

Excalibur
ELECTRIC VEHICLES

OWNER'S MANUAL



Congratulations on the purchase of your **EXCALIBUR Electric Vehicle**.

To ensure and maintain correct operation of your new electric vehicle, please read these instructions carefully before use. The information contained within this manual is essential to preserve your warranty and assure your new vehicle will function properly for years to come. Please keep this manual in a safe place and refer to it before each use.

NOTE: The use of after-market components other than OEM (Original Equipment Manufacturer) could void your warranty.

NOTE: Your vehicle may be equipped with optional features not covered in this manual.

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NOTICE

- Please read this owner's manual prior to operating the vehicle.
- Please read relevant sections prior to servicing or repairing vehicle. Failure to do so may result in possible property damage, injury or death.

QUICK SPEC GUIDE	EV-X	EV-X4 (4 Forward)	EV-X6 (6 Passenger)
MOTOR	5kw AC Brushless	5kw AC Brushless	5kw AC Brushless
BRAKE	4 Wheel Hydraulic	4 Wheel Hydraulic	4 Wheel Hydraulic
CHARGE TIME (HRS)	7-8	7-8	7-8
LENGTH	9ft. 8in.	8ft. 10in.	11ft. 8in.
WIDTH	49.5in.	49.5in.	49.5in.
MAX HEIGHT	80.3in.	80.3in.	80.3in.
WEIGHT (No Occupants)	465kg (1,025lbs.)	510kg (1,124lbs.)	563kg (1,240lbs.)

Complete specifications can be found on page 41.

NOTE: This manual represents the most current information at the time of publication. EXCALIBUR EV is continually working to further improve its vehicles and other products. These improvements may affect servicing procedures.

Any modification and/or significant change in specifications or procedures will be forwarded to all EXCALIBUR EV dealers and will, when applicable, appear in future editions of this manual. All updated manuals will be available to view or download at <https://excalibur-ev.ca/manuals.html>.

EXCALIBUR EV reserves the right to change specifications and designs at any time without notice and without the obligation of making changes to units previously sold.

Safety Instructions and Operating Guidelines

Follow all **Danger, Warning, Caution, and Notice** statements in this manual. Always adhere to all instructions, safety precautions, and safety decals on the vehicle. Replace any missing or damaged safety decals immediately to reduce the risk of property damage, serious injury, or death. Ensure you understand and comply with all applicable local laws and regulations before operating the vehicle.

Safe Operating Practices

- Reduce speed when operating on rough terrain or in adverse conditions.
- Use brakes to control speed when descending steep slopes or hills.
- Maintain a safe distance from other vehicles at all times.
- Reduce speed on wet or icy roads and surfaces.
- Exercise caution when entering sharp or blind turns.
- Use extreme caution in areas where pedestrians are present.
- Always wear seat belts while the vehicle is in operation.
- Check mirrors carefully when changing lanes or reversing.

Electrical Safety

Electrical shorts can result in fire, electric shock, serious injury, or death.

- Prevent contact between positive and negative voltage sources.
- Always use insulated tools when working with electrical components.

Personal Safety Around the Vehicle

- To avoid being struck, do not stand in front of or behind the vehicle.

Passenger Safety

- A maximum of two persons is allowed per bench seat.
- Passengers must remain seated on designated seats equipped with seat belts.
- Do not allow anyone to ride on parts of the vehicle not intended for passengers.
- Do not allow a passenger to hold a child on their lap while the vehicle is moving.

Service and Maintenance

Only trained technicians should perform service or repairs. Individuals performing maintenance must have appropriate knowledge and experience in electrical and mechanical systems.

- Follow proper instructions for all maintenance, service, and accessory installation procedures.
- Unauthorized service may void the vehicle warranty.

SAFETY DECALS

The following pages contain information on safety decal and features.

This Warning information is located under the LCD Display



WARNING



Failure to follow these instructions can result in severe personal injury or death.

- Before operating this vehicle, read the operating instructions within the Owner's Manual.
- Only persons with a valid driver's license can operate this vehicle, as per state regulations.
- Operate from the Driver's side only and keep your entire body inside the vehicle when moving.
- Max payload is 800 lbs (363kg) and no more than two (2) persons per seat bench.
- Reduce speed in turns and only drive straight up and down slopes.
- Never operate under the influence of drugs or alcohol.
- Remain seated and hold on while the vehicle is in motion.
- Do NOT leave children unattended in the vehicle.
- Switch cart into TOW mode before towing.
- NOT FOR HIGHWAY USE.

This Rollover Warning information is located under the Steering Column



ROLLOVER WARNING



This vehicle is tailored for improved off-road performance, offering superior ground clearance compared to its class counterparts. Exercise caution and avoid abrupt maneuvers, such as sharp turns, even on level terrain, as they may result in loss of control, potential rollovers, and pose a risk of severe injury or fatality.

Do NOT navigate slopes steeper than 18% grade.

Further information can be found in your Owner's Manual included with this vehicle.

Fleet and Rental Vehicle Safety Supervision

If the vehicle is used in a rental or fleet environment, it is strongly recommended that a designated Safety Supervisor be appointed. The primary responsibility of the Safety Supervisor is to ensure the safe operation and proper use of all vehicles.

At a minimum, the Safety Supervisor's duties should include:

- Defining approved areas where vehicles may be operated.
- Ensuring all driving hazards are clearly identified, properly marked, and visible to operators.
- Determining authorized drivers and restricting access to unqualified individuals.
- Providing instruction to first-time drivers and verifying that all operators possess a valid government-issued driver's license.
- Ensuring all vehicles are properly maintained and in safe operating condition.
- Establishing, communicating, and enforcing operational rules and safety procedures.

The Safety Supervisor should also implement any additional measures deemed necessary to promote safe vehicle operation based on specific conditions or operational requirements.

SAFETY DETAILS

⚠ WARNING ⚠

Before operating or servicing the vehicle, please ensure this owner's manual has been read completely. Failure to follow the instructions and information in this manual could result in property damage, serious injury, or death.

Important safety statements throughout this manual and on the vehicle's decals are identified by the signal words **DANGER**, **WARNING**, and **CAUTION**. These signal words indicate different levels of hazard. For your safety, always read and follow these instructions carefully. Compliance with all safety precautions is mandatory.

Throughout this manual and on vehicle decals, the terms "**LSV**" and "**Low Speed Vehicle**" are used interchangeably. The term "**Vehicle**" is defined in the *Notice* section of this manual; no other meaning is intended or implied.

All operation and safety decals must remain in place, clean, and legible at all times. If any decal becomes damaged, removed, or difficult to read, it must be replaced immediately to reduce the risk of property damage, serious injury, or death. Contact your authorized distributor or dealer for replacement decals.

⚠ DANGER ⚠

- Indicates an immediate hazard that will result in severe personal injury or death.

⚠ WARNING ⚠

- Indicates an immediate hazard that could result in severe personal injury or death.

⚠ CAUTION ⚠

- Indicates a hazard or unsafe practice that could result in minor personal injury.

CAUTION

- Indicates a potentially hazardous situation that could result in property damage.

GENERAL SAFETY INFORMATION

The following safety instructions must be followed whenever the vehicle is operated, serviced, or repaired. Vehicle feature identification information is provided in the *Safety Decal and Feature Identification* section. Additional safety statements are located throughout this manual and on the vehicle.

⚠ DANGER ⚠

- **High Voltage Hazard:** Do not install or service the battery unless properly trained.
- Do not charge the battery at temperatures below 32°F (0°C).
- Do not pressure wash or spray the battery with water.

Environmental and Operational Hazards

- This vehicle does not provide protection from lightning, flying debris, or other storm-related hazards.
- If a storm occurs while operating the vehicle, stop immediately, exit safely, and seek appropriate shelter in accordance with local safety guidelines.

⚠ WARNING ⚠

- Follow all procedures exactly as described in this manual.
- Observe all **DANGER, WARNING, and CAUTION** statements in this manual and on the vehicle and battery charger.
- Children requiring a child safety seat must not be transported in this vehicle.
- Never leave children unattended in the vehicle.
- Before leaving the vehicle unattended or performing service, Ensure the electric parking brake is engaged. Place the Drive/Reverse switch in the Neutral (N) position. Turn the key switch to the OFF position and remove the key.
- Use wheel chocks when servicing the vehicle.
- Improper operation or inadequate maintenance may result in reduced performance, serious injury, or death.
- Do not modify the vehicle in any way that affects the electrical system, stability, handling, or maximum speed.
- Unauthorized modifications may result in serious injury or death and will void the warranty.
- Ensure all safety and operational decals are properly installed, legible, and in the correct locations.
- Refer to the *Safety Decal and Feature Identification* section for details.

Service and Maintenance Safety

- Only trained technicians should service or repair the vehicle or battery.
- Individuals performing maintenance must have appropriate electrical and mechanical knowledge and follow all instructions.
- Always wear safety glasses or approved eye protection when servicing the vehicle or battery.
- Do not wear loose clothing or jewelry (e.g., rings, watches, chains) while servicing.
- Use insulated tools when working near batteries or electrical connections.
- Exercise extreme caution to avoid short circuits.
- **Do not ground any wires to the vehicle frame.**

⚠ WARNING ⚠

To avoid unintentionally starting the vehicle, place vehicle in TOW mode, disconnect the battery, and discharge the controller.

DISABLING THE VEHICLE

1. Ensure the RUN/TOW switch is set to TOW. (switch located in battery box). **DO NOT** leave the vehicle in TOW mode for an extended time period as it will drain the battery.
2. Turn the key switch to OFF and remove the key.
3. Place the D-N-R (Drive-Neutral-Reverse) control in the (N) Neutral position.
4. If servicing or repairing the vehicle, chock the wheels.



Image A

DISCONNECTING THE BATTERY

1. Turn the key switch to the OFF position
2. Turn the battery power OFF by pressing the button shown (Image B). The LED light will turn off.
3. Disconnect the battery by removing the Negative (-) cable first. (See Image C below).
4. After disconnecting the battery, wait 90 seconds for the controller capacitors to discharge.



Image B

CONNECTING THE BATTERY

1. Ensure the TOW/RUN switch is in the TOW position.
2. Connect the battery cables by connecting the Positive (+) cable first.
3. Tighten the battery terminals to 110 in/lbs (12.4 Nm).
4. Turn battery power ON by pressing button shown below. LED light will turn on as shown.

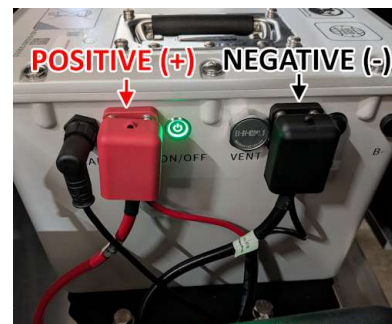


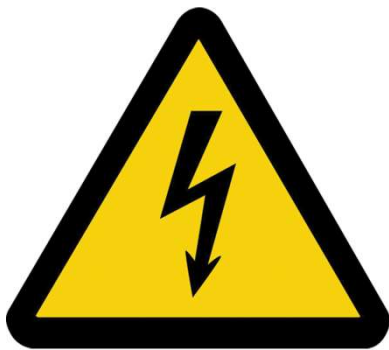
Image C

LITHIUM BATTERY RECYCLING

Lithium batteries should only be taken to an approved recycling centre which can be found through an online search.

INTERNATIONAL SAFETY SYMBOLS ON BATTERIES

Anyone using, servicing, or repairing an electric vehicle must understand and follow the safety symbols and warnings on the vehicle batteries.



DASH AND START UP PROCEDURE

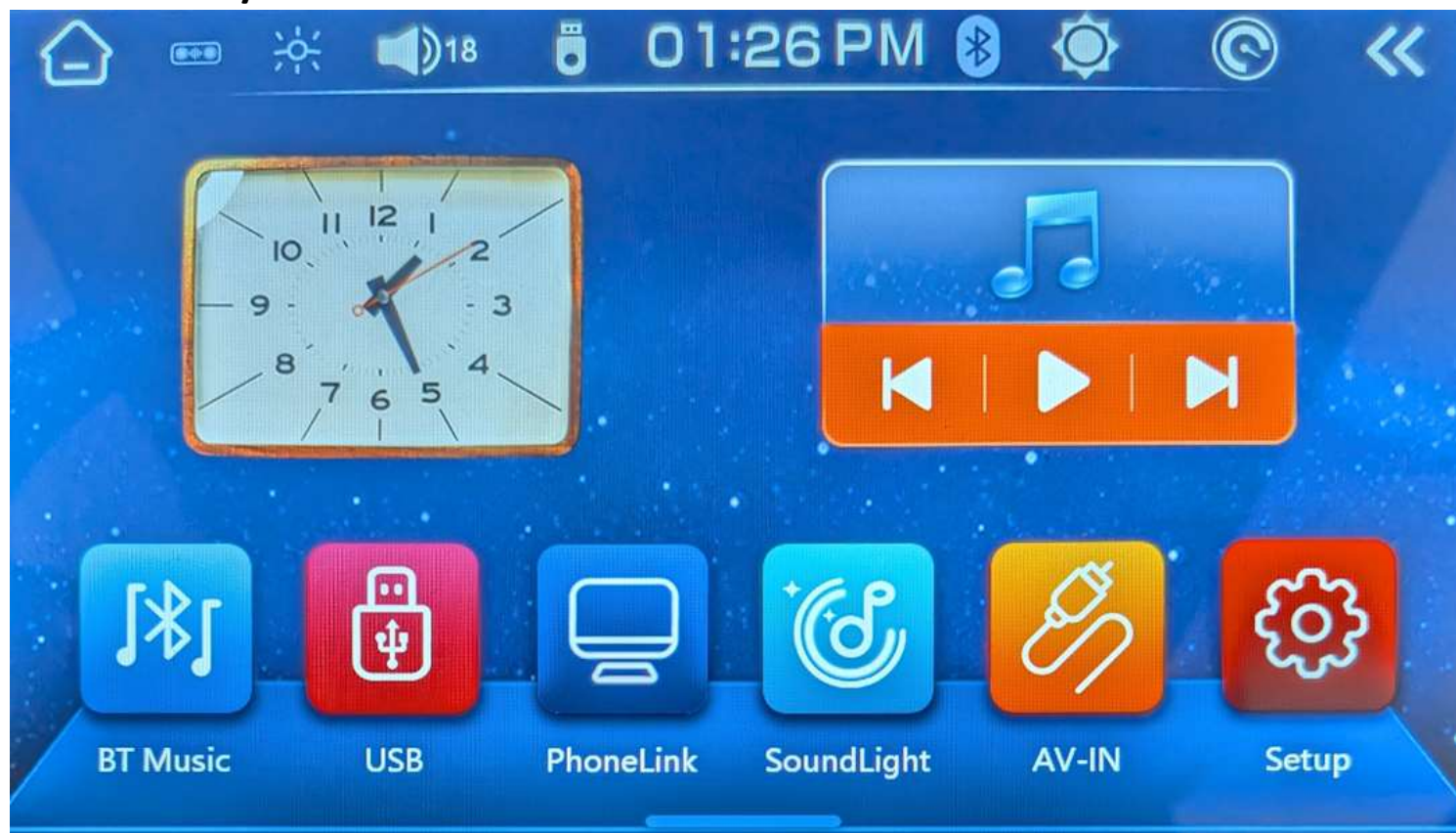


1	KEY	Two Position (Off/On)	Optional	Bluetooth Key Fob
2	SHIFT KNOB	(R) Reverse, (N) Neutral, (D) Drive	Note	Located on steering column. Place cart in (N) before turning key to ON
3	HAZARD SWITCH	Press to engage hazard lights	Note	Turn signals flash
4	USB, USB-C	Additional Phone Charging	Other	LCD Diagnostics
5	USB	Additional Phone Charging		
6	PHONE CHARGE PAD	2 Amp Wireless Charger	Note	Some Phone Cases may prevent charging
7	LCD DISPLAY	Speedometer, Battery Gauge	More	See next page for complete details



1	OPERATING POSITION	(D) Drive – (N) Neutral – (R) Reverse
2	SPEEDOMETER	MPH or KPH
3	MILEAGE	Miles or Kilometers
4	BATTERY METER	Percent to Empty - Green (100% - 23%) / (Yellow 22% - 13%) / Red (12% - 0%)
5	TIME	12 or 24 Hour
6	HEADLIGHT INDICATOR	Normal Headlights
7	HIGH BEAM INDICATOR	High Beams (Not Shown)
8	TURN SIGNAL INDICATORS	Not Shown
9	MOTOR AMPS	Active
10	HOME ICON	Access Main Menu
11	FAULT CODE	See Page 42

MAIN MENU / MULTIMEDIA



Home Button



Reserved for future use



Reserved for future use



Volume Indicator (Range 0-40)



USB Flash Drive Status



Bluetooth status Indicator



Brightness Indicator



Go to Instrument cluster

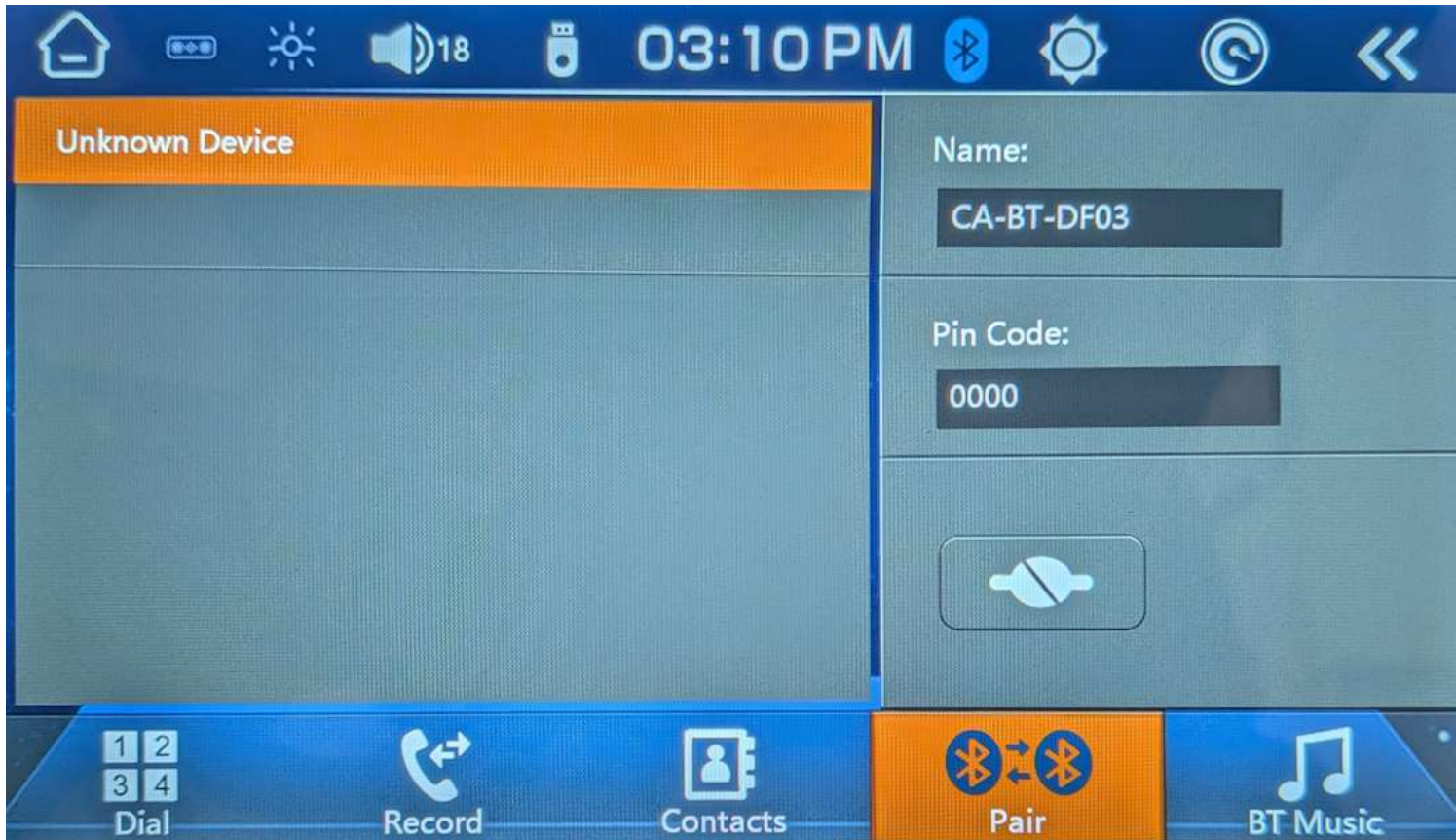


Back to Previous screen

NOTE: Some icons, apps and features may be added, removed or changed as new technology is added. Please visit the Excalibur EV website for the most up-to-date information.



BLUETOOTH

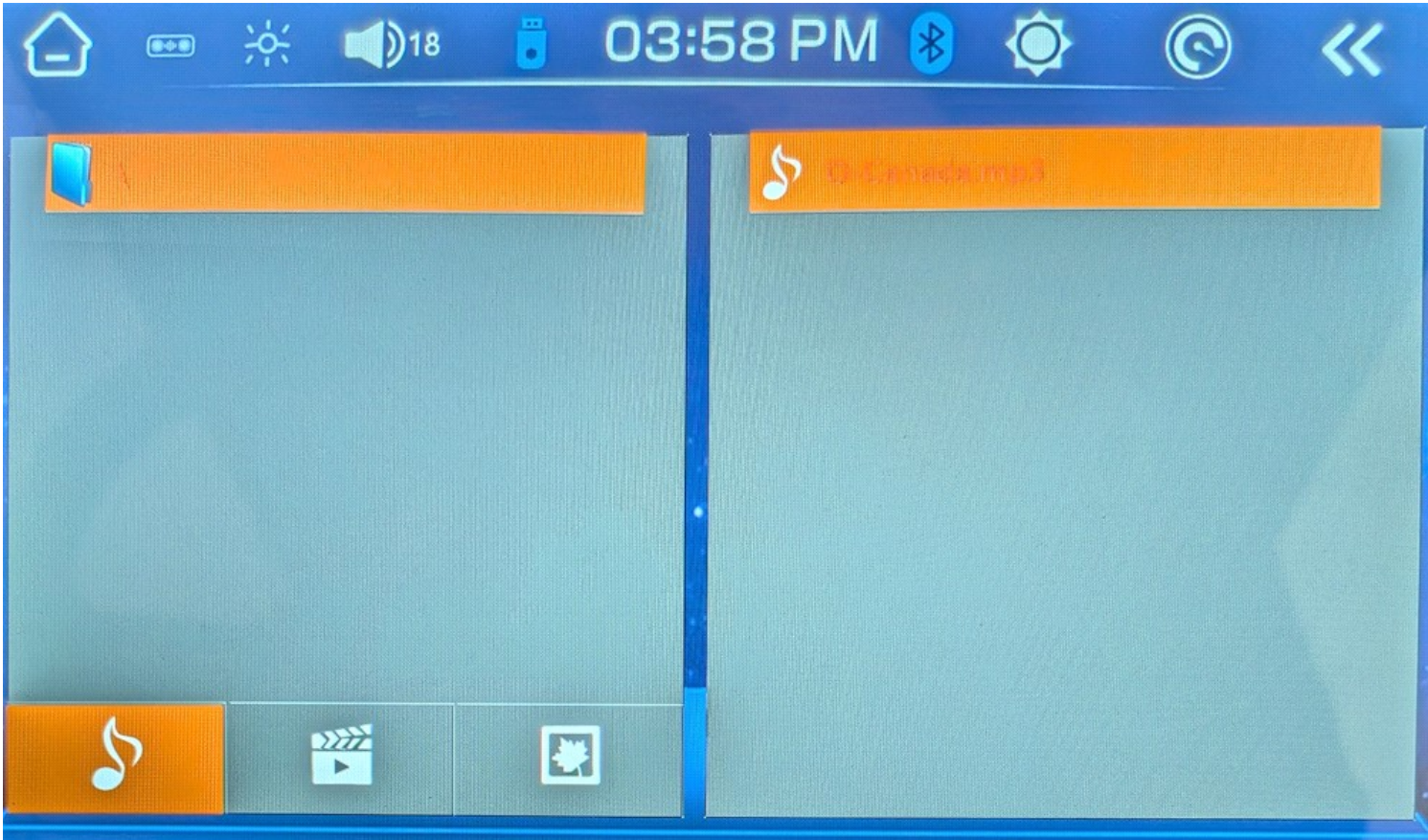


NOTE: You must first pair your device with the cart to use the various Bluetooth features.

	PAIR	Tap the pair button to enable pairing mode. Open Bluetooth settings on your phone to begin pairing with your cart. Instructions on how to pair your specific device can be found in the device’s user manual.
	DIAL	Opens the number pad to dial a phone number.
	RECORD	Access the call log.
	CONTACTS	Opens the contact list.
	BT MUSIC	Tap to open the BT Music app to play music from your device via Bluetooth.



USB



NOTE: A USB drive must be plugged in to the upper USB port to access the USB App.

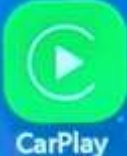
A white music note icon on an orange square background.	MUSIC	Tap to view music files. Left Pane: Navigate folders on the USB device. Right Pane: List of audio files. Tap one to begin playing.
A white clapperboard icon on a blue square background.	VIDEO	Tap to view video files. Left Pane: Navigate folders on the USB device. Right Pane: List of video files. Tap one to begin playing.
A white leaf icon on a blue square background.	IMAGES	Tap to view images. Left Pane: Navigate folders on the USB device. Right Pane: List of image files. Tap one to view.



PHONE LINK



NOTE: An iPhone or Android device must be connected via Bluetooth to access CarPlay/Android Auto

	Select to access CarPlay		Tap to access Android Auto
	Tap to mirror your iPhone screen to the display. USB-C cable connection required. Follow the on-screen instructions to access.		Tap to mirror your Android screen to the display. USB-C cable connection required. Follow the on screen instructions to access.
	Tap to mirror your iPhone screen wirelessly to the display. Follow the on-screen instructions to access.		Tap to mirror your Android screen wirelessly to the display. Follow the on-screen instructions to access.

Auto Connect: Tap the buttons to set the default mode when a corresponding device is connected.

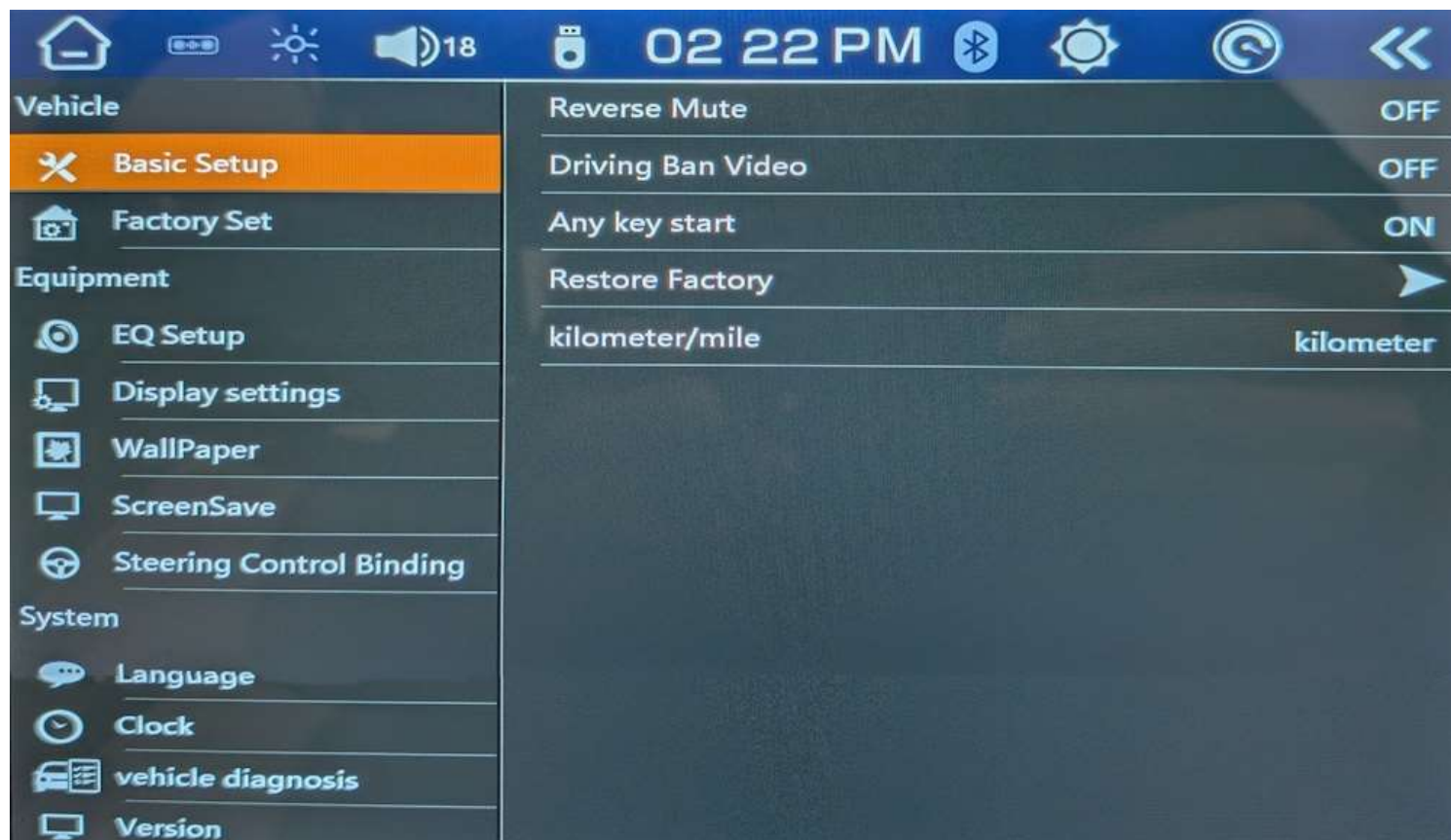


SoundLight

This application is reserved for future use.



SETTINGS



VEHICLE	
Basic Setup	
Reverse Mute	Manufacturer's use only
Driving Ban Video	Turn ON/OFF ability to watch video when the cart is being driven
Any Key Start	Manufacturer's use only
Restore Factory	Manufacturer's use only
Kilometer/Mile	Toggle between kilometers and miles
Factory Set	Manufacturer's use only – Will void warranty
EQUIPMENT	
EQ Setup	Equalizer setup
Display Settings	Display settings (brightness, contrast, hue, etc.)
Wallpaper	Screen wallpaper/background options
ScreenSave	Screensaver settings
Steering Control Binding	Manufacturer's use only
SYSTEM	
Language	Language settings
Clock	Date and time settings
Vehicle Diagnosis	Vehicle diagnostic information
Version	Version information

CONTROLS AND INDICATORS



1	Horn	Press to engage horn.
2	Lights ON/OFF	Twist forward to turn on, twist back to turn off the lights.
3	Turn Signal – Left	Push lever down.
4	Turn Signal – Right	Push lever up.
5	Hazard Switch	Press button to engage hazard lights.
6	Hi/Lo Beam	Pull toward operator to toggle Hi/Low Beams.
7	High/Low Speed	Toggle rocker switch up for High speed, down for Low speed.

SAFE DRIVING PROCEDURES

No person should operate the vehicle without first receiving proper instruction on its controls and operation. Each first-time driver must complete a supervised test drive accompanied by an experienced operator before operating the vehicle independently.

To ensure safe operation, read and understand all instructions before driving, and follow the procedures below in the order provided.

General Operating Information

- The vehicle is equipped with hydraulic four-wheel disc brakes and an electric motor brake that functions as a parking brake.
- Do not turn the key switch OFF until the vehicle has come to a complete stop. Doing so may damage the motor brake.
- Driving through water may reduce brake effectiveness. After exposure to water, test the brakes by gently applying the brake pedal. If braking performance is reduced, continue applying the brakes until normal performance returns.

Pre-Operation Checklist

1. Become familiar with all vehicle controls.
2. Ensure all occupants are properly seated and holding seat handles or handrails.
3. Read all safety and information decals on the vehicle.
4. Confirm the intended path is clear and the wheels are pointed in the desired direction.
5. Verify the Drive-Neutral-Reverse (DNR) selector is in the Neutral (N) position before turning the key or pressing the START button.

Starting and Driving the Vehicle

1. Turn the key switch to the ON position. Wait for the speedometer display to activate.
2. Select Drive (D) or Reverse (R) as needed.
3. A beeping alarm will sound when the vehicle is in Reverse (R).
4. Shift between Drive (D) and Reverse (R) only when the vehicle is completely stopped.
5. Press the accelerator pedal to begin movement.
6. Gradually increase speed by applying steady pressure to the accelerator pedal.

Stopping the Vehicle

1. Release the accelerator pedal and apply the brake pedal to bring the vehicle to a complete stop.
2. Continue holding the brake pedal until the electric parking brake engages and prevents vehicle movement.

Securing the Vehicle

1. After stopping, turn the key switch to the OFF position.
2. Place the Drive/Reverse selector in the Neutral (N) position.
3. Remove the key when the vehicle is unattended.

Parking Brake and Tow/Run Switch Operation

- When the Tow/Run switch is in the **RUN** position, the parking brake system will prevent the vehicle from rolling regardless of key or selector position.
- When the Tow/Run switch is in the **TOW** position (with the key OFF), the parking brake is released, allowing the vehicle to be moved manually.
- After towing or moving the vehicle, always return the Tow/Run switch to the **RUN** position. Failure to do so may result in battery discharge.
- If the Tow/Run switch does not release the electric brake, use the manual release lever on the electric brake to allow the vehicle to be moved.

CONTROLS AND VEHICLE OPERATION

Key Switch

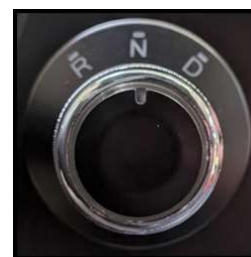
The key switch is located on the dashboard to the right of the steering column and has two positions: **OFF** (vertical) and **ON** (turned to the right).

- When the key switch is in the **OFF** position, all primary vehicle systems are disabled.
- The key can only be removed when the switch is in the **OFF** position.
- Each vehicle is supplied with two keys. Store the spare key in a secure location.

Drive / Reverse Control (DNR Switch)

The Drive/Reverse selector is located on the steering console behind the steering wheel.

- Turn the selector to the **Drive (D)** side to move the vehicle forward.
- Turn the selector to the **Reverse (R)** side to move the vehicle backward.
- When the selector is in the **Neutral (N)** position (centered), the vehicle will not operate.
- An audible alarm will sound whenever the vehicle is in **Reverse (R)**.



Accelerator Pedal

The accelerator pedal is located on the right side of the floorboard.

- When the key switch is **ON** and the DNR switch is in **Drive (D)** or **Reverse (R)**, pressing the accelerator pedal will automatically release the electric parking brake and initiate vehicle movement in the selected direction.
- Vehicle speed increases as the accelerator pedal is gradually pressed.
- Releasing the accelerator pedal cuts power to the motor and begins vehicle deceleration.

Brake Pedal

The brake pedal is the larger pedal located on the left side. Press the brake pedal to slow or stop the vehicle.

Electric vehicles use a regenerative braking system in addition to conventional braking:

Motor Regeneration (Regen):

This feature assists in controlling vehicle speed, particularly on downhill slopes.

- When traveling downhill, regenerative braking helps maintain a controlled speed based on accelerator pedal position.
- With the accelerator fully pressed, the system maintains the programmed maximum speed.
- When the accelerator is released, regenerative braking slows the vehicle progressively until it comes to a stop.

⚠ WARNING ⚠

- Do not operate the vehicle on slopes exceeding an 18% grade.

For additional information about regenerative braking features, contact your authorized dealer or distributor.

**ACCELERATOR PEDAL****BRAKE PEDAL**

⚠ WARNING ⚠

Parking Brake and Safe Operation

The electric parking brake is mounted to the motor and operates automatically.

- The parking brake **engages automatically** when the vehicle is at rest or when the key switch is turned to the **OFF** position.
- The parking brake **releases automatically** when the accelerator pedal is pressed.

Operating Safety Guidelines

- When renting or loaning the vehicle, ensure the driver is fully familiar with all controls and operating procedures before use.
- Do not shift the Drive (D)/Reverse (R) selector while the vehicle is in motion.
- Do not turn the key switch to the **OFF** position while the vehicle is moving.
- Always bring the vehicle to a complete stop before changing direction to prevent injury or vehicle damage.

Stopping and Securing the Vehicle

- Release the accelerator pedal and press the brake pedal firmly until the vehicle comes to a complete stop.
- To prevent unintended movement:
 - Place the Drive/Reverse selector in the **Neutral (N)** position
 - Turn the key switch to the **OFF** position
 - Remove the key before leaving the vehicle

NOTE: This vehicle is equipped with a low-speed noise emitter to meet Low Speed Vehicle (LSV) compliance requirements. The system emits an audible sound when the vehicle is operating below 15 mph (24 km/h). The sound automatically turns off when the vehicle exceeds 15 mph (24 km/h) and resumes when speed drops below this threshold.

CHARGE INDICATOR NOTICE

The vehicle is equipped with a digital charge indicator that displays battery state-of-charge as both a percentage and a bar graph. The indicator provides visual warnings as battery levels decrease.

Battery Low State-of-Charge Warnings

- At approximately **22%**, the charge indicator bar turns **yellow**.
- At approximately **12%**, the charge indicator bar turns **red**.
- At approximately **4%**, the charge indicator bar will no longer be visible.
- At **0%**, a **flashing red battery icon** will appear.
- When the battery reaches **0%**, the vehicle may stop abruptly.



Important:

Avoid operating the vehicle when the battery charge is below **12%** to prevent unexpected loss of power.

USB Port

The **5V / 2.1A USB port** located on the right side of the dashboard provides power for charging portable electronic devices. This port is not designed for data transfer.

High / Low Speed Switch

The High/Low speed selector switch is located on the left side of the dash below to the Hazard Switch:

Speed Settings:

- **High Speed Mode:** Maximum speed of 35 km/h
- **Low Speed Mode:** Maximum speed of 25 km/h



LOCKING DASH COMPARTMENT DOORS

Insert key and turn clockwise to unlock, counterclockwise to lock. Push the lock in to open the door when in the unlocked position.



LOCKING REAR TRUNK (EV-X4, EV-X6)

Insert key and turn clockwise to unlock, counterclockwise to lock. When in the unlocked position, lift the lid to open.



REAR USB-C (EV-X6)

Located near the seat back support brackets.



PRE-OPERATION AND DAILY SAFETY CHECKLIST

Each vehicle is thoroughly inspected and adjusted at the factory prior to shipment. Upon delivery, the operator or owner should become familiar with all controls, indicators, and operating procedures.

Before accepting the vehicle, perform a careful inspection to verify that it is in proper working condition.

Inspection Guidelines

- Use the following checklist as a guide when inspecting the vehicle.
- Perform this inspection daily to ensure continued safe operation.
- Refer to the *Periodic Service Schedule* (page 34) and *Vehicle Specifications* (page 41) for additional requirements.

Service and Maintenance

- Any issues identified during inspection must be corrected by a trained Excalibur EV technician.
- If the vehicle is not functioning properly, remove it from service immediately.

Operating a vehicle that is not in proper working condition may result in further damage, unsafe operation, or risk of injury.

BATTERY

Fully charge the battery prior to first use of the vehicle. Inspect Battery posts. Battery cables should be tight and free of corrosion. If the posts are loose, torque the nuts to 110 in. lbs.

CHARGER

Check the cord, plug and receptacle for cracks, loose connections and frayed wiring.

Ensure the battery and the charger are both secure and cannot move within the compartment.

IMPORTANT:

- **The vehicle is not fully charged until the charger fan shuts off.**
- **DO NOT use a generator to charge the vehicle.**
- **DO NOT use an extension cord over 12ft. in length.**
- **ONLY use a 12ga. or larger extension cord if necessary.**

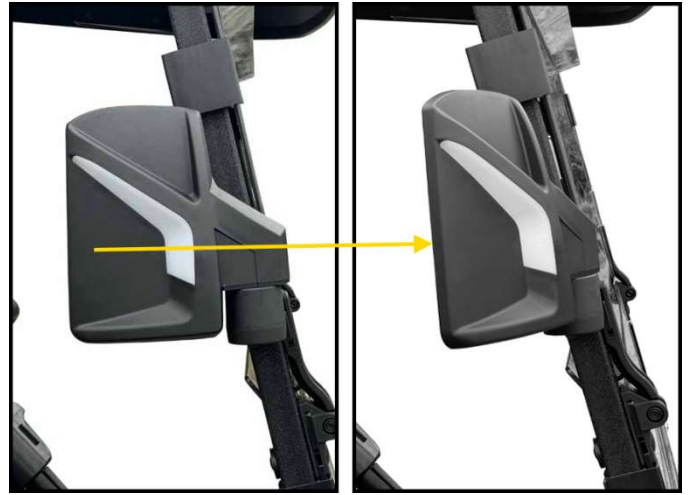
WARNING

Ensure all protective plastic has been removed from the vehicle before operating. Failure to do so may result in a fire, property damage, personal injury, or death.

MIRROR ADJUSTMENT

Gently push or pull the mirror toward or away from the desired position.

NOTE: These mirrors are “breakaway” style which means there will be some designed resistance when adjusting.

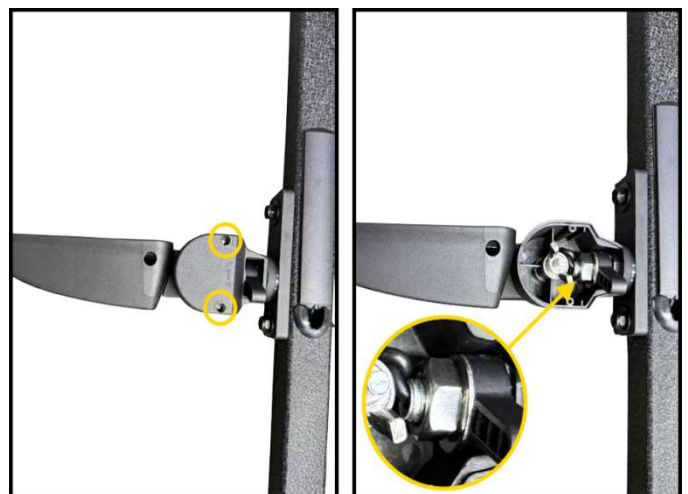


These mirrors can also be adjusted up or down by flipping the switch at the underside of the mirror arm as shown.



If the mirror becomes loose, use a #1 Phillips head screwdriver to remove the screws on the bottom cover.

Adjust the 10mm locking nut with a 17mm wrench.



Daily Pre-Operation and Safety Inspection

Use the following checklist in conjunction with the *Daily Pre-Operation and Safety Checklist* to verify proper vehicle operation before each use. Any issues identified must be corrected by an authorized Excalibur EV distributor/dealer or a trained technician.

Drive/Reverse Switch

- Verify proper operation of the Drive (D), Neutral (N), and Reverse (R) positions.
- Confirm the reverse warning buzzer sounds when in Reverse (R).

Brakes

- Apply moderate pressure to the brake pedal; the vehicle should stop smoothly and in a straight line.
- The brakes should not cause the vehicle to swerve, stop abruptly, or produce grinding or squeaking noises.
- Continued moderate pressure should be capable of locking the wheels.
- Light pressure should allow gradual, controlled deceleration.

Parking Brake

- When the vehicle is stopped or turned off, the parking brake should hold the vehicle stationary on inclines up to 18%.
- The parking brake should release automatically when the accelerator is pressed.

Steering

- Steering should be smooth and responsive with no excessive play in the steering wheel.

General Condition

- Listen for unusual noises such as squeaks or rattles.
- Evaluate overall ride quality and performance.
- Investigate any abnormal operation immediately.

Tires

- Check that all tires are properly inflated to **20 psi**.

Charge Port

- Ensure the charging cord is disconnected from the vehicle before operation.

Accelerator Function

- With the key switch in the **ON** position and the DNR switch in **Drive (D)**:
 - Pressing the accelerator should start the motor and provide smooth acceleration to full speed.
 - Releasing the accelerator should return it to its original position and engage regenerative braking.
- Note: Vehicle speed is reduced when operating in Reverse (R).

WARNING

Motor Braking (Regenerative Braking) Check - Perform this check in a safe, controlled environment.

- When descending an incline with the accelerator fully pressed, the vehicle should reach its programmed maximum speed, after which motor braking will engage to limit speed.
- On steep grades, the vehicle may slightly exceed maximum speed; use the brake pedal as needed.
- When traveling downhill with partial accelerator input, motor braking should maintain a speed proportional to pedal position.
- On a level surface, accelerate to full speed and release the accelerator. The vehicle should either slow smoothly to a complete stop or coast gradually, depending on controller settings.

Performance Inspection

After becoming familiar with the vehicle controls and reviewing all operating instructions, conduct a test drive to confirm proper vehicle performance.

WARNING

- Only properly licensed drivers are permitted to operate the vehicle.
- When renting or loaning the vehicle, ensure the driver understands all controls and operating procedures before use.
- Do not exceed two occupants per bench seat. Passengers must not ride in the bag well.
- This vehicle is not specifically designed for use by persons with disabilities. Confirm that all drivers are capable of safely operating the vehicle before use.
- Ensure all passengers are able to properly secure themselves before allowing them to ride.
- For nighttime operation, headlights and taillights must be used in accordance with applicable local laws.
- Bring the vehicle to a complete stop before shifting the Drive/Reverse switch. Failure to do so may result in passenger injury and/or damage to the vehicle or motor brake.
- Do not turn the key switch to the OFF position while the vehicle is in motion.
- To reduce the risk of being struck, do not stand directly in front of or behind the vehicle.
- Operate the vehicle only from the driver's seat.
- To prevent falls, all occupants must remain seated while the vehicle is moving and hold onto handholds or handrails. The driver must keep both hands on the steering wheel while in motion.
- Keep all body parts inside the vehicle at all times to reduce the risk of serious injury.
- Never leave children unattended in the vehicle.
- To reduce the risk of rollover, drive slowly and only travel straight up or down slopes. Do not operate the vehicle across slopes exceeding an 18% incline.
- Avoid sudden starts, stops, and sharp turns to prevent injury to passengers and damage to the vehicle.
- Reduce speed when operating on wet, uneven, or otherwise hazardous terrain to maintain control of the vehicle.
- **Do not operate the vehicle on public roads unless it is DOT-compliant, properly registered, and insured in accordance with local and state laws.**
- Follow all local regulations governing golf carts and/or Low Speed Vehicles.
- Operate the vehicle only in designated areas and by trained drivers.
- Do not operate the vehicle under the influence of alcohol, drugs, or medications.
- Reduce speed when turning to prevent loss of control or rollover.
- Use the brakes to control speed when traveling downhill.
- This vehicle is not intended for use in environments where falling objects may be present. Contact your dealer if use in such conditions is required.
- Do not operate the vehicle under low-clearance obstacles such as tree limbs, bridges, or tunnels less than 80 inches (203 cm) above ground level.
- Do not use a mobile phone while operating the vehicle.
- Always wear seat belts while operating the vehicle.

⚠ WARNING ⚠

- Avoid towing the vehicle on public streets or highways whenever possible.
- Before towing, turn the key switch to the OFF position, place the Drive/Reverse switch in NEUTRAL, and set the vehicle to TOW mode.
- If the vehicle is inoperable:
 1. Set the Tow/Run switch to the TOW position; otherwise, the vehicle will not roll during towing.
 2. A- If the battery is fully discharged, the vehicle may not move even in TOW mode.
B- Pull the motor brake release lever toward the front of the vehicle to disengage the brake (reset the lever after parking).
- Use extreme caution when towing any vehicle.
- Do not exceed a towing speed of 5 mph (8 km/h).
- Do not allow occupants in the vehicle while it is being towed.
- Avoid abrupt starts, stops, and sharp turns during towing.
- Avoid stopping on inclines while towing. If stopping on a hill is unavoidable, do not allow the vehicle to roll backward or restart abruptly, as this may cause a rollover and result in serious injury.
- Do not tow more than one Excalibur EV with another Excalibur EV. If multiple vehicles must be towed, use a properly equipped and adequately powered vehicle (such as a tractor or full-size truck) with a tow hitch height of 11 inches (28 cm). Use only heavy-duty tow bars for multi-vehicle towing, and never tow more than five vehicles at once.
- Keep clear of the space between the towing vehicle and the vehicle or trailer being towed.
- Do not attach tow straps to brake cables, wiring harnesses, or plastic components.
- Attach tow straps only to structural frame members or the front suspension.

⚠ WARNING ⚠

- When transporting on public roads, the trailer must comply with all applicable federal, state, and local regulations, including proper lighting such as taillights and brake lights.
- Before towing, turn the key switch to the OFF position, place the Drive/Reverse switch in NEUTRAL, and set the vehicle to TOW mode. When secured on a trailer, the vehicle should be placed in RUN mode to prevent movement.
- If the vehicle is inoperable:
 1. Set the Tow/Run switch to the TOW position; otherwise, the vehicle will not roll.
 2. A- If the battery is fully discharged, the vehicle may not move even in TOW mode.
B- Pull the motor brake release lever toward the front of the vehicle to disengage the brake (reset the lever after parking).
- Do not tow the vehicle behind a passenger vehicle or truck on public roads unless it is properly loaded onto an approved trailer.
- Ensure the vehicle is securely fastened to the trailer, with the Drive/Reverse switch in NEUTRAL and the key switch in the OFF position.
- Do not allow passengers in the trailer or in the vehicle being transported.
- Avoid sudden starts, stops, and sharp turns while towing.
- Avoid stopping on inclines while towing. If stopping on a hill is necessary, avoid sudden starts or rollback followed by abrupt stopping, as this may result in vehicle overturn and serious injury.
- Reduce normal driving speed of the tow vehicle when towing a trailer.
- Use caution when turning, as the added trailer length increases turning radius.
- Remove the windshield and secure the seat bottom before transporting the vehicle on a trailer.
- Keep clear of the area between the tow vehicle and the trailer or transported vehicle.
- For long-distance transport or highway use, the vehicle must be carried on an approved trailer with a minimum load rating of 544kg (1200lbs) per vehicle.
- Secure the vehicle only at the frame or other solid structural points. Do not attach straps to plastic body panels or seats.
- Do not place straps across seats or floorboards.

NOTE: A two-vehicle trailer must have a minimum capacity of 1088kg (2400lbs).

⚠ WARNING ⚠

- If the vehicle is going to sit idle for 7 or more days, turn the key to the OFF position, remove the key and set the Drive/Reverse selector to the Neutral (N) position for storage. **Turn the battery OFF.**
- **DO NOT switch the vehicle into TOW mode during storage as this will draw down the battery.**

⚠ CAUTION ⚠

- Do not attempt to charge batteries when the temperature is below 0°C or if the batteries are frozen.
- Ensure batteries are fully charged prior to storage.
- **To avoid exposing electrical components to moisture and subsequent damages, do not use any type of pressure washing or steam cleaning equipment to wash the vehicle.**



PREPARING THE VEHICLE FOR EXTENDED STORAGE

Prior to storing the vehicle, perform the following steps:

1. Position the vehicle so that the tires support only the vehicle's weight.
2. Turn the key switch to the OFF position, remove the key, and leave the Drive/Reverse switch in the NEUTRAL position during storage.
3. Press the battery power button to turn the battery OFF.
4. Switch off all accessories, including GPS units, fans, and other electronic devices.
5. Chock the wheels to prevent any unintended movement.
6. Ensure the battery is clean and free from corrosion.
7. Verify all battery cable connections are secure and tightened to 110 in·lb (12.4 N·m).
8. Store the vehicle in a cool, dry environment to reduce battery self-discharge.
9. Adjust tire pressure to the recommended range of 18–21 psi.
10. Perform semiannual lubrication as part of routine maintenance.
11. Thoroughly clean the front body, rear body, seats, battery compartment, and underside of the vehicle.
12. If disconnecting the battery for storage, remove the negative (-) battery cable and secure it to prevent contact with the battery terminal.
13. If the battery is turned OFF, disconnecting the cable is not required.



⚠ CAUTION ⚠

Please refer to battery specifications for discharge rate. The battery may need to be re-charged if storage period is longer than 4 months.

LITHIUM ION BATTERY STORAGE

⚠ WARNING ⚠

- It is recommended to fully charge the battery pack prior to placing the vehicle in storage.
- For storage periods of less than one month, the battery State of Charge (SOC) should be at least 60%. For storage periods up to 6 months, the SOC must be at least 80%.
- Verify that the battery power switch is turned OFF (not pressed in and not illuminated).
- The battery must not be exposed to temperatures below -20°C (-4°F) or above 55°C (131°F).
- When stored outside the temperature range of 0°C to 30°C (32°F to 86°F), the battery may discharge more rapidly.
- Monitor the State of Charge periodically, as storing the battery at a low charge level may cause damage.
- After removing the vehicle from storage, press the battery power button and check the State of Charge.
- **If the battery temperature is below 0°C (32°F), do NOT attempt to charge the battery. Charging at or below freezing temperatures may damage the battery and create a fire hazard. Do not leave the charge cord plugged in.**

RETURNING THE VEHICLE TO SERVICE FROM STORAGE

1. Connect the battery if necessary.
2. Press the battery button to turn the battery ON. LED will illuminate.
3. Fully charge the battery regardless of the state of charge shown on the vehicle's display. Additional charge cycles may be necessary for the battery to regain full range.

⚠ WARNING ⚠

DO NOT attempt to charge frozen batteries and/or batteries with bulged cases. Frozen batteries can explode and must be discarded.

4. Adjust tire pressure to the recommended value (18-20 psi).
5. Complete the **Pre-Operation and Daily Safety Checklist (Page 24-26)**.

MAINTENANCE

To ensure reliable and trouble-free operation, it is essential to follow a structured preventive maintenance program. Regular maintenance helps minimize vehicle downtime and reduces the likelihood of costly repairs caused by neglect.

Use the *Pre-Operation and Daily Safety Checklist* to maintain the vehicle in proper working condition.

Any vehicle that is not operating correctly must be taken out of service until all necessary repairs are completed. This helps prevent further damage and reduces the risk of injury due to unsafe conditions.

Contact your local Excalibur EV distributor/dealer to perform all repairs, as well as semiannual and annual scheduled maintenance.

- **If any issues are identified during inspection or service, do not operate the vehicle until repairs have been completed. Failure to address necessary repairs may result in fire, property damage, serious injury, or death.**
- **Only qualified technicians should perform service or repairs on the vehicle or battery charger. Individuals performing even minor service must have appropriate electrical and mechanical knowledge and follow all applicable instructions for maintenance, service, and accessory installation.**

NOTE

- **Do not attempt to service a hot motor or serious injuries could occur.**
- **Turn off the battery and discharge the controller to avoid unintentionally starting the vehicle.**

⚠ WARNING ⚠

Service, repairs, and adjustments must be performed in accordance with the procedures outlined in the maintenance and service manual.

If the vehicle is regularly exposed to heavy use or harsh operating conditions, preventive maintenance should be carried out more frequently than specified in the periodic service and lubrication schedules.

Both the Periodic Service Schedule and the Periodic Lubrication Schedule must be followed to ensure the vehicle remains in optimal operating condition.

PERIODIC SERVICE SCHEDULE		
INTERVAL	SERVICE	
Daily (By Owner)	Pre-Operation and Daily Safety Checklist	Pre-Operation and Daily Safety Checklist (page 24-26).
	Battery	Charge battery (after each use).
Monthly (By Owner or Trained Technician)	Battery	Ensure all connections are secure.
	Tires	Check pressure and adjust if necessary to 18-20 psi.
	General	Wash vehicle including underside. DO NOT use a pressure washer under seats or directly on the display.
Initial - After 6 weeks of use	Battery	Perform General Safety Inspection.
Semi-Annual – 50 hrs. of use (By Trained Technician Only)	Brake System	Inspect brake pads and replace if necessary.
		Check brake fluid level.
		Check brake components and lines for leaks.
		Check brake pedal linkage adjustment.
	Electrical Wiring and Connections	Ensure connections are secure and inspect for damage. Tighten and/or replace as necessary.
	Front Wheel Alignment and Camber	Check and adjust as needed.
Annual – 100 hrs. of use (By Owner or Trained Technician)	Battery	Manually check all connections.
	Safety Decals	Check safety decals and replace if damaged or illegible.
Annual – 100 hrs. of use (By Trained Technician Only)	Battery	Verify battery is performing as normal.
	Pedal Group	Ensure pedals move freely and do not bind.
	General	Check for loose hardware and tighten as necessary.

⚠ WARNING ⚠

If any issues are discovered during scheduled inspection or service, discontinue operation of the vehicle until the issues have been corrected. Failure to correct any issues could result in fire, property damage, personal injury, or death.

⚠ WARNING ⚠

- Only qualified technicians should service or repair the charger. Contact your nearest authorized Excalibur EV distributor/dealer.
- This appliance is not intended for use by individuals (including children) with reduced physical, sensory, or mental capabilities, or those lacking experience and knowledge, unless they are supervised or instructed by a person responsible for their safety. Children must be supervised to ensure they do not play with the equipment.
- Do not operate the charger if it has been subjected to impact, dropped, or damaged in any manner.
- Replace any worn, cut, or damaged power cords or wiring immediately.
- Do not use the charger near fuels, grain dust, solvents, thinners, or other flammable materials, as chargers may ignite vapors or combustible substances.
- Do not expose the charger to rain or liquids. Keep it dry at all times.
- Do not connect the charger to a receptacle if the cord, plug, or vehicle receptacle is damaged, defective, or does not provide a secure electrical connection. This may result in fire or personal injury. Have any damaged components replaced by a qualified technician.
- When disconnecting the charger while it is operating, remove the DC cord from the vehicle receptacle slowly. Pulling it out abruptly may cause arcing or burning, which can damage components or create a risk of battery explosion.
- **Do not attempt to charge the vehicle using a generator or any alternative charging method.**
- Do not cover the charger cooling fins or allow clothing, blankets, or other materials to obstruct airflow. The fins are designed to dissipate heat and prevent overheating.
- Cooling fins may become hot during operation. Do not touch.

⚠ CAUTION ⚠

The battery charger supplied with this vehicle is designed for use only with the original battery type provided. Using a different battery (brand, capacity, or type) may result in improper charging, leading to battery damage unless the charger is reprogrammed with the correct charging profile. Excalibur EV recommends using only OEM replacement batteries. Contact your authorized Excalibur EV dealer/distributor for questions regarding battery compatibility or charger programming updates.

DIAGNOSTIC PORT

The charger is equipped with a USB port intended for use by authorized Excalibur EV technicians for data transfer, system configuration, and software updates. Ensure the USB port cover is installed whenever the port is not in use.



Diagnostic Service Port Cleaning and Care

Depending on environmental conditions (such as coastal areas or open-air storage), contaminants may accumulate in the USB port and affect connectivity. If a poor connection is encountered, clean the USB port located on the front of the charger using an approved electrical contact cleaner to restore proper function.

Always reinstall the USB port dust cover after cleaning or servicing.

Following cleaning, apply dielectric grease into the port cavity or use Corrosion Block® corrosion preventative to help reduce the risk of future contamination.

CHARGER AC CORD

⚠ WARNING ⚠

- Surge protection devices are recommended to help protect charger and vehicle electrical components from voltage spikes, except in the case of direct or nearby lightning strikes.
- The electrical outlet must be a dedicated 15 or 20 amp single-phase branch circuit, protected by a circuit breaker or fuse, and compliant with all applicable local electrical codes.
- Connect the charger AC cord to a properly grounded three-prong outlet within the voltage and frequency specifications indicated on the charger.
- Do not use adapters to connect a three-prong plug to a two-prong outlet. Improper grounding may result in electric shock.
- Route all cords to prevent tripping hazards and protect them from damage or strain.
- Do not use a generator to charge the battery.

WARNING CONTINUED ON NEXT PAGE

To reduce the risk of electric shock, the charger must be properly grounded. The AC cord includes a grounding conductor and a grounding-type plug. This plug must be connected to a correctly installed and grounded receptacle in accordance with the National Electrical Code and all applicable local regulations.

The use of an extension cord is not recommended. If an extension cord must be used, observe the following:

⚠ WARNING ⚠

The extension cord and outlet must be compatible with a three-prong plug. The cord should be a three-wire No. 12 AWG (American Wire Gauge) or No. 14 (British Standard Wire Gauge) and kept as short as possible (maximum 12 ft / 3.7 m). Use of an improper extension cord may result in fire or electric shock.

PLUG AND RECEPTACLE

The charger cord, plug, and receptacle are subject to wear and should be inspected daily. Check for cracks, loose connections, or frayed wiring. Replace any damaged components immediately. If corrosion is present or the plug is difficult to insert or remove, inspect for worn or bent pins. Clean contacts and terminals using an appropriate electrical contact cleaner or a light application of WD-40® spray lubricant. Insert and remove the plug several times to ensure smooth operation and proper electrical contact.

⚠ WARNING ⚠

- **If charger cord pins are worn or bent, the plug must be replaced immediately. Do not attempt to repair the plug or straighten bent pins. Contact your local Excalibur EV dealer/distributor for replacement.**
- **Disconnect the AC cord prior to lubricating the plug and receptacle**

CHARGER MOUNTING

The charger comes mounted in the cart to ensure ambient temperature during charging remain below 40 °C.

CHARGER INTERLOCK

While the charger DC cord is connected to the vehicle, the vehicle control system is disabled, preventing operation. This protects both the charger and the vehicle from potential damage.

AC INPUT VOLTAGE DETECTION

The charger automatically senses the AC input voltage and operates at full capacity when the voltage is within the 100 to 240 VAC range. The charger will also function outside this range, from 85 VAC to 270 VAC; however, charging times may be extended. The charger will not operate if the input voltage falls outside the 85 to 270 VAC range.

LONG-TERM STORAGE

For long-term storage, it is recommended to turn the battery OFF. The charger will not operate unless the battery is turned ON.

CHARGING THE BATTERY

Ensure all wiring connections at the receptacle are clean and securely fastened.

- Do not rock or bend the plug. When connecting the charger, grasp the plug handle and insert it straight into the vehicle receptacle.
- Do not pull on the DC cord. Avoid twisting, rocking, or bending the plug. Grasp the plug by the handle and pull it straight out to disconnect the cord. The receptacle cover on the vehicle must be lifted before removing the plug.
- Do not connect the charger if the cord, plug, or vehicle receptacle is damaged, defective, or does not provide a secure connection. This may result in fire or personal injury. Have any damaged components replaced immediately by a qualified technician. Failure to follow these instructions may result in damage to the charger cord, plug, and/or vehicle receptacle.
- Do not charge the battery if the battery temperature is below 0°C. Charging at temperatures below this level may cause permanent battery damage.
- Do not use the charger if any of the following conditions are present:
 - The plug is loose or does not fit securely.
 - The plug or receptacle becomes excessively hot during charging.
 - The plug pins or receptacle contacts are bent or corroded.
 - The plug, receptacle, or cords are worn, cut, have exposed wires, or show any signs of damage.
- Operating the charger under any of the above conditions may result in fire, property damage, serious injury, or death.

⚠ CAUTION ⚠

- On all vehicles, turn off all accessories before charging the battery.
- The battery charger supplied with this vehicle is designed for use only with the original battery type. Using a different battery (brand, capacity, or type) may result in improper charging, which can damage the battery unless the charger is reprogrammed with the appropriate charging profile. Excalibur EV recommends using only OEM replacement batteries. Contact your authorized Excalibur EV dealer/distributor for questions regarding battery compatibility or charger updates.

NOTE: The battery temperature is highest immediately after use, and colder batteries require additional time to fully charge. Batteries should be charged after each use, even if used only briefly (e.g., 9 holes of golf or approximately 10 minutes of operation).

BATTERY CHARGING PROCEDURE

1. Connect the charger output to the vehicle battery. If equipped with a plug and socket, ensure the connection is fully seated and secure.
2. Connect the charger AC input to a 16 A / 120V outlet. Once connected, the charger will automatically begin the charging process, indicating proper connection. Charging will stop automatically when the battery is fully charged, and the charger fan will turn off at the end of the charging cycle.
3. Any extension cord or outlet used must be compatible with a three-prong plug. The extension cord should be a three-wire No. 12 AWG (American Wire Gauge) or No. 14 (British Standard Wire Gauge), and should be kept as short as possible (maximum 12 ft / 3.7 m). Use of an improper extension cord may result in fire or electric shock.

NOTE: The charge cord includes a red LED indicator to show that power is present. This light does NOT indicate battery charge status and will remain illuminated whenever the cord is energized.

LOW SPEED NOISE EMITTER

1. This vehicle is equipped with a Low Speed Noise Emitter to meet LSV compliance requirements. The sound turns off at speeds above 24 km/h and automatically reactivates when speed drops below 24 km/h.
2. The purpose of this device is to alert pedestrians to the presence of the vehicle, particularly at low speeds when the vehicle operates quietly.
3. Do not disconnect or disable this device, as doing so will result in loss of LSV compliance status.

CLEANING THE VEHICLE

Excalibur EV vehicles are designed with front and rear bodies that can be cleaned by hand. For routine cleaning, use commercially available automotive cleaners with a sponge or soft cloth. A standard garden hose with typical residential water pressure is sufficient.

The manufacturer does not recommend the use of pressure washers or steam cleaning. These methods can force moisture into electrical components, potentially causing water damage and component failure.

Use only non-abrasive automotive wax products. Substances such as battery acid, fertilizers, tar, asphalt, creosote, paint, or chewing gum should be removed promptly to prevent staining. See the following CAUTION.

⚠ CAUTION ⚠

- The use of polishing or rubbing compounds may permanently dull the vehicle's finish.
- Do not apply wax to black plastic components, including the front and rear underbody, front bumper, or textured rear surfaces, as this may cause discoloration.

Vehicle seats will have a longer service life when properly maintained. Clean using a solution of 10% liquid soap and warm water applied with a soft cloth. For embedded dirt, a soft-bristle brush may be used. For heavy soiling, difficult stains, scratches, or other damage, refer to the appropriate maintenance and service manual.

NOTE: Dispose of wastewater in accordance with local regulations.

⚠ WARNING ⚠

- Windshields and weather enclosures do not provide protection from flying debris (e.g., golf balls, etc.).

SPECIFICATION	EV-X (2 + 2)	EV-X4 (4 FORWARD)	EV-X6 (6 PASSENGER)
POWER			
Drive Motor: 5kw AC motor, 6.8hp	✓	✓	✓
Transaxle: Double reduction helical gear with 12.3:1 direct drive axle	✓	✓	✓
Electrical System: Battery output – 48V DC through controller inverter to 48V AC	✓	✓	✓
Battery: 105ah Lithium Ion battery	✓	✓	✓
Charger: Enpower Ch 4200 Series Smart Charger 15a, 48V	✓	✓	✓
STEERING / SUSPENSION / BRAKES			
Suspension: Independent double A-arm front with coil over stocks. Dual leaf spring rear with hydraulic shocks	✓	✓	✓
Brakes: 4 Wheel Hydraulic Disc	✓	✓	✓
Parking Brake: Electromagnetic Motor Brake	✓	✓	✓
Front Disc Brake Size: 200mm or 225mm	200mm	200mm	200mm
Rear Disc Brake Size: 200mm or 225mm	200mm	200mm	225mm
BODY / CHASSIS			
Frame / Chassis: Aluminum, Steel or Both	ALUMINUM	BOTH	BOTH
Front and Rear Body: Polypropylene	✓	✓	✓
Lug-Nut Torque: (Front and Rear Wheels)	55 ft. lbs. (± 5.0) / 67.8 – 81.3 N·m		

DIMENSIONS / WEIGHT	EV-X (2 + 2)	EV-X4 (4 FORWARD)	EV-X6 (6 PASSENGER)
Overall Length	9ft. 8in. w/rear seat	8ft. 10in.	11ft. 8 in.
Overall Width	49.5in.	49.5in.	49.5in.
Overall Height (with Canopy)	80.3in. with 23in. tires	79.5in. with 22in. tires	78.25in. (72in. Lowered)
Wheelbase	67.5in.	72.5in.	104.5in.
Ground Clearance	6.5in.	6.5in.	6.5in.
Weight (Standard vehicle with canopy, without batteries)	470kg(1036lbs)	510kg(1124lbs)	563kg(1240lbs)
Forward Speed	32 to 40 km/h (15 to 25 mph)		
Standard Seating Capacity	4	4	6
Trans-axle Gear Ratio	12.31:1		
Front and Rear Tire Pressure	18 to 20 psi (124 to 138 kPa)		

CODE	FAULT DESCRIPTION	FAULT CAUSE	CORRECTIVE ACTION
65F	Power on sequence error	1. Press the accelerator while turning on the key switch. 2. Poor contact of accelerator accessories. 3. Accelerator wiring error. 4. The accelerator signal and controller do not match.	1. Release the accelerator and restart the key switch. 2. Repair the accelerator circuit.
66F	B+ Main circuit fault	1. The main contactor inside the controller is faulty. 2. Abnormal connection of B+ terminal. 3. The B+ fuse is blown.	1. Restart the key switch. 2. Replace the controller. 3. Replace the B+ fuse.
67F	Output line fault	1. The motor is short circuited. 2. The internal power tube of the controller is damaged.	1. Replace the motor. 2. Replace the controller.
68F	Controller over-temperature	1. The controller's temperature is exceeding its limit, resulting in limited functionality. 2. The external temperature is too high. 3. Poor heat dissipation of the controller. 4. Vehicle overload operation.	Lower the temperature of the controller to below 85° and restart the key switch.
69F	Main contactor failure	1. The main contactor inside the controller is faulty. 2. Abnormal connection of B+ terminal. 3. The B+ fuse is blown.	1. Restart the key switch. 2. Replace the controller. 3. Replace the B+ fuse.
6AF	Current sensor fault	1. Abnormal UVW circuit. 2. The current sensor in the controller fails.	1. Repair the UVW circuit. 2. Replace the controller.
6BF	Encoder failed	1. The motor is blocked. 2. The motor encoder is faulty.	1. Restart the key switch. 2. Replace the motor encoder.
6CF	CAN communication timeout	CAN communication line malfunction.	Repair the CAN communication circuit and restart the key switch.
6DF	Battery under-voltage	1. The battery voltage is too low. 2. The rated voltage of the battery does not match the controller. 3. Battery parameter setting error. 4. The internal resistance of the battery is too high. 5. Abnormal battery connection.	1. Repair or replace the battery. 2. Reset the battery parameters. 3. Repair the battery circuit connection.
6EF	Battery over-voltage	1. The battery voltage is too high. 2. The rated voltage of the battery does not match the controller. 3. Battery parameter setting error. 4. The internal resistance of the battery is too high. 5. Abnormal battery connection.	1. Repair or replace the battery. 2. Reset the battery parameters. 3. Repair the battery circuit connection.
6FF	Motor over-temperature	1. The motor temperature is too high. 2. The motor temperature threshold setting is incorrect. 3. The motor temperature sensor and controller do not match.	1. Reduce the motor temperature. 2. Reset the motor temperature threshold parameters. 3. Replace the motor temperature sensor.
70F	EEPROM fault	Internal EEPROM fault in the controller.	1. Restart the key switch. 2. Replace the controller.
71F	Accelerator malfunction	1. Accelerator connection error. 2. Poor contact of the accelerator. 3. The accelerator does not match the controller. 4. The accelerator is damaged.	1. Restart the key switch. 2. Repair or replace the accelerator.
73F	Electromagnetic brake failure/damage	1. The electromagnetic brake is damaged. 2. The electromagnetic brake circuit is short circuited.	1. Replace the electromagnetic brake. 2. Repair the electromagnetic brake and restart the key switch.
77F	Do not drive while charging	After the controller is powered on, it is detected that the vehicle is charging.	Unplug the charger and restart the key switch.
7BF	Current exceeding limit	1. Motor UVW short circuit. 2. Motor failure.	Repair the motor and restart the key switch.
82F	Powered up when gear in D or R	The cart was powered up while the gear was in Drive or Reverse.	Restart the key switch when the gear is in N(Neutral).

EXCALIBUR EV LIMITED WARRANTY

Excalibur EV warrants to the Original Purchaser, as defined herein, and subject to the terms, conditions, limitations, and exclusions of this limited warranty, that any new vehicle or component purchased from Excalibur EV or an Authorized Dealer or Distributor will be free from defects in materials and workmanship under normal use and service for the periods specified below.

This limited warranty applies to materials, workmanship, and associated repair labor costs only for the items specifically identified and within the stated coverage periods. All covered repair work must be performed by Excalibur EV, an Authorized Dealer or Distributor, or a service provider approved by Excalibur EV. For repairs completed by qualified technicians who are not factory-authorized or affiliated with an Authorized Dealer or Distributor, Excalibur EV will supply replacement parts or components only.

IF THE WARRANTY REGISTRATION FORM IS NOT COMPLETED AND RETURNED TO EXCALIBUR EV AT THE TIME OF ORIGINAL RETAIL SALE, THE PURCHASER MUST PROVIDE PROOF OF PURCHASE DATE WHEN SUBMITTING A WARRANTY CLAIM.

NOTE: The vehicle may include optional equipment or features that are not described in this manual.

Your new EXCALIBUR Golf Car is covered under a bumper to bumper warranty for a period of 2 years or 2500km.

The following occurrences will VOID the vehicle warranty:

1. Disassembly or modification of the vehicle and/or the use of non-genuine parts.
2. Operating the vehicle in a manner that causes damage, or continuing to operate a vehicle that has suffered damage.
3. Any damage related to traffic accidents.

The following components are covered under a 5 year / 5000km warranty from date of delivery:

- Controller, motor, drive axle, charger and chassis.

The following items are not covered under warranty as they are considered consumable items:

- Brake pads, housings, tires, windshields, carbon brushes, and any other consumable items.

LITHIUM BATTERY WARRANTY – See Next Page

NOTE:

Damages or issues resulting from the installation or use of non-genuine parts, accessories or attachments, overloading, accidents, abuse, or neglect will not be covered under warranty.

EXCALIBUR is not responsible for consequential or incidental damages.

LITHIUM ION BATTERY WARRANTY

The Lithium battery pack and all of its internal components are warranted against defects in materials and workmanship as follows:

YEARS 1 - 3: Full repair or replacement at the sole discretion of Excalibur EV based on the failure situation.

YEARS 4 - 5: Pro-rated to maximum 25% of the replacement cost for full repair or replacement at the sole discretion of Excalibur EV based on the failure situation.

YEARS 6 - 10: Pro-rated to 50% of the replacement cost in year 6 and an additional 10% per year thereafter in the case of complete replacement.

NOTE:

- This limited warranty is not transferable.
- This warranty is in lieu of all other express or implied warranties.
- EXCALIBUR EV is not liable for consequential or incidental damages.

The battery warranty is VOID for any of the following reasons (but not limited to):

- Failure to follow any instructions in the user manual.
- Accidental damage or unreasonable use, misuse, mishandling, modification, overcharging or overloading.
- Extended storage without recharging.
- Repairs or service performed by an unauthorized person.

EXCLUSIONS

Excluded from any Excalibur EV warranty is damage to a vehicle or component caused by factors other than defects in materials or workmanship. This includes, but is not limited to, improper maintenance, neglect, misuse, accidents or collisions, routine maintenance adjustments, excessive or unintended use, improper installation of accessories (such as connecting 12-volt accessories directly to a 48-volt battery pack), use of non-original or non-approved parts (including unauthorized GPS systems), unauthorized modifications, and acts of nature.

Also excluded from warranty coverage are fuses, decals (except safety decals), lubricants, and normal wear items such as charger plugs and receptacles, floor mats, seat cushions, brake pads, bushings, cosmetic wear, and any components that deteriorate, fade, or fail due to environmental exposure or normal wear and tear.

The provisions of this limited warranty do not apply to failures resulting from the following conditions:

1. Battery
 - a) Improper charging due to use of a charger not approved by Excalibur EV for the specific vehicle.
 - b) Misuse or abuse, including overcharging, undercharging, loose wiring or fasteners, and corroded hardware.
 - c) Use of energy management systems that do not allow a minimum of 12 hours of charging time to ensure proper battery charging.
 - d) Use of accessories that do not draw power from the full 48V battery pack or the integrated 12-volt converter.
 - e) Battery damage caused by a defective charger or inadequate charging practices.
 - f) Operation of a vehicle without a properly functioning charger connected to a circuit meeting the specifications outlined in the owner's manual (the number of operational chargers must match the number of operational vehicles), or use of an unapproved charging algorithm.
2. Failure to perform proper maintenance, including routine inspections, maintaining correct tire pressure and alignment, and tightening loose electrical connections as specified in the owner's manual.
3. Damage resulting from improper installation of components.
4. Failure of semiconductor components such as diodes and fuses due to electrical overloads (including lightning), which are beyond the control of Excalibur EV.
5. Damage to charger AC or DC cord sets and plugs, which are considered wear items and subject to user misuse or abuse.

The use of genuine (OEM) parts is strongly recommended. Genuine parts are manufactured according to specifications of the highest quality and performance standards. If parts other than genuine (OEM) parts are used to modify, upgrade or repair the vehicle, performance and life-span are likely to be affected and the vehicle will no longer be covered under warranty.

This manual contains the most up-to-date information available at the time of printing. Due to constant and regular improvements to the design of this vehicle, some inconsistencies may arise. The company reserves the right to change the product without prior notice and do not assume the obligation to the same or similar changes to previously manufactured or sold vehicles.

NOTE:

This vehicle is not designed for highway use. Please observe the relevant national, regional and local policies, laws and regulations for use of the vehicle. The company does not assume responsibility for any use of this vehicle outside of these policies or within them. No person under the age of 16 should operate this vehicle or be left unattended on, in or near this vehicle.

Without limiting the generality of the foregoing, Excalibur EV does not warrant that its vehicles or components, including batteries, controllers, or electrical devices, are suitable for use in applications other than those for which they were designed.

As with any vehicle or electrical equipment, the owner is responsible for reviewing the owner's manual, operating instructions, and warning labels, and for exercising proper care when operating or servicing the vehicle and its components.

Transportation costs associated with warranty service are not covered under this warranty

VOIDING OF WARRANTY

THIS AND ANY OTHER WARRANTY SHALL BE VOID IF THE VEHICLE OR ANY COMPONENT HAS BEEN MISUSED, OPERATED FOR PURPOSES OTHER THAN INTENDED, OR SHOWS EVIDENCE OF ANY MODIFICATION. THIS INCLUDES, BUT IS NOT LIMITED TO, ALTERATIONS TO THE SPEED GOVERNOR, BRAKING SYSTEM, STEERING, TRANSAXLE, OR ANY OTHER OPERATING SYSTEM THAT CAUSES THE VEHICLE TO PERFORM OUTSIDE OF EXCALIBUR EV SPECIFICATIONS. THE WARRANTY WILL ALSO BE VOID IF THERE IS EVIDENCE THAT REQUIRED OR REASONABLE MAINTENANCE, AS OUTLINED IN THE OWNER'S MANUAL AND MAINTENANCE AND SERVICE MANUAL, HAS NOT BEEN PERFORMED AT THE SPECIFIED INTERVALS OR IN ACCORDANCE WITH THE PROVIDED INSTRUCTIONS.

SOLE REMEDY

Excalibur EV's liability under this limited warranty, or in any action based on warranty, contract, negligence, strict product liability, or otherwise, shall be limited to the repair or replacement at Excalibur EV's discretion, of any vehicle or component determined by Excalibur EV to be defective.

Replacement means providing, within the applicable warranty period, a new or factory-reconditioned vehicle or component that is identical or reasonably equivalent to the original, at no cost to the purchaser. Repair means correcting a defect in the vehicle or component at no cost to the purchaser during the applicable warranty period.

Excalibur EV reserves the right to inspect, test, and recharge any component returned for evaluation. If Excalibur EV elects to repair a vehicle or component, factory-reconditioned parts may be used. All parts and components replaced under warranty shall become the property of Excalibur EV.

DISCLAIMER

THIS LIMITED WARRANTY IS EXCLUSIVE. EXCALIBUR EV MAKES NO OTHER WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED. ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED BY EXCALIBUR EV AND ARE EXCLUDED FROM THIS WARRANTY. THE PURCHASER AND EXCALIBUR EV EXPRESSLY AGREE THAT THE SOLE AND EXCLUSIVE REMEDY SHALL BE THE REPAIR OR REPLACEMENT OF A DEFECTIVE VEHICLE OR COMPONENT. EXCALIBUR EV MAKES NO OTHER REPRESENTATIONS OR WARRANTIES, AND NO REPRESENTATIVE, EMPLOYEE, DISTRIBUTOR, OR DEALER OF EXCALIBUR EV IS AUTHORIZED TO MAKE ANY STATEMENT, PROMISE, OR AGREEMENT THAT MODIFIES OR EXTENDS THE TERMS OF THIS WARRANTY.

In the event that any other pre-printed warranty document or certificate provided by or through Excalibur EV at the time of sale (each an "Additional Warranty Document") is found to conflict with the limitations or exclusions stated herein, the terms, limitations, and exclusions contained in this limited warranty shall prevail and apply to both this warranty and, to the fullest extent permitted by law, any such Additional Warranty Document.

NO CONSEQUENTIAL DAMAGES

IN NO EVENT SHALL EXCALIBUR EV BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OR DAMAGE TO PROPERTY OTHER THAN THE VEHICLE, LOSS OF USE, LOSS OF TIME, INCONVENIENCE, OR ANY OTHER ECONOMIC LOSS.

Some jurisdictions do not allow limitations on the duration of implied warranties or the exclusion or limitation of incidental or consequential damages. As a result, the above limitations or exclusions may not apply. This warranty provides specific legal rights, and additional rights may apply depending on local laws.

HOW TO MAKE A WARRANTY CLAIM

To submit a warranty claim under this limited warranty, the vehicle or defective component must be presented to an authorized Excalibur EV dealer along with proof of purchase date, vehicle serial number, and amp-hour information (if applicable).

Contact your authorized dealer to initiate a warranty claim.

WARNING

Any modification or alteration to the vehicle that affects the electrical system, stability, or handling, or increases the maximum vehicle speed beyond factory specifications, may result in serious injury or death.

[illegible]

Excalibur EV

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Excalibur

ELECTRIC VEHICLES

