

# SIRIUS<sup>®</sup>



OWNERS MANUAL



## FORWARD

Dear STAR EV® Product Owner,

STAR EV® employees, dealers, and authorized technicians would like to thank you for purchasing the STAR EV Sirius®. The Sirius® is the first of its kind in the market; conceived, designed, and developed with you in mind. The Sirius® is a direct result of research, development, and customer feedback that have all contributed to this innovative offering from STAR EV®. Unlike manufacturers of fleet golf cars have a volume demand that strips vehicles down to the basics, the Sirius® is purposely designed with the personal transportation vehicle owner in mind.

You will notice ample storage options, class-leading technology, extremely competitive performance, high quality materials and intelligent problem solving for reliability, serviceability and distinct styling with a purpose that sets the Sirius® electric vehicle apart from others in the neighborhood. Our design and development team consists of individuals who have a passion for providing creative automotive solutions and have a reputation for placing quality, performance, and styling above all else and never, ever settle for “good enough”.

On behalf of the entire team at STAR EV®, we thank you for your purchase and look forward to establishing customer loyalty as we continue to develop more exciting offerings in the future

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## GENERAL DISCLAIMER

Good common sense and prudent driving practices must be used at all times to prevent accidents and injury and do more than warnings and instructions combined. The manufacturer strongly suggests that anyone who operates this equipment read the entire manual paying particular attention to the safety warnings while operating and maintaining this vehicle.

STAR EV® reserves the right to make design changes to vehicles for constant improvement without obligation to change previous models produced and sold prior to updates and the information in this manual is subject to change without notice to customers, dealers, or agents.

In order to remain completely up-to-date on production changes, please contact your STAR EV® Authorized Dealer or our web site:

**www.starev.com** for the most recent version of this manual and if needed schedule an appointment to consider updating your product if value is determined.

These vehicles are designed for “enclosed community” use and may include private and public land. Every STAR EV Sirius® is equipped with proper lighting and safety equipment, but it is the owner’s responsibility to ensure your vehicle conforms to local laws to be driven on public secondary roads as each state and county has different guidelines and laws.

Some communities may permit operation on public streets in specific areas on a limited basis and in accordance with local ordinance. It is the responsibility of the vehicle owner to follow local use laws.

Electrically powered vehicles require that all electrical accessories be properly grounded directly to battery (-) post.

**Never use the chassis or body as a grounded connection.**

Refrain from modifying the vehicle in any way that will alter the weight distribution of the vehicle, decrease stability or increase speed beyond factory specifications. Such modifications can cause serious injury, property damage and even death. Vehicles that are capable of higher speeds must continue to conform to surrounding traffic and environment, conditions, and terrain.

**ATTENTION:**

Because the STAR EV Sirius® can be upgraded to a Street legal “Low Speed Vehicle” (LSV) in some states, the following is required to understand.

If you believe that your LSV has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying STAR EV CORPORATION - 378 Neely Ferry Rd, Simpsonville, SC 29680.

If the NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, the (NHTSA) cannot become involved in individual problems between you, your dealer, or STAR EV CORPORATION.

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

## WARNING

Only Licensed STAR EV® Technicians and Authorized Dealers may perform any warranty repairs to STAR EV® products. Failure to do so may result in voiding warranty, personal injury, or even death.

Maintain the battery as per the Owners Manual Guidelines. Failure to follow the procedures listed in this manual may result in a decreased duration of the batteries and/or voiding warranty.

Unauthorized modifications to this vehicle may reduce performance and safety capabilities which could result in equipment failure, personal or property damage, or death.

Use the vehicle in a responsible manner and maintain the vehicle in safe operating condition.

Read and observe all warnings and operation instruction labels posted on vehicle and printed in this manual.

Follow all safety rules posted and adhere to all traffic and road signs.

Ensure all passengers and cargo are secure before driving vehicle. Follow seat belt laws where applicable. If children are on board, ensure they are secure with adult supervision.

Use turn signals to communicate your direction of travel to other motorists.

Do not leave unsupervised minors in vehicle.

When vehicle is in motion, it is strongly suggested that running lights or headlights are on.



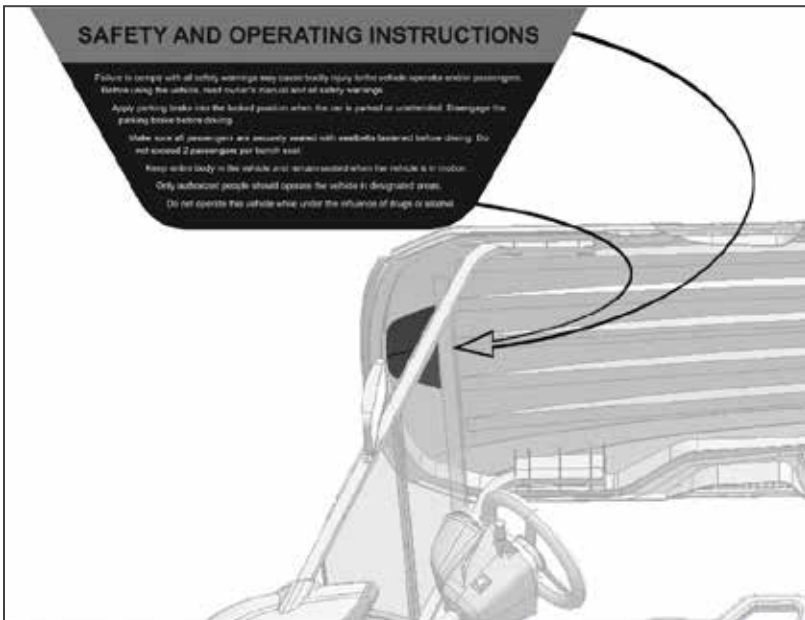
## 1. WARNINGS AND SAFETY LABELS

### A. Disclaimer and Liability

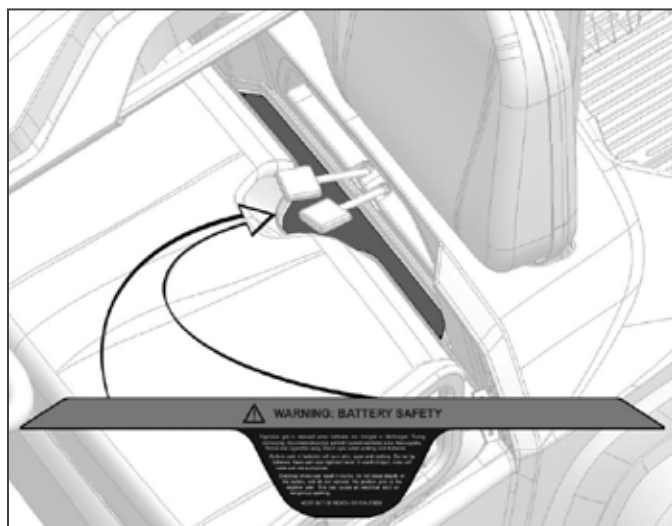
This manual has been designed to assist in maintaining your new STAR EV Sirius® personal vehicle in accordance with procedures developed by the manufacturer. Compliance to these procedures and troubleshooting tips will ensure the best performance and reliability of your vehicle.

### B. Labels and Locations

#### 1. Underside of roof



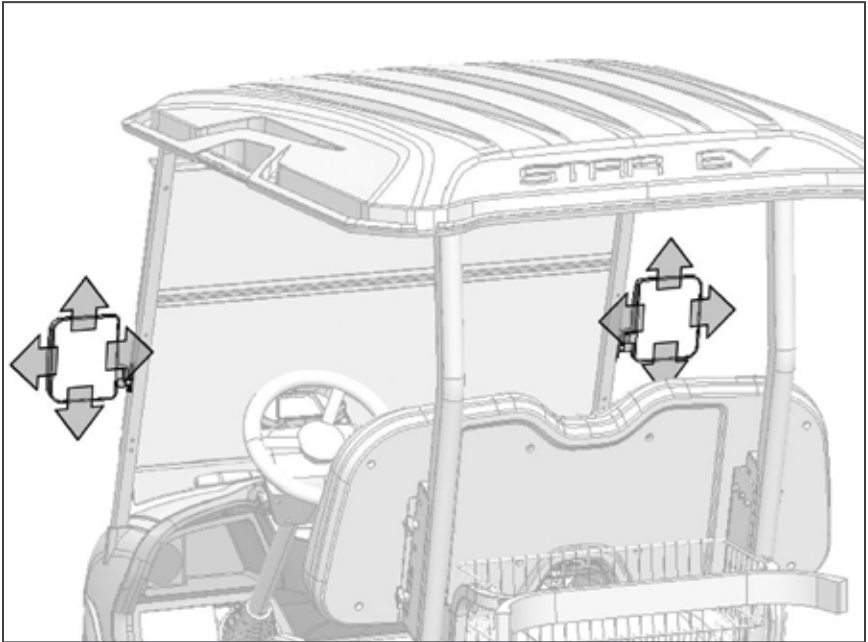
## 2. Seat pan above batteries



## 2. QUICK GUIDE FOR BASIC OPERATION

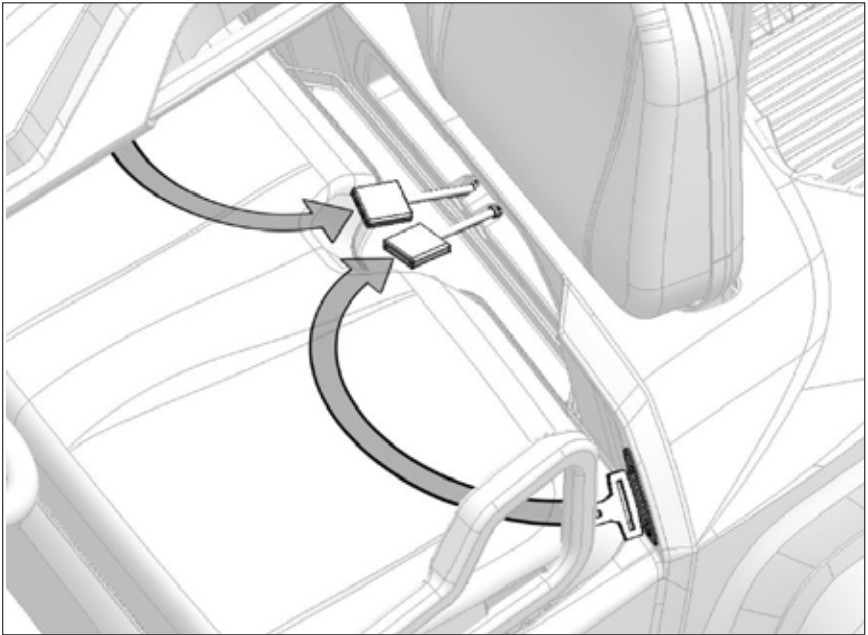
### A. Positioning Side View Mirrors

The STAR EV Sirius® comes standard with side view mirrors for your safety. Each mirror is manually adjustable and should be positioned prior to starting the vehicle. Once you have established your preferred seating position, look to your left and right mirrors to ensure you can see behind the vehicle. If a mirror is not aimed correctly, take time to adjust accordingly. It is very important to be able to glance behind you at all times while the vehicle is in motion.



## B. Seating and Safety Belt Use

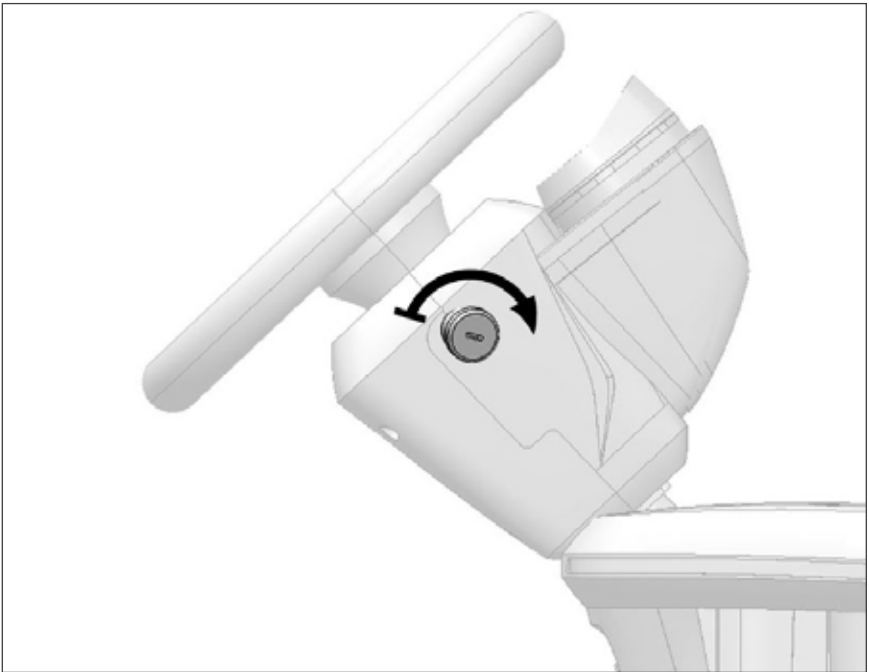
For safety concerns, it is recommended that the maximum occupancy per seat is two people. We do understand that small children may need to be held so we have provided large soft handles and DOT approved seat belts. Whenever possible, please seat small children with an adult, preferably in the center of the seat for their safety. The Sirius® is equipped with hidden seat belt hardware under the bodywork to limit clutter but operates the same as other products. Pull the male end (on the outside) over your lap and secure it to the receiver in the center of the seat. To release, simply push the orange release button. While not required in all states, we strongly recommend seat belt use whenever the vehicle is in motion.



### C. Starting and Key Switch

The key switch is located on the right side of the steering column cover.

There are two positions to the key switch. With the key inserted, turn clockwise until you feel a “click”. Once powered, the digital display should illuminate and provide you vital information needed for your journey.



## D. Direction Selection

The rocker switch on the left side of the control panel in the center of the dash is the drive selector. This is a three position switch. Confirmation of your selection can be seen in the digital display with one of the following symbols:

<b>D</b>	<b>Drive</b>
<b>N</b>	<b>Neutral</b>
<b>R</b>	<b>Reverse</b>

### 1. Drive

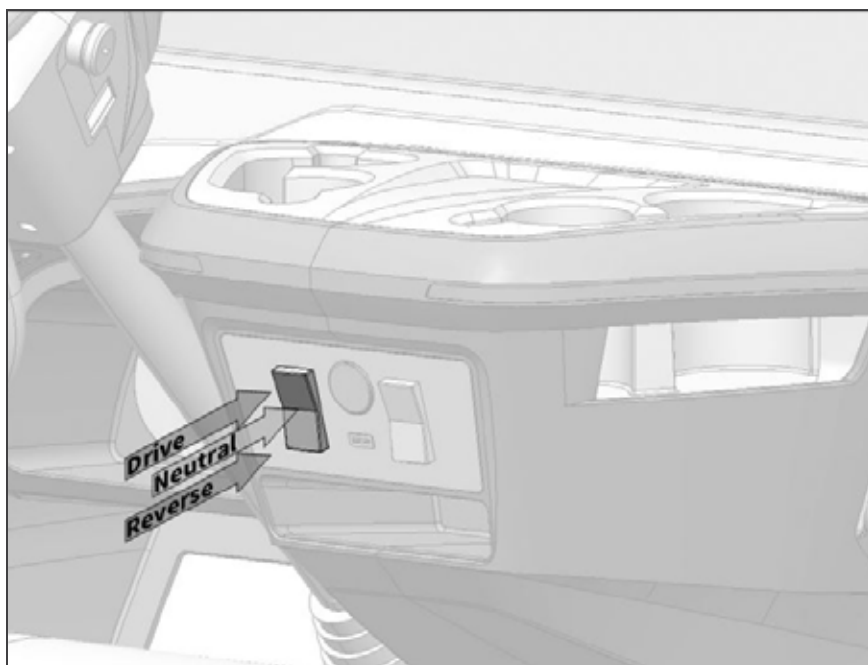
The direction selector must be placed in “Drive” in order to move in a forward direction. Although there is an electronic failsafe to prevent direction changes while in motion, it is heavily discouraged to do so. Make sure your vehicle comes to a complete stop before selecting a different direction.

### 2. Neutral

The direction selector should be positioned in Neutral when not operating the vehicle.

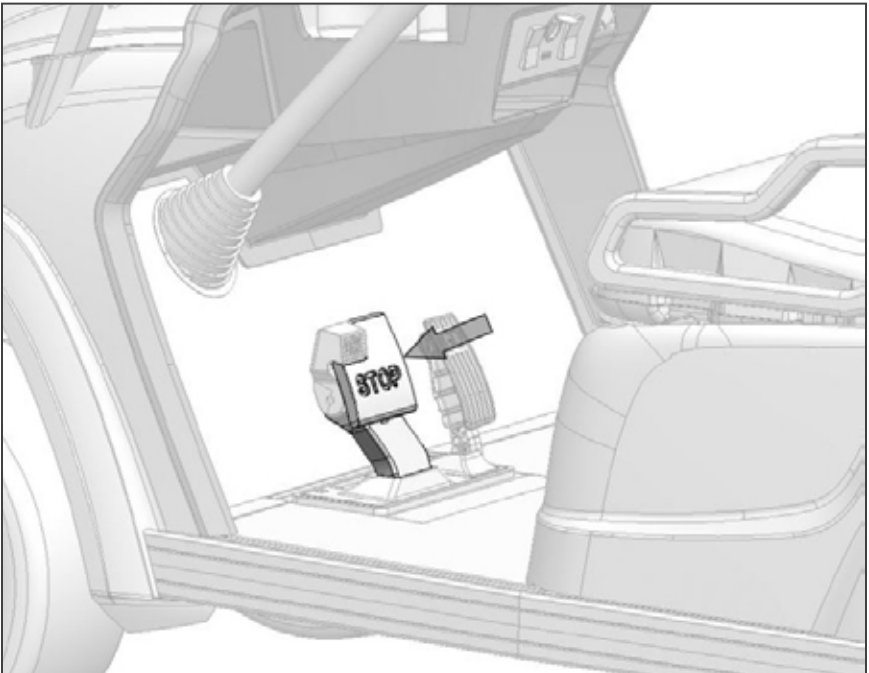
### 3. Reverse

When you wish to move in reverse, the reverse switch is also located on the control panel. When engaged, the rocker switch should display “R” in the digital display panel, to the right of the speedometer. For those units equipped with optional rear view camera, the entire screen will show camera view.



## E. BRAKE PEDAL

To stop or slow the vehicle, press your foot on the large square pedal on the left that reads "STOP". Take care when modulating the brakes which rarely need your full leg strength to stop the vehicle. When driving the Sirius® for the first few times, it is recommended to get comfortable with the limitations before carrying passengers.

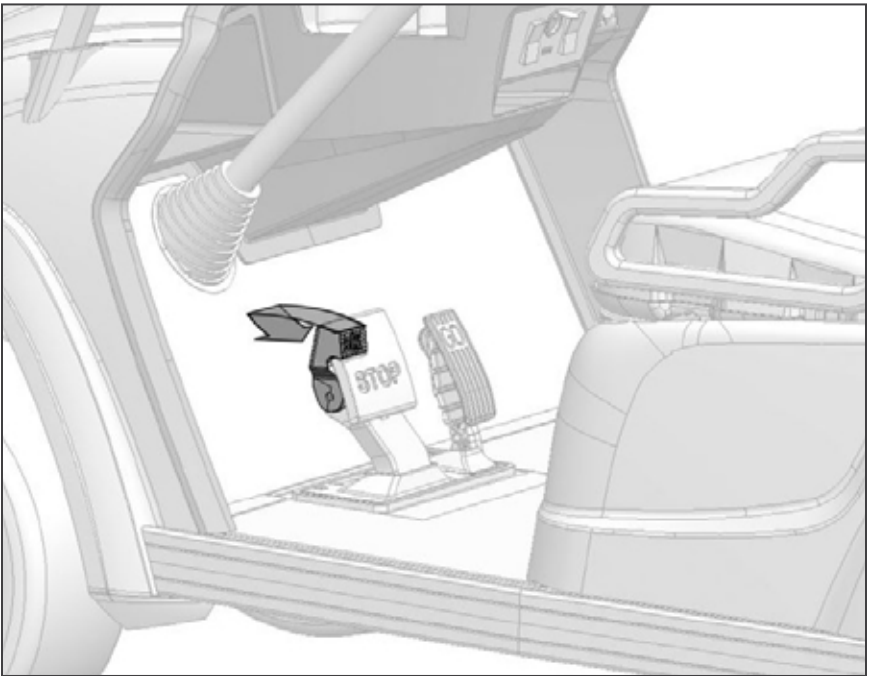




## F. SETTING PARKING BRAKE (2P, 2+2 and 2+2 Lifted)

To reset the parking brake, push down with your foot on the upper left pad of the brake pedal assembly until it locks in place. Some force may be needed.

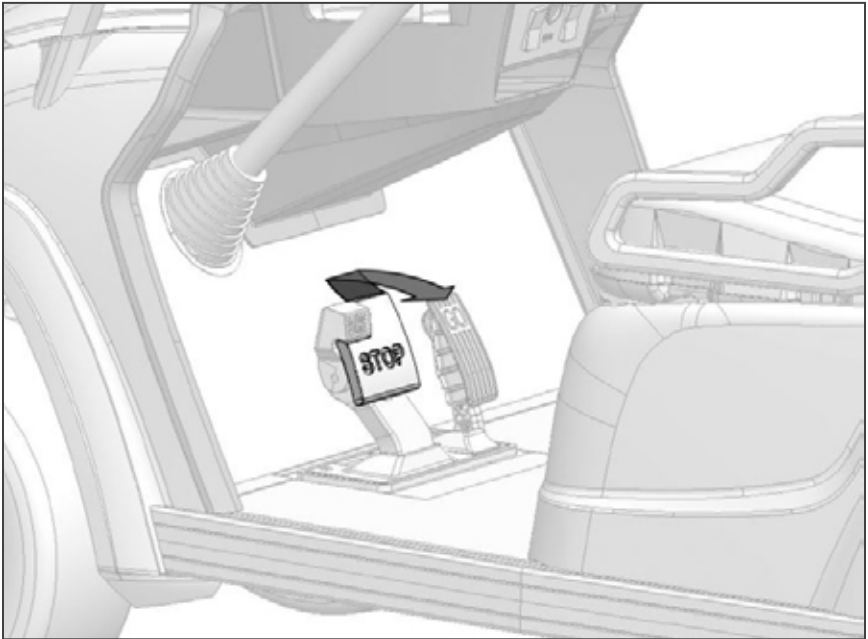
**Please note:** That there are 1 (one) positions on the parking brake. Remember to set the proper click according to the incline. Always set to click #2 for securing the vehicle properly.



**G. RELEASING THE PARKING BRAKE (2P, 2+2, and 2+2 Lifted)**

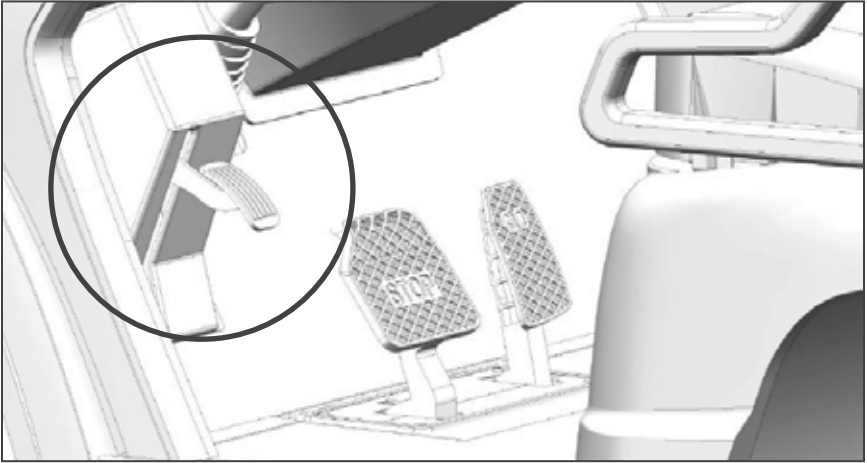
When you are ready to go and all previous steps have been taken, press the main brake pedal with your foot. If performed correctly, the entire brake pedal should rise, releasing the mechanical parking brake.

Alternatively the parking brake will be released once the accelerator pedal is slightly depressed to initiate movement of the vehicle.

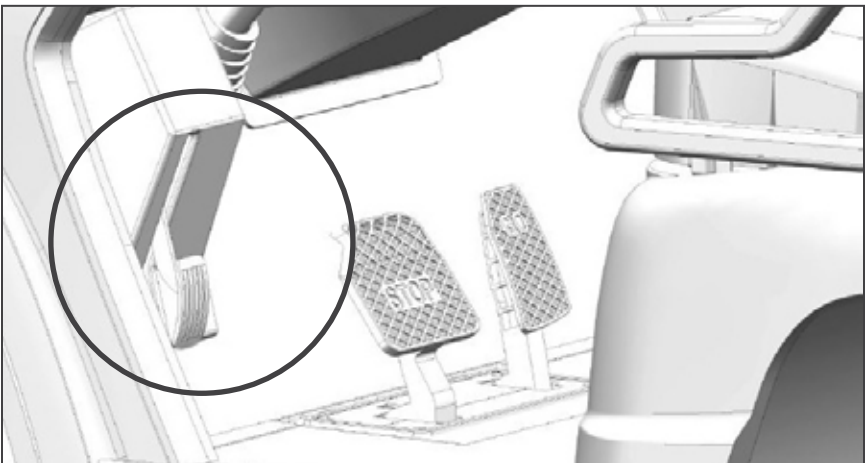


## H. SETTING PARKING BRAKE (4 Long, 4+2 and 4+2 Lifted)

To engage the parking brake, push far left brake pedal down and apply pressure until vehicle is secured. The instrument display panel will display a brake symbol, the vehicle is now secured and motor power is shut down. Power will not start until brake is released.



BRAKE PEDAL IN TOP POSITION



BRAKE PEDAL DOWN TO SECURE VEHICLE

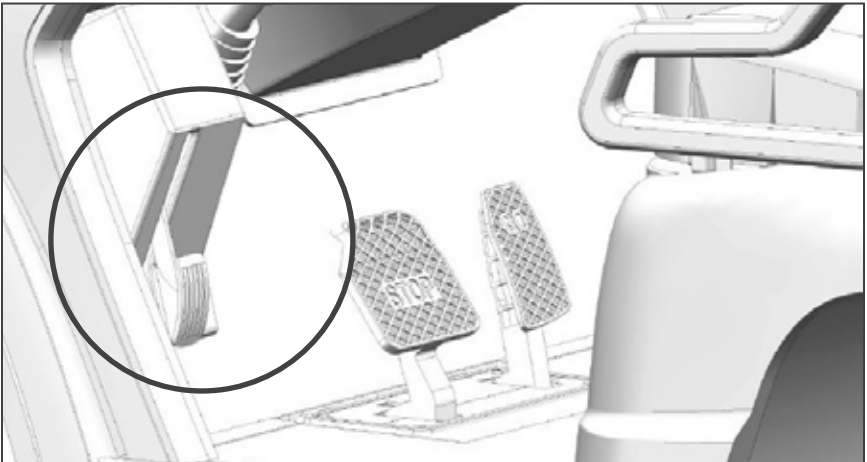
**Please note:** Be sure to set the brake according to the incline of the vehicle. If any doubt; be sure to set the brake to the furthest position to properly secure the vehicle.

### I. RELEASING THE PARKING BRAKE (4 Long, 4+2 and 4+2 Lifted)

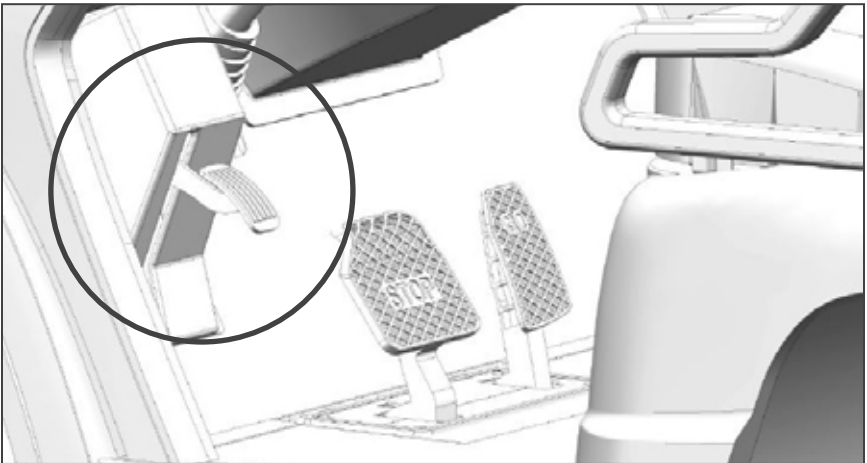
To release parking brake, push far left brake pedal down over traveling the brake set position, the brake should release and the pedal will return to the top position as you remove your foot.

**NOTE\***

Car will not operate if brake pedal is depressed. Red Indicator Light will illuminate on dash display.



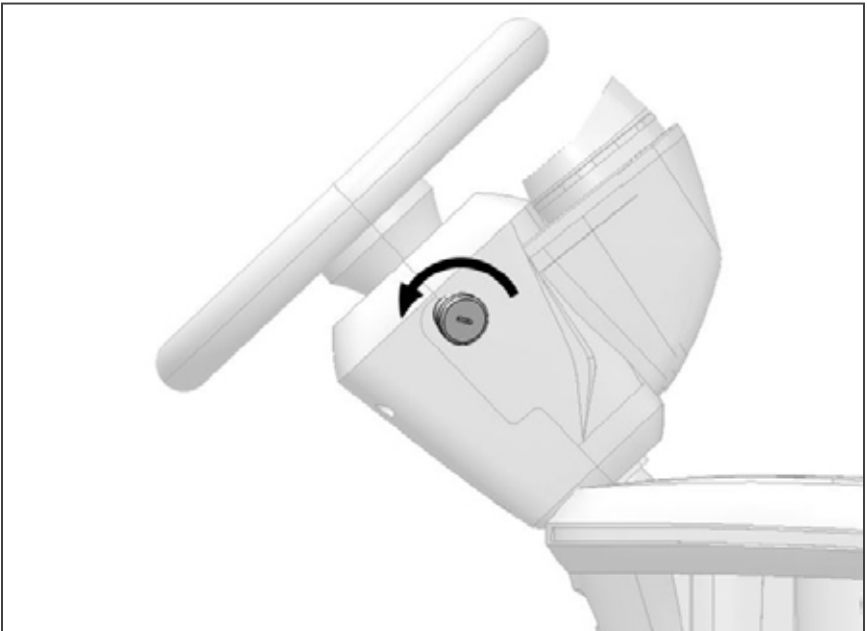
PUSH LEFT BRAKE PEDAL DOWN TO RELEASE TO TOP POSITION.



BRAKE PEDAL IN TOP POSITION WHEN FOOT IS REMOVED

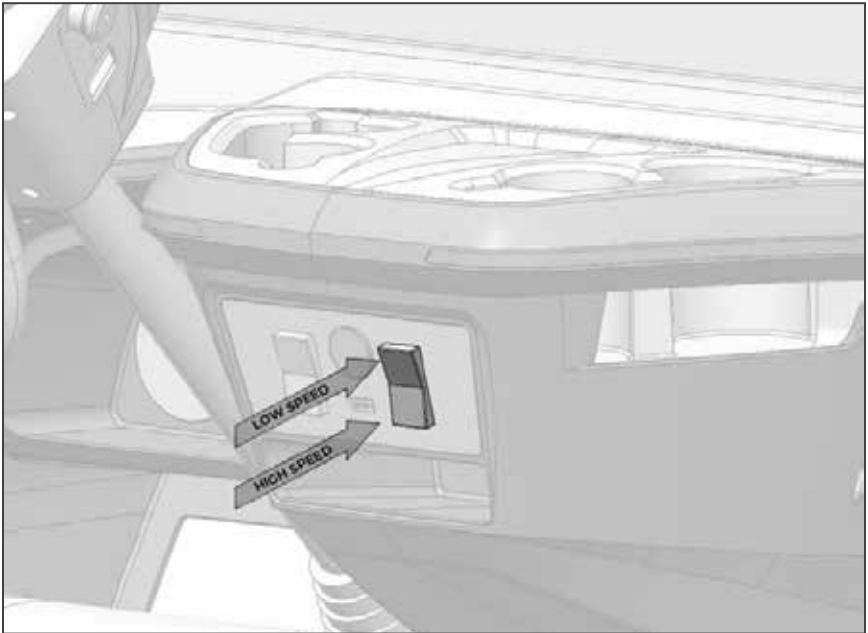
## J. POWERING THE UNIT OFF

When you are ready to park and power your Sirius® off, ensure that the gear selector is in “Neutral” (“N” should be visible in the digital display just right of the speedometer). If there is no rabbit or turtle icon visible in lower right of display, turn the key towards you (counter-clockwise) and all systems will shut off. Remove the key from the key switch as your last step prior to connecting the charger. Remember to set the parking brake.



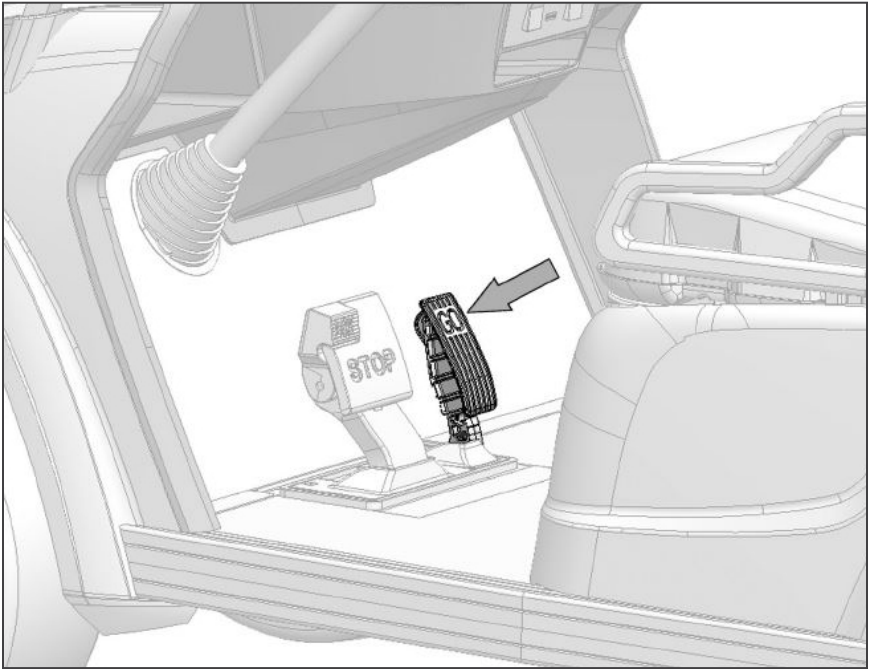
## K. SPEED SELECTOR

The Sirius® has two forward speeds, Low-Speed and High-Speed. Low-Speed is often used to conserve battery charge if a rapid pace is not required. These speeds are selected by a two position rocker switch on the right side of the control panel, center on the dash. If Low-Speed is desired, simply press the top of the rocker switch and confirmation of a yellow turtle icon will illuminate in the lower right corner of the digital display. High-Speed is also an option if a more rapid pace is desired and conditions permit. High-Speed is the bottom position of the same rocker switch and when selected you will see a green rabbit icon illuminate in the lower right corner of the digital display.



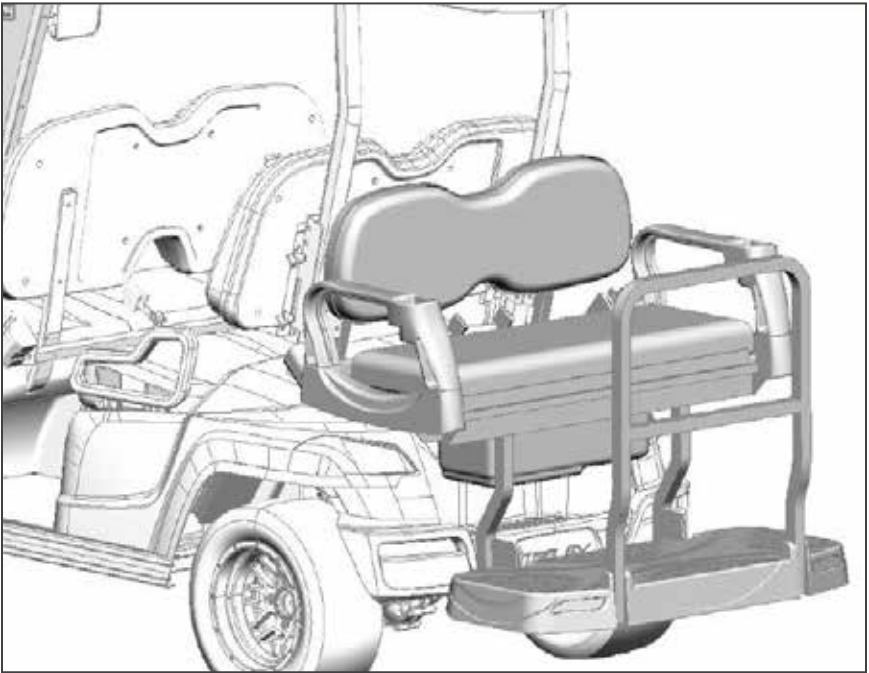
## L. ACCELERATOR PEDAL

To make the vehicle move, following all previous steps, slowly depress the accelerator pedal on the right that reads “GO”. The faster you wish to go, the more you depress the pedal. When you have reached your desired speed, simply hold the pedal in place.

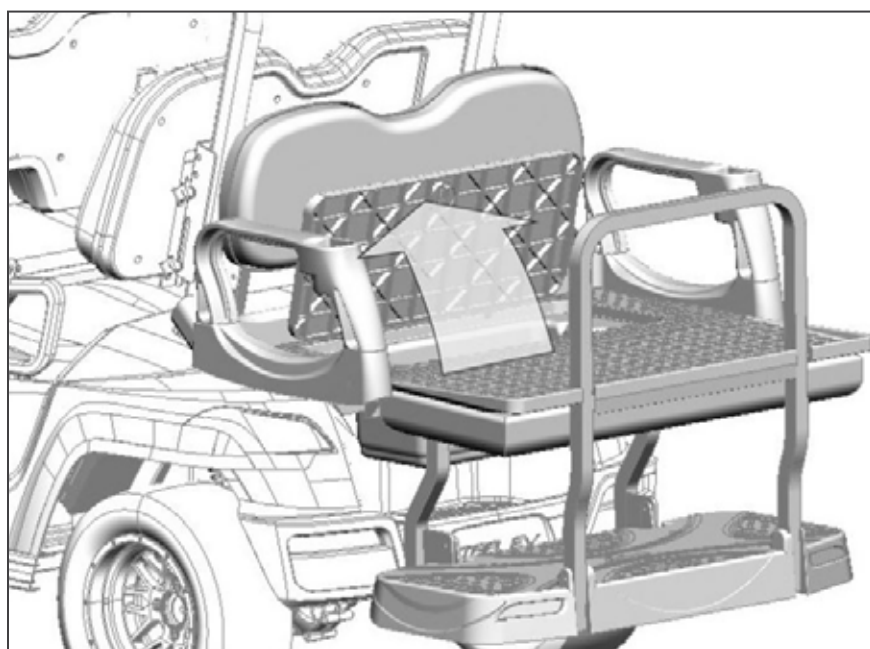
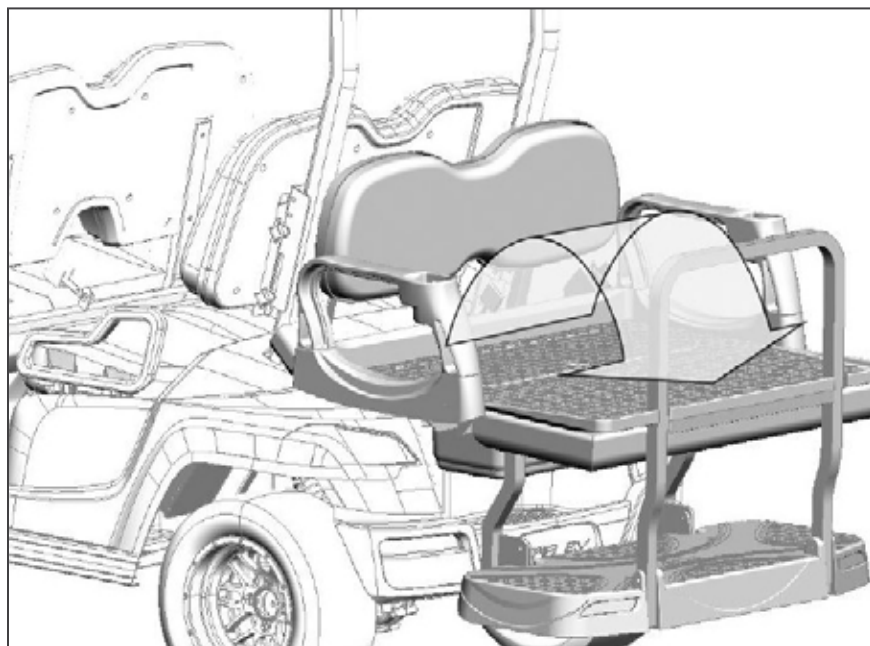


### 3. SIRIUS® ULTIMATE FLIP SEAT

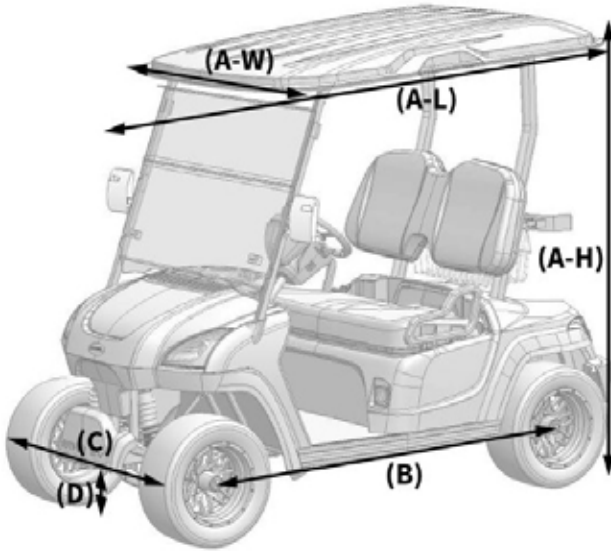
The Sirius® 2+2, 4+2, Lifted 2+2 and Lifted 4+2 are the standard platform with an additional rear-facing bench seat designed to carry two additional passengers or can be easily converted to a flat-bed for added utility. The foot rest for the rear facing passengers remains stationary and the grab handle provides additional support when in flat-bed mode. The flat-bed area can be used to transport larger items and is convenient for users to strap containers to assist in carrying smaller items and groceries. There is also a convenient locking storage bin located in the flat-bed floor and convenient built-in cup holders for standard beverages.







## 4. SIRIUS® SPECIFICATIONS



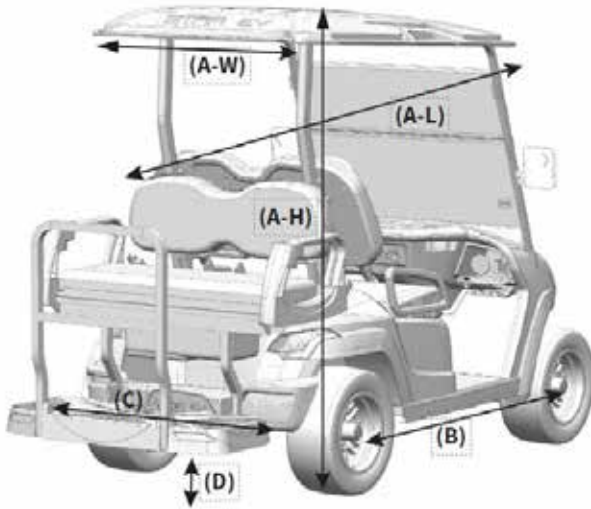
### A. EXTERIOR DIMENSIONS

#### Sirius® 2

A	Overall dimensions (L x W x H)	93" x 47" x 75"
B	Wheelbase	66"
C	Track	38"
D	Ground clearance	5.75"

#### Sirius® 4 Long

A	Overall dimensions (L x W x H)	123" x 47" x 77"
B	Wheelbase	96"
C	Track	38"
D	Ground clearance	5.75"



**Sirius® 2 + 2**

A	Overall dimensions (L x W x H)	117" x 47" x 79"
B	Wheelbase	66"
C	Track	38"
D	Ground clearance	5.75"

**Sirius® 4 + 2**

A	Overall dimensions (L x W x H)	140" x 47" x 79"
B	Wheelbase	96"
C	Track	38"
D	Ground clearance	5.75"

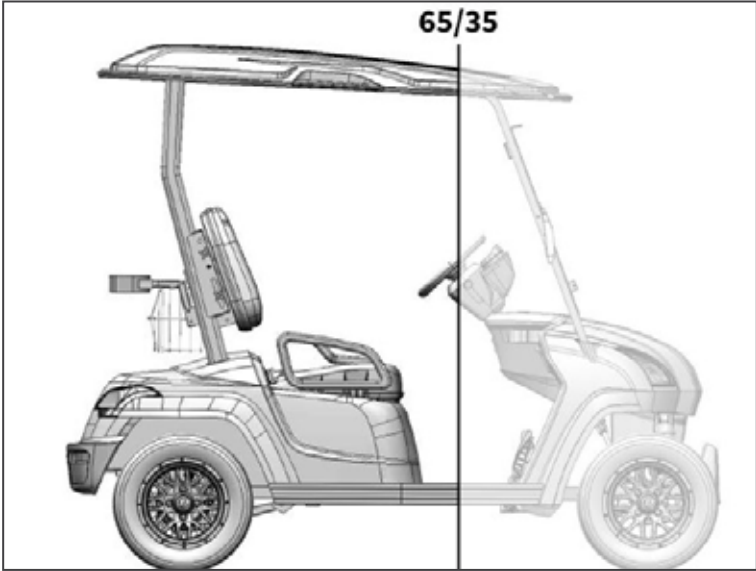
**Sirius® Lifted 2+2**

A	Overall dimensions (L x W x H)	119" x 51" x 82.5"
B	Wheelbase	66"
C	Track	40"
D	Ground clearance	6.875"

**Sirius® Lifted 4+2**

A	Overall dimensions (L x W x H)	142" x 51" x 82.375"
B	Wheelbase	96"
C	Track	40"
D	Ground clearance	6.875"

B. WEIGHT AND DISTRIBUTION (LEAD ACID BATTERIES)

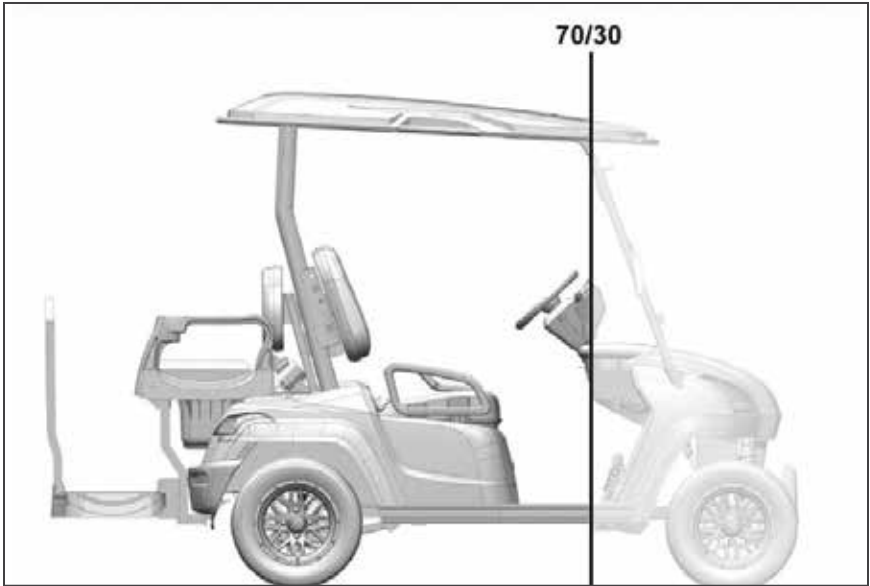


**Sirius® 2**

Curb weight (weight with batteries)	1255 lbs
Weight Distribution (F/R)	65/35

**Sirius® 4 Long**

Curb weight (weight with batteries)	1430 lbs
Weight Distribution (F/R)	70/30



**Sirius® 2+2**

Curb weight (weight with batteries)	1402 lbs
Weight Distribution (F/R)	70 / 30

**Sirius® 2+2 Lifted**

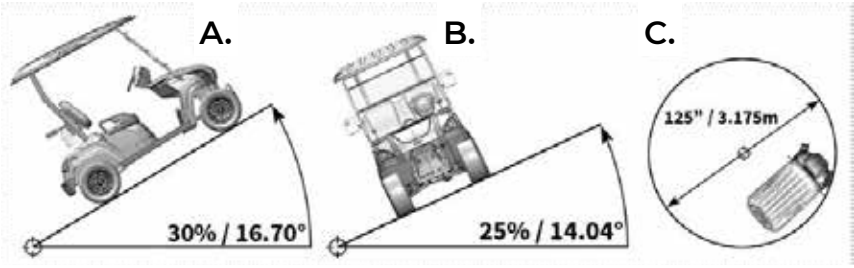
Curb weight (weight with batteries)	1450 lbs
Weight Distribution (F/R)	70 / 30

**Sirius® 4+2**

Curb weight (weight with batteries)	1550 lbs
Weight Distribution (F/R)	70 / 30

**Sirius® 4+2 Lifted**

Curb weight (weight with batteries)	1600 lbs
Weight Distribution (F/R)	70 / 30



C. PERFORMANCE DATA

Performance	Sirius® 2	Sirius® 2+2	Sirius® 4	Sirius® 4+2	Sirius® 2+2 Lifted	Sirius® 4+2 Lifted
A. Hill Climb	30%	25%	25%	25%	25%	25%
B. Side Park	25%	25%	25%	25%	25%	25%
C. Turning	125"	125"	180"	180"	125"	180"

1. Capacities

Battery System for all models	8 x 6 volt Trojan T-105, Optional 6 x 8 volt
Motor Power: 2P, 2+2	4 kW AC (5.4 HP)
Motor Power: 4 long, 4+2, 4+2 Lifted	5 kW AC (6.7 HP)
Controller: 2P, 2+2, Lifted 2+2	350Amp Controller
Controller: 4 long, 4+2, Lifted 4+2	450Amp Controller

2. Tires & Wheels

Wheels: 2P, 2+2, 4 long, 4+2	12 x 7 machined aluminum, 15 mm offset
Wheels: 2+2 Lifted, 4+2	12 x 7 machined aluminum, 43 mm offset
Tires: 2P, 2+2, 4 long, 4+2	20 x 9.0 x 12, 4 ply DOT, (40 psi)
Tires: Lifted 2+2, 4+2	23 x 10.5-12, 4 ply DOT, (20 psi) or (35psi)

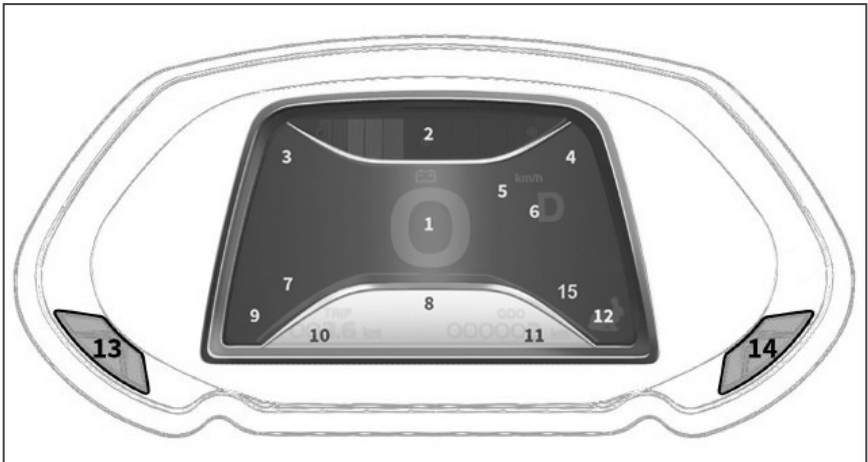
3. Suspension & Brakes

Brake System: 2P, 2+2, 2+2 Lifted	Rear drum, foot activated multi-click parking brake
Brake System; 4 long, 4+2, 4+2 Lifted	4 Wheel hydraulic, front disc, rear drum, separate foot activated multi-click parking brake
Front Suspension	Adjustable coil over shock, independent
Rear Suspension	Adjustable coil over shock, solid axle with swing arms

## 5. FEATURES, LOCATION AND OPERATION

### A. LCD Digital Instrumentation

1	Speedometer (white text)
2	Battery Status Indicator (green / yellow / red)
3	Left Turn Signal Indicator (green arrow)
4	Right Turn Signal Indicator (green arrow)
5	MPH/KPH (white text)
6	Drive Selection Indicator (D/N/R)
7	Reserved for future (check engine light)
8	12 Hour clock (blue text)
9	Headlight Indicator (Green = Low, Blue = High Beam)
10	Trip Odometer (blue text)
11	Odometer (blue text)
12	Speed Indicator (Yellow Turtle = Low, Green Rabbit = High) icons are in lower right of display
13	Mode Button (lower left)
14	Set Button (lower right)
15	Parking Brake Indicator (equipment only on 4 long, 4+2, and Lifted 4+2)



LCD Digital Instrumentation

## 1. Mode, Set and Reset Instructions

- **Set MPH/KPH:** Press " Mode" button (left) #13 quickly and set MPH or KPH.
- **Set Clock:** Press and hold "Mode" button (left) #13 until digit blinks. Press "Set" button (right) to choose. Once completed, press and hold "Mode" button again to move to the next digit.

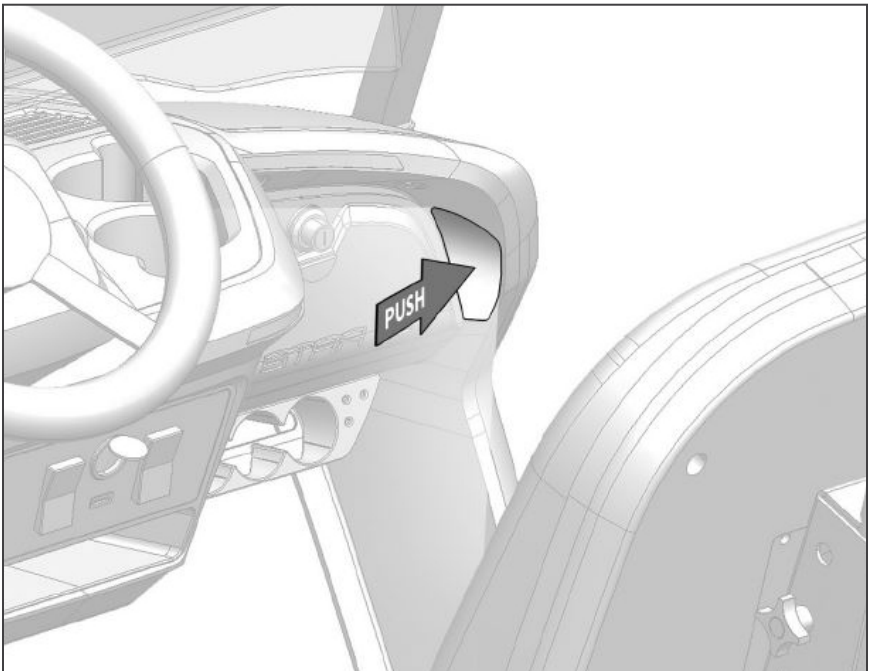
**Note:** The clock function is not available if your car is equipped with lithium batteries.

- **Reset Trip Odometer:** Press and hold "Set" button (right) #14 until Trip Odometer is reset.



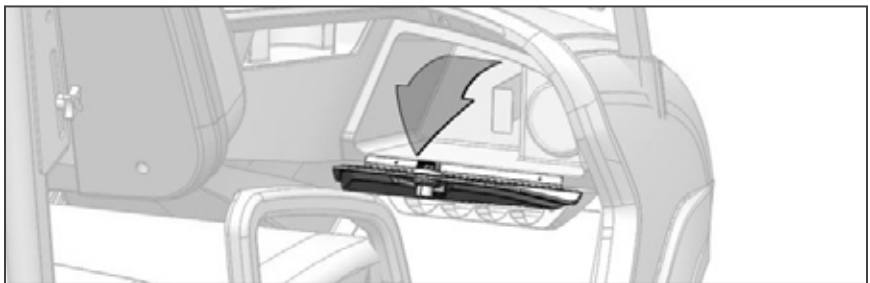
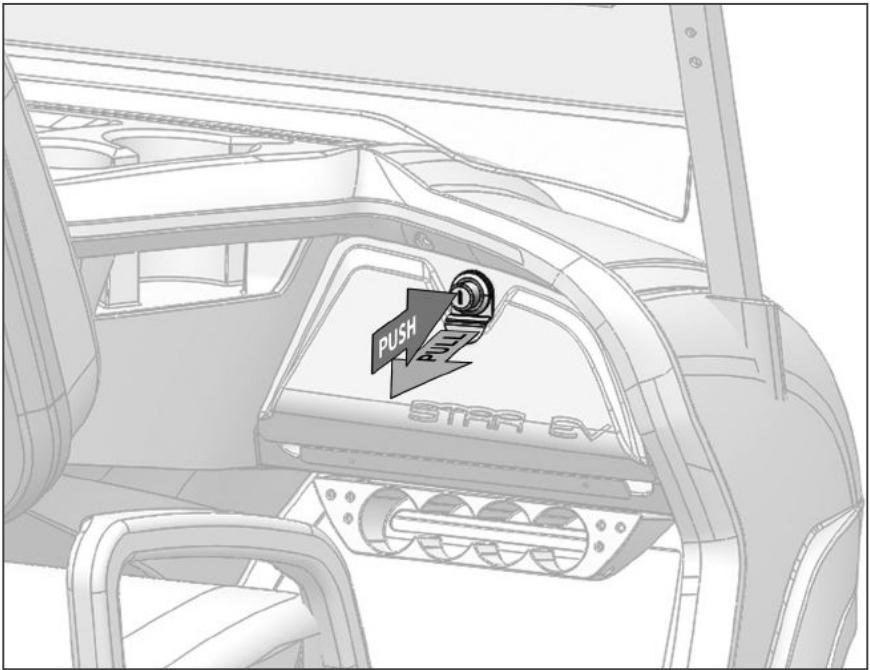
## B. ELECTRO-LUMINESCENT INTERIOR AMBIENT LIGHTING

Each STAR EV Sirius® comes equipped with Electro-Luminescent Interior light panels on each side of the dash. To operate, simply press the center of the panel and the light should illuminate to assist in finding items on the floor, reading a map, or simply providing interior illumination during operation. These lights are intended to provide low level illumination so the driver is not distracted at night.



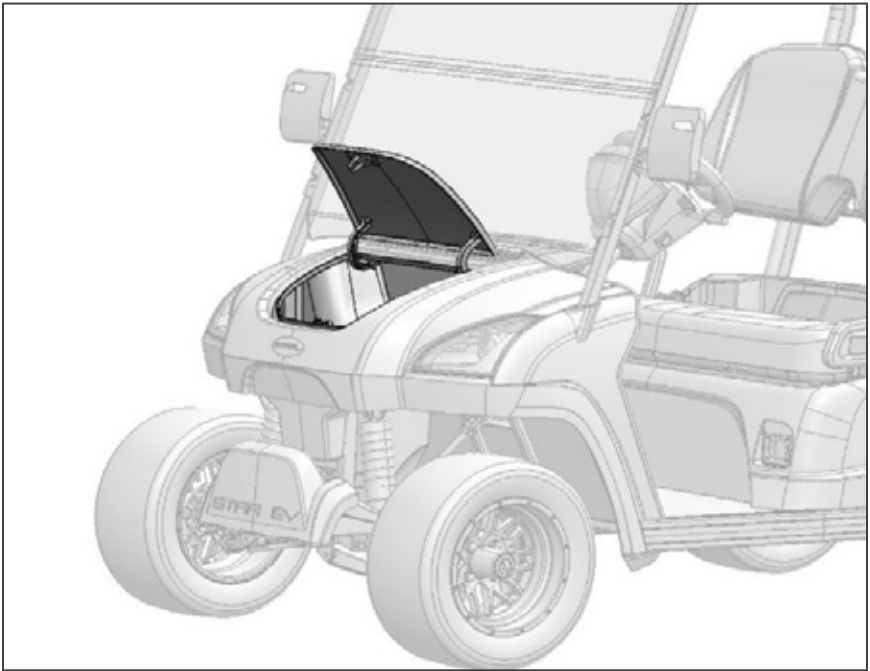
### C. SECURE GLOVE BOX

Every Sirius® comes equipped with a lockable glove box on the right side of the dash. To open, insert your key into the lock and turn it. Remove the key and press center button with your thumb while pulling the door open with your fingers using the lip flange located on the lock mechanism.



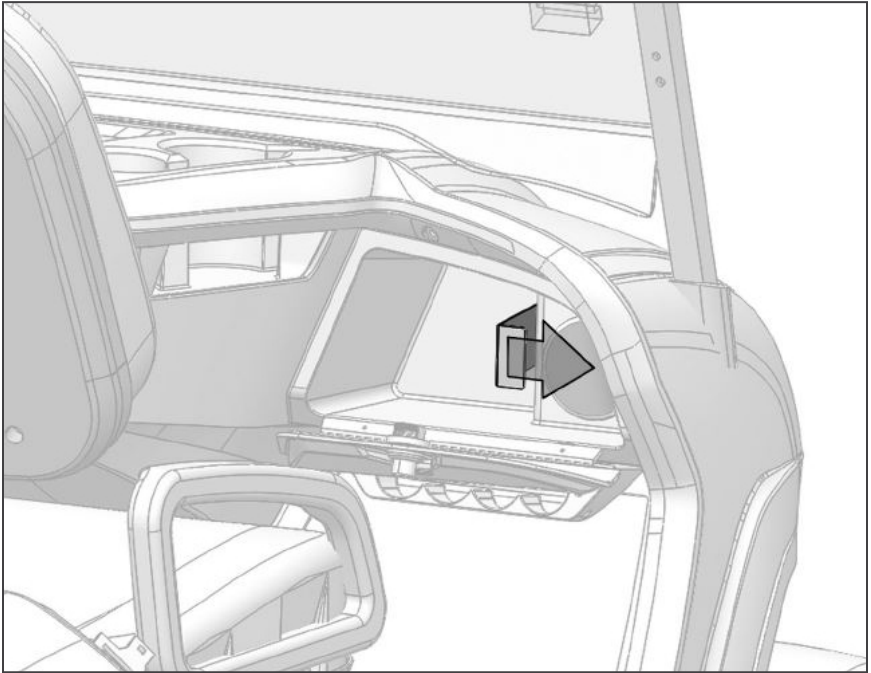
## D. SECURE FRONT TRUNK STORAGE

Ample storage can be found under the hood in the front of the vehicle. While this area is designed to act as a cooler, the front storage area is certainly large enough to store many other items as well.



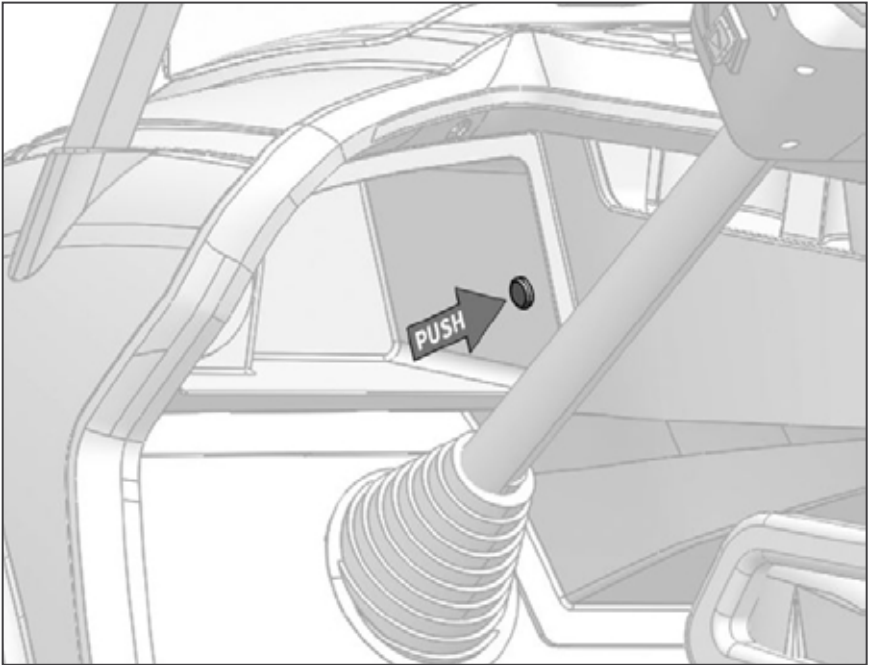
## E. MANUAL TRUNK RELEASE

In the unlikely event of loss of power, a backup release for the front storage trunk can be found inside the lockable glove box on the right side of the dash.



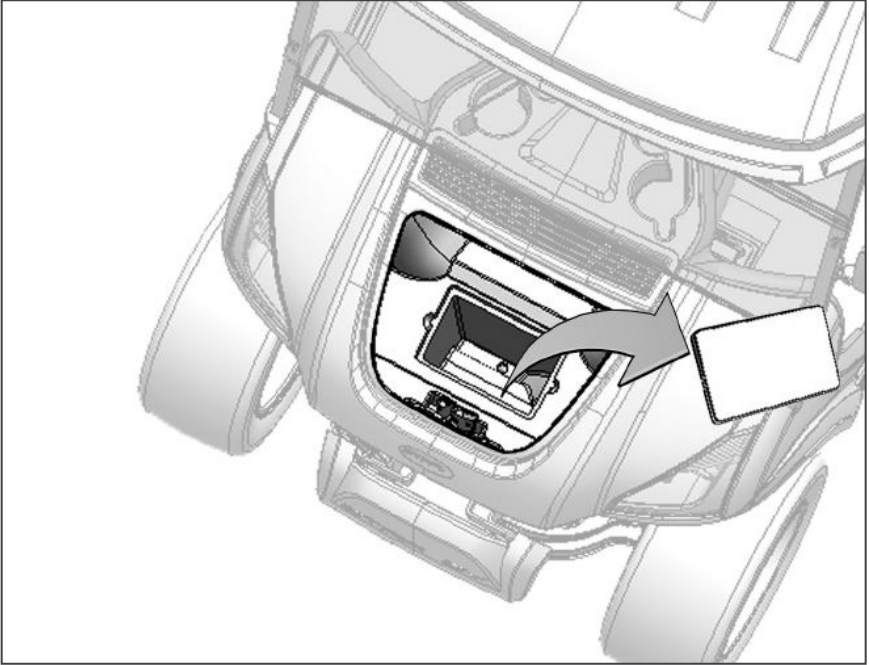
## F. ELECTRIC FRONT TRUNK RELEASE

The Sirius® is equipped with an electric push button release for the front storage trunk located in the side of the driver's side glove box cavity in the dash. Simply turn key switch to on position and reach forward from the steering wheel into the dash and press the button.



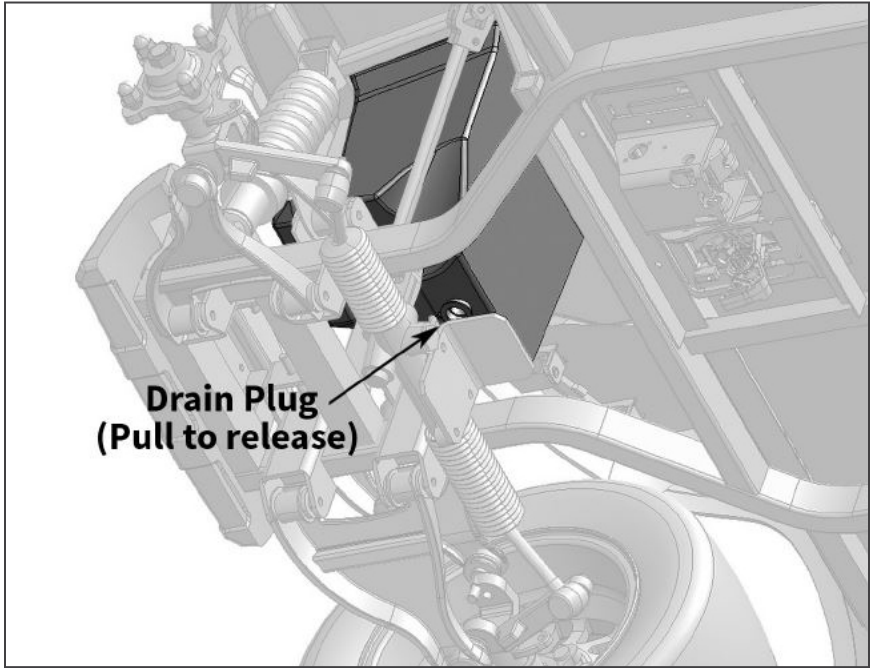
## G. FALSE FLOOR COOLER LID

The floor of the storage trunk includes a cover for the deep well area that can be used for wet storage such as ice or frozen cooling packs.



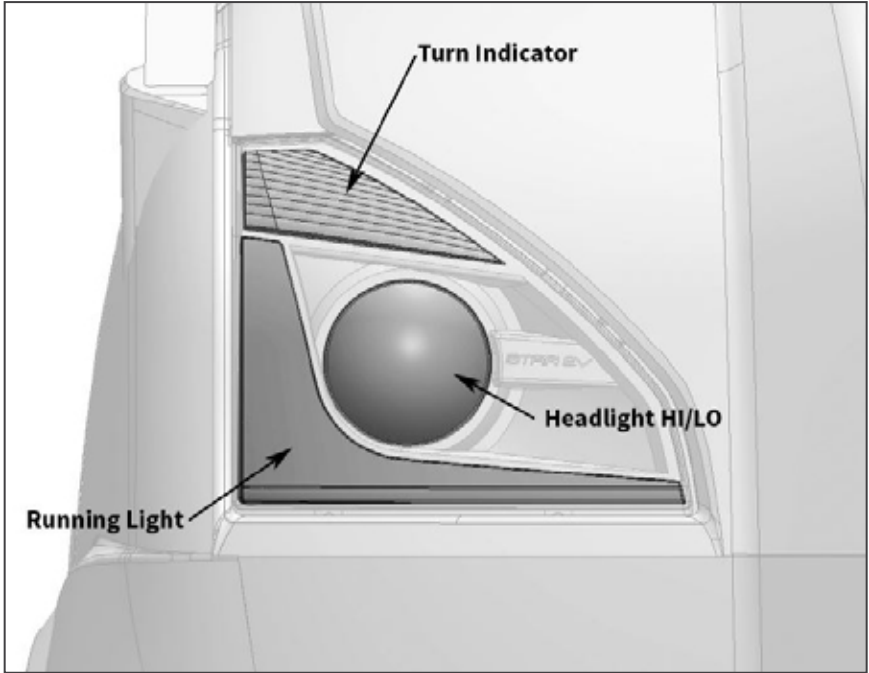
## H. STORAGE COOLER DRAIN

Located at the bottom of the “deep well”, the drain can be opened from the outside of the vehicle, useful for removing melted ice, or clean out.



## I. HEADLIGHTS

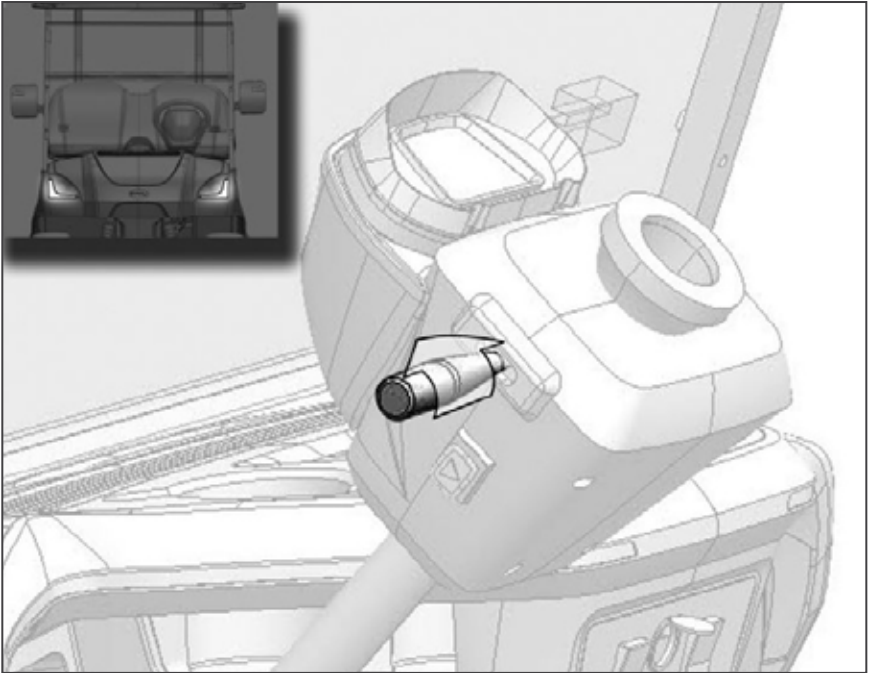
The headlights on your STAR EV Sirius® are high output/low voltage LED Projector units with high and low beam, white colored LED running lights, and amber LED turn indicators. The headlight lens is made of shatterproof acrylic and is water resistant.





## 1. Daytime Running Light (DLR) Operation

Turning on your Parking/Running Lights (recommended for daytime operation): The headlight controls are located on the left stalk that protrudes from steering column behind the steering wheel. Rotate the end of the stalk one click for running lights. A green icon will appear in the lower left corner of the digital display.

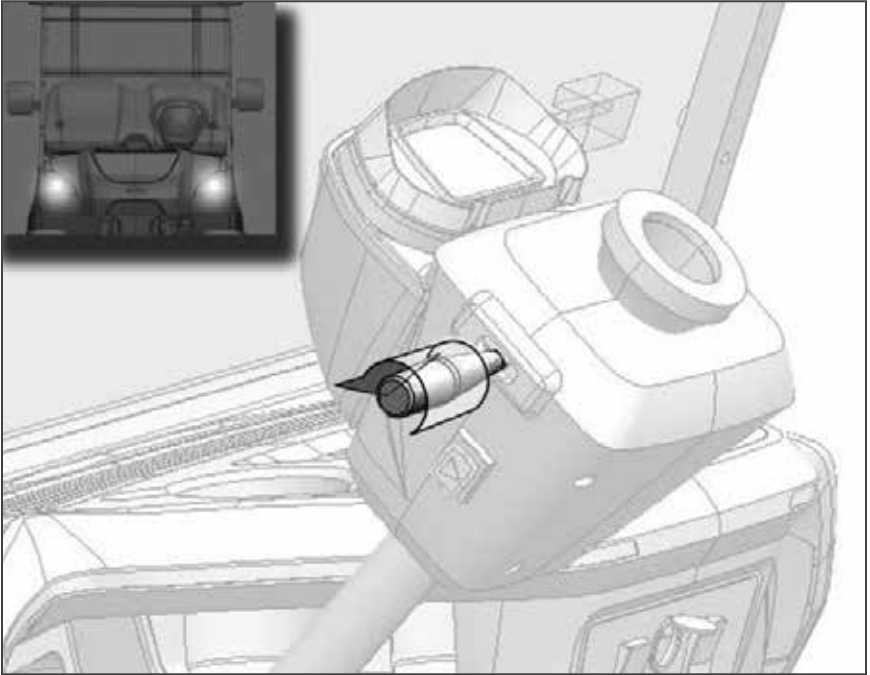


## 2. Headlight Operation

**Turning on your Headlights:** Dusk to dawn and low light operation.

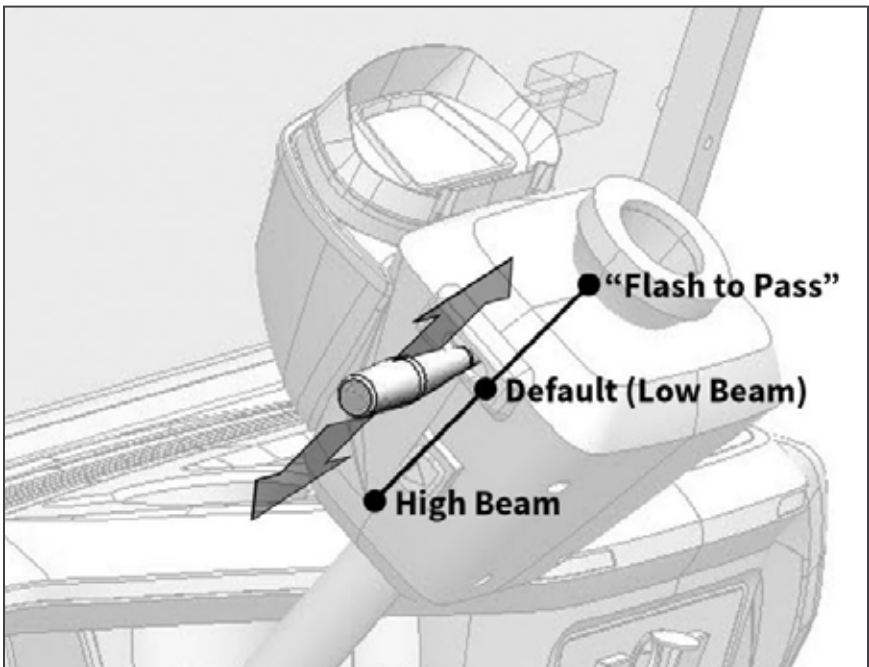
Rotate the end of the controls two clicks to turn on Headlights.

A green icon will appear in the lower left corner of the digital display.



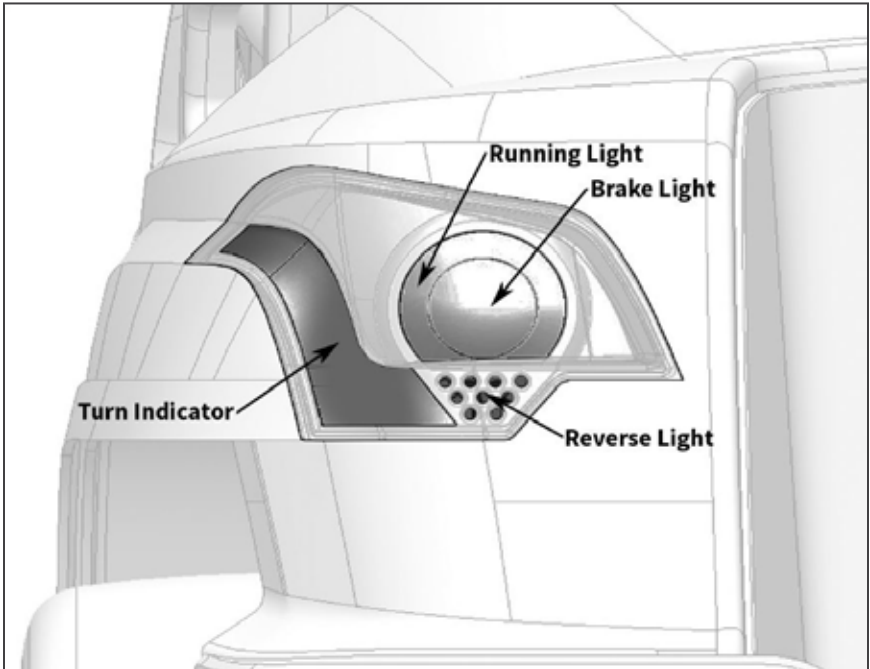
### 3. Engaging High Beam

High Beam is for use in very low light operation without other motorists in the vicinity. Pull the stalk towards driver to flash High Beam. Push the stalk away from the driver to engage High Beam. When in this position, pull the stalk towards the driver to return to Low Beam. A blue icon will appear in the lower left corner of the digital display indicating that your High Beam headlights have been engaged.



## J. TAILLIGHTS

The Taillights in your STAR EV Sirius® are all low voltage/high output LED. The Taillights consist of red running lights (rings in taillight assembly), red high output brake lights (center of ring), white reverse lights, and amber turn indicators located on outer edge of Taillight assembly with a clear shatterproof acrylic outer cover that is water resistant.

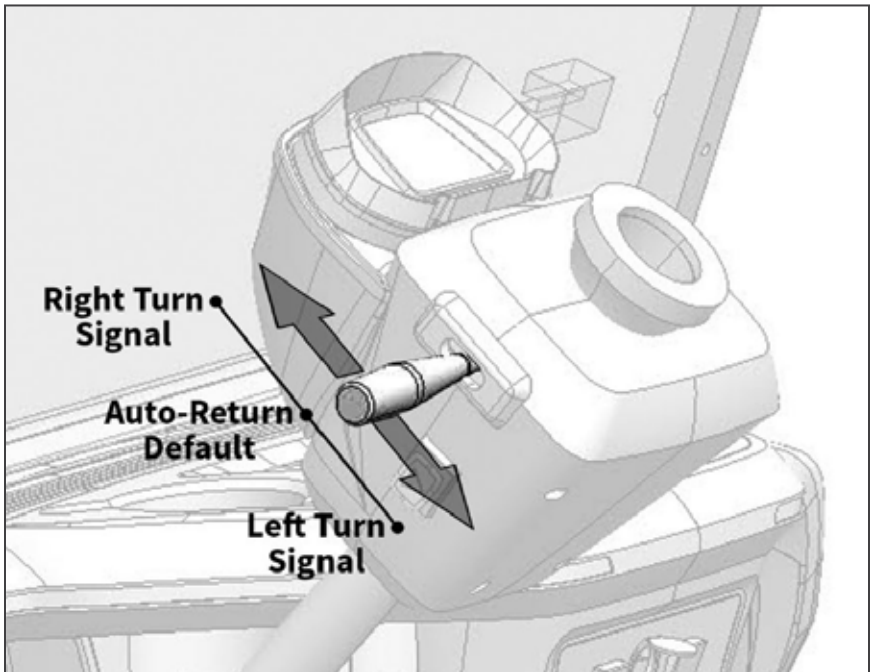


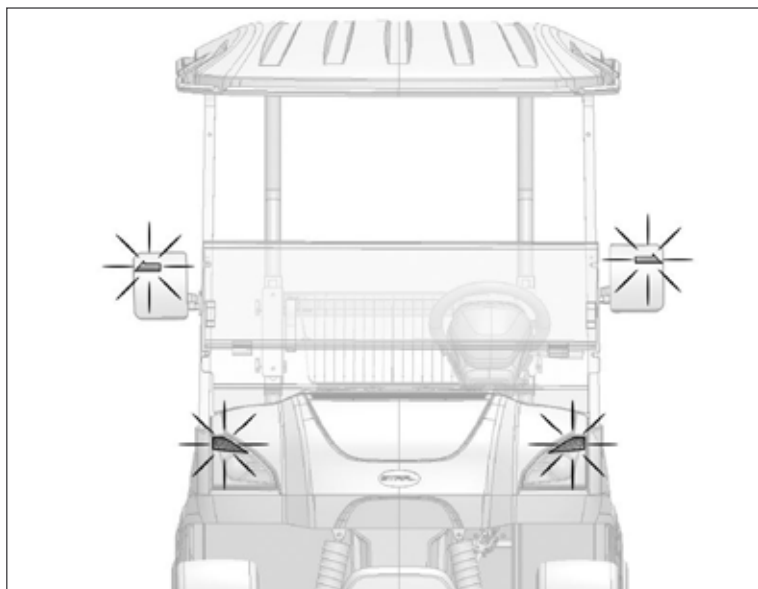
## K. SIDE VIEW MIRROR TURN INDICATORS

The Turn Indicators are located inside the headlight and taillight assembly as well as the front and back of the side view mirrors.

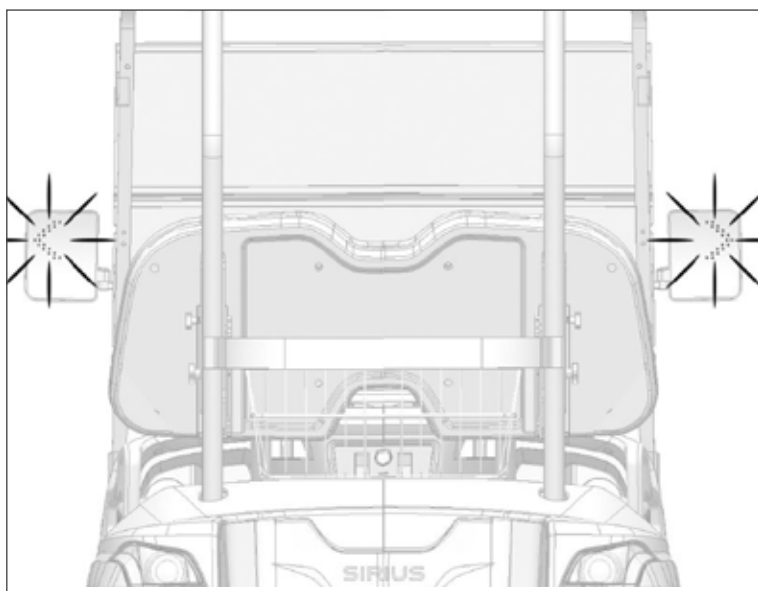
When activated, you will see a red indicator on each side of the mirror for safety improvements and a green arrow in the digital display.

This feature informs others in front, behind and to the side but is also handy so you can see what your Sirius® is doing. The Sirius® is equipped with self-canceling turn signals and should automatically turn off after a turn is made and steering wheel is returned to the center position.





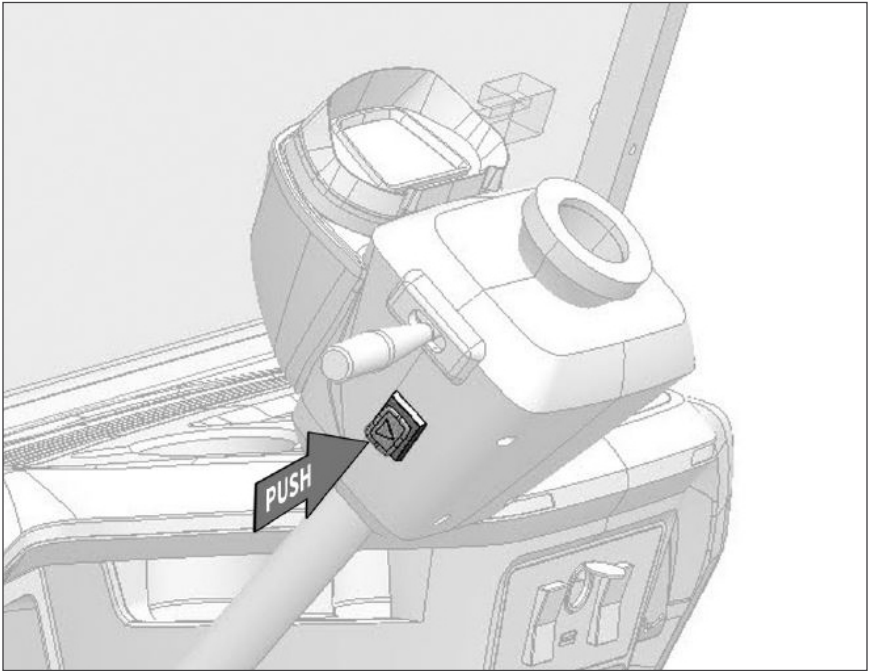
Emergency Hazards



Turn Signals

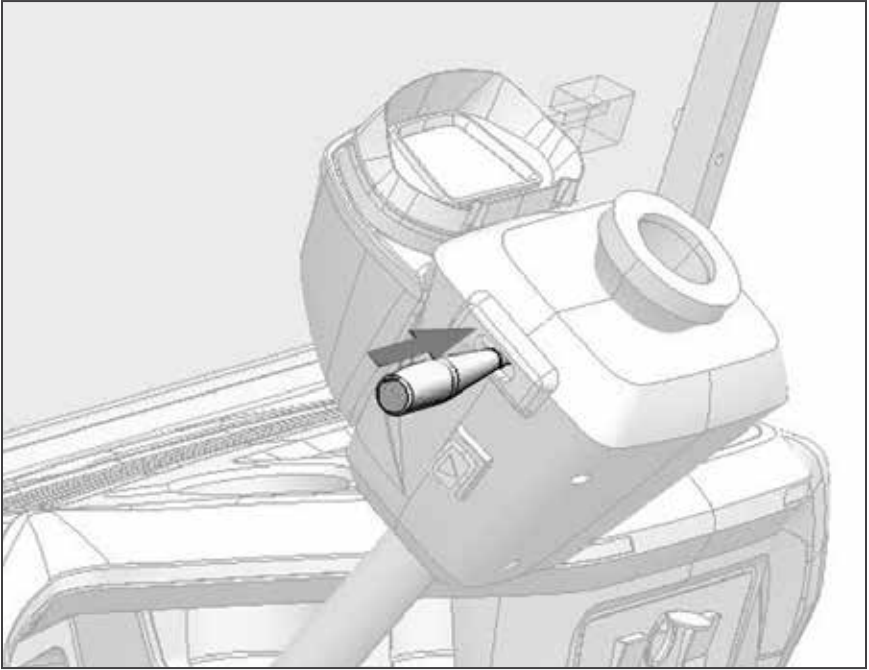
## L. HAZARD OR EMERGENCY FLASHERS

The Hazard or Emergency Flashers can be engaged by pushing the rocker switch located on the side of the steering column, opposite of the key switch. When engaged, all turn signal indicators will flash. This option should only be used in the event of an emergency.



## M. HORN

The Horn for your Sirius® can be activated by pushing the left headlight turn signal stalk inward, toward the steering column. Because the Horn should only be used in an emergency situation, it is designed and placed so that it is not activated by accident in normal operation of the vehicle.

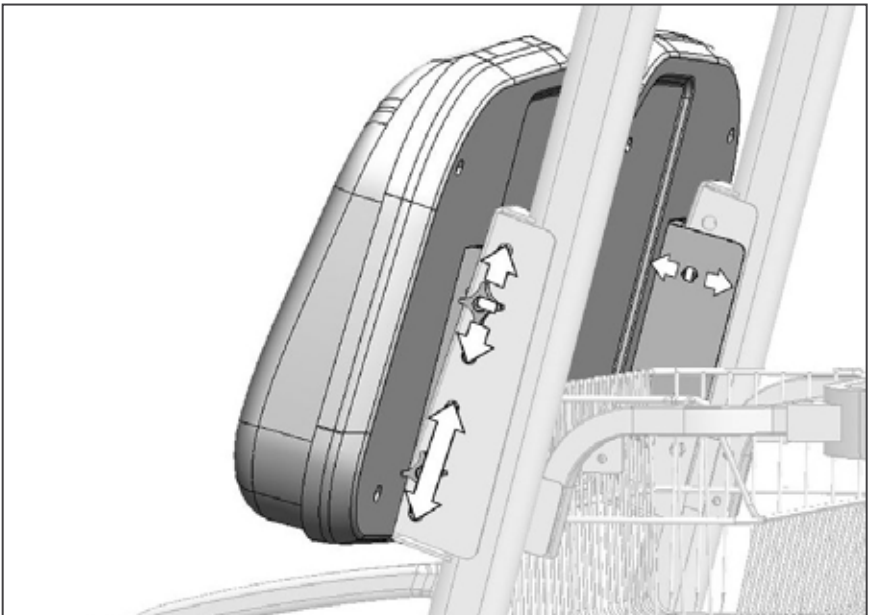




## N. ADJUSTABLE SEAT BACK

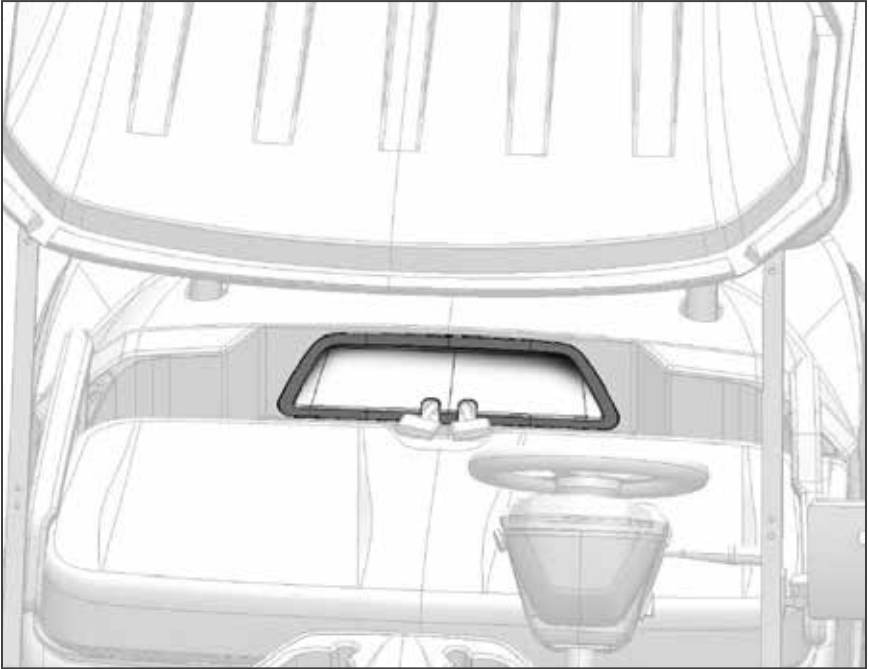
The Sirius® comes standard with an Adjustable Seat Back that can be positioned with simple tools. By adjusting the seat back closer to the steering wheel and pedals and lower lumbar support, smaller drivers can reach the controls easier and more comfortably.

To adjust the seat height and angle, simply loosen the 4-lobed knobs located on the outside of each rear roof support. The top knobs must be removed in order to place them in the desired location while the bottom knobs slide on a track for safety and security. This task requires two people as the seat back must be held in position while the knobs are threaded and tightened. The preset locations permit the seat back to raise and lower as well as tilt forward and back to provide optimum comfort and support for the driver. This feature is not intended to be adjusted frequently, but rather to “fine tune” the desired position for the primary driver.



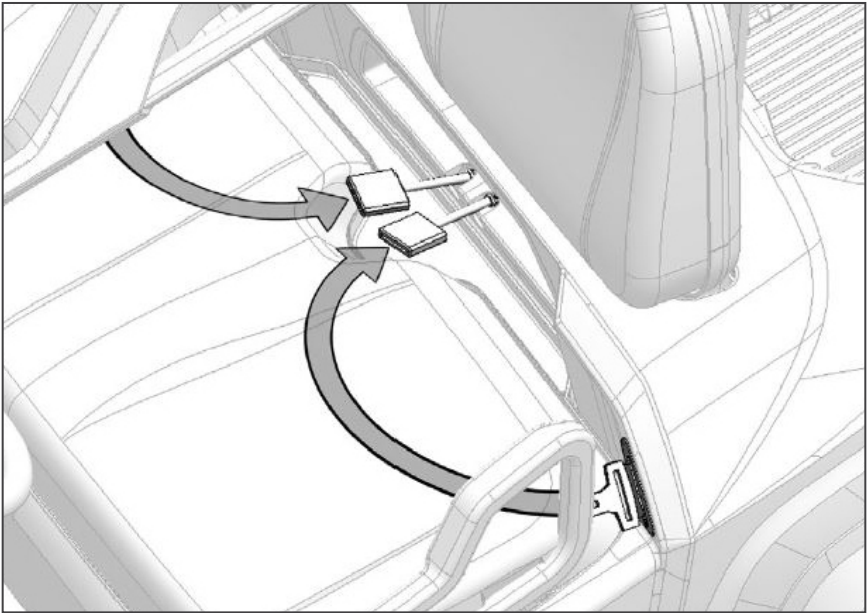
## O. CENTER STORAGE POCKET

Each Sirius® has a convenient Center Storage Pocket located behind the seat belt receiver, ideal for personal items that may need to be stowed prior to driving the vehicle such as handbags, towels, or other items that would typically roll around during operation. Please note these items will have to be removed if the seat is lifted to access batteries.



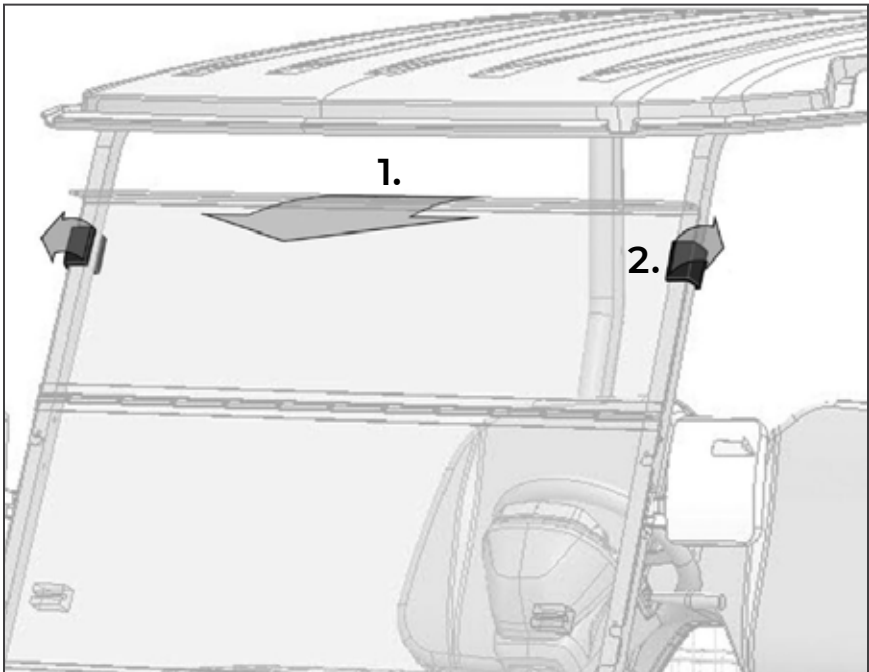
## P. SEAT BELTS

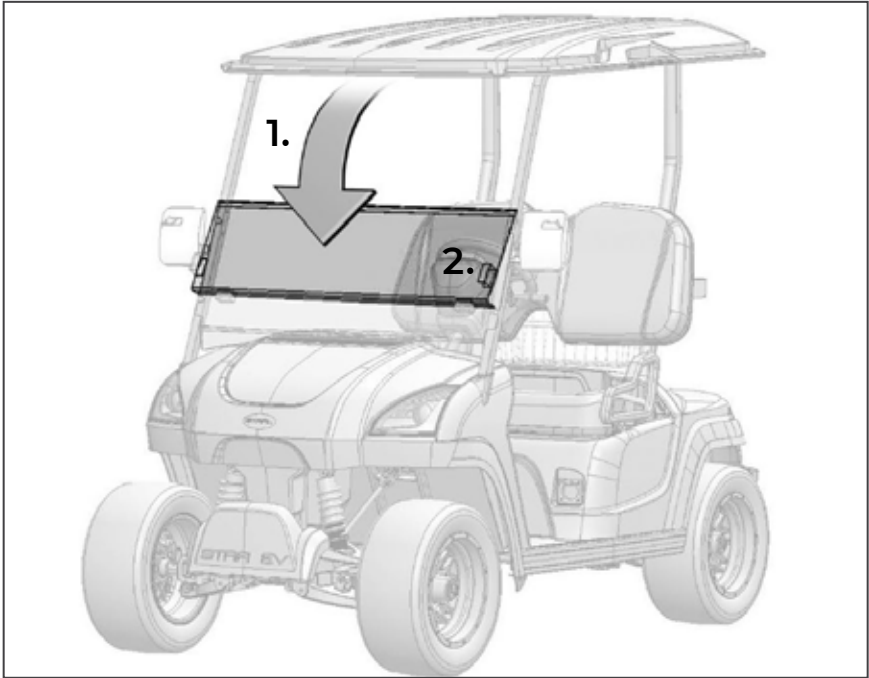
The 2 passenger Sirius® comes with Stealth Seat Belts that include all hardware mounted under the bodywork for style, ease of cleaning, and convenience. All models have this feature in the main body seating, however; the longer wheelbase multi-passenger units and rear flip seat will utilize standard visible hardware for the front seat pods (4, 6 & 8 Passenger units).



## Q. FLIP WINDSHIELD

Unless equipped with a fixed frame glass windshield with wet weather package, the standard Flip Windshield is a bi-fold composite unit designed to minimize the gap between the hood and windshield while still permitting ventilation to enter cabin over the top of the Flip Windshield, under the roof overhang. If the amount of ventilation is not enough, the top of the (1) flip windshield does fold forward for a “complete wind in the face” experience. To fold flip windshield down, simply pull the (2) outside rubber tab on the top of each side of the windshield and pull the top panel forward. As the top half swings forward and down, it will automatically secure itself into another pair of rubber tabs located at the bottom of the lower half of the windshield.

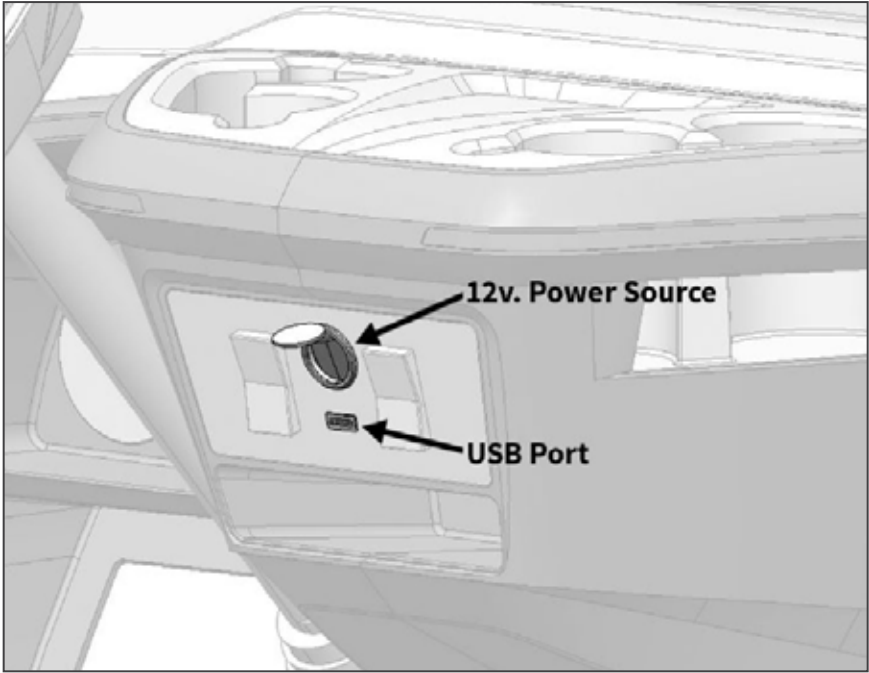




**CAUTION:** DO NOT drive without the (1) Flip Windshield panel secured. The outside rubber tabs (2) are what secures the windshield.

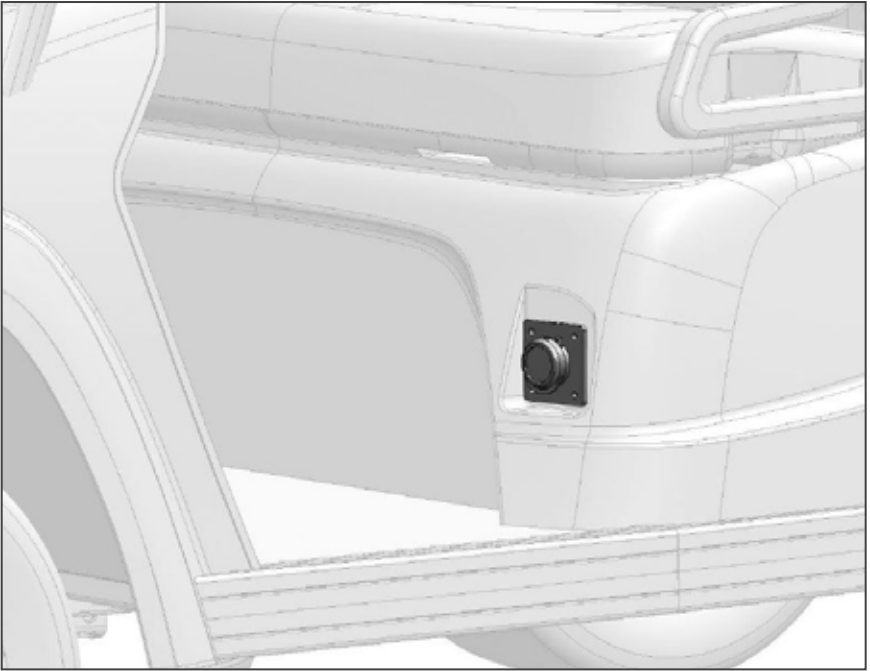
## R. USB AND 12V OUTLET

The Sirius® is offered with a standard 12 V Outlet and a second USB Charge Port located in the control panel to power your personal electronics. Keep in mind that prolonged charging of personal items will result in a shorter life span of the main batteries.



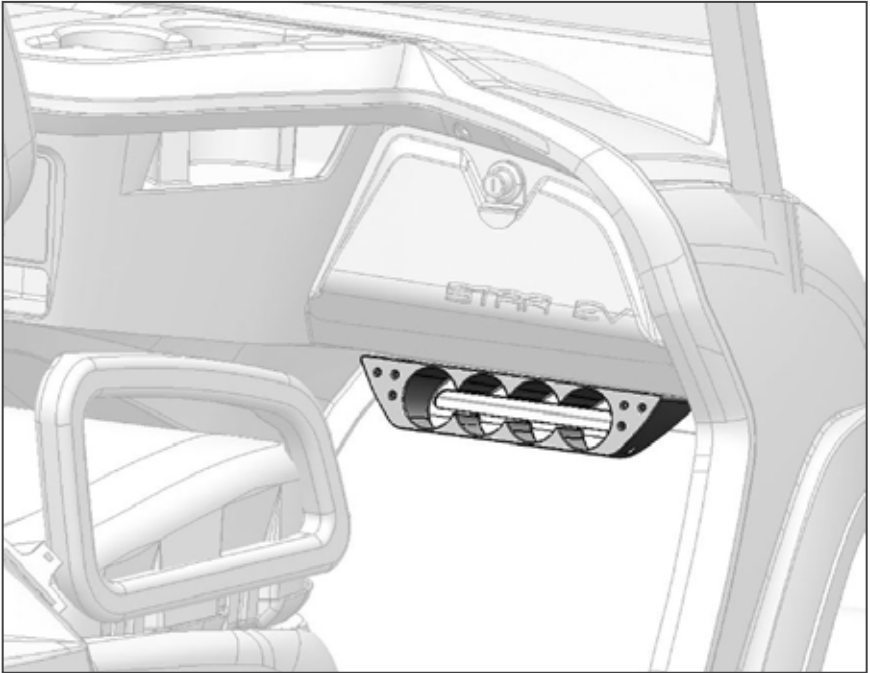
## S. EZ CONNECT MAIN CHARGING PORT

Located on the driver's side corner of the main body, this charge port utilizes a weatherproof hinged cover and a directional interface with an ergonomic grip plug in handle.



## T. GOLF BALL AND TEE HOLDER

Located under the passenger side of the dash, the Golf Ball and Tee Holder holds a maximum of four (4) golf balls and six (6) golf tees. The design allows each golf ball and tee to be pushed into place to be held securely. To remove each golf ball, simply push out from slot in the back. To remove a tee, simply pull from holder.





## 6. MAINTENANCE

STAR EV® recommends following a rigid preventative maintenance schedule for many years of care-free operation. Most costly repairs could be avoided if proper preventative maintenance was followed and is suggested that the following intervals are followed to protect your investment, ensure safety of passengers and to keep your STAR EV Sirius® looking and performing at its best.

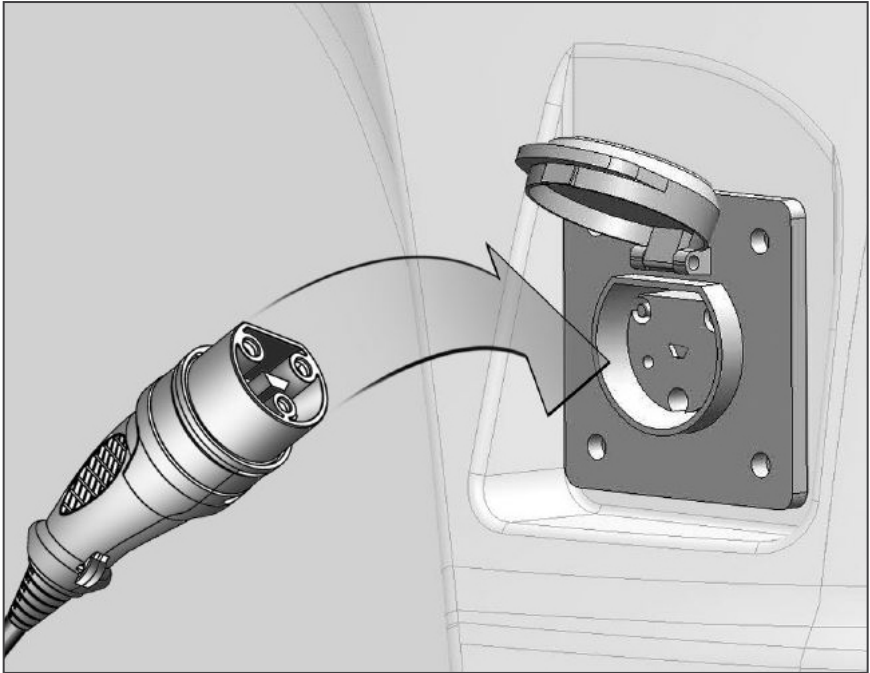
A. PREVENTATIVE MAINTENANCE SCHEDULE	
Item	Frequency
For Lithium Batteries: Recharge the battery after each use.	Daily
Check lights, brake performance, parking brake, loose and/or missing hardware. Verify that charger is fully charging. Visually inspect battery, charger plug, and receptacle.	Daily
Check battery water level (use distilled water only). Check for loose connections. Check tire pressure, lug nuts, head lights, turn signals, brake lights, and horn.	Weekly
Clean battery terminals. Check for loose connections on batteries and visually inspect battery cables for damage.	Monthly
Grease all fittings. Visually inspect brakes for unusual wear and check brake fluid level. Fluid level should be at fill line. Check shocks for leakage.	Quarterly
Clean and wax	Semiannually
Check rear end oil level (75-95 weight), gear oil (18-20 oz). Fill to bottom of fill hole. Check front tires for alignment 1/8 tolerance off of center line, abnormal rear axle bearing.	Annually

## B. BATTERIES

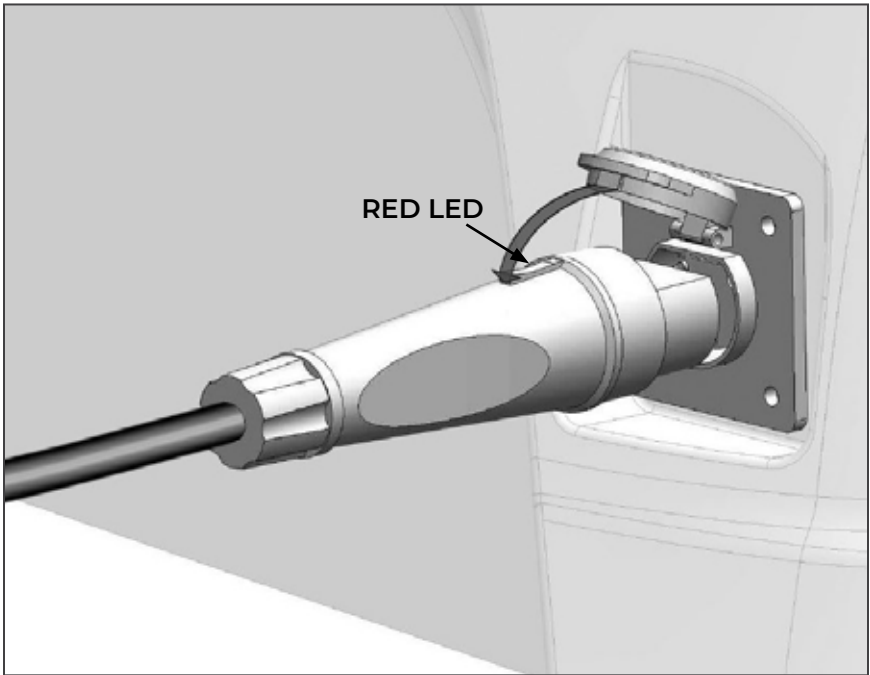
### 1. Charging the Batteries

The charger can stay connected to the AC outlet after the charge cycle is complete. To plug in charger, lift receptacle cover and hold it in place while lining up and inserting the wand. Once lined up properly, push charger wand into place until the cover engages the lock tab on top of the wand.

**Note:** If using Lithium Batteries charge after each use and unplug after charging.



Once a connection is made, the meter will register the status. When the cycle is complete and the vehicle is completely charged, it will shut off automatically to prevent over-charging of the system. Remove the charging handle from the vehicle prior to operation. Make sure receptacle cover is locked in on the step of the plug to ensure secure connection. **The LED on the connector will always be RED,** which indicates AC power outlet is working.



## Lester Summit II 1050W 22 Amp Charger:

The Lester Summit II is a 1050W Industrial Battery Charger designed with a rugged die cast aluminum enclosure (sealed to IP66 standards) for high reliability and long life. The charger comes with many different charging algorithm profiles loaded, for lead acid and lithium batteries.

\*1050W (Lithium) and 650W (Lead Acid)

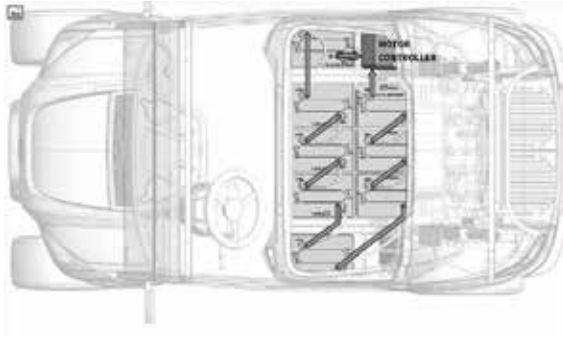


## 2. Important Things to Remember

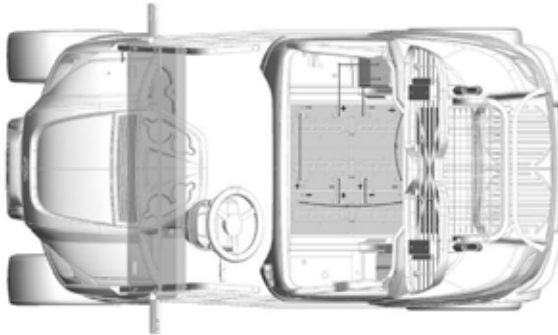
- Become familiar with and follow the instructions issued by the charger manufacturer.
- Always charge the battery after each use.
- Lead acid batteries do not develop a memory and need not be fully discharged before recharging.
- Charge only in well-ventilated area. Keep sparks or flames away from a charging battery.
- Verify charger voltage settings are correct if applicable.
- Regularly check electrolyte level inside each individual battery.
- Tighten all vent caps before charging.
- Do not overcharge or undercharge the batteries using other means. Use only the charging equipment provided.
- Do not charge a frozen battery.
- Avoid charging at temperatures above 122°F (50°C).

Visit [starev/software](http://starev/software) to download the Lester Charger App for more information.

### 3. Battery Layout and Cable Routing



Standard 8 Battery System



Optional 6 8V Batteries

#### **WARNING!**

Read the following safety guidelines before servicing batteries.

- To prevent battery explosion that could result in severe personal injury or death, keep all smoking materials, open flame, or sparks away from the batteries.
- Hydrogen gas is formed when charging batteries. Do not charge batteries without adequate ventilation.

**Read the following safety guidelines before servicing batteries.**

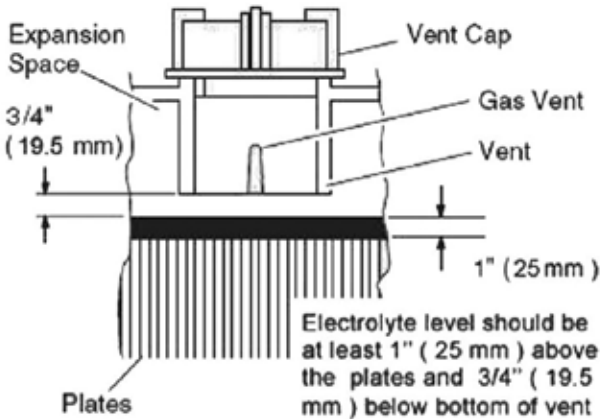
- A 4% or higher concentration of hydrogen gas is explosive.
- Be sure that the key switch is off and all electrical accessories are turned off before starting work on vehicle.
- Never disconnect a circuit under load at a battery terminal.
- Batteries are heavy. Use proper lifting techniques when moving them. Always lift the battery with a commercially available battery lifting device. Use care not to tip batteries when removing or installing them; spilled electrolyte can cause burns and damage.
- The electrolyte in a storage battery is an acid solution which can cause severe burns to the skin and eyes. Treat all electrolyte spills to the body and eyes with extended flushing with clear water. Contact a physician immediately.
- Always wear a safety shield or approved safety goggles when adding water or charging batteries.
- Overfilling batteries may result in electrolyte being expelled from the battery during the charge cycle.
- The electrolyte is a solution of acid and water so skin contact should be avoided. If contact is made, immediately rinse with neutralizer solution.
- Any electrolyte spills should be neutralized with a solution of 1/4 cup (60 ml) sodium bicarbonate (baking soda) dissolved in 1 1/2 gallons (6 liters) of water and flushed with water.

#### 4. Battery Maintenance - Watering (Flooded batteries only)

Flooded batteries need water. More importantly, watering must be done at the right time and in the right amount or else the battery's performance and longevity suffers. Water should always be added after fully charging the battery. Prior to charging, there should be enough water to cover the plates. If the battery has been discharged (partially or fully), the water level should also be above the plates. Keeping the water at the correct level after a full charge will prevent having to worry about the water level at a different state of charge.

- Do not expose plates to air.
- Do not fill the water all the way up to the cap.
- Do not use water with a high mineral content.

Use distilled or deionized water only.



**PROCEDURE**

- Open the vent caps and look inside the fill wells. Check electrolyte level; the minimum level is at the top.
- If there is no electrolyte visible, add just enough distilled / deionized water to cover the plates.
- Replace and tighten all water vent caps.
- Put batteries on a complete charge before adding any additional water (refer to the charging section).
- Once charging is completed, remove the vent caps and check the electrolyte level.
- Add water until the electrolyte level is 1/8" below the bottom of the fill well.
- Clean, replace and tighten all vent caps.

**State of Charge as related to Specific Gravity and Open Circuit Voltage**

Percent of Charge	Specific Gravity (g/cm <sup>3</sup> ) corrected to 25°C	Open Circuit Voltage	
		6V	8V
100%	1.28	6.37	8.49
90%	1.26	6.31	8.41
80%	1.24	6.25	8.33
70%	1.22	6.19	8.25
60%	1.20	6.12	8.16
50%	1.18	6.05	8.07
40%	1.15	5.98	7.97
30%	1.13	5.91	7.97
20%	1.10	5.83	7.77
10%	1.07	5.75	7.67

Specific Gravity (g/cm <sup>3</sup> )	Percent of Charge	Freezing Temperature
1.280	100%	-68.9°C / -92.02°F
1.265	92%	-57.4°C / -71.32°F
1.250	85%	-52.2°C / -61.96°F
1.200	62%	-26.7°C / -16.06°F
1.150	40%	-15°C / 5°F
1.100	20%	-7.2°C / 19.04°F





## 5. STAR EV® Lithium Battery Line

The STAR EV® Lithium battery line consists of four robust, hand selected options. Each battery is a different size, allowing you to choose the right amount of range for your lifestyle. In the battery chart below, we've outlined the expected ranges for each size. The ranges are all based on our 2 passenger models, on flat ground. If your vehicle is a longer model, or you predominately use it in a hilly area, this will affect the range. All these options are maintenance free, and ready to provide you with years of dependable service. All STAR EV® lithium batteries are sealed against moisture and dust intrusion, for increased longevity. The STAR EV® lithium flagship model is the 210Ah version. It gives you the most “bang for the buck”, as far as range and ease of use.

## 6. Powering up the Battery

The top cover of each battery has a QR code to install the Smart Battery app, allowing you to view your battery's charge status, for added peace of mind. Your battery features a sleep mode, that will turn the power off after 1 hour of the key power being supplied without driving. If this happens, cycle your vehicle's key off and back on, to restart your battery (80Ah, 105Ah, and 160Ah have to press power button)

### WARNINGS:

1. **DO NOT** disassemble the battery as it may cause electric shock, injury or death.
2. **DO NOT** short-circuit the battery, use it near/in heat or water source
3. **DO NOT** connect the battery with under sized cables for your application, this will cause overheating of the battery.
4. **DO NOT** damage, drop or strike. **DO NOT** weld on the battery case.
5. If the battery is damaged or malfunctioning, **STOP** using it and contact STAR EV® immediately.

## 7. Lithium Maintenance

Your lithium battery requires very little maintenance. To clean the battery, wipe it down with a damp cloth. **DO NOT** spray down or immerse the battery with water. Yearly; use a 13 mm wrench or socket to check the main battery terminal bolts for tightness. The main terminal bolt torque should be 124 in-lb. You will see a 4-pin connector, located near your battery. Unplug this connector and inspect it for corrosion every six months.

- For prolonged storage, charge the battery to 100%, unplug the charger, and you can leave the battery unplugged for 6 months after fully charging. When you return, the battery should be at 20% charge. Return the battery to full charge at this time.
- Your battery can be safely charged with the key in the OFF position.

## 8. Operating the Lithium Battery

1. Strongly recommended to charge the battery after each use.
2. Charge the battery as soon as possible when the SOC is <10%
3. Avoid to discharge the battery to < 5%.
4. Strictly follow the operating temperature range below:
  - Discharge: -20~60C (-4~140F)
  - Charge: 0~50C (32~122F)
  - Storage: 0~30C (32~86F)
5. Even if not being used, fully recharge the battery at least once every 3 months, recommended to recharge every month.
6. Fully charge the battery before leaving if for a longer period of time (with in 3 months)
7. In case used in golf cart, avoid accelerating harshly as it may cause current spikes, triggering the battery's self-protective cut-off.

## 9. Storage

1. For storage over one month, turn OFF the devices connected to the battery and push OUT the battery push button (if applicable) place the battery in a dry and ventilated location with temperature between 0~30C° (32~86F°)
2. **DO NOT** store the battery near corrosive material, fire or heat sources. Fully charge the battery before storage; Fully recharge the battery every 3 months.

## 10. Lithium Battery Winter Storage

Follow these steps to store your STAR EV® Lithium battery during winter:

1. FULLY charge your STAR EV® Lithium battery when storing
2. FULLY recharge the battery each month.
3. For storage over one month fully recharge the battery and TURN OFF the vehicle completely. (If applicable – TURN OFF the battery with the push.
4. Store the vehicle in a dry, ventilated location with a temperature above freezing 32°F (0°C)
5. **DO NOT** store the battery near corrosive material, fire, or heat sources.
6. **DO NOT** try to charge the battery or operate the vehicle if the temperature is below freezing 32°F (0°C)

## 11. Lithium Battery Warranty

The warranty is invalidated if any of the following occurs, but not limited to:

1. Failure to properly install the battery.
2. Failure to properly store the battery as indicated above.
3. Product that was used for applications other than which it was designed and intended for. (Example: Wrong voltage application)
4. Damage due to over tightening and stripping the terminals.
5. Damage due to shipping/mishandling of the product.
6. Breakage, freezing, wreckage, water damage, melted or broken terminals.
7. Product that has been opened, modified or tampered with.
8. Damage due to extreme hot/cold temperature outside the range defined above.
9. Leave the battery uncharged for more than 7 days after the SOC is < 10%.
10. Leave the battery uncharged for more than 1 day after the SOC is < 20% and environment temperature is > 45°C (113°F)

## 12. Extreme Temperature Usage

The max environmental temperature for safe discharge is 140°F (60°C)

**DO NOT** charge your battery in ambient temperatures above 113°F (45°C)

The charger should not be used on the battery under 32°F (0°C).

If the battery is at or below this temperature, drive the vehicle before charging. This will warm the battery up internally, so that it can safely accept a charge.

## 13. Battery Prolonged Storage (LEAD ACID / LITHIUM)

Batteries discharge over time. The rate of discharge changes according to the ambient temperature and the age and condition of the batteries. For winter storage, the batteries must be clean, completely charged and disconnected from any electrical drain.

## 14. STAR SMART Lithium App

Check STAR-smart lithium battery's charge status coming and going, with STAR EV's new wireless energy-monitoring app. Verify input and output in real time, so there's no need to think twice when you're ready to ride.

### 1. Download the App

For battery information, proactive monitoring and software updates download the STAR Lithium App and connect battery to smartphone through Bluetooth.

### 2. Connect Battery

Using the Star Lithium app, connect battery to your wifi network.

### 3. Charge

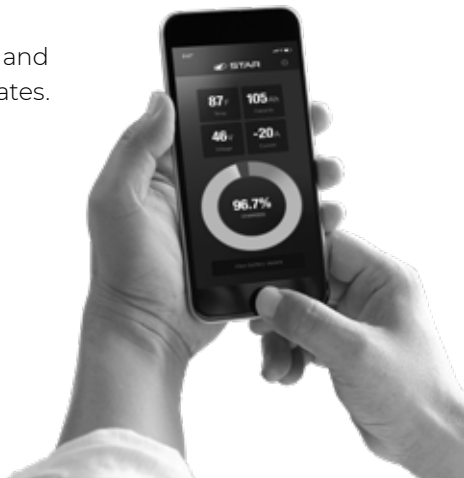
Charge the battery after each use and it will automatically check for updates.

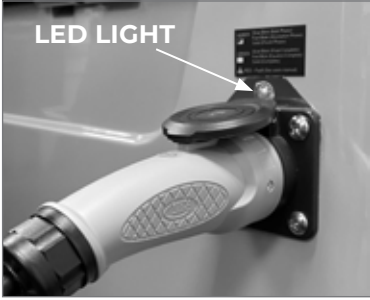


IOS



ANDROID



FAULT (RED) LED	CHARGE STATUS (YELLOW) LED	CHARGE COMPLETE (GREEN) LED	DESCRIPTION
Solid on	Solid on	Solid on	LED check for a few seconds during charger initialization 
	Slow blink	Off	Bulk/STAR EV charge cycle phase (constant power or constant current)
	Fast blink	Off	Absorption/Plateau charge cycle phase (constant voltage). Greater than 80% charged.
	Solid on	Off	Finish charge cycle phase (constant current) Not all charge profiles include a finish phase.
	Off	Fast blink	Balance/Equalize phase. An extended charge cycle is occurring because a trigger condition has been met (cycle count, etc). Not all charge profiles include a Balance/Equalize phase.
	Off	Solid on	Charge cycle complete.
	Off	Slow blink	Charge cycle complete. Post Charge phase (constant voltage float, etc). Not all charge profiles include a Post Charge phase.
Slow blink	Slow blink	Slow blink	Charger Bluetooth connected to a smart phone or device, LEDs blink at the same time.

### C. LIFTING THE VEHICLE

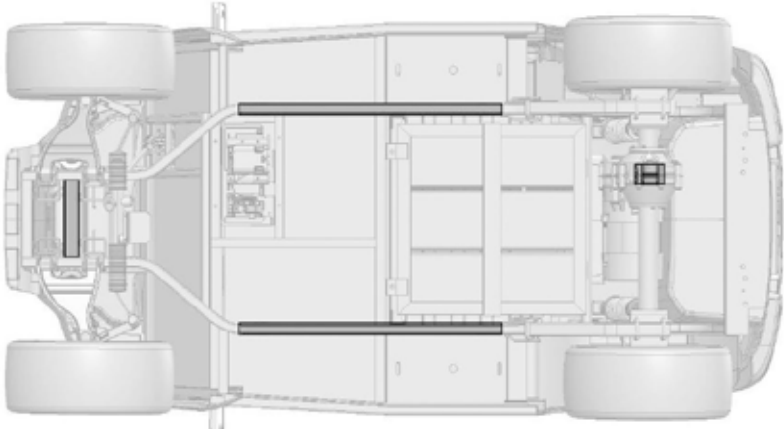
If maintenance that requires lifting the vehicle is needed, follow the specific guidelines to ensure a safe, stable environment is established. Any common floor jack can be used to lift the vehicle, providing the proper jack points are utilized to prevent damage or injury. If lifting the front, locate the jack pad under the front cross beam on the frame in between the lower control arms. **DO NOT** lift vehicle with any other part of the chassis.

If lifting the rear, use only the differential housing as the jack point. Ensure the front tires are secured using something large and heavy preventing the front wheels from rolling. Because the housing is off center, the vehicle may lean towards the driver's side until jack stands can be properly placed.

Jack stands can be placed anywhere along the frame rail but is recommended to follow the locations shown in the image.

**WARNING:** Do not perform any work until jack stands are in place and the vehicle is secure. Once positioned, it is advisable to jiggle the chassis to make sure the vehicle is secure on the stands. *(see diagram for lifting vehicle on page 71)*

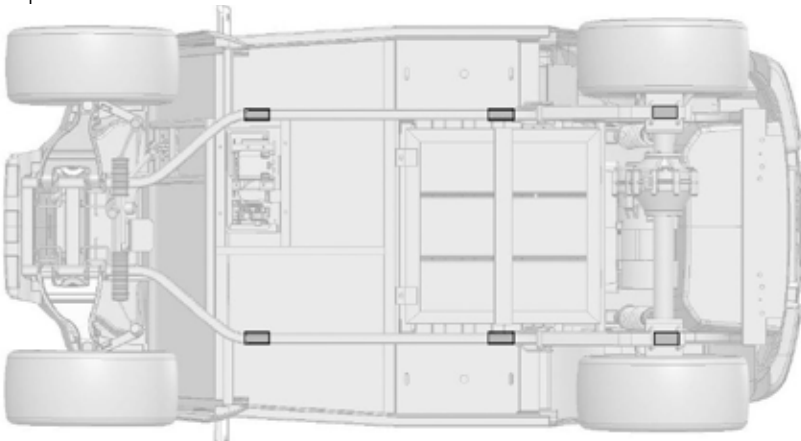
**WARNING:** If lifting front of vehicle, take care to ensure no wiring is in between floor jack and front cross beam. Never lift vehicle by pans or suspension.



### RECOMMENDED FLOOR JACK LIFT POINTS

**WARNING:** Failure to follow recommendations will result in damage to your vehicle. If lifting rear of vehicle, be sure to secure front tires to prevent roll as the Parking Brake only controls the rear tires.

**WARNING:** If lifting front of vehicle, take care to ensure no wiring is in between floor jack and front cross beam. Never lift vehicle by pans or suspension.

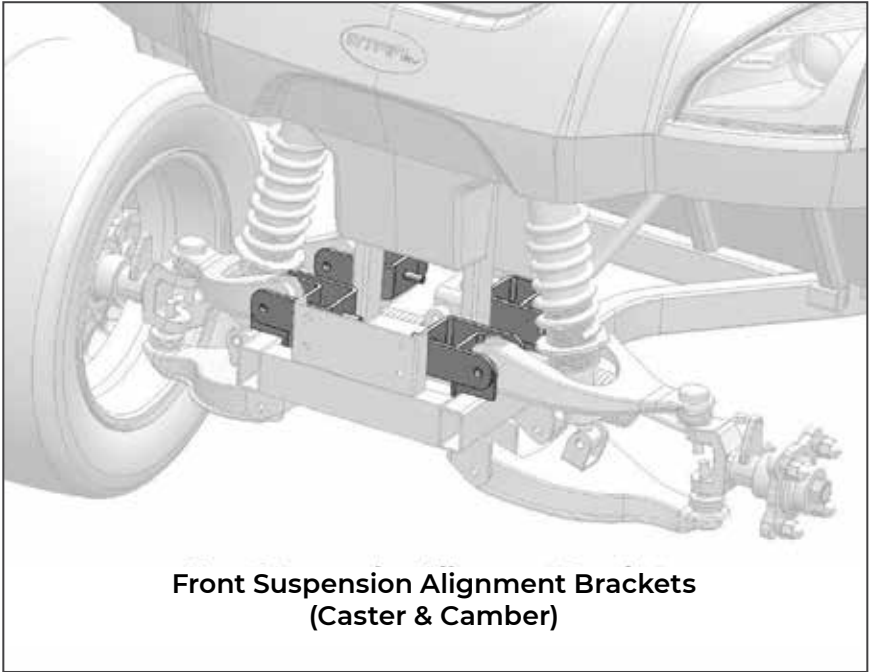


### RECOMMENDED JACK STAND LOCATIONS

**WARNING:** Failure to follow recommendations will result in damage to your vehicle. If lifting rear of vehicle, be sure to secure front tires to prevent roll as the Parking Brake only controls the rear tires.

## D. ALIGNMENT

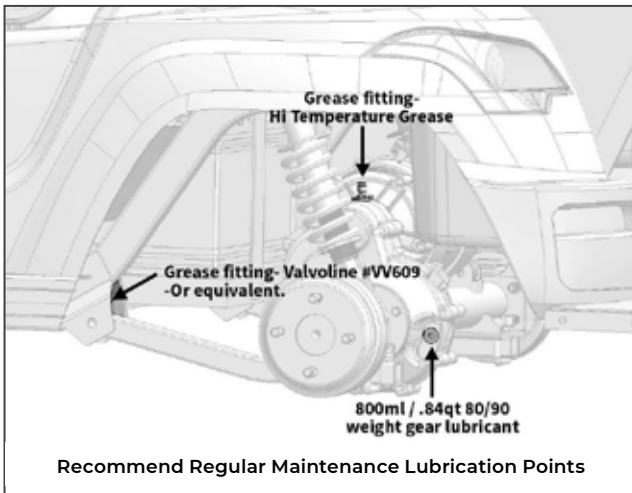
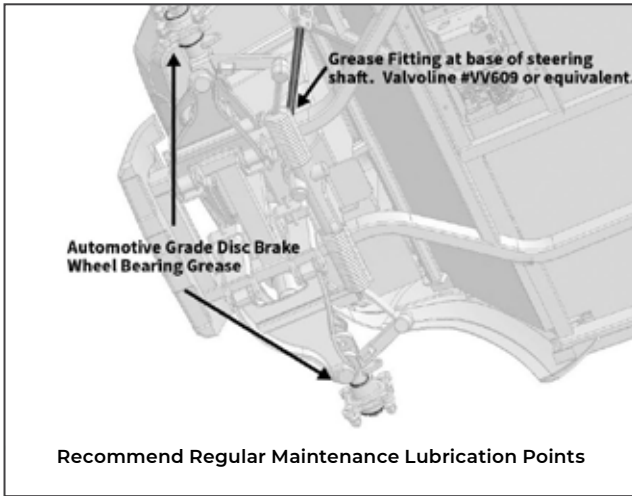
The Sirius® comes equipped with fully adjustable alignment. Front caster and camber can be adjusted using the control arm adjustments that are part of the frame. Tow is adjusted with the steering tie rod ends. No alignment is needed for the rear.





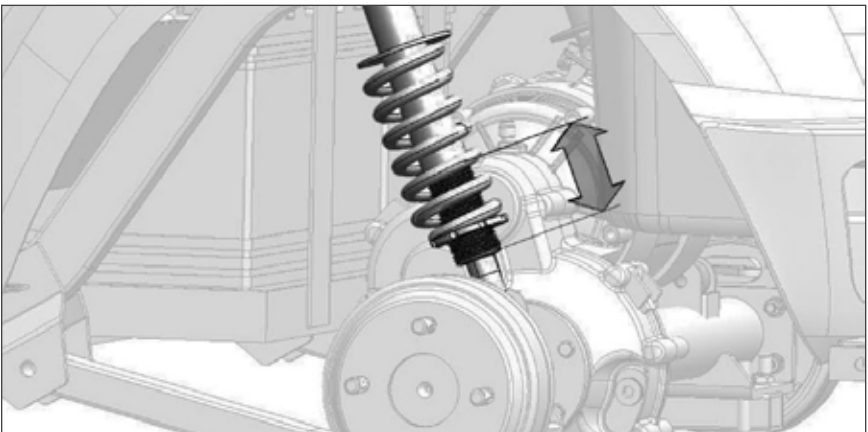
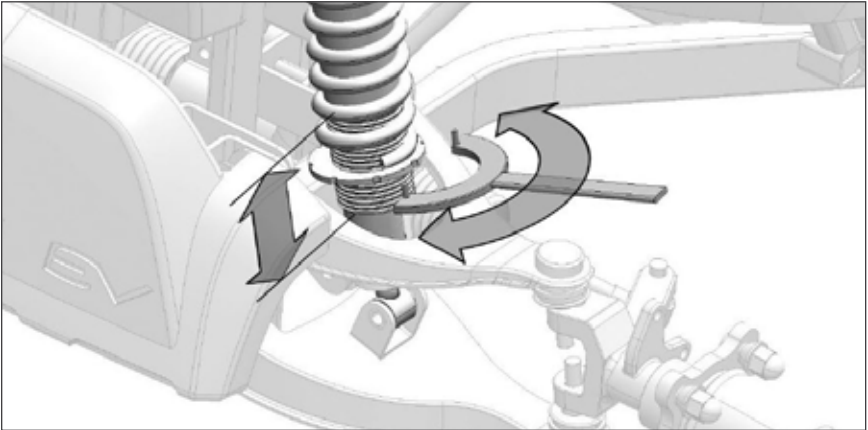
## E. LUBRICATION POINTS

Much of the Sirius® has self-lubricating bushings, so maintenance is not required. However, for long term use, please follow the guidelines as recommended by the Maintenance Schedule or as needed.



## F. ADJUSTABLE RIDE HEIGHT

The Sirius® is equipped with adjustable coil over shocks. This feature allows the adjustment of spring tension and ride height to provide a softer ride, or a stiffer spring with heavier loads. As the spring perch is moved up, the variable rate spring is compressed, thus, a stiffer ride is the result. A higher ride height is also the result, but care must be given to clearance with the tire and body as well as positioning the rear axle on the swing arms to ensure proper geometry is established. It is recommended that only an authorized dealer perform this task to ensure proper alignment and positioning.



## G. TIRE PRESSURE

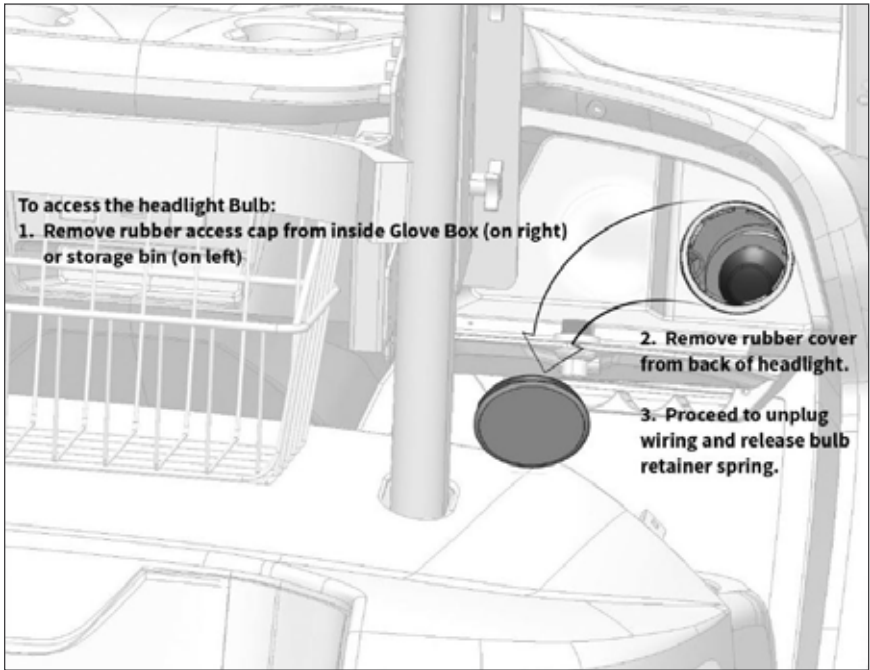
Maximum tire pressure recommendation for the CST tubeless 20 x 9.0-12 street tire is 20 psi max. Lifted car terrain tire 23 x 10.5-12 is 20 psi max. Over-inflation or under-inflation will have a negative effect on tire wear and even life of battery. It is recommended that tire pressure is monitored regularly at least twice a year with seasonal temperature changes.

## H. LED BULB REPLACEMENT

The Sirius® comes equipped with a complete array of LED illumination. LED (Light Emitting Diode) systems use less power, provide greater reliability under many different conditions, and are not effected by vibration and impact. LED bulbs also have a much longer lifespan so replacement is not needed. However in the event that failure occurs with secondary LED illumination (Parking, Turn, Brake, Reverse) it is more common for a single LED to fail, rather than the entire array. In this case, a replacement assembly can be swapped by an authorized service dealer. Access to the assembly fasteners can be found in each wheel well and tail light assembly fasteners are located behind the rear wheel well splash shield.

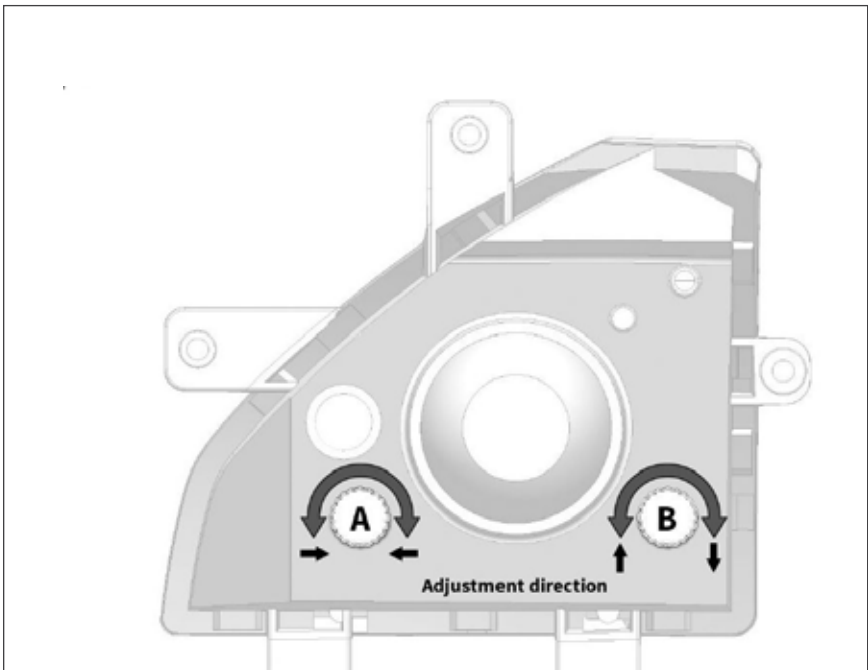
## I. HEADLIGHT BULB REPLACEMENT

It is recommended that an authorized technician change expended bulbs, but if you have personally changed automobile headlight bulbs, the Sirius® will be no different. In the rare event that the headlight bulbs need to be replaced, there is a convenient rubber cap in each glove box cavity that, if removed, will provide access to the back of the headlight assembly.



## J. HEADLIGHT ADJUSTMENT

Another unique feature of the STAR EV Sirius® is adjustable headlights. The headlights come from the factory pre-aimed. However with bulb changes, aggressive use and possibly impact, the headlights may need to be aimed or adjusted. There are two knobs on the back of each head lamp assembly that adjust direction and height.



## 7. CARE AND CLEANING

### A. Interior

**WARNING:** Turn the key to the off position and remove from the key switch before cleaning or washing the vehicle.

While the entire passenger compartment of the STAR EV Sirius® is designed to be exposed to the elements, reasonable caution must be taken when exposed to excessive water or pressure during a wash. The most critical area to avoid excessive water is the control panel in the center top of the dash where the switches are located. However, the remaining areas of the interior can be exposed to soap and water. It is recommended that routine clean-up of the floor, seats, and dash ARE done so that the vehicle can dry properly to avoid any issues. After final rinse, a dry towel can be used to remove any excess water but a hand-held leaf blower does the job faster.

**WARNING:** Be cautious when using UV protectant on the dash, seats and floor. While products can help protect the surfaces from oxidation and keep your Sirius® looking new, some products leave a greasy residue that eliminates traction and promotes slippage. Operating a vehicle with slippery floors, steering wheel, or seats can be dangerous and discretion is advised.

### B. Exterior

The exterior can be treated just as you would treat your car or truck. It is recommended that a proper rinse to remove excess sand, mud, and dirt from the body is performed first. Then a mild soap or branded car wash soap can be used with a wash mitt or soft cloth. A final rinse is required to remove any soap residue and a dry towel or hand-held leaf blower is recommended to dry the unit. Waxing to protect the paint is encouraged to keep your Sirius® looking new for many years.

**CAUTION:** The windshield is a light weight composite and will scratch if care is not taken. While cleaning, it is recommended that the entire windshield be hosed off with reasonable pressure to remove any large debris or sediments that have collected. Pre-rinsing also loosens and softens particles that may contain elements that are abrasive. Once a thorough rinse and soak is done, use a non-abrasive wash mitt and plenty of soap to remove stubborn stains. Once completed, a final rinse is needed and is recommended that the windshield is dried immediately with a soft absorbent towel to prevent hard water deposits. Maintain a clear, scratch free windshield with frequent waxing and use of foaming glass cleaner.

The aluminum rims are painted and clear coated for protection. They can be cleaned with warm water and a mild car wash soap. A mild wheel cleaner spray can be used if excessive dirt and dust is present, but ensure the product states that it is “clear coat safe” as some cleaners will cloud or discolor the clear coat.

## 8. STORAGE

Periods of inactivity can be extremely harmful to lead acid batteries.

When placing a battery into storage, follow the recommendations below to insure that the battery remains healthy and ready for use.

**For Lithium Batteries, fully charge, and then disconnect.**

The most important things to avoid:

- **Freezing:** Avoid locations where freezing temperature is expected. Keeping a battery at a high state of charge will also prevent freezing.
- **Heat:** Avoid direct exposure to heat sources, such as radiators or space heaters. Temperatures above 80°F accelerate the battery's self-discharge characteristics.

### A. Procedure

Completely charge the battery before storing. Store the battery in a cool, dry location, protected from the elements. During storage, monitor the specific gravity (flooded) or voltage. Batteries in storage should be given a boost charge when they show a 70% charge or less.

Completely charge the battery before re-activating.

For optimum performance, equalize the batteries (flooded) before putting them back into service.

Periods of inactivity can be extremely harmful to lead acid batteries. When placing a battery into storage, follow the recommendations below to insure that the battery remains healthy and ready for use.



## 9. WARRANTY

### Sirius® 4 Year Limited Warranty

STAR EV®, a product brand of STAR CORPORATION warrants to the original Retail Purchaser that STAR EV® Models: Sirius®, shall be free from any defects in material or workmanship under normal use and service for the periods stated below. STAR EV® warranty becomes effective from the date of purchase from an authorized STAR EV® dealer with respect to parts and limited labor subject to the terms of this Limited Warranty, as follows:

Chassis group (includes frame, springs, shocks)	4 Years
Body group (front body, rear body, roof, etc.)	2 Years
Electrical Group (charger, converter, solenoids, switches, etc)	2 Years
Mechanical Group (pedal assemblies, linkages, roof supports, etc)	2 Years
Power-train Group (motor, controller, differential assembly, etc)	2 Years
Battery Group (administered through trojan*)	2 Years
Seating Group (seat cushions, flip seat parts, etc)	2 Years

- Warranty starts from the date of the purchase by the end user and is valid for the period defined above or for the period above plus 6 months from the time of delivery to the dealer; whichever occurs first.
- Warranty excludes improper handling of equipment by dealer, abnormal wear and tear before sale of vehicle, and shipping damage not notated on the bill of lading during delivery.
- Warranty covers parts and labor for period defined above, excluding wear items such as tires, brakes, bulbs, and windshield except for manufacturer defects.
- Warranty for any vehicles that are used for rental, taxi, or excessive use applications is six (6) months.
- STAR EV® warrants its chassis and suspension components shall be free from defects in material or workmanship for four (4) years from the date of purchase. Chassis and suspension components are defined as the structural frame of the vehicle, leaf springs and shocks, which does not include drive trains, suspensions, roof supports, paint and corrosion.

**\*Warranty excludes batteries which are covered by the manufacturer. Trojan offers a 24 month warranty for STAR EV® purchased with Trojan Batteries (T-105, T-145, T-875, and Ranger 160). \*Contact Distributor for fleet warranty.**

## A. CLARIFICATIONS

- All warranty claims shall be filed via on-line warranty claim form or email of the warranty claim request. STAR EV® has 30 days to agree to or to decline the warranty.
- All required parts should be returned to STAR EV® within 30 workdays from time of the claim being filed. Dealer(s) are responsible for the freight/shipping cost to STAR EV® or to the parts warranty division if the parts are not warrantable.
- STAR EV® will be responsible for the shipping cost of all warranty parts to the dealer location once the claim is approved. Shipping is standard delivery, NOT overnight unless paid for by dealers and upon their request. International customers are responsible for all costs associated with import and fees related to warranty items.

## B. EXCLUSIONS

Specifically excluded from any STAR EV® warranty are adjustments/repairs made due to normal wear beyond the first one hundred eighty (180) days, routine maintenance items, cosmetic deterioration, and electrical components which are susceptible to fluctuations in current which is beyond the control of STAR EV®. Damage caused by airborne fallout, salt from sea air, salt or other materials used to control road conditions, chemicals, tree sap, stones and the application of chemicals or sealants subsequent to manufacture, etc., is not covered.

This warranty also does not apply to Acts of God or other events over which STAR EV® has no control. Transportation charges for warranty service are excluded from this warranty and all replaced parts shall become property of STAR EV® unless released by STAR EV®.

Any parts repaired/replaced under this warranty shall be warranted for a period of ninety (90) days from installation or for the remainder of the original warranty, whichever is greater. This warranty excludes batteries, which are warranted by their respective manufacturer.

### C. REMEDY

The sole remedy under this warranty and STAR EV® only obligation in the event of a defect in the vehicle/battery chargers is that STAR EV®, at its sole option, repair or replace any defective parts. This remedy precludes all other remedies including any lawsuits, claims or other proceedings alleging strict liability, negligence of contract or any cause of action. STAR EV® reserves the right to improve or change the design of any STAR EV® or battery charger without assuming any responsibility to modify previously manufactured vehicles.

### D. DISCLAIMER

This warranty is made in lieu of all other warranties, implied or expressed, including any warranty of merchantability or fitness for a particular purpose. STAR EV® further disclaims all liability for incidental, exemplary, punitive or consequential damages; to include but not limited to, personal injury or property damage arising from any defect in the vehicle/ battery charger.

No agent, employee or representative of STAR EV® or any person has authority to bind STAR EV® to any other agreement, representation or warranty concerning the goods sold under this warranty. Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

## E. WARNING

Any modification or change to the vehicle or battery charger which alters the weight distribution of the vehicle, its stability, increases the speed, or alters the output of the battery charger beyond the factor specification, can cause personal injury and will void this warranty.

Do not make any such modification or any other alteration, which would adversely affect the safety of the vehicle. Adding a flip seat to the car is the only exception that STAR EV® agrees is covered under this warranty.

## F. VOIDING OF WARRANTY

This, and any other warranty, shall be void if:

- The vehicle or battery charger is abused or otherwise not used in its intended manner.
- The vehicle is in an accident or collision.
- The vehicle shows indications that the speed governor was adjusted or modified allowing the vehicle to operate beyond STAR EV® specifications.
- The vehicle shows indications that the vehicle has been altered or modified in any way from STAR EV® specifications, including but not limited to:
  - Alterations to the braking system, electrical system, steering or other operating systems of the vehicle.
  - Indications that routine maintenance was not performed when and in the manner specified in the STAR EV® maintenance and service manuals or publications.
- Data submitted for an individual vehicle warranty claim contains false or misleading information.

## 10. Trouble Shooting

Symptom	Diagnosis	Possible Remedies
Harsh ride or handling issues	Low tire pressure	Inflate tire to proper spec
	Steering or suspension failure	Check and lube front chassis components
	Vehicle weight capacity exceeded	Remove excess weight
Abnormal tire wear	Improper alignment	Adjust alignment to spec
Abnormal tire wear	Tire pressure is not correct	Check and adjust tire pressure to spec
Top speed too slow	Battery is not charged properly	Check voltage of each battery
		Check electrolyte level
		Replace battery if needed
	Master circuit connection loose	Check connections and service if broken or worn
	Brakes are dragging	Adjust braking system so that wheels spin freely
Poor braking	Brakes are worn	Check and replace shoes/pads
	Brake cable / pedal is bound / stuck	Check brake lines for obstruction
	Parking brake engaged	Release parking brake
Vehicle will not move	Battery pack discharged	Properly charge battery pack
	Battery pack will not charge	Check charger lights for proper operation of charger
	Key switch in the off position	Place key switch in the "run" position
	F & R switch is not in neutral position	Place F&R switch in neutral position prior to key on
	Parking brake engaged: only models 4 long, 4+2, 4+2 Lifted	Release brake
Lights do not illuminate, accessories do not work	Combination switch for lights in "off" position	Place combination switch into "on" position for lights. Check if battery is charged
	Blown fuse	Replace fuse

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**STAR EV® CORPORATION**

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