e-ride INDUSTRIES

Where Quality and Versatility Meet Savings!

MADE IN U.S.A PRODUCT

2016 Model Owners Manual

21DEC2015REV16

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Section 1: Introduction

1.1 A Note to the Customer

Thank you for purchasing your zero emission, battery powered Neighborhood Electric Vehicle (NEV) from *e-ride Industries*. Customer satisfaction and safety are the primary concerns of *e-ride Industries*. For this reason, it is recommended that you take the time to read through this entire manual for important information about the safe use and maintenance of your electric vehicle.

1.2 About the Manual

This owner's manual is designed to familiarize you with the safe and proper use of your new *e-ride* vehicle. It will help you learn about the features, controls, and operation of your new electric vehicle. It will also give you important information about maintenance and the associated safety information. **This manual is applicable to the two passenger EXV2 model and the four passenger EXV4 model.**

1.3 Vehicle Identification

The vehicle identification number (VIN) is found on the VIN/Certification Label. This label is located on the base of the driver's seat facing the door. The VIN contains information such as the model year, type, GVWR, tire pressure, and other useful information. Please record the 17 character vehicle identification number in the space below:

Vehicle Identification Number (VIN):

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Date Purchased: _____/_____/_____

Section 2: General Specifications

2.1 e-ride Industries Flatbed Utility Vehicle (EXV2)

Curb weight	2150 pounds
GVWR	3,000 pounds
Length	155 inches
Width	66 inches
Height	69 inches
Flatbed bed size	66 inches x 59 inches
Drive system voltage	72 volt
Batteries	8 volt flooded lead acid – qty. 9 (optional maintenance free Lithium-ion)

Drive Axle	Gear reduced direct drive 12.49:1 gear ratio
Motor	72 volt DC separately excited (optional 72 volt AC)
Top Speed	25 miles per hour
Tires	15” street rated
Brakes	Hydraulic four wheel disc brakes with drum parking brake
Steering	Rack & pinion
Chassis	Aluminum riveted uni-body
Bumpers	Steel front and rear
Suspension	Independent front suspension, leaf spring solid axle in rear

Speed Controller	72 volt 400 amp (optional 72 volt 550 amp AC drive system)
Charger	120 volt 15 amp AC to 72 volt 21 amp DC charger
Charge time	Max 8 hours with standard batteries
Lights	4-Headlights (2-low and 2-high), taillights, turn signals, hazard lights, and brake lights.

2.2 e-ride Industries Coach Transportation Vehicle (EXV4)

Curb weight	2,180 pounds
GVWR	3,000 pounds
Length	145 inches
Width	60 inches
Height	70 inches
Pickup box size	28 inches x 55 inches
Drive system voltage	72 volt
Batteries	8 volt flooded lead acid – qty. 9 (optional maintenance free Lithium-ion)

Drive Axle	Gear reduced direct drive 12.49:1 gear ratio
Motor	72 volt DC separately excited (optional 72 volt AC)
Top Speed	25 miles per hour
Tires	15” street rated
Brakes	Hydraulic four wheel disc brakes with drum parking brake
Steering	Rack & pinion
Chassis	Aluminum riveted uni-body
Bumpers	Steel front and rear
Suspension	Independent front suspension, leaf spring solid axle in rear
Speed Controller	72 volt 400 amp (optional 72 volt 550 amp AC drive system)

Charger	120 volt 15 amp AC to 72 volt 21 amp DC charger
Charge time	Max 8 hours with standard batteries
Lights	4-Headlights (2-low and 2-high), taillights, turn signals, hazard lights, and brake lights

Section 3: Lighting

3.1 Locations

3.1.1 Headlights

The headlights are found in the front of the vehicle mounted into the front of the hood. There are four headlights total. The dim lights are the center two and the outer two lights are the bright lights. The dim lights operate with just the center two lights and all four lights are illuminated on the bright setting. Headlights should be kept clean and in good operation at all times as not to impair visibility.

3.1.2 Front Parking Lights/ Turn Signals

These lights operate as both the front turn signals and the parking lights. They are located in the front of the vehicle mounted into the front of the hood. They are the rectangular amber colored lights located just below the headlights on either side of the vehicle. They operate when the headlights are turned on as well as flashing for the corresponding turn signal and hazards.

3.1.3 Taillights/ Brake Lights/ Rear Turn Signals

These lights have three functions and are the red rectangular lights at the rear of the vehicle mounted into the tail panel. These operate on their dim setting as the tail lights when the headlight switch is turned on. They operate on the bright setting when flashing with the corresponding turn signal and hazards and also when the brake pedal is pushed.

3.2 Headlight Bulb Replacement

1. Make sure the lights switch and key switch have been turned off.
2. Remove cover from the light by removing the four nuts.
3. Remove the wire connector from the headlight.
4. Turn the bulb counter-clockwise and pull it straight out to remove it from the housing.
5. To put back together, go through steps 2 – 4 in reverse order.

3.3 Taillight Bulb Replacement

1. Make sure the lights switch and key switch have been turned off.
2. Turn the socket counter-clockwise to release it from the housing.
3. Pull the bulb straight out to remove it from the socket.
4. To put back together, go through steps 2 and 3 in reverse order.

3.4 Flasher Replacement

1. Make sure the lights switch and key switch have been turned off.

2. Remove the console and dash assemblies. The flasher is located on the firewall directly below the wiper motor.

3. Remove it from its retainer and replace. (Flasher # is 552).

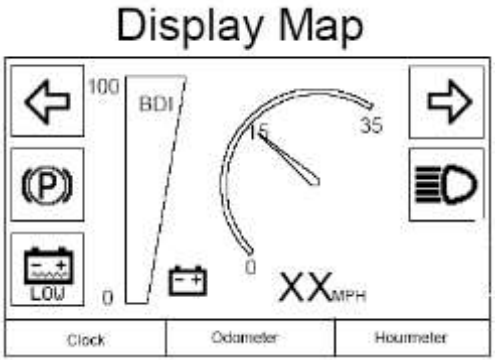
4. To put back together, go through steps 2 and 3 in reverse order.

Note: The turn signals and hazards use the same flasher.

Section 4: Driver Controls

4.1 Digital Dash Display

The digital dash display is the large flat screen monitor located in the center of the dash between the selector switch and the 12 volt accessory power outlet. This display shows multiple functions and includes all the dash instrumentation.



4.1.1 Vehicle Speed

The display shows speed on a sweep dial of 0-35 miles per hour. It also displays below the sweep dial a digital reading of the speed.

4.1.2 Odometer

The display shows the total miles on the vehicle. The miles are not resettable. On the digital dash display, it is located at the bottom center of the screen.

4.1.3 Hour Meter

The display shows the total hours the key has been turned on. On the digital dash display, it is located at the bottom right side of the screen. The hour meter is not resettable.

4.1.4 Battery Discharge Indicator (BDI)

The display shows the state of charge on a bar graph of 0-100 percent. When BDI reaches 0% state of charge the battery discharge indicator located to the lower left of the graph will flash and the caution light located on the display to the right of the digital screen will illuminate. When ever a vehicle reaches a low state of charge it is extreamly important to re-charge the batteries right away to prevent complete battery failure. (See section *5.3 Charging* of this manual for the charging procedure)

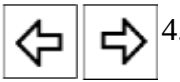
4.1.5 *Battery Water Level Indicator (std. flooded lead acid batteries only)*

This illuminates when the battery water level is low. **This is a warning that displays when the water level is low enough to cause battery damage.** In the event that this light illuminates, fill the batteries with distilled water from the fill tube provided after the next charge cycle. (See section *6.1.1 Battery Water Filling* in this manual for battery filling procedure)

***Note: Do not rely on this light for battery watering routine maintenance purposes.**

4.1.6 Clock

The display shows the time of day. This is set by pressing the buttons located on the display below the digital screen. On the digital dash display, it is located at the bottom left side of the screen. To set the clock you will need to use the three push buttons on the display located below the screen, press and hold the button with the right arrow for 3 seconds and then release when the main menu appears. Press the up and down buttons to navigate to the clock setting feature and press the right arrow button. Use the up and down buttons to change the hours, then press the right arrow button. Use the up and down buttons to change the minutes and press the select button. Finally, press the up and down buttons to navigate to the exit menu and press the right arrow button.



4.1.7 *Left, Right & Hazard indicators*

These illuminate when the left, right or hazard turn signals are turned on.

4.1.8 *Parking Brake Indicator*

This illuminates when the parking brake is engaged.

4.1.9 *High Beam Indicator*

This illuminates when the high beam headlights are turned on.

4.2.10 *Diagnosis Screen*

To enter the diagnosis screen press the up button. (Lithium batteries only)

4.2 Dash Controls

4.2.1 *Ignition Key Switch*

The ignition switch is the chrome plated cylinder located on the dash to the right of the steering wheel and to the left of the selector switch. Insert the ignition key and turn clockwise to power up the vehicle.

4.2.2 12 Volt Accessory Power Outlet

The accessory power outlet is located to the right of the digital dash display. The outlet is only operational when the key switch is on. For safety purposes, there is a rubber plug attached to the outlet. Keep the outlet covered when not in use to prevent anything unintended from entering. The accessory outlet accepts a standard automotive 12 volt accessory plug and is intended for items such as cell phone chargers. Maximum supply current is **15 amps**.

4.2.3 Direction Selector Switch

This switch is the rocker switch located on the dash to the right of the steering wheel and to the left of the digital dash display. Press the top of the switch to move the vehicle forward. Press the bottom of the switch to move the vehicle in reverse. The center position of this switch is neutral.

To prevent damage to the motor, do not at any time change the direction of the selector switch unless the vehicle is at a complete stop.

4.2.4 *Horn*

This switch is the round black button located to the left of the steering wheel and above the three-switch block. Push the button to sound the horn. The horn will sound as long as the button is held and stop when the button is released.

4.2.5 Lights Switch

The lights switch is a black rocker switch located in the three-switch block on the dash to the left side of the steering wheel. The light switch is the left one in the block. This switch controls the low headlights as well as the front parking lights and taillights. Turn these lights on by pressing on the top of the switch; turn them off by pressing on the bottom of the switch.

Always remember to turn on your headlights at dusk or dawn and during inclement weather. Failure to activate your lights under these conditions could result in an accident.

4.2.6 Bright Switch

The bright switch is a black rocker switch located in the three-switch block on the dash to the left side of the steering wheel. The bright

switch is the center one in the block. This switch controls the bright headlights. Turn the bright headlights on by pressing on the top of the switch; turn them off by pressing on the bottom of the switch. When the bright headlights are on, the high beam light indicator will illuminate in the digital dash display. The high beams only work when the low light switch is turned on.

When approaching another vehicle or person, be sure to turn off the bright headlights to avoid blinding, which may cause an accident.

4.2.7 Wiper Switch

The windshield wiper switch is a black rocker switch located in the three-switch block on the dash to the left side of the steering wheel. The wiper switch is the right one in the block. This switch controls the front windshield wipers. Turn the wipers on by pressing on the top of the switch; turn them off by pressing on the bottom of the switch. For information on the use of the optional windshield washer, refer to section *9.1.6 Windshield Washer*

4.2.8 DC Cab Heater/ Defroster (Without Air Conditioning)

The controls for the heater/defroster are two black rocker switches located on the center console to the right of the driver. The first switch, labeled "HEATER", controls the heating element. Press the top of the switch to turn it on and the amber light on the switch will illuminate when it is on. Turning this switch on automatically starts the heater fan on the slow speed. The second switch is, labeled "FAN", is the heater fan which controls the amount of air flow from the heater. Press on the top of the rocker to toggle through the medium and high settings. The heater fan can also be used with the heater element turned off to circulate cab air, but only on the medium and high settings. The heater and fan will only function with the ignition key turned on. The air from the heater exits through two vents on the top of the dash, whose main function is defrosting, and the two vents on the sides of the console. The lower vents can be turned off by flipping the deflector closed on the vent; this provides more airflow and heat to the defroster vents for faster windshield defogging.

4.3 Steering Column Controls

4.3.1 *Turn Signal Lever*

The turn signal lever is the longer of the two on the left side of the steering column. Push the lever up to engage the right turn signal and pull it down to engage the left turn signal.

4.3.2 *Steering Column Tilt Lever*

The steering column tilt lever is the shorter of the two on the left side of the steering column. Pull the lever toward you to release the tilt lock, adjust the column to the desired tilt and release the lever.

Do not attempt to adjust the column tilt while the vehicle is in motion.

4.3.3 *Hazard Light Switch*

The hazard light switch is the small knob on the right side of the steering column. Push the lever in to turn on the hazard lights; pull it out to shut them off.

4.4 Under-Dash Controls

4.4.1 *Accelerator Pedal*

The accelerator pedal is the foot pedal on the right. Depress it to accelerate the vehicle; release it to decelerate the vehicle. In the event that the battery charger is plugged in, the accelerator pedal will not function until the charger is unplugged.

4.4.2 *Brake Pedal*

The brake pedal is the wider black pedal on the left. Depress the pedal to apply the brakes. The amount of pedal pressure directly correlates to the amount of vehicle braking. The vehicle will also slightly "brake" due to a regenerative braking when the vehicle is at speed and the accelerator is not depressed. No brake pedal input is required. This applies only to the rear wheels and is more prominent on the standard DC drive system than the optional AC system. This can also slightly recharge the battery pack, which can help to extend vehicle's range.

***Note:** The optional AC drive vehicles are equipped with electronic assist braking which adds extra regenerative braking power when the brake pedal is depressed and as a result does not take as much brake pedal force to stop the vehicle.

4.4.3 *Parking Brake*

The parking brake is the lever handle located to the right of the driver's seat. To engage the parking brake, pull the lever up toward yourself until it ratchets tight. To disengage, pull up slightly on the handle and push the button on the end. This will allow the handle to be lowered which releases the parking brake. It may be necessary to adjust the parking brake tension over time. See the vehicle service manual if parking brake adjustment is needed.

***Note:** The parking brake needs to be released to drive the vehicle. This is done for safety reasons. When the park brake is engaged, a parking brake symbol will be illuminated in the middle left location of the digital dash display. (See section *4.1.8 Parking Brake Indicator* for indicator function details)

When parking the vehicle, always set the parking brake to prevent rolling.

4.5 Driver Comfort and Visibility

4.5.1 Seat Position Lever

The driver and passenger seats are on tracks that can be adjusted forward and back. The adjustment lever is located at the front, just below each seat. To move the seat, pull the lever to the side and slide the seat to the position you desire. Releasing the lever will lock the seat in place.

***Note:** Rear seats (on EXV4 models only) are not adjustable.

Do not attempt to adjust the driver seat while the vehicle is in motion. Always make sure that the seats are locked in place before operating the vehicle.

4.5.2 Side-View Mirrors

There are mirrors positioned on both the right and left sides of the vehicle mounted on the door and are adjusted manually. Your view should be adjusted so that the vehicle's rear tires are just visible in the bottom inside corner of the mirror. This will minimize any "blind spots" in your field of view.

Always check to see if it is clear behind you before changing lanes or backing up to avoid any collisions or accidents.

4.5.3 Rearview Mirror

The rearview mirror is mounted at the top center of the windshield. This mirror is adjusted manually and is intended to give the driver view out the back of the vehicle. The mirror operates in either day or night settings which are adjusted with the tab at the bottom of the mirror. If the tab is pulled toward you it is in night mode; if it is pushed toward the windshield it is in day mode.

4.6 Operator/ Passenger Restraint System

4.6.1 Restraint Operation

Research has proven that seat belts save lives. Wearing your seat belt properly can reduce the seriousness of injuries in a vehicle accident. Abide by the following rules when using your safety restraints to obtain their full benefit:

a. All vehicle occupants should always properly wear their safety belts.
b. Lap belts should fit snugly and as low as possible around the hips, not across the waist.
c. Make sure children sit where they can be properly restrained.
d. Two people should never be belted into a single seat belt. People belted together can crush one another in an accident, causing injury. Never use a lap belt for more than one person.

It is extremely dangerous to ride in the cargo area of the vehicle. Do not allow occupants in any area of your vehicle that is not equipped with seats and seat belts.

4.6.2 Restraint Maintenance

Periodically check all the safety belts, buckles, latch plates, retractors and anchorages to ensure they are working properly. Look for any other loose or damaged safety belt system parts. If you see anything that might keep a safety belt system from working properly, have it repaired. All safety belt assemblies used in vehicles involved in a collision should be replaced. However, if the incident was minor an inspection should be performed by a qualified service technician for damage and proper operation and replaced if necessary. Safety belt assemblies not used during a collision should also be inspected and replaced if damaged or improper operation is found.

Failure to inspect and, if necessary, replace the safety belt assembly following a collision could result in severe personal injuries in the event of another collision.

4.6.3 Child Restraints

It is required by law for children to use safety restraints in the United States. If small children ride in your vehicle (generally children who are four years old or younger and weigh 40 lbs (18 kg) or less), you must put them in safety seats made especially for children. Check your local state laws for specific requirements regarding the safe transportation of children in your vehicle. Always follow the instructions and warnings that come with any infant or child restraint you might use.

Never let a passenger hold a child on his or her lap while the vehicle is in motion. The passenger cannot protect the child from injury in a collision.

Section 5: Vehicle Operation

5.1 Main Disconnect Switch

The vehicle is equipped with a master disconnect switch that detaches the battery pack power from the rest of the vehicle systems. This switch is located at the front of the vehicle inside the front right wheel well. The switch is equipped with a key on a chain. To power the vehicle, insert the key into the socket and turn clockwise until it locks in. To relieve power from the vehicle, turn the key counterclockwise and remove the key. This switch should be disengaged before any maintenance or repairs are performed on the vehicle.

***Note:** If the vehicle is equipped with Optional AC drive system and without lithium batteries this switch does not disconnect the low voltage circuit. The F5 fuse also needs to be removed to disconnect the 12v battery. (See S*ection 6: Maintenance*)

5.2 Vehicle Drive Sequence

The driving inputs should be done in the following sequence to engage the drive system properly:

1. Make sure the vehicle is unplugged from all power cords and the main battery disconnect has its key engaged.
2. Turn the ignition key switch on.
3. Depress the brake pedal.
4. Release the parking brake.
5. Push the directional selector switch to either forward or reverse.
6. Release the brake when you are ready to drive and lightly depress the accelerator pedal.

***Note:** The vehicle will not drive if the accelerator pedal is depressed while engaging the direction selector. The accelerator must be fully released and then re-engaged to drive

When driving, reduce speed in proportion to steering input to prevent roll-over.

5.3 Vehicle Drive Characteristics/Behaviors

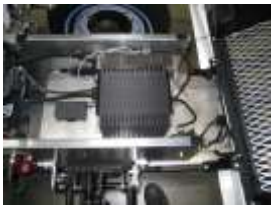
This electric vehicle has a few characteristics to the drive system that are different from a regular fossil fuel powered automobile. The vehicle should be driven for the first time in a safe environment to help fully understand its performance. The following is a list of some of the behaviors that a typical automobile user might not be familiar with in an electric vehicle:

1. When decelerating (zero throttle input) the vehicle will have a slight regenerative braking (AC drive only), which assists in slowing the vehicle down and at the same time helps to slightly recharge the battery pack. This is essentially very light braking of the rear wheels.
2. The vehicle is equipped with only a parking brake to prevent it from rolling while parked. It is imperative that it is engaged before exiting the vehicle.
3. (AC drive vehicles only) The optional AC drive are equipped with electronic assist braking which adds extra regenerative braking power when the brake pedal is depressed and as a result does not take as much brake pedal force to stop the vehicle.

5.4 Charging (Flooded Batteries Only)

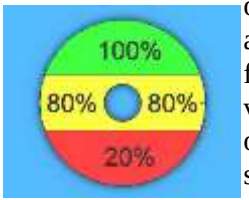
See Section 5.5 for Lithium Batteries

This manual contains important safety and operating instructions for charging your vehicle. Before charging, read all of the instructions and cautionary information in this manual and on the vehicle itself.



5.4.1 Charger General Information

The battery charger is a self-regulating charger with a minimum of moving parts, designed for long, trouble free service. The charger utilizes convection cooling which maximizes the reliability and minimizes any maintenance costs. It is located in the vehicle beneath the hood and under the aluminum tunnel cover. If your vehicle is equipped with air conditioning the charger is located at the rear of the vehicle. The charging plug is found at the front and center



of the vehicle in the bumper. If the vehicle is equipped with other optional AC powered accessories their plugs will be near the charger plug as well. Be sure to use the correct plug for charging. There is a charge status indicator that can be seen through the front grill of the vehicle (the front of the hood) towards the driver's side. This LED light shows the progress of the charge. The color of the light is described by the sticker around the LED which is shown to the left and also described below:

Red (20% battery charged or more)	Green (100% charged)
Yellow (80% battery charged or more)	Off (No AC power is connected)

5.4.2 Charger Supply Power Requirements

Voltage: 85-138 or 195-265 volts AC (Single Phase)
Max Power Consumption: 1800 watts
Continuous Power Consumption: 1440 watts
Frequency: 45-65 hertz

***Note:** When using a GFCI outlet the tripping point of the GFCI must be higher than 3.5 milliamps.

The vehicle can be plugged into every 2P+E 125V 15A (NEMA 5-15R) or 2P+E 230V 16A outlet, and therefore ends the need for a charge room. Before charging, the user will have to make sure that the chosen place for charging complies with the required safety standards:

- Electric wiring must be conforming to National Electrical Code NFPA 70 or NF C 15100 standards, or must comply with standard regulation in activity inside the country to power mains supply. The presence of grounding (earth) wire and a frame with a proper ground-fault protection breaker is mandatory.

- The electric socket must be of the type NEMA 5-15R 3 hole outlet 125V 15A or 2P+E 230V 16A correctly connected and protected by a proper current-fault circuit

breaker. The installation must comply with standard regulations in activity inside the country to power mains supply.

5.4.3 Extension Cord Requirements

Always use a three-conductor, No. 14 AWG heavy duty cord with ground that is properly wired. The extension cord should be in good electrical condition, and kept as short as possible. Make sure the pins on the plug of the extension cord are the same number, size, and shape as the AC plug of the vehicle. The use of an improper extension cord could result in the risk of fire or electrical shock. Place all cords so they will not be stepped on, tripped over or otherwise subjected to damage or stress.

5.4.4 Charging Procedure

1. Make sure the vehicle is in a well ventilated area and the main battery disconnect has its key engaged.
2. Connect the AC supply cord to the correct outlet at the front of the vehicle.
3. The charger will start after a short delay as indicated by the light in the round display of the charge status indicator. It may be any of the three colors depending on the battery state of charge at the time.
4. Once the charge is completed the charger will turn off automatically and the indicator will turn green. After the charger has turned off, disconnect the AC supply cord from the outlet.

Lead acid batteries generate gases which can be explosive. Charge the batteries only in well ventilated areas. Keep sparks, flame, and smoking materials away from batteries.

5.4.5 Trickle Charge

As long as the charger cord stays connected to the vehicle, a new charge cycle is triggered 24 hours after the end of the last charge cycle. This continually maintains the batteries at full charge as long as it is plugged in and compensates for the natural battery discharge over time.

5.4.6 Anti-Drive

The vehicle utilizes a safety feature to keep a user from driving away with the power cord still connected. This prevents potential damage to the power cord. As long as there is a power cord plugged into the battery charger inlet plug at the front of the vehicle and power is present, the vehicle will power up with the ignition key but it will not move. Once the power cord is disconnected, the vehicle should operate.

5.4.7 Partial Recharging

The charger is designed to adapt automatically to all battery discharge states and allows all types of partial charge cycles or "opportunity charging". This means the vehicle can be charged at anytime no mater what the state of charge.

5.4.8 Charge Time

Charge time will vary depending on the depth of discharge, age and temperature of the batteries. Allow up to 8 hours for normal full recharging.

5.4.9 Charger Safety Information

a. To reduce the risk of electrical shock, unplug the charger from a live outlet or disconnect AC power to the outlet before attempting any maintenance or cleaning.
b. DO NOT use jumper cables to the batteries on this vehicle.

c. Only charge this vehicle with the appropriate battery charger that is supplied with the vehicle.
d. Before charging, the state of connections and cables must be checked, and tightened if necessary.
e. Charge the vehicle only when the ignition switch is in the “off” position.
f. Charge the vehicle only in a room free of pollution and with sufficient ventilation.

WARNING: Improper connection of the equipment-grounding conductor can result in a risk of electric shock.

5.5 Charging (Lithium-ion Batteries Only)

See Section 5.4 for standard flooded batteries.

This manual contains important safety and operating instructions for charging your vehicle. Before charging, read all of the instructions and cautionary information in this manual and on the vehicle itself.

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5.5.1 Charger General Information

The battery charger is a self-regulating charger with a minimum of moving parts, designed for long, trouble free service. The charger utilizes fan assisted convection cooling which maximizes the reliability. It is located in the vehicle beneath the hood and under the aluminum tunnel cover. If your vehicle is equipped with air conditioning the charger is located at the rear of the vehicle. The charging plug is found at the front and center of the vehicle in the bumper. If the vehicle is equipped with other optional AC powered accessories their plugs will be near the charger plug as well. Be sure to use the correct plug for charging.

To prolong the life of lithium batteries they should not be charged below freezing. To prevent below freezing charging the batteries are equipped with a battery warmer. In the event that the batteries are below freezing when you plug in the vehicle the warmer will turn on instead of the charger. As soon as the batteries are above freezing the warmer will turn off and the charger will turn on. Also to both sides of the inlet plug at the front bumper are indicator lights. One is labeled “Charging” and the other “Warming”. These lights indicate to the operator that the vehicle has power. They also indicate the action that is taking place. If the batteries are below freezing when plugged in the warming light will illuminate. As soon as the batteries reach 5 deg. C the charger and charging light will come on. Once charge is complete the charging light will go out. Warmer will shut off when batteries reach 10 deg. C.

5.5.2 Charger Supply Power Requirements

Voltage: 90-260 volts AC (Single Phase)
Max Power Consumption: 15 Amps
Continuous Power Consumption: 13 amps

Frequency: 45-65 hertz
Specification of inlet plug: C19
***Note:** When using a GFCI outlet the tripping point of the GFCI must be higher than 3.5 milliamps.
The vehicle can be plugged into every 125V 15A (NEMA 5-15R) or 230V 15A (NEMA 6-15R) outlet, and therefore ends the need for a charge room. Before charging, the user will have to make sure that the chosen place for charging complies with the required safety standards:

- Electric wiring must be conforming to National Electrical Code NFPA 70 or NF C 15100 standards, or must comply with standard regulation in activity inside the country to power mains supply. The presence of grounding (earth) wire and a frame with a proper ground-fault protection breaker is mandatory.

- The electric socket must be of the type NEMA 5-15R 3 hole outlet 125V 15A or NEMA 6-15R 230V 15A correctly connected and protected by a proper current-fault circuit breaker. The installation must comply with standard regulations in activity inside the country to power mains supply.

5.5.3 Charge Time

Charge time will vary depending on the depth of discharge, age and temperature of the batteries. The higher the input voltage is the faster the vehicle will be re-charged. It will take 3hrs 30 mins on 220 VAC and 7 hrs on 120 VAC to fully re-charge the vehicle when the batteries are above 10 deg. C. When battery temp. is colder than 10 deg. C charge times will be longer.

5.5.4 Extension Cord Requirements

Always use a three-conductor, No. 14 AWG heavy duty cord with ground that is properly wired. The extension cord should be in good electrical condition, and kept as short as possible. Make sure the pins on the plug of the extension cord are the same number, size, and shape as the AC plug of the vehicle. The use of an improper extension cord could result in the risk of fire or electrical shock. Place all cords so they will not be stepped on, tripped over or otherwise subjected to damage or stress.

5.5.5 *Charging Procedure*

1. Make sure the the main battery disconnect is turned on.
2. Connect the AC supply cord to the correct outlet at the front of the vehicle.
3. The charger will start after a short delay as indicated by the light next to the inlet plug. If battery warming needs to take place first then the warming indicator light will turn on.

4. Once the charge is completed the charger will turn off automatically and the charge indicator will turn off. After the charger has turned off, disconnect the AC supply cord from the outlet.

5.5.6 Anti-Drive

The vehicle utilizes a safety feature to keep a user from driving away with the power cord still connected. This prevents potential damage to the power cord. As long as there is a power cord plugged into the battery charger inlet plug at the front of the vehicle and power is present, the vehicle will power up with the ignition key but it will not move. Once the power cord is disconnected, the vehicle should operate.

5.5.7 Partial Recharging

The charger is designed to adapt automatically to all battery discharge states and allows all types of partial charge cycles or "opportunity charging". This means the vehicle can be charged at anytime no matter what the state of charge.

5.5.8 Charger Safety Information

g. To reduce the risk of electrical shock, unplug the charger from a live outlet or disconnect AC power to the outlet before attempting any maintenance or cleaning.
h. DO NOT use jumper cables to the batteries on this vehicle.
i. Only charge this vehicle with the appropriate battery charger that is supplied with the vehicle.
j. Before charging, the state of connections and cables must be checked, and tightened if necessary.
k. Charge the vehicle only when the ignition switch is in the "off" position.

WARNING: Improper connection of the equipment-grounding conductor can result in a risk of electric shock.

5.6 Batteries (Flooded Batteries Only)

See Section 5.7 for Lithium Batteries

The vehicle is equipped with nine 8 volt flooded cell lead acid batteries. The batteries are located down the center of the vehicle under the battery covers. There are several simple steps that can be taken to achieve maximum battery life and performance.

5.6.1 Battery Watering

Make sure to fill batteries with water monthly or promptly when there is any indicated need. The batteries must be refilled with distilled or de-mineralized water to avoid internal damage. Electrolyte levels lower during discharge and rise during charge. **Therefore, it is mandatory that water be added to cells ONLY when they are fully charged.** Older batteries may require more frequent watering than new batteries. (See section *6.1.2 Battery Water Filling* for battery watering procedure)

5.6.2 Battery Break-In

When the batteries are new, make sure to charge the battery pack before its first use. No special procedures are needed for seasoning the batteries other than just to use the vehicle and charge it regularly. New batteries are not capable of their rated output until they have been discharged a number of times. It generally takes 90-120 cycles to fully maximize battery capacity.

5.6.3 Depth of Discharge

Do not excessively discharge the batteries. Excessive discharge can cause polarity reversal of individual cells resulting in complete failure shortly thereafter. Limited discharge depth of new batteries will also minimize the chance of cell reversal. Charge the batteries to their full state once a month whether they are used or not to ensure they will not fully discharge. Continually deeply discharging the batteries will also shorten their cycle life.

5.6.4 Storage

Do not park the vehicle and leave it for any length of time with discharged batteries. The batteries can discharge to the point where damage will occur and the battery charger will not charge them. Shut off the main battery disconnect to help prevent any phantom power drains. The batteries will continue to self-discharge over time so it is recommended that the vehicle is charged once a month. The main battery disconnect must be turned back on to charge the vehicle.

If the vehicle is allowed to sit in conditions of 0 degrees C (32 degrees F) or less with a state of charge of 20% or less, **the batteries could freeze.** If the batteries happen to freeze, it may cause damage to the batteries and permanently greatly reduce their capacity. If the car has been in these conditions for a significant length of time, place the vehicle in an area warmer than 0 degrees C (32 degrees F) and allow it to warm up before charging. **Never charge the vehicle if the batteries may be frozen.**

If the vehicle must be stored for any time longer than 3 weeks it is recommended to make sure the batteries have a sufficient amount of water in them and then plug in the battery charger and leave it plugged in. As long as power is present, the battery charger will cycle back on every 24 hours to top off any discharge that may have happened. If it is assured that power will always be present and the battery charger is continuing to function; the vehicle can be stored in a cold environment. Batteries last longer when kept cold.

5.6.5 Cleaning and Maintenance

Keep the top of the batteries clean and dry to ensure long lasting, trouble-free operation. Also, make certain the battery cables are always tightly fastened to the battery terminals. Make sure the cables are tight to the terminals but be careful not to over tighten. Any corrosion present on the batteries or terminals should be cleaned promptly by brushing them off with a wire brush. The acid can be neutralized with a solution of baking soda and water. (See section *6.1 Battery Maintenance* for proper cleaning procedures and maintenance)

5.7 Batteries (Lithium Batteries Only)

See Section 5.6 for Flooded Batteries

The vehicle is equipped with either 24 x 3 volt lithium cells or with the optional extended capacity version 48 x 3 volt cells. The cells are located down the center of the vehicle under the battery covers.

5.7.1 Battery management system (BMS)

These lithium cells are monitored by a battery management system (BMS) which is located under the drivers seat. This is the heart of the lithium system. This single device monitors all lithium cells. Some of the major tasks it performs are to make sure all cells are equalized, charged and discharged correctly and are operating at the correct temperature. Normal operating temp of lithium cells is 10-65 deg. C. Actions are taken automatically to make sure you achieve maximum life.

5.7.3 Temperature Control

The lithium battery pack is equipped with a battery warmer. This warmer is automatically controlled by the BMS. Warmer operates from the inlet power source (AC) when plugged in or the battery pack power source (DC) when not plugged in. Any time the cells are below 10 deg. C the warmer is turned on. When warmer is on the warmer light at the front bumper next to the inlet plug will be illuminated. In the event that the battery pack reaches 0% SOC the warmer is turned off regardless of cell temp. Due to the battery warmer operating off the battery pack power it is always best to plug the vehicle in on a daily basis. Shutting off main battery disconnect will turn off the warmer.

In the event that the cells reach 65 deg. C the vehicle will stop operating. Operation will continue when cells cool back down. The only way cells will reach this temperature is by rapidly discharging and re-charging simultaneously.

5.7.3 Battery Break-In

This Lithium battery pack doesn't require any break in period. Full rated capacity is optainable after the first charge. Only variation is if the cells are not completely equalized. In this case the BMS will continue to equalize the battey pack automatically with the goal of aptimizing full capacity.

5.7.4 Depth of Discharge

In the event that the vehicle reaches 0% SOC the BMS will turn off vehicle completely. Vehicle will not power back up until it is plugged in. Vehicle must be re-charged as soon as possible. If cells sit beyond 30 days in a discharged state there is a good chance cells will be bad and need replacement. Cell cycle life decreases anytime they are discharged below 60% state of charge. If vehicle is equipped with AC drive system at 10% SOC the vehicle will enter a limp mode. This limp mode decreases power and top speed.

5.7.5 Storage

Do not park the vehicle and leave it for any length of time with discharged batteries. The batteries can discharge to the point where damage will occur. Always shut off the main battery disconnect. Failure to do so warmer can discharge battery pack rapidly. The batteries will continue to self-discharge over time so it is recommended that the vehicle is charged once a month. The main battery disconnect must be turned back on to charge the vehicle. If stored in below 5 deg. C temperatures longer re-charge times will be needed because the cells must be warmed above 5 deg. C before charger will operate.

Section 6: Maintenance

This vehicle contains a high voltage electrical system. If this vehicle is not used properly or serviced as stated in this manual, serious injury or death may result. Read this manual prior to charging or servicing this vehicle.

Batteries can produce explosive gases. Therefore, do not allow sparks or flames to come near the batteries. When working near the batteries always shield your face and protect your eyes. Always provide ventilation.

Whenever cleaning or servicing the batteries, be sure to disconnect the main disconnect switch. Also if a 12 volt accessory battery is supplied (AC drive models), the fuse in location F5 of fuse panel must be removed for any service work performed on the vehicle.

6.1 Battery Maintenance

6.1.1 Battery Safety Precautions

Always observe the following personal safety precautions when working with lead acid batteries:

a. Someone should be within range of your voice or close enough to come to your aid when you work near a battery.
b. Keep batteries out of the reach of children.
c. Batteries contain sulfuric acid. Avoid acid contact with skin, eyes or clothing. Shield your eyes when working near the battery to protect against possible splashing of acid solution. If acid comes in contact with eyes or skin, flush the affected area immediately with water for a minimum of

15 minutes and consult a physician. If acid is swallowed, call a physician immediately.

d. To avoid arcing when removing a battery, turn off all lights and accessories.
e. Always only connect the positive (+) cable to the positive terminal and the negative (-) cable to the negative terminal. Reversing polarity is very dangerous.
f. Never smoke or allow a spark or flame in the vicinity of the batteries.
g. Be extra cautious to reduce risk of dropping a metal tool onto battery. It might spark or short-circuit battery or other electrical part that may cause explosion.
h. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a battery. A lead acid battery can produce a short-circuit current high enough to weld a ring or the like to metal, causing a severe burn.
i. Never charge a frozen battery.
j. Do not lift a battery by the terminal posts, or internal damage may result.

6.1.2 Battery Water Filling (flooded batteries only)

If your vehicle is equipped with flooded batteries the battery cells need to be checked and filled on a routine basis. It is recommended that this be done monthly. In the event that it takes more than one gallon of distilled water to fill the batteries, it is recommended to fill the batteries sooner than once a month. Perform this in a well-ventilated area that is dry and well lit.

To fill the batteries:

1. Items needed are the provided water fill tube and distilled water.
2. Open the hood and locate the battery water fill hoses. One has a red cap on the hose and the other has a black cap and they are both strapped to the wiring harness. Take the cap off both the connectors.
3. Place the fill tube into your container of distilled water.

4. Prime bulb by squeezing until filled with water.
5. Connect the water fill tube female coupler to the vehicles male coupler that has a red cap. To connect them, just press the two connectors together until it clicks
6. Squeeze the bulb with firm pressure to pump water into the battery cells. When the bulb becomes firm the front bank of batteries is full of water.
7. Immediately disconnect the couplers by pressing the gray button on the female coupling and replace the red dust cover on the main coupling.
8. Connect the water fill tube female coupler to the vehicles male coupler that has a black cap. To connect them, just press the two connectors together until it clicks
9. Squeeze the bulb with firm pressure to pump water into the battery cells. When the bulb becomes firm the rear bank of batteries is full of water.
10. Immediately disconnect the couplers by pressing the yellow button on the female coupling and replace the red dust cover on the main coupling.

Note: In the event that the bulb will not get firm either the fill tube or fill system need service.

Filling batteries in freezing temperatures:

To fill batteries in temperatures below freezing the fill system installed into the vehicle is designed to handle being frozen. One step that can be taken to help prevent any issues is after filling the batteries with water lower the male coupling on the vehicle and press the valve on the end of the coupling. This will release any pressure and drains some of the water in the hose out which helps with expansion when the water freezes in the hose. If you are in a climate with long periods (1 month or longer) of freezing weather the vehicle will need to be able to be placed in a location above freezing to allow the fill system to thaw so the batteries can once again be filled. If the vehicle can't be placed in a location above freezing it is possible that the fill system will thaw just after a re-charge. Normally it's a good idea to only fill the batteries with water before a re-charge but this is one exception. Also note that the fill tube which has the primer bulb should have all water removed from it if kept in below freezing temperatures.

6.1.3 Battery Pack Access

The battery pack is located down the center of the vehicle within the battery tunnel. They can be accessed most completely through the inside of the cab. Because the cab space is limited on the EXV2 model it is equipped with a battery access panel in the flatbed for easy maintenance and service of the rear batteries.

Battery compartment inside the cab (EXV2 and EXV4 Models):

1. Remove the center armrest pad.
2. Unplug the center console wire harness behind the driver's side of the console.
3. Disconnect the heater hoses.
4. Remove the center console.
5. Remove battery tunnel covers. (Secured by Velcro)

Battery compartment below the flatbed (EXV2 Models Only):

1. Shut off the main disconnect switch.
2. The access panel is located in the front and center location of the flat bed.
3. There are four slotted quarter-turn fasteners that secure the access panel to the flatbed. Use a flat screwdriver or similar tool to release the fasteners.
4. To lift the access panel out of its hole, there is a notch cut in the rear of the panel. Use a flat screwdriver and place it in this notch. The panel should lift up easily.

6.1.4 Battery Pack Inspection

Inspection Procedure:

1. Make sure main battery disconnect has been shut off and access the batteries as described above.
2. Inspect for any loose connections by wiggling the top post battery cables where they attach to the top of the battery. If you find any signs of a loose cable connection, they must be tightened by a trained professional before the main disconnect switch is turned back on. *Note: The main battery disconnect does not disconnect power from battery to battery.
3. Inspect for any acid spills or corrosion to the battery posts or cables. If corrosion exists, the aluminum or metal components will turn white in color. All acid or vulnerable metals must be cleaned appropriately by a trained professional before the main disconnect switch is turned back on.
4. Reassemble all removed components to the vehicle before turning the main disconnect switch back on.

6.1.5 Battery Disposal

Always dispose of batteries in a responsible manner. Follow your local standards for disposal. Contact your local authorized recycling center to find out more about recycling batteries.

6.2 Charger Maintenance

The battery charger requires minimal maintenance. It should be kept clean and all connections should be tightly secured. In the event of intermittent operation, examine and tighten, if necessary, all connections. If any problems cannot be resolved, consult a qualified service center. Do not disassemble the charger; take it to a qualified service center when service or repair is required. Incorrect reassembly may result in the risk of electrical shock or fire.

DANGER: To reduce risk of electric shock, always disconnect the AC supply cord from its outlet and the DC output cord from the battery before attempting any maintenance or cleaning of the battery charger.

6.3 Brakes

The fluid level on your brake system is a crucial safety component. The level should be checked periodically on the side of the reservoir. The brake level should be within the range that is given on the reservoir, if it isn't fluid should be added. After filling, reinstall the cap and wipe off any excess brake fluid. Take care not to spill any fluid on the vehicle. If this happens, make sure to wash it off immediately with soap and water to avoid cracking, discoloration, or any other damage to the paint or any other part of the vehicle.

***Note:** The vehicle is equipped with a four-wheel hydraulic braking system, only use standard **Dot 3** brake fluid from an unopened container.

6.4 Windshield Wipers

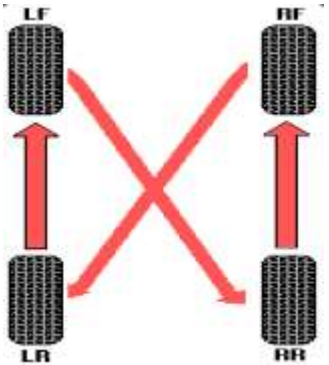
If the wiper operation results in streaky or obstructed vision, clean the blades with mild soap and water to remove any foreign material, grease or dirt. If the wiper operation still results in poor visibility, inspect the blades, the inserts, and the arms using the following guidelines:

a. Make sure that the blade and arm are not bent or dented.
b. Make sure that the blade is still pliable and not stiff or cracked.
c. If there are any defects, be sure to replace the blades to ensure safety.
d. The wiper arm is adjustable in length and angle; adjust as needed to function properly.

6.5 Tires

6.5.1 Tire Rotation

Because your vehicle's tires perform different jobs, they often wear differently. To make sure the tires wear evenly and last longer, rotate them on a regular basis. If the tires are still wearing unevenly, have them checked.



6.5.2 Wheel Alignment

At least twice a year, check the wheel alignment. If your alignment is not correct, this could cause steering resistance and rolling resistance which would cause a decrease in the range and overall performance of the vehicle. Mis-aligned tires will also cause uneven tire wear which could be a safety hazard.

6.5.3 Tire Pressure

Under-inflation increases tire flexing and can result in tire failure. Over-inflation causes a tire to be too stiff. Objects on the ground could puncture the tire more easily and tire failure could occur. Unequal tire pressure can cause steering problems and could also cause loss of control of the vehicle. Take these steps to ensure correct tire pressures:

a. Use an accurate tire pressure gauge.
b. Check the tire pressure when tires are cold, which is after the vehicle has been parked for over an hour or has been driven less than 3 miles.
c. Adjust the tire pressure according to the recommended specifications listed on the sidewall of the tires and on the vehicle's VIN label on the driver's seat base.

6.5.4 Tire Replacement

Replace the tire when the tread depth is at or less than 2/32" of remaining tire depth. Replace only with the original tire size. Tires smaller or larger than the original size may affect the accuracy of the speedometer, performance and life of the vehicle.

6.6 Fuses

6.6.1 72 Volt Fuses

All 72 volt rated fuses are located in the rear motor compartment of the vehicle. In most cases, if these fuses fail there is another issue with your vehicle. Fuse replacement and any problems that cause fuse failure should be diagnosed by a trained professional.

Front Controls Fuse - This fuse is for the front controls of the vehicle (ignition, converter, heater, etc). It is a 30 amp fuse (NON-30).

Main Drive System Fuse (DC Drive) - The main fuse for the 72 volt D.C. drive system which is rated for 325 amps (ANN-325) and is mounted in the motor bay opposite the controller.

Main drive System Fuse (AC Drive) - The main fuse for the 72 volt A.C. drive system which is rated for 425 amps (ANN-400) is mounted onto the A.C. drive controller.

6.6.2 12 Volt Fuses

The 12 volt fuses are located at the front of the vehicle beneath the hood. To access them, unlatch and open the hood and remove the aluminum tunnel cover. The fuse panel is a small black box in the center. Remove the cover by pressing both of the side tabs and lifting upward. The fuse circuit, size and panel locations are given in the following table:

Fuse Location	Circuits Protected	Fuse
F1	Ignition	3 Amp
F2	Hazard & Turn Lights	10 Amp
F3	Radio	10 Amp
F4	Interior Dome Light, KWH meter	5 Amp
F5	12 Volt Battery (A.C. Drive only)	25 Amp
F6	Battery Management System (Lithium-ion Only)	5 Amp
F11	Headlights	20 Amp
F12	Horn, Backup Alarm, Backup Light	15 Amp
F13	Brake Lights, Wiper Motor, 12 Volt Accessory Outlet	15 Amp
F14	Heater Coil, Heater Fan, Radio ignition	10 Amp
F15	2-Speed Fan, Beacon Light	10 Amp
F17	Air Conditioner	20 Amp

6.7 Key Replacement

To obtain an extra or replacement key for your vehicle please call the *e-ride Industries* Customer Assistance Center at 1-800-950-4351.

6.8 Care and Cleaning

To clean the vehicle, you can use any mild cleaning soap or cleaner and soft towel for the entire vehicle (seats, glass, dash, etc.). A soft clean towel is suggested to avoid surface scratches and water spotting.

Caution: Do not rinse the interior of your vehicle. Direct water on the charger plug, dash panel or instrument panel could result in damage to the electrical system.

6.9 Maintenance Schedule

Vehicle Maintenance Table

TASK	MONTHLY
1. Check all nine batteries for proper water level (flooded batteries only)	X
2. Check tires for correct pressure and wear	X
3. Check for correct operation of parking brake	X
4. Check brake fluid for proper level	X
5. Check brake lines for leaks	X
6. Check headlights, blinkers, brake lights, wipers	X
7. Check seat belts for proper operation	X
8. Check battery terminals for tight connections and corrosion	X

Section 7: Transporting the Vehicle

The vehicle should be transported on a trailer only. Do not tow the vehicle with the drive wheels in contact with the road. The best way to transport your vehicle is in an enclosed trailer. When towing the vehicle follow these directions:

1. Only load the vehicle facing forward.
2. Tie down the vehicle using an X pattern.
3. Be sure to tie down any loose objects.

Do not tow the vehicle at speeds in excess of 25 miles per hour with any of the wheels in contact with the ground. e-ride Industries will void all warranties if the vehicle is towed in this manor.

Section 8: Customer Assistance Information

Customer satisfaction is a primary goal of *e-ride Industries*. If you have any questions or concerns with your *e-ride* vehicle, please contact the e-ride Industries Customer Assistance Center.

By Mail: e-ride Industries Customer Assistance Center
3171 92nd Avenue Princeton, MN 55371
By Phone: 1-800-950-4351
Hours of operation: Monday through Friday CST, 8am to 5pm
By e-mail customer.assistance@e-ride.com

When contacting the Customer Assistance Center, please have the following information available:

- ✓ The vehicle identification number (VIN)
- ✓ The year and model of your vehicle
- ✓ The date you purchased the vehicle
- ✓ The current odometer reading
- ✓ The name of the dealer the vehicle was purchased from

Section 9: Vehicle Options

Please note we offer a high number of options. This list is only the most common options. If you need information on an option you don't see listed please contact us and we can provide you with the information.

9.1 EXV2 & EXV4 Model Options

9.1.1 AC Drive System

The AC drive system includes an upgraded brushless (maintenance free) 35 H.P. motor which is controlled by the Curtis 550 amp controller (sealed to IP65 rating). This drive system is designed to give more acceleration power and speed holding. It is ideal for hilly applications. It holds 25 MPH up to a 10% grade hill. The vehicle equipped with this option is also capable of acceleration from 0-25 MPH in 10 seconds. (Actual performance will be based on battery state of charge, load, grade, etc.)

9.1.1 Air Conditioning

The controls for the air conditioner and heater/defroster are two black rotary switches located on the center console to the right of the driver. The first switch, labeled “FAN”, controls the amount of air flow. By turning the switch the fan speed will increase. Each speed is labeled as “1” (low) “2” (medium) “3” (high). At this point only the fan is on which can be used in this manner to circulate cab air. The second switch, labeled “HEAT, OFF, AC”, controls the climate mode. Rotating the switch up turns on the heater. Rotating the switch down turns on the air conditioner. Note that the heater and air conditioner will not turn on unless the fan switch is turned on. Also if the fan switch is turned to the “3” (high) position and the heater control switch is turned to “HEAT” position the fan switch is overridden and will automatically be adjust down to the “2” (medium) fan speed. The air conditioner/heater and fan will only function with the ignition key turned on. The airflow exits through a total of 6 vents. Four are located on top of the dash and two are on the sides of the center console. All the vents can be turned to direct the air flow or can be turned off by flipping or rotating the deflector closed.

9.1.2 Fuel Fired Heater

The fuel fired heater has a higher heating output vs the electric powered version and has minor impact on the range of the vehicle. Depending on how your vehicle was equipped (ordered) the fuel heater will either operate off gasoline or diesel. Type of fuel needed to be used will be noted at the fuel tank. The fuel tank holds 2 ½ gallons. Depending on how the vehicle is equipped the fuel tank is placed in different locations. On the EXV4 model the tank is in the rear box. On the EXV2 model the tank is in the side storage compartment. Fuel consumption will vary from 0.05-0.14 gal/hr. Giving you 18-50 hours of heating off one tank of fuel. The heater is operated by the controls on the center console. There are many different displays used depending on how the vehicle is equipped (ordered). For operation of the controls equipped on your vehicle reference to the instructions included in the glove box with this owners manual.

Fuel fired heater gives off carbon monoxide! Extreme care must be taken that the heater is only operated outdoors!

9.1.3 Auxiliary Fan

The auxiliary fan is mounted in the center of the dash and provides air circulation for interior cooling which can improve passenger comfort in warmer climates or help defrost the windshield. The switch for the fan is located on the center console and labeled "AUX FAN". The fan is off when the switch is in the bottom position. Press on the top of the switch to rock the switch to the center position for low speed. Rock the switch to the top position for high speed. The auxiliary fan will only function with the ignition key turned on.

9.1.4 Auxiliary Cab Heater (120 volt AC)

This heater is designed to preheat the cab and defog the windshield before driving the vehicle without drawing power from the drive batteries. To operate the heater, plug in the car as if it were being charged (see section *5.4.4 Charging Procedure*). The heater and charger share the same plug, but a vehicle equipped with this option will have a label stating its presence. When the power cord is plugged into the receptacle the charger will start up. The switch for the heater is on the center console and labeled "PREHEAT". This switch has three positions; Off, On and Start. To start the heater, push on the top of the switch to rock it up to the on position and then momentarily rock the switch all the way up to the start position and release. After a few seconds, the heater will turn on and at the same time the charger will shut off. The power supply plugged into the receptacle must be unplugged before the vehicle is turned on or driven and will not do so otherwise (see section *5.4.6 Anti-Drive* for details about this function). If the power is disconnected from the receptacle and then reconnected, the heater will be off and the charger will be on. The heater switch must be restarted in order for the heater to turn back on. This heater has an amp draw of 15 amps at 120 volts.

9.1.5 Seat Heater

This option provides a heated base to a seat and can improve occupant comfort in colder climates. It has both a high and low setting. Each heated seat has its own control below and in front of the seat. The seat warmer is off when the switch is in the bottom position. Rock the switch to the center position for low setting and to the top position for high. The seat heater will only function with the ignition key turned on.

9.1.6 Radio

This option provides an AM/FM radio with a USB port and memory card slot. It features two speakers which are mounted behind each seat on an EXV2 model and on opposite ends under the dash on an EXV4 model. View the radio manual (included with the vehicle) for detailed instructions on operation of the radio. The radio will only function with the ignition key turned on. In the event that the main battery disconnect is turned off (and the F5 fuse is removed on AC drive vehicles), the radio will lose its preset settings.

9.1.7 Windshield Washer

The switch to turn on the washer pump is integrated into the standard windshield wiper switch location (See section *4.2.7 Wiper Switch* for more details). The washer feature is an added top momentary position to the standard wiper switch. To activate the washer pump, push the top of the wiper switch to the first position to turn on the wipers and then momentarily rock switch all the way up and release. The washer spray will continue until the momentary action of the switch is released. The washer will only function with the ignition key turned on. The one gallon washer fluid tank is located under the hood attached to the passenger's side of the firewall. Make sure to use appropriate washer fluid for the operating climate.

9.1.8 Sun Visors

This is a flip-down shield to help block the sunlight through the windshield and allow for better visibility. Two visors are located above the windshield for the driver and passenger.

9.1.9 Front License Plate Bracket

This bracket attaches a license plate to the front of the vehicle on the bumper. A different style bracket is provided depending with which front bumper the vehicle is equipped. The rear license plate bracket is standard on all vehicles. Use standard ¼-20 hardware to mount the license plate to the bracket.

9.1.10 Aluminum Rims

These are a cosmetic replacement for the standard white steel rims. They also are a more corrosion resistant option for the rims. The center cap and lug nuts are stainless steel.

9.1.11 Backup Alarm

The backup alarm sounds when the ignition key is on and the direction selector switch is in the reverse position. The alarm provides a continuous beeping sound to alert others of the vehicle's reverse movement.

9.1.12 Reverse Light

This is a light mounted to the center rear tail panel of the vehicle that illuminates when the ignition key is on and the direction selector switch is in the reverse position. The light helps to see when backing up and alerts others to stay clear.

9.1.13 Ladder Rack

This is a full steel frame to allow the storage of ladders on top of the vehicle. Tie down and fully secure anything placed on the ladder rack before moving the vehicle.

9.1.14 Beacon / Amber Strobe Light

The roof-mounted amber beacon light adds high visibility light to alert others of the vehicle's operation. The beacon control switch is located on the center console. The switch is labeled "STROBE". Turn this light on by pressing on the top of the switch; turn them off by pressing on the bottom of the switch. For beacon light protection, there is a beacon light guard available. This option is most commonly used on vehicles with a ladder rack. The beacon will only function with the ignition key turned on.

9.1.15 Trailer Hitch

This is a receiver tube that is mounted to the rear bumper and allows a 2" receiver to be inserted with the appropriate hitch ball size to attach a trailer. Vehicle is equipped with a 4 pin flat trailer light connector.

The total weight of the trailer, load on the trailer, along with the weight of the vehicle, passengers and load on the vehicle must not exceed the gross vehicle weight of 3000 lbs.

9.1.16 Solar Panels

This option provides a slow recharge of the vehicle's batteries from the sunlight. The amount of charge depends on the location used and amount of sunlight. The maximum charge that will be received will equate to about 10 miles per day on the 500 watt solar panel system. The panels should be kept clean by washing with soap and water. Located on the dash is a green indicator light. This light turns on when energy from the solar system is being provided.

9.1.17 Lithium-ion 100 Amp Hour Batteries

This option replaces the standard flooded lead acid batteries with maintenance free Lithium-ion battery. These batteries are the same capacity as the standard batteries, but do not require any water filling.

9.1.18 Lithium-ion 200 Amp Hour Batteries

This option replaces the standard flooded lead acid batteries with maintenance free Lithium-ion battery. These batteries are twice the capacity as the standard batteries, and do not require any water filling. The extra capacity of this battery pack doubles the max range to 55 miles.

9.1.19 Battery Warmer (Flooded batteries only)

This option is designed to keep the batteries at a temperature of 60-80 degrees Fahrenheit for those cold winter nights and days. To operate the warmer, a live 120 volt AC power cord

(not supplied with the vehicle) must be plugged into the battery warmer inlet plug. This plug is located in the center of the front bumper near the charger plug. When the power cord is plugged in, the warmer will start up only if the batteries are colder than 60 degrees Fahrenheit. The warmer has a temperature controlled thermostat connected to the center battery that automatically turns the warmer on and off to keep the batteries at the correct temperature. This option keeps the batteries close to their optimum temperature to combat their normal capacity drop due to temperature. This allows the user to maintain their driving range even if the outside temperature decreases (which would normally reduce range). The battery warmer can be plugged in at anytime and has an amp draw of 4 amps at 120 volts.

9.1.20 Extended 12 Month Limited Warranty

This is an optional extended 12 month warranty which starts the date the standard warranty is void and available for purchase within 30 days of the original invoice date. This warranty has the same stipulations as the original 12 month warranty given with the purchase of the vehicle. See *Section 10: Warranty Information* for the e-ride Industries limited warranty policy details.

9.1.21 Extended 24 Month Limited Warranty

This is an optional extended 24 month warranty which starts the date the standard warranty is void and available for purchase within 30 days of the original invoice date. This warranty has the same stipulations as the original 12 month warranty given with the purchase of the vehicle. See *Section 10: Warranty Information* for the e-ride Industries limited warranty policy details.

9.2 EXV2 Model Only

9.2.1 Tool Boxes

These are mounted on either side of the flatbed and are completely lockable for security. The tool boxes are accessible from either side on the outside of the vehicle. An optional tailgate is also available that goes between the tool boxes to contain objects placed on the flatbed. The tailgate is completely removable and attached by threaded removable knobs.

9.2.2 Topper

This is an aluminum topper that covers the full length of the flatbed. Many different versions of this topper are available. The standard topper has a flip-open window in the front to allow for cleaning. It also utilizes a flip-up window on each side as well as two doors in the back. All doors and windows are lockable and keyed alike.

9.2.3 Topper with Tool Boxes

This is an aluminum topper that covers the full length of the flatbed. Many different versions of this topper are available. The standard topper with tool boxes has a flip-open window in the front to allow for cleaning. It also utilizes a flip-up window on each side as well as two doors in the back. On each side is a tool box with one shelf and dividers. All doors and windows are lockable keyed alike.

9.2.4 Aluminum Stake Sides (open or solid design)

Constructed of aluminum, these stake sides help keep cargo on the flatbed. Threaded removable knobs are used to attach the stake sides so they can be easily removed. Also available are solid stake sides which function the same way but have solid panel sides.

9.2.5 Transporter – People Hauler

This option converts the back of the flatbed into two bench seats that run the length of the flatbed with a full canvas top to provide shade. The passenger foot rests fold up for easy transport of the vehicle without passengers. This option can be built to specific customer specifications if needed.

Never, at any time, exceed the gross vehicle weight of 3000 lbs.

9.2.6 Utility Refuse Dump Box

This is a hydraulic lift dump box made from a steel frame with a 2 cubic yard poly box. It can be equipped with optional flip-down box sides for easy loading. To flip down the sides, lift both latch handles out and slide toward each other. The dump box has a safety switch that will not allow the vehicle drive unless the box is completely down. To lift the dump box, set the park brake, place direction selector switch in the neutral position, and turn off the ignition. Locate the hand-held remote switch on the driver's side front of the unit frame. Take it out of the holder and press the up button on the switch. Stand back from the vehicle

while the lift is in process. Lift the box until all of the material in the box is emptied. Press the down button on the remote switch to lower the box. Never drive the vehicle unless the box is completely lowered. When access to the batteries is needed, lift the box completely and insert the prop rod into its holder. Lower the box so that there is tension on the prop rod. See section *6.1 Battery Maintenance* for proper procedures. Also, see the dump box manual for operating and maintenance procedures specific to the dump box system.

Never, at any time, exceed the gross vehicle weight of 3000 lbs.

9.2.7 Trash Hauler Cage

This is a full steel mesh cage that mounts to the flatbed. It has two large tailgates that swing open sideways. To open each tailgate, lift the latch up and swing the gate to the side and re-latch the gate to the side panel. Both sides open the same way. Make sure the gates are completely latched in the closed position before moving the vehicle.

Never at any time exceed the gross vehicle weight of 3000 lbs.

9.3 EXV4 Models Only

9.3.1 Locking Enclosure

This option is for the standard full doors with roll-up windows. All outer door handles are equipped with a lock so the doors can be locked and unlocked from outside the vehicle.

9.3.2 Dome Light

The dome light is mounted on the interior of the b-pillar. It provides light inside the vehicle cab. The light will work when the ignition switch is on or off. To toggle the light on or off, push on the button.

9.3.3 Storage Box

This is a plastic tool box that fits inside the rear cargo box and is accessible from both sides of the vehicle. The box is lockable for security purposes. To lock or unlock the tool box, insert the key and turn one quarter turn. Push latch button to open the tool box.

9.3.4 Quad Cab Enclosure

This is a topper that is mounted onto the rear box of the vehicle that encloses the box and seals it from the outside elements. This option is lockable if the locking enclosure option is also included.

Section 10: Warranty Information

e-ride will repair or replace, at its discretion, all genuine e-ride parts found faulty in material and/or workmanship, under normal use and under the circumstance that the vehicle has had the appropriate maintenance and service, with genuine new or rebuilt parts, at e-rides discretion, for parts and labor, at any authorized e-ride retailer during the warranty coverage period.

e-rides' warranty starts from the date of delivery to the first purchaser or lease owner, including any e-ride dealers that use the vehicle as a demonstrator vehicle, whichever comes first, on any new or unused e-ride vehicle. e-ride classifies a new or unused vehicle to have less than and no greater than 50 miles on the odometer at time of first original sale of vehicle. e-ride warrants the vehicle from any defective material or workmanship for the period of one (1) year for private or commercial use owners and 90 days for any rental use owners.

How to Enact Warranty

The owner must give e-ride notice of any claim within 30 days of the incident. The owner can receive warranty service by taking one of the following actions:

- Contact a local e-ride authorized dealer whether or not the dealer was the point of purchase.
- Contact e-ride Industries Customer Assistance Center.

By Mail: e-ride Industries Customer Assistance Center
3171 92nd Avenue
Princeton, MN 55371

By Phone: 1-800-950-4351
Hours of operation: Monday through Friday CST, 8am to 5pm
By e-mail customer.assistance@e-ride.com

Warranty Coverage Exclusions

- Normal wear and tear items such as (but not limited to) charger plugs and receptacles, seats, windshield wiper blades, trim pieces, fuses, brake shoes, brake pads, light bulbs, floor mats, tires, cosmetic deterioration, body panel scratches, cracks, fading and any other similar items.

- Parts and labor required for normal maintenance items including brake adjustment, wheel alignment, tire rotation, lubrication, tightening of nuts, bolts and fittings and general adjustments which may need to be performed from time to time.
- Damage caused by failure to provide proper service, maintenance and/or storage, as described in the e-ride owners manual.
- Damage resulting from improper repairs, modifications or use of non-approved parts or repairs.
- Damage resulting from continued use of vehicle after a defect is or should have been discovered.
- Damage resulting from accident, fire, theft, vandalism or any acts of war or God.
- Any damages to the batteries from the lack of charging, freezing or overheating conditions, infrequent use, charging with a charger not supplied by e-ride Industries.
- Damage or loss caused by tire puncture or failure to maintain correct tire pressure.
- Batteries are warranted by the battery manufacturer. In most cases the batteries are warranted for a period of 1 year. Under no circumstance does an extended warranty lengthen the warranty of the batteries. Contact e-ride Industries for help in locating a local battery supplier.
- Any damage done to the vehicle while being towed.
- Any water leaking into the vehicle or damage to personal property as a result.

- e-ride will only pay up to 20 miles in transportation expenses for any vehicle needing repair under warranty.
- Limited warranty may differ for vehicles exported outside the United States.
- Any damage to personal property

Modifications and Misuses

This and any other e-ride warranty will be voided if there is any evidence that the vehicle was abused or used in any unintended manner or shows indication that it has been altered in any way. Examples of alterations include the use of non genuine e-ride parts, modification of the top vehicle speed, braking system (including regenerative braking), steering, transaxle, motor, controller, charging system, electrical system parts or any other operating system of the vehicle that can cause it to perform different than e-ride's specifications. The warranty is also void if the vehicle is not maintained as outlined in the vehicles owners manual or if it is misused in such ways including: overloading, racing, used as a tow vehicle, driving over curbs or driving through water deep enough to cause electrical system damage or towing the vehicle in any manner. e-ride Industries is not responsible for any injury to person or damage to property as a result of any such above modifications, alterations or misuses.

Transfer of Limited Warranty

Warranty is transferable in the event that the vehicle is sold to a new owner. In the event that this would happen the new owner must register for a continuation of the original warranty. This can be done on e-ride Industries web site under warranty registration at www.e-ride.com or by contacting e-ride at 1-800-950-4351. In the event that this form is not filled out, e-ride will void the warranty. This form also helps e-ride to be able to contact the owner in the event that a safety or service recall is issued. Battery and tire warranty voids on transfer of warranty from the original purchaser.

Extended Limited Warranties

e-ride Industries has available an extended (1) year and (2) year limited warranty that starts at the date of the original expired warranty. All extended limited warranties purchased through e-ride industries will follow the same stipulations of the original warranty except that each warranty claim will have a $100.00 deductible that will be required to be paid by the owner of the vehicle prior to any repairs performed. A warranty claim is one component repair per one vehicle and is at the sole discretion of e-ride Industries. Extended warranties are not available for rental use owners or vehicles located outside the United States and Canada. Extended warranties can only be purchased within 30 days of the original vehicle invoice date.

Vehicle Servicing

In the event that a vehicle would need service work under the warranty, period the vehicle would be serviced by a local e-ride dealer. In the case that there is no local e-ride dealer, e-ride Industries will contact a local golf car, fork lift, or automotive repair shop to service the vehicle. If the vehicle owner has a repair center they wish to use as a service center e-ride must approve this service center prior to any work or service performed. Fleet and other vehicle owners can elect to have their own vehicles maintained and repaired by their team of service mechanics. Contact e-ride Industries customer service center for help in finding a local authorized service center.

Payment of Service Work

All vehicle parts which are found to be defective under normal use and maintenance within the limited warranty time will be repaired or replaced without charge to the owner for parts or labor. To all certified e-ride service centers, dealers and persons that wish to repair their vehicle with their maintenance crew will be reimbursed for labor according to e-ride Industries allowed time and labor hourly charge. In any case where e-ride Industries rejects any warranty work or replacement of parts, e-ride has the choice to bill the owner of the vehicle and which must be paid within 30 days. Also in any case where a dealer sells the vehicle to the customer including a warranty beyond e-ride's

warranty, as stated in this limited warranty form, the dealer will be billed for the total cost of the repair and which must be paid within 30 days. Any and all service needed requires a warranty claim number from e-ride Industries before the service is performed to receive payment. e-ride will only pay up to 20 miles in any transportation expenses for any vehicle needing repair under warranty or any transportation associated with the service call such as repair persons transportation to and from the vehicle to repair the vehicle.

Shipment of Parts under Warranty

In the event that a vehicle requires a part for a warranty repair, e-ride will ship parts free of charge. Parts that e-ride has on-hand will be shipped second day air if the vehicle is unable to drive according to the sole discretion of e-ride and the parts do not exceed 20 pounds. All other parts on hand will be shipped regular ground. In the event that parts are requested sooner, the owner of the vehicle will be billed the difference in shipping costs.

Warranty of Parts after Cancellation of Warranty

e-ride replacement parts that are replaced under warranty are only warranted the same length as the warranty they were replaced under.

Parts Purchase from e-ride Industries

All parts purchased from e-ride are given a 6 month warranty.

Disclaimer

This limited warranty is exclusive, e-ride Industries makes no other warranty of any kind, expressed or implied. Any implied warranties of merchantability or fitness for a particular purpose which exceed the obligations or time limits stated in the warranty are hereby disclaimed by e-ride and excluded from the warranty. The purchaser and e-ride expressly agree that the remedy or repair/replacement of the defective vehicle or component thereof is the exclusive and sole remedy of the purchaser. e-ride Industries makes no other representation or warranty of any kind, and no representative or employee of e-ride Industries has the authority to make or imply any representation, promise, or agreement which in any way varies the terms of this warranty. e-ride Industries reserves the right to modify this warranty at any time, being understood that such modification will not alter warranty conditions applicable to the vehicle sold while this warranty is in effect.

Sole Remedy

e-ride industries is only liable under this limited warranty, or in any action whether based upon warranty, contract, negligence, strict product liability or otherwise, is limited to the repair or

replacement, at e-ride Industries discretion, of a vehicle component thereof that e-ride Industries deems to be defective. Replacement shall mean furnishing, during the applicable limited warranty period, a new vehicle component or e-ride reconditioned vehicle component thereof which is identical or reasonably equivalent to the warranted product or component at no cost to the purchaser. Repair shall mean remedying a defect in the vehicle or component thereof at no cost to the purchaser during the applicable limited warranty period. All parts and components replaced under warranty shall become the property of e-ride Industries.

No Consequential Damages

In no event should e-ride Industries be liable for any incidental or consequential damages including, but not limited to, loss related to property other than the vehicle, loss of use, loss of time, inconvenience, or any other economic loss, coming about from defects.

Some US states have legislation that does not apply limitations on the term of a warranty or the exclusions or limitation of consequential damages, so the following limitations may not apply in your case. This warranty does not give the owner specific legal rights and, depending on the state, the owner may have additional or other rights, which may vary.

Questions

For warranty questions, please contact our Customer Assistance Center as detailed above. Please have the following information available:

- ✓ The vehicle identification number (VIN)
- ✓ The year and model of the vehicle
- ✓ The date of purchased of the vehicle
- ✓ The current odometer reading
- ✓ The name of the dealer the vehicle was purchased from