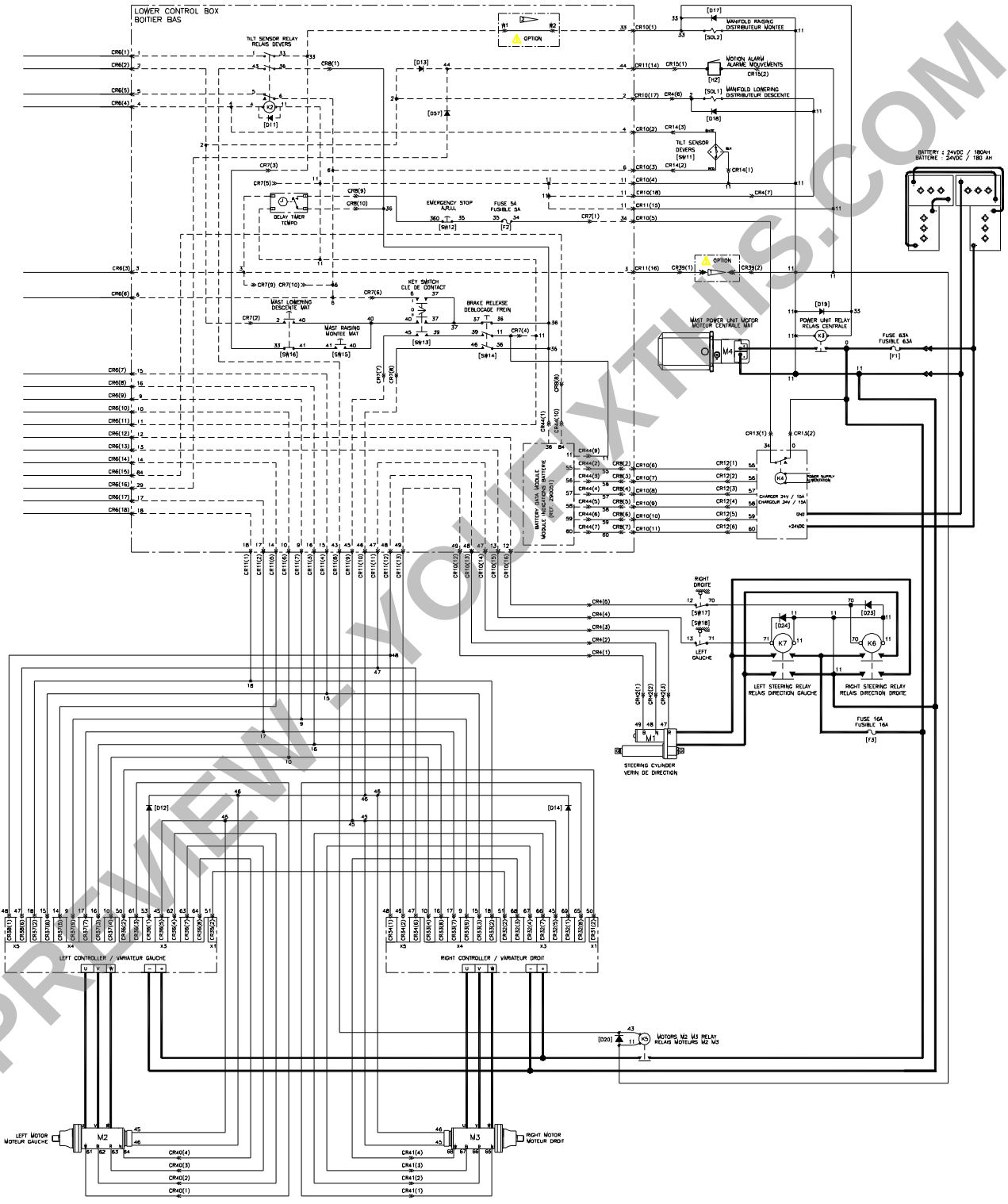
**Ref. : ELE245-00 - Lower Control Box**



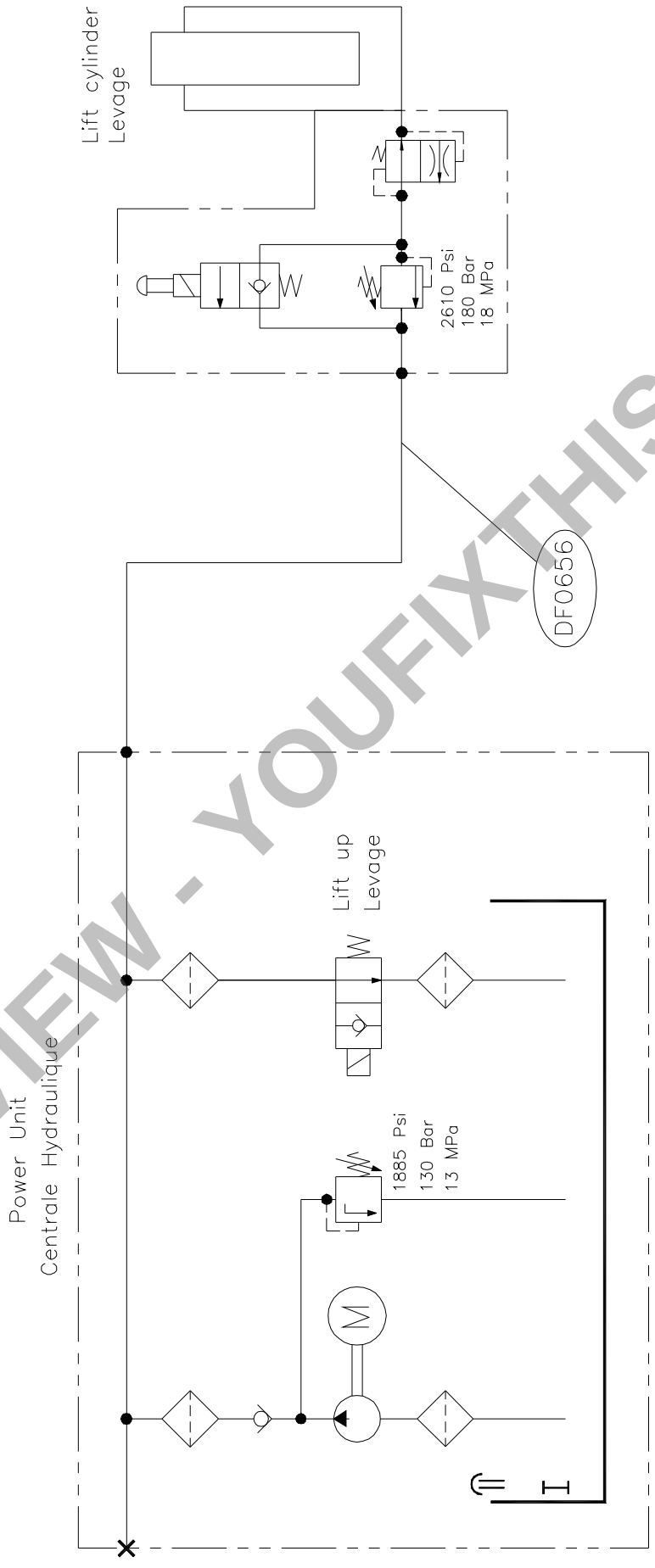

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***Junior 8***

**FL 0136-01**




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**Introduction**

The removal - installation procedures described in this chapter require specific competences, tooling, handling equipment and equipment. We recommend that these operations are performed by qualified and authorized personnel only.

This chapter is commun to several models. Certain paragraphs concern only the models indicated.

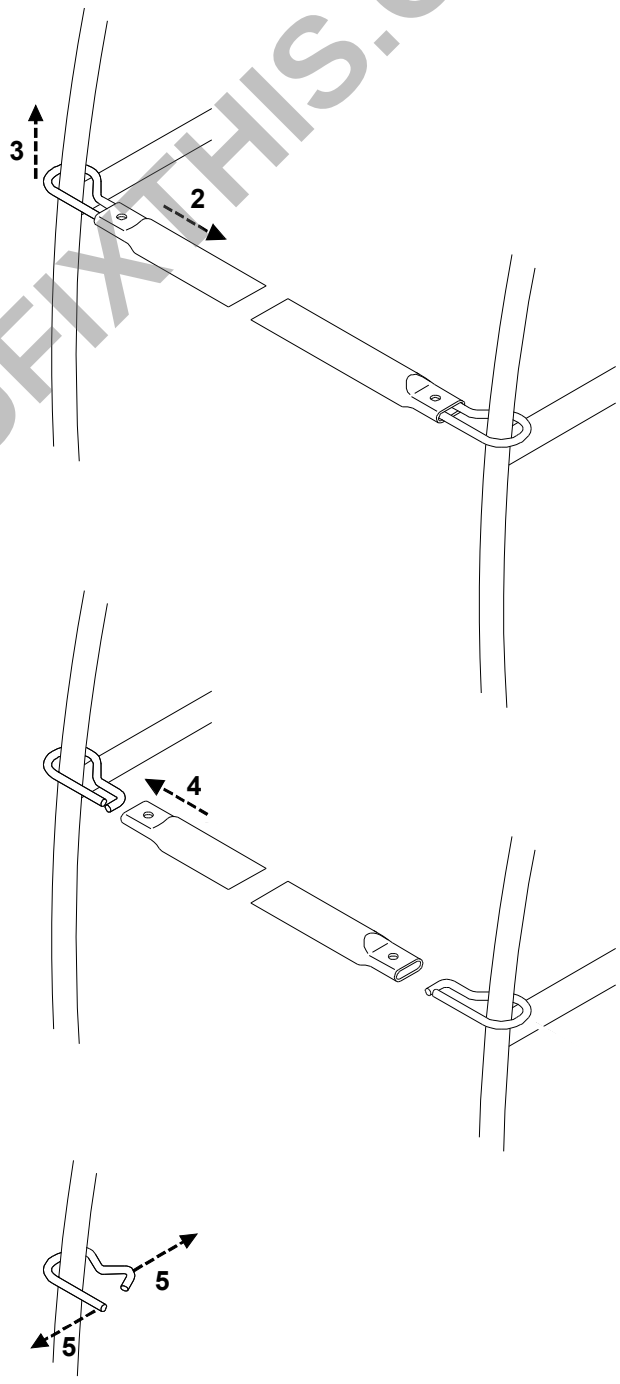
Contact your JLG distributor for any question on removal - installation procedure or for any query you may have.

Certain operations require removal of covers or protection housings. All covers, housings and protection must be installed before the work platform is returned to operation.

## 6.1 Platform

### 6.1.1. Access gate removal.

1- Remove the nuts securing the ring in the tube and remove the bolts at each end of the gate.
2- Slide the gate tube fully on one of the rings.
3- Remove the ring at the opposite end of the gate tube.
4- Pull the tube to release the second ring.
5- Bend the rings to release them from the platform posts.




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## 3.11 Torque values tables

**NOTE**

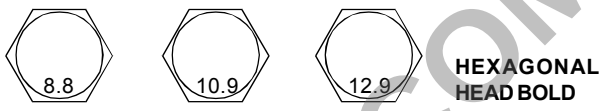
**Torque values indicated in the charts below apply to the majority of nut/bolt assemblies of the work platform. When specific torque values are applied, their values are indicated in this manual.**

**Nut identification :**

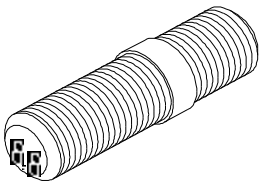



Grade 8.8 Grade 10.9 Grade 12.9

**Bolt identification :**




**Stud identification :**




Grade 8.8




Grade 8.8 Grade 10.9 Grade 12.9

When maximum recommended torque value has been exceeded, the fastener should be replaced. If the excess torque was applied to a fastener installed in a tapped hole, the thread must be checked with a gauge and the bolt or stud must be replaced.

The data below corresponds to the use of zinc coated fasteners in their delivery state: no greasing, nor degreasant. These values are for torquing using a torque wrench (precision higher than 10%: covers all the hand tools).

**Torque values for bolts, nuts and studs**

| Grade | Tensile strength N/mm² | Unit | M4 x70 | M5 x80 | M6 x100 | M8 x125 | M10 x150 | M12 x175 | M14 x200 | M16 x200 | M18 x250 | M20 x250 | M22 x250 | M24 x300 | M27 x300 | M30 x350 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8.8 | 785 | N.m | 2,66 | 5,2 | 9,1 | 22 | 44 | 76 | 121 | 189 | 261 | 370 | 509 | 637 | 944 | 1280 |
| 10.9 | 981 | N.m | 3,91 | 7,7 | 13,4 | 32 | 64 | 111 | 178 | 278 | 384 | 544 | 748 | 936 | 1386 | 1880 |
| 12.9 | 1177 | N.m | 4,57 | 9 | 15,7 | 38 | 75 | 130 | 209 | 325 | 449 | 637 | 875 | 1095 | 1622 | 2200 |

**Torque values for fittings**

| JIC | N.m | BSPP | N.m | Metric | N.m |
|---|---|---|---|---|---|
| JIC 7/16 | 15 | BSPP 1/4 | 20 | M14x150 | 38 |
| JIC 9/16 | 30 | BSPP 3/8 | 34 | M18x150 | 51 |
| JIC 3/4 | 50 | BSPP 1/2 | 60 | | |
| JIC 7/8 | 69 | BSPP 3/4 | 115 | | |

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## 3.16 Charger

The electronic charger on board the work platform is designed to automatically charge the 24VDC battery.

**DANGER**

**Batteries produce highly explosive gazes. This emission increases greatly during the charge. Do not allow open flames, sparks or incandescent bodies near the battery. Failure to do so may result in death or serious injuries. Always charge the batteries in a well ventilated area.**

**NOTE**

**It is not necessary to recharge the battery if the electrolyte density exceeds 1.240 kg/l. Charging the battery regularly if electrolyte density exceeds 1.240 kg/l, may reduce significantly the battery life.**

**NOTE**

**The charger cuts automatically the supply to the control circuit of the machine when connected to the electrical power supply.**

**NOTE**

**In case of a power cut during the charge cycle, the charger switches to waiting mode and starts again automatically as soon as the power returns.**

**Hi-frequency charger Delta Q 24V-25A**

The leds displaying the condition of the charging process are located on the ground control.



**High frequency charger display panel**

The condition is indicated by three leds :

Red Led :
- Charger is in default. See the fault code description below.

Yellow Led :
- This led remains lit as long as the battery is not fully charged.

Green Led :
- This Led lights up when the battery is charged.

**DANGER**

**Do not open the charger cover or remove components.**

**Battery Charger Fault Code**

| Flash(s) | Fault | Remedy |
|---|---|---|
| 1 | Battery voltage high | Auto-recover - Indicates a high battery pack voltage. |
| 2 | Battery voltage low | Auto-recover - Indicates either a battery pack failure, battery pack not connected to charger or battery volts per cell is less than 0.5 VDC. Check the battery pack and connections. |
| 3 | Charge time-out | Indicates the batteries did not charge in the allowed time. This could occur if the batteries are a larger capacity than the algorithm is intended for or if the batteries are damaged old or in poor condition. |
| 4 | Check battery | Indicates the batteries could not be trickle charged up to the minimum voltage per cell level required for the charge to be started. |
| 5 | Over-temperature | Auto-recover - Indicates charger has shut down due to high internal temp. |
| 6 | Charger Internal Fault | Indicates that the battery will not accept charge current, or an internal fault has been detected in the charger. This fault will nearly always be set within the first 30 seconds of operation. Once it has been determined that the batteries and connections |

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Aeration and cavitation erode and pit the pressure plates and pump housing.

A pump that is either cavitating or operating on aerated fluid is usually noisy, and the system operates in a jerky manner.

If erosion, on the suction side of the pump is evident of the gear track, the cause was due either to air bubbles in the oil or starved suction.

***5. Lack of oil.***

When a failure is due to lack of oil, deterioration is usually rapid. This type of failure can occur from either or two condition :

(a) Oil level is low in the tank or
(b) There is an air leak in the suction line.

***6. Excessive heat.***

Excessive heat will harden O-rings and seals.

Excessive heat usually results from a relief valve set too low. If a relief valve is set too low, part of the oil will be dumped across the relief valve at each cycle. In this case the machine will be very slow.

***7. Oil pressure too high.***

There are two reasons for overpressure :

(a) The relief valve fails to function, producing an extreme surge and immediate failure,
(b) The relief valve setting is too high, resulting in repeated pressure peaks.

Damage to the pump looks very similar in both cases.

***8. Incorrect assembly.***

This type of failure is self explanatory ; either components are faulty or parts were not assembled correctly.

Pinching of the O-ring will occur if not properly placed in its groove. If the O-ring is installed incorrectly, the housing surface will show a depressed area (especially if the part is made of aluminium).

## 3.21.2 Troubleshooting

**NOTE**
**Use a manometer on the quick release fitting near the pump to isolate the problem.**

**1**. If the pump is noisy (cavitation), the probable causes could be : low oil level, heavy oil, wrong oil type, suction filter dirty, relief valve open, restriction in suction line, air in the system, pump stuck, or parts worn or broken.

Solutions are as follows :

a. If low oil level, fill to correct level.
b. If oil too heavy, replace with proper oil. Refer to Section 3.13. *"Lubricants"*.
c. If incorrect oil type, replace with proper oil. Refer to section 3.13.
d. If suction filter dirty, clean the filter.
e. If relief valve open, adjust it. Refer to Section 4.3.1.
f. If restriction in the suction line, remove and replace the line.
g. If air in the system, bleed the air from the system. Refer to Section 4.6.
h. If the pump is stuck, inspect all parts for burrs or check if the pump is contaminated. If burrs are found on parts, replace parts. If contamination, flush the system and fill with correct fluid.
i. If pump is worn or broken, replace the pump.

**2.** If the pump is too long to respond or fails to respond, the probable causes could be : low oil level, relief valve set too low, pump worn or damaged, or air in the cylinder.

Solutions are as follows :

a. If low oil level, fill to the correct level.
b. If relief valve set too low, use a manometer to adjust pressure. Refer to Section 4.3.1.
c. If pump worn or damaged, replace the pump.
d. If air in the cylinder, bleed the air. Refer to Section 4.6. paragraph *"Bleeding"*

**3.** If the oil is heating up, the probable causes could be : contamination in the relief valve, oil too light or dirty, relief valve set too high or too low.

Solutions are as follows :

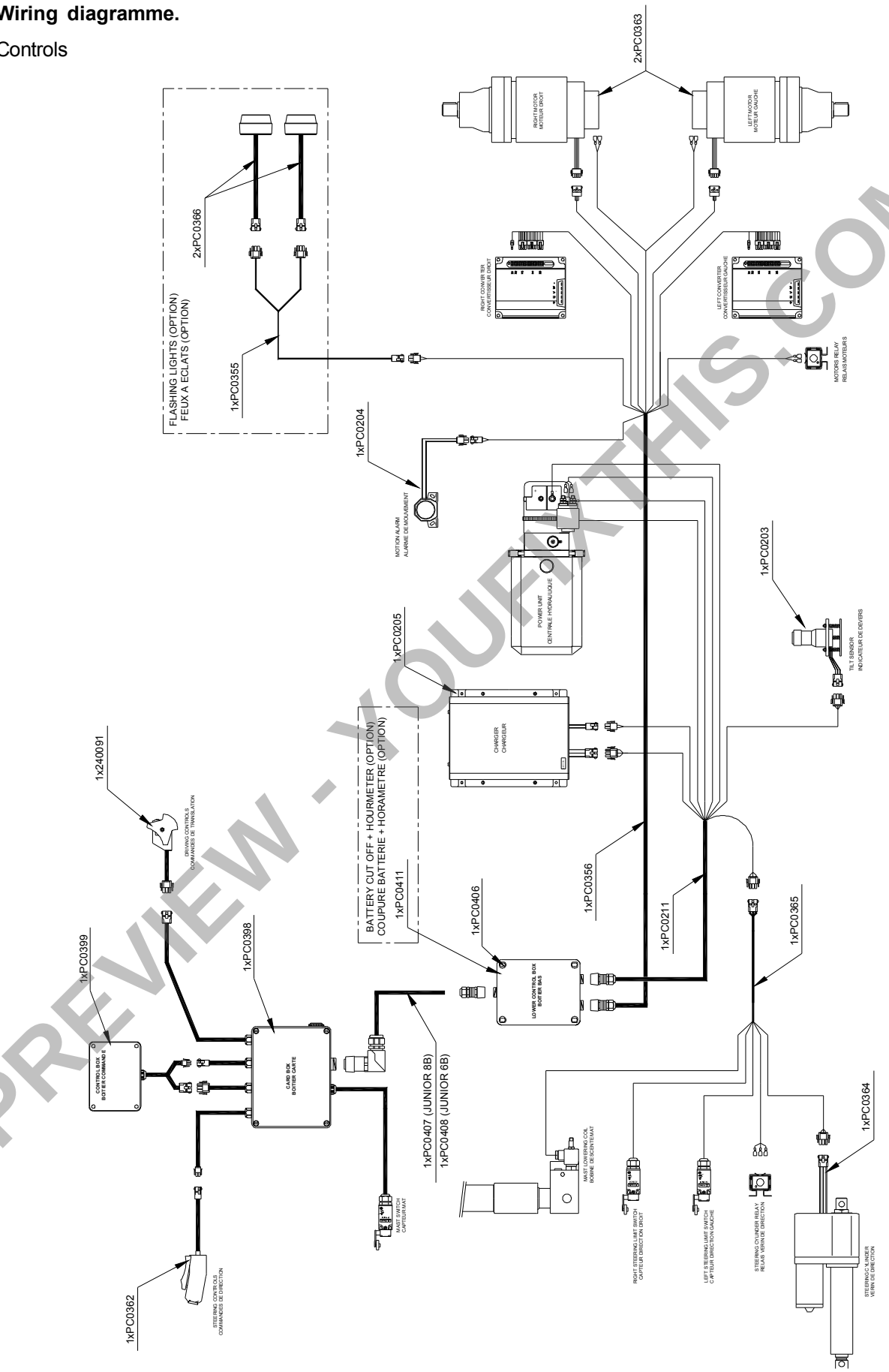
a. If contamination in the relief valve, remove and clean it. Refer to section 6.5.6.
b. If oil too light or dirty, drain and fill with correct oil. Refer to section 3.13.
c. If relief valve set too high or too low, use a manometer and adjust the pressure. Refer to Section 4.3.1.

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**Wiring diagramme.**

Controls




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### 6.1.2. Platform removal.

**⚠ CAUTION**

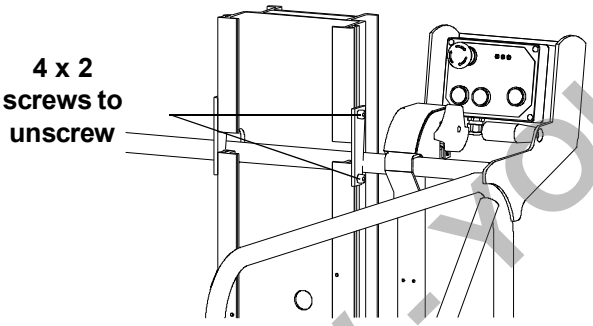
**Ensure the electrical cables do not get pinched or crushed during platform removal.**

1- From the lower control box, raise the mast by approximately 1m. On the last mast section, remove the switch support plate fixed with 2 screws and remove the switch from this plate.

**⚠ DANGER**

**In this configuration (mast switch removed), it is firmly forbidden to use the platform. Failure to do so can cause serious injuries or death.**

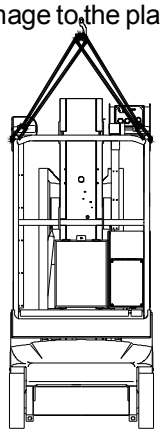
2- Unplug the battery.
3- Unscrew the 8 platform attachment bolts on the last mast section.



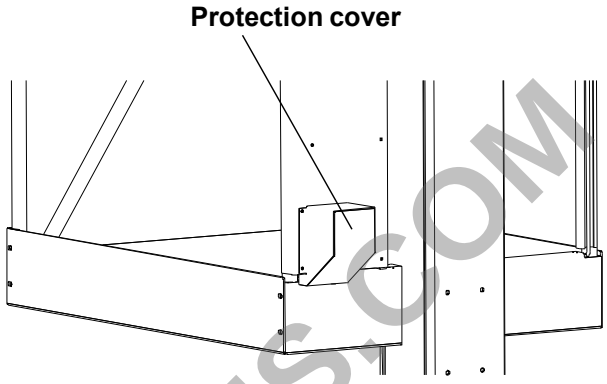

**⚠ DANGER**

**The platform can fall if not correctly supported. The platform must be unoccupied and empty during this procedure.**

4- Support the platform with a forklift truck or an overhead crane without lifting it. Use straps to prevent damage to the platform.



5- Unscrew the 3 protective cover attachment screws of the 18-pin elbow connector and remove the cover.




6- Under the manual box located in the platform, remove the plate protecting the electrical cables (plate secured by 2 screws).
7- Unscrew the 18-pin elbow connector from the electrical box and slide the cable through the platform's floor (use the opening designed to this effect under the manual box).
8- Bring the mast sensor (removed in step 1) on the platform's floor (use the opening designed to this effect under the manual box).
9- Using the forklift truck or the overhead crane installed in step 4, remove the platform by rotating it around the top rail on the last mast section.
10- To install the platform, perform all the above steps in reverse order.

Once step 1 has been completed (that is mast sensor installed), perform all the controls described in chapter 5 – "Operating Procedures" in the Operator's and Safety Manual before operating the machine.

**⚠ DANGER**

**Failure to respect these instructions could result in death or serious injuries during the operation of the work platform.**

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