



## **2010 Model Owners Manual**

July2010rev3

## **Vehicle Registration**

Register your e-ride vehicle on-line at [www.e-ride.com](http://www.e-ride.com). Click on warranty vehicle registration, fill out the form, and click on the submit button. If you have no access to the internet please contact the e-ride Industries Customer Assistance Center at 800-950-4351 to register.

By filling out this form, you are giving us information so we can contact you for any further vehicle or service information that may become available.



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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 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 e-ride Industries models: the two passenger EXV2 and the four passenger EXV4.**



### 1.3 Vehicle Identification

For both two and four passenger models, 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

### Specifications for:

#### 2.1 e-ride Industries Flatbed Utility Vehicle (EXV2)

Curb weight	1,855 pounds
GVWR	3,000 pounds
Length	156 inches
Width	60 inches
Height	70 inches
Flatbed bed size	72 inches x 58 inches
Drive system voltage	72 volt





Batteries  
Drive Axle  
Motor

Top Speed  
Tires  
Brakes

Steering  
Chassis  
Bumpers

8 volt lead acid – qty. 9  
Gear reduced direct drive  
72 volt DC  
separately excited  
(optional 72 volt AC)  
25 miles per hour  
14” street rated  
Hydraulic front disc  
and rear drum  
Rack & pinion  
Riveted aluminum  
Steel front and rear







Suspension	Independent front suspension, leaf spring solid axle in rear
Speed Controller	72 volt with regenerative braking (optional 72 volt AC)
Charger	72 volt DC charger
Charge time	8 hours depending on discharge
Charging energy requirements	85-138 volts AC or 195-265 volts AC Max: 1800 watts Continuous: 1440 watts Single phase 45-65 hertz
Lights	Headlights w/bright, taillights, turn signals, hazard lights, and brake lights



## 2.2 e-ride Industries Coach Transportation Vehicle (EXV4)

Curb weight	1,855 pounds
GVWR	3,000 pounds
Length	145 inches
Width	60 inches
Height	70 inches
Flatbed bed size	28 inches x 55 inches
Drive system voltage	72 volt
Batteries	8 volt lead acid – qty. 9
Drive Axle	Gear reduced direct drive





Motor	72 volt DC separately excited (optional 72 volt AC)
Top Speed	25 miles per hour
Tires	14" street rated
Brakes	Hydraulic front disc and rear drum
Steering	Rack & pinion
Chassis	Riveted aluminum
Bumpers	Steel front and rear
Suspension	Independent front suspension, leaf spring solid axle in rear
Speed Controller	72 volt with regenerative braking (optional 72 volt AC)



Charger  
Charge time  
Charging energy requirements

72 volt DC charger  
8-12 hours depending on discharge  
85-138 volts AC or 195-265 volts AC

Max: 1800 watts  
Continuous: 1440 watts  
Single phase 45-65 hertz

Lights

Headlights w/bright, 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 total headlights that utilize a clear lens. The dim setting lights are the center two and the outer two lights are the bright setting lights. The dim setting operates 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 night 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 with the headlights 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 taillights with the light (headlight) switch turned on. They flash with the corresponding turn signal and hazards and also illuminate 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 taking off 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.

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### **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 to the left of the wiper motor.
3. Remove it from its plug housing and replace.
4. To put back together, go through steps 2 and 3 in reverse order.

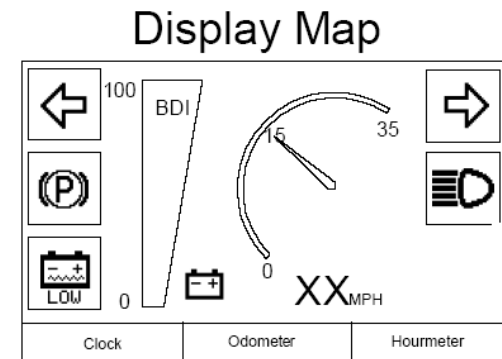
*Note: The turn signals and hazards use the same flasher.*



## 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 Battery Discharge Indicator (BDI)*

The display shows the state of charge on a bar graph of 0-100 percent. When battery percentage drops to 0 on the graph, there is 9 percent of battery capacity left. At this point of discharge, 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. (See section 5.3 *Charging* of this manual for the charging procedure)



#### *4.1.3 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.

#### *4.1.4 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.

#### *4.1.5 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, press and hold the select button 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 select button. Use the up and down buttons to change the hours, then press the select 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 select button.



#### *4.1.6 Left, Right & Hazard Indicators*

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



#### *4.1.7 Park Brake Indicator*

This illuminates when the parking brake is engaged.



#### *4.1.8 High Beam Indicator*

This illuminates when the high beam headlights are turned on.



#### *4.1.9 Battery Water Level Indicator*

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 2 ½ gallon container 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.**



## 4.2 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 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 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 accessories, such as cell phones. Maximum current usage from the outlet is **15 amps**.



#### 4.2.3 *Direction Selector Switch*

This switch is the red rocker switch located on the dash to the right of the steering wheel and the left of the digital dash display. Press the top of the switch to move vehicle forward. Press the bottom of the switch to move 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 in 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.



**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 a collision.**



#### 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. When the bright head lights 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 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 wiper. Turn the wiper on by pressing on the top of the switch; turn it off by pressing on the bottom.

### **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.

### *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 is equipped with electronic assist braking. The electric motor regens at a proportionally higher percentage the more the brake pedal is pressed. This makes braking easier as well as adding more vehicle range.



#### 4.4.3 *Parking Brake*

The parking brake is the lever handle located to the right of the driver on top of the center battery tunnel. 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 park brake. It may be necessary to adjust the parking brake tension as the rear brake pads wear. You can adjust the parking brake tension tightening the nut at the end of the cable under the vehicle.

**\*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.



**Be sure to set the parking brake when parking the vehicle 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 (if equipped) 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 side of the vehicle mounted on the door post (or the door if the vehicle is so equipped) 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 to the top center of the windshield. It is adjusted manually and is intended to give a view out the back of the vehicle to the driver. 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 day mode; if it is pushed toward the windshield it is in night 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. Some of the most serious injuries happen when people are thrown from the vehicle. Seat belts help provide protection from that. Abide by the following rules when using your safety restraints to obtain their full benefit:

- a. All occupants of the vehicle, including the driver, 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. To reduce the risk of injury, 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. In a collision, people riding in these areas are more likely to be seriously injured or killed. Do not allow people to ride in any area of your vehicle that is not equipped with seats and seat belts.**



#### 4.6.2 *Restraint Maintenance*

Periodically check all your 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 and a qualified service technician finds that the belts do not show damage and continue to operate properly, they do not need to be replaced. 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*

You are required by law to use safety restraints for children 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



**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.**



### 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.



This switch should be disengaged before any maintenance is performed on the vehicle.

**\*Note:** Also, if the vehicle is equipped with a 12 volt battery it should be disconnected prior to maintenance. (See *Section 6: Maintenance*)



## 5.2 Vehicle Drive Sequence

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

1. Turn the key switch on. (make sure the main disconnect switch is on as well)
2. Depress the brake pedal
3. Release the parking brake.
4. Push the directional switch to either forward or reverse.
5. Release the brake when you are ready to drive and lightly depress the accelerator pedal.



When driving the vehicle, be careful not to take corners too fast because the vehicle may flip.



### **5.3 Vehicle Drive Characteristics/Behaviors**

This is an electric vehicle and because of this fact it has a few characteristics to the drive system behavior that is different than a regular automobile. The following is a list of some of the behaviors that a normal automobile user might not be familiar with in an electric vehicle.

1. When decelerating (zero throttle command) the vehicle will have a slight regen which assists in slowing the vehicle down and at the same time helps to slightly recharge the battery pack.
2. When braking, the vehicle will electronically assist (regen) more than when just decelerating. (AC drive models only)
3. Initially drive the vehicle in a safe environment to help you fully understand how it performs.





## 5.4 Charging

This manual contains important safety and operating instructions for your battery charger. Before using a battery charger, read all of the instructions and cautionary markings on battery charger, battery, and the vehicle itself.

### 5.4.1 Operating Procedure

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.

Charge time will vary depending on the depth of discharge. Allow 8 hours for normal charging.



**WARNING:** Lead acid batteries generate gases which can be explosive. Charge the batteries only in well ventilated areas. Do not disconnect charger DC output terminals from battery when charger is on. The resulting arcing and burning will damage the connectors and could cause the battery to explode. Keep sparks, flame, and smoking materials away from battery.



**If the charger must be stopped, always disconnect the input supply cord from its outlet to terminate the charge.**



**Operating instructions for on-board charger:**

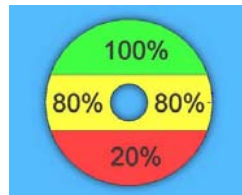
1. Connect the AC supply cord to the correct single phase outlet, located in the front bumper of the vehicle, with one of the proper voltages and frequencies as follows:

85-138 or 195-265 volts AC

Max: 1800 watts      Continuous: 1440 watts      45-65 hertz

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

2. The charger will start after a short delay as indicated by the light in the round display located through the front grill of the hood.
3. Through the grill of the hood in the front of the vehicle towards the driver's side there is a LED light that shows the state that the charger is in. Around this light is a sticker that looks like this diagram that explains what each of the three colors of the light mean:





Red (20% battery charged)

Green (100% charged)

Yellow (80% battery charged)

Off (No AC power is connected)

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

5. Anti-Drive

When a power cord is plugged into the front outlet of the vehicle and power is present the vehicle will power up but it will not move. In any case were AC power is still present at the front AC charger outlet make sure to have the park brake set and the ignition key turned off before you exit the vehicle. After the AC cord is disconnected from the front charger outlet restart the vehicle and disengage the park brake and the vehicle will move.



#### 6. Trickle charge

When the charger AC cord stays connected to the vehicle, a new charge cycle is triggered 24 hours after the end of the last charge cycle in order to compensate the auto-discharge.

#### 7. Partial recharge

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

#### 5.3.3 *AC Input and Grounding*

This battery charger must be grounded to reduce the risk of electric shock. This charger is equipped with an electric cord having an equipment-grounding conductor with insulation as an outer surface that is green, with or without yellow stripe(s). If repair or



replacement of the electric cord or plug is necessary, do not connect the equipment-grounding connector to a live terminal.



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

#### *5.3.4 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.



### 5.3.5 *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. The vehicle can be plugged into every 2P+E 125V 15Amps (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 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. Presence of grounding (earth) wire and frame with proper ground-fault protection breaker is



mandatory. Also note that when using a GFCI outlet the tripping point of the GFCI must be higher than 3.5 milliamps.

- The electric socket must be of type NEMA 5-15R 3 holes outlet 125V 15A or 2P+E, 230V 16A, correctly connected and protected by proper current-fault circuit breaker. Installation must comply with standard regulation in activity inside the country to power mains supply
- Before charging, the state of connections and cables must be checked, and tightened if necessary.
- Charge to be made when the electric vehicle is off position.
- Charge has to proceed in a room without pollution and with sufficient ventilation.





## 5.4 Optimizing Battery Performance

The vehicle is equipped with nine 8 volt batteries. They 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.

### 5.4.1 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 *6.1.1 Battery Water Filling* for battery watering procedure)



#### *5.4.2 Battery Break-In*

When the batteries are new, make sure to charge the battery pack before its first use. Limit the use of new batteries for first five cycles. New batteries are not capable of their rated output until they have been discharged a number of times. It takes 90-120 cycles to fully maximize range.

#### *5.4.3 Charge Cycling*

Do not excessively discharge batteries. Excessive discharge can cause polarity reversal of individual cells resulting in complete failure shortly thereafter. Limited use of new batteries will also minimize the chance of cell reversal. Charge the batteries to their full state every two months whether you have used them or not to ensure they will not fully discharge. The batteries require 90-120 charge cycles before they can reach the full capacity.



#### 5.4.4 Storage

**Do not park the vehicle and leave it for any length of time with discharged batteries.** The batteries could discharge to the point where damage could occur and the battery charger will not charge. Shut off main battery disconnect to help prevent any phantom power drains. Batteries will continue to self discharge 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 you allow the vehicle to sit in conditions of 0 degrees C (32 degrees F) or less with a state of charge of 20% or less, **the battery could freeze.** If the batteries happen to freeze, it may cause damage to the batteries and permanently reduce their capacity. If in cold conditions, place the vehicle in an area greater than 0 degrees C and allow it to warm up before charging. **Never charge the vehicle if the batteries may be frozen.**



#### *5.4.5 Cleaning and Maintenance*

Keep the top of the batteries clean and dry to insure longer lasting, trouble-free operations. 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.



## 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.**

### 6.1 Battery Maintenance



**Batteries normally produce explosive gases which can cause personal injury. Therefore, do not allow flames, sparks or lighted substances to come near the battery. When working near the battery, always shield your face and protect your eyes. Always provide ventilation.**





**Whenever cleaning or servicing the batteries, be sure to unplug the main disconnect. Also if a 12 volt accessory battery is supplied the 25 amp fuse in location F5 of fuse panel must be removed for any service work performed on the vehicle.**

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 reach of children. Batteries contain sulfuric acid. Avoid 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 immediately with water for



- a minimum of 15 minutes. If acid is swallowed, call a physician immediately.
- c. To avoid sparks when removing a battery, turn off all lights and accessories.
  - d. Connect positive (+) cable to positive terminal, connect negative (-) cable to negative terminal. Reversing polarity can be very dangerous.
  - e. If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flood eye with running cold water for at least 10 minutes and get medical attention.
  - f. Never smoke or allow a spark or flame in the vicinity of 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 lead acid 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.





### 6.1.1 Battery Water Filling

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. Fill the provided tank with distilled or de-mineralized water.
2. Open the hood and locate the battery water fill hose. It has a blue cap on the hose and is strapped to the wiring harness. Take the cap off the connector.



3. Place the supplied 2 ½ gallon tank on the roof of the vehicle with the tank fill hose hanging over the front of the windshield.
4. Connect the tank female connector to the male connector from the vehicle. To connect them just press the two connectors together until it clicks.
5. Keep filling the water bottle as necessary to continue filling the batteries (it fills the best with a full tank). The wheel in the tank fill hose will continue to spin fast as long as water is going into the batteries. Once the wheel has slowed down or stopped, the batteries are full of water. Disconnect the water bottle hose by pressing the button on the coupler and re-attach the battery pack fill hose to the vehicle with the cap in place.

**Note:** Never keep the water tank connected to the vehicle. As soon as the fill wheel slows down or stops disconnect the tank. In the event that the tank stays connected too long the batteries will **overflow**. The floats that shut the water off



going to each battery cell can continue to let a small amount of water into the battery cell causing it to eventually **overflow**.

#### 6.1.2 Battery Pack Access



**Before removing any parts to access the batteries for inspection, disconnect the main battery disconnect located in the front passengers side wheel well. Always remember when inspecting the batteries that the main battery disconnect only disconnects power to the vehicle and does not disconnect power from battery to battery.**



#### **EXV2 Models:**



The EXV2 model is equipped with a battery access panel in the flat bed for easy maintenance and service of the rear batteries.

Battery compartment below the flatbed:

1. The access panel is located in the front and center location of the flat bed.
2. 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.
3. 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.

Battery compartment inside the cab:

1. Remove the center armrest pad.
2. Unplug center console wire harness at the rear driver's side of the console. (Only if supplied with options in the console)
3. Unplug heater hoses. (Only if supplied with heater)



4. Remove the center console.
5. Remove the battery covers.

**EXV4 Models:**

1. Shut off the main battery disconnect.
2. Remove the center pad inside the cab.
3. Unplug center console wire harness at the rear driver's side of the console. (Only if supplied with options in console)
4. Unplug heater hoses. (Only if supplied with heater)
5. Remove the center console.
6. Remove the battery cover in the center of the vehicle.





### *6.1.3 Battery Pack Inspection*

#### Inspection Procedure:

1. Make sure main battery disconnect has been shut off.
2. Inspect the fluid level in each cell by looking to see how high the white float is sitting in each cell cap. If a battery cell is full of water the white float indicator will be at the top of the fill cap. If the battery cell needs water the white float indicator will be recessed into the fill cap. Before checking the level of these floats, rock the vehicle slightly to free any stuck floats.
3. Inspect for any loose connections by wiggling the top post battery cables where they clamp onto 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



battery disconnect is turned back on. \*Note: The main battery disconnect does not disconnect power from battery to battery.

4. 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 corrosive metals must be cleaned appropriately by a trained professional before the main battery disconnect is turned back on.
5. Replace all components back into the vehicle before turning the main battery disconnect back on.

#### *6.1.4 Battery Disposal*

Always dispose of batteries in a responsible manner. Follow your local authorized standards for disposal. Call your local authorized recycling center to find out more about recycling batteries. You may also call your local Interstate Battery Dealer to pick up used or dead 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. You should check it 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.

When you are adding brake fluid to the reservoir, be careful not to spill any fluid onto 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 blade with mild soap and water to remove any foreign material, grease or dirt. If the wiper operation still results in poor visibility, inspect the blade, the insert, and the arm 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.



## **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 you notice that the tires are still wearing unevenly, have them checked.

### *6.5.2 Tire Alignment*

At least twice a year, check your tire 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 you to lose 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, after the vehicle has been parked for over an hour or has been driven more than 3 miles.
- c. Adjust the tire pressure according to the recommended specifications listed on the sidewall of the tires and on the 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. 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).

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 weather 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 Table***

<b>Fuse Location</b>	<b>Circuits Protected</b>	<b>Fuse</b>
F1	Ignition	3 Amp
F2	Hazard & Turn Lights	10 Amp
F3	Radio	10 Amp
F4	Interior Dome Light	5 Amp
F5	12 Volt Battery (A.C. Drive only)	25 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



### 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.). Also, make sure to use a soft clean towel to avoid surface scratches and water spotting.



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





### 6.9 Maintenance Schedule

#### Vehicle Maintenance Table

TASK	MONTHLY
1. Check all nine batteries for proper water level	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. If you have to use an open trailer, be sure to do the following:

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.
4. On EXV4 models only, a strap must be used over the plastic roof panel to hold it in place.



**Towing the vehicle at speeds in excess of 25 miles per hour with any of the wheels in contact with the ground is not recommended. e-ride Industries will void all warranties if 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 92 <sup>nd</sup> Avenue Princeton, MN 55371
By Phone:	1-800-950-4351
Customer Assistance Center hours:	Monday through Friday CST, 8am to 5pm
By e-mail	<a href="mailto:customer.assistance@e-ride.com">customer.assistance@e-ride.com</a>



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: Warranty Information**

### **e-ride Industries Limited Warranty Policy**

e-ride will repair or replace, at its option, 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 option, 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 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 speedometer at time of first original sale of vehicle. e-ride warranties 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 obtain warranty:

Customers must give e-ride notice of any claim within 30 days of incident.

- From a local e-ride authorized dealer which may have been a dealer you purchased your vehicle from.
- Fleet and other vehicle owners can elect to have their own vehicles maintained and repaired by their team of service mechanics.
- Contact e-ride customer service to help you find a local authorized service center.

By Mail at: e-ride Industries  
Customer Assistance Center



3171 92<sup>nd</sup> Avenue  
Princeton, MN 55371

By Phone: 1-800-950-4351

By e-mail: [customer.assistance@e-ride.com](mailto:customer.assistance@e-ride.com)

Customer Assistance Center hours: Monday through Friday CST, 8am to 5pm

Warranty coverage will not in any event cover:

- Normal wear and tear such as 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, 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 owner's manual.

Warranty coverage will not in any event cover:

- Damage resulting from improper repairs, modifications or use of non approved parts or repairs.
- Damage resulting from continued use of vehicle after 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 manufacture. In most cases the batteries we us are from Interstate and are warranted for a period of 1 year. Under no circumstance does an extended warranty lengthen the warranty of the batteries.
- Any damage done to the vehicle while being towed.
- Any water leaking into the vehicle or damage to personal property because of this.
- 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

#### Voiding of warranty

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 such as the use of non genuine e-ride parts, modification of the top



vehicle speed, braking system or regen, 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-rides specifications. The vehicle is not maintained as outlined in the vehicles owners' manual or misuse of the vehicle 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 property if any such above modifications and alterations are made.

#### 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 on e-ride Industries web site under warranty registration at [www.e-ride.com](http://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.

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.



#### 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 it was replaced under.

#### Parts purchased from e-ride Industries

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

#### Servicing of vehicle

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. In the case were the owner of the vehicle knows of a repair center they wish to use the vehicle can be serviced by that repair center in the case the e-ride approves the repair 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-rides 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 lbs. All other parts on hand will be shipped regular ground. In the event that you need your parts sooner the owner of the vehicle will be billed the difference in shipping costs from what e-ride pays.

#### 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. Battery and tire warranty voids on transfer of warranty from original purchaser.



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 option, 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 or victory reconditioned vehicle or 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 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 give you specific legal rights and, depending on the state, you may have additional or other rights, which may vary.



### **9.6 Questions**

For warranty questions, please contact our Customer Assistance Center (see contact information on page 75). 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 10: Vehicle Options

### 10.1 EXV2 & EXV4 Models

#### *10.1.1 AC Drive System*

The AC drive system upgrades your drive system to a 35 H.P. motor and a Curtis 550 amp controller.





### *10.1.2 Hard Doors*

The doors are fiberglass construction with steel reinforcement. This option is only for applications that wish to have the safety of doors but not a fully enclosed cab.

### *10.1.3 Full Doors with Roll Up Windows*

The full doors are fiberglass construction with steel reinforcement, safety glass roll up windows, and weather stripping seal around each door creating a tight seal. This option is for typical applications where the entire cab is enclosed and possibly heated. It is available to have non-locking or locking door handles. Locking handles have a key that locks and unlocks the outer door handle for security purposes.





#### *10.1.4 Rear enclosure*

This is an aluminum enclosure that seals the cab from the outside elements if the vehicle is equipped with full doors. It comes standard with a picture window and sliding windows are available. To open the sliding window, pull forward on the plastic locking tab and slide window. To close, just slide the two window halves together until the plastic locking tab clips back together.

#### *10.1.5 CD Player/Radio*

The radio features two front mounted speakers and an AM/FM radio with a compact disc player. The faceplate is detachable for added security. View the radio manual for detailed instructions on use of the radio. The radio will function with the ignition key in the on position. There is also the option to add two rear speakers on the EXV4 model. In the event that the main battery disconnect is turned off and F5 fuse is removed on AC drive vehicles only, the radio will lose its preset settings.



#### *10.1.6 DC Cab Heater/ Defroster*

The heater/defroster provides interior cab heat for vehicles with full doors and rear enclosure. The heater/defroster includes two upper dash vents and two lower cab vents. The lower cab 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. There are two switches labeled, HEATER and FAN, located on the center console that controls the heater and heater fan. The fan is off when the FAN switch is in the bottom position. To turn the fan on medium speed, rock the switch to the center position. To turn the fan on high speed, rock the switch to the top position. To turn on the heating element, rock the HEATER switch to the top position. When the heating element is on low speed, the fan is automatically turned on for safety purposes. The heater and fan will only function with the ignition key turned on. The center vent on the top of the console is the air intake for air recirculation. Do not block this vent or obstruct it in any way. This may cause damage to the heater unit.



#### *10.1.7 Beacon/ Amber Strobe Light*

The roof-mounted amber beacon light adds high visibility when driving inside a warehouse or in out door conditions. The beacon control switch is located on the center console. The switch is labeled BEACON. The beacon is off when the switch is in the bottom position. To turn on the beacon light, rock the switch to the top position. 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.

Optional: window washer sprayer, if equipped the switch will have a third momentary position all the way to the top of the switch.



#### *10.1.8 Windshield washer*

Comes with a one gallon fluid tank which is located under the hood next to the passenger's side wheel compartment. The switch to turn on the washer pump is integrated into the window wiper switch. To activate the washer pump have the ignition key turned on and push the wiper momentary rocker switch all the way up. The washer spray will continue to spray fluid and the wiper will wipe until the rocker switch is released. See wiper switch section of manual for wiper instructions. Use appropriate washer fluid for your climate.

#### *10.1.9 Front License Plate Bracket*

The front license plate bracket attaches a license plate to the front of the vehicle. The rear license plate bracket is standard on all vehicles. Use standard ¼-20 hardware to mount the license plate to the bracket.





#### *10.1.10 Backup Alarm*

The backup alarm sounds when the ignition key is on and the forward/reverse selector switch is in the reverse position. The alarm provides safety to others when backing up.

#### *10.1.11 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 forward/reverse selector switch is in the reverse position. The light helps to see when backing up and alerts others to stay clear.

#### *10.1.12 Dome Light*

The dome light is mounted on the interior of the b-pillar. It provides light inside the vehicle cab. The light will illuminate with the key is on or off. To toggle the light on or off, push the black button located on the drivers side of the dome light.



#### *10.1.13 Two Speed Fan*

The fan is mounted on the passenger's side of the vehicle cab above the windshield and provides air circulation for interior cooling and improved passenger comfort in warmer climates. It has two speeds; high and low. 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. To turn the fan on low speed, rock the switch to the center position. To turn the fan on high speed, rock the switch to the top position. The two speed fan will only function with the ignition key turned on.

#### *10.1.14 AC Auxiliary Cab Heater (120 volt AC)*

This option is designed to preheat and defog the cab and front windshield before driving vehicle without drawing power from the drive batteries. To operate the heater a live 120 volt AC power cord (not supplied with the vehicle) must be plugged into the charger receptacle located in the center of the front bumper. When the power cord is



plugged into the receptacle the onboard charger will start up. To turn on the heater there is a switch on the center console that is labeled heater. This switch has three positions to it, Off, On and Start. To start the heater rocker the switch up to the on position and than momentarily rocker the switch up all the way up to the start position. After a few seconds the heater will turn on. At the same time the onboard charger will shut off. Any power supply plugged into the receptacle must be unplugged before the vehicle is turned on or driven. The vehicle is equipped with anti-drive so it can not be driven if live power is present at the front charger/AC heater receptacle. If in any case the power is disconnected from the front receptacle and than reconnected the heater will be off and the charger will be on. The center console 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. In the event that the vehicle is equipped with a battery warmer



#### *10.1.15 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.



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

#### *10.1.16 Extended 12 Month Limited Warranty*

This is an optional extended 12 month warranty which starts the date the original warranty is void and available for purchase within the first 30 days from the original invoice date. This warranty has the same stipulations as the original 12 month warranty given with the purchase of your vehicle. See e-ride Industries limited warranty policy in section 9 of this manual for details.



#### *10.1.17 Extended 24 Month Limited Warranty*

This is an optional extended 24 month warranty which starts the date the original warranty is void and available for purchase within the first 30 days from the original invoice date. This warranty has the same stipulations as the original 12 month warranty given with the purchase of your vehicle. See e-ride Industries limited warranty policy in section 9 of this manual for details.

#### *10.1.18 Tube Bumpers*

This is a welded tube bumper that is painted black. It is a cosmetic replacement for the standard sheet metal bumper. This option adds 7.5 inches to the overall vehicle length.





#### *10.1.19 Solar Panels*

This option allows you to collect the power from the sun to drive your vehicle. Depending on location and amount of sunlight you can receive a max of 10 miles per day on the 400 watt solar panel system. Only maintenance required is to keep the solar panels clean by using soap and water. Located on the dash of the vehicle just above the ignition key is a power meter that displays the amount of power the solar panels are supplying to the vehicles main drive battery back in amps, volts and watts. To cycle through the readings press the > button. All other buttons on the display are for programming purposes only.

#### *10.1.20 Battery Warmer*

This option is designed to keep the batteries at a temperature of 60-80 deg. F for them cold winter nights/days. To operate the warmer a live 120 volt AC power cord (not supplied with the vehicle) must be plugged into the battery warmer receptacle located in



the center of the front bumper. When the power cord is plugged into the receptacle the warmer will start up if the batteries are colder than 60 deg. F. The warmer has a temperature controlled thermostat that is connected to the center battery that automatically turns the warmer on and off to keep the batteries at the correct temperature. The reason for this option is because batteries have less capacity in colder temperatures resulting in less driving range. By warming the batteries it allows the batteries to achieve there maximum battery capacity. The battery warmer can be plugged in at anytime. This warmer has an amp draw of 4 amps at 120 volts.



## **10.2 EXV2 Models Only**

### *10.2.1 Tool Boxes*

Tool boxes are mounted on the flat bed and are completely lockable for security purposes. The tool boxes are accessible from either side on the outside of the vehicle.

### *10.2.2 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.







### *10.2.3 Full Length Topper*

This is an aluminum topper that covers the full length of the flat bed and encloses the back of the cab. It is available with a bulkhead divider which separates the cab from inside the topper. The bulkhead divider is available with or without a sliding window. To open the sliding window, pull forward on the plastic locking tab and slide the window. To close, just slide the two window halves together until the plastic locking tab clips back together. The topper also utilizes a flip up window on each side of the topper as well as a rear flip up tailgate window and flip down aluminum tailgate.

### *10.2.4 Aluminum Stake Sides*

Constructed of aluminum, these stake sides help keep cargo on the flat bed. Available in two different lengths depending on if the vehicle is equipped with a rear enclosure.



#### *10.2.5 Full Length Raised Topper with Tool Boxes*

This is a combination of the full length topper and toolboxes. When a vehicle is equipped with both options the topper is an increased height to allow for side window height. This includes all the features of each option individually as well. (see section *10.2.2-Tool Boxes* and *10.2.4-Full Length Topper* for specifics) The bulk head divider is also available with this option with the either a picture or slider window.



#### *10.2.6 Locking enclosure*

For added security locking doors are available. This includes the main passenger's access doors and the storage compartments under each side of the EXV2 flat bed.



### 10.2.7 Transporter – People Hauler

This option converts the back of the flat bed into two bench seats that run the length of the flat bed with a full canvas top to provide shade. Flip down foot rests that fold up for easy transporting of the vehicle without passengers.



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

### 10.2.8 Utility Refuse Dump Box

This is a hydraulic lift dump box made from a steel frame with a 2 cubic yard poly box. It has the option to have a flip down box sides for easy loading. To flip down the sides, lift both latch handles out and slide



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toward each other. The dump box has a safety switch that will not allow the vehicle drive to operate unless the box is completely down. To lift the dump box, set the park brake and place the vehicle in neutral, turn off the ignition key, take the hand held remote switch out of the holder and press the up button on the hand held remote switch. Stand back away from the vehicle when lift is in operation. Lift the box until all of the material in 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 dump box up completely and insert the prop rod into the appropriate holder. Lower the box so that all the tension is on the prop rod. Open the access panel as described in battery maintenance section of this manual. See dump box manual on operating and maintenance procedures specific to the dump box.



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



#### *10.2.9 Trash Hauler Cage*

This is a full steel mesh cage that mounts to the flat bed. It has two large tailgates that swing open sideways. To open tailgate, lift latch up and swing 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.**

### **10.3 EXV4 Models Only**

#### *10.3.1 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 key and turn on quarter turn. Push latch button to open the tool box.