Operation & Maintenance Guide



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CORPORATION MICRO BIRD INC. will be defined as Micro Bird throughout this document.



### Congratulations on your recent purchase of a Micro Bird Commercial bus.

We are confident this new acquisition will be a pleasurable and long lasting experience.



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#### INTRODUCTION

This manual is intended to help you to become familiar with your new Micro Bird Commercial bus and to act as a reference document for its operation and maintenance throughout the life of the vehicle. It is designed for use in conjunction with the original chassis manufacturer's owner literature and wiring diagrams that were or will be handed to you. These manuals will help you in case of malfunction of components, and give information to easily get service covered by warranty.

It is very important that you get familiar with bus operation and all emergency items present in the vehicle before your first trip. Proper operation, maintenance and service will ensure safety and reliability of your new Micro Bird.

Your Micro Bird may not have all the equipment mentioned in this manual. All information is accurate on the date this manual was published. It is possible you may have an option which is not listed in this manual. For any question on equipment or maintenance, please contact your Micro Bird Commercial dealer.

Should you have any questions regarding the operation of the engine controls, dashboard controls, seat controls and other original equipment please refer to your Ford or GM owner's literature.

To ensure quick reference when you need help, please fill in the contact information page at the end of this manual.

#### **REPORTING SAFETY DEFECTS**

#### UNITED STATES ONLY

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 Micro Bird.

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 Micro Bird.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at: 1-888-327-4236 (TTY: 1-800-424-9153)

Or go to: http://www.safercar.gov

Or write to: Administrator, NHTSA, 400 Seventh Street SW. Washington, DC 20590

You can also obtain other information about motor vehicle safety from: <u>http://safercar.gov</u>

#### CANADA ONLY

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform Transport Canada, using their toll-free number: 1-800-333-0510 or online at: <u>http://www.tc.gc.ca/eng/roadsafety/menu.htm</u>

#### VEHICLE INFORMATION

#### **CERTIFICATION PLATE**



The certification plate is fixed above the driver in front of the bus. This plate certifies the vehicle conforms to all applicable Federal Motor Vehicle Safety Standards in effect at date of manufacture.

This is where you will find the VIN and the body number of the bus needed to order parts or receive guidance on repairs.

This sticker also provides tire pressures and seating capacity details.

#### **\*\*** Do not remove this plate under any circumstance.

#### TIRE INFLATION PRESSURE INFORMATION



The tire pressures can always be found on our certification plate located above the driver (refer to certification plate mentioned above). These pressures can also be available on the Tire and Load sticker located on the driver door post <u>for vehicles of less than 10,500</u> <u>lbs</u>.

#### PARTICULARITIES OF PROPANE POWERED VEHICLES

#### How to start the engine:



A propane vehicle engine cannot be started the same way as a vehicle with gas or diesel fuel. This process is clearly identified on a green card fixed to the key ring when the bus is delivered to you. One side indicates the customer service phone number at Roush if you have issues, and the instructions to start the bus are written on the back of the card.

If you do not have this card handy or if it has been lost, follow these simple instructions.

Put key in ignition, turn completely to the end and then slightly back to the ON position. Your propane vehicle will start after a short delay (approximately 10 seconds).



In case of emergency, there is a shut off valve underneath the bus. It is on the left side of the vehicle, behind the rear wheels. A decal is also installed to quickly find its location.

Use the thumb screw to the left of the box to remove cover.

#### FEATURES AND OPTIONS

#### DRIVER CONTROL SWITCH PANEL



The quantity of switches in the console will vary with the options ordered for your bus. Their position can also be different from one bus to the other depending on the switches installed.

The standard switches which will most always be found in a commercial bus are:

- || **OPEN / CLOSE** []]: Used to open or close the electric passenger entrance doors. Make sure to hold the switch until the door is completely opened or closed.
- III HIGH / LOW III : This is a three way switch that controls the REAR HEATER and can be set on low, high or turned off.
- Ø / MIRRORS DEFROST: Turns the heated mirrors ON or OFF.

Depending on the customer needs and states requirements, some commercial buses will be equipped with more switches. Here are other switches that can be found on the console.

- TROBE LAMP: Activation of the strobe light located on the roof.
- **STROBE ON:** Indicator showing strobe lamp is flashing.
- **STEP DE-ICER:** Activates an electric de-icer system located on the lower step of the entrance door.
- **ROOF FAN:** Activates the electric fan of the roof hatch or the electric static vent to control the moisture and help air circulation in the vehicle.
- SHIGH / LOW S: Activates the two-speed windshield electric fan located in the driver's area.
- **FAST IDLE:** Motor's revolution control system to increase the slow idle time and helps maintain the battery charge. Available on Ford chassis only.
- **HEATER VALVE:** This switch controls the electric heater valve installed underneath the bus.
- **EMER. EXIT:** Pilot light indicates if the rear emergency door or any push out windows are not securely latched.
- **DOOR LOCKED:** The pilot light will warn the driver that the rear emergency door is locked thus preventing the engine from starting.

- (NOISE SUPP: This switch will turn off the accessories that could make noise while approaching a railroad track. (Example: Heater, A/C, Fan, and Radio)
- **LIFT DOOR:** The pilot light will be activated if the lift door is not securely closed thus preventing the transmission to be changed from park to drive. Depending on the option chosen, a red light or a pilot light will be installed.
- **2 INCH RED LIGHT:** This light will be activated if the lift door is not closed securely thus preventing the transmission to be changed from park to drive. Depending on the option chosen, this red light or the pilot light will be installed.
- **EXT. SPEAKER:** Used with PA system integrated to the CD player. The switch allows you to choose between interior and exterior speaker.

Control switch buttons may also be present on the bus for additional options.



**INDEPENDANT LIGHTING CONTROL:** Used to set desired lighting of the switches located on the console.



A/C CONTROLS: A/C button controls are located on the console to the right of the driver. With MCC systems, the left button controls the fan setting and the right one is for temperature control. On vehicles equipped with an ACC system there is only one button for fan/heat control.



**HEATER VALVE:** Located under the dash next to the engine cover, it is used to control the liquid flow for the rear heater from inside the vehicle.

#### LIGHTS (INTERIOR AND EXTERIOR)

**Interior lights:** The interior lights can be activated differently as per the options chosen by the customer. The most common operation is as follows: vehicles rear dome lights will be activated by a switch in the console. If present, the driver dome light will come on when the driver door is opened. The dome light above the entrance door as well as the stepwell light will activate when the entrance door is opened.



The driver's reading light is activated manually directly on the casing of the light.

**Exterior lights:** On GM vehicles, the front and rear clearance lights as well as the parking lights are activated by the ignition. Note that on Ford vehicles, these lights will come on as soon as you open the driver's door. All these lights will stay on for a short period of time after the ignition has been turned off.



#### MIRRORS (INTERIOR AND EXTERIOR)

#### **Interior mirrors:**



Located above the driver, a rearview mirror will allow a quick look at the passengers without turning around.

Some vehicles do not have the original OEM rearview mirror which is replaced by a special rearview mirror with an integrated back up camera.



#### Some vehicles will be equipped with an interior convex mirror installed in the right side corner instead of the rectangular rearview mirror to view passengers.

#### **Exterior mirrors:**



The outside rearview mirrors are designed to provide the seated driver a view of the roadway to the rear and to the sides of the bus.

As the buses can be used by different drivers, these mirrors should be verified and adjusted each morning if needed, to make sure the driver has a clear view of these areas.

The heated mirrors are controlled by a switch in the console and the remote mirrors are controlled by 2 movable buttons above driver.



Heated mirror defrost switch: Allows the driver to activate heat in mirrors.



**Remote mirror control:** Allows the driver to adjust the exterior mirror positions.

#### EMERGENCY EXITS

In case of emergency, passengers can leave the bus quickly by any exit depending which one is operational at the time it is needed.

#### Passenger door emergency exit:



To use the passenger entrance door emergency exit, simply pull on the red handle located over the entrance door.

If the emergency handle has been used to exit the bus, follow these simple instructions to close the doors. From inside the bus, push on the right side of the handle with your left hand, and at the same time, pull slowly on the right leaf of the entrance door towards you. When gear is in place, the lock will engage. You will then be able to push the handle in place and use the switch in the console to open and close doors.

#### Other emergency exits:



Vehicles can also be equipped with a roof hatch **\*\*** and push out windows. Follow opening instructions written on decals.

A rear door emergency exit is present on each bus. Simply lift the red handle bar to open the door. **\*\*** An interlock may be installed on this emergency door. Make sure it is unlocked at all times while the bus is in use. If you forget to unlock the door, it will prevent the bus from starting.

- \*\* Follow these steps to close the emergency roof hatch.
- When the roof hatch is open, the hinge will be down. It will need to be pushed up.



• The front bracket of the roof hatch needs to be inserted in the hinge.



• Pull down front of hatch using the side middle handles (holes), then proceed to rear of roof hatch.



• Finish by turning the red button in the center position to lock in place.

#### PASSENGER ENTRANCE DOOR



The design of Micro Bird passenger entrance doors and more-view window allow a maximum visibility of loading zone.

Adjustment of door leaves: See troubleshooting guide section of this manual.

The electrical doors are activated by a switch in the console. These are controlled by a mechanism on top of the entrance door, behind the head pad. The closing or opening of the doors is determined by two microswitches that will stop the open/close movement. The microswitch closer to you will be the one that controls the closing of the doors. The one in the back is controlling the door opening motion.

When closing the doors, always make sure to press on the switch as long as the doors are in movement to ensure proper tightness with the body of the bus. Same operation applies when the doors are open. As the switch is momentary, the doors will stop moving as soon as the switch is released.



The vehicle can be equipped by an outside key switch to allow driver to open passengers door without the need to activate the inside console switch.

#### **REAR EMERGENCY DOOR**



To open the rear door from outside, simply rotate the handle counter clockwise. To open the rear door from inside, simply lift red handle clockwise.



The rear door can be equipped with a telescopic retainer or a gas shock.

The telescopic retainer locks the door in the open position at 100 degrees.

**\*\*WARNING:** To release mechanism, open the door past the locking point and close. Failure to unlock mechanism before closing the door will break the telescopic retainer.

#### **WINDOWS**



Passenger windows can be T-Slider type, Panoramic or Split sash.

T-slider windows can be opened by pulling on the right handle and sliding the window to the left.

Panoramic windows are full glass and cannot be opened.

Split sash windows can be opened or closed by releasing the plungers located at each side of the top window frame. When closing, both sides of the upper bar needs to be pushed in an upward movement to touch the top window frame and allow the side latches to engage correctly in the cavities on each side of the window frame rails.



Push-out windows: These windows are located each sides of the bus. Their location is clearly identified by an "EMERGENCY EXIT" sticker directly in the window. To use, lift the handle to unlock and push window outward.

#### **CLIMATE SYSTEMS**

#### A/C SYSTEMS



The A/C buttons are located on the console and control the rear air conditioning system. When vehicle is equipped with MCC systems, the left button is for the power setting and the right one is for temperature control. Those with ACC systems will only have one button for the power setting.

For reference, the quantity of oil and refrigerant are mentioned on an AC sticker behind the electrical compartment's door. These quantities include the chassis portion when the system is a tie-in. When the system is an add-on with its separate compressor, the quantities mentioned on the electrical compartment's door will only show the content of the add-on system. The chassis quantity is indicated on a sticker placed under the hood. GM sticker is on the left side at the rear of the engine components and on Ford model chassis, the sticker is fixed on the left side of the hood release latch.



You can also find a sticker with the belt routing of the AC system under the hood. When the system installed is an add-on, we need to replace the belt by a longer one. The belt part number will also be written on this sticker.

For reference purposes, there are many kinds of evaporators: ceiling, side, front and rear. You can also find types of condensers: Roof top and skirt mounted.



Please refer to the A/C system preventive maintenance schedule of this manual for warranty repair instructions.

#### **HEATERS**



The bus may also have a step heater. This heat is controlled by the FORD or GM controls on the dash. The rear heaters are usually located under a passenger seat, on the back or side wall and are controlled by a switch located on the console switch panel. For maintenance purposes, the shut off valves need to be closed and wiring disconnected before proceeding to any verification.





Valve heaters can be opened and closed manually from underneath the bus. The vehicle can also be equipped with an electric control valve activated by a switch in the console.

#### SEATING

#### **MODESTY PANELS**



Modesty panel

Every bus will be equipped with modesty panels located in front of the first seat on each side of the bus.

#### SEATS AND SEATBELTS FOR AMBULATORY PASSENGERS

Your bus may be equipped with different seats:



Flip seat operation: To lower the seat



Unlock turning handle counter clockwise

To raise seat back in position:



Push handle and lower the seat



Press on the edge of the seat and lower the handle to lift seat back.



Lower the handle to bring down seat back.



Press on top of the seat and push on the handle to flip.



#### WHEELCHAIR EQUIPMENT

#### WHEELCHAIR LIFT

Refer to the DVDs supplied in your bus to get familiar with the wheelchair lift operation and particularities.

TABLE 2-1: PLATFORM MOTIONS				
MOVEMENT		DESCRIPTION		
S-Series	K-Series		DESCRIPTION	
E	E	D E P L O Y	Platform unfolds, or deploys, out of vehicle from stowed position from vehicle floor level position.	
Fi	FT	D O W N	Platform lowers from vehicle floor level towards ground level. The front rollstop automatically lowers (opens) when platform reaches ground level.	
Ŀt	Ft	U P	Platform rises from ground level towards vehicle floor level. The front rollstop automatically rises (closes) when platform leaves ground level.	
K	K	S T O W	Platform folds, or stows, from vehicle floor level to the stowed position.	





#### WHEELCHAIR PASSENGERS SEAT BELTS AND TIE-DOWNS



The shoulder belt can either be a fixed shoulder belt or a tracked shoulder belt.



\*\* To ensure safety of passengers, do not attempt to install any shoulder belt, track or any other accessory above the windows. Please contact your Micro Bird dealer for help.

Your bus may be equipped with different kinds of tie downs and seat belts. You will see below a few models of retractors which may be present in your vehicle.



This retractor is semi-automatic with a single tensioning knob on the side. There is no left and right retractor. They can be used to secure any of the wheels. The red pin is a foot release lever eliminating the need to bend down.



This is the original self-locking and self-tensioning retractable system. It has two tightening knobs. It is usually the industry standard. The red pin is a foot release lever eliminating the need to bend down.



This retractor is the latest generation of self-locking, selftensioning retractable wheelchair securement systems. This retractor is fully automatic and knobless which maximizes ease of use. The red pin is a foot release lever eliminating the need to bend down.

When you install the seat belts and wheel chair retractors, make sure the straps are tight and show no sign of slack. The safety of the passengers depends on every part being securely tied down. For more information, please refer to the manual supplied with your vehicle.

#### SAFETY EQUIPMENT

#### FIRE BLANKET



Although not a replacement to a traditional fire extinguisher, fire blankets can be very useful as they work by smothering the fire. They work very well on small fires, and they are particularly useful when a person's clothing has caught on fire.

FIKE EATING



Every bus should be equipped with a fire extinguisher which will be located at the front of the vehicle, near the dash or behind the driver. Operation instructions are on the fire extinguisher. It would be safe to get familiar with those instructions to quickly react in case of fire.

#### FIRE SUPPRESSION SYSTEM





This system is designed to detect and suppress any potential fire in the engine compartment. In case of fire, follow instructions on the sticker located above

the driver. The fire extinguisher will be located near the dash or behind the driver. This fire extinguisher will activate by itself in case of fire. **Do not attempt to use for other kinds of fire.** Use the regular fire extinguisher supplied in your bus.

#### FIRST AID KIT AND BODY FLUID KIT



These will always be located in the front section of the vehicle. They can be installed either behind the driver, or fixed to the front panel above windshield.

#### SEAT BELT CUTTER



This tool will be needed to rapidly cut the driver's seat belt so he can quickly address safety of children in case of emergency and to cut the passenger's seat belts if they are not working correctly. It is located on the left side of the console to the right of the driver's knee.

#### TRIANGULAR WARNING DEVICE



These 3 collapsible 17" triangular reflective warning devices are packaged in a red storage container usually located behind the driver. Used to protect the area behind the bus allowing approaching traffic to see the bus is not moving.

#### MISCELLANEOUS ACCESSORIES

#### BACK UP ALARM



The back-up alarm is located on the frame of the bus behind the rear wheels.

#### BACK UP CAMERA and ANTI-COLLISION RADAR



Back up cameras are available in Micro Bird buses. If you have such equipment, it can either be an anti-collision radar, an integrated back up camera inside the rear view mirror of the chassis or a black screen on the dash. If you should have issues with these, as they are aftermarket installations, please contact your dealer for help.

#### BATTERY BOX

The optional skirt mounted battery box is designed to install chassis battery or batteries in a side skirt mounted compartment. The batteries are mounted on a standard sliding tray or on ball bearings.



This compartment can hold two batteries, one behind the other. If only one battery is present, it will be installed at the rear of the sliding tray. To slide tray out, raise latching handle up and pull tray towards you.

Note: Make sure the latch is correctly inserted and will not allow tray to slide out before closing the battery box door.

A locked battery box could be installed on the side of the bus. This compartment will not have any sliding tray nor any battery as this box will serve as exterior storage space.

#### ELECTRIC OUTLETS AND USB PORTS



The inverter installed behind the driver seat will allow the installation of underseat electrical outlets and USB ports.

#### ELECTRONIC DISPLAY

Different electronic displays are available. They can be in the front window, the side or the back of the bus.



They are programmed by the customer using a USB key. These displays will be in function as soon as the key is turned on.

#### FAN, 2 SPEED



Two-speed electric fan located in front of the bus. It is activated by a switch located in the driver's area.

#### PARCEL RACKS



Different options for luggage space are available depending on the customer needs.

#### RADIO (AFTERMARKET)



Different aftermarket radios are offered in a Micro Bird bus including special PA option.

#### **RETAINING STRAPS FOR PASSENGERS**



#### **ROOF VENT WITH ELECTRIC FAN**



An additional static roof vent with an electric motor can be installed to create an inside circulation and control the degree of humidity and, in the long run, prevent corrosion. The electrical motor is controlled by a switch located on the console. The picture shown represents the grill on the ceiling of the bus.

#### SOLAR PANEL



If this control is installed above the electrical compartment, it means the bus is equipped with a solar panel on the roof. The module contains a small charger connected to the battery to avoid drainage.

#### STOP REQUEST – CHIME PULL CORD



When the yellow cord is pulled, an audible chime is activated as well as a lighted sign on the front wall which informs the driver that a passenger wants to exit the bus. The system will shut off when the entrance door has been opened and closed.

#### TV-DVD SYSTEM



If your vehicle is equipped with an entertainment system, the flat screen tv will be located on the ceiling. Simply unlock the front of the casing and flip down the tv.

#### CHECK UP AND MAINTENANCE

#### **DAILY PRE-TRIP INSPECTION**

Daily inspection of the bus should be done to make sure all safety equipment is available, in good condition and will operate adequately if needed. Following inspection procedures recommended by your chassis manufacturer should also be done before your trip.

Outside the bus:

- Make sure the windshield, side and rear windows as well as mirrors are clean to provide clear vision.
- Wipe clean all head lights as well as brake lights.
- Check tire pressure and threads. Ensure all lug nuts are in place and screwed.
- Adjust mirrors if needed.
- Ensure the tail pipe is not obstructed by snow or mud.

Inside the bus:

- Make sure the aisle and steps are clear.
- Make sure seats and floors are clean.
- Make sure that all seat belts are fastened.
- Make sure the first aid kit is in place.
- Make sure the fire extinguisher is in place and check pressure.
- Make sure all emergency exits (windows, doors and roof hatch) open and close properly and buzzers activate when they are not fully closed.
- Check passenger entrance door for proper operation.

Start the engine and check the following:

- Ensure parking brake is on.
- Check fuel gauge.
- Open the hood, check and listen for trouble signs and check fluid levels.
- Set and release the parking brake pedal to check for proper operation.
- Check wipers, horn and defroster/heater blower to make sure they are working properly.
- Check right and left turn signals in front and rear, make sure tail lights are working.
- Make sure hazard flashers are working.
- If the bus is equipped with a wheelchair lift, do a complete cycle to make sure it will operate correctly if needed.

Final check while driving the bus away:

- Make sure your seat belt is fastened.
- Test the brakes and make sure they stop and hold.

- Make sure the steering wheel feels ok and does not make any unusual noise.
- Brake to a stop, check gauges.

#### Always remember the safety of passengers is your responsibility. Immediately report any problem with your mechanic and have it repaired before you leave with the bus.

Doing daily inspections will ensure the bus is safe and ready for any unfortunate incident. Make sure you are physically and mentally alert at all times and take the time you need before driving away to make sure all paths are clear.

\*\*\*NOTE: This check list is suggested to help you keep your vehicle operational and safe at all times. It does not supersede local or state required driver inspection procedures.

#### INSIDE CLEANING

Always make sure your floors are clean of debris by sweeping. Additional precaution needs to be taken to keep stepwell clean and washed on a regular basis. All dirt, calcium chloride and other ice melting agents needs to be washed away quickly to avoid any accumulation that could affect the flooring or items installed near the stairs.

#### **OUTSIDE CLEANING**

To help preserve the finish of your bus, frequent washings should be done to eliminate any dirt, calcium chloride and other ice melting agents, road oil and tar, tree sap, bird droppings etc. If any product other than regular dirt is present on your vehicle, it should be promptly washed to keep the paint finish of your vehicle.

Sometimes regular soap and water will not be sufficient, additional cleaners may be needed. When using chemical cleaners, make sure they are safe to use on painted surfaces.

Polishing with nonabrasive wax is recommended to remove accumulated residue and make sure your vehicle will resist to the weather conditions.

- Use mild detergent and cool water.
- Make sure your brush is clean of any debris and is in good condition.
- DO NOT USE abrasive or chemical products or go to any truck wash which uses such products.
- Fuel, antifreeze or any other liquid should be cleaned off immediately after the spill with mild detergent and cool water.

#### PERIODIC CHECK-UP AND MAINTENANCE ON BODY

#### **Quarterly inspection:**

#### Inside the bus:

- Check the adjustment of the passenger entrance door leaves and the condition of the system main components: bearings, gears, ball and socket joints, motor and sensors. Make sure they are not loose or damaged. Adjust the doors if needed
- Make sure all bolts on the door frames are in place and correctly tightened.
- Test all emergency release handles inside and outside the bus. Repair immediately if needed.
- Check seat belt buckles for adjustability and correct operation. If necessary lubricate with a graphite lubricant. If buckle is found to be defective or straps found to be torn or frayed, replace immediately.
- Make sure the fire extinguisher is fully charged and first aid kit complete as per the list mentioned behind the box.
- Clean roof hatch with mild soap and spray silicone lubricant on moving parts.
- Oil all hinges and window latches, lubricate window channels with silicone.
- Clean all rubber door seals and lubricate with rubber lubricant.
- Lubricate all door latches and door hinges with light grease.
- Remove any foreign material and dirt that accumulates in wheelchair tracks if the vehicle has such equipment.
- Remove dirt and debris from the fans and heater using compressed air.

#### Outside the bus

- Secure bolts on outside mirrors to minimize road vibrations and ensure correct visibility.
- Visually check all exterior seams of bus for signs of separation from body or pin holes which may cause water infiltration. If needed, repair with urethane base caulking.
- Make sure wheel nuts are well tightened.
- Look inside the battery box and make sure the holding brackets for the battery are tight and battery cables secure. Remove any verdigris corrosion from battery post with sand paper and apply corrosion preventive compound.

#### Under the hood

- Check condition and tension of drive belts.
- Inspect the battery. Make sure it is secure and battery cables are tight. Remove any verdigris corrosion from battery post with sand paper and apply corrosion preventive compound.

#### Underneath the bus

- Check for leaks at manual heater valves by rubbing your finger around the fittings.
- Open bus heater valves (in fall). Close bus heater valves (in spring)
- Check for leaks at A/C skirt condenser (if vehicle has such equipment) by rubbing your finger around the fittings.
- Visually inspect floor cross members for sings of cracking.
- Visually inspect all seats and modesty panel bolts for proper tightening. Use tool to check if you are in doubt.
- Visually inspect undercoating and add if needed.

#### Yearly inspection:

- Complete quarterly inspection.
- Clean all seat covers.
- Check and tighten any connections at the electrical board and at the battery. Clean if needed.
- Thoroughly clean all front and rear heater cores.
- Bleed all air from heater if vehicle is equipped with a bleeder valve.
- Check all hoses connections, tighten and/or secure as necessary.

#### A/C SYSTEMS PREVENTIVE MAINTENANCE SCHEDULE

If your vehicle is equipped with an A/C system, please find below the recommendations from the manufacturers. <u>Some of these points can be inspected by your regular mechanic.</u> However, make sure to visit an A/C repair center to perform all other inspections and <u>maintenance.</u>

# **\*\*** Always remember that while your vehicle is covered by warranty, your Micro Bird dealer needs to be contacted first to obtain guidance or pre-authorization.

#### Daily pre-trip inspection and maintenance:

- Check for sufficient air flow at evaporator air outlet. If air flow is less than usual, inspect return air filter.
- Check set point temperature on digital thermostat to ensure proper cooling.
- Confirm all evaporator and condenser fans are operating.
- Check for water dripping from the evaporator or air ducts.
- Check for unusual noises at the engine, evaporator and condenser.
- Check tension and condition of drive belts.

#### Weekly inspections:

- Perform daily inspection.
- Check condenser, evaporator coils and return air filters for cleanliness, clean if necessary.

#### Monthly inspections:

- Perform weekly inspection.
- Run system for 5 minutes and check battery voltage.
- Clean or replaced evaporator return air filters.
- Inspect refrigerant hoses and fitting connections.
- Inspect electrical harness and connections.

#### **Quarterly inspections:**

- Perform monthly inspection.
- Check and clean evaporator and condenser coil and fins.
- Check blower operation.
- Inspect all components including evaporator and condenser motors.
- Check hoses, underhood harness as well as those under vehicle for proper support and protection.
- Check evaporator drain lines.
- Make sure all compressor mounting brackets and hardware are tight.

#### Semi-Annual Inspection and Maintenance:

- Perform quarterly inspection.
- Check system pressures.
- Check refrigerant in sight glass.
- Check element in the sight glass.
- Inspect condenser fan blades.
- Remove or install optional condenser winter guard kit.

#### Annual inspection and maintenance:

- Perform semi-annual inspection.
- Clean evaporator and drain pan.
- Check and tighten any connections at the electrical boards and at the battery. If needed, clean with a high-grade cleaner specifically formulated for this purpose.
- Check pressure switch operation.
- Check condenser roof mounting and sealing.
- Perform manifold gauge check.

**Note:** A/C relays can be located in different areas in your vehicle. You will find the name of the manufacturer on the evaporator in your vehicle.

- MCC (Mobile Climate Control): Relays can be found in the electrical panel above driver on Micro Bird G5 vehicles. On MBII vehicles, they will be located underneath a grey pad on the wall behind the driver.
- ACC (Climate Control): Relays can be located either in the electrical panel (G5), behind driver (MBII) or inside the evaporator.

A/C repairs need to be done at an authorized repair center. If you cannot find one close to you, call the following numbers for technical help:

ACC: 1-800-462-6322 MCC: 1-800-450-2211

\*\* Always remember that while your vehicle is covered by warranty, your Micro Bird dealer needs to be contacted prior to any repair to obtain guidance or preauthorization.

#### WHEELCHAIR LIFT MAINTENANCE SCHEDULE

## Please refer to the DVDs supplied with your vehicle to get familiar with your wheelchair lift operation and learn about technical data for maintenance and service.

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

#### 

THE TROUBLESHOOTING GUIDES DO NOT INCORPORATE ROUTINE SAFETY PRECAUTIONS OR PRELIMINARY PROCEDURES. DURING THE RICON WARRANTY PERIOD ONLY A TRAINED, AUTHORIZED RICON SERVICE TECHNICIAN CAN PERFORM TROUBLESHOOTING. AFTER THE WARRANTY PERIOD, IT IS RECOMMENDED THAT TROUBLESHOOTING CONTINUE TO BE PERFORMED BY AN AUTHORIZED RICON SERVICE TECHNICIAN.

**Maintenance:** Under normal operating conditions, maintenance inspections are required at 750, 1500, 1750 and 4500 cycles. Or at least every six months (1750 cycles) and a thorough inspection should be performed at service intervals. Service should be increased under conditions of heavy use (more than 10 cycles per day.)

Every moving part such as: bushings, pins, hinges should be greased once a month to provide optimal operation of the lift.

WARNING
THIS PRODUCT HAS BEEN DESIGNED AND MANUFACTURED TO EXACT SPECIFICATIONS.
MODIFICATION OF THIS PRODUCT IN ANY RESPECT CAN BE DANGEROUS.

The warranty will be void if:

- The product has been installed or maintained by someone other than an authorized dealer or a qualified service technician.
- The product has been modified or altered in any respect from its original design without written authorization from the wheelchair lift manufacturer.

#### **USEFUL INFORMATION FOR REPAIRS**

#### **BATTERY LOCATIONS**

The batteries can be located under the hood and/or in a side battery compartment. In the CT-Series, the main battery will be located underneath the driver seat although it has a charging port underneath the hood.

#### ELECTRICAL PANEL

The electrical panel is installed in a closed compartment above the driver. The wires are coded by number and by color. In this compartment, depending on the options present in your bus, you will find some or all of the following components. For more information, please refer to the wiring schematic of each component supplied with your bus.



Solenoid or power relay: feeds all components of electrical box.

**Fuse boxes:** Labeled IFH for Ignition fuse holder, BFH for Battery fuse holder and NFH for noise suppression fuse holder. A sticker, listing fuse locations, is installed behind the electrical compartment's door.

**Relays for different options:** Relays for all body options are installed in the electrical compartment. Additional relays for the noise suppression switch and rear door interlock will be located under the hood. Noise relay will be on the left side near the HVAC and the interlock relay will be tied in our body harness on the right side.

**Air conditioner relays:** Relays for the MCC systems are installed in the electrical compartment on our G5 model buses and will be located on the wall behind the driver, underneath the grey pad, on our MBII model buses. On ACC systems, they can be located in either of these areas or on the evaporator itself

For any question or repairs to the electrical system, please refer to the wiring schematic supplied with your vehicle and contact your Micro Bird dealer for further help.

#### WIRING SCHEMATICS

Many buses have standard wiring. In order to meet all states requirements and additional options ordered for each vehicle, the wiring schematics may differ from one bus to the other. This is why no wiring schematics are included in this manual.

All wiring schematics are supplied with your bus. Please make sure to keep them in the bus and handy at all times.

If you have lost these documents, contact your Micro Bird dealer as they also have these available to help you.

Note that fuse positions and relays for all body options are written on a sticker behind the electrical compartment's door. Additional relays for the noise suppression switch and rear door interlock will be located under the hood. Noise relay will be on the left side near the HVAC and the interlock relay will be tied in our body harness on the right side.

**Note:** A/C relays can be located in different areas in your vehicle. You will find the name of the manufacturer on the evaporator in your vehicle.

- ACC (Climate Control): For all vehicle models, relays are located inside the evaporator, except when it is located in the front or the rear cap. Then, the relays will be installed in the electrical panel of our G5 model and behind a grey pad on the wall at the rear of the driver on MBII model buses. \*\* Location of relays on our T-series with front or rear cap is not determined as of the date of printing this document.
- MCC (Mobile Climate Control): In our G5 model, the relays are located in the electrical panel. On MBII they will be located behind a grey pad on the wall at the rear of the driver. On the T-Series vehicles (single or double rear wheels) the relays will be located behind the evaporator and is not part of the original evaporator as it is in the ACC systems.

#### LIFTING POINTS

If you need to have the bus raised for maintenance or repairs using the chassis frame, see picture below for specific areas.

**Note:** It is very important, if you are using a two-post lift, that the vehicle lift arm adapters are used under the lifting points. You should also make sure the vehicle does not exceed the maximum kurb weight before lifting it.



#### TROUBLESHOOTING GUIDE

In the next pages, you will find helpful information on diagnosis or repair with the most common situations you may encounter.

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#### A/C systems

#### I- Tie-in systems (tied-in to the chassis and uses its compressor)

<u>Dash fan blows warm air:</u> If your AC system is tied into the OEM compressor, and you do not have a condenser, the issue will be on the chassis side. If your vehicle is equipped with a condenser, listen to see if it is working correctly. If not check fuses and relays.

When you take readings for the add-on AC, the thermometer must be in front of the evaporator's air vent. Blown air should be  $\pm 20$  degrees lower than outside temperature.

<u>Dash fan blows cold air, evaporator blows warm</u>: If your bus is equipped with a condenser, you may go outside the bus to listen if the condenser is engaging when you put your AC vent button on High, check if the evaporator is working as well. If one of them does not work, check fuses and relays. If components are working, you need to bring the bus to an authorized repair center as the issue may also be caused by a malfunction of the compressor, a clogged condenser or an electrical issue in the parts.

#### II- Add-on systems (Second compressor giving a separate AC system to the chassis)

<u>Evaporator blowing warm</u>: If your bus is equipped with a condenser, standing outside the bus, listen to confirm if the condenser is engaging when you put your AC vent button on High. Check if the evaporator is working as well. If one of them does not work, check fuses and relays. If components are working, you need to bring the bus to an authorized repair center to check for leaks. The issue may also be caused by a malfunction of the compressor, a clogged condenser or an electrical issue in the parts.

For your information, fuses and relays for these systems are located in the following areas.

- MCC (Mobile Climate Control): Relays can be found in the electrical panel above driver on Micro Bird G5 vehicles. They will be located underneath a grey pad on the wall behind the driver in MBII vehicles.
- ACC (Climate Control): Relays can be located either in the electrical panel (G5), behind driver (MBII) or inside the evaporator.

#### **Batteries:**

• How to jump start:

The main underhood battery is always the one that needs to be charged. In the **T-Series** (built on a Ford Transit chassis) the battery is located underneath the driver seat. However, there is an underhood positive stud located beside the fuse box. The negative cable needs to be fixed to a bolt inside the driver side fender.



If the vehicle is equipped with a battery box and does not have an underhood battery, the front battery is the one to charge. In all cases make sure to charge the battery with the biggest cable (red).



#### • Drainage

Make sure all systems powered by the battery are deactivated when leaving the bus. Check to see if entrance door stepwell light stays on after door is closed, if so, adjust entrance doors as shown in the troubleshooting guide of this manual. Disconnect big options that are connected directly to the battery such as the lift door to see if it helps. If no diagnosis can be made, contact your Micro bird dealer for instructions. The body options will need to be removed from the chassis battery to isolate issue to the chassis manufacturer or to an option installed by Micro Bird.

#### Buzzer stays on, or does not come on:

If you hear a continuous buzzer when the key is turned ON, check to ensure all emergency exits are closed properly (windows, roof hatch) and the rear door is unlocked.

If your vehicle is equipped with a wheelchair lift, make sure the lift is fully stowed and lift doors are tightly closed. If the issue is with the lift doors, start by pressing on the switch tab in the door header to see if buzzer stops. If it does, it only needs a switch adjustment.

If everything has been checked and the buzzer is still on, refer to the wiring schematics supplied with your bus or contact your Micro Bird dealer for help. It may be bad connection or a defective buzzer.

**If the buzzer will not come on**, check wiring or buzzer itself. If the issue is happening with interlock options for rear door this buzzer is located in the electrical compartment. The buzzer for all emergency exits is installed under the switch panel in the console.

#### Engine will not start:

If the engine will not start and you hear a continuous buzzer, this may be caused by an interlock installed on the rear door. Make sure the doors are unlocked.



On a G5, simply pull the handle to the left.

On a MB2, pull the handle to the right. IT MUST be pushed down in the right slot to deactivate \_\_\_\_\_ option.



If situation persists after the rear door has been unlocked, make sure the switch is releasing properly from mechanism by pushing on it and releasing it a few times. The buzzer should stop when plunger is released on the G5 and when pushed in, on the MB2.

In any of these situations, if you are on the road when this happens, you can bypass the system by removing the interlock fuse. Refer to the sticker behind the electrical compartment door for location or refer to the wiring diagrams supplied with your bus. You will then be able to drive back to the garage to have this checked.

#### Entrance doors will not close tightly:

The mechanism is made of a single assembly with oppositely threaded spherical bearing rod end connectors on each end providing simple link length adjustment without disassembly. Simply loosen the lock nut, turn the rod and retighten the nut when the adjustment is satisfactory. You may also want to adjust the microswitches to allow a longer course of the doors and make them sit tighter against the body.

\*\*Attention, if you misadjust the microswitch, the motor will keep running trying to shut the doors even closer as they are already sitting on the body. If door leaves are tightly shut, the stepwell light will turn off when doors reach the closed position.



If the doors stop opening or closing while they are moving, check the condition of the system main components: bearings gears, ball and socket joints, motor and sensors. See if

there is any foreign object stuck underneath the sprocket or motor preventing the system to complete its motion.

#### Entrance door motor running constantly:

It is possible the front microswitch could be misadjusted. Simply bend the microswitch tab a little to give the closed signal sooner. If door leaves are tightly shut, the stepwell light will turn off when doors reach the closed position.

#### **Entrance door not working or working intermittently:**

While activating the switch in the console, push tab of limit switch in the door header and see if there is a ground at P1-5. Then, push tab of microswitch completely onto the closed door position and see if there is a ground at P1-2.

If there is no ground at either position, the microswitch is faulty and needs to be replaced. If you get ground signal on both positions, the fuse block may be defective.

#### Glass and window replacement

#### Entrance door, lift door and rear emergency door glass



Start by removing the glass from door using a cutting knife to remove sealant (outside and inside). Take off all extra tape and sealant. Clean off with alcohol to remove any dirt or grease and provide good adhesion of new glass.

- 1. Install butyl tape all around the interior of lift door.
- 2. Stick glass onto butyl tape and press in place.
- 3. Seal all around the interior of the door glass (bottom, top and both sides).
- 4. Seal corners and bottom of outside door glass only.

#### Back windows and more view

Contact your dealer for complete procedure.

#### Heater does not blow warm air:

Make sure the valves underneath the bus are open. Check if you hear the fan when the switch in the console is activated. If fan is not working, it would be an electrical issue. If fans are blowing and no warm air is coming from the heater, check for coolant leaks underneath the body or around the heater in the bus. If there is no leak, make sure there is no air in the system. Use the bleeder valve if your vehicle is equipped with this option. You can also drive around a little bit to make an eventual air bubble come to surface in the coolant tank. If you cannot get it to blow warm air, the part could be defective.

#### Light in stepwell or entrance dome light stays on:

The microswitch used to stop the closing of the door needs to be adjusted as it stops the motor before the door leaves sit tightly against the bus. Slightly bend the tip of the microswitch to allow the doors to shut tighter.

#### Lights not working (rear lights)

- 1- If only one light is not working, remove it and check for current. If all good, replace the light.
- 2- If many or all rear lights are not working, check for current at trailer plug underneith the bus on the left side. Start by checking the microbird side. If you do not have current on wires, the problem will be on the chassis side. If current is good, check for current at « Y » molex connectors behind the rear head pad above the rear emergecy door. Refer to the wring schematics supplied with your bus for details.



Trailer plug underneith vehicle left side for GM and Ford E series and center for Ford Transit

**Mirrors (outside) not heating:** 



# If the heated mirror does not get hot, first check if the red light is activated on the switch. If it is, it means there is current from fuse block to switch. Then check if there is current on the wire going to the mirror and check the grounds. If everything has been checked, the problem might be with the element in the back of the mirror glass. It is possible to replace the glass portion of the mirror only.

#### **Options not working: What to check first**

1- Look behind electrical panel door above driver to see which fuse to look at and make sure it is not burned.



- 2- Check for current at wire next to fuse. If there is no current, the port on the fuse block might be defective. Remove the fuse, insert in another location on the same fuse block and move the wire in front of the fuse. Check for current.
- 3- Test wire at the option itself to see if it is getting good current from body. If you are getting good current, than the part is defective
- 4- If you are not getting good current, there is problem between the option and the fuse block. Refer to the wiring schematics supplied with your vehicle to find cause.

#### Propane fueling issue:

The vehicles will be fast or slow to fill depending on the weather and the equipment of the propane dispenser. The propane goes through the engine and returns back into the tank, heats it up and causes pressure to build. If the dispenser used to fill up is old, it will not be able to fight the pressure and easily fill up. If there is more than 20 lbs difference in pressure between the dispenser and the tank, the vehicle will allow fuel to fill the tank, however, very slowly. You should make sure to find a fuel location with pumps that are allowing the pressure differential to open the check valve and fill the fuel system easily.

#### Radio not working correctly:

Contact your distributor for help.

#### Strobe light not working:

Before replacing the strobe light, you should first check the fuse in the electrical compartment and make sure it is not burned. If fuse is not burned, remove the strobe to access wiring and check for current going to it. If there is current and all connections are good, the strobe might be defective.

#### Transmission cannot be put out of park:

If the bus is equipped with a wheelchair lift for disabled passengers, there will be a system that prevents the bus from being driven if the lift is not completely stowed and the doors are not correctly closed and securely locked.

If the wheel chair lift is correctly stowed and the doors are fully closed, look under the head pad above door and make sure the interlock micro switch is not broken or pushed away from the rods.

Follow the wiring diagram to see if both fuses for the interlock are still good and check current to the microswitch.

If you press on the switch and the vehicle can be put out of park, the switch is probably misaligned. If the switch is pressed but the vehicle cannot be put out of park, the switch might be defective. If your vehicle is equipped with a second door switch, you may check this switch as well by pressing on both switches at the same time. If the second door switch works when you push on it but does not work with door closed, maybe the switch is too far from the edge of the door to make proper contact. If it still does not work, maybe you need to check the wiring on this switch as well.

If you own a vehicle built on a Ford E chassis, you can pull on the dash piece underneath the steering wheel to access bypass control button to enable vehicle to be put out of park.





#### COMMERCIAL BUS LIMITED BODY WARRANTY

Micro Bird Inc. warrants that each new MB "Series" bus body will be free of defects in factory-supplied materials and/or workmanship under normal use and service within the limits below.

- 1. For a period of five (5) years/160,000 kilometers or 100,000 miles, whichever occurs first from date of delivery of the vehicle to the original user, Micro Bird Inc. warrants the:
  - a. Body structure (those structural metal components welded or riveted together forming floor, side walls, roof, front and rear sections) to be free from defects in structural integrity (i.e. breakage or cracking) including rust-through.
- 2. For a period of one (1) year/20,000 kilometers or 12,000 miles, whichever occurs first from date of delivery of the vehicle to the original user, Micro Bird Inc. warrants the:
  - a. Parts on a Micro Bird by Girardin other than chassis parts.
  - b. Accessories, or components, except those having their own separate warranty and/or those accessories or components listed under the section Exclusions (Page 2).

Micro Bird Inc. obligation covered in this Limited Body Warranty is limited to the repair or replacement (parts and labour) of such parts as shall, under normal use and service, appear to have been defective in workmanship or material. Without restricting the generality of this limitation, loss of use, commercial loss, and maintenance are specifically not covered.

Micro Bird Inc. cannot and will not assume any responsibility in connection with any of its bodies that have been altered outside the factory or without the written approval of the service and Warranty Department. Overloading beyond the normal seated and standee capacity voids all warranties. This limited warranty is expressly in lieu of all other warranties exposed or implied and all other obligations or liabilities. No person, including salesmen, dealers, distributors, or factory representatives of Micro Bird Inc., is authorized to make any representation or warranty concerning Micro Bird by Girardin products except to refer purchasers to this limited warranty. Micro Bird Inc. makes no warranty of merchantability of fitness for a particular purpose. Micro Bird Inc. shall not be liable for incidental or consequential damages. This warranty is to be governed by and interpreted in accordance with the existing laws, trade practices and uses of the province of Québec.

Micro Bird Inc. reserves the right to make changes in design and changes or improvements upon its products without imposing any obligations upon itself to install the same upon products theretofore manufactured.

#### **EXCLUSIONS**

This limited warranty does not cover maintenance, wear or impact on Micro Bird by Girardin products, including, but not limited to, flexible and rigid hoses, electric wiring and harnesses and any other item that may show evidence of negligent use, overloading, abuse, accident, improper maintenance or storage, improper use, or unauthorized alterations.

The following factors are beyond control of Corporation Micro Bird Inc. and do not qualify for a refund pursuant to the warranty.

- a) Vehicle or parts damaged during shipping or storage;
- b) Cost of missing options to meet state or province regulations. The minibus is built according to the distributor's signed purchase order.
- c) Paint damage caused by road debris, including stone chipping, environmental and industrial fallout;
- d) Transportation of vehicle for inspection and/or repair purposes;
- e) Costs incurred by overtime work;
- f) Troubleshooting and diagnosis time due to a lack of product knowledge;
- g) Cost of replacement vehicle (similar product) during repairs under warranty;
- h) Cost of transportation and communications during repairs under warranty;
- i) Failure on chassis (cut away) or chassis parts;
- j) Failure caused by non-Micro Bird by Girardin parts or components;
- k) Normal noises, vibration, deterioration, discoloration, deformation and fading are not considered defects and are not covered by any warranty.

#### **CLAIMS**

All warranty repairs must originate within the warranty period as stated herein and must be submitted through an authorized Micro Bird dealer and through Micro Bird Service and Warranty Department. A warranty repair estimate (parts and labor) over \$200.00 must be submitted in writing for approval by Micro Bird Service and Warranty Department. (Include a detailed description and pictures of the problem in question). The estimate, and all required information, may be submitted via e-mail to speed up processing. **Approval must be obtained prior to any repairs over \$200.00**. Repairs must be completed no later than ninety (90) days following receipt of an approval from the Micro Bird Service and Warranty Department. Sublet repairs will be credited at Micro Bird warranty labor rate.

#### INSTRUCTIONS TO GET REIMBURSED FOR WARRANTY WORK

# Your Micro Bird dealer needs to be contacted before making any changes to your vehicle while it is still covered by warranty. If you attempt to modify the bus yourself it will void the warranty.

Micro Bird buses are covered by a 1 year limited warranty. To benefit from this warranty, here are some guidelines which need to be followed for the repairs and claims to be handled quickly.

#### \*\*\* If you find a missing component in your vehicle, or the location of an item to be unsatisfactory, the Micro Bird dealer needs to call Micro Bird for parts and/or instructions before proceeding with any modification.\*\*\*

- 1- The final user of a Micro Bird bus is <u>NOT AUTHORIZED</u> to have work performed under warranty without authorization from their Micro Bird dealer.
  - a) The buses need to be repaired at a Micro Bird dealer. If, for some reason, you cannot get to a Micro Bird dealer, they will authorise the repair at a garage near you. An estimate will be requested and the detailed invoice will need to be sent to Micro Bird to be evaluated. The sublet garage needs to contact the Micro Bird dealer if he is not sure how to handle repairs. **Troubleshooting and diagnosis time due to a lack of product knowledge is not reimbursed.**
  - b) If the issue is electrical, the dealer is allowed 1 hour of diagnosis before contacting Micro Bird for help.
  - c) **In any situation**, if repair is expected to be over 200\$, the dealership will need to call Micro Bird to get a pre-authorization before repairs. This will give Micro Bird the opportunity to provide instructions or repair procedures that will enable the bus to go back on the road quickly and keep repair costs down.
  - d) When a claim is submitted by a dealership, they need to provide a detailed explanation of the complaint, cause and correction as well as pictures if needed to evaluate and issue a quick reimbursement. Please make sure you have these available to accelerate process.
- 2- In such cases where parts have to be replaced, defective parts need to be kept on hand until the claim has been paid as we might request them back for expertise.
- 3- If the issue is aesthetic or needs to be seen to evaluate and answer a claim, even if the amount of repairs is very small, pictures will need to be supplied so Micro Bird can evaluate and advise production or manufacturers of these defect possibilities.

- 4- For Air conditioning issues the Micro Bird dealer will help you with diagnosis issue and if needed, will direct you to an ACC or MCC authorized repair center which will honour the warranties on their systems.
- 5- For chassis related issues, same guidelines apply. The Micro Bird dealer needs to be contacted **FIRST**. **The issue might not be a FORD or GM issue.** It might be related to one of the options installed by Micro Bird which are connected to the chassis. If it is determined the repair needed concerns the chassis only, the Micro Bird dealer will authorise the bus to be taken to a FORD or a GM service center.

#### IMPORTANT CONTACT INFORMATION

#### **OWNER INFORMATION**

Vehicle information number (VIN):						
Micro Bird body number:						
In service date: Mileage at delivery:						
Owner name:						
Address:						
City:	Zip Code:					
Phone number:	-					
MICRO BIRD DEALER INFORMATION						
Dealer name:						
Service Contact:						
Address:						
City:	Zip Code:					
Phone number:						
GM ROADS	DE ASSISTANCE					
United States: 1-800-243-8872	Canada: 1-800-268-6800					
GM CUSTOMER ASSISTANCE						
United States: 1-800-222-1020	Canada: 1-800-263-3777					
FORD ROADSIDE ASSISTANCE						
United States: 1-800-665-2006	Canada: 1-800-665-2006					

#### FORD CUSTOMER ASSISTANCE

United States: 1-800-241-3673

#### Canada: 1-800-241-3673

NOTES:


