

Task description

Practical task no. 3 --(Task Number)

Maintenance and repair of car lighting and alarm systems --(Task Name)

Task description:

The task consists of the practical part of the learning outcomes of the assessed competences demonstration: carry out diagnostics of vehicle lighting and alarm systems repair and maintenance.

The task can be prepared on a vehicle or learning bench with electronically controlled lighting and alarm system (controlled from a separate light unit or from the central electronics module). Several (at least 5) malfunctions must be created for the selected task execution tool (car or bench) of lighting and alarm systems. This can be done by replacing a few of the system components (fuses, relays, switches, bulbs) to defective (bad, damaged) and creating a malfunctions in the electrical circuit of any component (by breaking or shorting wires), as well as improper adjustment of dipped beam and fog lights.

The workplace must be equipped with all the technological equipment, tools and databases (wiring, location diagrams) necessary to perform the task.

Each of the tasks must be prepared for 2 participants to work at the same time, this means that 2 identical tasks must be prepared.

Material resources needed to complete the task:

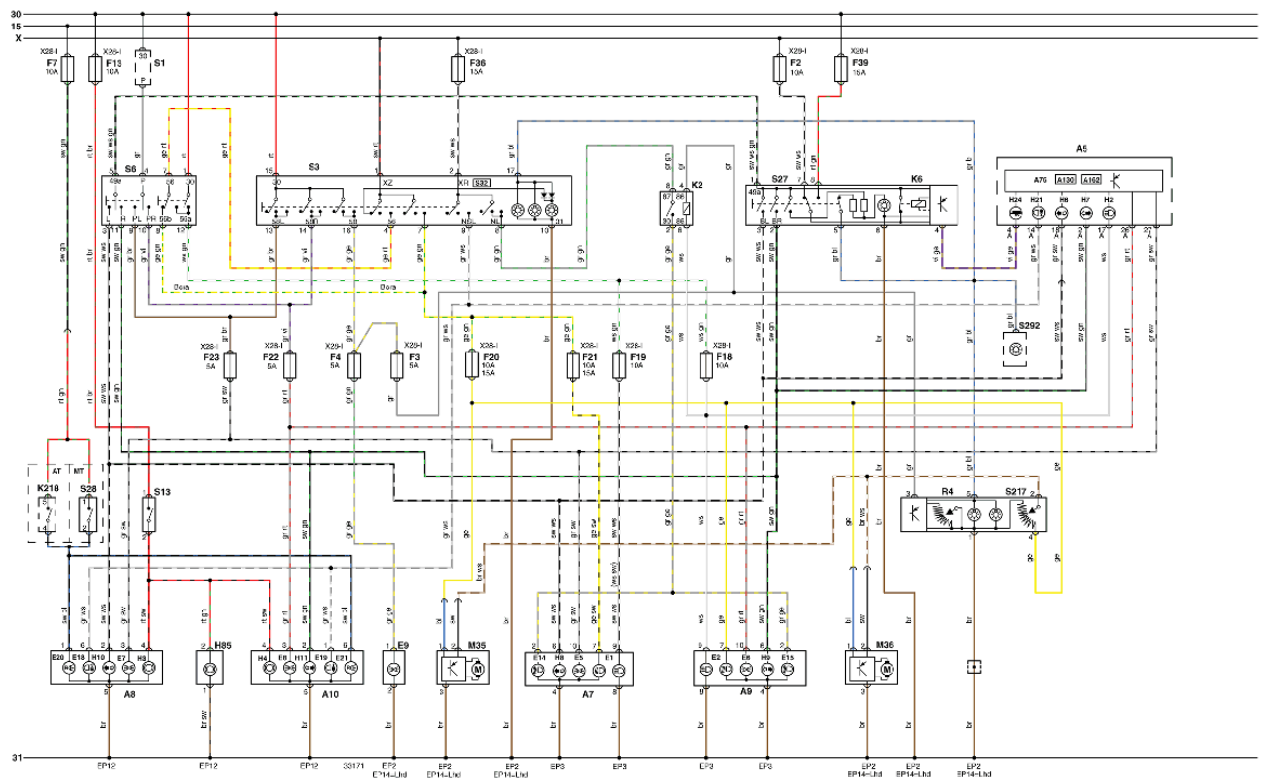
Practical training workshop or maintenance and repair laboratory, vehicle or bench with electronically controlled lighting and signaling systems, a light adjustment control device, a hoist, a workbench with clamps and locksmith tools (a set of sockets, a set of keys, a set of screwdrivers, a set of pliers, a hammer, torque wrenches, pliers for cleaning electrical wires, pliers for electrical wires to press joints, etc.), compressor, tire inflation gun, diagnostic scanner, oscilloscope, multimeter, control lamp (voltage indicator), connection of measuring wires adapters, soldering iron with soldering materials, wire connectors, wires isolation means, components of lighting and alarm systems (replaced suitable lights, fuses, relays, switches, bulbs), technical data catalogs or databases, equipment interior and exterior protective equipment, individual safety equipment (gloves and etc.), and everything else that is necessary for the performance of the task.

Task stages

1. Check the operation of lighting and alarm systems.
2. Identify and locate faulty components.
3. Find inspection information for failed components.
4. Check the electrical parameters of the faulty components.
5. Eliminate identified faults (by replacing defective parts, repairing electrical installation).
6. Adjust the low beam and fog lights.
7. Tidy up the workplace
8. Comply with occupational safety and environmental protection requirements.

Technical information:

Electrical diagrams, Worksheets, ...



- S292 AC/heater function control panel
- 30 Battery +
- 31 Battery -
- S13 Brake pedal position (BPP) switch
- S6 Combination switch
- A130 Diagnostic module
- F2
- F3
- F4
- F7
- F13
- F18
- F19
- F20
- F21
- F22
- F23
- F39
- E14 Fog lamp, left
- E15 Fog lamp, right
- K2 Fog lamp relay
- K6 Hazard warning lamps relay
- S27 Hazard warning lamps switch
- E1 Headlamp, left
- E2 Headlamp, right
- M35 Headlamp adjustment motor, left or single
- M36 Headlamp adjustment motor, right
- S217 Headlamp adjustment switch
- A7 Headlamp assembly, left
- A9 Headlamp assembly, right
- H2 Headlamp high beam warning lamp
- S3 Headlamp switch
- S1 Ignition switch
- X Ignition switch - accessories
- 15 Ignition switch - ignition ON
- A162 Immobilizer control module
- H8 Indicator lamp, left front
- H10 Indicator lamp, left rear
- H9 Indicator lamp, right front
- H11 Indicator lamp, right rear
- H6 Indicator warning lamp, left or single
- H7 Indicator warning lamp, right
- A75 Instrumentation control module
- R4 Instrument illumination rheostat
- A5 Instrument panel
- E9 Licence plate lamp, left or single
- E18 Rear fog lamp, left or single
- E19 Rear fog lamp, right
- H21 Rear fog lamps ON warning lamp
- S32 Rear fog lamp switch
- A8 Rear lamp assembly, left
- A10 Rear lamp assembly, right
- S28 Reverse gear position switch
- E20 Reversing lamp, left or single
- E21 Reversing lamp, right
- K218 Reversing lamp relay
- E5 Side lamp, left
- E6 Side lamp, right
- H85 Stop lamp, centre
- H3 Stop lamp, left
- H4 Stop lamp, right
- E7 Tail lamp, left
- E8 Tail lamp, right
- H24 Trailer warning lamp

bl = blue	br = brown	dbl = dark blue
dgn = dark green	el = beige	ge = yellow
gn = green	gr = grey	nf = clear
og = orange	rs = pink	rt = red
sr = silver	sw = black	vi = violet
ws = white	hbl = light blue	hgn = light green
rbr = maroon	x = braided cable	y = high tension
z = non-cable connection		

NOTE: In certain diagrams (Citroen, Peugeot & Renault), colour codes are replaced by numbers which are used to identify a particular cable and not the colour. In this instance, the cables will be numbered at each end close to the harness connector.