

FOR USE WITH ALL BERKSHIRE COACH VEHICLES



MAINTENANCE MANUAL

This booklet has been designed and written to supply information regarding maintenance requirements for all makes and models built by Berkshire Coach.

As the owner of a new Berkshire Coach product, it is important to recognize the importance of performing routine maintenance during the warranty period. Just like oil changes, if proper maintenance is not performed, the warranty coverage can be denied.

Familiarizing yourself with this manual will help you make sure that proper maintenance is performed. Please remember, routine maintenance is not covered by warranty.

With proper and scheduled maintenance on your Berkshire Coach, we believe you will enjoy your luxury bus for many years to come.

FLASH DRIVE

In an effort to provide our dealers and end user customers with the most current and up-to-date information on your bus, Berkshire Coach has provided you with a flash drive. This flash drive contains a large amount of important information regarding your specific vehicle. Please take time to review the material housed on the drive.

You will find this flash drive in the Berkshire Coach document bag within your new luxury bus.

IMPORTANT

CONTACT YOUR SELLING DEALER **PRIOR** TO HAVING ANY WARRANTY WORK PERFORMED ON YOUR BUS.

The information provided in this maintenance manual is neither intended to nor should it be used to replace the chassis and other component manufacturers' service, warranty and care information.



TABLE OF CONTENTS

Table of Contents	3
Safety Dangers and Precautions	4-5
Vehicle Weight and Loading Information and Restrictions	6-7
Emergency Exits	8
Fire Extinguishers	9
Fuel Tank Safety	10-11
Responsibilities and Driving Tips	11-12
Pre-Travel Inspections	12-14
Seat Belts	14-15
Proper Preventative Maintenance and Care	15-25
Customer Bus Information and Helpful Contacts	26



SAFETY DANGERS AND PRECAUTIONS

It is vital that you review and follow all of the safety dangers and precautions listed throughout this manual, on safety labels applied throughout the vehicle, and those listed in the chassis and other component manuals.

Safety Danger Symbols an Labels

Throughout this manual we call attention to specific safety issues and hazards. Observe all safety danger operating parameters listed in this manual, as well as signs or labels that may be mounted throughout the bus.

The following boxes used to tell you about items that could cause you or other people harm and/or result in death if the information or instructions are ignored.

Always pay attention to this information.

DANGER

Whenever you see this DANGER box, exercise caution and follow the instructions provided. Failure to do so could lead to serious injury or death.

WARNING

Whenever you see this exercise caution and follow the instructions provided. Failure to do so could possibly lead to injuries and or death.

CAUTION

Whenever you see this, exercise caution and follow the instructions provided. Failure to do so could lead to injuries.

"NOTICE" Information

The following blue topped box with the word "NOTICE" is used to tell you about items that could cause harm to your bus and or its components if the information or instructions are ignored.

Failure to follow instructions provided in this manual as well as the chassis and component manuals, could result in costly repairs that will not be covered under warranty.

NOTICE

Failure to regard the information and instruction provided in this manual and the ones listed in the chassis and component manuals could result in costly repairs and possibly void portions of your warranty.

Alterations or Nonstandard Components

The safety and/or performance or your vehicle could be adversely affected by the installation of nonstandard components or by making modifications or alterations to the current systems in your vehicle.



Please contact your Selling Dealer, your Chassis Manufacture Dealer or Berkshire Coach before making any alterations or modifications or adding nonstandard parts and components to the vehicle or the chassis.

Failure to do this could put your passengers in danger as well as void portions or your warranty.

WARNING

Alterations, modifications, and/or installation of nonstandard items can adversely affect the safety features and systems of your vehicle. Before making modification, alterations, or before installing nonstandard parts and components, contact the chassis manufacturer, your selling dealer or Berkshire Coach to ensure you are staying within the proper vehicle safety standards.

NOTICE

Unauthorized alterations and or installing nonstandard parts and components can alter and/or void portions of your warranty.

Reporting Safety Defects

If you believe your vehicle has a safety defect that could cause a crash or could lead to serious injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Berkshire Coach.

If NHTSA receives similar complaints, it may open an investigation and if they find that a safety defect exists in a group of vehicles, they may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you and your dealer or Berkshire Coach.

National Highway Traffic Safety Administration Contact Information

To contact NHTSA you may either call the Auto Safety Hotline toll free at 1-888-327-4236 (or TTY 1-800-424-9153) or go to www.safecar.gov; or write to Administrator NHTSA, U.S. Department of Transportation, 400 Seventh Street SW, Washington, D.C. 20590.

You can also obtain other information about Motor Vehicle Safety from the website.

Berkshire Coach Contact information

To notify Berkshire Coach in regards to a safety defect, please call us at 1-574-327-2700, ext. 42107, and ask for Customer Service.

If you would prefer to write a letter, the address is:

Berkshire Coach Attn: Customer Service Department 914 CR 1 North Elkhart, IN 46514

If you would prefer to send an email, the email address is:

warranty@berkshirecoach.com



VEHICLE WEIGHT AND LOADING INFORMATION AND RESTRICTIONS

Your Berkshire Coach is designed to carry loads that are specified by the chassis manufacturer which allow for the reasonable weight of passengers as well as their luggage.

It is very important that you know the various weight limits/ratings of your bus. The driving ability and handling for the buys could be greatly altered or affected if your bus is overloaded.

Vehicle Safety Standard Certification Labels

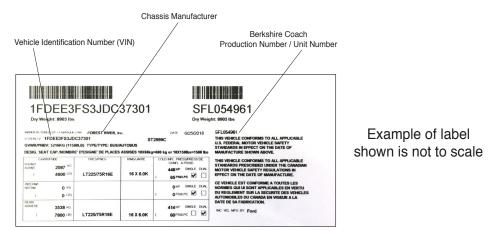
The weight and loading restrictions are specified by the chassis manufacturer. These specifications are posted on the Vehicle Safety Standard Certification labels. Depending on the make and the model of your bus, the labels will be either affixed on the driver's door or on the driver's console.

These loads are defined by the Gross Axle Weight rating (GAWR). The GAWR is the value of the load carrying capacity of a single axle system. It is measured by the tire/ground interface, plus the Gross Vehicle Weight Rating (GVWR), which is the maximum permissible load/weight of the bus.

The labels provides the following information (see location of information on tag below).

- Original Equipment Manufacturer of the Chassis Vehicle Identification Number (OEM VIN)
- Name of the body manufacturer (MFG. BY) Note: Berkshire coach is a division of Forest River, Inc.
- Berkshire Coach Production Number
- · Date the Berkshire Coach body was manufactured (DATE OF MFG.)
- Certification Statement
- Vehicle type
- Tire Information
- · Weight and Loading restrictions:

Gross Vehicle Weight Rating (GVWR) This is the gross rated weight capacity of your vehicle. Gross Axle Weight Rating (GAWR Front) This is the rated weight capacity of the front axle. Gross Axle Weight Rating (GAWR Rear) This is the rated weight capacity of the rear axle.



Loading Procedures

The distribution of weight in your bus is very important. Having too much weight on one side or the other or having too much weight in the rear compared to the front axle can adversely affect the handling of your vehicle and in some cases result in overloading the tires or axle components. "Always use care to assure that you maintain as much of an equal balance as possible when loading your vehicle.

Please note that a loaded bus can handle differently than an unloaded vehicle. When you are driving a heavily loaded vehicle take extra precautions, such as reducing speeds and/or increasing your stopping distance.



Avoid stacking heavier items in the overhead above a passenger seat. Whenever possible secure loose items; as passenger luggage, your tools, equipment or anything else that you may put into the vehicle as they can become airborne in case of a sudden stop, turn, or in a crash.

Weighing Procedures

Any loaded bus can have the potential of being overloaded and it may be necessary to remove some of the extra luggage or redistribute items to make the load even. The weight of the empty vehicle will vary based on the equipment and options installed on your bus.

An overloaded vehicle can alter the handling ability or cause the tires to overheat or air-out resulting in an accident. Overloading can also cause parts to break and/or shorten the life of the vehicle.

It is your responsibility to weigh the bus from time to time to make sure you are staying within the weight limitations specific to your bus. It is important to weight your bus at a location that can provide axle-end specific weights. You should not expect to measure equal loads at both ends of the same axle. You floor plan and the component locations can vary the distribution of the weight.

It is very important that you read the chassis owner's manual. It will provide additional information on the complete procedures for weighing and loading your vehicle.

A DANGER

Exceeding the Vehicle Safety Standard Certifications Label weight rating limits (GVWR, GAWR) could result in substandard vehicle handling which could cause a loss of control and could lead to serious injury or death.

DANGER

Overloading the bus can cause your tires to over heat resulting in too much friction and you could have a blow-out which could lead to serious injury or death.

A DANGER

Do not modify your vehicle by adding additional equipment or racks to carry additional cargo. This could cause you to exceed your weight limit and/or place the vehicle out of balance, altering the handling of the vehicle and causing a loss of control, which could result in serious injury or death.

NOTICE

Failure to regard the information and instruction provided in this manual and the ones listed in the chassis and component manuals could result in costly repairs and possibly void portions of your warranty.



EMERGENCY EXITS

BE PREPARED FOR EMERGENCIES

Potential emergencies are always an issue when you are dealing with passengers, traffic, weather, and road conditions. We want to help you as a driver achieve the highest level of safety not only for your passengers, but also for the people around and near the vehicle. It is very important to review this manual, the chassis manual, and all of the component manuals supplied to ensure you understand all of the safety equipment.

Emergency Preparation

Emergencies can happen anytime, anywhere, and when they strike, you may not have much time to react. Emergency planning may not prevent emergencies, **but it can help protect lives.** By knowing where the safety equipment is located and understanding the operations of the equipment supplied, you will be helping to ensure a safe trip.

Emergency Exit Route

It is the driver's responsibility to make sure everyone is familiar with and understands the emergency exit routes of the bus. It is also their responsibility to make sure the exits are clearly marked, the components are functional and the passageways are not obstructed in any way.

The number of emergency exits depend on the type, model, and size of your bus, along with the options selected. All models have the following emergency exits; at least one egress window on each side of the bus and one of the following: a rear egress window, rear emergency door or a roof hatch. You unit may have additional egress windows or a combination of windows, doors and/or a roof hatch. Please check through your bus to locate all of the emergency exits available to you and your passengers.

Emergency Exits

Emergency exits must be clearly identified by the words "EMERGENCY EXIT" with the operating instructions written on or close to each exit feature.

Note: If the decals and/or signs have been removed, please contact Berkshire Coach Customer Service to obtain new decals.

Before Each Trip Inspect Emergency Exits

Emergency exits can be a door, an egress window, and/or a hatch. Please review the "Exterior Components and Maintenance" section for information on the use and care of the emergency exit doors, windows and hatches.

- Check to see that all emergency exits are clearly marked with p[roper "Emergency Exit" sign or label and that all instructions are intact for each component.
- Check all emergency exits to ensure they are in proper working order.
- Check all passageways to ensure they are not obstructed.
- Inspect all hardware such as latches, handles and brackets to ensure they are not loose, broken or damaged.
- Check all windows and door to ensure they do not have loose, cracked or damaged glass.

WARNING

Unless all "Emergency Exits" are clearly marked, working properly, and the instructions are in tact, do not carry passengers. The inability to find, access, and/or operate the emergency exits will put your passenger in great danger if an accident occurs. The result of injuries can be much worse and/or result in death if an evacuation is necessary and the escape routes are altered or prohibited.



FIRE EXTINGUISHERS

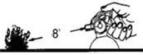
The operation of a fire extinguisher is simple, however it must be properly handled in times of emergency.

Be sure you know where the fire extinguisher is located and how it operates before you start your trip.

It is very important that you read the manufacturer's instructions on the label and their sheets or manuals for operation an maintenance of a fire extinguisher before using the bus as **it is too late when you are in an emergency**.

The fire extinguisher can be located in the cab in front of the wall, next to the entrance door or behind or next to the driver's seat.

Note: Location my differ due to customer requests and/or options.



Be at least 8 ft. away from Fire. Make sure your back is to an unobstructed escape route.

Fire Extinguishers are recommended for SMALL FIRES only.

If any portion of a bus is on fire, safely stop the bus and evacuate immediately.

Passengers should move at least 100 feet or more from the bus and remain there until it is safe.

If you choose to fight a fire it is recommended that you stand at least 8 feet back from the fire, making sure your back is to tan unobstructed escape route. Always follow the manufacturer's instructions on the fire extinguisher.

MARNING

Failure to properly evacuate the bus or follow the manufacturer's instructions and/or information for the fire extinguisher could result in serious injury or death.

Fire Prevention Suggestions

- DO NOT overload electrical wiring.
- DO NOT replace a fuse with one of a higher amp rating.
- DO NOT store flammable liquids inside the vehicle.
- DO NOT park over papers, leaves, dry grass or other things that can be ignited if touched by hot exhaust parts under your vehicle.

Reflector Kits

Triangles can save lives if there is ever a roadside emergency. Using the triangles allows driver to better see you on the side of the road well ahead of time, allowing them to slow down and possibly change lanes.

If your unit was not provided with triangles, we strongly suggest you purchase a set for your unit.

The Berkshire optioned reflectors will unfold and lock into the shape of a triangle. The placement of the reflectors will depend on the traffic location and the weather conditions.

- It is suggested that you place one reflector 10 feet from the driver side rear of the bus closest to the white line by your vehicle.
- Place the second one 100 feet back placing both closest to the white line by your vehicle.
- Please the third reflector 200 feet in front of the driver side near the white line to show oncoming traffic that vehicles coming toward them my need to move left to pass.



FUEL TANK SAFETY

Always use the recommended fuel listed in your chassis manual. Any type of fuel can be dangerous if misused. **Mixing** gasoline with diesel fuel can cause an explosion. The wrong type of fuel will also cause damage to the engines emission system.

When dealing with fuel it is important that you take steps to protect you, your passengers and the people around the vehicle.

Improper handling of fuel can result in a fire or an explosion. While high levels of concentrated gasoline vapors are potentially dangerous even the lower gasoline vapors can be harmful to human health.

To ensure safe handling before and while fueling your bus, please follow the suggestions below:

- Turn off your engine before fueling.
- Never leave your vehicle unattended while the pump is running.
- Do not smoke or light matches or lighters.
- Try not to breathe the fumes by standing upwind of the nozzle while refueling.
- Do not top off your tank. Even little drips that fall onto the pavement can contaminate soil, groundwater or surface water.

It is very important that you review your Chassis Owners Manual in regards to fuel and fueling information. Pay special attention to the safety information and procedures.

M WARNING

Improper handling of fuel could result in serious injury or death caused by fire, explosion or asphyxiation. Refer to your chassis manuals for fuel information regarding the proper fuel to use in your vehicle as well as all of the proper procedures and safety information.

NOTICE

Using the wrong fuel in your vehicle can cause damage to the engines emission system. This damage could result in a costly repair that would not be covered under warranty.

Other Safety Tips

Again, we ask that you review this manual, the chassis owner's manual, components and all other information supplied concerning the chassis operations and features. Pay special attention to the safety dangers and cautions.

Below are a few other tips in regards to safety.

- Do not overload the electrical system or alter any wiring without expressed written permission of the manufacturer.
- · Never disconnect safety devices installed on your bus.
- Always use proper procedures when restraining wheelchairs. Review the manuals provided to understand the proper installation and restraint system for your vehicle.
- If you have passengers who require special loading and unloading procedures, be sure you know the proper way to move, secure and respond to the special needs of your passengers.



- Steps, running boards or ramps may become slippery during wet, snowy or icy conditions. Be sure to keep the steps clear of debris and/or ice. Make customers aware of the potential hazards such as slippery steps or ramp when entering and exiting the bus.
- Never place or carry portable fuel burning equipment, including wood and charcoal grills/stoves inside the bus. This type of equipment may cause asphyxiation or create a fire hazard.
- Review the maintenance schedule required for all safety items to ensure they have been properly maintained.

RESPONSIBILITIES AND DRIVING TIPS

Be Responsible for Safe Transportation

Our goal is to help you as a driver and owner achieve the highest practical level of safety not only for your passengers, but also for the people around and near the vehicle.

It is the owner's/driver's responsibility to use the bus for its intended design purpose. It is also the owner's/driver's responsibility to observe and comply with the proper operating practices and safety regulations that are int he supplied manuals as well as comply with local, state and federal laws.

It is the driver's responsibility to understand the operation of the complete bus. Failure to follow the proper procedures could affect the performance on the bus and/or affect the safety of the passengers. It is important that you familiarize yourself with all Berkshire Coach body features along with the chassis and other components.

Pay special attention to the safety equipment supplied on the bus. Review all labels an instructions so you will know what to do in the case of an accident. Review this manual along with the chassis and components manuals to help ensure you have a clear understanding of your Berkshire Coach.

A bus should not be driven unless the driver has the appropriate license or permit to operate it.

M WARNING

Failure to use the bus for its intended design purposes and/or failure to understand the complete driving operations, instruments, and controls of this bus could lead to an accident resulting in serious injury or death.

NOTICE

Failure to use the bus for its intended design purposes and/or failure to understand the complete driving operations, instruments, and controls of this bus, could lead to an accident causing damage to the vehicle and/or could void areas of your warranties.

Helpful Driving Tip

Plan your trip and prepare as much as you can before you leave.

- Drive with consideration of others on the highway observing speed and safety regulations.
- Observe proper vehicle speeds when ascending or descending hills and always operate in the proper transmission range.
- Allow for the length and width of the vehicle and for the extra room when turning a corner or changing lanes.
- Allow a safe distance in which to stop your vehicle. Never follow another vehicle too close and avoid sudden maneuvers when passing another vehicle.



- Check rear view mirrors and signal lane change before passing. Check the side mirrors often. Learn to use the view of the roadway behind through the side mirrors.
- Allow for the extra height of your vehicle. Check the clearances of any overhead obstructions such as bridges, branches, garage doors, overhangs, low wires, etc.
- When backing into congested areas, have someone outside the bus check to be sure the way is clear before putting the bus in motion.
- Stay alert. Don't drive for long periods of time without stopping. On long trips allow plenty of time to stop for rest.

PRE-TRAVEL INSPECTIONS

Performing a pre-trip inspection cannot only ensure a safer trip. It can hep keep the maintenance costs down. Any item not matter how small, if neglected could result in a chain effect causing other items on your bus to fail. This could affect the overall performance and safety of your bus and could result in costly repairs and/or lengthy down times.

The following information is not intended to be the complete list of all possible services that need to be performed on a regular basis. It is important that you review all of the other manuals and information supplied with your bus.

Our daily inspection suggestions may be considered to be excessive, but the shorter time intervals between inspections and service is preferable. This list is not to be construed as a complete list of all possible items that should checked daily.

This is a small sample. Please review the chassis manual for operation and checks that need to be inspected.

Fluid Levels	Check for proper fluid levels such as engine oil, transmission, power steering, brake fluid as specified per the specific manufacturer's information manuals.							
Cooling System	Check the cooling system. When needed, add the proper coolant as recommended by the OEM manufacturer. Note: If coolant level goes below sensor on some models, it can go into engine protection mode. If coolant is neglected and is not filled to the proper levels it can cause air pockets and bus will lose heat in rear systems.							
Headlights	Check that the high and low beams are operating and are properly adjusted.							
Warning Lights	Check that the front and back clearance, hazard, back-up lights and brake lights are properly operating.							
Turn Signals	Check that the front and back signals are operating properly.							
Mirrors	Inspect to ensure they are secure, unobstructed and properly adjusted for the driver.							
Mirrors	Inspect to ensure they are secure, unobstructed, and properly adjusted for the driver.							
Egress Windows	Check to ensure the windows are closed tightly and properly latched and damage free.							
Windows/Windshield	Check the windows to ensure they are clean and damage free.							
Windshield Wipers	Check to ensure they are working.							
Flooring and Steps	Visually inspect that the floor is smooth and intact and nothing in the aisle or step areas.							
Entry Doors	Check that the side passenger entry door, lift doors and rear door all open and close easily and the latches/catches are working properly.							
Emergency Exits	Check operations for doors, labels and instructions are present and alarms and/or the warning devices are working properly. Make sure the paths to the exits are free and clear.							
Body Components	Check for damages that could inhibit driving the unit for example; if the skirts are damaged check to be sure they are not rubbing or restricting the tires in any way.							



Batteries	Inspect the batteries are fully charged and the cables are secure and properly connected and they are not damaged.
Battery Box/Tray	Check that the tray is pushed in securely and the battery box door is latched.
Luggage Bay Doors	Check that the hardware handles and attachments are in proper working order and doors are closed tightly and locked.
Tires	All tires should be visibly inspected for inflation and tread wear, refer to the tire manufacturers information for proper inflation levels and tread/wear information.
Wheels	Check all lug nuts for proper tightness or excessive wear.
Exhaust	Visually inspect the exhaust to ensure it is not hanging down or damaged.
Fuel Cap	Check to ensure the cap is secured in place.
Interior Inspections	
Driver Seat	Check complete operations of the seat.
Driver Seat Belt	Check operation of the driver's seat belt.
Mirrors	Mirrors are unobstructed and properly adjusted for the driver.
Brakes	Brakes should be checked by putting the vehicle in gear without acceleration and applying the brakes. Check the foot pedal and parking brake operation.
Transmission Selector	Vehicle should be capable of being shifted into any gear.
Steering Wheel	There should both have a full range of motion and effectively turn the front wheels.
Wiper System	Check the operation of the wipers and washers. Make sure the wiper blades are performing properly.
Windshield Wipers	Wipers work at all settings and wiper fluid pump is working.
Horn	Horn is operating properly.
Air and Heat Systems	Check the operations of the heating or air conditioning, defrosters and fans.
Gauges and Indicators	All gauges and indicators should be visually inspected to make sure that they are operational.
PA System	Check the operation if option available.
Radio Two-Way	If the vehicle is equipped with a two-way radio, a radio check should be conducted with your dispatch department.
Step and Flooring	The floor is smooth and intact and nothing in the aisle or step areas.
Luggage	Interior luggage is secure and not overloaded over anyone's seat.
Manual Door Operation	Check that manual door tri-pod handles are moving freely and the door is secure when shut.
Electric Door Operations	Work properly when pushing the button on the dash including full range when opening and closing securely.
Emergency Exits	Check operations for doors, labels and instructions are present and alarms and warning devices are working properly. Make sure the paths to the exits are free and clear.
Emergency Equipment	Check all emergency equipment as previously explained under the "Be Prepared for Emergencies" section in this manual.
Flooring	All flooring is intact and free from debris and the pathway is clear.
Steps	Steps and material are intact, free from debris, now and ice.



Specialized Components

Lift/Ramp Operation	All wheelchair lifts be checked for proper operations. Check that the proper securements are available and is not damaged.
	Note: To keep the unit in proper working order, the lift should be cycled daily.
Kneeling Systems	Check the complete operation of the system.

SEAT BELTS

Buckle Up

Seat belts are designed to secure a person in the vehicle helping to reduce the change of injury or the amount of injury resulting from accidents or sudden stops. You never know if you will be involved in an accident or crash so please make sure that you and all your passengers use the three-point and/or lap seat belts while your vehicle is in motion.

NHTSA Seat Belt Use Information

The following seat belt use information was derived by the website using the following link: National Highway Traffic Seat Belt Use: www.nhtsa.gov/staticfiles/nti/teen-drivers/pdf/seatbeltuse.pdf

Using Seat Belts (As Per NHTSA Web Site)

Before you drive away, always fasten your seat belt and make sure all your passengers are using seat belts or child restraints. Also, remember to lock the vehicle's doors and turn on the childproof locks if children are in the vehicle.

Studies have shown that if you are in a crash while using seat belts, your changes of being hurt or killed are greatly reduced. Seat belts will move with you and lock up if a crash occurs. They keep you from being thrown from the vehicle and against parts inside of your vehicle. In addition to protecting you from injury as a driver, seat belts help you keep control of the vehicle. If you are struck from the side or make a quick turn, the force could push you sideways and therefore you cannot steer the vehicle if you are not behind the wheel. In many states it is illegal to drive or to be a front-seat passenger without wearing seat belts. Seat belts may be required under graduated driver licensing for drivers or all occupants of the vehicle.

Wear a seat belt all the time, not just on long trips or high-speed highways. More than half of the crashes that cause injury or death happen at speeds less than 40 mph and within 25 miles from home.

It is important to wear the seat belt correctly.

• A shoulder harness is worn across the should and chest with minimal, if any slack. The shoulder harness should not be worn under the arm or behind the back. Wearing the harness the wrong way could cause serious internal injuries in a crash.



• The lap belt should be adjusted so that it is snug and lies low across your hips after fastening. If you have an automatic shoulder belt, be sure to buckle your lap belt as w could slide out of the belt and be hurt or killed.

Correct Incorrect Source: ADTSEA

- You should be seated upright with your back against the seat and feet on the floor. Improper seating positions, such as slouching or resting one's feet on the dashboard can result in reduced effectiveness of the vehicle's restraint system and possibly result in injury.
- Seat belts should be worn even if her vehicle is equipped with air bags. While air bags are good protection against hitting the steering wheel, dashboard or windshield, they do not protect you if you are hit from the side or rear or if the vehicle rolls over. In addition, an air bag will not keep you behind the wheel in these situations.
- The law requires that all children under the age of 12 must be secured in the rear seat and wear appropriate seat restraints while the vehicles is in motion.



Maintenance

- Daily inspect the complete safety belt system such as the buckles, latch plates, retractors and the anchorage portions to ensure the are not compromised, loose, damaged and/or missing any parts.
- Inspect the belts to ensure they are not torn or frayed and replace if found in these conditions.
- Repair and/or replace any damaged or compromised part such as the ones listed below (other items may apply).

PROPER PREVENTATIVE MAINTENANCE AND CARE

We all know that preventative maintenance can add years to the life of your vehicle, but more importantly, it can save lives. The safety and performance or your vehicle can be greatly affected if the vehicle and its components are not properly maintained.

Negligence and the lack of maintenance of a vehicle or its components can more than likely increase the possibilities for injuries in the event of an accident.

Not only can proper maintenance increase the reliability of the vehicle, it can help prevent huge cost in down time and costly repairs. Neglect of any minor repairs can lead to thousands of dollars of work as time goes by. Throughout this manual we have included some preventative maintenance and inspection information, but again it is important that you review all of the other manual supplied with your bus.

Important Note: The preventative maintenance and service information in this manual is not construed as a complete list of all possible items that should be performed or the intervals that they should be performed in. Review your chassis and other component manuals.

Service and Maintenance Programs

We suggest that you contact your local OEM (Chassis Manufacturer) dealer to discuss the type of service and maintenance program specific to your unit.

Discuss the type of service you provide to your customers. For example, is your unit going to run at a continual slow speed with several stops or is it a unit that is used mainly on the highways with just a few stoops? Is your service a daily service or a 24 hour service? What is the average miles or the basic engine hours? This type of information can help them develop best schedule that fits the needs of your chassis, engine, transmission, tires, etc.

The operation of the service and maintenance needed can vary from the recommended schedules and timetables due to a range of factors including traffic, weather and passenger loading and operating/driver behavior.

An example of this would be the fact that the colder weather climate, road salt and other road chemicals and sand are particularly hard on th exterior and underbody of a unit.

Failure to perform the proper scheduled maintenance may result in excluding portions of your vehicle from warranty coverage and may reduce the performance, safety, reliability and/or the resale value of your vehicle.

M WARNING

The safety or performance of your vehicle can be greatly affected if the vehicle and its components are not properly maintained. Failure to provide proper maintenance could alter the performance of a part or component and/or cause it to fail. The consequences of a faulty of failed part or component could result in injury or death.



NOTICE

Failure to provide proper maintenance for your vehicle could alter the performance and/or could cause something to fail. Once failed part could result in a chain effect causing other items on your bus to fail, resulting in expensive repairs. Lack of maintenance and care could also result in voiding certain portions of your warranty.

CHASSIS AND FRAME

Your Berkshire Coach vehicle is designed to be as maintenance free as possible. However, all vehicles require some care to reduce the possibility of unwanted breakdowns during travel. Maintenance to your luxury bus may not seem necessary at the time of purchase, yet it is very important to keep you bus in it best condition for your enjoyment and use. Normal maintenance is required to maintain warranty coverage, reduce wear, and prolong the life of your new luxury bus.

Engine

Start the engine every 15 days.

Run it at fast idle until it reaches normal operating temperature.

Shift the transmission into all gears while engine is running.

Fuel System

Regularly move vehicles short distances to mix fuel anti-oxidation agents.

For vehicles being stored for prolonged periods, a commercial gasoline or diesel fuel stabilizer should be used.

*For more information, please refer to your Ford, GM, or International Owner's and Maintenance Manuals that came with your bus.

Tires and Wheels

Tires installed on your bus are matched to the weight of your vehicle according to the rating of the tires. The most important item in tires is to inspect and check air pressure no less than once per week, perhaps daily during travel. Correct PSI air pressure is listed on each tire as per rating(shown on data sticker on the driver side door jamb). When air pressure is not maintained as specified, tires will run hot, especially in summer months and blow outs can occur. Pressure must always be checked when tires are cold, preferably in the morning. DO" N"OT adjust or lower tire pressure when warm, as it will be to low when cool. All tire pressures rise when tires are moving on roadway. A tire is considered "cold" after 3 hours of not moving. Again, please refer to your Ford, GM or International Owner's and Maintenance Manual for torque specifications, cleaning procedures, etc.

*Alignments are NOT performed by Berkshire Coach. Please confirm with your selling dealer to determine if an alignment has been completed on your Berkshire Coach (alignments are not a warrantable expense with Berkshire Coach).

Axles, Bearings, Brakes and Hubs

Verify that all linkages, cables, levers, and clevis points under the vehicle are covered with grease to prevent rust.

Move trucks at least 25 feet every 15 days to lubricate working parts and prevent corrosion.

*For more information, please refer to your Ford, GM or International Owner's and maintenance manuals that came with your bus.



EXTERIOR

Fiberglass – Gel Coat

Fiberglass skin is painted and prepared by Berkshire with an automotive paint finish. To clean, use a mild detergent and warm water using a soft brush or rag. Use an automotive type wax or polish; same as you may use on your personal vehicle. By waxing you bus once a year, it retains its nice, new appearance.

TPO / ABS

TPO / ABS can come in a wide range of textures and colors. It is a strong plastic compound (ABS) or rubber compound (TPO) commonly used for molded articles within the manufacturing industry and is used for a wide range of production components inside and outside of your Berkshire coach. The most common exterior components are fender flares on your Berkshire Coach commercial shuttle bus. TPO / ABS components are lightweight and strong. However, the surface is not as hard as fiberglass and can scratch easily.

The proper care, cleaning an maintenance of your TPO and ABS components is quite simple because of the basic properties and longevity of the material itself.

Periodic leaning is the primary maintenance. Berkshire Coach suggests using Murphy's Oil Soap with a soft nylon brush or sponge. DO NOT USE solid or granulated cleaners as they will mar the natural finish.

EXTERIOR

Do not use Armor All or other oil solvent base cleaner on your TPO or ABS components as they will leave a slick surface. A good thorough cleaning should keep your TPO and ABS components looking good and remove most stains. For more stubborn stain, you should contact your Berkshire Coach authorized dealer. DO NOT use citrus based cleaners on ABS materials. The ABS will breakdown and become brittle.

Exterior Roof

To clean, use a mild detergent and warm water using a soft brush or rag. Use an automotive type wax or polish; same as you may use on your personal vehicle. By waxing your bus once a year, it retains its nice, new appearance.

Underbody

Most individuals are aware of the effects that prolonged exposure to salt and ice melting chemicals have and the adverse effects o any coated metal surfaces, our chassis are no exception. The effects of these corrosives are magnified with time and therefore should be removed from the chassis as soon as possible after a unit has been on the road.

Extrusions and Vents

All components installed on the exterior of your bus have some type of form of "putty/foam tape" placed between the mounting flange or surface to guard against water entry and leakage.

Additional sealant, referred to as "cap seal" is used to protect along the edges of extrusions or be a secondary surface sealant. All of these sealants are subject to weather elements such as UV rays from the sun, rain, snow, cold, heat, air pollution, frost and other exposures causing dry-out, shrinkage and possible cracking.

Cap seal must be examined each year, preferably each spring and fall, or looseness, cracking and separation from any attached surface. If upon inspection you find the above conditions, repairs must be made. These conditions will permit water to enter slowly and eventually cause water damage.

Corner and roof extrusions have "putty tape" sealant between the components. This material can and will, also dry and/or crack from weather elements, permitting leakage and eventually major deterioration. Berkshire Coach advises where to have these extrusions removed, and have the old putty tape replaced with new sealant material every five



years. Windows, entrance doors, and cargo doors (but not limited to) may also use a closed cell foam seal. The seal may also deteriorate over time, lose its memory, shrink with weather conditions, etc., over a period of five years.

All sealants must be maintained to prevent failure plus leakage damage. For best results, sealant requirements are:

- · Resistant to checking
- · Resistant to shrinking
- · Dries rapidly
- Adheres to metal, TPO and fiberglass
- · Expands and contracts with temperature changes
- Color should match
- For suggested sealants, please contact your Berkshire Coach servicing dealer.

AT LEAST THREE TIMES PER YEAR, INSPECT ALL ROOF SEAMS; FRONT, REAR AND ALL AROUND VENTS AND ATTACHMENTS. Remove any loose sealant and reseal these areas. For a list of recommended sealants, [please contact our authorized Berkshire Coach dealer. FAILURE TO INSPECT AND CORRECT CAN VOID THE WARRANTY COVERAGE, CLASSIFIED AS NEGLIGENCE.

SYSTEMS

Batteries

As a manufacturer, we suggest you have your bus inspected each spring to check for any loose wires and/or loose connections in the load center and have tightened if loose. Also, have the fuses inspected for continuity and operation. Maintaining the state-of-charge while vehicles are in storage or not being used is the bus owner's responsibility.

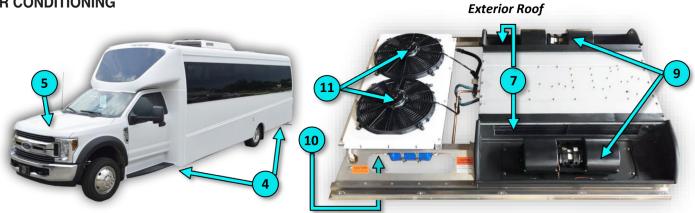
Check the battery state-of-charge every 15 days. If the battery eye is "red", recharge the battery until the eye turns green. Check battery condition for possible storage damage using either a Bear or Midtronics battery test. Batteries without an eye – recharge if the voltage is less than 12.40 volts.

Batteries, whether supplied from manufacturer or dealer, require constant inspection and maintenance. To preserve long life in any battery, three important functions are required: Charge battery every 30–60 days to keep fully charged during non-use, especially during winter months. Certain types require water to be checked and added as necessary. Keep water above cell mass to avoid permanent damage. Store battery in a cool place when not in use, around 40 degrees Fahrenheit.

A fully charged battery will measure at 1.265 specific gravity. A discharged batter will measure at 1.120 specific gravity or 11.7 volts DC. A hydrometer is required to measure "specific gravity." Most batteries with deep cycle rating require water to be added as needed. This depends on the amount of draw time that is on that specific battery. Use distilled water if possible as it is nearly mineral free. Not keep batteries charged will result in shorter life expectancy. Be sure to keep all battery terminals clean at all times to ensure good contact.



AIR CONDITIONING



Use extreme caution around engine compartment and any other moving parts. Have system maintenance and service performed by a Qualified Technician.

		1	2	3	4	5	6	7	8		9	10	11
1	ltem	Compressor Belts	Hoses & Piping	Wiring Harnesses	Evaporator Drain Lines	Refrigerant Charge	Evaporator Filters	Evaporator Coils	or Sight Glass (Moisture Indicator)		Evaporator Blowers	Condenser Coils	Condenser Fans
v	/here	Engine Area	Throughout (Example Ilustrated)	Throughout (Example Ilustrated)	Exterior Under (Front and/or Rear)	Engine Area	Interior Ceiling	Exterior Roof	f Interior Ceiling		Exterior Roof	Exterior Roof	Exterior Roof
v	Vhat	Tension and wear	Residue at connections, Hose wear from rubbing, Loose or missing clamps	Support and protection	Improper Connections and Blockages	Charge Level <u>MUST</u> be done by a <u>QUALIFIED</u> <u>TECHNICIAN</u>	Cleanliness Wash or Replace as needed	Cleanliness Use non- caustic clean	Green Yellow		General Operation	Cleanliness Use non- caustic clean	General Operation
N	Why	Properly tensioned belts ensure compressor performance and belt life	Properly connected and supported hoses prevent the possibility of refrigerant leaks	Properly supported and protected harnesses prevent the possibility of electrical issues	Prevents water from collecting in the evaporator drain pan	A proper charge level ensures maximum system performance	Clean filters maximize air flow and system performance	Clean coils ensure maximum heat transfer and system performance	TO PREVENT SYSTEM DAMAGE!		Proper air flow across the evaporator coil allows for efficient heat transfer	Clean coils ensure maximum heat transfer and system performance	Proper air flow across the condenser coil allows for efficient heat transfer
v	Vhen	Weekly	Monthly	Monthly	Monthly	Yearly	Weekly	Monthly	Monthly		Monthly	Monthly	Monthly

This Illustration shows the typical location of items within a rooftop air conditioning system. The quantity of each of the items to check from the table above may vary depending on rooftop system type. 6 3 **Engine Area** Interior Ceiling



INTERIOR

TPO/ABS

TPO / ABS can come in a wide range of textures and colors. It is a strong plastic compound (ABS) or rubber compound (TPO) used commonly for molded articles within the manufacturing industry and is used for a wide range of production components inside and outside of our Berkshire Coach. The most common interior components are front bulkhead window trims on your Berkshire Coach vehicles.

TPO / ABS components are lightweight and strong, however the surface is not as hard as fiberglass and can scratch easily. The proper care, cleaning and maintenance of your TPO and ABS components is quite simple because of the basic properties and longevity of the material itself.

Periodic cleaning is the primary maintenance. Berkshire Coach suggests using Murphy's Oil Soap with a soft nylon brush or sponge. DO NOT USE solids or granulated cleaners, as they will mar the natural finish. Do not use Armor All or other oil solvent based cleaners on your TPO or ABS components as they will leave a slick surface.

A good thorough cleaning should keep your TPO and ABS components looking good and remove most stains. For most stubborn stains, you should contact your Berkshire Coach authorized dealer. DO NOT USE citrus based cleaners on ABS materials. The ABS will break down and become brittle.

Wall / Ceiling Covering - Vinyl

To clean, use a mild solution of soap and water with a sponge or soft cloth. DO NOT use any abrasive cleaner as scratching of vinyl could occur, causing dull colors and/or scratches. Avoid cleaners with bleach. For stubborn stains, you may need a strong all -purpose spray cleaner which will need to be sprayed on and QUICKLY wiped off.

Wall / Ceiling Covering – Fabric

To clean fabric wall covering of dust, use a soft attachment of a vacuum cleaner. To remove solid spots on fabric, use clear lvor dish washing liquid and water.

Flooring

To care for and clean your floor covering, use a mild soap in water and a damp cloth. DO NOT pour water on floors as it may seep under or in attachment points in the floor of the bus.

Seating – Vinyl

To clean, use a mild solution of soap and water with a sponge or soft cloth. DO NOT use any abrasive cleaner as scratching of vinyl could occur, causing dull colors and/or scratches. Avoid cleaners with bleach. For stubborn stains you may need a strong all purpose spray cleaner which will need to be sprayed on and QUICKLY wiped off.

Seating – Fabric

To clean fabric seat covering of dust, use a soft attachment of a vacuum cleaner. To remove solid spots on fabric, use clear lvory dish washing liquid and water.

*For more stubborn stains you may need to contact your authorized Berkshire Coach dealer.

Windows

On window(s) which have opening sliders, there are "weep or drain" holes at lower sections of frame extrusions, generally at the end of each movable panel. Dirt, debris, insects, etc. can and will accumulate, potentially plugging up these weep holes. Should water accumulate (stand in the threshold of window), your weep holes and / or channels in window have become plugged. Be sure to keep these draining areas open at all times.



WHEELCHAIR LIFT

Regular maintenance of the wheelchair lift will help optimize its performance and reduce the need for repairs. This chapter contains cleaning and lubrication instructions.

Lubrication

Lubrication should be performed at least every six months, or sooner depending on usage. Lubricate lift at torsion springs (both sides with penetrating oil); knuckle links (both sides with penetrating oil), and; the hinge (with penetrating oil). Lubricate the outer barrier (both sides with a dry graphite lubricant).

Cleaning

Regular cleaning with mild soap (i.e. dish soap, car wash liquid) and drying thoroughly will protect the lifts' painted surfaces. Cleaning is especially important in areas where roads are salted in winter. Make sure that life pivot points remain clear and clean prior to lubrication.

Maintenance Schedule

Under normal operating conditions, maintenance inspections are required at least every six months (1750 cycles). Service should be increased under conditions of heavier use (more than 10 cycles per day).

10 Cycles

- Listen for abnormal noises as lift operates (i.e. grinding or binding noises).
- · Verify that control pendant is undamaged and cable connector is tight.
- Verify that system properly detects objects in threshold area and actuates the audible alarm.
- Verify that sensor inhibits downward movement of platform where weight is present on lowered bridgeplate.

150 Cycles

- Inspect electrical wiring for frayed wires, loose connectors, Etc.
- Place vehicle in non-interlock mode and verify that lift does not operate. Verify that lift decals properly affixed, clearly visible, and legible. Replace, if necessary.
- Verify that armrest fasteners are properly tightened.
- · Verify that mounting and support points are undamaged.
- · Verify that mounting bolts are sufficiently tight and free of corrosion.
- Verify that link points on arms are properly installed, free from damage, and locked in position.
- Verify that bridgeplate operates without binding during lift functions.
- Verify that bridgeplate deploys fully when platform stops at floor level.
- Verify that bridgeplate rests flat against baseplate.
- Verify that rollstop is opened completely when platform is at ground level.
- Verify that rollstop closes and locks when platform leaves ground.

1800 Cycles

- Clean lift with mild soap and water and wipe dry. Prevent rust by coating all surfaces with a light weight oil. REMOVE EXCESS OIL.
- Spray penetrating oil where specified in the lubrication section in this chapter. Remove excess from surrounding areas.



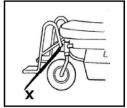
3600 Cycles

- A certified technician must perform the following safety check(s). check hydraulic cylinder for evidence of leaks.
- · Inspect hydraulic hoses for damage.
- · Verify that all fittings are tight.

WHEELCHAIR TIE DOWNS

The "Q Straint, M-series or QRT MAX" systems are very flexible in accommodating most wheelchair styles as shown below.





Child Stroller Wheelchair Rear Attachments

Standard Power Wheelchair Front Attachments

It is recommended that Tri-Wheeler users transfer to an ambulatory seat. However, if this procedure is not possible, securement of the Tri-Wheeler and its occupant can be accomplished by using the optional Q'Straint rear middle belt G5-5010 and fastening it to a solid frame member on the base of the Tri-Wheeler chair and then by following all regular Q'Straint securement instructions.

Auxiliary wheelchair equipment should be effectively secured to the wheelchair or removed from the wheelchair and secured in the vehicle during transport so as to not break free and cause injury in an impact. Whenever possible, items attached to the wheelchair in front of the passenger should be removed and secured separately during transportation to prevent potential injury to the passenger.

Maintenance

Inspect your Q'Straint Slide and Click series regularly, before and after every use.

The Q/Straint M-Series and/or QRT Max series must be replaced if suspected to have been in use during impact or show ANY sign(s) of damage or excessive wear and tear. Belts should be replaced f they have been worn during impact, even if the damage is not obvious.

Prevent contamination of belt webbing from oil, gases, polishes and chemicals, in particular – battery acid.

Be sure to visually inspect the wheelchair tie down tracking for dirt and debris after every use. This should be cleaned out with a shop vac as needed.

ENTRY DOORS

Six-Month Actuator Maintenance Schedule

- · Lubricate the main gears with white lithium aerosol grease.
- · Lubricate all other moving parts with white lithium grease.
- Inspect the open limit switch actuating tab for proper adjustment.
- · Ensure that it is limiting the operator from driving the doors past 90 degrees while opening. Adjust as required (this can be performed by and authorized Berkshire Coach dealer).
- Inspect the operation of the current sensing system built into the motor control board. The red LED must illuminate when the door reaches the fully closed position. 22



- Inspect for bent push-pull rods; replace as necessary (replacement and parts for replacement should be handled through an authorized Berkshire Coach dealer).
- Inspect the entire system for loose fasteners or components. Repair as required (this can be handled by an authorized Berkshire Coach dealer). Inspect for tightness of the set screws binding the actuator arms to the door leaf drive hex. Tighten or replace as needed.
- Inspect emergency release lever for proper operation.
- Lubricate the shaft running through the center of the body with WD-40 or equivalent.

Six-Month Door Leaf Maintenance Schedule

• Inspect all door frame mechanical joints for looseness. Tighten as needed.

Entry Doors

- Inspect torque arm attaching rivets for looseness. Replace as needed (this can be handled through an authorized Berkshire Coach dealer).
- Inspect lower door hinge pivot for any defects and repair or replace as required (this can be handled through an authorized Berkshire Coach dealer).
- Inspect door leaf center overlap seal for damage. Clean only with a mild detergent.

EMERGENCY EXIT / ESCAPE HATCH

All Berkshire Coach products are equipped with an EMERGENCY EXIT hatch. Please review and understand fully the information in this chapter.

Opening an Emergency Hatch



1. Rotate the red knob 90 degrees in either direction.



2. Push the red knob into the lid.



3. Continue to push the lid to the fully open position.



EMERGENCY EXIT / ESCAPE HATCH

Release Hinge



1. If the hatch was opened with the lid in the fully closed position, the release hinge will still be in the down position.



2. Push the release hinge upward to the position shown above.



3. Lower the lid into position.



4. Guide the release hinge into the handle base on the lid as shown above.



5. Pull down on the top of the lid to force the release hinge and the lid together until you hear "clicks." This will be the spring loaded handle setting in place.



6. Grasp both sides of the lid and pull down to fully close the hatch.



7. Rotate the red knob back into position.



8. The red knob should be in this position during normal operation of the vehicle.

INTERIOR LUGGAGE RACKS

Your bus may be equipped with a free standing luggage rack(s) or overhead luggage racks. The framing rails for the luggage racks are stainless steel. The free standing shelving portion is cover in rontex fabric. The overhead luggage can be covered in fabric or vinyl with the rontex interior (base where luggage sits).

It is the driver's responsibility to ensure the luggage is secured properly before putting the bus in motion and make sure that the luggage is secured and is not hanging over the edges. If not properly secured the luggage could fall during the ride or a passenger could walk into the items hanging over the edges.

Maintenance

• Daily inspect the racks to ensure that the attachment bolts, screws and mounting hardware and panels are intact and secure. Replace any missing or damaged items and secure any loose items or panels.



- Routinely inspect lights for proper operation. Replace bulbs or fixtures as needed. Lights Lens Clean using a standard window cleaner.
- Stainless Steel To clean wipe down with a damp cloth of warm water and soap solution and dry completely. Window cleaner may also be used. Be sure to dry completely after cleaning.
- Fabric Panels Clean by vacuuming or with a warm soap and water solution. If using a spray fabric cleaner be sure to test a small inconspicuous area to make sure it is color safe before using throughout.

M WARNING

Before moving the vehicle check to see that the luggage in the overhead compartments and/or the open-style luggage rack is secure and is not hanging over the railing. Luggage and other objects that are not secure could fall and injure someone.

WARNING

Reposition any item that is hanging over or sticking out past the railing/racking system into the aisle. Someone walking down the aisle could run into them or be hit and injured.

STANCHION / MODESTY PANEL OR GRAB RAILS

Maintenance

- Daily inspect all attachments making sure all fasteners mounting bolts and screws are intact and secure. Replace any missing or damaged items and tighten any loose areas.
- Stainless steel To clean, wipe down with a damp cloth of warm water and soap solution and dry completely. Window cleaner may also be used, be sure to dry completely after cleaning.
- Vinyl Covered Luan Panels Clean with a soap and water solution or for stains and heavy soiled areas you can use a vinyl cleaner.
- Fabric Panels Clean by vacuuming or with a warm soap and water solution. If using a spray fabric cleaner be sure to test a small inconspicuous area to make sure it is color safe before using throughout.

WARNING

Do a daily check to ensure the attachments for the stanchions and grab rails are tight. The continual use as support could allow the screws and attachments to become loose. Loose attachments and/or screws could cause someone to lose their balance and fall injuring themselves or others.



CUSTOMER BUS INFORMATION

VIN # _____

BODY #

HELPFUL CONTACTS

Ford Chassis 800.392.3673

Braun 800.946.6158 or www.braunlift.com

TransAir 800.673.2448 or transairmfg.com

A & M 574.522.5000

Q-Straint 800.987.9987 or Fax: 954.986.0021 or Qstraint@qstraint.com

