's physics suits it to either imaging or ranging tasks, which is why the camera reads signs and lanes while radar handles ranging. Their operating principles drive the division of labor. Radar does not interpret characters better, the camera does not range better, and they are not interchangeable.

46. B — The reference defines the bracket and module as distinct, replaceable components, which is why they are serviced separately. This allows bracket service without replacing the module. They are not welded as one unit, and the module is not bracket-free or powered through the bracket.

47. C — A misreferenced sensor may cause the feature to act unreliably, which is why skipping a required calibration is a safety concern. The feature cannot perform correctly without a valid reference. Fuel economy, transmission shifting, and battery drain are not the relevant consequences.

48. D — The two radars depend on that shared bus to communicate together, so a single open in the private CAN bus knocks both offline. The shared bus is the common point of failure. They do not have independent backup lines, route data through the camera, or fail from a cabin filter.

49. D — Radar relies on radio reflections, not visible light, to function, which is why overhead lighting is largely irrelevant to a static radar calibration. Lighting affects cameras, not radar ranging. It does not reprogram frequency, change voltage, or select calibration type.

50. B — Calibration establishes the camera's aim reference for accuracy, which is why calibration, not just initialization, restores lane keep assist after camera replacement. Initialization alone does not set aim. It does not recharge the battery, re-aim radars, or reprogram the PCM.