



Owner's Guide

ISSUED NOVEMBER 2022

PART #: 27-012



INTRODUCTION

Thank you for your purchase of a MadJax XSeries electric vehicle. Prior to operation, please thoroughly read this Owner's Manual. Please note that some items are optional accessories and may not be installed on your vehicle from the factory.

This manual includes important safety and maintenance information that is crucial to ensure the safe operation of your vehicle. Most maintenance can be performed with common automotive hand tools; otherwise, contact your nearest dealer/service provider.

Vehicle warranty information is appended to this manual. For warranty service, please contact your original dealer or another local authorized MadJax XSeries dealer. Dealers can be located using the MadJax XSeries website.

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VEHICLE SPECS

DIMENSIONS

OVERALL LENGTH	92.7 in (235.5 cm)
OVERALL WIDTH	45.5 in (115.5 cm)
WHEEL BASE	65.7 in (167 cm)
FRONT WHEEL TRACK	37.0 in (94 cm)
REAR WHEEL TRACK	38.8 in (98.5 cm)
GROUND CLEARANCE @ DIFF.	4.72 in (12 cm)

BODY & CHASSIS

FRAME	Welded Steel with Hot Dipped Galvanized Protection
BODY & FINISH	Injection Molded Polypropylene

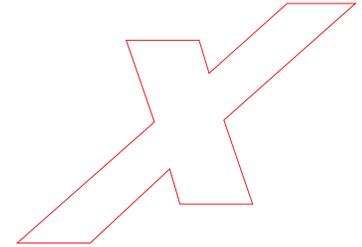
POWER

POWER	48-Volt Lithium or Lead Acid
MOTOR TYPE	Reliance AC Motor
HORSEPOWER (KW)	6.7 hp (5 kW) Continuous
WIRING	3 Gauge Cables Throughout
DC CONVERTER	30 Amp Reliance Voltage Reducer for 12 Volt Power
BATTERIES (QTY/TYPER)	48v Lithium or 6 x 8v batteries
KEY OR PEDAL START	Pedal
BATTERY CHARGER	Reliance On-Board Charger w/3.0 m AC Cord
SPEED CONTROLLER	400-Amp Reliance Solid-State AC Controller
DRIVETRAIN	Motor Shaft Direct Drive
TRANSAXLE	Open Differential with Helical Gears
GEAR SELECTION	Forward-Neutral-Reverse Rotary Style Switch
REAR AXLE RATIO	12.3:1

VEHICLE SPECS (CONT'D)

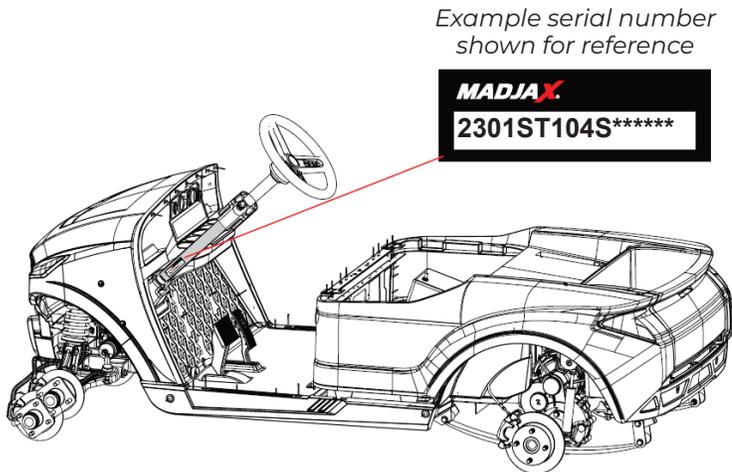
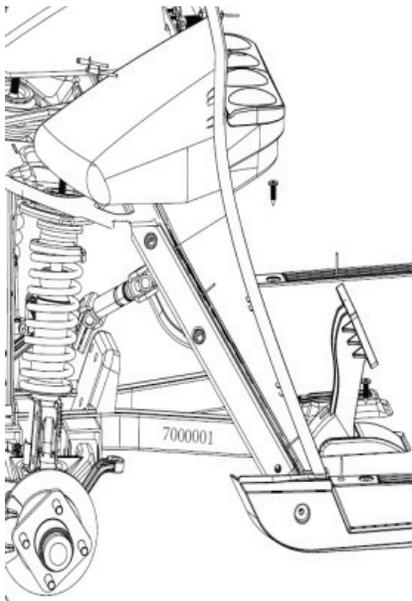
STEERING & SUSPENSION

STEERING	Double-Ended Rack and Pinion
FRONT SUSPENSION	MacPherson Strut
REAR SUSPENSION	Mono-Leaf Springs with Hydraulic Shocks
SERVICE BRAKE	Front/Rear Hydraulic Disc Brake
PARKING BRAKE	Electromagnetic Park Brake
DRY WEIGHT	573 lb (260 kg)(without battery estimated)
CURB WEIGHT	992 lb (450 kg) estimated for 4 pass
VEHICLE LOAD CAPACITY	800 lb (363 kg)
OUTSIDE CLEARANCE CIRCLE	22.9 ft (7 m)
SPEED (LEVEL GROUND)	19.5 mph

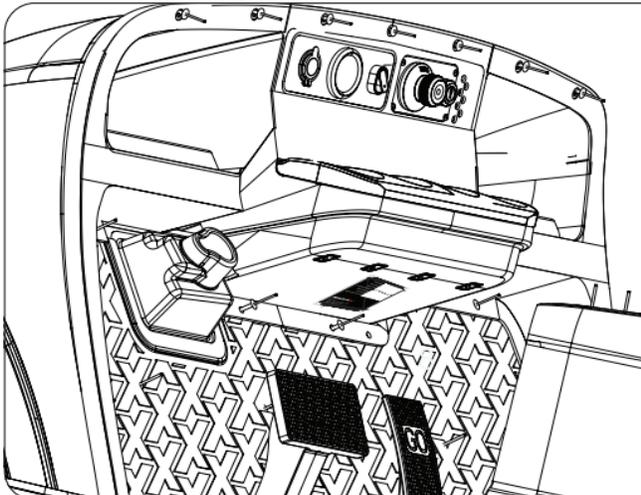


IDENTIFICATION

The Serial Number is located on the front of the frame, on the dashboard, and on the steering column, as shown.



IDENTIFICATION (CONT'D)



Product Name:	_____
Product Model:	_____
Motor Power:	_____
Load Capacity (LB/KG):	_____
Manufacture Date:	_____
Serial Number:	_____
Nominal System Voltage:	_____

MADJAX
Contact:
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IMPORTANT NOTICES

This vehicle is designed for off-highway use in compliance with the safety standards for golf cars. It is not equipped from the factory with systems required by automotive industry safety standards (including but not limited to FMVSS 571.500 low-speed vehicle or LSV standard) for use on public streets and highways. All applicable local and federal laws for on-road use must be followed by the end user, including the addition of all necessary equipment for legal street use. Under US Federal law, vehicles modified to operate at or in excess of 20mph become LSVs and must adhere to FMVSS 571.500. Pursuant to this standard, the dealer or customer who makes these modifications must affix a Vehicle Identification Number and is required to register or title the vehicle per state laws. The Company is not liable for any illegal use of this vehicle.

Important safety precautions will be noted by the below symbols. This manual should be read in its entirety before attempting to operate or service the vehicle. **The Owner's Manual must always stay with the vehicle.**



The **CAUTION** symbol indicates conditions that can cause minor bodily injury.



The **WARNING** symbol indicates conditions that may cause serious injury or death.



The **DANGER** symbol indicates conditions that will cause significant harm or death to personnel and/or assets.

SAFETY PRECAUTIONS



- RISK OF ELECTRIC SHOCK. Ensure the charger AC cord is connected to a properly grounded outlet. Always disconnect charger AC plug before servicing vehicle.
- Ensure all battery connections are tight, making good contact, and are free of corrosion. Poor electrical contact can generate heat and create a fire hazard.
- Never attempt to disassemble, modify, or service the Lithium-Ion battery or charger. No user serviceable parts are inside. Improper service can result in explosion, fire, or electrical shock. Contact The Company Technical Support for assistance if the battery or charger is not working properly.
- This vehicle does not provide protection from major weather hazards such as lightning or high winds/flying debris. Seek immediate shelter if caught in a storm.



- Batteries placed in this vehicle may release explosive gases. To reduce risk of fire, keep away from sparks and/or flames. Always charge vehicle on a non-combustible surface such as concrete.
- Keep vehicle well ventilated during charging. Do not attempt to operate vehicle while charger cord is connected.
- Only qualified technicians should service vehicles. Anyone performing service should be experienced in electrical and mechanical repairs. Always wear proper safety equipment when servicing the vehicle, including but not limited to safety goggles and gloves.
- Use insulated tools when making or removing battery connections.

SAFETY PRECAUTIONS (CONT'D)



Any modification to the vehicle that affects stability, handling, or increases speed beyond factory specifications can cause severe injury or death. Modifications may void vehicle warranty.

Place run/tow switch into TOW position prior to servicing the vehicle.

When servicing the vehicle, make sure the key is in OFF position and chock the wheels. Use jack stands if the vehicle is raised. Getting under a vehicle supported by an unstable jack or jack stands may lead to serious injury or death.

Ensure vehicle warning labels are in place. If transferring ownership of the vehicle, provide this manual to the new owner. Contact your dealer for replacements if necessary.

Always review the vehicle per the operation checklist prior to driving. If any checks are failed, DO NOT OPERATE THE VEHICLE prior to repairing the issue.

SAFETY PRECAUTIONS (CONT'D)

DURING OPERATION:

- Drivers must have a valid driver's license. Operate only in designated areas in accordance with local, state/province, and/or national law.
- Always drive at a speed consistent with terrain and weather conditions.
- When going up or downhill, if possible, drive straight up or down the hill, not crossways. Never drive crossways on a grade sharper than 14%.
- Sudden stops or change of direction can lead to a loss of control.
- Never allow more passengers than the vehicle is designed to have (two people per bench seat maximum).
- Never leave children unattended with the vehicle. Remove the key when exiting the vehicle.
- When backing up, check all directions and drive slowly and carefully. Never disconnect the reverse alarm.
- NEVER operate the vehicle under the influence of alcohol or drugs of any kind. Serious injury or death may occur.

VEHICLE SAFETY LABELS

⚠ WARNING ⚠

DO NOT DISASSEMBLE CHARGER. SERVICE SHOULD BE PERFORMED ONLY BY QUALIFIED PERSONNEL.

This charger should be used only in a well-ventilated area out of direct sunlight. Avoid use in high temperature environments. To reduce risk of burns, do not touch charger during operation. Do not expose the charger to water or rain. If charger indicator light indicates a fault, unplug charger and refer to owner's guide for troubleshooting.

⚠ WARNING ⚠

RUN  TOW

- Switch the toggle switch to "TOW" while towing, performing maintenance, or extended storage.
- Always toggle the switch to "TOW" when connecting or disconnecting the battery. Failure to do so may damage the battery or cause fire or explosion which may result in injury or death.
- Any unapproved modifications to the controller or electrical system will render vehicle warranty void and may cause fire, injury or death.



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⚠ WARNING ⚠

READ AND OBEY THE FOLLOWING WARNINGS TO DECREASE THE RISK OF SEVERE INJURY OR DEATH.

- Never operate on public roads.
- Drive slowly on wet or loose terrain and while in reverse.
- Do not operate or park on surfaces exceeding a 14° slope in any direction.
- Only operate the vehicle from the driver's seat.
- The operator must possess a valid driver's license and should only operate the vehicle in designated areas.
- This vehicle is limited to 2 occupants per bench style seat.
- Do not operate the vehicle until all occupants are fully seated.
- While in motion, occupants shall remain fully seated and brace themselves.
- Drive slowly in turns and straight up and down slopes.
- Before any occupants exit the vehicle, come to a complete stop to engage the parking brake.
- Remove key when vehicle is not in use.
- Do not operate the vehicle while distracted or when under the influence of any drugs or alcohol.
- Do not modify this vehicle with any non-authorized accessories that could change vehicle performance.
- Do not allow anyone to stand directly in front of or behind the vehicle.
- Do not leave children unattended or allow them to play on a parked vehicle.

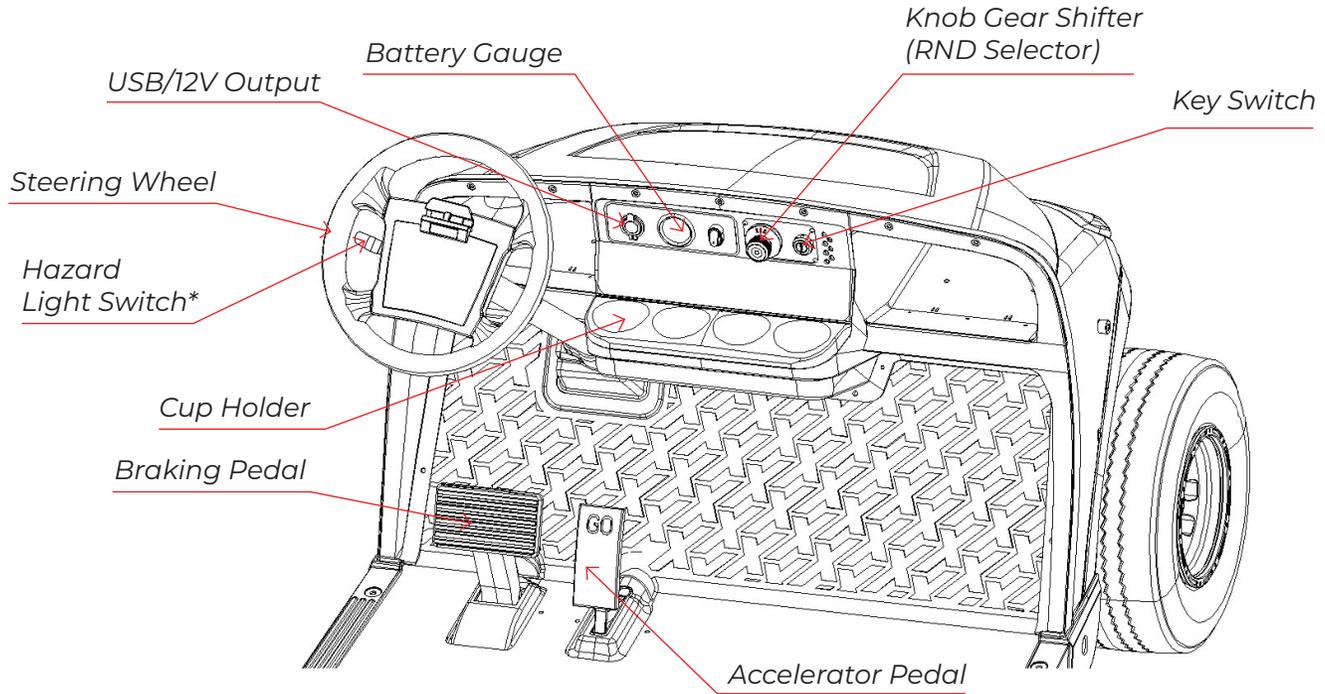
PRE-OPERATION CHECKLIST



With the key in the OFF position, perform the below checks prior to operation. Failure to ensure the key is OFF may lead to severe injury, death, and/or property damage. For checks requiring the key to be on, be ready to turn off and/or press the brake pedal if unexpected movement occurs.

- **ACCELERATOR**
 - Check operation of accelerator pedal for smooth travel when pressing and releasing.
- **BATTERIES**
 - Ensure battery connections and tie down bolts are tight.
 - For lead-acid batteries, ensure there is no corrosion or leaking fluid. Check battery water levels at least monthly.
- **BRAKES**
 - Check operation of the brake pedal for smooth travel when pressing and releasing.
 - Press the brake pedal several times to ensure the pedal is firm throughout its travel.
 - Check for appropriate brake fluid level in the master cylinder reservoir under the seat.
 - Make sure the park brake releases by powering the car on and lightly pressing accelerator pedal. Turn off key and ensure the brake locks again (audible click should be heard).
- **REVERSE ALARM**
 - Turn the ignition ON and turn the RND knob to "R". The reverse alarm should sound.
- **STEERING**
 - Check for abnormal free play in the steering wheel by moving the steering wheel slightly left to right.
- **TIRES**
 - Check tire air pressure per the tire sidewall or manufacturer recommendation. Typical golf car tires should be between 20-22 psi.
 - Check tread for excessive/uneven wear, deformation, or punctures.
 - Verify all 4 tires are wearing evenly.

GENERAL OPERATION



GENERAL OPERATION (CONT'D)

OPERATING THE VEHICLE:

1. After performing all pre-drive checks, ensure that the vehicle park brake is engaged and the Run/Tow switch underneath the passenger side of the front seat is in the Run position.
2. Insert the key into the ignition and turn it ON. Turn the RND knob to D for forward or R for reverse.
3. Slowly press the accelerator pedal and begin driving.
4. When stopping or slowing down, slowly release the accelerator pedal, then slowly apply the brake pedal as needed. Always come to a complete stop and press and hold the brake pedal before changing from forward and reverse directions.
5. When steering, slow down as necessary to safely make the turn. Turning too sharply may cause a loss of control.

SETTING PARK BRAKE:

Bring the vehicle to a complete stop, then turn the key to OFF.

GENERAL OPERATION (CONT'D)

ROTARY SWITCH

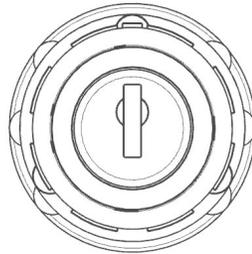
The three letters stand for *Drive, Neutral and Reverse*.



KEY SWITCH

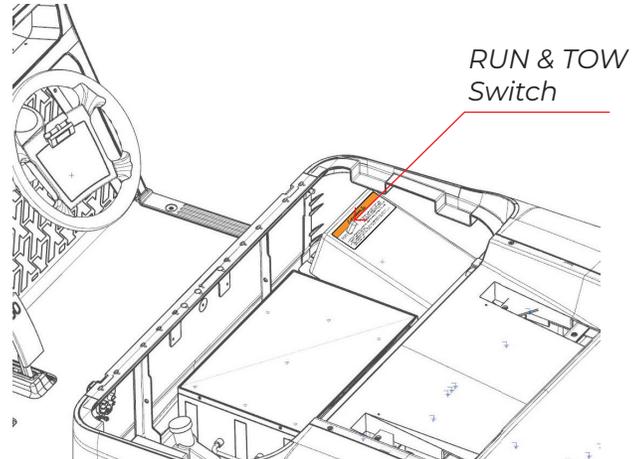
Power-on Key

Insert the key and turn clockwise, now the car is ready to go. When you come to a complete rest, turn the key counterclockwise to "OFF" for power shutdown.



RUN/TOW SWITCH

1. Turn the key to "OFF" position.
2. Flip open the seat and switch the controller to "TOW" position. Now it is safe to tow the vehicle. The motor and rotating parts will be free from damage.



MAGNETIC BRAKE

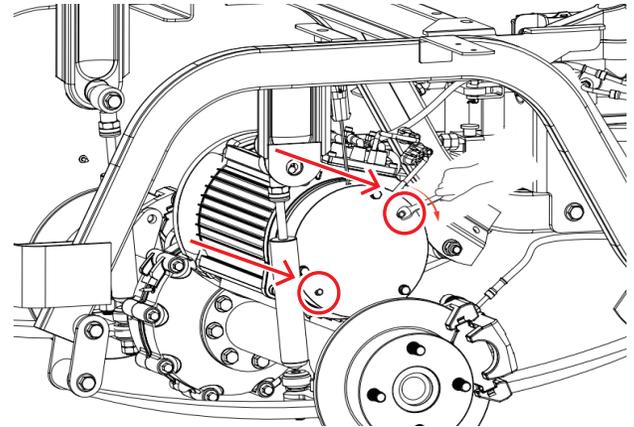


Never put the car in TOW or manually disengage the e-brake on a sloped surface. If it is necessary, one person **MUST** be in position to hold the service brake pedal and steer the vehicle before releasing park brake. Failure to do so can lead to injury and/or vehicle/property damage.

The magnetic parking brake automatically engages every time your vehicle comes to a complete stop. It is disengaged by pressing the accelerator pedal when the ignition is ON and gear selector is in D or R.

If there is no power or insufficient voltage to disengage the e-brake, use an 8mm wrench to tighten the two bolts on the outside of the brake as shown. See *image to the right*. Move the vehicle to a safe location, then loosen the two bolts again. Verify that the park brake is holding the vehicle before leaving unattended.

MANUALLY DISENGAGING MAGNETIC BRAKE



LEAD ACID BATTERY MAINTENANCE (Lead-Acid Deep Cycle Batteries Only)

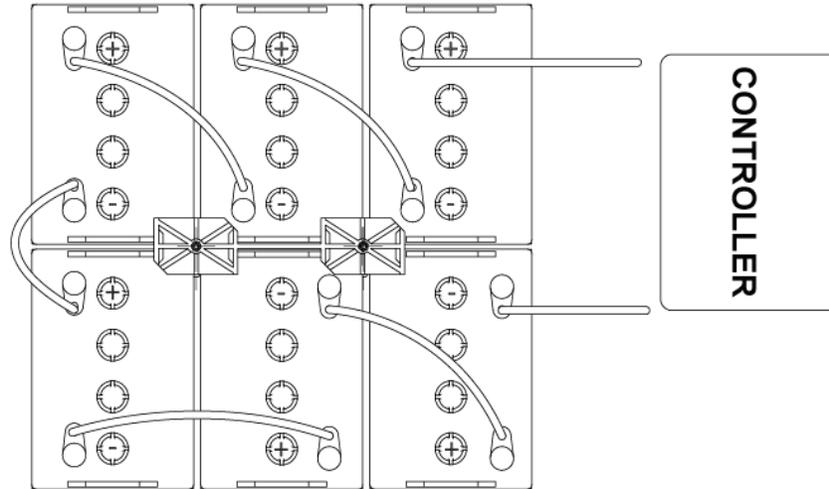


ALWAYS wear safety goggles and rubber gloves when performing battery maintenance. Battery acid may burn the skin and/or clothing. Keep sparks away and never smoke while working near batteries.

- Water levels should be checked at least monthly (time can vary by individual use or climate; it is recommended to check more often) by visual inspection through the caps on each battery. Check prior to charging batteries.
 - If water level is below the top of the plates, add ONLY distilled/deionized water until battery plates are barely covered.
 - After charge is completed, add additional distilled/deionized water until battery plates are covered ~0.5in/1cm.
- NEVER overfill batteries. Overfilled batteries may explode and/or spill acid during charging. Spilled acid may damage the vehicle and/or surfaces underneath the vehicle.
- Ensure all vent caps are tight.
- Ensure cable connections are tight 95-105 in-lb (10.7-11.9 N-m) and not corroded.
 - If there is corrosion, make sure caps are tight, then clean the batteries with a baking soda and water solution. Wipe up or rinse thoroughly to prevent damage to surfaces beneath the vehicle.
 - Do not over-tighten battery connections. This can damage or destroy the battery posts.
 - NEVER allow a direct short of an individual battery's posts. This can cause sparks, fire or an explosion.
- Batteries will self-discharge over time if left unused (typically 13% discharge per month at 25°C/75°F). Before putting the vehicle in storage, fully charge the battery and move the Run/Tow switch to TOW.
- When replacing batteries, it is recommended to replace the entire set and use all batteries of the same model.

LEAD ACID BATTERY MAINTENANCE (CONT'D)

(Lead-Acid Deep Cycle Batteries Only)



RELIANCE 105 Ah LITHIUM BATTERY OPERATION INSTRUCTIONS

SAFETY WARNING

Please read the operating instructions carefully before use, and follow detailed safety instructions to reduce any risk:

1. To reduce the risk of a fire, install the battery system while the vehicle is on the surface of non-flammable materials, such as brick, concrete or metal.
2. Do not throw the battery system into a fire, or place it in a high temperature environment, or expose it to the sun for long lengths of time.
3. To prevent the risk of electric shock, do not immerse the battery system in water or flush with water.
4. To prevent the risk of electric shock, do not disassemble the battery. Should you have any questions about the battery please contact the supplier. Otherwise, the battery system supplier may no longer fulfill the warranty terms.
5. To prevent the risk of electric shock, do not short-circuit or reverse-connect the two ends of an uninsulated battery.
6. Do not place the battery in an environment with high static electricity or strong radiation.
7. The battery system should not be used in environments that have corrosive elements, explosives, insulation-destroying gases or conductive dust.
8. Please disconnect and stop charging the battery immediately and check the plug area if there is any peculiar smell, smoke, overheating, etc. in the charging process.

RELIANCE 105 Ah LITHIUM BATTERY OPERATION INSTRUCTIONS (CONT'D)

Please read and follow the instructions carefully to ensure the long-term safe and reliable operation of your battery system:

1. In order to ensure the safety of the battery and guarantee the battery life, please only use the charger which is provided or recommended by the supplier to charge the battery.
2. Do not pull out the socket or start the vehicle in the charging process.
3. It is recommended to stop charging if there is extreme weather such as thunderstorms.
4. Low battery power will affect the use of the battery, especially in a low temperature environment, timely charging is best for the battery's life.
5. Low battery power reminder (indicator light on red or yellow), it is best to look for the nearest charging station and recharge the battery to ensure the battery.

INSTALL THE APP

Download and install the "RELIANCE BATTERY" APP to check for more battery information by scanning the following QR codes.



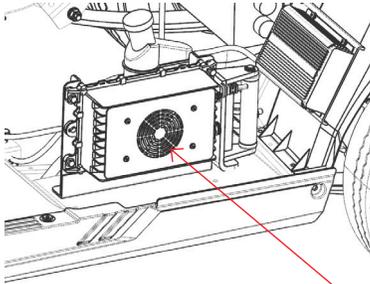
Android



iOS

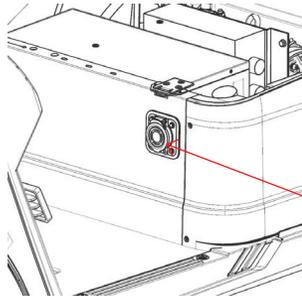
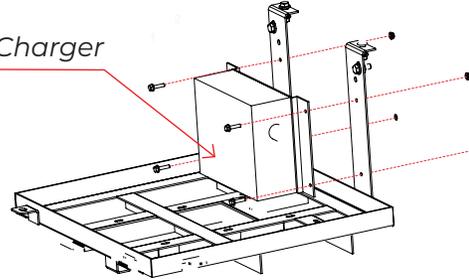
BATTERY CHARGING

SG-720 LEAD ACID CHARGER & SG-1200 LITHIUM BATTERY CHARGER

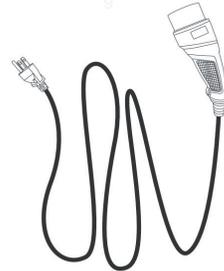


Lead Acid
Charger

Lithium
Battery Charger



Charger Receptacle



Charger Plug

BATTERY CHARGING (CONT'D)

OPERATING INSTRUCTIONS:

1. First, tightly connect the charger output plug or ring terminals to the battery pack, then firmly connect the AC plug with the AC outlet. Once connected, the red charger light will begin to flash. The green light turns on after it finishes charging. Then you can disconnect the plug between the charger and the AC outlet.
2. Before using the charger, make sure the AC voltage and frequency are in the range specified. Match the charger and battery pack: There is applied battery specifications on the “Basic Parameters” label on the charger side. Please confirm the battery type (flooded lead-acid batteries, sealed maintenance-free batteries, lithium batteries, nickel metal hydride batteries, nickel-cadmium battery, etc.), the battery capacity (AH) and battery pack rated voltage (V) match those on the “Basic Parameters” label. If they do not match, it is likely to charge less or over charge and could cause permanent damage to the battery pack.
3. The AC input wire is at the rear of the charger. L, N and ground are marked on the input line plug. Please distinguish them correctly. L, N, and ground on the AC plug should correspond with those of the socket outlet. The ground wire on the AC input socket should be connected firmly to the ground contact, otherwise the shell could be compromised and could easily cause shock or injury. The charging output line is in front of the charger. You can distinguish the positive and negative of the output lines by color. The red or brown lines are to battery “+” and blue or black to battery “-” (except with special requirements of customers). Special connections depend on special charging plugs, sockets and user special requirements. The polarity of charging sockets should be consistent with the polarity of a charging plugs polarity, otherwise it cannot charge. Please check before using.

CHARGER CODES/MEANING (FLASHING LED)

TROUBLESHOOTING LED INDICATOR STATUS

LED CHARGE LEVEL INDICATIONS Lead Acid Charger / Lithium Charger	
	Green Light Flickering = Charging
	Steady, Solid Green Light = Full

Note: The charger indicator may be under the seat connected to the charger and can be installed to the customer's location of choice using a 7/8" bit to drill a mounting hole.

CHARGER CODES/MEANING (FLASHING LED, CONT'D)

LED INDICATOR STATUS / FAULTS AND SOLUTIONS

Note: If any fault repeats after troubleshooting, contact tech support.

LED Indication <i>Dash "—" = 1 Sec Pause</i>	Status or Fault Description (Lead Acid & Lithium Charger)	Solution
	No Load	Check connection between battery and charger, and confirm polarity is hooked up correctly. If error persists after verifying connection, contact tech support; battery voltage may be too low.
	Over voltage or over current	Disconnect the charger from AC power. Wait a few minutes and plug in again.
	Ambient temperature is too high or too low	Let charger and/or battery cool or raise temperature before trying to reconnect. Extra ventilation or heat may be necessary in some climates.
	Charger overheating	Let charger cool before trying to reconnect.
	Output under-voltage	Disconnect the charger from AC power. Wait a few minutes and plug in again.
	Input AC abnormality	Check the AC cord plug and charger receptacle for good connection. If error persists, try charging from a different outlet or circuit; this fault can occur with dirty power.
	Integrated fault - any one of the above-mentioned faults repeat five times.	Disconnect the charger from AC power. Reconnect AC cord and check for the above LED indications.
	Full	N/A

VEHICLE MAINTENANCE

If the vehicle is disabled and towing is necessary, ALWAYS ensure that the parking brake is released and that the Run/Tow switch is switched to TOW. Otherwise, damage can occur to the motor, controller, or other electrical parts.

- See page 17 for instructions to release the e-brake if the e-brake does not release when put into TOW mode.

Frequency	Items Checked	
Weekly	Lead Acid Batteries	Check water level and terminal cleanliness
	Battery Wires	Check torque on connections
	Accessories	Check any accessory mounts
Monthly	Check the above-mentioned items	
	Lead Acid Batteries	Wash with baking soda solution
	Braking System	Check cables and cable mounts
		Check operation of e-brake and verify the manual release bolts are in position.
Tires/Wheels	Check lug nuts for tightness	
Quarterly	Check the above-mentioned items	
	Pedal Box	Clean inside, check pedal operation
	Steering/Suspension System	Grease spindles and steering rack
		Check rack bellows and seal for leaks
	Check front toe-in	
Annually	Brakes	Check brake shoe thickness
	Wiring	Check and clean all connections
	Axle Nuts	Verify torque
Every 5 Years	Rear Differential	Replace fluid

VEHICLE STORAGE PROCEDURE

This vehicle will give you years of trouble-free service when properly maintained. Please follow the recommended electric vehicle long-term storage checklist. For more information on the overall vehicle maintenance, consult page 26.

If any of the following conditions exist, use these electric vehicle long-term storage methods:

- The charger should not remain plugged in continuously throughout the storage period.
- Electrolyte levels will not be maintained throughout the storage period.

Perform these following procedures at least two weeks prior to long-term storage to ensure the proper mixing of water and electrolyte. It takes approximately five charge cycles with a minimum of 10 EUs removed to properly mix the water with electrolyte. **DO NOT** water batteries immediately prior to storage. This will not provide sufficient charge time to mix the water with the electrolyte. Freezing can occur when batteries are stored in this condition.

VEHICLE STORAGE PROCEDURE (CONT'D)

Two weeks prior to storage:

1. Check the water levels in each battery cell. If water is required, fill the cells to cover the plates, charge the set and then use distilled water to top off each cell. The electrolyte level should be from 1/2-inch (13 mm) above plates to 1/4-inch (6 mm) below the level indicator.

Immediately prior to storage:

- a. Ensure the vehicle is fully charged per the owner's manual.
 - b. Turn the key switch to the OFF position, remove the key and leave the forward/ reverse switch in the NEUTRAL position during storage.
 - c. Clean the battery packs, tops, and terminals using a battery acid neutralizer (1 cup baking soda per 1-gallon water). Check, clean, and treat battery terminal connections with a battery terminal protector spray.
 - d. If your vehicle is equipped with a Single Point Watering System, make sure to place the fill tube on top of the battery. This allows any water in the tube to drain back into the batteries.
 - e. The windshield should be stored in the UPRIGHT position. Any bag protector or enclosure should be stored in the extended/down position to keep vinyl from cracking.
2. Disconnect batteries per the owner's manual ensuring that the cables do not come into contact with a terminal.
 3. Check tire pressure and inflate to 20 – 22 PSI or as called for on the tire sidewall.
 4. Perform all semi-annual lubrication.
 5. Thoroughly clean the front and rear body, seats, battery compartment, and underside of the vehicle. Make sure the storage facility has adequate ventilation.

TIRE PRESSURE/WEAR CONDITION

1. Check Tire Pressure
Use a tire pressure gauge to make sure your tires are properly inflated and then fill your tires with air as needed. To check your pressure, remove the valve stem cap, press the gauge head evenly onto the valve stem, use firm pressure so that the hissing sound stops. Remove the gauge and read the pressure. Compare this to your vehicle's recommended inflation pressure. Always check your tires while they are cold (after sitting for at least 3 hours or before you've driven 1 mile at moderate speed). Never bleed pressure from a hot tire. Typical pressures for most golf car tires should be between 20-22 psi.
2. Check Tread Depth
Check with tread depth gauge. If not available, the penny test can help.
3. Check Tire Condition
In addition to tread depth and inflation pressure, you should also inspect your tires for any damage or conditions that would warrant their replacement. Look at the tread and sidewalls for any cuts, scrapes, punctures, bulges, bumps or cracks. If any abnormalities are visible,, have a tire service professional take a closer look. You also want to keep an eye on your tire's age. Depending on how much you drive each year, your tire's tread may last for years but just because the tread is not worn out does not mean that your tires don't need to be replaced. Industry standards recommend that tires be removed from service no more than ten (10) years after the date of manufacture.
4. Check Tire Age
Tire age can be determined by checking the side wall of the tire. Look for 4 numbers inside an oval or rectangle. The first two numbers indicate the week and the last two indicate the year the tire was manufactured. Even if the tire's condition and tread life are acceptable, tires older than 10 years should be replaced. Always dispose of tires according to local and/or federal law.

VEHICLE AND BATTERY STORAGE

If this vehicle must be stored for a long period, please follow the long-term storage recommendations below and review the recommendations for lead-acid or lithium batteries as applicable. Following these recommendations will help reduce the chance of major maintenance being required when coming out of storage.

- The charger should not remain plugged in continuously through storage.
 - Ensure battery pack is fully charged prior to disconnecting AC cord.
- Avoid storing in temperatures below freezing (32°F/0°C) or above 80°F (26°C).
- Check that tire pressure is between 20-22 psi, or as called for on tire side wall.
- Turn the key switch to OFF position, remove the key, and leave the forward/reverse knob in the N position.
- Leave the tow/run switch in RUN.
- Disconnect the main positive and negative terminals from the battery.
- Perform all semi-annual lubrication and other maintenance per the maintenance chart on page 30.
- Thoroughly clean the body, seats, battery compartment, and under carriage, especially when used in a salty environment (beach, salted roads, etc).
- If the e-brake has been manually disengaged for any reason, return it to normal operation.
 - Chocking the wheels is recommended even with the e-brake engaged.
- Ensure any accessories connected to the golf car are turned off.

LEAD ACID BATTERY STORAGE

If stored incorrectly, long periods of inactivity can be harmful to the longevity of lead-acid batteries, reducing runtime and usable cycles. Two weeks prior to long-term storage, follow the below recommendations:

- Inspect battery cables for loose crimps or damage. Check all connections and torque to 95-105 in-lb (10.7-11.9 Nm).
- Check water levels in each battery cell; if the plates are not covered, fill enough to cover the plates. Do not fill to the top.
- Fully charge the battery pack. After charging, water per the recommendations of the battery manufacturer.
 - Typical water levels at full charge should be ~1/8 in below the vent well. Some batteries have a fill line indicated in each cell.
 - If batteries are equipped with a watering system, follow the manufacturer instructions.
- Batteries should be cycled 3-5 times after watering and brought to a full charge prior to storage.
 - Watering right before storage can lead to batteries freezing.
- Clean batteries and battery tray with a battery acid neutralizer (1 cup baking soda in 1 gallon of water is recommended). Remove any corrosion from terminals.
 - Thoroughly rinse the area under the car after washing batteries to help prevent damage or stains on the surface.
- When returning from storage, inspect batteries for any freezing damage and check water levels before connecting charger. Bring batteries to full charge before use.



- If any battery cases are cracked and/or leaking, DO NOT attempt to charge or discharge the batteries. Have a qualified technician remove the batteries from the vehicle and clean any spilled acid. Attempting to charge or discharge damaged batteries can cause overheating and create a risk of fire or explosion.

LITHIUM ION BATTERY STORAGE

- It is recommended to fully charge the battery pack before storage.
 - If storing for less than one month, State of Charge should be at least 60% when storing. For a period up to 6 months, State of Charge must be at least 80% when storing.
- Ensure that the power switch on the battery is OFF (not pushed in, and not illuminated).
- The battery should never reach temperatures lower than -4°F (-20°C) or higher than 131°F (55°C).
 - At temperatures outside the range of 32°F - 86°F (0°C - 30°C), the battery state of charge will drain more quickly in storage and the state of charge should be monitored. Storage at low State of Charge can damage the battery.
- When returning from storage, press the power button on the battery and check the state of charge and temperature in the battery app.



- If the battery temperature is below 32°F / 0°C , DO NOT attempt to charge the battery. Charging below freezing temperatures can cause damage to the battery and create risk of fire.

LITHIUM ION BATTERY TIPS

- Download the Reliance Battery app. QR codes are located on page 21 or on top of the battery for iOS and Android apps.
- When the switch on the battery and the key are both on, the system will enter sleep mode after 5 minutes at idle.
- When either the switch on the battery OR the key is on, the system will enter sleep mode after 8 hours at idle.
- Once the charge cycle completes, the battery will enter sleep mode. Cycle the key switch to wake the battery.
- Most faults are displayed in the Diagnostics section of the app along with troubleshooting steps.

CONTROLLER FAULT CODES

If the controller experiences a fault, the LED on the controller will flash the number of times in the “Flash” column below. To view the LED, remove the Phillips head screws on the controller cover (where the Run/Tow switch is located).

If the vehicle is equipped with an LCD display, the display will show the code in the “LCD Display” column.

Flash	LCD Display	Fault	Solution
1	F01	High Pedal Disable	Release the accelerator. Turn the key off, then back on without pressing pedal.
4	F04	Controller Overheat	Shutdown vehicle. Wait several minutes for controller to cool down, then turn on key switch. The controller will restart.
5	F05	Main power outage	Check the battery to controller connection.
6	F06	Current sampling circuit error	Restart controller. If this does not work, replace controller.
7	F07	Encoder failure	Check the motor encoder. If this does not work, replace motor.

CONTROLLER FAULT CODES (CONT'D)

Flash	LCD Display	Fault	Solution
9	F09	Battery pack undervoltage	Check battery pack for errors.
10	F0A	Battery pack overvoltage	Check battery pack for errors.
11	F0B	Motor overheated	Shutdown vehicle. Wait several minutes before restarting. If error continues, check motor temperature sensor and/or replace motor.
12	F0C	Storage verification error	Restart controller. If this does not work, replace controller.
13	F0D	Accelerator sensor error	Check accelerator pedal connection. Replace pedal if needed.
15	F0F	EM Brake failure	Check Run/Tow switch and EM brake connection
21	F15	Startup sequence error	Restart controller. If this does not work, replace controller.
23	F17	Overcurrent output	Verify that the vehicle is not stuck and check motor connections. Check motor and replace if needed.

WARRANTY INFORMATION

Nivel Parts and Manufacturing Co., LLC, (“Company”) provides that any MadJax XSeries vehicle (“Vehicle”) - and/or accessory purchased from the Company, a Company affiliate, or an authorized Company dealer at the point of original sale, shall be free from defects in the material and/or the workmanship during normal use and proper service (“Limited Warranty”). This Limited Warranty with respect only to parts and labor is extended to the Original Retail Purchaser (“Purchaser”) for defects reported to the Company within the below warranty periods (from date of purchase) for each Vehicle system or component (the “Warranty Period”):

Vehicle System/Components	Warranty Period
Vehicle Frame (Workmanship)	Lifetime
Suspension and Steering (Shocks, Leaf Springs, Steering Rack, Steering Column)	3 Years
Major Electronic Components (Electric Motor, Speed Controller)	3 Years
Batteries	Separate Warranty Terms
Accelerator and Brake Pedal Groups (Pedal Assemblies, Brake Cables, Motor Brake)	3 Years
Seats (Seat Back and Bottom Cushions, Hip Restraints/Arm Rests)	3 Years
Sun Top (Canopy, Roof Struts)	3 Years
Rear Axle/Differential	3 Years
Body Plastics (Front Cowl, Rear Body, Rocker Panels, Instrument Panel)	3 Years
Minor Electronic Components (Microswitches, F&R Switch, Key Switch, Charger Cord, Charger Receptacle, and Battery Charger)	3 Years
All Other Vehicle Components	3 Years
Additional Options and Accessories Sold at Time of Vehicle Purchase	3 Years

WARRANTY INFORMATION (CONT'D)

The Warranty Period for all parts and components of the Vehicle shall commence on the date the vehicle is purchased. Purchaser must confirm that Dealer has warranty registered the vehicle. This Limited Warranty applies only to the Purchaser and not to any subsequent purchaser without the prior written approval of the Company Customer Service Department.

EXCLUSIONS: Except for the Limited Warranty, the Company makes no warranty whatsoever with respect to the vehicle and battery chargers, including any (a) warranty of merchantability, or (b) warranty of fitness for a particular purpose, whether express or implied by law, course of dealing, course of performance, usage of trade or otherwise:

- Damage resulting from the installation or use of parts or accessories not approved by the Company, including but not limited to subsequent failures of the Vehicle, other parts or the battery charger due to the installation and/or use of these parts.
- Routine maintenance items, normal wear and tear, cosmetic deterioration or electrical components damaged as a result of fluctuations in electric current.
- Damage to or deterioration of a Vehicle, part or battery charger resulting from inadequate maintenance, neglect, abuse, accident or collision.
- Warranty repairs made by other than an authorized and qualified Dealer or designee shall void the Limited Warranty.
- Damage or loss resulting from acts of nature, vandalism, theft, war or other events over which the Company has no control.
- Any and all expenses incurred in transporting the Vehicle to and from an authorized and qualified Dealer, distributor or designee for warranty service or in performing field warranty service; and any and all expenses, fees or duties incurred relative to inbound freight, importation, or customs.

WARRANTY INFORMATION (CONT'D)

This limited warranty may be voided or limited at the sole discretion of the Company if the vehicle and/or battery charger:

- Shows indications that routine maintenance was not performed per the Owner's Guide, including but not limited to rotation of fleet, proper tire inflation, lack of charging, loose battery hold downs, corroded battery cables and loose battery terminals;
- Lacks an adequate number of operating battery chargers, uses unapproved battery chargers or uses extension cords with battery chargers.
- Shows indications that the speed was adjusted or modified to permit the Vehicle to operate beyond the Company specifications.
- Shows indications it has been altered or modified in any way from the Company specifications, including but not limited to alterations to the speed braking system, electrical system, passenger capacity or seating.
- Is equipped with non-standard tires not approved by the Company. **Use of non-approved parts and accessories:** this limited warranty is void with respect to any property damage or additional energy consumption arising from or related to parts or accessories not manufactured or authorized by the Company, or which were not installed by the Company, its dealers or distributors, including but not limited to GPS systems, cooling and heating systems, communication systems, information systems, or other forms of energy consuming devices wired directly or indirectly to the vehicle battery.

Remedy: Purchaser's sole and exclusive remedy under this limited warranty in the event of a defect in material or workmanship in the vehicle, any part or component, or battery charger during the applicable warranty period is that the Company will, at its sole option, repair or replace any defective parts. If the Company elects to repair or replace a defective part, the Company may at its discretion provide a factory reconditioned part or new component from an alternate supplier. All replaced parts become the sole property of the Company. This exclusive remedy will not be deemed to have failed of its essential purpose so long as the Company has made reasonable efforts to repair or replace the defective parts.

Disclaimer: *this limited warranty is the sole and exclusive warranty provided for the vehicles and battery charger and is made in lieu of all other warranties, express 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.*

WARRANTY INFORMATION (CONT'D)

Liability limitations: in no case shall the Company 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 the Company was apprised of the foreseeability of such damages or losses. The Company shall not be liable for breach of any warranty unless: (i) purchaser gives written notice of the defect, reasonably described, to the Company within thirty (30) days of the time when purchaser discovers or should have discovered the defect; (ii) the Company is given a reasonable opportunity after receiving the notice to examine (or have its agents or representatives examine) such defect; and (iii) the Company reasonably verifies that purchaser's claim that the vehicle or battery charger, as applicable, is defective. The Company shall not be liable for a breach of warranty if: (a) purchaser makes any further use of the vehicle or battery charger after providing notice of a defect; (b) the defect arises because purchaser failed to adhere to the guidelines on use of the vehicle or battery charger; or (c) purchaser alters or repairs the vehicle or battery charger without the prior written consent of the Company.

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. The Company disclaims responsibility for any such modifications, changes or alterations which would adversely impact the safe operation of the vehicle or battery charger.

Other Company rights:

- The warranty for all vehicles in a fleet shall be voided if data submitted for an individual vehicle warranty claim contains false or misleading information.
- The Company may audit and inspect the Purchaser's facility, maintenance records and its Vehicles by Company representatives prior to approving a warranty claim and may contract with a third party to evaluate the Purchaser's storage facilities, fuel storage tanks and/or batteries.

Authority: No Company employee, dealer, distributor or representative, or any other person, has any authority to bind the Company beyond the terms of this limited warranty without the express written approval of the Company Customer Service Department.

X *MADJAX* **SERIES**



WARRANTY
CERTIFICATE



WARRANTY
TERMS

3510-1 Port Jacksonville Pkwy, Jacksonville, FL 32226

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