



Before starting the assembly of the device, carefully read the safety provisions below

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Introduction to reading the manual

This document represents the use and maintenance manual of the SS1 electro-actuated gearbox and contains all the information necessary for a correct and safe use of the system.

The safety warnings are based on general indications, and some illustrations or photographs, given by way of example, may not correspond to the models of machines covered by the specific supplies.


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|  | OBLIGATION TO BEHAVE |
| <p>Before using the machines it is mandatory to read carefully what is reported in this manual. The information contained is essential to be able to operate in safe conditions.</p> | |


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|  | IMPORTANTE |
| <p>The information contained in this manual must be an integral part of staff training.</p> <p>Their understanding and application helps to limit the residual risk conditions presented by the system and consequently to decrease the chances with which an accident can occur to people.</p> | |

b) General safety indications

Personnel must use the system correctly, using the control and adjustment devices in the manner explained in the user manual, respecting the guards and safety devices, observing the provisions and instructions received, both for the use and installation phase of the system.


Personnel must never operate with a conduct that compromises, with actions or omissions, the observance of the basic rules of safety aimed at the collective and individual protection of people.

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|  | OBLIGATION TO BEHAVE |
| <p>It is mandatory to comply with the procedures and safety warnings contained in this user manual, to prevent incorrect behavior and limit residual risks.</p> <p>Failure to comply with the procedures and warnings is to be considered an improper and non-correct use of the machine and therefore the manufacturer declines its responsibilities in case of accidents or damage to the system.</p> | |

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|  | PROHIBITION |
| <p>It is absolutely forbidden to make changes to the system. Changes that go beyond ordinary and extraordinary maintenance entail the cancellation of the declaration of conformity and the brand: any subsequent responsibility related to the use of the system thus modified or is exclusively borne by the Customer.</p> | |

c) Own use and incorrect use of machines

The SS1 electro-actual gearboxsystem, described in this manual, has been specially designed and manufactured to be used on systems that cannot circulate on roads,nor for go-karts with the exclusive purpose of use in competitions.

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|  | PROHIBITION |
| <p>It is absolutely forbidden to use the D-Shifter/s electro-actuated gearbox systemfor purposes and applications not foreseen and described in this use and maintenance manual. Failure to comply with the limits of use of the system (own use) makes any responsibility on the part of the manufacturer lapse, which declines all responsibility in the event of accidents to people and / or damage to property.</p> | |

The operating methods and installation phases indicated in this manual represent the "OWN USES" of the system:any use other than that described in this user manual is to be considered an "INCORRECT USE" of the machines.


Among the improper / foreseeable uses of the system are indicated (non-exhaustive list):


- use of the system for purposes not relevant (e.g. use of the system on vehicles circulating on roads),not provided for by design or not expressly indicated in this manual;
- use of the system outside the operating ranges, such as voltages and electrical frequencies other than those reportedand in this use and maintenance manual;
- use of the system without subjecting itor periodically to checks, cleaning, maintenance and how much it can guarantee its integrity over time;
- installation, adjustment, adjustment or assembly of the system in a manner different from what is indicated in this manual.

d) CE conformity

The D-Shifter/s electro-actuated gearbox system has been subject to verification of compliance with the applicable European product directives and is accompanied by the following certificates:

- EC Declaration of Incorporation, in compliance with Directive 06/42/EEC "Machinery" and all the directives connected and applicable to it, signed by the Legal Representative;
- Identification plate on the system.

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|  | ATTENTION |
| <p>Unauthorized modifications, interventions that go beyond ordinary and extraordinary maintenance, insertion of new groups, tampering with the system and the relative implant or electrical, entail the cancellation of the declaration of incorporation issued.</p> | |

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|  | ATTENTION |
| <p>The D-Shifter/s electro-actuated gearbox system is accompanied by a declaration of incorporation in accordance with the Machinery Directive 06/42/EC. It is absolutely forbidden to put the aforementioned system into service before the final machine, in which it must be incorporated or, has not been declared compliant, where appropriate, with the provisions of the applicable directives and CE marked by the Customer or his delegate.</p> | |

(e) Residual risks

Risks are defined as residual if they cannot be completely eliminated at the design stage; generally they depend on the very nature of the processing, the type of system and the foreseeable (even incorrect) behavior of the users.

The following list has the function of giving the operator the information for the correct management of residual risks (their cause, methods of prevention of accidents related to them, etc.) that may occur during the various stages of the life of the system.


| Danger | Risk condition and safety measures |
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| Mechanical hazards <ul style="list-style-type: none"> • Crushing • Abrasion • Entangling • Collision | <p>In case of contact with the mechanical links that transmit the motion from the actuator to the engine during the use phase of the go-kart</p> <p style="text-align: center;"><u>MEASURES:</u></p> <ul style="list-style-type: none"> • During the installation and use phase of the system, check that the linkages are not in an achievable position, even accidentally by the pilot in his normal driving position. • Do not control the movement of linkages if a person is also partially exposed to the risk of contact with them. |
| Mechanical hazards <ul style="list-style-type: none"> • Crushing • Abrasion • Entangling • Collision | <p>In case of contact with the mechanical links that transmit the motion from the actuator to the engine during the installation phase of the system on the go-kart.</p> <p style="text-align: center;"><u>MEASURES:</u></p> <ul style="list-style-type: none"> • The installation of the system must be carried out in accordance with the procedures and warnings set out in this manual. • Disconnect the electric battery before performing interventions near or directly on the system. • Do not control the movement of linkages if a person is also partially exposed to the risk of contact with them. |
| Mechanical hazards <ul style="list-style-type: none"> • Cut • Abrasion | <p>Contact with potentially sharp metal profiles during maintenance. Human errors during maintenance. Rust or damage to metal structures.</p> <p style="text-align: center;"><u>MEASURES:</u></p> <ul style="list-style-type: none"> • System maintenance must be performed after disconnecting the electric battery. • Pay attention to the edges and surfaces that, even as a result of normal wear and tear may have become sharp. • Use appropriate PPE (protective gloves). |

| Danger | Risk condition and safety measures |
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| Mechanical hazards <ul style="list-style-type: none"> • Crushing • Abrasion • Collision | <p>In case of errors during the installation phase or for lack of maintenance, you could have the disconnection of a mechanical transmission organ.</p> <p style="text-align: center;"><u>MEASURES:</u></p> <ul style="list-style-type: none"> • The installation of the system must be carried out in accordance with the procedures and warnings set out in this manual. • Check periodically and before the stages of use the correct functioning of the system. • Perform the periodic maintenance and control interventions indicated in this manual. |
| Mechanical hazards <ul style="list-style-type: none"> • Crushing • Abrasion • Collision | <p>In case of non-maintenance or system mounting errors. The risk arises if during the driving phase of the system there is a detachment of the pieces, which due to the speed of movement of the go-kart could lead to the projection of parts towards the driver and the people who are near the system.</p> <p style="text-align: center;"><u>MEASURES:</u></p> <ul style="list-style-type: none"> • The installation of the system must be carried out in accordance with the procedures and warnings set out in this manual. • Check periodically and before the stages of use the correct functioning of the system. • Perform the periodic maintenance and control interventions indicated in this manual. |
| Mechanical hazards <ul style="list-style-type: none"> • Crushing • Abrasion • Collision | <p>In case of malfunction of the system, there could be an unexpected change in the dynamic set-up of the system</p> <p style="text-align: center;"><u>MEASURES:</u></p> <ul style="list-style-type: none"> • The installation of the system must be carried out in accordance with the procedures and warnings set out in this manual. • Check periodically and before the stages of use the correct functioning of the system. • Perform the periodic maintenance and control interventions indicated in this manual. |
| Electrical hazards <ul style="list-style-type: none"> • Electrocution | <p>As a result of breakdowns or incorrect behavior by the personnel operating on the go-kart (both use and maintenance phases).</p> <p style="text-align: center;"><u>MEASURES:</u></p> <ul style="list-style-type: none"> • System maintenance must be performed after disconnecting the electric battery. • The manual provides precise indications about the type of battery to be used. |
| Chemical hazards <ul style="list-style-type: none"> • Burn | <p>In case of leakage of acid from the battery used</p> <p style="text-align: center;"><u>MEASURES:</u></p> <ul style="list-style-type: none"> • The manual provides precise indications about the type of battery to be used. • Comply with the warnings given in the manual and those provided by the original battery manufacturer. |


| Danger | Risk condition and safety measures |
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| <p>Hazards of various kinds</p> <ul style="list-style-type: none"> • Intoxication • Fire | <p>Sparks may be generated inside the actuator and control box that could give rise to a fire or explosion if one of the elements should come into contact with flammable liquids or gases. , however, they may have areas that are potentially sources of risk.</p> <p style="text-align: center;"><u>MEASURES:</u></p> <ul style="list-style-type: none"> • In case of accidental spillage of flammable liquids and/or gases, immediately stop using the device, move away and wait for the complete dissolution of flammable gases and liquids. • Use the system and perform maintenance only in sufficiently ventilated environments • Carefully read the use and maintenance manual. • Disconnect the electric battery before performing interventions near or directly on the system. |

f) Safety indications for the installation and use phase

The warnings and indications given in this section of the manual are of fundamental importance to ensure the correct installation and correct use of the SS1 electro-actuated gearbox system.


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|  | IMPORTANT |
| <p>The system works with any type of battery that has, only and only, a nominal voltage of 14.80V [max 16.80 V]. A battery with a higher voltage would damage the actuator and could cause injury to people who are operating directly or indirectly on the system.</p> | |


It is recommended to use a 14.8V 6000mAh LiPo 4S battery.


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|  | ATTENTION |
| <p>The use of the acid battery NOT of the maintenance-free type, can be dangerous in the event of leakage of the acid itself.</p> | |

NOTE: Before starting the assembly of the kit you must check for all the components listed below. If any deficiencies are found, please contact the seller before continuing;

The interventions of, cleaning and installation of the system must always be carried out only and exclusively after having performed the sectioning of the power sources, in particular of the electric battery. The presence of electrical voltage could be the cause of electrocution (however of low magnitude given the electrical limits of the battery) or unexpected behavior, such as accidental triggers of the system.

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|  | OBLIGATION TO BEHAVE |
| <p>All operations carried out directly or near the system MUST be carried out WITHOUT POWER, disconnect and keep the battery disconnected until the intervention phase on the system is completed</p> | |

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|  | IMPORTANT |
| <p>The system is considered watertight only up to an intensity of rain such as to allow the normal conduct of a race on the circuit. Do not use pressure jets on the components of the kit;</p> | |

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|  | OBLIGATION TO BEHAVE |
| <p>All containers are normally closed in order to prevent contact with water, dust and liquids in general. Sand the containers are visibly damaged or not closed properly stop using the device immediately and contact support.</p> | |

g) Technical Specifications

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| Device name | D-Shifter/s |
| Nominal voltage | 12V (12-18V) |
| Rated current | 10.7A |
| Standby current | 0.1mA |
| Theoretical max. force to the actuator | 500N |
| Actuator dimensions [L, W, H] | 140X60X60 mm |
| Control box dimensions | 80x60x32 mm |
| System weight excluding battery | Approx. 1.20 kg |

h) Declaration of incorporation

The company The Lab Europe declares and confirms that the design and implementation of the **D-shifter/s** system has been carried out according to the regulations on the construction of machines defined as follows according to European directives:

2006/42/EG (EU-machines directive) ;

2004/108/EC/EMC (EU-EMV-Directive);

It follows that the product enjoys European certification of conformity.

CE Mark 2018

Designed and made in Italy,



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