

# User manual



## ***EASY 4000***



EN

Read this manual carefully, before the first use

---

**Product reference :**

---

<b>Reference</b>	<b>Product</b>
I60.30.109	EASY 4000 SUR REMORQUE + ELEV 1200 MM + ATTELAGE BOULE
I60.30.114	EASY 4000 SUR REMORQUE + ELEV 600 MM + ATTELAGE BOULE
I60.30.113	EASY 4000 SUR REMORQUE SANS ELEVATION + ATTELAGE BOULE
I60.30.112	EASY 4000 SUR SKID + ELEVATION 1200
I60.30.111	EASY 4000 SUR SKID + ELEVATION 600
I60.30.110	EASY 4000 SUR SKID + SANS ELEVATION
I60.30.117	EASY 4000 SUR SKID + ELEVATION 1200 + ROTATION
I60.30.115	EASY 4000 SUR SKID + ELEVATION 600 + ROTATION

# Contents

## Contents



<b>1 INTRODUCTION</b>	<b>4</b>
<b>2 SAFETY ADVICE</b>	<b>4</b>
<b>3 GENERAL SPECIFICATIONS &amp; PERFORMANCES</b>	<b>5</b>
3.1 General features	5
3.2 Engine specification	8
3.3 Capacities	8
3.4 Options	8
3.5 Manufacturers serial plate	8
<b>4 COMMISSIONING INSTRUCTIONS</b>	<b>9</b>
4.1 Dashboard	9
4.2 Starting up	10
4.3 Stopping	10
4.4 Remote control	11
4.5 Run out of petrol	11
4.6 Atomisation	12
4.7 Wheel block	12
4.8 Suction duct	12
4.9 Duct blow	12
4.10 Rear stabiliser stand	12
4.11 Battery recharge	13
4.12 Towing	13

<b>5 MAINTENANCE OPERATIONS</b>	<b>14</b>
5.1 Maintenance programme	14
5.2 Removing the casing and the bellows	15
5.3 Fuses	16
5.4 Levels	17
5.5 Adjusting the engine speed	18
5.6 CLEANING THE RADIATOR	18
5.7 Elevation (Option)	18
5.8 Air filter	20
5.9 Air filter clogging indicator (optional)	20
5.10 Changing the gearbox oil	21
5.11 Changing the motor oil	22
5.12 Spark plugs	23
5.13 Fan	24
5.14 Fuel filter	24
5.15 Exhaust spring	25
5.16 Alternator belt	25
<b>6 FAILURE</b>	<b>26</b>
<b>7 SPARE PARTS</b>	<b>27</b>
<b>8 MAINTENANCE LOG BOOK</b>	<b>29</b>
<b>9 ANNEXE</b>	<b>30</b>
<b>10 WARRANTY</b>	<b>34</b>

## 1 INTRODUCTION

This booklet has been produced to help you use and install the **EASY 4000** ventilators safely.

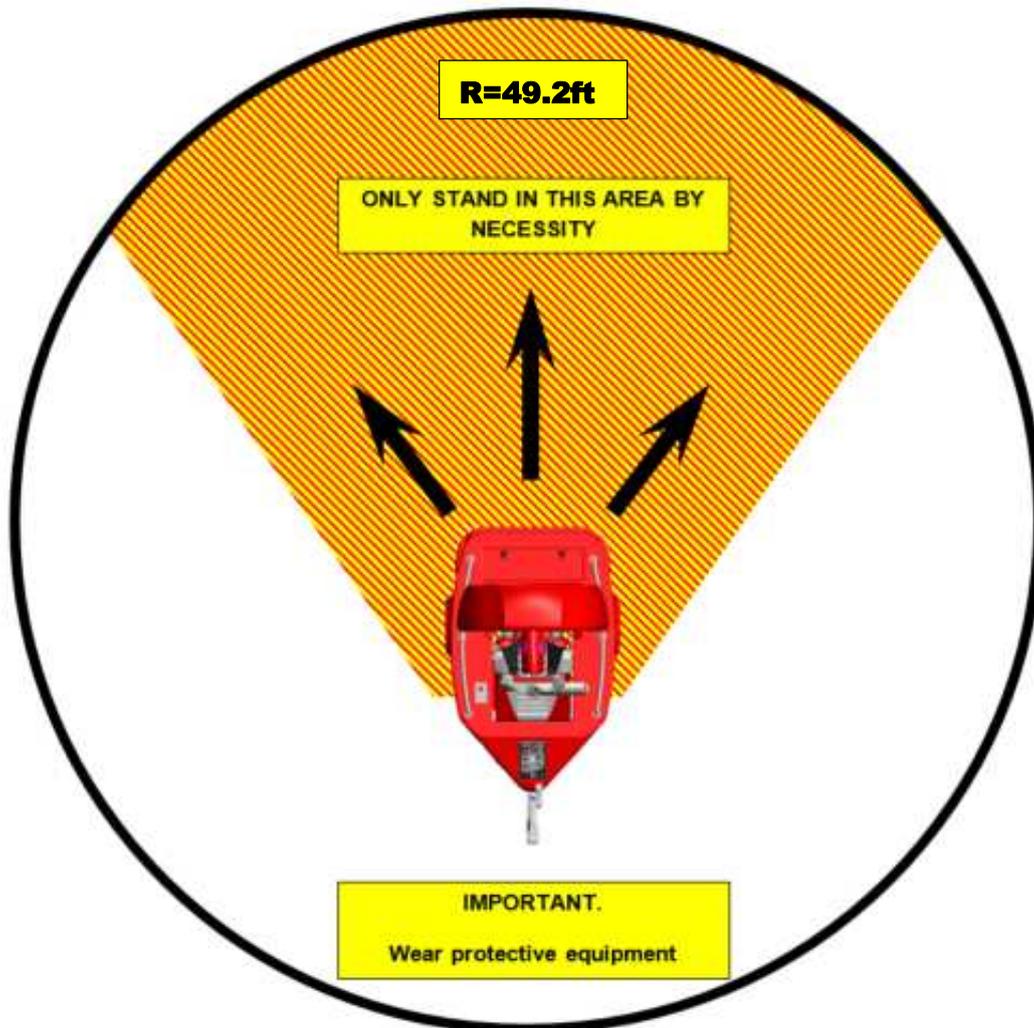
The instructions for use and maintenance must be followed to prevent any incidents.

To make improvements to this booklet, **LEADER**, welcomes your suggestions. Do not hesitate to let us know.

## 2 SAFETY ADVICE



- This equipment is manufactured in compliance with **EC** directives. Its use is reserved for firefighting professionals only.
- Read the whole of this manual and the instructions for use before commissioning and using the equipment.
- Keep fingers and hands away from the turbine and the moving parts.
- Only have this ventilator operated and repaired by qualified, trained personnel.
- Do not start the motor if the blades or the casing show signs of alterations.
- Never move the ventilator while it is operating.
- Never change the angle or the elevation or the rotation when the ventilator is at full speed.
- Always replace a defective part by an original part supplied by **LEADER**.
- Do not dismantle before having disconnected the battery, pushed down the emergency stop and cut the contact.
- After a maintenance operation, check that all tools that were used have been retrieved.
- Blower ventilators must not be used in explosive atmospheres.
- Do not stand in the ventilator discharge zone (risk of projections).
- Keep out of the reach of children.
- Wear protective goggles, gloves and a soundproof helmet when using the ventilator.
- Do not wear too loose clothes that could become entangled in the ventilator.
- Never authorise anyone to use a ventilator without having supplied the necessary instructions.
- Start the ventilator after having made sure it is in a stable position, that the wheel blocks are installed and that the trailer brake is on.
- Do not drive with the elevation deployed.
- When used in extraction the **EASY4000** must be positioned away from the fireplace and must not be exposed to temperatures above **60 ° C (140°F)**.
- The air filters must not be clogged (**see §5.8**).
- Use only the accessories provided and validate by **LEADER**.



### 3 GENERAL SPECIFICATIONS & PERFORMANCES

#### 3.1 General features

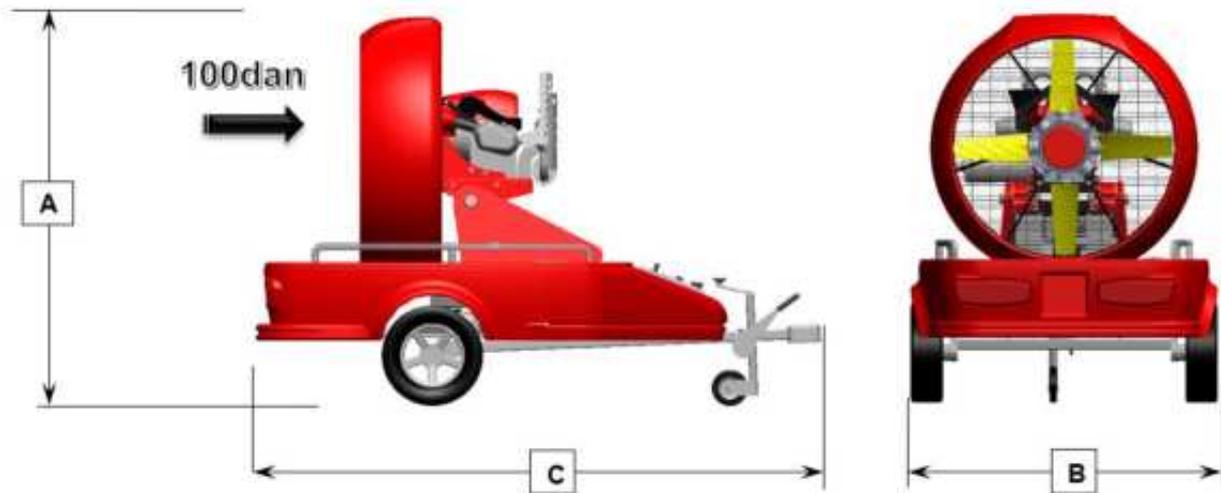
❖ **Manufacturer:**

**LEADER**  
**ZI des hautes vallées**  
**Chemin N°34**  
**76930 OCTEVILLE SUR MER**  
**FRANCE**

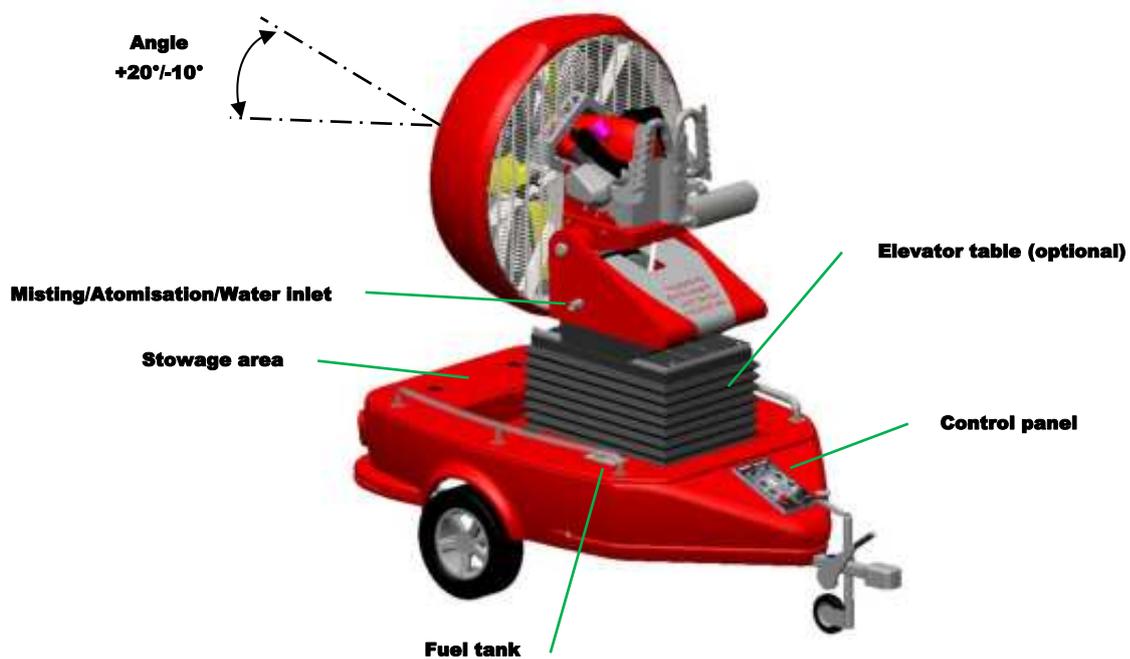
- Working area LED illuminated.
- blade fan.
- Water Mist/Atomisation 260 l/min (68.7Gpm) at 7 bar (100Psi) from 5 nozzles. Maximum pressure 10 bar (145Psi).
- Fan driven by a rack gear reducer and a centrifuge gear.
- Battery recharge socket.
- Wheel block.
  
- **Sound level at 7m:** 96dBA
- **Fuel:** Lead-free octane 95 petrol
- **Rated air flow:** 180,000m<sup>3</sup>/h (6356640 cu ft/h)
- **Running time:** 1h40

Size:

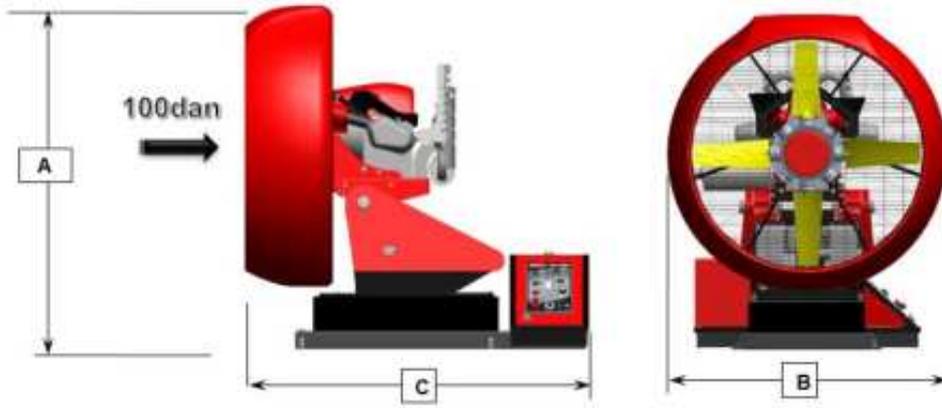
## TRAILER VERSION



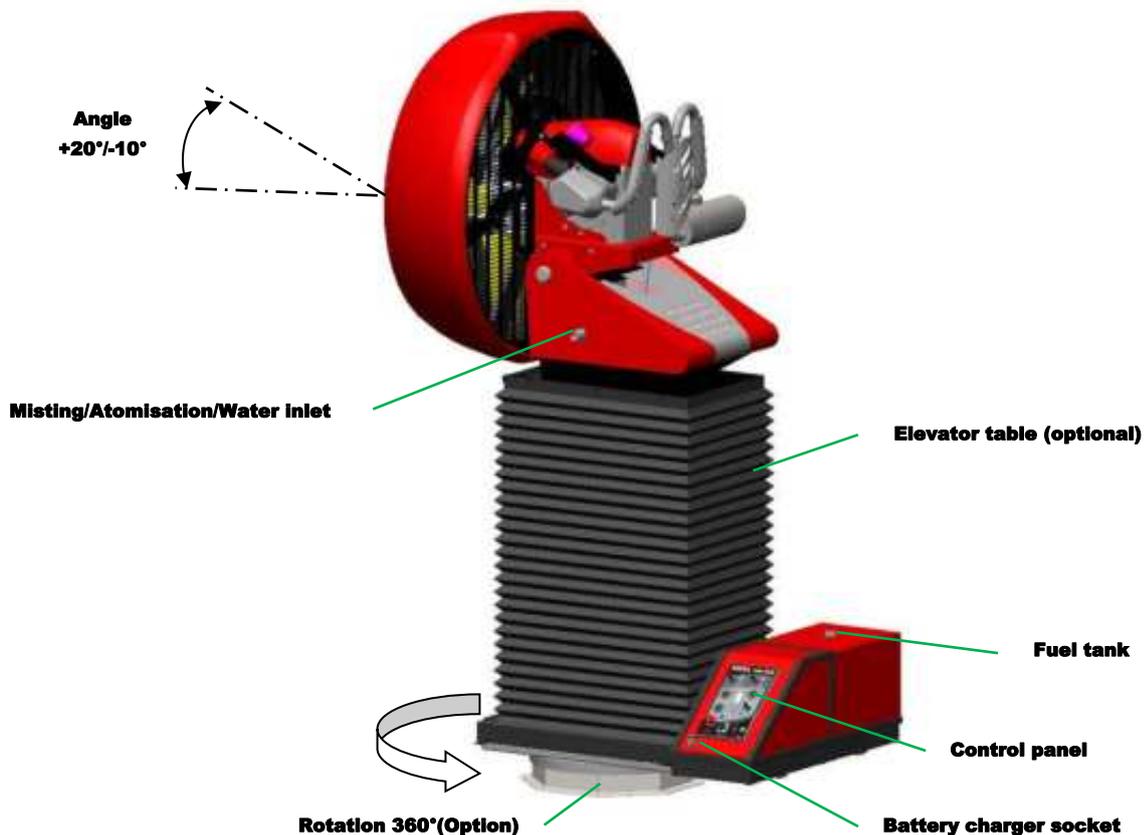
Version	Option	Height A	Width B	Length C	working Weight
Trailer (tow-bar)	without elevation	2185 mm (7,17ft)	1690 mm (5,55ft)	3300 mm (10,80ft)	579kg (1276,5ib)
	elevated to+600mm (1,97ft)	2215 mm (7,27ft)	1690 mm (5,55ft)	3300 mm (10,80ft)	680kg (1499ib)
	With Elevated +1200mm (3,94 ft)	2315 mm (7,60ft)	1690 mm (5,55ft)	3300 mm (10,80ft)	725kg (1598ib)



## SKID VERSION



Version	Option	Height A	Width B	Length C	working Weight
Skid	Without elevation	1618 mm (5,31ft)	1482 mm (4,82ft)	1815 mm (5,96ft)	405kg (893ib)
	With elevation +600mm (1,97ft)	1789 mm (5,87ft)	1482 mm (4,82ft)	1815 mm (5,96ft)	506kg (1115,6ib)
	With elevation +1200mm (3,94 ft)	1922 mm (6,30ft)	1482 mm (4,82ft)	1815 mm (5,96ft)	551kg (1214,8ib)
Skid with 360° rotation	Without elevation	1792 mm (5,87ft)	1482 mm (4,82ft)	1815 mm (5,96ft)	474kg (1045ib)
	With elevation +600mm (1,97ft)	1963 mm (6,44ft)	1482 mm (4,82ft)	1815 mm (5,96ft)	575kg (1267,7ib)
	With elevation +1200mm (3,94 ft)	2096 mm (6,88ft)	1482 mm (4,82ft)	1815 mm (5,96ft)	620kg (1366,9ib)



## 3.2 Engine specification

- **Brand:** BMW.
- **Type:** Flat two-cylinder, 4 strokes.
- **Displacement:** 1170cm<sup>3</sup>.
- **Power:** 115HP.
- **Alternator:** 5000W.
- **Speed:** Up to 7000rpm.
- **Cooling:** Air and oil cooled.
- **Start-up:** Electronic ignition.
- **Exhaust:** Catalytic converter.
- **Injection and double ignition:** Electronic

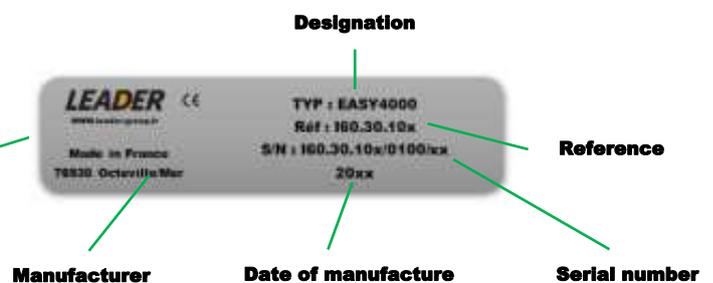
## 3.3 Capacities

Description	Type	Qty
<b>Fuel</b>	Lead-free octane 95 EN228	42L (11.10Gal)
<b>Motor oil</b>	CASTROL Power1 Racing 10W40 API SL - JASO MA2	4L (1,057Gal)
<b>Gearbox oil</b>	CASTROL SAF XJ 75-140 YACCO BVX C100 85W140	0.25L(0.066Gal)

## 3.4 Options

- Elevation +600mm (1,97ft).
- Elevation +1200mm (3,94 ft).
- Rotation 360° (on SKID version).
- Projector.
- Exhaust evacuation duct: avoids sending exhaust fumes into a ventilated room. 4 ducts each with a unit length of 2.5m (13.12ft) can be combined.
- Remote control.
- Suction duct.
- Duct blow.
- Air filter clogging indicator.

## 3.5 Manufacturers serial plate



## 4 COMMISSIONING INSTRUCTIONS

### 4.1 Dashboard



- |                              |   |
|------------------------------|---|
| <b>1- Battery cut-off:</b>   | Provides electric power to the entire ventilator.   |
| <b>2-Ignition:</b>           | Used to start and stop the motor.   |
| <b>3-Starter:</b>            | Used to start the engine.   |
| <b>4-Emergency stop:</b>     | Used to stop the engine, the elevator table and the angle.  |
| <b>5-Rev counter:</b>        | Used to control engine output.  |
| <b>6-Hour meter:</b>         | Used to view engine operating time. It is triggered as soon as the ignition is "ON".  |
| <b>7-Fuel level:</b>         | Shows 25min of running time per ¼ fuel tank at full power.  |
| <b>8-Engine temperature:</b> | Indicates the motor oil temperature. It must remain below 130°C (266°F).  |
| <b>9-Engine power:</b>       | Used to regulate the ventilator speed.  |
| <b>10-Oil pressure:</b>      | Indicates the motor oil pressure.   |
| <b>11-Elevation:</b>         | Used to raise and lower the ventilator (optional).  |
| <b>12-Angle:</b>             | Used to change the angle from -10° to +20°.   |
| <b>13-Voltage indicator:</b> | Indicates when power is on. It switches from green to red when the battery is low.  |
| <b>14-Fuel alarm:</b>        | Switches from green to red when low on fuel.  |
| <b>15-Brake indicator:</b>   | Switches from red to green when the trailer brake is on. The engine cannot be started unless the brake is on.                 |
| <b>16-oil pressure:</b>      | Switches from red to green if oil pressure is correct after the engine is started. It remains red when the engine is stopped. |
| <b>17-Fuel primer:</b>       | This valve is allow the priming the fuel pump after a run out of fuel.  |

## 4.2 Starting up

Before starting up, make sure the trailer is in a stable position that its brake is on and the wheel blocks are in place. On uneven ground, use stabiliser stands (see 4.6).

- Check the fuel and motor oil levels before starting up.
- Check that the emergency stop is not pushed down (it is unlocked by rotating it).
- Check that the fuel primer valve [17] is on “ON” position.
- Put the battery cut-off switch [1] on “1”: The control panel should illuminate.
- Adjust the required angle and elevation using the joysticks [11] and [12].
- Check that all indicators [13], [14] and [15] are green.
- Put the accelerator [9] at... minimum.
- Turn the ignition [2] to “ON” after having lifted the cover.
- Press the starter [3] for a maximum of 5 seconds.
- Once the engine has started, make sure the oil pressure indicator is green and that the pressure on the dial [10] is sufficient (approx. 6 bar (87Psi)).
- In order to protect the engine, only increase engine power once the temperature [8] has reached 50°C (122°F).



**Do not leave the engine idling for more than 5 minutes**

**Avoid using a continuous speed between 3500 and 4500 rpm to protect unit from vibration.**

The engine speed must be between 1300 rpm ( $\pm 100$ ) when idling on a cold engine and 6900 rpm ( $\pm 100$ ) at full power.

## 4.3 Stopping

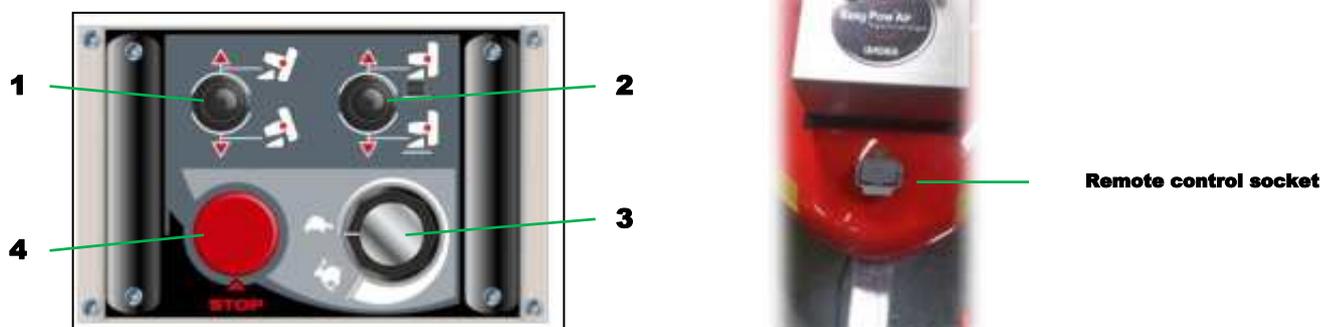
- Reduce the engine speed to the minimum [9].
- Turn the ignition [2] to “OFF”. The engine should stop.
- Adjust the angle [11] and elevation [12] to “0”.
- Put the battery cut-off switch [1] on “0”.
- Let the engine cool for a few minutes.
- Stow the accessories (exhaust duct, wheel blocks, etc.).



**The exhaust system remains very hot after use**

## 4.4 Remote control

The remote-control option allows the **EASY 4000** to be remotely controlled. It is fitted with a 13m cable. The use of this accessory makes it possible to adjust the slope, the elevation and the engine speed. After having connected the remote control, these 3 functions are no longer active on the main console. The **"STOP"** command on the remote control makes it possible to turn off the motor.



- 1-Slope:** Used to change the angle from  $-10^{\circ}$  to  $+20^{\circ}$ .
- 2-Elevation:** Used to raise and lower the ventilator (option).
- 3-Engine power:** Used to regulate the ventilator speed.
- 4-Stopping the motor:** Used to stop the engine using the remote control. Unlike the console emergency stop, it will not stop the slope or elevation controls.

### Setting up

- Connect the remote control to the connector near the console
- Check that the **"STOP"** button has not been pushed
- Set the engine power to the minimum on the remote control and the console
- Resume the start-up procedure (see.4.2)



**Connecting the remote control deactivates the slope, elevation and engine power controls on the main console.**

**Never connect or disconnect the remote control. when the motor is running.**

## 4.5 Run out of petrol

After a run out of fuel, you must priming the fuel pump following the procedure:

- Check the fuel and motor oil levels before starting up.
- Check that the emergency stop is not pushed down (it is unlocked by rotating it).
- Put the battery cut-off switch [1] on **"1"**: The control panel should illuminate.
- Put the priming valve [17] on **"FUEL PRIMER"**.
- Turn the ignition [2] to **"ON"** after having lifted the cover and turn off it after 4 seconds.
- Begin again 3 times.
- Put the priming valve [17] on **"ON"**.
- Turn the ignition [2] to **"ON"** after having lifted the cover and turn off it after 4 seconds.
- Begin again 3 times.
- Doing the starting up procedure (see.4.2).

## 4.6 Atomisation

Misting/Atomisation must only be connected after the engine has started. On versions with elevation, the ventilator must be raised before the water supply is turned on. The connection is supplied with a male 1"1/2BSP threading.



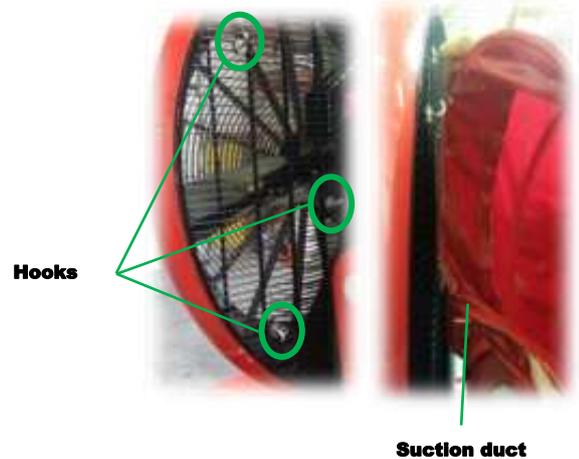
## 4.7 Wheel block

On the trailer version, 4 wheel blocks are shipped with your ventilator. It is imperative to install them before starting up. They guarantee that the ventilator is immobilised if the hand brake fails.



## 4.8 Suction duct

It is imperative to install it before starting. 3 fixing hooks are provided on the rear grid for attachment of the suction duct.



## 4.9 Duct blow

It is imperative to install it before starting. Straps with hooks are provided on the discharge duct for attachment to the ends of the rear gate.



## 4.10 Rear stabiliser stand

On the trailer version rear stands are provided to stabilise the trailer on sloping ground. They must be installed to avoid the appliance tipping over when elevation is used.



## 4.11 Battery recharge

The EASY4000 has a standard battery recharge socket located in the rear trunk.

### SKID Version



Battery recharge socket

Battery recharge fuse

### Trailer Version



A charger is delivered.



**In order to guarantee a sufficient charge level, it is recommended to charge the battery once every month or when the indicator switches to red.**



## 4.12 Towing

When towing your EASY4000 the following precautions are to be taken:

- The Jockey wheel must be dismantled.
- The connection to the towing hook must be checked.
- The safety cable must be attached to the towing vehicle.
- The electric connector must be installed on the towing vehicle.

Safety cable

Trailer hook

Jockey wheel

Electrical connector



- The indicator lights must be checked.

Indicator lights



- The shroud protection put in place.

Shroud protection



## 5 MAINTENANCE OPERATIONS

### 5.1 Maintenance programme

**Maintenance level:**

**Level 1:** Can be carried out by users.

**Level 2:** only carried out by a qualified mechanic.

**Level 3:** only carried out by the manufacturer.

Inspection or works	Maintenance frequency							Maintenance level	
	After each start-up	After each use	10 first hours of operation	Every 2 years	Every 50 hours	Every 100 hours	Every 200 hours		Chapter
Check the fuel level Check the motor oil level	X							5-4	1
<ul style="list-style-type: none"> <li>• Top up the fuel level</li> <li>• Fan condition (visual inspection without removal)</li> </ul> <b>On the trailer version:</b> <ul style="list-style-type: none"> <li>• Check for the presence of the Wheel Block, the Jack</li> <li>• Check the condition of the stand</li> <li>• Check the indicator lights (Lights, brake lights, etc.)</li> <li>• Tire pressure</li> <li>• Presence of the spare tire</li> </ul>		X							1
Change the gearbox oil			X			X		5.9	2
Change the motor oil + Filter			X	X		X		5.10	2
Clean the radiator					X			5.6	2
Elevation servicing					X			5.7	2
Adjust the motor speed					X			5.5	2
Inspect the exhaust pipe spring					X			5.14	1
Replace the exhaust pipe spring					X			5.14	2
Inspect the fan					X			5.12	1
Replace the fuel filter					X			5.13	2
Replace the air filter						X		5.8	1
Check the alternator belt						X		5.15	2
Replace the spark plugs							X	5.11	2
Change the alternator belt							X	5.15	2
Check the screwing mark		X							1



**Nothing must be dismantled unless the emergency stop has been pushed down and the ignition cut.**

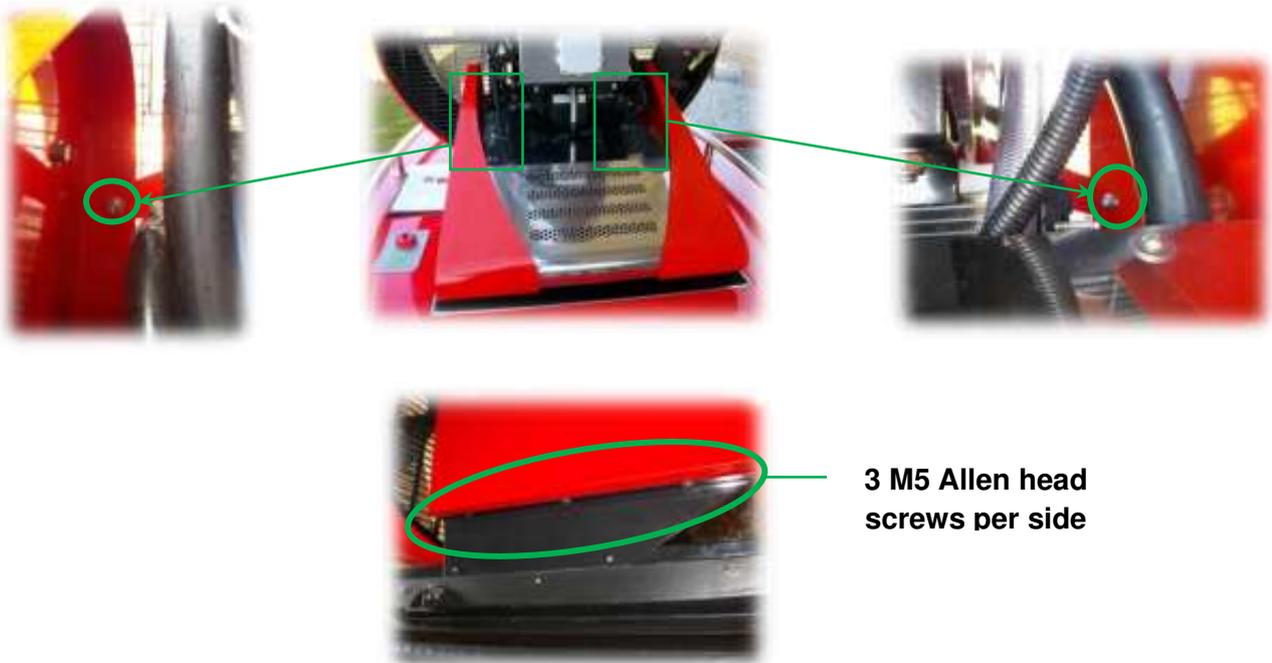
**All interventions should be on a cold engine.**

**Before working on the elevating table, install the safety as described in paragraph (see.5-6).**

## 5.2 Removing the casing and the bellows

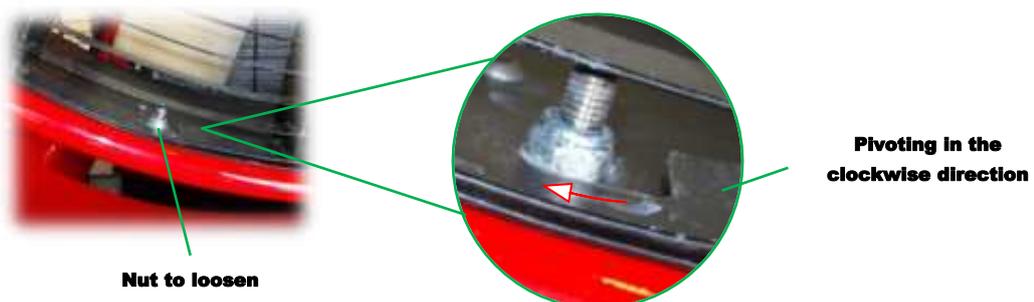
### Casing under the engine:

- Remove the 6 M5 Allen head screws.
- Remove the 2 M8 nuts.



### Front grate:

- Loosen the nuts.
- Unlock the grate by pivoting it clockwise.
- Remove the grate.

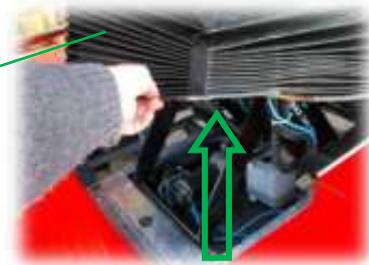


## Elevator table bellows (option):

- Put the ventilator in the high position.
- Lift the bellows manually to access under the elevator table (there are no fixtures on the base of the bellows).



**Bellows**



## 5.3 Fuses



### **10A FUSE: CONTROL PANEL PROTECTION**

Located under the control panel.

### **10A FUSE: ECU PROTECTION (Electronic control unit)**

Located under the control panel.

### **SKID version**

### **Trailer version**



### **10A FUSE: BATTERY CHARGER PROTECTION**

Located next to the charger socket.



**Fuse**

### **20A FUSE: ENGINE EQUIPMENT PROTECTION**

Located behind the oil radiators, close to the battery.

## 5.4 Levels

**Frequency:** Before each start-up.

### Motor oil level:



**Never remove the motor oil tank cap when the motor is hot. Wait for at least 25 minutes after stopping the engine.**



**Motor oil level**

The motor oil level is visible in the porthole located to the rear right of the engine. The oil level must be between the bottom and top of the red circle. It must be checked on a cold engine at least 5 minutes after it has been stopped. The hotter the engine, the higher the level will be.



**Motor oil cap**

Oil top-up is done via the top of the right cylinder. Top-ups should be made on a cold engine. Use the BMW wrench (ref: 2005749) to open the tank cap.

### Filling the fuel tank:

The fuel level is checked on the control panel screen.



**Fuel tank access cap**

### Recommended type of fuel:

- min. RON90
- EN228 Regular
- EN228 Premium
- EN228 Premium plus

## 5.5 Adjusting the engine speed

**Frequency:** Every 50 hours.

An electric cylinder controls the engine speed.

Engine speed is adjusted using its control which is located on the control panel.

### Idling speed on a hot engine at 2000rpm:

- Check the engine idling speed.
- After having stopped the engine, adjusted the idling adjustment potentiometer.
- Restart the engine to check the adjustment.

### Maximum speed to be adjusted on a hot engine at 6800rpm:

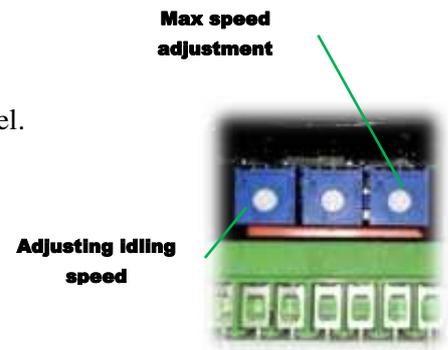
- Check that the engine speed is on full power.
- After having stopped the engine, adjusted the max speed adjustment potentiometer.
- Restart the engine to check the adjustment.

**NB:** the engine's ECU (Electronic control unit) limits the speed to 7000rpm.

At this speed the engine can misfire. It is therefore imperative not to exceed it.



**The potentiometer adjustments must be made on a stopped engine.**



**Engine speed control on the control panel**

## 5.6 CLEANING THE RADIATOR

**Frequency:** Every 50 hours.

When using in a very smoky environment, the frequency of cleaning needs to be increased.

2 oil radiators are located in the engine underside structure.

- Remove the casing under the engine (see.5.2).
- Clean the radiator using a compressed air nozzle.



**Oil radiators**

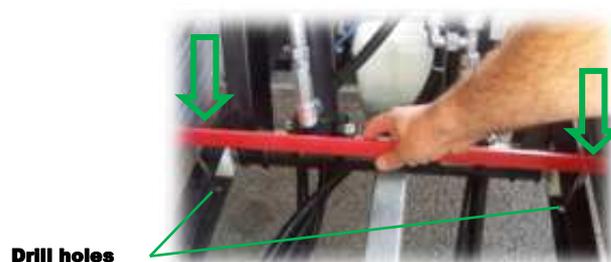
## 5.7 Elevation (Option)

**Frequency:** Every 50 hours.

- Put the table in the high position.
- Remove the upper part of the bellows with the table (see.5.2).



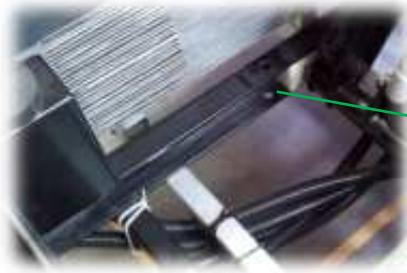
**INSTALL THE SAFETY DEVICE SHIPPED WITH THE TABLE IN THE HOLES IN THE LOWER RAILS WHEN IT IS RAISED.**



**Drill holes**

- Grease the lower and upper right and left rails.

## Lower rail



## Upper rail



Rails to be greased

- Check the oil level in the pump tank and top up if required using hydraulic oil.

Filling cap



Adjustment of the lowering speed  
Loosen to decrease the speed

2cm minimum  
in the upper

Pressure adjustment  
Loosen to decrease the pressure Max  
150bars



**In the event of malfunction of the pump if the table is in the up position, to make it go back down, operate the emergency valve. Do not forget to put the valve back to its original position.**

## SKID version

## Trailer version



On the chassis



In the trunk

## 5.8 Air filter

**Frequency:** Every 100 hours (Do not rely on the appearance of the filter).

When using in a very smoky environment, the frequency of cleaning or replacement needs to be increased. 2 air filters are located above the engine.

- Remove the 2 air filters after having removed their fixing collars.
- The use of chemicals or compressed air is not recommended when cleaning the filters.
- Only use the K&N cleaning product.



## 5.9 Air filter clogging indicator (optional)

**Principle:** The system permanently installed on **Easy 4000** continuously monitors the level of filter clogging. It allows you to decide whether or not to realise Service filters.



**Use:** The indicator should be used at full engine speed.



**Press to reset.**



**Green area above 3.5KPa:  
Filter in good condition.**

**Red zone below 3.5KPa: It is necessary to change or clean the filter.**



**Never use the EASY4000 if the indicator is greater than or equal to 3.5Kpa.  
This could damage the fan irreparably.**

## 5.10 Changing the gearbox oil

**Frequency:** After the first 10 hours and then every 100 hours.

The gearbox is located between the engine and the fan.

Remove the front grate (see 5.2).

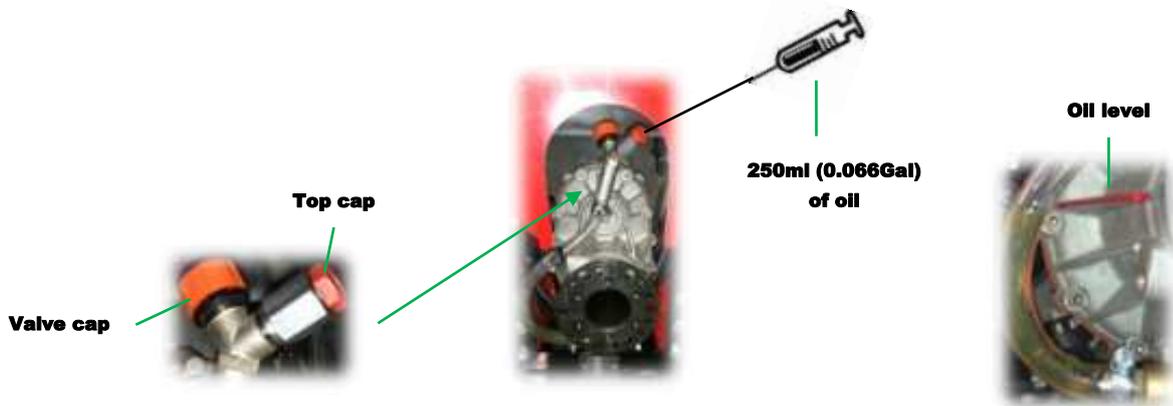
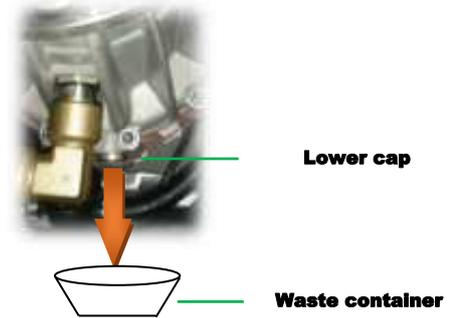
Remove the fan (see 5.12).

### To drain the gearbox oil:

- Remove the lower cap.
- Collect the used oil.
- Refit the lower cap.

### To fill the gearbox:

- Check the tightening of the lower cap.
- Remove the top cap.
- Pour in 250ml (0.066Gal) of oil.
- Refit the upper cap.



### Only use the following gearbox oil:

- CASTROL SAF XJ75-140
- YACCO BVX C100 85W140

## 5.11 Changing the motor oil

**Frequency:** After the first 10 hours and then every 100 hours.



**Never remove the motor oil tank cap when the motor is hot. Wait for at least 25 minutes after stopping the engine before opening it.**

The motor oil must be changed when the engine is cold.

- Place the engine in a horizontal position.
- Remove the filler cap using the wrench (ref 2005749) supplied with the appliance.
- Remove the purge cap using an 8mm Allen wrench.
- After having collected the used oil, remove the oil filter.
- Refit the purge cap taking care to replace the gasket. (Tightening torque: 32Nm).
- Fit a new oil filter (tightening torque: 11Nm).
- Fill up to the correct level (4l when changing the filter).



**Filling cap**



**Drainage cap**

**Oil filter**

**NB:** The oil filter wrench (ref 2005748) can be used to help you remove it. (Not supplied with the appliance).

**Oil type:** 10w40 - 4 Stroke - 100% synthetic Power1 Racing.

 **POWER1 Racing**

## 5.12 Spark plugs

**Frequency:** Every 200 hours.

Change all 4 spark plugs. Only change the spark plugs on a cold engine.

- Remove the spark plug guards as shown in the photo below.
- Remove the interference suppressors from the 4 spark plugs.
- Remove the spark plugs using a (ref 2005751) wrench.
- Fit 4 new spark plugs tightened to a torque of 20Nm (for NGK DCPR8EKC).
- Refit the 4 interference suppressors and the guards.

**Spark plug cache at the end of the cylinder:  
Must be removed from the bottom.**



**Spark plug cache under the cylinder.  
Unscrew the 3 screws using a size 4 Allen wrench.**

## 5.13 Fan

**Frequency:** Every 50 hours.

- Remove the front grate (see 5.2).

### INSPECTING THE FAN

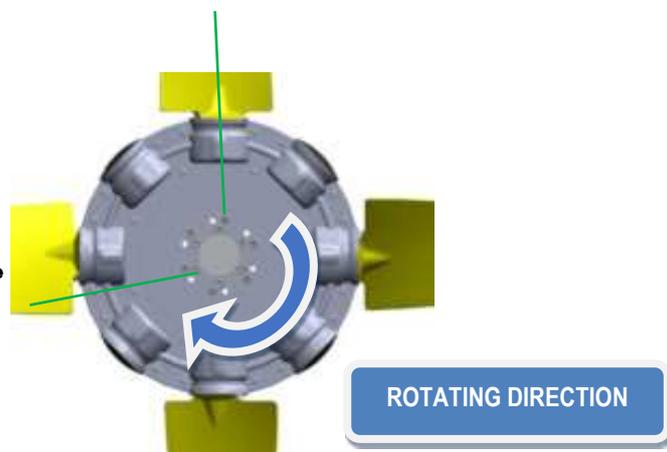
- Check the appearance of the fan blades. The blades must be clean and complete. A chip on the fan requires it to be changed.
- Check for the presence and the tightening of the 12 fan screws and nuts.

### REPLACING THE FAN

- Remove the 6 counter-nuts behind the body.
- Remove the 6 fan fixture screws.
- Refit the new fan making sure of its rotating direction.
- Apply **Loctite 2701** and new nylon ring counter nuts.
- Refit the front grate.

**6 M8x90 Allen screws class 8.8 for the fixture of the fan at a torque of 25 Nm and 6 counter-nuts with nylon rings. with loctite 2701**

**M8x75 Allen screws class 8.8 for the fixture of the fan at a torque of 25 Nm and 6 counter-nuts with nylon rings. on the rear. with loctite 2701**



**MAKE SURE NO TOOLS ARE LEFT IN THE FAN CAGE BEFORE REFITTING THE FRONT GRATE.**

## 5.14 Fuel filter

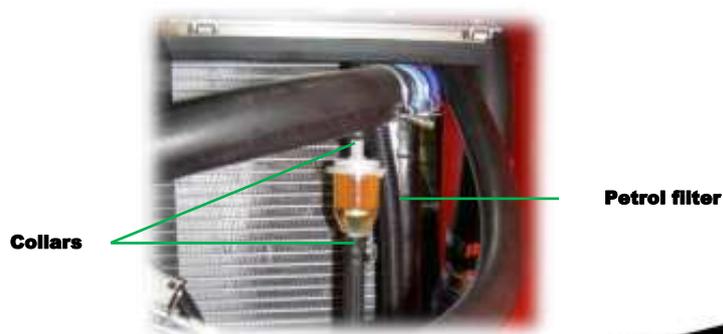
**Frequency:** Every 50 hours.

The fuel filter is located under the engine structure.



**The fuel circuit may be under pressure. Work on the fuel circuit is only carried out on a cold engine.**

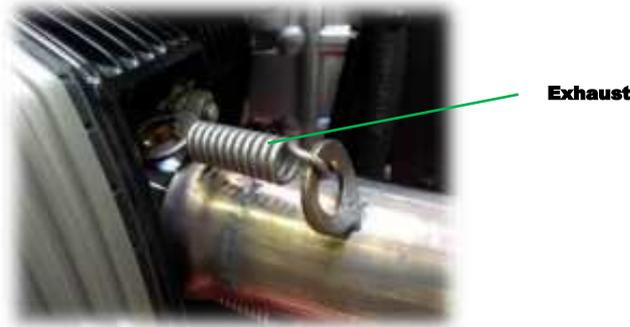
- Remove the casing under the engine (see 5.2).
- Remove the collars upstream and downstream of the fuel filter.
- Take out and change the filter.
- Make sure the fuel does not leak when dismantling.



## 5.15 Exhaust spring

**Frequency:** Replacement every 50 hours.

Regularly check the presence and the completeness of the 8 exhaust pipe springs.

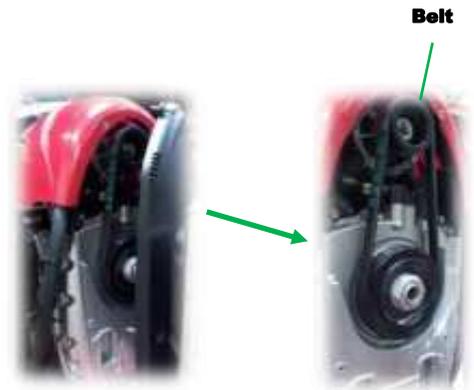


## 5.16 Alternator belt

**Frequency:** inspection every 100 hours - replacement every 200 hours.

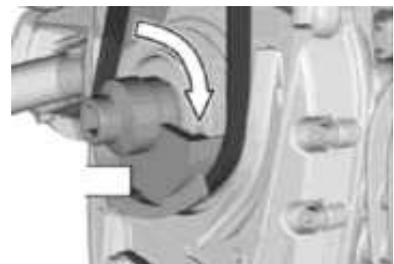
The alternator belt is located to the rear of the engine.

- Remove the rear engine casing.
- Check the belt condition.



### To change the belt:

- Place the BMW tool (ref **BMW 12 3 591**) on the belt.
- Tool not supplied.
- Turn the engine clockwise so that the tool slides between the pulley and the belt.
- Remove the belt and install a new one.



Refit the rear casing checking for the presence of the blocks under the screws.

## 6 FAILURE

### Maintenance level:

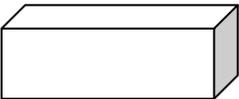
**Level 1:** Can be carried out by users.

**Level 2:** only carried out by a qualified mechanic.

**Level 3:** only carried out by the manufacturer.

Symptoms	Possible cause	Solutions	Level
Indicator [14] on red	Lack of fuel	Fill the fuel tank	1
Indicator [13] on red	Battery low	Recharge the battery	1
The engine will not start	The trailer brake is not on	Put the trailer brake on	1
	Defective fuel pump	Change the fuel pump	2
	No more fuel	Fill the fuel tank	1
	The battery is low	Recharge the battery	1
The engine temperature is rising and reaches 130°C	The surrounding temperature is too high	Reduce the engine speed and check the temperature drop	1
	Dirty radiator	Clean the radiator	2
The engine cuts off	No more fuel	Fill the fuel tank	1
	The fuel filter is dirty	Change the fuel filter	2
	Insufficient air supply	Clean or change the air filter	2
	Dirty spark plugs	Replace the spark plugs	2
The engine will not reach its maximum speed or operates erratically	Dirty spark plugs	Replace the spark plugs	2
	Dirty air filter	Clean or change the air filters	2
	Rods out of line	Adjust the engine speed	2
The starter is not operational	Engine equipment fuse blown	Change the fuse	1
The engine misfires at top speed	The engine speed is above 7000rpm	Adjust the engine speed	2
The starter works but the engine does not start	ECU Fuse blown	Change the fuse	1
No power supply when the battery cut-off is on "1"	Control panel fuse blown	Change the fuse	1
The battery does not charge when the charger is used	Charger protection fuse blown	Change the fuse	1

## 7 SPARE PARTS

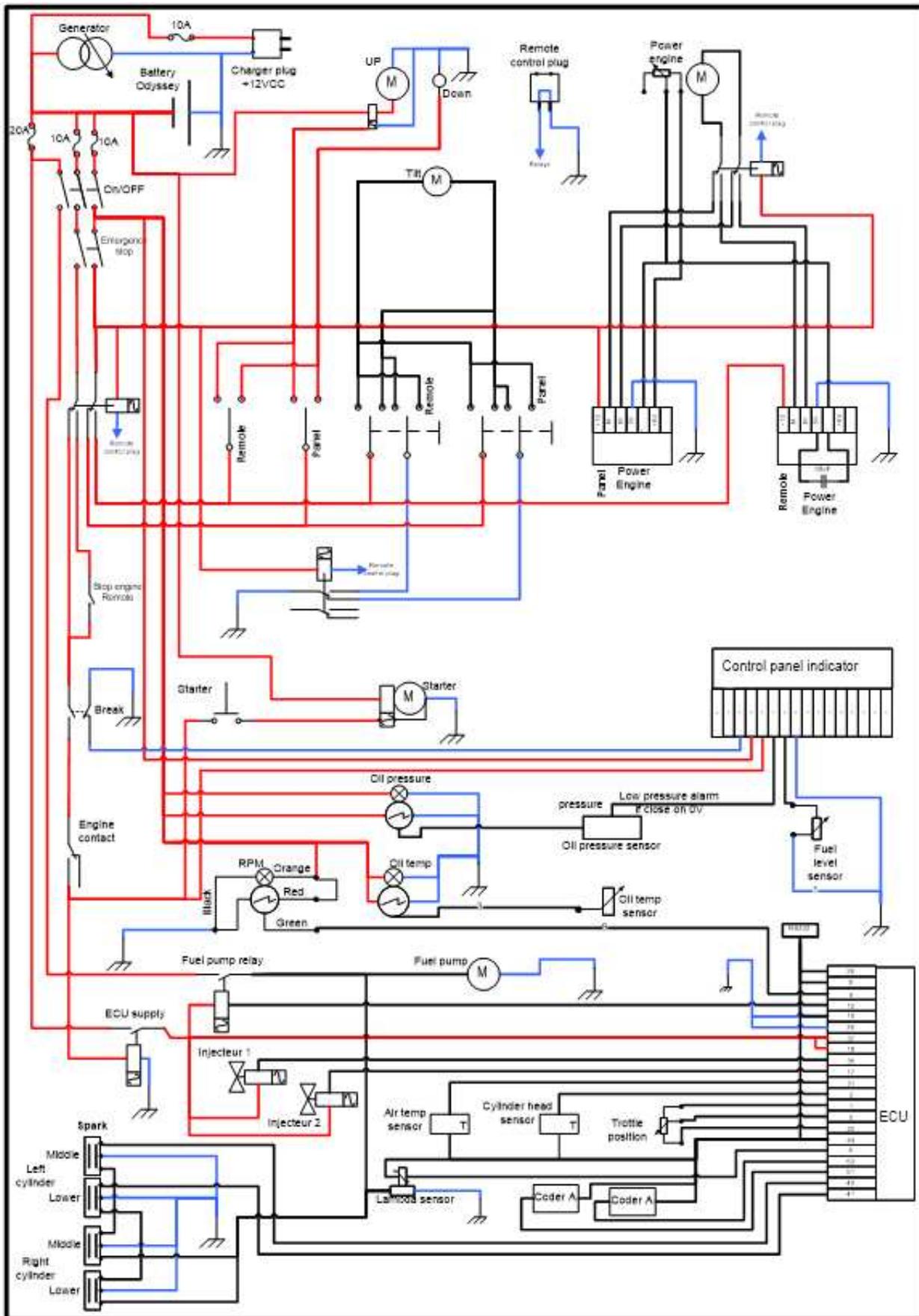
Photos	Description	Name	Reference
	Air filter	Filtre à air	2005732
	clogging indicator	Indicateur de colmatage	2006878
	Fuel filter	Filtre à carburant	I60.20.074
	Oil filter	Filtre à huile	2005739
	Oil filter tool	Clé filtre à huile	2005748
	Spark tool	Clé a bougie	2005751
	Oil filling tool	Clé bouchon d'huile	2005749
	Spark plug	Bougie	2005778
	Maintenance kit	Kit Maintenance (gearbox oil + motor oil + oil filter + gasket + filling cap tool)	I60.30.100
	Battery	Batteries Odyssey PC625	2004210
	10A Fuse	Fusible 10A	2004629

Photos	Description	Name	Reference
	20A fuse	Fusible 20A	2006144
	Fuel level sensor	Sonde carburant	2004506
	Fan	Hélice	2005734
	Fuel pump	Pompe à essence	2006127
	ECU (electronic control unit)	ECU (electronic control unit)	2006128
	Lambda sensor	Sonde Lambda	2006129
	Spring exhaust gas	Ressort pot d'échappement	2005777
	Hook for spring assembly	Crochet de montage ressort	2005779
	Oil cooler	Radiateur	2004225

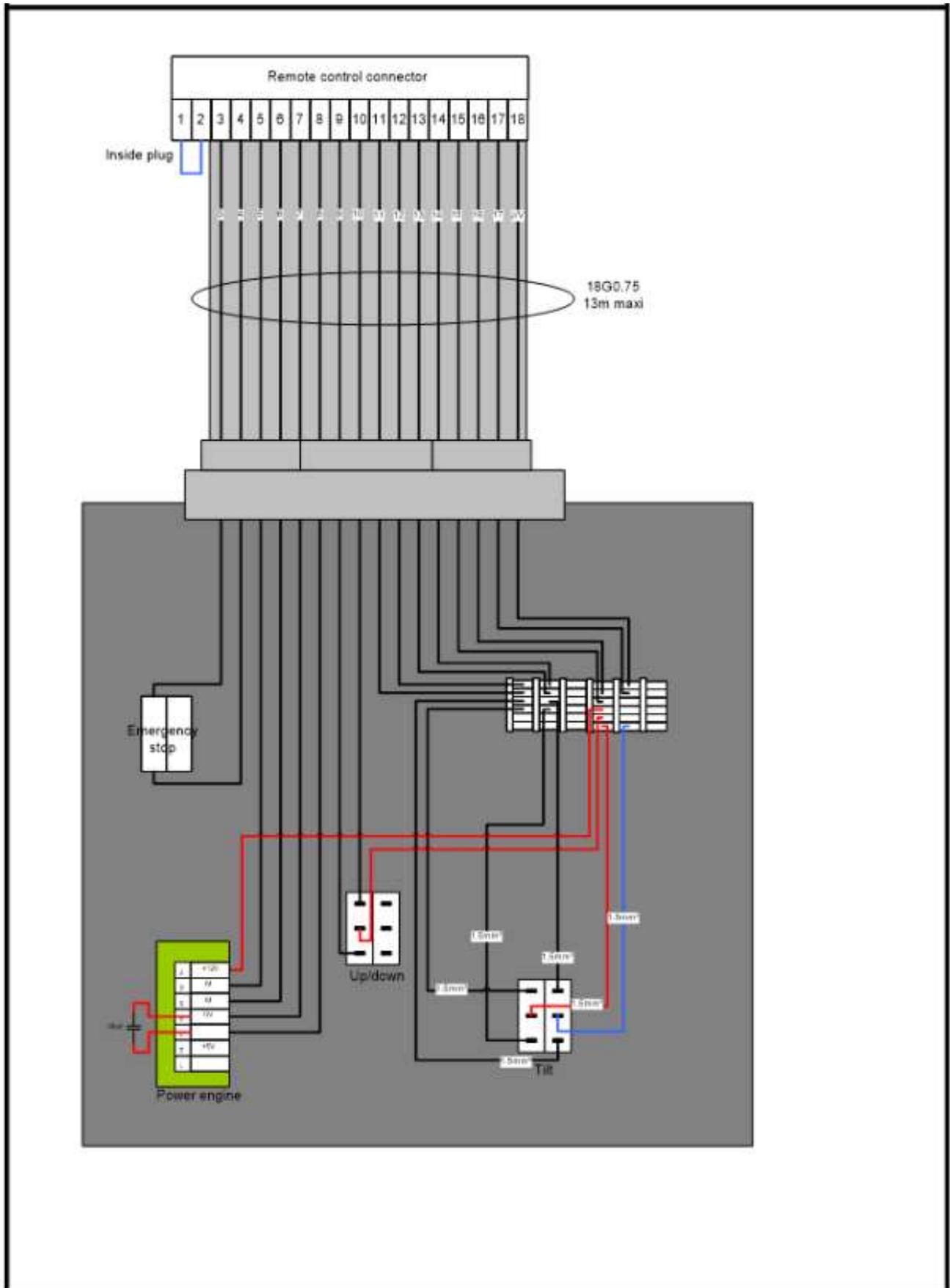


## 9 ANNEXE

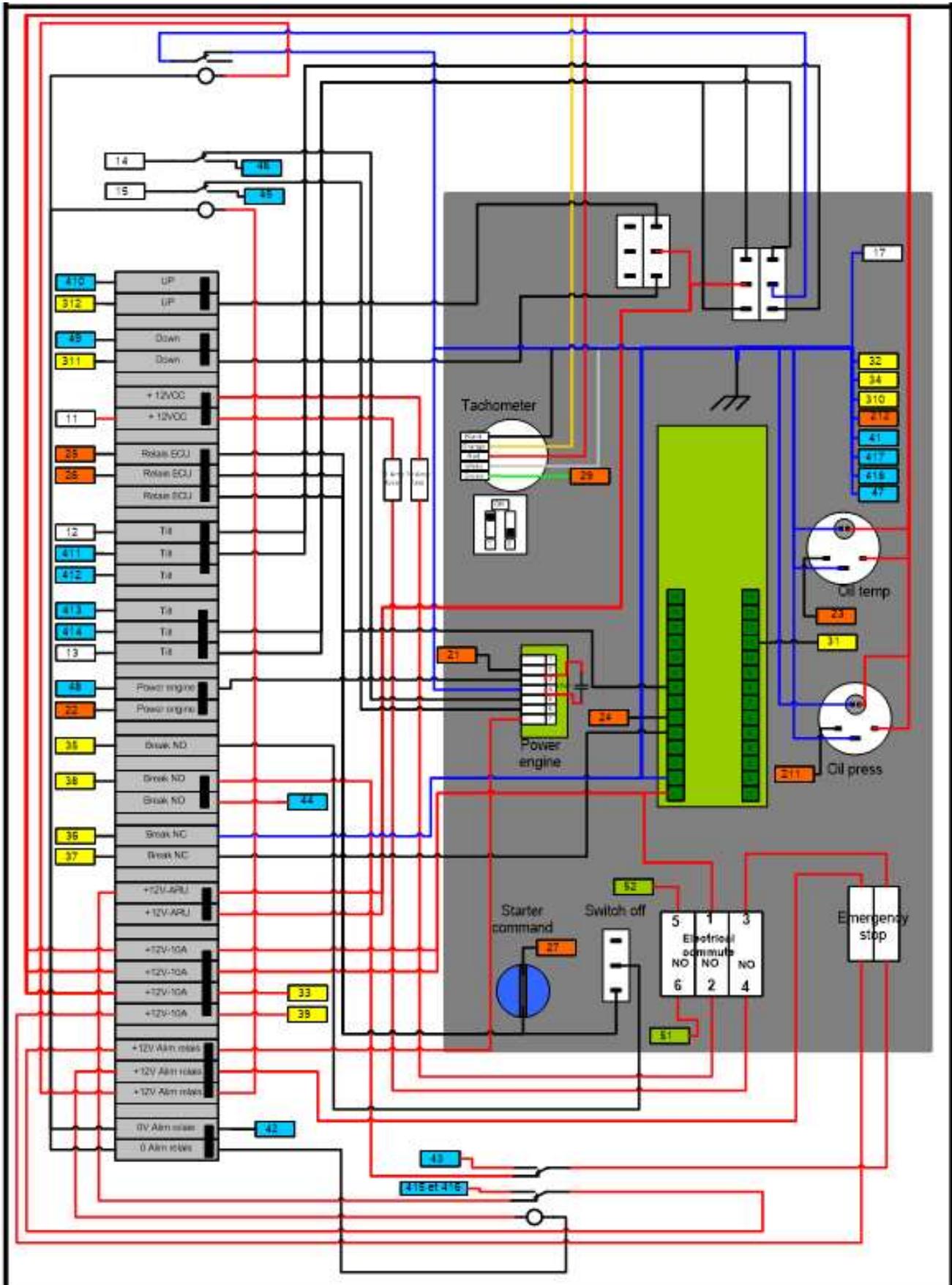
### Electrical wiring



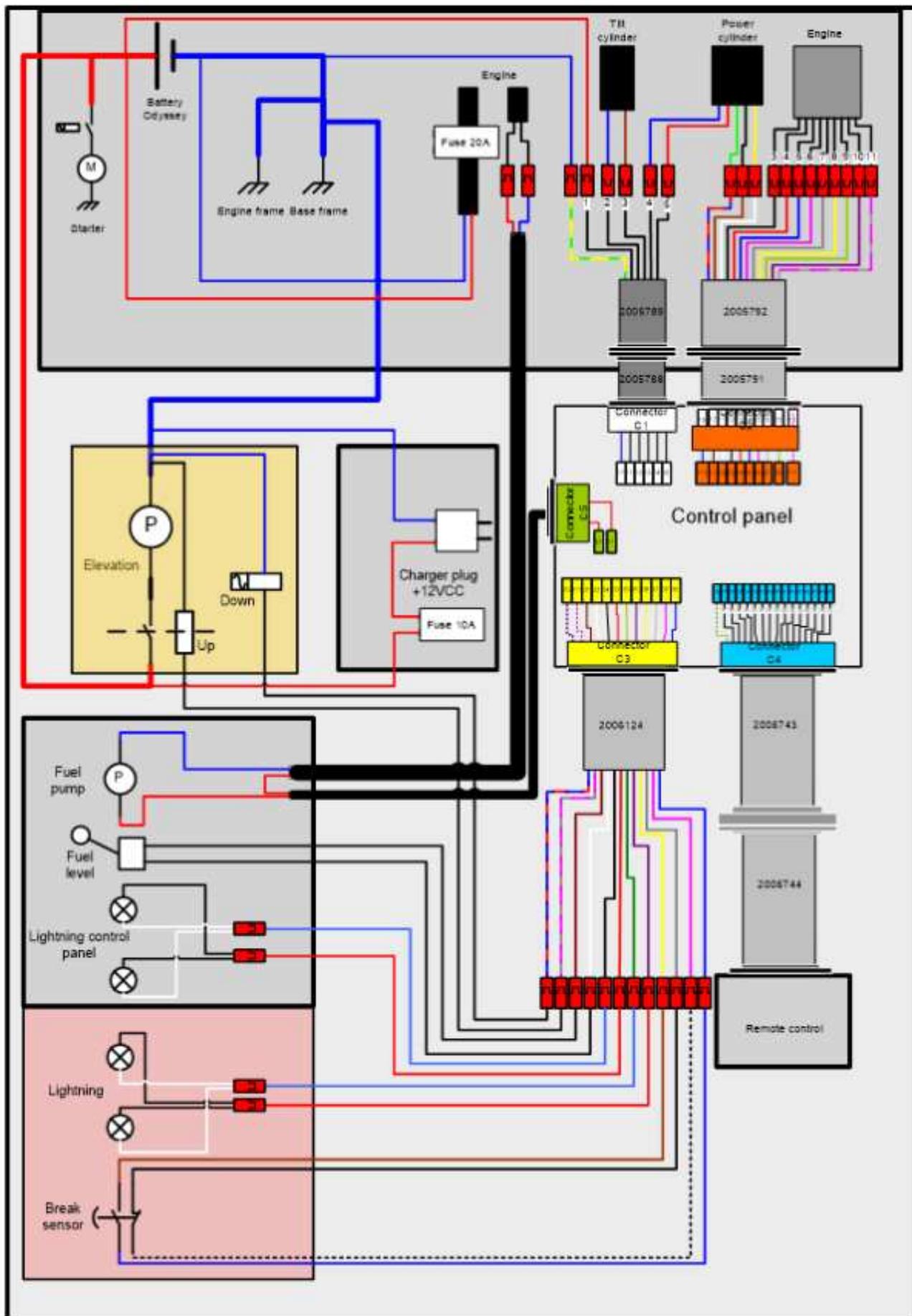
## Remote control panel (option)



## Control panel electrical wiring



## Fan wiring



## 10 WARRANTY



**LEADER** equipment has a contractual limited guarantee from the date of purchase, defined below by product, parts and labor (excluding transport costs and travel).

This warranty is specifically limited to replacing or repairing the equipment (or its parts) which proves defective after examination for reasons attributable to **LEADER**.

To initiate this warranty, with the agreement of **LEADER** the claimant must return the equipment in the shortest possible time after discovery of the defect to the following address:

**LEADER**,  
Maintenance Department,  
ZI des Hautes Vallées Chemin No. 34, CS 20014,  
76930 Octeville Sur Mer,  
France,

### OUT OF WARRANTY EQUIPMENT

A complete analysis will be carried on your faulty equipment, after which a detailed quote will be offered. For faults and non-warranty repairs, a diagnosis fee will be applied independently of the acceptance of the repair estimate.

Our after sales service is committed to a processing time, upon acceptance of the quote.

# LEADER®

Fighting for performance

SIEGE SOCIAL  
LEADER S.A.S  
ZI des Hautes-Vallées-2 Chemin n°34-CS20014-76930  
Octeville sur Mer-France

## FILIALE

[www.leader-group.company](http://www.leader-group.company)

**LEADER®**  
Fighting for performance

LEADER GmbH

Zur FabriK 10-66271 Kleinblittersdorf

Allemagne

Tel : +49 (0) 6805/60067 -0

Fax : +49 (0) 6805/60067 -10

[info@leader-gmbh.de](mailto:info@leader-gmbh.de)

**TEMPEST**

Tempest Technology Corp.

4708 N. Blythe Ave. Fresno. CA 93722

USA

Tel : +1 559.277.7577

Fax : +1 559.277.7579

[response@tempest.us.com](mailto:response@tempest.us.com)

## AGENCE

ESPAGNE / PORTUGAL / AMERIQUE LATINE

[spain.portugal.latinamerica@leader-group.eu](mailto:spain.portugal.latinamerica@leader-group.eu)

CHINE / HONG KONG / MACAO

[china@leader-group.eu](mailto:china@leader-group.eu)

## LEADER GROUP

*Our policy is to constantly  
seek to improve our products.  
We therefore reserve the  
right to change their technical  
specifications at any time  
and without prior manual. No  
contractual images.*



PLEASE RECYCLE

Code Manual:  
EASY4000.0.ZN3.45.EN.4