PSV INSPECTION GUIDE

Lothian

EastCoastbuses Lothiancountry

EDINBURGH BUS TOURS LOTHIAN MOTORCOACHES

CONTENTS

INTRODUCTION

Vehicle Inspections form part of the overall maintenance plan of a vehicle, their purpose is to assess the safety critical items and other items affecting roadworthiness and the environment.

Vehicle Inspections should be undertaken independently from routine servicing and repair, although they can form part of a more comprehensive inspection that includes the assessment of items or specialist equipment associated with the vehicle's work activity and its performance.

Vehicle Inspection reports produced following an inspection not only provides the operator with the means to determine individual vehicle roadworthiness, but also the overall effectiveness of their maintenance systems that then allows them to identify areas for review.

Vehicle Inspections are conducted in line with DVSA Standards, Guide to Maintaining Roadworthiness and Lothian Critical Tolerances.

VEHICLE INSPECTION TRAINING

Lothian's Vehicle Inspection training programme is designed to train and develop staff that carry out vehicle inspections with the relevant information and skills to conduct vehicle inspections to Lothian standards. This procedure also aims to provide the appropriate training to accurately identify defects, make qualitative (wear and tear) assessments and evaluate the condition of vehicles. It also ensures inspections being carried out are finding, recording and reporting defects correctly and highlighting vehicle defect trends.

Scope:

- Provides appropriate skills to staff who to undertake vehicle inspections
- Improves the maintenance of our vehicles which reduces vehicle downtime
- Improve vehicle reliability
- Ensures our vehicles are prepared for annual tests
- Compliance with Lothian Critical Tolerances and DVSA Inspection Manual
- Monitoring of vehicle inspectors provides peace of mind that they are making the correct decisions when it comes to maintenance issues and the roadworthiness of our vehicles

The Vehicle Inspection Training Programme is to be completed by any new Vehicle Examiner, Stand-In Vehicle Examiner and Safety Checker.

It has 2 purposes:

- Ensure staff are fully trained to the standards expected at Lothian
- Ensure continued compliance through auditing at 6 and 12-Month intervals

VEHICLE INSPECTION TRAINING

The Training Programme should be carried out over a 3-week block and prior to the course beginning the employee should be issued the following documentation:

- PSV inspection Manual
- C.O.D Manual
- Guide to Maintaining Roadworthiness
- Lothian Critical Tolerances Booklet

Following successful pass out by the Quality and Technical Engineer all paperwork should be completed, with any comments added by the attending employee and the Depot Engineer who will sign to mark successful completion. Paperwork should be accompanied by the Vehicle Inspection Assessment Checklist and added to the personnel file of the employee.

Follow up Audit Assessments

Audit assessments are important to ensure quality and standards are continued to be met both for the individual and vehicle standards. Using **section 3** of the vehicle inspection training programme sheet and the vehicle inspection assessment check sheet, staff inspecting vehicles should be audited at the following intervals:

- Controllers 12 Month
- Vehicle Examiner 12 Month
- Stand In Examiner 6 Month
- Mid Safety Checker 6 Month

HEALTH & SAFETY

The use of Pit and Inspection Equipment must only be undertaken by those deemed competent in the safe use of all Pit and Inspection Equipment, This includes:

- Critical tolerance tools
- Pit jacks
- Coolant pressure test equipment
- Battery test equipment
- Shaker plates
- Roller brake tester
- Emissions tester
- Beam tester

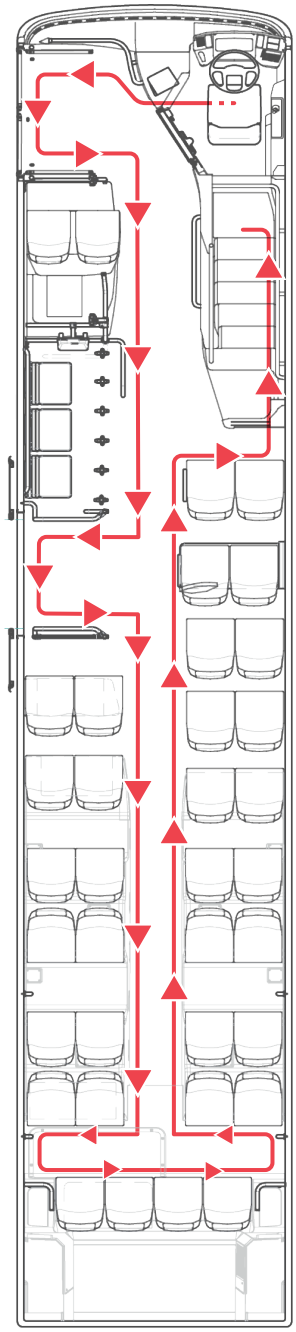
The following are mandatory and must be fitted whilst the vehicle is under inspection:

- VOR Sign (Placed at the front windscreen)
- Seat Cover

The following are available at each Engineering location:

- PSV Inspection Manual
- Categorisation of Vehicle Defects Manual
- Guide to Maintaining Roadworthiness Manual
- Lothian Critical Tolerances

LOWER DECK INTERIOR



LOWER DECK INTERIOR

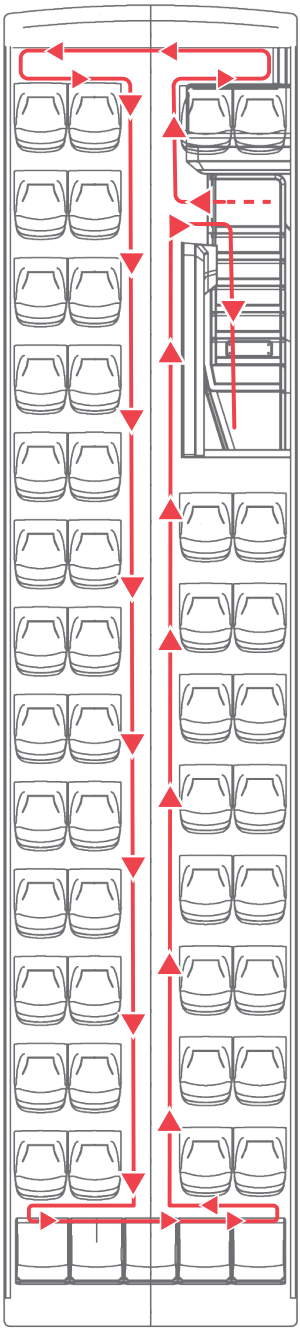
Checks from driver's seat

- Drivers Seat and Seat Belt *(where applicable)*
- Glass and View of the Road
- Mirrors and Indirect Vision Devices
- Windscreen Wipers, and Washers
- Driver's Accommodation, Drivers Door
- Warning Lamps (inc ADAS, ABS, EBS)
- Steering and Electronic Stability Control
- Horn
- Brake Pedal and Air Pressure Build-Up
- Hand Lever Operating Mechanical Park Brakes
- Hand Operated Brake Control Valves
- Height Marker
- Electronic Ticket Machine (ETM)
- Steering Wheel Adjustment
- Attack Alarm
- Suspension Operation (Kneel and Ferry Lift)
- Ramp Inhibitor
- Condition of Bandit Screen
- Cab Security
- Heating and Ventilation Controls
- Drivers Instrument Panel and Switches
- Entrance and Exit Door Operation

Checks inside the vehicle lower deck

- Passenger Doors (Emergency Controls), including sensitive edges
- Accessibility Equipment/Operation
- Seats and Seat Belts *(where applicable)*
- Communication with the driver
- Heating/Ventilation
- Emergency Exits and Emergency Break Glass Devices
- Fire Extinguisher
- First Aid Kit
- Body Interior, Passenger Entrance, Exit Steps and Platforms
- Legal Markings
- VIN Plate
- Overall Cleanliness
- Flooring, Steps and Lip Treads
- Any damage, Grafitti or Vandilism

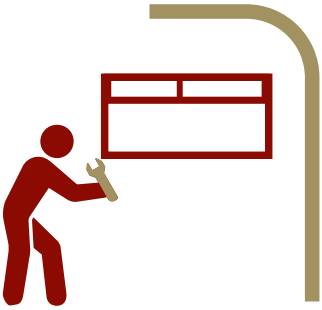
UPPER DECK INTERIOR



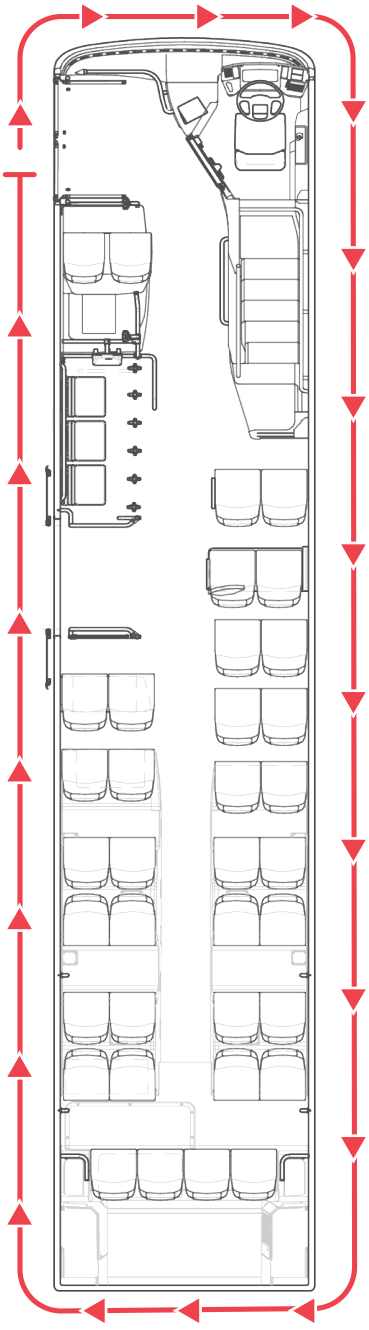
UPPER DECK INTERIOR

Checks inside the vehicle upper deck

- Stairwell, Flooring, Steps and Lip Treads
- Emergency Exits and Emergency Break Glass Devices
- Seats and Seat belts (*where applicable*)
- Communication with the driver
- Heating/Ventilation
- Body interior
- Legal Markings
- Electrical Centres
- Floor Coverings
- Any damage, Grafitti or Vandilism
- Overall Cleanliness



OUTSIDE LOWER & UPPER

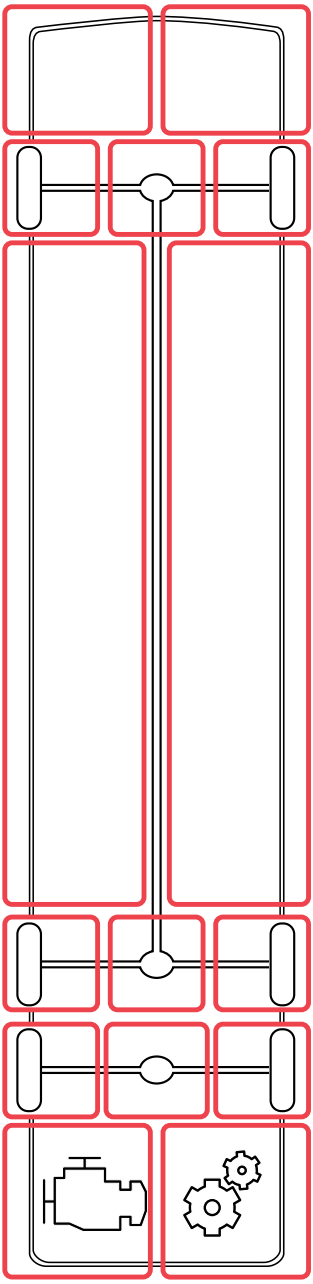


OUTSIDE LOWER & UPPER

Checks outside the vehicle

- Road Wheels and Hubs
- Security and condition of Wheel Nuts and Half Shaft Bolts
- Size and Type of Tyres
- Condition of Tyres
- Wings and Wheel Arches
- Lights, Indicators, Side Repeaters, and Reflectors
- Body exterior
- Fuel/Oil/Waste and Air leaks
- Excessive Engine Exhaust Smoke
- Diesel exhaust fluid (AdBlue)
- Vehicle Batteries (Including I-Start)
- Destination Screens
- High Voltage Emergency cut-off switch
- Alternative Fuel systems and Isolation
- Legal Markings (Including Ops and Tax Disc)
- Registration Plates
- Electrical Wiring and Equipment
- Engine and Gearbox Mountings
- Engine
- EV Power Train and Batteries
- Gearbox
- Leaks (Fuel, Oil and Coolant)
- Aim of Headlamps

UNDERSIDE



UNDERSIDE

Checks on Underside

- Condition of Chassis
- Wheel Arches
- Electrical Wiring and Equipment
- Engine and Transmission Mountings
- Gearbox
- Prop/Drive Shafts
- Engine
- EV Power Train and Batteries
- Leaks (Fuel, Oil and Coolant)
- Fuel Tanks and System
- Exhaust System
- Steering System
- Suspension
- Axles, Stub Axles and Wheel Bearings
- Condition of Tyres
- Brake Systems and Components
- Air System (tanks and associated components)

FIRE RISK ASSESSMENTS

Fire Risk Assessments involve a thorough check across various systems on the vehicle including mechanical components, electrical systems, exhaust, drive belts, hydraulic, air, ancillary items and includes general cleanliness. The vehicle will be inspected to ensure as far as practicable, that adequate precautions against the risk of fire have been taken during the construction of the vehicle.

- Fire Risk Assessments must be carried out by fully trained Vehicle Examiners
- Fire Risk Assessment documentation should be completed fully with any defects reported at the following intervals:
  - 6 Month Inspection (Blue)
  - 12 Month Inspection (Pink)
  - Vehicle returning into service after 3 Month VOR period
- Where required interior panels, lower and upper saloon seats and access panels should be opened/removed allowing for a clear visual inspection to take place
- Wiring should be inspected for integrity, routing and security
- All areas should be inspected for leaks and potential leaks
- Any defects recorded on the assessment must allocated to a fully qualified engineer to carry out the repair and if required further investigation
- On completion of the assessment and any subsequent repairs the sheet must be checked and signed by the Depot Engineer or Assistant and stored in the relevant vehicle file

A Fire Risk Assessment should be carried out if there have been any reports of a suspected thermal incident.

As part of our Operators Licence and Earned Recognition status we are required to inform DVSA of any thermal incidents, this must be reported initially via the Chief Engineer and Engineering Director to allow a full investigation.

FIRE SUPPRESSION

Required checks:

Cylinders:

- Check for security and condition of mounting brackets
- Check needle gauge is located in Green

Nozzles

- Check for build-up of any foreign debris or grease
- Ensure all end caps are fitted

Detection Wire and Tubing

- Check the detection wire and tubing for security and for signs of damage

Manual Activator (If fitted)

- Check securing pin and safety tag are fitted

Built in Monitor

- If the vehicle has a monitor check the green power light is illuminated
- Ensure audible and visual system confirmations are operating *(where applicable)*

HEV & FULL ELECTRIC VEHICLES

Electrical Safety Application — this additional information is applicable to vehicles equipped with one or more traction motor(s) operated by electric power.

- The vehicle as presented must be accompanied by satisfactory documentary evidence of compliance with the required standard for electric vehicles

Visual Inspection

- All high voltage cable terminations must be suitably protected, these protections (solid insulator, barrier, enclosure, etc.) shall not be able to be opened, disassembled or removed without the use of tools (see Note 1)
- Vehicles fitted with an external charging point shall be clearly marked on or near the connection point with an indelible label (see Figure 1) affixed in a visible location
- Any enclosure carrying high voltage shall be clearly marked with an indelible label (see Figure 1) affixed in a visible location
- All visible high voltage cables must be orange in colour
- All metal enclosures with internal high voltage must have an earth path for protection against electrical shock (this may be a separate bonding or the mounting arrangement where it does not isolate the enclosure)
- Heating modes for correct operation
- Power Train Equipment HEV & EV, Check all Power Train Equipment for security & risk of fire or injury

Note 1: The use of stretchy or soft coverings over high voltage terminals is strictly forbidden

Figure 1:

REFERENCES

PSV Inspection Manual

Categorisation of Defects

Guide to Maintaining Roadworthiness

Lothian Critical Tolerances

Certificate of Initial Fitness

Bus Directive

IVA – Individual Vehicle Approval

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