NEW FLYER OF AMERICA

DRAFT

MIAMI-DADE TRANSIT

OPERATOR'S GUIDE

XCELSIOR® ELECTRIC 60FT. TRANSIT BUS

This operator's guide is effective for only those coaches with the following Identification Numbers:

SR2837

Vehicle Identification Number	Unit Number
5FYB8YJ15RF108390	E23501
5FYB8YJ17RF108391	E23502
5FYB8YJ19RF108392	E24501
5FYB8YJ10RF108393	E24502
5FYB8YJ12RF108394	E24503
5FYB8YJ14RF108395	E24504
5FYB8YJ16RF108396	E24505
5FYB8YJ18RF108397	E24506
5FYB8YJ1XRF108398	E24507
5FYB8YJ11RF108399	E24508
5FYB8YJ14RF108400	E24509
5FYB8YJ16RF108401	E24510
5FYB8YJ18RF108402	E24511

2837 continued

Vehicle Identification Number	Unit Number
5FYB8YJ1XRF108403	E24512
5FYB8YJ11RF108404	E24513
5FYB8YJ13RF108405	E24514
5FYB8YJ15RF108406	E24515
5FYB8YJ17RF108407	E24516
5FYB8YJ19RF108408	E24517
5FYB8YJ10RF108409	E24518
5FYB8YJ17RF108410	E24519
5FYB8YJ19RF108411	E24520
5FYB8YJ10RF108412	E24521
5FYB8YJ12RF108413	E24522
5FYB8YJ14RF108414	E24523
5FYB8YJ16RF108415	E24524
5FYB8YJ18RF108416	E24525
5FYB8YJ1XRF108417	E24526
5FYB8YJ11RF108418	E24527
5FYB8YJ13RF108419	E24528
5FYB8YJ1XRF108420	E24529
5FYB8YJ11RF108421	E24530
5FYB8YJ13RF108422	E24531
5FYB8YJ15RF108423	E24532
5FYB8YJ17RF108424	E24533
5FYB8YJ19RF108425	E24534
5FYB8YJ10RF108426	E24535
5FYB8YJ12RF108427	E24536
5FYB8YJ14RF108428	E24537
5FYB8YJ16RF108429	E24538
5FYB8YJ12RF108430	E24539
5FYB8YJ14RF108431	E24540
5FYB8YJ16RF108432	E24541
5FYB8YJ18RF108433	E25501
5FYB8YJ1XRF108434	E25502
5FYB8YJ11RF108435	E25503
5FYB8YJ13RF108436	E25504
5FYB8YJ15RF108437	E25505

2837 continued

Vehicle Identification Number	Unit Number
5FYB8YJ17RF108438	E25506
5FYB8YJ19RF108439	E25507
5FYB8YJ15RF108440	E25508
5FYB8YJ17RF108441	E25509
5FYB8YJ19RF108442	E25510
5FYB8YJ10RF108443	E25511
5FYB8YJ12RF108444	E25512
5FYB8YJ14RF108445	E25513
5FYB8YJ16RF108446	E25514
5FYB8YJ18RF108447	E25515
5FYB8YJ1XRF108448	E25516
5FYB8YJ11RF108449	E25517

Revision Index

Property: Miami-Dade Transit SR2837

Publication Type: Operator's Guide Manual Issue Date: Dec 04 2023

Current Revision Indicated by:

Rev	Section/Pages Affected	Date

The information contained in this manual is updated periodically. While great care is taken in compiling the information contained in this manual, New Flyer Industries Canada ULC cannot assume liability for losses of any nature arising from any errors and/or omissions.
The information and specifications contained throughout this manual are up to date at the time of publication. New Flyer Industries Canada ULC reserves the right to change the content of this manual at anytime without notice.

Printed in Canada

☞ **NOTE:**

The National Highway Traffic Safety Administration (NHTSA) has requested that the following statement be provided for your information.

If the property believes that its vehicle has a defect which could cause a crash or could cause injury or death, inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying New Flyer Industries Canada ULC.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you and New Flyer Industries Canada ULC.

To contact NHTSA, either call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to http://www.safercar.gov and download the SaferCar mobile application or write to: Administrator, NHTSA,1200 New Jersey Ave. SE, Washington, DC 20590. Other information about motor vehicle safety can be obtained from http://www.safercar.gov.

Table of Contents

1. INTRODUCTION

This manual describes the operating features and safety equipment of the New Flyer transit vehicle. All personnel involved in the operation of the vehicle should be acquainted with this manual and should familiarize themselves with the vehicle, before providing any public service. Knowing the contents of this booklet and following its recommendations will help to assure safe and trouble-free operation.

It is not the intention or responsibility of this manual to give instruction in the use of common sense, basic skills and rules of driving; therefore, it is assumed that you, the operator, are fully qualified to operate a public transit vehicle.

This manual and any other supplied should be considered a permanent part of the vehicle and remain with the vehicle at all times. The information and specifications throughout this manual are up to date at time of publication. New Flyer reserves the right to change the content of this manual at any time without notice. Any malfunction which interferes with the safe operation of the vehicle should be reported immediately to the appropriate service personnel.

☞NOTE:
New Flyer urges you the driver to read this publication carefully, as well as any manuals which are readily available from their respective manufacturer.

Vehicle Identification

The New Flyer vehicle identification plate is located in the driver's area of the vehicle interior. The plate lists the Gross Vehicle Weight Ratings (GVWR), the Vehicle Identification Number (VIN) and the Gross Axle Weight Ratings (GAWR) for all axles.

Vehicle Patent Information

This New Flyer product and its components, and methods of manufacturing thereof, may be protected by one or more of the following patents, design registrations and patent applications. In addition, such products, components, and/or methods may be protected by one or more patent and design applications which may have not been published as of the date of this manual, in the United States, Canada, and elsewhere. Please direct all inquiries to our

Corporate Offices. For a current listing of applicable patents, please refer to our Legal Notice at our corporate website, http://www.newflyer.com.

New Flyer Products	Patents, Patent Applications, Design Registrations & Design Applications
Xcelsior® Bus[1]	**U.S. Patents** 6,343,908; 6,397,965; 6,416,094; 6,556,899; 6,611,739; 6,681,174; 6,695,366; 8,109,551; 8,548,669; 9,053,585; 9,748,777 **U.S. Published Applications** 2012/0161469 (App. No. 13/343,442); 2013/0181679 (App. No. 13/669,788) **U.S. Applications** 13/669,788; 15/651,137; 16/040,922; 16/118,783 **U.S. Designs** D637520; D639712; D660761; D678818; D680670; D687593; D692360; D723442; D742289; D807244 **CA Patents** 2,306,413; 2,317,237; 2,455,153; 2,652,352; 2,794,822; 2,825,732; 2,947,030 **CA Applications** 2,794,822; 2,825,732; 3,012,008 **CA Designs** 129599; 132413; 132414; 132415; 132416; 132417; 133389; 133391; 133392; 133598; 133599; 133600; 133645; 133646; 133647; 133648; 133649; 133650; 133651; 136,266; 139456; 139757
MiDi®	**U.S. Patents** 6,343,908; 6,556,899; 6,611,739; 6,681,174; 8,548,669 **CA Patents** 2,306,413; 2,689,744

New Flyer Products	Patents, Patent Applications, Design Registrations & Design Applications
Invero® Bus[1]	**U.S. Patents** 6,257,652; 6,340,202; 6,343,908; 6,375,249; 6,397,965; 6,416,094; 6,416,116; 6,556,899; 6,611,739; 6,681,174; 6,695,366; 6,726,271; 8,548,669 **CA Patents** 2,297,618; 2,297,623; 2,297,625; 2,297,719; 2,306,413; 2,317,237; 2,455,153
High Floor Bus[1]	**U.S. Patents** 6,343,908; 6,397,965; 6,416,094; 6,556,899; 6,611,739; 6,681,174; 6,695,366; 8,548,669 **CA Patents** 2,317,237; 2,455,153
Low Floor Bus[1]	**U.S. Patents** 6,343,908; 6,397,965; 6,416,094; 6,556,899; 6,611,739; 6,681,174; 6,695,366; 8,548,669 **CA Patents** 2,317,237; 2,455,153
Electric Buses	**U.S. Patents** 9,053,585; 9,748,777 **U.S. Applications** 13/669,788; 15/651,137; 16/118,783 **U.S. Published Application** 2013/0181679 (App. No. 13/669,788) **CA Applications** 2,794,822; 2,865,638

New Flyer Products	Patents, Patent Applications, Design Registrations & Design Applications
Passenger Ramps	**U.S. Patents** 6,343,908 **U.S. Applications** 16/040,922 **CA Patents** 2,306,413 **CA Applications** 3,012,008
Suspension Systems	**U.S. Applications** 16/040,922 **CA Applications** 3,012,008
Energy Absorbing Bumpers	**U.S. Patents** 6,416,094; 6,695,366 **CA Patents** 2,455,153
Engine Mounts	**U.S. Patents** 6,397,965 **CA Patents** 2,317,237
New Flyer Connect™ Products & Services	**U.S. Patents** 6,556,899; 6,611,739; 6,681,174; 8,548,669 **CA Patents** 2,689,744

Note 1: Not all buses have features covered by all patents.

Trademarks owned by New Flyer Industries Canada ULC, New Flyer of America Inc. or their affiliates: Flyer, New Flyer, the Wing logo, Xcelsior, Xcelsior Charge, MiDi, Recharge, Xtended Life, New Flyer Connect, Connect 360, Built to Rely On., NFI.Parts, Western Flyer - Canuck, Invero, Kinetik, Optima, the Hybrid Drive and Arc logos, and associated designs and logos (registered, or subject of registration applications, and under the common law).

Danger, Warning, Caution & Note

Four types of headings are used in this guide to attract your attention. These notations will be highlighted with the icons below.

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

Used when an operating procedure or practice, if not correctly followed, could result in personal injury or loss of life.

Used when an operating procedure or practice, if not strictly observed, could result in damage to or destruction of equipment.

☞NOTE:

Used to provide additional information that requires special attention by the operator.

Contacting New Flyer

If additional information is required, contact the Publications Department of:

New Flyer Industries Canada ULC
76-630 Kernaghan Ave.
Winnipeg, Manitoba
Canada
R2C 5G1
nfpubsadmin@newflyer.com

VEHICLE SPECIFICATIONS

VEHICLE TYPE	
Model	New Flyer XE60 transit bus
Customer	Miami-Dade Transit - SR2837
Build Year	2023
ELECTRIC DRIVE SYSTEM	
Traction Motor	*Siemens* ELFA3 Permanent Electromagnetic Motor (PEM) A5E48131981
Model	1DB2016-6NB06
Voltage	561 V
Power	215 HP (160 kW)
Torque	752 ft-lbs (1,019 Nm)
Energy Storage System (ESS)	*American Battery Solutions (ABS)* ESS Enclosures (5 rooftop, 2 rear) with 18S34p Lithium Ion Battery Modules
	System total energy: 770 kWh
Rear Inverter Rack	*Siemens* ELFA3 Motor Inverter A5E52953161
	Siemens ELFA3 Auxiliary Inverter (2) A5E52791656
	Siemens High Voltage Isolation Monitoring Device (IMD) A5E31534995 with remote mounted (streetside corner pillar) controller module 102972-000
Depot Charging	*Phoenix* Contact CCS Type 1 charge receptacles (curbside & streetside)
On-Route Charging	Rooftop charge rails
DIMENSIONS	
Length (over bumpers)	60’ 10" (18.5 m)
Width	8’ 6" (2.6 m)
Height	10’ 10" (3.3 m)
Wheelbase (front to center)	19’ 1" (5.8 m)
Wheelbase (center to rear)	24’ 5" (7.4 m)
Wheelbase (front to rear)	43’ 6" (13.3 m)

Turning Radius	44’ (13.4 m)
Approach/Departure Angle	9°
Vehicle Weight (approx.)	47,400 lbs. (21,500 kg)
Gross Vehicle Weight Rating (GVWR)	73,193 lbs. (33, 200 kg)
AXLES & SUSPENSION	
Front Axle	*MAN* VOK-07-F
Front Gross Axle Weight Rating (GAWR)	15,873 lbs. (7,200 kg)
Front Axle Ride Height	4" (102 mm)
Suspension Air Springs (Front)	*Firestone* Airide
Suspension Shock Absorbers (Front)	*Koni* with ride height sensors
Center Axle	*ZF* AxTrax AVE 130
Center Gross Axle Weight Rating (GAWR)	28,660 lbs. (13,000 kg)
Center Axle Ride Height	3.9" (99 mm)
Suspension Air Springs (Center)	*Firestone* Airide
Suspension Shock Absorbers (Center)	*Koni* (two with ride height sensors, two without
Rear Axle	*MAN* HY-1350-F (5.67:1)
Rear Gross Axle Weight Rating (GAWR)	28,660 lbs. (13,000 kg)
Rear Axle Ride Height	3.8" (97 mm)
Suspension Air Springs (Rear)	*Firestone* Airide
Suspension Shock Absorbers (Rear)	*Koni* (two with ride height sensors, two without)
SmartRider™ Plus	Electronic suspension control - Integrated stability, ride height, kneeling, and ramp controls
Driveshaft	*Dana* 1710 with two crosstooth flanges
STEERING	
Steering Gear	*R.H. Sheppard* M110 with remote miter box

Oil Flow	3.6 gal/min
Pressure Relief	1,850 psi
Steering Column	*Douglas Autotech* 9204 Series
Power Steering Reservoir	*Helgeson* reservoir - 1.12 gal (4.24 L) usable capacity with fluid level sensor and pressure fill connection
Power Steering Pump	*ZF* EV500
Power Steering Inverter	*Parker* Gen 6 Inverter
Power Steering Motor	*Parker* GVM210 Motor
WHEELS & TIRES	
Tires	*Michelin*
Tire Size	305/70R22.5
Inflation Pressure	130 psi
Rim Mounting	10 Bolt hub piloted
Wheels	Aluminum
Maximum Load (single tire)	8,047 lbs. (3,650 kg) @ 130 psi
Maximum Load (dual tires)	7,385 lbs. (3,350 kg) @ 130 psi
BRAKE SYSTEM	
Brakes, Mechanical (front)	*Knorr-Bremse* SN7000 air-actuated sliding caliper disc brakes
Brakes, Mechanical (center)	*Knorr-Bremse* SB7000 air-actuated sliding caliper disc brakes
Brakes, Mechanical (rear)	*Knorr-Bremse* SN7000 air-actuated sliding caliper disc brakes
Brake Pads	Environmental Code Level B: Reduced copper (< 5% by weight)
Wear Sensor (front)	End of life wear sensors in brake pads
Wear Sensor (center)	End of life wear sensors in brake pads
Wear Sensor (rear)	End of life wear sensors in brake pads
Service Brake Chamber (front)	*MGM* Type 24L with e-Stroke
Service Brake Chamber (center)	*MGM* Magnum Performance Plus MJB2424 with e-Stroke
Service Brake Chamber (rear)	*MGM* Magnum Performance Plus MJB2424 with e-Stroke
Antilock Braking System (ABS)	*Meritor Wabco* ABS on all wheels

Automatic Traction Control (ATC)	*Meritor Wabco* ATC on rear wheels
Parking Brake Application	Spring brake chamber applied with push/pull control valve located on side console
Parking Brake Release	Spring brake chamber released with application of air from push/pull control valve located on side console
Emergency Brake Application	Spring brake chamber applied with loss of reservoir pressure, modulated with brake treadle application
Emergency Brake Release	Released with push button control valve located on side console
Brake Monitoring System	*MGM* e-Stroke display module located inside the electronic equipment enclosure. e-Stroke brake sensor on all brake chambers and a brake alert message on the instrument panel.
HVAC SYSTEM	
HVAC Units (ATE5-M16)	*Thermo King* RLFE2C-M13 front rooftop evaporator & condenser
	Thermo King TE15-M16 rear unit evaporator
Defroster	*Mobile Climate Control* T12-60118
Coolant Heater (2)	*Valeo* HV Thermo DC 200
Booster Pump	*Ametek*
Refrigerant	R407C
COOLING SYSTEM	
Traction Motor/Inverter Cooling System	*Engineered Machined Products (EMP)* Radiator with 2 Fil-11 pusher-type fans
	Coolant Reservoir
	Ametek Coolant Pump
Center Axle Cooling System	*Engineered Machined Products (EMP)* - Heat Exchanger with 2 Fil-11 pusher-type fans
	Coolant Reservoir
	Ametek Coolant Pump
Battery Thermal Management System	*Modine* Rooftop unit with integrated air-to-liquid heat exchanger, condenser, heater, refrigerant compressor, filter, pump & reservoir.

AIR SYSTEM	
Compressor	VMAC EC20 encapsulated compressor with integrated controller and power unit (600 VDC)
Air Dryer	*Graham White* QBA-15 air dryer
LOW VOLTAGE CHARGING SYSTEM	
Voltage Converter	*Siemens* Auxiliary DCDC+DCAC Inverter (2) A5E52791656
Voltage Regulator	*Transtech* 24 Volt regulator with CAN connector
Voltage Equalizer	*Vanner Power Group* 12/24 Volt, 100 Amp
Batteries (2)	*Odyssey Battery* Extreme Series
Battery Type	Maintenance-free
Battery Type	Deep Cycle
Battery Group Size	31
Battery Cranking Capacity	1150 CCA
EXTERIOR LIGHTING	
Headlights	*J.W. Speaker* Integrated unit with 12 Volt LED low beam, high beam & amber turn lights
Exterior Stop/Tail Lights	*Dialight* 12 Volt LED
Side Turn/Marker Lights	*Dialight* 12 Volt LED
Clearance Lights	*Dialight* 12 Volt LED
INTERIOR LIGHTING	
Aisle Lights	*TCB* 24 Volt LED lights with dimmable Gen 3 clever boards
INSTRUMENTATION	
Instrument Panel	*Parker-Vansco* DPS70
	User programmable inputs, outputs, gauges, telltales & LCD display
	2 Controller Area Network (CAN) ports for J1939 chassis/ drivetrain networks
	USB device port for communicating with a PC

Overhead Recess Panel	Destination sign controller
	Fire suppression display panel & manual actuator & buzzer
MULTIPLEXING SYSTEM	
Multiplexing Module (VMM) System with J1939 Network Communication	*Parker-Vansco* VMM 1615 modules
ARTICULATED JOINT	
Hydraulically Controlled Mechanism	*ATG* Artic-O-Mat Limbo II 350
Maximum Pivot Angle	49°
AVA/AVL SYSTEM	
Driver/Vehicle Monitoring System	*New Flyer* Connect™ system without Driver Maneuver Awareness System (DMAS) display
AVA/AVL System	*Clever Devices* IVN5 control unit
PASSENGER COUNTING SYSTEM	
Automatic Passenger Counter (APC)	*Urban Transportation Associates* Hella system with sensors on door baseplates
ELECTRONIC EQUIPMENT	
Infotainment System	*Clever Device* infotransit system with front & rear monitors.
Traffic Signal Priority System	*Emtrac* Vehicle Control Unit (VCU) based system
DESTINATION & ROUTE SIGNS	
Sign Control	*Luminator Technology Group* Multi Control Unit (MCU)
Front Destination	*Luminator Technology Group* Horizon SMT series Titan
Side Destination	*Luminator Technology Group* Horizon SMT series
Streetside Destination	*Luminator Technology Group* Horizon SMT series
Rear Route	*Luminator Technology Group* Horizon SMT series
DOORS	
Entrance Door	*Vapor* Electric slide glide
Entrance Door Opening Size	Medium
Limit Switches	Inductive proximity switches

Exit Door (3)	*Vapor* Electric slide glide
Exit Door Opening Size	Wide
Limit Switches	Inductive proximity switches
Driver's Door Control	5-position door controller located on the side console
Passenger Door Control	Contactless Acoustic Sensors (CLASS)
WINDOWS	
General	*Arow Global*, fixed
Mounting	Flush
Frame	Black anodized aluminum
Glazing	Tempered glass
Tinting	Grey, 13% light transmittance
Driver's Window	Two piece slider with interior & exterior handles
Glazing	Tempered glass
Tinting	Blue Spruce 1, 70% light transmittance
Emergency Escape	4 curbside & 3 streetside identified with labels
SEATING	
Driver's	*USSC* 9110 ALX3
Passenger	*American Seating* Insight
Passenger Seating Quantity	48
Wheelchair Stations	2 (seats fold up & lock)
FLOOR & SUBFLOOR	
Subfloor	Douglas Fir Plywood
Flooring	*Tarabus*
Sealant	*Tarabus*

SAFETY FEATURES	
Emergency Escape Exits	4 curbside windows identified with labels
	3 streetside windows identified with labels
	2 roof hatches
Fire Extinguisher	5 lb ABC rating
Fire Extinguisher Location	Driver's barrier
Safety Triangles Location	Driver's barrier
Entrance Door Emergency Release	Rotary valve located in baseplate above entrance door
Exit Door Emergency Release	Rotary valve located behind breakable cover, rear of exit door
Accelerator & Brake Interlocks	*New Flyer* safety system that automatically applies the brakes & disables the accelerator based on vehicle operating conditions.
Sensitive Edges	Exit door panels
Sensitive Edges	Entrance door panels
Obstruction Detection System	Contactless Acoustic Sensors (CLASS) at exit door
Fire Detection System	Internally mounted fire detectors in each ESS compartment with instrument panel text message
Fire Suppression System	*Kidde* Dual Spectrum
Silent Alarm	Located on vertical face of side console
Seat Belt Alarm	Located on driver's seat
Ramp Alarm (4)	One located in the front mask and three located on each of the exit door
Backup Alarm	Located in the curbside of the engine compartment
Video Surveillance System	*Seon Design* NH16 system with 16 cameras
Driver's Door	*Arow Global* AROWGUARD slide system driver's door
ACCESSIBILITY FEATURES	
Wheelchair Ramp	*New Flyer* ramp with electric drive and patented chain drive mechanism
Wheelchair Ramp Width	Flip-out aluminum 32" (813 mm)
Wheelchair Ramp Slope Ratio	1:6

Wheelchair Ramp Max. Load Capacity	1000 lbs. (453 kg)
Exit Door Wheelchair Ramp (3)	*Ricon* FoldOver electric FR2E12
Exit Door Ramp Usable Width	34.4" (874 mm)
Exit Door Ramp Max. Load Capacity	1000 lbs. (453 kg)
Kneeling	SmartRider™ integrated front auto-kneeling and side kneeling
Interior Bike Rack	*Sportworks* Interlock

2. EMERGENCY INFORMATION

Vehicle Evacuation & Shutdown

In the event of an emergency, follow the evacuation and shutdown procedure in the sequence shown:

1. Move the vehicle to a safe location.
2. Apply the parking brake.
3. Open the front and rear passenger doors.
4. Place the shift selector into NEUTRAL position.
5. Shutdown the vehicle by setting the Master Run switch to the STOP-SYSTEM position.
6. Direct all passengers to a safe area, away from the vehicle.
7. Alert the transit authority of the emergency.
8. Retrieve the Emergency Responder Guide and exit the vehicle.

WARNING

Assess the situation to determine whether it is safe to approach the rear curbside area of the vehicle before proceeding with the following steps.

9. Approach the rear curbside area of the vehicle and open the Battery Disconnect switch access door.
10. Shutdown the 12/24 battery power to the vehicle by setting the Battery Disconnect to the OFF position. See “Figure 1: Battery Disconnect & High Voltage Interlock Switches” on page 16.
11. Turn the High Voltage Interlock switch to the OFF position.
12. Wait for emergency response personnel to arrive and assist them by providing details of the emergency and handing over the Emergency Responder Guide.

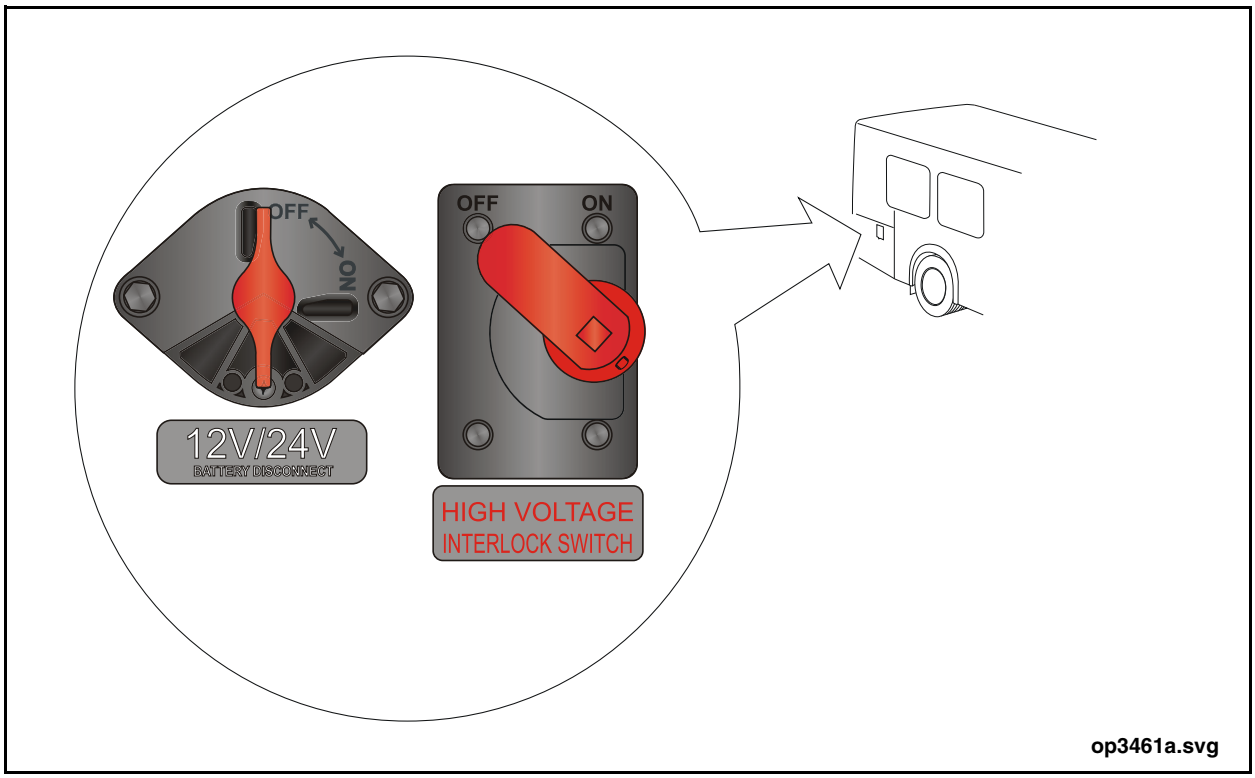


Figure 1: Battery Disconnect & High Voltage Interlock Switches

Escape Exits

Side Windows

The windows which function as emergency exits are identified by labels.

To operate the emergency window, pull the red handle down and hold. Push out on the bottom of the window frame. The window will open on hinges at the top of the frame. To close, release the handle and slam window shut. See “Figure 2: Window Emergency Handle” on page 17.

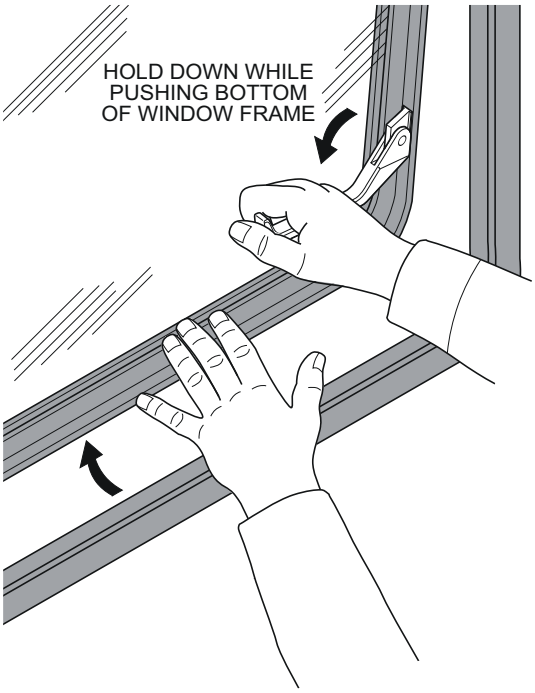


Figure 2: Window Emergency Handle

Roof Hatches

The roof hatches function as emergency exits and are identified by decals on the hatch panel. Proceed as follows to operate the emergency exit: See “Figure 3: Roof Hatch Emergency Exit” on page 18.

WARNING

DO NOT open the roof hatches when the high voltage batteries are being charged.

Opening

1. Rotate the red knob 90° in either direction.
2. Push the red knob into the lid.
3. Continue to push the lid to the fully OPEN position.

Closing

1. Ensure the release hinge is in the UPWARD position.
2. Lower the lid into position.
3. Guide the release hinge into the handle base on the lid.
4. Pull down on the top of the lid to force the release hinge and the lid together until you hear the spring loaded handle set in place.
5. Grasp both sides of the lid and pull down to fully close the hatch.
6. Rotate the red knob back into the LATCHED position.

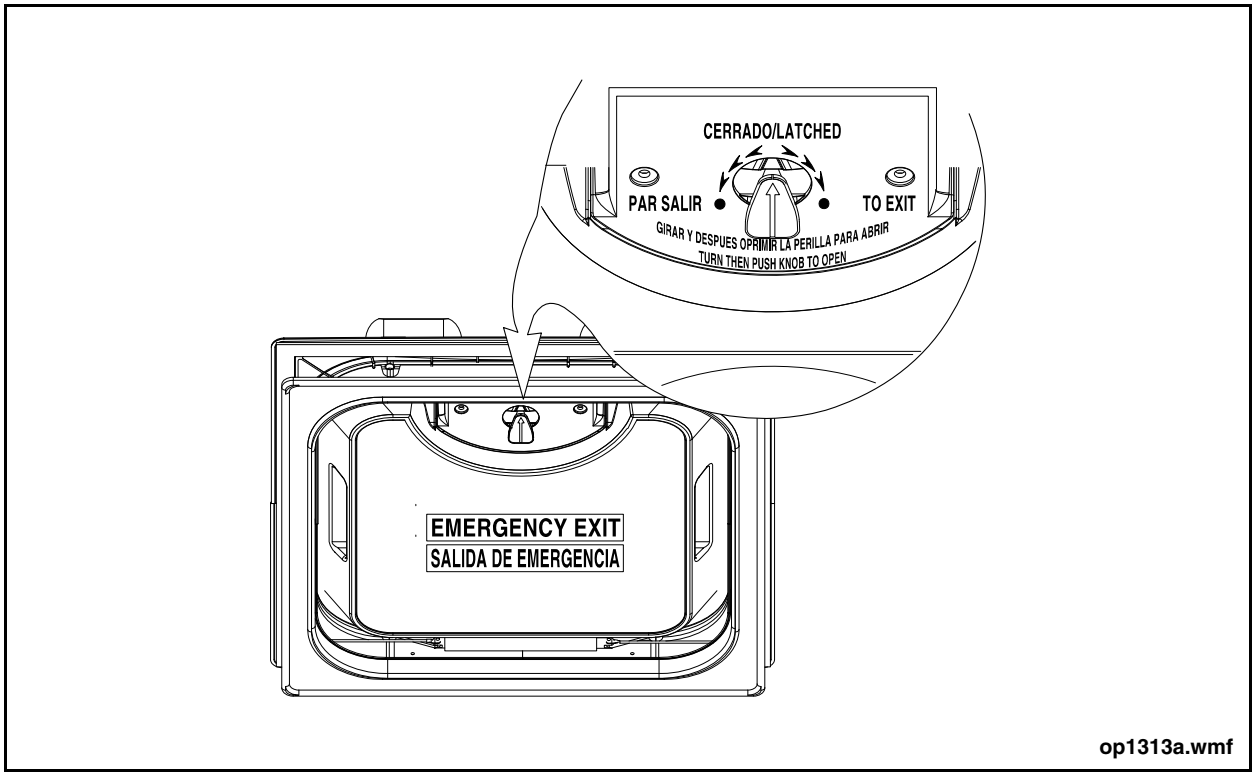


Figure 3: Roof Hatch Emergency Exit

Emergency Release Control Valve - Entrance Door

The entrance door emergency release control valve is located behind a breakable window in the door mechanism access cover. In an emergency, break the glass to access the control valve knob. Rotate the knob 90° counter-clockwise to release air pressure from the emergency release cylinder, then push the doors open. As the doors open they activate the header light and brake and accelerator interlocks. See “Figure 4: Entrance Door Emergency Release Control Valve” on page 19.

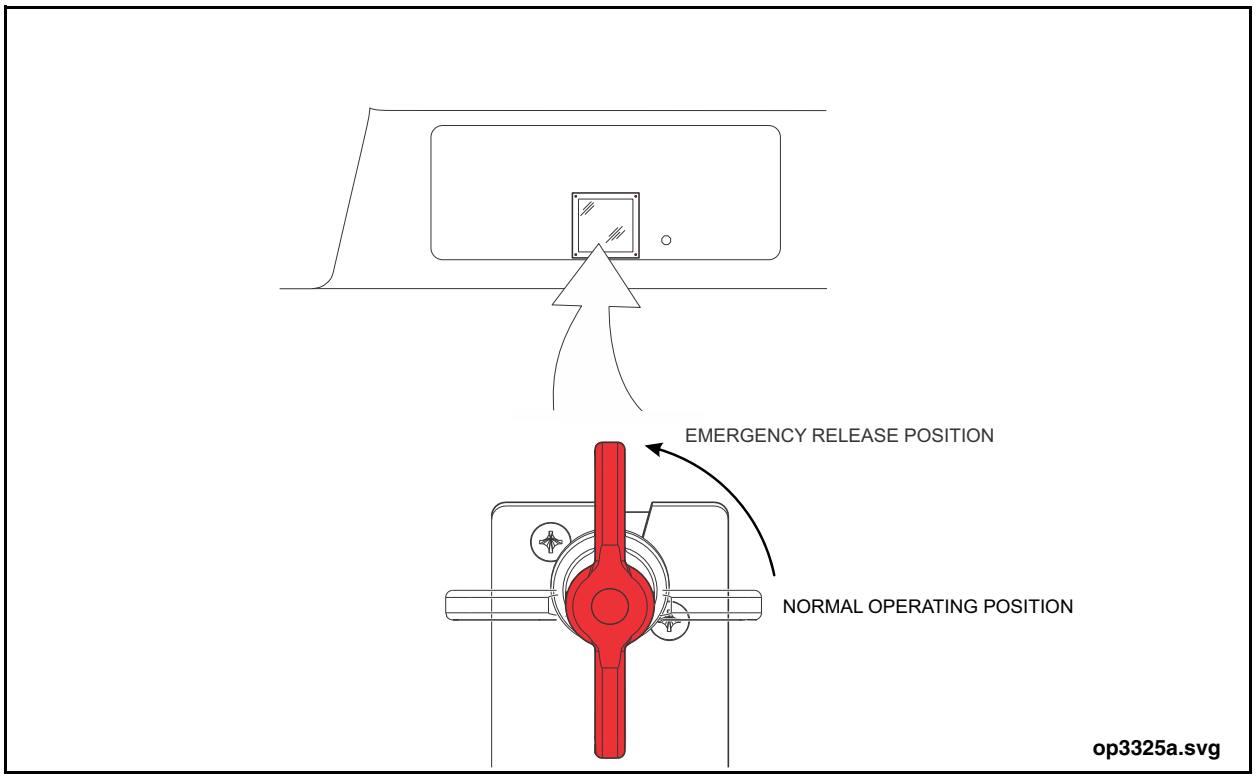


Figure 4: Entrance Door Emergency Release Control Valve

Emergency Release Control Valve - Exit Door

The exit door emergency release control valve is located to the left of the exit door header, behind a breakable window. In an emergency, break the glass to access the control knob. Rotate the knob 90° counter-clockwise to release air pressure from the emergency release cylinder, then push the doors open. As the doors open they activate the header light, the brake and accelerator interlocks, and the Rear Door Open message. See “Figure 5: Exit Door Emergency Release Control Valve” on page 20.

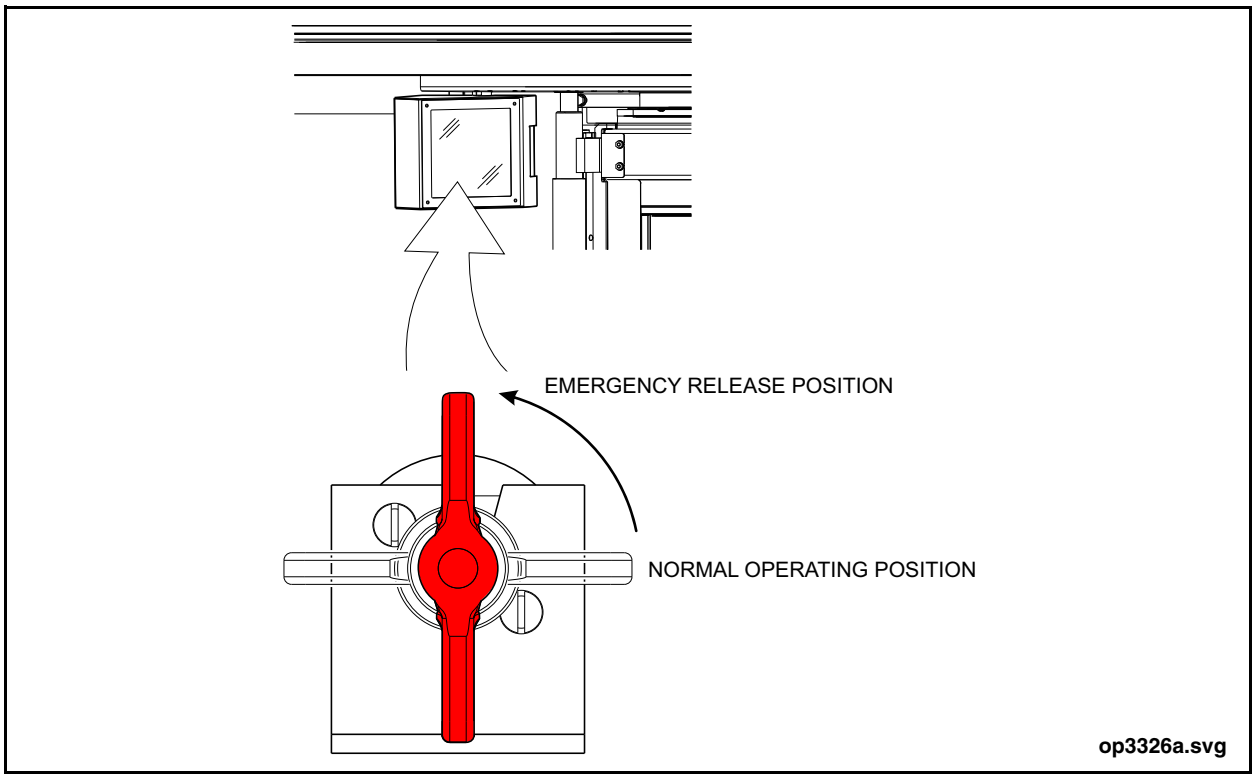


Figure 5: Exit Door Emergency Release Control Valve

3. SAFETY INFORMATION

High Voltage Safety

DANGER

The Electric Drive System uses potentially hazardous electrical energy. There is a risk of electric shock. Only trained service personnel should access components of the electric drive system. Failure to observe all high voltage (HV) electrical safety precautions may result in personal injury and/or death. All high voltage compartments and/or components are identified with High Voltage warning labels or symbols. See “Figure 6: High Voltage Warning Label” on page 21.

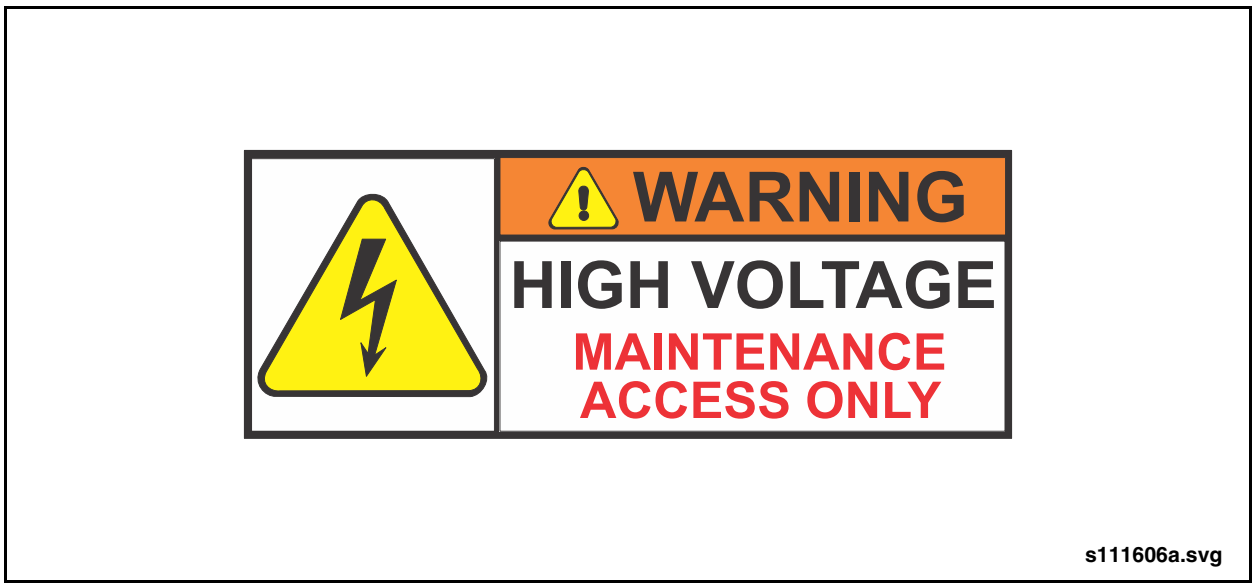


Figure 6: High Voltage Warning Label

Visually inspect all systems and workmanship with special attention to ensure there is no HV equipment damage, and that HV cables are not damaged or chafing. While servicing the vehicle electrical components remove all jewelry, wear personal protective equipment (PPE) as outlined in the general safety requirements or as specified in each procedure.

Before starting work, the following five safety rules for the entire high-voltage system must be observed:

1. Disconnect the system (de-energize the supply).

2. Lockout and Tagout to protect against reconnecting.
3. Make sure that the equipment is de-energized.
4. Ground and short-circuit equipment as required by the service procedure.
5. Cover or enclose adjacent components that are still energized.

Even after the module has been de-energized, hazardous voltages can still be present for longer periods of time.

Death, serious injury, and significant material damage will result if these safety rules are not followed.

Refer to Section 4 of your New Flyer Service Manual for complete High Voltage safety information.

Safety Procedures

Do not drive the vehicle if:

- Indicators, instruments or gauges show that a major vehicle operating system is malfunctioning.
- Beneath the vehicle, puddles of power steering fluid, or coolant have formed.
- Seating stanchions and grab rails are loose or damaged.
- Driving mirrors are broken, missing or cannot be properly adjusted.
- Any exterior or interior light is broken, discolored, or malfunctioning.

Report the occurrence of any of the above to service personnel so the vehicle can be serviced before beginning revenue service.

- Do not operate the vehicle without fastening the seat-belt.
- Make sure obstructions do not block or interfere with your safe range of driving and operating vision.
- Have any debris or garbage removed from the passenger area and the doors. This is important to eliminate any foot obstructions that could cause tripping or falling.
- Make sure all exterior and interior access doors and panels are securely shut and latched.
- Do not smoke in areas where hydraulic fluid, oil or any other flammable fluid has leaked.

Safety Equipment

The following safety equipment is supplied with this vehicle: See “Figure 7: Safety Equipment” on page 23.

Fire Extinguisher

Use the extinguisher only after the vehicle is in a safe location, and all passengers are evacuated. Use only if there is no risk to your personal safety.

Safety Triangles

Position the triangles at the front and rear of the vehicle to warn other drivers during emergency situations.

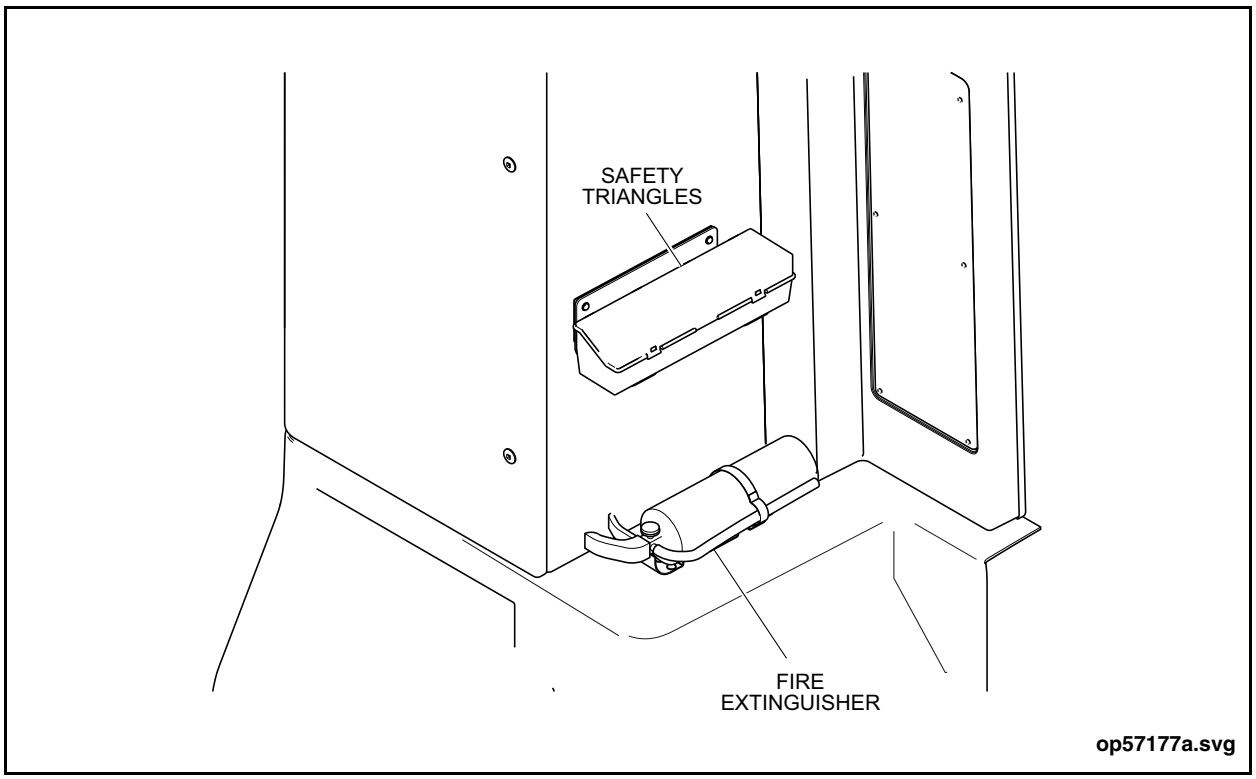


Figure 7: Safety Equipment

Fire Suppression System

The vehicle is equipped with a Fire Suppression System. The system protects the passengers and vehicle against fire. If a fire is detected in the rear ESS compartment an extinguishing agent is discharged to suppress the fire.

The Fire Suppression System components that are located in the driver's area include the Manual Actuator switch and alarm panel. Refer to "10.FIRE SUPPRESSION SYSTEM" on page 96 in this manual for a description of these components and the system operation.

☞NOTE:

An alarm sounds and the Electric Drive System shuts down when the Fire Suppression System is activated.

Energy Storage System (ESS) Fire Detection System

The Fire Detection System uses temperature sensors to warn of emerging thermal events inside an ESS enclosure. A driver's buzzer will sound and a FIRE warning message will display on the instrument panel. When activated, the operator should immediately pull the vehicle over to a safe location and conduct an emergency vehicle evacuation and shutdown. Refer to "Vehicle Evacuation & Shutdown" on page 15 in this manual for more information.

Entrance and Exit Door Sensitive Edges

Pressure sensitive rubber seals are mounted to the leading edges of the entrance and exit door panels. If they encounter an object or passenger during door closure, an alarm sounds and the doors fully reopen. The doors will again close once they have fully reopened.

☞NOTE:

The Interlock System prevents the vehicle from moving until the exit doors have fully closed.

Obstruction Detection System

Acoustic sensors are mounted at the top of each door panel and in the center of the exit door header. These sensors enhance the sensitive edge function when the door is closing. They monitor the door pathway while the door is open to prevent premature closing. If they detect

an object or passenger during door closure, the doors fully reopen. The doors will again close once they have fully reopened and the object or passenger has cleared the doorway.

☞NOTE:

The Interlock System prevents the vehicle from moving until the exit doors have fully closed.

Video Surveillance System

A Video Surveillance System records events as they occur on the vehicle. The system consists of a digital video recorder, 16 cameras, an event marker switch.

The video recorder is located in the Secure Diagnostic Station. The cameras are located in the interior and exterior of the vehicle. The Event Marker switch is located on the side console.

The instrument panel LCD screen displays different area of the vehicle depending on the operator's action. When the operator places the shift selector in reverse the instrument panel will display area behind the vehicle. When the operator enables the streetside exit doors the instrument panel will display a split screen of the center and rear exit door area. Lastly, when the operator enables the curbside door the instrument panel will display the rear exit door area. Pressing the Event Marker switch on the side console marks and saves incidents for storage and retrieval on the DVR hard drive.

High Voltage Interlock (HVIL) System

⚠WARNING

When the HVIL system activates, a text message appears on the instrument panel, a buzzer will sound and the vehicle will exit EV mode when all criteria are met to safely do so. The message will appear immediately when the HVIL condition occurs, even if the vehicle shutdown is delayed because a shutdown requirement is not yet met.

This vehicle is equipped with a High Voltage Interlock (HVIL) system that is designed to prevent accidents involving the high voltage components of the propulsion system. The HVIL system activates if an access door for high voltage components is open or if the High Voltage Interlock switch is placed in the OFF position. If a HVIL condition occurs, move the vehicle to

a safe location as soon as possible, set the Master Run switch to the STOP-SYSTEM position and contact service personnel for further instructions.

☞NOTE:

When a HVIL condition causes the vehicle to exit EV mode, any active charging session will end and it will not be possible to re-enter EV mode until the cause of the condition is resolved.

Accelerator & Brakes Interlock System

Interlocks disable the accelerator and apply the brakes. The interlocks function only when the Master Run switch is in DAY-RUN or NIGHT-RUN position, the Door Master switch is set to the ON position, the vehicle speed is below 2 mph (except where noted), and any of the following conditions occur:

- Entrance or exit doors are open or enabled.
- Exit door emergency release valve is actuated or there is a loss of air pressure at the exit door (regardless of vehicle speed).
- Vehicle is kneeling.
- Wheelchair ramp is not stowed.
- Parking brake is applied.
- Vehicle is in SHIPPING or CALIBRATION mode.
- Vehicle is in drive while stationary with accelerator released and service brakes applied for 3 seconds.
- Brake application is required to prevent rollback.
- Articulated joint maximum angle exceeded when reversing (regardless of vehicle speed).
- Articulated joint speed signal is lost when reversing (regardless of vehicle speed).
- Rollback prevention feature is activated and brake is applied.

The Interlock System is intended to protect passengers from inadvertent vehicle movement. The Door Master switch can be used to disable the system for maintenance purposes or in an emergency. Refer to “Front Door Master Switch” on page 95 in this manual for further information on switch operation.

☞NOTE:

The brake treadle drops slightly when the interlock system applies. When the interlocks apply, the Multiplexing System logs the application pressure in the brake lines. To release the interlocks, the operator must apply pressure

to the brake treadle to "push through" the interlock application, exceeding the logged pressure. When released, the treadle will return with the operator's foot to its normal position.

4. TO ENTER THE VEHICLE

1. Slide the front portion of the driver's window back to gain access to the door controller handle on the side console. See "Figure 8: To Enter the Vehicle" on page 28.
2. Turn the door controller handle to the FRONT, FRONT REAR or REAR FRONT positions to open the entrance door.
3. If the entrance door does not open, exhaust air by turning the door manual control valve on the side console to the OFF position. Open the door manually by pulling out the door halves at the seal.

☞NOTE:

Take care not to damage the door seal when pulling the door open.

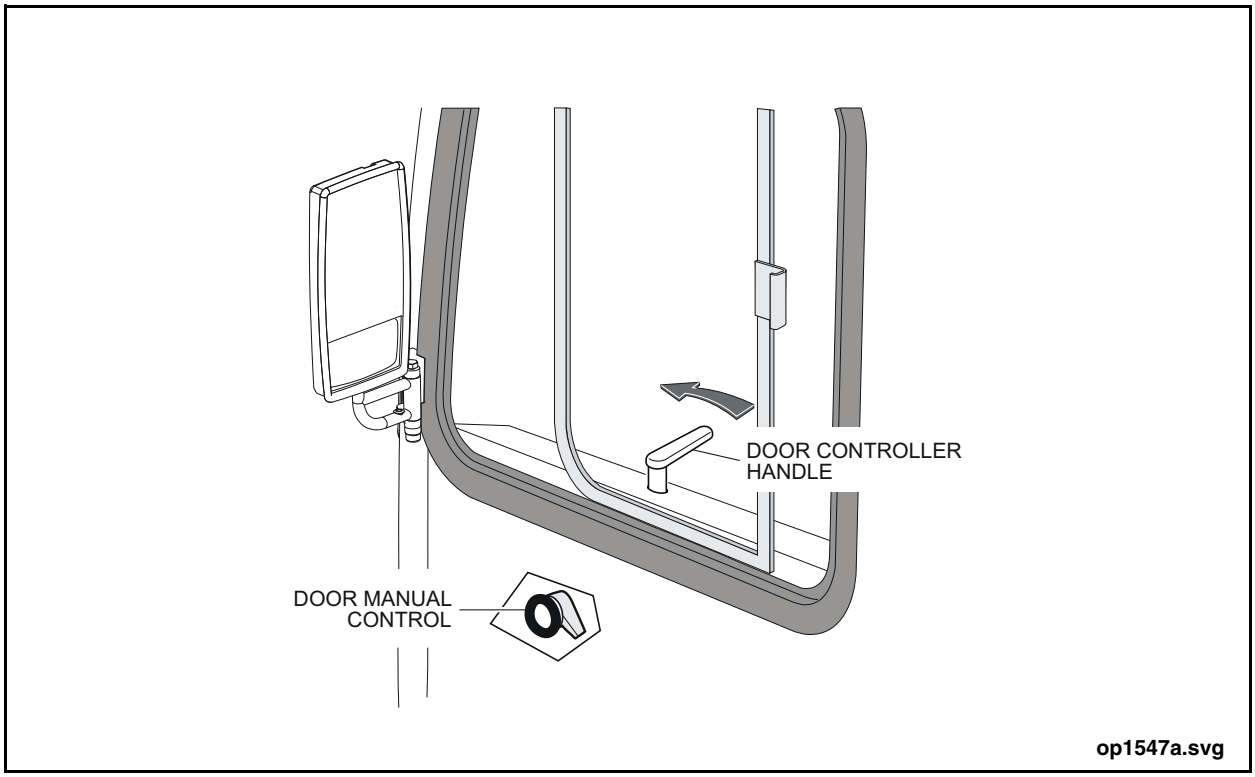


Figure 8: To Enter the Vehicle

5. DRIVER'S CHECK LIST

Check the following before putting the vehicle into transit service. Any problems discovered should be brought to the attention of the service personnel.

Exterior

General

- Battery Disconnect switch is in the ON position.
- High Voltage Interlock switch is in the ON position.
- Check for any fluid puddles under the vehicle.
- Check all exterior panels for any visible damage.
- Bumpers are securely mounted and no damage is evident.
- Check articulated joint bellows for cuts or damage.

Access Doors

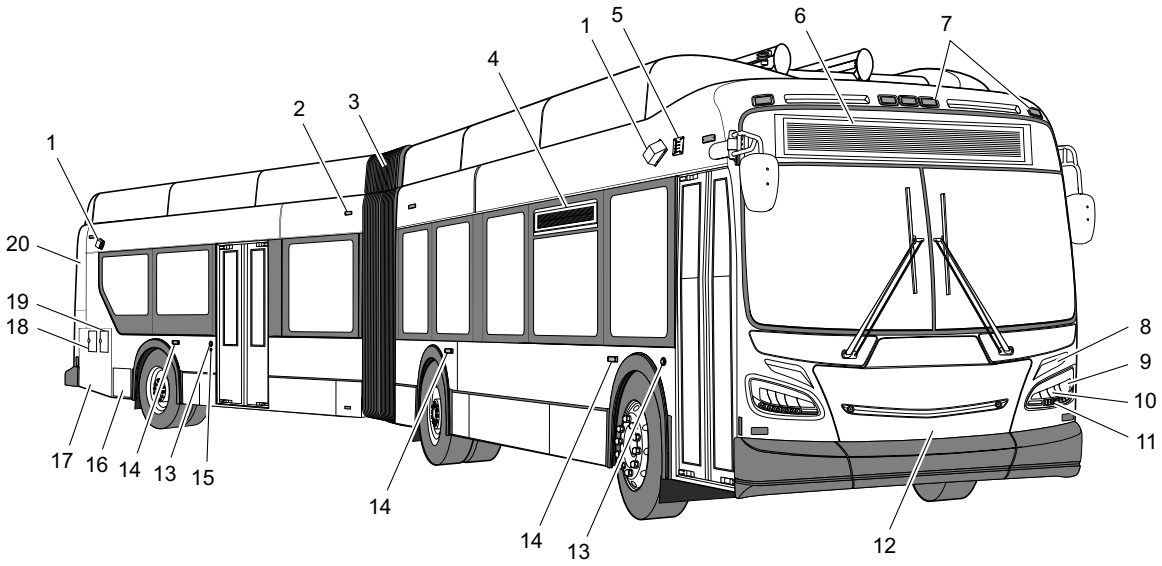
- Visually inspect door panels for any evidence of damage.
- Check that the access doors unlatch and open easily. Ensure gas struts function properly and maintain door in opened position (where applicable).
- Inspect door panel interior rubber bumpers condition or whether missing.
- All access doors must be closed and securely latched (where applicable) prior to operating vehicle.

Windows

- Check that all windows are closed.
- Ensure window glass is clean and no visible evidence of cracks or other damage.
- Inspect condition of window frames and seals for any damage.

Mirrors

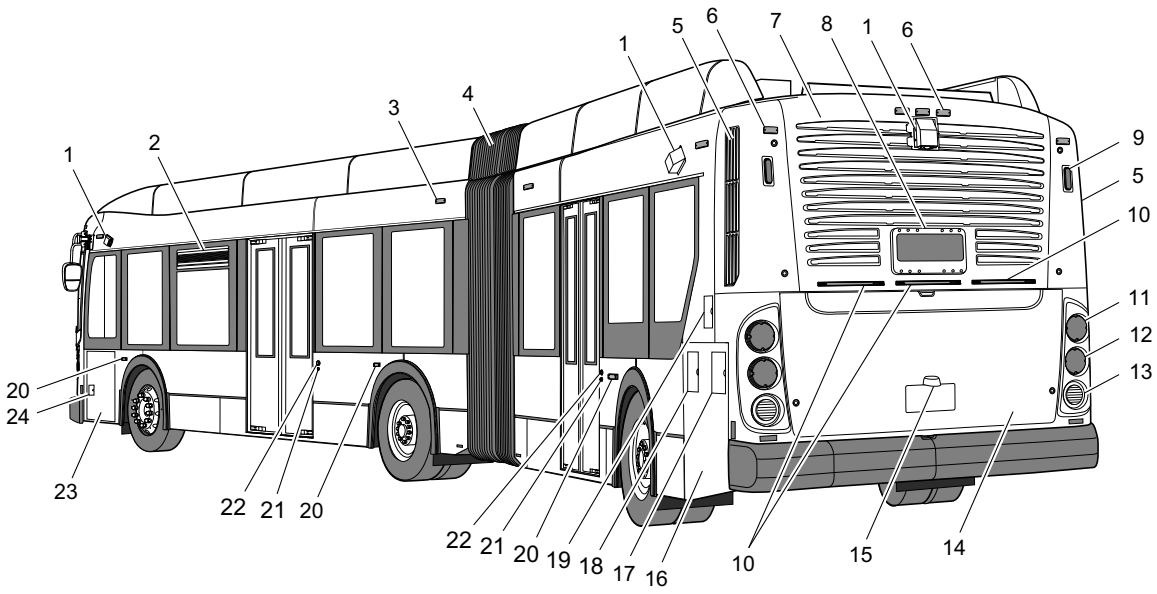
- Inspect condition of mirror housing, glass, and mounting brackets.
- Check that mirror head can be easily rotated for adjustment (where applicable).



1. Surveillance Camera
2. Side Marker Light
3. Articulated Joint Bellows
4. Side Destination Sign
5. Exterior Speaker
6. Front Destination Sign
7. Clearance Marker Lights
8. Driver's Lower Vent
9. Headlight, Low Beam
10. Headlight, High Beam
11. Front Turn Light
12. Defroster Access Door
13. Ramp/Kneel Warning Light
14. Side Turn Light
15. Wheelchair alarm
16. Low Voltage Battery Access Door
17. Low Voltage Fusebox Access Door
18. Charge Connector Access Door
19. Battery Disconnect Switch Access Door
20. Corner Pillar Access Door

2837o001a.svg

Figure 9: Front Exterior View



1. Surveillance Camera
2. Streetside Destination Sign
3. Side Marker Light
4. Articulated Joint Bellows
5. Corner Pillar Access Door
6. Clearance Marker Light
7. HVAC Unit Access Door
8. Rear Route Sign
9. Upper Rear Turn Signal
10. Center Stop Light
11. Stop/Tail Light
12. Turn Signal/Tail Light
13. Backup Light
14. Rear ESS Access Door
15. License Plate Light
16. Heater Access Door
17. Charge Connector Access Door
18. Booster Pump Access Door
19. Surge Tank Access Door
20. Side Turn Light
21. Wheelchair alarm
22. Ramp/Kneel Warning Light
23. Side Console Access Door
24. Windshield Washer Filler

2837o002a.svg

Figure 10: Rear Exterior View

Lights

- Ensure all lights are clean and not obstructed in any way.
- Check that lights are securely mounted with no missing attaching hardware.
- Inspect lenses for cracks or other damage.

Tires

- Check tire air pressure and ensure it is within the manufacturer's recommended range.
- Inspect tire tread for abnormal wear, cuts, separation, missing tread, or any other visible defects.
- Inspect tire sidewalls for bulges, cuts, gouges, abrasions, or any other visible defects.

Wheels

- Check for any missing or loose wheel nuts.
- Closely inspect condition of wheel studs if any wheel nuts were found to be loose or missing.
- Visually inspect wheels for any evidence of dents, cracks, deformation, or other damage.
- Inspect wheel surfaces for pitting or excessive corrosion.

Interior

General

- Ensure farebox is securely mounted and operates properly.
- Check all interior panels for any visible damage.
- Ensure front and side destination signs are securely mounted.
- Sunvisors and/or roller blinds are securely mounted and function properly.
- Check that roof hatches open in all ventilation positions and close properly.
- Ensure that roof hatches function properly in the emergency release position.
- Visually inspect condition of passenger signal stop request system and verify operation.
- Ensure door controller moves freely through all operating positions and doors open/close accordingly.
- Door Master switch is in the ON position.
- Check that all driver's seat adjustments function properly and maintain position.
- Inspect condition of driver's seat-belt and ensure that it functions properly.

- Inspect condition of wheelchair restraint system and ensure that all mechanisms function properly.
- Check steering wheel operation with vehicle running. Steering should operate smoothly without binding or erratic movement.
- Check steering wheel tilt/telescope lever functions properly.
- Ensure that the wheelchair ramp functions properly and that the alarm sounds when stowing or deploying the wheelchair ramp.
- Check the interior bike racks to ensure they are securely mounted.

Fire Suppression System

- Ensure the safety pin on the Manual Actuator switch is securely installed.
- Ensure all indicators on the fire suppression control panel illuminate properly.

Access Doors

- Visually inspect interior door panels for any evidence of damage.
- Check that the access doors unlatch and open easily. Ensure gas struts function properly and maintain door in opened position (where applicable).
- Check for any missing or damaged rubber bumpers on the inside of the door panel.
- All access doors must be closed and securely latched (where applicable) prior to operating vehicle.

Seats

- Ensure seats are clean and there is no evidence of cuts, tears, or other damage.
- Ensure seats are securely mounted to seat rail and floor (where applicable).

Floor

- Check overall condition of flooring for cleanliness.
- Inspect flooring for any evidence of excessive wear, cuts, or other damage.
- Inspect edges of flooring and nosing for evidence of lifting or separation.
- Ensure the wheelchair ramp is fully stowed flush with the flooring surface and does not provide a tripping hazard.

Windows

- Check that windows are clean and undamaged.

- Check operation of emergency release mechanism on all windows so equipped. Ensure windows release from the frame and open fully outward for emergency egress and latch securely upon closing.
- Check operation of all windows equipped with slider or tilt openings. Windows should slide or tilt easily, not be loose in the frame and latch securely upon closing.

Mirrors

- Check condition of mirror glass for cracks or other damage.
- Ensure mirrors are securely mounted and maintain their adjusted position.
- Ensure mirrors offer a clear view and are not obstructed.

Passenger Doors

- Check that doors open/close properly.
- Check door panels for dents, deformation or other damage.
- Inspect door panel glass for cleanliness and ensure glass is not cracked or otherwise damaged.
- Inspect door edges and seals for condition and proper sealing.

Modesty Panels/Barriers

- Inspect condition of panels for sharp edges, cracks, or any other damage.
- Ensure panels are securely mounted to stanchions and vehicle structure.

Stanchions & Grab Rails

- Inspect for bent or cracked tubing, rails, or any other damage.
- Ensure that all stanchions and grab rails are securely mounted.
- Inspect for any sharp edges.
- Inspect for any missing attaching hardware.
- Inspect condition and secure mounting of grab straps (where applicable).

Lights

- Ensure all lights are clean and not obstructed in any way.
- Check that lights are securely mounted with no missing attaching hardware.
- Inspect lenses for cracks or other damage.

Indicator Lights

☞NOTE:

From this point on, items on the driver's check list require activating the vehicle's Multiplexing System and starting the Electric Drive System. Turning the Master Run switch on the side console to DAY-RUN or NIGHT-RUN activates the Multiplexing System. Wait for the system to activate before starting the Electric Drive System. Refer to "11.VEHICLE OPERATION" on page 99 *in this manual for details on starting the Electric Drive System.*

- The Low Battery indicators illuminate momentarily, then extinguish.
- The Stop Request message appears when the passenger signal system is activated.
- The W/C Stop Request message appears when the wheelchair passenger signal system is activated.
- The Parking Brake indicator illuminates when the parking brake is applied.
- The Stop indicator illuminates when the brakes are applied.
- The Turn indicator illuminates and flashes when the turn signal switch is activated or the Hazard switch is turned on.
- The Rear Door Open message appears when the exit door is open.
- The High Beam indicator illuminates when the high beam headlights are on.
- The Kneel message appears when the kneeling system is activated.

The remaining messages relate to vehicle operation concerns and should be checked by service personnel.

Electrical Control Systems

- The Master Run switch controls the electrical circuits. Refer to "9.INSTRUMENTATION & CONTROLS" on page 59 in this manual for more information.
- Light switches, located inside the service compartments, activate the compartment lights.
- Windshield washers spray washer fluid onto windshield.
- Wipers operate (on wet windshield) without streaks, scraping or noisy operation.
- Hazard lights function with the Master Run switch in any position.
- Horn sounds when horn button on steering wheel pressed.
- Rear brake lights illuminate when the brake pedal is applied.
- Destination/route sign circuits function with the Master Run switch in DAY-RUN, NIGHT-RUN or NIGHT-PARK positions.
- All side console control switches function.
- Passenger stop request signal and chime circuits function.

- Accelerator treadle accelerates the vehicle.
- Shift Selector functions properly.
- Backup lights illuminate when the vehicle is shifted to Reverse [R].
- HVAC System functions when the vehicle is running.
- Speedometer functions when the vehicle is moving.

Air Control Systems

- Normal vehicle operation pressure ranges from 120 to 131 psi (827 to 903 kPa).
- Low Air indicator illuminates and an alarm sounds if the air system pressure drops below 75 psi (517 kPa).
- Entrance and exit doors open and close smoothly.
- Brake treadle application slows and stops the vehicle smoothly.
- Parking brake valve application holds the vehicle stationary when level or on a 20% maximum incline grade when on dry concrete.
- Door manual control valve, located below the side console, shuts off the air supply to the entrance door mechanism. When in the OFF position, the doors can be pushed open.
- Splash guards clear the ground (vehicle on level surface) with the air system pressure at or above 120 psi (827 kPa).
- Compressor cuts in when the air system pressure drops to approximately 120 psi (827 kPa) and shuts off at approximately 131 psi (903 kPa).

6. DRIVER'S AREA

The driver's area includes the first eight feet of interior space measured from the front windshield. This section describes the controls and components within the driver's area. A brief outline of the functions and operating procedures of each accompanies the description. See "Figure 11: Driver's Front Area" on page 37. See "Figure 12: Driver's Side Area" on page 38.

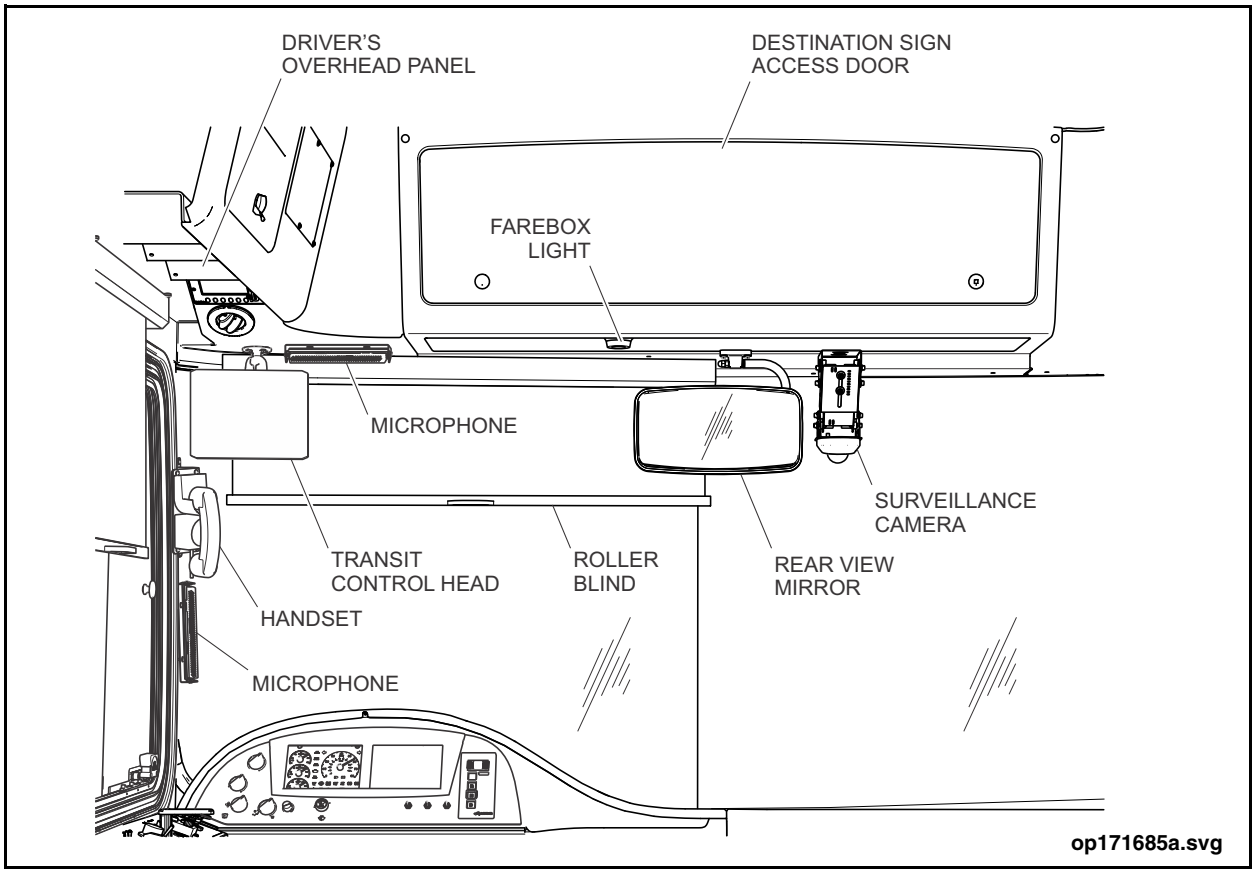


Figure 11: Driver's Front Area

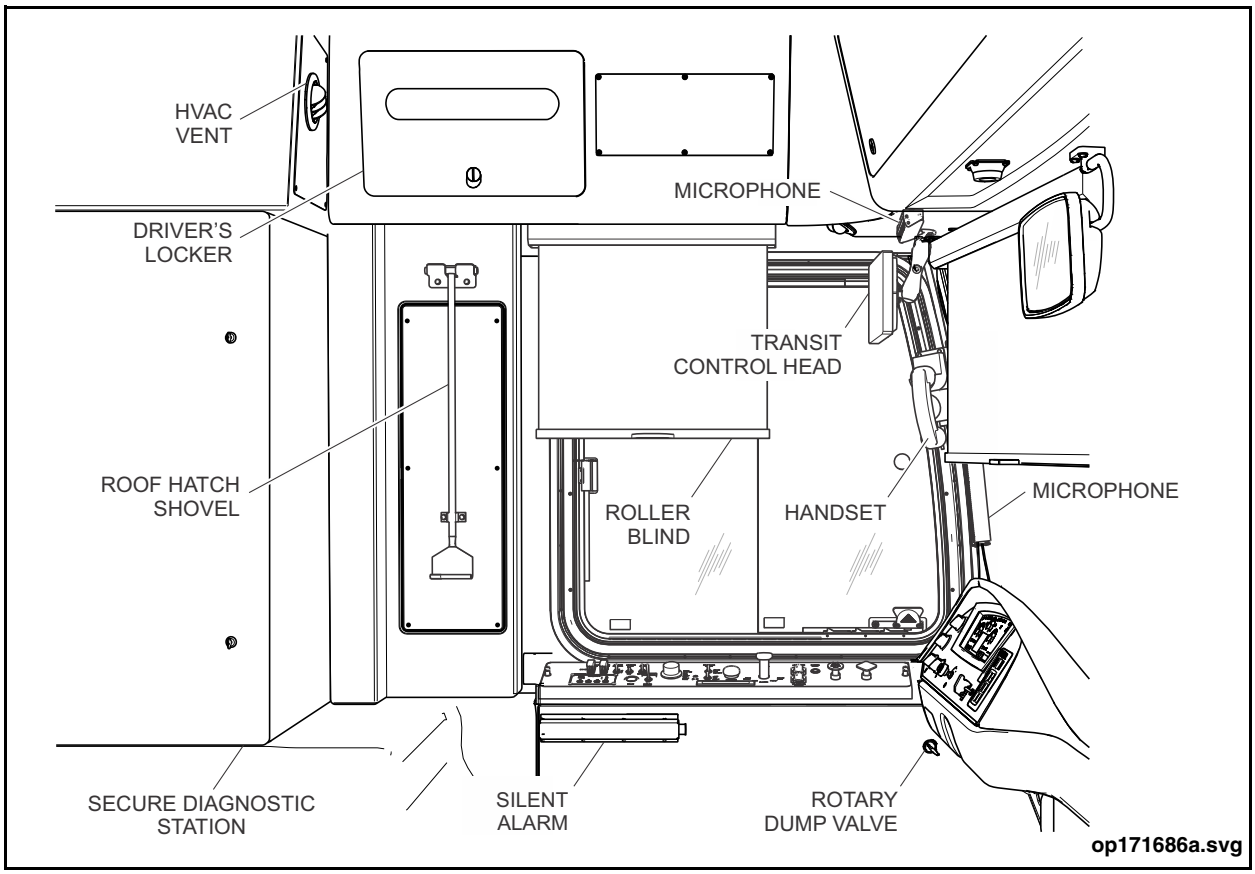


Figure 12: Driver's Side Area

Driver's Window

Front Portion

Pull the sash handle back to open the front portion of the window. Push the handle forward to close.

Aft Portion

Pinch the sash handle to release the lock. Pull the handle forward (keeping handle pinched) to open the rear portion of the window.

Push the handle rearward, pinch and release to close and lock the aft sash.

Rear View Mirror

The rear view mirror is located under the front destination sign closeout. Its convex glass surface provides a wide view of the entrance door and passenger area.

Roller Blinds

There are two roller blinds in the driver's area; one for the front windshield and the other for the driver's window. The blinds can be extended or retracted by either pushing or pulling on their handles.

Secure Diagnostic Station

The Secure Diagnostic Station is located on the streetside wheelhousing and is used for storing the vehicle communication and monitoring equipment. The lockable access door provides security for the stored contents and the slide-out trays provide easy access for servicing the electronic equipment.

Driver's Locker

Located above the driver's window, the driver's locker is for storing personal belongings.

Rotary Dump Valve

This air control valve is located beside the driver, just below the side console. Refer to "Miscellaneous Controls" on page 92 for operation on the rotary dump valve.

Transit Control Head (TCH)

The Transit Control Head is located below the destination sign access door. It is the operator interface for the AVA/AVL System. Refer to "Automatic Vehicle Announcement/Automatic Vehicle Locator (AVA/AVL) System" on page 52 in this manual for more information on the operation on the TCH.

Farebox Light

The farebox light is located below the destination sign access. The farebox light illuminates the farebox.

Surveillance Cameras

The surveillance cameras are located under the destination sign access door. The surveillance camera records events as they occur on and outside the vehicle. Refer to "Video Surveillance System" on page 25 in this manual for information on the surveillance camera.

Driver's Handset

The driver's handset is located on the left windshield pillar, the handset is part of the AVA/AVL system. Refer to "Automatic Vehicle Announcement/Automatic Vehicle Locator (AVA/AVL) System" on page 52 in this manual for information on the driver's handset.

Array Microphones

Two array microphones are located in the driver's area - one under the destination sign access door the other on the streetside pillar below the driver's handset. Refer to "Automatic Vehicle Announcement/Automatic Vehicle Locator (AVA/AVL) System" on page 52 in this manual for information on the AVA/AVL System.

Silent Alarm Switch

The silent alarm switch mounted on the vertical face of the side console signals the AVA/AVL system in the event of a emergency. Refer to "Automatic Vehicle Announcement/Automatic Vehicle Locator (AVA/AVL) System" on page 52 in this manual for information on the silent alarm switch.

Roof Hatch Shovel

The roof hatch shovel is located aft of the driver's window. It is used as an aid to open the roof hatch.

Driver's Overhead Panel

The driver's overhead panel is a recessed panel located above the driver that contains the following components: See "Figure 13: Driver's Overhead Panel" on page 42.

- Destination sign controller - Refer to "Destination/Route Signs" on page 49 in this manual for information on the operation of the destination sign controller.
- Fire suppression display panel and manual actuator - Refer to "10.FIRE SUPPRESSION SYSTEM" on page 96 in this manual for a description of the fire suppression components and the system operation.

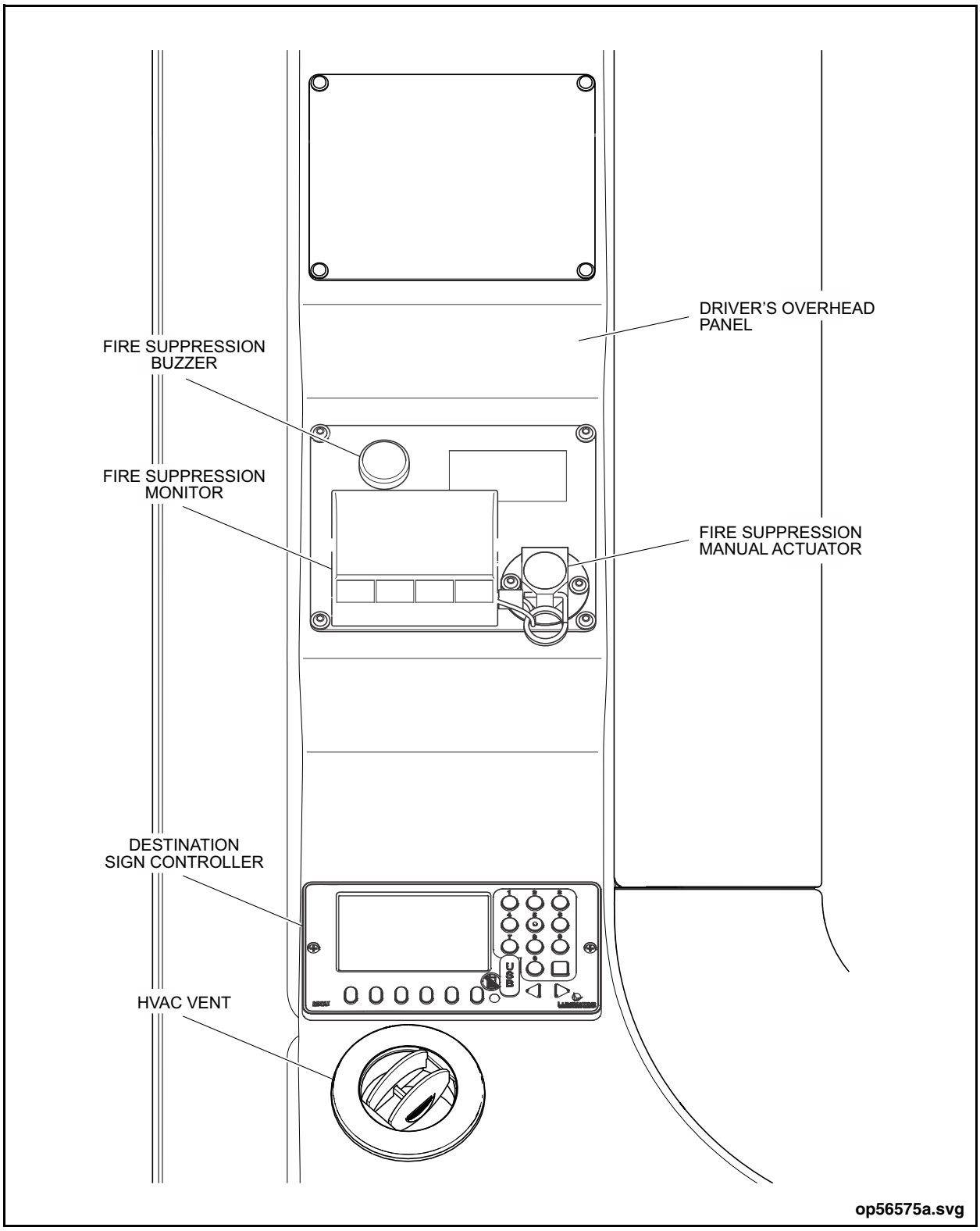
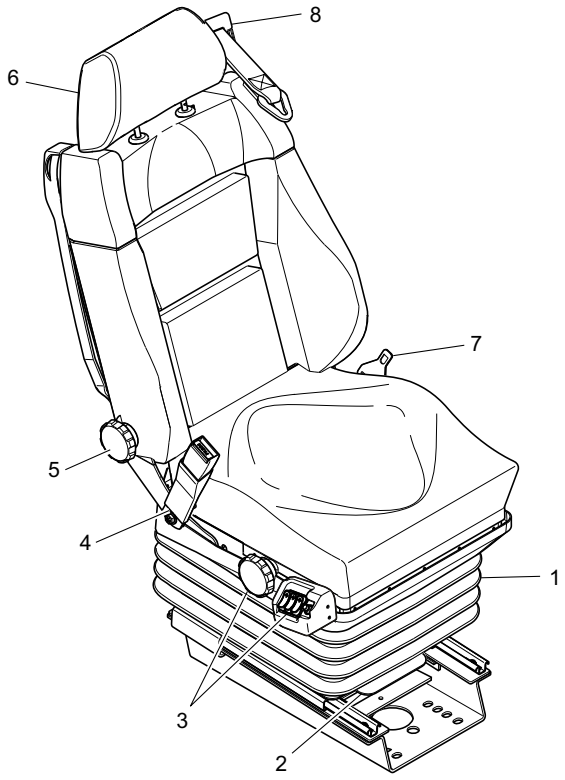


Figure 13: Driver's Overhead Panel

Driver's Seat

The USSC 9110ALX3 driver's seat is an adjustable air suspension seat consisting of a steel frame base and back panel and molded foam cushions. The seat-belt retracts to holders beside the seat cushion. See "Figure 14: Driver's Seat" on page 43.

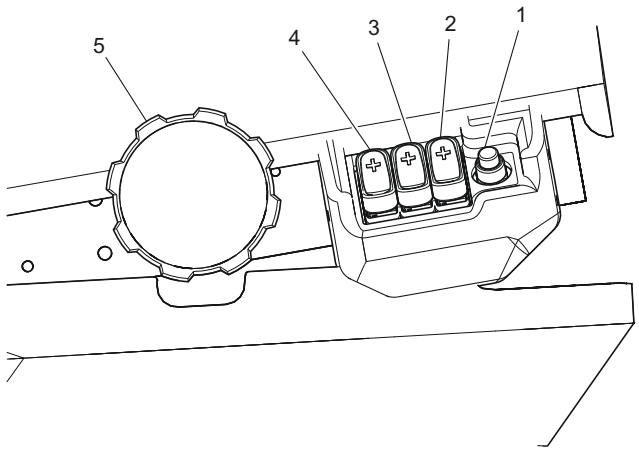
Controls adjust the positioning of the seat and seat cushions to suit the needs of the individual. Make position adjustments to provide for the best driving visibility and control.



1. Bellows
2. Fore/Aft Locking Device
3. Driver's Seat Switch Panel
4. Lap Belt Clip
5. Backrest Adjustment Knob
6. Adjustable Headrest
7. Seat Belt
8. Shoulder Belt

op09204a.svg

Figure 14: Driver's Seat



1. Fore/Aft Adjustment
2. Bottom Lumbar Adjustment
3. Middle Lumbar Adjustment
4. Top Lumbar Adjustment
5. Seat Tilt Control

op1013a.svg

Figure 15: Driver's Seat Switch Panel

Height Adjustment

Seat height can be adjusted by 5" (12.7 cm). Adjustment is performed using the height adjustment knob which is located on the front left edge of the seat cushion. Pushing the knob in increases the amount of air in the air bag. Pulling the knob out decreases the amount of air in the air bag.

Seat Tilt

The seat cushion angle can be adjusted by 8° by turning the seat tilt knobs located in the middle of the sides of the seat cushion Seat tilt is independent of height adjustment.

Lumbar Support

The air lumbar switches are located on the switchbox on the right front edge of the seat. Pushing the switches increases or decreases the amount of lumbar support.

Fore/Aft Slide

Slide tracks allow the entire seat to be adjusted on its mount front to back. Raising the slide handle located at the seat front below the seat cushion releases the lock and allows the seat to be moved forwards or backwards. Optionally, the Air Slide Release button located on the switchbox can be used. Pressing and holding the red button will release the slides and allow the seat to be moved to the desired location. The button is then released and the slides automatically lock in place.

Seatbelt Instructions

1. Pull the buckle from the retractor assembly. Place the tongue in the receptor to lock.
2. To release the belt, press the red button and allow the retractor assembly to draw back into its original place.

☞NOTE:
For optional 3 point belts with removable shoulder straps, hook the buckle of the shoulder strap to the stud on the lap buckle.

Driver's Door

The driver's door is intended to provide privacy and protection for the driver. It consists of a swing door with a fixed upper transparent shield and black powder-coated lower panel. The latch and handle are on the driver's side of the door. The door striker is installed on the farebox stanchion.

Opening & Closing Door

1. To open door, push the latch handle towards the door and push the door open. See "Figure 16: Driver's Door" on page 46.
2. To close door, grip the door handle and pull the door firmly to engage the latch.

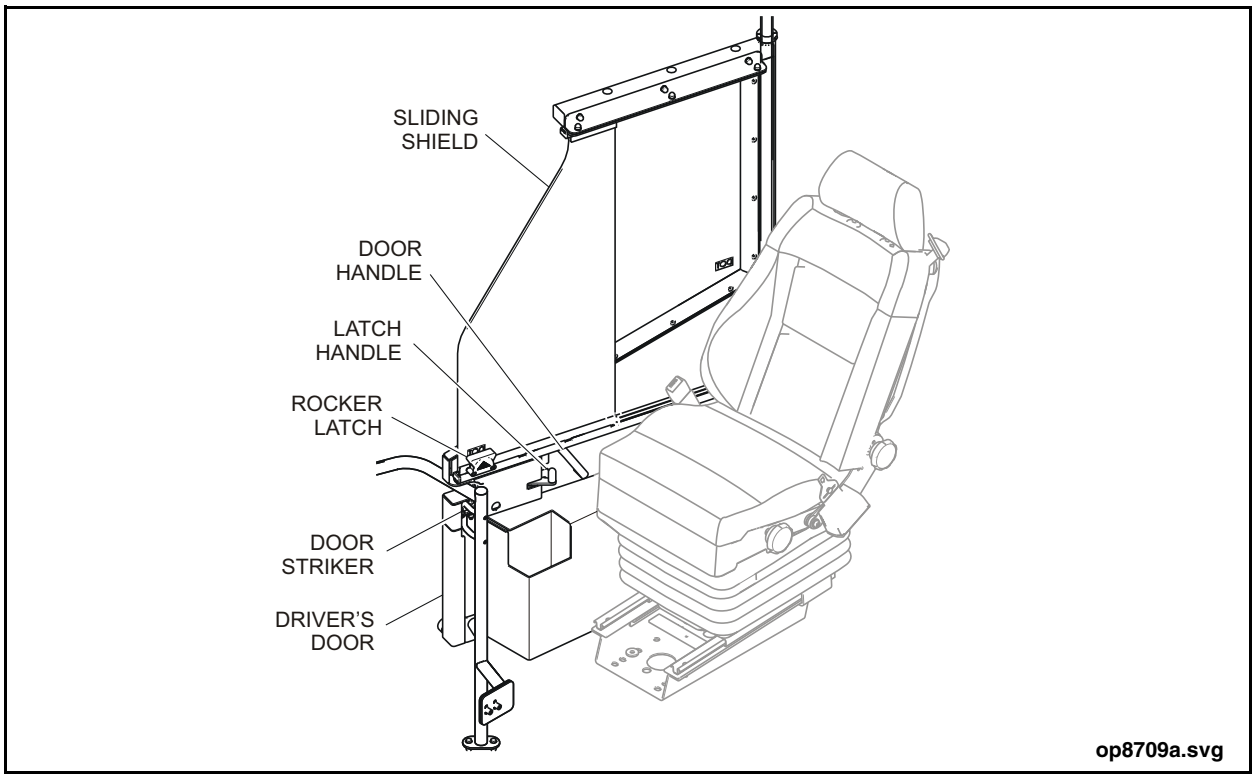


Figure 16: Driver's Door

Steering Wheel & Horn

Steering Wheel

WARNING

DO NOT make adjustments to the tilt steering while the vehicle is in motion.

CAUTION

DO NOT turn the steering wheel if the electric drive system is not operating except in emergency situations.

CAUTION

DO NOT OPERATE THE VEHICLE if any of the following conditions exist:

- **Binding or resistance in the steering wheel operation (with the vehicle in motion).**
- **Unusual noises related to steering.**
- **Steering wheel vibration.**
- **Looseness, binding or resistance in the tilt/telescopic mechanism.**

A hydraulic powered steering system turns the front wheels when moving the steering wheel left or right (the electric drive system must be operating to power the system). The tilt/telescopic steering column offers a range of positions for the steering wheel. A lever on the left of the column controls both tilt and telescopic functions. Push to telescope and pull to tilt. See "Figure 17: Steering Wheel Adjustment" on page 47.

Horn

The horn button, located in the center of the steering wheel, operates the dual horn.

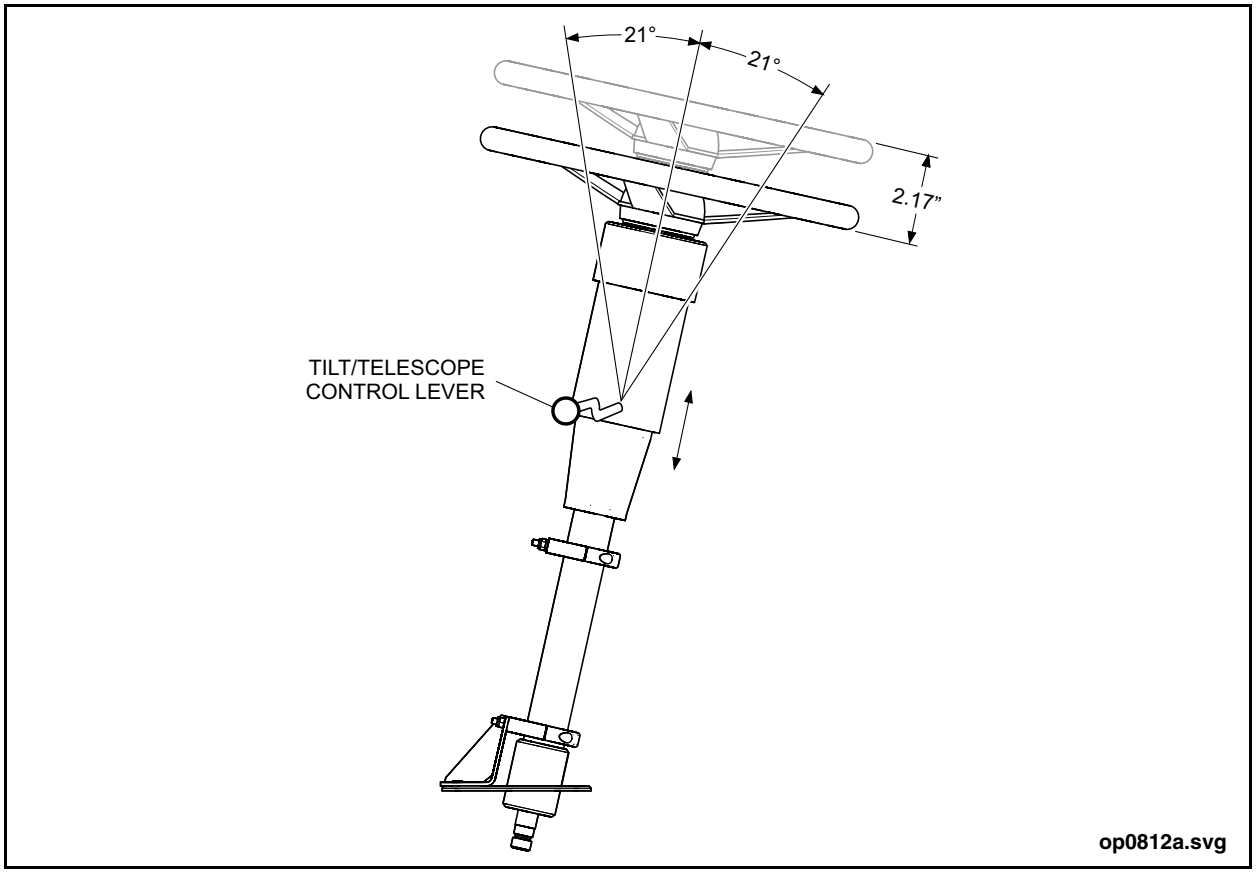


Figure 17: Steering Wheel Adjustment

Public Address System

The Public Address System (P.A.) allows the communication of messages to the public both inside and outside the vehicle. Components of the system include: See "Figure 18: P.A. System Layout" on page 49.

- An array microphones located at the left windshield pillar and under the destination sign access door.
- The driver's handset is located on the left windshield pillar.
- Ten interior speakers located above the side windows.
- An exterior speaker located above the entrance door.
- Floor-mounted P.A. switch.

To use the system:

1. Use the foot switch to activate the microphone before speaking.

☞NOTE:

The Public Address System is integrated with the AVA/AVL System. Consult your transit authority for complete information on the operation of these systems.

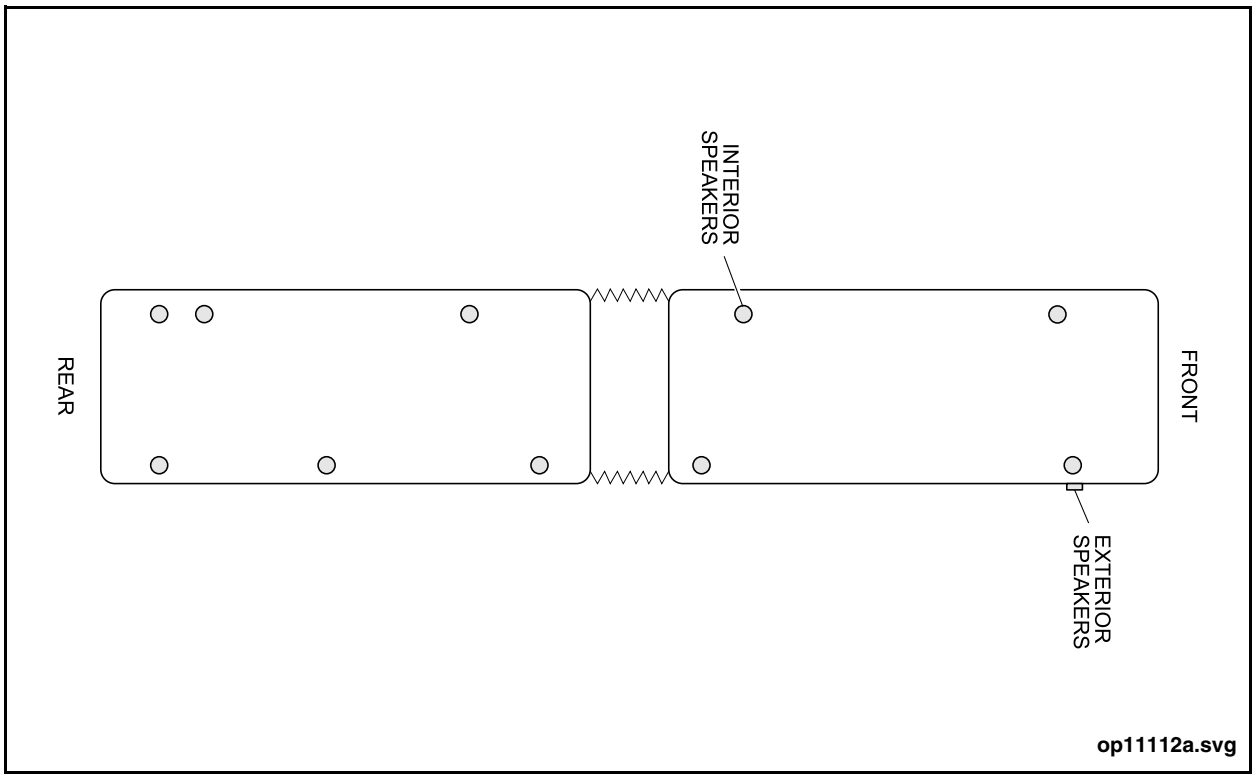


Figure 18: P.A. System Layout

Destination/Route Signs

☞NOTE:

The following information provides basic introductory information on the Multi Control Unit (MCU) and Luminator Destination Sign System operation. Your transit authority management establishes policies about system operation and should be consulted before its use. Manuals are available from Luminator which provide more information about the MCU and the Luminator Destination Sign System.

Operation Using the Multi Control Unit (MCU)

⚠CAUTION

DO NOT use the MCU to charge USB devices. Equipment damage will occur.

Basic operation of the Sign System involves presetting transit authority message codes into the sign system using the MCU. The message codes correlate to preprogrammed destina-

tion names, public relations messages, and route numbers unique to each transit authority. If required, multiple sets of message codes may be entered to allow for a quick and complete sign change while in route. Key function and basic operation instructions are described in the two sections that follow.

MCU Operating Keys

Six soft keys are located on the bottom of the LCD display screen. The function of these soft-keys is identical to the corresponding hard keys located directly below the display screen. The soft keys and hard keys can be used interchangeably. See "Figure 19: Multi Control Unit (MCU)" on page 52. The keys function as follows:

- MENU - used to access advanced programming (some may require a password).
- RUN - used to enter run number. This function is determined by transit authority programming.
- ROUTE - used to enter route number. This function is determined by transit authority programming.
- P/R - used to enable public relations message code entry. This switch may be disabled if public relation messages are not available.
- ROUTE - press to enable route number entry. Route number entry may be either coded or be the actual route number for display.
- DEST A and DEST B - used to enable respective destination message code entry for message display change. These switches are permanently enabled.

All destination and public relations (P/R) messages can be set and viewed from the MCU.

Basic Operating Procedures

Basic operating procedures are as follows:

- Set RUN number - press the RUN key on the default screen. Enter the run number via the MCU number pad and then press ENTER. The message "RUN button not used" will appear if the manual entry feature has been disabled.

☞NOTE:

To change a RUN number, use the left/right arrow keys to highlight a number and then press CLEAR (or press DEL to delete an entire string).

- Set ROUTE number - press the ROUTE key on the default screen. Use the MCU keypad to enter a route number or left/right arrow keys to highlight a letter, then press SELCT to select it. After entering the route number, press the hard ENTER key. The route number

just entered will be displayed on the MCU as well as on the route signs. This route number will persist when you go from DEST A to DEST B without having to re-enter it.

☞NOTE:

To change a ROUTE number, press the desired number keys. Current content is cleared to accept new data.

- Set Public Relations (P/R) message - press the P/R key on the default screen. Enter the P/R message code number via the MCU number pad and press ENTER. The P/R code number will display on the MCU display screen and the route signs approximately 5 seconds after it is entered.

☞NOTE:

To change a P/R code number (or clear the message altogether) use the left/right arrow keys to highlight a number and press CLEAR to erase it (or press DEL to delete an entire string) then press ENTER.

- Set Destination A or B message - press the DestA key on the default screen to set the DestA message. Enter the destination code number via the OKD number pad and press the hard ENTER key. The destination code number will display on the MCU display screen and the route signs approximately 5 seconds after it is entered. Setting Destination B is performed in the same manner as setting Destination A.

☞NOTE:

To change a destination number, use the right arrow key to move the square cursor to the end of the string and then use the left arrow key to move cursor back to the left to erase existing numbers (you cannot simply overwrite them).

- Set Display Brightness Level - press MENU on the default screen to access menu options. From the MENU screen press the PREF key. From the PREF screen press the BRGHT key. From the BRGHT screen touch the brightness level bar at the top of the screen or use the left/right arrow keys to set the brightness level, then press OK.

☞NOTE:

To return the display to the original factor default brightness level press the DFLTS key from the PREF screen, then press YES.

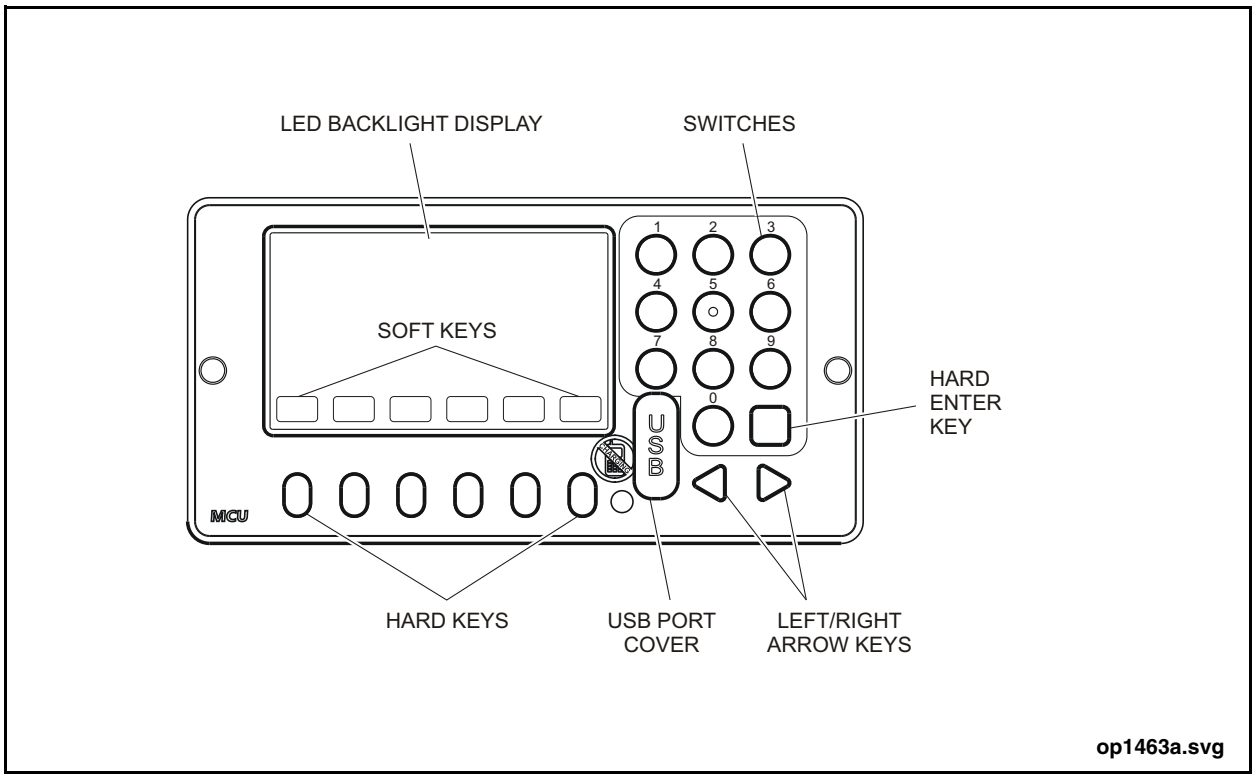


Figure 19: Multi Control Unit (MCU)

Automatic Vehicle Announcement/Automatic Vehicle Locator (AVA/AVL) System

An AVA/AVL System is installed on this vehicle. This system is integrated with the public address system and destination sign system. The system includes the following components:

- IVN5 Controller - located inside the Secure Diagnostic Station (SDS).
- Transit Control Head - mounted below the destination sign access door.
- Driver's Handset - mounted on the streetside pillar.
- Wireless Router Sierra MG90 - located inside the SDS.
- AVC Microphone - mounted on the fifth bay light panel.
- Harris M7300 Radio - located inside the SDS
- Harris Radio Antenna - roof mounted.
- Array microphones - one located under the destination sign access door the other located on the streetside pillar below the driver's handset.

- Universal Radiologic Controller Module - located in the Secure Diagnostic Station (SDS).
- 6-in1 antenna - roof-mounted.
- Five-Band antenna - roof-mounted.
- Wi-Fi antenna - mounted on the 5th bay light panel.

☞NOTE:
Consult your transit authority for details on the operation of the AVA/AVL System.

Automatic Passenger Counter (APC) System

This vehicle is equipped with an APC System that uses overhead infrared sensors at the entrance and exit doorways to collect ridership information.

The following components of the APC System are installed:

- An APC CPU module - located inside the secure diagnostic station.
- Ethernet Switch - located inside the secure diagnostic station.
- An APC sensor mounted on the entrance door baseplate.
- APC sensor mounted on the curbside rear exit door baseplate.
- APC sensor mounted on the streetside center exit door baseplate.
- APC sensor mounted on the streetside rear exit door baseplate.

Infotainment System

The infotainment system consists of:

- Front display mounted over curbside luggage rack facing rear.
- Rear display mounted on ceiling rear of the articulated join facing rear.

☞NOTE:
The Infotainment System is integrated with the AVA/AVL System. Consult your transit authority for complete information on the operation of these systems.

Driver/Vehicle Monitoring System

The New Flyer Connect™ Driver/Vehicle Monitoring System measures and records vehicle operating parameters and location in real time. The system consists of:

- A GT-TRT Module located in the Secure Diagnostic Station.
- A GPS/Data Modem Unit mounted on the ceiling of the vehicle, above the driver.

The Driver/Vehicle Monitoring System is connected to the vehicle's J1939 networks. Information from these networks is monitored and transmitted, in real time, to allow transit authorities to monitor driver performance and vehicle condition.

The GT-TRT Module contains a 3-axis accelerometer to monitor hard acceleration and braking and fast turning.

Traffic Signal Priority (TSP) System

The Traffic Signal Priority (TSP) System consists of a Global Positioning System (GPS) and an antenna, both integrated into the AVA/AVL System.

To maintain schedule adherence, the TSP System references previously loaded schedule information for the active route and runs and compares data against current position and time points. If the transit vehicle lags behind schedule, the system signals the GPS unit to request TSP. When schedule adherence is achieved, TSP requests are suspended. Consult your transit authority for more information on the operation of the TSP System.

7. ENTRANCE DOOR AREA

The entrance door area includes the following components: See “Figure 20: Entrance Door Area” on page 56.

- Slide glide style door that is electrically-operated
- Entrance door emergency release valve
- Entrance door header light
- Automatic Passenger Counter (APC) sensor
- Upper right mirror
- Door Master switches. Refer to “Miscellaneous Controls” on page 92 in this manual for a description of these switches

Placing the door controller in the FRONT, FRONT REAR, or REAR FRONT positions will open the entrance door.

When the Master Run switch is in DAY-RUN, the door header light will illuminate when the entrance door is open and the wheelchair ramp is deployed. In NIGHT-RUN or NIGHT-PARK the door header light will illuminate when the entrance door is opened.

The APC sensor monitors passenger movement through the entrance door.

Boarding passengers can use the door-mounted handles to assist in entering the vehicle.

In the event of an emergency situation with an inoperable door, the emergency release valve located behind the mechanism access door, can be operated to release air pressure from holding the door closed. Refer to “2.EMERGENCY INFORMATION” on page 15 in this manual for emergency release valve operating instructions.

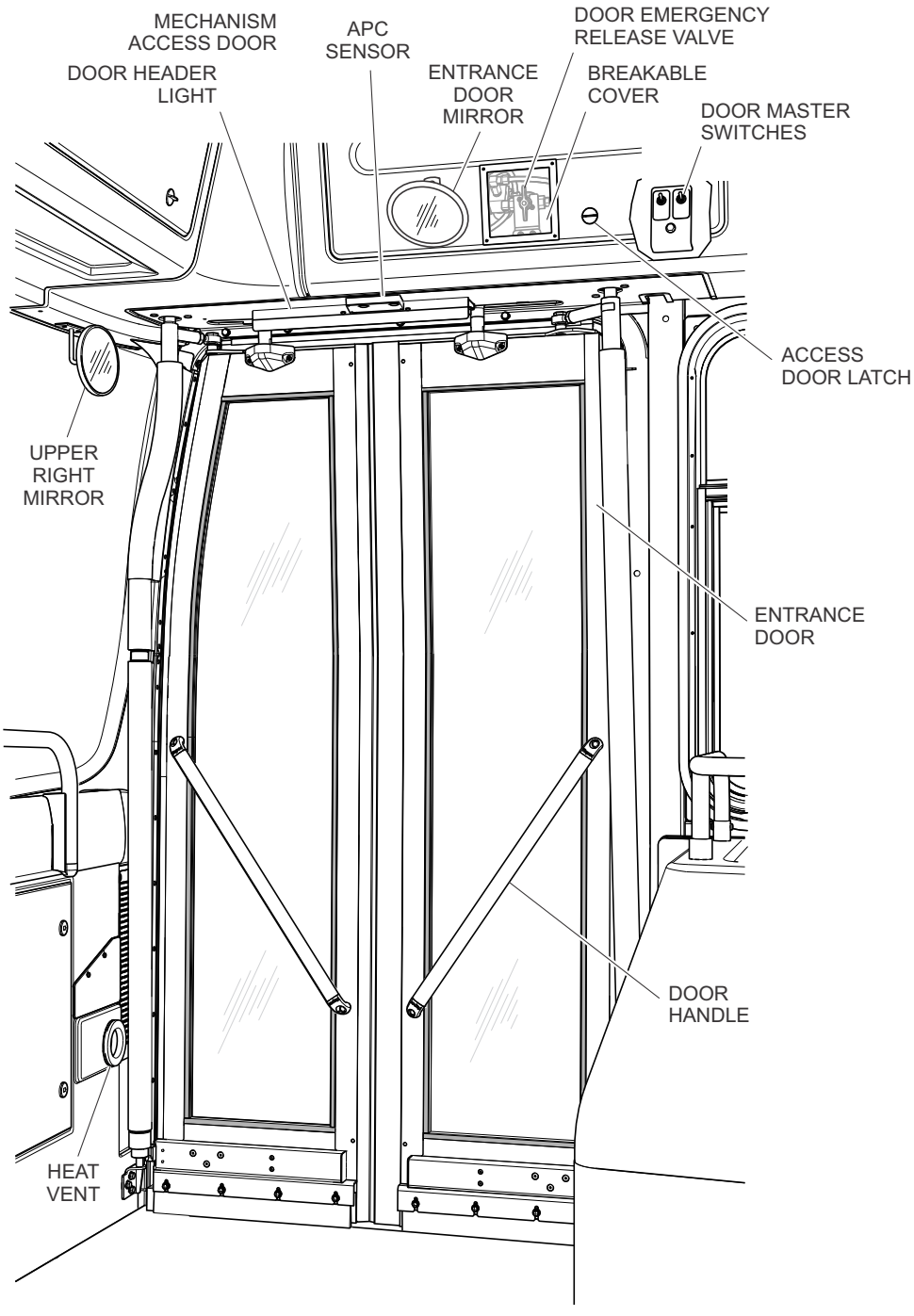


Figure 20: Entrance Door Area

8. EXIT DOOR AREA

The exit door area includes the following components: See “Figure 21: Exit Door Area” on page 58.

- A slide glide style door that is electrically-operated.
- An exit door emergency release.
- An exit door header light.
- A green LED exit door enabled light.
- Stop request buttons on the exit door stanchions.
- Acoustic sensors.
- Automatic Passenger Counter (APC) sensor.
- Exit Door Ramp
- Exit door mirror.

Placing the door controller in the FRONT REAR, REAR, or REAR FRONT positions will enable the exit door. The green overhead light will illuminate when the exit door is enabled. The door header light will illuminate as soon as the exit door is enabled and will remain illuminated for five seconds after the door closes.

The disembarking passenger is required to touch the door-mounted decals, breaking the sensor beam which will cause the door to open.

The APC sensor monitors passenger movement through the exit door.

In the event of an emergency situation with an inoperable door, the emergency release, located in the upper corner, can be operated to release air pressure from holding the door closed. Refer to “2.EMERGENCY INFORMATION” on page 15 in this manual for emergency release operating instructions.

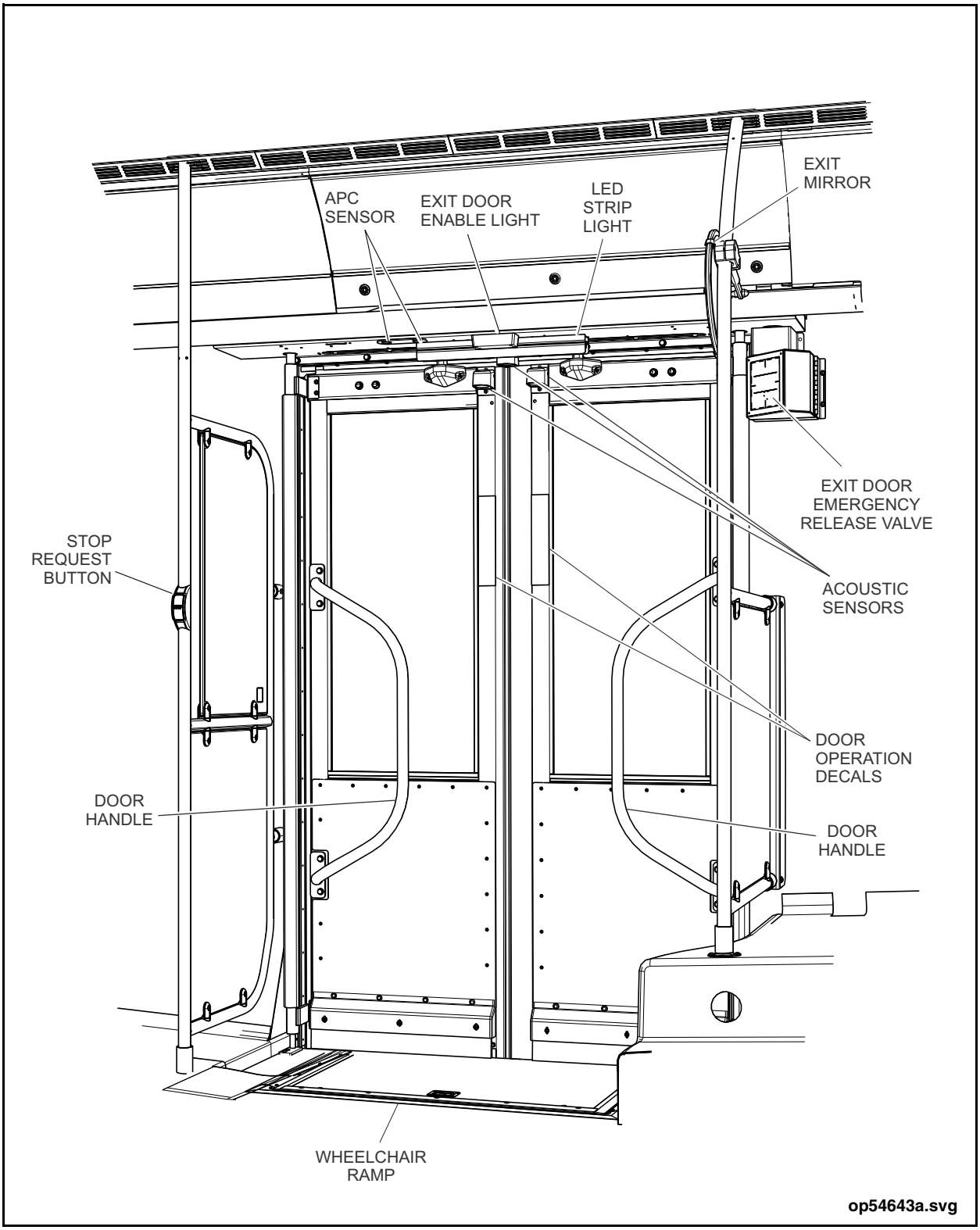


Figure 21: Exit Door Area

9. INSTRUMENTATION & CONTROLS

Instrument Panel

The instrument panel is located directly in front of the driver and provides a visual display of the vehicle operating systems as well as providing controls for the various systems. The instrument panel cluster is a programmable electronic unit with diagnostic capabilities. See “Figure 22: Instrument Panel” on page 60.

Turn Indicators (Green)

WARNING

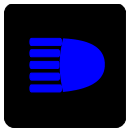
If turn signal indicators do not operate as described, DO NOT OPERATE THE VEHICLE.

The turn indicators, symbolized by directional arrows, flash on either side of the instrument panel when the right-hand or left-hand floor-mounted turn signal switch is pressed.

When the Hazard switch is activated, both turn indicators flash together. Failure of these lights to flash normally indicates that the flasher module is not functioning.

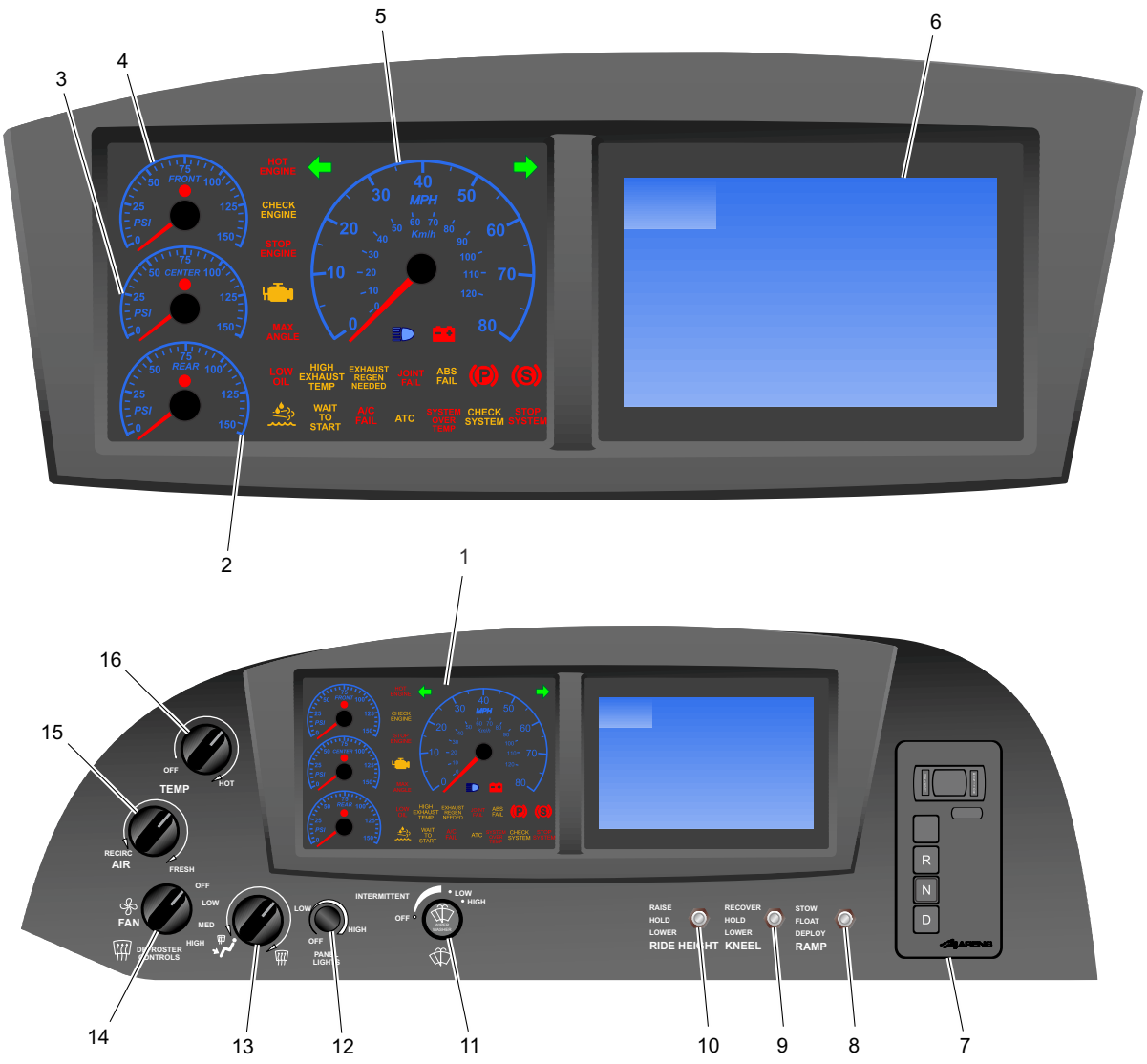
Max Angle Indicator (Red)

The Maximum Angle indicator illuminates if the articulation joint reaches its maximum left or right turning angle during forward or reverse operation. An alarm accompanies indicator activation.



High Beam Indicator (Blue)

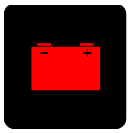
The high beam indicator, symbolized by a lit headlight, illuminates when the vehicle headlights are in the high beam mode of operation. Pressing the dimmer switch returns the headlights to normal low beam operation.



1. Instrument Cluster
2. Rear Air Pressure Gauge
3. Center Air Pressure Gauge
4. Front Air Pressure Gauge
5. Speedometer
6. LCD Screen
7. Shift Selector
8. Ramp Switch
9. Kneel Switch
10. Ride Height Switch
11. Wiper/Washer Control
12. Panel Lights Dimmer Switch
13. Driver's Floor Heat Control
14. Defroster Fan Control
15. Defroster Air Recirculation Control
16. Defroster Temperature Control

op031057a.svg

Figure 22: Instrument Panel



Low Battery Indicator (Red)

CAUTION

If the Low Battery indicator remains illuminated while the Electric Drive System is operating, DO NOT OPERATE THE VEHICLE.

The Low Battery indicator, symbolized by a battery, illuminates when the 12/24V system is not being charged or an overvoltage condition occurs during charging.

NOTE:

The Low Battery indicator will flash if the charging system detects a fault.

Joint Fail Indicator (Red)

The Joint Fail indicator illuminates and flashes if the articulating joint electronic controller detects a system fault.

ABS Fail Indicator (Amber)

The ABS Fail indicator illuminates if the ABS System requires service. As part of a system check, the indicator illuminates momentarily during vehicle start up. It is also used during diagnostics to display the blink code. Refer to “11.VEHICLE OPERATION” on page 99 in this manual for further information.

Parking Brake Indicator (Red)

The parking brake indicator, symbolized by a circled letter “P” illuminates when the parking brake control valve is applied. Activating the parking brake illuminates the stop lights indicator and all red stop lamps.

Stop Lights Indicator (Red)

WARNING

If the stop lights indicator does not operate as described, DO NOT OPERATE THE VEHICLE.

The stop lights indicator, symbolized by a circled letter S, illuminates each time the service brake or parking brake control valve is applied. If under these circumstances the indicator does not illuminate, then any or all rear stop lights are malfunctioning.

Wait to Start Indicator (Amber)

The Wait to Start indicator illuminates before start-up with the Master Run switch in the DAY-RUN or NIGHT-RUN position.

A/C Fail Indicator (Red)

The A/C Fail indicator illuminates if the heating, ventilating and air conditioning (HVAC) unit malfunctions.

ATC Indicator (Amber)

The ATC indicator illuminates when the Automatic Traction Control System is operating to limit drive wheel spin on slippery surfaces.

Check System Indicator (Amber)

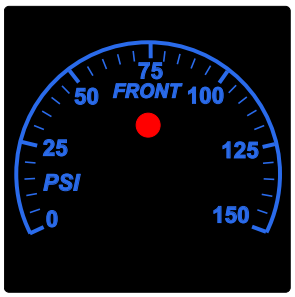
⚠ CAUTION

If the Check System indicator illuminates for more than 30 seconds, remove the vehicle from traffic to a safe location, shut the vehicle down and apply the parking brake.

The Check System indicator illuminates if a non-critical fault is detected in the Electric Drive System.

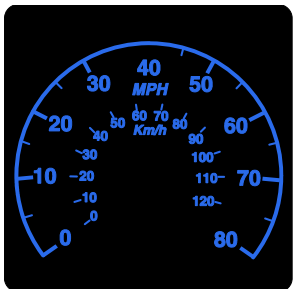
Stop System Indicator (Red)

The Stop System indicator illuminates if a major fault or unsafe operating condition is detected in the Electric Drive System. Immediately move the vehicle to a safe area and shut down the system.



Air Pressure Gauges

Individual analog air pressure gauges are used to monitor the vehicle's front, rear and center air brake systems. An LED indicator at the bottom of the gauge illuminates and a warning buzzer sounds if air pressure drops below 75 psi (517 kPa). If air pressure exceeds the normal operating range, the LED indicator will flash. Normal operating pressure range is 120 to 131 psi (827 to 903 kPa).



Speedometer

This gauge indicates the vehicle's forward speed. The speedometer will initialize as soon as the Master Run switch is set to the DAY-RUN or NIGHT-RUN position. During this self-test process the gauge will sweep full scale and then return to the zero point.

Operator Screen

The LCD touch screen provides indicators and text messages to warn the driver of potential problems. The screen will change color, from blue to amber to red, depending on the severity of the warning message. See "Figure 23: Operator Screen" on page 64. The screen has a trip odometer, and an hour meter in the upper left hand corner.

Toggle between Trip A and B by touching the odometer portion of the screen. Reset the trip counter by pressing and holding for 1 second.

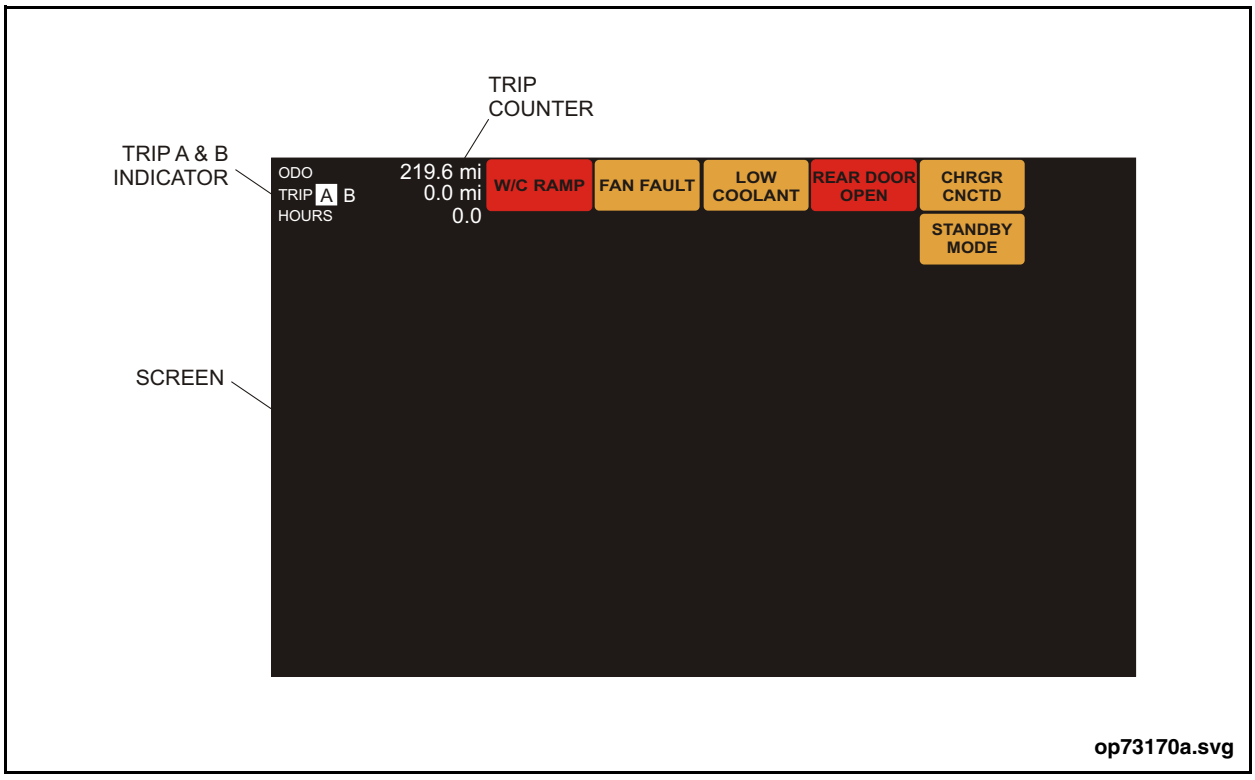


Figure 23: Operator Screen

Function Readout Display

Screen 1

- State of Charge - displayed on a bar graph as percentage of charge remaining in the entire Energy Storage System (ESS). The HV LOW BATT message appears when the state of charge drops to 20% or lower. See “Figure 24: Function Readout Screen 1” on page 65.
- Voltmeter (24V) - the voltmeter indicates the voltage levels in the vehicle’s 24 volt electrical system. The normal operating range is between 26 and 29.5 volts. The Low Battery indicator illuminates when the voltage is at 23 volts.
- Voltmeter (12V) - the voltmeter indicates the voltage levels in the vehicle’s 12 volt electrical system. The normal operating range is between 11 and 14 volts. The Low Battery indicator illuminates when the voltage is at 11 volts.

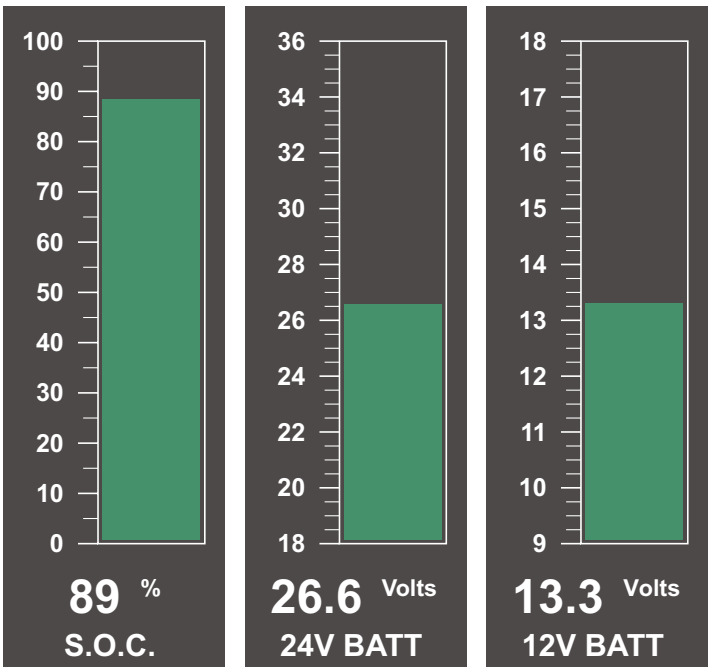


Figure 24: Function Readout Screen 1

Screen 2

- Strings Connected (0-7) - The string connected gauge indicates the number of strings connected during vehicle operation. The HV Batt Fail message appears when strings are not connected. See “Figure 24: Function Readout Screen 1” on page 65.
- ESS detectors - There is no range or unit of measure. This bar graph cycles through the ESS number/ fire/ leak detector status.

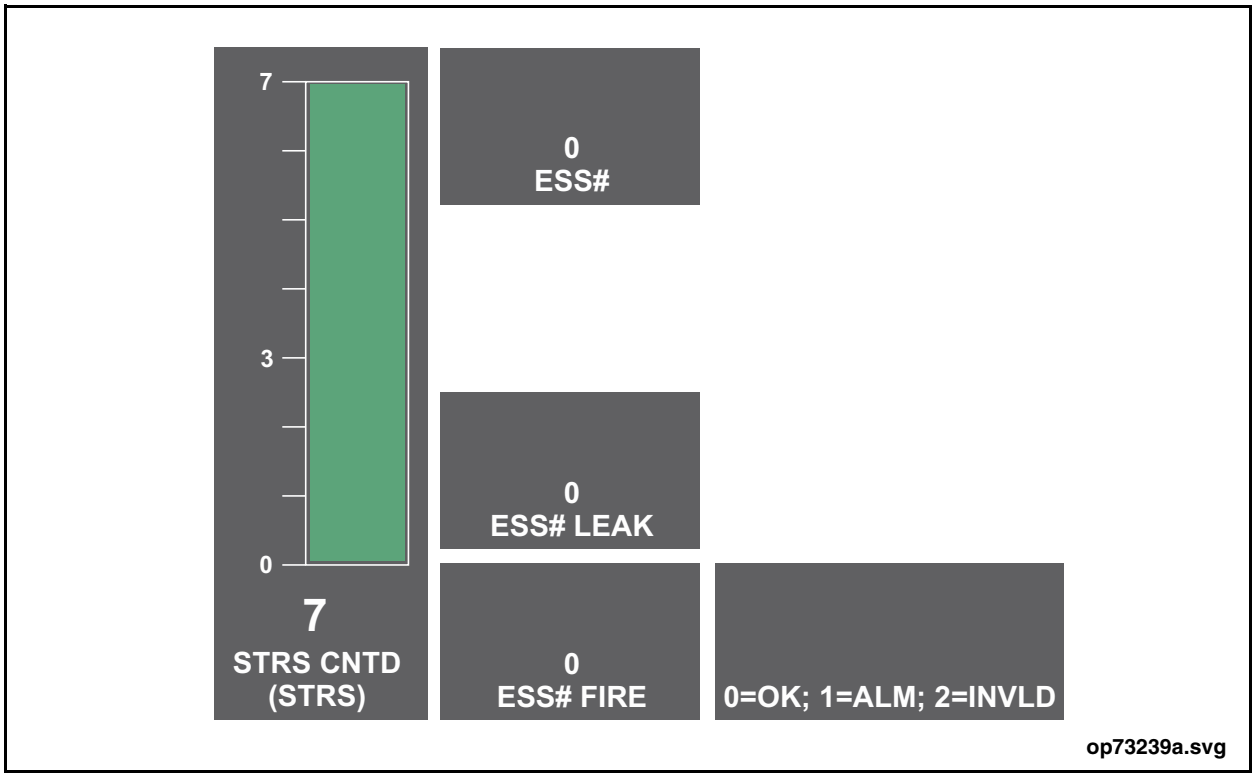


Figure 25: Function Readout Screen 2

Text Messages

- AIR COPRESSOR FLT (Amber) - The Amber Air Compressor Fault message will appear on the LCD screen if there are any faults while the system pressure is 75 psi or above.
- AIR COPRESSOR FLT (Red) - The Red Air Compressor Fault message will appear on the LCD screen if there are any faults
- APPROACH ZONE (Amber) - The Approach Zone message appears on the LCD screen to signal the auto lower zone is approaching.
- AUTO LOWER ZONE (Amber) - The Auto Lower Zone message appears on the LCD screen to signal the vehicle has entered an automatic lower zone. This serves as a warning that the vehicle will lower at the next opportunity where it is safe to do so. See REDUCE SPEED.

⚠ WARNING

DO NOT OPERATE THE VEHICLE if the Auxiliary System Fault Indicator illuminates. Notify maintenance personnel if this indicator illuminates.

- AUX SYSTEM FAULT (Red) - The Aux System Fault message appears on the LCD screen and a buzzer will sound to indicate that a breaker or contactor for the vehicle's

auxiliary electrical devices is open. The vehicle's auxiliary electrical devices include the electric motor driving the air compressor and power steering pump.

- BAT SAVER SHTDWN (Amber) - The Battery Saver Shutdown message will appear on the LCD screen and a buzzer will sound to indicate that the multiplexing system is shutting down.
- BRK ALERT (Red) - The Brake Alert message appears if an abnormal braking event occurs on any brake, such as failure to activate, excessive brake stroke, failure to release brakes, or over-heated brake linings.
- BTMS FAULT (Amber) - This message indicates the Battery Thermal Management System (BTMS) has detected a fault or has no CAN communications with the vehicle.
- CHARGE CANCELED (Amber) - The Charger Cancelled message will appear on the LCD screen when or operator or service personnel interrupts the charging process before the batteries are full.
- CHARGE DONE (Green) - The Charge Done message will appear on the LCD screen when vehicle is fully charged.
- CHARGE MODE (Green) - The Charge Mode message will appear on the LCD screen to indicate when the vehicle has been successfully connected to the charging station and full charging mode has been activated.

⚠ WARNING

Abort the charging process if the Charge System Fail indicator appears on the instrument panel.

- CHARGE SYSTEM FAIL (Red) - The Charge System Fail message will appear on the LCD screen and a buzzer will sound when a fault is detected in the HV battery charging system.
- CHARGER CNCTD (Amber) - The Charger Connected message will appear on the LCD screen when the charging station was successfully connected to the vehicle's charging receptacle.
- CHECK BRAKE WEAR (Purple) - The Check Brake Wear message will appear on the LCD screen to indicate the brake pads will need to be inspected or serviced.
- COOLANT FILL MODE (Amber) - The Coolant Fill Mode message will appear on the LCD screen to indicate that the coolant fill mode is active.

⚠ WARNING

DO NOT OPERATE THE VEHICLE if the Cooling System Fault Indicator illuminates. Notify maintenance personnel if this indicator illuminates.

- COOLING SYSTEM FAULT (Amber) - The Cooling System Fault message will appear on the LCD screen if the vehicle coolant temperature is high or level is too low for proper vehicle operation.

- CRITICAL HVLOW BATSOC08 (Red) - The Critical HV Low Battery SOC 08 message will appear on the LCD screen and a buzzer will sound when the HV battery state of charge is less than 8%.
- CRITICAL HVLOW BATSOC12 (Red) - The Critical HV Low Battery SOC 12 message will appear on the LCD screen and a buzzer will sound when the HV battery state of charge is less than 12%. The message will disappear if a lower state of charge message appears.

⚠CAUTION

DO NOT OPERATE THE VEHICLE if the Critical Low Coolant Indicator illuminates.

- CRITICAL LOW COOLANT (Red) - The critical low coolant message will appear on the LCD screen and a buzzer will sound to indicate if the coolant level in traction motor/inverter cooling system is too low for proper operation.
- CTR BRK WORN (Purple) - The Center Brakes Worn message will appear on the LCD screen to indicate that the brake disc pads have worn to a limit where service is required.
- DC RAIL SW FAULT (Amber) - The DC Rail Switch Fault message will appear on the LCD screen to indicate an issue with a DC rail switch contactor for overhead charging or if it loses CAN communication with the multiplexing system.
- ELECTRIC HEATER FAULT (Amber) - The Electric Heater Fault message will appear on the LCD screen to indicate a fault in the electric coolant heater circuit.

⚠CAUTION

DO NOT OPERATE THE VEHICLE if the ESS Critical Low Coolant Indicator illuminates.

- ESS CRIT LOW COOLANT (Red) - The ESS Critical Low Coolant message will appear on the LCD screen and a buzzer will sound to indicate that the coolant level in ESS battery thermal management system is too low for proper operation.
- ESS FULL (Green) - The ESS Full message will appear on the LCD screen when the energy storage system is completely charged.
- ESS LOW COOLANT (Amber) - The ESS Low Coolant message will appear on the LCD screen if an insufficient amount of coolant is present in the ESS battery thermal management system reservoir.

☞NOTE:

DO NOT add coolant prior to inspecting the ESS coolant circuit for leaks. Refer to Section 6 of your New Flyer Service Manual for pressure test and coolant fill procedures.

- ESS MIL (Amber) - The ESS MIL (Malfunction Indicator Light) message will appear on the LCD screen to indicate a fault in the ESS battery.

- EV MODE ON (Green) - The EV Mode On message will appear on the LCD screen to advise that the electric propulsion system is operating.
- EXT LAMPS FAULT (Amber) - The Exterior Lamp Fault message will appear on the LCD screen to indicate a fault with an exterior lamp circuit.

☞NOTE:

Notify service personnel if this message appears on the screen.

- FAN FAULT (Amber) - The Fan Fault message will appear on the LCD screen if a fault condition exists on the inverter cooling fan.
- FIRE (Red) - The fire message will appear on the LCD screen and an alarm sounds if there is a fire scenario detected.
- FRONT DOOR NO AIR (Amber) - The Front Door No Air message will appear on the LCD screen to indicate the door system does not have enough air pressure to properly operate the front doors.
- FRT BRK WORN (Amber) - The Front Brakes Worn message will appear on the LCD screen to indicate that the brake disc pads have worn to a limit where service is required.
- HIGH BATT TEMP (Amber) - The High Battery Temperature message will appear on the LCD screen and buzzer will sound if any high voltage battery string exceeds safe operating temperature for more than one minute.
- HIGH CHARGE TEMP (Amber) - The High Charge Temperature message will appear on the LCD screen to indicate the temperature of the high voltage contact is above 90 degrees.
- HIGH RIDE (Amber) - The High Ride message will appear on the LCD screen when the vehicle ride height is above normal ride height.
- HTR CNTOR FAULT (Amber) - The Aux Heater Contactor fault message will appear on the LCD screen when a fault is detected during aux heater operation.
- HV BATT FAIL (Red) - The HV Battery Fail message will appear on the LCD screen if any battery string sends out a fault condition.
- HV BATT WARNING (Red) - The HV Battery Warning message will appear on the LCD screen if any battery string sends out a warning.
- HV INTERLOCK (Red) - The HV Interlock message will appear on the LCD screen and a buzzer will sound if any of the high voltage enclosures have been opened. It will also appear if the HV Interlock switch on the fuse box is set to the OFF position.
- HV LOW BATSOC15 (Amber) - The HV Low Battery SOC 15 message will appear on the LCD screen and a buzzer will sound when the HV battery state of charge is less than 15%. The message will disappear if a lower state of charge message appears.
- INTER LOCK (Red) - The interlock message appears on the LCD screen when the interlock system applies the brake interlocks. The message disappears when the interlock system releases.
- INTERLOCK FAULT (Red) - The Interlock Fault message will appear on the LCD screen to indicate a fault has been detected with the Interlock System.

- INTLK OFF (Red) - The Interlock Off message will appear on the LCD screen to indicate the brake interlocks have been disabled with the door master switches.
- JOINT GUIDE FAIL (Amber) - The Joint Guide Fail message will appear on the LCD screen and a buzzer will sound to indicate an open circuit across the cable guide.
- KEY START ACK (Green) - The Key Start Acknowledge message will appear on the LCD screen briefly after the start button has been pressed to acknowledge the initialization of the electric drive system.
- KNEEL (Amber) - The Kneel message will appear on the LCD screen to indicate that the vehicle is below normal ride height.
- LEFT DOORS (Red) - The Left Doors message will appear on the LCD screen when the left side door operation mode has been selected.

☞NOTE:

The curbside (right-hand side) doors must be closed to allow operation of the streetside doors.

- LH CTR DR EMERG (Red) - The Left Hand Center Door Emerg message will appear on the LCD screen and a buzzer will sound when either the emergency release valve has been activated or there is a loss of air pressure in the system.
- LH HDLP FLT (Amber) - The LH Headlight Fault message will appear on the LCD screen to indicate a fault with the low beam headlight.

☞NOTE:

Notify service personnel if this message appears on the screen.

- LH RR DR EMERG (Red) - The Left Hand Rear Door Emerg message will appear on the LCD screen and a buzzer will sound when either the emergency release valve has been activated or there is a loss of air pressure in the system.
- LH TRN FLT (Amber) - The LH Turn Fault message will appear on the LCD screen to indicate a fault with the left-hand turn light.

☞NOTE:

Notify service personnel if this message appears on the screen.

- LOW AIR SUSPEN (Amber) - The Low Air Suspension message will appear when the vehicle air pressure is below 90.7 psi and the KNEEL switch or any other suspension switch is used. The message will remain until vehicle air pressure is above 97.9 psi. A buzzer will sound when any suspension switch is used while the message is present.
- LOW COOLANT (Amber) - The Low Coolant message will appear on the LCD screen and the buzzer will sound when coolant level is too low to maintain normal operating temperature.
- LOW HV ISOLATION (Red) - The Low HV Isolation message will appear on the LCD screen and buzzer will sound if the Electric Drive system detects a failure in the isolation of the high voltage system.

WARNING

DO NOT operate the vehicle if the Low Power Steering Fluid message appears. Operating with a Low Power Steering Fluid level risks power steering systems failure.

- LOW PWR STEERING FLUID (Red) - The Low Power Steering Fluid message appears if the level of hydraulic oil in the vehicle's reservoir is below a safe operating level.
- LOW RIDE (Amber) - The Low Ride message will appear on the LCD screen when the vehicle ride height is below normal ride height.
- LV BATT CRITICAL (Red) - The Low Voltage Battery Critical message appears on the LCD screen and a buzzer will sound to indicate that the voltage on the 24V side has dropped below 23V.
- PRESS RECOVER (Green) - The Press Recover messages will appear flashing if the vehicle is running while in gear, and not at normal ride height. The kneel switch must be pressed to Recover position and return vehicle to normal ride height to deactivate the message.
- PWR STRNG FAULT (Red) - The Power Steering Fault message will appear on the LCD screen and a buzzer will sound when there is a fault detected with the power steering electric motor.
- RAMP FAULT (Amber) - The Ramp Fault message will appear on the LCD screen when the wheelchair ramp motor encounters a CAN network time-out or electrical fault.
- RAMP FAULT (Red) - The Ramp Fault message will appear on the LCD screen when there is a critical over current in the wheelchair ramp motor.
- REAR DOOR EMERG (Red) - The Rear Door Emerg message will appear on the LCD screen and a buzzer will sound when either the emergency release valve has been activated or there is a loss of air pressure in the system.
- REAR DOOR OPEN (Red) - The Rear Door Open message will appear on the LCD screen when the exit door is open or a fault is detected in the Obstruction Detection System.
- REDUCE SPEED (Red) - The Reduce Speed message will appear on the LCD screen as a warning to decrease vehicle speed if above the lower speed limit. See AUTO LOWER ZONE.
- REGEN BRAKE OFF (Red) - The Regen Brake Off message will appear on the LCD screen when the regenerative braking system has been disabled by toggling the Regen Brake switch to the OFF position.
- REGEN BRAKE ON (Amber) - The Regen Brake On message will appear on the LCD screen and will advise that the hybrid drive's regenerative braking system is actively engaged in regenerative braking.
- RH HDLP FLT (Amber) - The RH Headlight Fault message will appear on the LCD screen to indicate a fault with a low beam headlight.

☞NOTE:

Notify service personnel if this message appears on the screen.

- RH TRN FLT (Amber) - The RH Turn Fault message will appear on the LCD screen to indicate a fault with the right-hand turn light.

☞NOTE:

Notify service personnel if this message appears on the screen.

- ROLLBACK STOPPED (Amber) - The Rollback Stopped message will appear on the LCD screen and a buzzer will sound when the vehicle rollback protection function has been activated.
- RR BRK WORN (Red) - The Rear Brakes Worn message will appear on the LCD screen to indicate that the brake disc pads have worn to a limit where service is required.

☞NOTE:

Notify service personnel if this message appears on the screen.

- RR DR AJAR (Red) - The Rear Door Ajar message will appear on the LCD screen and buzzer will sound when the exit door is not fully opened or closed for 4.5 seconds.
- SHIFT TO DRV OR RVRS (Amber) - The Shift to Drive or Reverse message will appear on the LCD screen if the rollback protection function has been activated and the vehicle has automatically shifted to neutral. This message acts as a reminder to shift to either drive or reverse.
- STANDBY MODE (Amber) - The Standby Mode message will appear on the LCD screen when the vehicle is fully connected and has synchronized the high voltage batteries and the utility grid, and is now ready to accept full charging current.
- STOP LAMPS FAULT (Amber) - The Stop Lamp message will appear on the LCD screen and the buzzer will sound to indicate a breaker has tripped.

☞NOTE:

Notify service personnel if this message appears on the screen.

- STOP REQUEST (Red) - The Stop Request message will appear on the LCD screen when the passenger signal system has been activated.
- SUSPEN CAL ACTIVE (Amber) - The Suspension Cal Active message will appear flashing when lowering and ON solid during Auto Recover (calibration achieved). The message turns OFF when normal ride height is reached.
- SUSPEN DEGRADED MODE (Amber) - The Suspension Degraded Mode message will appear when an active service code condition is encountered on an axle. The suspension system will adjust suspension control on the axle to accommodate a reduced level of functionality.
- SUSPEN FAULT (Amber) - The amber Suspension Fault message will appear on the LCD screen during the Smart Suspension ECU flashing process.

- SUSPEN SHIPPING LEVEL (Amber) - The Suspension Shipping Level message will appear on the LCD screen when the vehicle is lowered to bump stops.
- TAIL LAMPS FAULT (Red) - The Tail Lamps Fault message will appear on the LCD screen to indicate a fault with a tail lamp circuit.

☞NOTE:

Notify service personnel if this message appears on the screen.

- TRACTION SYSTEM DSBL (Red) - The Traction System disable message appears on the LCD screen when the traction motor is disabled due to low battery SOC.
- W/C RAMP (Red) - The Wheelchair Ramp message will appear on the LCD screen if any time the ramp is not fully stowed.
- W/C STOP REQUEST (Amber) - The W/C Stop Request message will appear on the LCD screen when the wheelchair signal system has been activated.
- WC RAMP MOTOR OVERTEMP (Red) - The WC Ramp Motor Overtemp message will appear on the LCD screen when the wheelchair ramp motor is overheating during operation.

Shift Selector

⚠CAUTION

Be sure to bring the vehicle to a full stop before shifting from Drive [D] to Reverse [R] or vice versa.

The shift selector is located on the right-hand side of the instrument panel. The shift selector module has three push-button switches and a green LED display. Three switches control the Reverse [R], Neutral [N], and Drive [D] selections.

☞NOTE:

A back-up alarm activates when Reverse [R] is selected.

Ramp Switch

⚠CAUTION

The Ramp toggle switch is a momentary type. If pressure is removed, the switch returns to the center FLOAT position and operation ceases.

This is a three-position switch that controls the wheelchair ramp.

DEPLOY

This position activates the ramp from the closed position to the open position.

FLOAT

This position shuts off power to the pump, allowing the ramp to free-fall to either the open or the closed position. Upon cycle completion this becomes an off position.

STOW

This position is used to move the ramp from the open to the closed position.

Kneel Switch

⚠CAUTION

When placed in the RECOVER position, the Kneel toggle switch will continue to raise the vehicle until normal full ride height is reached at which point the raising action will automatically stop. In order to interrupt the raising operation during its cycle, the toggle switch must be released to the HOLD position.

This three-position momentary switch is used to operate the vehicle's kneeling system. The kneeling system lowers the front of the vehicle by exhausting air from both front suspension air springs. The front axle kneel occurs when the kneel toggle switch is set to the LOWER position. The right side kneel occurs when the vehicle has performed front kneel and the kneel toggle switch is set to the LOWER position a second time.

☞NOTE:

The interlocks are applied and the throttle is locked out when the vehicle is operated in the KNEEL mode.

LOWER

This position lowers the vehicle, activating the interlocks, the audible alarm and the exterior warning light. The instrument panel Kneel message also appears.

RECOVER

This position raises the vehicle automatically to its full ride height. Once the vehicle has reached normal ride height, the interlocks will release (with doors closed), the alarm will silence and the exterior warning light and Kneel indicator will both extinguish.

HOLD

During the kneeling cycle, this position stops kneeling operations, however, it does not silence the alarms nor extinguish the exterior warning light. The Kneel indicator and the interlocks remain activated.

Ride Height Switch

This three-position momentary switch is used to operate the vehicle's high and low ride modes. Raise allows the vehicle to rise above normal ride height. Lower drops the vehicle to below normal ride height.

☞NOTE:
Accelerator interlocks are applied when the vehicle is in either High Ride or Low Ride mode, limiting the vehicle speed to 10 mph.

Indicators on the instrument panel will indicate which ride height mode the vehicle is in. If no indicator is on, the vehicle is at normal ride height.

RAISE

Holding the switch in the RAISE position raises the vehicle for as long as the switch is held, or until the maximum ride height is reached.

HOLD

During the raising or lowering cycle, the HOLD position stops the operation and holds the vehicle in position.

LOWER

Holding the switch in the LOWER position lowers the vehicle below normal ride height or until the vehicle reaches a minimum allowable ride height.

☞NOTE:
Select RECOVER on the Kneel switch to return the vehicle to normal ride height.

Wiper/Washer Controls

The wiper control switch operates the left-hand and right-hand wiper motors. Rotating the control knob through the intermittent range will vary the delay of the wiper sweep for differing rain conditions. In the low or high position the wipers operate at fixed speeds. Pushing down on the knob operates the windshield washer pump to spray fluid onto the windshield.

☞NOTE:
The windshield washer bottle filler is located near the side console.

Panel Lights Dimmer Switch

The Panel Lights Dimmer switch controls the brightness of the instrument panel lighting. Rotating the dimmer knob clockwise increases the brightness and counter-clockwise decreases the brightness of the panel lights.

Driver's Climate Controls

See "Figure 26: Driver's Area Climate Controls" on page 78.

Driver's Floor Heat

The driver's floor heat control is located on the instrument panel and controls the defroster/heater outlet to the floor area of the driver's platform. Turn the knob counter-clockwise to increase the floor heat setting.

☞NOTE:
Use the Temperature control knob on the instrument panel to set the floor heat air temperature.

Defroster Fan Control

The defroster Fan knob on the instrument panel controls the speed of the driver's heater/defroster fan. Turning the knob from the extreme left (OFF position) to the right provides variable fan speed settings.

Defroster Air Recirculation Control

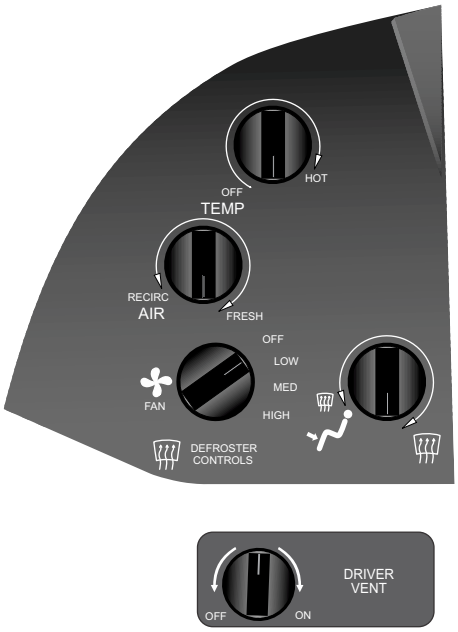
The Air knob on the instrument panel controls the amount of fresh air circulated through the driver's heater/defroster system. This knob can be set to recirculate all or a portion of air entering the heater compartment and admit a corresponding amount of fresh air.

Defroster Temperature Control

The Temp knob on the instrument panel controls the temperature of the air blowing from the defroster. Turn the knob from left to right to decrease temperature and from right to left to increase temperature.

Driver's Vent

The vehicle is equipped with a lower vent that allows outside air to enter the vehicle interior during forward motion. The lower vent inlet is located on the left front corner below the windshield. The vent control is located below the instrument panel. Turn the knob clockwise to increase air flow.



op0562a.svg

Figure 26: Driver's Area Climate Controls

Side Console Switch Panel

See "Figure 27: Side Console Panel" on page 79.

Rear Door Control Switch

The Rear Door Control switch is a guarded toggle switch that changes the function of door controller positions FRONT REAR, REAR and REAR FRONT. Lift the switch guard up and position the switch to PASSENGER to change door-opening function to push-open. In the push-open mode the passenger will be required to push the door open. Close the switch guard and return the switch to the DRIVER position to allow driver control of door opening/closing.

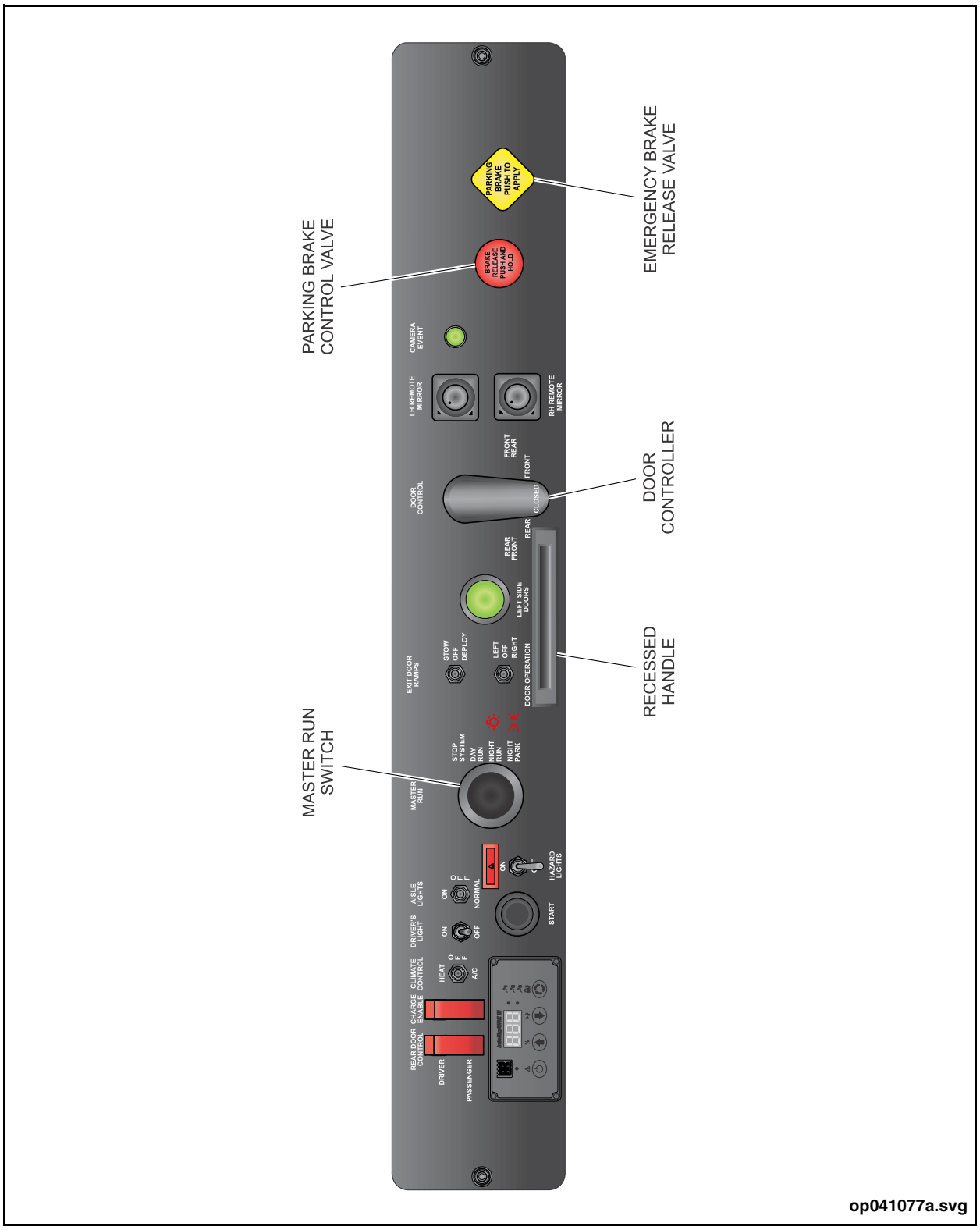


Figure 27: Side Console Panel

Charge Enable Switch

The Charge Enable Switch is used to enable the charging of the energy storage system batteries. It is located on the side console. Lift the guard and move the switch to the ON position to enable the charging.

Climate Control Switch

The Climate Control switch is a three position toggle switch. Set the switch to the HEAT position to enable the cabin heating system. Set the switch to the A/C position to enable the cabin air conditioning system. Return the switch to the OFF position to disable the cabin heating system and the air conditioning system.

Driver's Light Switch

The Driver's Light toggle switch is a two-position switch that controls the light above the driver.

Aisle Lights Switch

The following table displays the lights that will be illuminated based on the positions of the Aisle Lights switch and Master Run switch. See “Figure 28: Aisle Lights” on page 81.

☞NOTE:
Lights dim when aisle lights switch is set to NORMAL, Master Run switch is set to NIGHT-PARK and the entrance door is closed.

AISLE LIGHTS SWITCH OPERATION

AISLE LIGHTS SWITCH POSITION	MASTER RUN SWITCH POSITION	ILLUMINATED LIGHTS
ON	DAY-RUN	Streetside (1,2,3,4,5,6,7) Curbside (1,2,3,4,5,6,7)
ON	NIGHT-RUN	Streetside (1,2,3,45,6,7) Curbside (1,2,3,4,5,6,7)
ON	NIGHT-PARK[1]	Streetside (1,2,3,4,5,6,7) Curbside (1,2,3,4,5,6,7)

AISLE LIGHTS SWITCH OPERATION		
AISLE LIGHTS SWITCH POSITION	**MASTER RUN SWITCH POSITION**	**ILLUMINATED LIGHTS**
NORMAL	DAY-RUN	Streetside (None) Curbside (None)
NORMAL	NIGHT-RUN[1]	Streetside (1,2,3,5,6,7) Curbside (1,2,3,5,6,7)
NORMAL	NIGHT-PARK	Streetside (4) Curbside (4)
OFF	ANY POSITION	Streetside (None) Curbside (None)
1 Curbside and Streetside light bank 1 will illuminate when entrance or exit doors are open.		

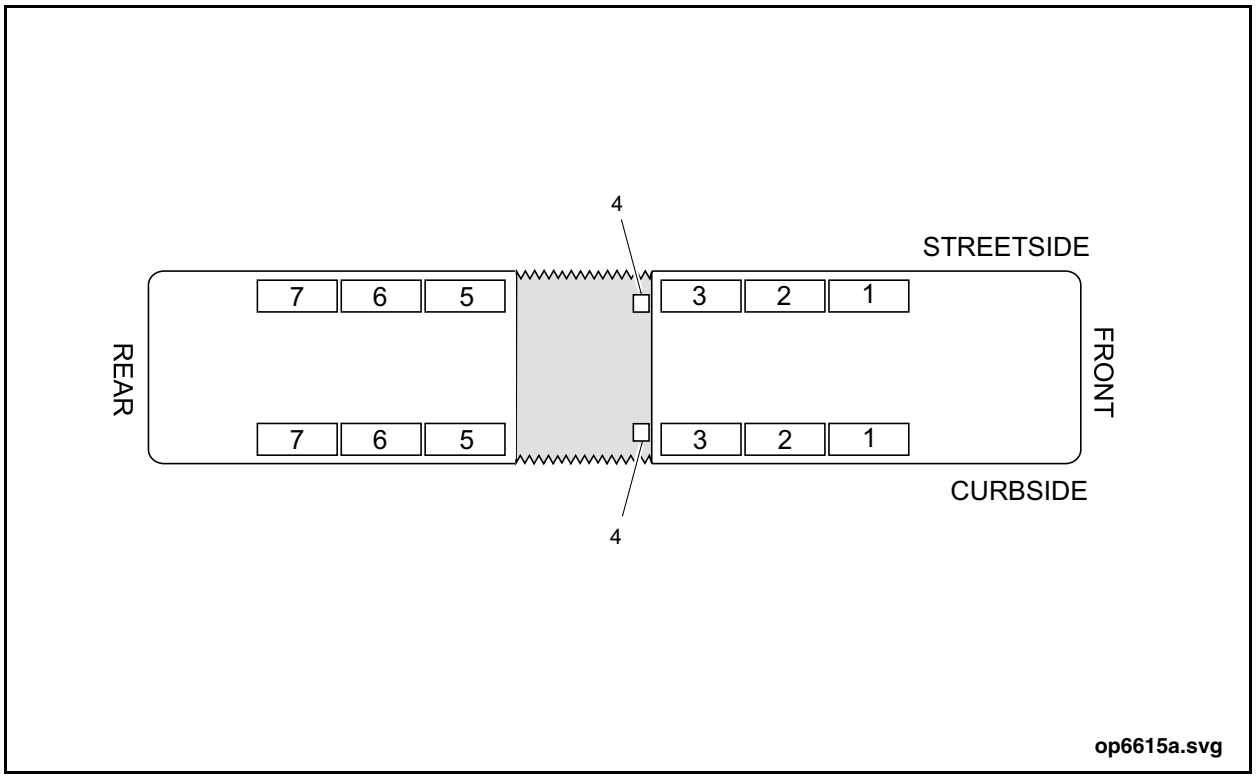


Figure 28: Aisle Lights

Hazard Lights Switch Indicator

The Hazard Lights Switch indicator illuminates when the Master Run switch is in the NIGHT-RUN or NIGHT-PARK position. It serves only to highlight the position of the Four-Way Hazard Lights switch.

Master Run Switch

The Master Run Switch is a 4-position rotary switch. The DAY-RUN, NIGHT-RUN, and NIGHT-PARK positions are used to activate the vehicle Multiplexing System and energize various 12/24V electrical circuits. The STOP-SYSTEM position is used to shutdown the vehicle and de-energize the Multiplexing System and most 12/24V electrical circuits except those associated with safety functions.

⚠CAUTION

Wait two minutes after turning the Master Run switch to the STOP-SYSTEM position before turning the Battery Disconnect switch to the OFF position, except in case of emergency.

The Battery Disconnect switch must be set to the OFF position in order to disconnect the remaining 12/24V circuits from the vehicle batteries. The following table provides a list of circuits energized by the various Master Run switch positions:

☞NOTE:

The Multiplexing System is programmed to remain active for 60 minutes after the Master Run switch is set to the STOP-SYSTEM position.

MASTER RUN SWITCH OPERATION

CIRCUIT OR SYSTEM	STOP-SYSTEM	DAY-RUN	NIGHT-RUN	NIGHT-PARK
Headlights (low beam)		x	x	
Headlights (high beam)			x	
Four-way hazard lights	x	x	x	x
Turn lights (Note 3)	x	x	x	x
Stop lights		x	x	

MASTER RUN SWITCH OPERATION				
CIRCUIT OR SYSTEM	STOP-SYSTEM	DAY-RUN	NIGHT-RUN	NIGHT-PARK
Clearance/marker lights		x	x	x
Tail lights		x	x	x
License plate light		x	x	x
Backup lights & alarm (Note 1)		x	x	
Aisle lights (normal) (Note 3)	x	x	x	x
Aisle lights (on) (Note 3)	x	x	x	x
Instrument panel illumination			x	x
Instrument panel dimmer			x	x
Driver's lamp (Note 3)	x	x	x	x
Service compartment lights (Note 3)	x	x	x	x
Entrance & exit door lights with door open (Note 2)		x	x	x
Instrument panel warning indicators		x	x	
Shift selector		x	x	
Brake & accelerator interlocks		x	x	
Destination sign operation		x	x	x
Door controller		x	x	x
Horns	x	x	x	x
Regenerative Braking (Note 1)		x	x	
Driver's alarm		x	x	
Parking brake alarm (Note 3)	x			x
Kneeling operation & alarm		x	x	
Wheelchair ramp & alarm		x	x	
Fire Suppression System		x	x	
Passenger signal system		x	x	

MASTER RUN SWITCH OPERATION				
CIRCUIT OR SYSTEM	STOP-SYSTEM	DAY-RUN	NIGHT-RUN	NIGHT-PARK
Public address system		x	x	
HVAC system (Note 1)		x	x	
Wiper controls		x	x	
APC system		x	x	x
Traffic priority system		x	x	
Remote mirrors		x	x	
Radio		x	x	x
AVA/AVL system		x	x	x
Infotainment system		x	x	x
Video surveillance system		x	x	x
Driver/Vehicle monitoring system	x	x	x	x
Note 1 Vehicle must be running Note 2 DAY-RUN also requires W/C ramp deployed Note 3 Multiplexing system must be active				

Exit Door Ramps Switch

⚠WARNING

The driver must ensure passengers are not standing near the ramp or attempting to enter or exit the vehicle through the center or rear doors while the ramps are being stowed or deployed

This switch is used to deploy or stow the ramps located at the exit doors on either side of the vehicle. To deploy the ramps on the curbside of the vehicle, the Door Operation Switch must be in the RIGHT position. To deploy the ramps on the streetside, the Door Operation Switch must set to the LEFT position.

☞NOTE:

The door operation switch will only change operating mode when the vehicle is at normal ride height and all doors are closed.

Left Side Doors Push Button

The Left Side Doors push button enables the streetside exit doors. The button will only function when the Door Operation switch is set to the LEFT position. The push button will illuminate when enabled.

Door Controller

WARNING

Positioning the Door Master switch to OFF disables the brake interlocks and the exit door controller.

The door controller can only open the curbside exit doors when the Door Operation switch is set to the RIGHT position. See “Figure 29: Door Controller” on page 86. The five positions of the controller and the related door functions are as follows:

- Position #1 (CLOSED): Entrance door closed, exit door disabled.
- Position #2 (FRONT): Entrance door open, exit door disabled.
- Position #3 (FRONT REAR): Entrance door open, exit door enabled.
- Position #4 (REAR): Entrance door closed, exit door enabled.
- Position #5 (REAR FRONT): Entrance door open, exit door enabled.

When the exit door is open, the brake and accelerator interlocks apply automatically and the stop lights indicator illuminates.

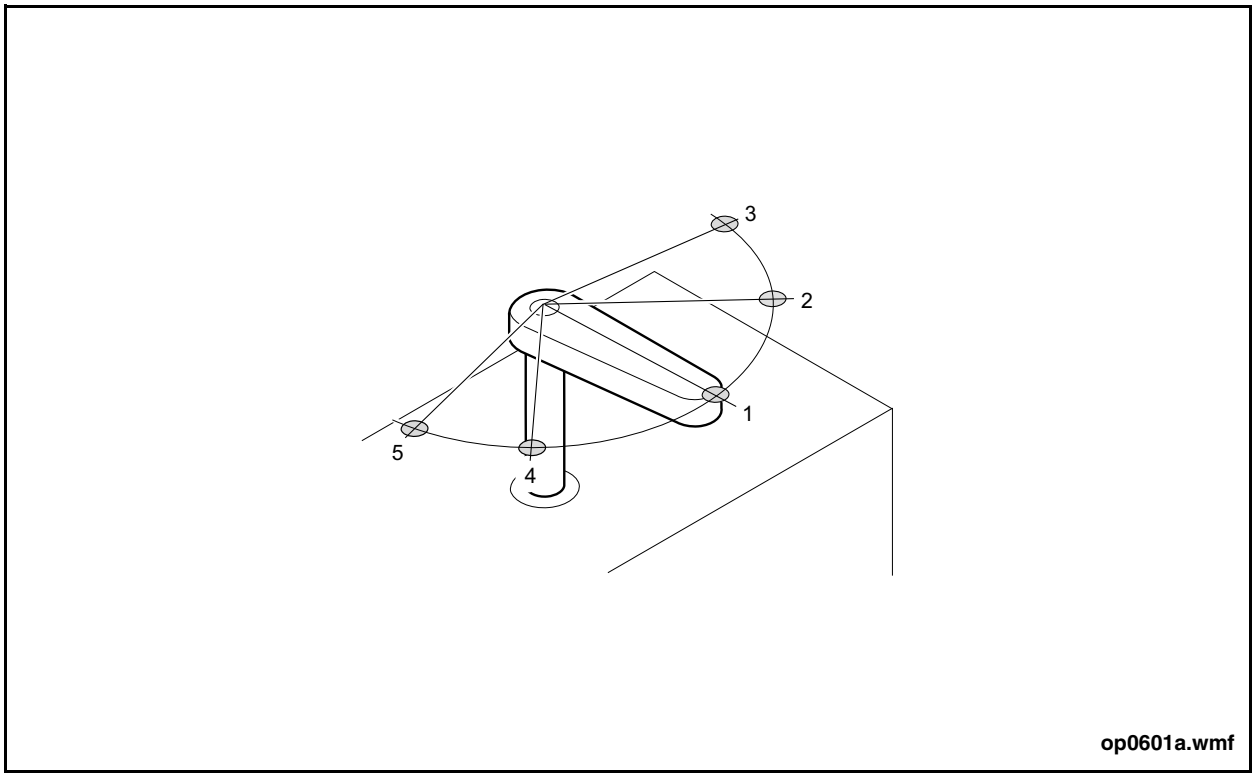


Figure 29: Door Controller

LH Remote Mirror Controller

The LH remote mirror controller controls the streetside mirror assembly. Position the controller dial to the mirror requiring adjustment (upper or lower). Then use the four directional tilt function of the dial to move the mirror into the desired position.

Camera Event Marker

This device is used to mark incidents on the video surveillance system for storage and subsequent playback. The green status light indicates that the system is operating normally. The red status light indicates a fault with the system.

Parking Brake Control Valve

WARNING

If the air pressure is below 40 psi (276 kPa), the parking brake valve will return to the applied position.

The parking brake control valve controls the application or the release of the parking brake. Pulling up on the control knob applies the parking brake. Pushing down on the knob releases the parking brake.

Emergency Brake Release Control Valve

This valve supplies the air pressure to release the rear brakes if the air system pressure drops below 40 psi (276 kPa) and the rear brakes apply automatically. Pushing down and holding the valve allows the air pressure to release the rear brakes. Releasing the valve knob shuts off the air pressure supply, allowing the rear brakes to re-engage.

☞NOTE:

The emergency brake release is for emergency use only. It allows the operator to move the vehicle away from a potentially dangerous location when the air system has failed. The rear brakes remain released as long as the valve is pressed. The brakes will drag at about 65 psi (448 kPa) even though the parking brake is in the released position.

RH Remote Mirror Controller

The RH remote mirror controller controls the curbside mirror assembly. Position the controller dial to the mirror requiring adjustment (upper or lower). Then use the four directional tilt function of the dial to move the mirror into the desired position.

Door Operation Switch

The Door Operation switch enables operation of the curbside or streetside exit doors and wheelchair ramps.

For normal operation place the switch in the RIGHT position, which will enable the curbside exit doors and the curbside entrance and exit door wheelchair ramps. When the switch is placed in the LEFT position, the streetside exit doors and exit door wheelchair ramps will be enabled.

☞NOTE:

The curbside (right-hand side) doors are controlled by the door controller. The streetside (left-hand side) doors are controlled by the Left Side Door button.

Four-Way Hazard Lights Switch

The Hazard Lights toggle switch has an ON and OFF position. When the switch is ON, the instrument panel turn indicators and the exterior signal lights flash.

When the switch is OFF, the exterior signal lights function only as turn signals. The exterior signal lights and instrument panel turn indicators flash when the left or right turn signal foot-switch is pushed and held.

Activate the four-way hazard lights when the vehicle is stopped or parked and may block traffic or present a possible hazard to following or approaching vehicles. Also use the four-way hazard lights when the vehicle is being towed.

Start Push Button

WARNING

Put the shift selector in neutral [N] and apply the parking brake before starting the vehicle. If the parking brake indicator does not illuminate, DO NOT OPERATE THE VEHICLE.

This momentary Push Button on the side console allows the operator to start the vehicle without leaving the driver's seat.

HVAC Control Panel

The HVAC control panel, located on the driver’s overhead panel, provides an interface with the HVAC operating system Use the buttons to operate the system as follows: See “Figure 30: HVAC Control Panel” on page 90.

Power Button

The power button is used to turn the system on and off. If the power button is off and power is applied to the display module, the back lighting for the buttons will remain on and the LED indicators and 3-digit display will be turned off. In this mode, the display module will continue communicating with the main module. If the power button is on, the LED indicators and 3-digit display will be lit as determined by the operating mode.

Set Point Up & Down Buttons

The temperature set point is adjusted by first selecting the zone to be configured, and then pressing the up or down button once. The set point icon will light and the 3-digit display will show the current temperature set point. Pressing the up or down button again will increment or decrement the set point by 1 degree. If no button is pressed within a 3 second timeout period, the display will return to the inside temperature for the zone selected.

Zone Select Button

The temperature set point for the three inside zones and the outside ambient temperature can be displayed. The information displayed on the 3-digit display will coincide with the zone that is selected. Pressing the zone select button will cycle through each enabled zone as well as the outside ambient temperature.

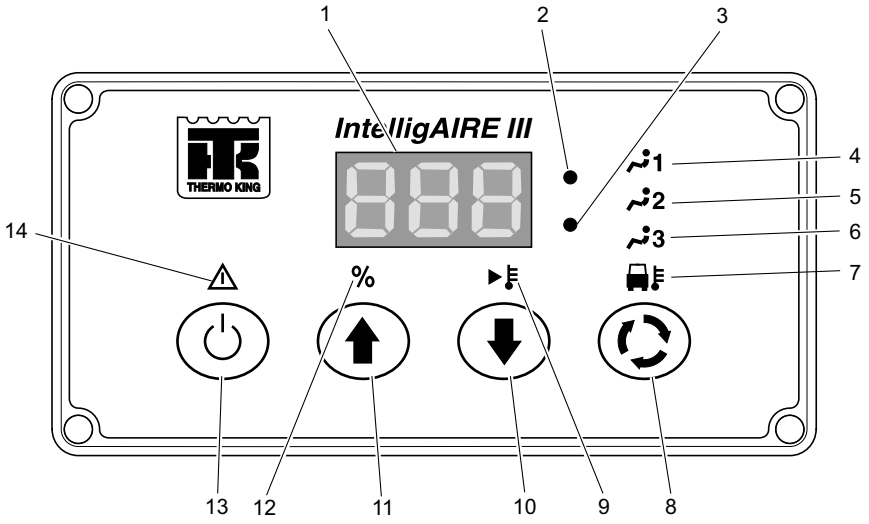
Alarm Indicators

The yellow alarm indicator will light to indicate a “check” alarm is currently active. These alarms include sensor readings out of range, open or shorted loads, etc. and may be viewed using the alarm code readout mode on the display module or by using the CAN Diag PC tool. These alarms will clear automatically when the condition is corrected.

The red alarm indicator will light to indicate a “shutdown” alarm has occurred. These alarms include high pressure cut out, low pressure cut out and compressor over temperature conditions. The compressor remains off in this mode and can only be reset by cycling the power button.

Heating & Cooling Indicators

The red and blue LED indicators on the right hand side of the 3 digit display will light to indicate the current operating mode of the HVAC unit. The blue indicator will light whenever the compressor is running and the red indicator will light whenever the heat valve is operating.



1. 3-Digit Display
2. Red LED Indicator - HEAT Mode
3. Blue LED Indicator - COOL Mode
4. Zone 1 Indicator
5. Zone 2 Indicator
6. Zone 3 Indicator
7. Ambient Air Temperature Indicator
8. Zone Select Key
9. Setpoint Indicator
10. Down Arrow Key
11. Up Arrow Key
12. Percent Indicator
13. On / Off Key
14. Alarm Indicator - Red or Yellow

s051807c.svg

Figure 30: HVAC Control Panel

Foot Operated Controls

See “Figure 31: Driver’s Foot Controls” on page 92.

Brake Treadle

The brake treadle, located to the left of the accelerator treadle, controls the application and release of the service brakes. The brake treadle also controls the regenerative braking function.

Brake application is proportional to the amount of treadle movement applied. Pressing the brake treadle illuminates the stop lights and the stop lights indicator.

☞NOTE:

The brake treadle drops slightly when the Interlock System applies. To release the brake interlock system, apply sufficient pressure to the brake treadle to "push through" the interlock application. The interlock message will disappear from the instrument panel screen and the treadle will return with the operator's foot to its normal position.

☞NOTE:

This vehicle incorporates an e-Stroke System which will activate warning indicators if the brakes remain applied after the brake treadle has been released.

Accelerator Treadle

The accelerator treadle, located to the right of the brake treadle, controls vehicle acceleration. Acceleration is proportional to the amount of treadle movement applied.

Headlight Dimmer Switch

The Headlight Dimmer switch is a heel-activated click-in switch located adjacent to the side console. Pressing the switch changes the headlight operating mode between either high beam or low beam. The blue high beam indicator on the instrument panel indicates the high beam mode.

Hazard Light Switch

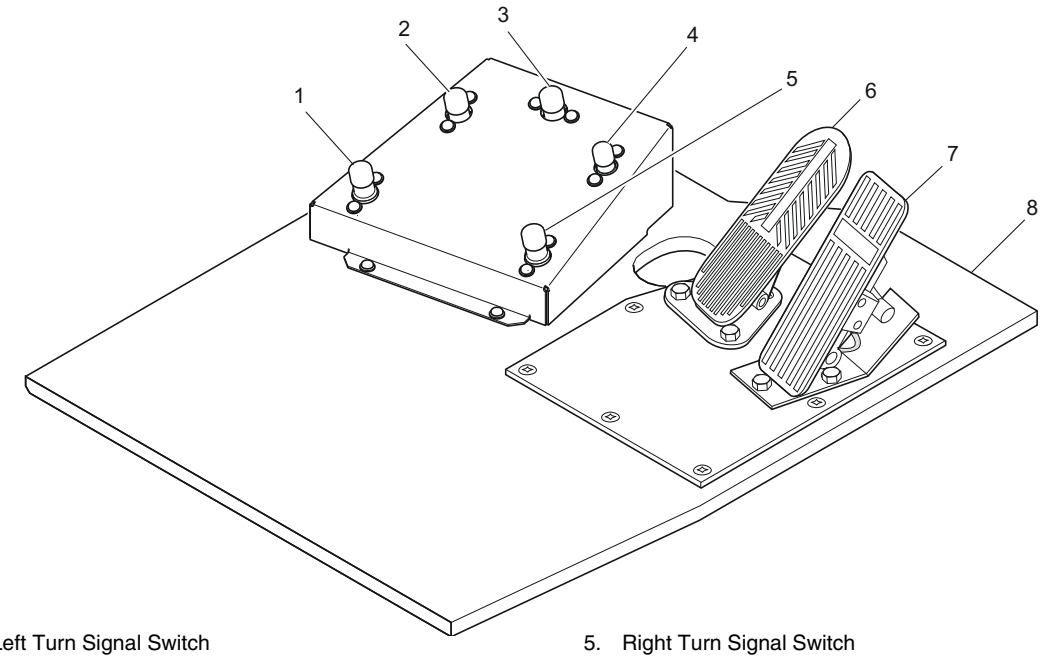
The Hazard Light switch is a momentary foot-operated switch. Press and hold this foot switch down to activate the hazard lights. When the switch is released, the hazard lights turn off.

Turn Signal Switches

Two bracket-mounted, momentary-on switches control the right and left turn signal lights when held depressed. Left or right turn signal indicators on the instrument panel illuminate when respective floor switch is activated.

P.A. System Switch

The P.A. System switch is located between the LH turn signal and Hazard light switch and is for activating the P.A. System. Push and hold this switch while speaking into the microphone.



1. Left Turn Signal Switch
2. P.A. Switch
3. Hazard Light Switch
4. Headlight Dimmer Switch
5. Right Turn Signal Switch
6. Brake Treadle
7. Accelerator Treadle
8. Driver's Platform

op07150a.svg

Figure 31: Driver's Foot Controls

Miscellaneous Controls

See "Figure 32: Miscellaneous Switches" on page 94.

Suspension Switch

The Suspension switch, located in the destination sign compartment, is used for suspension calibration or lowering suspension for shipping. In order to initiate calibrate or shipping mode the vehicle must be stopped, Master Run switch set to DAY-RUN or NIGHT-RUN, parking brake applied, Hazard switch ON and entrance door open. When the switch is held in CALIBRATE for 5 seconds then released, the vehicle suspension will lower to the bump stops, the ECU will calibrate the sensors and then suspension will automatically raise to normal ride height. When the switch is held in SHIPPING for 5 seconds, the vehicle suspension will lower to the bump stops. To recover the vehicle to normal ride height, press the RAISE kneel button.

Service Light Switch

The Service Light switch controls the lamp in the destination sign compartment.

Regen Brake Switch

The Regenerative Brake guarded toggle switch controls power to the regenerative braking system. Moving the switch to the unguarded position deactivates the regenerative braking system and displays the REGEN BRAKE OFF message on the instrument panel. Moving the switch to the guarded position restores operation of the regenerative braking system and displays the REGEN BRAKE ON message.

Interlock Override Switch

Set the switch to the ON position to disable the brake and accelerator interlock. Set the switch to the OFF position to enable the brake and accelerator interlock.

⚠ CAUTION

Operating the vehicle with the Interlock Override switch in the ON position disables the brake and accelerator interlocks. Consult your local transit authority for operating policy.

Parking Brake Alarm Cancel Switch

The Parking Brake Alarm Cancel switch is used to cancel the parking brake alarm.

Auto Kneel Ramp Switch

When the Auto Kneel Ramp switch, located inside the front destination sign compartment, is set to ENABLE, the vehicle will automatically lower or raise the appropriate distance to provide an optimal angle for the boarding passenger when the entrance door ramp is deployed. When the switch is set to DISABLE the vehicle kneeling and ramp deployment must be performed independently with the Kneel and Ramp switches located on the driver's side console.

Joint Switch

The Joint override toggle switch is located behind the destination sign access door. It is a two-position momentary switch that controls artic joint electrical system circuits. Pulling the switch down temporarily overrides the interlocks that apply at maximum angle.

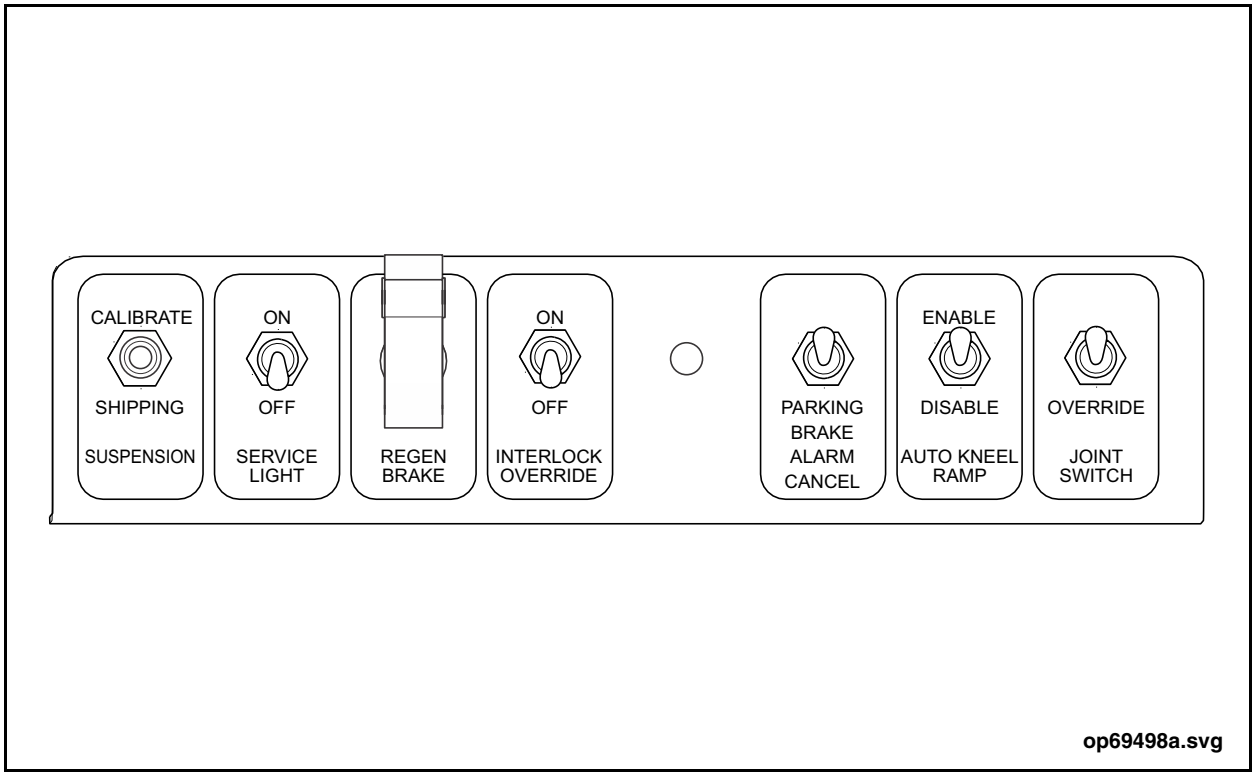


Figure 32: Miscellaneous Switches

Front Door Master Switch

CAUTION

Operating the vehicle with the Front Door Master switch in the OFF position disables the brake and accelerator interlocks. Consult your local transit authority for operating policy.

This switch is located behind the entrance door mechanism access door. Set the switch to the OFF position to disable operation of the entrance door and the portion of accelerator and brake interlocks associated with the entrance door. Return the switch to the ON position to enable normal operation.

Rear Door Master Switch

CAUTION

Operating the vehicle with the Rear Door Master switch in the OFF position disables the brake and accelerator interlocks. Consult your local transit authority for operating policy.

This switch is located behind the entrance door mechanism access door. Set the switch to the OFF position to disable operation of the exit door and the portion of accelerator and brake interlocks associated with the exit door. Return the switch to the ON position to enable normal operation.

Entrance Door Manual Control Valve

This air control valve is located beside the driver, just below the side console. Turning it to the OFF position releases the air controlling the entrance door. This allows manual operation of the door for initial vehicle entry. For normal entrance door operation, position the door manual control valve to ON.

10.FIRE SUPPRESSION SYSTEM

Monitoring and operating the Fire Suppression System effectively requires a basic understanding of the components and the operation of each in the system. The following gives a brief explanation of the components and their function.

Major System Components & Location

- Backup battery module and batteries in side console.
- Fire Suppression Control Panel (1) - located in the driver's overhead panel
- Linear Thermal Detector - in the Rear ESS compartment and cabin coolant heater.
- Discharge Nozzles (4) - three in rear ESS compartment and one near the auxiliary heater
- Extinguishing Agent Cylinder (1) - in the streetside rear corner pillar compartment.
- Manual Actuator Switch (1) - located in the driver's overhead panel

Description

The Fire Suppression System protects the passengers and vehicle against fire. A dry chemical extinguishing agent discharges through four fixed nozzles to suppress a fire. Driver's area components include:

Manual Actuator Switch

The Manual Actuator Switch is located driver's overhead panel and is used to manually initiate the discharge of the extinguishing agent. Lifting up the protective cover and pushing the red FIRE button initiates the discharge. In case of a fire proceed as follows:

1. Twist and pull on the tamper proof seal to remove.
2. Lift the protective cover up.
3. Push the red FIRE button to initiate the discharge.

Fire Suppression Control Monitor

A Fire Suppression Monitor panel is mounted in the driver's overhead panel. The monitor panel receives signals from the fire suppression system sensors in the rear ESS compart-

ment and alerts the driver of system status. See “Figure 33: Fire Suppression Monitor” on page 97. Monitor indications and operator recommended actions are provided in the “Fire Suppression Monitor Guide” which follows.

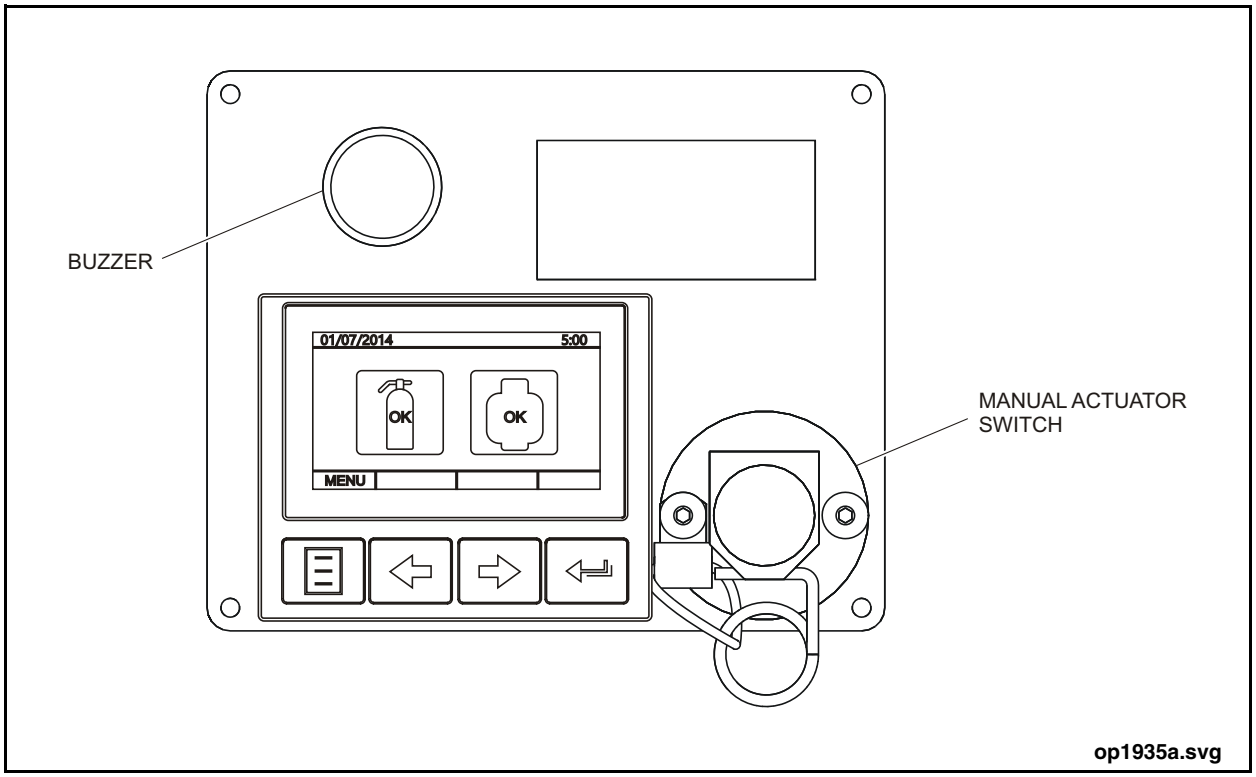


Figure 33: Fire Suppression Monitor

Fire Suppression Monitor System Guide

FIRE SUPPRESSION MONITOR SYSTEM GUIDE		
INDICATOR	**RESULT**	**RECOMMENDED ACTION**
SYSTEM OK (lit)	No excess heat or fire is detected.	This is a normal condition, indicating “System Ready”. No action required.

FIRE SUPPRESSION MONITOR SYSTEM GUIDE		
INDICATOR	**RESULT**	**RECOMMENDED ACTION**
FIRE ALARM (lit)	Sensors in rear ESS compartment have detected fire. **Alarm sounds.** Automatic Electric Drive System shutdown occurs within 15 seconds as fire extinguishing discharge nozzles activate in rear ESS compartment. **⚠ CAUTION** **The dry chemical discharge may cause an obscuring cloud around the vehicle. Avoid breathing the discharge. It will irritate the throat and lungs.**	Evacuate vehicle at a safe location, and call the fire department. Maintain distance of 300 feet (92 m) from vehicle. Do not re-enter vehicle until it is safe to do so. Qualified, trained service personnel must reset system and replace extinguishers (if required) before restarting vehicle. **⚠ CAUTION** **Steering vehicle may become difficult after vehicle shutdown occurs.**
FIRE TROUBLE (lit)	A fire detection system circuitry malfunction has occurred.	Do not drive the vehicle when this condition exists. Have fire suppression electrical system examined by qualified personnel.
Pressing **Alarm Silence switch** disables the audible alarm.		
ATTENTION: ALWAYS press Test/Reset switch as part of your standard vehicle pre-operational check. Detection indicators should illuminate and audio alarm sound to indicate proper monitor functioning.		

Operation

Heat from a fire will close the normally open contacts of the heat sensor. Infrared light generated by a fire will also actuate the optical sensor. This action will short the system's electrical circuit and electrically actuate the solenoid in the agent cylinder. The system can also be manually activated using the manual actuation switch on the driver's overhead panel. The dry chemical extinguishing agent will then be routed to the distributor and released from the discharge nozzles. The control panel in the driver's area will display the current system condition.

11.VEHICLE OPERATION

WARNING

ALWAYS shift the vehicle into Neutral [N] and apply the parking brake before leaving the driver's seat for any reason. Failure to apply the parking brake does not properly secure the vehicle from inadvertent movement.

DO NOT rely on the Interlock System alone to secure the vehicle.

Pre-Start Checks & Adjustments

A daily routine inspection of the vehicle should reveal any required repairs or adjustments. These need to be reported to service personnel to maintain the best operating condition of the vehicle. When it is ready for service perform the following steps upon entry:

- Activate the Multiplexing System by turning the Master Run switch to the DAY-RUN or NIGHT-RUN position.
- Adjust the driver's seat for individual comfort.
- Adjust the tilt/telescopic steering column to suit.
- Adjust all mirrors for unobstructed views.
- Check that the Door Master switch is in the ON position.
- Check horn operation.
- Fully kneel the vehicle. Refer to "Kneeling" on page 111 in this manual for kneeling procedure.

Electric Drive Operation

CAUTION

Be sure to bring the vehicle to a full stop before shifting from Drive [D] to Reverse [R] or vice versa.

Selection of the electric drive operating ranges is by the shift selector module on the instrument panel. There are three operating range selection buttons for Reverse, Neutral and

Drive [labeled R, N, D]. The green LED display will show reverse, neutral and drive selections as [R] and [N] and [D]. Operate the electric drive using the following procedure:

1. Before starting
   a. Check that the shift selector is in Neutral [N].
   b. Check that the parking brake is on.
   c. Apply the brake treadle.
2. Apply firm pressure on the brake treadle and make the desired drive mode selection.
3. Release parking brake and the brake treadle to proceed.
4. To change direction bring the vehicle to a full stop, apply firm pressure on the brake treadle and make the desired range selection.

☞NOTE:
A back-up alarm activates when Reverse [R] is selected.

⚠WARNING

NEVER leave the driver's seat while the electric drive is in gear.

5. When parking or shutting down the vehicle come to a full stop, apply the parking brake, select Neutral [N] and release the brake treadle.

Starting the Electric Drive

⚠WARNING

Ensure the shift selector is in Neutral [N] and apply the parking brake before starting the electric drive. If the parking brake indicator does not illuminate, DO NOT OPERATE THE VEHICLE.

To operate the vehicle ensure that charging equipment is not connected to the vehicle, Master Run Switch is set to DAY-RUN or NIGHT-RUN position, parking brake is applied, shift selector is in Neutral [N], and Wait to Start indicator on the instrument panel is not illuminated.

Press and hold the Start push button until the Key Start Acknowledge message appears on the screen. Release the button when the EV Mode ON text message appears on the screen.

Regenerative Braking System

When the brake pedal is depressed, the regenerative braking is blended with the vehicle service brakes in order to slow the vehicle. During vehicle deceleration the traction motor is driven, through the drive-line, by the weight of the vehicle. Under this condition the motor imposes a load on the driveline, slowing the vehicle as it captures kinetic energy to create electrical energy.

The energy recovered from the moving vehicle by the regenerative braking is stored in the ESS battery modules. The ESS battery modules are never fully charged by the traction generator so that there will be capacity in the ESS battery modules to store the regenerative braking energy.

The regenerative braking system can be disabled by using the Regen Brake Disable switch located in the destination sign compartment.

☞NOTE:

Consult your local transit authority for specific operating conditions under which the Regen Brake switch should be used to disable the Regenerative Braking System.

Anti-Lock Braking System

The Anti-Lock Braking System (ABS) functions to bring the vehicle to a safe, controlled stop during emergency braking situations. Through computer monitoring of wheel speeds the system controls brake pressure to prevent wheel lock-up. If during brake application the ABS system senses imminent wheel lock-up it engages automatically thus increasing vehicle stability and control. The ABS is inactive (no ABS event) whenever wheel deceleration difference remains within programmed limits.

An ABS indicator on the instrument panel indicates any active faults and is also used by service personnel to retrieve codes.

⚠WARNING

Keep stopping distances the same as those for similar non-ABS equipped vehicles.

To operate under normal conditions use the standard braking technique. For emergency braking apply firm and constant pressure to the brake treadle. If required the ABS system will

activate automatically producing a pulsing sensation to the brake treadle and a hissing sound. These are normal indications of ABS system operation. During emergency braking avoid “pumping” the brakes as this defeats the pulsing action of the ABS system and will increase your stopping distance.

☞NOTE:

Under certain operating conditions, the ABS system will override the regenerative braking system. Refer to “Regenerative Braking System” on page 101 *in this manual for specific operating conditions which apply.*

If the ABS on one wheel malfunctions the system will retain normal braking on that wheel. Should the entire ABS System malfunction the system will also retain normal braking. The ABS Fail indicator on the instrument panel will illuminate if a malfunction occurs.

☞NOTE:

After ABS System service the ABS Fail indicator will remain illuminated at vehicle start-up. Driving the vehicle above 4 mph (6 km/h) should extinguish the indicator. If the indicator remains illuminated, active faults are still present; contact service personnel.

Automatic Traction Control

The vehicle’s Automatic Traction Control (ATC) System activates automatically to prevent drive wheel spin when accelerating or starting the vehicle from a stand still.

The system uses components of the ABS System to apply the brakes to a drive wheel that loses traction and spins. This transfers the electric drive motor torque to the wheel with better traction. If both drive wheels spin, the system reduces drive motor torque to improve traction. The ATC indicator on the instrument panel illuminates to confirm system operation.

Operational Checks

Once the electric drive is operating the operator should observe the following:

- The state of charge gauge on the LCD screen is reading 30% or greater.
- The air system pressure is within normal operating range and the suspension is at full height.
- The Low Battery indicator is off when the electric drive is operating.

- Shift selector Neutral [N] indicator remains illuminated.
- Parking brake and stop light indicator remain illuminated as long as the parking brake is applied.
- Door controller is operational.
- Position the Door Master switch to the OFF position and attempt to open the exit door by using the side console door controller. The exit door should not be operational; the entrance door should remain operational.
- Return the Door Master switch to the ON position.
- Wiper and washer controls are operational.
- Defroster/heater controls are operational.
- Exterior lights operate during exterior light test. To conduct test, ensure electric drive is running and parking brake is applied, then press both turn switches simultaneously. All exterior lights will illuminate for two minutes. The lights are extinguished by putting the shift selector out of Neutral [N]. This feature enables one person to test the exterior light system.
- The destination sign controller is active.

Parking Brake

The parking brake indicator illuminates when the parking brake is applied. If the parking brake indicator is not illuminated, apply the parking brake by pulling up on the parking brake control valve knob. If the parking brake indicator does not illuminate, DO NOT OPERATE THE VEHICLE.

Press the brake treadle before releasing the parking brake. Release the parking brake by pushing down on the control knob. The parking brake indicator extinguishes.

Stop Lights

The stop lights indicator illuminates when the rear stop lights are on. If the indicator is not illuminated, check for rear stop light failure.

Low Air

The Low Air indicator illuminates to warn of an unsafe air system pressure level. A warning buzzer sounds when the Low Air indicator is activated. DO NOT OPERATE THE VEHICLE until the alarm system is canceled.

The air pressure gauge indicates the air system pressure levels of the air brake system. The air system will maintain pressure levels above the low operating limit of 120 psi (827 kPa) during normal vehicle operation.

Shift Selector Display

At start-up the shift selector's display shows [N] to indicate that the electric drive is in Neutral. This should occur automatically at each start-up.

Low Battery

When illuminated, the Low Battery indicator signals that the 12/24V system is not being charged or an overvoltage condition occurs during charging. DO NOT OPERATE THE VEHICLE if the indicator remains illuminated while the Electric Drive System is operating.

Multi Control Unit (MCU) Messages

Check that the destination sign control unit correctly programs electronic destination sign messages.

Rear Door Open Messages

Move the door controller to FRONT REAR, REAR or REAR FRONT position to check that the Rear Door Open message appears when the doors open.

☞NOTE:

Exit doors will open and the interlocks will be engaged.

Turning the door controller handle to the CLOSED position closes the entrance and exit doors and extinguishes the Rear Door Open message. Check that the exit doors are closed. If the exit doors are open or the Rear Door Open message does not appear, DO NOT OPERATE THE VEHICLE.

Day-Time Operation

When the electric drive is operating, check the following:

- The air system pressure is within normal operating range and the suspension is at full height.
- The Low Battery indicator is off when the electric drive is operating.
- Shift selector Neutral [N] indicator remains illuminated.
- Parking brake and stop light indicator remain illuminated as long as the parking brake is applied.
- Daytime running lights operation.
- Front, side and rear destination/route sign lights.
- Front and rear identification and marker lights.
- Tail lights.
- License plate light.
- Door controller operation.
- The Door Master switch, when placed in the OFF position, disables the exit door and inhibits the brake interlocks.

☞NOTE:
Return the Door Master switch to the ON position.

- Aisle lights operation.
- Wiper and washer controls operation.
- Defroster/heater control (on dash) operation.

Night-Time Operation

For night-time operations, ensure the Master Run switch is placed in the NIGHT-RUN position. Check the following in addition to the day-time checks:

- Instrument panel illumination lights.
- Headlight operation (high and low beam).
- Panel lights dimmer changes the brightness of instrumentation backlights and panel text.
- Interior aisle lights can be turned on using the Aisle Lights switch.

Pre-Trip Brake Test

WARNING

Before driving the vehicle conduct the following test sequence. If the test reveals a fault, advise service personnel and DO NOT OPERATE THE VEHICLE.

Conduct the following test sequence to ensure that the air brake system is functioning properly.

1. Apply the parking brake.
2. Start the electric drive and check the following:
   a. The low pressure warning devices switch off as the air pressure builds.
   b. If the air pressure gauge reading was below 90 psi (620 kPa), the reading increases back to 90 psi (620 kPa) in less than three minutes.
   c. The air pressure gauge reading levels off at the upper operating range.
3. Release the parking brake.

☞NOTE:

If parking brake is released and no pressure is applied to the brake treadle, the vehicle may move.

4. Make multiple light brake treadle applications and check the following:
   a. The air pressure gauge reading stabilizes at the lower operating range as the air compressor begins its pumping cycle.
   b. After continued multiple light brake treadle applications the low pressure warning devices activate as the air pressure gauge reading falls to 75 psi (517 kPa).
5. Release the brake treadle and reapply the parking brake.
6. Allow the air system to fully recharge.
7. Stop the electric drive and proceed as follows.
   a. Release the parking brake.
   b. Apply the brake treadle fully, hold and check the following:
      - Upon treadle application the air pressure gauge reading does not drop more than 18 psi (124 kPa).
      - The air pressure does not drop more than 3 psi (20 kPa) per minute.
      - There are no audible air leaks.
   c. Release the brake treadle and apply the parking brake.

8. Restart the electric drive.
9. Allow the air system to charge until the reading levels off at the upper operating range.
10. Release the parking brake and move the vehicle slowly and test brake response. Refer to “Moving the Vehicle” on page 107 in this manual before operating the vehicle.

Moving the Vehicle

1. Fasten driver’s seat-belt.
2. Close the doors by turning the door controller handle to CLOSED position. The Rear Door Open message should be extinguished.
3. Apply the brake treadle and release the parking brake. The parking brake indicator extinguishes.
4. Put the shift selector into the desired mode.

☞NOTE:

The Neutral [N] indicator extinguishes and the appropriate range letter appears in the display.

5. Release the brake treadle and lightly apply the accelerator treadle to slowly move vehicle from the parking area. The stop lights indicator extinguishes.
6. Check the steering wheel for vibrations, looseness or binding while the vehicle is in motion. If any abnormalities are present, DO NOT OPERATE THE VEHICLE.

Operating the Vehicle in Reverse

⚠CAUTION

Continuing in reverse after disengaging the interlocks risks damage to the articulating joint.

Reverse operation of the vehicle requires paying special attention to the articulated joint angle. Just as a trailer can reach a “jackknife” position the articulated joint can reach a potentially damaging maximum angle position. To reduce this risk vehicle safety systems limit reverse speed to 3 mph and an alarm warns of articulated joint maximum angle. Three types of alarms sound as the articulated joint moves closer to its maximum angle. An interrupted alarm sounds as the angle is near the maximum. The interrupted alarm frequency increases upon reaching the maximum angle. If the stops of the articulated joint contact each other, the alarm sound becomes constant.

The interlocks apply upon reaching the articulated joint maximum angle to stop further reverse movement. To release the interlocks and allow movement for correction, use the Joint Override toggle switch behind the destination sign access door. Switch activation provides 15 to 20 seconds to correct the maximum angle condition before reapplying the interlocks.

Parking the Vehicle

WARNING

The parking brake must be applied when parking the vehicle. When parking downhill, be sure the front wheels are turned into the curb; when parking uphill, be sure the front wheels are turned away from the curb. See “Figure 34: Parking on an Incline” on page 109.

1. Bring the vehicle to a complete stop using the brake treadle. The stop lights indicator illuminates. Put the shift selector into Neutral [N].
2. Apply the parking brake and release the brake treadle. The parking brake indicator illuminates.
3. Open the entrance door by placing the controller in FRONT position.
4. Turn the Master Run switch to the STOP-SYSTEM position.
5. Exit the vehicle.
6. Manually close the doors.

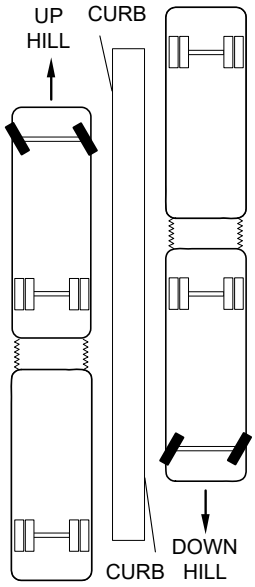


Figure 34: Parking on an Incline

Roof Hatch Ventilation

The roof hatches may be used for ventilating the interior when the vehicle is in motion. Open the front roof hatch so that it draws air into the vehicle and open the rear hatch so that it draws air out of the vehicle. Push firmly on the front or rear hatch handle to tilt the roof hatch to the desired position. See “Figure 35: Roof Hatch Ventilation” on page 110.

⚠CAUTION

Close the roof hatches when passing under low overhead restrictions.

☞NOTE:

Close the roof hatches when either the HVAC system is in operation or when it is raining.

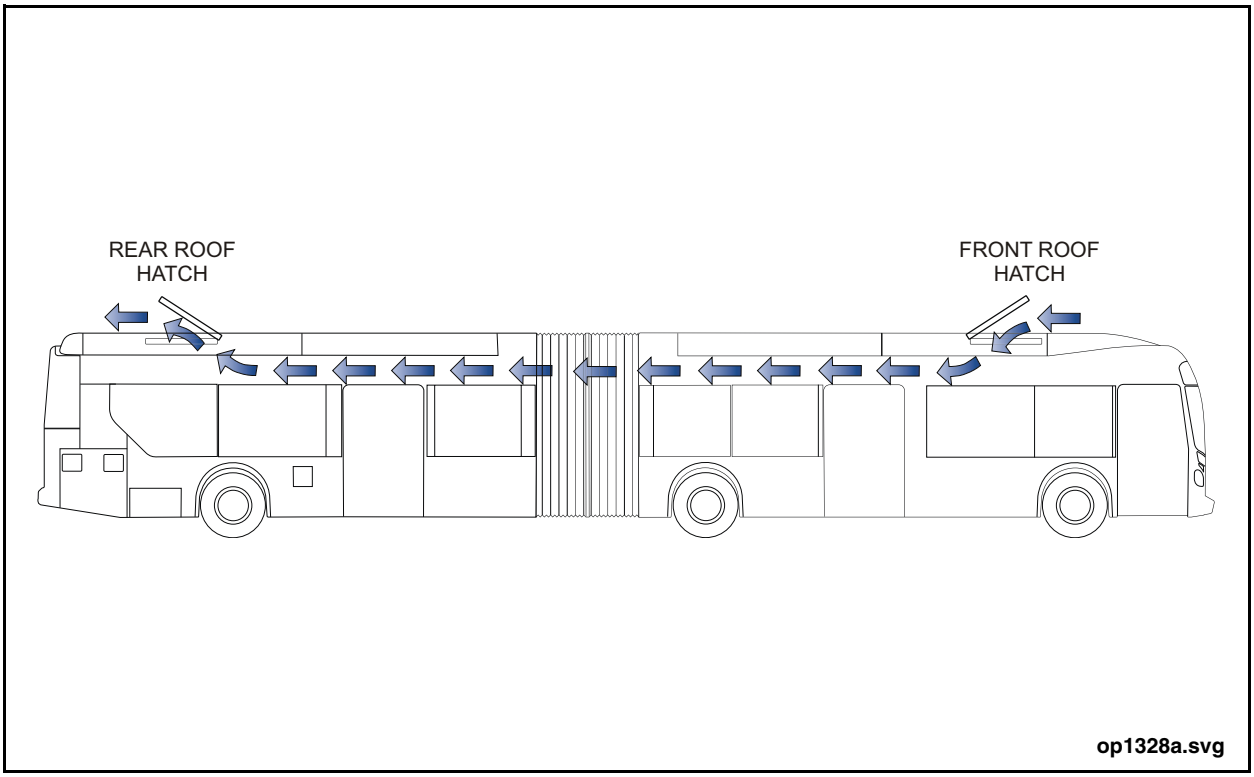


Figure 35: Roof Hatch Ventilation

Fire Suppression System

If a fire activates the Fire Suppression System, it will immediately shut down the Electric Drive System. Bring the vehicle to a stop, shut down any electrical systems, set the parking brake and evacuate all passengers from the vehicle. Refer to “Vehicle Evacuation & Shut-down” on page 15 in this manual for more information. Call transit dispatch for assistance. The vehicle cannot be restarted until the applicable fault is cleared and the system is reset by service personnel.

☞NOTE:

An alarm sounds when the Fire Suppression System activates.

Energy Storage System (ESS) Fire Detection System

The Fire Detection System uses temperature sensors to warn of emerging thermal events inside an ESS enclosure. A driver’s buzzer will sound and a FIRE warning message will dis-

play on the instrument panel. When activated, the operator should immediately pull the vehicle over to a safe location and conduct an emergency vehicle evacuation and shutdown. Refer to “Vehicle Evacuation & Shutdown” on page 15 in this manual for more information.

Kneeling

The vehicle’s kneeling operations are controlled by the Kneel switch on the instrument panel. This switch is used to recover, hold, or lower the vehicle.

☞NOTE:

The vehicle will automatically kneel the appropriate distance with ramp deployment if Auto Kneel is enabled.

Kneeling Procedure

1. Bring the vehicle to a complete stop, put shift selector in Neutral [N], apply the parking brake and set the door controller to FRONT position to open the entrance door. Kneeling will not be enabled if the door is closed.

☞NOTE:

Brake and accelerator interlocks engage when the entrance door is open and kneeling is in process.

⚠WARNING

Prior to kneeling the vehicle, ensure that boarding passengers stand clear of the vehicle and no obstructions exist.

2. Hold the Kneel switch in the LOWER position until the vehicle is completely kneeled. Boarding passengers must stand clear and wait until the vehicle has lowered, before entering the vehicle.
3. Set the Kneel switch to the RECOVER position once passengers have safely boarded. The vehicle will raise automatically to its full ride height.

Kneeling Signal

An amber lamp located beside the entrance door indicates when the kneeling system is in operation. A warning beeper also sounds.

Ride Height Adjustment

The vehicle is equipped with adjustable suspension which allows the vehicle to be operated in HIGH RIDE or LOW RIDE.

1. To raise the vehicle, bring the vehicle speed below 10 mph. Press and hold RIDE HEIGHT switch in RAISE position to raise entire vehicle and release switch to HOLD to hold vehicle in position.
2. Set the KNEEL switch to RECOVER position to return vehicle to normal ride height
3. To Lower the vehicle, bring the vehicle speed below 10 mph. Press and hold RIDE HEIGHT switch to LOWER position to lower entire vehicle and release switch to HOLD to hold vehicle in position.

Set the KNEEL switch to RECOVER position to return vehicle to normal ride height.

Passenger Signal System

Activating the signal system causes the following to occur:

- Stop request sign illuminates. The sign extinguishes when the system is reset.
- Stop Request message on instrument panel remains displayed until the system is reset.
- A chime sounds once when the passenger signal system is activated. A different tone sounds if the wheelchair passenger signal system is activated.

The system is cancelled (reset) and the lights are extinguished by:

- Operating the door controller.
- Pushing the Stop Request switch to CANCEL and releasing.

The system can be activated in the following ways:

Stop Request Cord

Stop request cords are located on either side of the vehicle interior. Pulling a cord activates the system.

Stop Request Button

Stop request button(s) are located on the exit door stanchions. Pressing a button activates the system.

Wheelchair Stop Request Touch Pads

Stop request touch pads are located under each longitudinal hinged seat in the wheelchair stations. Pressing the pad activates the passenger signal system. A chime sounds a different tone to alert of a wheelchair passenger stop request.

Entrance & Exit Door Lights

The entrance and exit doorways are illuminated by:

- Header lights, above the door

Moving the door controller to open a door activates these lights. The lights extinguish as the doors close.

12.WHEELCHAIR SYSTEM

The wheelchair system consists of a wheelchair ramp and wheelchair restraint system.

Wheelchair Ramp

The New Flyer vehicle is equipped with a wheelchair ramp system to assist passengers in boarding and exiting the vehicle.

⚠WARNING

Ensure the following conditions are met prior to operating the wheelchair ramp:

- **Ensure passenger safety during the wheelchair ramp operations. Monitor the passenger's position during the operation cycle.**
- **Loading or unloading the passengers must be performed in a flat, open area. DO NOT deploy the ramp where trees, telephone poles, fire hydrants, or similar obstacles may jeopardize passenger safety or damage the ramp.**
- **Be familiar with ramp functions and operation before operating the equipment.**
- **DO NOT conduct the "STOW" operation with a passenger on the ramp.**
- **Passengers are to board the ramp only when it's at ground level, and the "DEPLOY" cycle is complete.**

The switch to control this feature is located on the instrument panel. The three positions of the switch enable the wheelchair ramp mechanism to perform the following operations: See "Figure 36: Wheelchair Ramp Operation" on page 115.

☞NOTE:

When the ramp is in STOW or DEPLOY, the brake interlocks are activated. The vehicle will not move until the ramp is fully stowed and the switch is in the FLOAT position.

DEPLOY

This position activates the ramp from the closed position to the open position.

FLOAT

This position shuts off power to the ramp, allowing the ramp to free-fall to either the open or the closed position. Upon cycle completion, this becomes an off position.

STOW

This position is used to move the ramp from the open to the closed position.

☞NOTE:

When the wheelchair ramp is in motion, an audible alarm sounds, and the exterior lift warning light illuminates and flashes.

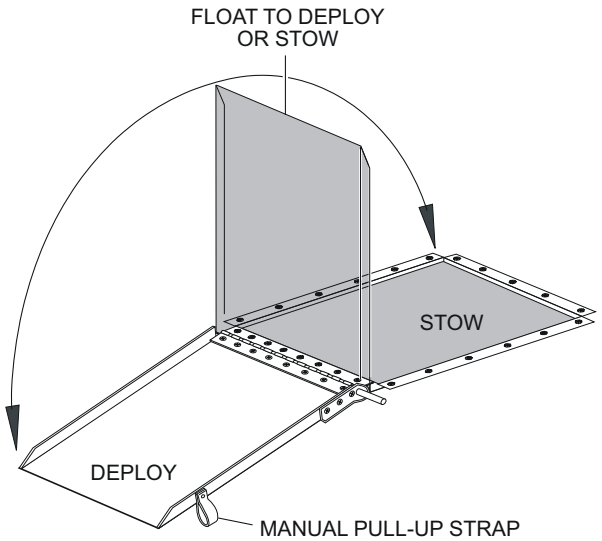


Figure 36: Wheelchair Ramp Operation

Deploying the Ramp

1. Bring the vehicle to a complete stop in a flat, unobstructed area, one to three feet from the curb. Check for obstructions and be certain that there is adequate clearance to deploy the ramp.
2. Apply the parking brake.
3. Place the shift selector in Neutral [N].
4. Kneel vehicle if required.

☞NOTE:

When the Auto Kneel Ramp switch (located in the destination closeout panel) is set to ENABLE, the vehicle will automatically lower or raise the appropriate distance to provide an optimal angle for the boarding passenger when the ramp is deployed. When the switch is set to DISABLE the vehicle kneeling and ramp deployment must be performed independently with the Kneel and Ramp switches.

☞NOTE:

Parking brake and stop light indicators on the instrument panel will illuminate.

5. Move the door controller to the door open position.

⚠CAUTION

Make sure the area in which the ramp will DEPLOY is clear of people and any obstructions.

6. Press and hold the ramp switch in the DEPLOY position until the ramp fully deploys.

Raising the Ramp

⚠WARNING

Check for obstructions and be sure that all passengers are at a safe distance. Keep objects and passengers off the lift platform during the STOW operation.

1. Once the passenger has boarded the vehicle safely and is clear of the ramp, move the toggle switch to the STOW position.

☞NOTE:

An audible alarm sounds when the ramp is moving.

2. Raise the vehicle from the kneeling position, if required.

3. Close the entrance door.
4. Disengage the parking brake and proceed to the next stop.

Ramp Emergency Procedures

In case the wheelchair ramp power unit fails, the unit may be hand-operated by using a pull-up strap located on the ramp's corner. Operate the ramp manually as follows:

1. Pull up on the lift strap, located on the edge of the ramp, and then grip the ramp with both hands and carefully raise the ramp to the vertical position.

   WARNING

   Ensure no one else is in the immediate area of the ramp, inside or outside of the vehicle.

2. Allow the ramp to free fall from the vertical position to the fully extended DEPLOY position.
3. Stow the ramp manually by grasping the ramp plate with both hands and lifting to the vertical position.

   WARNING

   Ensure no one else is in the immediate area of the ramp inside the vehicle.

4. Allow the ramp to free fall from the vertical position to the STOWED position.

Wheelchair Restraint System

The forward seat positions are equipped with a Wheelchair Restraint System for security of handicapped passengers. For optimum passenger safety be sure to follow the operating procedures to complete all the necessary restraint system connections. See "Figure 37: Wheelchair Restraint System" on page 120.

Operation

Positioning the Wheelchair

Position the wheelchair in the restraint area as follows:

1. Move the longitudinal flip-up seat cushions up to the lock position.
2. Back the wheelchair into the restraint area, facing forward.
3. Set the wheelchair brake.

Rear Wheelchair Restraints

Attach the rear wheelchair restraint belts as follows:

1. Press on the slide arm release pedal.
2. Pull the slide arm out as far as possible.
3. Release the pedal to lock the slide arm into position.
4. Press the retractor release button and pull belt to extend.
5. Attach the hooked ends to solid rear frame members of the wheelchair.
6. Take up the belt slack by pressing the release button again.
7. Turn the belt retractor knob until tight.

Front Wheelchair Restraints

Attach two front restraint belts to solid front members of the wheelchair as follows:

1. Press on the slide arm release pedal.
2. Pull the slide arm out as far as possible.
3. Release the pedal to lock the slide arm into position.
4. Press the retractor release button and pull belt to extend.
5. Attach the hooked ends to solid front frame members of the wheelchair.
6. Take up the belt slack by pressing the release button again.
7. Turn the belt retractor knob until tight.

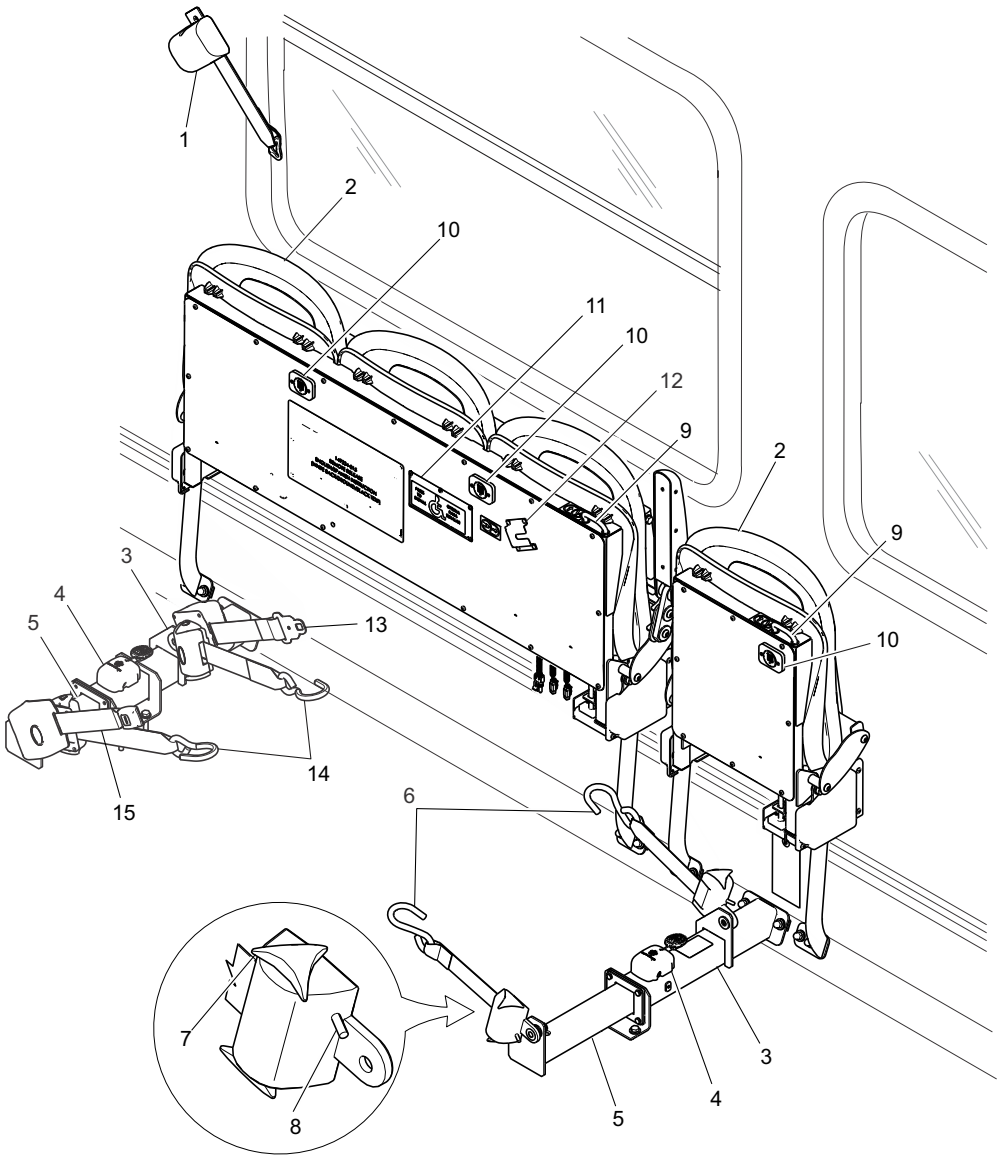
Passenger Securement

⚠ WARNING

Restraints should not be held away from body by wheelchair components.

Secure wheelchair occupant as follows:

1. Extend both ends of lap belt to occupant's aisle side hip area and fasten. Do not place belt over armrest.
2. Extend the window side shoulder belt across to the other aisle side belt clip and fasten. Do not place belt over wheelchair armrest.
3. Check the belt locks by pulling on each end to ensure they engage.



1. Shoulder Belt
2. Flip-Up Seat Assembly
3. Restraint Arm Assembly
4. Slide Arm Release Pedal
5. Slide Arm
6. Front Wheelchair Restraint Belts
7. Belt Retractor Knob
8. Retractor Release Button
9. Flip-Up Mechanism Release Handle
10. USB Chargers
11. Stop Request Touch Pad
12. Lap Belt Hanger
13. Lap Belt
14. Rear Wheelchair Restraint Belts
15. Lap Belt Clip

op16830a.svg

Figure 37: Wheelchair Restraint System

13.BIKE RACK SYSTEM

The interior bike rack system allows the passenger to load and unload a bike without driver assistance. In the case of children under ten, however, have an adult assist in loading and unloading the bike. See “Figure 38: Interior Bike Rack” on page 122.

Loading Operation

When used properly the Interlock is quick and easy to load.

1. As you approach the Interlock, hold the bicycle handlebars with both hands.
2. Rotate the bicycle on its back tire so it stands vertically.
3. Stabilize the bicycle by resting the bicycle saddle on your thigh or waist.
4. Lift the front wheel onto the hook.
5. Lower the bicycle to clamp the front wheel into place.
6. Secure the rear wheel in the tray with the strap.

Unloading Operation

Wait until the vehicle has come to a complete stop.

1. Un-hook the rear wheel strap.
2. Raise the bike and lift the front wheel off the hook using your thigh against the seat to assist.
3. Proceed to disembark.

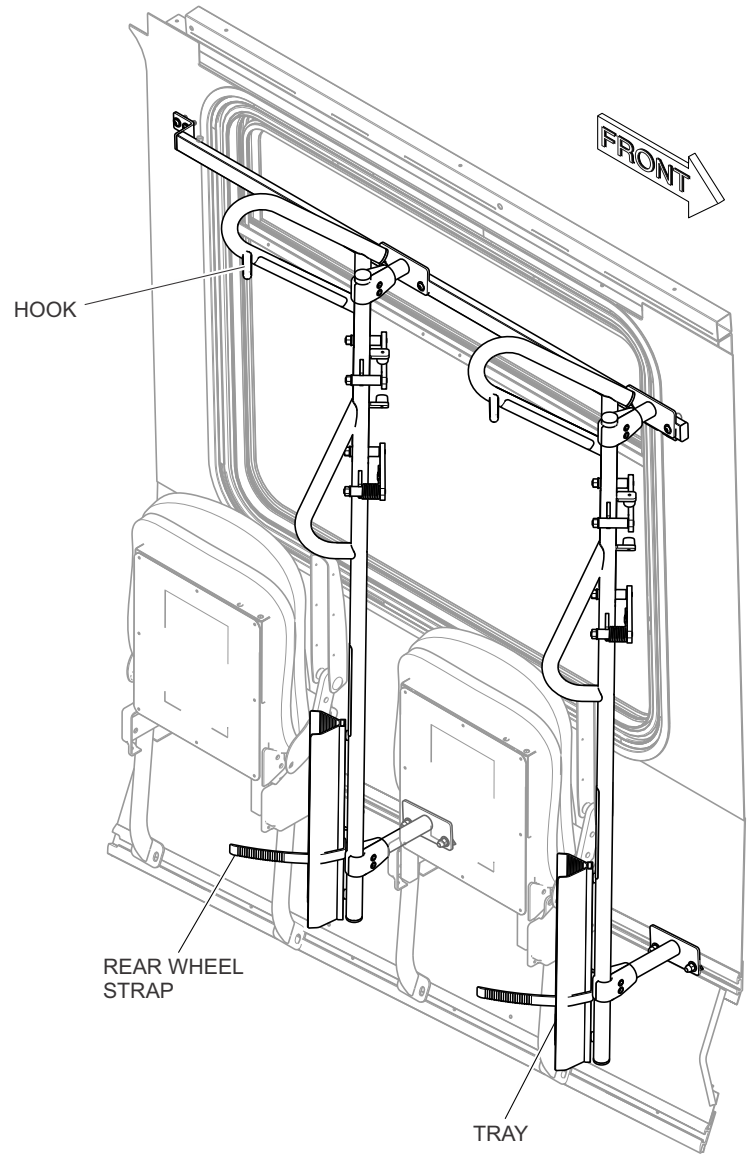


Figure 38: Interior Bike Rack

14.NOTES

NOTES

76-630 Kernaghan Ave.
Winnipeg, Manitoba
R2C 5G1

http://www.newflyer.com

Printed in Canada

NEW FLYER OF AMERICA

UPDATE REQUEST FORM

This form is used to identify all errant or missing New Flyer Manual information. Please return this completed Form to the New Flyer Publications Department with any requested changes, corrections and supporting information.

Please make sure all required fields are filled in to ensure complete and correct processing of your request. Send the form through email by clicking the envelope in the Acrobat Reader toolbar. Email the completed form to NFPubsUpdates@newflyer.com.

SR #'s:	**Date:**
Manual Type: ☐ **Parts** ☐ **Service** ☐ **Operator's** **Specify:** _____	
Manual Page #:	
Figure #/Table Title:	
System or Component Name:	
Issue - Briefly describe the issue, including part numbers where applicable:	
Recommended Action:	
Source Reference - Please list any reference data or attachments which contain the source or reasons justifying the recommended action:	

Name: **Email:**

Phone:

NEW FLYER OF AMERICA

UPDATE REQUEST FORM

This form is used to identify all errant or missing New Flyer Manual information. Please return this completed Form to the New Flyer Publications Department with any requested changes, corrections and supporting information.

Please make sure all required fields are filled in to ensure complete and correct processing of your request. Send the form through email by clicking the envelope in the Acrobat Reader toolbar. Email the completed form to NFPubsUpdates@newflyer.com.

SR #'s:	**Date:**
Manual Type: ☐ **Parts** ☐ **Service** ☐ **Operator's** **Specify:** _____	
Manual Page #:	
Figure #/Table Title:	
System or Component Name:	
Issue - Briefly describe the issue, including part numbers where applicable:	
Recommended Action:	
Source Reference - Please list any reference data or attachments which contain the source or reasons justifying the recommended action:	

Name: **Email:**

Phone:

This vehicle can expose you to chemicals including titanium dioxide and carbon black, which are known to the State of California to cause cancer, and methyl isoamyl ketone, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.