TRAIL BUGGY®

OWNER'S MANUAL
Rev 01.33

Owner's Manual

Trail Buggy® Electric Hunting Vehicle

Trail Buggy® builds purpose-built electric hunting vehicles in South Carolina.

READ THIS FIRST

Safety before every ride

Read this manual and the vehicle's warning labels before your first trip. Improper use or neglected maintenance can cause serious injury, damage, or reduced performance.



Trail Buggy®
340 Mt Pleasant Rd, Spartanburg, SC
trailbuggy.us · 864-410-0410

Owner's Manual
Rev 01.33 · November 2026

Contents & Welcome

Welcome, how to use this manual, and how to reach us

Thank you for choosing a **Trail Buggy®**. This Owner's Manual covers safety, controls, operation, charging, maintenance, transport, storage, and warranty support. Your exact build (2WD / 4WD / 4WD XL, bed style, winch, battery size) may differ from the examples shown here. If anything in this manual doesn't match your Trail Buggy®, follow what is actually on **your** vehicle, and call us with any questions.

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Contact Trail Buggy® · 340 Mt Pleasant Rd, Spartanburg, SC · **864-410-0410** · Mon–Fri 9:00–5:00 · **trailbuggy.us**

How to use this manual

- **Safety labels** on the vehicle are part of the product. Keep them readable; replace if damaged.
- **DANGER / WARNING / CAUTION / NOTE** callouts highlight injury and damage risks. Do not skip them. Signal words are defined in Section 1.
- **Charging details** (outlet amps, generator size, solar planning) are in **Appendix A: Charging Guide** at the end of this manual.
- **Common sense** and local rules still apply. No manual can cover every trail, weather day, or hunting-property situation.

NOTE: CHECK FOR UPDATES

This manual is updated from time to time. For the latest version, visit **www.trailbuggy.us/owners-manual**.

Please note: Information in this manual may change without notice. All information is based on the latest product information available at the time of publication. Your build may differ from models and photos shown here or on trailbuggy.us. Check www.trailbuggy.us/owners-manual for updates.

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1 · Safety

Read, understand, and follow these warnings before every use

Improper use and ignored maintenance can cause serious injury, damage, and poor performance. Pay close attention to the signal words below and to the safety labels on your vehicle (see Safety Labels, page 4).

⚠ DANGER
Will result in **death or serious injury** if not avoided.

⚠ WARNING
Could result in death or serious injury if not avoided.

⚠ CAUTION
Could result in **minor or moderate injury** if not avoided.

ⓘ NOTE
Helpful information, or advice to avoid property damage.

Operating Rules

WARNING! Failure to comply with all safety warnings may cause bodily injury or death for vehicle operator and/or passengers.

- **ROLLOVER HAZARD!** Extreme care must be used to prevent loss of control or vehicle rollover during abrupt or maneuvers. NEVER maneuver abruptly or at high speeds through curves or rough terrain.
- Keep entire body in vehicle and hold on when vehicle is in motion.
- Only qualified people with a valid driver's license should operate this vehicle.
- Do not operate this vehicle under the influence of drugs or alcohol.
- Make sure all passengers are securely seated before driving.
- Apply parking brake into the locked position when the vehicle is parked or unattended.
- Constant maintenance is required to keep the vehicle safe. Thoroughly inspect vehicle regularly, especially before and after every use.
- **Park brake lockup:** the electric park brake sets automatically if power is lost, even while driving. Use the foot brake as your main brake and keep speed low downhill. See §6 Stopping & parking.
- By operating this vehicle, the operator assumes all liability for any injury or damage caused by operation.

⚠ WARNING: OPERATOR & PASSENGERS

Keep arms, legs, and feet inside the vehicle while moving. Never ride in the cargo bed. Never leave young children unattended on or around the vehicle. Electric vehicles are quiet, so pedestrians and other hunters may not hear you coming.

⚠ CAUTION: INTENDED USE

Your Trail Buggy® is built for hunting property, farms, ranches, and private trails. Observe local laws for registration, insurance, and where off-highway vehicles may be operated. Do not treat public-road use as approved unless your locality and equipment specifically allow it.



⚠ DANGER: SLOPE ROLLOVER

Maximum slope **25°** on firm, dry ground, straight up or straight down only, with driver and one front passenger. **With rear passengers: 10° maximum.** Stay well under these limits on wet, loose, or soft ground. Never drive across a slope or turn on one.

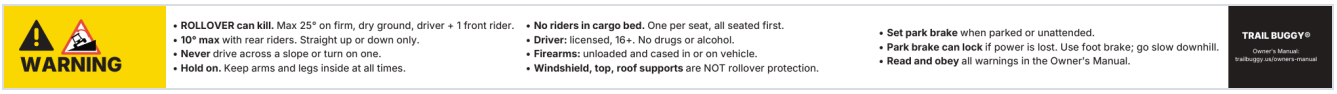
⚠ DANGER: EXTENSION CORD FIRE HAZARD

An undersized or damaged extension cord can overheat and start a fire while charging. Plug into a dedicated 15 A circuit. Use a flame-retardant, outdoor-rated extension cord no longer than 25 ft: 12 or 14 AWG up to 15 ft, 10 or 12 AWG from 15 to 25 ft. Do not use cords over 25 ft, and never use a cord that is cut, crushed, or has a damaged plug.

1 · Safety Labels

The labels your Trail Buggy® should have, and where each one goes

These safety labels are part of your vehicle. Check that each one is in place and readable before every ride.

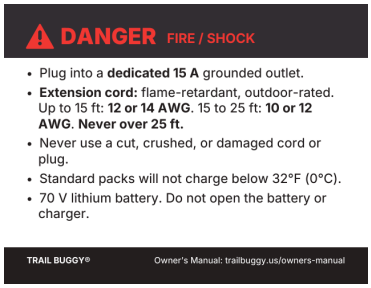


LABEL 1

Operator Safety (WARNING)

20 × 1 in

Location: Inside front lip of the top, facing the driver.



LABEL 2

Charging (DANGER)

4 × 3 in

Location: Next to the charge port.



LABEL 3

Park Brake Release (WARNING)

3 × 2 in

Location: On the frame by the right rear motor park brake, visible from behind the right rear tire.



LABEL 4

Owner's Manual QR Code

2 × 2 in

Location: On the windshield, inside lower left corner, facing the driver.

⚠ WARNING: MISSING OR DAMAGED LABELS

Safety labels must be in place and readable. If any label is missing, damaged, or hard to read, do not operate the vehicle until it is replaced. Contact Trail Buggy® for replacement labels: **864-410-0410** · **trailbuggy.us**.

NOTE: KEEP LABELS IN PLACE

Do not remove or cover labels. If you replace a part that carries a label, install a new label in the same location.

2 · About Your Trail Buggy®

Purpose-built electric hunting UTV: quiet 70V power from South Carolina

A **Trail Buggy®** is engineered for hunters and large-property owners who need durable, whisper-quiet transport through woods and pasture. It is a purpose-built electric hunting vehicle: engineered for the woods and farm, not converted from a passenger fairway vehicle. Licensed TrueTimber®, Realtree®, and Mossy Oak® camo options, 25" UTV tires, and a hunting-focused accessory package come standard on the base build (winch bundle optional).

MODELS	MAIN BATTERY PACK	FACTORY TOP SPEED
2WD · 4WD · 4WD XL	**70.4 V lithium**	**25 mph**
Standard & extended chassis	105 Ah std · 165 Ah optional	Programmed limit for safety

Navitas drivetrain
600 A controllers · Navitas 5 kW rated AC motors (about 20 hp sustained, about 44 hp peak on 70.4 V) · On-The-Fly Programmer (see §4). 2WD: one motor and controller. 4WD: two motors and controllers. Full specifications on the next page.

Independent suspension
Front and rear independent suspension on 2WD and 4WD for a smoother trail ride.

Four-wheel disc brakes
Hydraulic disc brakes at all four corners for strong, consistent stopping power.

Electric park brake
Automatic electric park brake engages when parked or when the vehicle is turned off.

25" 8-ply UTV tires
Size 25×10-12 off-road tires for traction on soft ground, roots, and farm roads.

Cargo / seating
Folding rear cargo box converts to a rear seat; fixed or tilt/dump bed options available.

Brush guard & hitch
Heavy-duty steel brush guard with winch mount + front 2" receiver; rear 2" hitch welded to chassis.

Hunting gear
LED light bar (green/white or red/white), gun rack options, flip-down windshield, clays basket, USB + 12 V aux.

Serial number
Trail Buggy® serial plate on the front of the chassis, left / driver side: **serial number only** (not a vehicle identification number). See §13 Warranty & Support.

Key dimensions · from trailbuggy.us specifications

Chassis SIZE	Range TYPICAL
Length: 121" standard · 138" XL	**Typical:** about 20–25 miles
Width: 58"	**Up to:** about 30 miles*
Height: 84"	***Varies** with speed, load, terrain, tire pressure, temperature, and driving style
Frame: Made in the U.S.A. tubular steel DOM / A513 construction	**Energy:** 7,392 Wh (105 Ah) · ≈ 11,616 Wh (165 Ah)

Features listed as standard on trailbuggy.us except the optional winch bundle. Confirm your build sheet for exact equipment.

Specifications

2WD · 4WD · 4WD XL

ITEM	2WD	4WD	4WD XL
Drive	2WD (rear)	4WD	4WD
Motors (Navitas AC induction)	Rear MAC-972 (with park brake)	Rear MAC-972 + front MAC-822	Rear MAC-972 + front MAC-822
Motor power	Navitas 5 kW rated, 3-phase AC induction motor; about 20 hp sustained, about 44 hp peak (10 s), 70.4 V system		
Controllers (Navitas 600 A)	1	2	2
Main battery	70.4 V Eco Battery lithium, 105 Ah standard / 165 Ah optional		
Factory top speed	25 mph (programmed limit)		
Seating	2 (4 with 3-in-1 bed/seat)	2 (4 with 3-in-1 bed/seat)	4 (6 with 3-in-1 bed/seat)
Max load (riders, cargo, accessories, and tongue weight)	1,000 lb	1,000 lb	1,200 lb
Towing (2" receivers)	1,000 lb front or rear. Tongue weight: rear 250 lb max; front 100 lb max		
Max slope (firm, dry ground, straight up or down)	25° driver and one front passenger · 10° with rear passengers		
Length / width / height	121 / 58 / 84 in	121 / 58 / 84 in	138 / 58 / 84 in
Ground clearance	9.25 in (front brush guard plate, lowest point)		
Tires	Sedona Ridge Saw 2.0, 25×10-12, 8-ply bias. 7 psi (check the sidewall)		
Brakes	4-wheel hydraulic disc + automatic electric park brake		
Gearcase oil	85W-140, 1 qt per gearcase (2WD: 1 gearcase; 4WD and XL: 2 gearcases)		
Winch (optional winch bundle)	KFI 3,500 lb synthetic, Assault Series		

⚠ DANGER: LOAD, SEATING & SLOPE LIMITS

Never exceed the maximum load or the number of seats. The maximum load includes riders, cargo, accessories, and trailer tongue weight. Rear passengers raise the risk of flipping over backward: with rear passengers, never climb or descend slopes steeper than 10°.

Specifications may change without notice. Confirm your build sheet for exact equipment.

3 · Vehicle Overview & Controls

Learn the controls on your build before the first trail ride

Layouts can vary slightly by year and options. Use this section as a guide to the systems on a typical Trail Buggy®, then walk your own vehicle and locate each control before you drive.

Driver controls TYPICAL

Ignition / key: Turns vehicle electrical systems on and off. Remove the key when you leave the vehicle.

Direction selector: Forward / Neutral / Reverse. Bring the vehicle to a **complete stop** before changing direction.

Accelerator pedal: Press gradually to move; release to slow under motor control.

Service brake (brake pedal): Four-wheel hydraulic disc brakes: press to slow or stop. Verify feel before every ride.

Electric park brake: Engages automatically when parked or when the vehicle is turned off. Confirm it is holding before you walk away.

Steering: Keep both hands on the wheel on rough ground and slopes.

Lights & power PORTS

LED light bar: Elusive Wildlife Kill Light Predator Series (green/white or red/white): standard.

Head / tail / markers: Use as equipped for dusk, dawn, and property roads.

USB charge port: For phones and small devices.

12 V auxiliary: For seed/feed spreaders and other 12 V accessories within circuit limits.

AC charging port: Plug a properly rated extension cord from a grounded 120 V outlet into this port to charge the main battery pack. On winch-package builds, one extension cord in this port charges **both** the main battery pack and the winch battery at the same time.



AC charging port with weather cap

⚠ WARNING: DIRECTION SELECTOR

Never move the direction selector while the vehicle is in motion. Unexpected braking or loss of control can occur. Stop fully, then select the new direction.

⚠ CAUTION: PARK BRAKE & KEY

The automatic electric park brake is a major safety feature, but you are still responsible for confirming the vehicle will not roll on slopes. Turn the vehicle off and remove the key when parked or unattended. Do not leave the ignition on for extended periods; accessories can drain the pack. With a dead pack the brake stays locked; see §10 for the rear-motor manual release before towing.

Body & hunting equipment

- **Flip-down windshield** with magnetic latches: fold down for airflow; raise for weather. The windshield, top, and roof supports are **not** roll-over or falling-object protection.
- **Gun rack**: vertical floor-mount or horizontal behind the windshield (relocatable / removable).
- **Front clays basket**: small gear, ammo, or tools within easy reach.
- **Rear cargo box / seat**: converts between cargo and seating; optional fixed or tilt/dump bed.
- **High-back seats** with headrests: all riders must remain seated with feet on the floor while moving.

⚠ DANGER: NO ROLL-OVER PROTECTION

A roll-over can cause severe injury or death. The top, windshield, accessory frames, and roof supports are for weather and light debris only. They are **never** intended to provide roll-over protection (ROPS) and will not protect you in a roll-over. Drive slowly on slopes and side hills, avoid sharp turns at speed, and keep all riders seated with arms and legs inside.

4 · On-The-Fly (OTF) Programmer

Navitas OTF: adjust speed, acceleration, and regen while you drive

Your **Trail Buggy®** includes a **Navitas On-The-Fly (OTF) Programmer** on the dash. When unlocked, three knobs let you fine-tune driving feel in real time: each from **0–100%** of the maximums set in the Navitas Dashboard App. A physical **lock and key** (pair of keys) freezes those settings when you do not want changes.

Clockwise = increase that setting · Counterclockwise = decrease that setting



Navitas OTF
On-The-Fly Programmer
as equipped on Trail Buggy®

1 SPEED

Forward speed limit (MPH)
Sets how fast the vehicle is allowed to go forward. Turning **clockwise increases** the limit; **counterclockwise decreases** it. Lower speed settings typically mean more range and less battery current.

2 REGEN

Regenerative braking strength
Sets how strongly the motor slows the vehicle when you **lift off the throttle**. **Clockwise = more regen**. Turn it up before steep descents; still use the service brake (brake pedal) to stop.

3 ACCEL

Maximum forward acceleration
Controls how quickly the vehicle builds speed when you press the accelerator. **Clockwise = more snap**; **counterclockwise = softer takeoff**. Limiting accel reduces hard current peaks.

LOCK + KEY

Turn the key to **LOCK (12 o'clock)** so knob turns no longer change vehicle behavior, or to **UNLOCK (3 o'clock)** for live changes. Then **remove the key**: it is not meant to stay in the OTF. **Unplugging** the OTF also locks settings in. When **unlocked**, the OTF overrides the Dashboard App for SPEED, REGEN, and ACCEL. Lock it when others drive your Trail Buggy®.

⚠ WARNING: OTF KEY USE

The lock is a ¼ **turn only**, and a very easy turn. Do not force the key; people have broken keys by over-turning. Turn to **lock (12 o'clock)** or **unlock (3 o'clock)**, then **remove the key**. The key is not meant to stay in the OTF.

How to use the OTF · quick steps

1. **Unlock** with the OTF key (¼ turn to **3 o'clock**), then **remove the key** before you want live changes.
2. **Adjust while driving**: turn a knob clockwise to increase that setting, counterclockwise to decrease. Change one setting at a time so you can feel the difference.
3. **Lock when done** (¼ turn to **12 o'clock**), then **remove the key**, or whenever you leave the vehicle: so settings stay where you put them.

⚠ CAUTION: LEARN THE TRAIL FIRST

Do not turn SPEED or ACCEL all the way up until you know the trail, the load, and how your build responds. Start moderate. High accel on loose ground or with cargo can reduce control.

⚠ WARNING: SHARED VEHICLES

Do not leave the OTF unlocked if others may drive. Unexpected speed or accel changes can surprise another operator. Keep the spare key with your vehicle papers.

Field tips

- **Range:** Dial SPEED down when you need more distance from the pack.
- **Hills:** Turn up REGEN before steep or long descents. It helps hold speed and can reduce brake wear, but still use the service brake to control speed and stop.
- **Smooth power:** Ease ACCEL for slippery leaves, mud, or when hauling gear.

5 · Before You Ride

Pre-ride checklist: every trip

Before your first trip, read this manual and the vehicle's warning labels. Before every trip, check the items below.

Walk-around
Body: loose, damaged, or missing parts
Leaks under / around the vehicle
Tires: pressure, tread, cuts, debris
Wheels: lug hardware present & snug
Suspension / brush guard hardware
Charge cord stored clear of path

Before you roll
Brake pedal: firm feel, returns
Park brake: holds on a mild slope
Accelerator: free travel & return
Steering: no excessive play / odd noise
Battery: adequate charge for the trip
Lights / horn (as equipped): function

⚠ WARNING: BRAKES

Never operate if the braking system feels soft, pulls, or fails to hold. A damaged brake system can cause severe injury or death. Have the vehicle serviced before the next ride.

6 · Operating

Driving, parking, and terrain awareness

Starting & driving

1. Confirm charger is unplugged and cord is stowed.
2. All passengers seated with bodies inside; cargo secured; firearms secured in the rack or case as appropriate.
3. Select direction (F / R) only while stopped.
4. Turn ignition ON. Look all around: electric vehicles are quiet.
5. Release park brake if your sequence requires a manual step; otherwise confirm automatic park brake has released as designed when you begin to move.
6. Press the accelerator smoothly. Build speed only as conditions allow.

⚠ CAUTION: REVERSE

Check carefully behind and to the sides before reversing. Use a spotter when visibility is limited by brush, trailers, or low light.

Stopping & parking

- Press the service brake to slow or stop. Do not rely on motor slowdown alone on steep grades.
- When parked: stop completely, set / confirm park brake, select a safe direction state if required by your control layout, turn ignition OFF, remove the key.
- On slopes and while loading/unloading, verify the automatic electric park brake is holding before you exit.
- If the pack has no power, the electric park brake stays locked. For towing or pushing, use the **manual release** in §10 Park Brake Manual Release before you move the vehicle.

⚠ WARNING: PARK BRAKE LOCKUP IF POWER IS LOST

The electric park brake sets automatically whenever it loses power. If battery power is lost while driving (for example, the battery shuts itself off for heat, high load, low charge, or a fault), the park brake can lock the rear wheels suddenly. This can cause a skid, loss of control, or rollover. Use the foot brake as your main brake. Slow down on hills and side slopes. When going downhill on a fully charged battery, keep your speed low. Watch for low-battery warnings and stop safely before the battery runs down. After any sudden lockup, have the park brake inspected before driving again.

Terrain, slopes & load

Rollover and loss-of-control risks rise fast on uneven ground

⚠ DANGER: ROLLOVER HAZARD

Extreme care must be used to prevent loss of control or rollover during abrupt maneuvers. **NEVER** maneuver abruptly or at high speeds through curves or rough terrain. Keep the entire body in the vehicle and hold on when moving.

Driving condition tips

- **Speed:** Factory top speed is limited to **25 mph**. Drive much slower on soft soil, wet leaves, gravel, roots, and blind curves.
- **Slopes:** Maximum **25°** on firm, dry ground with driver and one front passenger; **10° maximum with rear passengers**. Stay well under these limits on wet, loose, or soft ground. Drive straight up or straight down only. Never turn on a side-hill. Control downhill speed with the service brake.
- **Surface:** Reduce speed on mud, sand, wet grass, and ice. Watch for stumps, washouts, and hidden ditches.
- **Load:** Max 1,000 lb (2WD, 4WD) or 1,200 lb (4WD XL), including riders, cargo, accessories, and tongue weight. Keep heavy loads low and centered. Never carry passengers on the cargo bed.
- **Heat & brush:** Motors and brakes get hot, so use caution near dry grass and after hard climbs.
- **Weather:** Leave the vehicle and seek shelter if lightning is a risk.

⚠ WARNING: OPERATOR RULES

Operators must be **16 or older with a valid driver's license**. No drugs or alcohol. Passengers must be able to sit with their back against the seat, keep both feet flat on the floor, and hold any available handhold: roof handholds, hip restraint, or the side grab rail on the 3-in-1 seat (custom equipment may limit which are available). Seats: 2WD and 4WD seat 2 (4 with the 3-in-1 bed/seat); 4WD XL seats 4 (6 with the 3-in-1). Never carry more riders than seats, and never let anyone ride in the cargo bed. Children who require child seats are not appropriate passengers: this vehicle is not designed for child safety seats.

Regenerative braking (REGEN)

Your Trail Buggy® slows itself when you lift off the accelerator. Turn up the REGEN knob on the OTF before you descend steep hills for more motor slowing. REGEN is **not** a substitute for the hydraulic service brakes. Always use the brake pedal to stop or to control speed on a descent.

Towing other vehicles

- Tow with a proper tow bar: never ropes or chains as the primary link.
- Tow only one vehicle; keep speeds very low; no riders on the towed vehicle.
- Limits: 1,000 lb towed weight (front or rear receiver). Tongue weight 250 lb max at the rear. Tongue weight 100 lb max at the front: too much makes the front tires scrub.
- Never tow on public highways. Practice handling changes in an open area first.

ⓘ NOTE: PROPERTY RULES

Follow the rules of the land you hunt or work. Quiet electric access is an advantage: use it responsibly around other hunters, livestock, and trails shared with ATVs or trucks.

⚠ WARNING: FIREARMS

Never carry a loaded firearm in or on the vehicle. Unload before you get in, and keep firearms cased and secured while moving.

7 · Batteries & Charging

Maintenance-free Eco Battery lithium: follow the manufacturer; outlet-amp tables are in Appendix A

Your main battery pack is a **70V Eco Battery lithium** system (standard **105 Ah / 7,392 Wh**; optional **165 Ah**). Lithium packs are sealed and maintenance-free: **do not** add water, open cells, or treat them like flooded lead-acid batteries. Always follow Eco Battery's manuals for charge, storage, and cold-weather rules.

MAIN BATTERY PACK
Eco Battery 70V Lithium

Dedicated Eco Battery charger (~15 A DC into the pack · roughly **10–11 A AC / ~1,200 W** from a 120 V outlet). Optional 165 Ah pack uses the **same charger**, so outlet draw is unchanged, charge time longer.

OPTIONAL WINCH BUNDLE
12 V accessory + NOCO

Separate 12.8 V ~100 Ah lithium (e.g. GRENERPOWER) with a NOCO onboard charger (~1.25 A AC). With the winch bundle, both chargers share **one AC charging port**, so one extension cord charges both batteries at the same time. Plan for ~11–12 A AC combined.

⚠ DANGER: CHARGING & ELECTRICAL

Charge only with the charger(s) supplied or approved for your pack. Plug into a properly rated, grounded outlet. Prefer a **dedicated 15 A** circuit for the Eco Battery charger (and for the winch-bundle combined load). Never charge a damaged, swollen, leaking, or frozen pack. Do not open the charger or battery. Never run a generator indoors or in an enclosed shed or garage. Carbon monoxide can kill. Keep cords inspected. Use a flame-retardant, outdoor-rated extension cord no longer than 25 ft: 12 or 14 AWG up to 15 ft, 10 or 12 AWG from 15 to 25 ft. Do not use cords over 25 ft.

⚠ WARNING: ENVIRONMENT

Charge in a dry area with good airflow around the charger, away from flammable materials. Standard packs will not charge below 32°F (0°C); heated packs warm themselves first.

ⓘ NOTE: SELF-HEATING (HEATED) BATTERY PACKS

Is my pack heated? Heated Eco Battery Gen3 packs have an **Auto-Heating** icon on the battery label. Not sure? Call us with your serial number. **Heated pack, below 32°F (0°C):** when plugged in, the built-in heating system turns on automatically and warms the cells before charging resumes. No action is needed. **Standard pack:** it will not accept a charge while its internal (core) temperature is below 32°F (0°C). Warm the pack above 32°F before charging. Warm air around the Buggy is not enough; the pack itself has to warm up. **Winter tip:** store and charge the Buggy in a garage or building that stays above freezing. More on the trailbuggy.us blog: Why a Self-Heating Lithium Battery Is Essential for Cold-Weather Electric Hunting Buggies.

Basic charge routine

1. Park on a firm, level surface. Confirm the park brake is engaged / vehicle is off and key removed as applicable.
2. Connect the vehicle charge cord to the outlet (or winch-bundle single AC port) using a flame-retardant, outdoor-rated extension cord no longer than 25 ft (12 or 14 AWG up to 15 ft, 10 or 12 AWG from 15 to 25 ft), if needed.
3. Allow the charger to complete its cycle. Unplug from the outlet first when disconnecting mid-cycle if you must interrupt.
4. Store the cord clear of tires and walking paths before driving.

Always follow Eco Battery charging recommendations and manuals. FAQ: **ecobattery.com/pages/faq** · Manuals: **ecobattery.com/pages/product-manuals**

- Full outlet-amp tables, winch-bundle combined draw, generator sizing, and solar planning are in **Appendix A: Charging Guide** at the end of this manual.

Battery sleep, wake & power buttons



Battery power button · Small round silver button on the terminal (passenger) side of the battery.

After **168 hours (7 days)** without use, the battery goes to **sleep** to save charge. A sleeping battery is **not** dead. To wake it, press either:

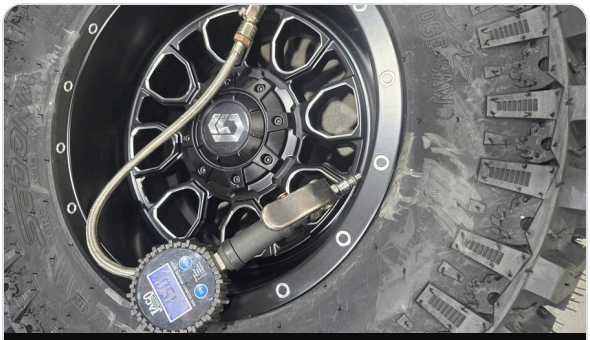
- the **wake button**: a small round silver button in the **driver-side glove box**, or
- the **battery power button**: a small round silver button on the **terminal (passenger) side** of the battery (photo).

Lithium note

- There is **no** monthly “add distilled water to cells” step on Eco Battery lithium packs.
- Follow Eco Battery storage and Power Save / sleep guidance for long idle periods.
- Keep the pack reasonably charged in storage; avoid leaving it deeply discharged for weeks.

8 · Tires, Wheels & Range

Proper inflation cuts rolling resistance, protects tires, and stretches battery miles



Check cold
Quality gauge · small air adds · match side-to-side

Tire pressure drives **rolling resistance**: the force opposing the tire as it rolls. Underinflated tires make the motor work harder and draw more battery current, which means **shorter range** between charges. On a quiet electric hunting vehicle, that also means more heat, more wear, and a less predictable feel on the trail.

> ⚠ **WARNING: 7 PSI, ALWAYS CHECK THE SIDEWALL**
>
> Recommended cold pressure: **7 psi**, per the tire sidewall. The tire maker may change this without notice, so **always check the sidewall** and follow it. **Never exceed** the sidewall maximum. Add air in **small amounts** and check with a gauge as you go. Low pressures are easy to overshoot. Match pressures side to side.

MILD UNDERINFLATION	MODERATE UNDERINFLATION	OVERINFLATION
~10–15% low	**~20–30% low**	**Too high**
Roughly **~3–7%** range loss (approximate; terrain & load vary)	Range loss can reach **~10%+**: miles you need on a long hunt	Less often an energy issue; can hurt traction and cause uneven wear

Why underinflation costs range

- A soft tire forms a **larger contact patch** and flexes the sidewall more.
- That extra resistance turns battery energy into **heat** instead of forward motion.
- Result: higher current draw, warmer tires, and fewer quiet miles per charge.

Terrain & payload trade-offs

Terrain TRADE-OFFS	Payload GEAR / PASSENGER
Soft / muddy: Slightly lower pressure can help traction but costs range. Reinflate before firm trails or roads.	Extra weight raises rolling resistance.
Hard-packed trails / roads: Stay at recommended pressure or the slightly higher end of the allowed range for efficiency.	Stay within the recommended pressure range; adjust upward per load guidance when you have it for your tires / build.
	Still never exceed sidewall max.

Best practices

- **Quality gauge** (digital recommended). Check when tires are **cold,** before a long run, not after hard miles.
- At least **weekly** if you use the Trail Buggy® often, and **before every long outing**.
- Keep tread healthy and alignment in spec (see §9 Wheel alignment); remove sticks/thorns. Carry a **12V or portable inflator**, digital gauge, and patch kit in the field.
- **Handling & stealth:** Proper pressure keeps the vehicle more predictable and the motor load quieter, a bonus when you hunt.

> ℹ **NOTE**
>
> Low tire pressure is also a common reason an electric hunting vehicle feels slow or "heavy." If range or pep drops suddenly, check the tires first. More detail on the trailbuggy.us blog: *How Tire Pressure Affects Battery Range*.

9 · Maintenance & Cleaning

Keep the vehicle safe after mud, rain, and hard hunting weeks

⚠ DANGER: SERVICE SAFETY

Park on firm level ground, confirm park brake, turn the vehicle off, and remove the key before service. High voltage, hot components, and crush hazards exist. Remove jewelry; wear eye protection. If you lack tools or training, have a qualified technician perform the work.

Cleaning after the hunt

- Wash with mild soap and lukewarm water; soft cloth or sponge. Avoid harsh solvents on plastics and seats.
- Pressure washing: keep pressure moderate (do not exceed ~700 psi) and avoid blasting seals, bearings, and electrical connectors head-on.
- Flush the underbody after mud, fertilizer, or salt exposure. Clear packed mud from suspension and brake areas.
- Clean the windshield with clear water and a soft cloth; plastic polish for light scratches. Some glass cleaners can haze polycarbonate.
- Wipe seats and rubber trim with mild soap; vinyl/rubber cleaner for tar or sap.

Tires & wheels

ⓘ NOTE: SEE ALSO §8 TIRE PRESSURE & RANGE

Pressure, range, and terrain tips are covered in detail on page 11. Reminder: never exceed sidewall max; add air in small amounts; match side-to-side; check cold.

- Replace damaged valve stems and cracked sidewalls. Inspect for even tread wear; rotate periodically. Remove sticks and thorns before they work deeper.
- Wheel work: loosen lugs on the ground, lift safely with chocks, tighten in a star pattern to **60 ft-lb** (dry threads unless otherwise specified for your hardware). Re-check torque after the first short drive following a wheel removal.

ⓘ NOTE: WHEEL ALIGNMENT (TOE)

Front: 1/8" toe-in. Rear: 1/8" toe-in. Toe-in means the front edges of the tires on an axle point slightly inward. To check, measure the distance between the tire centers at the front and at the rear of the tires, at hub height. The front measurement should be 1/8" less than the rear. Check alignment after hitting a hard obstacle, if the Buggy pulls to one side, or if the tires wear unevenly.

Battery & electrical (lithium)

- Keep pack and charger connections clean, dry, and tight. Inspect cords for cuts or crushed sections.
- Eco Battery terminal bolts (M8): torque to **6 ft-lb** (72 in-lb) using the ring terminals and hardware supplied. Do not over-tighten. Only check or tighten terminals if you are properly trained and the pack is switched off; otherwise call Trail Buggy®.
- No cell watering. No baking-soda “acid neutralizing” baths intended for flooded lead-acid packs.
- If the pack shows damage, error states, unusual heat, or odor, stop using it and contact Trail Buggy® / Eco Battery support channels.

Brakes, fasteners & underbody

- Listen for rubs or grinding; investigate soft pedals immediately.
- Electric park-brake release screws (rear motor): after any manual release for towing, **loosen both screws again** so the park brake can re-engage. Do not leave them tightened. See §10.
- After rough trails, re-check critical fasteners (wheels, brush guard, hitch, seat mounts, rack).
- If equipped with a winch: inspect cable/synthetic line, hook, and mount bolts; keep the line free of kinks.

Torque Specifications · Navitas motors (front MAC-822, rear MAC-972) and controller

FASTENER	TORQUE	NOTES
Motor Phase Connections (W, V, and U)	**15 ft-lb**	Hold the counter nut with a second wrench.
Motor-to-Housing Fasteners	**9 ft-lb**	Same value for front and rear motors.
Controller Terminal Connections	**10 N·m** (7.4 ft-lb, converted)	Per the label on top of the controller.

9 · Maintenance Schedule

Baseline intervals for normal private-property use: service more often in mud, dust, or heavy loads

A vehicle that needs repair is potentially hazardous. Do not ride until issues are fixed. Keep a simple log of service dates. Severe use (deep mud, frequent creek crossings, max cargo, extreme heat/cold) means shorter intervals.

ITEM	EACH USE	MONTHLY / 20 H	QUARTERLY / 60 H	6 MO / 125 H	ANNUAL / 250 H
Walk-around: body, leaks, hardware	✔	✔	✔	✔	✔
Tires: pressure, tread, damage	✔	✔	✔	✔	✔
Brakes & park brake function	✔	✔	✔	✔	✔
Accelerator / steering feel	✔	✔	✔	✔	✔
Battery state of charge	✔	✔	✔	✔	✔
Charger cord & inlet condition		✔	✔	✔	✔
Lights, USB / 12 V aux		✔	✔	✔	✔
Clean underbody after mud / fertilizer	✔*	✔	✔	✔	✔
Suspension bushings / play			✔	✔	✔
Wheel lug torque check (60 ft-lb)		✔	✔	✔	✔
Wheel rotation				✔	✔
Winch line / mount (if equipped)		✔	✔	✔	✔
Full fastener audit (racks, seats, hitch)			✔	✔	✔
Brake pads: inspect wear		✔	✔	✔	✔
Professional inspection / brake service					✔

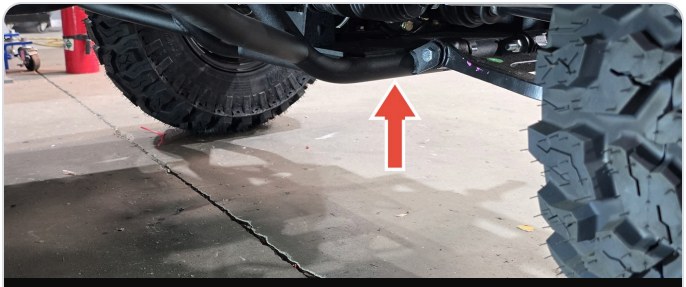
* After each muddy or corrosive outing, not only on a calendar.

NOTE: TORQUE & FLUIDS

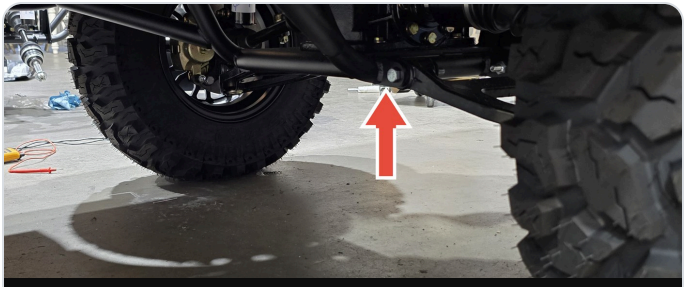
Wheel lug nuts: **60 ft-lb**. Eco Battery M8 terminal bolts: **6 ft-lb** (72 in-lb). Navitas motor phase connections, motor-to-housing fasteners, and controller terminal connections: see **Torque Specifications** on page 14. **Brake pads:** inspect monthly / every 20 h; replace when the friction material is worn to **0.030 in (0.76 mm)** or less. **Gearcase oil:** 85W-140, **1 qt per gearcase** (2WD has 1, 4WD has 2). Change every **3 years**, sooner in harsh conditions. When unsure about other fasteners, call Trail Buggy® before over-tightening.

Lifting the vehicle

Lift and support the vehicle only under the **sub-frame tubular trusses** at the jack points shown (red arrows).



Front jack point · Sub-frame tubular truss (red arrow).



Rear jack point · Sub-frame tubular truss (red arrow).

WARNING: LIFTING

Never work under a vehicle held up only by a jack. Work on firm, level ground, chock the wheels that stay on the ground, and support the vehicle on rated jack stands before you reach under it.

10 · Transport, Towing & Park Brake

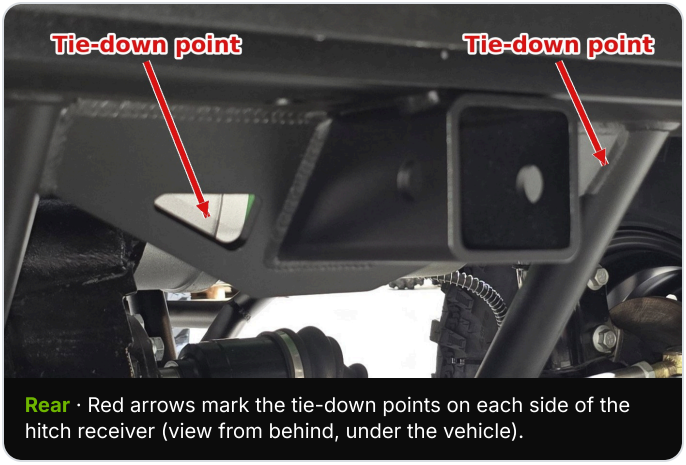
> ⚠ **WARNING: HAULING**
> Secure the vehicle with quality ratchet straps at its four tie-down points (see photos below). Remove loose personal gear. No riders on a transported vehicle. Confirm trailer/truck capacity exceeds vehicle + load with margin. Reduce speed and re-check straps after the first few miles.

- Consider removing or securing the windshield and soft accessories before highway transport if they can catch wind.
- On the trailer: park brake confirmed, ignition off, key removed, wheels chocked if appropriate.

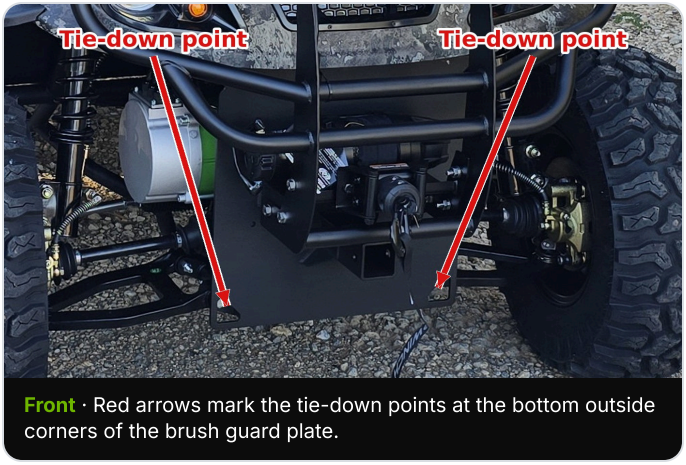
Tie-down points

Your Trail Buggy® has four tie-down points. Use all four and strap the vehicle down to the trailer or truck bed from each point.

- **Rear (2):** one on each side of the hitch receiver.
- **Front (2):** one at each bottom outside corner of the brush guard plate.



Rear · Red arrows mark the tie-down points on each side of the hitch receiver (view from behind, under the vehicle).



Front · Red arrows mark the tie-down points at the bottom outside corners of the brush guard plate.

> ⓘ **NOTE: DEAD PACK / TOWING**
> If the pack has no power, the automatic electric park brake stays locked. See **§10 Park Brake Manual Release** before towing or pushing the vehicle.

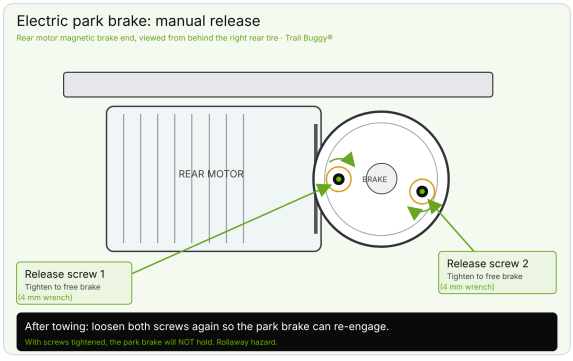
10 · Park Brake Manual Release

Dead pack / towing: rear-motor release screws

Normally, **power is required** to release the automatic electric park brake. When the Buggy has **no power**, the park brake stays **engaged (locked)**. You must manually release it on the **rear motor** before towing or pushing the vehicle.

⚠ DANGER: ROLLAWAY

Never manually release the park brake on a slope unless someone is holding the service brake and can steer. With the release screws tightened, the park brake will **not** hold: the vehicle can roll. Chock the wheels on firm, level ground first.

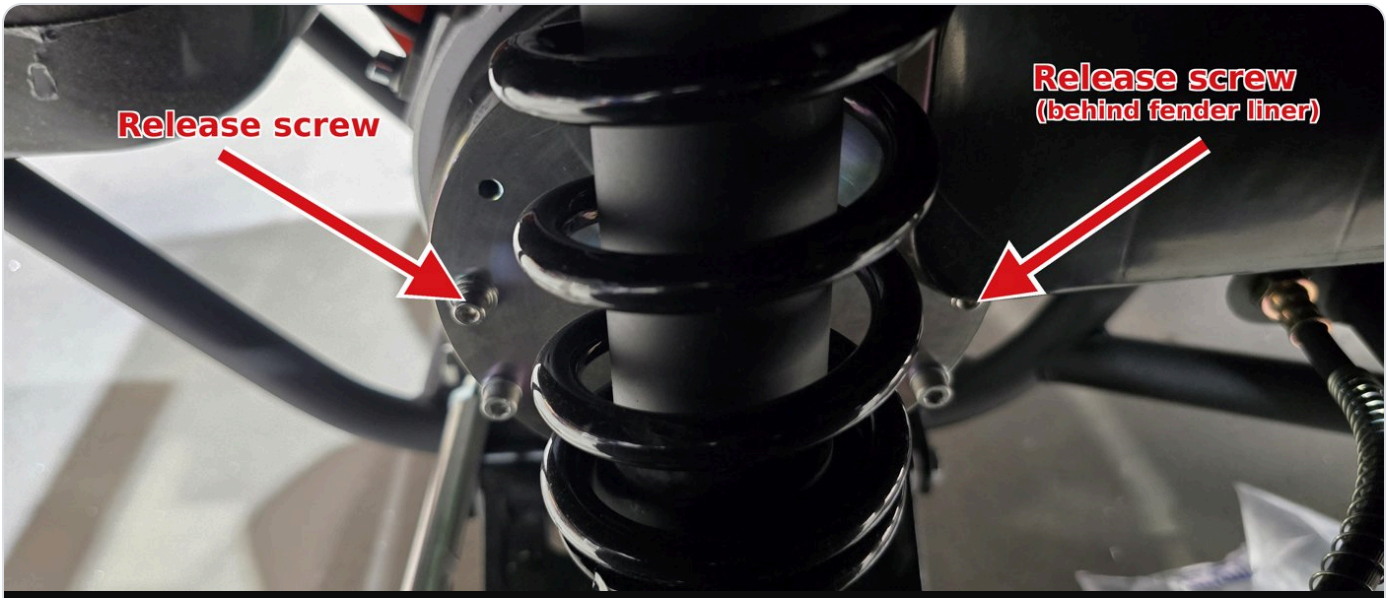


Rear motor · Two release screws on the magnetic park-brake end: tighten with a 4 mm wrench to free; loosen again after.

1. Park on firm, **level** ground. Chock the wheels. Keep one person ready on the service brake / steering if the vehicle must be moved immediately.
2. Locate the two release screws/bolts on the **outside face of the magnetic park brake** on the **rear motor**. The electric park brake is on the **right side (passenger side) rear motor**.
3. Using a **4 mm wrench**, **tighten** (screw in) both bolts to release the park brake.
4. Tow or push only as needed, at very low speed. Prefer a proper tow bar; have a person ready to steer and apply the service brake.
5. When finished: **loosen both screws again** so the park brake can re-engage. Verify it holds before leaving the vehicle unattended.

⚠ CAUTION: AFTER RELEASE

Do not leave the release screws tightened. If you cannot find the screws, have a 4WD dual-motor question, or are unsure, call Trail Buggy® before forcing anything.



Actual view from behind the right rear tire · Red arrows mark the two release screws (with springs). The right screw sits behind the fender liner.

11 · Storage

Long-term storage and return to service

- Cool, dry location protected from harsh weather when possible.
- Charge the lithium pack per Eco Battery guidance before storage; check state of charge periodically (every few weeks).
- **Battery sleep:** after 168 hours (7 days) without use, the pack goes to sleep. Before your next ride or charge, press the wake button (driver-side glove box) or the battery power button (terminal side of the battery).
- Do not store a damaged pack. Avoid extreme heat soak in closed metal trailers when practical.
- Keep tires inflated; roll the vehicle slightly every so often if stored for months. Confirm park-brake release screws are **loosened** (normal) so the brake can hold (see §10).

12 · Troubleshooting

Common problems and what to check first

Start with the simple checks below. If the problem continues, or you are not sure it is safe to drive, stop and call Trail Buggy® (§13).

SYMPTOM	LIKELY CAUSE	WHAT TO DO
Battery seems dead after sitting	Pack is asleep. It goes to sleep after 168 hours (7 days) without use.	Press the wake button (driver-side glove box) or the battery power button (terminal side of the battery). See §7. If it still does not wake, charge it, then call us.
Will not move	Key off; direction (F / R) not selected; charge cord still plugged in; park brake not released; pack asleep or low; a fault.	Turn the key ON, select F or R while stopped, unplug and stow the cord, wake or charge the pack. If it still will not move, check for a fault light (below) and call us.
Will not charge	Standard pack below 32°F (0°C) core temperature (cold lockout); no power at the outlet or a tripped breaker; damaged or undersized cord; loose charger plug; pack asleep; battery or charger fault.	Warm the pack above 32°F. Check the outlet, breaker, and cord (§7). Reseat the plug. Wake the pack. If it still will not charge, check the battery gauge for an error code (below).
Short range	Low tire pressure; heavy load or hard terrain; extreme cold, which reduces lithium performance; pack not fully charged.	Set tire pressure (§8). Lighten the load. Store and charge above freezing. Charge fully before a long trip.
OTF changes do nothing	OTF key at LOCK; OTF cable unplugged.	Turn the key to UNLOCK (3 o'clock). Check that the OTF cable is plugged in. 2WD: the OTF plugs into the single controller. 4WD and 4WD XL: it plugs into the front controller.
Park brake will not release	Loss of power. The electric park brake stays locked without power.	Restore power, or use the Park Brake Manual Release (§10) before towing or pushing.
Fault light flashing on the OTF	A controller has logged a fault.	Use the **Navitas Dashboard** app to connect to each controller (1 on 2WD, 2 on 4WD) by Bluetooth and read the fault. Call us with what you find.
Error code on the battery gauge	The battery management system (BMS) has logged an error.	Contact Eco Battery support with the code. The **Eco Battery** app can read BMS logs to send them. Eco Battery repairs or replaces defective packs under warranty.

⚠ WARNING: DO NOT FORCE IT

Do not open the battery, charger, or controllers. Never drive with a brake, steering, or battery problem. Call us before forcing any part.

13 · Warranty & Support

For questions, parts, service referrals, or warranty help on your Trail Buggy®, contact **Trail Buggy®** directly using the information below.

Trail Buggy® · 340 Mount Pleasant Road, Spartanburg, SC 29307 · **864-410-0410** · Mon–Fri 9:00–5:00 ET · **trailbuggy.us**

TRAIL BUGGY® 2-YEAR LIMITED WARRANTY

Warrantor: Trail Buggy®, 340 Mount Pleasant Road, Spartanburg, SC 29307 · 864-410-0410 · trailbuggy.us

Who is covered. The original retail purchaser only. This warranty is not transferable and ends if the Buggy is sold or transferred.

What is covered. Defects in materials and workmanship under normal use in: frame; drive motors; motor controllers; On-The-Fly (OTF) programmer; electric park brake; suspension; steering; brake system (except brake pads); wiring harness; and light fixtures and LED light bar, except replaceable bulbs. Parts not listed are not covered by this warranty.

How long. 2 years from the date your Buggy is delivered to you, as shown on your delivery paperwork.

What we will do. If a covered part is defective during the warranty period, Trail Buggy® will, at its option, repair it or provide a replacement part at no charge for the part. Trail Buggy® ships warranty parts to you free of charge.

What you pay for. This warranty covers parts only. You pay for labor (diagnosis, removal, and installation) and any towing or transport of your Buggy. You may use any qualified technician; using another technician does not affect this warranty.

Battery pack. Your main battery pack is warranted by its maker, Eco Battery, not by Trail Buggy®. Eco Battery requires you to register the battery at ecobattery.com/register within 60 days of purchase, with proof of purchase, for its limited lifetime coverage; otherwise its coverage is 1 year. Full terms: ecobattery.com/pages/warranty-all. Battery claims: Eco Battery Tech Support, 877-326-2288. We are glad to help you contact them.

Battery charger. The main battery charger is made by Eco Battery and is covered by Eco Battery's own 2-year charger warranty, not by Trail Buggy®. Contact Eco Battery at 877-326-2288.

Not covered. Damage caused by abuse, misuse, neglect, accident, rollover, racing or competition, water submersion or flooding; damage caused by failure to follow this manual or the maintenance schedule; damage caused by modifications or alterations, or by parts or accessories not supplied by Trail Buggy®; normal wear and tear of tires, brake pads, replaceable bulbs, upholstery, paint, and finish; cosmetic damage, rust, or corrosion.

ANY IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE 2-YEAR TERM OF THIS WRITTEN WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

REPAIR OR REPLACEMENT OF COVERED PARTS IS YOUR SOLE REMEDY UNDER THIS WARRANTY. TRAIL BUGGY® IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SUCH AS LOSS OF TIME, TRAVEL, TOWING, RENTAL, OR LOSS OF USE. This limitation does not apply to personal injury. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

How to make a warranty claim

1. **Contact Trail Buggy®** during the warranty period, promptly after you notice the problem: the Contact Us form at trailbuggy.us; 864-410-0410 (Mon–Fri 9:00–5:00 ET); or mail to Trail Buggy®, Warranty, 340 Mount Pleasant Road, Spartanburg, SC 29307.
2. **Provide** your name, contact information, serial number (chassis plate, front left / driver side), delivery date, a description of the problem, and photos.
3. **Trail Buggy® will respond** within 5 business days of receiving your claim and tell you whether it is covered.
4. **For a covered claim,** we ship the repair or replacement part to you or your technician free of charge.

No registration is required for this Trail Buggy warranty. (Eco Battery's battery registration is separate.) For a free copy of this warranty, visit **www.trailbuggy.us/owners-manual**, call 864-410-0410, or write to the address above.

Register your Trail Buggy®

Scan the code or visit **https://www.trailbuggy.us/warranty-registration** to register your Buggy with us. Registration is optional and is not required to receive this warranty.

When you call, have ready

- Owner name and contact · approximate purchase / delivery date
- Model (2WD / 4WD / 4WD XL) and major options (165 Ah, winch, bed type)
- **Serial number** from the Trail Buggy® plate on your vehicle (see below)
- Clear description of the issue and photos when helpful

Your serial number · chassis plate

Trail Buggy® vehicles use a **serial number only**: they are **not** issued a vehicle identification number. Find the serial on the **Trail Buggy®** plate riveted to the **front of the chassis on the left / driver side**. Record it with your purchase papers.



Serial plate · Front of chassis, left / driver side: Trail Buggy® plate shows your serial (example shown: 260007).

NOTE: WHERE TO LOOK

Stand at the front of the vehicle on the driver side. The black Trail Buggy® plate is on the forward chassis rail. The number under the Trail Buggy® name is your serial: use that when you call for parts or service.

14 · Optional Accessories

Winch bundle, battery upgrade, and power planning

OPTIONAL · 2WD OR 4WD

3,500 lb Winch Bundle

Self-recovery, gate/log work, and a dedicated 12 V accessory power source that does **not** borrow from the 70V main battery pack. Mounts to the standard brush guard's integrated winch mount.

BUNDLE TYPICALLY INCLUDES

- 3,500 lb winch + synthetic cable
- Wired remote
- 12 V ~100 Ah lithium accessory battery
- Dedicated onboard charger (e.g. NOCO)

⚠ **WARNING: WINCH SAFETY**

Stay within the 3,500 lb rating. Use proper anchors and recovery technique. Keep people clear of the cable path. Wear gloves. A winch is a tool: it does not replace common-sense recovery practice. Ask us to walk through basic use when you order.

Battery upgrade

Most builds ship with the **70V 105 Ah** Eco Battery pack. The optional **70V 165 Ah** pack increases range using the **same Eco Battery charger** (same outlet draw, longer charge time). See **Appendix A: Charging Guide** for time tables.

Off-grid charging · solar & generator

- **Simple path:** solar or generator → 120 V AC outlet → your existing Trail Buggy® chargers.
- **Generator:** size for continuous watts with headroom (~2,000 W class typical for Eco alone or winch bundle). Never run indoors.
- **Solar:** empty-to-full in one day needs a large array; most hunters top up from 30–50% or spread charge over several sunny days.

Details and planning tables: see **Appendix A: Charging Guide** at the end of this manual.

Other common options

Bed configurations
Folding cargo/seat, fixed cargo bed, or tilt/dump bed: match to how you haul gear and game.

Camo packages
Licensed TrueTimber®, Realtree®, and Mossy Oak® finishes as offered on trailbuggy.us.

Light bar color
Green/White or Red/White Kill Light Predator Series blackout LED bar.

Gun rack style
Vertical floor mount or horizontal behind the windshield (relocatable).

Appendix A: Charging Guide

Outlet amps, winch-bundle combined draw, generator sizing, and solar planning

The following pages are the **Trail Buggy® Charging Guide** (Appendix A). Use them for Eco Battery / NOCO outlet-amp facts, winch-bundle combined draw, generator sizing, and solar planning.

What you will find

- AC draw figures for the Eco Battery charger and (when equipped) the winch-bundle / NOCO path
- Planning notes for generators and solar

How Many Amps Do Our Chargers Draw From the Outlet?

Charger Power Draw Guide for your Trail Buggy® electric hunting vehicle

When you plug in to charge, what matters for house circuits and generators is the **AC amps drawn from the outlet**, not just the DC amps going into the battery. Below: each charger on its own, plus the **winch bundle**: both chargers running together from one AC port.

MAIN BATTERY PACK

Eco Battery 70V Lithium Pack Charger

A-1071 style

DRAW FROM A STANDARD 120 V OUTLET

~10–11 amps AC

Approx. power: **~1,200 W**

Into the battery	**~15 A DC** measured ~14.9 A during charge
Pack voltage during charge	**~72–78 V**
Power (approx.)	**~1,200 W**

WINCH / ACCESSORY 12 V BATTERY

NOCO 10 A Onboard Charger

GENPRO10X1 · for GRENERPOWER 12.8V 100Ah LiFePO4 (Group 24)

DRAW FROM A STANDARD 120 V OUTLET

~1.25 amps AC

Manufacturer max power: **150 W**

Into the battery	**10 A DC**
Battery voltage	**12.8 V nominal**
Battery	**GRENERPOWER 100Ah · 1,280 Wh**

WINCH BUNDLE · BOTH CHARGERS TOGETHER

One AC port. One drop cord.

With the winch bundle your Trail Buggy® carries **both batteries and both chargers**. We tie the two chargers to a **single AC inlet**, so you only need **one outlet and one extension cord**. It charges both batteries at once.

COMBINED OUTLET DRAW @ 120 V

~11.25–12.25 amps AC

Approx. **~1,350 W** total (≈ 1,200 W + 150 W)

Why the big difference?

Outlet amps follow total power (volts × amps). A high-voltage main battery pack charging at ~15 A needs far more power than a small 12 V accessory battery charging at 10 A.

Watts = Volts × Amps

OPTIONAL 70V 165 AH MAIN BATTERY PACK

Most buyers get the **70V 105 Ah** pack. The optional **70V 165 Ah** pack uses the **same Eco Battery charger**, so outlet draw is **unchanged (~10–11 A AC / ~1,200 W)**, it just takes longer to charge.

CHARGE TIME @ ~15 A	105 AH	165 AH
0% → 100%	~7.0 h	**~11.0 h**
30% → 100%	~4.9 h	**~7.7 h**
50% → 100%	~3.5 h	**~5.5 h**

Practical Tips

- **Winch bundle (one cord, both chargers):** plan for **~11.25–12.25 A AC / ~1,350 W** on that single drop cord.
- **Circuit:** use a dedicated **15 A** household circuit for the combined load (the Eco Battery charger alone also wants a dedicated circuit). Use a flame-retardant, outdoor-rated extension cord no longer than 25 ft: 12 or 14 AWG up to 15 ft, 10 or 12 AWG from 15 to 25 ft. Do not use cords over 25 ft.
- **NOCO 10 A charger by itself:** a light load: fine on a normal household outlet.
- **Generator:** ~1,350 W continuous for both chargers (~1,200 W Eco alone), plus headroom and other loads.

Always follow Eco Battery's charging recommendations and manuals for your main battery pack and charger. Charging FAQ: **https://ecobattery.com/pages/faq** · Battery & CAN charger manuals: **https://ecobattery.com/pages/product-manuals**

Please note: Figures are approximate based on published specs and typical charge voltages. Exact draw varies with pack voltage, charge stage, and outlet voltage. A Kill-A-Watt or clamp meter on the cord gives the definitive reading for your setup.

Off-Grid Charging: Solar & Generator

For hunting property without grid power: charging your Trail Buggy® electric hunting vehicle

This page assumes the simple path: **solar or generator → standard 120 V AC outlet → your existing Trail Buggy® chargers**: Eco Battery, NOCO, or the winch-bundle single AC port. Dedicated DC solar gear is a separate topic.

STANDARD MAIN BATTERY PACK
7,392 Wh
Eco Battery 70.4 V · 105 Ah

OPTIONAL UPGRADE
≈ 11,616 Wh
Eco Battery 70.4 V · 165 Ah

WINCH ACCESSORY
1,280 Wh
GRENERPOWER 12.8 V · 100 Ah

PLANNING ASSUMPTIONS
Charger efficiency **~90%**
Peak sun **~4.5 h/day** (SE US avg.)
Solar path derate **~0.75**

Main battery pack: energy to full: 105 Ah vs. 165 Ah · same Eco Battery charger (~15 A DC / ~1,200 W AC)

	STANDARD 105 AH · 7,392 WH				OPTIONAL 165 AH · ≈ 11,616 WH			
STATE OF CHARGE	INTO BATTERY	AC (÷ 0.90)	@ ~15 A	1-DAY SOLAR	INTO BATTERY	AC (÷ 0.90)	@ ~15 A	1-DAY SOLAR
0% → 100%	7,392 Wh	~8,213 Wh	~7.0 h	**~2,400 W**	11,616 Wh	~12,907 Wh	~11.0 h	**~3,800 W**
30% → 100%	5,174 Wh	~5,749 Wh	~4.9 h	**~1,700 W**	8,131 Wh	~9,035 Wh	~7.7 h	**~2,700 W**
50% → 100%	3,696 Wh	~4,107 Wh	~3.5 h	**~1,200 W**	5,808 Wh	~6,453 Wh	~5.5 h	**~1,900 W**

Solar array (W) ≈ AC Wh ÷ (4.5 sun h × 0.75). Time ≈ Ah ÷ 15 A (Eco Battery FAQ method). **Same outlet draw for both packs.**

GRENERPOWER 12 V alone · NOCO 10 A

SOC	BATTERY	AC	@ 10 A	1-DAY SOLAR
0→100%	1,280 Wh	~1,422 Wh	~10 h	**~420 W**
30→100%	896 Wh	~996 Wh	~7 h	**~300 W**
50→100%	640 Wh	~711 Wh	~5 h	**~210 W**

A light load beside the main battery pack.

Winch bundle · 105 Ah + 12 V, same starting SOC

SOC	AC ENERGY NEEDED	1-DAY SOLAR
0→100%	~9,636 Wh	**~2,850 W**
30→100%	~6,745 Wh	**~2,000 W**
50→100%	~4,818 Wh	**~1,430 W**

Single AC port. 165 Ah pack: scale drive portion up ~57%.

Solar: Practical Tips

- **Empty → full in one day takes a big array** (~2,400 W for the main battery pack alone). Most hunters top up from **30–50%**, or spread the charge across **2–3 sunny days** with a smaller kit: a **~800–1,200 W** portable kit covers a typical mid-day top-up.
- **Inverter must handle the charger continuously:** ~1,200 W for the Eco Battery charger alone, ~1,350 W for the winch bundle. Choose a **~2,000 W continuous** class inverter for headroom, with a battery bank sized to the job.
- **Weather, shade, season, and panel angle** all change results: winter gives fewer sun hours.

GENERATOR CHARGING

Size for continuous watts, with headroom

- **Runtime:** empty → full ~7 h for the 105 Ah pack (~11 h for 165 Ah), plus taper; from 50% ~3.5 h (~5.5 h): fuel accordingly.
- **Quiet inverter generators** suit hunting property better than open-frame units. Keep it downwind and away from the stand when possible.

ECO BATTERY CHARGER ALONE · ~1,200 W
~2,000 W continuous
Inverter generator; at minimum a solid 1,600–2,000 W class

WINCH BUNDLE · BOTH CHARGERS · ~1,350 W
~2,000 W min.
2,200–2,500 W class is more comfortable with other camp loads

Always follow Eco Battery's charging recommendations and manuals. FAQ: **https://ecobattery.com/pages/faq** · Manuals: **https://ecobattery.com/pages/product-manuals** · Resources: **https://ecobattery.com/pages/resource-center**

⚠ DANGER: GENERATOR EXHAUST

Never run a generator indoors or in an enclosed shed or garage. Carbon monoxide can kill.

Please note: All figures are approximate planning estimates based on published specs and the assumptions above; solar output varies with weather, shade, season, and panel angle. A Kill-A-Watt or clamp meter on the cord gives the definitive reading for your setup.