

Driver Guide

BYD ADL Enviro400EV



“ These fully electric double decker buses, which are the first of their kind in Scotland, represent our commitment to reducing our impact on the environment and meeting the requirements of the Scottish Government and City of Edinburgh Council's climate change strategy. By replacing 4 of our diesel buses with these zero emission vehicles, we will save around 240 tonnes of carbon a year. ”

Claire McVicar
Lothian Environmental Officer

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Introduction

Your safety, that of our customers and other road users is always our number 1 priority.

In designing this vehicle, we have remained true to those things. Most things about this vehicle will therefore be familiar to you and will need little or no explanation to an experienced and professional driver.

There are some important differences that you need to be aware of. This manual will help explain what these are and what you need to know and do together with where to go for more advice, guidance or help.

You **MUST** take the time to read and understand this guide and in common with all vehicles, you must not drive this bus unless you are fully aware of how to do so safely.

Please do not hesitate to ask any questions you may have about the safe operation of the bus before you drive it by contacting your supervisor, or by radioing Control.

What's new?

Maximum capacity

72 (seated)

9 (standing)

& 1 wheelchair



Safety Reminder - with so many customers with differing needs on board, make sure you give everyone time to board and disembark safely.



Dimensions

length 10.8m (35'4") | width 2.55m (8'4")

height 4.32m (14'2") | unladen Weight 13,300kgs



Fully electric

Zero emission double deck bus

Helps improve air quality

Dash lights and symbols

The dash layout is largely the same as other Volvo buses in our fleet. However, please familiarise yourself with the table on the next page for additional functions.



Dashboard

Before starting bus

Outside Light Inspection

Check all outside lights before starting the bus by pressing the button shown.

This will start with all outside lighting flashing whilst you walk around the bus.



Outside light inspection

Start up procedure

1. Press footbrake and the start button

Your dashboard will light up as shown above.

2. Warning systems

Wait for warning lights to turn off and for the Volvo logo to stop spinning. Make sure battery voltage is above 24 volts or bus will not start.

3. Start the engine

During the time you are waiting for the warning lights to turn off, the vehicle is conducting checks, once all checks are complete and you see OK and Ready on the screen the bus is ready to drive.



Dash lights and symbols

The table shows the lamps in the instrument panel



<p>1. Left Turn Signal Flashes when the left hand turn signal is used.</p>		<p>2. Right Turn Signal Flashes when the right hand turn signal is used.</p>		<p>3. High Beam Indicates that the headlamps are operating on high beam.</p>	
<p>4. Low Beam Indicates that the headlamps are operating on low beam.</p>		<p>5. Clearance Light Indicates that the vehicle's clearance lights are illuminated.</p>		<p>6. Front Fog Lights Indicates that the front fog lights are in operation.</p>	
<p>7. Rear Fog Lights Indicates that the rear fog lights are in operation.</p>		<p>8. Parking Brake Indicates that the parking brake is on.</p>		<p>9. Charging Lights up when the charging plug is connected to the vehicle.</p>	
<p>10. Start Battery Voltage Indicates the start battery voltage.</p>		<p>11. Driver's Seat Belt Warning Lights up when driver's seat belt is not fastened.</p>		<p>12. Power Battery SOC Indicates the state of the power battery.</p>	
<p>13. Limited Speed Lights up when maximum allowable discharge power is less than 50kW.</p>		<p>14. Intelligent Key Not Detected Lights up when intelligent key is not detected.</p>		<p>15. Door Open Lights up when any door is open.</p>	
<p>16. Emergency Exit Valve Open Lights up when any emergency exit valve is open.</p>		<p>17. OK Indicates that the vehicle is ready to work, please check around and drive carefully.</p>		<p>18. Rear Compartment Hatch Open Lights up when the rear compartment hatch is open.</p>	
<p>19. Main Light Lights up when the clearance light is turned on.</p>		<p>20. Gear Selector Lights up when N, R, or D is selected.</p>		<p>21. Brake Interlock Lights up when vehicle stops temporarily.</p>	
<p>22. Disabled Stop Request Lights up when the disabled presses the STOP button.</p>		<p>23. Kneeling Lights up when the vehicle is kneeling.</p>		<p>24. Regenerative Brake Override Lights up when regenerative brake override is activated.</p>	
<p>25. Slope Assistant Turns white when the slope maintaining switch is effective; Turns green when in slope maintaining mode.</p>		<p>26. Stop Request Lights up when a passenger presses the STOP button.</p>		<p>27. Ramp Activation Lights up when a ramp is activated.</p>	

Dash lights and symbols

Warning symbols

1. DC Fault		2. ABS Fault		3. Power Steering Fault	
4. Brake System Fault		5. Low Washing Fluid Level Warning Indicator		6. Motor and Controller Temperature High	
7. Brake Pad Worn		8. ECAS Fault		9. Power Battery Failure Alarm	
10. Electronic Brake System Fault		11. Power Battery Temperature High		12. Powertrain Fault	
13. Door Power Supply Fault		14. Driving Antislip Fault		15. Low Fuel Level Indicator, Climate Control	
16. ECAS Abnormal Height		17. ADAS (Advanced Driving Assistance System) Fault		18. ESC/ESP (Electronic Stability Control) Fault	
19. Tire Pressure Fault					

Driver's Display Screen



Vehicle cluster display warning

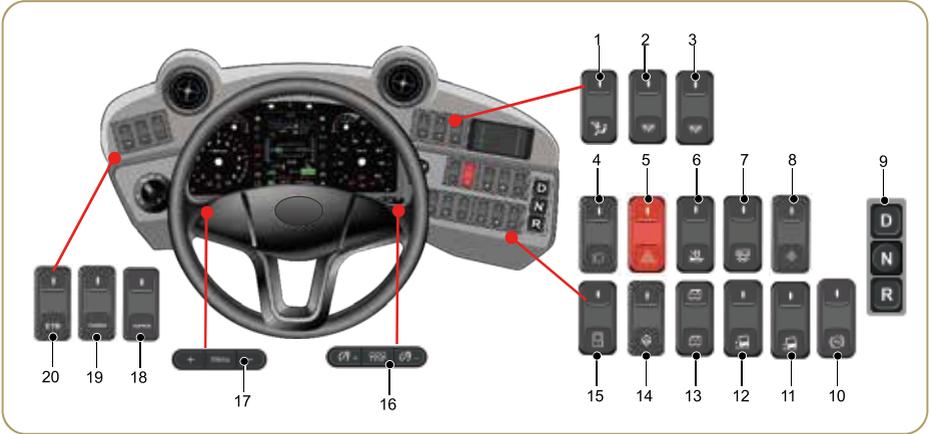


Park the bus in a safe area as soon as possible.
Inform control using the normal call button and await their instructions.

SOC
(State of Charge)

Rear Compartment Hatch Open

Function switches



1. Cab Lights



2. Saloon Light 1



3. Saloon Light 2



4. Driver's Microphone Switch



5. Hazard Warning Light



6. Reverse Horn Mute



7. Auto Saloon Lights



8. Outside light inspection



9. Gear Selector Switch



10. HAC (Hill-StartAssist Control System) Self-Reset



11. ECAS Kneeling



12. ECAS Kneeling Reset



13. Suspension Height Adjustment



14. Steering Wheel Adjustment

PLEASE REMEMBER THE BUS DOES NOT SELF RAISE



15. Front Door Open/Close



16. Dashboard Switch Set I



17. Dashboard Switch Set II



18. Cash Vault ETM Switch



19. Cash Vault Power Switch

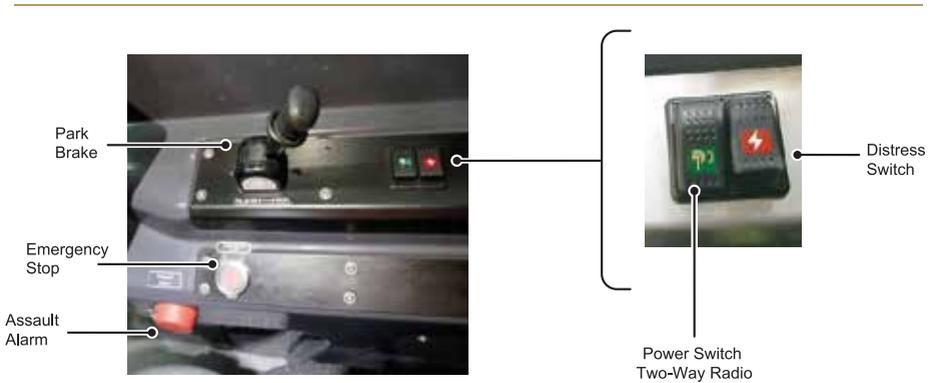


20. Cash Vault Hopper Switch

Function switches



Heating and cooling



Side Console



Safety Reminder - The emergency stop button will cut all power to the bus. It should only be used when there is a fire on the bus or a collision.



Dash Lighting Panel

Cab environment and driver's seat

The cab area has been ergonomically designed to be more spacious and driver focused with some additional features for your convenience and comfort.

Your new seat

A light breathable fixed fabric seat has been fitted to this bus – comfort and ease of use being the focus.

To adjust the seat – simply twist the yellow handles until you are in your chosen position.



Know your numbers

Each level of height has a number for fast and easy adjustment when leaving the garage or changing over.



To adjust the back of the seat, again it's a simple lever to the right of the seat. A manual runner is fitted for sliding forward and back easily.

+ **Health reminder** – An upright sitting position is proven to be better for your back and give you improved all round vision.

Driver fan and storage area

To the right of the cab there is a built in driver fan, this is operated by a small silver toggle on the fan itself and also a master on/off located on the control panel. There is also a small storage area located to the left of the cab area, ideal for jackets and rucksacks.



Cab environment and driver's seat

Emergency assault alarm

The emergency assault alarm is located as shown. In common with existing vehicles, you should also press the emergency button on your radio if you require Control's assistance.



Having activated the alarm you must leave it audible for ten seconds then press the button again to reset.

Door and mirror information

Camera technology has replaced the exterior mirrors. The benefits include improved vision at night and in wet conditions.



The roller switch on the underside of the camera/mirror can adjust the brightness.



Cab light switch

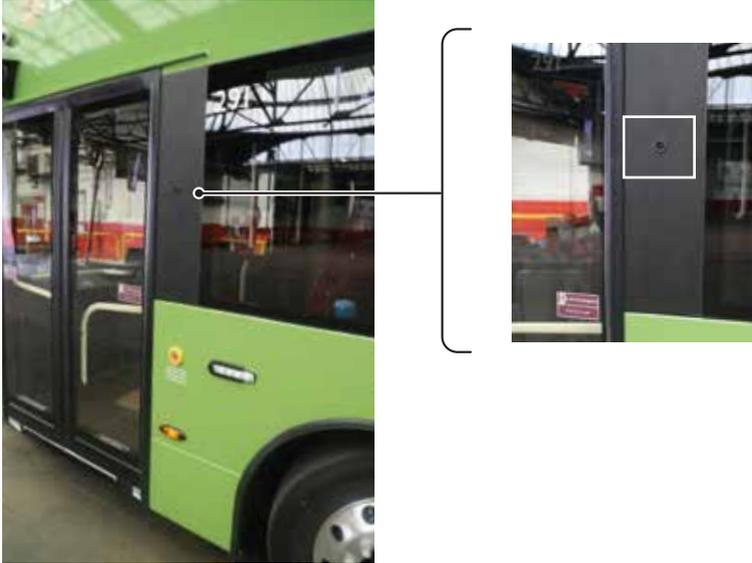
Heated window

Camera Flank toggle/view switch

The CCTV will default to the interior upper decks. You can use the toggle switches in the cab to change to the views of the exterior of the bus.

Doors and mirror information

Door open/close button



The door open/close button has a more subtle design and position on the Enviro400EV.

Wheelchair and manual ramp

Normal manual ramp procedures apply

Ensure neutral gear and handbrakes are engaged before leaving the driver cab to operate the ramp.



Deploying the ramp

In common with other manual ramps across the fleet, to deploy the ramp, lift the plastic cover to the right of the ramp platform, here you will see a stainless steel arm with handle. Lifting this will allow the ramp to deploy fully, to retract the ramp again use the silver arm and this will clip under the plastic cover.



If a buggy or customer are occupying the area, please explain to them that they need to vacate the space for the wheelchair user.

If you have any issues with this, please contact control for advice.





Driver daily walkaround checks

In addition to the usual walkaround checks, the new features of the BYD ADL Enviro400EV require drivers to complete a number of checks to ensure it is safe to enter service.

1. Pressure sensitive door edges

The front door pressure sensitive edges must be operating correctly for the bus to enter service.

To check these; doors should be open and closed. If for any reason the doors fail to close or automatically reopen when there is no apparent reason to trigger this, report this for a full safety check.

2. Emergency and safety equipment overview

The bus must have the following emergency and safety equipment:

- Fire extinguisher
- Emergency exit windows safety tags and plungers intact

It is essential that all emergency and safety equipment is visually checked so that it is in working order and in place.

As with any other vehicle please acquaint yourself with where the emergency and safety equipment is located in the bus, how it is used and ensure that nothing is missing or damaged.

3. Outside light inspection

Check all outside lights first before starting bus up by pressing the 'outside light inspection' button.

This will start with all outside lighting to flashing whilst you walk around the bus.

