



CHAMPION[®]

OPERATOR'S MANUAL

www.championbus.com

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BUS MODELS

FORD E350 / E450 MODELS

CR210, CR230, AC210, AC230, CH210,
CH230, CH250, CH270

FORD F550 MODELS

DF250, DF270, DF290, DF310, DF330

CHEVY 610 MODELS

CR210, CH210, CH230, CH250,
AC210, AC230

FORD F650 MODELS

DF280, DF310, DF330, DF350, DF380,
AM250, AM270, AM280, AM310,
AM330, AM350, AM380

FREIGHTLINER S2C MODELS

DF270, DF290, DF310, DF330, DF350,
DF380, DF400, DF420

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SYMBOLS

 DANGER, CAUTION, WARNING

 NOTABLE INFORMATION

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

CAUTION is used with the safety alert symbol indicates a hazardous situation, which if not avoided, could result in minor or moderate injury.

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

NOTICE is used to address practices not related to personal injury. This applies to hazardous situations involving property damage only.

NOTABLE INFORMATION is important information regarding the maintenance of your vehicle.

01 INTRODUCTION

WELCOME

Congratulations on your new Champion Bus. If this is your first, let us extend a warm welcome to the Champion Bus family. If you are one of the many Americans and / or Canadians for whom Champion Bus ownership has become a tradition, we believe that your new Champion Bus will surpass your high expectations for a motor coach. It's no exaggeration to say that your new Champion Bus represents major improvements in design and construction since the company began making buses.

Please take a few minutes to acquaint yourself with your new coach. In the Champion Bus manual, as well as the manuals of Chevy, Ford, Ricon / Braun, and others, you will learn a great deal about your new vehicle's standard and optional equipment.

The bus is a highly sophisticated piece of equipment. Competent and proper maintenance and repair are important to the safe and reliable operation of all buses. Always use genuine parts, available through your local dealer when servicing. Never use inferior, incorrect or mismatched parts, damage or even personal injury may result.

Becoming familiar with your bus is the first step to providing your passengers with a safe and enjoyable ride. While this manual is not a substitute for common sense and cautious operation, it does offer guidelines to help make the driver's job easier and as trouble-free as possible. Please keep the manual in an accessible place within your bus for easy reference.

This operator manual describes the use of standard and optional equipment provided on this vehicle at the time of original sale. Subsequent addition of new operating equipment or options by future owners of this vehicle or modifications to existing equipment, may affect the operating instructions as described herein. It is the responsibility of the operating entity to provide their operators with all pertinent and necessary instruction and information under these circumstances.

When it comes to service, keep in mind that your dealer knows your vehicle the best and is interested in your complete satisfaction.

Knowledge of the features of this vehicle and routine practice of recommended service and maintenance procedures is preemptive to passenger safety and comfort. Your ability as an operator depends on your awareness of the capabilities and limitations of this vehicle. You should become fully acquainted with all of the information provided within this manual in order to provide yourself and your passengers the safest and most efficient means of bus transport.

It is recommended to read operator's manual from beginning to end when you first receive the new vehicle. This will help you learn about the features and controls for the vehicle.

i The information contained in this publication was accurate at the time of its creation. Due to a process of continuous development, Champion and its suppliers reserve the right to change the designs, specifications or equipment at any time without notice or obligation.

01 INTRODUCTION

I This manual was prepared to acquaint the driver / owner with its operation and function. This manual does not attempt to teach driving skills, rules of the road, or familiarity with local, state, or regional laws and regulations applicable to the operation of this vehicle on public highways. Also provided with this vehicle will be the OEM Operator's Manual and additional informational manuals from other special equipment companies. Refer to these manuals for chassis and or optional equipment related components.

IMPORTANT

DRIVERS AND MAINTENANCE PERSONNEL ARE ADVISED TO READ THE MANUAL CAREFULLY. FAILURE TO FOLLOW CERTAIN INSTRUCTIONS MAY VOID MANUFACTURER'S WARRANTIES AND OR AFFECT PASSENGER SAFETY. THIS MANUAL SHOULD BE TREATED AS A PERMANENT PART OF THIS BUS. IT SHOULD STAY WITH THE VEHICLE UPON SALE OR TRANSFER TO A NEW OWNER IN ORDER TO PROVIDE SUBSEQUENT OWNERS WITH IMPORTANT SAFETY, MAINTENANCE, AND OPERATION INFORMATION.

WARRANTY SERVICE

Please call your local dealer for parts and service information or to purchase parts. Please provide the last 8 of the chassis VIN or complete Champion serial number (located on a decal on the driver's door frame), when calling for parts and service information. This number is used by dealers and the factory to locate parts information for your particular bus.

IMPORTANT

DRIVERS AND MAINTENANCE PERSONNEL ARE ADVISED TO READ THE MANUAL CAREFULLY. FAILURE TO FOLLOW CERTAIN INSTRUCTIONS MAY VOID MANUFACTURER'S WARRANTIES AND OR AFFECT PASSENGER SAFETY.

DRUNK DRIVING

Drinking and then driving is very dangerous. Your reflexes, perceptions, attentiveness, and judgment can be affected by even a small amount of alcohol. You can have serious - or even fatal - collision if you drive after drinking. **Do not drink and drive.**

REPORTING SAFETY DEFECTS

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Champion Bus Inc. 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, your dealer, or Champion Bus Inc.

► To contact NHTSA, you may either call the Vehicle Safety Hotline toll-free at: 1-888-327-4236 (TTY: 1-800-424-9153); go to <http://www.safecar.gov>; or write to: Administrator, NHTSA, 1200 New Jersey Avenue, S. E., Washington, DC 20590. You can also obtain other information about motor vehicle safety from <http://www.safecar.gov>.

01 INTRODUCTION

CHAMPION BUS STANDARD WARRANTY

Notice

Please return the warranty registration card to register the warranty with Champion Bus so that Champion Bus may record your rights under this limited warranty and to ensure prompt assistance. Your dealer will provide the warranty card for you to sign. If you did not sign a Champion Bus warranty card at the time of delivery, please contact your dealer.

Definition of Terms

Authorized Champion Bus Dealer (“Dealer”): This agreement is applicable only in the United States, Puerto Rico and Canada. Any Authorized Dealer of the owner’s choice may perform warranty service work under the Champion Bus Warranty Agreement. This vehicle should be delivered to the authorized dealer during normal service hours. A reasonable time should be allowed after taking the vehicle to the authorized dealer for performance of the repair.

Champion Bus, Division of Forest River, Inc. (“Warrantor”): The party obligated to perform under this Agreement.

Original Purchaser: Person or entity that is a recipient of this product provided by a dealer under a purchase order or contract sales.

Wear and Tear: The deterioration of a part or material beyond the manufacturer’s specified tolerances that occur naturally over time and under normal operating conditions.

1. Who Warrants The Product

The product, as described and limited here, is warranted by the manufacturer and installer of the body: Champion Bus, Division of Forest River, Inc., hereinafter referred to as Champion Bus, 331 Graham Road, Imlay City, MI 48444;

a Michigan Corporation; and is administered by the Champion Bus Customer Service Department, Imlay City, Michigan.

2. Who Is Covered

Champion Bus, the warrantor, extends this limited warranty agreement to the original owner only of the vehicle during the Warranty Period.

3. What Is Covered

Champion Bus, your warrantor, extends the following limited warranty to you; in which the limited warranty covers your conversion only pertaining to material defects in all materials and workmanship supplied by or performed by Champion Bus.

4. Warranty Period

The Champion Bus limited warranty is for a period of one (1) year from the date of first delivery or 12,000 miles, whichever occurs first, except for other coverages listed under “Other Warranties That May Apply” and items listed under “Exclusions and Limitations” and “Limits of the Warranty.”

5. Extended Warranty on Structural Items

Warrantor warrants to the original purchaser for a period of five (5) years from the date of first delivery or 100,000 miles, whichever comes first, that this produce shall be free of SUBSTANTIAL DEFECTS arising out of or relating to the structural portion of the product. THIS STRUCTURAL WARRANTY IS INTENDED TO COVER ONLY THE PERFORMANCE OF THE STEEL CAGE STRUCTURE OF THE BUS BODY, INCLUDING CORROSION DAMAGE TO THE BODY STRUCTURE.

6. Exterior Paint

Exterior Paint, performed by Champion Bus, is fully warranted to be free of substantial defects in workmanship by Champion Bus for the first three (3) years (36,000 miles) from date of original purchase, 50% warranted four (4) years (70,000

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miles), and 25% warranted five (5) years (100,000 miles) from date of original purchase.

7. Other Warranties That May Apply

Champion Bus does not warrant the base chassis itself. The vehicle engine, chassis, drive-train, suspension system, battery and other chassis components are covered by a separate warranty offered by the manufacturer of the chassis and administered by the chassis manufacturer's authorized dealers. The tire manufacturer separately warrants tires. In addition, all aftermarket springs, suspensions, driveline retarders, etc., such as Liquid Springs, Mor Ryde, Kelderman, Telma, etc. are not covered by Champion Bus. These items are covered by their original manufacturer and their warranties may vary.

8. Owner's Responsibility

Proper preventative maintenance of the exterior and interior of the vehicle is the responsibility of the owner. See the owner's manual(s) for proper care instructions. Defects or damage as a result of improper care or maintenance are not covered by this warranty agreement.

9. Exclusions and Limitations

Damage caused by abuse, misuse, failure to observe reasonable required maintenance practices, acid rain, accidents, natural disasters, acts of war, facing of fabrics, carpeting and/or fiberglass are not covered. Light bulbs and fuses are not covered.

Damage to the unit if such damage is the result of deterioration due to normal use, wear and tear, or exposure to the elements.

Damages that may occur to the chassis, frame, other parts or components that occur due to overloading will not be covered and may invalidate portions of the Champion Bus warranty agreement.

Cosmetic or surface corrosion resulting from stone chips or scratches in paint are not covered.

Replacement parts provided under terms of the warranty agreement will whenever possible, match original equipment. When necessary, Champion Bus will substitute parts of comparable function and value. Defective items may be replaced with new, remanufactured, reconditioned or repaired components.

Modifications, alterations or repairs performed by unauthorized personnel may invalidate portions of the Champion Bus warranty. In addition, using the vehicle to tow another vehicle is prohibited and may void warranty. Contact Champion Bus Customer Service before you make modifications, alteration or repairs.

10. Recovery Limitations

No person shall be entitled to recover from warrantor for any consequential or incidental damages arising out of or relating to any defect in the product. These limitations include but are not limited to, loss of time; loss of use; loss of revenues, salaries or commissions; towing charges; bus fares; bus rentals; car rentals; gasoline expenses; telephone charges; inconvenience or other incidental damages.

11. How To Get Warranty Service

To obtain warranty service, contact or visit the dealership where you originally purchased your vehicle or another warranty service facility designated by Champion Bus. The dealership must contact Champion Bus Customer Service Department for authorization to have a warranty claim submitted. If you or your dealer has moved, or if your dealer is no longer in business, contact Champion Bus Customer Service Department (see address and telephone numbers below) for the name of a Champion Bus dealer nearest to you. Your claim must be made within 14 days of the

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discovery of the defect. Champion Bus will determine authorization based on and subject to the terms of the warranty agreement. All warranty claims must be reported within the warranty period. Warranty personnel must authorize all warranty service prior to performance. Warranty service may be reported directly to the warrantor or to one of their authorized dealers. If warranty personnel approve warranty service, you must leave the unit at the appropriate warranty service location for a sufficient time to perform service.

12. Who Performs Warranty Service

It is recommended you obtain warranty service at the dealership where you originally purchased your bus. If the dealership cannot perform the service work, they should call Champion Bus Customer Service Department for assistance (see number below). If you are unable to visit your original dealer, contact Champion Bus Customer Service Department (address below) for the name and location of a Champion Bus dealer near you.

13. Dispute Resolution

Should you be unable to resolve a disagreement with your dealer regarding your right to pursue warranty coverage for a needed repair, contact the Champion Bus Customer Service Department (see address below). If a dispute about warranty service arises between Champion Bus and you, the owner, the disagreement will be resolved in accordance with the customary procedures of the American Arbitration Association relating to commercial transactions, or the dispute will be submitted to a panel of three (3) arbitrators for decision. The panel will be made up of one member appointed by Champion Bus, one member appointed by the complainant/owner, and one member from the arbitrator group mentioned above. Any and all legal remedies

shall be available to the owner after pursuing this informal dispute resolution if a ruling is entered against Champion Bus and Champion Bus fails to abide by the ruling. The expenses of arbitration will be paid by the party against whom the arbitrator(s) rule.

14. Limits Of Warranty

This written statement of limited warranty represents the entire warranty authorized and offered by Champion Bus. There are no warranties or representations beyond those expressed in this written document. Any dealership, salesperson or agent cannot amend it. It expressly limits all warranties, including, but not limited to, by way of specification, both express and implied warranties, including warranties or merchantability and fitness for a particular purpose along with all other liabilities or obligations of Champion Bus.

FEDERAL COMPLIANCE

THE TERMS OF THE WARRANTOR'S UNDERTAKING EXPRESSED IN THIS LIMITED WARRANTY ARE DRAFTED TO COMPLY WITH THE MAGNUSON MOSS WARRANTY LEGISLATION, P.L. 93-637 OF 1974, AND OTHER APPLICABLE LAW. ANY WARRANTY PROVISIONS PROMULGATED BY THE FEDERAL TRADE COMMISSION PURSUANT TO RULES OR ANY OTHER LAW RELATIVE THERETO ARE EXPRESSLY INCORPORATED HEREIN. TO THE EXTENT ANY PROVISIONS OF THIS LIMITED WARRANTY ARE INCONSISTENT WITH STATE LAWS, ONLY THOSE PARTS INCONSISTENT ARE VOID.

Champion Bus
Division of Forest River, Inc.
CUSTOMER SERVICE DEPT.
331 Graham Road
Imlay City, MI 48444
Phone: 810.721.7944

02 SAFETY

SEAT RESTRAINTS

Champion Bus Inc. offers a wide variety of high-quality standard and custom seating options, however, because of the number of seating alternatives, the types and styles of your seat restraint will vary.

Seat Belts should be worn by the driver, and any passenger seated in a seat that is equipped with restraints. Wheel-chaired passengers should be restrained with the supplied restraints provided.



Image: Seat Belt Connectors

SEATBELT MAINTENANCE

- ▶ Inspect belts frequently to ensure they are not cut, frayed, damaged, or contaminated by oils or chemicals.
- ▶ Check each buckle to ensure proper function.

WARNING

NOT USING THE SAFETY RESTRAINTS PROVIDED COULD RESULT IN INJURY OR DEATH.

EMERGENCY HATCH

The emergency hatch is a common option available. In an emergency the hatch can be used as an exit.

To open hatch, turn the RED KNOB 90° clockwise TO EXIT, then press firmly on the RED KNOB. Press the knob in, as you would a button, until the catch releases and the hatch opens freely.

i The roof escape hatch can also be used for ventilation, simply push up at the sides of the escape hatch and it will pop up for ventilation. Pull down and it will snap shut to close.



Image: Emergency Hatch Knob In Closed Position



Image: Emergency Hatch Knob In Open Position



Image: Emergency Hatch Opening



Image: Emergency Hatch Opened

02 SAFETY

EMERGENCY EQUIPMENT

Your bus may or may not include the following pieces of safety equipment:

Fire Extinguisher - Fire Blanket -
Emergency Transport Blanket -
Reflector Kit - CPR Kit and First
Aid Kit - Body Fluid Clean-Up Kit.



Image: Sample Of Safety Equipment Commonly Equipped On Champion Buses

ADDITIONAL INFORMATION

Fire Extinguishers
Visit: buckeyefire.com

Reflector Kit
Visit: truck-lite.com

Body Fluid Clean-Up Kit
Visit: mfasco.com

Emergency Transport Blanket
Visit: mfasco.com

Deluxe Blood-Borne Pathogen Kit
Visit: mfasco.com

CPR Kits
Visit: mfasco.com

Fire Blankets
Visit: mfasco.com

First Aid Kits
Visit: mfasco.com

02 SAFETY

EMERGENCY REFLECTIVE TRIANGLE WARNING KIT

TO ASSEMBLE TRIANGLE:

1. Raise two (2) arms of triangle and snap pin into slot.
2. Turn base 90° to its "Stop" position.



Illustration: Setting Up Emergency Triangle

CAUTION

BEFORE LEAVING DISABLED VEHICLE ALWAYS ACTIVATE THE VEHICLE'S EMERGENCY FLASHERS.

IMPORTANT

WHENEVER A COMMERCIAL MOTOR VEHICLE IS STOPPED UPON THE TRAVELED PORTION OF A HIGHWAY OR THE SHOULDER OF A HIGHWAY FOR ANY CAUSE OTHER THAN NECESSARY TRAFFIC STOPS, THE DRIVER OF THE STOPPED COMMERCIAL MOTOR VEHICLE SHALL IMMEDIATELY ACTIVATE THE VEHICULAR HAZARD WARNING SIGNAL FLASHERS AND CONTINUE THE FLASHING UNTIL THE DRIVER PLACES THE WARNING DEVICES REQUIRED BY LAW.

HILLS, CURVES, AND OBSTRUCTIONS

If a commercial motor vehicle is stopped within 500 feet of a curve, crest of a hill, or other obstruction to view, the driver shall place the warning signal in the direction of the obstruction to view a distance of 100 feet to 500 feet from the stopped commercial motor vehicle so as to afford ample warning to other users of the highway.

i Ref. 49 CFR 392. 22 - Emergency signals; stopped commercial motor vehicles.

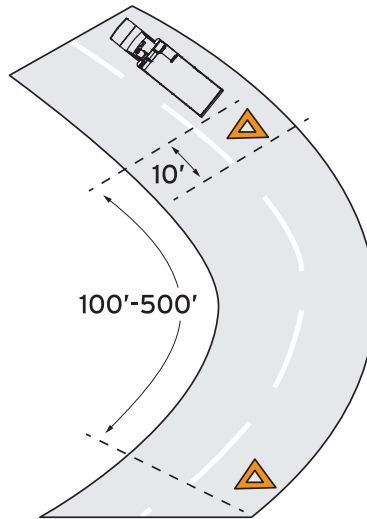
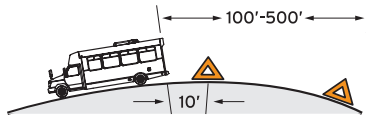


Illustration: Emergency Triangle Placement (Not To Scale)

02 SAFETY

SETTING UP WARNING KIT

ON TWO (2) LANE HIGHWAY:

1. Place one (1) Reflective Triangle on traffic side of road 4 paces (10 feet), from the stopped commercial motor vehicle in the direction of approaching traffic.
2. Then place another Reflective Triangle 100 ft. from rear of stopped vehicle (approx. 40 paces), in the center of the traffic lane or shoulder occupied by the stopped vehicle in the direction of approaching traffic.
3. Place one (1) Reflective Triangle 100ft. in front of disabled vehicle (approx. 40 paces), from the stopped commercial vehicle in the center of the traffic lane or shoulder occupied by stopped commercial vehicle in the direction away from approaching traffic.

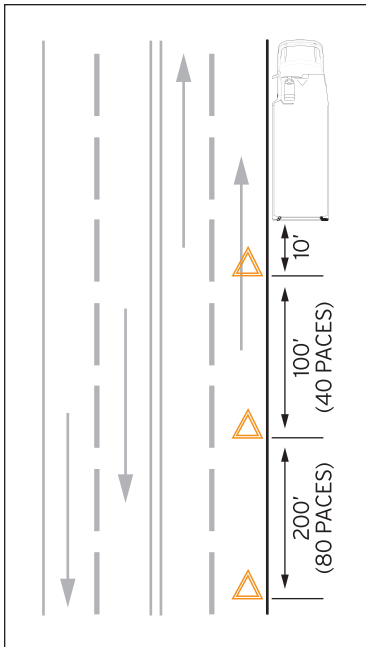


Illustration: Emergency Triangle Placement on a Two (2) Lane Highway (Not To Scale)

ON A DIVIDED HIGHWAY:

1. Place one (1) Reflective Triangle on traffic side of road 4 paces (10 feet), from the stopped commercial motor vehicle in the direction of approaching traffic.
2. Place one (1) Reflective Triangle 100 ft. from rear of stopped vehicle (approx. 40 paces), in the center of the traffic lane or shoulder occupied by the stopped vehicle in the direction of approaching traffic.
3. Then place another Reflective Triangle 200 ft. from rear of stopped vehicle (approx. 80 paces), in the center of the traffic lane or shoulder occupied by the stopped vehicle in the direction of approaching traffic.

i Ref. 49 CFR 392. 22 - Emergency signals; stopped commercial motor vehicles.

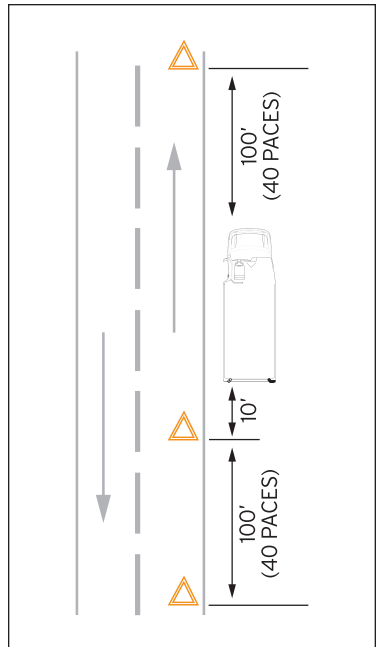


Illustration: Emergency Triangle Placement on a Divided Highway (Not To Scale)

02 SAFETY

TOWING PROCEDURES

If you need to have your vehicle towed, contact a professional towing service. We recommend the use of a wheel lift and dollies or flatbed equipment to tow your vehicle. Do not tow with a sling belt. Ford Motor Company has not approved a sling belt towing procedure.

Vehicle damage may occur if towed incorrectly, or by any other means. Your chassis manufacturer produces a towing manual for all authorized tow truck operators. Have your tow truck operator refer to this manual for proper hook-up and towing procedures for your vehicle. Please refer to your chassis manual for towing information.

FRONT TOW HOOKUP

1. Disconnect battery ground cable.
2. If vehicle is to be lifted and towed, remove drive axle shaft.

WARNING

FAILURE TO REMOVE THE DRIVE AXLE SHAFT WHEN TOWING THE VEHICLE WITH THE REAR WHEELS ON THE GROUND COULD RESULT IN DAMAGE TO THE TRANSMISSION AND OTHER COMPONENTS.


3. Attach to towing device.
4. Lift the bus and secure the safety towing chains. If additional clearance is needed, remove the front wheels.

WARNING

BEFORE RELEASING THE PARKING BRAKE, MAKE SURE THE CONNECTION TO THE TOWING VEHICLE IS SECURED, OR CHOCK THE DISABLED VEHICLE'S TIRES. FAILURE TO DO SO COULD RESULT IN HAZARDOUS CONDITIONS.

5. Connect clearance, tail, and signal lights to the towing vehicle's wire harness. Connect any special towing lights required by local regulations.
6. Release the parking brake.

REAR TOW HOOKUP

1. Turn the front tires to face straightforward and secure the steering wheel into this position.
 2. Disconnect the battery ground cable.
 3. Attach to towing device.
-  Due to the many variables that exist in towing, positioning the lifting and towing devices is the sole responsibility of the towing-vehicle operator, who must be familiar with industry towing procedures and safety standards.
4. Lift the vehicle and secure the safety towing chains, if additional clearance is needed, remove the bumper extension if equipped.
 5. Connect clearance, tail, and signal lights to the towing vehicle's wire harness. Connect any special towing lights required by local regulations.

02 SAFETY

REAR CARGO STORAGE

Rear cargo compartments, when equipped, offer spacious storage for all shapes and sizes of luggage and leisure-type gear. Optional racks and shelving can be tailored to your requirements. Compartments feature door-activated interior lighting and lockable cargo doors for easy access and security. Optional warning lights and buzzers are available to warn the driver when the doors are unlatched.

Drivers and baggage handlers should take care to arrange their cargo so as to minimize movement in transit. Suitcases free to fall or shift during sharp turns or quick stops can cause damage to contents and create a negative impression of your bus service. Cargo storage door jamb seals should be checked regularly for a tight fit to keep dust and moisture out of the luggage area.

OPEN-SHELF STORAGE

Shelving and racks located behind the driver's area, when equipped, let passengers stow their own suitcases and other large items as they enter the bus – without assistance from the driver. This type of storage is similar to compartments found on commercial aircraft and offers the same time saving, self-service convenience.

i It's a good practice to check fasteners, screws, etc. on the interior luggage fixtures on a regular basis to make sure they are tight, and the fixture is in sound operating condition.

OVERHEAD STORAGE

Overhead compartment storage, if equipped, provides convenient storage for smaller personal items. They are often used on transit, tour, and airport buses, where passengers are likely to be carrying packages and extra personal items.

IMPORTANT

DRIVERS SHOULD MAKE SURE THAT THE ITEMS STOWED WILL NOT FALL INTO THE AISLE DURING TRANSIT OR OTHERWISE OBSTRUCT EGRESS AND ENTRY.

IMPORTANT

PASSENGERS CAN EASILY BE INJURED BY OBJECTS FALLING FROM OVERHEAD STORAGE. DRIVERS SHOULD MAKE EVERY EFFORT TO MINIMIZE THIS RISK. ONE PRECAUTION IS TO WARN PASSENGERS THAT HEAVY ITEMS SHOULD NOT BE PLACED IN THE OVERHEAD STORAGE COMPARTMENTS.

O2 SAFETY

VEHICLE SYSTEMS SAFETY CHECKS

This bus conforms to all Federal Motor Vehicle Safety Standards applicable at this time of manufacture, and in addition, incorporates other important features. However, even these safety features, continued safe and dependable operation depends greatly on regular bus maintenance.

To retain the safety, dependability, and emission control performance originally built into the vehicle, it is essential that it receive regular periodic inspection, maintenance, and service parts replacement.

i It is particularly important that any safety system which may have been compromised by collision damage be checked and repaired or replaced as necessary prior to putting the vehicle back into service.

NOTICE

FOR FURTHER DETAILS ON ENGINE AND TRANSMISSION SERVICE INTERVALS, REFER TO THE CHASSIS MANUAL.

Listed are items that should be checked prior to taking the vehicle onto the road along with the pre-trip inspection. Any deficiencies or irregularities should immediately be brought to the attention of service personnel. Broken, incomplete, damaged, or worn articles should be replaced / repaired after evaluation by qualified personnel.

LAP BELT

▶ Check webbing, buckle, latch plate, retractor, and attaching point for proper operation and for damage.

MIRRORS AND SUN VISOR

▶ Check for proper operation and adjust as required.

WINDSHIELD WIPER / WASHER

▶ Check operation of wipers as well as condition and function of wiper blades.

▶ Check amount and direction of fluid sprayed by washer during use.

WINDSHIELD DEFROSTER

▶ Check performance by moving the fan speed switch through the various blower settings. Note the amount of air directed against the windshield and the direction of air flow across the windshield.

LIGHTS AND BUZZERS

▶ Check all instrument panel warning lamps, and all interior and exterior lights for proper illumination. Any components found to be defective or inoperative should be repaired or replaced.

DOORS, WINDOWS, AND EMERGENCY ESCAPES

▶ Check for positive opening, closing and latching operations.

▶ Check that window emergency release levers work properly and that windows open, close, and latch properly.

▶ Check that all compartment and passenger doors are securely closed by re-opening after each use. Also check for broken, missing, or loose parts that can prevent positive latching.

02 SAFETY

WHEEL ALIGNMENT AND TIRE BALANCE

► In addition to uneven or abnormal tire wear, the need for wheel alignment service may be indicated by a pull to the left or right while driving on a straight and level road. The need for wheel balancing is usually indicated by vibration of the steering wheel or seat while driving at normal highway speeds. Contact service personnel for repair if either condition is evident.

FLUID LEAKS

► Check for fuel, water, oil, or other fluid leaks by observing the surface beneath the bus after it has been parked for a period of time (water dripping from the air conditioning system is normal). If diesel fuel fumes are noticed at any time, the cause must be determined and immediately corrected because of the danger of fire.

EXHAUST SYSTEM

► Be alert to any changes in the sound of the exhaust system or the smell of exhaust fumes. This could indicate an exhaust leak requiring repair at the first available opportunity.

SEAT ADJUSTERS

► Check that the seat adjuster engages securely by pushing forward and backward on the seat whenever adjustments have been made.

STEERING

► Be alert to any changes in steering action. The need for inspection or service is indicated if there is increased steering effort, excessive free play in the steering wheel or any unusual sounds when turning or parking.

PARKING BRAKE

► Check the parking brake by parking the bus on a slope and setting the brake. The vehicle should remain stopped while the brake is applied.

BRAKES

► Changes in braking action such as pulling to one side, increased pedal travel or unusual sounds when braking or between brake actuations should be reported and corrected immediately.

GAUGES, STEERING COLUMN, TACH, TRANSMISSION, PARKING BRAKE AND INSTRUMENTATION

Please refer to your OEM Operator's Manual for any information on your vehicle's gauges, steering column, tach, transmission, parking brake, and instrumentation guide.

Your OEM Operator's Manual is included in your vehicle package.

CAUTION

AS WITH ANY MACHINE, CARE SHOULD BE TAKEN WHEN PERFORMING ANY INSPECTION, MAINTENANCE, OR REPAIR SO AS TO MINIMIZE THE RISK OF INJURY. IMPROPER OR INCOMPLETE SERVICING CAN RESULT IN PERSONAL INJURY OR VEHICLE DAMAGE. SHOULD THERE BE ANY QUESTION ABOUT SERVICING THE VEHICLE, REFER REPAIRS TO QUALIFIED PERSONNEL.

02 SAFETY

WEIGHTS AND LOADING

This vehicle is designed to provide satisfactory service throughout its lifetime if it is not loaded in excess of either the Gross Vehicle Weight Rating (GVWR) or the Gross Axle Weight Rating (GAWR). This certification label shows the maximum allowable weight for the suspension, shown as the Gross Axle Weight Rating (GAWR).

The Gross Vehicle Weight Rating (GVWR) is the maximum permissible weight of the vehicle, and takes into account the capabilities of the engine, transmission, suspension, axles, brakes, and tires.



WARNING

OVERLOADING THE BUS IN EXCESS OF THE POSTED WEIGHT LIMITS AND SPECIFICATIONS CAN RESULT IN COMPONENT FAILURE LEADING TO LOSS OF VEHICLE CONTROL, PERSONAL INJURY OR DEATH. FAILURE OF A COMPONENT DUE TO OVERLOADING CONSTITUTES MISUSE. THE NEW VEHICLE WARRANTY DOES NOT APPLY TO ANY PART OF THE BUS THAT HAS BEEN SUBJECT TO MISUSE.

FUELS

Use only high quality gas or diesel fuel that meets the minimum specifications of the engine manufacturer. Failure to do so may result in damage to engine components and or void warranty.

FUEL FILLING

► Clean the exterior of the fuel cap and filler spout before removing cap.

► Remove the fuel cap, place the fuel nozzle in the filler spout, and proceed with fueling the vehicle. When full, remove the fuel nozzle, replace the fuel cap, and tighten.

► Remove any spilled fuel from the bus body by cleaning the area with soap and water.

NOTICE

FAILURE TO REMOVE FUEL FROM THE BODY MAY RESULT IN PAINT DAMAGE. USE OF UNAUTHORIZED LUBRICANTS, FILTERS, FLUIDS, FUELS, OR PARTS AND / OR NEGLIGENCE OF SCHEDULED MAINTENANCE MAY VOID THE FORD OR CHEVROLET WARRANTIES FOR YOUR VEHICLE.

i Note that frequently driven buses may require more frequent filter changes to maintain systems.

i If your vehicle will not start by cranking the engine, the fuel system may need to be primed. Contact your service center for fuel system priming information.

RUNNING OUT OF FUEL - DIESEL ENGINES

If your vehicle runs out of fuel, stop the vehicle on a level surface away from traffic. The engine may be restarted by adding at least two (2) gallons (8 Liters) of fuel to the fuel tank. If the vehicle is not level, up to six (6) gallons (22 Liters) of fuel may be required. Prolonged engine cranking may be required to pump fuel from the fuel tank to the engine before the engine will start.

DO NOT crank the engine for more than 30 seconds at a time. Wait two (2) minutes after each try to allow the starter time to cool. Failure to do so could result in starter damage.

02 SAFETY

ROCKING THE VEHICLE

This section does not apply to vehicles equipped with ATC (Automatic Traction Control).

If the bus is stuck in mud, sand or snow, it may be possible to “rock” out. Shift to “Drive” and apply steady, light throttle - NEVER full throttle. When the bus has rocked forward as far as it will go, apply and hold the service brakes. Allow the engine to return to idle, and then select “Reverse”. Release the brakes and apply a steady, light throttle and allow the bus to rock in “Reverse” as far as it will go. Again, apply and hold the service brakes and allow the engine to idle. Never make Neutral-to Drive or directional shift changes when the engine RPM is above idle.

To avoid injury or property damage caused by sudden bus movement, do not shift from “Neutral” to “Drive” or “Reverse” when the throttle is open. Shifting with the throttle above idle causes the transmission to delay engaging unless the throttle is closed within the next three (3) seconds. Leaving the throttle open longer than three seconds causes the transmission to remain in “Neutral”. When the throttle is subsequently closed or brought back down, the transmission can engage without warning, causing sudden movement of the vehicle. Avoid this condition by making shifts from “Neutral” to “Drive” or “Reverse” only at idle.

Do not make “Neutral-to-Drive” or directional shift changes with engine RPM above idle. If the wheels are stuck and not turning, do not apply full power for more than 30 seconds. Full power more than 30 seconds under these conditions will cause the transmission to overheat. If the transmission overheats, shift to “Neutral” and operate the engine at 1200-1500 RPM until it has cooled down (approximately 2-3 minutes). Turn the retarder (if equipped) “OFF” when operating the bus in inclement weather, or when road surfaces are slippery.

DRIVING ON SNOW OR ICE

When operating the vehicle on snow or ice, reduce speed gradually. Select a gear range that will not exceed the speed you expect to maintain. Accelerate or decelerate very gradually to avoid losing traction. It is very important to reach the gear in the lower range selected by letting the transmission shift down automatically while gradually slowing. It is important to slow gradually when a lower range is selected. It is also important that you reach the lower range selected before attempting to accelerate. This avoids unexpected downshifting during acceleration.

DO NOT use the retarder during inclement weather or when the road surfaces are slippery due to ice or rain.

CAUTION

DRIVING THROUGH DEEP WATER OR SNOW WILL ADVERSELY AFFECT BRAKING PERFORMANCE.

03 ELECTRICAL

BODY CONTROL SWITCHES



STANDARD DOOR SWITCH
This switch controls status of the front entrance door.



STEP HEAT SWITCH
This switch controls the step heater (if equipped).



DEFROST FAN SWITCH
This switch controls the defrost fan (if equipped).



STROBE LIGHT SWITCH
This switch controls the exterior strobe light (if equipped).



HEATER SWITCH
This switch controls the rear auxiliary heater(s).



STANDARD FLASHING LIGHTS SWITCH
This switch toggles the flashing lights (if equipped).



MASTER ACCESSORY SWITCH
This switch toggles the power to all secondary electrical circuits and acts as a master kill-switch for those accessories.



AC HEAT MODE SWITCH
This switch controls the cabin heater (if equipped).



STANDARD READING LIGHTS SWITCH
This switch operates reading lights.



HEATED MIRRORS SWITCH
This switch controls heated mirrors. Press the switch to turn on mirror heaters for a set amount of time.



INTERIOR LIGHT SWITCH
This switch controls the interior light bar lights in the transition area between the roof and sidewalls on either side of the bus.



LIFT MASTER SWITCH
This switch enables the lift (if equipped).

03 ELECTRICAL

ELECTRICAL PANEL

The Champion Bus Inc. electrical panel is located above the driver's head in GM and E-Series models. On the F-550 it is located behind the driver in the driver's wing.

This panel contains the relays and fuses that control power to the various devices installed on the bus. Any alterations or modifications to this panel should only be done by a trained service technician.

i Chassis service literature, including wiring diagrams and electrical troubleshooting manuals, are available from your local Ford OR Chevy dealer or by using the order forms in the chassis owner's manual.

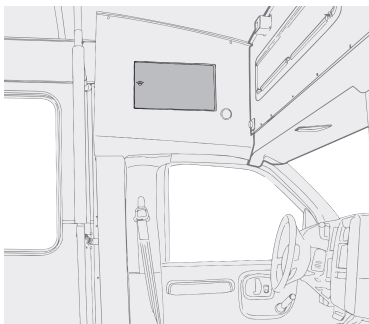


Illustration: Electrical Panel Locale

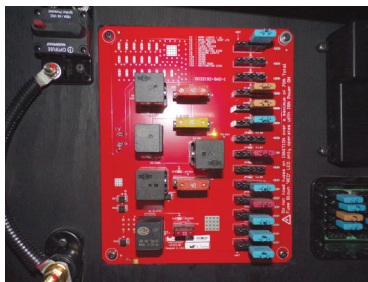


Image: Electrical Panel

⚠ CAUTION

WIRING REPAIRS SHOULD ONLY BE DONE BY QUALIFIED TECHNICIANS. CONSULT YOUR LOCAL CHAMPION DEALER BEFORE PERFORMING ANY ELECTRICAL OR OTHER REPAIRS.

UNAUTHORIZED REPAIRS MAY VOID BUS WARRANTIES.

ELECTRICAL POWER IS ALWAYS "LIVE" IN THE POWER DISTRIBUTION CENTER. USE CAUTION WHEN PERFORMING REPAIRS OR WHEN THE PROTECTIVE DOOR IS NOT CLOSED.

DO NOT OPERATE THE VEHICLE IF THE PROTECTIVE DOOR IS NOT CLOSED. DOING SO MAY ENDANGER PASSENGERS AND COULD SHORT OUT THE VEHICLE'S ELECTRICAL SYSTEM.

03 ELECTRICAL

BATTERY TRAY

The battery tray is accessed within an exterior access panel, typically under the plug window. The heavy duty shelf slides out for easy access.

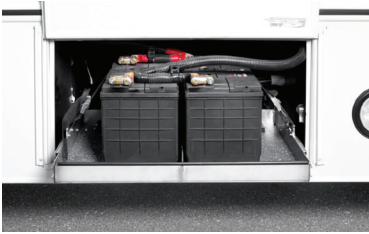


Image: Exterior Battery Tray Open

JUMPER CABLE INSTRUCTIONS

1. Apply vehicle's parking brake and turn "OFF" any exterior or interior lights that may be "ON" and any other electrical loads.
2. Connect the (+) positive cable end of the booster battery to the (+) positive terminal of the discharged battery.
3. Connect the (-) negative cable end of the booster battery to the (-) negative terminal end (ground) at least 12 inches (300mm) away from the discharged batteries. The vehicle frame usually provides a good ground. DO NOT connect the cable to or near the discharged batteries.
4. Start engine from the booster batteries and let engine run a few minutes to charge the discharged batteries.
5. Shut "OFF" the engine, then attempt to start engine. DO NOT operate the starter longer than 30 seconds and wait at least two (2) minutes between starting attempts to allow the starter to cool.

CAUTION

PERFORM THE NEXT EXACTLY AS INSTRUCTED AND DO NOT ALLOW THE CLAMP OF ONE CABLE TO TOUCH THE CLAMP OF THE OTHER CABLE, OTHERWISE A SPARK COULD OCCUR NEAR A BATTERY, POSSIBLY RESULTING IN SEVERE PERSONAL INJURY FROM EXPLOSION AND ACID BURNS.

6. When the engine starts, let it idle a few minutes.
7. Disconnect ground (-) negative jumper cable from frame or other non-battery location, then disconnect other end of (-) negative cable from booster battery.
8. Disconnect (+) positive jumper cable end from vehicle's newly charged battery first; then disconnect other cable end from booster battery.

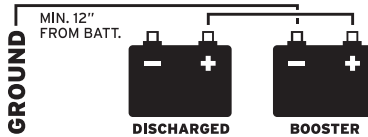


Illustration: Battery Jump Diagram

CAUTION

MAKE SURE BOTH STARTING SYSTEMS HAVE THE SAME VOLTAGE OUTPUTS AND AVOID MAKING SPARKS. OTHERWISE THE VEHICLE CHARGING SYSTEMS COULD BE SEVERELY DAMAGED. ALSO DO NOT ATTEMPT TO CHARGE ISOLATED, DEEP-CYCLED BATTERIES WITH JUMPER CABLES; FOLLOW THE MANUFACTURER'S INSTRUCTIONS WHEN CHARGING DEEP-CYCLE BATTERIES.

03 ELECTRICAL

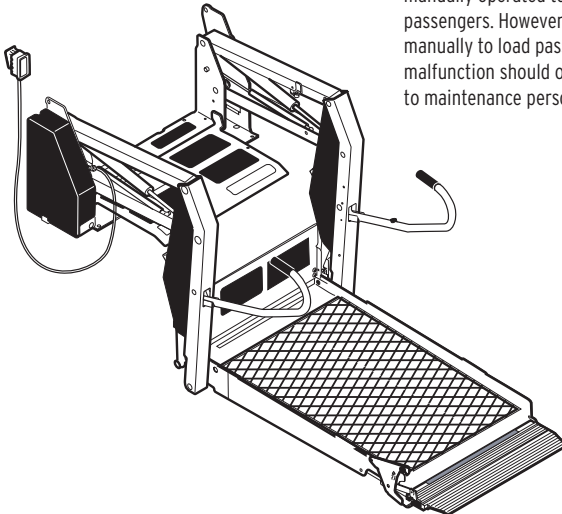
PARATRANSIT LIFT OPERATION

Due to proprietary consideration, information presented in this section of the manual is limited, and generalized. Refer to the Operator's Manual for the particular lift installed in your bus.

LOADING PASSENGERS WITH THE WHEELCHAIR LIFT:

Certain precautionary steps specified below must be followed when using the wheelchair lift:

1. Stop the bus.
2. Place the transmission into NEUTRAL (N) and set the parking brake.
3. Turn the wheelchair lift power switch on the driver's control panel to "ON". This provides power to the wheelchair lift's controller if all the interlock conditions are met.
4. Open the wheelchair lift's doors. A light and / or buzzer will light up on the driver's control console.
5. Instructions for the remaining operations can be found on the lift's manufacturer's website.



TO UNLOAD PASSENGERS USING THE WHEELCHAIR LIFT:

1. Stop the bus and apply the parking brake.
2. Place the transmission into NEUTRAL (N).
3. Press the lift power switch located on the driver's control console to the "ON" position. This provides power to the wheelchair lift handheld control if all the interlocks conditions are met. In addition the interior ADA light turns "ON".
4. Open the lift doors.
5. Check to be sure the lift area is kept clear.
6. Instructions for the remaining operations can be found in the lift manufacturer's manual.

EMERGENCY OPERATION OF LIFT

Manual Instructions Decal #27146 (posted on pump cover) provides manual operating instructions also. Follow all Lift Operation Safety Precautions.

i In case of a power failure, the lift can be manually operated to discharge wheelchair passengers. However, do not operate the lift manually to load passengers onto the bus. If a malfunction should occur, report the condition to maintenance personnel.

04 HVAC

CLIMATE CONTROLS - CAB AREA

Cab area heating and cooling controls are located on the dashboard, within easy reach of the driver. Operational and maintenance information on your particular system can be found in the chassis owner's manual.

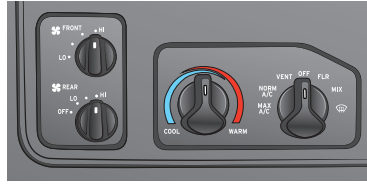


Illustration: Cab Area Climate Controls

CLIMATE CONTROLS - REAR AREA

Concern for passenger comfort should apply in cold weather as well as hot. Your bus may be outfitted with one or more low-profile, floor mounted heaters located underneath passenger seating toward the rear of the bus. The heat source for these optional heaters is the same hot engine "coolant" that circulates through the chassis heater core in the driver's area.

A switch located on the Driver's Control Console operates a variable speed fan that draws inside air across the heating coils of the floor mounted heater. The driver's in-dash temperature control must be switched to the warm or hot air range to assure proper coolant flow to the passenger area heater.

Drivers should be mindful that the ambient temperature in the cab may differ considerably from that in the passenger area. They should experiment with adjustments of the in-dash and floor heater settings until both give suitable comfort levels.

Note that the coolant capacity listed in your Ford or Chevy chassis manual will NOT be correct for your bus if it is equipped with an optional passenger heater. The extra heater and lengths of hose require additional coolant.

► Be sure to check heater fan, hoses, heater hose cover, and connections whenever your chassis maintenance schedule recommends inspecting or servicing the engine coolant system. Hoses are normally routed at the under-body. Make sure that the hoses are correctly routed and do not rub against metal edges – and that all hose clamps are tight.

CAUTION

FAILURE TO ENSURE THAT THE HEATER HOSE COVER IS SECURELY FASTENED COULD RESULT IN PERSONAL INJURY, AND DAMAGE TO THE VEHICLE.

❗ The air-conditioning units installed for the cabin area of your bus have their own user's manuals and service schedules. Please refer to those documents for instructions on your HVAC system.

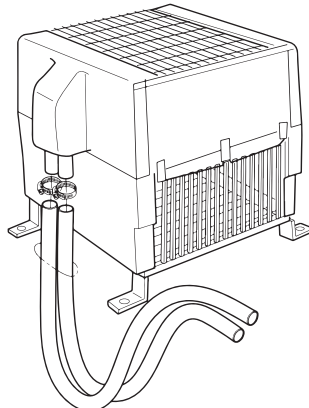


Illustration: Floor Mounted Heater

04 HVAC

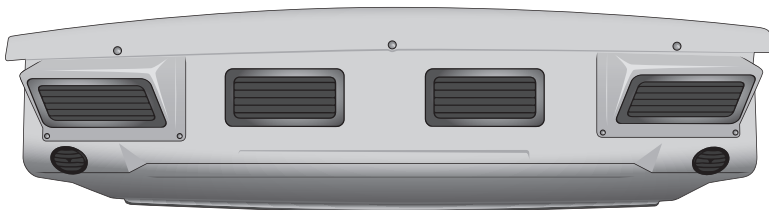


Illustration: HVAC Evaporator Unit

AIR CONDITIONING - IN-DASH FACTORY AIR

In-Dash air conditioning is a conventional A/C system, factory installed by the chassis manufacturer. If your bus is so equipped, you should consult your Chassis Owner's manual for information on its operation and maintenance.

AIR CONDITIONING UNIT - PASSENGER AREA

Buses equipped with passenger air conditioning have an evaporator assembly mounted on the ceiling at the rear of the bus, with separate thermostat and fan-speed controls on the Driver's Control Console.

For maximum cooling when the bus is first placed into service on the hot day, turn the thermostat and fan-speed controls to their highest settings. The driver should be sure to monitor passenger comfort and adjust the controls accordingly. This is especially important in buses that have both passenger and in-dash air conditioning.

The "dual" systems allow the driver to set the temperature and fan controls mounted on the dashboard to cool the cab area. Always keep in mind that the temperature in the passenger compartment is regulated by the two Control Console controls and influenced by passenger proximity to entry doors, large windows, and the rear evaporator. Become familiar with the settings that maintain a comfortable and well-balanced climate for all on-board the bus.

i The OEM Control Consoles thermostat control may activate the compressor and must be turned on if this is the case.

i The air-conditioning units installed for the cabin area of your bus have their own user's manuals and service schedules. Please refer to those documents for instructions on your HVAC system.

05 WINDOWS

WINDOWS

Windows installed in the passenger area of the bus have their frames sealed to the body using a compressed, adhesive-backed rubber seal. This seal forms a water resistant and air resistant barrier between the windows and the vehicle frame. Safety glass is used for all bus windows.

Windows in the passenger area also have standard 13% tint to reduce sun glare and heat penetration.

Windows on bus doors should be cleaned on a regular basis to ensure visibility and passenger safety.

► Clean Interior and exterior glass surfaces daily using a household ammonia solution or other glass cleaner and a soft, nonabrasive cloth, sponge, or chamois to remove any dirt or film.

► Window Seals should be inspected for cuts and proper sealing to avoid water penetration.

► Latches and seals around sliding or hinged panels should be checked daily.

► Windows should be opened and closed daily to test operation.

i Special attention should be given to egress, (emergency exit), windows to ensure that the release handles are in the fully locked position.

► Apply silicone lubricant to release handles on egress windows as needed.

i If release handles become difficult to operate, consult your dealer for recommended service.

► If leaks occur, apply Sikaflex® window weld, sealant around window frames and / or glass.

i For best results, clean surfaces thoroughly before application. Replacement glass and other window parts may be obtained through your Champion Bus Inc. Dealer.

SLIDING WINDOWS

Sliding windows, if equipped, are located at the top or bottom of the window frame and can be opened for ventilation.

To open, push down on the window latch located in the center of the sliding window panels **1** and push / slide the window panel to the side.

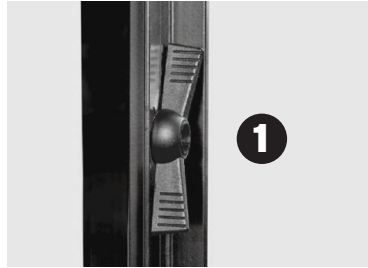


Image: Sliding Window Release Lever

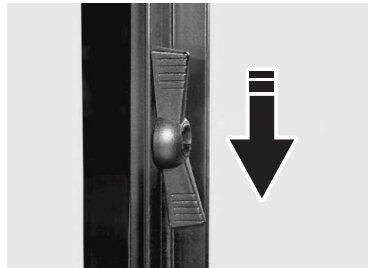


Image: Unlatching The Release Lever

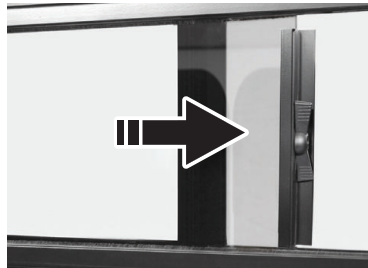


Image: Opening Sliding Window

i Clean and apply silicone lubricant to the window groove every two (2) months, or as needed, to help keep sliding window's action smooth.

05 WINDOWS

EGRESS WINDOWS

Champion Bus Inc. buses are equipped with egress windows (emergency exit) in the passenger area.

Egress windows are easily identified by window decals **1** and red release handles **2** either along the sides or at the bottom of the window frame (or optional red lights above windows).

WINDOW OPERATION

- ▶ Rotate the red release handles away from the frame.
- ▶ Push out on the window.

The frame has a fixed hinge at the top that allows the egress window to swing out for emergency exit and swing back to be closed. Operating instructions are provided on window decals.

EGRESS WINDOW MAINTENANCE

- ▶ Check egress window release handles daily to ensure they are in the fully locked position.
- ▶ Apply silicone lubricant to the release handles if they become difficult to operate.

PLUG WINDOWS

The Plug window is located in front of the Entry Door on the curbside of the bus. Plug windows allow the driver, while seated, to see the curb and passengers who may be standing in front of the entry door.

Plug windows are installed using an adhesive sealant that holds the windows in place and forms a water-resistant and air resistant barrier around the windows.

- ▶ Clean plug windows every day, to remove dirt and grime that collect on the windows blocking visibility.

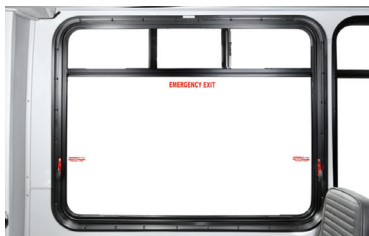


Image: Egress Window



Image: Egress Window Sticker And Release Handle



Image: Unlatching The Release Handle



Image: Opening The Egress Window

CAUTION

DO NOT OPEN EGRESS WINDOWS WHILE THE BUS IS IN MOTION. PERSONAL INJURY OR BUS DAMAGE MAY RESULT SHOULD A WINDOW DETACH FROM THE BUS.

06 SEATING



Image: Typical Passenger Seating

SEAT OPTIONS

Champion Bus Inc. offers a wide variety of high-quality standard and custom seating options, however, due to the number of seating alternatives, standard seating features are defined by the bus owner. All seating options meet or exceeds federally established safety standards. Seat frames meet FMVSS 207 for crash protection, seat frames and seat belts meet FMVSS 210 for seat belt anchorage and seat coverings meet FMVSS 302 for fire retardation.

i For more information on safety standards, please visit nhtsa.gov.

PASSENGER SEATING

Passenger seating is available in bench, bucket, reclining bucket, folding, and perimeter styles. Most passenger seating is modular, designed to be removed or replaced during repairs. Seats are fixed securely in place for the safety and comfort of all passengers.

i For additional seating information, please refer to the seat manufacturer.

DRIVER'S SEATING

Many driver's seating options are available with Champion Bus Inc. buses. Driver's seats may have a manual slide base or a two-way or six-way electric adjustable base and a fixed base. A reclining bucket seat can also be chosen for the driver. Details regarding your particular driver's seat are provided by the seat manufacturer. Please refer to the OEM manual for operation and maintenance instructions.



Illustration: Driver's Seating Option

06 SEATING

SEATING MAINTENANCE

- ▶ Inspect the seating area daily for tears, rips, or stains.
- ▶ Check seats for secure attachment and tighten any loose bolts to assure safety and to prevent rattling.
- ▶ Vinyl seats should be wiped down once or twice each month with a soap and water solution or other mild cleaning agent recommended for vinyl.
- ❗ Use of stronger solvents on vinyl seats is not recommended as they reduce the strength of the vinyl and cause premature cracking.
- ▶ Vacuum fabric-covered seats one to two times per month to remove loose surface dirt as well as dirt that has settled to the bottom of the fabric pile. A commercial or heavy duty vacuum cleaner is recommended for a thorough cleaning.
- ▶ Spot clean stains as they appear with a soap and water solution or a mild cleaning agent recommended for the fabric.
- ❗ Spot clean stains before steam-cleaning.
- ▶ Steam-clean fabric-covered seats every six months to restore the fabric pile and to remove stains and odors.
- ▶ Check seat belts for latching mechanism operation, cuts in webbing, damage to seat belt tabs and buckles and stains on the webbing.
- ▶ Check fastener torque two times a month or every time that the unit is in for other repairs.

REMOVING AND REINSTALLING PASSENGER SEATS

Passenger seats, with the exception of flip and fold away seats, are secured to tracks in the bus floor and along the bus walls.

- ▶ To remove passenger seats, loosen the bolts in the seat frame that attach to the floor track.
- ▶ Loosen the bolts in the seat frame that attach to the wall track.
- ▶ Remove seat for desired maintenance.
- ▶ Re-install the seat and secure the seat in the designated floor plan position.
- ▶ Make sure that the bolts are engaged in the tracks and re-tighten the two floor track bolts and the two wall track bolts to proper LB-FT.
- ▶ Check seat securement before allowing passengers to occupy the seats.
- ❗ Each seat style and position has a specific engineered bolt torque requirement, call Technical Support for proper torque settings.
- ❗ Champion recommends that both the floor bolts and wall bolts are secured in the tracks for seat security and passenger safety.

CAUTION

DO NOT MODIFY THE STRUCTURE OF ANY SEAT. MODIFYING SEATS MAY VOID MANUFACTURERS WARRANTIES, RAISE LIABILITY ISSUES, AND ENDANGER PASSENGERS.

06 SEATING

SECUREMENT SYSTEM DAILY INSPECTION CHECKLIST

- ▶ Vehicle is equipped with a belt cutter.
 - ▶ Check the retractors by pulling out the webbing to ensure they are locking properly.
 - ▶ Check to ensure webbing is not cut, frayed, damaged or contaminated by polishes, oils, or chemicals.
 - ▶ Check that metal parts are not worn, broken, or cracked.
 - ▶ Check pin connector bushings to ensure they are not cracked, broken, or missing.
 - ▶ Check that all mounting hardware, such as nuts and bolts are secure.
 - ▶ Check floor anchorages to ensure cleanliness and securement.
 - ▶ Check shoulder belt anchorages for proper securement and operation.
- ▶ Check lap and shoulder belt webbing to ensure it is not cut, frayed, damaged, or contaminated with oils or chemicals.
 - ▶ Check buckles for damage and ensure proper operation.
 - ▶ Check male buckle pin connector bushing to ensure it is not cracked, broken, or missing.
 - ▶ Check any other parts of the securement system and accessories that may not be specifically indicated in this checklist, but are pertinent to a safe operational system.

CAUTION

MAKE SURE ALL BOLTS ARE ENGAGED AND TORQUED TO THEIR SPECIFICATIONS BEFORE ALLOWING PASSENGERS TO OCCUPY THE SEATS.

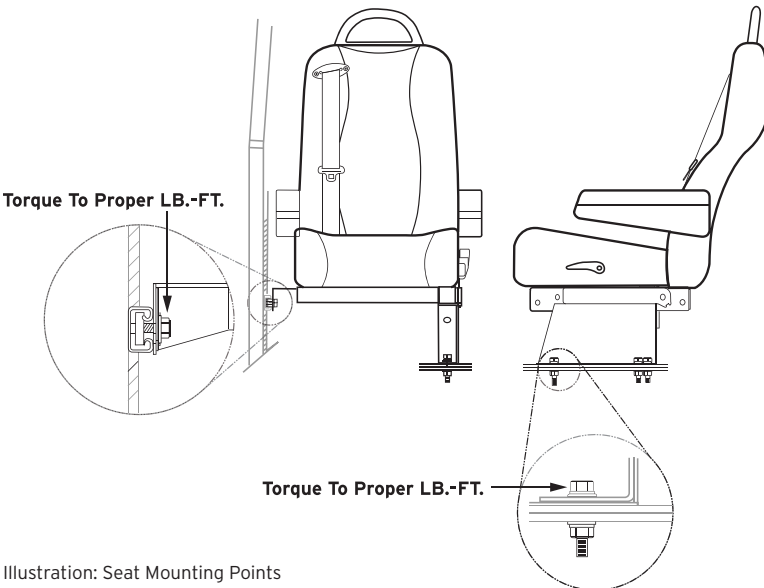


Illustration: Seat Mounting Points

07 WHEELS AND TIRES

WHEELS AND TIRES

Your bus is equipped with high quality tires that meet the vehicle usage specifications. Tires are warranted by the tire manufacturer as described in the documents provided with your vehicle.



Image: Detail of Wheel and Tire

The tires used on this bus must be of the correct size and must be properly inflated for the load being carried. The Certification Label in the beginning of this manual shows the originally equipped tire size and recommended inflation pressures. To avoid injury, ensure the tires are the proper size, load rating and inflation pressure for the total load carried. Inflation above or below the recommended pressure will restrict the speed at which the vehicle can be safely operated.

- ▶ Inspect tires daily for evidence of damage such as cuts, scuffs, cracked sidewalls, or any signs of rubber separating from the tire. Also, watch for abnormal wear.
- ▶ Check tire inflation pressure at least once per week while the tire is cold. Never attempt to check or adjust tire pressure while a tire is hot. Tire pressure increases with temperature and subsequent readings will be faulty.

Under-inflation may result from such testing. If necessary, adjust the tire pressure by adding or removing air until the designated pressure range for the tire is reached.

Note that low tire pressure reduces the load carrying capacity and may lead to the overheating of tires and or potential tire failure. Similarly, excessive tire pressure affects vehicle handling and increases the risk of tire failure.

i Always use an accurate gauge when testing tire pressure.

▶ Tires should be rotated on a regular basis using a recommended rotation pattern. Rotating the tires should result in more uniform tread wear and may lengthen tire life, however, do not put a worn tire and high-tread tire on the same axle. Keep tire treads matched as closely as possible. All tires need to be the same size.

If abnormal tire wear occurs, have the steering and wheel alignment checked by qualified service professionals. Tire rotation will only temporarily disguise the problem if steering or wheel alignment is off.

▶ The outside tire will wear faster than the inner tire with dual rear wheels. To equalize wear, reverse the tire positions on a regular mileage schedule.

i If one dual wheel must be replaced, always replace both duals to keep tread wear equalized.

- ▶ Keep lug nuts tight. Loose lug nuts will quickly ruin a wheel and can result in loss of the wheel, thus creating a dangerous situation for drivers and passengers.
- ▶ If you suspect a loose wheel, pull off the road and inspect the lug nuts immediately.
- ▶ Inspect lug nuts at every chassis service, lubrication or inspection.
- i** If your bus is fitted with wheel covers, remove them prior to inspection.

07 WHEELS AND TIRES

Lug nuts should always be installed clean and dry. Never lubricate lug nuts. Hubs should be clean, dry, and free of rust and excess paint. Firm metal-to-metal contact is necessary to ensure that wheels remain securely fastened.

► If a lug nut is removed, re-torque using chassis torque settings. Always use lug nuts supplied by the chassis manufacturer.

► A new wheel will often loosen, even though lug nuts were firmly torqued. Recheck lug nuts every 100 miles following a tire change to ensure tightness. On new dual wheels, re-torque lug nuts at 100 miles and again at 500 miles.

Replacement tires should equal or exceed load specifications of the original equipment tires. Do not mix tire sizes and do not mix bias ply and radial tire construction or dangerous vehicle handling conditions may result.

► Wheels should be replaced if bent, badly rusted, or if loose lug nuts have caused wear in the hub area.

TIRE TRACTION

Driving, cornering, and braking traction are reduced when water, ice, gravel, or snow is on the road surface. When driving on wet or slushy roads, a wedge of water can build up between the tires and the road. This is known as hydroplaning and may cause partial or complete loss of traction, braking ability, and steering control. Observe the following guidelines when operating in abnormal road conditions:

1. Slow down during rainstorms or if the roads are slushy.
2. Slow down if there is standing water or puddles on the road.
3. Keep tires properly inflated.

REPLACEMENT TIRES AND PRESSURE RATINGS

It is the responsibility of the operating company to make certain that all tire ratings are maintained within allowable limits to prevent the possibility of exceeding the maximum air pressure given on the tire. Since the GVWR and the GAWR's take into account the load capacity of the tires originally installed on the vehicle, any replacement tires must be of the same or greater load rating.

MUD FLAPS

Inspect mud flaps regularly to ensure firm attachment. Make sure they are clean and free from mud and debris.



Image: Mud Flap

TIRE BLOWOUT

► Stop immediately in a safe place away from traffic flow. Be especially alert for flats of the inside dual tires. These tires can catch fire if driven while flat. Contact service personnel immediately.

07 WHEELS AND TIRES

CHANGING A FLAT TIRE

Refer to your OEM Chassis Manual for proper jacking points.

IMPORTANT

IF A FLAT TIRE OCCURS WHILE DRIVING, GRADUALLY DECREASE VEHICLE SPEED. HOLD THE STEERING WHEEL FIRMLY, MOVE TO A SAFE PLACE ON THE SIDE OF THE ROAD.

1. If possible, stop the vehicle on a level surface away from traffic.
2. Apply the parking brake and turn "OFF" the ignition.
3. Turn "ON" the emergency flashers.
4. Place warning devices.
5. Remove spare tire, jack, handle, and lug wrench from storage, if equipped.
6. Block the wheel diagonally opposite the wheel being changed.
 - i** The jacking point for the front and rear wheels is directly under the axle.
6. Place the jack on a solid surface. Insert the jack handle and pump the handle to slightly raise the vehicle. DO NOT RAISE THE WHEEL OFF THE GROUND.
 - i** The dual rear wheels are attached using two-element lug nuts. The larger nut retains the outer dual. The inner square stud retains the inner dual. Remove and install these nuts separately. The rear dual outer lug nut must be loosened to check and re-tighten the inner nut.
7. Raise the vehicle until the wheel is off the ground, then remove the lug nuts and the wheel.
8. Install the spare wheel and lug nuts, making sure the proper side of the nuts face inward.

9. In a "star" pattern, tighten the nuts evenly until snug.

10. Lower the vehicle until the wheel touches the ground. Tighten the lug nuts in the same "star" pattern.

11. Finish lowering the vehicle to the ground, then remove the jack.

12. Remove the block from the opposite tire of the repaired tire, then stow the jack, handle, and lug wrench.

i Always refer to your chassis manual for proper lug nut torque settings as these numbers may vary.

WARNING

WHEN A WHEEL IS INSTALLED, ALWAYS REMOVE ANY CORROSION, DIRT OR FOREIGN MATERIALS PRESENT ON THE MOUNTING SURFACES OF THE WHEEL OR THE SURFACE OF THE WHEEL HUB, BRAKE DRUM, OR BRAKE DISC THAT CONTACTS THE WHEEL. MAKE SURE THAT ANY FASTENERS THAT ATTACH THE ROTOR TO THE HUB ARE SECURED SO THEY DO NOT INTERFERE WITH THE MOUNTING SURFACES OF THE WHEEL. INSTALLING WHEELS WITHOUT CORRECT METAL-TO-METAL CONTACT AT THE WHEEL MOUNTING SURFACES CAN CAUSE THE WHEEL NUTS TO LOOSEN AND THE WHEEL TO COME OFF WHILE THE VEHICLE IS IN MOTION, RESULTING IN LOSS OF CONTROL.

08 MAINTENANCE CHECKLISTS

BUS MAINTENANCE

The remaining pages contain checklists that show when certain maintenance procedures should be completed to maintain the many systems on the bus. These checklists are intended as supplements - not substitutes - for the maintenance schedules provided by the manufacturers of the vehicle's chassis or other major components.

These checklists focus on bus maintenance rather than chassis maintenance. The lists are not comprehensive and do not cover many critical areas such as engine or chassis lubrication.

It is the bus owner's responsibility to review the materials assembled in the Manuals for information on keeping your bus in top condition.

Persons responsible for chassis maintenance should follow the recommendations on service intervals, maintenance procedures, lubrication specifications, and approved service parts that are provided by the Ford or GM owner's manuals and maintenance charts. Failure to do so may void the chassis manufacturer's warranties.

The following checklists are organized into daily, weekly, monthly, semi-annual, annual, and cyclical tables.

These lists can be printed and kept in the bus for regular maintenance inspections.

Regardless of who is responsible for bus maintenance in your organization, it is the driver's responsibility to report any problems he encounters while operating the vehicle. Anything that might affect the safe operation of the bus should be reported promptly.

OPERATORS PAY ATTENTION

It is important that the operators pay attention and report any systems malfunctions or unusual conditions including, but not limited to, the following:

- ▶ Steering
- ▶ Brakes
- ▶ Lights
- ▶ Windshield washers and wipers
- ▶ Tires
- ▶ Power train (engine, transmission)
- ▶ Suspension
- ▶ Doors
- ▶ Windows
- ▶ Wheelchair lifts and restraints
- ▶ Seat latching mechanisms
- ▶ Unusual noises
- ▶ Unusual vibrations
- ▶ Unusual exhaust noises or fumes
- ▶ Unusual odors

08 MAINTENANCE CHECKLISTS

PRE-TRIP INSPECTIONS

The following pre-trip inspection checklist helps to ensure that the vehicle components are in good working condition before each trip. Pre-trip inspections cannot be performed in a short period of time. In checklist form, the sequence below may seem to be overly time consuming however, careful pre-trip

inspections save time in the long run. Each checklist item is followed with detailed instructions corresponding to their checklist item number. If any system or component does not pass this inspection, it must be corrected before operating the vehicle.

i Apply the parking brake and chock the tires before beginning the inspection!

1. DRAIN THE AIR SYSTEM RESERVOIRS IF EQUIPPED.

If the bus is not equipped with an air dryer under the cab or body, then it will be equipped with a pull cord for operating the manual drain valves. If equipped with a pull cord and manual drain valve, **they must be used daily to completely drain tanks of air and moisture.**

To drain your air tanks, pull the cord to open the drain valve completely. Continue holding the cord until all the air is exhausted.

For buses equipped with an air suspension or air brakes:

The air dryer uses an oil / water separator and a desiccant to clean and dry the compressed air. The dryer purges contaminants and automatically regenerates itself. Therefore, the system should only require draining of the air tanks at each service interval. At service intervals, the system should be drained.

Draining the tanks:

You will find a ball valve on one of the two storage tanks. You will find a pit-cock on the dryer purge tank (small tank near the dryer assembly). You will also find a pit-cock on the reserve tank mounted on the driver side rear frame rail.

i If the air reservoirs are not equipped with automatic drain valves, they must be drained daily. If they are equipped with automatic drain valves, they must be drained in this same manner at least once a week.

CAUTION

FAILURE TO DRAIN THE AIR RESERVOIRS AS INSTRUCTED COULD CAUSE SLUDGE FORMATION IN THE AIR SUSPENSION SYSTEM. SLUDGE COULD ADVERSELY AFFECT RIDE HEIGHT, CAUSING LOSS OF CONTROL, WHICH COULD CAUSE INJURY, DEATH, OR PROPERTY DAMAGE.

CAUTION

WHEN DRAINING THE AIR RESERVOIR, DO NOT LOOK INTO THE AIR JETS OR DIRECT THEM TOWARDS ANYONE. DIRT OR SLUDGE PARTICLES MAY BE IN THE AIR-STREAM AND COULD CAUSE INJURY.

08 MAINTENANCE CHECKLISTS

2. INSPECT THE BATTERIES AND BATTERY CABLES.

CAUTION

BATTERY POSTS, TERMINALS AND RELATED ACCESSORIES CONTAIN LEAD COMPONENTS, CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND REPRODUCTIVE HARM. TO PREVENT POSSIBLE PERSONAL INJURY, ALWAYS WASH YOUR HANDS AFTER HANDLING BATTERY PARTS AND RELATED ACCESSORIES.

A. Be sure the battery hold-down is secure. If it is loose, tighten the hold-down fasteners. If they are broken, replace them.

B. If the battery posts or cable terminals are corroded, disconnect the terminals from the posts. Clean them with a soda solution and a wire brush.

After cleaning, reconnect the terminals to the battery posts, and then apply a thin coat of petroleum jelly to the posts and terminals to retard corrosion.

C. Check that all cables are secure in their p-clamps, are protected by loom, and have not shifted to be against any sharp edges.

IMPORTANT

TAKE CARE TO KEEP THE VENT PLUGS TIGHT (IF EQUIPPED) SO THAT THE NEUTRALIZING SOLUTION DOES NOT ENTER ANY OF THE BATTERY CELLS.

3. EXAMINE THE STEERING COMPONENTS.

Examine the steering gear mounting bolts (refer to the OEM Chassis Operator's Manual), pitman arm nut, and the drag link nuts for tightness. Check for leakage at the gear box. Be sure the steering drive-line and the U-joints are in roadworthy condition, without cracks, breaks, looseness, or other damage. Tighten loose nuts and replace damaged parts as needed.

4. CHECK THE FLUID LEVEL IN THE COOLANT RESERVOIR.

Check the condition of the radiator fins.

IMPORTANT

COOLANT MUST BE FILLED TO THE FULL LINE OF THE SURGE TANK. LOW COOLANT COULD RESULT IN ENGINE OVERHEATING, WHICH COULD CAUSE ENGINE DAMAGE.

A. If the coolant is low, check the amount of antifreeze protection. If the protection is adequate, add a 50/50 mixture of water and antifreeze.

B. If additional protection is needed, add antifreeze only.

C. Good air flow through the radiator core and charge air cooler is essential for proper engine cooling. The core's fins allow air to flow through them, but are also a particle barrier which tends to collect insects and airborne debris.

D. Inspect for clogged fins. Use compressed air or water directed from the engine side of the core to backwash any material restricting air-flow.

E. Bent or damaged fins should be straightened to permit air flow across all areas of the cores.

F. Repair or replace the radiator if it is leaking.

08 MAINTENANCE CHECKLISTS

IMPORTANT

WHEN TRAVELING THROUGH AREAS OF HIGH INSECT CONCENTRATIONS, IT MAY BE NECESSARY TO CLEAN THE EXTERIOR OF THE RADIATOR CORE OR CHARGED AIR COOLER AS OFTEN AS EVERY 200 MILES (320 KM.).

5. CHECK THE CONDITION OF THE COOLANT AND HEATER HOSES.

A. Make sure the radiator inlet and outlet coolant hoses are pliable and are not cracking or bulging. Replace hoses that show signs of cracking, weakening, or bulging. Replace all hoses, including the heater hoses, at the same time. Refer to the Service Parts Catalog or contact your dealer.

B. Inspect and tighten hose clamps as necessary, but do not over tighten as hose life can be severely affected.

C. Be sure the hose support brackets are securely fastened. Make sure the hoses are not located near sources of wear, abrasion, or high heat.

6. CHECK THE CONDITION OF THE DRIVE BELTS.

Check the fan belts, alternator belt and refrigerant compressor belt for signs of glazing, wear, frayed edges, damage (i.e. breaks or cracks), or oil contamination. If a belt is glazed, worn, damaged or oil soaked, replace the belt. Perform the same checks on the air compressor belt for the Intellisync suspension system.

7. INSPECT ENGINE FOR LEAKS.

Inspect the engine for fuel, oil, and coolant leaks. Correct any leaks found. Also check the air compressor, power steering system, and brake system components for leaking fluids.

8. CHECK THE FLUID LEVEL IN THE BRAKE SYSTEM.

If equipped with hydraulic brakes, check the fluid level in the hydraulic brake reservoir. If below the "low" mark, add fluid until the "full" mark is reached. Do not over fill. Use only heavy-duty DOT 3 brake fluid. Refer to the OEM chassis operator's manual for detailed information.

9. CHECK STEERING SYSTEM FLUID LEVEL.

Check the fluid level in the steering system hydraulic reservoir. (Refer to the OEM Chassis Operator's Manual for dipstick markings). If needed, fill the reservoir to a level between the MIN MAX marks on the indicator.

10. CHECK ENGINE OIL LEVEL.

The engine oil level should show between the upper and lower marks on the dipstick. Add enough oil to bring the level up to the operating range. Refer to the Engine Manufacturer's Operation and Maintenance Manual for recommended lubricants and capacities.

CAUTION

MAINTAIN THE CORRECT ENGINE OIL LEVEL. OPERATING THE ENGINE WITH THE OIL LEVEL BELOW THE LOW MARK, OR ABOVE THE HIGH MARK, COULD RESULT IN ENGINE DAMAGE. REFER TO THE OPERATOR'S MANUAL FOR DIPSTICK FLUID LEVEL MARKINGS AND DIPSTICK FLUID LEVEL MARKINGS FIGURE.

08 MAINTENANCE CHECKLISTS

11. CHECK TRANSMISSION FLUID LEVEL.

With the vehicle on a level surface, check the fluid level in the transmission using one of the following procedures.

i The fluid must be warm to ensure an accurate reading. The fluid level rises as temperature increases.

A. HOT CHECK.

1. Operate the transmission in a drive range until normal operating temperature, 160°F to 200°F (71°C to 93°C), is reached.
2. Put the vehicle into Park. Let the engine run at idle.
3. Pull out the transmission dipstick and wipe it clean, then re-insert it into the filler tube all the way until it stops. Pull out the dipstick and check where the fluid level is on the dipstick. A safe operating level is any level within the "HOT" band (upper) on the dipstick. Refer to the OEM Chassis Operator's manual for information on dipstick markings.
4. If the fluid is not within this range, add or drain fluid as needed to bring the level to the top of the "HOT" band. Refer to the OEM Chassis Operator's Manual for approved transmission fluids and transmission fluid capacities.

CAUTION

HOT FLUID CAN CAUSE SERIOUS BURNS, AND DAMAGE TO EYES. CARE SHOULD BE TAKEN TO ENSURE ACCIDENTAL CONTACT WITH THE FLUID IS AVOIDED.

B). COLD CHECK.

1. A cold check may be made when the sump temperature is 60°F to 104°F (15. 5°C to 40°C).
2. Run the engine for at least one (1) minute to clear the fluid of air.
3. With the engine at idle speed and foot on the brake pedal, move the shift lever through each gear range, providing enough time for the gear to engage. Return the gear selector to Park.
4. With the engine still running at idle, pull out the dipstick and wipe it clean, then reinsert the dipstick into the filler tube until it bottoms out.
5. Pull out the transmission dipstick and wipe it clean, then reinsert it into the filler tube all the way until it stops. Pull out the dipstick and check where the fluid level is on the dipstick. A safe operating level is any level within the "COLD" band (lower) on the dipstick. Refer to the OEM Chassis Operator's manual for dipstick markings.
6. If the fluid is not within this range, add or drain fluid as needed to bring the level to the top of the "COLD" band. Refer to the OEM Chassis Operator's manual for approved transmission fluids and transmission fluid capacities. As soon as possible, check the fluid using "hot check" procedure.

08 MAINTENANCE CHECKLISTS

12. CHECK INTAKE AIR RESTRICTION INDICATOR.

A. Check the Intake Air Restriction Indicator, (if equipped), to determine if the air cleaner filter element needs to be changed.

B. Replace the air cleaner element after the first six months and thereafter replace it when the yellow line reaches 25in H₂O vacuum or every two years regardless of mileage. After the air cleaner element is replaced, press the rubber button on the bottom of the Air Restriction indicator to reset.

C. Check the condition of the air compressor's independent filter element. On the E-Series and GM units with the electric frame mounted Oasis Compressor will be found within the compressor box mounted on the Curbside frame rail. Refer to the Intellisync operator's manual for the recommended filter type.



CAUTION

FAILURE TO MAINTAIN A SEALED AIR INTAKE SYSTEM COULD ALLOW ENTRY OF DIRT AND CONTAMINATION INTO THE ENGINE. THIS COULD ADVERSELY AFFECT THE ENGINE PERFORMANCE AND COULD RESULT IN ENGINE DAMAGE.

13. INSPECT FUEL TANKS AND COMPONENTS:

A. Inspect the fuel tank(s) and fuel line connection. If equipped, be sure the fuel tank shut off valves are open.

B. Replace leaking fuel tank(s); repair or replace any lines or connections that are leaking. If equipped with fuel tank shut off valves, be sure the valves are fully open.



CAUTION

NEVER OPERATE THE ENGINE WITH THE FUEL TANK SHUT-OFF VALVES PARTLY CLOSED. THIS COULD DAMAGE THE FUEL PUMP, CAUSING SUDDEN LOSS OF ENGINE POWER, POSSIBLY RESULTING IN SERIOUS PERSONAL INJURY DUE TO REDUCED ENGINE CONTROL.

08 MAINTENANCE CHECKLISTS

14. CHECK FUEL LEVEL IN FUEL TANKS AND BE SURE THE FUEL CAP VENT AREA IS CLEAN.

A. To keep condensation to a minimum, fill the fuel tanks at the end of each day, but not to more than 95% of liquid capacity. Select the proper grade of fuel as specified by the engine manufacturer.

B. Always strain or filter fuel before putting it into the tank(s). This will lengthen the life of the engine fuel filter and reduce the chances of dirt entering the engine.

C. Before installing the fuel cap check the vent line for debris. Clean the area around the fuel tank cap with a clean rag, or if necessary, clean with solvent.



CAUTION

ON DIESEL FUELED VEHICLES, USE ONLY ULTRA-LOW SULFUR DIESEL (ULSD) WITH A SULFUR CONTENT OF 15PPM MAXIMUM. FAILURE TO USE ULSD MAY VOID THE WARRANTY AND CAUSE DAMAGE TO ENGINE AND EMISSION COMPONENTS.



CAUTION

DO NOT MIX GASOLINE OR ALCOHOL WITH DIESEL FUEL. THIS MIXTURE COULD CAUSE AN EXPLOSION. WHEN FILLING FUEL TANK(S), DO NOT SMOKE OR USE AN OPEN FLAME NEAR THE FUEL TANKS; COMBUSTION OF DIESEL FUEL OR FUEL VAPORS COULD RESULT. NEVER FILL THE FUEL TANKS TO MORE THAN 95% OF THEIR LIQUID CAPACITY. THIS COULD MAKE THEM MORE LIKELY TO RUPTURE FROM IMPACT, POSSIBLY CAUSING FIRE AND RESULTING IN SERIOUS PERSONAL INJURY OR DEATH BY BURNING.

IMPORTANT

DO NOT CRANK THE ENGINE FOR MORE THAN 30 SECONDS AT A TIME DURING ANY OF THE FOLLOWING PROCEDURES. WAIT TWO (2) MINUTES AFTER EACH TRY TO ALLOW THE STARTER TO COOL. FAILURE TO DO SO COULD CAUSE STARTER DAMAGE.

i Before doing any of the following procedures, make sure there is an adequate amount of fuel in the fuel tank(s). Do not fill the tank(s) to more than 95% of liquid capacity.

D. If the vehicle has been run out of fuel, the system will need to be primed before starting the engine. Both Ford and Chevrolet models are equipped with electric fuel pumps that remove the need to prime the system manually. Before restarting an engine that has run out of fuel, turn the key to "ON" for at least 30 seconds before starting the engine. Do not crank the engine for more than 30 seconds. If the engine does not start, repeat the process. If the engine does not start after three attempts, turn the key to "OFF" for at 60 seconds to allow the Engine Control Module to reset. Repeat.

To prevent fuel loss or entry of air into the fuel line, make sure that all fuel line connections are tight.

08 MAINTENANCE CHECKLISTS

15. DRAIN WATER FROM FUEL / WATER SEPARATOR DAILY.

On diesel vehicles, drain water from the fuel / water separator daily. With the engine off, open the valve by turning it two to three turns until draining occurs. Drain the filter sump of water until clear fuel is visible. Turn the valve in the opposite direction to close the drain. Tighten the valve hand tight.



CAUTION

DO NOT OVER TIGHTEN VALVE. OVER TIGHTENING CAN DAMAGE THE THREADS AND SEAL.

When draining fluid from a fuel - water separator, drain the fluid into an appropriate container and dispose of it properly. Many states now issue fines for draining fuel / water separators onto the ground. On all types of separators, stop draining fluid when you see fuel come out of the separator drain valve.

16. CHECK STEERING WHEEL FOR EXCESSIVE PLAY.

A. With the front tires straight ahead, turn the steering wheel until motion is observed at the front wheels.

B. Align a reference mark on the ruler, and then slowly turn the steering wheel in the opposite direction until motion is again detected at the wheels.

C. Measure the lash (free-play) at the rim of the steering wheel. (Refer to the OEM Chassis Operator's Manual.

D. Excessive lash exists if steering wheel movement exceeds 43/4 inch(121mm) with an 18 inch (470 mm) steering wheel. If there is excessive lash, check the steering system for wear or incorrect adjustment of the linkage and steering gear before operating the vehicle.

17. CHECK ENGINE OIL PRESSURE WARNING SYSTEM.

A. When the engine is started, the oil pressure warning will come "On" until the oil pressure rises above a preset minimum.

B. If the warning system does not come on when the ignition is turned "On", repair the system.

18. MAKE SURE THE ELECTRIC HORN IS OPERATING PROPERLY.

19. CHECK WINDSHIELD WIPER OPERATION, INCLUDING FLUID LEVEL.

20. CHECK THE OPERATION OF THE BACKUP ALARM.

Make sure the backup alarm (if equipped) is operating properly.

21. INSPECT EXTERIOR LIGHTING.

Turn "On" the headlights; inspect both high and low beams. Inspect turn, stop, backup, and side marker and clearance lights; replace any that are not working.

22. INSPECT INTERIOR LIGHTING.

If any of the instrument panel gauge bulbs, the dome lights, step-well light, reading lights, rear luggage compartment light (if equipped) or the right / left hand turn indicator light bulbs are not working, replace them.

08 MAINTENANCE CHECKLISTS

23. INSPECT THE TIRES.

Check tire pressure and inspect each tire for bulges, cracks, cuts, or punctures. The load and cold inflation pressure must not exceed the rim or wheel manufacturer's recommendations, even though the tire may be approved for a higher load or inflation. Some rims and wheels are stamped with a maximum load and maximum cold inflation rating. If they are not stamped, consult the rim or wheel manufacturer for the correct tire inflation pressure for the vehicle load. If the load exceeds the maximum rim or wheel capacity, the load must be adjusted or reduced.

A. Check the inflation pressure of the tires before each trip, using an accurate tire pressure gauge. Tires should be checked when cool. The correct pressure for each tire is provided on the manufacturer's certification label. Keep tires inflated to the applicable pressure.

Be sure the valve stem caps are on every tire and that they are screwed on finger tight.

Over-inflation gives the treaded surface of the tire a convex shape (Refer to the OEM Chassis Operator's Manual for tire figures). This causes extreme tire wear in the middle part of the tire.

I If a tire has been run under-inflated, check the wheel for damage to wheel, rim or tire before adding air.

B. Moisture inside a tire can result in body ply separation or a sidewall rupture. During tire inflation, compressed air reservoirs and lines must be kept dry. Use well maintained in-line moisture traps and service them regularly.

C. Inspect the tires for bulges, cracks, cuts, or penetrations. A tire pressure check will assist in uncovering hidden damage. A weekly pressure loss of 4 psi (28 kPa) or more in a tire may indicate damage and the tire should be inspected and repaired or replaced.

D. If tires are wearing irregularly, rotate them and have the vehicle's alignment checked to determine the cause of irregular tire wear. Government regulations mandate that front axle tires have no less than 4/32-inch (3 mm) of tread depth when measured at any point in a major tread groove. The same rules mandate rear axle tires to have no less than 2/32-inch (1.5 mm) of tread depth when measured at any point in a major tread groove. Check state or provincial regulations in case more stringent regulations apply.

I Refer to the OEM Chassis Operator's Manual for checking tire inflation pressure, front axle rotation, dual axle rotation and wheel nut tightening sequence drawings.

E. Tires should be inspected for oil contamination. Fuel oil, gasoline, and other petroleum derivatives, if allowed to contact the tires, will soften the rubber and destroy the tire.



CAUTION

DO NOT OPERATE THE VEHICLE WITH UNDER-INFLATED OR OVER-INFLATED TIRES. INCORRECT INFLATION CAN STRESS THE TIRES AND MAKE THE TIRE AND RIMS MORE SUSCEPTIBLE TO DAMAGE, FAILURE AND LOSS OF VEHICLE CONTROL, RESULTING IN SERIOUS PERSONAL INJURY OR DEATH.

08 MAINTENANCE CHECKLISTS

24. CHECK FOR LOOSE WHEEL LUG NUTS AND WHEEL COMPONENTS.

A. Check the wheel nuts or rim nuts for indications of looseness. Remove all dirt and foreign material from the wheel assembly.

i Dirt or rust streaks from the stud holes, metal buildup around the stud holes or out-of-round or worn stud holes may be caused by loose wheel lug nuts.

B. Replace broken, cracked, badly worn, bent, rusty or sprung rings and rims. Be sure that the rim base, lock-ring and side ring are matched according to the size and type.

IMPORTANT

REFER TO THE OEM CHASSIS OPERATOR'S MANUAL FOR REMOVING DUAL WHEEL ASSEMBLY NUTS AND FOR TIGHTENING SEQUENCE.

CAUTION

HAVE WORN OR DAMAGED WHEEL COMPONENTS REPLACED BY QUALIFIED PERSONNEL USING THE WHEEL MANUFACTURER'S INSTRUCTIONS AND THE WHEEL INDUSTRY'S STANDARD SAFETY PRECAUTIONS AND EQUIPMENT TO AVOID A VEHICLE OR WORKSHOP ACCIDENT.

IMPORTANT

INSUFFICIENT WHEEL NUT (RIM NUT) TORQUE CAN CAUSE WHEEL SHIMMY, RESULTING IN WHEEL DAMAGE, STUD BREAKAGE, AND EXTREME TIRE TREAD WEAR. EXCESSIVE WHEEL NUT TORQUE CAN BREAK STUDS, DAMAGE THREADS AND CRACK DISCS IN THE STUD HOLE AREA. USE THE RECOMMENDED TORQUE VALUES AND FOLLOW THE PROPER TIGHTENING SEQUENCE.

i On each wheel stud, the end that faces away from the vehicle may be stamped with an "L" or "R" depending on which side of the vehicle the stud is installed. Studs stamped with a "L" are left-handed threaded and are installed on the "Roadside" of the vehicle. Studs stamped with an "R" are right-hand threads and are installed on the "Curbside" of the vehicle.

25. TEST THE SERVICE BRAKES.

Test the service brakes before leaving the lot. Depress the brake pedal, release the parking brake, and check that the brake system warning light goes "OUT". If the warning light remains "ON" after releasing the parking brake, correct the problem before driving off. When safe to do so, drive the vehicle a short distance and make a firm application of the service brake pedal. If there is any pulling to one side or the other, correct the problem before continuing.

26. TEST THE PARKING BRAKE.

Test the parking brake on a 20% grade. Apply the parking brake with the vehicle on a 20% grade (or as steep of a grade that the vehicle may normally be parked on). The ramp surface should be made of Portland cement or equivalent. If the parking brake does not hold the vehicle, repair the parking brake system.

27. INSPECT AIR SYSTEM COMPONENTS FOR LEAKS.

Inspect all air lines and tanks for leaks. Check to make sure there is no physical damage or wear, and that they are well secured to the body. The storage tanks, solenoids, and distribution connections are located between the axles on the roadside chassis rail.

08 MAINTENANCE CHECKLISTS

28. INSPECT CONDITION OF FLOORING, INCLUDING HEATER HOSE COVERS OR FLOOR HEATERS.

Inspect the condition of all floor rubber, looking for seams that are pulling up, trim that is detached, or any other trip hazard. Correct as necessary. Also inspect the floor mounted heaters. Ensure that their casings are not damaged and ensure all heater hose covers are in place.

29. INSPECT A/C HOSES AND CLAMPS FOR TIGHTNESS:

Inspect the AC hoses, ensuring they are not cracked, leaking, worn, or against a sharp edge. Inspect the clamps for security. AC connections using a clamp will be located under the hood, under the floor behind the driver side door, at the condensers, and at the evaporators.

30. CHECK THE REAR DOOR, ENTRY DOOR, AND ALL EMERGENCY EXITS FOR PROPER FUNCTION.

Inspect the rear door, checking that it travels unimpeded through its full range of motion. Check it from both the interior and exterior to assess the condition of each latch. Ensure that it is unlocked before operating the vehicle, and make sure the ajar / locked buzzer and light works, if equipped. Inspect all seals, looking for tears, accumulation of debris, and proper contact with sealing surfaces. Check that the prop operates smoothly and holds the door in its full open position.

Inspect the entry door, checking that it moves smoothly through its full range of motion. Inspect all seals, again looking for tears, accumulation of debris, and proper contact with sealing surfaces. Check the door for proper operation in both powered (if equipped) and manual modes of operation. Ensure that all related lighting activates when the door is opened.

Operate all additional emergency exits and make sure their buzzers and indicators work, if equipped.

FINAL WALK-AROUND

1. With the parking brake applied, check service and emergency exits. They should all open, close, seal, and secure properly.
2. Inspect seats and floor for debris or damage.
3. Verify that all interior and exterior lights are functional.
4. Inspect the engine compartment for fluid leaks while the engine is running.
5. Verify that all windows, access panels and emergency equipment are in place and in proper working order.
6. Inspect the underside of the bus and make sure it is clear of obstructions. Always check the rear of the vehicle if backing up is required.
7. Check the wheelchair lift for function. Report any problems to service personnel.

08 MAINTENANCE CHECKLISTS

DAILY CHECKLIST

ITEM	INSPECTION	✓
Fuel	Fill fuel tank with engine "OFF" - Fill daily or as needed	
Driver's Compartment	Clean and inspect	
Driver's Seat	Check operation of adjusting mechanism	
Driver's Cab Window	Check operation	
Windshield	Clean and inspect for damage	
Fire Extinguisher	Check mounting and charge pressure	
First Aid Kit	Check contents and replenish as needed	
Flare and Reflective Hazard Triangle Kit	Check Contents	
Floor Covering	Inspect for damage and wear and tear - Clean	
Mirrors (Interior)	Inspect for damage - Adjust for optimal view	
Mirrors (Exterior)	Inspect for loose or damaged support arms and brackets - Adjust for optimal view	
Destination Signs	Inspect for damage and leaks - Check light	
Sun Visor	Check to see if visor stays in place - Tighten if necessary	
Windshield Wipers and Washer	Check blades for streaking - Fill washer fluid reservoir as needed	
Defroster and Front HVAC Blower	Check operation by turning "ON" the fan with the motor running	
Dashboard Warning Lights	Warm up engine - No red lights should show and no buzzer should sound	
Front Heater	Check for heat with engine running	
Fast Idle Switch	Check engine RPMs - Adjust daily or as needed	
Roof Escape Hatch	Check operation, then close and latch. Inspect seals	
Electric Oasis Compressor	Service every 50hrs of compressor run time	
Wheelchair Lift/Ramp	Check operation	
Paratransit Door and Parking Brake Interlock	Check operation by trying to move the bus with the door "OPEN"	
Entry Door Emergency Release	Pull on "RED" handle - Check operation	
Entry Door Controls	Open/Close doors - Inspect action of the door	
Stepwell Entry Steps	Clean & Inspect for loose treads	
Entry Door Seals	Inspect for damage	
Rear Emergency Exit Door	Check operation - Be sure instructions are clearly visible	
Entry Door Flap (Leaf) Adjustment	Entry Door Flap (Leaf) Adjustment	
Passenger Seats	Clean, Inspect for damage and loose fasteners	
Passenger Area	Check for damage or misplaced items and personal effects left behind by passengers	
Rubber Floor Covering	Clean using warm soapy water solution - Avoid excessive use of water. Check for damage to floor rubber (rips - tears - stains - etc.)	

08 MAINTENANCE CHECKLISTS

DAILY CHECKLIST

ITEM	INSPECTION	✓
Reflectors	Inspect for damage - Clean as needed to assure visibility	
Body Exterior	Clean	
Exterior Finish	Inspect for scratches, dents or cracks - Retouch / repair as needed	
Rub Rails	Inspect for damage	
Skirt Panels	Inspect for damage	
Backup Alarm	Inspect for sound when backing up	
Clearance, Side Marker, and Identification Lights	Check operation and clean lenses if necessary	
Closures / Access Doors	Inspect for secure latching	
Curb Lights	Check operation and clean lenses if necessary	
Directional Lights	Check operation and clean lenses if necessary	
Hazard Warning Lights	Place hazard switch to "ON" and check operation of front, side and rear lights	
Headlights	Check "HIGH" and (LOW) beam operation - Check headlight aim and adjust if necessary	
Horn	Check operation	
Interior Lights	Check operation	
Stepwell Lights	Check operation - Clean lenses	
Emergency Exit Lights	Open Emergency Exit Door or window with ignition "ON" - Warning light and/or buzzer should light up and sound	
Reading Lights	Check operation and repair as needed	
Exterior Lights	Check Operation - Inspect mounting and clean lenses as needed	
Tires	Check "COLD" for proper air pressure - Look for bulges, knots, cuts, punctures, abrasions, or separations	
Tire Valve Stems	Inspect for damaged valve stems - Replace missing valve stem caps	
Wheels	Inspect rims and wheels for damage	
Heater	Check the heater hose cover to ensure it is secure	
Air Conditioning Hoses	Check the air conditioning hoses and clamps to ensure they are tight and secure	
Interior Fasteners	Check the interior fixtures for tightness (stanchions, rails, etc.)	
Rear Door and Paratransit Door	Check the gas shocks on the rear and paratransit doors for proper operation	
Air Suspension	Check for proper indicator operation - Kneeling - Look for damage to air springs	
Driver's Compartment	Clean and inspect	
Driver's Seat	Check operation of adjusting mechanism	
Driver's Seat Belt	Inspect for damage	
Driver's Window (chassis)	Check operation	

08 MAINTENANCE CHECKLISTS

DAILY MAINTENANCE CHECKLIST

ITEM	INSPECTION	AREA OF BUS	✓
Driver's Door	Check alignment, latch and seals	Driver's Area	
Windshield - Driver's Door	Clean & inspect for damage	Driver's Area	
Fire Extinguisher	Check mounting and charge pressure	Driver's Area	
First Aid Kit	Check contents - Replenish as needed	Driver's Area	
Flare and Reflective Hazard Sign Kit	Check contents	Driver's Area	
Floor Covering	Inspect for damage, wear, tears and fasteners - Clean with vacuum or damp mop	Driver's Area	
Mirrors (Interior)	Inspect for damage - Adjust for good view	Driver's Area	
Mirrors (Exterior)	Inspect for loose or damaged support arms and brackets - Adjust for good view	Driver's Area	
Front Destination Sign and Additional Destination Signs	Inspect for damage and leaks - Check light	Driver's Area	
Sun Visor	Check to see that visor stays in place - Tighten as needed	Driver's Area	
Windshield Wipers and Washers	Check blades for streaking - Fill washer fluid reservoir as needed	Driver's Area	
Defroster and Front Heater Blowers	Check operation by turning on the fan and defroster with the engine running	Driver's Area	
Dashboard Warning Lights	Warm up the engine - No red light should show - No buzzer should sound	Driver's Area	
Front Heater	Check operation with engine running	Driver's Area	
Fast Idle Switch	Check engine RPMs - Adjust daily or as needed	Driver's Area	
Roof Escape Hatch	Check operation, then close and latch the hatch - Check seals		
Wheelchair Lift	Check operation - Inspect & adjust		
Wheelchair Door / Brake Interlock	Check by trying to move the bus with the wheelchair lift door open		
Door Switch (Air or Electric Doors)	Check operation	Doors	
Doors and Controls	Open then close doors - Observe the action of the door	Doors	
Passenger Door / Brake Interlock	Check by trying to move the coach with the passenger door open	Doors	
Passenger Entry Steps	Clean and inspect for loose treads	Doors	
Manual Opener Linkage	Observe, lubricate and adjust as needed	Doors	
Door Seals	Inspect for damage	Doors	
Rear Emergency Exit Door	Check operation - Be sure instructions are clearly visible	Doors	
Door Flop (Panel) Alignment	Check and adjust daily or as needed	Doors	
Passenger Seats	Clean - Inspect for damage and loose fasteners	Seating	

08 MAINTENANCE CHECKLISTS

DAILY MAINTENANCE CHECKLIST

ITEM	INSPECTION	AREA OF BUS	✓
Passenger Area	Check for damage, misplaced items, and personal effects left behind by passengers	Floors and Interiors	
Carpeting	Vacuum Clean any spills Check for damage to carpeting (rips, tears, stains, etc.)	Floors and Interiors	
Rubber Floor Covering	Clean using a warm soap & water solution. Avoid excessive use of water - Check for damage to floor (rips, tears, stains, etc.)	Floors and Interiors	
Closures / Access Doors	Check for secure latching	Exterior	
Reflectors	Inspect for damage - Clean as needed to assure the reflectors' visibility	Exterior	
Passenger Seat Belts	Check for damage	Seating	
Exterior Finish & Panels	Inspect for scratches, dents and cracks - Retouch and repair as needed	Exterior	
Rub Rails	Inspect for damage	Exterior	
Skirt Panels	Inspect for damage	Exterior	
Back-up Alarm Horn	Check by listening for the horn while backing the bus	Exterior	
Clearance, Marker and Identification Lights	Check operation - Clean lenses	Exterior	
Curb Lights	Check operation - Clean lenses	Exterior	
Directional Lights	Check operation - Clean lenses	Exterior	
Hazard Warning Lights	Place hazard switch in on position and check operation of front, side, and rear lights	Exterior	
Electric and Lighting	Check High/Low beam operation	Exterior	
Horn	Check operation	Exterior	
Interior Lights	Check operation	Interiors	
Step Well Lights	Check operation - Clean lenses	Interiors	
Emergency Exit Lights	Check operation	Interiors	
Emergency Exit Warning Lights	Open emergency door or window with ignition on - Warning should be activated	Interiors	
Reading Lights	Check and repair as needed	Interiors	
Exterior Lights	Check operation, mounting and lenses	Interiors	
Tires	Check cold for proper air pressure - Look for bulges, knots, cuts, punctures, abrasions and separations	Exterior	
Body Exterior	Clean body and windows daily or as needed to maintain the appearance of the bus	Exterior	
Tires	Inspect for damaged valve stems - Replace missing valve caps	Chassis, Suspension, Wheels, and Tires	
Wheels	Inspect rims and wheels for damage	Chassis, Suspension, Wheels, and Tires	
Air Conditioning Control System (Check Daily During Seasonal Usage)	Check the operation by placing the A/C system switch in the 'ON' position and A/C control to 'COOL', then observe operation	Major Options	

08 MAINTENANCE CHECKLISTS

DAILY MAINTENANCE CHECKLIST

ITEM	INSPECTION	AREA OF BUS	✓
Compartment Access Doors	Check operation and adjustment	Major Options	
Heater, Passenger Compartment (Check Daily During Seasonal Usage)	Check operation using in-dash temperature control and console fan control	Major Options	
Luggage Rack	Check for rigidity - Loose mounting	Major Options	
Luggage Compartment	Clean and inspect for damage and proper latching - Check lights, locks, and warning signals, if so equipped	Major Options	
Public Address System	Turn on, check operation, adjust volume - Check that microphone bracket is secure	Major Options - Driver's Area	
Audio-Visual Center	Clean - Check wiring connections/fasteners Check daily or as needed	Major Options - Driver's Area	
Destination Sign	Clean - Check lighting and sign display - Check daily or as needed to insure proper operation	Major Options - Driver's Area	
Fare Box	Clean - Check lighting. Keep box locked when in service	Major Options - Driver's Area	

WEEKLY MAINTENANCE CHECKLIST

ITEM	INSPECTION	AREA OF BUS	✓
Compressor Tank (Air Door Only)	Bleed to remove water	Doors	
Side Windows	Clean & inspect for damage	Windows	
Ventilating (Slider) Windows	Check latches and operation - Lubricate slides with silicone, if needed	Windows	
Emergency Exit Windows	Check latches and seals - Emergency exits windows must open freely - Lubricate if Needed Ensure decals are in place	Windows	
Roof Skylight	Clean - Check seals for leaks	Windows	
Handrails, Stanchions, Modesty Panels	Inspect for damage and loose mounting bolts	Floors and Interiors	
Interior Trim	Inspect for damage and missing screws	Floors and Interiors	
Wall Paneling	Clean - Check for loose fasteners	Floors and Interiors	
Under-body	Flush with water to wash away road debris	Exterior	
Passenger Restraint Systems	Check to assure restraints are functioning as designed	Interior	

08 MAINTENANCE CHECKLISTS

MONTHLY MAINTENANCE CHECKLIST

ITEM	INSPECTION	AREA OF BUS	✓
Battery Mounting	Check that hold-down clamps are tight and in good condition	Electric and Lighting	
Auxiliary 8-D Battery	Check tray and clamps	Electric and Lighting	
Air Circulation System	Clean air intake and exhaust grilles at the rear of the bus	Major Options	
Louvers - Inside Air	Clean	Major Options	
Undercoating	Review and inspect undercoating	Exterior	

SEMI-ANNUAL MAINTENANCE CHECKLIST

ITEM	INSPECTION	AREA OF BUS	✓
All Door Seals	Apply a light coat of silicone to keep rubber supple	Doors	
All Window Seals	Check for water intrusion, cracks, and sealing	Windows	
Door Motor and Base Plate	Check mounting bolts and adjust screw jamb nuts for tightness	Doors	
Door Opening and Closing Speed (Air Doors Only)	Check for proper speed - Adjust as necessary	Doors	

ANNUAL MAINTENANCE CHECKLIST

ITEM	INSPECTION	AREA OF BUS	✓
Wheelchair Lift	Have dealer inspect and service - Change pump oil	Doors	

08 MAINTENANCE CHECKLISTS

CYCLICAL MAINTENANCE CHECKLIST

ITEM	INSPECTION		AREA OF BUS	✓
Passenger Entry Door	Inspect for damage, lubricate lower pins	Every 2,000 cycles	Doors	
Passenger Entry Door	Check for damage and loose bolts Lubricate upper pins	Every 6,000 cycles	Doors	
Skirt-Mounted Condenser	Inspect, clean coil and fins with jet of water - Straighten bent fins when necessary	Every 100 operating hours	Major Options	
Air Conditioning Compressor	Check compressor drive belt condition and tension	Every 100 operating hours	Major Options	
Air Conditioning Compressor	Check compressor cylinder under load - Adjust if needed	Every 100 operating hours	Major Options	
Air Conditioning Compressor Clutch Assembly	Check for signs of overheating or slippage	Every 100 operating hours	Major Options	
Air Conditioning System, General	Inspect hoses, hose clamps, fan, fan-guard Check belts and fittings for tightness	Every 300 operating Hours	Major Options	
Air Conditioning Refrigerant Level	Check refrigerant level at receiving tank sight glass - Check for refrigerant oil leaks - Check charge	Every 600 operating Hours	Major Options	
Condenser Fan Drive Motors	Inspect fan blades for damage and proper clearance to shroud - Inspect brushes for wear	Every 600 operating Hours	Major Options	
Evaporator	Check air temperatures in and out Temperature drop should be 15° to 20° F	15° to 20° F	Major Options	
Evaporator Fins	Clean coil and straighten bent fins	Every 600 operating Hours	Major Options	
Refrigerant Valves	Inspect valve cap seals for damage and valve caps for proper tightness	Every 600 operating Hours	Major Options	
Evaporator Blower Motors	Check fan wheel alignment and mounting bolts for tightness - Inspect brushes for wear	Every 600 operating Hours	Major Options	
Refrigerant System	Check hoses and tubing for leaks	Every 600 operating Hours	Major Options	
Air Conditioning Compressor	Check compressor and platform mounting bolts for tightness	Every 600 operating Hours	Major Options	
Air Conditioning Compressor Clutch Assembly	Check wiring harness	Every 600 operating Hours	Major Options	
Refrigerant Pressure	Check with manifold gauge	Every 1,000 operating hours	Major Options	
Dual Wheel Lug Nuts	Check torque - Tighten as needed	At 100 miles, 500 miles, and every 6,000 miles thereafter	Chassis, Suspension, Wheels, and Tires	
Wheel Lug Nuts	Check torque - Tighten as needed	At 500 miles and every 6,000 miles thereafter	Chassis, Suspension, Wheels, and Tires	

08 MAINTENANCE CHECKLISTS

CYCLICAL MAINTENANCE CHECKLIST

ITEM	INSPECTION		AREA OF BUS	✓
Air-Ride Suspension Assembly	Check torque on nuts, bolts and fittings - Tighten or replace	At 1,000 miles, 3,000 miles, and every 12,000 miles thereafter	Chassis, Suspension, Wheels, and Tires	
Brake Retarder	Check and do mechanical maintenance	See Brake Retarder Manual	Chassis, Suspension, Wheels, and Tires	
Brake Retarder	Wash with pressurized water (no detergent)	Every 3,000 to 6,000 miles	Chassis, Suspension, Wheels, and Tires	
Brake Retarder	Lubricate (see Brake Retarder Manual)	At 3,000 miles and every 6,000 miles thereafter	Chassis, Suspension, Wheels, and Tires	
Driver's Seat	Check seat mounting bolt tightness	Every 6,000 miles	Seating	
Battery, Low Maintenance Type	Check - Add electrolytes as needed	Every 6,000 miles	Electric and Lighting	
Passenger Seats	Check seat mounting bolts tightness and brackets	Every 12,000 miles	Seating	
Under-body	Check welds at frame and outriggers, bulkheads, and body frame	Every 12,000 miles	Exterior	
Battery	Clean and inspect for damage	Every 12,000 miles	Electric and Lighting	
Tires	Rotate tires	Every 12,000 miles	Chassis, Suspension, Wheels, and Tires	
Wheel Mounting Studs	Check for damaged threads	At least every 12,000 miles or more often	Chassis, Suspension, Wheels, and Tires	
Air-Ride Springs and Shock Absorbers	Check for damage or wear, replace if necessary - Correct any condition causing abrasion of air bags	Every 12,000 miles	Chassis, Suspension, Wheels, and Tires	
Battery Cables	Check for frayed or damaged cables	Every 24,000 miles	Electric and Lighting	
Battery Cables	Inspect for loose or corroded terminal connections and clamps	Every 24,000 miles	Electric and Lighting	
Headlights	Check headlights, aim and adjust	Every 24,000 miles	Electric and Lighting	
Wiring	Check - See that cables are away from sharp edges and moving parts	Every 24,000 miles	Electric and Lighting	
Heater Core	Clean and straighten bent fins	Every 24,000 miles	Major Options	
Heater Lines	Inspect for leaks and wear	Every 24,000 miles	Major Options	
Brake Retarder	Check by authorized service department to insure proper operation	Every 30,000 miles	Chassis, Suspension, Wheels, and Tires	
Exterior Sealant	Inspect exterior seals for signs of cracks, shrinkage, or damage	Every 3 Months	Exterior	



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