PR4000
Operation and Maintenance Manual

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Power and Reliability

INDEX

1. CE MARK

The CE mark (European Community) certifies that the product complies with essential safety requirements provided by the applicable Community Directives.

2. MAINTENANCE & OPERATION

Dear Customer, many thanks for the purchase of our product. Contained in this manual is all the necessary information for use and the general maintenance of the lighting tower.

The responsibility for the correct operation of the lighting tower depends on the operator.

Before installation and operation of the lighting tower, read the manual carefully. If this manual is not clear or comprehensible, contact PR Power Australia wide on:

1300 399 499

All the specifications and pictures in this manual are subject to modifications without prior notice.

3. GENERAL INFORMATION

The lighting tower is designed, produced and tested to meet the European Standards and to reduce the electrical risks in compliance with the laws.

The manufacturer declines responsibility from any unauthorised modification of the product.

3.1 EQUIPMENT DOCUMENTATION FOR THE LIGHTING TOWER

Together with this manual we are supplying the following documents:

- Engine use and maintenance manual.
- Instruction manual and use for the lighting tower (this manual).
- Alternator use and maintenance manual.
- Check list for the lighting tower.
- CE declaration of conformity. Warranty certificate.
- Pre-delivery check report.

4. SAFETY SIGNS

These signs inform the user of any danger which may cause injury.

Read the precautions and descriptions below:

Danger signs	Description
	• Read the instruction handbook before operating the lighting tower.
	• Danger of electric discharges. • Consult the manual.
	• Attention dangerous exhaust fumes. • Maintain safe distance from the emission zone.
	• Danger of burns. • Don't touch the exhaust and engine when the lighting tower is in operation.
	• Danger: don't open when the engine is hot
	• Stop the engine before refueling. • Use diesel fuel only.

	• Danger possible spillage of corrosive substances
	• Danger possible crush point

Prohibition signs	Description
	• It is prohibited to clean, lubricate or regulate moving parts.
	• It is prohibited to extinguish fires with water, use fire extinguishers only.
	• It is prohibited to use open flames.

Information signs	Description
	• This sign indicates the lifting point for the lighting tower.

5. SAFETY REGULATIONS TO OBSERVE

The manufacturer is not responsible of any damage to equipment or persons, as a result of operators not adhering to the correct safety regulations.

5.1 BEFORE OPERATING THE MACHINE

- It is advised you wear protective clothes, gloves, safety shoes and ear plugs.
- It is recommended you understand the correct operation of the lighting tower.
- It is recommended that all authorised staff read and understand all warnings and dangers described in this manual.
- Place barriers 2 meters from the lighting tower to prevent unauthorised staff approaching the unit.
- Ensure yourself that the lighting tower is not operating and that there are no moving parts.
- Only authorised staff can operate the lighting tower.
- Read the operating instructions and safety warning stickers placed on the lighting tower.
- Connect the unit to the earth through the earth clamp.
- The unit must be connected to the earth using a copper cable with a minimum cross-section of 6 mm².
  - **Project Rentals is not responsible for any damage caused by failure to earth.**

5.2 DURING MAINTENANCE

- Always turn off the lighting tower before any maintenance.
- Extraordinary maintenance must always be carried out by authorized staff.
- Before any maintenance operation on the floodlights, disconnect the power and wait for the lamps to cool.
- The fluid of battery contains sulphuric acid which is extremely corrosive and harmful to the skin. Always wear protective gloves and be extremely careful to avoid spillage when pouring the acid.
- Contact with engine oil can damage your skin. Put on gloves when using engine oil. If you come in contact with engine oil, wash it off immediately.

5.3 DURING TRANSPORT

- **Warning!**

  Before towing the lighting tower, ensure the engine is switched off to avoid causing damage to the equipment.
- Only use the correct lifting points as indicated on the tower.
- The lifting point, where present, must be used for the temporary raising and not for suspension in the air of the equipment for long periods.
- The manufacturer is not responsible for any damage caused by negligence during transport.

6. GENERAL DANGER INFORMATION

6.1 DANGER OF BURNS

- Do not touch hot surfaces with hands e.g. silencers and engine when it is operating.
- Do not touch the floodlights when turned on.
- Always use gloves.

6.2 DANGER OF ELECTROCUTION

- Do not touch electrical parts, it may cause an electric shock.
- Do not touch the electric cables when the lighting tower is operating.

6.3 DANGER OF INJURY

- Do not remove the protective guards placed on the moving parts including, air intakes and fan belts.
- Do not clean or attempt maintenance on moving parts.
- Use appropriate clothing and safety wear, whilst operating the lighting tower.

6.4 WARNING OF FIRE OR EXPLOSION DURING REFUELING

- Turn off the engine before refueling.
- Do not smoke during refueling.
- Refueling must be conducted in a way that does not cause fuel spillage.
- In the event of fluid spillage during refuelling, dry and clean parts as required.
- Check that there isn't any spillage of fuel and hoses and hoses are not damaged.

6.5 NOISE

- Use ear plugs or ear muffs for noise protection.

6.6 EXHAUST FUMES

- The exhaust fumes are dangerous for your health. Maintain a safe distance from the emission zone.
- In the event the lighting tower is used in a closed area, ensure that the exhaust fumes can be easily dispersed in a safe manner.

7. GENERAL DESCRIPTION OF THE LIGHTING TOWER

The PR4000 has been designed to take into consideration 3 fundamental characteristics:

- Compact design
- Reliability
- Quality manufacturing and design

The construction materials used, guarantee not only extreme strength of the tower, but they are also synonymous of longer life, in fact these materials are protected against oxidation like rust.

The ability to lower the tower is a key factor for manouverability and transportation. The lighting tower can be installed and used by a single operator safely. The floodlights used on the lighting tower, complete with lamps, are made from the world's leading manufacturers.

8. LIGHTING TOWER NOT IN USE

If the lighting tower is not in operation for a long period (more than one year), we recommend you keep the oil, fuel and the coolant in the engine to avoid oxidizing effects; we recommend you also disconnect the battery cables.

When the lighting tower is in operation again, the fluids must be replaced, the battery charged; the belts and hoses must be checked and a visual inspection of the electrical connections must be performed.

9. TECHNICAL SPECIFICATION

9.1 GENERATOR

Model	**Synchronous**
Single phase voltage	**9 kVA - 240 V**
Frequency	**50 Hz**
Cos φ	**0,8**
Insulation class	**F**
Mechanical protection	**IP 23**

9.2 ENGINE

Make/Type	**Kubota D1105-E**
Number of cylinders	**3**
Displacement	**1123 cm^3**
Power	**13,7 HP**
Engine speed	**1500 r.p.m.**
Cooling	**Water**
Fuel	**Diesel**
Starting system	**Electric**
Oil sump capacity	**4,5 l**
Radiator capacity	**4 l**
Specific fuel consumption	**265 gr/kWh**
Fuel tank capacity	**116 l**
Average operating hours	**42 h ~**
Noise level DBA at 7 metres	**90 Lwa**
Battery	**12 V - 44 Ah**

9.3 HYDRAULIC GEAR BOX

9.3.1 ELECTRICAL MOTOR

Feeding	**240 V 50-60 Hz ± 10%**
Power	**0,55 kW**
Poles	**4**
Duty factor	**S1**

9.3.2 GEAR PUMP

Displacement	**1,3 cm^3**
Maximum pressure	**210 bar**
Factory setting pressure	**180 bar**
Emergency action system	**Manual**

9.3.3 UNLOADING SOLENOID VALVE

Coil thermal insulation	**Class F – VDE0585**
Electric connection	**DIN 43650-A / ISO 4400**
Protection degree	**IP 65**
Coil duty cicle	**ED 100%**
Coil voltage	**230 V 50-60 Hz ± 10%**

9.3.4 HYDRAULIC FLUID

Reservoir capacity	**5 l**
Fluid type	**ISO/DIN 6743/4 mineral oil**
Fluid viscosity	**15-100 mm^2 sec – ISO 3448**
Fluid temperature	**-15°C ÷ +80°C**
Fluid maximum contamination level	**Class 10 in accordance with NAS 1638 with filter B 25 > 75**

9.4 LIGHTING TOWER

Maximum height	**9 mt**
Raising	**Hydraulic**
Section	**7**
Rotation Section	**340°**
Floodlights group tilt	**41°**
Electrical coiled cable	**11G2,5 mmq**
Electrical cable of floodlights	**H07RN-F**
Maximum cable load	**3300 kg**
Maximum wind stability	**110 km/h**
Minimum dimension with trailer for fast towing type B (L x W x H mm)	**3417 x 1580 x 2330**
Maximum dimension with trailer for fast towing type B (L x W x H mm)	**3417 x 1850 x 9000**
Dry weight	**1115 kg**

9.5 RAISING AND LOWERING ROPE

Rope type	**AZN625APPCOM**
Rope diameter	**6 mm**
Outer wires diameter	**0,4 mm**
Weight per meter	**0,15 Kg**
Costruction	**6x(12+(6)+6+1)KF+PP**
Type of lay	**Right hand ordinary lay**
Tensile strenght	**2160 N/mm²**
Strands	**Compacted**
Preformed	**Yes**
Steel wires	**Carbon**
Protection of wire rope	**Galvanized class B**
Minimum breaking load	**32,3 kN 3230 Dan 3294 Kg**

9.6 FLOODLIGHT

Lamp	**Metal halide**
Power	**4x1000 W**
Degree of protection	**IP 66**
Constructor material of the body	**Die-cast aluminium**
Constructor material of lampholder	**Ceramic**
Reflector	**Polished and anodized aluminium 99,85**
Cable gland	**Stainless steel**
Optical case opening system	**Stainless steel clips**
Dimensions (L x H x D mm)	**404 x 260 x 328**

The floodlight is provided by tempered glass and silicone seals. Closing hooks and external nuts and bolts in stainless steel. The casing's protection against corrosion is ensured by Alodine 1200 chromate treatment and polyester powder coating for outdoors in graphite grey finishing. The frame is equipped with special drains to prevent water from accumulating.

9.7 LAMP

The metal halide lamps used in the floodlights of the lighting tower allow to a greater lighting system regarding the traditional halogen lamps and concur to an inferior energetic consumption beyond to one duration much elevating of near 8000 hours.

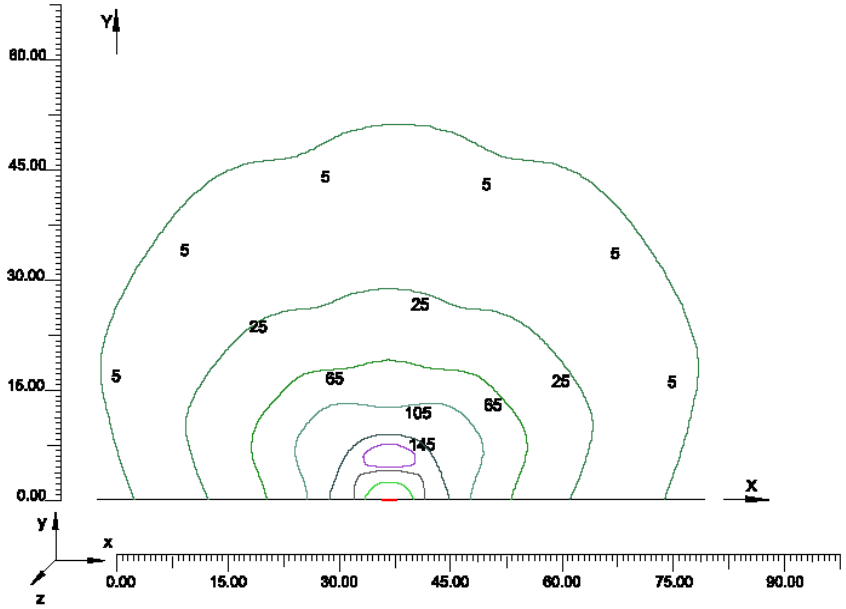
The metal halide lamp is a high intensity discharge lamp based on the emission of electromagnetic cancellation from part of a ionizated gas plasma. The ionization of the gas is obtained for means of a discharge electrical worker (from which the name) through the gas.

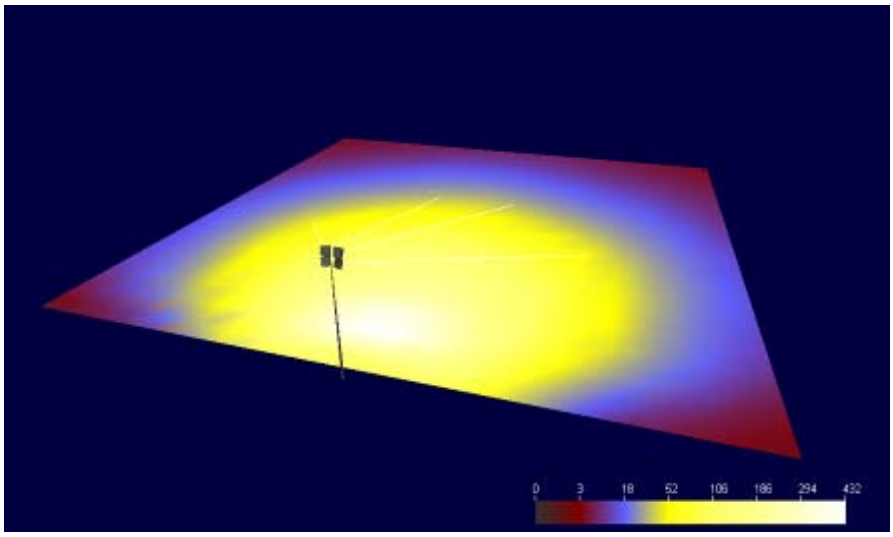
The metal halide lamps derive from the high pressure sodium vapor lamps with the added of thallium, Indian, dysprosium, holmium, cesium, thulium, which they improve the yield of the colors of the sodium lamps, and give one temperature to their color much elevated (4000-5600) K. Their chromatic yield renders them particularly adapted where there is the necessity of having a light perfectly white. For being ignited they need of apposite igniters and injectors that produce impulses of tension between 0,75 and 5 kV and for the attainment of the full light flux, in phase of ignition, they are necessary few minutes.

In case of accidental putting out it is necessary to wait the cooling of the lamp (about 15 minutes) before a new ignition, because of the high tension that would be necessary for a hot ignition.

10. LIGHTING FOOT PRINT DIAGRAM

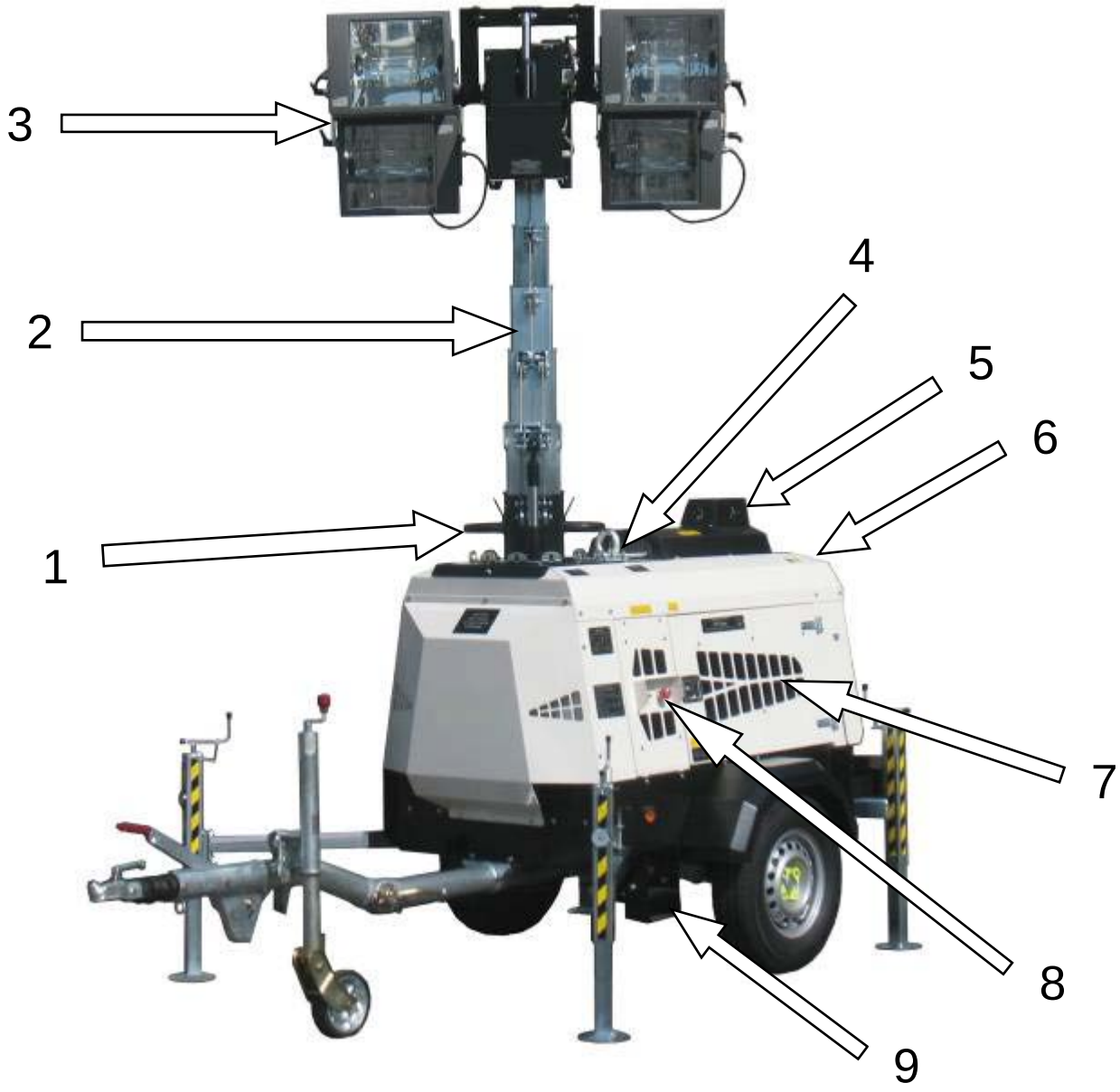
ILLUMINATED AREA
4200 m²



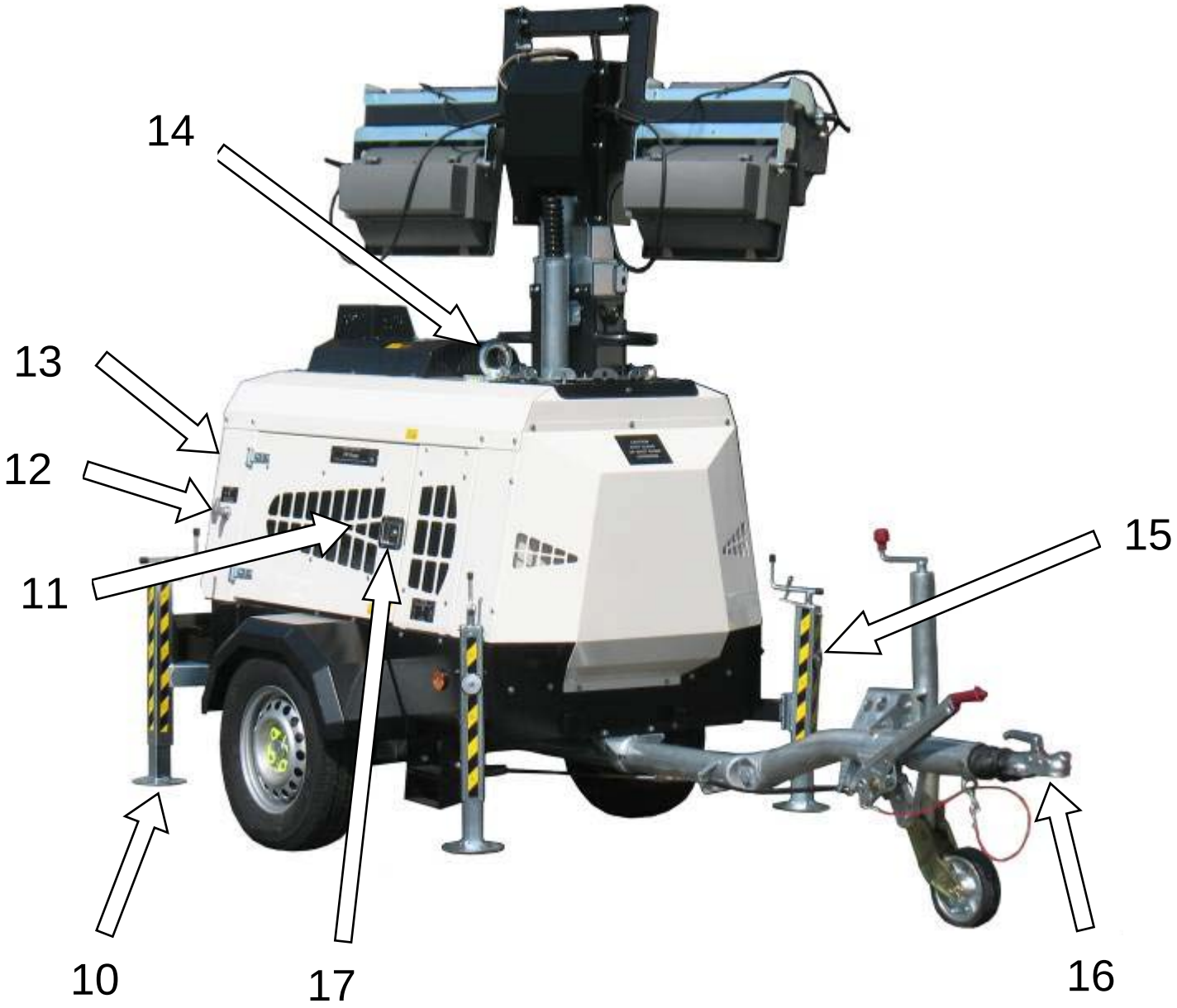


11. IDENTIFICATION OF EXTERNAL COMPONENTS

11.1 LIGHTING TOWER COMPOSITION

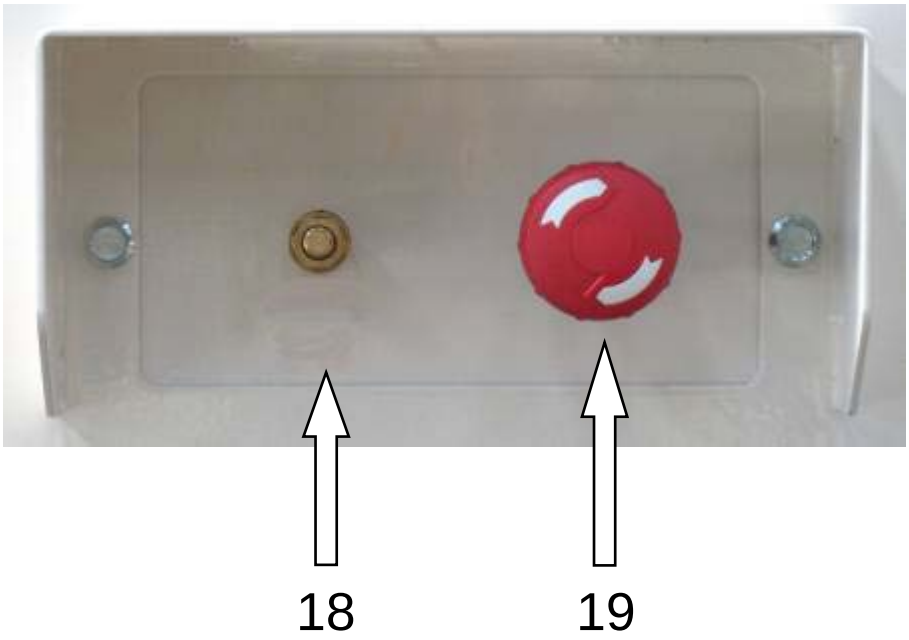


Items	Description
1	Floodlights rotation handles
2	Telescopic mast
3	Floodlights
4	Floodlights blocking rotation pin
5	Gas exhaust outlet
6	Radiator cap
7	Engine inspection door with command panel
8	Emergency stop button
9	Plate for transport through forklift



Items	Description
10	Fixed stabilizers
11	Air inlet grill
12	Lockable battery insulator switch
13	Air outlet grill
14	Lifting hook
15	Extractable stabilizers
16	Trailer for fast or slow towing (on the ground of model)
17	Door engine inspection

11.2 EMERGENCY STOP BUTTON AND EARTH CLAMP



Items	Description
18	Earth clamp connection
19	Emergency stop button

Connect the unit to the earth, through the clamp (**18**).

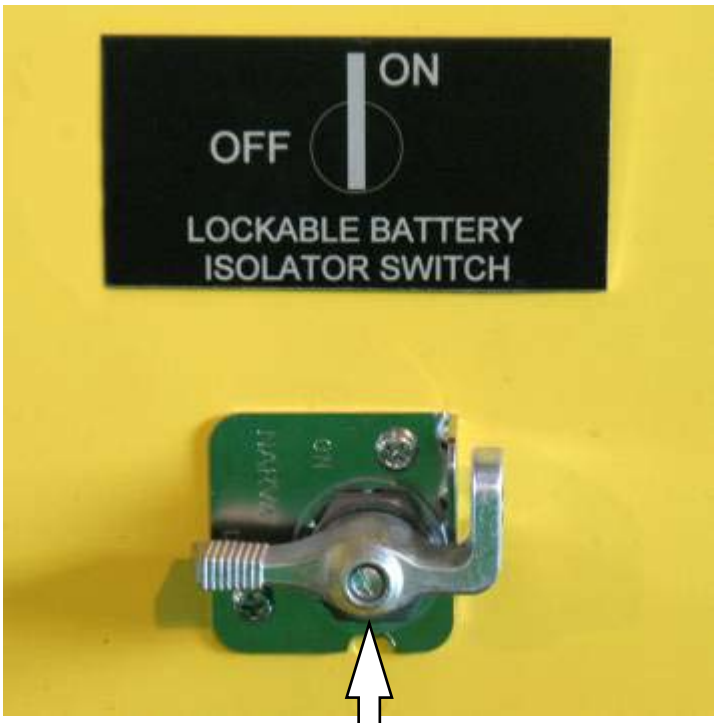
The unit must be connected to earth using a copper cable with a minimum cross-section of 6 mm².

The manufacturer is not responsible for any damage caused by failure of the earthing.

Make sure that the emergency stop button (**19**) is rearmed. If it doesn't, turn the grip handle in clockwise direction.

In emergency case it is possible to stop the generating set by pressing the stop button (**19**).

11.3 BATTERY SWITCH



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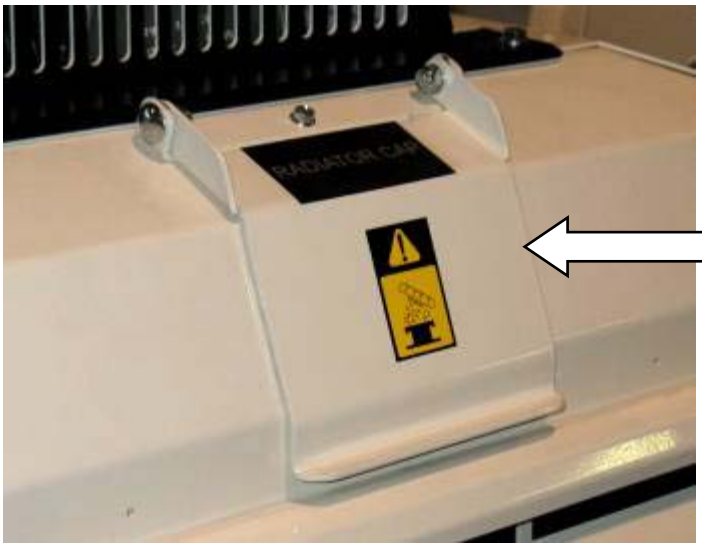
Items	Description
20	Lockable battery insulator switch

The machine is supplied with the battery switch disconnect (**20**).

Connect the battery switch (**20**).

If the machine has to be stopped for a long period, we suggest to disconnect the battery switch (**20**).

11.4 RADIATOR CAP PROTECTION PLATE



Items	Description
21	Radiator cap protection plate

In order to fill up and replacement of the cooling unscrew the knob and remove the protection plate of the radiator cap.

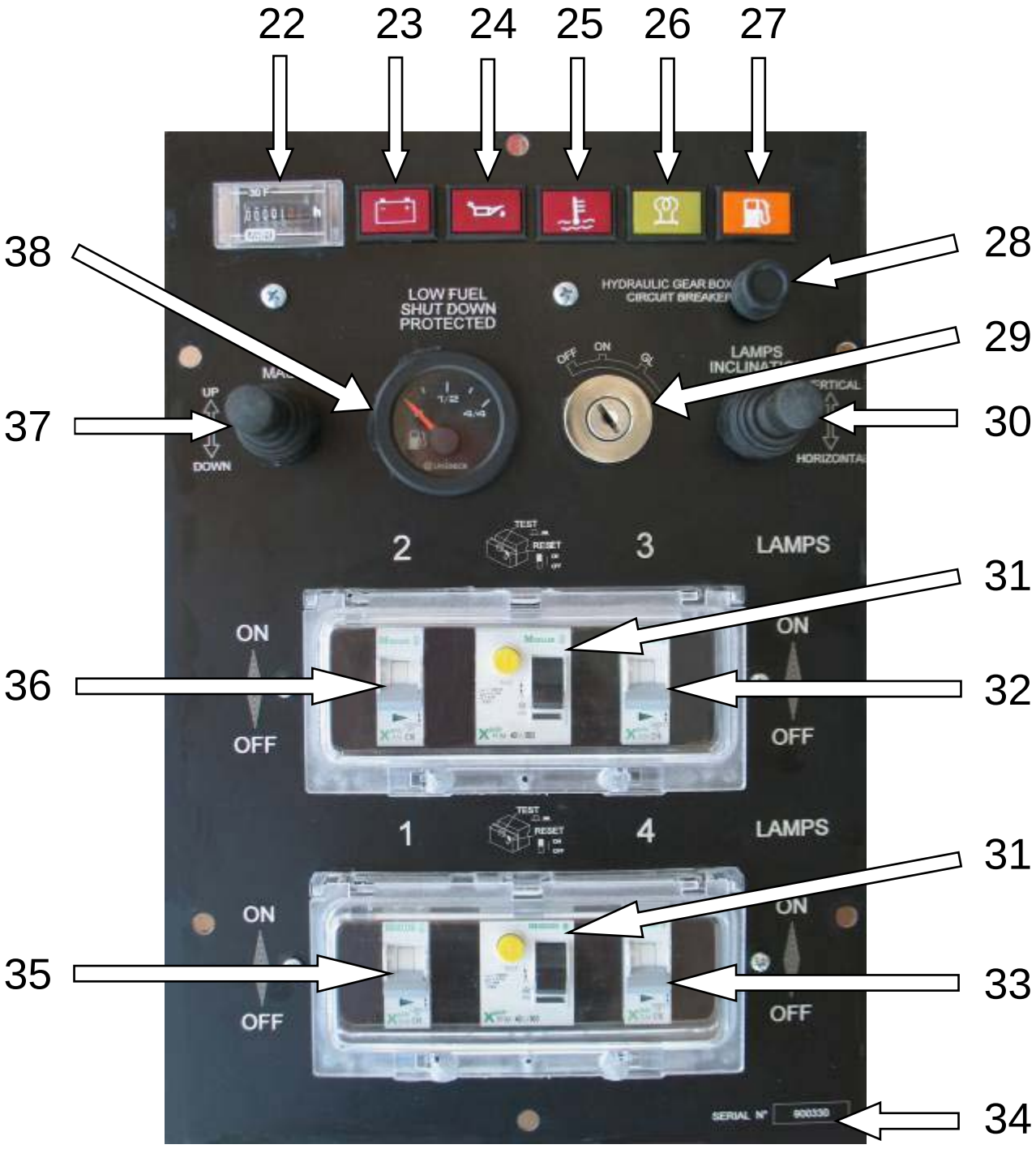
The coolant will last for one day's work if filled all the way up before operation start; therefore check the coolant level before every operation.

In order to avoid personal injury do not remove the radiator cap when the engine is hot. When the engine is cold, loose the cap slightly to the stop to relieve any excess of pressure before removing cap completely.

If the machine has to be stopped for a long period (more than one year), we suggest to keep the coolant into the radiator in order to avoid oxidizing effects.

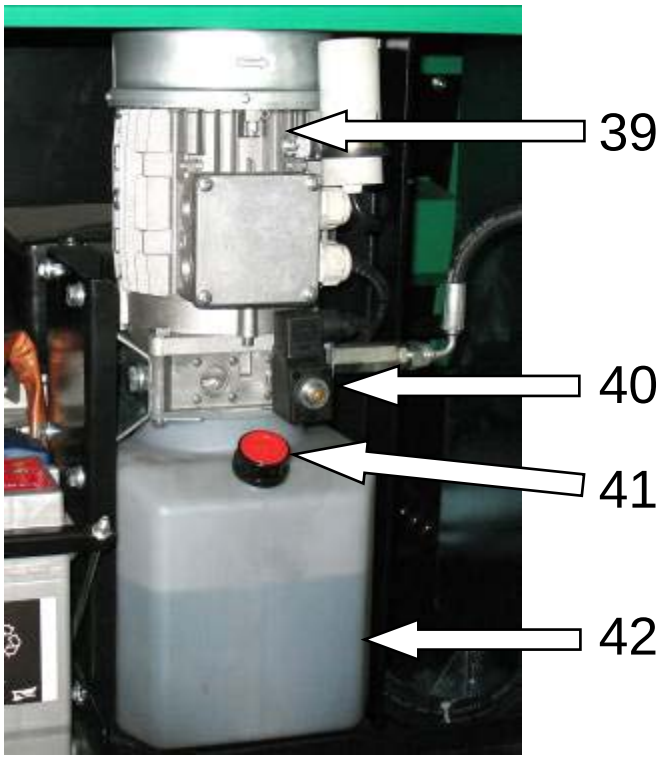
12. IDENTIFICATION OF INNER COMPONENTS

12.1 CONTROLS DESCRIPTION



Items	Description
22	Hour meter
23	Battery charge signal lamp
24	Low oil pressure signal lamp
25	High water temperature signal lamp
26	Preheater signal lamp
27	Low fuel level signal lamp
28	16 A push button circuit breaker protection hydraulic gear box
29	Starting key
30	Lever for floodlights group tilt
31	40 A earth leakage circuit breaker
32	16 A circuit breaker for lamps switch 3
33	16 A circuit breaker for lamps switch 4
34	Serial number
35	16 A circuit breaker for lamps switch 1
36	16 A circuit breaker for lamps switch 2
37	Raising and lowering lever
38	Fuel gauge – Monitor fuel level

12.2 HYDRAULIC GEAR BOX



Items	Description
39	Engine hydraulic gear box
40	Lowering pin in case of emergency
41	Hydraulic oil tank cap
42	Hydraulic oil tank

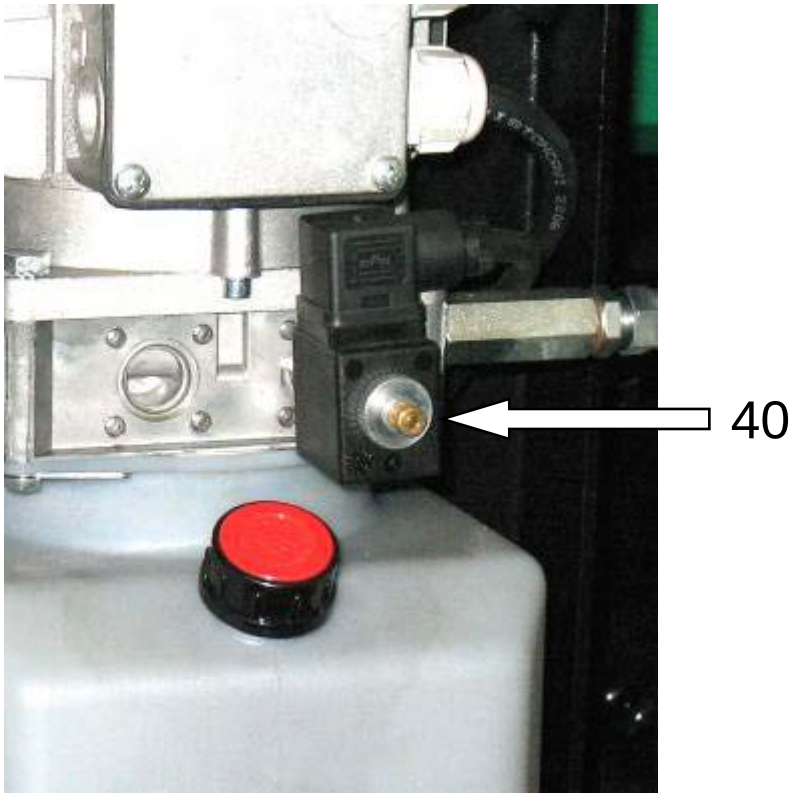
Verify periodically the level of the hydraulic oil. Add the oil only if the level dips down under the half of the tank (total tank capacity 5 l).

Such check must be do after at least 30 minutes from the stop of the engine and with the telescopic mast lowered.

In case of filling up or substitution use only hydraulic oils with a high index of viscosity and adapt to use for **+ 46°C** to **– 46°C** temperatures. We advised the use of the oil “Shell Tellus Oils TX 46”. It is sufficient introduce in the tank about 3 l of oil.
Use always protected gloves during the replacement and the check of the level of the motor oil.

12.2.1 LOWERING HANDLE BAR BRACKET IN CASE OF EMERGENCY

WARNING !!!
When the mast is raised, in case of the damage of the engine, it's possible to came down the tower unscrewing in counterclockwise direction the particular pin (**40**) that regulated the manual flow of oil inside the cylinder. When the bracket is completely come down, is necessary to screwing the pin in the originally position to guarantee subsequently the correct use of the machine.



12.3 BATTERY

Items	Description
43	44 Ah 12 V battery

The machine is supplied with the battery switch disconnect (**20**).

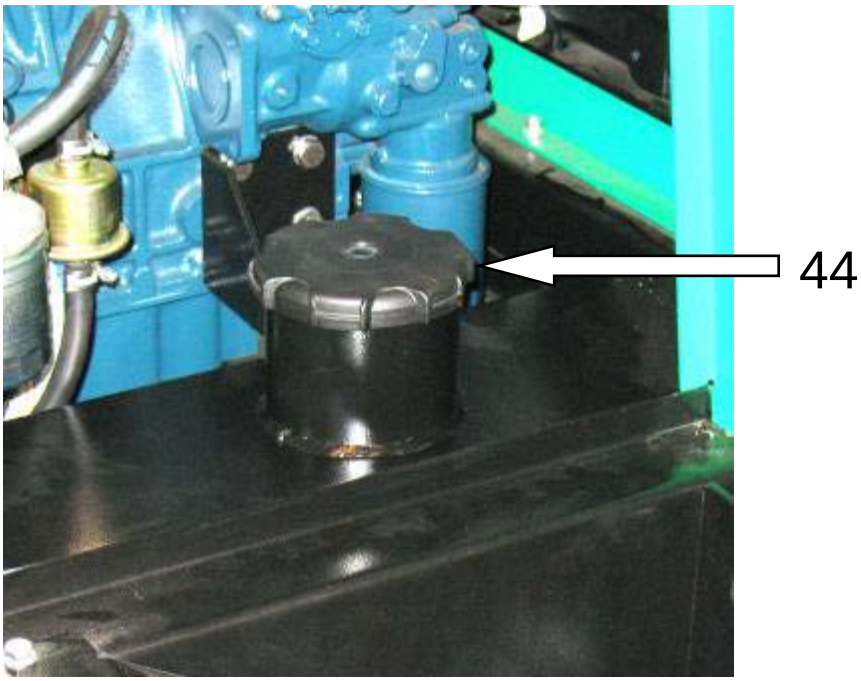
Connect the battery switch (**20**).

The battery fluid contains sulphuric acid which is extremely corrosive and harmful to the skin.

Always wear protective gloves and be extremely careful to avoid spillage when pouring the acid.

If the machine has to be stopped for a long period, we suggest to disconnect the battery switch (**20**).

12.4 FUEL TANK



Items	Description
44	Fuel tank cap

Fill up the tank of diesel fuel respecting the tank capacity (lt. 116). The fuel reserve is indicated by the instrument (**38**) placed on the command panel.

Always turn off the engine before any operation of refueling.

The operation of refueling must be done in way that there isn't any discharge of fuel from the tank.

If the machine has to be stopped for a long period (more than one year), we suggest to keep the fuel in the tank, in order to avoid oxidizing effects.

12.5 ENGINE OIL CAP

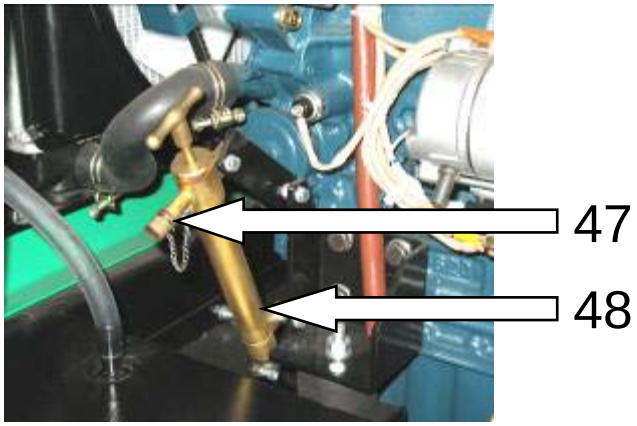
Items	Description
45	Engine oil cap
46	Oil level indicator

Check the engine oil level before starting or more than five minutes after stopping.

Do not discharge polluting liquids in the atmosphere.

If the machine has to be stopped for a long period (more than one year), we suggest to keep the oil into the engine in order to avoid oxidizing effects.

12.6 CHANGE ENGINE OIL



Items	Description
47	Engine oil drain cap
48	Manual pump for extracting the oil from the engine
49	Wiggins Fast Fuel **(*)**

For the oil change it has been prearranged a manual pump.

Remove the discharge cap (**47**) from the pump and apply a rubber hose (not supplied) to the top of it, place the hose out of the frame of the machine, introducing it in a small basin. Unscrew the oil cap and discharge the oil pumping it.

WARNING: after using the pump, screw the cap very well and check anyway the correct tightening before each engine starting.

Contact with engine oil can damage your skin. Put on gloves when using engine oil. If you come in contact with engine oil, wash it off immediately.

For know the type of oil to use in your motor, make reference to the Kubota engine owner's manual.

Change oil (4,5 l oil sump capacity) after the initial 50 hours of operation and every 200 hours or 1 year thereafter.

Do not discharge polluting liquids in the atmosphere.

If the machine has to be stopped for a long period (more than one year), we suggest to keep the oil into the engine in order to avoid oxidizing effects.

Up to 25° C	SAE 30 - SAE 10W-30 - SAE 10W-40
Between 0° C and 25° C	SAE 20 - SAE 10W-30 - SAE 10W-40
Down to 0° C	SAE 10W - SAE 10W-30 - SAE 10W-40

(*) Note: The Wiggins Fast Fuel is an option only.

13. OPERATING INSTRUCTIONS

13.1 LIGHTING TOWER POSITIONING

Place the lighting tower on a flat surface, taking care not to exceed 10° of inclination.

Choose an open location and very ventilated taking care that the discharge of the exhaust gases happens far from the work-zone.

Check that there is a complete change of air and the hot air expelled don't circulate into the group in way that it's caused a dangerous elevation of the temperature.

Predispose the barriers placed to 2 meters of distance around the lighting tower in order to prevent to the staff non-authorized to approach itself the machine.

13.2 CONNECTING OF THE BATTERY

The machine is supplied with the battery connected at battery switch disconnect.

Connect the battery switch (**20**).

13.3 EARTHING

Connect the unit to the earth, through the clamp (**18**).

The unit must be connected to earth using a copper cable with a minimum cross-section of 6 mm².

The manufacturer is not responsible for any damage caused by failure of the earthing.

13.4 PRELIMINARY CHECKS

At the moment of purchase, the machine is supplied of engine oil, hydraulic oil and coolant in the radiator.

Before every next use, verify the relative levels.

Check that the circuit breakers (**32-33-35-36**) placed on the frontal board are in "OFF" position.

Make sure that the emergency stop button (**19**) is rearmed. If it doesn't, turn the grip handle in clockwise direction.

13.5 ENGINE STARTING

The principal commands of the lighting tower are placed inside a cabinet provided of a handle with safety lock to prevent that the unauthorised personal handlings the commands.

Position the starting key (**29**) on the first step to avoid the glow plugs' pre-heating, signal lamp (**26**) burnt. When the light (**26**) is off, start the engine by moving key (**29**) completely in clockwise direction.

Note: If the engine falls to start, turn the key to the OFF position and wait 10 seconds before operating the starter again.

Let the engine to run for about 5 minutes to warm it up.

The engine is set at (1500 r.p.m.) therefore it is not necessary to make any adjustment.

13.6 RUNNING IN

For the first 50 hours of operation of the machine do not employ more than 70% of the maximum power indicated in the technical specifications. In this way, a proper engine running in is guaranteed.

13.7 USE OF MACHINE

Earth Leakage Circuit Breaker.

The product is equipped with an Earth Leakage Circuit Breaker (ELCB) (**31**) which guarantees user protection against electric shocks due to unwanted contact with live parts of the circuit or insulation fault.

Warning!

In order to guarantee ELCB proper operation, the lighting tower must be connected to the earth. Earthing must conform to IEC 364 standard.

Verify periodically the operation of the earth leakage circuit breaker (**31**), by pressing the “TEST” button placed on the front panel.

The hour meter exclusively indicates the hours of working of the engine because it only works with the engine in motion. It could be a reference for the periodic ordinary and extraordinary maintenance of the machine.

13.8 GENERATOR ALARMS

The generating set is equipped by a protection (DAS) that turn off the machine after 20 seconds from the survey of a failure, signalled visually by the signal lamps placed on the command panel. When the trouble is removed, a new starting will clear the memory of the DAS.

Low oil pressure.

When the engine oil pressure is too low, the light comes on (**24**). Check the engine oil level.

High water temperature.

When the engine water temperature is too high, the light comes on (**25**). Check the engine water level.

No battery charge.

When the alternator don’t not charge the battery or the battery does not hold loads, the light comes on (**23**). Check the alternator and the battery.

Low fuel level.

When fuel level probe, the light comes on (**27**). Periodically verify the fuel level by the monitor (**38**). Fill up the tank with the fuel level is low.

13.9 REMARKS

It is important that the operator will be always careful at every eventual disadvantage had at usury or breakdown.

It is necessary that the use of the lighting tower will be effected from expert personnel, careful at eventual structural disadvantage, seen the size of the structure.

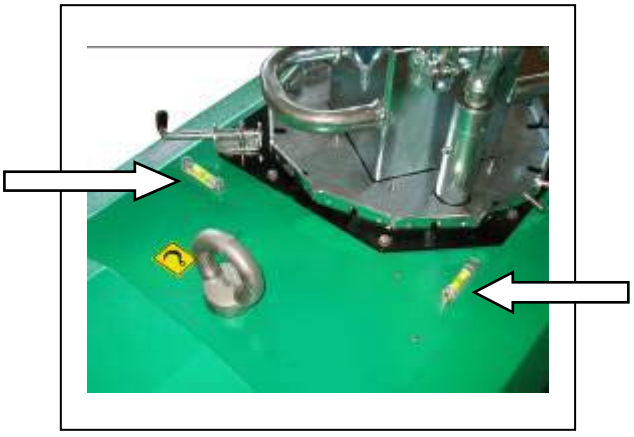
It is advised to do always a visual check and general at every use, above all at those parts always in movement and subjected at usury.

The expert user must not permit to anybody to stay near to the lighting tower, when it is in function.

Let always wide space round to the lighting tower.

It is recommended to place the base the most possible in plan in order to facilitate the regulation of the stabilizers (make reference to the spirit level placed on the frame (Fig. 1).

(Fig. 1)



It is also recommended to place the structure in a stable place, verifying the consistence of the earth to allow a sure support to the stabilizers.

Pull the hand brake if the tower is supplied of undercarriage for towing.

It is allowed the use of the lighting tower only at a qualified staff.

Before to use the lighting tower it is recommended to the authorised staff to consultate all warnings and dangers described into this manual.

The manufacturer is not responsible of any damage at things or person, in consequence at the inobservance of safety norms.

Before any operation on the machine ensure yourself that the lighting tower is not feeded and that there are not any parts in movement.

For the electrical connection between the floodlights and the command panel of the lighting tower it has been used a turn cable 11G2,5 mmq placed to the inside of a cylinder that allows a comfortable sliding.

The electrical connections are simplified so as to concur the uncoupling of the command panel for a check and an eventual maintenance or substitution of damages pieces. It is also possible to remove and to replace the cruise of the lighting tower. For the electrical connection of the floodlights we are previewed plastic boxes with degree of protection IP56.

In case of use of the lighting tower in adverse acclimatizes situations, with too much low temperatures or high, take care to the turn cable and its normal sliding to the inside of the cylinder because the cable is subject to momentary structural deformation.

13.10 USE OF THE LIGHTING TOWER

Tilt manually the floodlights unscrewing the lever (Fig. 2-A) placed on the support of the floodlight.

Rotate the floodlights in the position you prefer, in function of the type of lighting you want to obtain, unscrewing the stop nut of the floodlight support. (Fig. 2-B).

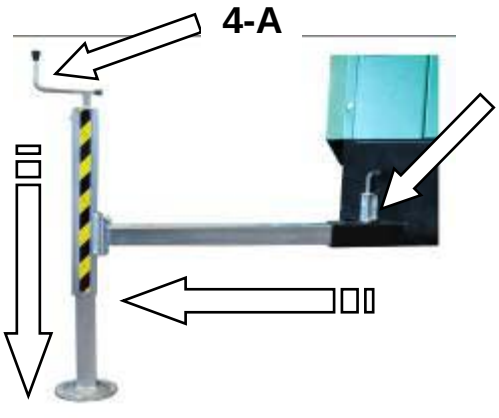
(Fig.2)

Release the pins from their hole (Fig. 3) and then proceed manually to the extraction of stabilizers until the pins lock the exit of the tubular (Fig. 4); check that the pins go into the respective seats of blocking of the tubular.

Lower the stabilizers through the handle (Fig. 4-A).

(Fig. 3)

(Fig. 4)

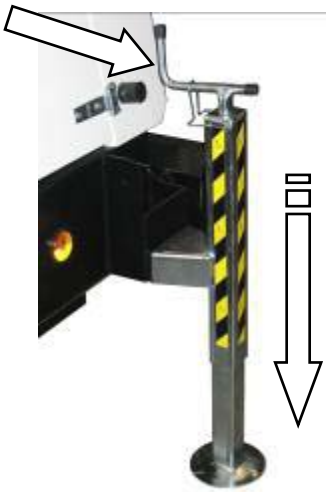


Lower rear stabilizers through the handle (Fig. 5).

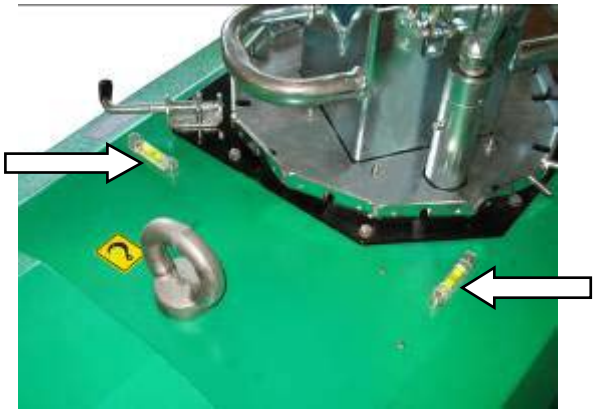
Make reference to the spirit level for the correct stability of the structure (Fig. 6).

Warning!!! It is not possible to raise the tower if all stabilizers are not correctly extracted.

(Fig. 5)



(Fig. 6)

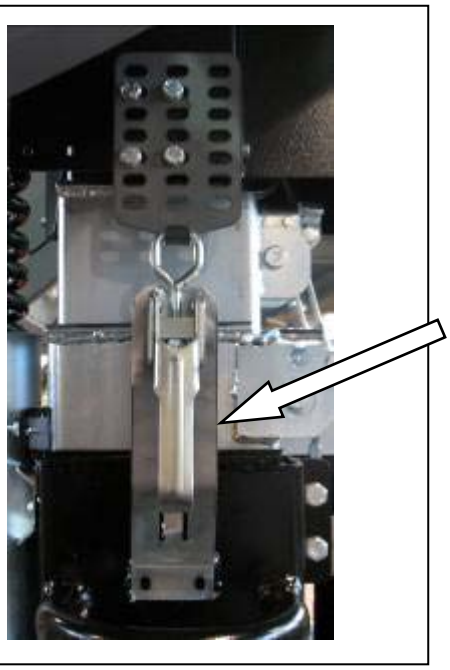


Before use the machine it's recommended the correct acquaintance on operation for all the commands of the lighting tower.

Start the engine like described at the chapter "**13.5 ENGINE STARTING**".

Warning!!! Before raising up the telescopic mast check that transport hooks are unlocked. (Fig. 7)

(Fig. 7)



Check that the push button circuit breaker (Fig. 8-A) hydraulic gear box engines protection place on the frontal board are in “ON” position.

On the command panel is placed the lever that allows to raise and to lower the telescopic mast in easy and comfortable way (Fig. 8-D).

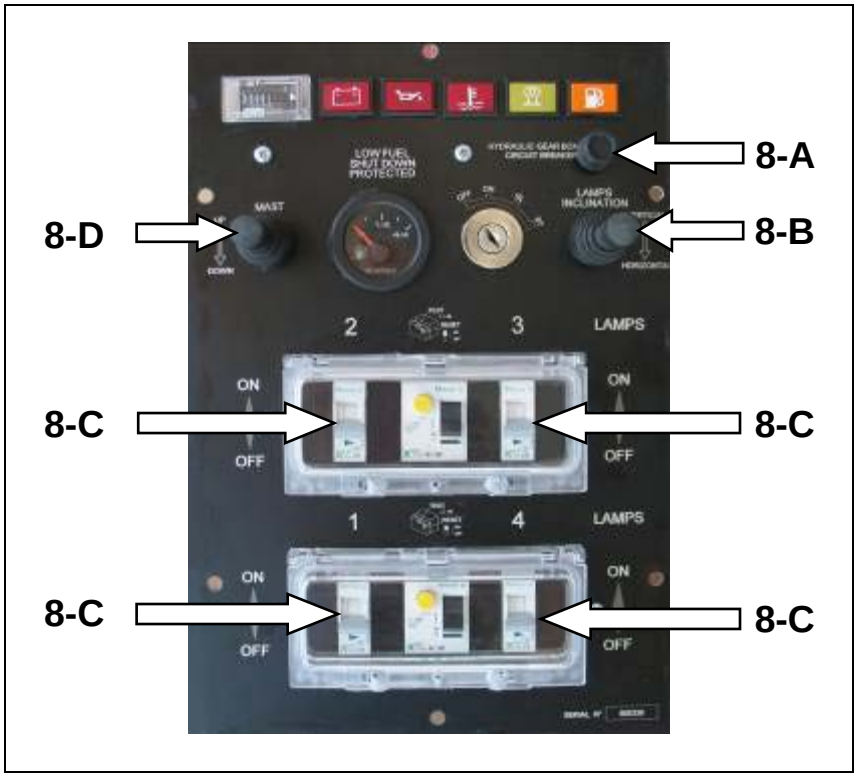
The attainment of the maximum height is evidenced by a red wrap placed on the base of the mast.

Proceed to light the lamps through the relatives circuit breakers placed on the front panel of the lighting tower.

Light the first lamp (Fig. 8-C) and allow 2 minutes for it to warm up, then light the next lamps, remembering to allow each lamp to warm up for 2 minutes.

Tilt the floodlights group through the lever (Fig. 8-B). It is possible a tilt of about 41°.

(Fig. 8)

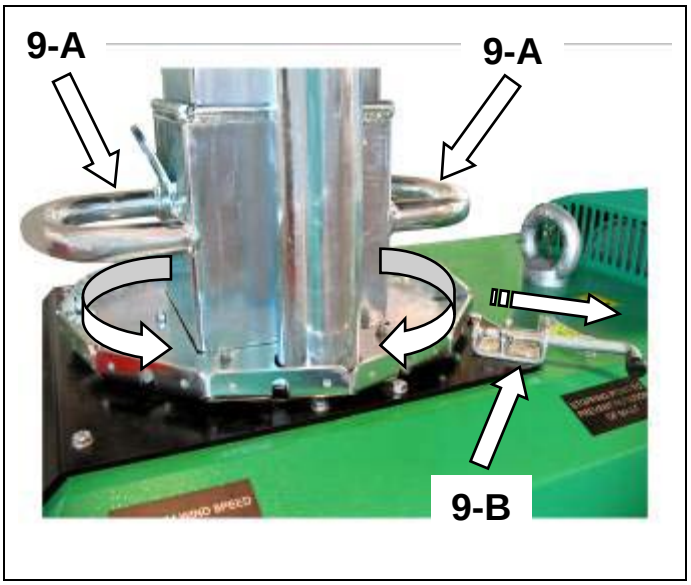


In case of accidental putting out it is necessary to wait the cooling of the lamp (about 15 minutes) before a new lighting, because of the high tension that would be necessary for a hot ignition.

Rotate the mast on the opportune way to place the lighting beam in the desiderate position. For simplify the rotation they are predisposed two handles (Fig. 9-A).

Pull the locking pin of the mast (Fig. 9-B) in way to concur the rotation of it. The blocking happens re-inserting the pin in one of the many centers predisposed along the sping ring. The mechanical block concurs to stop the spin to 340°.

(Fig. 9)



WARNING: it is strictly prohibited to close the stabilizers when the lighting tower is in vertical position at the maximum height.

WARNING: the lighting tower is prearranged to withstand 110 km/h wind at the maximum height. In case of using in windly places, be careful and lower timely the telescopic mast.

In case of hydraulic gear box or generating set engine‘s failure, it is possible to lower the mast. Make reference to the chapter “**12.2 HYDRAULIC GEAR BOX**”.

13.11 STOPPING THE ENGINE

Switch off all the lamps through the circuit breakers (**32-33-35-36**).

Wait that the engine works in these conditions for approximately 1 minute, then turn the starting key (**29**) to the stop position.

In emergency case it is possible to stop the generating set by pressing the stop button (**19**).

14. ENGINE MAINTENANCE

In order to preserve the engine performance strongly suggests following the maintenance operations and the maintenance schedules reported in the engine "Operator's manual" at chapter "MAINTENANCE", in order to avoid troubles and a consequent power loss of generating set.

PERIODICITÀ DELLA MANUTENZIONE ***SERVICE INTERVALS***

Interval	Item		
Every 50 hours	Check of fuel pipes and clamp bands		@
	Replacement of fuel pre-filter		
	First change of engine oil		
Every 100 hours	Cleaning of air cleaner element	*1	@
	Cleaning of fuel filter		
	Check of battery electrolyte level		
	Check of fan belt tightness		
Every 200 hours	Check of radiator hoses and clamp bands		
	Replacement of oil filter cartridge		@
	Replacement of engine oil		
	Check of intake air line		@
Every 500 hours	Removal of sediment in fuel tank		
	Cleaning of water jacket (radiator interior)		
	Replacement of air cleaner element		
Every 800 hours	Check of valve clearance		
Every 1500 hours	Check of fuel injection nozzle injection pressure	*3	@
Every 3000 hours	Check of injection pump	*3	@
	Check of fuel injection timer	*3	@
Every year	Replacement of air cleaner element	*2	@
	Check of electric wiring		
Every 2 years	Replacement of radiator coolant		
	Replacement of radiator hose		
	Replacement of fuel pipes	*3	@
	Replacement of intake air line	*4	@

*1 Air cleaner should be cleaned more often in dusty conditions than in normal conditions.

*2 After 6 times of cleaning

*3 Consult your local Kubota Dealer for this servive.

*4 Replace only if necessary.

@ The items listed above are registered as emission related critical parts by Kubota in the U.S. EPA nonroad emission regulation. As the engine owner, you are responsible for the performance of the required maintenance on the engine according to the above instruction. Please see the Warranty Statement in detail.

We report here the operations of ordinary engine's maintenance, for other operations make reference to "Owner's manual" of the engine, chapter "MAINTENANCE".

The hour meter esclusively indicates the hours of working of the engine because it only works with the engine in motion. It could be a reference for the periodic ordinary and extraordinary maintenance of the machine.

14.1 REPLACEMENT OF FUEL PRE-FILTER

Replace the fuel pre-filter with new one every 50 operating hours or so.

Operations:

- Unloose the two clamps with a screwdriver.
- Replace the filter respecting the sense of assembly and tighten the clamps.
- Air-bleed the injection pump if necessary.

(1) Fuel pre-filter.
(2) Clamp.

14.2 CLEANING THE FUEL FILTER POT

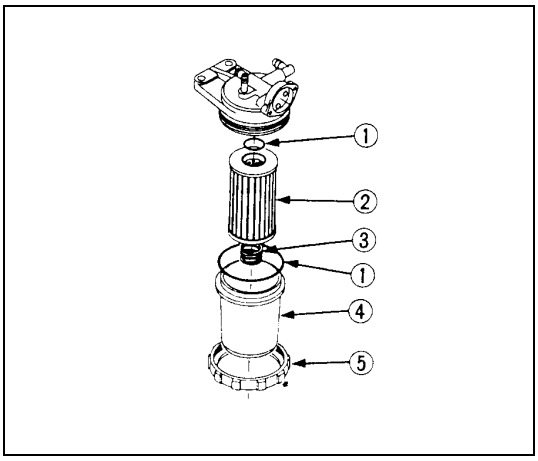
Every 100 hours of operation, clean the fuel filter. And so on in a clean place to prevent dust intrusion.

Operations:

- Remove the top cap, and rinse the inside with diesel fuel.
- Take out the element, and rinse it with diesel fuel.
- After cleaning, reinstall the fuel filter, keeping out of dust and dirt.
- Air-bleed the injection pump.

(1) Fuel filter pot.

IMPORTANT: entrance of dust and dirt can cause a mulfunction of the fuel injection pump and the injection nozzle. Wash the fuel filter cup periodically.



(1) O-ring.
(2) Filter element.
(3) Spring.
(4) Filter bowl.
(5) Screw ring.

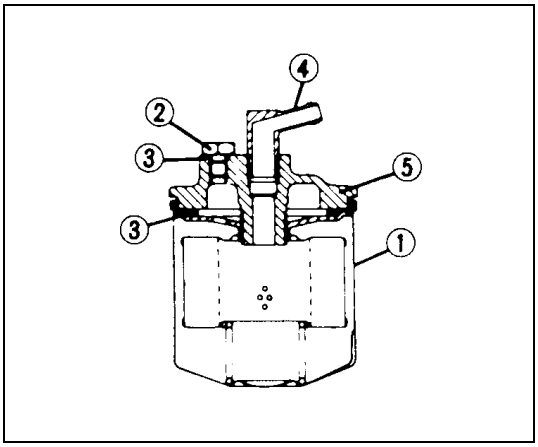
14.3 FUEL FILTER CARTRIDGE REPLACEMENT

Replace the fuel filter cartridge with new one every 400 operating hours or so.

Operations:

- Apply fuel oil thinly over the gasket and tighten the cartridge into position hand-tight.
- Finally vent the air.

IMPORTANT: Replace the fuel filter cartridge periodically to prevent wear of the fuel injection pump plunger or the injection nozzle due to dirt in the fuel.



(1) Fuel filter cartridge.
(2) Air vent plug.
(3) O-ring.
(4) Pipe jont.
(5) Cover.

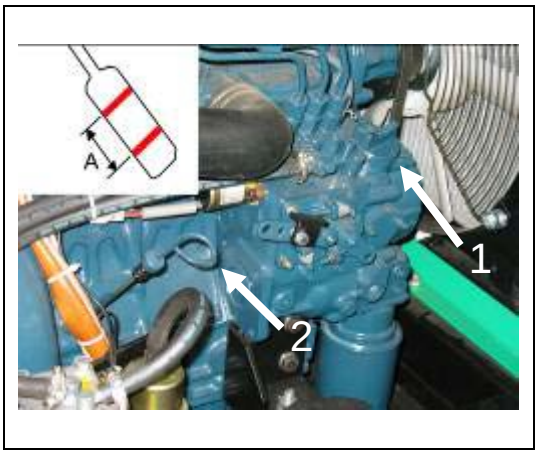
14.4 ENGINE OIL

- **CAUTION:** To avoid personal injury, be sure to stop the engine before checking the oil level, changing the oil and the oil filter cartridge.
- Contact with engine oil can damage your skin. Put on gloves when using engine oil. If you come in contact with engine oil, wash it off immediately.
- **NOTE:** Be sure to inspect the engine, locating it on a horizontal place. If placed on gradients, accurately, oil quantity may not be measured.

14.5 CHECKING LEVEL AND ADDING ENGINE OIL

Operations:

- Check the engine oil level before starting or more than five minutes after stopping.
- Detach the oil level gauge, wipe it clean and reinstall it.
- Take the oil level gauge out again, and check the oil level.

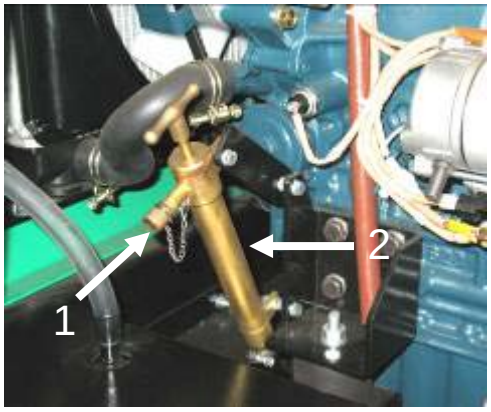


(1) Oil filter plug.
(2) Oil level gauge.
(A) Engine oil level within this range is proper.

- If the oil level is too low, remove the oil filter plug and add new oil to the prescribed level.
- After adding oil, wait more than 5 minutes and check the oil level again. It takes same time for the oil to come down to the oil pan.

14.6 CHANGING ENGINE OIL AND REPLACING THE OIL FILTER CARTRIDGE

- **CAUTION:** To avoid personal injury be sure to stop the engine before draining the engine oil and the oil filter cartridge and allow engine to cool down sufficiently; oil can be hot and can burn.
- For change the engine oil, it was predisposed a manual pump.



(1) Engine oil drain cap.
(2) Manual pump in order to extract the oil from the engine

Operations:

- Take a container for the exaust oil, remove the discharge cap (1) from the pump (2) and pump out the oil. Drain oil easier and completely while the engine is tepid.
- **WARNING: after using the pump screw well the cap (control the tightening before each engine stating).**
- Contact with engine oil can damage your skin. Put on gloves when using engine oil. If you come in contact with engine oil, wash it off immediately.
- Change oil after the initial 50 hours of operation and every 200 hours thereafter.
- **Do not discharge the polluting liquids in the atmosphere.**
- Detach the old oil filter cartridge with a filter wrench.

(1) Oil filter cartridg.
Remove with a filter wrench (tighten with your hand).

- Apply a film of oil to the gasket for the new cartridge.
- Screw in the cartridge by hand. When the gasket contacts the seal surface, tighten the cartridge enough by hand. Because, if you tight the cartridge with wrench, it will be tightened too much.
- Add new engine oil up to the upper limit of the oil level gauge.
- After the new cartridge has been replaced, the engine oil level normally decreases a little. Thus, run the engine for a while and check oil leaks through the seal before checking the engine oil level. Add oil if necessary.

Up to 25° C	SAE 30 - SAE 10W-30 - SAE 10W-40
Between 0° C and 25° C	SAE 20 - SAE 10W-30 - SAE 10W-40
Down to 0° C	SAE 10W - SAE 10W-30 - SAE 10W-40

- **NOTE:** Wipe off any oil sticking to the machine completely.

14.7 RADIATOR

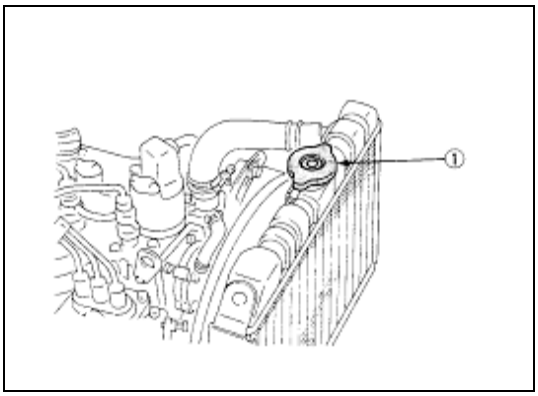
- Coolant will last for one day's work if filled all the way up before operation start. Make it a rule to check the coolant level before every operation.

WARNING:

- To avoid personal injury do not remove the radiator cap when the engine is hot. Then loosen cap slightly to the stop to relieve any excess pressure before removing cap completely.
- Do not stop the engine suddenly, stop it after about 5 minutes of unloaded idiling.
- Work only after letting the engine and radiator cool off completely (more than 30 minutes after it has been stopped).
- If the machine has to be stopped for a long period (more than one year), we suggest to keep the coolant into the radiator in order to avoid oxidizing effects.

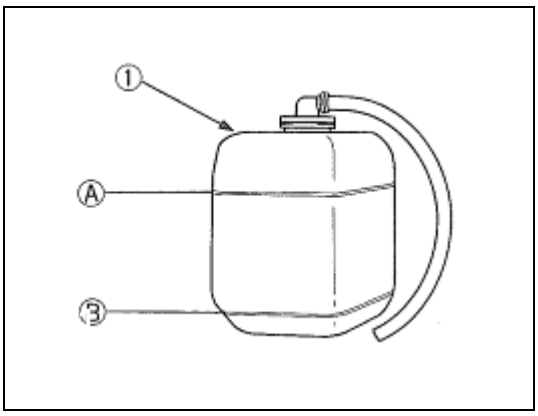
14.8 CHECKING COOLANT LEVEL, ADDING COOLANT

- **Operations:**
- Remove the radiator cap, and check to see that coolant reaches the supply port.



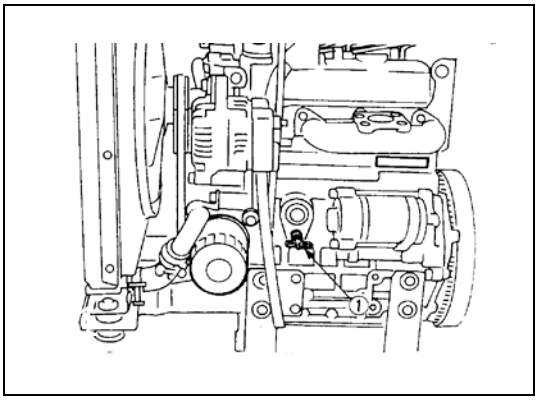
(1) Radiator pressure cap.

- If the radiator is provided with a reserve tank, check the coolant level of the reserve tank. When it is between the “FULL“ and “LOW” marks, the coolant will last for one day’s work.

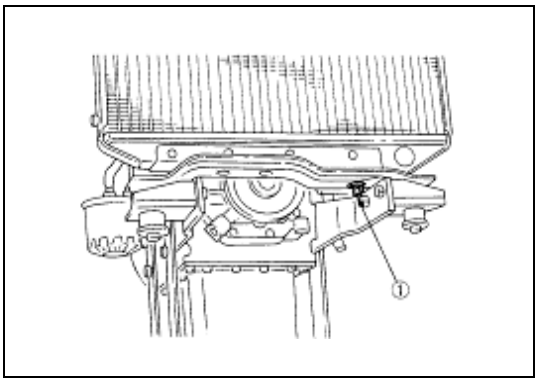


(1) Reserve tank.
(A) Full.
(B) Low.

- When the coolant level drops due to evaporation, add water only up to the full level.
- Check to see that two drain cocks; one is at the crankcase side and the other is at the lower part of the radiator as figures below.



(1) Reserve tank.
(A) Full.
(B) Low.



(1) Coolant drain cock.

IMPORTANT: If the radiator cap has to be removed, follow the caution above and securely retighten the cap.

Use clean water and anti-freeze to fill the reserve tank.

If coolant should be leak, consult your local Kubota dealer.

Do not refill reserve tank over the “FULL” level mark

Be sure to close the radiator cap securely. If the cap is loose or improperly closed, coolant may leak out and decrease quickly.

14.9 CHANGING COOLANT

Operations:

- To drain coolant, always open both drain cocks and simultaneously open the radiator cap as well. With the radiator cap kept closed, a complete drain of water is impossible.
- Remove the overflow pipe of the radiator pressure cap to drain the reserve tank.
- Radiator capacity 3,1 l.

PRECAUTION AT OVERHEATING

In the event the coolant temperature is nearly or more than the boiling point (lamp (**25**) placed on the command panel), the engine’s protection (DAS) turns off the engine after about 20 seconds.

Take the following actions:

- Do not open the hood and any other part.
- In case of steam blown out, keep yourself and others weel away from the engine.
- Let the motor to cool and, checked that there gets no danger such as burn, get rid of the causes of overheating according to the manual, see “TROUBLESHOOTING” section.

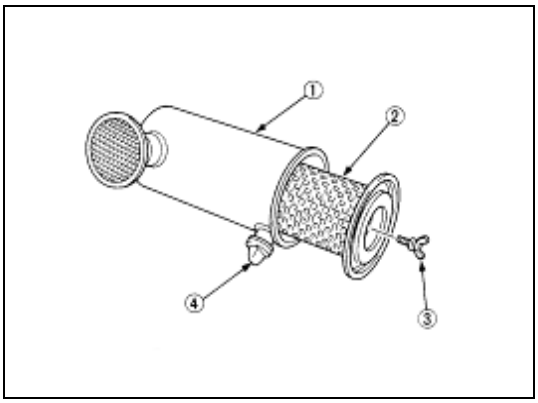
14.10 AIR CLEANER

As the element of the air cleaner employed on this engine is a dry type never apply oil to it

- Open the evacuator valve once a week under ordinary conditions-or daily when used is in a dusty place-to get rid of large particles of dust and dirt.

Operations:

- Wipe the inside air cleaner clean with cloth or the like if it is dirty or wet.
- Avoid touching the element except when cleaning.
- When dry dust adheres to the element, blow compressed air from the inside turning the element. The pressure of compressed air must be under 686kPa (7kg/cm², 99psi).
- When carbon or oil adheres to the element, soak the element in detergent for 30 minutes then wash it several times in water, rinse with clean water and dry it naturally.
- After element is fully dried, inspect inside of the element with a light and check if it is damaged or not. (referring to the instructions on the label attached to the element).
- Replace the element every year or every six cleanings.



(1) Fuel filter cartridge.
(2) Air vent plug.
(3) O-ring.
(4) Pipe jont.
(5) Cover.

IMPORTANT: Make sure the wing bolt for the element is tight enough. If it is loose dust and dirt may be sucked, wearing down the cylinder liner and piston ring earlier and thereby resulting in poor power output.

- **EVACUATOR VALVE**

Open the evacuator valve once a week under ordinary conditions-or daily when used in a dusty place-to get rid of large particles of dust and dirt.

15. LIGHTING TOWER MAINTENANCE

We suggest a frequent cleaning of the machine in order to avoid the presence of dirt which can compromise the efficiency of the machine. The frequency of this operation tightly depends on the place where the machine is used.

The extraordinary service operations not mentioned here above require the aid of specialized technicians.

15.1 LUBRICATION OF THE ROLLERS

For the lubrication of the rollers, use low temperatures and extremely high speed bearing grease. We recommend using SKF LGLT 2 grease, a premium quality fully synthetic oil based grease using lithium soap. In case of use of an other product, the grease will must have a base oil viscosity equal to 18 mm^2/s at 40°C and to 4,5 mm^2/s at 100°C.

15.2 LUBRICATION OF MAST SECTIONS

For the lubrication of the mast sections, we recommend to use a light lubricating oil like WD40. Spray it on the metal parts of the mast, in order to avoid squeaking and scrapping noises during the raising and the lowering operations. In case of frequent use, lubricate every three months.

15.3 LUBRICATION OF STABILIZERS

Grease periodically the stabilizer using a dense grease adapted to sliding system sto apply through the apposite tool to insert in the valves placed on the stabilizer (if previewed). Verify if the movement of the stabilizer is correctly.

15.4 CHECK OF HYDRAULIC CYLINDER

Verify periodically the conditions of the hydraulic pushing cylinder, controlling that there are not any usury traces, rubbing, leaks or corrosion.

15.5 CHECK OF STEEL CABLES

The steel cables are 6mm diameter composed of Carbon wires with Class B Galvanized protection and a Polymer core with a minimum breaking load of 3294 kgs. They enable the raising and lowering of the telescopic mast. It is recommended to inspect the cables every 250 hours service to verify their condition and ensure their correct position inside the pulleys. It is the Manufactures recommendation that all cables and pulleys are replaced as required. If the steel cable shows unusual signs of wear or damage, do not use the lighting tower and contact PR Power.

15.6 CHECK OF HYDRAULIC CONNECTIONS

Verify periodically connections and hoses that transport the hydraulic oil from the tank to the cylinder, check the tightening of the hoses, verify eventual usury signs or cuts. Verify if there is a oil's loss.

16. TROUBLESHOOTING GUIDE

Listed below are the most common troubles that may occur during use of the lighting tower and possible remedies.

If the engine did not have to work correctly, we suggest to follow the maintenance operations and the maintenance schedules reported in the engine "Operator's manual" at chapter "MAINTENANCE", in order to find and to eliminate the cause of the trouble.

16.1 MAIN TROUBLES

FAULT

- Turning the starting key in ON position, no signal lamps ignites and the starting motor does not work.

CAUSE
The battery is disconnected.

REMEDY
Open the door and connect the battery.

CAUSE
The battery is discharge.

REMEDY
Recharge the battery.

CAUSE
The battery is defective.

REMEDY
Replace the battery.

CAUSE
Steerg lock is failure.

REMEDY
Replace the steerg lock.

CAUSE
The starting motor does not work.

REMEDY
Contact Kubota assistance centre for a check.

CAUSE
The emergency stop button is pressed.

REMEDY
Check that the stop button is reamed. It if doesn't, turn the grip handle in clockwise direction.

CAUSE
There are many disconnected cables in the electrical system.

REMEDY
Check visually the electrical system to find the disconnected cables (make reference to the wiring diagram.

FAULT

- The starting motor works but the engine does not start.

CAUSE
Possible lack of fuel in the tank.

REMEDY
Refuel the machine.

CAUSE
Fuel filter dirty.

REMEDY
Replace the filter.

CAUSE
The fuel pump does not work.

REMEDY
Check the electrical connection of the pump and eventually contact a Kubota assistance centre for a check.

FAULT

- The starting of the engine is difficult and there is a insufficient rendering.

CAUSE
The element air cleaner is dirty.

REMEDY
Clean up the element and eventually replace it.

CAUSE
Injection pump wear.

REMEDY

Do not use poor quality fuel as it will cause wear of the pump. Check the fuel injection pump element and replace it if necessary.

CAUSE
Overheating of moving parts.

REMEDY
Check lubricating oil system.

Check to see if lubricating oil filter is working properly or replace it.

FAULT

- Ouput voltage unstable.

CAUSE
Irregular engine speed.

REMEDY
The engine is set at the exactly speed (1500 r.p.m.), in case of unsetting contact the manufacturer.

CAUSE
The alternator is defective.

REMEDY
Replace the alternator and eventually contact directly the manufacturer.

FAULT

- The machine stops with the oil low pressure signal lamp ignited.

CAUSE
The oil level is low.

REMEDY
Verify the level and add oil if necessary.

CAUSE
The pressure switch is defective.

REMEDY
Replace the pressure switch.

CAUSE
The “DAS” TP0401 protection panel is defective.

REMEDY
Replace the panel.

FAULT

- The machine stops with the high water temperature signal lamp ignited.

CAUSE
The level of the coolant in the radiator is low.

REMEDY
Verify the level and add coolant if necessary.

CAUSE
Radiator net or radiator fin clogged with dust.

REMEDY
Clean net or fin carefully.

CAUSE
Radiator fan does not work.

REMEDY
Check the fan.

CAUSE
The protection panel “DAS” TP0401 is defective.

REMEDY
Replace the panel.

FAULT

- The machine stops with the battery charge signal lamp ignited.

CAUSE

The battery is defective.

REMEDY

Replace the battery.

CAUSE

The engine's alternator is failure.

REMEDY
Check it and eventually contact a Kubota assistance centre.

CAUSE
The protection panel "DAS" TP0401 is defective.

REMEDY
Replace the panel.

FAULT

- After refueling, the fuel level monitor does not move.

CAUSE
The fuel level monitor does not work.

REMEDY
Check the fuel level monitor and its relative electrical connection.

CAUSE
The floating does not work.

REMEDY
Check the floating and its relative electrical connection. If the sensor is blocked, eventually replace it.

FAULT

- With the engine in motion the hour meter does not work.

CAUSE
The hour meter does not work.

REMEDY
Check the hour meter and its relatives electrical connection.

FAULT

- The automatic earth leakage relay trips during the use of the machine.

CAUSE
It has been a leak of current during the use of the auxiliary socket.

REMEDY
Check the electrical system connected to the auxiliary socket, verify that no values of draw are not exceeds to you.

CAUSE
Electrical connections interrupted.

REMEDY
Check the external electrical system and contact eventually the manifacturer.

CAUSE
Connection to Earth not correctly carried out.

REMEDY
Check that the connection to Earth is adapted.

FAULT

- The raising and lowering lever of the telescopic mast does not work.

CAUSE
Defective electrical connection.

REMEDY
Check the electrical connection.

CAUSE
The hydraulic gear box does not work.

REMEDY

Check that the automatic earth leakage relay is armed, eventually rearmed it.

Check that the electrical system of the hydraulic gear box.

Check the oil inside the hydraulic gear box, add it if necessary.

Replace the hydraulic gear box contacting directly the manufacturer.

FAULT

- The lowering telescopic mast lever does not work.

CAUSE
Defective electrical connection.

REMEDY
Check the electrical connection.

CAUSE
The hydraulic gear box is failure.

REMEDY
Unscrewing the pin in counterclockwise direction, make reference to chapter "**12.2 HYDRAULIC GEAR BOX**", it is possible to lower the mast.

FAULT

- One or more lamps does not light.

CAUSE
Defective or failure lamps.

REMEDY
Before replace the lamp, it is advisable to make a test, installing the lamp that it is presumed failure in a floodlight with lamp previously working.

FAULT

- The lamps fails to light.

CAUSE
The lamps have been accidentally putted out.

REMEDY
The lamps could not be relighted up, it is necessary to wait the cooling of the lamp (about 15 minutes).

CAUSE
The automatic earth leakage relay has been tripped.

REMEDY
Rearme the automatic earth leakage relay.

17. REPLACE THE LAMP AND FLOODLIGHT GLASS

In case of replacement of the lamps or the floodlight's glass, open the floodlight through the 4 stainless steel hooks (1), inserting a screwdriver in the appropriate slots previewed on the hooks. The hooks are with hingle to support the frame when opened. Replace the lamp or the glass. Close the floodlight's glass being careful to position correctly the hooks in their seat.

N.B.: in the 2 inferior floodlights the hooks that support the frame when opened are situated on the superior side, therefore it is necessary to sustain manually the cover during the operations of lamp's replacing.

The use of the NARVA-G.L.E. NACHROMA NCT 1000 W 240 V lamp is recommended. If a lamp by a different manufacturer is used, the same shall necessarily meet the requirements here below:

Type of lamp: metal halide

Base: E40

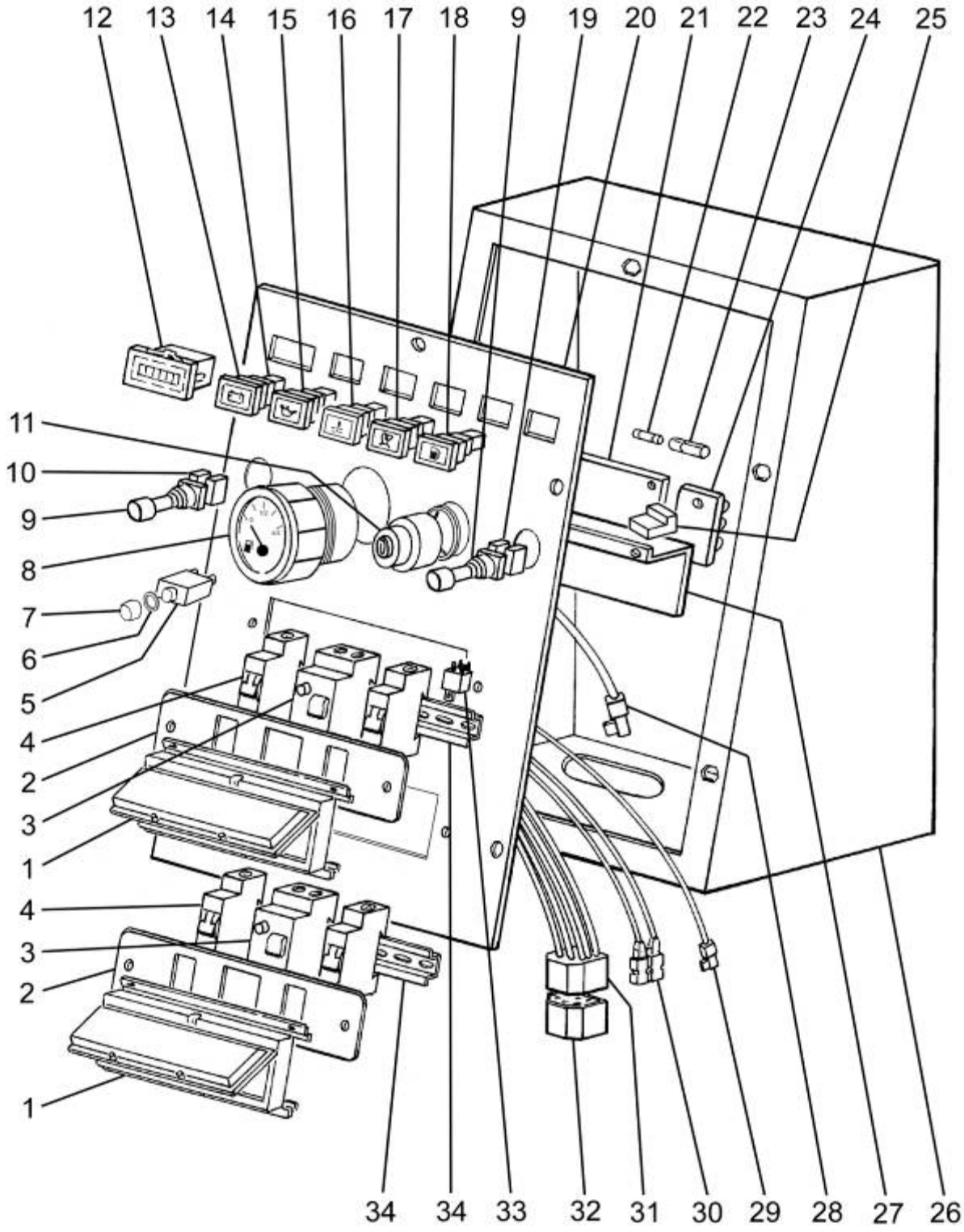
Nominal power: 1000 W

Nominal voltage: 240 V – 50 Hz

Operating current: 9,5 ÷ 10,5 A

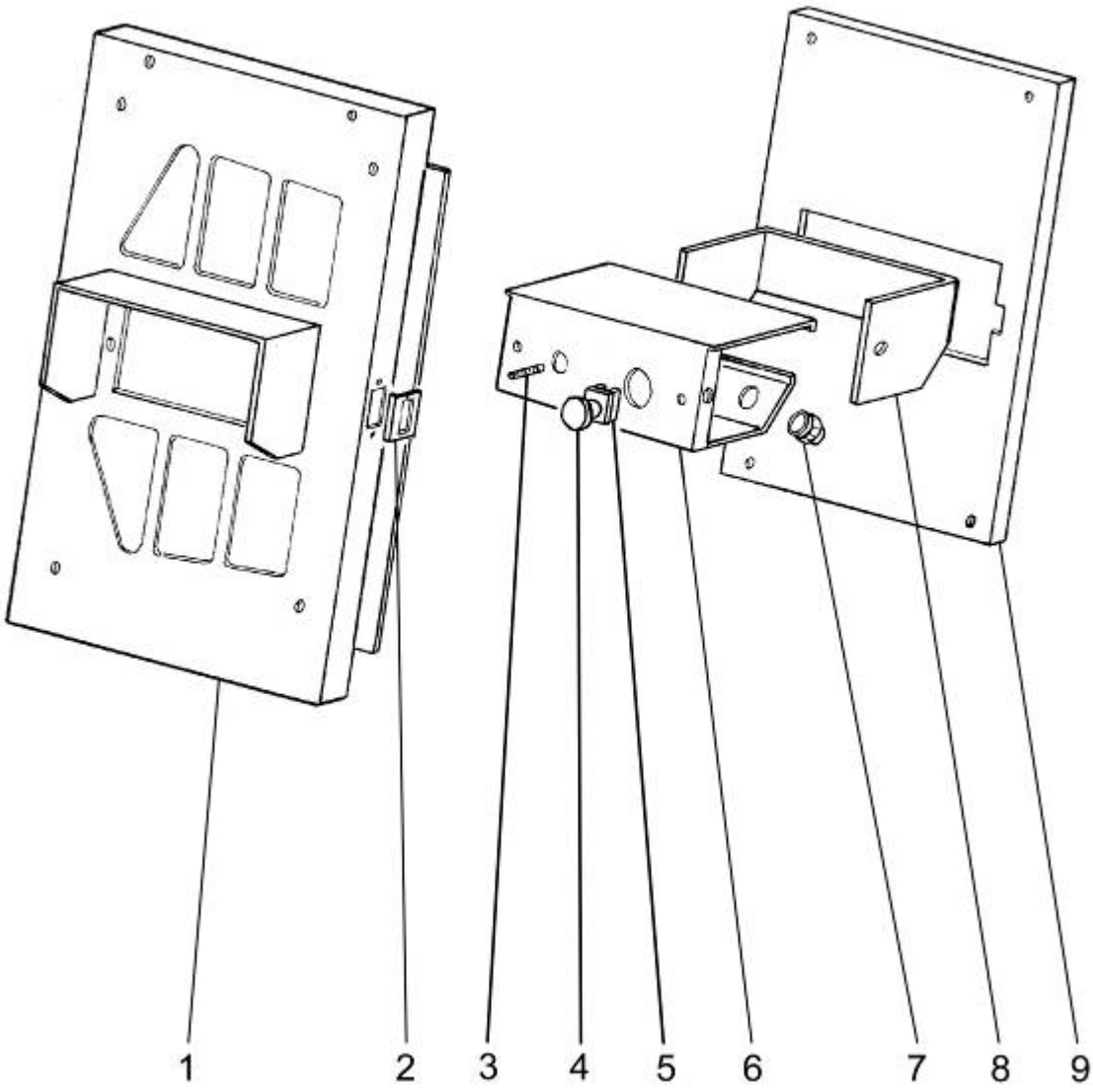
18. SPARE PARTS

18.1 COMMAND PANEL SPARE PARTS LIST



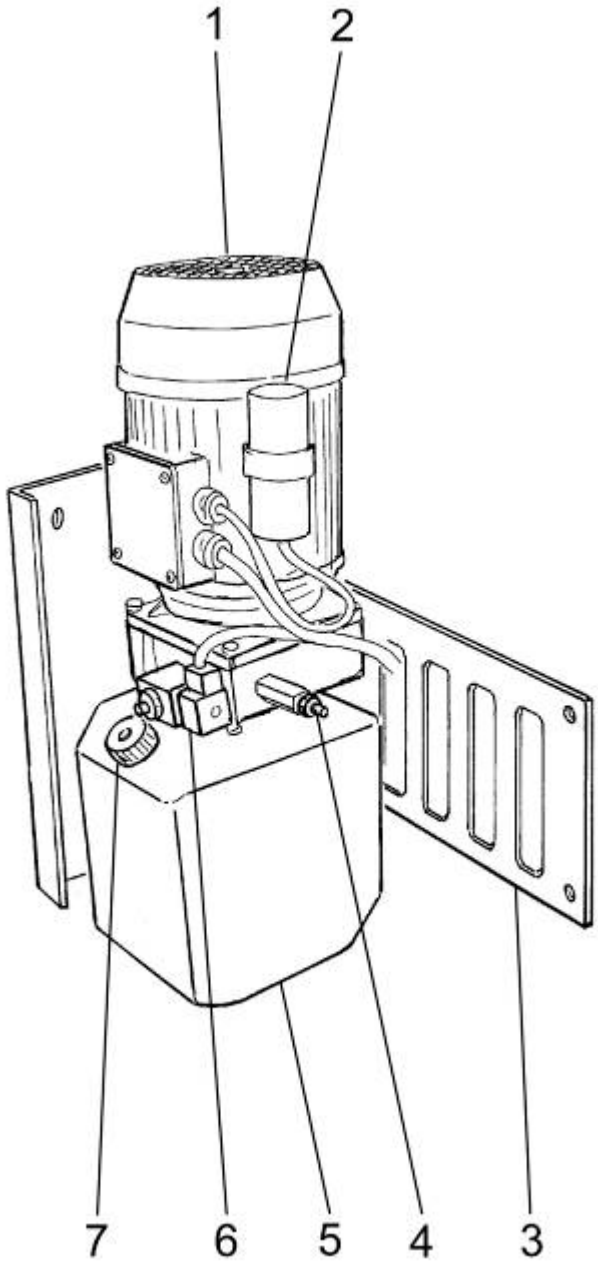
Items	Code	Denomination
1	7234	Circuit breakers protection
2	7117-7	Circuit breakers support plate
3	6239	40 A automatic earth leakage relay
4	7108	16 A 1 pole circuit breaker
5	6727	15 A push button circuit breaker
6	6726	Ring for circuit breaker
7	6725	Rubber protection for circuit breaker
8	11144	Monitor fuel level
9	7302	Raising-lowering manual lever
10	7303	Contact for lever
11	-	Starting key (Kubota engine part)
12	6805	240 V 50 Hz hour meter
13	6205	Battery charge signal lamp
14	6184	Female 2 ways faston holder
15	6204	Low oil pressure signal lamp
16	6203	Water temperature signal lamp
17	6206	Preheater signal lamp
18	6202	Low fuel level signal lamp
19	9572	Contact for lever
20	11985-S	Aluminium front plate
21	8027	TP0401 DAS electronic panel
22	6175	8A fuse
23	6193	Fuse holder
24	6908	6 poles terminal board
25	-	Lamp timer (Kubota engine part)
26	11823	Control panel box
27	6096	Electronic panel support
28	1064	Z16 clamp
29	6241	Z6-1 clamp
30	6238	Faston box
31	6247	Male 11 ways faston holder
32	6246	Female 11 ways faston holder
33	6921	12 V relay
34	7806-200	Support

18.2 EMERGENCY STOP BUTTON SPARE PARTS LIST

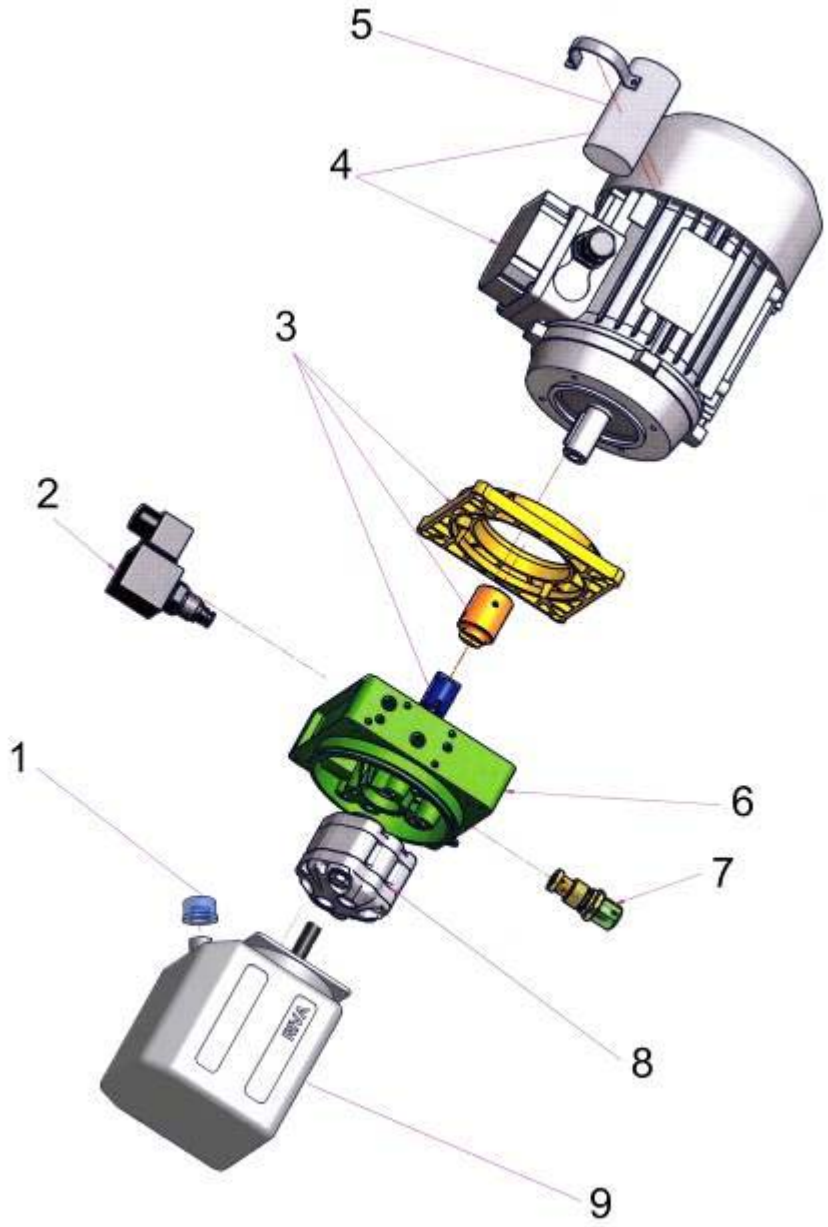


Items	Code	Denomination
1	9591	Side panel
2	6118	Contrast for lock
3	6840	Earth clamp connection
4	6188	Emergency stop button
5	6189	Contact for emergency stop button
6	11986	Box front plate assembled
7	1061	Ø 16 ½" gas press sheath
8	9864-2	Cover box front plate
9	9909	Left panel

18.3 HYDRAULIC COMPONENTS SPARE PARTS LIST

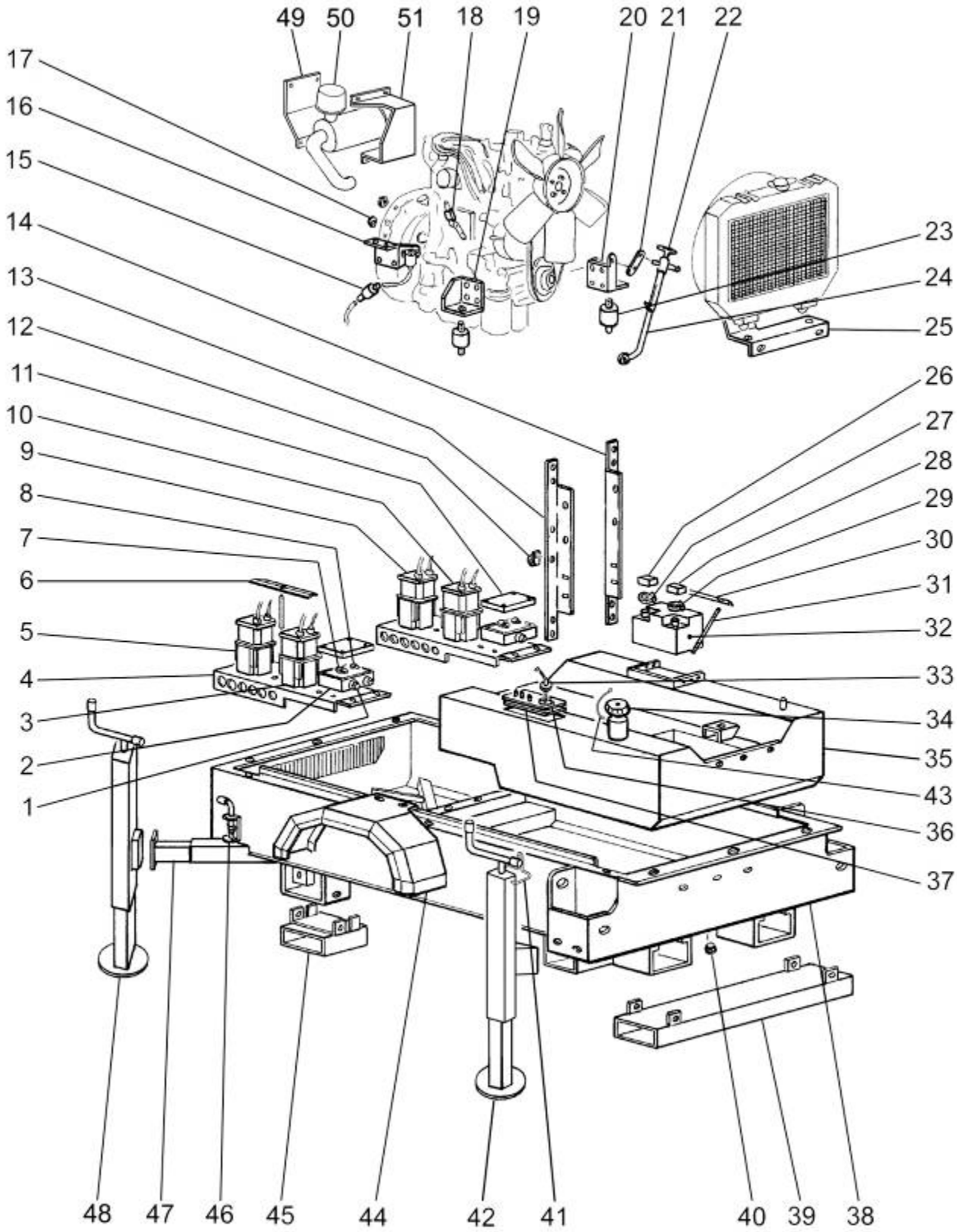


Items	Code	Denomination
1-2-4-5-6-7	10193	Hydraulic gear box assembled
1	7283	0,55 Hp electrical engine
2	7468-2	25 µF capacitor
3	9900	Hydraulic gerar box support
4	7700	VUBA-01 safety valve
5	10359	Hydraulic oil tank
6	7468-3	Solenoid valve
7	10360	Hydraulic oil tank cap



Items	Code	Denomination
1	10360	Hydraulic oil tank cap
2	7468-3	Solenoid valve
3	XB14-80	Coupling engine kit
4	02B 0,55 AC S-4P80B	Electrical engine with capacitor
5	7468-2	25 µF capacitor
6	A1J	Base unit with antireturn valve
7	A/210	Valve of maximum pressure
8	G113	Pump
9	10359	Hydraulic oil tank

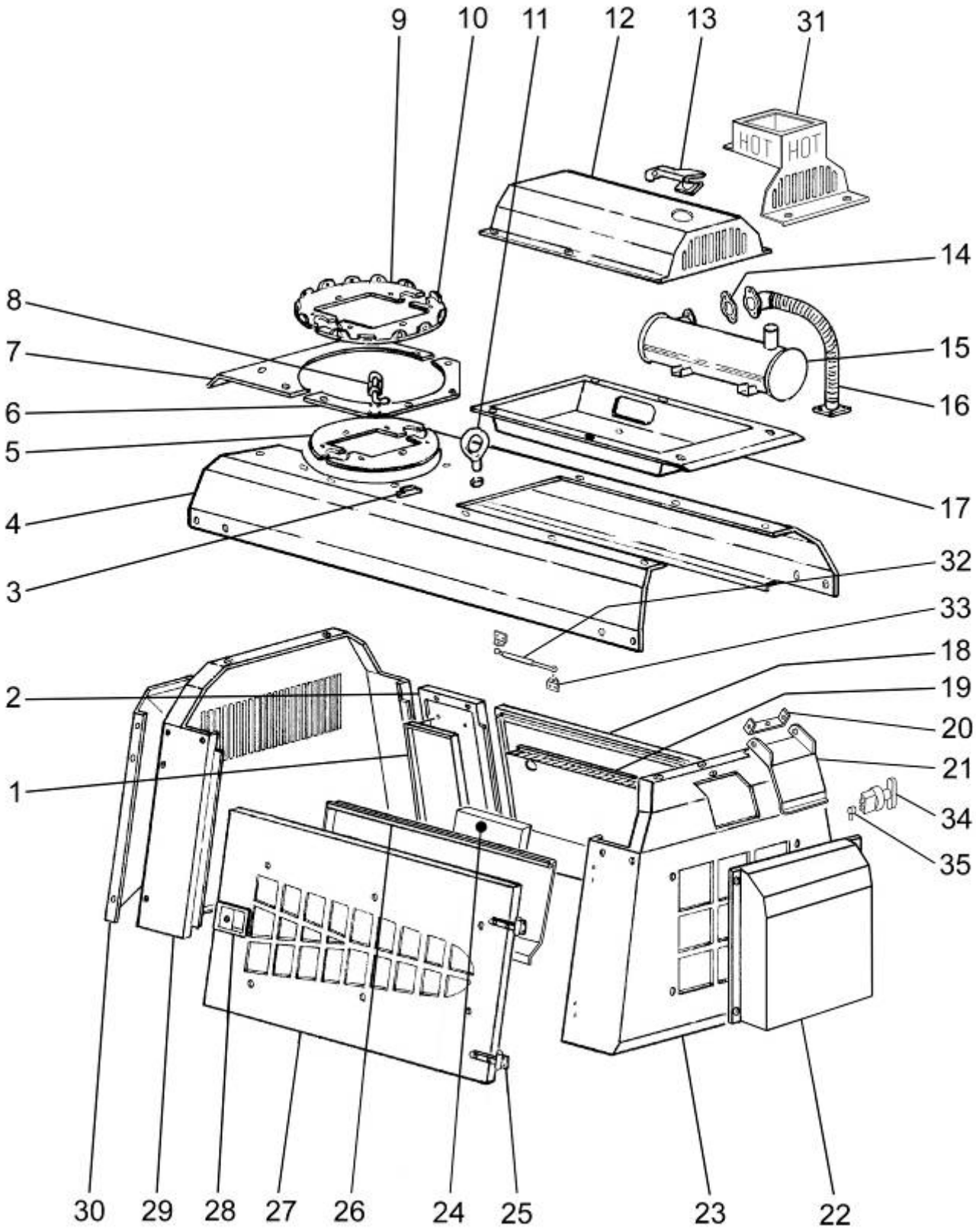
18.4 BASE SPARE PARTS LIST



PR4000 9mt 4x1000W METAL HALIDE

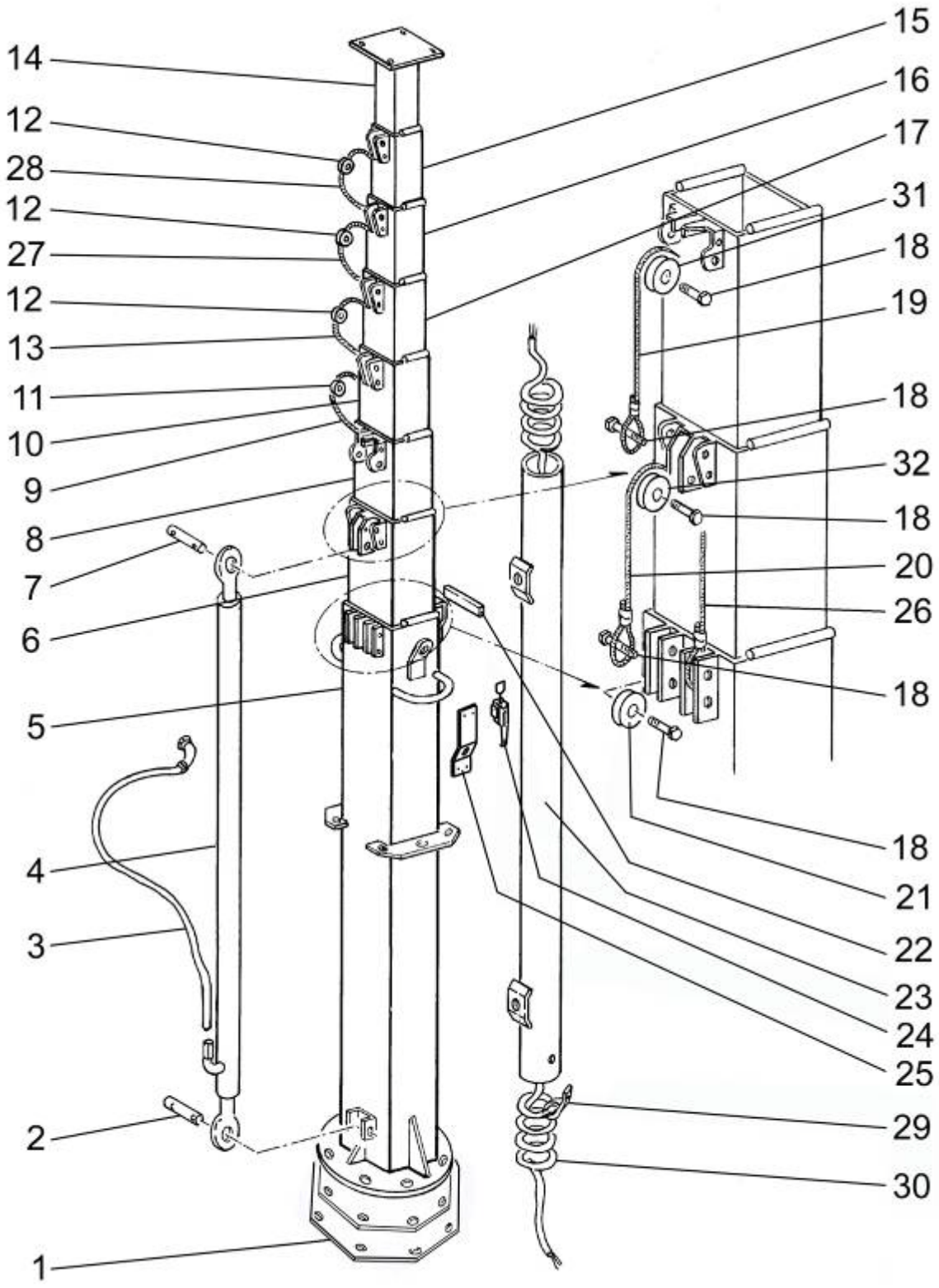
Items	Code	Denomination
1	1061	Ø 16 ½" gas sheath-clamp
2	10196	Ballast box
3	10286	Ballast with 5-1 cables
4	9599-Z	Ballast support
5	10287	Ballast with 6-2 cables
6	10192	Ballast retainer
7	1064	Z16 clamp
8	6241	Z6-1 clamp
9	10289	Ballast with 8-4 cables
10	10288	Ballast with 7-3 cables
11	10195	Ballast box
12	7531	15/15 clamp
13	9586-DX	Lifting right spar
14	9586-SX	Lifting left spar
15	8028	Fuel pre-filter
16	9261	Fuel filter support
17	8161	Spacer for engine
18	6103	Plate for register
19	9233-DX	Right engine support
20	9233-SX	Left engine support
21	6105	Oil drain pump support
22	7125	Oil drain pump
23	6115	60x50 shock absorber
24	6146	Oil drain pipe
25	10969	Radiator support
26	6153	Blu cover for battery
27	6886	Battery negative terminal
28	7127	Red cover for battery
29	6885	Battery positive terminal
30	6832	Battry bracket
31	7112	Battery tie-rod
32	6884	12 V 44 Ah battery
33	10580	Fuel level
34	6906	Fuel tank cap
35	9585	Fuel tank
36	12005	Fuel tank cover
37	8024	Gasket for plate fuel tank
38	9584	Base
39	10086	Plate for forklift
40	10266	1" drain cap
41	8761	Stabilizer locking
42	9905-Z	Stabilizer
43	C003-300	Steel cable (l 300 Ø3)
44	9595	Fender
45	10284	Plate for forklift
46	7654	Closing look pin
47	7881-Z	Tubular for stabilizer
48	7880-Z	Stabilizer
49	12015-01	Air filter support
50	12041	Self-cleaning air prefilter
51	12015-02	Air filter support

18.5 CARPENTRY SPARE PARTS LIST



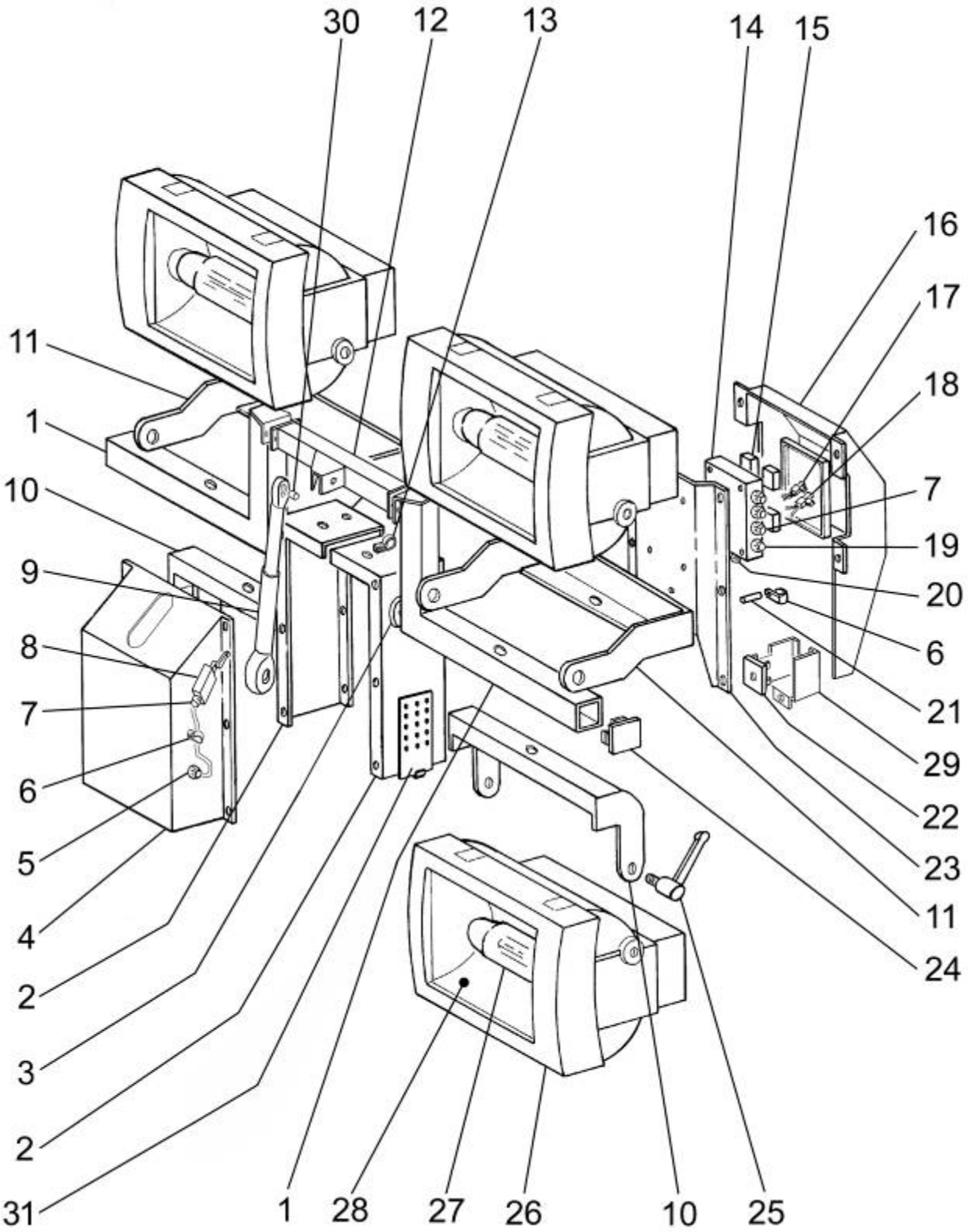
Items	Code	Denomination
1	9908	Right panel protection
2	9591-2	Right side panel
3	7237	Spirit level
4	9589	Top panel
5	9858	Mast guide flange
6	9859	Front flange
7	9860	Rear flange
8	8178	Lock pin
9	9901-2Z	Mast guide flange
10	9901-1Z	Mast guide flange with blocking
11	6237	Hook
12	9594	Silencer cover
13	7324	Rain cover for silencer
14	7863	Packing for flange
15	6008	Silencer
16	6007	Silencer flexible extension
17	9593	Silencer box
18	9592-DX	Right side door
19	9907-DX	Fight door protection
20	11833	Plate for radiator cover
21	11834	Radiator cover
22	12050	Air radiating closing
23	12040	Back fairing
24	12250	Clipboard
25	6432	Hinge
26	12249	Left door protection
27	9592-SX	Left side door
28	6201	Handle with lock
29	9587	Head fairing
30	9895-7	Air inlet box
31	11832	Plate for silencer
32	11836	200N gas spring
33	11835	Gas spring plate
34	-	Battery switch
35	12144	Rubber protection for battery switch

18.6 TELESCOPIC MAST SPARE PARTS LIST



Items	Code	Denomination
1	11277-12	Thrust
2	6231	Hydraulic cylinder lower pin
3	7792	Hydraulic cylinder tube
4	9560	Hydraulic cylinder
5	11357	1° section mast
6	9542	2° section mast
7	6230	Hydraulic cylinder top pin
8	9543	3° section mast
9	12993	High Rated 3.3 tonne Steel cable (l 1400 Ø 6)
10	9544	4° section mast
11	13006	Ø 60 SKF High Rated wheel for steel cable
12	13020	Ø 63 Standard wheel for steel cable
13	12994	High Rated 3.3 tonne Steel cable (l 1415 Ø 6)
14	9548	8° section mast
15	9547	7° section mast
16	9546	6° section mast
17	9545	5° section mast
18	10281	T.E. 8.8 10x50
19	12992	High Rated 3.3 tonne Steel cable (l 1385 Ø 6)
20	12991	High Rated 3.3 tonne Steel cable (l 1460 Ø 6)
21	9553	Ø 60 Standard wheel for steel cable
22	6261	Nylon bar
23	10188	Tube duides cable
24	6433	Floodlights locking hook
25	12868	Support lever
26	12990	High Rated 3.3 tonne Steel cable (l 1440 Ø 6)
27	12995	High Rated 3.3 tonne Steel cable (l 1430 Ø 6)
28	12996	High Rated 3.3 tonne Steel cable (l 1455 Ø 6)
29	7531	15/15 clamp
30	12693	11G2,5 mm turn cable
31	13005	Ø 58 SKF High Rated wheel for steel cable
32	13008	Ø 63 SKF High Rated wheel for steel cable

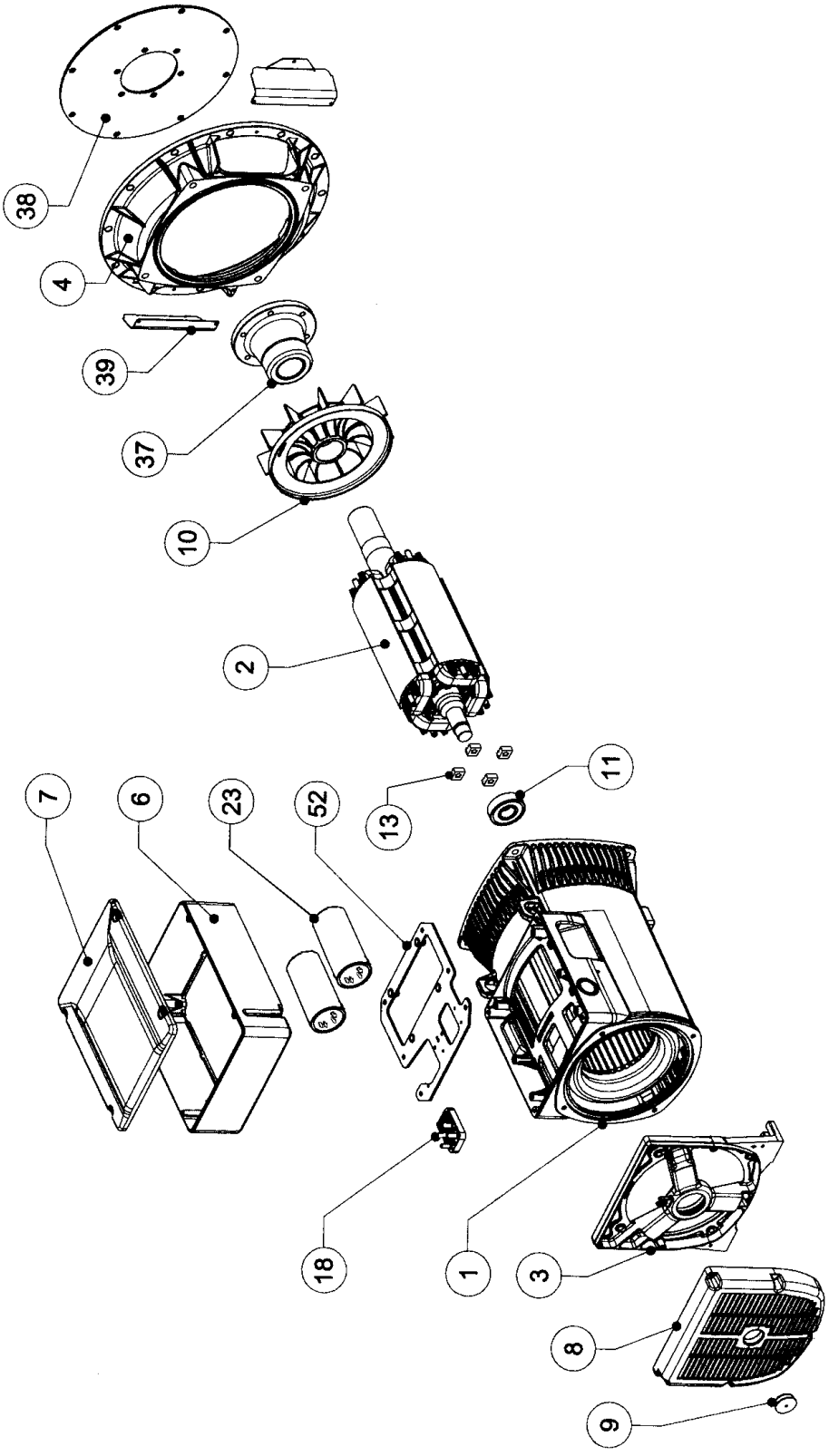
18.7 FLOODLIGHTS GROUP SPARE PARTS LIST



PR4000 9mt 4x1000W METAL HALIDE

Items	Code	Denomination
1	12869	Cruise hook
2	9476	Floodlights support
3	11991	6205 2RS bearing
4	9479	Ropes protection
5	12060	Ø 10 ¼" gas press sheath
6	7531	15/15 clamp
7	1061	Ø 16 ½" gas press sheath
8	12254	3 A 240 V AC security sensor
9	9481	12 V actuator
10	10169Z	Floodlight lower support
11	10168Z	Floodlight upper support
12	9478	Plate
13	11471	24/15 clamp
14	12063	Electrical box
15	7282	1000 W igniter
16	12061	Turn cable protection
17	6241	Z6-1 clamp
18	7126	Z10-1 clamp
19	12060	Ø 10 ¼" gas press sheath
20	1062	PG16 press sheath
21	7020	Spacer for fixing turn cable
22	9614	Rectifier
23	12062	Lighting support plate
24	10255	Cap
25	7217	Hand lever
26	10139	Floodlight with glass
27	7266	1000 W metal halide lamp
28	10428	Glass for floodlight
29	12654	Rectifier protection
30	12750	GSM1416-20 bearing
31	12869	Floodlights support

18.8 ALTERNATOR SPARE PARTS LIST



Items	Code	Denomination
-	7833	E1C13S/4 Linz alternator complete
1	7833-1	Frame with alternator
2	7833-2	Rotating inductor
3	7833-3	Rear shild
4	7833-4	Sae 5 front cover
6	7833-6	Terminal box
7	7833-7	Terminal box cover
8	7833-8	Rear cover
9	7833-9	Rear plug
10	7833-10	Fan
11	7833-11	Rear bearing
13	7833-13	Diode
18	7833-18	4 stud terminal board
23	7833-23-55	40 µF capacitor
37	7833-37	Coupling hub
38	7833-38	Sae coupling disc plate
39	7833-39	MD35 front cover protection
52	7833-52	Capacitors plate

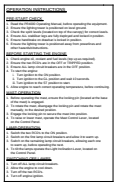
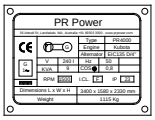
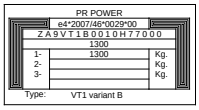
18.9 TRAILER FOR FAST TOWING SPARE PARTS LIST

Items	Code	Denomination
1	12570	Trailer for fast towing height adjustable
2	7919	White catadiotor
3	7918	Yellow catadiotor
4	7921	Left rear light
5	10087	Plate for lights
6	7920	Right rear light
7	7922	Plug and wiring lights complete
8	10557	13/7 pin adapter

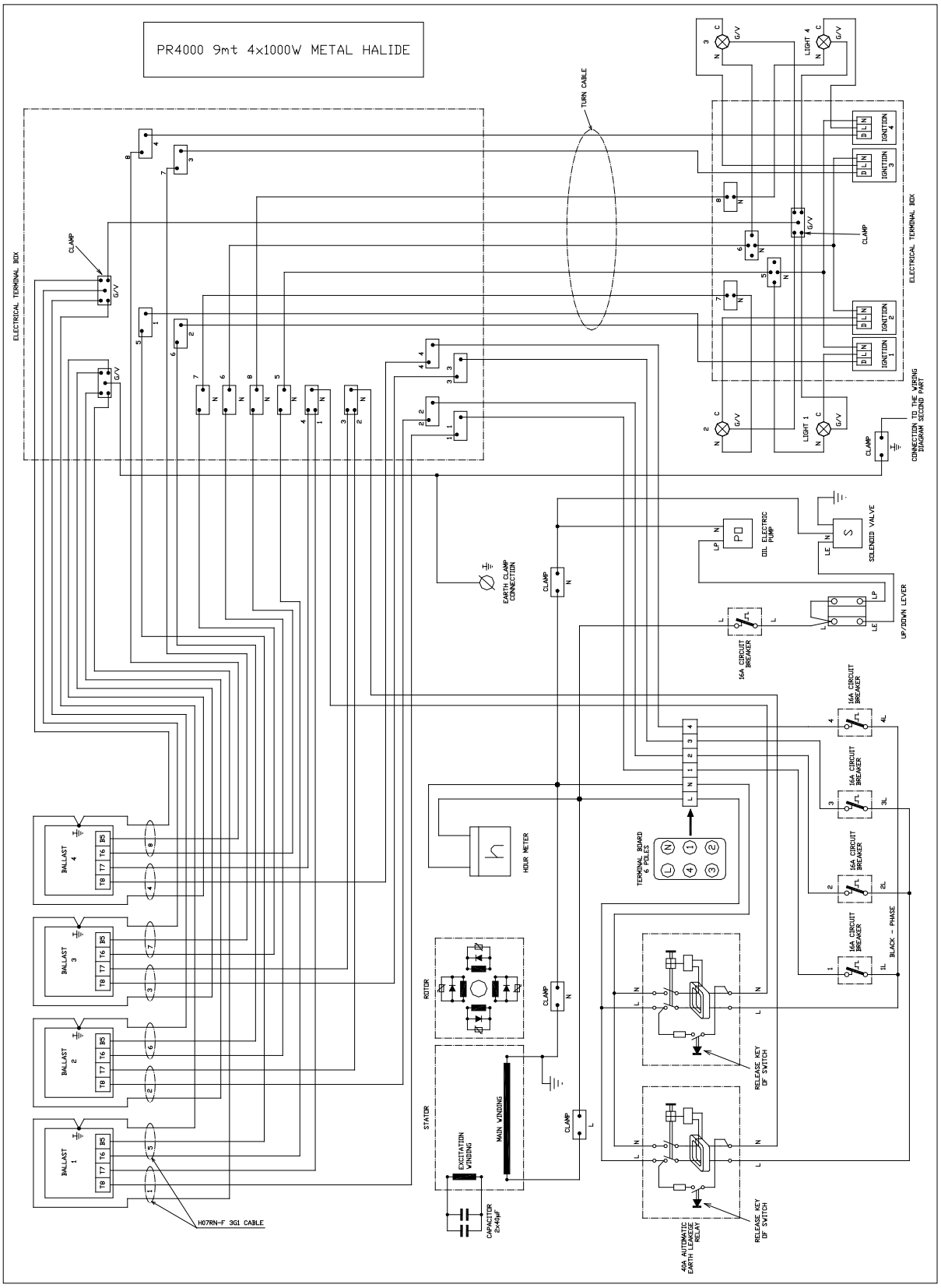
18.10 STICKERS FOR LIGHTING TOWER

Sticker	Code
	10178
	10182
	10179
	10181
	10180
	10185
	10183
	10184
	7767
	12873
DANGER HIGH VOLTAGE	12546
EARTH STAKE	12559
EMERGENCY STOP	12545
BATTERY ISOLATOR	12547

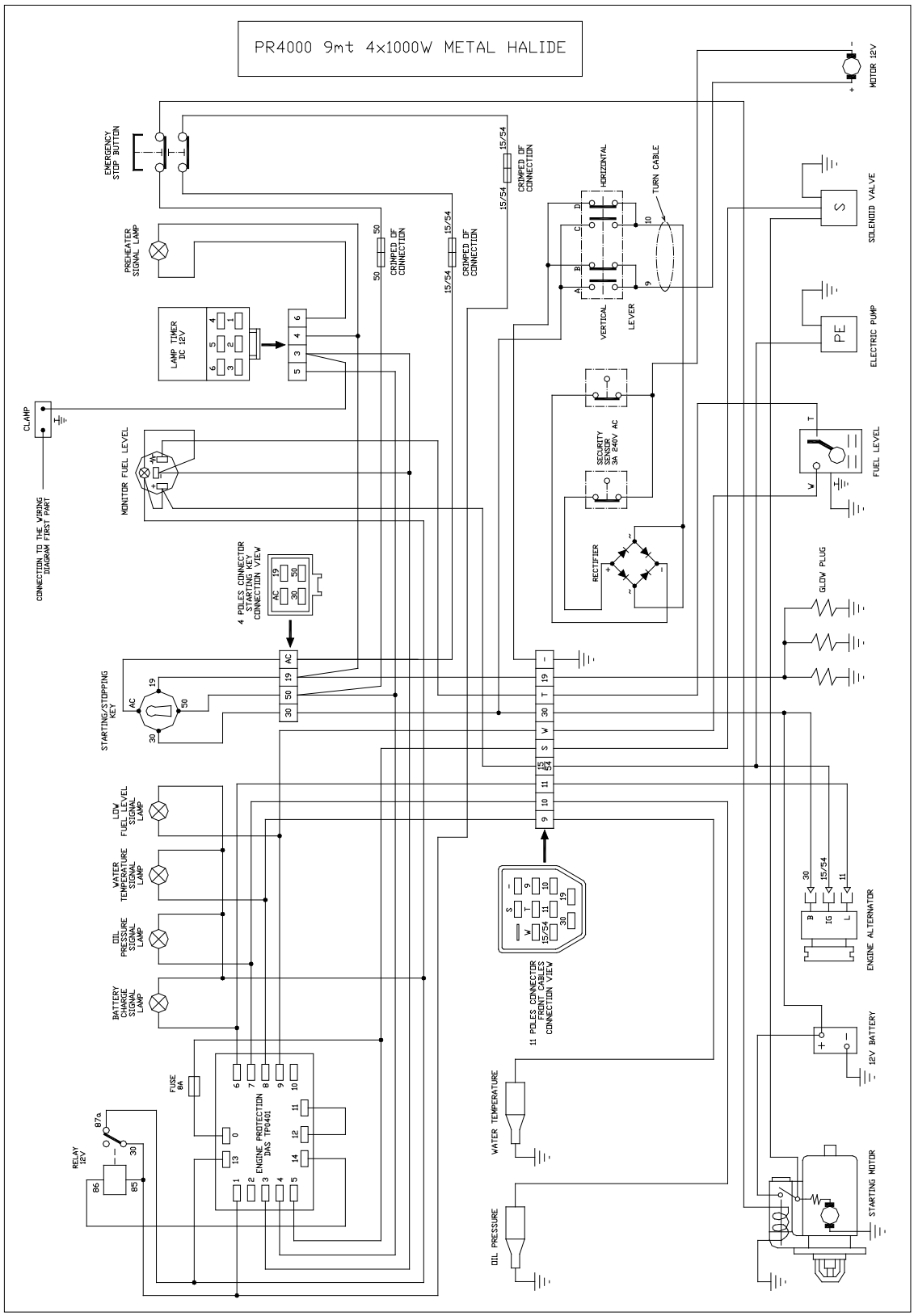
PR4000 9mt 4x1000W METAL HALIDE

DIESEL FUEL TANK CAP OPEN THE DOOR	6084
STOPPING POINT TO PREVENT ROTATION OF MAST	6085
RADIATOR CAP	6087
MAXIMUM WIND SPEED 110 Km/h	6091
	12314
ATTENTION! In case of replacement of the lamps use: Lamp: NARVA-G.L.E. NACHROMA NCT 1000 W or similar with the following characteristics: Type of lamp: METAL HALIDE Base: E40 / Lamp voltage: 240V - 50 Hz Nominal power: 1000W / Lamp current: 9,5 ÷ 10,5 A	9937
PR Power www.prpower.com PR4000 36 Attwell St, Landsdale, WA, Australia +61 89303 3000	12031
DIESEL FUEL ONLY	11805
HYDRAULIC OIL	12308
	12030
ON OFF LOCKABLE BATTERY ISOLATOR SWITCH	12032
CAUTION STAY CLEAR OF MAST WHEN LOWERING	12033
	12035-B
ENSURE LOCKING PIN IS SECURE AND DRAW BAR IS LOCKED INTO POSITION BEFORE TOWING	12034 (for trailer)

19. WIRING DIAGRAM FIRST PART



20. WIRING DIAGRAM SECOND PART



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