

THE ROAD TO HV SAFETY LEVEL 1

Six stops a new technician passes before working near a high-voltage system alone: 18 competencies, each with a clear way to prove it.

Designed by **Mariia Mukhina**, Learning Designer

KNOW THE SYSTEM

Where the high voltage is, and why "off" is not safe.

A1 Identify HV components

Labels every HV component and orange cable on a vehicle or diagram, no errors.

●●● Hotspot quiz + vehicle walkaround

A2 Explain HV hazards

Explains shock, arc flash and stored energy in capacitors in own words.

●○○ Knowledge check

A3 Interpret vehicle states

Explains why a parked, switched-off vehicle is still energised.

●○○ Scenario question

How each competency is measured

●○○ Aware: explains the rule or hazard

●●○ Supervised: does it with a mentor

●●● Independent: does it alone, every time

SC Safety-critical: zero errors to certify

GEAR UP

The right protection and tools, checked before every job.

B1 Select PPE for the task **SC**

Chooses rated insulated gloves with protectors and eye/face protection; removes metal jewellery.

●●● Practical checklist

B2 Inspect insulated gloves **SC**

Checks rating and test date, inspects and air-tests before each use; rejects a faulty glove.

●●● Observed practical

B3 Check meter and insulated tools **SC**

Confirms meter category and voltage rating, inspects leads and tool insulation.

●●● Observed practical

SECURE THE ZONE

Nobody walks in, nothing switches on by accident.

C1 Set up HV work zone

Places barriers and signage before starting; keeps the zone clear.

●●● Practical checklist

C2 Secure the vehicle

Parks, moves the key out of range, follows the manual for the 12 V system.

●●● Practical checklist

C3 Apply lockout/tagout **SC**

Locks and tags the isolation point and keeps their own key.

●●● Observed practical

PROVE IT'S DEAD

De-energise by the book, then verify before touching anything.

D1 Follow the OEM de-energisation sequence **SC**

Completes every step in order, including the specified wait time.

●●● Observed practical

D2 Verify absence of voltage **SC**

Performs a live-dead-live test; does not touch until verified.

●●● Observed practical

D3 Document isolation

Records isolation status on the work order before work begins.

●●● Work-order review

WHEN IT GOES WRONG

Recognise danger early, stop, and get help the right way.

E1 Recognise an unstable battery **SC**

Spots heat, smoke, hissing, swelling or odour; stops work and escalates.

●●● Branching scenario

E2 Respond to an electric shock **SC**

Does not touch the casualty, isolates power, uses the rescue hook, calls for help.

●●○ Scenario + drill

E3 Stop at the scope boundary **SC**

Recognises a Level 2+ task and hands it over instead of attempting it.

●●● Branching scenario

HAND IT OVER

The next person knows exactly what state the car is in.

F1 Communicate HV status

Updates the status board and briefs the next technician at handover.

●●● Role-play / observation

F2 Return vehicle to service

Re-energises per manual and completes the return-to-service check.

●●○ Supervised practical

F3 Report near-misses

Logs a near-miss within the shift using the site process.

●●○ Scenario question

CERTIFIED

valid 12 months

HOW A TECHNICIAN TRAVELS THE ROAD

Awareness is taught and checked online. Doing is proven on the shop floor, against the same criteria shown at each stop.

1

Welcome

Why HV safety matters and what the certificate unlocks.

HeyGen · 60 s

2

Three e-learning modules

Stops 01 to 04, about 10 minutes each.

Storyline

3

Branching scenario

Stop 05: wrong choices show consequences, not just "Incorrect".

Storyline

4

Knowledge check

80% to pass; any missed SC question means a retake.

LMS

5

Shop-floor practical

Mentor ticks each criterion yes or no; every SC item must be correct.

Checklist

6

Certificate + badge

Valid 12 months, then a short refresher.

Badge