

INSTALLATION, MAINTENANCE & SERVICE BULLETIN

eLEG

Please use this Bulletin together with the Bulletin KPM-002-0612 for the installation and maintenance of the FW37 landing leg.

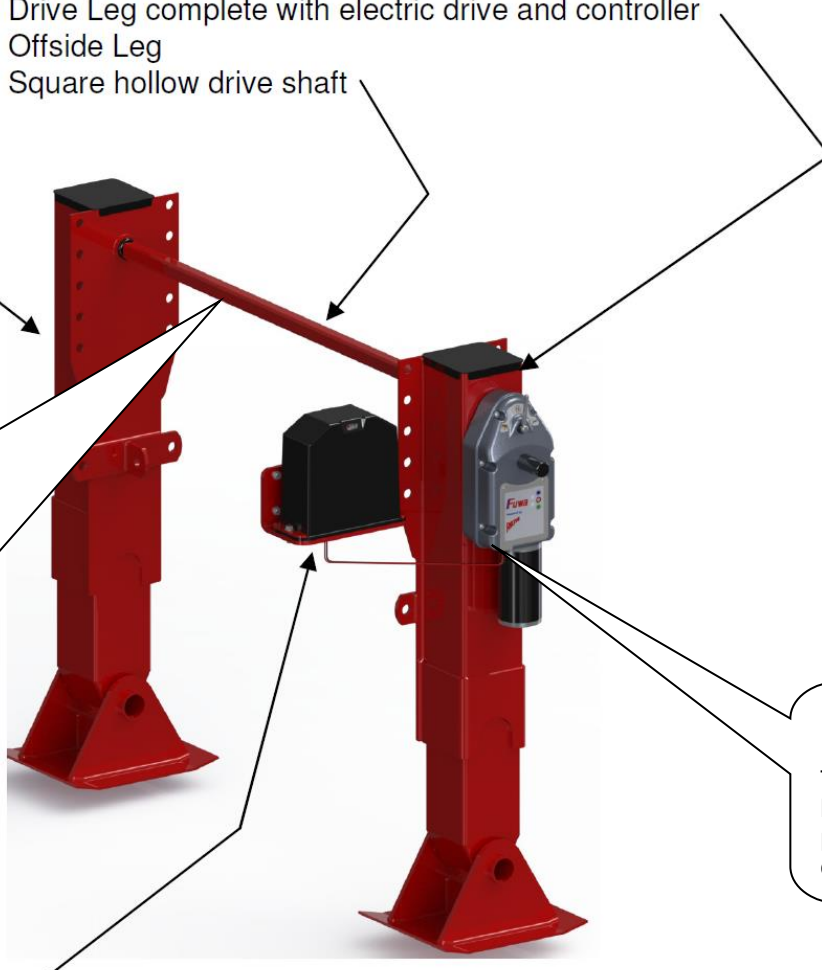
- Read the entire instructions through prior to starting the installation to ensure you have all the tools and equipment necessary to carry out the work.
- Unpack the eLEG parts and power kit (if supplied) and check components.

Parts List

- Drive Leg complete with electric drive and controller
- Offside Leg
- Square hollow drive shaft

Warning:

The correct length of the square hollow drive shaft must ensure that no lateral pressure is applied to the drive shafts of the geared and slave leg. **Check** that after the two legs are fully bolted up, that the shaft is still free and can be moved a small amount laterally.



Note:

The POWER KIT must be used to provide the power to the electric drive motor.

The POWER KIT, consisting of:

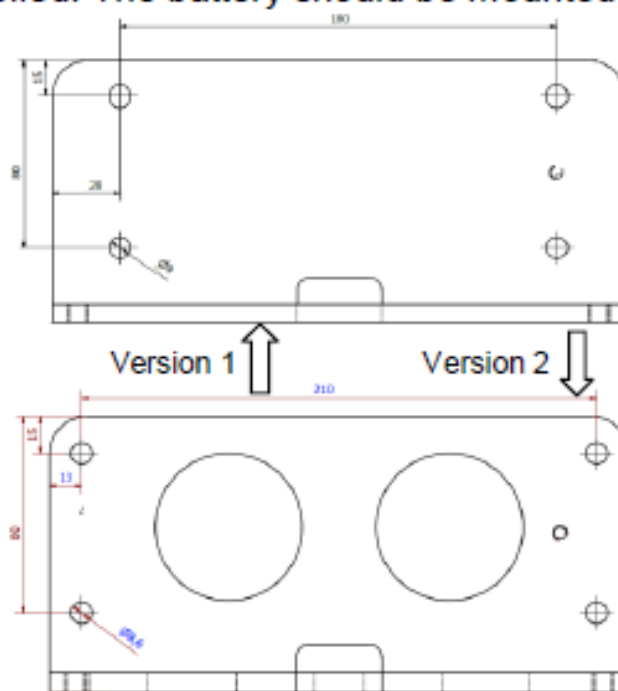
Battery (12 volt)	Battery Harness with 30 amp fuse (not shown)
Battery Bracket	Charger Harness (not shown)
Battery Strap	2 x M8 Cover Clamp bolts (not shown)
Charger (12 volt @ 2 amp)	4 x M8 Battery Bracket bolts (not shown)
Battery Cover	Rubber Pad (not shown)

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Installation

1. Mount the landing legs as per normal landing leg fitment, ensuring to cut the square hollow shaft to the correct length and fitted between the legs so that the offside leg is driven from the drive leg.
2. Locate a solid point on the trailer chassis to mount the power kit, taking due note of the size required for the battery (approximately 24cm wide, 21cm high and 13cm deep (9 1/2" x 8 1/4 " x 5"). It must also be mounted in close proximity to the drive leg as it will need to be connected to via the harness supplied. The battery should be mounted in the orientation shown.

3. You may use the bracket as the template to drill the mounting holes to the chassis.



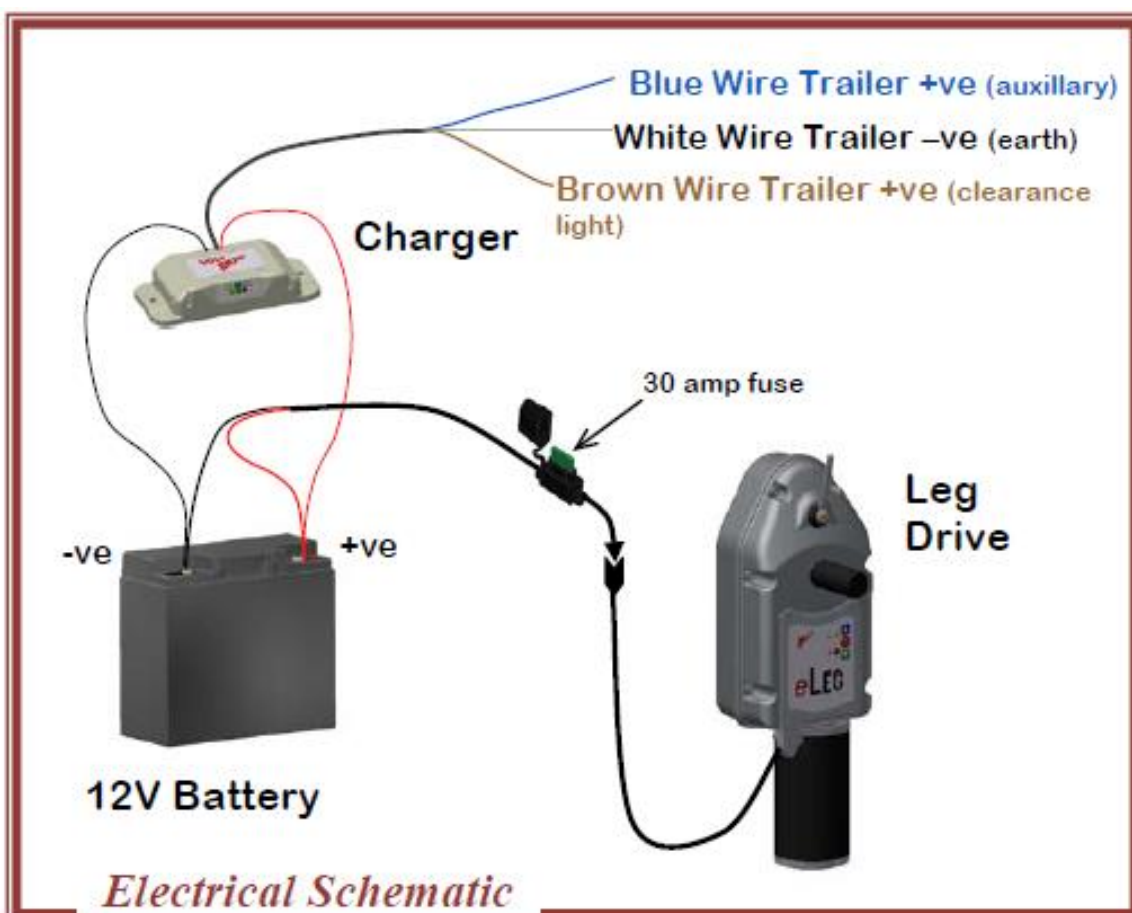
4. Bolt the battery bracket to the trailer chassis with the bolts supplied, ensuring to fit the spring washers.

5. The charge harness now needs to be connected to a power source on the trailer. (9 to 30 Volts DC). There are three wires available to be connected to keep the **eLEG** battery charged. The negative or common is **white** and must be connected to the trailer negative, there is a blue and brown wire available that can be connected to a power source on the trailer. Typically the **brown** can be connected to the running or clearance lights the **blue** wire could be connected to either an auxiliary or even the stop lights on the trailer. You only need one but two is an advantage. Refer to the wiring schematic shown. Ensure the electrical connections to the trailer harness are robust and sealed.

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Note: Make sure a proper earth is established between battery negative and the trailer electrical circuit. (Experience has shown that electrical problems caused by bad earth or low trailer voltage is responsible for most problems associated with the installation of the **eLEG**. This affects the ability to keep the battery charged. A test of the charge circuit is to connect the **blue** (or **brown**) charge wire to the battery positive; a solid **yellow LED** light indicates charger is operating as it should)

6. Finally connect the drive unit to the battery harness via the harness supplied. Secure and protect the wiring as appropriate to minimise damage.

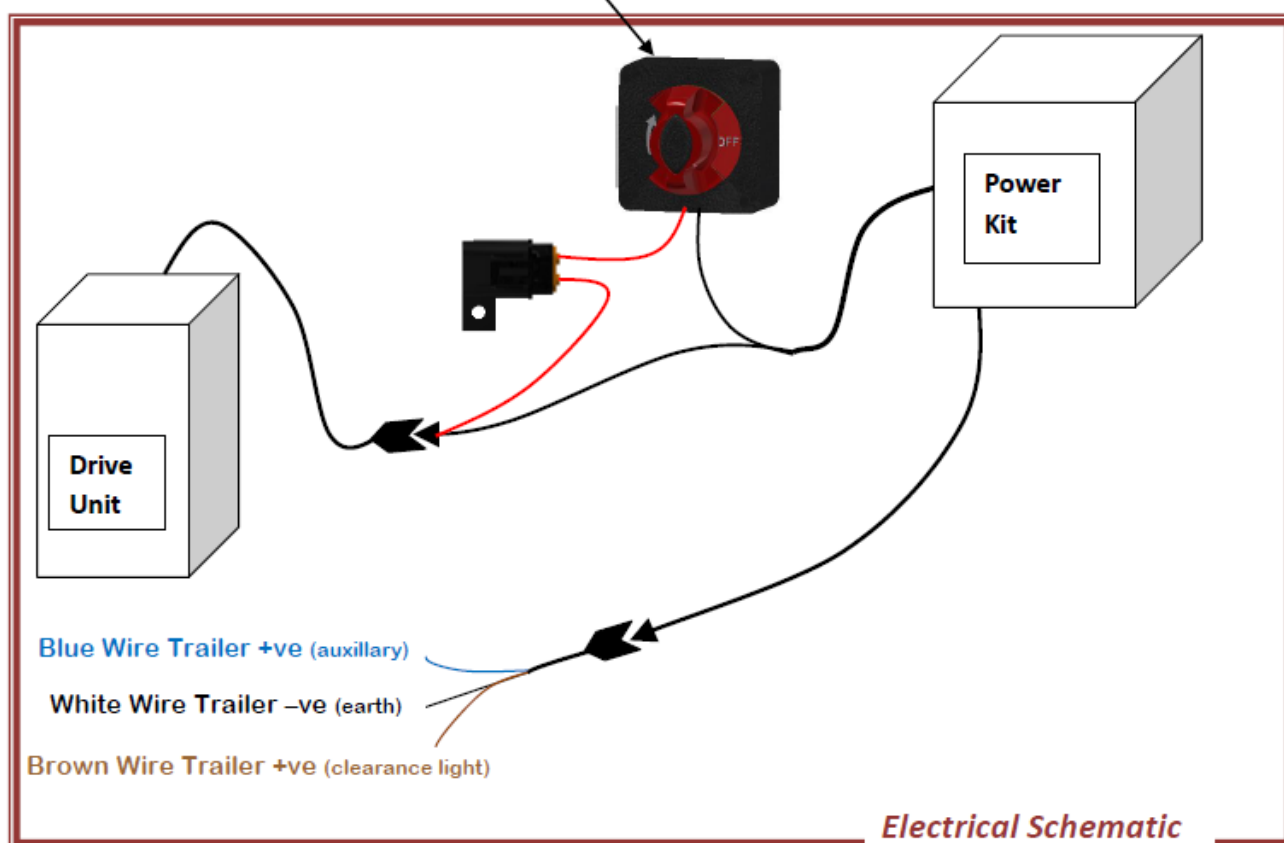


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The following information is in regards to the wiring-up of an *eLeg* to a “Dangers Goods” rated trailer.

Battery isolator shall only be fitted to flammable goods vehicles in compliance with local regulations and drive power isolation procedures being implemented during flammable goods transfer.(The below is the wiring schematic)

IMPORTANT NOTE: BATTERY ISOLATOR MUST BE ISOLATED PRIOR TO ANY FUEL TRANSFER.



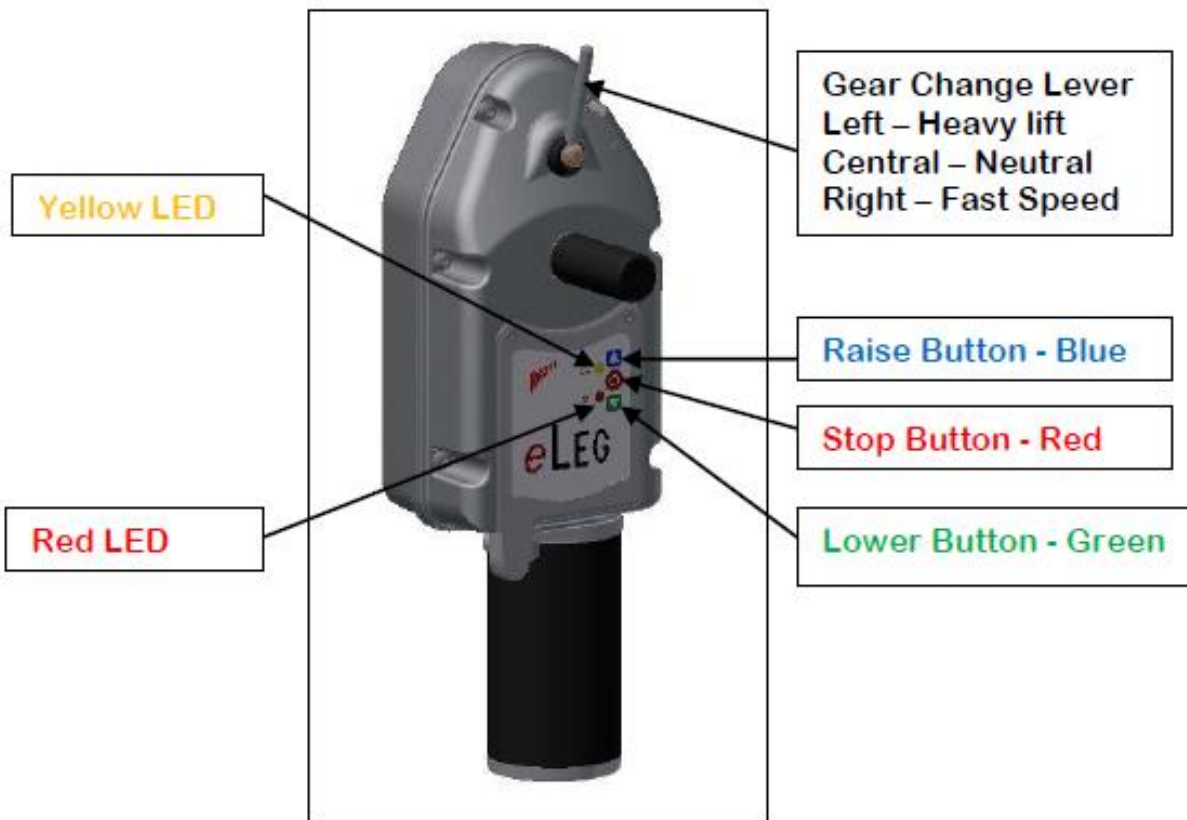
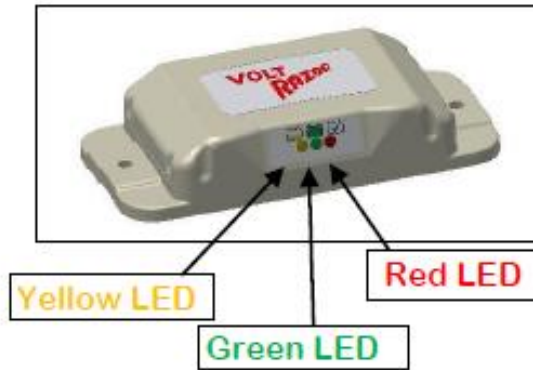
Note: The battery isolator switch is not supplied with the *eLeg* kit!

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Operation

Installed correctly your eLEG will give you years of trouble free service. The electric drive and its associated battery are sealed maintenance free items.

Your eLEG comes with a battery charger. It is located inside the battery cover. It will charge your battery to the correct voltage if connected to the trailer electrics as described above. This is vital for the longevity of the battery and to ensure the eLEG landing legs function correctly



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Operation




CHARGER

The battery charger has three LED lights. For indication of the condition of the battery and of power supply from the trailer their functions is as per the table below:

Red LED	This indicates that supply is connected
Yellow LED	This indicates that the battery is charging.
Green LED	This indicates that the battery is fully charged

CONTROLLER

To operate the legs you must first initiate (or wake up) the controller. This is required to prevent the inadvertent or accidental operation of the legs which could lead to hazardous and even dangerous situations.

You should also select the gear position you require. The high speed gear, *which is indicated by a *, is generally used to get the legs to the ground fast and also return them to their home position (fully up) once they have cleared the ground. The high load gear, *which is indicated by *, is generally used to lift a loaded trailer once the legs are on the ground. The neutral position, *indicated by *, is only used if there is a problem and it allows you to still manually wind the leg. (refer below)

To initiate the controller press and hold the **Stop button** for 2 seconds. The **Red LED** and **Yellow LED** will flash twice to acknowledge the controller has been activated. It is noted that if the gear selection is in neutral you cannot initiate the unit and you will get four **Red LED** flashes to indicate this condition. First change the gear selection away from the neutral position. You may now operate in the legs in either direction by pressing the **down (green) button** or the **up (blue) button**.

The legs will continue to travel in the direction selected until the preset load condition is met. If the legs are travelling down in high speed this will be when the legs first hit the ground, if they are going up it will be when the legs reach the end of their travel and are fully home.

The gear selection lever is simple operated by rotating it by hand either to the left or right. If the legs are operating and the gear selector is changed it will stop the motor and the **Red LED** will illuminate while in the neutral position. The drive can be restarted once either high load or high speed is selected.


The Controller has two LED lights for indication of the operation and the battery condition their functions is as per the table below:

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Red LED	One Flash	<p>A button activation is acknowledged by one flash. Note: this is only once the controller is initiated as elsewhere described.</p> <p>One flash also indicates that the pre-set maximum increase in load has been exceeded and the motor has been stopped.</p> <p>It will flash once again if the button is pressed for the same direction indicating this is an inhibited operation.</p>
	Two Flashes	<p>Indicates that the pre-set maximum load has been reached and the motor has been stopped</p> <p>It will flash twice again if the button is pressed for the same direction indicating this is an inhibited operation.</p>
	Three Flashes	<p>This indicates a locked mechanical condition such as gear failure or motor failure (Check motor and gearbox)</p>
	Continuous	<p>Indicates that the gear lever is in the neutral position and you cannot operate the eLEG in that condition. You must change the lever to a gear setting before you can operate the eLEG.</p> <p>Note: this will only occur once the controller is initiated.</p>
Yellow LED	Five Flashes	<p>This indicates that the battery is low and requires to be charged.</p> <p>Note: this will only flash once the controller is initiated.</p>
Red LED & Yellow LED	Two Flashes	<p>Both LED's will flash twice upon controller initiation. Refer operation instructions</p>
	Five Flashes	<p>An over temperature condition has been reached. Allow time to cool down before operating again.</p>

Manual Operation

In the event that there is a problem and the drive will not operate. You can still operate the legs manually.

To do this first remove the plastic protective sleeve from the drive shaft that protrudes out from the gearbox (shown below). Put the gear selector in the neutral  position. This will disengage the motor from the legs. Attach a standard leg crank handle to the shaft and wind as per a normal manual set of landing legs.

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Service and Maintenance

The **eLEG** power drive gearbox is designed to be maintenance free. There is no serviceable parts. The gearbox is a sealed pre-lubricated unit, as is the battery, the charger and controller.

Should any of the components have an issue, the drive system has been designed to be modular so that each component can be readily replaced in minutes. These components are the battery and its associated charger, the electric motor and the electronic controller. Please refer to the illustration below for change out of each component.

CAUTION: DO NOT ATTEMPT TO REMOVE BEFORE FIRST DISCONNECTING BATTERY POWER

