

Falcon

User Manual



 **DAYMAK**

About Daymak

Daymak is one of Canada's largest Alternative Vehicle providers. We design, engineer, manufacture, import and repair everything from recreational dirt bikes, go-karts and electric golf cars to alternative transportation solutions such as e-bikes and gas scooters.

Our electric bicycles represent an energy-efficient and eco-friendly alternative for people who need to get around the city. They greatly increase the practicality of bicycle transportation in urban centres. Costing only a few cents to charge, an e-bike can make city life more convenient and much less expensive.

While there are many new Green technologies that are still in their infancy, electric bicycles have been developing over the last 40 years or more. E-bike technology has been dramatically refined since the introduction of the first custom-conversion bicycles. Today, electric bicycles are a supremely reliable and affordable means of transportation.

Daymak is constantly developing new eco-friendly alternative transportation strategies, led by its own Research and Development department in Toronto, Canada. We are always improving our products. Our innovative in-house engineering and quality testing provide customers with many new kinds of reliable, eco-friendly vehicles, designed to help change the lives of our customers and the world.

Daymak warranties, services, and stocks parts for everything it sells. We support our products.

Please feel free to visit our website. You'll find the latest in cool transportation solutions, support for the products you've purchased and contact information.



Table of Contents

Introduction.....	4
Part Diagrams	5
Product Specifications	6
Components.....	7
Operating Instructions	10
Operational Conditions and Maintenance	11
Parts Replacement Schedule.....	12
Annex 1	13



Introduction

E-Bikes

Riding an electric bicycle is a great way to hop around town conveniently and cheaply. E-Bikes represent a natural progression in the development of urban transportation.

Using only small amounts of electricity, e-bikes have the potential to radically reduce the amount of pollution in our cities. As well, they are very quiet, so they do not add to the high levels of noise pollution which we often take for granted. They are easy, and usually free, to park. They are unobtrusive and highly practical additions to the urban landscape.

E-bikes are also inexpensive. They (currently) require no registration, no insurance, no licence and do not incur parking charges. As well, compared to internal combustion engines, the engines in electric vehicles have fewer moving parts and require far less maintenance.

Your Daymak e-bike is the result of Daymak's years of experience, the highly trained technical skills of our staff and careful, ongoing design work by our engineers. We hope you enjoy using this product and welcome any feedback that you may have.

New Laws

Most provinces in Canada, most states in the U.S.A, the United Kingdom and many European countries have new laws that permit cyclists to use electric motors to assist the regular operation of bicycles. Please check with your provincial or state government to learn about your local laws. At the back of this manual you will find the some of the common Canadian provincial regulations that govern e-bikes.

Liability

Daymak does not assume any liability for damages, loss of profits, or claims from third parties due to improper use of this product. Daymak does not assume any liability for damages due to problems with the product resulting from service by a third party that is not certified by Daymak.

The information in this guide may be subject to change without notice. For the latest information available, please contact your local Daymak dealer or visit our website.

We have taken all possible measures to ensure the accuracy and completeness of the information in this guide. However, if you do find anything missing, incomplete or wrong, do not hesitate to contact us.



Part Diagrams

Diagram 1: The Falcon

This diagram illustrates the various parts of your Falcon. Please note that many of these parts are not user-serviceable and should be repaired only by trained professionals. This is especially true of the electrical systems and the mechanical components.



- | | |
|------------------|--------------|
| 1. Handlebars | 4. Wheels |
| 2. Display panel | 5. Foot Pads |
| 3. Wheel Guards | 6. Battery |

Product Specifications

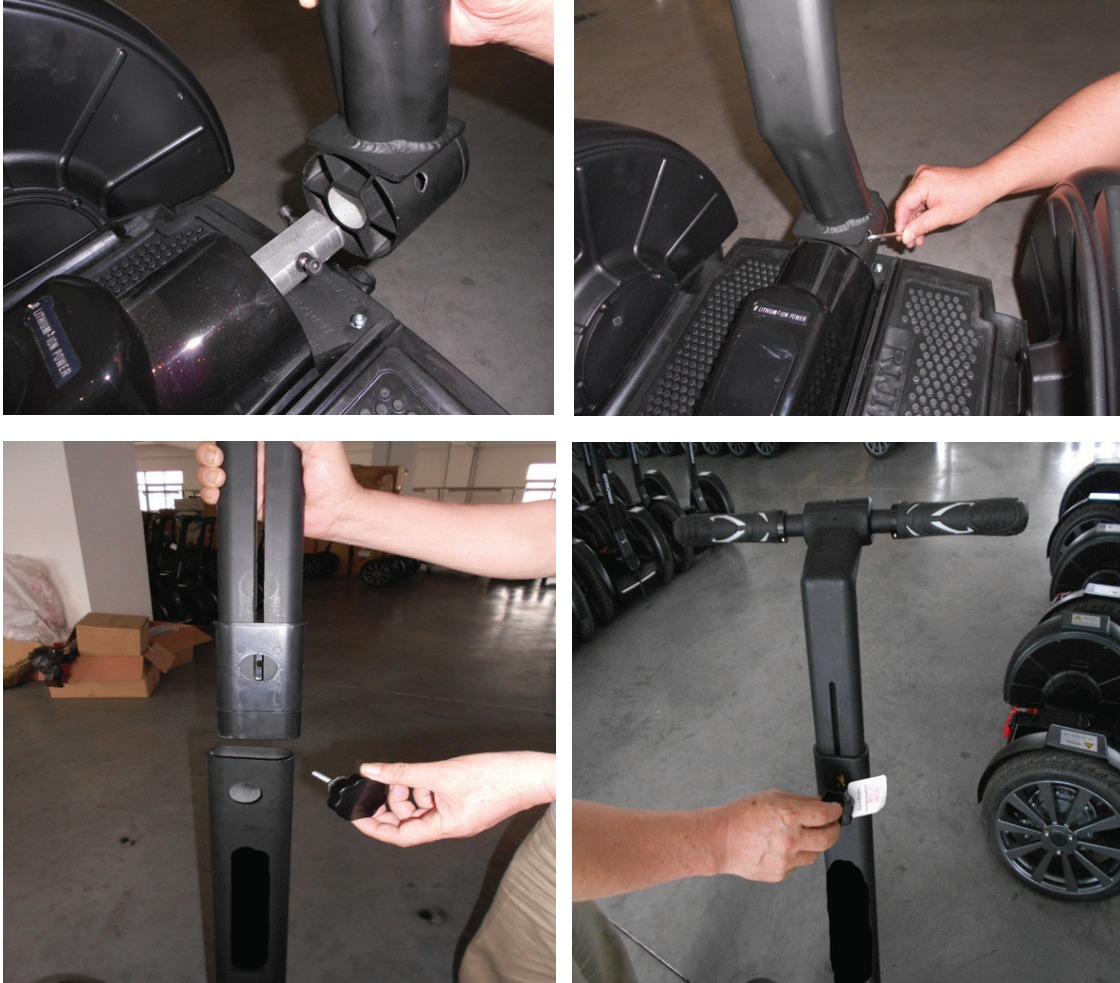
Max Speed	20 km/h
Battery	Lithium Battery
Range (from full charge)	55 km
Minimum Turning Radius	Zero (turns on the spot)
Optimum Tire Pressure	1.0Bar/100kPa/15psi
Vehicle Weight	55 kg
Vehicle Footprint	65 x 49 cm
Chassis Height	10.0 cm
Handlebar Height	90 ~120 cm (adjustable)
Tire Diameter	50.5 cm
Maximum Carrying Capacity	120 kg
Minimum Carrying Capacity	30 kg
Maximum Climbing Gradient	26°



Components

Handlebar

The handlebar maintains balance and controls the direction of the vehicle. The front and rear of the handlebar is shown below. The height of the handlebar can be adjusted to suit the rider:



Warning

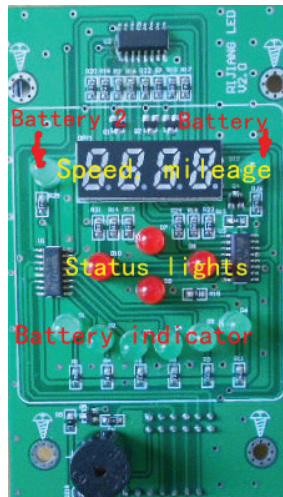
The handlebars cannot tilt in excess of 45° left or right around the axis point.

Warning

To avoid injury, always hold the handlebar firmly during power-up, while riding or when shutting the power off.

Display Panel

The display panel shows information about the Falcon's operations. Make sure to install both batteries - the battery indicator(s) should both turn on when installed correctly. The speedometer can display current speed and track accumulated mileage. Display lights indicate whether the Falcon is on high speed or low speed. The battery indicator consists of 6 lamp lights, all of which gradually turn off as the battery is drained. If only a single lamp light on the battery indicator is lit, it is a good idea to charge the battery.



Warning

In the event that the battery runs out of charge, the rider must shut off the power, and charge the batteries immediately. Continued use of the vehicle may become hazardous due to insufficient power.

Wheel Guards

The wheel guards prevent dirt splashing the rider, the foot mats and display panel protect the rider from the rotating wheels while riding. If desired, the height of the fender can be adjusted to accommodate ordinary or off-road tires.

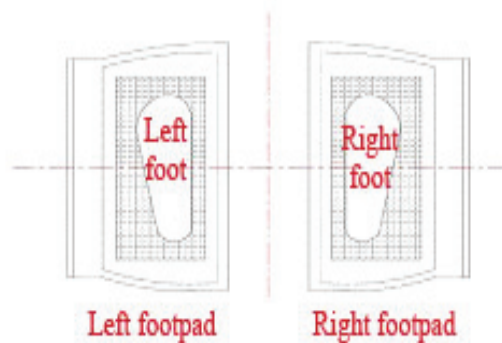


Wheels

The wheels bear the weight of the vehicle and the rider. The tire pressure is 15psi/100kPa. Please ensure that both tires are equally pressurized before riding the Falcon.

Foot Pads

The foot pads support the rider's feet. While riding, both feet should always be positioned in the middle of the pad as shown below.



Battery

The battery provides power to the Falcon. The battery voltage is 70VDC. Do not open the battery compartment or the vehicle's control panel - you may be subject to electric shock. Always shut off the power and dismount the Falcon before charging the battery.

To charge the battery, open the cover at the back of the display panel and plug in the charger included with the vehicle into the socket.



Warning

In the event that the vehicle is not used for an extended period, it is advised to charge the batteries once every 30 days, otherwise irreversible damage to the battery can occur. At the bare minimum the battery must be charged once every three months. If the vehicle is to be stored, disconnect the battery first.

Do not disassemble or reassemble the battery box, expose it to high pressure, fire, or any heat sources under any circumstances.

Battery

The charger provided uses AC 160V-240V, 50/60Hz. When charging, a red indicator light should turn on. The light should turn green once the battery is fully charged. When charging the battery for the first time, it is normal for it take 5-6 hours. The battery lasts approximately 4 hours per full charge. If the Falcon is not used immediately, it is also advised to close the circuit breaker to save power.



Operating Instructions

When riding for the first time or if the Falcon has been in a reclined position for a long time, you must first initialize the positioner. See Annex 1.

To switch on the vehicle, hold the handlebar while standing in the centre near the rear of the vehicle. Switch on the vehicle - the display panel should illuminate indicating normal operation.

When status lights stop circulating, audio cues should be heard from both left and right motors. This indicates that motors and control system are operating normally.



To mount the vehicle, wait for the 4 red indicator lights in the middle to stop flashing. Step onto the unit with one foot to feel the balance. If the unit feels balanced, step on the vehicle with your other foot. Keep your body upright to control the unit and achieve stability.

While holding the handlebars, lean forward and the vehicle should move forward slowly. Lean backwards and it should gradually come to a stop. The Falcon's forward and reverse movement is controlled by the rider's body movement.

Tilting the handlebar controls the direction of the vehicle. You can also lean your body left or right while turning the handlebars to maintain balance. The turn rate and turning angle varies according to speed. In general, the greater the angle of the handlebar, the faster the turn speed. When reversing, the control direction of the handlebars is reversed.

When dismounting, pull back the handlebar and shift your bodyweight to an upright position. When the vehicle has stopped completely, remove one foot, while holding the handlebar to maintain stability, then completely dismount. When the vehicle is on, do not release the handlebar to remain in control of the vehicle. Remember to shut off the vehicle completely before dismounting.

Warning

If the Anti-Fall function is in use, the safety strap must be attached to the rider's body before stepping on the vehicle; if the vehicle loses balance, the power will shut off.

Operating Conditions and Maintenance

If the alarm goes off and the handlebars vibrate while riding, slow down. When riding forward at excessive speeds, the handlebar and the whole vehicle will automatically begin to lean backward to lower the speed - this is a normal function to limit the speed.

Before riding, ensure that the handlebar, wheels, batteries, wheel guards and other parts are installed correctly and securely. Screws may loosen from vibration during operation. You may need to tighten screws to avoid loss of power, unwanted vibration or other unwanted vibration that may cause injury.

While riding, if any abnormal sounds are heard, stop the vehicle, dismount, and check the entire vehicle before proceeding.

Do not attempt to perform a maintenance check or repair the Falcon. In the event of failure, please bring it to an authorized professional. Unauthorized repairs or any attempted repairs by a non-certified professional will invalidate warranties and may incur more repair costs.



Parts Replacement Schedule

Directional Potentiometer	replace annually or for every 1,000 km traveled
Handlebar Suspension Gas Springs	replace annually or for every 1,000 km traveled
Tires	replace both tires if tread depth is less than 0.5mm
Gearbox oil	change oil for every 2,000 km traveled

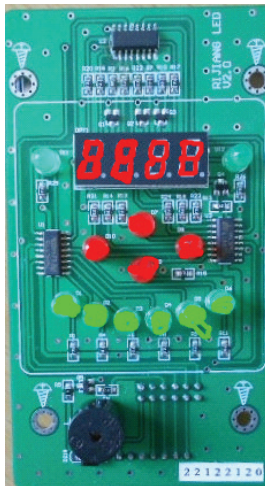


Annex 1

Using the Remote Control



The top left button controls the power, the lower left button is the mode key button. The upper right button locks the vehicle, and the lower right button is the display key.



In the off-state, press and hold the power button for 5 seconds to hear the buzzer “beep.” The battery indicator lights should turn on.

At this time, the status lights should flash. All light indicators may cycle - if this is the case, the systems are working to properly balance the vehicle. If the lights continue to cycle, do NOT ride the vehicle - wait for the status lights to stop flashing before riding.

To power off the Falcon, press the power button while in standby mode and you should hear a beeping sound before it turns off.

Locking and Unlocking the Falcon

In standby mode, press the lock key until you hear a “beep” sound. The status lights should flash on the display panel, and the lights will eventually turn off. It is now in the lock state - an alarm will trigger and the handlebars will vibrate if the vehicle is touched.

To unlock the vehicle, press the lock button on the remote control again. The status lights on the display panel should turn on.



Calibrating the Balance Point

When riding for the first time or after an extended period, it is a good idea to calibrate the system to find a balance point. While in the off state, press the power button and the mode button together for two seconds. After a few “beeps,” the vehicle will calibrate its systems. At this point, the vehicle should level the platform and a final “beep” will confirm that the calibration is complete. After calibrating, the system will automatically shut down.

Correcting the platform level and directional data

While in standby mode, press the power button and mode display button until you hear a “beep.” The display lights should turn on - from here you can configure 5 different parameters represented on the battery indicator. The first light adjusts the controls for the left platform step, the second light controls the right platform. The third and fourth light adjust the abatement for both left and right platforms. The fifth light adjusts the sensitivity of the steering. To increase the values for each, press the display button to gradually increase the desired parameter. Upon each button press, the light increases in brightness incrementally.

Set the running time

Press the power button and lock button until you hear a “beep” to enter the setup. The digital display should read 0. Press the mode key to reduce the number, the power button to cancel the setting and revert to default, the lock key to save and exit, and the display key to increase the value.

Digital tube numerical switch

While in standby mode, press the display key to switch the display value - this will display the value in running time - press it again to cycle display of speed and mileage. To set the default of which to display on the panel, press the mode key and display key at the same time while the display is on the desired parameter (running time, speed, or mileage) until you hear a beep. Press the mode and display key again to save this setting.

Change between high and low speed

By default, the Falcon is set to high speed (20km/h) - press the mode key upon seeing the frequency display on the panel- the status lights should display a new frequency that represents low speed mode (10km/h).

