



**ICON**<sup>®</sup>

ELECTRIC VEHICLES

**OWNER'S MANUAL**

Rev 6/14/24

# Protect Your Investment



**Scan To Register Your Warranty or Visit: [icon.ev.com/warranty](https://icon.ev.com/warranty)**

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## **WELCOME TO THE ICON FAMILY!**

Congratulations on the purchase of your new ICON golf cart and welcome to the ICON family! We are grateful for your trust in the ICON brand.

Please review all of the information in this manual carefully. It will provide the information needed to keep you and your passengers safe, and to protect your vehicle's engine and components. Proper care and maintenance will keep your vehicle in premium condition and give you many more years of service and enjoyment.





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# California Proposition 65



**Warning:** Operating, servicing and maintaining a passenger vehicle or off-highway motor vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to [www.P65Warnings.ca.gov/passenger-vehicle](http://www.P65Warnings.ca.gov/passenger-vehicle).



**Warning:** Battery posts, terminals and related accessories contain lead and lead compounds, a chemical known to the State of California to cause cancer and reproductive harm. Wash your hands after handling.

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# Contact Us

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# Introduction

## About This Publication

Thank you for your purchase of an ICON Electric Vehicle. This Owner's Manual contains information you will need to read and understand for proper operation, maintenance, and care of your new ICON. A thorough understanding of this information will help you achieve the maximum use and enjoyment of your new ICON. If you have additional questions, or do not completely understand anything about the operation or maintenance of your new ICON, please contact your ICON dealer, or feel free to email us at [questions@iconev.com](mailto:questions@iconev.com).

**Note:** Use and operate your vehicle within all applicable laws and regulations.

**Note:** Pass on all printed owner's information when selling this vehicle.



**Warning:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

## Illustrations

Some of the illustrations in this manual may display features that are exhibited on different models, and can appear different to you on your vehicle.

## About This Manual

By reading this manual you will have a thorough understanding of your ICON vehicle.

## Important Information



**WARNING:** The safety alert symbol means attention! Be alert! Your safety is involved!

Failure to follow all WARNING instructions could result in severe injury or even death to the vehicle occupants or bystanders.

**CAUTION:** Messages with this heading describe special precautions that should always be taken to avoid damaging your vehicle.

**Note:** ICON Electric Vehicles continually strives to produce the highest quality possible. Although this manual contains the latest product information available at the time of printing, there may be slight differences between this manual and your particular vehicle. Should you have any questions, please contact your ICON dealer or email us at [questions@iconev.com](mailto:questions@iconev.com).

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# Practice Safety



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## Safety Considerations

### Safety Precautions During Maintenance

When performing maintenance, follow all safety instructions contained in the manufacturer's operation and service manuals, as well as the following safety procedures:

- Properly immobilize vehicle before beginning any maintenance to avoid any unexpected vehicle movement.
- Properly block chassis before working underneath vehicle to avoid any unexpected vehicle movement.
- When working on the fuel system or the battery, do not smoke, or allow any sparks or open flames near the vehicle, to avoid any fires or explosions.
- Before working on an electric vehicle, disable its electrical system in accordance with the manufacturer's instructions to avoid electrical shock or damage to the electrical system.
- Use only properly insulated tools when working on electrically powered vehicles or around batteries to avoid electrical shock or damage to the electrical system.
- Use roof handles only for assisting entry and exit, or for stabilizing yourself while sitting. Handles are not load bearing.
- No hanging off cart nor roof handles.
- Do not operate cart while not seated.
- Maintain all safety devices, including brakes, steering mechanisms, warning devices, and governors in a safe operating condition. Do not modify these safety devices as supplied by the manufacturer. Modification of these safety devices may result in serious injury or death.
- After each maintenance or repair, the vehicle must be driven by a qualified, trained, and authorized person - in an area free of pedestrian traffic - to ensure proper operation and adjustment.
- Record all maintenance performed in a maintenance record log by date, name of person performing maintenance, and type of maintenance. Periodically inspect maintenance log to ensure accurate and complete entries.
- Provide operator comment cards to assist in identifying non-periodic maintenance needs for specific vehicles.
- Maintain in a legible condition all nameplates, warnings, and instructions provided by the manufacturer.

The following warning labels are posted on every ICON vehicle. Please heed all posted warnings to ensure the safety of you and your passengers.











## Operator Safety


- Read this manual and safety instructions labels on the vehicle before driving.
- Be sure that passengers are seated and belted.
- Turn key on.
- Select “forward” or “reverse”.
- Push the accelerator to start moving and use the parking pedal to stop.
- Drive responsibly and in compliance with all local traffic laws and regulations.
- Drive safely according to the terrain, visibility, and driving conditions; drive carefully in crowded and slippery conditions.


 **Warning:** Do not attempt to cross a deep or flowing body of water, or any body of water that is deeper than 1/2 the height of your wheels. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.


 **Warning:** If you are driving in slippery conditions that require tire chains or cables, then it is critical that you drive cautiously. Keep speeds down, allow for longer stopping distances and avoid aggressive steering to reduce the chances of a loss of vehicle control which can lead to serious injury or death. If the rear end of your vehicle slides while cornering, steer in the direction of the slide until you regain control of your vehicle.


 **Warning:** Do not operate while under the influence of alcohol or drugs as this could affect your vision and judgement, resulting in damage to your vehicle, personal injury or death.


 **Warning:** Only one passenger should be allowed per seat/seatbelt.

 **Warning:** Only allow individuals to drive who are age 16 or older, or are legally permitted to operate your vehicle. Check your local and state traffic laws and driver regulations.

 **Warning:** Do not allow a passenger to hold a child on their lap when your vehicle is moving. Failure to follow this instruction could result in personal injury or death in the event of a sudden stop or crash.

 **Warning:** Do not attempt to boost your child's height by using pillows, books, towels, or any item not certified to use in a vehicle. Properly installed NHTSA-approved car seats or booster seats are the only authorized methods of height adjustment. Failure to follow this instruction could result in personal injury or death.

 **Warning:** Do not put the shoulder section of the seatbelt or allow the child to put the shoulder section of the seatbelt under their arm or behind their back. Failure to follow this instruction could reduce the effectiveness of the seatbelt and increase the risk of injury or death in a crash.

 **Warning:** Do not leave children or pets unattended in your vehicle. Failure to follow this instruction could result in personal injury or death.

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# Warranty Information

## Limited Warranty Terms and Conditions for Electric Vehicles

ICON Electric Vehicles LLC ("ICON") hereby warrants that any new ICON Electric Vehicle purchased from ICON, or any Authorized Dealer in the United States, will be free from defects in material and workmanship for THREE years from date of purchase, subject to the stated limitations. Batteries will be free of defects in material and workmanship for two years from date of purchase. During the term of said warranty, any authorized ICON service technician or ICON dealer will, free of charge, repair or replace (at ICON's option) any part determined to be defective by ICON due to faulty workmanship or material from the factory. Parts used in warranty repairs will be warranted for the balance of the vehicle's warranty period. All parts replaced under warranty become property of ICON Electric Vehicles LLC.

Major Components	
Frame	3 Years
Electric Motor	3 Years
Motor Controller	3 Years
Onboard Battery Charger	3 Years
Transaxle	3 Years
Brakes (excludes shoes / pads)	3 Years
Suspension Components	3 Years
Steering Components	3 Years
Battery AGM	2 Years
Battery Lithium	8 Years (3 full/5 pro-rated)

Parts & Accessories	
Windshield	3 Years
Seat Components (non-cushion)	3 Years
Charger Cord	3 Years
Charger Receptacle	3 Years
Body Panels	3 Years
Instrument Cluster	3 Years
Bumpers	3 Years
Electrical Wires / Relays	3 Years

**Warning:** Never modify the vehicle in any way that alters the weight distribution, decreases the stability, or increases the speed of your ICON beyond the manufacturer's specifications. The manufacturer forbids and denies any responsibility for these modifications or alterations that could adversely affect the safety of your ICON.

## Exclusions:

Specifically EXCLUDED from this Limited Warranty are:

- Routine maintenance items, normal wear and tear, cosmetic deterioration, or electrical components damaged as a result of fluctuations in electrical current.
- Damage to or deterioration of a vehicle resulting from inadequate maintenance, neglect, abuse, accident, or collision.
- Damage resulting from installation or use of parts or accessories not approved by ICON.
- Warranty repairs made by other than an ICON Factory Service Center or an authorized and qualified Dealer or designee. Warranty repairs made by other than an ICON Factory Service Center or an authorized and qualified Dealer or designee shall void the Limited Warranty.
- Installation of any software not explicitly recommended by or installed by ICON EV or an authorized ICON service technician will void the warranty.
- Damage or loss resulting from acts of nature, weather events, vandalism, theft, war or other circumstances over which ICON has no control.
- Any and all expenses incurred in transporting the Vehicle to and from ICON or an authorized Dealer, technician, or designee for warranty service.
- Storing vehicle outside 24/7.

**Disclaimer:** This limited warranty is the sole and exclusive warranty provided for the vehicle and is made in lieu of all other warranties, expressed or implied, including but not limited to the implied warranties of merchantability or fitness for a particular purpose, all such other warranties being explicitly disclaimed.

**Liability Limitations:** In no case shall ICON be liable for indirect, incidental, special, punitive or consequential damages, including but not limited to death, personal injury or property damage arising from or related to any alleged failure in a vehicle or battery charger, or any damage or loss to the purchaser or any third party for lost time, inconvenience or any economic loss, whether or not icon was apprised of the foreseeability of such damages or losses. The right of purchaser to recover damages within the limitations set forth in this section is purchaser's exclusive alternative remedy if the limited remedy of repair or replacement of the vehicle fails essential purpose. The parties agree that this alternative remedy will be enforceable even if the limited remedy of repair or replacement fails of its essential purpose. Any legal claim or action arising that alleges breach of warranty must be brought within three (3) months from the date the warranty claim arises. This limited warranty gives you specific legal rights and you may have other rights that vary from state to state. Some states do not allow the exclusion of incidental damages or limitations on how long an implied warranty may last, so the above exclusions and limitations may not apply to you.

**Warning:** Any modification or change to the vehicle or battery charger which alters the weight distribution or stability of the vehicle, increases the vehicle's speed, or alters the output of the battery charger beyond factory specifications, can result in property damage, personal injury or death. Do not make any such modifications or changes. Such modifications or changes will void the limited warranty. ICON disclaims responsibility for any such modifications, changes, or such alterations that would adversely impact the safe operation of the vehicle or battery charger.



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# Vehicle Model Information



**\*Note:** Range varies based on battery options, road conditions, road grade, number of passengers, and other factors. Please note that all equipment listed throughout this user manual does not apply to ICON i40-ECO.

ICON i40-ECO Golf Cart	
Controller	ICON 350A
Batteries	48V AGM
Motor	4kW
Battery Charger	ICON 16-19A Onboard
Passengers	4
Dimensions	Length x Width x Height: 108" x 49" x 72"
Wheelbase	65"
Curb Weight (Including batteries)	1300 (lbs.)
Load Capacity	300 (lbs.)
Max. Speed	19 MPH
Range	25-50 miles*
Turning Radius	10'
Climbing Capacity	25% grade
Stopping Distance	14'
Ground Clearance	4.5"



**\*Note:** Range varies based on battery options, road conditions, road grade, number of passengers, and other factors. Please note that all equipment listed throughout this user manual does not apply to ICON i40L-ECO.

ICON i40L-ECO Golf Cart	
Controller	ICON 350A
Batteries	48V AGM
Motor	4kW
Battery Charger	ICON 16-19A Onboard
Passengers	4
Dimensions	Length x Width x Height: 113" x 53" x 82"
Wheelbase	65"
Curb Weight (Including batteries)	1380 (lbs.)
Load Capacity	300 (lbs.)
Max. Speed	19 MPH
Range	25-50 miles*
Turning Radius	10'
Climbing Capacity	25% grade
Stopping Distance	14'
Ground Clearance	7"



**\*Note:** Range varies based on battery options, road conditions, road grade, number of passengers, and other factors.

ICON i20 Golf Cart	
Controller	ICON 450A
Batteries	Lithium AGM 8V - 6 units AGM 6V - 8 units
Motor	5kW AC Drive
Battery Charger	ICON 1.5kW Onboard
Passengers	2
Dimensions	Length x Width x Height: 8' x 4' x 6.5'
Wheelbase	65"
Curb Weight (Including batteries)	1187 (lbs.) AGM / 887 (lbs.) Li
Load Capacity	370 (lbs.)
Max. Speed	25 MPH
Range	20-50 miles*
Turning Radius	10'
Climbing Capacity	25% grade
Stopping Distance	7'
Ground Clearance	4.5"



**\*Note:** Range varies based on battery options, road conditions, road grade, number of passengers, and other factors.

ICON i20L Golf Cart	
Controller	ICON 450A
Batteries	Lithium AGM 8V - 6 units AGM 6V - 8 units
Motor	5kW AC Drive
Battery Charger	ICON 1.5kW Onboard
Passengers	2
Dimensions	Length x Width x Height: 8' x 4' x 6.5'
Wheelbase	65"
Curb Weight (Including batteries)	1240 (lbs.) AGM / 940 (lbs.) Li
Load Capacity	370 (lbs.)
Max. Speed	25 MPH
Range	20-50 miles*
Turning Radius	10'
Climbing Capacity	25% grade
Stopping Distance	7'
Ground Clearance	7"



**\*Note:** Range varies based on battery options, road conditions, road grade, number of passengers, and other factors.

ICON i40	
Controller	ICON 450A
Batteries	Lithium AGM 8V - 6 units AGM 6V - 8 units
Motor	5kW AC Drive
Battery Charger	ICON 1.5kW Onboard
Passengers	4
Dimensions	Length x Width x Height: 9' x 4' x 6'
Wheelbase	65"
Curb Weight (Including batteries)	1366 (lbs.) AGM / 1066 (lbs.) Li
Load Capacity	370 (lbs.)
Max. Speed	25 MPH
Range	20-50 miles*
Turning Radius	10'
Climbing Capacity	25% grade
Stopping Distance	7'
Ground Clearance	4.5"



**\*Note:** Range varies based on battery options, road conditions, road grade, number of passengers, and other factors.

ICON i40L	
Controller	ICON 450A
Batteries	Lithium AGM 8V - 6 units AGM 6V - 8 units
Motor	5kW AC Drive
Battery Charger	ICON 1.5kW Onboard
Passengers	4
Dimensions	Length x Width x Height: 9' x 4' x 6'
Wheelbase	65"
Curb Weight (Including batteries)	1344 (lbs.) AGM / 1044 (lbs.) Li
Load Capacity	370 (lbs.)
Max. Speed	25 MPH
Range	20-50 miles*
Turning Radius	10'
Climbing Capacity	25% grade
Stopping Distance	7'
Ground Clearance	7"



**\*Note:** Range varies based on battery options, road conditions, road grade, number of passengers, and other factors.

ICON i40F	
Controller	ICON 450A
Batteries	Lithium AGM 8V - 6 units AGM 6V - 8 units
Motor	5kW AC Drive
Battery Charger	ICON 1.5kW Onboard
Passengers	4
Dimensions	Length x Width x Height: 10' x 4' x 6'
Wheelbase	65"
Curb Weight (Including batteries)	1275 (lbs.) AGM / 845 (lbs.) Li
Load Capacity	370 (lbs.)
Max. Speed	25 MPH
Range	20-50 miles*
Turning Radius	10'
Climbing Capacity	25% grade
Stopping Distance	7'
Ground Clearance	4.5"





**\*Note:** Range varies based on battery options, road conditions, road grade, number of passengers, and other factors.

ICON i40FL	
Controller	ICON 450A
Batteries	Lithium AGM 8V - 6 units AGM 6V - 8 units
Motor	5kW AC Drive
Battery Charger	ICON 1.5kW Onboard
Passengers	4
Dimensions	Length x Width x Height: 10' x 4' x 6'
Wheelbase	65"
Curb Weight (Including batteries)	1338 (lbs.) AGM / 908 (lbs.) Li
Load Capacity	370 (lbs.)
Max. Speed	25 MPH
Range	20-50 miles*
Turning Radius	10'
Climbing Capacity	25% grade
Stopping Distance	7'
Ground Clearance	7"



**\*Note:** Range varies based on battery options, road conditions, road grade, number of passengers, and other factors.

ICON i60	
Controller	ICON 450A
Batteries	Lithium AGM 8V - 6 units AGM 6V - 8 units
Motor	5kW AC Drive
Battery Charger	ICON 1.5kW Onboard
Passengers	6
Dimensions	Length x Width x Height: 13' x 4' x 6'
Wheelbase	65"
Curb Weight (Including batteries)	1451 (lbs.) AGM / 1021 (lbs.) Li
Load Capacity	370 (lbs.)
Max. Speed	25 MPH
Range	20-50 miles*
Turning Radius	12'
Climbing Capacity	25% grade
Stopping Distance	7'
Ground Clearance	4.5"



**\*Note:** Range varies based on battery options, road conditions, road grade, number of passengers, and other factors.

ICON i60L	
Controller	ICON 450A
Batteries	Lithium AGM 8V - 6 units AGM 6V - 8 units
Motor	5kW AC Drive
Battery Charger	ICON 1.5kW Onboard
Passengers	6
Dimensions	Length x Width x Height: 13' x 4' x 6'
Wheelbase	65"
Curb Weight (Including batteries)	1514 (lbs.) AGM / 1084 (lbs.) Li
Load Capacity	370 (lbs.)
Max. Speed	25 MPH
Range	20-50 miles*
Turning Radius	12'
Climbing Capacity	25% grade
Stopping Distance	7'
Ground Clearance	7"

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# Seatbelts



## Fastening and Unfastening the Seatbelts

### Fastening the Seatbelts

Insert the tongue into the buckle.


Pull the seatbelt tight to remove any slack.

### Unfastening the Seatbelts


Press the red button on the buckle to release the seatbelt.


Hold the seatbelt tongue and let it retract completely and smoothly to its stowed position.


## Seatbelt Precautions


 **Warning:** Always drive and ride with your seatbelt upright and the lap belt snug and low across the hips.

 **Warning:** Children must always be properly restrained.

 **Warning:** Do not allow a passenger to hold a child on their lap when your vehicle is moving. Failure to follow this instruction could result in personal injury or death in the event of a sudden stop or crash.

 **Warning:** All occupants of your vehicle, including the driver, should always properly wear their seatbelts, even when an airbag supplemental restraint system is provided. Failure to properly wear your seatbelt could seriously increase the risk of injury or death.

 **Warning:** It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a crash, 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 seatbelts. Make sure everyone in your vehicle is in a seat and properly using a seatbelt. Failure to follow this warning could result in serious personal injury or death.

 **Warning:** In a rollover crash, an unbelted person is significantly more likely to die or suffer severe &/or permanent injury or disfigurement than a person wearing a seatbelt.



**Warning:** Each seating position in your vehicle has a specific seatbelt assembly made up of one buckle and one tongue designed to be used as a pair. Use the shoulder belt on the outside shoulder only. Never wear the shoulder belt under the arm. Never use a single seatbelt for more than one person.



**Warning:** Even with advanced restraint systems, properly restrain children 12 and under in a rear seating position. Failure to comply could seriously increase the risk of injury or death.



**Warning:** Seatbelts and seats may be hot in a vehicle that is in the sunshine. The hot seatbelts or seats may burn a small child. Check seat covers and buckles before you place a child anywhere near them.



**Warning:** If your vehicle is involved in a crash, have the seatbelts and associated components inspected as soon as possible. Failure to follow this instruction could result in personal injury or death.



**Warning:** This system will only provide protection when you use the seatbelt correctly.



**Warning:** Do not use cleaning solvents, bleach or dye on the vehicle's seatbelts, as these actions may weaken the belt webbing.



**Warning:** Do not make any alteration to any seatbelt that is part of your vehicle, as any alteration may lead to serious injury or death.



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# Key





## Vehicle Key

Insert the vehicle key into the ignition slot and turn the key to the right to operate the vehicle. The key cannot be removed until turning the vehicle off. For 2024 vehicles only: Your 2024 vehicle is pre-wired for a keyless ignition aftermarket accessory. It is encouraged to not leave the key fob in the cart, as it can cause the key fob battery to decline.




## Vehicle Direction Selector

01. Turn key on.
02. Select "forward"  or "reverse" 
03. Push the accelerator to start moving and use the parking pedal to stop.
04. Drive safely according to the terrain, visibility, and driving conditions. Drive carefully in crowded and slippery conditions and in compliance with local traffic laws and regulations.



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# Rear Flip Seat

 **Warning:** It is extremely dangerous to ride in exterior or interior cargo areas of a vehicle. In a crash, 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 seatbelts. Make sure everyone in your vehicle is in a seat and properly using a seatbelt. Failure to follow this warning could result in serious personal injury or death.




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# Exterior Mirrors



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Manually adjust each mirror to your personal specifications before turning the key on to drive your vehicle.

 **Warning:** Do not adjust the mirrors while your vehicle is in motion. This could result in blind spots, loss of control of your vehicle, or serious personal injury or death.

 **Warning:** Objects in mirror may be closer than appear.

 **Note:** A 10mm socket can be used to tighten or loosen mirror.

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# Instrument Cluster

For 2023 vehicles (and earlier): The instrument cluster displays important information to the operator. Vehicle speed, battery state of charge, battery Volts, and total miles traveled are constantly displayed. At the top of the instrument cluster, a row of alert lights illuminates when the turn signals, headlights, high beams, reverse, or brakes are in use.

**Note:** Each time you press the brakes, a red circle will appear on the speedometer.

For 2024 vehicles (and later): The instrument cluster is integrated within the multimedia display. The user manual can be found by scanning the following QR code:



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# Seats



## Front Seats

The front seats are designed for a maximum of two occupants. The driver and front seat passenger must use safety belts when the vehicle is in motion.



## Rear Seats

The rear seats are designed for a maximum of two occupants. The driver and front seat passenger must use safety belts when the vehicle is in motion.



**Warning:** Allowing more than two people to occupy a single seat could result in serious injury or death in certain circumstances.



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# High Voltage Batteries

## Battery Introduction

Your ICON vehicle may be equipped from the factory with sealed AGM or Lithium batteries. Neither AGM nor Lithium batteries require the addition of ANY water.

Please identify your battery type by looking under the seat. You will find one of the following battery configurations:

- 6 pieces of 8V batteries (AGM), or 8 pieces of 6V batteries (AGM), or
- 1 single steel box with "ECO-BATTERY" stamped on it (LITHIUM). This will be either a 51V/105A or a 70V/105A system.

## For Lithium:

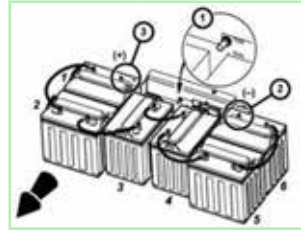
Reach out to the ICON hotline: 1(866)426-6380 or reach out to your local dealer.

Installation, removal, and maintenance of lithium batteries should only be conducted by an authorized ICON service professional.

## Battery Disconnection

Refer to the following figures for correct battery disconnection information for your vehicle.

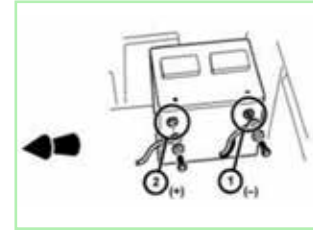
### Battery Cable Removal - AGM Electric Vehicle Battery Configuration



\*Viewed from driver side of vehicle

01. Remove negative battery cable.
02. Remove positive battery cable.
03. Connect +battery cable first followed by -battery cable.

### Battery Cable Removal - Gasoline



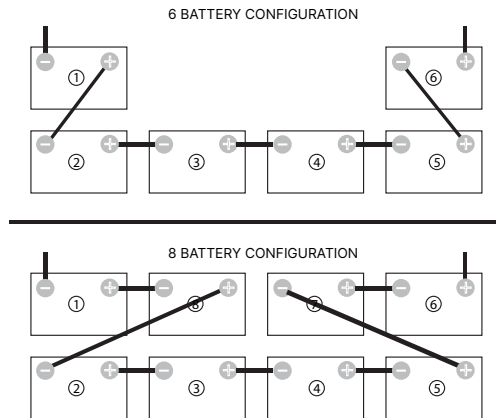
\*Viewed from driver side of vehicle

01. Remove negative battery cable.
02. Remove positive battery cable.
03. Connect +battery cable first followed by -battery cable.

## Battery Installation

01. Turn main power switch to "off" position.
02. Remove battery hold-down bar.
03. Remove battery cables.
04. Remove old batteries and dispose of properly.
05. Install new batteries with posts in proper location.
06. Re-install battery hold-down bar.
07. Re-install battery cables per diagram and torque to 80lb.

### Battery cables diagram



\* Will only be installed on larger carts



When working with batteries, do not put anything, especially metal objects, across the battery terminals.



Carefully place battery cables and hold-downs making sure that cables do not lay across vent caps.



Always remove the negative (-) cable to the motor controller first, and install it last. A spark can occur causing an explosion or fire at the battery.

## Battery Preparations

01. Remove the batteries from the vehicle and store them in a cool, dry place that stays between 0°C (32°F) and 30°C (90°F).
02. Have the batteries recharged every **60-90 days** to keep them fully charged. The batteries must be kept fully charged to avoid damage. \*See page 54 regarding overcharging.

**Note:** Your cart may be equipped with maintenance-free AGM batteries. These still require regular usage and charging cycles to keep them active

## Battery Maintenance - LEAD ACID (pre 2023 only)

**\*\*DOES NOT APPLY FOR AGM or Lithium**

Deep cycle batteries provide power for your vehicle and must be properly maintained and recharged for maximum performance and service life.

To maintain your batteries:

01. Clean the tops of the batteries with a solution of baking soda and water, as necessary, to remove corrosion.
02. Check the fluid level before and after charging.
03. Using a hydrometer, check the specific gravity of the battery fluid in each cell against the readings on the Hydrometer Chart. Consult an ICON dealer if any low readings are found, or if readings vary more than one point between cells.

Hydrometer Chart		
Temperature		Satisfactory Uncorrected Hydrometer Reading
°C	°F	
48.9	120	1.244
43.3	110	1.248
37.8	100	1.252
32.2	90	1.256
26.7	80	1.260
21.1	70	1.264
15.6	60	1.268
10.0	50	1.272
4.4	40	1.276
-1.1	30	1.280

## Common mistakes made by flooded battery owners

- **Undercharging:** Continually operating the battery in a partial state of charge or storing the battery in a discharged state results in the formation of lead sulfate compounds on the plates. This condition is known as sulfation. Both these conditions, continually operating the battery in a partially charged state and storing the battery in a discharged state, reduce the battery's performance and may cause premature battery failure. Undercharging will also cause stratification.
- **Overcharging:** Continuous charging causes accelerated corrosion of the positive plates, excessive water consumption, and in some cases, damaging temperatures within a lead acid battery.
- **Under-watering:** In flooded batteries water is lost during the charging process. If the electrolyte level drops below the tops of the plates, irreparable damage may occur. Water levels should be checked and maintained routinely.
- **Over-watering:** Excessive watering of a battery results in additional dilution of the electrolyte, resulting in reduced battery performance. Additionally, watering the battery before charging may result in electrolyte overflow and unnecessary additional maintenance.
- Use **only** distilled water.

## Description of Charger

The on-board charger is located beneath the seat. It begins the charge cycle after connecting the power plug to the charging receptacle cap located below the driver's seat. The 48V ICON (1.5kW) on-board charger comes with a 48 Volt output and a max amperage output of 20 Amps.

It is connected with the AC power grid through the charging plug. The 110V AC alternating current is converted into direct current to charge the power batteries. The charging state is monitored, and the charging power is adjusted according to the charging state to realize the intelligent control of electric vehicle charging.



**Warning:** The power cord, plug, and charging receptacle cap are items subject to wear and tear and should be inspected daily. You must visually inspect these items for cracks, loose connections, and frayed wiring, and they must be replaced when worn or damaged to ensure proper function and reduce the risk of property damage, serious injury, or death.

**Warning:** If you are changing the type of battery (i.e., removing lead acid and adding AGM), your dealer or authorized service technician must ensure the charging profile of the charger is updated to match the charging curve of the NEW battery's manufacturer.

## Power Recharging Procedure

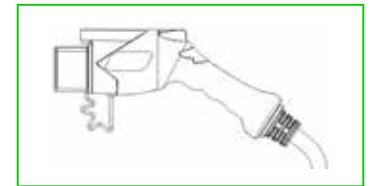
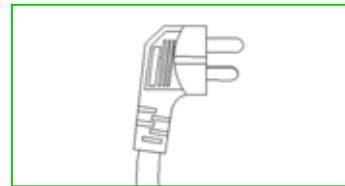
The charger can detect, track, and protect charged batteries in a dynamic and automatic manner, maintaining them in the optimal critical state.

01. Open the charging port lid and align and insert the plug of the power cord to the charging socket.
02. Connect the other end of the power cord to a 110V household power source.
03. When charging starts there is an indicator 100% green, >80% yellow, <80% red
04. It will automatically turn off when the battery is fully charged.



05. When charging is completed, unplug the household power supply first, and then the charging socket connecting

to the vehicle body. Push the charging port lid back to its original position.



**Warning:** Do not allow charging equipment to be immersed in water or liquids. Failure to follow this warning could result in fire, serious personal injury or death.

**Warning:** Do not attempt to open the charging equipment. Failure to follow this instruction could result in personal injury, death or property damage.

**Warning:** Do not use the charging equipment if it is faulty or has been damaged. Failure to follow this instruction could result in personal injury, death or property damage.

**Warning:** Install charging equipment in compliance with local regulations. Failure to follow this instruction could result in personal injury, death or property damage.

## Power Requirements Necessary to Recharge Vehicle

The vehicle is designed to accept AC current for 110 - 140V outlets with a supply of a minimum of 15A, 50 or 60 Hz. The 20 AMP output automatically shuts off when the vehicle has been fully charged.



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# Description of Batteries



## Operator Safety

- All batteries will self discharge over time. The rate of self discharge varies depending on the ambient temperature and the age and condition of the batteries.
- A fully charged battery will not freeze in winter temperatures unless the temperature falls below  $-75^{\circ}\text{F}$  ( $-60^{\circ}\text{C}$ ).
- For winter storage, the batteries must be clean, fully charged and disconnected from any source of electrical drain.
- On all electric vehicles, if you are towing the vehicle, set the key switch to 'N' and the 'RUN/TOW' switch, located under the passenger seat, to the 'TOW' position prior to towing.
- As with all electric vehicles, the batteries must be checked and recharged as required, or at a minimum of 30 day intervals.
- It is critical to tighten the battery terminals to 105 ft lb every 60 to 90 days. The heating and cooling process can cause them to loosen and create a fire hazard.



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## AGM Leoch 6, 8 Volt

- **Battery Type:** AGM Leoch
- **Model:** LDC6-210-GC2, LDC8-165-GC8
- **Number of Batteries:** 6, 8-Volt
- **Number of Cells:** 4
- **Each Battery Capacity 10 Hrs. (Ah):**  
200-220A 6V, 160-165A 3V
- **Each Battery Weight (kg):** 27.2, 29.3
- **Total weight of battery system (kg):** 192
- **Total battery system Voltage:** 48

## Lithium Eco Battery 51V/105A


- **Battery Type:** Eco Lithium
- **Model:** A-51105-03
- **Number of Batteries:** 1
- **Number of Cells:** 16
- **Battery Capacity:** 105Ah
- **Maximum Battery Voltage:** 59.2V  
(BMS High Voltage Cutoff)
- **Battery Weight:** 94 lbs/42.6 kg
- **Total battery system Voltage:** 51V
- **Minimum battery Voltage for safe operation:** 42.2V (BMS Voltage Cutoff)


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## AGM LVTong Green 6, 8 Volt

- **Battery Type:** AGM LVTong
- **Model:** 3-EV-170, 4-EV-150
- **Number of Batteries:** 8, 6-Volt
- **Number of Cells:** 48
- **Each Battery Capacity 3 Hrs. (Ah):**  
170A 6V, 150A 8V
- **Each Battery Weight (kg):** 30, 36
- **Total weight of battery system (kg):** 240, 216
- **Total battery system Voltage:** 48

## Battery Pack Service Warnings


 **Warning:** This battery pack should only be serviced by an authorized electric vehicle technician. Improper handling can result in personal injury or death.


 **Warning:** Improper connection of the electrical outlet grounding conductor might result in a risk of electric shock. Check with a qualified electrician if you are uncertain whether or not the electrical outlet is properly grounded. Do not modify the plug provided with the product if it does not fit in the outlet. Have a proper outlet installed by a qualified electrician.

 **Warning:** It is recommended that electrical outlets for use with your charger be installed by a licensed, qualified electrician. To avoid serious injury or death, installation must comply with the provisions of the National Electric Code (NEC) and all local codes. In cases of conflict between local codes and the NEC, local codes shall take precedence.


 **Warning:** Do NOT DROP the control box or coupler.


 **Warning:** Do NOT use if stored outside temperature range specified.

 **Warning:** If the cable becomes separated from the control box or the charger coupler, DO NOT ATTEMPT TO REPAIR THE CABLE YOURSELF. Contact your dealer for assistance.


 **Warning:** See warnings on charger cord label. Read warnings before operating the unit the first time. Read all instructions in this guide before using this product.


 **Warning:** NEVER USE the charger with an extension cord.


 **Warning:** Shock hazard - make sure the plug is fully inserted into the wall outlet so that there are no exposed blade surfaces, which can lead to serious injury or death in extreme circumstances.

 **Warning:** Children should be supervised when in the vicinity of the charger while plugged in to ensure safety

 **Warning:** Do not put fingers into the electric charge coupler.

 **Warning:** To reduce the risk of fire, connect only to a circuit provided with 40 Amps maximum branch circuit overcurrent protection installed in accordance with NEC and local electrical code.

 **Warning:** Do not expose the charge cord to flammable vapors while in use as an explosion could result.

 **Warning:** Be sure to have proper ventilation in your space, especially when charging batteries.

## **AGM Battery Warning**

These batteries **DO NOT** require water.  
**DO NOT WATER** your AGM batteries.

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## **Lithium Battery Warning**

These batteries **DO NOT** require water.  
**DO NOT WATER** your Lithium batteries.

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# Brakes

Be sure the brakes function properly. When brake pedal is pressed using moderate pressure, the vehicle should come to a smooth, straight stop. If the vehicle swerves or fails to stop, stops abruptly, or makes a grinding or squeaking noise, have the brake system checked and adjusted as required. Continued, moderate brake pedal pressure should be able to lock the wheels, but using lesser pressure should also permit a slow, gradual deceleration.

## Brake Precautions

**Warning:** Do not use fluid other than the recommended brake fluid as this will reduce brake efficiency. Use of incorrect fluid could result in the loss of vehicle control, serious personal injury or death.

**Warning:** Only use brake fluid from a sealed container. Contamination with dirt, water, petroleum products or other materials may result in brake system damage or failure. Failure to adhere to this warning could result in the loss of vehicle control, serious personal injury or death.

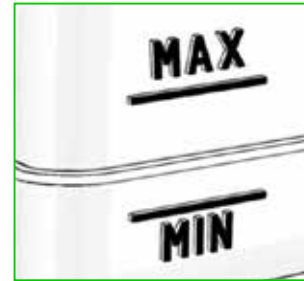
**Warning:** Do not allow the fluid to touch your skin or eyes. If this happens, rinse the affected areas immediately with plenty of water and contact your physician.

**Warning:** The brake system could be affected if the brake fluid level is below the **MIN** mark or above the **MAX** mark on the brake fluid reservoir.

**Warning:** The user or dealer must use an air compressor - based bleeding system. Traditional bleeding methods are not recommended.

## Locating the Brake Fluid Reservoir

### Checking the Brake Fluid



01. Park your vehicle on a level surface.
02. Look at the brake fluid reservoir to see where the brake fluid level is relative to the MIN and the MAX marks on the reservoir.

**Note:** To avoid fluid contamination, the reservoir cap must remain in place and fully tight, unless you are adding fluid. Location of reservoir is typically under the cup holder.

## Brake Fluid Specification

Use fluid that meets the defined specification and viscosity grade. (DOT4)

If you do not use fluid that meets the defined specification and viscosity grade, it could result in:

- Component damage that your vehicle warranty does not cover
- Reduced brake performance, which could result in loss of control of the vehicle, serious personal injury or death.

## Brake Dust Cover

Your ICON is equipped with 4-wheel disc brakes. In order to protect the rotors, brake dust shields have been added to the cart's brake system. Please ensure they remain clear of contact with the rotors. This contact can result in damage to the rotor, or, at a minimum, can result in a slight, annoying grinding sound.

## Magnetic Brake

Your vehicle is equipped with a magnetic parking brake, and there are several things you need to be aware of.

01. The magnetic parking brake engages automatically every time your vehicle comes to a complete stop.

02. The magnetic brake is disengaged by stepping on the accelerator pedal.

03. In the event you need to manually push your vehicle, you can use the MANUAL EMB function.

In the battery compartment under the seat, flip the main switch to the MANUAL EMB position.

This sends electrical current to the magnetic brake, disengaging it, and allowing the cart to be manually pushed. Once the vehicle has been pushed to its desired location, flip the switch to either the OFF position, or the AUTO EMB position.

04. While the vehicle is in the MANUAL EMB setting, the vehicle will have no parking brake, and the vehicle will freely roll. Do not leave a vehicle unattended in the MANUAL EMB setting as the vehicle may roll and injure someone.

05. DO NOT LEAVE THE SWITCH IN THE MANUAL EMB SETTING FOR AN EXTENDED PERIOD OF TIME. This may result in damage to the magnetic brake.

06. If your vehicle has had a catastrophic battery or other failure and does not have the necessary 48 Volts required to disengage the magnetic brake, you may disengage it manually. Instructions on manually disengaging the magnetic brake are as follows.

## How to Manually Disengage the Magnetic Brake

01. Locate the magnetic brake assembly behind the right rear wheel.

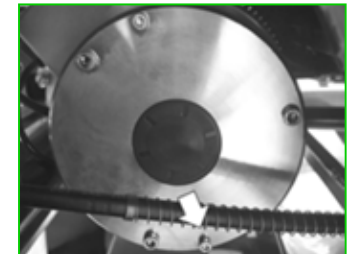
02. Of the (5) screws on the magnetic brake assembly, locate the (2) smaller ones.

03. With a #4 Allen wrench, lightly tighten the (2) smaller bolts. (DO NOT over-tighten).

04. Once the smaller (2) bolts are tightened, the vehicle may be manually pushed.

05. The magnetic brake will NOT be able to re-engage until the (2) small bolts are loosened back up.


06. When the vehicle has had the (2) small screws on the magnetic brake tightened, the vehicle will have no parking brake and will freely roll. Do not leave a vehicle unattended in the MANUAL EMB setting as the vehicle may roll and injure someone. Leaving the vehicle in MANUAL EMB can result in overheating of the EMB resulting in premature failure, damage to batteries, and risk of burn injuries.





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# Backup Camera

## Your 2024 ICON comes equipped with a backup camera.

 **Warning:** The rear backup camera system is a reverse aid supplement device that requires the driver to use it in conjunction with the interior and exterior mirrors for maximum coverage.

 **Warning:** Objects that are close to either corner of the bumper or under the bumper, might not be seen on the screen due to the limited coverage of the camera system.

 **Warning:** Reverse your vehicle slowly. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.








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# Load Carrying


Keep your loaded vehicle weight within its design rating capability. Properly loading your vehicle provides maximum return of vehicle design performance. Before you load your vehicle, become familiar with the following terms for determining your vehicle's weight rating, from the vehicle's Safety Compliance Certification Label.


 **Warning:** The appropriate loading capacity of your vehicle can be limited either by volume capacity (how much space is available) or by payload capacity (how much weight the vehicle should carry). Once you have reached the maximum payload of your vehicle, do not add more cargo, even if there is space available. Overloading or improperly loading your vehicle can contribute to loss of vehicle control and vehicle rollover, which could result in serious injury or death.

 **Warning:** Exceeding the Safety Compliance Certification label vehicle weight limits can adversely affect the performance and handling of your vehicle, cause vehicle damage, and can result in the loss of control of your vehicle, serious personal injury or death.

 **Warning:** Do not use replacement tires with lower load carrying capacities than the original tires because they may lower your vehicle's GVWR and GAWR limitations. Replacement tires with a higher limit than the original tires do not increase the GVWR and GAWR limitations.

 **Warning:** Do not exceed the GVWE or the GAWR specified on the certification label.

 **Warning:** Exceeding any vehicle weight rating can adversely affect the performance and handling of your vehicle, cause vehicle damage, and can result in the loss of control of your vehicle, serious personal injury or death.

 **Warning:** When loading the roof racks, we recommend you evenly distribute in the load, as well as maintain in a low center of gravity. Loaded vehicles, with higher centers of gravity, may handle differently than unloaded vehicles. Take extra precautions, such as slower speeds and increased stopping distance when driving a heavily loaded vehicle.

 **Warning:** Do not exceed ~150 lbs per handle.

 **Warning:** Do not exceed more than 300 lbs in the rear of the cart.

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# Towing

## Towing Warnings

Do not tow with this vehicle.



**Warning:** Your vehicle is not approved for trailer towing. Never tow a trailer with your vehicle.

\*Refer to our commercial line of vehicles if towing capability is needed.



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# 12V/Audio Pre-Wiring



**Your 2024 ICON is pre-wired with a number of 12V features to enhance both the dealers' and the consumers' experience.**

- Increased, market-leading 45A reducer (located in battery compartment area)
- Pre-wired 12V power cable for EcoXGear Soundbar (located in the rear battery compartment)
- Pre-wired AUX 3.5 mm cable from head unit to soundbar
- Two (2) sets of 12V flying leads under the cowl near the left and right windshield post
- Pre-wired 12V power cable for EcoXGear LED underbody (located under dash)
- Pre-wired keyless ignition accessory (located under dash)
- Pre-wired RCA jack for the backup camera system
- USB direct to screen for adding input to display
- 12V pre-wired noise maker (\*your vehicle MAY be equipped with this feature, located in battery compartment area)

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# Fuses



## Fuses

01. A fuse block for the 12 V circuits is located under the dash.
02. A single inline fuse is located approx. 12" under the dash.
03. A single inline fuse is located inline before the 12V receiver.
04. Each 12V audio cable has an inline fuse.

## Fuse Precautions



**Warning:** Always disconnect the battery before servicing high current fuses. Failure to do so could result in serious injury or death.



**Warning:** To reduce risk of electrical shock, always replace the cover to the power distribution box before reconnecting the battery or refilling fluid reservoirs.



**Warning:** Always replace a fuse with one that has the specified amperage rating. Using a fuse with a higher amperage rating can cause severe wire damage and could start a fire.



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# Storing the Vehicle



## Preparation

01. Verify the tire pressure is set to 137 kPa, 1.4 kgf/cm<sup>2</sup> (25 psi).
02. Clean exterior of the vehicle.
03. For short-term storage (1-30 days), flip the main power switch to "off" position.
04. For long-term storage (> 30 days), disconnect negative terminal to minimize drain.
05. Cover the vehicle with a breathable cover and store it in a dry, well-ventilated area.
06. If you have Lithium, your battery will shut down after 7-10 days of sitting.

This preserves the battery charge and stops the electrical system from draining it down.

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# Operation and Control

## Turning on Main Switch



The main power switch is located underneath the seat in the battery compartment. It is a 3-position switch. RUN is the normal run position. The center position is OFF.

The MANUAL EMB position is for times when the vehicle must be manually pushed.

## Key Switch




Insert the vehicle key into the ignition slot and turn the key to the right to operate the vehicle. The key cannot be removed until turning the vehicle off.

## Forward/Reverse Switch





The Forward/Reverse switch determines which direction the vehicle will travel. When changing directions, always allow the vehicle to come to a complete stop before switching directions.

 **Warning:** Always make sure vehicle comes to a **COMPLETE** stop before using the F/R switch to change directions.

Pressing the F/R switch while the vehicle is still in motion may damage the switch, the speed sensor, the motor or other components. Failure to follow this instruction could result in personal injury, death, or property damage.

Move the transmission selector to forward (F) or reverse (R) only when your vehicle is stationary.

 **Warning:** When your vehicle is stationary, keep the brake pedal fully pressed when shifting gears. Failure to follow this instruction could result in personal injury, death or property damage.

 **Warning:** Do not apply the brake pedal and accelerator pedal simultaneously. Applying both pedals simultaneously for more than a few seconds will limit power, which may result in difficulty maintaining speed in traffic and could lead to serious injury.





## Instrument Cluster

The instrument cluster displays important information to the operator. Vehicle speed, battery state of charge, battery Volts, and total miles traveled are constantly displayed. At the top of the instrument cluster, a row of alert lights illuminates when the turn signals, headlights, high beams, reverse or brakes are in use.

## Combination Switch

This switch operates the turn signals, headlights, and horn.

 **Warning:** Ensure that you are cleaning the headlights frequently to maximize visibility and replace burned out bulbs promptly. If any of the bulbs are burned out, do not operate your vehicle at night or in low light. Poor lighting reduces visibility which can lead to an accident resulting in property damage, injury, or death.

 **Warning:** The daytime running lamps system does not activate the rear lamps and may not provide adequate lighting during low visibility driving conditions. Make sure you switch the headlamps on, as appropriate, during all low visibility conditions. Failure to do so may result in a crash, which could cause personal injury, death, or property damage.

## Brake Pedal

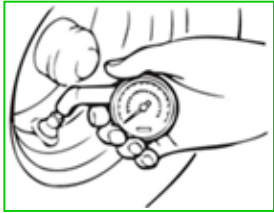
Your vehicle is equipped with two braking systems, 1) The 4-wheel hydraulic brake system and 2) An electromagnetic brake system. Please see the section in this manual regarding magnetic brake operation.

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# Wheels & Tires

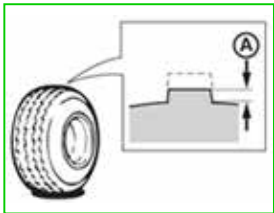
## Tire Conditions

### Tire Air Pressure



Check the tire air pressure before operating the vehicle.


### Tire Wear Limit



Check the tire surface for damage, cracks, or embedded objects. When tire tread wears down to 1 mm (0.04 in.), replace the tire.


- Wheel nut tightening torque:
- 80 Nm, 8.0 m•kg (58 ft•lb)
- Tire pressure is set to: 137 kPa, 1.4 kgf/cm<sup>2</sup> (25 psi).


## Tire Precautions

 **Warning:** Tires degrade over time depending on many factors such as weather, storage conditions, and conditions of use (load, speed, inflation pressure) that the tires experience throughout their lives.

In general, tires should be replaced after six years regardless of tread wear. However, heat caused by hot climates or frequent high loading conditions can accelerate the aging process and may require tires to be replaced more frequently.

You should replace your spare tire when you replace the road tires or after six years due to aging even if it has not been used.

 **Warning:** Under-inflation is the most common cause of tire failures and may result in severe tire cracking, tread separation or blowout, with unexpected loss of vehicle control and increased risk of injury. Under-inflation increases sidewall flexing and rolling resistance, resulting in head buildup and internal damage to the tire. It also may result in unnecessary tire stress, irregular wear, loss of vehicle control and accidents. A tire can lose up to half of its air pressure and not appear to be flat!

 **Warning:** When you install a wheel, always remove any corrosion, dirt or foreign materials present on the mounting surfaces of the wheel, wheel hub, brake drum or brake disc that contact the wheel. Make sure to secure any fasteners that attach the rotor to the hub so they do not interfere with the mounting surfaces of the wheel. Installing wheels without correct metal-to-metal contact at the wheel mounting surfaces can cause the wheel nuts to loosen and the wheel to come off while your vehicle is in motion, resulting in loss of vehicle control, personal injury or death.

\* If you still have questions about installation after reading the instructions above, bring your ICON to an authorized ICON service technician to have wheels installed.

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# Vehicle Starting Procedure



## Starting Procedure

Remove the battery charger cable if connected. Turn on the main switch. The main switch is located underneath the seat in the battery compartment. It is a 3-position switch. RUN is the normal run position. The center position is off. Insert the vehicle key into the ignition spot and turn the key to the right to operate the vehicle.

## Pre-operation Procedure

Pre-operation checks should be made each time you use your vehicle. Get in the habit of performing the following checks in the same way so that they become second nature.



**Warning:** Ensure each passenger is seated with seatbelt fastened prior to driving.



**Warning:** To keep car from moving while performing pre-operation checks: Remove main switch key. Apply parking brake. Death or serious personal injury can result from failing to comply with the safety instructions in this manual.

## Pre-Operation Checklist

Before each use check the following:

- ✓ Batteries
- ✓ Mirrors
- ✓ Tire condition
- ✓ Steering system
- ✓ Reverse alarm
- ✓ Pedal operation
- ✓ Body and chassis
- ✓ Steering System

Check the steering system for excessive free play by:

- Moving the steering wheel up and down, and back and forth.
- Turning the steering wheel slightly to the right and left.

If you feel excessive free play or hear rattling sounds which may indicate loose steering components, consult an ICON dealer.



## Reverse Alarm

Check the reverse alarm by moving the drive select switch to “REV” for reverse. The alarm should sound.

## Brake Pedal Operation

Check the following pedal controls for proper operation. If a pedal does not work properly, consult an ICON dealer.

## Accelerator Pedal Operation

The accelerator pedal is the pedal on the right, with the word GO molded into it. The operation of the accelerator pedal differs from that of an automobile. When the key switch is in the ON position, and the Forward/Reverse switch is in either the FORWARD or REVERSE position, pressing the accelerator pedal will automatically release the park brake and start the vehicle moving in the direction selected (forward or reverse). As the accelerator pedal is pressed, speed will increase until full speed is reached. When the accelerator is released, power will be cut off and the motor will stop running.



**Warning:** With the main switch in the “OFF” position, make sure the accelerator pedal operates smoothly.

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# Reporting Safety Defects

## Reporting Safety Defects in the US

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying ICON Electric Vehicles.

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

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153): go to [www.NHTSA.gov](http://www.NHTSA.gov); or write to:

### Administrator

1200 New Jersey Avenue,

Southeast Washington, D.C. 20590

You can also obtain other information about motor vehicle safety from [www.safercar.gov](http://www.safercar.gov).

## Reporting Safety Defects in Canada

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform Transport Canada and ICON of Canada.

## Notice

ICON Electric Vehicles, LLC. is not liable for errors in this manual or for incidental or consequential damages that result from the use of the material in this manual.

Your vehicle conforms to all applicable Federal Motor Vehicle Safety Standards in effect on the date of manufacture.

Thank you for choosing ICON Electric Vehicles, LLC. Please protect your investment and ensure that your ICON vehicle provides years of reliable, superior performance by reading and following the maintenance instructions in this manual.

Your comfort and safety are important to us as well, so we urge you to read and follow the step-by-step operating instructions and safety precautions in this manual. These instructions must be followed in order to avoid the risk of severe personal injury. If you rent or loan your vehicle to others, we recommend that you ask them to read this manual before they operate the vehicle.


ICON products are backed by a customer support system designed to offer you fast, courteous service. In the event that your vehicle needs repairs or service, please contact ICON Electric Vehicles, LLC. we will be able to provide technical advice, perform warranty work, and sell parts and service manuals. For the name and address of the ICON dealer or distributor nearest you, call 866-426-6380.

We hope you will consider this owner's manual a permanent part of your vehicle. If you sell the vehicle, please include the manual so that the next owner will have the important operating, safety, and maintenance information it contains.

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# Maintenance

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 **Warning:** Caution should be used when performing maintenance or repairs on your ICON vehicle. Failure to take proper precautions may increase the risk of damage to the vehicle, mechanical failure, and/or personal injury, disfigurement, or death.

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### Prepare for Emergencies:

Be prepared for possible injury, fire, or other emergencies when servicing and storing your ICON. It is recommended to keep the following items available and readily accessible:

- First aid kit
- Fire extinguisher or fire blanket
- Emergency phone numbers

Prior to beginning vehicle maintenance, service, or repairs on your ICON, please heed the following recommendations:

- Remove all jewelry.
- Ensure your hair is pulled back and secure to avoid contact with moving parts.

- Ensure clothing is not loose to avoid entrapment.
- Confirm that your work area is well-ventilated.
- Ensure you are familiar with and closely follow all safety precautions discussed in the “Practice Safety” section of this manual.

**While performing vehicle maintenance, service, or repairs, please heed the following recommendations:**

- Do not touch hot objects.
- Use only the proper tools discussed throughout this manual.
- Maintain constant awareness that some components are heavy, corrosive, explosive, and subject to cause high amperage and/or extreme heat.
- Keep your hands, face, and body away from any area that can expose them to injury if an unexpected situation occurs.

**After performing vehicle maintenance, service, or repairs, test the vehicle in a safe area, free from vehicular and pedestrian traffic.**

## Wheel Replacement

To remove and install a wheel on your vehicle:

01. With the wheels blocked to prevent the vehicle from moving, loosen the wheel nuts.
02. Elevate the vehicle with a jack and remove the wheel nuts and the wheel.
03. Reverse the removal steps when installing the wheel.
04. Set to 60 to 80 ft. lbs of torque.

**Warning:** Before performing wheel or brake maintenance, verify that the main switch is in the "OFF" position.

Accidental starting of the vehicle could cause the vehicle to move, causing death or serious personal injury.

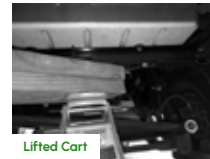
## Brake Adjustment

Before you operate the vehicle, press down on the brake pedal several times to make sure the brakes are functioning properly.

**Warning:** Consult your ICON dealer before using your vehicle if you suspect brake problems. Brake failure could result in a serious accident. Death or serious personal injury can result from failing to comply with the safety instructions in this manual.



Non-Lifted Cart



Lifted Cart



## Jacking Points

On non-lifted carts there are several lifting points to safely lift your cart.

01. Rear of cart-cross brace of frame just behind the rear bumper.
02. Behind the front wheels on either side of the frame.
03. Front lower control arm mounting points on both sides.

On lifted carts there are several lifting points to safely lift your cart.

01. Rear of cart-cross brace of frame just behind the rear bumper.
02. Anywhere along the side of the frame as long as there is a stable contact point.
03. The center frame directly behind the steering rack.



## Periodic Maintenance Chart

Regular maintenance is required for the best performance and safe operation of your electric vehicle. **Your warranty may be void if proper maintenance is not performed.**

**Key**  
 S=Service  
 C=Check  
 CA=Check & Adjust  
 CL=Clean & Lube

	Remarks	Daily Pre-Operation	40 rounds 20 hours 100 miles 160 kms (Every Month)	250 rounds 125 hours 600 miles 1000 kms (Every 6 Months)	500 rounds 250 hours 1200 miles 2000 kms (Every Year)	1000 rounds 500 hours 2500 miles 4000 kms (Every 2 Years)	2000 rounds 1000 hours 5000 miles 8000 kms (Every 4 Years)
PRE-OP	Charge	S	S	S	S	S	S
	Clean battery tops, check for tightness of hold-down screws and terminals	S	S	S	S	S	S
	Check brake pedal freeplay and adjust if necessary	C	CA	CA	CA	CA	CA
	Check steering operation	C	C	C	C	C	C
	Check tire pressure, tread depth, tire surface for damage	C	CA	CA	CA	CA	CA
	Check tightness of all bolts, nuts, screws, and rivets	C	C	C	C	C	C
EVERY MONTH	Check reverse alarm operation	C	C	C	C	C	C
	Check electrolyte level		C	C	C	C	C
	Check for loose or broken connections, including the battery terminals		C	C	C	C	C
	Clean/Lube pedal control area		CL				
EVERY 6 MONTHS	Check all wire insulation for cracks and/or worn spots			C	C	C	C
	Check shock absorbers for oil leaks and damaged springs			C	C	C	C



**Warning:** If any problems are found during scheduled maintenance or service, do not operate the vehicle until repairs are made. Failure to make necessary repairs can result in fire, property damage, severe personal injury or death.



## The Specific Gravity of a Fully Charged Flooded Battery

A hydrometer reading of 1.277 or greater indicates full charge for most Trojan batteries. This value is based upon a specified temperature of 80°F (27°C). The specific gravity or Voltage of flooded batteries should be monitored every 4–6 weeks and should be given a boost charge when they are at 70% state of charge (SOC). When batteries are taken out of long storage, it is recommended to recharge before use.

### Proper Electrolyte Level

Liquid levels should be 1/8 inch below the bottom of the vent well (the plastic tube that extends into the battery). The electrolyte level should not drop below the top of the plates.

Warning: Because the electrolyte in a battery is an acid solution, it can cause severe burns to skin and eyes. In the case of an electrolyte spill to the body and eyes, clean with clear water and contact a physician immediately.

### When Should Water be Added to Batteries

Water is lost during the charging of flooded batteries. The best time to water your batteries is always at the end of the charge cycle; however, if the plates are exposed to air, add just enough distilled water to cover the plates before starting the charge cycle. When the charging process is complete, re-check the electrolyte and top off as needed. Do not overfill batteries with water.

### How Often Should Water be Added to Batteries

It is best to check your new batteries regularly as this will give you a good feel for how often your application will require battery watering. **WARNING:** A brand new battery may have a low electrolyte level. Charge the battery first and then add water if needed. Adding water to a battery before charging may result in overflow of the electrolyte. Always wear a safety shield or goggles when you add water to the batteries.

### When to Equalization Charge

Equalizing should be performed when a battery is first purchased (called a freshening charge) and on a regular basis as needed. How often this might occur with your battery will vary depending on your application. You will need to monitor your battery Voltage and specific gravity to determine when equalization is needed. For example, it is time to equalize if the measured specific gravity values are below manufacturer's recommended values after charging (recommended value for Trojan Deep Cycle batteries is 1.285 +/- .007 at 80° F (27° C)). Equalizing is also required if the specific gravity value of any individual cell varies 30 points or more. In addition, reduced performance can also be an indicator that equalizing is necessary. Equalization should be performed when individual battery Voltages in a battery pack range greater than 0.15 Volts for 6-Volt batteries or 0.30 Volts for 12-Volt batteries.

**AGM batteries & Lithium batteries are maintenance free.**

**ICON**<sup>®</sup>

ELECTRIC VEHICLES