

# Atlas Copco

# Instruction Manual



User and maintenance manual  
for EU-branded lighting towers  
English

QLT H40

*Atlas Copco*



# **QLT H40**

## **User and maintenance manual for EU-branded lighting towers**

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### **Original instructions**

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ATLAS COPCO - PORTABLE AIR DIVISION  
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Use only authorized parts.

Any damage or malfunction caused by the use of unauthorized parts is not covered by Warranty or Product Liability.

The manufacturer does not accept any liability for any damage arising from modifications, additions or conversions made without the manufacturer's approval in writing.

Neglecting maintenance or making changes to the setup of the machine can result in major hazards, including fire risk.

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*Congratulations on the purchase of your QLT lighting tower. It is a solid, safe and reliable machine, built according to the latest technology. Follow the instructions in this booklet and we guarantee you years of troublefree operation. Please read the following instructions carefully before starting to use your machine.*

*While every effort has been made to ensure that the information in this manual is correct, Atlas Copco does not assume responsibility for possible errors. Atlas Copco reserves the right to make changes without prior notice.*

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## **Safety precautions**

### **Electric shocks**

- To avoid the risk of electric shocks never touch the machine with wet hands or feet.
- Make sure that the generating set is connected to earth (see “Earthing” on page 15).
- Check the efficiency of the safety device every month by means of the test button of the differential current device (when fitted).

### **Noise**

- Depending on the level and exposure time, noise is dangerous to the hearing.
- Never operate the machine without a muffler or insulating panels.
- When using this machine, always comply with the applicable local noise regulations .
- Always place the machine in an isolated location.

### **Fuel**

- Always switch off the engine and leave it cool down for at least 2 minutes before refuelling.
- Do not smoke during refuelling and keep at a safe distance from flames or sparks.
- Be careful not to spill fuel onto the engine or the muffler when refuelling.
- Do not operate the machine if you notice fuel spills or in case of any other explosion risks.

- Contact a doctor immediately should fuel be swallowed or if fuel has come into contact with the eyes.
- If fuel accidentally comes into contact with the skin or clothes, immediately wash the skin carefully with soap and change your clothes.

### **Hot surfaces**

- Place the machine in a fenced-off location so to avoid possible harm to passers-by or animals.
- Do not allow children to operate the machine.
- Do not allow inflammable liquids and/or materials (e.g. fuel, oil, paper, styrofoam, wooden chips etc) to be placed close to the exhaust pipe while the machine is running.
- Do not generate sparks when the glow plug is not installed.
- The engine and exhaust will be hot after use, therefore avoid any direct contact when checking or repairing them. Always wait until they have cooled down.
- Never operate the machine when the canopy or panels are open or have been removed.
- Make sure that the machine is placed at least 1 metre away from walls or any machinery in order to avoid possible overheating of the engine.
- Do not cover the machine during operation.

- Do not tamper with the engine's springs, levers or any other parts in an attempt to change the engine's speed.
- Do not start up the engine if the air filter or air filter lid are not in place.
- Do not move the machine during operation and always place it on solid ground or on a suitable stable base made of non-inflammable material.

### **Exhaust gases**

- Do not operate the engine indoors, inside closed or little ventilated spaces (such as tunnels, tanks, pits etc) unless these locations were established specifically for the use of this machine.
- Exhaust gases can cause loss of consciousness and death in humans within just a few minutes.
- A suitable exhaust discharge system (for instance leak-proof pipes) must be provided if the machine is operated inside closed rooms.
- The machine must be placed at least 1 metre away from any wall or from the ceiling. Suitable openings for ventilation must be provided to ensure adequate cooling and efficient engine combustion.

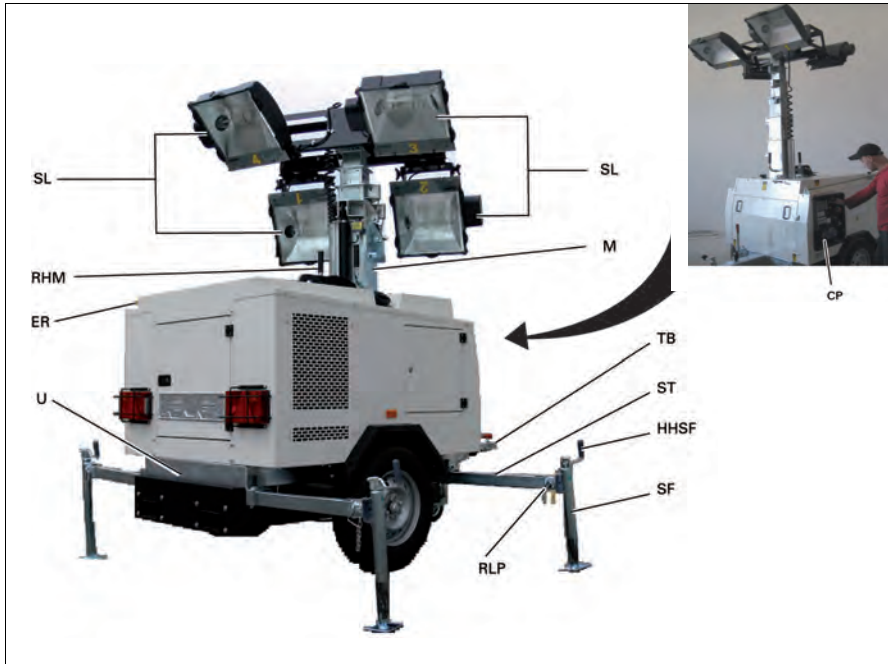
## ***Lighting tower mast***

- Do not deploy the mast unless the machine is standing on an even surface and the stabilizers have been fully adjusted (see “Positioning the lighting tower” on page 16).
- Do not deploy the mast if the wind is stronger than 90 Km/h.
- Do not deploy the mast in the vicinity of overhead power cables: **DANGER OF ELECTROCUTION.**
- Make sure that nobody is standing too close to the lighting tower when the mast is being deployed.
- Make sure that the lighting tower has been earthed by means of the relevant device (earth rod).
- Do not operate the lighting tower if the machine's electrical isolation system is defective or if the electric wires are worn or not properly insulated.
- Do not switch on the spotlights without their protective lenses or if the lenses are cracked or damaged.

# Leading particulars

## General description

The lighting tower provides an undercarriage (frame, axle and towbar) and 4 spot lights of 1000 W each. The lighting tower is very useful for construction sites where no electricity nor lighting is available.



- CP Control panel
- ER Earth rod
- HHSF Handle to adjust the height of the supporting foot
- LPS Locking pin stabilizer
- M Mast
- RHM Rotating handles mast
- RLP Rotating locking pin
- SF Supporting foot
- SL Spotlights
- ST Stabilizer
- TB Towbar
- U Undercarriage



## Markings

A brief description of all markings provided on the lighting tower is given hereafter.



Indicates that this manual should be read carefully before putting the machine into use.



Indicates that an electric voltage, dangerous to life, is present. Never touch the electric terminals during operation.



Indicates that the engine exhaust is a hot and harmful gas, which is toxic in case of inhalation. Always make sure that the unit is operated outside or in a well-ventilated room.



Indicates that these parts can become very hot during operation (e.g. engine, cooler, etc.). Always make sure that these parts are cooled down before touching them.



Indicates that the machine may produce noise at a sound pressure level dangerous to the hearing. It is recommended to use ear protection when operating the lighting tower.



Indicates that during refuelling it is prohibited to smoke and a safe distance from flames or sparks must be kept.



Indicates that the radiator cap should not be opened if cooling liquid is too hot.



Indicates that battery fluid contains sulphuric acid that can cause burns. Wear protective gloves and goggles when handling the battery.



Indicates that positives battery terminals should ALWAYS be connected first.



Indicates the earthing connection on the lighting tower.



Indicates moving parts.



Indicates that the key should be removed before starting maintenance operations



Indicates that you should disconnect from the mains before starting maintenance operations



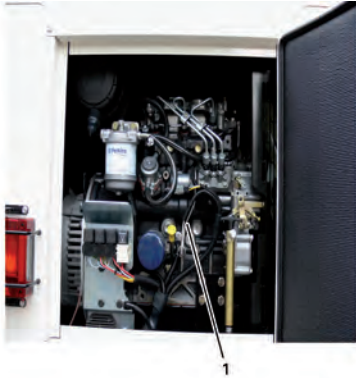
Indicates the danger of touching rotating parts of the unit.

## Checks to be carried out before starting the machine

### Engine oil

#### Checking level and adding engine oil

The engine oil level can be assessed by using the dip-stick (1) common to all engines. It can be accessed through the relevant side doors of the lighting tower.



Make sure that the oil level is always between the min and max levels indicated on the dip-stick. Add oil if necessary.

### Engine oil specifications



It is strongly recommended to use Atlas Copco branded lubrication oils.

High-quality, mineral, hydraulic or synthesized hydrocarbon oil with rust and oxidation inhibitors, anti-foam and anti-wear properties is recommended. The viscosity grade should correspond to the ambient temperature and ISO 3448, as follows.

Engine	Type of lubricant
between -25°C and 40°C	PAROIL Extra

#### Specifications PAROIL

PAROIL from Atlas Copco is the ONLY oil tested and approved for use in all engines built into Atlas Copco compressors and generators.

Extensive laboratory and field endurance tests on Atlas Copco equipment have proven PAROIL to match all lubrication demands in varied conditions. It meets stringent quality control specifications to ensure your equipment will run smoothly and reliably.

The quality lubricant additives in PAROIL allow for extended oil change intervals without any loss in performance or longevity.

PAROIL provides wear protection under extreme conditions. Powerful oxidation resistance, high chemical stability and rust-inhibiting additives help reduce corrosion, even within engines left idle for extended periods.

PAROIL contains high quality anti-oxidants to control deposits, sludge and contaminants that tend to build up under very high temperatures.

PAROIL's detergent additives keep sludge forming particles in a fine suspension instead of allowing them to clog your filter and accumulate in the valve/rocker cover area.

PAROIL releases excess heat efficiently, whilst maintaining excellent bore-polish protection to limit oil consumption.

PAROIL has an excellent Total Base Number (TBN) retention and more alkalinity to control acid formation.

PAROIL prevents Soot build-up.

PAROIL is optimized for the latest low emission EURO -3 & -2, EPA TIER II & III engines running on low sulphur diesel for lower oil and fuel consumption.

## PAROIL Extra

PAROIL Extra is a Synthetic ultra high performance diesel engine oil with a high viscosity- index. Atlas Copco PAROIL Extra is designed to provide excellent lubrication from start-up in temperatures as low as -25°C.

	Liter	US gal	Imp gal	cu.ft	Order number
can	5	1.3	1.1	0.175	1630 0135 00
barrel	20	5.3	4.4	0.7	1630 0136 00

## Engine coolant

### Checking level and adding engine coolant

The level of the engine coolant must be between the min and max. levels Do not open the radiator cap if the coolant is too hot.

If necessary, replenish the coolant in line with the instructions in the engine's User's Manual.

Additives might be necessary in order to enable the coolant to withstand lower temperatures.

## Engine coolant specifications



**Never remove the cooling system filler cap while coolant is hot.**

**The system may be under pressure. Remove the cap slowly and only when coolant is at ambient temperature. A sudden release of pressure from a heated cooling system can result in personal injury from the splash of hot coolant.**

**It is strongly recommended to use Atlas Copco branded coolant.**

The use of the correct coolant is important for good heat transfer and protection of liquid-cooled engines. Coolants used in these engines must be mixtures of good quality water (distilled or de-ionised), special coolant additives and if necessary freeze protection. Coolant that is not to manufacturer's specification will result in mechanical damage of the engine.

The freezing point of the coolant must be lower than the freezing point that can occur in the area. The difference must be at least 5°C (41°F). If the coolant freezes, it may crack the cylinder block, radiator or coolant pump.

Consult the engine's operation manual and follow the manufacturer's directions.



**Never mix different coolants and mix the coolant components outside the cooling system.**

## Specifications PARCOOL EG

PARCOOL EG is the only coolant that has been tested and approved by all engine manufacturers currently in use in Atlas Copco compressors and generators.

Atlas Copco's PARCOOL EG extended life coolant is the new range of organic coolants purpose designed to meet the needs of modern engines. PARCOOL EG can help prevent leaks caused by corrosion. PARCOOL EG is also fully compatible with all sealants and gasket types developed to join different materials used within an engine.

PARCOOL EG is a ready to use Ethylene Glycol based coolant, premixed in an optimum 50/50 dilution ratio, for antifreeze protection guaranteed to -40°C (-40°F).

Because PARCOOL EG inhibits corrosion, deposit formation is minimized. This effectively eliminates the problem of restricted flow through the engine coolant ducts and the radiator, minimizing the risk for engine overheating and possible failure.

It reduces water pump seal wear and has excellent stability when subjected to sustained high operating temperatures.

PARCOOL EG is free of nitride and amines to protect your health and the environment. Longer service life reduces the amount of coolant produced and needing disposal to minimise environmental impact.

	Liter	US gal	Imp gal	cu.ft	Order number
can	5	1.3	1.1	0.175	1604 5308 00
can	20	5.3	4.4	0.7	1604 5307 01
barrel	210	55.2	46	7.35	1604 5306 00

To ensure protection against corrosion, cavitation and formation of deposits, the concentration of the additives in the coolant must be kept between certain limits, as stated by the manufacturer's guidelines. Topping up the coolant with water only, changes the concentration and is therefore not allowed.

Liquid-cooled engines are factory-filled with this type of coolant mixture.

## Starting battery

- Always wear protective gloves and goggles when handling the battery - battery fluid contains sulphuric acid that can cause burns. If your skin or your clothes come in contact with the battery fluid, rinse immediately with plenty of water. If even a tiny quantity is swallowed, seek immediate medical help.
- ALWAYS connect the positive (+) terminal first and the negative (-) terminal second.
- Regularly check that the battery fluid is above the recommended level. If necessary, add distilled water.
- Always remove the battery and disconnect the terminals before carrying out any operation (charging or refilling).



**Never charge the battery or refill the fluid when the battery is still installed in the machine! Possible spillage could damage vital parts of the generating set.**

- The machine must be placed on even ground both when working and when idle.
- The maximum permissible slope is 30° on all 4 sides.
- Atlas Copco accepts no responsibility for any damage to the lighting tower caused by spilling of the battery fluid.

## Room ventilation

If the machine is operated in a closed environment, make sure that there is enough ventilation to remove the exhaust gases from the room where the engine is running; also ensure that the exhaust gases are discharged at a distance that will not allow them to be drawn back into the engine. It may be necessary to provide suitable means for removing the exhaust gases (e.g. leak-proof pipes).

Place the machine at least at 1m from each wall and the ceiling and provide suitable openings to allow sufficient air flow for adequate cooling and good engine combustion.

## Starting and stopping the engine

### Before the engine is started



Carefully follow all the starting instructions in the engine's Manual as well as those contained in this Manual.

### Electric start-up procedure for the lighting tower

Connect the current by means of the Battery Isolator Switch (1) placed inside the lighting tower and accessible through the side door.



This procedure must be carried out each time that you start the lighting tower.

It is recommended that you isolate the battery by repositioning the battery isolator switch every time the machine is moved and when it is not in use.

### Starting the engine

1. Before starting the engine, check that all the automatic switches (circuit breaker, general ELCB, sockets protection and lamp circuit breaker) are in the OFF position (1).



2. Before turning the ignition key (2) into the START position to start the engine, please remember that on diesel engines with indirect injection it is necessary to first turn the key anticlockwise to HEAT (4) to allow the glow plugs to heat up. A yellow light (5) will signal that the glow plugs are being heated (keep the key turned to HEAT) until you release the key.



3. Never run the starter motor for longer than 8 seconds at each attempt; if the engine does not start, wait at least 10 seconds and then try again.
4. Once the engine has started, release the starter to avoid any damage to the starter motor and leave the key in the ON position (6)

5. The controller (7) will activate the engine protection systems. If any of the parameters deviate from the norm (for example, low oil or fuel level, etc) the controller will intervene and signal the problem. The manual for the controller that also accompanies the machine, will provide you with more information on the error message displayed.



## Switching off the engine

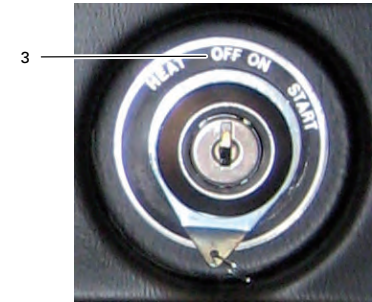
Follow the instructions below to switch the engine off correctly:

1. Disconnect all electrical appliances connected to the sockets (1).
2. Place all the automatic switches in their OFF position (2).



3. It is important to let the engine run at zero load for a few minutes before turning it off.

4. Turn the key counterclockwise into the OFF position (3) to switch off the engine



Should an emergency arise, it is also possible to stop the machine by pressing the EMERGENCY 'STOP' button (4). If the machine is stopped in this way, the emergency stop button must then be released by rotating it clockwise.

## Fuses and circuit breakers

Fuses (1) are for the protection of the controller against overloads and short circuits:



- F1: protection of the 12V circuit;
- F2, F3: 220V protection, instrumentation reading (V, Hz).

The circuit breaker (2) is for the protection of the relevant sockets against overload and short circuits.

To correctly disconnect the appliances from the lighting tower generator, first position the switch to OFF to isolate the electric load and only then remove the plug.

## Electrical connections and use

### Earthing

Use a cable of suitable section (at least 6 mm<sup>2</sup>) to connect the PE terminal to an earth plate that can ensure an earth resistance suited to the characteristics of the lighting tower.

### Appliances

1. Wait 3 or 4 minutes before connecting the appliances to allow the engine to warm up enough. Then plug in the socket.
2. Make sure that a correct voltage is displayed.
3. Close the current switch (position ON).
4. Switch on your appliance.
5. If the breaker trips, adjust the load until it falls within the maximum power limit allowed for the generating set.
6. Make sure that the load does not exceed the nominal power of the generating set as indicated in the technical data sheet and guaranteed with a tolerance of  $\pm 5\%$  when the engine has run in.

Derating will be 1% for every 100 m of altitude, 2% for every 5°C above 20°C and 10% when used continuously at constant load.

7. Make sure the load does not exceed the nominal current capacity of the socket or the cable connected to it.
8. Never connect the lighting tower directly to the mains.

## Protection against electric shocks due to faulty isolation



**A protection system against possible isolation malfunctions is mandatory on all electric installations to avoid risks of electric shock.**

Our lighting tower is manufactured in compliance to the TT systems norms (earthed neutral) and with an ELCB (differential protection).

## Operating the lighting tower

### Unhooking the lighting tower



Never release the locking lever of the towbar (5) while the wheel is supporting the weight of the lighting tower, otherwise the machine could overbalance and harm whoever is close.



To release the lighting tower from the towing vehicle, carefully follow the procedure below:

1. Engage the hand brake (1).
2. Disconnect the cable plug for the trailer lights (2).
3. Disconnect the safety wire from the towing vehicle (3).

4. Uncouple the trailer from the towing vehicle by releasing the locking lever of the tow-bar coupler (4).
5. Proceed with positioning to set up the lighting tower.

To reconnect the lighting tower to the towing vehicle, proceed as above but in the reverse order (see "Towing" on page 20).

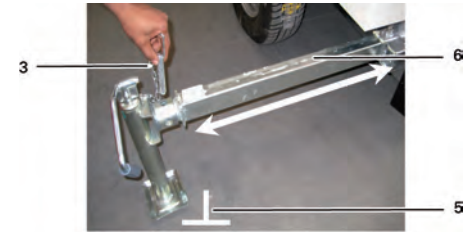
### Positioning the lighting tower

Follow the steps below to position the lighting tower:

1. Ensure that the hand brake (1) is engaged. The end-of-drive sensor underneath the hand brake must be fully pressed.
2. While firmly holding the supporting foot (2) of the lighting tower with one hand, release the rotating locking pin (3) and rotate the supporting foot through 90°.



3. Once the supporting foot has been rotated (2), reposition the rotating locking pin (3), making sure that it locks the foot perpendicularly to the bearing surface (5).



4. Release the rotating locking pin of the stabilizer (4) by lifting it up and pull the foot into its initial position at the maximum extension of the stabilizer (6).



5. Once the stabilizer has been extended, release the locking pin (4) to lock the stabilizer in position.



- Turn the handle (7) at the top of the supporting foot to lower the foot.

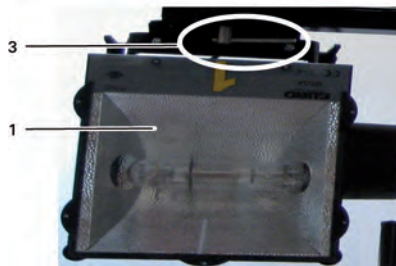


Once the lighting tower is correctly positioned, fix the earth rod (the copper bar for earthing (9)) and make sure that it is correctly connected to the lighting tower.

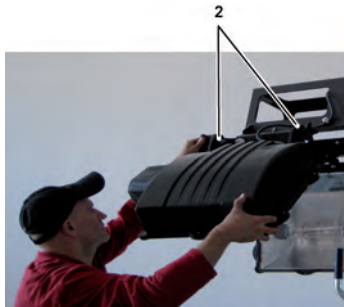


## Aligning the spotlights

- Check that the glass panes of the lights are in good condition (1)



- Adjust the inclination of the spotlight using the wheels (2) placed at the sides of the spotlight.



- Adjust the rotation of the spotlight using the adjusting lever (3) on the bracket of the support.
- Proceed with the extension of the mast as described below.

## Extending the mast

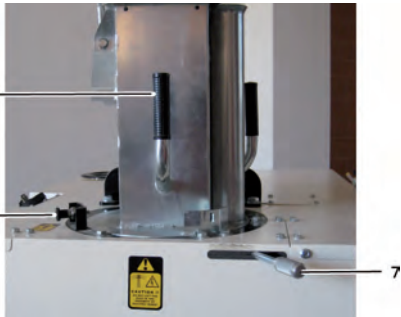


The mast cannot be raised if the hand brake is not applied. If the hand brake is released while the mast is still up, the mast will descend to its initial position or until the hand brake is applied (this will be signalled through an intermittent alarm sound).

- Check that the emergency push button (1) has not been pushed. (If it has been pushed, a message will appear on the display and an acoustic alarm will sound.)



- Open the door of the control panel and start the engine as described in “Electric start-up procedure for the lighting tower” and “Starting the engine” on page 13. (If there is no fuel, there will be a message on the display and an acoustic alarm.)
- Put the general circuit breaker to the ON position (2) and all other switches to the OFF position (3).
- Use the UP (4) and DOWN (5) buttons on the control panel to extend and adjust the mast to the desired height (max 9 metres). When the mast is being extended/lowered, an intermittent sound will signal that the operation is in progress.
- Release the locking pin (6) and the clutch locking lever (7) of the mast (located on its rotating base) and rotate the lighting tower using the handles provided for this purpose (8) to further adjust the light beam. The mast can be rotated through 350°.



- Lock the mast again using its locking pin (6) and lever (7).

## Switching on the spotlights

- Place the 4 automatic switches (LAMP 1, LAMP 2, LAMP 3 and LAMP 4) in the ON position (1).



- Wait for the lights to heat up. This will take about 2-3 minutes.
- Close the control panel door (2).



## Switching off the spotlights

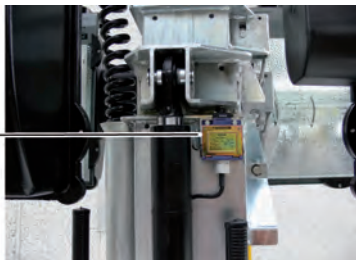
To switch the lights off, follow the procedure described in “Switching on the spotlights” but in the reverse order and proceed to lower the mast.

- Open the control panel door.
- Position the 4 automatic switches (LAMP 1, LAMP 2, LAMP 3, LAMP 4) to the OFF position (1).



- Wait for the lamps to cool down - this will take around 15 minutes.
- If the spotlights are not to be used again, lower the mast using the DOWN button on the control panel (2).

- The mast is lowered completely when the end-of-run button (3) is pushed down and the intermittent siren stops.



Once the lights are switched off (switches in the OFF position), remember not to switch them ON again until the cooling-off time is over.



If you do not wish to use the generating set on its own, switch off the engine (and therefore the machine) as described on page 14.

## Positioning for transportation

- Push the DOWN button on the control panel (1) to lower the mast. The mast is lowered completely when the end-of-run button is pushed down and the intermittent siren stops.



- Make sure that the jockey wheel is safely fastened by its own locking lever (2) to ensure that the lighting tower is still stable once the stabilizing feet are removed. Adjust the height of the jockey wheel using the crank (3). The jockey wheel should never touch the ground once the lighting tower is coupled to the hook of the towing vehicle (4).



- Use the handle at the top of each foot to retract the 4 feet following the reverse order of the procedure described in numbers 2-3-4-5 in “Unhooking the lighting tower” on page 16. The feet must be stowed as shown below.



Once all the above operations are complete, you will have returned the lighting tower to the same state as it was before the positioning procedure (see figure above). At this point the lighting tower is correctly arranged for transportation.

## Towing

Before commencing towing, ensure you follow the procedure below:

1. Check that the coupler (1) of the undercarriage of the lighting tower is safely coupled to the towing hook of the hauling vehicle.



2. Connect the cabling plug to the hauling vehicle so that the rear lights of the lighting tower work (indicators, lights, brake lights) (2).

3. Check that the pressure and condition of the tyres are suitable for the road and the climatic conditions.



4. Release the hand brake (3).



**Do not proceed with towing if you notice any broken or faulty parts.**



**Drive carefully according to the road and climatic conditions.**

## Periodic maintenance


### Instructions

- If the lighting tower is not going to be used for a moderate period of time, it is suggested that you start and run the engine for a few minutes every 8 to 10 days. This will ensure that the machine remains operational and is ready to be used when needed.
- Regular maintenance is essential for the optimum performance, safe operation and a longer working life of the machine.


### Precautions

- Before proceeding with any type of maintenance, please take all the necessary precautions to avoid accidentally starting the engine: disconnect the battery, remove the starter key and push the STOP button.
- Do not carry out any change or modification to any part of the lighting tower or its electric system.
- Do not carry out any maintenance when the engine is running.
- Be careful when close to any moving parts (e.g. pulleys, fans ...) and to any hot parts (e.g. muffler, engine block, coolants, lubricants ...).

## Maintenance schedule

 Before carrying out any maintenance activity, check that the start switch is in position O and that no electrical power is present on the terminals.

Maintenance schedule	Daily	Every 500 hours or yearly	Every 1000 hours	Every 2000 hours
<b>Service pak</b>	-	<b>2912 6409 05</b>	-	-
<i>For the most important subassemblies, Atlas Copco has developed service kits that combine all wear parts. These service kits offer you the benefits of genuine parts, save on administration costs and are offered at reduced price, compared to the loose components. Refer to the parts list for more information on the contents of the service kits.</i>				
Check for air, fuel, coolant and oil leakage	x	x	x	x
Check oil and coolant level	x	x	x	x
Check or drain water in fuelfilter/waterseparator	x	x	x	x
Clean air cleaner and dust bowl	x	x	x	x
Visual walk around the unit	x	x	x	x
Check tension and condition of the V-belt (1)		x	x	x
Replace engine oil (2)		x	x	x
Replace engine oil filter		x	x	x
Grease door hinges and locks		x	x	x
Replace fuel filter element		x	x	x
Check electrolyte level and terminals of battery		x	x	x
Check electrical system for security of cables and wear		x	x	x
Check engine electrical ground connection		x	x	x
Replace air filter element		x	x	x
Check/clean radiator/cooler fins			x	x
Check crankcase ventilation system			x	x

Replace V-belt (1)			x	x
Measure alternator insulation resistance			x	x
Check glycol level in coolant			x	x
Check PH level of engine coolant			x	x
Check and adjust engine inlet and outlet valves (3)			x	x
Test glow plugs			x	x
Check alternator and starter motor				x
Test thermostats				x
Check engine mounts				x
Inspection by Atlas Copco Service technician		<b>Generators in standby application have to be tested on a regular basis. At least once a month the engine should run for minimum 30 minutes at a high load (50% - 70%) that the engine reaches its operating temperature.</b>		

Notes:

- (1) V-belt can be ordered with PN 2914 9876 00.
- (2) Use PAROIL Extra only.
- (3) Rocker cover gaskets can be re-used after valve clearance.

Fuel injectors should be tested every 3000 hrs

Inspect water pump every 3000 hrs

## Maintenance of the alternator

The alternator does not require any specific general maintenance. However, please follow the indications in the User's Manual that accompanies the lighting tower.

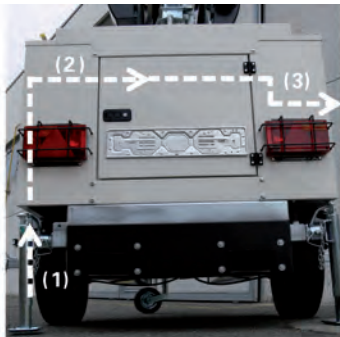
## Lighting tower engine

Carefully follow all the instructions contained in the User and Maintenance Manual that accompanies the lighting tower.

## Air cooling circuit

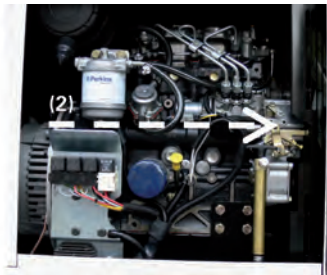


Check every day that all the air cooling circuits are not clogged with dust or other particles. If any circuit is obstructed, it must be cleaned.



The cooling air follows the following path through the lighting tower:

- The air enters the circuit through an opening below the alternator (1)
- The air proceeds through the engine and alternator compartment of the lighting tower (2).

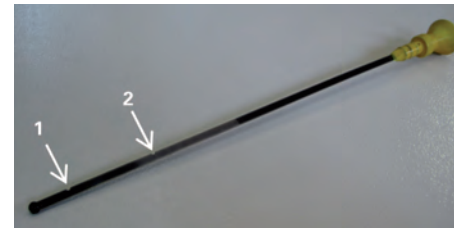


- The air exits through the fan, engine cooler and labyrinth, in that order (3).



## Engine oil

- Check the engine oil level before every time that the lighting tower is used. To do this you must ensure that the machine stands on an even surface and that the engine is not running.
- Make sure the oil level is between min (1) and max (2) on the oil dipstick. Top up if necessary. All information regarding the type of oil which is recommended is to be found in the Use and Maintenance Manual.



- Replace oil as often as instructed in the Use and Maintenance Manual. Oil can be extracted using the special oil extraction pump on the engine. By activating the piston on the pump, oil will be completely removed. You must place a receptacle next to the engine to collect this waste oil.

- Dispose of waste oil properly. All lubricant oils for engines and hydraulic circuits, both mineral and synthetic, are classified as dangerous waste. Disposing of waste oils in the environment would pollute the ground and ground water and is therefore strictly prohibited.
- It is recommended that you arrange for an authorized service centre to change the oil so that you ensure that the waste oil is disposed of properly.

### **Fuel, oil and air filters**

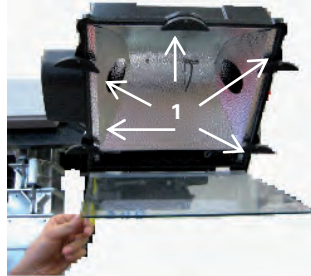
- Regularly perform maintenance work and replace parts as indicated in the engine's Use and Maintenance Manual.
- The engine should never run before filters have been correctly installed. Open the rear door of the lighting tower to access the engine and perform all necessary maintenance operations. An intermittent spanner icon will be displayed when maintenance is requested.
- Do not smoke and maintain a safe distance from flames and sparks while maintenance is being carried out and when fuels and solvents are being used.

### **Replacing the lamps**

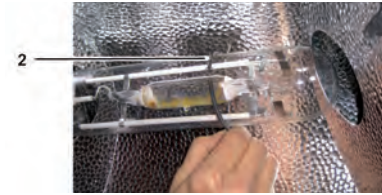


**Do not touch the lamps when they are still hot without having taken all necessary precautions. It is recommended that protective gloves are always worn.**

1. Release the 5 clamps and rotate them to open the protection glass. The glass must stay hinged on the bottom part of the spotlight (1).



2. Remove the lamp, first releasing the safety spring (2) placed around the lamp and then unscrewing the lamp from its seat (3).



3. Install the new lamp and replace the safety spring (2).
4. Lock the protective glass using the 5 clamps and remember to carefully tighten the screws with a screwdriver.





A spare lamp for emergency situations can be kept in the tool space (4) on the side of the lighting tower opposite to the electric panel.



### **Ordering spare parts**

It is possible to order spare parts for the lighting tower by making reference to the parts as mentioned in the enclosed Parts List manual.

Always quote the part number, the designation and the quantity of the parts required, as well as the type and the serial number of the machine.

## **Storage**

### **Storage of the lighting tower**

- If the lighting tower is not going to be used for a lengthy period of time, it must be kept horizontally in a dry place. It is also recommended that you cover it with a protective tarpaulin to avoid possible damage and corrosion due to environmental conditions.
- To facilitate movement from place to place, the lighting tower is equipped for road towing and with fork seats (on its underside) as well as a central lifting eye so that it can be easily moved and lifted.



## ***Transportation and positioning of the lighting tower onto vehicles***

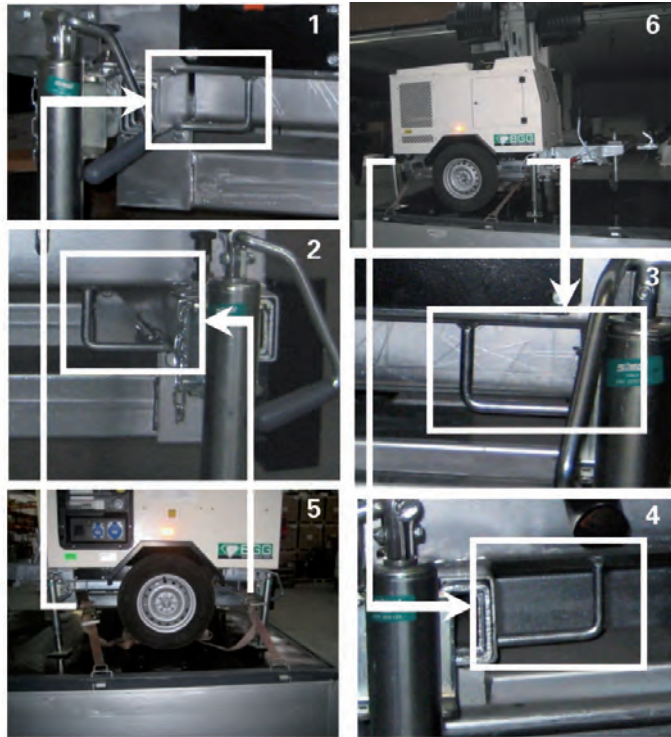
- As well as the ability to be towed, the lighting tower can also be easily lifted and moved to difficult areas thanks to its central lifting eye and fork seats on its underside. All that is needed is a fork lift truck or a mechanical arm.

The fork seats and the lifting eye can also be used to place the lighting tower onto trucks for road transportation.

- If the lighting towers are carried on trucks or similar vehicles, ensure that the machine is stable and secure. Check that the lighting tower is placed perfectly horizontally - it is equipped with 4 fixing points for stability. Straps or other means of anchoring must be used provided that these do not affect the machine's safe transportation and integrity.

It is recommended that the machine is covered by a tarpaulin to protect it against bad weather conditions if it is transported on an open truck.

- Figures 1, 2, 3 and 4 below show the securing points for the lighting tower; figures 5 and 6 below show the straps used to secure the tower.

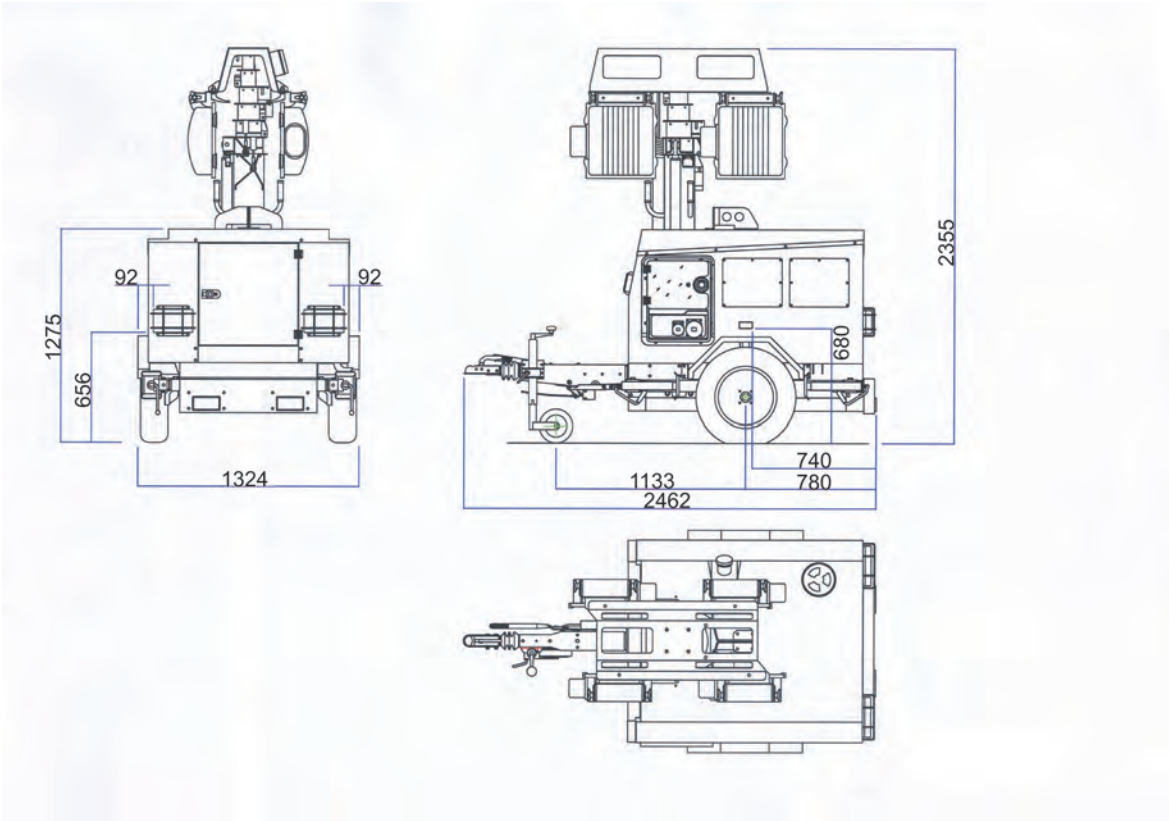


# **Technical specifications of the lighting tower**

## **Technical specifications**

Engine	Perkins 403D-11	Wet weight	1200 kg
Alternator	8 kVA	Dry weight	1070 kg
Fuel tank capacity	145 litres	The lighting tower trolley is manufactured according to ISO/European road standards currently applicable.	
Fuel consumption at 70%	1.8 l/h		
Independent operation	80 hours approx.		
Power outputs	2x16 Amp, 230V		
Hydraulic system	Biodegradable oil		
Protection	IP 23		
Noise Level	60 dB(A) @ 7 m		
Liquid collection tank	For all liquids		
Road lights and reflectors	Standard		
Max height of mast	9.2 m		
Max rotation of mast	350°		
Time needed to raise the mast	15 sec		
Lifting system	Hydraulic		
Spot lights	4 x 1000W 230V metal halide		
Mast sections	8		
Extendible stabilizing feet	4		
Dimensions with undercarriage	2460 x 1320 x 2270 mm		
Max dimensions (stabilizers extended)	2460 x 2440 x 9200 mm		

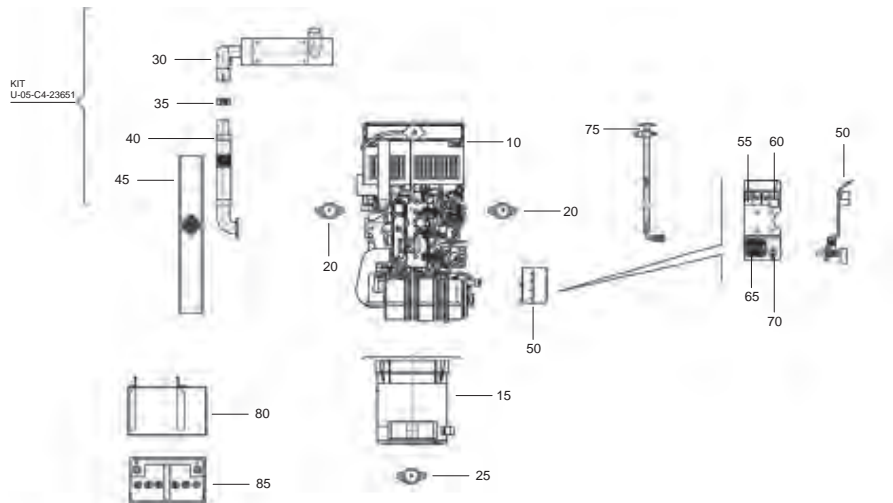
**Dimension drawing**



**Parts list**

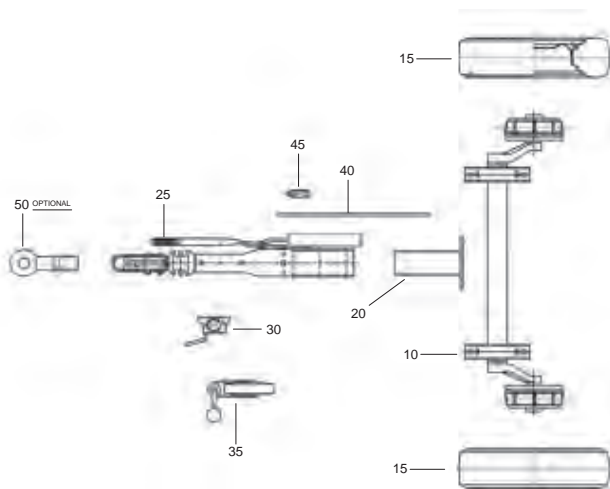


# ENGINE AND ALTERNATOR ASSEMBLY - STANDARD



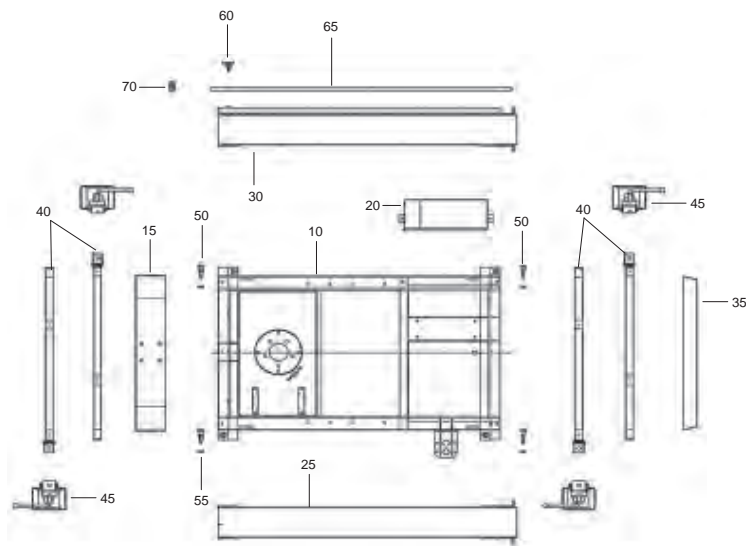
REF	PART NUMBER	DESIGNATION	QTY
10	3002 5000 00	PERKINS ENGINE	1
15	3002 5001 00	ALTERNATOR	1
20	3002 5002 00	VIBRATION-DAMPING	2
25	3002 5003 00	VIBRATION-DAMPING	1
30	3002 5004 00	SILENCER	1
35	3002 5005 00	CLAMP	1
40	3002 5006 00	EXHAUST GAS FLEX PIPE	1
45	3002 5007 00	THERMAL INSULATOR	1
50	3002 5008 00	SUPPORT RELAY AND BATTERY SWITCH	1
55	3002 5009 00	RELAY START/STOP	1
60	3002 5010 00	RELAY PREHEATING	1
65	3002 5011 00	BATTERY CHARGER REGULATOR	1
70	3002 5012 00	BATTERY SWITCH	1
75	3002 5013 00	OIL EXTRACTION KIT	1
80	3002 5014 00	BATTERY SUPPORT	1
85	3002 5015 00	BATTERY	1

## UNDER CARRIAGE - STANDARD



REF	PART NUMBER	DESIGNATION	QTY
10	3002 5016 00	AXLE WITH BRAKES	1
15	3002 5017 00	TYRE	2
20	3002 5018 00	TOWBAR SUPPORT	1
25	3002 5019 00	TOWBAR WITH HANDBRAKES	1
30	3002 5020 00	TOWBAR WHEEL CLAMP	1
35	3002 5021 00	TOWBAR WHEEL	1
40	3002 5022 00	THREADED BAR	1
45	3002 5023 00	SAFETY SWITCH	1
50	3002 5024 00	EYE TOWING	1

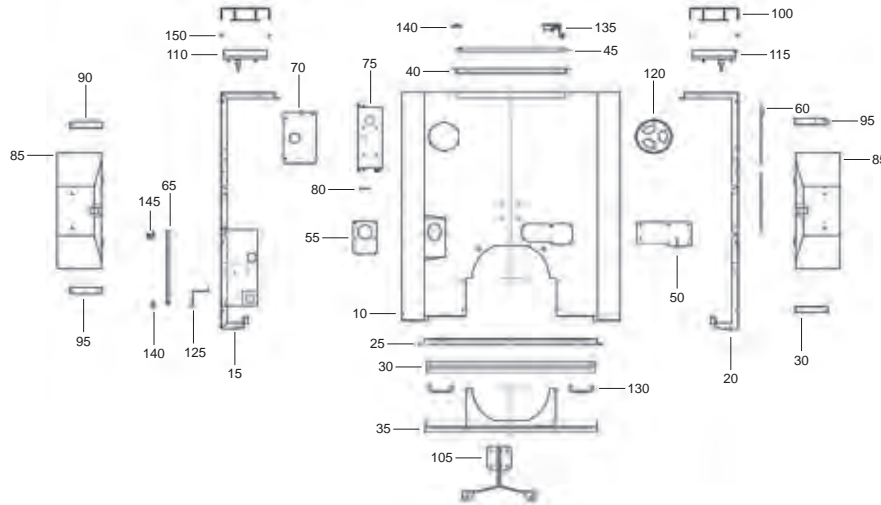
## FRAME AND PANELS - STANDARD



REF	PART NUMBER	DESIGNATION	QTY
10	3002 5025 00	TRAILER FRAME	1
15	3002 5026 00	LIFT SUPPORT	1
20	3002 5027 00	TANK RADIATOR LIQUID	1
25	3002 5028 00	RIGHT FORK LIFT POCKET	1
30	3002 5029 00	LEFT FORK LIFT POCKET	1
35	3002 5030 00	REAR BUMPER	1
40	3002 5031 00	COMPLETE STABILIZER CROSSBAR	4
45	3002 5032 00	ADJUSTABLE FOOT	4
50	3002 5033 00	SCREW	4
55	3002 5034 00	NUT	1
60	3002 5035 00	HANDWHEEL	1
65	3002 5036 00	EARTH ROD	1
70	3002 5037 00	GROUNDING CLIP	1

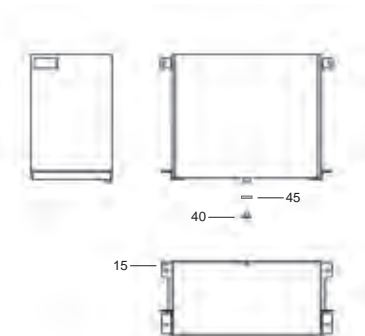
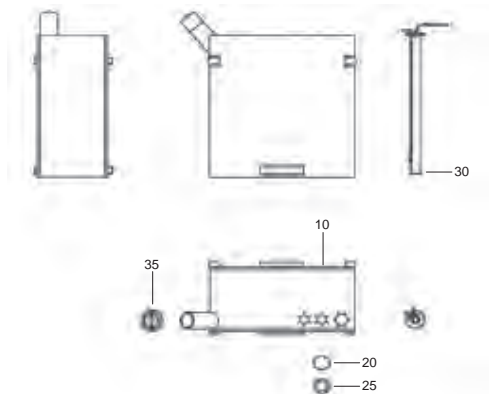


# CANOPY - STANDARD



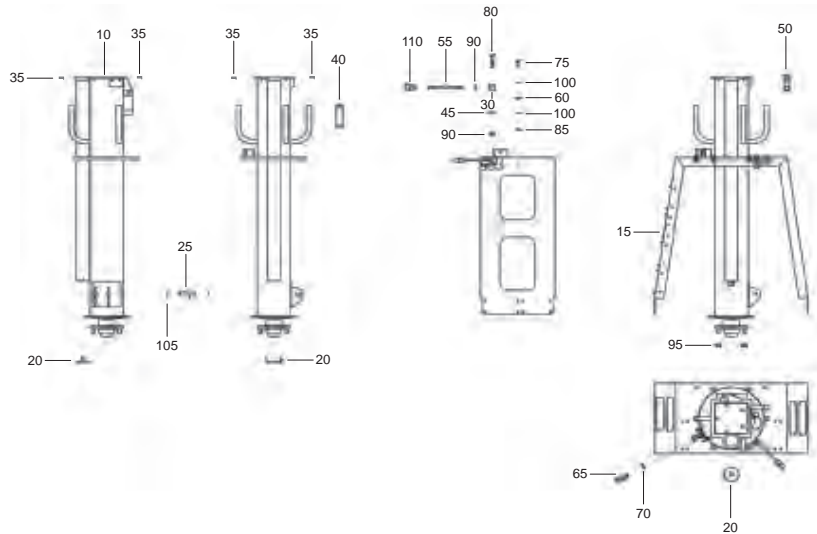
REF	PART NUMBER	DESIGNATION	QTY
10	3002 5038 00	TOP CANOPY PANEL	1
15	3002 5039 00	LEFT SIDE CANOPY PANEL	1
20	3002 5040 00	RIGHT SIDE CANOPY PANEL	1
25	3002 5041 00	FRONT SIDE LOWER CROSSBAR	1
30	3002 5042 00	FRONT SIDE PANEL	1
35	3002 5043 00	FRONT SIDE UPPER PANEL	1
40	3002 5044 00	REAR LOWER CROSSBAR	1
45	3002 5045 00	REAR DOOR	1
50	3002 5046 00	INSPECTION PLATE	1
55	3002 5047 00	FUEL FILLER FLANGE	1
60	3002 5048 00	BATTERY COVER	1
65	3002 5049 00	DOOR	1
70	3002 5050 00	CHASSIS FLANGE	1
75	3002 5051 00	AIR DUCT	1
80	3002 5052 00	FLANGE	1
85	3002 5053 00	MUDGUARD	2
90	3002 5054 00	MUDGARD HOLDER	1
95	3002 5055 00	MUDGARD HOLDER	1
100	3002 5056 00	LAMP PROTECTOR	1
105	3002 5057 00	LIFTING HOOK	1
110	3002 5058 00	RIGHT LIGHT	1
115	3002 5059 00	LEFT LIGHT	1
120	3002 5060 00	COVER	1
125	3002 5061 00	SPARE LAMP BULB HOLDER (OPTIONAL)	1
130	3002 5062 00	BLACK HANDLE	2
135	3002 5063 00	LOCK	1
140	3002 5064 00	HINGE	4
145	3002 5065 00	LOCK	1
150	3002 5066 00	PLASTIC CAP	8

# FUEL TANK ASSEMBLY - STANDARD



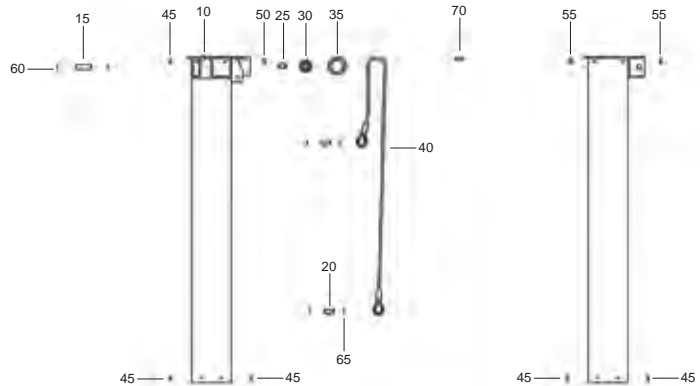
REF	PART NUMBER	DESIGNATION	QTY
10	3002 5067 00	FUEL TANK	1
15	3002 5068 00	FUEL TANK CASING	1
20	3002 5069 00	FLANGE	1
25	3002 5070 00	RUBBER WASHER	1
30	3002 5071 00	FUEL INDICATOR	1
35	3002 5072 00	FUEL CAP	1
40	3002 5073 00	CAP	1
45	3002 5074 00	COPPER WASHER	1

# SUPPORT FOR TOWER COLUMN AND FRAME - STANDARD



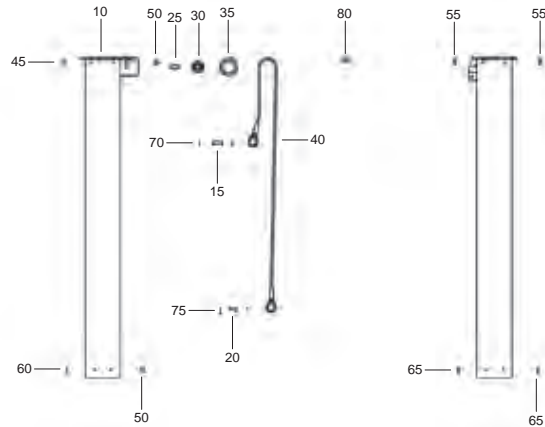
REF	PART NUMBER	DESIGNATION	QTY
10	3002 5075 00	COMPLETE SUPPORT OF TOWER COLUMN	1
15	3002 5076 00	COMPLETE SUPPORT TOWER FRAME	1
20	3002 5077 00	END PLATE	1
25	3002 5078 00	CYLINDER FIXING	1
30	3002 5079 00	HAND BRAKE STOP	1
35	3002 5080 00	PLASTIC SPACER TYPE A	1
40	3002 5081 00	RUBBER GRIP	3
45	3002 5082 00	PLASTIC SPACER	1
50	3002 5083 00	SAFETY SWITCH	1
55	3002 5084 00	ROD FOR HAND BRAKE	1
60	3002 5085 00	RADIAL BEARING	6
65	3002 5086 00	STOP LOCK PIN	1
70	3002 5087 00	BOLT	1
75	3002 5088 00	SCREW	1
80	3002 5089 00	SCREW	1
85	3002 5090 00	SELF-LOCKING NUT	1
90	3002 5091 00	SELF-LOCKING NUT	1
95	3002 5092 00	NUT	1
100	3002 5093 00	WASHER	1
105	3002 5094 00	LOCK WASHER	1
110	3002 5095 00	HANDLE FOR HAND BRAKE	1

# TOWER - FIRST ELEMENT - STANDARD



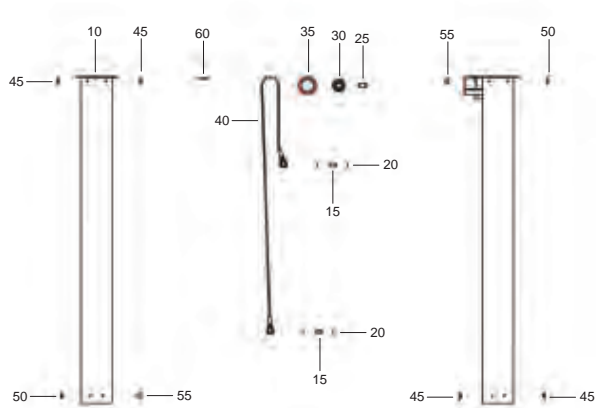
REF	PART NUMBER	DESIGNATION	QTY
10	3002 5096 00	TOWER'S FIRST ELEMENT	1
15	3002 5097 00	PIN	1
20	3002 5098 00	PIN	4
25	3002 5099 00	BEARING PIN	6
30	3002 5100 00	RADIAL BEARING	6
35	3002 5101 00	PULLEY	6
40	3002 5102 00	CABLE TYPE R-R	1
45	3002 5103 00	PLASTIC BUFFER A TYPE	20
50	3002 5104 00	PLASTIC BUFFER E TYPE	14
55	3002 5105 00	PLASTIC BUFFER C TYPE	8
60	3002 5106 00	LOCK WASHER	2
65	3002 5107 00	LOCK WASHER	2
70	3002 5108 00	ELASTIC PIN	1

## TOWER - SECOND ELEMENT - STANDARD



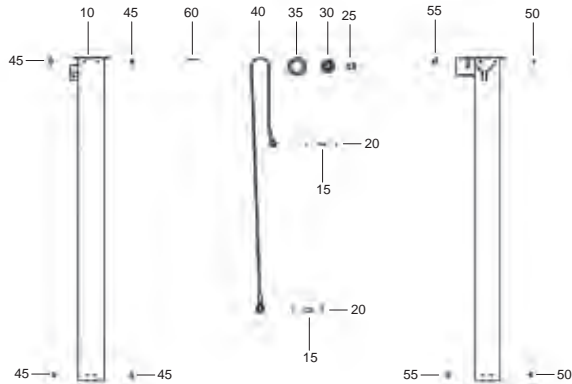
REF	PART NUMBER	DESIGNATION	QTY
10	3002 5109 00	TOWER'S SECOND ELEMENT	1
15	3002 5110 00	PIN	1
20	3002 5111 00	PIN	1
25	3002 5112 00	BEARING PIN	1
30	3002 5113 00	RADIAL BEARING	1
35	3002 5114 00	PULLEY	1
40	3002 5115 00	CABLE TYPE R-R	1
45	3002 5116 00	PLASTIC BUFFER B TYPE	1
50	3002 5117 00	PLASTIC BUFFER E TYPE	1
55	3002 5118 00	PLASTIC BUFFER D TYPE	2
60	3002 5119 00	PLASTIC BUFFER A TYPE	1
65	3002 5120 00	PLASTIC BUFFER C TYPE	2
70	3002 5121 00	LOCK WASHER	2
75	3002 5122 00	LOCK WASHER	2
80	3002 5123 00	ELASTIC PIN	1

## TOWER - THIRD ELEMENT - STANDARD



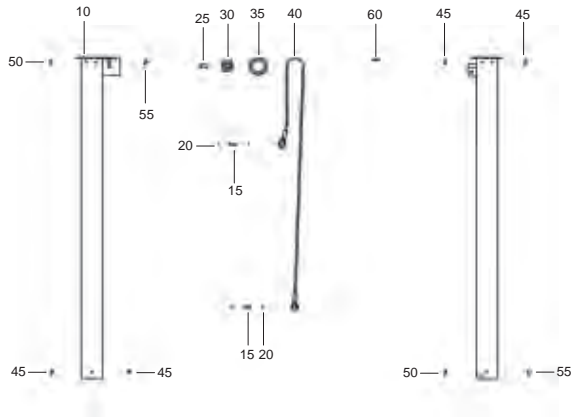
REF	PART NUMBER	DESIGNATION	QTY
10	3002.5124.00	TOWER'S THIRD ELEMENT	1
15	3002.5125.00	PIN	2
20	3002.5126.00	PIN	2
25	3002.5127.00	BEARING PIN	1
30	3002.5128.00	RADIAL BEARING	1
35	3002.5129.00	PULLEY	1
40	3002.5130.00	CABLE	1
45	3002.5131.00	PLASTIC BUFFER D TYPE	4
50	3002.5132.00	PLASTIC BUFFER B TYPE	2
55	3002.5133.00	PLASTIC BUFFER E TYPE	2
60	3002.5134.00	LOCK WASHER	1

## TOWER - FOURTH ELEMENT - STANDARD



REF	PART NUMBER	DESIGNATION	QTY
10	3002.5135.00	TOWER'S FOURTH ELEMENT	1
15	3002.5136.00	PIN	2
20	3002.5137.00	PIN	2
25	3002.5138.00	BEARING PIN	1
30	3002.5139.00	RADIAL BEARING	1
35	3002.5140.00	PULLEY	1
40	3002.5141.00	CABLE TYPE R-R	1
45	3002.5142.00	PLASTIC BUFFER D TYPE	4
50	3002.5143.00	PLASTIC BUFFER B TYPE	2
55	3002.5144.00	PLASTIC BUFFER E TYPE	2
60	3002.5145.00	SEGER	1

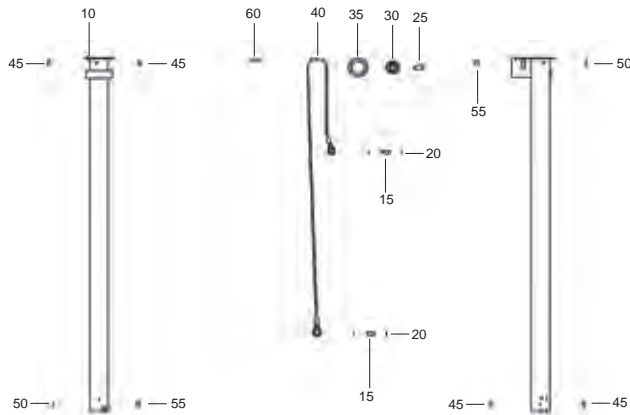
# TOWER - FIFTH ELEMENT - STANDARD



REF	PART NUMBER	DESIGNATION	QTY
10	3002.5146.00	TOWER'S FIFTH ELEMENT	1
15	3002.5147.00	CABLECABLE	2
20	3002.5148.00	LOCK WASHER	2
25	3002.5149.00	BEARING PIN	1
30	3002.5150.00	RADIAL BEARING	1
35	3002.5151.00	PULLEY	1
40	3002.5152.00	CABLE TYPE R-R	1
45	3002.5153.00	PLASTIC BUFFER D TYPE	4
50	3002.5154.00	PLASTIC BUFFER B TYPE	2
55	3002.5155.00	PLASTIC BUFFER E TYPE	2
60	3002.5156.00	ELASTIC PIN	1

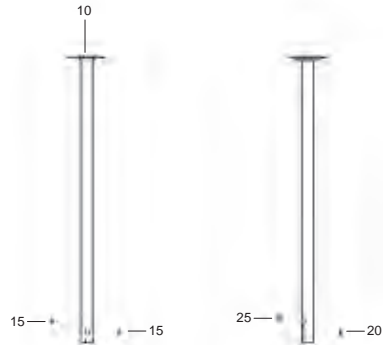


## TOWER - SIXTH ELEMENT - STANDARD



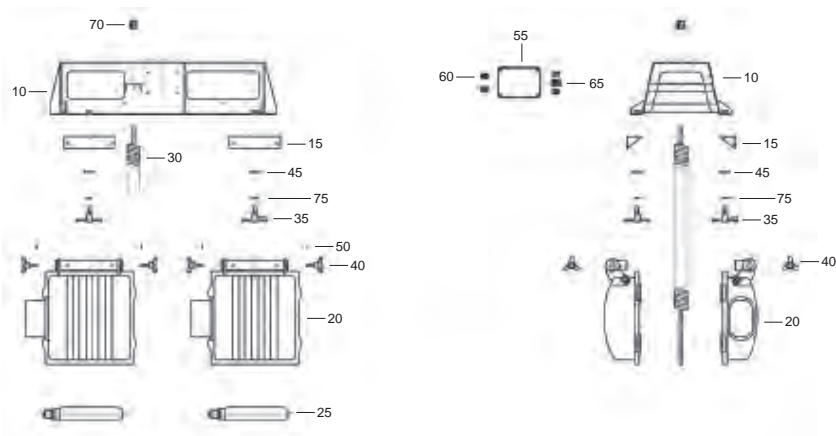
REF	PART NUMBER	DESIGNATION	QTY
10	3002.5157.00	TOWER'S FIFTH ELEMENT	1
15	3002.5158.00	CABLE	2
20	3002.5159.00	LOCK WASHER	2
25	3002.5160.00	BEARING PIN	1
30	3002.5161.00	RADIAL BEARING	1
35	3002.5162.00	PULLEY	1
40	3002.5163.00	CABLE TYPE R-R	1
45	3002.5164.00	PLASTIC BUFFER D TYPE	4
50	3002.5165.00	PLASTIC BUFFER B TYPE	2
55	3002.5166.00	PLASTIC BUFFER E TYPE	2
60	3002.5167.00	ELASTIC PIN	1

## TOWER - SEVENTH ELEMENT - STANDARD



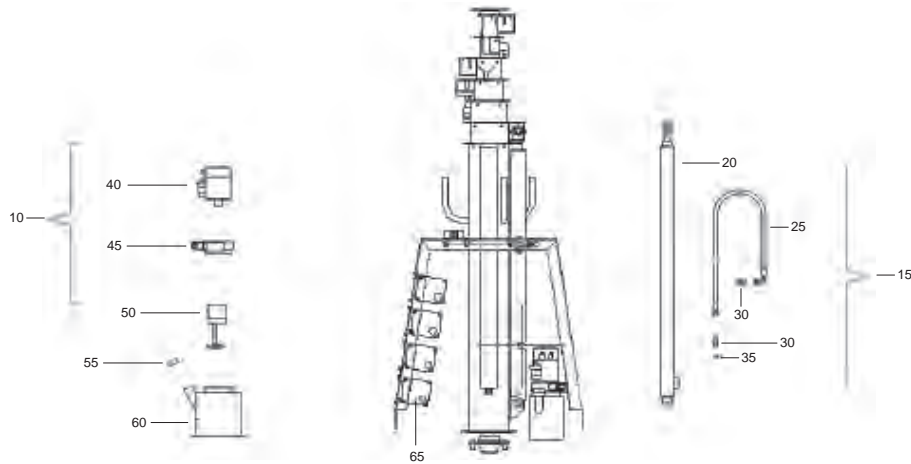
REF	PART NUMBER	DESIGNATION	QTY
10	3002.5168.00	TOWER'S SEVENTH ELEMENT	1
15	3002.5169.00	PLASTIC BUFFER D TYPE	2
20	3002.5170.00	PLASTIC BUFFER B TYPE	1
25	3002.5171.00	PLASTIC BUFFER E TYPE	1

## ROAD SIGNALISATION - STANDARD



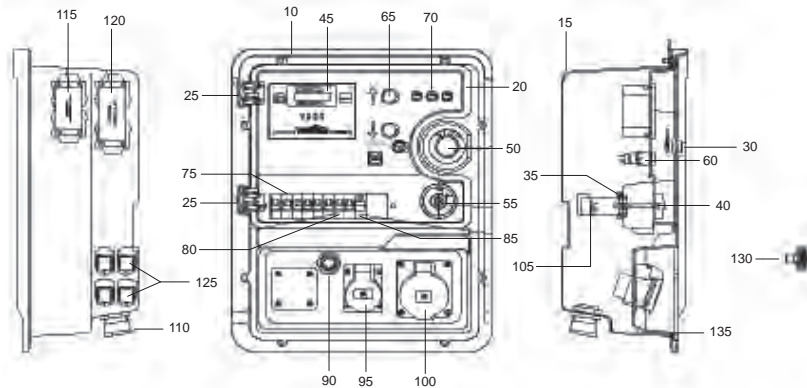
REF	PART NUMBER	DESIGNATION	QTY
10	3002 5172 00	LAMP SUPPORT	1
15	3002 5173 00	SUPPORT	4
20	3002 5174 00	LAMP IP65 E40 - 1000W	1
25	3002 5175 00	LIGHTBULB	1
30	3002 5176 00	SPIRALED WIRE	1
35	3002 5177 00	BOLT	1
40	3002 5178 00	HANDGRIP	1
45	3002 5179 00	WASHER	1
50	3002 5180 00	WASHER	1
55	3002 5181 00	BOX	1
60	3002 5182 00	CABLE GLAND	1
65	3002 5183 00	CABLE GLAND	1
70	3002 5184 00	CABLE GLAND	1
75	3002 5185 00	PLUG	1

# HYDRAULIC SYSTEM - STANDARD



REF	PART NUMBER	DESIGNATION	QTY
10	3002 5186 00	KIT HYDRAULIC PUMP	1
15	3002 5187 00	KIT HYDRAULIC PISTON	1
20	3002 5188 00	HYDRAULIC CYLINDER	1
25	3002 5189 00	FLEXIBLE PIPE	1
30	3002 5190 00	NIPPLE	2
35	3002 5191 00	SECURITY VALVE	1
40	3002 5192 00	ELECTRIC MOTOR	1
45	3002 5193 00	HYDRAULIC GEARBOX	1
50	3002 5194 00	HYDRAULIC PUMP	1
55	3002 5195 00	OIL TANK CAP	1
60	3002 5196 00	HYDRAULIC OIL TANK	1
65	3002 5197 00	BALLAST	4

# ELECTRIC PANEL - STANDARD




REF	PART NUMBER	DESIGNATION	QTY
10	3002 5198 00	CONTROL PANEL	1
15	3002 5199 00	PLASTIC BOX FOR CONTROL PANEL	1
20	3002 5200 00	DOOR	1
25	3002 5201 00	HINGE CFA. 40. SH-4	2
30	3002 5202 00	LEVER TYPE LOCK, MOD. CV16	1
35	3002 5203 00	GUIDE DIN 35X7	2
40	3002 5204 00	SCREW	2
45	3002 5205 00	CONTROL UNIT	1
50	3002 5206 00	EMERGENCY STOP BUTTON	1
55	3002 5207 00	START KEY ENGINE	1
60	3002 5208 00	INDICATOR	1
65	3002 5209 00	LIFTING / LOWERING BUTTON	2
70	3002 5210 00	HOLDER FUSE 10A	3
75	3002 5211 00	CIRCUIT BREAKER 1P+N 16A	6
80	3002 5212 00	CIRCUIT BREAKER 1P+N 32A	2
85	3002 5213 00	GENERAL EARTH LEAK CIRCUIT BREAKER 32 A -30MA	1
90	3002 5214 00	ACOUSTIC ALARM	1
95	3002 5215 00	16A -2P+T 230V SOCKET	1
100	3002 5216 00	32A -2P+T 230V SOCKET	1
105	3002 5217 00	TA, TRANSFORMER 50/5A	1
110	3002 5218 00	CABLE GLAND	2
115	3002 5219 00	CONNECTOR 10P	1
120	3002 5220 00	CONNECTOR 16P	1
125	3002 5221 00	CONNECTOR 4P+T	4
130	3002 5222 00	DOOR KEY	1
135	3002 5223 00	GASKET	AR



Following documents are provided with this unit:

- Test Certificate
- EC Declaration of Conformity:



**EC DECLARATION OF CONFORMITY**

1 We, Atlas Copco Airpower n.v., declare under our sole responsibility, that the product  
 2 Machine name : **Power generator (< 400 kW)**  
 3 Commercial name :  
 4 Serial number :

5 Which falls under the provisions of article 12.2 of the EC Directive 2006/42/EC on the approximation of the laws of the Member States relating to machinery, is in conformity with the relevant Essential Health and Safety Requirements of this directive.

The machinery complies also with the requirements of the following directives and their amendments as indicated.

Directive on the approximation of laws of the Member States relating to	Harmonized and/or Technical Standards used	Att mt
Machinery safety	2006/42/EC EN ISO 12100-1 EN ISO 12100-2 EN 10173-1	
Electromagnetic compatibility	2004/108/EC EN 61000-6-2 EN 61000-6-4	
Low voltage equipment	2006/95/EC EN 60334 EN 60204-1 EN 60439	
Outdoor noise emission	2000/14/EC ISO 3744	x

66 The harmonized and the technical standards used are identified in the attachments hereafter  
 67 Atlas Copco Airpower n.v. is authorized to compile the technical file

68 69 70 <b>Conformity of the specification to the Directives</b>	<b>Conformity of the product to the specification and by implication to the directives</b>
71 Issued by 72 Product engineering	71 Manufacturing
73 Name 74 Signature	
75 Place , Date	

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**Atlas Copco Airpower n.v.** A company within the Atlas Copco Group  
 Postal address: P.O. Box 100, Boomsteenseweg 957, B-2010 Willeik-Antwerp, Belgium  
 Visitors address: Boomsteenseweg 957, B-2010 Willeik-Antwerp, Belgium  
 Phone: +32 (0)3 870 21 11, Fax: +32 (0)3 870 24 43  
 Com. Reg. Antwerp 44651, V.A.T. 403.992.231  
 For info, please contact your local Atlas Copco representative

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