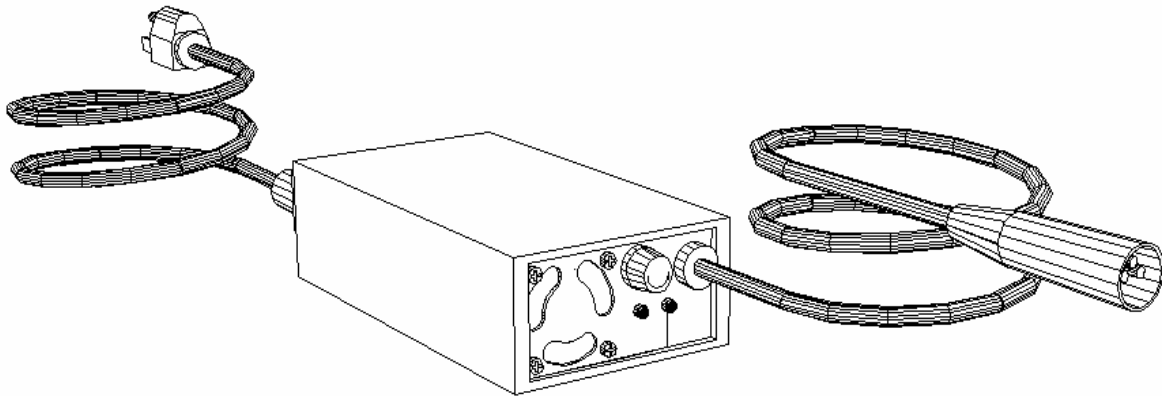




by Vanair inc.

BATTERY CHARGER

OPERATING INSTRUCTION



February 2002



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Please give this manual to the owner of the heli tow-cart.



Please read this manual in it's entirety before using your

HELI
TOWCART *for the first time. Re-read this manual until it becomes familiar and pay a close attention to the warnings.*



If you have any questions about non-covered subjects in this manual, consult a technician in an authorized service dealer.

Dealer: _____

Address: _____

Telephone: _____



Do not install unauthorized accessories. Always consult a technician in an authorized service dealer for any modification to your heli tow-cart.



is proud to count you among its customers and thanks you for having chosen one of its products.



All the products manufactured by

respect or exceed the highest standards of quality and safety currently in force in the industry. The personnel of



is guided by a desire of satisfying customers. This is why



does not hesitate to offer a most complete warranty, applying to the whole of the machine elements and electronic. However, the warranty does not apply to parts and components damaged by abuse, negligence, accident, wear and tear or installed and modified by an unauthorized person.

This operating instruction manual was conceived to enable you to use the



safely.



In order to optimize the performance of your and to prolong it's lifespan, it is essential to have it check regularly by a technician from an authorized service dealer.




declines any responsibility for physical injuries or materials damage resulting from an improper use of its products, from a lack of precaution in their use or from a modification made without its written assent.



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1.0 SAFETY REQUIREMENTS

1.1 SAFETY REQUIREMENTS

1.1.1 BEFORE USING THE HELI TOW-CART

- Make sure that the batteries are sufficiently charged (see battery status indicator).
- Make sure that the brakes immobilize your heli tow-cart completely.
- Make sure that the tire pressure is adequate
- Make sure that nothing interferes with wheels (scarf, scarf, umbrella, etc).
- Make sure that the position of the throttle box enables you to carry out all the orders comfortably.
- Do not fix or transport a heavy object on the heli tow-cart

1.1.2

MOVING WITH THE



- Avoid any shock to the throttle box or the throttle.
- Avoid slippery surfaces (snow, ice, etc).
- Do not change direction abruptly at high speed.
- Do not circulate on expressways or streets with intense circulation.
- Do not transport passengers.
- Do not to circulate under extreme climatic conditions (storm, rain, etc).
- If you move outside at night, ensure that you will be well seen by others.
- Do not approach a slope in diagonal, always approach the slope in a straight line, perpendicular to the slope.
- Do not go down a slope in reverse gear.
- Always actuate the throttle gently when you start moving in a slope in order to avoid tipping the heli tow-cart.
- Do not make a turn in a slope.
- Reduce your speed in restricted or encumbered places.
- In front of an obstacle you must stop and cross it perpendicularly and gradually.
- Avoid thresholds of more than 1 ½ in (38 mm), they can endanger your stability.
- Do not approach a surface whose slope exceeds 2 °



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1.1.3

VARIOUS HANDLING OPERATIONS

- ◆ Do not immerse your heli tow-cart, it could cause a dangerous defect.
- ◆ Do not store your heli tow-cart in any place without surveillance.
- ◆ Do not leave your heli tow-cart under the rain.
- ◆ Do not store your heli tow-cart in a wet or very cold place, that could cause a dangerous defect on your heli tow-cart.
- ◆ Do not use your battery charger in a hermetic place
- ◆ Always put the on/off switch of the charger on the off position before disconnecting the connector on the heli tow-cart.
- ◆ Never try to modify the connector (110 V AC) of the battery charger.
- ◆ Never try to modify the connector (24 V cd.) which connects to the



- ◆ When you recharge the batteries, ensure you that the connector of the

charger is well inserted in the socket of the



- ◆ Never connect an electric component other than those manufactured by



- ◆ Never modify the electric circuit of the
- ◆ Always protect the throttle box when the heli tow-cart is transported.
- ◆ Always immediately replace any damaged electric cable.
- ◆ Always carry regularly maintenance of your heli tow-cart as recommended by



1.1.4 CLEANING AND MAINTENANCE OF COMPONENTS

- ◆ Clean the throttle box and the throttle. Use a soft rag and a diluted soft soap.
- ◆ Do not use of detergent based on alcohol or thinner.
- ◆ Regularly carry out maintenance of your heli tow-cart as recommended by



1.2 WHAT ABOUT ELECTROMAGNETIC ENERGY

All electronic instruments which transmit remote information are generally apparatuses which emit in the environment some radio waves. These radio waves are called "electromagnetic energy".

The proper operation of an electronic instrument can be deteriorated by this electromagnetic energy field. It is what we call "an electromagnetic interference". The stronger the intensity of energy, greater the risk of faulty operation of the apparatus. This energy is measured in volt per meter (V/m).

All motorized heli tow-carts are suitable to be affected by these interference's. However, current technology makes it possible to immunize them against these risks. It is what is called their electromagnetic level of immunity to the interference, measured also in volt per meter (V/m).

The controller has been tested for compliance with EC directive 89/336/EEC, and the EMC requirements of prEN12184, the FDA and the FCC. The guidelines in this section will help you to make sure that your vehicle installation will easily meet the requirements of the directive.


1.2.1 CAUTION

Waves emitted by:

- ◆ radio and television stations,
- ◆ amateur radio,
- ◆ radio transmitters and receivers,
- ◆ cellular phones,

can affect the correct operation of the heli tow-carts.

1.2.2 USING TRANSMITTERS AND RECEIVERS

- ◆ Avoid proximity of these sources of electromagnetic emissions.
- ◆ Always put the throttle box in the **off position** before using a cellular phone or an CB apparatus.
- ◆ The addition of electric accessories and/or certain electric modifications made to the heli tow-cart will modify its level of immunity to the electromagnetic emissions.
- ◆ Always put the throttle box in the **off position** as soon as appears an erratic operation of the heli tow-cart.
- ◆ Please forward any incident of this kind to 

Note

In the event of the vehicle moving in an unexpected way release the throttle. This action will stop the vehicle in any circumstances.

WARNING


Although the Solo is designed to be extremely reliable and each unit is rigorously tested during manufacture, the possibility of system malfunction always exists (however small the probability). Under some conditions of system malfunction the controller must (for safety reasons) stop the vehicle instantaneously. Penny & Giles accept no liability for losses of any kind arising from the unexpected stopping of the vehicle, or arising from the improper use of the vehicle or controller.



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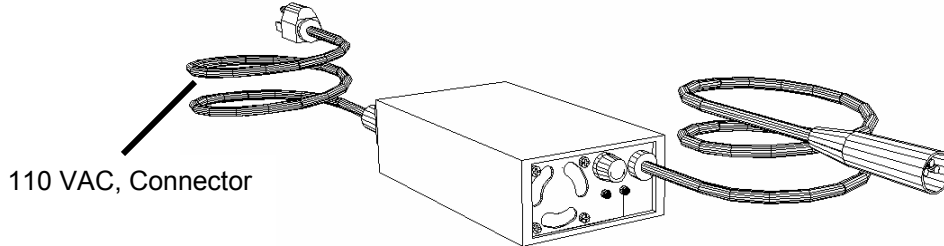
2.0 RECOMMENDED USE


The battery charger was designed in order to allow a fast and secure charge of the batteries of your . The charger is able to recharge lead-acid batteries as well as Gel type batteries.

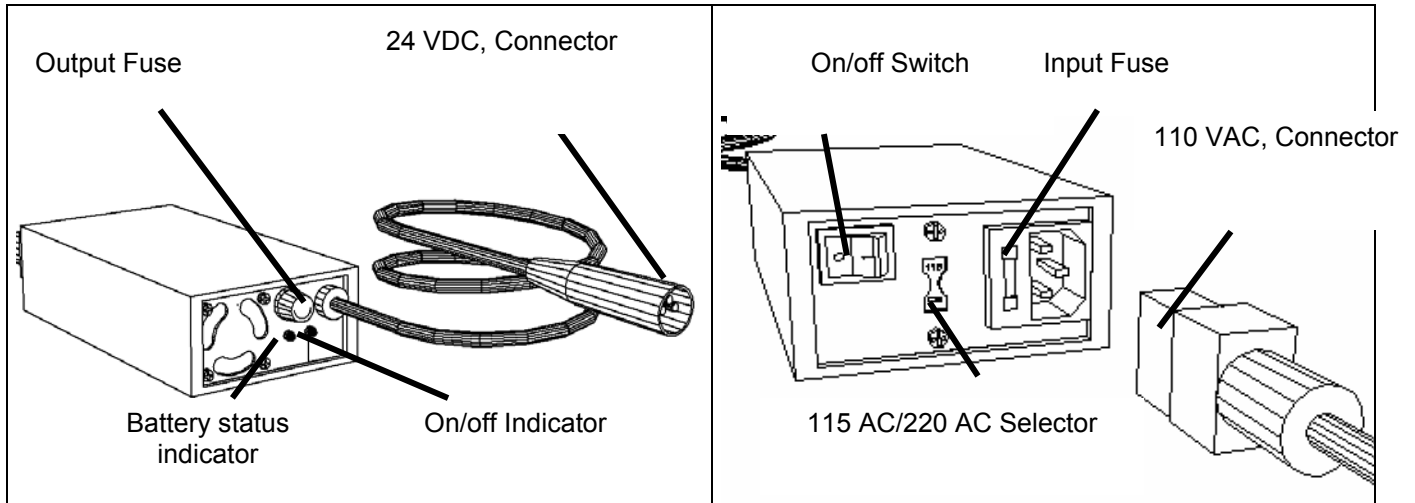


3.0 SPECIFICATIONS

3.1 DESCRIPTION OF THE BATTERY CHARGER



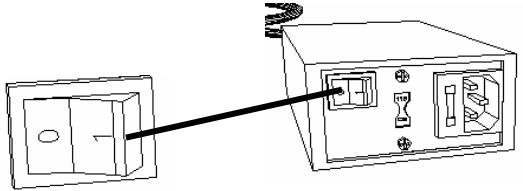
The  battery charger is simple to operate. It's a high performance system with great reliability. The battery charger is completely automatic i.e. that when the batteries are completely charged the charger stops itself. The battery charger just as easily reloads the batteries of type GEL or ACID. This adjustment is automatic.



It is of great importance to make sure that the 24 vdc connector is indeed completely inserted in the socket located on the Heli Tow-Cart.

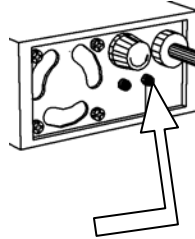
3.2 FUNCTION OF THE SWITCHES AND INDICATORS

3.2.1 " ON/OFF " SWITCH.



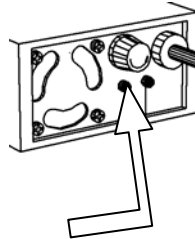
The " ON/OFF " Switch allows power to be supplied to the battery charger

3.2.2 "ON/OFF" INDICATOR.



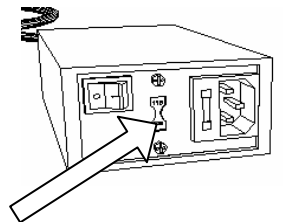
The " ON/OFF " red indicator makes it possible to see whether the battery charger is under tension or not

3.2.3 BATTERY STATUS INDICATOR .



Allows to identify if the charger is in a load mode. when the indicator is yellow the battery charger is under load condition. When the led is green, this will indicate that the charge cycle of the batteries is over.

3.2.4 VOLTAGE SELECTOR.




Allows you to choose the voltage according to the country. North America, 110 volts. Europe, 220 volts.



4.0 SETUP INSTRUCTIONS

4.1 TYPE OF BATTERIES

 recommend to entrust the installation and the maintenance of the batteries to a specialized service dealer. Indeed, bad batteries setup can cause significant damage with the apparatus and constitute a danger.

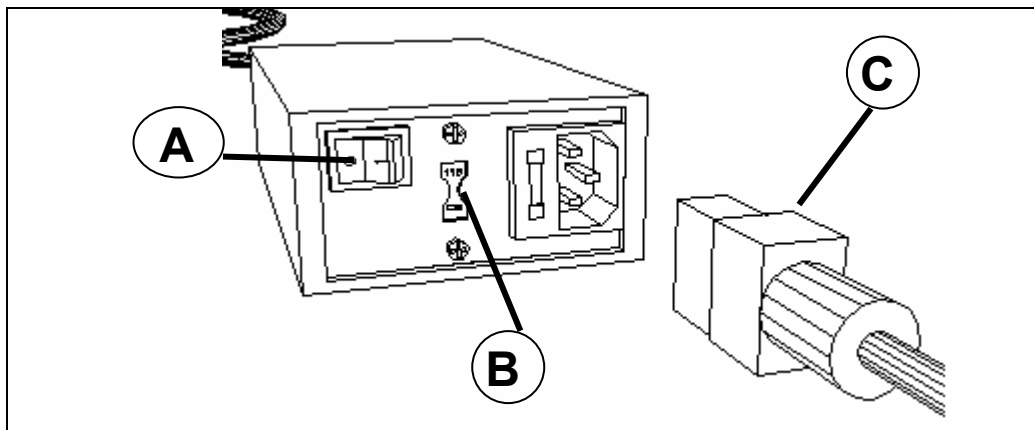
For an adequate performance,  recommends using the following battery specifications:

- deep cycle
- group 24, 22nf, 22f (50 to 85 amps per hour capacity),
- lead/acid or gel

	<p><i>Only deep cycle batteries are designed and recommended for use with Heli Tow-Cart . Do not use batteries designed for motor vehicles.</i></p>
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4.2 CONNECTION OF THE BATTERY CHARGER

- ◆ Activate the " on/off " switch (A) of the charger in the **off** position
- ◆ Make sure that the selector knob of the voltage clearly shows 115 volts (b).
- ◆ Make sure that the connector (115 VAC) is well inserted (c).

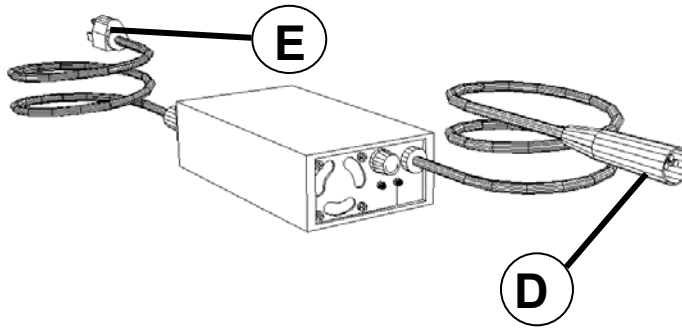


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- ◆ Connect the 24 VDC (D) plug in the socket located on the Heli Tow-Cart.

	<p><i>It is of great importance to make sure that the 24 vdc connector is indeed completely inserted in the socket located on the Heli Tow-Cart</i></p>
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- ◆ Connect the 115 VAC plug (E) to a wall outlet 115 volts (Europe 240 volts).



For your safety never cut the ground of the connector (115 VAC) (E).



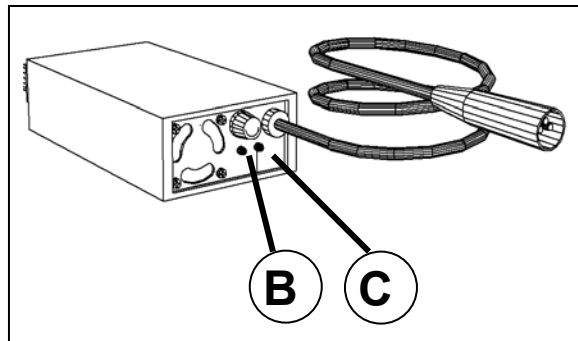
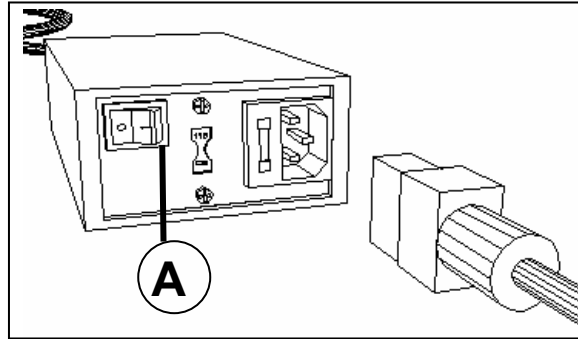
Do not to expose the charger to bad weather.



5.0 OPERATING INSTRUCTIONS

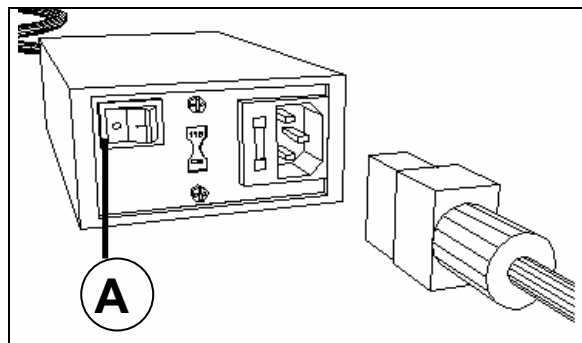
5.1 ACTIVATING THE CHARGER

- ◆ Put the switch of the charger (A) at the position ON / 1 position.
- ◆ the two luminous, red indicators (B) and yellow (C), ignite; the batteries are being reloaded. The red indicator does not indicate a fault of the load circuit, it states rather that the charger is quite simply under tension.
- ◆ When the batteries are entirely charged, the light of the yellow indicator (C) becomes green.



5.2 DEACTIVATING THE CHARGER

- ◆ Put the on/off switch of the charger (A) at the position OFF/0.
- ◆ Disconnect the charger from the Heli Tow-Cart.



Put the ON/OFF switch at OFF/(0) before disconnecting the 110 VAC connector or the 24 VDC connector.




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6.0 BREAKDOWN SERVICE GUIDE

Faulty operation of the charger

If one of the following problems is diagnosed, check the possible causes mentioned.

	<p><i>If the solution suggested does not eliminate the problem, consult a technician in an authorized service dealer.</i></p>
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6.1 THE LIGHTS OF THE CHARGER DO NOT IGNITE

POSSIBLE CAUSES	SOLUTIONS
THE 110 VAC CONNECTOR IS NOT CONNECTED TO THE CHARGER.	CONNECT THE 110 VAC CONNECTOR TO THE CHARGER.
THE ENTRY FUSE OF IS BURNED OR ABSENT.	REPLACE THE FUSE BY A FUSE OF THE SAME TYPE.
<p>USE A AGC TYPE FUSE, 3 AMPS CAUTION, DO NOT USE A FUSE WHICH HAS A DELAYED-ACTION. YOU WILL RECOGNIZED SUCH A FUSE BY LOOKING AT THE SHAPE INSIDE THE FUSE. IF IT LOOKS LIKE A SPRING, IT IS A DELAYED-ACTION FUSE.</p> 	 <p>3 amp AGC</p>
THE 110 VAC CONNECTOR IS NOT CONNECTED TO THE WALL OUTLET.	CONNECT THE 110 VAC CONNECTOR OF THE CHARGER TO A WALL OUTLET.




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6.2 THE GREEN LIGHT FLICKERS

POSSIBLE CAUSES	SOLUTIONS
THE 24 VDC CONNECTOR OF THE CHARGER IS NOT CONNECTED TO THE HELI TOW CART.	CONNECT THE 24 VDC CONNECTOR TO THE HELI TOW-CART.
THE EXIT FUSE OF THE CHARGER IS BURNED OR ABSENT.	REPLACE THE FUSE BY A FUSE OF THE SAME TYPE.
<p data-bbox="370 604 846 846">USE A AGC TYPE FUSE, 6 AMPS CAUTION, DO NOT USE A FUSE WHICH HAS A DELAYED-ACTION. YOU WILL RECOGNIZED SUCH A FUSE BY LOOKING AT THE SHAPE INSIDE THE FUSE. IF IT LOOKS LIKE A SPRING, IT IS A DELAYED-ACTION FUSE.</p> <div data-bbox="467 856 732 993">  </div> <div data-bbox="938 615 1247 804">  <p data-bbox="1019 846 1182 877"><i>6 amp AGC</i></p> </div>	



7.0 WARRANTY


 will warranty the battery charger against any manufacturing defect for a period of six month from the delivery date.

 will repair or replace any defective part provided that it is turned over carefully packed to prevent any further damage and sent (paid port) to an authorized


 service dealer and this, during the period of validity of the warranty.

This warranty does not apply to the machine elements or component damaged by abuse, negligence, accident, wear and tear or setup instruction unauthorized by




 guarantees the availability of components and parts necessary to the operation of the Heli Tow-Cart for a five (5) year period from the delivery date.


The present warranty is given in place of any other written, tacit or statutory warranty.

The responsibility of  is limited to repair or the replacement of any part or component, according to the above-mentioned terms.



Exclusions and limitations



This warranty does not apply to the products which were the subject of negligence or accident or negligent use, maintenance or defective storage, or of abnormal use. Moreover, this warranty does not apply to products damaged in consequence of a repair



or of a modification of a component without the express assent of  neither




with repairs and/or modifications not carried out by an  authorized distributor and nor with the products damaged because of circumstances independent of the will of






This warranty is limited to repairs and, with absolute discretion of  to the replacement of defective material as expressed with the present warranty. Except for the warranty expressed in this document,  does not grant, relative with its products, any warranty express or implicit, legal or conventional, including for hidden vice, nor no implicit warranty of marketable quality or suitability aiming at a particular use, except contrary stipulation with the present warranty.

The warranty stipulated above replaces any responsibility or obligation of  concerning the damage coming or referring to the  products.

 cannot, in any case, be held responsible for the particular, indirect or consecutive damage, even if  were informed of the possibility of such damage. The warranty of the distributor is expressly limited to the repair and the replacement of non conformity of products as envisaged in this warranty or to the refunding of a sum not exceeding the purchase price of the material in question.

The stipulations above constitute the declaration of warranty complete and exclusive which applies to the  products and overrides any proposal or former agreement, orally or written, and on any other communication in between  and a particular distributor relative to the  warranty.

 does not assume any risk related to the damage undergone in the course of transport.  do not grant any other warranty but that which is envisaged above. All the warranties, including the implicit warranty of marketable quality and suitability aiming at a particular use are limited to the period indicated above starting from the date of purchase.  cannot be held responsible for the particular, indirect or consecutive damage, from contractual nature, that result from an offence or another cause.



8.0 AUTHORIZED SERVICE DEALERS



by Vanair inc.

Customer service

Tel. : 1.450.672.6071
info@helitowcart.com



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