Atlas Copco Instruction Manual

Instruction Manual
for Portable Compressors
English

XATS 186 Jd S4 APP	Engine John Deere 4045HFC04
XAVS 186 Jd S4 APP	Engine John Deere 4045HFC07

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for Portable Compressors

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Original instructions

Printed matter No.
2954 9450 04

06/2021

Atlas Copco

ATLAS COPCO - PORTABLE ENERGY DIVISION
www.atlascopco.com

Warranty and Liability Limitation

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.
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 Airpower n.v,

Boomsesteenweg 957,

2610 Wilrijk

Belgium..

Preface

Follow the instructions in this booklet and we guarantee you years of troublefree operation. It is a solid, safe and reliable machine, built according to the latest technology.

Always keep the manual available near the machine.

In all correspondence always mention the compressor type and serial number, shown on the data plate.

The company reserves the right to make changes without prior notice.

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Atlas Copco

Safety precautions

To be read attentively and acted accordingly before towing, lifting, operating, performing maintenance or repairing the unit.

INTRODUCTION

The policy of Atlas Copco is to provide the users of their equipment with safe, reliable and efficient products. Factors taken into account are among others:

- the intended and predictable future use of the products, and the environments in which they are expected to operate,
- applicable rules, codes and regulations,
- the expected useful product life, assuming proper service and maintenance,
- providing the manual with up-to-date information.

Before handling any product, take time to read the relevant instruction manual. Besides giving detailed operating instructions, it also gives specific information about safety, preventive maintenance, etc.

Keep the manual always at the unit location, easy accessible to the operating personnel.

See also the safety precautions of the engine and possible other equipment, which are separately sent along or are mentioned on the equipment or parts of the unit.

These safety precautions are general and some statements will therefore not always apply to a particular unit.

Only people that have the right skills should be allowed to operate, adjust, perform maintenance or repair on Atlas Copco equipment.

It is the responsibility of management to appoint operators with the appropriate training and skill for each category of job.

Skill level 1: Operator

An operator is trained in all aspects of operating the unit with the push-buttons, and is trained to know the safety aspects.

Skill level 2: Mechanical technician

A mechanical technician is trained to operate the unit the same as the operator. In addition, the mechanical technician is also trained to perform maintenance and repair, as described in the instruction manual, and is allowed to change settings of the control and safety system. A mechanical technician does not work on live electrical components.

Skill level 3: Electrical technician

An electrical technician is trained and has the same qualifications as both the operator and the mechanical technician. In addition, the electrical technician may carry out electrical repairs within the various enclosures of the unit. This includes work on live electrical components.

Skill level 4: Specialist from the manufacturer

This is a skilled specialist sent by the manufacturer or its agent to perform complex repairs or modifications to the equipment.

In general it is recommended that not more than two people operate the unit, more operators could lead to unsafe operating conditions.

Take necessary steps to keep unauthorized persons away from the unit and eliminate all possible sources of danger at the unit.

When handling, operating, overhauling and/or performing maintenance or repair on Atlas Copco equipment, the mechanics are expected to use safe engineering practices and to observe all relevant local safety requirements and ordinances. The following list is a reminder of special safety directives and precautions mainly applicable to Atlas Copco equipment.

These safety precautions apply to machinery processing or consuming air. Processing of any other gas requires additional safety precautions typical to the application and are not included herein.

Neglecting the safety precautions may endanger people as well as environment and machinery:

- endanger people due to electrical, mechanical or chemical influences,
- endanger the environment due to leakage of oil, solvents or other substances,
- endanger the machinery due to function failures.

All responsibility for any damage or injury resulting from neglecting these precautions or by non-observance of ordinary caution and due care required in handling, operating, maintenance or repair, also if not expressly mentioned in this instruction manual, is disclaimed by Atlas Copco.

The manufacturer does not accept any liability for any damage arising from the use of non-original parts and for modifications, additions or conversions made without the manufacturer's approval in writing.

If any statement in this manual does not comply with local legislation, the stricter of the two shall be applied.

Statements in these safety precautions should not be interpreted as suggestions, recommendations or inducements that it should be used in violation of any applicable laws or regulations.

GENERAL SAFETY PRECAUTIONS

1 The owner is responsible for maintaining the unit in a safe operating condition. Unit parts and accessories must be replaced if missing or unsuitable for safe operation.

2 The supervisor, or the responsible person, shall at all times make sure that all instructions regarding machinery and equipment operation and maintenance are strictly followed and that the machines with all accessories and safety devices, as well as the consuming devices, are in good repair, free of abnormal wear or abuse, and are not tampered with.

3 Whenever there is an indication or any suspicion that an internal part of a machine is overheated, the machine shall be stopped but no inspection covers shall be opened before sufficient cooling time has elapsed; this to avoid the risk of spontaneous ignition of oil vapour when air is admitted.

4 Normal ratings (pressures, temperatures, speeds, etc.) shall be durably marked.

5 Operate the unit only for the intended purpose and within its rated limits (pressure, temperature, speeds, etc.).

6 The machinery and equipment shall be kept clean, i.e. as free as possible from oil, dust or other deposits.

7 To prevent an increase in working temperature, inspect and clean heat transfer surfaces (cooler fins, intercoolers, water jackets, etc.) regularly. See the **Preventive maintenance schedule**.

8 All regulating and safety devices shall be maintained with due care to ensure that they function properly. They may not be put out of action.

9 Care shall be taken to avoid damage to safety valves and other pressure-relief devices, especially to avoid plugging by paint, oil coke or dirt accumulation, which could interfere with the functioning of the device.

10 Pressure and temperature gauges shall be checked regularly with regard to their accuracy. They shall be replaced whenever outside acceptable tolerances.

11 Safety devices shall be tested as described in the maintenance schedule of the instruction manual to determine that they are in good operating condition. See the **Preventive maintenance schedule**.

12 Mind the markings and information labels on the unit.

13 In the event the safety labels are damaged or destroyed, they must be replaced to ensure operator safety.

14 Keep the work area neat. Lack of order will increase the risk of accidents.

15 When working on the unit, wear safety clothing. Depending on the kind of activities these are: safety glasses, ear protection, safety helmet (including visor), safety gloves, protective clothing, safety shoes. Do not wear the hair long and loose (protect long hair with a hairnet), or wear loose clothing or jewellery.

16 Take precautions against fire. Handle fuel, oil and anti-freeze with care because they are inflammable substances. Do not smoke or approach with naked flame when handling such substances. Keep a fire-extinguisher in the vicinity.

SAFETY DURING TRANSPORT AND INSTALLATION

Transport of the unit has to be done by authorized/ experienced people.

When towing, lifting or transporting the compressor in any way, the battery must be disconnected.

To lift a unit, all loose or pivoting parts, e.g. doors and towbar, shall first be securely fastened.

Do not attach cables, chains or ropes directly to the lifting eye; apply a crane hook or lifting shackle meeting local safety regulations. Never allow sharp bends in lifting cables, chains or ropes.

Helicopter lifting is not allowed.

It is strictly forbidden to dwell or stay in the risk zone under a lifted load. Never lift the unit over people or residential areas. Lifting acceleration and retardation shall be kept within safe limits.

1 Before towing the unit:
   - ascertain that the pressure vessel(s) is (are) depressurized,
   - check the towbar, the brake system and the towing eye. Also check the coupling of the towing vehicle,
   - check the towing and brake capability of the towing vehicle,
   - check that the towbar, jockey wheel or stand leg is safely locked in the raised position,
   - keep hands/fingers away from the coupling device and all other potential pinch points. Keep feet away from the towbar to avoid injury if it should slip,
   - ascertain that the towing eye can swivel freely on the hook,
   - check that the wheels are secure and that the tyres are in good condition and inflated correctly,
   - connect the signalisation cable, check all lights and connect the pneumatic brake couplers, ascertain that the signalisation cable can not drag on the ground when towing the unit,
   - attach the safety break-away cable or safety chain to the towing vehicle,
   - remove wheel chocks, if applied, and disengage the parking brake,
   - check whether springs on wheelchocks are missing or broken.
2 To tow a unit use a towing vehicle of ample capacity. Refer to the documentation of the towing vehicle.
3 If the unit is to be backed up by the towing vehicle, disengage the overrun brake mechanism (if it is not an automatic mechanism).
4 Never exceed the maximum towing speed of the unit (mind the local regulations).
5 Place the unit on level ground and apply the parking brake before disconnecting the unit from the towing vehicle. Unclip the safety break-away cable or safety chain. If the unit has no parking brake or jockey wheel, immobilize the unit by placing chocks in front of and/or behind the wheels. When the towbar can be positioned vertically, the locking device must be applied and kept in good order. The unit must always be used/ parked/stored in a non publicly accessible area, locked away from access by unauthorized persons.
6 To lift heavy parts, a hoist of ample capacity, tested and approved according to local safety regulations, shall be used.
7 Lifting hooks, eyes, shackles, etc., shall never be bent and shall only have stress in line with their design load axis. The capacity of a lifting device diminishes when the lifting force is applied at an angle to its load axis.
8 For maximum safety and efficiency of the lifting apparatus all lifting members shall be applied as near to perpendicular as possible. If required, a lifting beam shall be applied between hoist and load.
9 Never leave a load hanging on a hoist.
10 A hoist has to be installed in such a way that the object will be lifted perpendicular. If that is not possible, the necessary precautions must be taken to prevent load-swinging, e.g. by using two hoists, each at approximately the same angle not exceeding 30° from the vertical.
11 Locate the unit away from walls. Take all precautions to ensure that hot air exhausted from the engine and driven machine cooling systems cannot be recirculated. If such hot air is taken in by the engine or driven machine cooling fan, this may cause overheating of the unit; if taken in for combustion, the engine power will be reduced.
12 Before moving the compressor, switch it off.

SAFETY DURING USE AND OPERATION

1 When the unit has to operate in a fire-hazardous environment, each engine exhaust has to be provided with a spark arrestor to trap incendiary sparks.

2 The exhaust contains carbon monoxide which is a lethal gas. When the unit is used in a confined space, conduct the engine exhaust to the outside atmosphere by a pipe of sufficient diameter; do this in such a way that no extra back pressure is created for the engine. If necessary, install an extractor. Observe any existing local regulations. Make sure that the unit has sufficient air intake for operation. If necessary, install extra air intake ducts.

3 When operating in a dust-laden atmosphere, place the unit so that dust is not carried towards it by the wind. Operation in clean surroundings considerably extends the intervals for cleaning the air intake filters and the cores of the coolers.

4 Close the compressor air outlet valve before connecting or disconnecting a hose. Ascertain that a hose is fully depressurized before disconnecting it. Before blowing compressed air through a hose or air line, ensure that the open end is held securely, so that it cannot whip and cause injury.

5 The air line end connected to the outlet valve must be safeguarded with a safety cable, attached next to the valve.

6 No external force may be exerted on the air outlet valves, e.g. by pulling on hoses or by installing auxiliary equipment directly to a valve, e.g. a water separator, a lubricator, etc. Do not step on the air outlet valves.

7 Never move a unit when external lines or hoses are connected to the outlet valves, to avoid damage to valves, manifold and hoses.

8 Do not use compressed air from any type of compressor, without taking extra measures, for breathing purposes as this may result in injury or death. For breathing air quality, the compressed air must be adequately purified according to local legislation and standards. Breathing air must always be supplied at stable, suitable pressure.

9 Distribution pipe work and air hoses must be of correct diameter and suitable for the working pressure. Never use frayed, damaged or deteriorated hoses. Replace hoses and flexibles before the lifetime expires. Use only the correct type and size of hose end fittings and connections.

10 If the compressor is to be used for sand-blasting or will be connected to a common compressed-air system, fit an appropriate non-return valve (check valve) between compressor outlet and the connected sand-blasting or compressed-air system. Observe the right mounting position/ direction.

11 Before removing the oil filler plug, ensure that the pressure is released by opening an air outlet valve.

12 Never remove a filler cap of the cooling water system of a hot engine. Wait until the engine has sufficiently cooled down.

13 Never refill fuel while the unit is running, unless otherwise stated in the Atlas Copco Instruction Book (AIB). Keep fuel away from hot parts such as air outlet pipes or the engine exhaust. Do not smoke when fuelling. When fuelling from an automatic pump, an earthing cable should be connected to the unit to discharge static electricity. Never spill nor leave oil, fuel, coolant or cleansing agent in or around the unit.

14 All doors shall be shut during operation so as not to disturb the cooling air flow inside the bodywork and/or render the silencing less effective. A door should be kept open for a short period only e.g. for inspection or adjustment.

15 Periodically carry out maintenance works according to the maintenance schedule.

16 Stationary housing guards are provided on all rotating or reciprocating parts not otherwise protected and which may be hazardous to personnel. Machinery shall never be put into operation, when such guards have been removed, before the guards are securely reinstalled.

17 Noise, even at reasonable levels, can cause irritation and disturbance which, over a long period of time, may cause severe injuries to the nervous system of human beings. When the sound pressure level, at any point where personnel normally has to attend, is:

- below 70 dB(A): no action needs to be taken,
- above 70 dB(A): noise-protective devices should be provided for people continuously being present in the room,
- below 85 dB(A): no action needs to be taken for occasional visitors staying a limited time only,
- above 85 dB(A): room to be classified as a noise-hazardous area and an obvious warning shall be placed permanently at each entrance to alert people entering the room, for even relatively short times, about the need to wear ear protectors,
- above 95 dB(A): the warning(s) at the entrance(s) shall be completed with the recommendation that also occasional visitors shall wear ear protectors,
- above 105 dB(A): special ear protectors that are adequate for this noise level and the spectral composition of the noise shall be provided and a special warning to that effect shall be placed at each entrance.

18 The unit has parts, which may be accidentally touched by personal, of which the temperature can be in excess of 80°C (176°F). The insulation or safety guard, protecting these parts shall not be removed before the parts have cooled down to room temperature. As it is technically not possible to insulate all hot parts or to install safety guards around hot parts (e.g. exhaust manifold, exhaust turbine), the operator / service engineer must always be aware not to touch hot parts when opening a machine door.

19 Never operate the unit in surroundings where there is a possibility of taking in flammable or toxic fumes.

20 If the working process produces fumes, dust or vibration hazards, etc., take the necessary steps to eliminate the risk of personal injury.

21 When using compressed air or inert gas to clean down equipment, do so with caution and use the appropriate protection, at least safety glasses, for the operator as well as for any bystander. Do not apply compressed air or inert gas to your skin or direct an air or gas stream at people. Never use it to clean dirt from your clothes.

22 When washing parts in or with a cleaning solvent, provide the required ventilation and use appropriate protection such as a breathing filter, safety glasses, rubber apron and gloves, etc.

23 Safety shoes should be compulsory in any workshop and if there is a risk, however small, of falling objects, wearing of a safety helmet should be included.

24 If there is a risk of inhaling hazardous gases, fumes or dust, the respiratory organs must be protected and depending on the nature of the hazard, so must the eyes and skin.

25 Remember that where there is visible dust, the finer, invisible particles will almost certainly be present too; but the fact that no dust can be seen is not a reliable indication that dangerous, invisible dust is not present in the air.

26 Never operate the unit at pressures or speeds below or in excess of its limits as indicated in the technical specifications.

27 Do not use aerosol types of starting aids such as ether. Such use could result in an explosion and personal injury.

SAFETY DURING MAINTENANCE AND REPAIR

Maintenance, overhaul and repair work shall only be carried out by adequately trained personnel; if required, under supervision of someone qualified for the job.

1 Use only the correct tools for maintenance and repair work, and only tools which are in good condition.

2 Parts shall only be replaced by genuine Atlas Copco replacement parts.

3 All maintenance work, other than routine attention, shall only be undertaken when the unit is stopped. Steps shall be taken to prevent inadvertent starting. In addition, a warning sign bearing a legend such as ”work in progress; do not start” shall be attached to the starting equipment. On engine-driven units the battery shall be disconnected and removed or the terminals covered by insulating caps. On electrically driven units the main switch shall be locked in open position and the fuses shall be taken out. A warning sign bearing a legend such as ”work in progress; do not supply voltage” shall be attached to the fuse box or main switch.

4 Before dismantling any pressurized component, the compressor or equipment shall be effectively isolated from all sources of pressure and the entire system shall be relieved of pressure. Do not rely on non-return valves (check valves) to isolate pressure systems. In addition, a warning sign bearing a legend such as ”work in progress; do not open” shall be attached to each of the outlet valves.

5 Prior to stripping an engine or other machine or undertaking major overhaul on it, prevent all movable parts from rolling over or moving.

6 Make sure that no tools, loose parts or rags are left in or on the machine. Never leave rags or loose clothing near the engine air intake.

7 Never use flammable solvents for cleaning (fire-risk).

8 Take safety precautions against toxic vapours of cleaning liquids.

9 Never use machine parts as a climbing aid.

10 Observe scrupulous cleanliness during maintenance and repair. Keep away dirt, cover the parts and exposed openings with a clean cloth, paper or tape.

11 Never weld on or perform any operation involving heat near the fuel or oil systems. Fuel and oil tanks must be completely purged, e.g. by steam-cleaning, before carrying out such operations. Never weld on, or in any way modify, pressure vessels. Disconnect the alternator cables during arc welding on the unit.

12 Support the towbar and the axle(s) securely if working underneath the unit or when removing a wheel. Do not rely on jacks.

13 Do not remove any of, or tamper with, the sound-damping material. Keep the material free of dirt and liquids such as fuel, oil and cleansing agents.

If any sound-damping material is damaged, replace it to prevent the sound pressure level from increasing.

14 Use only lubricating oils and greases recommended or approved by Atlas Copco or the machine manufacturer. Ascertain that the selected lubricants comply with all applicable safety regulations, especially with regard to explosion or fire-risk and the possibility of decomposition or generation of hazardous gases. Never mix synthetic with mineral oil.

15 Protect the engine, alternator, air intake filter, electrical and regulating components, etc., to prevent moisture ingress, e.g. when steam-cleaning.

16 When performing any operation involving heat, flames or sparks on a machine, the surrounding components shall first be screened with non-flammable material.

17 Never use a light source with open flame for inspecting the interior of a machine.

18 Disconnect – battery-clamp before starting electrical servicing or welding (or turn battery-switch in "off" position).

19 When repair has been completed, the machine shall be barred over at least one revolution for reciprocating machines, several revolutions for rotary ones to ensure that there is no mechanical interference within the machine or driver. Check the direction of rotation of electric motors when starting up the machine initially and after any alteration to the electrical connection(s) or switch gear, to check that the oil pump and the fan function properly.

20 Maintenance and repair work should be recorded in an operator's logbook for all machinery. Frequency and nature of repairs can reveal unsafe conditions.

21 When hot parts have to be handled, e.g. shrink fitting, special heat-resistant gloves shall be used and, if required, other body protection shall be applied.

22 When using cartridge type breathing filter equipment, ascertain that the correct type of cartridge is used and that its useful service life is not surpassed.

23 Make sure that oil, solvents and other substances likely to pollute the environment are properly disposed of.

24 Before clearing the unit for use after maintenance or overhaul, check that operating pressures, temperatures and speeds are correct and that the control and shutdown devices function correctly.

TOOL APPLICATIONS SAFETY

Check the maximum pressure of the tool and hoses against maximum vessel pressure.

Apply the proper tool for each job. With the knowledge of correct tool use and knowing the limitations of tools, along with some common sense, many accidents can be prevented.

Special service tools are available for specific jobs and should be used when recommended. The use of these tools will save time and prevent damage to parts.

SPECIFIC SAFETY PRECAUTIONS

Batteries

When servicing batteries, always wear protecting clothing and glasses.

1 The electrolyte in batteries is a sulphuric acid solution which is fatal if it hits your eyes, and which can cause burns if it contacts your skin. Therefore, be careful when handling batteries, e.g. when checking the charge condition.

2 Install a sign prohibiting fire, open flame and smoking at the post where batteries are being charged.

3 When batteries are being charged, an explosive gas mixture forms in the cells and might escape through the vent holes in the plugs. Thus an explosive atmosphere may form around the battery if ventilation is poor, and can remain in and around the battery for several hours after it has been charged. Therefore:

- never smoke near batteries being, or having recently been, charged,
- never break live circuits at battery terminals, because a spark usually occurs.

4 When connecting an auxiliary battery (AB) in parallel to the unit battery (CB) with booster cables: connect the + pole of AB to the + pole of CB, then connect the – pole of CB to the mass of the unit. Disconnect in the reverse order.

Pressure vessels

Maintenance/installation requirements:

1 The vessel can be used as pressure vessel or as separator and is designed to hold compressed air for the following application:
   - pressure vessel for compressor,
   - medium AIR/OIL,

   and operates as detailed on the data plate of the vessel:
   - the maximum working pressure ps in bar (psi),
   - the maximum working temperature Tmax in °C (°F),
   - the minimum working temperature Tmin in °C (°F),
   - the capacity of the vessel V in l (US gal).

2 The pressure vessel is only to be used for the applications as specified above and in accordance with the technical specifications. Safety reasons prohibit any other applications.

3 National legislation requirements with respect to re-inspection must be complied with.

4 No welding or heat treatment of any kind is permitted to those vessel walls which are exposed to pressure.

5 The vessel is provided and may only be used with the required safety equipment such as manometer, overpressure control devices, safety valve, etc.

6 Draining of condensate shall be performed daily when vessel is in use.

7 Installation, design and connections should not be changed.

8 Bolts of cover and flanges may not be used for extra fixation.

9 (Pressure) vessel maintenance is to be performed by Atlas Copco.

Safety valves

1 All adjustments or repairs are to be done by an authorized representative of the valve supplier (see also **Preventive maintenance schedule**).

2 Only trained and technically competent personnel should consider overhaul, re-set or performance testing of safety valves.

3 The safety valve is supplied with either a lead security seal or crimped cover to deter unauthorised access to the pressure regulation device.

4 Under no circumstances should the set pressure of the safety valve be altered to a different pressure than that stamped on the valve without the permission of the installation designer.

5 If the set pressure must be altered then use only correct parts supplied by Atlas Copco and in accordance with the instructions available for the valve type.

6 Safety valves must be frequently tested and regularly maintained.

7 The set pressure should be periodically checked for accuracy.

8 When fitted, the compressors should be operated at pressures not less than 75% of the set pressure to ensure free and easy movement of internal parts.

9 The frequency of tests is influenced by factors such as the severity of the operating environment and aggressiveness of the pressurised medium.

10 Soft seals and springs should be replaced as part of the maintenance procedure.

11 Do not paint or coat the installed safety valve.

Selective Catalytic Reduction

The SCR catalytic converter contains vanadium pentoxide, a chemical known to the State of California to cause cancer.

The SCR catalytic converter is fitted in the silencer and does not constitute a health hazard during normal use and handling.

When carrying out work on the SCR catalytic converter which may result in exposure to dust, safety precautions must be taken. Such work includes, for example, opening the silencer machining and scrapping the SCR catalytic converter.

Safety precautions when working on the SCR system

- Inhalation: If dust is inhaled, the person should be provided with fresh air immediately. Seek medical attention.
- Eye contact: Rinse eyes with water immediately. If irritation persists, seek medical attention.
- Skin contact: Wash with water and soap. Remove contaminated clothes.
- Ingestion: If large amounts have been ingested, drink plenty of water and induce vomiting. Seek medical attention.

Environmental hazards

- Vanadium pentoxide is toxic to water organisms and can cause detrimental long term effects to water environment.

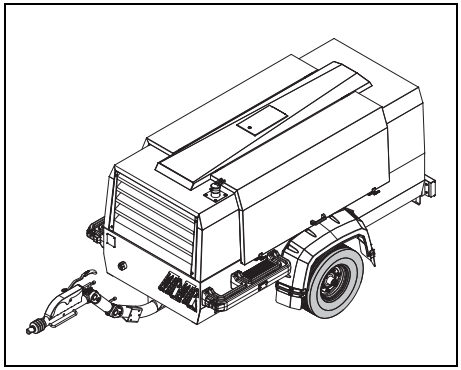
Leading particulars

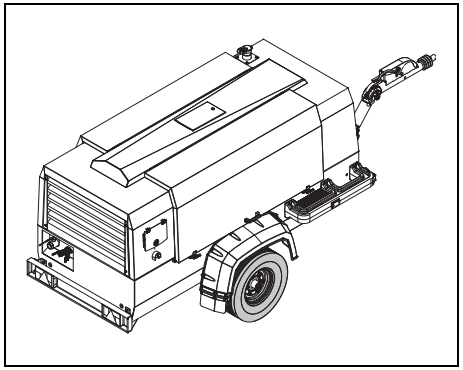
DESCRIPTION OF SAFETY PICTOGRAMS USED IN THIS MANUAL

This symbol draws your attention to dangerous situations. The operation concerned may endanger persons and cause injuries.

This symbol is followed by supplementary information.

GENERAL DESCRIPTION





The compressors type XATS 186 and XAVS 186 are silenced, single-stage, oil-injected screw compressors, built for a nominal effective working pressure, ranging from 7 bar (100 psi) up to 14 bar (200 psi) (see chapter **Technical specifications**).

Engine

The compressors are driven by a liquid-cooled diesel engine.

The engine's power is transmitted to the compressor through a heavy-duty coupling.

All machines meet Stage IV emission standards.

Compressor

The compressor casing houses two screw-type rotors, mounted on ball and roller bearings. The male rotor, driven by the engine, drives the female rotor. The element delivers pulsation-free air.

Injected oil is used for sealing, cooling and lubricating purposes.

Compressor oil system

The oil is boosted by air pressure. The system has no oil pump.

The oil is removed from the air, in the air/oil vessel at first by centrifugal force, secondly by the oil separator element.

The vessel is provided with an oil level indicator.

Regulation

The compressor is provided with a continuous regulating system and a blow off valve which is integrated in the unloader assembly. The valve is closed during operation by air receiver pressure and opens by air receiver pressure via the compressor element when the compressor is stopped.

When the air consumption increases, the air receiver pressure will decrease and vice versa.

This receiver pressure variation is sensed by the regulating valve which, by means of control air to the unloader and an electronic engine speed regulator, matches the air output to the air consumption. The air receiver pressure is maintained between the pre-selected working pressure and the corresponding unloading pressure.

Cooling system

The engine is equipped with a liquid cooler and intercooler. All compressors are equipped with an oil cooler.

The cooling air is generated by a fan, driven by the engine.

Safety devices

A thermal shut-down switch protects the compressor against overheating. The air receiver is provided with a safety valve.

The engine is equipped with low oil pressure and high oil temperature shut-down switches.

Frame and axle

The compressor/engine unit is supported by rubber buffers in the frame.

The standard unit has no undercarriage.

As an option, the unit can be equipped with an adjustable towbar, an overrun and parking brake and towing eyes type DIN, ball, ITA, NATO, (see chapter **Available options**).

The braking system consists of an integrated parking brake and overrunbrake. When driving backwards the overrunbrake is not engaged automatically.

Bodywork

The bodywork has openings at the shaped front and rear end for the intake and outlet of cooling air and hinged door for maintenance and service operations. The bodywork is internally lined with sound-absorbing material.

Lifting eye

A lifting eye is accessible when the small door at the top of the unit is unlocked.

Control panel

The control panel consists of a display and keys and is placed at the right hand/ rear end corner.

Data plate

The compressor is furnished with a data plate showing the product code, the unit number and the working pressure (see chapter **Circuit diagram**).

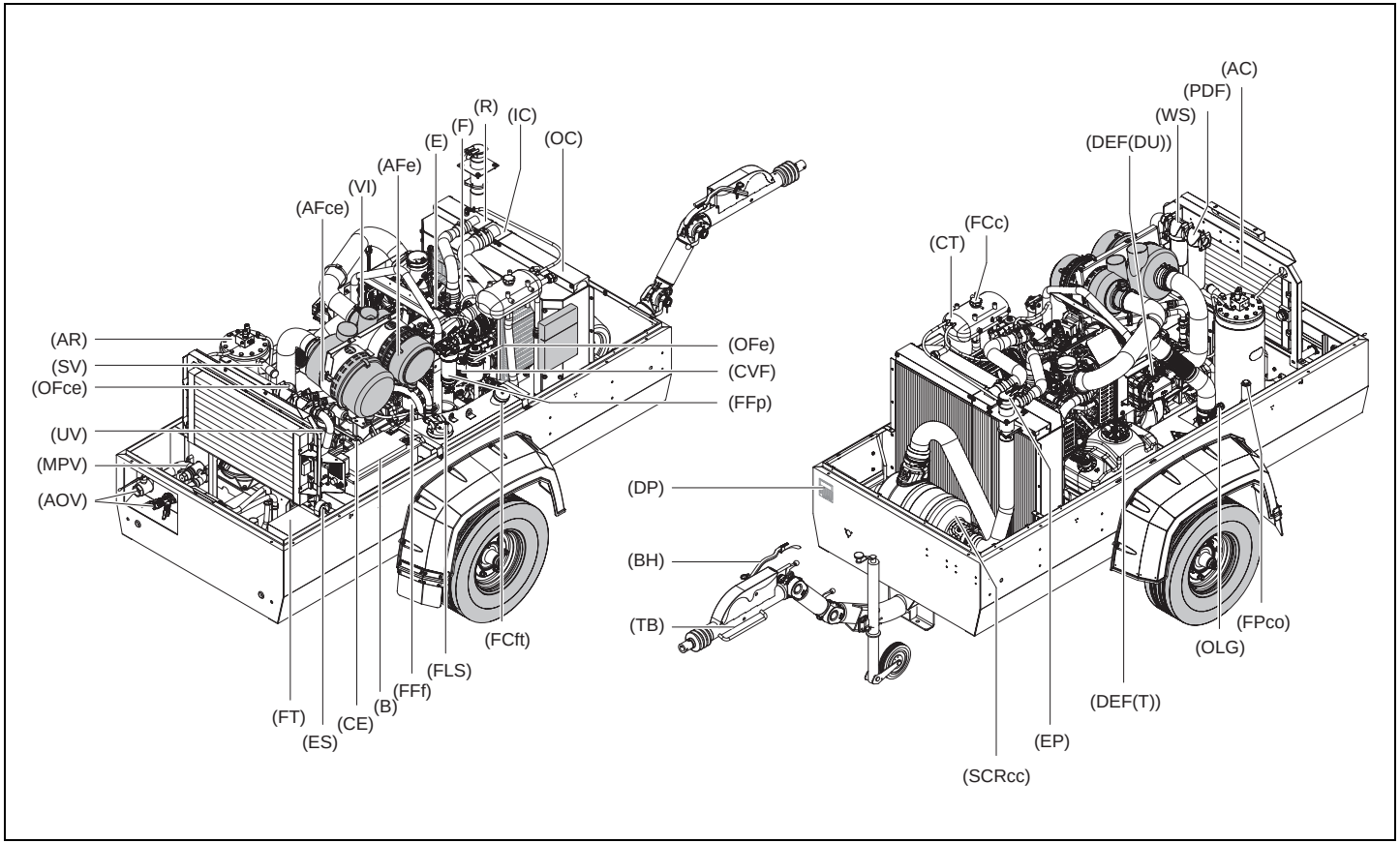
VIN number

The vehicle identification number (VIN) is located on the right-hand side towards the front on the upper edge of the frame and also on the data plate.

Exhaust system

The exhaust system includes an aftertreatment with a selective catalytic reduction system.

Main Parts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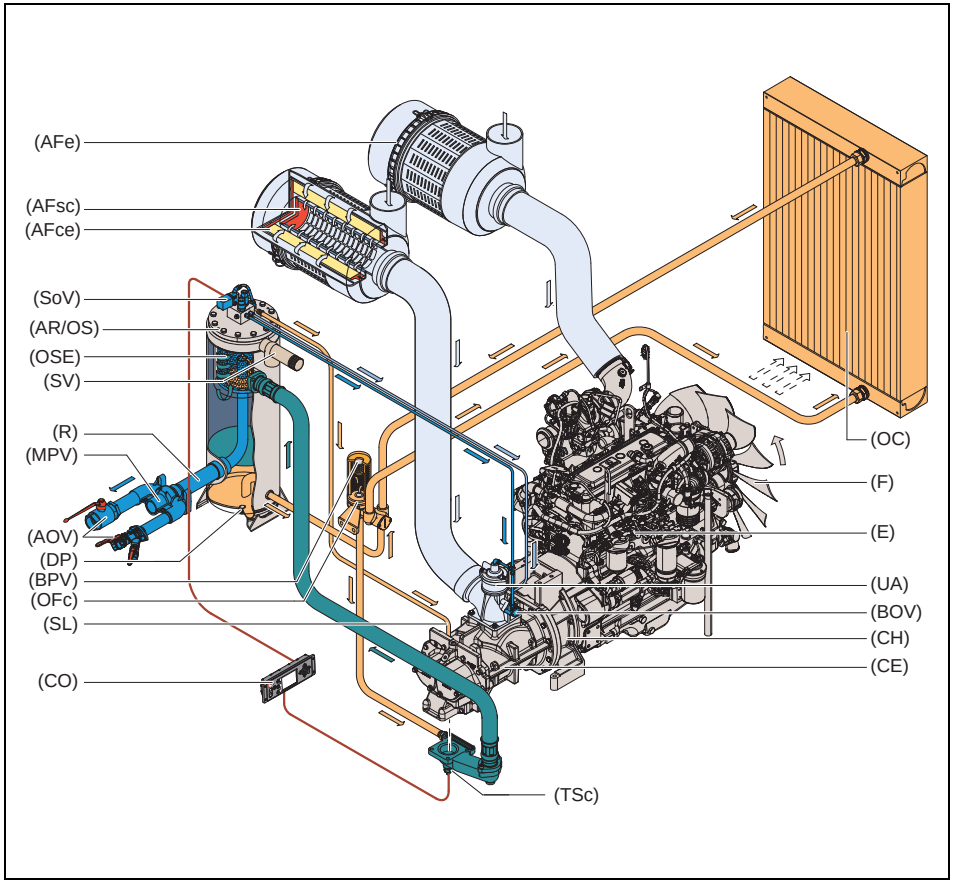
Reference	Name
AC	Aftercooler
AFce	Air Filter (compressor element)
AFe	Air Filter (engine)
AOV	Air Outlet Valve
AR	Air Receiver
B	Battery
BH	Brake Handle
CE	Compressor Element
CT	Coolant Tank
CVF	Carter Ventilation Filter
DEF(DU)	Diesel Exhaust Fluid (Dosing Unit)
DEF(T)	Diesel Exhaust Fluid (Tank)
DP	Data Plate
E	Engine
EP	Exhaust Pipe
ES	Emergency Stop
F	Fan
FCc	Filler Cap (coolant)
FCft	Filler Cap (fuel tank)
FFf	Fuel Filter (final)
FFp	Fuel Filter (primary)
FLS	Fuel Level Sensor

Reference	Name
FPco	Filler Plug (compressor oil)
FT	Fuel Tank
IC	Intercooler
MPV	Minimum Pressure Valve
OC	Oil Cooler
OFce	Oil Filter (compressor element)
OFe	Oil Filter (engine)
OLG	Oil Level Gauge
PDF	PD Filter
R	Radiator
SCRcc	SCR Catalytic Converter
SV	Safety Valve
TB	Towbar
UV	Unloading Valve
VI	Vacuum Indicator
WS	Water Separator



Reference	Name
AFce	Air Filter (compressor)
AFe	Air Filter (engine)
AOV	Air Outlet Valve
AR/OS	Air Receiver/Oil Separator
AFsc	Air Filter (safety cartridge)
BOV	Blow Off Valve
BPV	By-Pass Valve (oil filter)
CE	Compressor Element
CH	Coupling Housing
CO	Controller
DP	Drain Plug
E	Engine
F	Fan
MPV	Minimum Pressure Valve
OC	Oil Cooler
OFc	Oil Filter (compressor)
OSE	Oil Separator Element
R	Restrictor
SL	Scavenge Line
SV	Safety Valve
SoV	Solenoid Valve
TSc	Temperature Switch (compressor)
UA	Unloader Assembly

AIR FLOW

Air drawn through the air filter (AFce) into the compressor element (CE) is compressed. At the element outlet, compressed air and oil pass into the air receiver/oil separator (AR/OS).

In the air receiver/oil separator (AR/OS), most of the oil is removed from the air/oil mixture; the remaining oil is removed by the separator element.

The oil collects in the receiver and on the bottom of the separator element.

The air leaves the receiver via a minimum pressure valve (MPV) which prevents the receiver pressure from dropping below the minimum working pressure (specified in section **Limitations**), even when the air outlet valves are open. This ensures adequate oil injection and prevents oil consumption.

The MPV also acts as a non-return valve, which will prevent that any pressure built up in the system behind the compressor will escape through the compressor.

The system is equipped with a temperature switch (TSc).

A blow off valve (BOV) is fitted in the unloader assembly to automatically depressurise the air receiver (AR) when the compressor is stopped.

OIL SYSTEM

The lower part of the air receiver (AR) serves as an oil tank.

Air pressure forces the oil from the air receiver/oil separator (AR/OS) through the oil cooler (OC) and oil filter (OF) to the compressor element (CE).

The compressor element has an oil gallery in the bottom of its casing. The oil for rotor lubrication, cooling and sealing is injected through holes in the gallery.

Lubrication of the bearings is ensured by oil injected into the bearing housings.

The injected oil, mixed with the compressed air, leaves the compressor element and re-enters the air receiver, where it is separated from the air as described in section **Air flow**. The oil that collects on the bottom of the oil separator element is returned to the system through a scavenging line (SL), which is provided with a flow restrictor (R).

The oil filter by-pass valve opens when the pressure drop over the filter is above normal because of a clogged filter. The oil then by-passes the filter without being filtered. For this reason, the oil filter must be replaced at regular intervals (see section **Preventive maintenance schedule**).

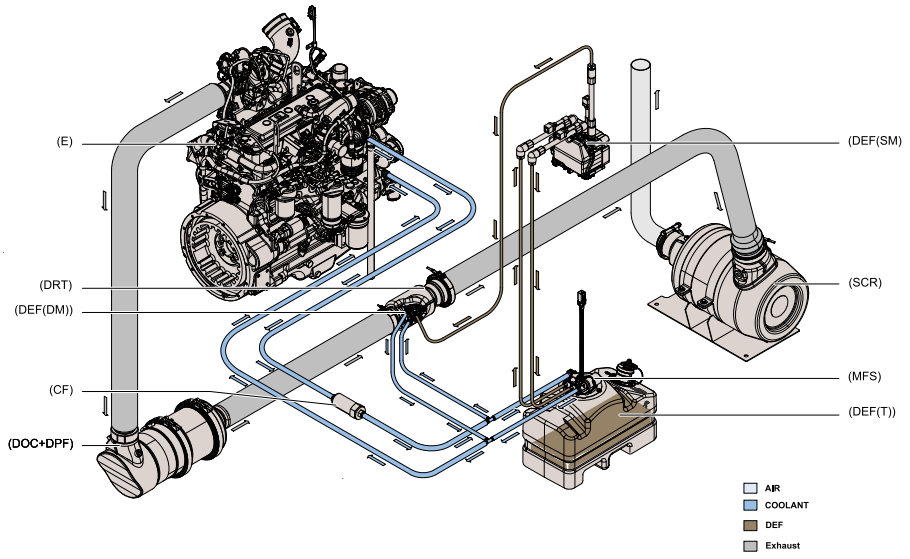
CONTINUOUS REGULATING SYSTEM

The compressor is provided with a continuous electro pneumatic regulating system. This system makes sure that the air delivery is so that the pressure in the air receiver matches the pressure set point in the controller. The air output is controlled from maximum air delivery to no air delivery by:

1. Speed control of the engine between maximum and minimum speed.
2. Air inlet throttling.

The receiver pressure is sensed by the controller through the working pressure sensor. If the pressure in the receiver is above the pressure set point the controller will first decrease engine speed in trying to get the receiver pressure equal to the pressure set point. If engine speed is at minimum speed and receiver pressure is still above the pressure set point the regulating valve shall start to create regulating pressure. By increasing regulating pressure the unloader assembly will throttle more and admit less air in the compressor element this will cause the receiver pressure will decrease.

If the pressure in the air receiver is below the pressure set point the engine rpm will be at maximum level and regulating pressure will be minimum level. The maximum engine speed will depend on pressure set point (when flow boost = off) on receiver pressure (when flow boost = on). The working pressure is controlled by the controller and can be set at two different presets. Both these presets can be given any value between 5 and 10.7 bar (72.5 and 155 psi) (XATS 186) and between 5 and 14 bar (72.5 and 203 psi) for (XAVS 186) in 0.1 bar steps.



Reference	Name
CF	Coolant Filter
DEF(DM)	DEF Dosing Module
DEF(SM)	DEF Supply Module
DEF(T)	DEF Tank
DOC	Diesel Oxidation Catalyst

Reference	Name
DPF	Diesel Particulate Filter
DRT	Decomposition Reactor tube
E	Engine
MFS	Multi Function Sensor / Heater
SCR	Selective Catalytic Reduction

To meet the demands of Stage IV Emission Legislation, the engine is equipped with a diesel oxidation catalyst (DOC) and a selective catalytic reduction system (SCR).

Step 1 Diesel Oxidation Catalyst

The diesel oxidation catalyst is designed to oxidize carbon monoxide, gas phase hydrocarbons and organic fraction of diesel particulates to carbon dioxide and water.

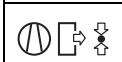
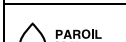
Step 2 SCR Technology

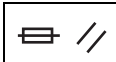
SCR stands for an after treatment technology called Selective Catalytic Reduction.

This technology requires the use of diesel exhaust fluid (AdBlue) to reduce the NOx. This technology is used to meet the new emission legislation on NOx emissions and it is the most cost effective solution to meet NOx emission standards.

Diesel exhaust fluid (AdBlue) is injected into the exhaust pipe, in front of the SCR catalyst, downstream of the engine. Heated in the exhaust it decomposes into ammonia and CO_2. When the NOx reacts inside the catalyst with the ammonia, the harmful NOx molecules in the exhaust are converted to harmless nitrogen and water.

MARKINGS AND INFORMATION LABELS

	Compressor outlet temperature too high.
	Compressor outlet temperature.
	Compressor outlet pressure.
	Dangerous outlet gases.
	Danger, hot surface.
	Electrocution hazard.
	Atlas Copco synthetic engine oil.
	Atlas Copco low sulphur engine oil.
	Atlas Copco synthetic compressor oil.
	Atlas Copco mineral compressor oil.
	Manual.
	Read the instruction manual before working on the battery.

	Reset fuse.
	On / off button.
	Hours, time.
	Prohibition to open air valves without connected hoses.
	Compressor loaded.
	Runlamp.
	Air filter.
	Compressor temperature too high.
	Rotation direction.
	Inlet.
	Outlet.
	Compressor oil drain.

	Read the instruction manual before starting.
	Service every 24 hours.
	Warning! Part under pressure.
	Do not stand on outlet valves.
	Start-Stop indication of switch.
	Do not run the compressor with open doors.
	Lifting permitted.
	Use diesel fuel only.
4.75 bar (69 psi)	Tyre pressure.
	Sound power level in accordance with Directive 2000/14/EC (expressed in dB (A)).
	Horizontal towbar position required in case of coupling.
	Diesel exhaust fluid (AdBlue).

PARKING, TOWING AND LIFTING INSTRUCTIONS

Safety precautions

Never load the vehicles in excess of the permissible total weight.

Never overstress the coupling or suspension system due to reckless or aggressive driving or mishandling. Avoid subjecting the axles to any impacts or jolting. Adapt your driving speed at all times to the road conditions.

Ensure that wheels and tyres are not misaligned or out-of-balance.

Only use the jacking points indicated by Atlas Copco.

The operator is expected to apply all relevant safety precautions, including those mentioned on the pages 1 - 7 of this book.

Attention:

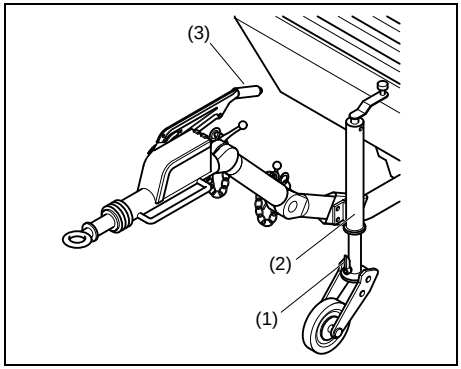
Before putting the compressor into use, check the brake system as described in section Brake (= option) adjustment.

After the first 100 km travel - Yearly or every 5000 km:

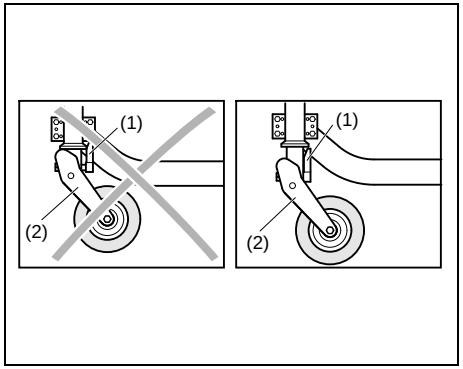
Check and retighten the wheel nuts and towbar bolts to the specified torque. See section Height adjustment and section Torque values.

Check the brake adjustment. See section Brake (= option) adjustment.

PARKING INSTRUCTIONS



Adjustable towbar with jockey wheel and brakes



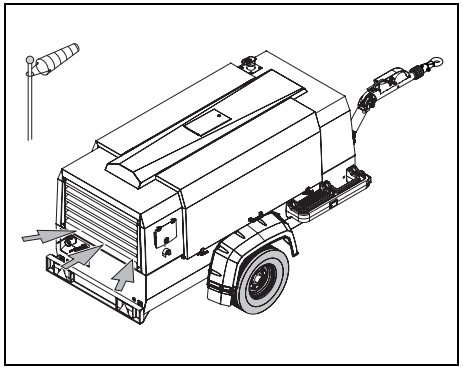
Parking position of jockey wheel

It must be noted that, with the parking brake activated, the vehicle can roll back about 30 cm until the braking force takes full effect.

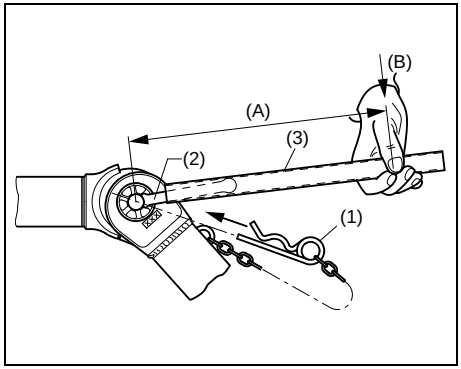
When parking a compressor, secure the jockey wheel (2) to support the compressor in a level position. Be sure that the jockey wheel (2) is blocked by the blocking pin (1).

Apply parking brake by pulling parking brake handle (3) upwards. Place the compressor as level as possible; however, it can be operated temporarily in an out-of-level position not exceeding 15°. If the compressor is parked on sloping ground, immobilize the compressor by placing wheel chocks (available as an option) in front of or behind the wheels.

HEIGHT ADJUSTMENT



Locate the rear-end of the compressor upwind, away from contaminated wind-streams and walls. Avoid recirculation of exhaust air from the engine. This causes overheating and engine power decrease.



Before towing the compressor, make sure that the joints of the towbar are secured with maximum strength without damaging the towbar. Be sure that there is no clearance between the teeth of the joints.

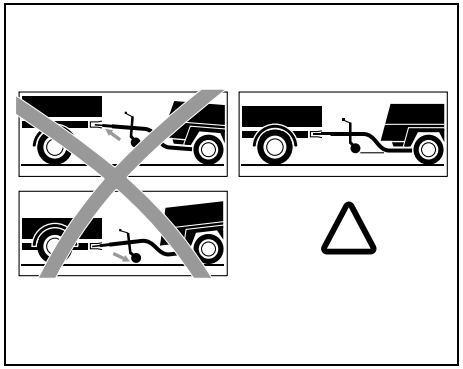
For specific instruction see below!

Size		**M32**
Torque	Nm	350 - 400
	lbf.ft	260 - 300
Length ”A”	mm	600
	in	23.4
Force ”B”	N	580 - 660
	lbf	130 - 150

- Remove spring pin (1).
- Release locking nut (2) with support tools (Extension tube 3).
- Adjust required height of the towbar.
- Tighten locking nut (2) by hand first.
- Secondly tighten locking nut (2) with a tightening torque corresponding to table. With an extension tube (3) (”A” corresponding with table) and handforce (”B” corresponding with table) tightening is easy.
- Fix locking nut (2) with spring pin (1).

Attention:

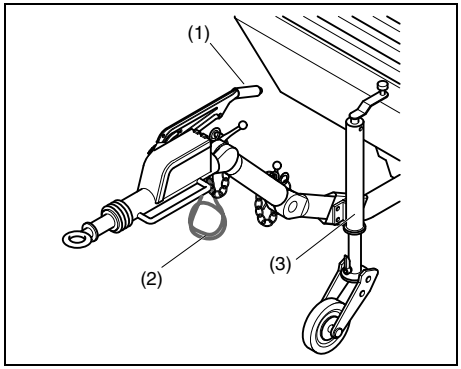
- Height adjustment should be undertaken on levelled ground and in coupled condition.
- When readjusting, make sure that the front point of the towbar is horizontal with the coupling point.
- Before starting a trip, ensure that the adjustment shaft is secure, so that stability and safety is guaranteed while driving. If necessary, tighten the locking nut (2) corresponding with table.



Label on towbar

Inspections, prior to each run

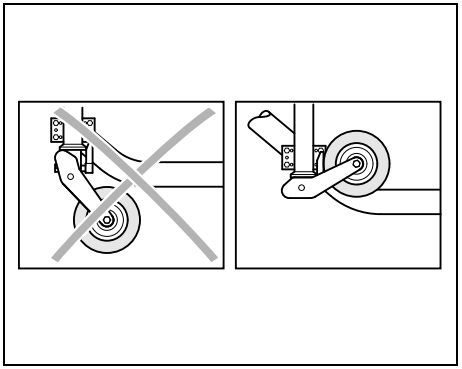
- Check tyre pressure and tyre condition
- Check wheel fixation
- Check screwed joints on firm seating.
- Check functioning of lighting and braking systems (option)
- The jockey wheel must be parallel to the direction of travel at all times.
- Inspect the coupling. The ball joint must fully enclose the ball and be locked.
- At height adjustable towing facility (option), check the joint connection for a tight fit.



Before towing the compressor, ensure that the towing equipment of the vehicle matches the towing eye or ball connector and ensure that the service doors are closed and locked properly.

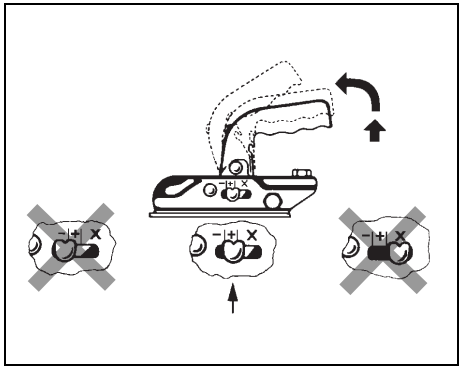
For both non-adjustable - and adjustable towbar, the towbar should be as level as possible and the compressor and towing eye end in a level position.

Push the hand brake lever (1) completely downwards and connect breakaway cable (2) to the vehicle.



Secure jockey wheel (3) in the highest possible position (see figure). The jockey wheel is prevented from turning.

INSTRUCTIONS BALL COUPLING (OPTION)



The handle of the ball coupling and the handbrake lever may never be used as a manoeuvring aid; internal components may get damaged!

The coupling (ball coupling) on the tow bar is type approved. The maximum load at the coupling may not be exceeded.

When coupling lower the jockey wheel to the ground. Reverse the car up to the compressor or, in the case of a small compressor, manoeuvre the compressor up to the car's trailer coupling.

Coupling:

Open coupling jaw by pulling the lever vigorously upwards in the direction of the arrow. Lower the opened coupling onto the ball of the vehicle coupling and the lever will automatically be lowered. Closing and locking are carried out automatically. Check the "+" (see figure) position!

Connect the breakaway cable and electrical plug (option) to the towing vehicle. Raise the jockey wheel up fully and secure by firmly clamping it. Release parking brake before setting off.

Visual check: the ball should no longer be visible in coupled condition.

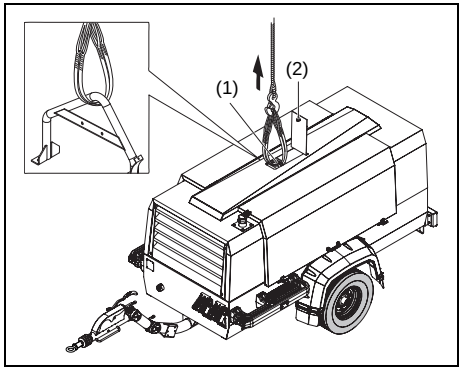
Uncoupling:

Lower the jockey wheel. Disconnect breakaway cable and electrical plug. Pull the lever vigorously upwards in the direction of the arrow and hold. Wind down jockey wheel (option) and lift the compressor off the ball of the towing vehicle.

Secure the compressor by means of a wheel chock and/or by applying the parking brake.

LIFTING INSTRUCTIONS

Drain any standing water from frame before lifting.



When lifting the compressor, the hoist has to be placed in such a way that the compressor, which must be placed level, is lifted vertically. Keep lifting acceleration and retardation within safe limits.

The lifting eye (1) should preferably be used after opening the small door (2).

Lifting acceleration and retardation must be kept within safe limits (max. 2g).

Helicopter lifting is not allowed.

Lifting is not allowed when the unit is running.

PREVENTING LOW LOADS

All engine parts are designed with tolerances to allow work under full load conditions. When operating at low load, these tolerances allow more lube oil to pass between valve guides. stems, liners and pistons due to the lower engine temperatures.

Lower combustion pressure has an influence on the piston ring operation and the combustion temperature. Low boost pressure will cause oil leakage over the turbo shaft seal.

Risks of low load operation

- Cylinder glazing: the cylinder bore troughs become filled with lacquer, displacing oil and thus preventing correct ring lubrication.
- Bore polishing: the bore surface becomes polished, all peaks and most troughs become worn away, also preventing correct ring lubrication.
- Heavy carbon build up: on pistons, piston ring grooves, valves and turbo charger. Carbon build up on pistons can cause seizure when later operating at full load.
- High oil consumption: prolonged no-load/low load operation of the engine may cause it to blue/ grey smoke at low rpm with an associated increase in oil consumption.
- Low combustion temperature: this will result in insufficiently burned fuel, which will cause diluting of the lube oil. Also, unburned fuel and lube oil can enter the exhaust manifold and eventually leak out through joints in the exhaust manifold.
- Risk for fire.
- Soot load increase: Low loads cause the exhaust temperatures to drop resulting in inadequate regeneration of the diesel particulate filter. This will increase the soot load of the filter which can eventually lead up to a required stationary regeneration (see section **Exhaust aftertreatment system**).

Best practices

Reduce low load periods to a minimum. This should be achieved by adequately sizing the unit for the application.

It is recommended that a unit is always used with a load >30% of nominal. Actions should be taken if due to circumstances this minimum load capacity cannot be obtained.

Operate the unit at full load capacity after any low load operating period.

- Connect an air hose to the air outlet valve in such a way that the compressed air can flow into the open air without creating any danger.
- Start the unit and let it warm-up for a few minutes.
- Let the unit to run for 1 hour in full load condition.

The interval between full load capacity test runs may vary according to the conditions on site. However, a rule of thumb is to perform a full load capacity test run after every maintenance operation.

If the compressor is installed as a stand-by unit, then it should be operated at full load for at least 4 hrs./ year. If periodic tests are performed on a regular basis without load, these should not exceed 10 min.

Full load test runs help to clean out the carbon deposits in the engine and exhaust system and evaluate the engine's performance. To avoid potential problems during a test run the load should be gradually increased.

In rental applications (where load is often an unknown factor) units should be tested at full load after each rental job or every 6 months, whichever comes first.

For more info, please contact your Atlas Copco Service Center.

Please note that when a failure occurs and is deemed due to low load operation, repair is not covered by warranty!

BEFORE STARTING

Always use low sulphur diesel and low SAP engine oils. Sulphur poisons the catalytic coating of the DOC reducing its usefulness.

Avoid running at low loads (unload), as it will generate insufficient heat for a proper functioning of the Diesel Oxidation Catalyst (DOC).

Avoid short term starting and stopping.

Unsuccessful start attempts generate a lot of soot and can cause heavy soot load in the filter.

1. Before initial start-up, prepare battery for operation if not already done. See section **Battery care**.
2. With the compressor standing level, check the level of the engine oil. Add oil, if necessary, up to the upper mark on the dipstick. Also check the engine coolant level. Consult the Engine Operation Manual for the type of coolant and type and viscosity grade of the engine oil.
3. Check the level of the compressor oil. See section **Overview**. The pointer of the oil level gauge (OLG) should register in the green range. Add oil if necessary. See section **Oil specifications** for the oil to be used.

Before removing the oil filler plug (FP), ensure that the pressure is released by opening an air outlet valve.

4. Check that the fuel tank contains sufficient fuel. Top up, if necessary. Consult the Engine Operation Manual for the type of fuel.
5. Drain any water and sediment from the fuel filters until clean fuel flows from the drain cock. See section **Draining instructions**.
6. Empty the dust trap of each air filter (AF). See section **Cleaning the dust trap**.
7. Check coolant level in engine coolant top tank. Top up, if necessary. Consult the Engine Operation Manual for coolant specifications.
8. Check the level of the diesel exhaust fluid (AdBlue) visually. Top up, if necessary. See section **Filling up diesel exhaust fluid (AdBlue)**.
9. Attach the air line(s) to the closed air outlet valve(s). Connect the safety chain. Use hoses and equipment that is designed to withstand the maximum pressure of the unit (see **Technical specifications**).

No external force may be applied to the air outlet valve(s), e.g. by pulling hoses or by connecting equipment directly to the valve(s).

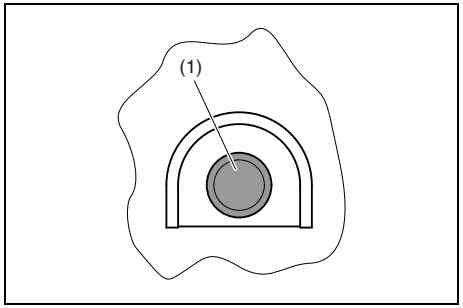
Safety precautions

Do not disconnect power supply to control box in any way when the control box is switched on. This will cause memory loss.

Make sure the fuel tank is filled up.

When the compressor is put in operation for the first time and after running out of fuel or changing the fuel filter, it may take some seconds before the machine will start.

EMERGENCY STOP



The emergency stop button is only to be used in emergency situations; not for stopping procedures.

When an emergency stop button (1) is pressed, power to all outputs is terminated, by the emergency stop itself (hardware) as well as by the software.

When the emergency stop button (1) is pressed the operator can unlock the emergency stop by turning it counterclockwise.

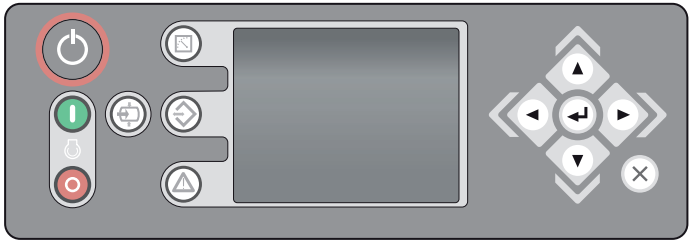
BASIC OPERATION OF THE MACHINE

The compressor can be controlled in 4 different modes:

- Local Operation Mode: locally at the Operating Panel,
- Remote Operation Mode: via remote switch inputs located at the bottom of the Control panel,
- Automatic Operation Mode: via pressure sensor data from the customer's installation,
- PC Operation Mode: with software running on a PC.

In this section is described how to operate the machine in Local Operation Mode at the Operation Panel.

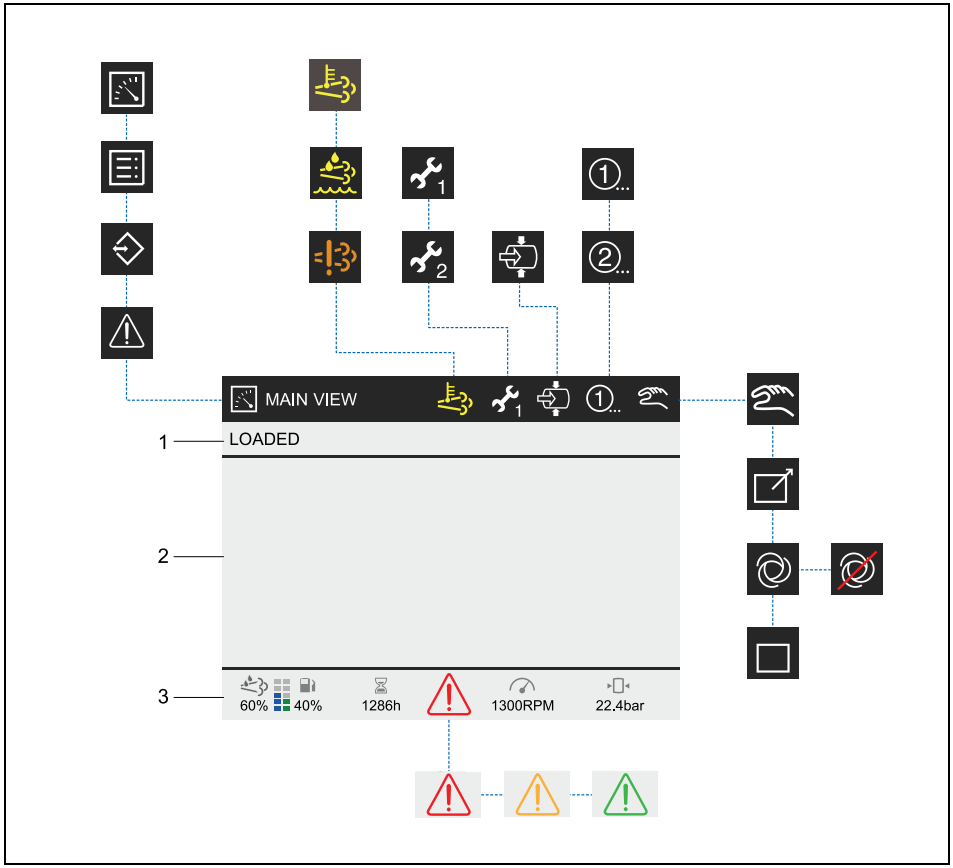
CONTROL PANEL



Reference	Name
	Power off / on switch To switch the control panel on and off
	Start button Pressing this button will start the compressor.
	Stop button Pressing this button will stop the compressor in a controlled way.

Reference	Name
	Load button. Pressing this button will: • initiate the Auto Load function, or commands the compressor to load (depending on actual status). • command the compressor to switch to Not Loaded (when in Load).
	Measurements View button By pressing this button you can toggle between Measurements View and Main View.
	Settings View button By pressing this button you can toggle between Settings View and Main View.
	Alarms View button By pressing this button you can toggle between Alarms View and Main View.
	Navigation buttons These buttons are used to navigate through the display menu's.
	Enter button Confirms/stores the selection/change.
	Back button Moves back one level or ignores the change.

OVERVIEW ICONS



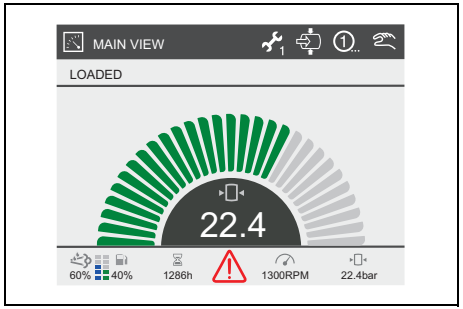
Reference	Name
1	Compressor status
2	Vessel pressure indication or info text
3	Compressor info
	Main View Indication
	Measuring View Indication
	Settings View Indication
	Alarm View Indication
	Diesel exhaust fluid (AdBlue) Low level.
	Emission system Engine Failure.
	DPF REGENERATION High Exhaust System Temperature. Means that the system is being regenerated.

Reference	Name
	Overhaul Minor Overhaul required.
	Overhaul Major Overhaul required.
	Auto Load This icon will be shown if the Auto Load functionality is enabled, or by means of a parameter setting, or by means of pressing the load button before the machine is ready to be loaded.
	Preset Depending of which Pressure setting is active, the controller will show its dedicated icon.
	Alarm Active & not-acknowledged Shutdown Alarm.
	Alarm Active & not-acknowledged Non-Shutdown Alarm.
	Alarm Active & acknowledged Alarm.

Reference	Name
	Fuel tank Running at internal fuel tank.
	Diesel exhaust fluid (AdBlue) tank level
	Operation Mode Local
	Operation Mode Remote
	Operation Mode Automatic
	Operation Mode Automatic Mode is active, but the Auto Start and Auto Stop function are both inactive.
	Operation Mode Block Mode

POSSIBLE VIEWS

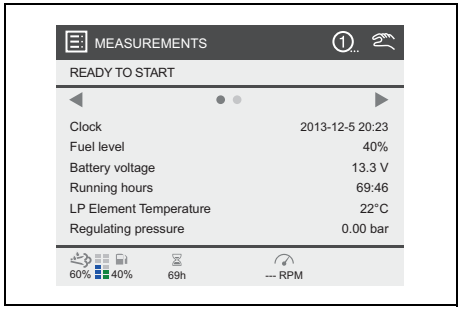
Main View



Main view is the default view. In the main view the operator can view the most important information on the actual compressor operation, like:

- Active Sequence
- Vessel pressure
- Engine rpm
- Fuel level
- Running hours
- Alarm indication
- Operation mode
- Pre-set indication
- Auto load indication
- Overhaul indication

Measurements View



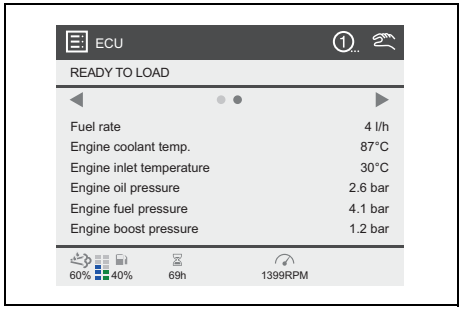
In the measurements view the operator can view up to 100 measured values (depending on the authorisation level)

Use the up and down navigation buttons to scroll through the full list of measurements.

Use the left and right navigation buttons to scroll through the different pages.

The first page contains general data

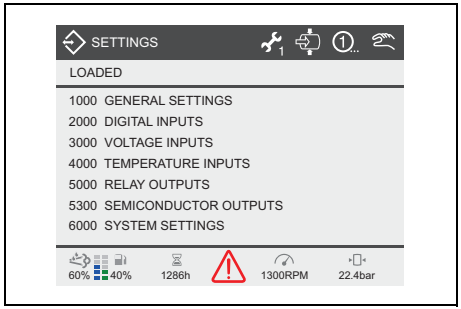
- Clock
- Fuel level
- Battery voltage
- Running hours
- Vessel pressure
- Regulating pressure
- Emergency stop count
- Loaded hours
- Unloaded hours
- Job hours
- Job loaded hours
- Average fuel consumption
- To next minor overhaul days
- To next minor overhaul hour
- To next major overhaul days
- To next major overhaul hour
- Application version



The second page contains engine related data.

- Tank level diesel exhaust fluid (AdBlue)
- Fuel rate
- Engine coolant temperature
- Engine fuel temperature
- Tank temperature diesel exhaust fluid (AdBlue)
- Engine oil temperature
- Engine inlet temperature
- Engine boost pressure
- Engine load
- Engine rpm
- Rpm setpoint
- Ambient temperature

Settings View



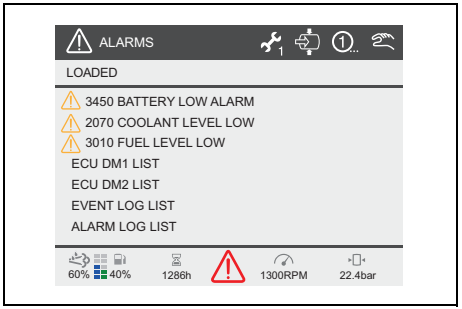
In the settings view the operator can view and change (depending on the authorisation level) various parameters.

Use the up and down navigation buttons to scroll through the full list of settings.

Use the enter button to enter the selected submenu.

Use the back button to leave the entered (sub)menu.

Alarm View



In the alarm view the operator can view the various alarms, actual and history.

Use the up and down navigation buttons to scroll through the full list of alarms.

Use the left and right navigation buttons to scroll through the different Alarm pages:

- General Alarms
- Alarm Log
- DM1 List
- Event Log
- DM2 List

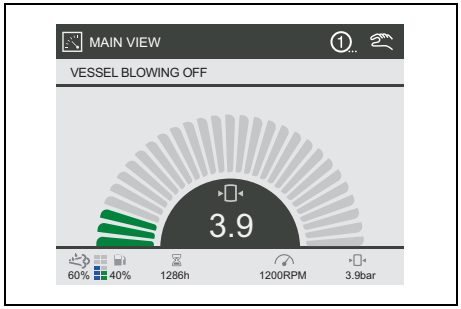
STARTING

Switch the controller on by pressing the Power button.

The instrument panel will now perform a selftest; the following display will be shown and the controller is initialized:

During initializing all buttons/inputs/outputs/alarms are inactive.

This view will be shown for about 2 seconds, after which the display will show the Main View.

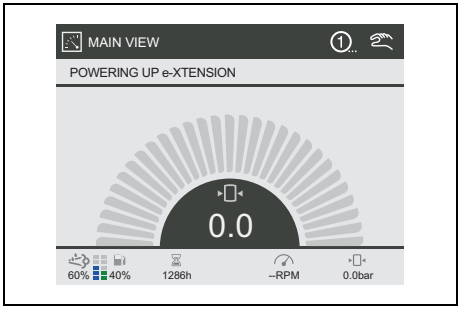


The actual vessel pressure is shown. If the measured vessel pressure is higher than 1.5 bar, the unit will not start. The vessel pressure has to be lowered by opening the blow down valve. After power up, the vessel pressure normally is low enough to proceed with the starting procedure.

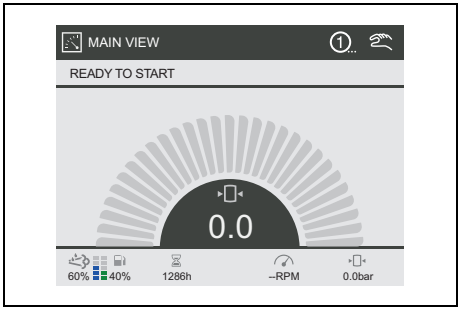
If the Power button is switched to switch off while the vessel is blowing down, it will not power down for as long as the vessel pressure is higher than 1.5 bar.

Active Buttons		
		

The display will change to



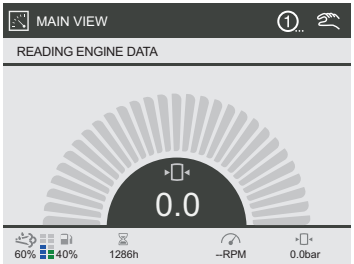
followed by



The machine is now ready to be started and is waiting for a start command.

Active Buttons				
				

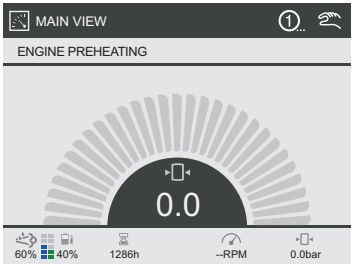
The display will change to



The engine electronics (ECU) will be powered up.

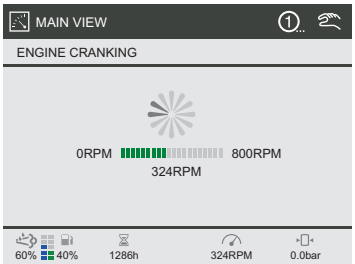
As soon as communication between compressor controller and engine controller is established, the machine will preheat according to the parameters of the engine controller.

The display will change to



Active Buttons

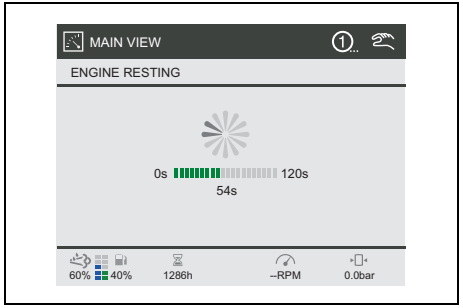
The engine starts crancking, the display shows



The engine cranks until 800 rpm is reached.

If 800 rpm is not reached within 30 seconds, the starting procedure is cancelled and the engine will rest for some time. (Resting time depends on cranking time).

The display now shows



After expiry of the engine resting time a new cranking sequence will start.

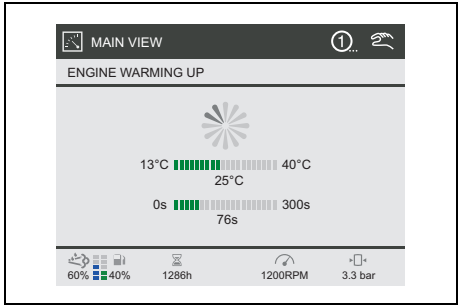
Max. starting attemps is 10.

Active Buttons



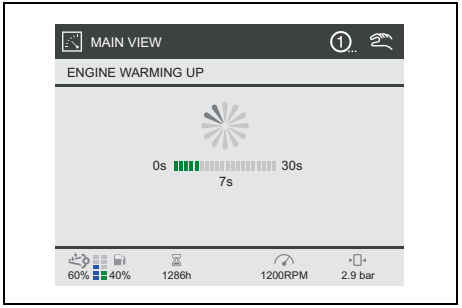


The engine starts running at idle speed. The display shows



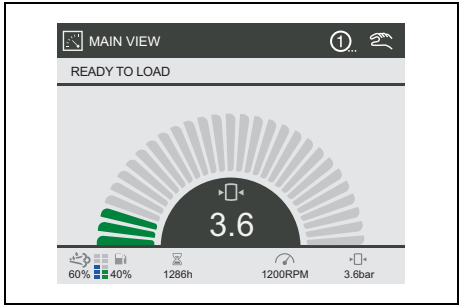
The engine will run at minimum rpm, until the engine's coolant temperature reaches 40°C, with a minimum time of 30 seconds and a maximum time of 300 seconds.

When warming up temperature is reached within 30 seconds the display will show



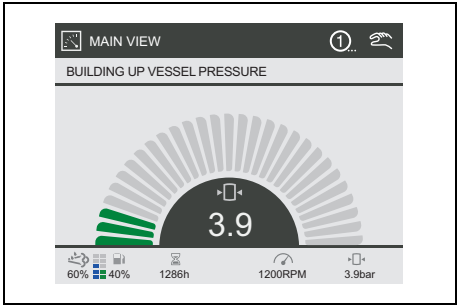
Active Buttons

After warming up the machine is ready to be loaded and is waiting for a load command; the display shows



Active Buttons

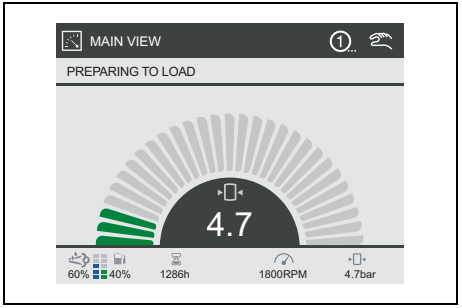

Press the load button, the display will show



When the load button is pressed and the measured vessel pressure is lower then 4.5 bar, the controller will run a specific program to reach the requested 4.5 bar, in order to be able to load the machine.

Active Buttons

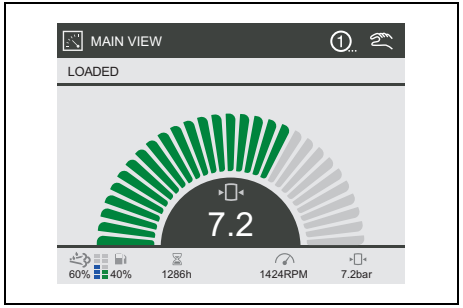

The engine will now run at maximum rpm, the display will show



The loading valve will be energized and pressure starts building up.

Active Buttons


During loading the following display is shown (default display)



The controller controls the speed of the engine in order to meet the requested working pressure, at the most economical fuel usage.

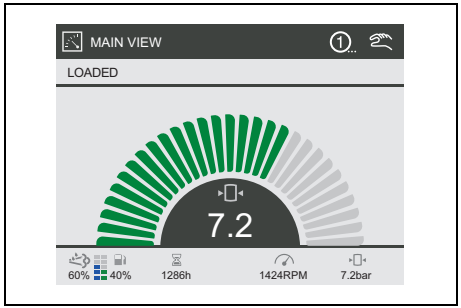
Active Buttons				
				

PRESSURE SETTING

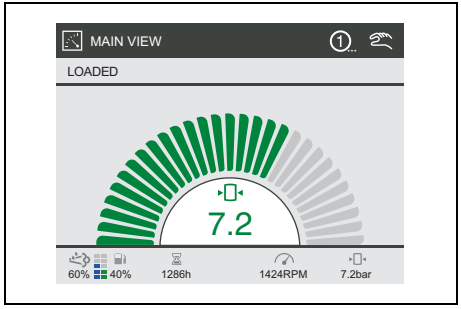
To change the pressure setting there are two possibilities.

1. **Choosing between presets**

   The operator can choose between two preset pressures.



The current active preset is indicated in the top right corner of the display: 1 or 2. To switch to the other preset, go to the Main view and press the enter button for 2 seconds (the pressure set point will light up in green).



By pressing the left or the right arrow button the operator will be notified to:

"Press enter to go to other pressure setting X Y"

When enter is pressed the setting will become active.

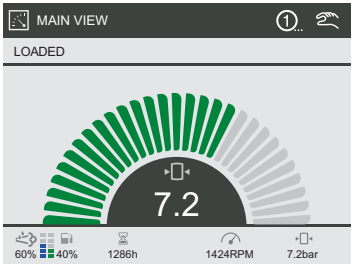
By pressing enter again the controller will go out of edit mode.

The active preset presure (1 or 2) will be visible in the top right corner of the display.

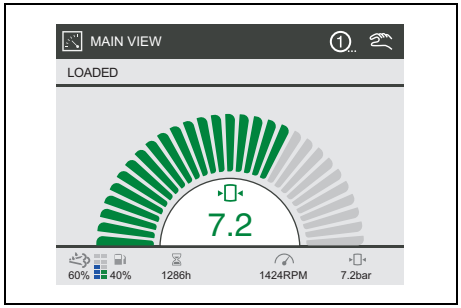
Active Buttons				
				

2. Changing the pressure of a preset

The operator can adjust the active preset as follows.



In the Main view when the operator presses the enter button for 2 sec. The pressure setting will light up in green when it is in edit mode.



By pressing the up and down buttons the pressure setting can be increased or decreased in 0.1 bar steps.

Pressing the enter button again confirms the pressure setting and will leave the edit mode.

Active Buttons				
				

DURING OPERATION

The doors must be closed during operation and may be opened for short periods only.

Be aware not to touch hot parts when the door is open.

Regularly carry out following checks:

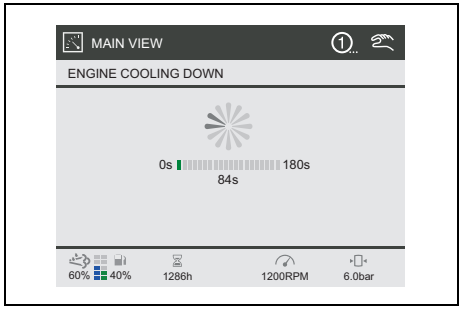
1. Check all measurement views for normal readings.
2. Avoid the engine running out of fuel. Nevertheless, if this happens, fill the fuel tank and prime the fuel system to speed up starting (see section **Draining instructions**).

When the engine is running the air outlet valves (ball valves) must always be in a fully opened or fully closed position.

3. Check the level of the diesel exhaust fluid (AdBlue) via the Settings View and Diagnostics menu.

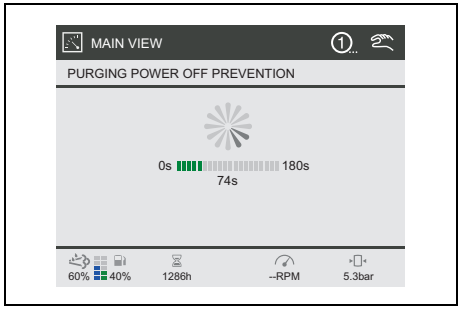
STOPPING

After pressing the Stop button the display will show:



Active Buttons			
			

After cooling down the engine will stop and the display will show

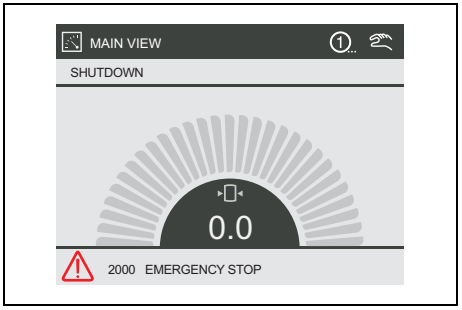


The engine is stopped, and the controller will do a double check to see if the engine is really stopped.

Active Buttons			
			

SHUTDOWN

When the machine is shutdown due to a critical alarm or an emergency stop the display will show



The ENTER button has to be pressed to acknowledge the shown alarm and to be able to proceed.

Active Buttons			
			

POWER OFF

Switch the controller off by pressing the Power button.

When the compressor is not in use, the battery must always be disconnected.

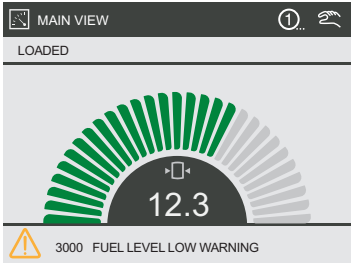
Always first shut off the controller and wait until the display is dark before disconnecting the battery.

SETTINGS

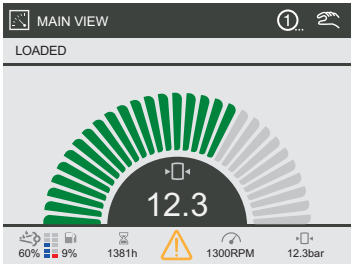
For buttons to be used see section **Control panel**.

Acknowledge an Alarm

If an alarm becomes active, for example a Low Fuel Level Warning:



then this alarm can be acknowledged by pressing the Enter button. If the fuel level is still low, the view will change to:



As soon as the fuel level is higher than the warning level, the alarm icon will automatically disappear.

As long as there is an alarm icon in the middle of the bottom part of the view, all active acknowledged / un-acknowledged alarms can be seen by pressing the Alarm View button.

Pressing the Alarm View button again, will bring you back to the Main View.

Set Clock

Press the Settings View button

- scroll to 1000 GENERAL SETTINGS
- press Enter
- scroll to 1290 DATE/TIME
- Enter the DATE/TIME menu
- scroll to the parameter you want to change
- Enter this parameter.

To change the 'RTC Month', scroll to the preferred month and press Enter.

To change any other RTC setting, the red figure is editable.
Scroll up/down and press Enter to change. Use left/right to shift between editable figures.

Now press BACK until you're back in the Main View (or in the menu you require).

Set Language

Press the Settings View button

- scroll to 1000 GENERAL SETTINGS
- press Enter
- scroll to 1300 LANGUAGES
- Enter the LANGUAGES menu
- Enter the SETTINGS parameter
- scroll to the preferred language
- press Enter.

Now press BACK until you're back in the Main View (or in the menu you require).

Set Units

Press the Settings View button

- scroll to 1000 GENERAL SETTINGS
- press Enter
- scroll to the unit you would like to change:

  1340 TEMPERATURE UNITS
  1350 PRESSURE UNITS
  1360 FUEL FLOW UNITS
- Enter the preferred menu
- Enter the SETTINGS parameter
- scroll to the preferred setting
- press Enter.

Now press BACK until you're back in the Main View (or in the menu you require).

Change Display Settings

Press the Settings View button

- scroll to 1000 GENERAL SETTINGS
- press ENTER
- scroll to 1310 DISPLAY BACKLIGHT
- Enter the DISPLAY BACKLIGHT menu
- scroll to the setting you would like to change
- press Enter.

To change a setting, the red figure is editable. Scroll up/down and press Enter to change. Use left/right to shift between editable figure.

Now press BACK until you're back in the Main View (or in the menu you require).

Go To Diagnostics

Press the Settings View button

- scroll to 1000 GENERAL SETTINGS
- press Enter
- scroll to 1150 DIAGNOSTICS
- Enter the DIAGNOSTICS menu
- Enter the ENABLE parameter
- scroll to ON and press Enter.

Now the ECU will get PAC (ignition) and one can perform ECU diagnostics (read DM1 List, DM2 List, ECU values, perform engine diagnostics, …).

Now press BACK until you're back in the Main View (or in the menu you require).

To leave DIAGNOSTICS, press the Stop button.

Set the AutoLoad Function

Press the Settings View button

- scroll to 1000 GENERAL SETTINGS
- press Enter
- scroll to 1160 AUTO LOAD
- Enter the FUNCTION menu
- scroll to AUTO LOAD setting
- press Enter.

Now the AutoLoad function is active, and as soon as the unit is Ready To Start, the display will show the Auto Load icon.

Now press BACK until you're back in the Main View (or in the menu you require).

ECO MODE

ECO mode feature is a simplification for the 'Automatic functions'.

The common settings of the automatic functions are grouped in the ECO mode pop-up menu, to make it easier for the end user to modify the settings.

A single pop-up menu avoids to go into four different menu's of the Settings Menu. Not all settings can be done in the pop-up menu. Therefore, the menu structure is still available in the background. By using the ECO mode, the customer can quickly activate the automatic no-load/re-load and automatic stop functions that will help him/her to reduce the fuel consumption. The end user can also change the timers and pressure levels at which the ECO mode functions needs to react on, to optimize the settings for his/her application.

Overview

All the features are set to manual operation in the ECO mode pop-up menu by default (in order to avoid unexpected starting and loading of the unit).

The compressor unit needs to have the air discharge pressure sensor installed for the ECO mode feature to function.

Press 'Load' button to view the ECO mode pop-up menu on the controller screen (only when the machine is not running). If the parameters need to be accessed when the machine is running, then go into Settings menu.

When the ECO mode is active, an icon is displayed in the right upper corner of the controller display as shown below.

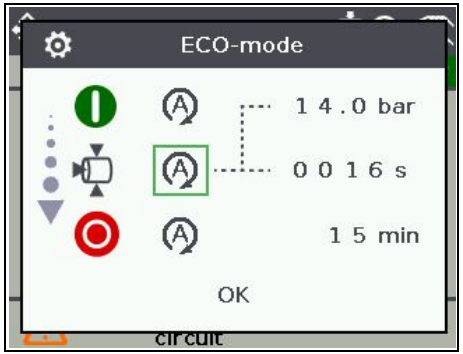
Auto start

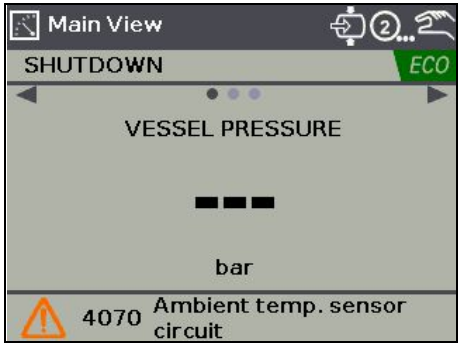
The Auto Start function is used to have the compressor automatically start, when the pressure measured by the air discharge sensor mounted between the MPV and the discharge valve pressure drops under a specified setpoint.

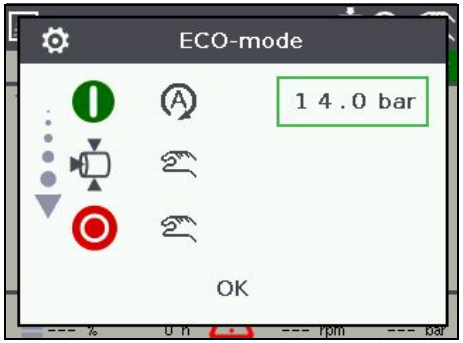
To set auto start function

Press the 'Load' button on controller and the ECO-mode pop-up menu appears on the controller display:

- Go to 'Start' icon on the ECO mode pop-up menu and set the parameter to 'Automatic'
- Set the pressure for Auto Start
  - Once the pressure is set for Auto start; that means if the pressure drops under a specified set pressure, the machine automatically starts.
- Click 'OK' to acknowledge.







Auto No-Load / Auto re-load

The Auto No-load function is used for saving fuel when there is no air demand from the application. The compressor switches to No-load operation mode when there is no demand for extended time.

With the Auto Re-load function, the compressor is loaded again, when there is an air demand.

To set auto No load & auto re-load

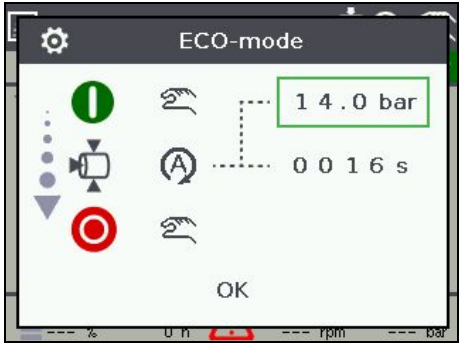
- Select the 'Load' icon on the ECO mode pop-up menu and set the parameter to 'Automatic'

- Set the timer for Auto No-load

- Set the pressure for Auto Re-load

  - Once the pressure is set for Auto Re-load; that means if the pressure drops under a specified set pressure - the machine is re-loaded automatically.

- Click 'OK' to acknowledge.



Auto stop

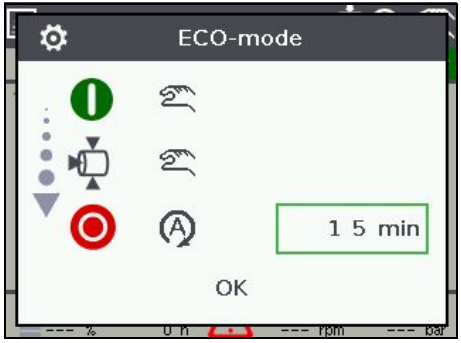
The Auto Stop function is used to stop the compressor, when there is no air demand over an extended time. This function can be combined with the Auto Start and Auto Load functions. This function can be used for fuel saving.

The Auto Stop must be combined (not only can be combined) with Auto Start, if you need the machine to start up again after the first stop (otherwise it remains stopped until a manual intervention).

To set auto stop function

- Select the 'Stop' icon on ECO mode pop-up menu and change the parameter to 'Automatic'

- Set the timer for Auto stop and then click 'OK' to acknowledge.



After setting-up the necessary parameters for each mode, click on 'OK' to acknowledge.

FAULT CODES

The list below is a general list. The messages contained herein do not necessarily apply to your machine.

There are several parameters that are continuously watched.

When one of these parameters exceeds its specified limit the compressor will react depending the present status of the control box.

Alarmcode	Alarmtext	Failclass
1550	MAJOR OVERHAUL ALARM	WARNING
2000	EMERGENCY STOP	SHUTDOWN
2010	COOLANT LEVEL	SHUTDOWN
2020	CHECK AIR FILTER	WARNING
3000	FUEL LEVEL LOW 1	WARNING
3010	FUEL LEVEL LOW 2	CONTROLLED STOP
3050	VESSEL PRESSURE HIGH WARNING	WARNING
3060	VESSEL PRESSURE HIGH SHUTDOWN	SHUTDOWN
3450	BATTERY LOW ALARM	INDICATION
3460	BATTERY HIGH ALARM	WARNING
4000	LOW PRESSURE ELEMENT TEMP ALARM	INDICATION
4050	AMBIENT TEMP ALARM 1	INDICATION
4060	AMBIENT TEMP ALARM 2	INDICATION
6190	CHARGE MONITORING	WARNING
7010	ENGINE SPEED ALARM 1	SHUTDOWN
7020	ENGINE SPEED ALARM 2	SHUTDOWN
7030	ENGINE COOLANT TEMP	WARNING
7040	ENGINE OIL PRESSURE	WARNING
7050	ENGINE AIR INLET TEMP	WARNING
7070	ENGINE LOAD ALARM	SHUTDOWN
7080	AMBIENT TEMP ALARM	INDICATION
7150	DEF LEVEL ALARM 1	WARNING
7160	DEF LEVEL ALARM 2	CONTROLLED STOP

Maintenance

Before performing any maintenance jobs always disconnect the battery.

Always observe the applicable safety precautions. See section Safety during maintenance and repair.

Unauthorised modifications can result in injuries or machine damage.

Always keep the machine tidy to prevent fire hazard.

Poor maintenance can void any warranty claims.

LIABILITY

The manufacturer does not accept any liability for any damage arising from the use of non-original parts and for modifications, additions or conversions made without the manufacturer's approval in writing.

SERVICE PAKS

A Service Pak is a collection of parts to be used for a specific maintenance task, e.g. after 500 and after 1000 running hours.

It guarantees that all necessary parts are replaced at the same time keeping down time to a minimum.

The order number of the Service Paks are listed in the Atlas Copco Parts List (ASL).

Use of service paks

Service Paks include all genuine parts needed for normal maintenance of both compressor and engine.

Service Paks minimize downtime and keep your maintenance budget low.

Order Service Paks at your local Atlas Copco dealer.

Service kits

A service kit is a collection of parts to fit a specific repair or rebuilding task.

It guarantees that all necessary parts are replaced at the same time which improves the uptime of the unit.

The order numbers of the Service Kits are listed in the Atlas Copco Parts List (ASL).

Contact Atlas Copco.

QR CODE

Scan the QR code to access into the Atlas Copco Spare Part list (ASL).

STORAGE

Run the compressor regularly, e.g. twice a week, until warm.

Load and unload the compressor a few times to operate the unloading and regulating components. Close the air outlet valves after stopping.

If the compressor is going to be stored without running from time to time, protective measures must be taken.

FLEETLINK (OPTION)

The compressor can be equipped with the FleetLink as an option, an intelligent smartbox system for fleet monitoring. Atlas Copco developed both hardware and software to provide you with insights of the compressor performance.

Do the following steps:

1. Go to the website http://fleetlink.atlascopco.com/.
2. Type the user name and password you received by email.
3. If you are a new user or forget your password, contact Customer Center FleetLink administrator or product management team to set it up.

PREVENTIVE MAINTENANCE SCHEDULE

The schedule contains a summary of the maintenance instructions. Read the respective section before taking maintenance measures.

When servicing, replace all disengaged packings, e.g. gaskets, O-rings, washers.

For engine maintenance refer to Engine Operation Manual.

The maintenance schedule has to be seen as a guideline for units operating in a dusty environment typical for compressor applications. Maintenance schedule can be adapted depending on application environment and quality of maintenance.

USE OF SERVICE PAKS

Service Paks include all genuine parts needed for normal maintenance of both compressor and engine.

Service Paks minimize downtime and keep your maintenance budget low.

Order Service Paks at your local Atlas Copco dealer.

MAINTENANCE SCHEDULE COMPRESSOR

To determine the maintenance intervals, use service hours, or calendar time, whichever occurs first.			
Maintenance schedule (running hours)	**Daily**	**Every 500 hours or every 1 year**	**Every 1000 hours or every 2 years**
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 administration costs and are offered at a reduced price, compared to individual components. Refer to the parts list for more information on the contents of the service kits.			
Empty air filter vacuator valves	x		
Drain water from fuel filter	x		
Check/Fill fuel level (3)	x		
Check/fill AdBlue level (3)	x		
Check on abnormal noise	x		

(to be continued on page 42)

Maintenance schedule (running hours) *(continuation of page 41)*	**Daily**	**Every 500 hours or every 1 year**	**Every 1000 hours or every 2 years**
Check engine oil level (if necessary top up)	x		
Check electrical system cables for wear	x		
Check coolant level	x		
Check control panel	x		
Check compressor oil level (if necessary top up)	x		
Check air filter vacuum indicator	x		
Test safety valve (9)		x	x
Replace fuel (pre) filters (6)		x	x
Replace engine oil filter (2)		x	x
Replace DD/PD/QD filter (option)		x	x
Inspection by Atlas Copco service technician		x	x
Inspect/Adjust fan belt (replace if required)		x	x
Inspect water pump		x	x
Inspect turbocharger		x	x
Inspect starter motor		x	x
Inspect alternator		x	x
Hoses and clamps - Inspect/Replace		x	x
Clean radiator (1)		x	x
Clean oil cooler(s) (1)		x	x
Clean intercooler (1)		x	x
Clean after cooler (option) (1)		x	x
Check torque on critical bolt connections		x	x
Check rubber flexibles (11)		x	x

(to be continued on page 43)

Maintenance schedule (running hours) *(continuation of page 42)*	**Daily**	**Every 500 hours or every 1 year**	**Every 1000 hours or every 2 years**
Check functioning of regulating valve		x	x
Check for leaks in engine-, compressor-, air-, oil-, or fuel system		x	x
Check engine (minimum and maximum) speed		x	x
Check emergency stop		x	x
Check electrolyte level and terminals of battery		x	x
Check Coolant pump weep hole (2)		x	x
Change engine oil (2) (12)		x	x
Analyse coolant (4) (8)		x	x
Check open crankcase vent system (2)		x	
Test glow plugs for continuity (2) (13)			x
Replace open crankcase vent system filter (2)			x
Replace oil separator element			x
Replace compressor oil filter(s) (5)			x
Replace air filter element (1)			x
Replace AdBlue filter (2)			x
Grease hinges			x
Drain/Clean fuel tank water and sediments (1)			x
Clean oil stop valve			x
Clean flow restrictor in oil scavenge line			x
Check/Replace safety cartridge			x
Change compressor oil (1) (7)			x
Adjust engine inlet and outlet valves (2) (13)			x

(to be continued on page 44)

Notes

(continuation of page 43)

1. More frequently when operating in a dusty environment.
2. Refer to engine operation manual.
3. After a days work.
4. More frequent when not using PARCOOL. Change coolant every 2 years or 2000 hrs.
5. Use Atlas Copco oil filters, with by-pass valve as specified in the parts list.
6. Gummed or clogged filters means fuel starvation and reduced engine performance.
7. See section **Oil specifications**.
8. The following part numbers can be ordered from Atlas Copco to check on inhibitors and freezing points:
   - 2913 0028 00 refractometer
   - 2913 0029 00 pH meter
9. See section **Safety valve**.
10. See section **Before starting**.
11. Replace all rubber flexibles every 6 years.

    For other specific engine and alternator requirements refer to specific manuals.
12. Every 500 hours is only valid for EU, US and Canada, when using PAROIL E or PAROIL Extra. Other regions change engine oil every 250 hrs.
13. 3000 hrs or 36 month (whatever occurs first).

Keep the bolts of the housing, the lifting beam, tow bar and axles securely tightened. For torque values see section Technical specifications.

MAINTENANCE SCHEDULE UNDERCARRIAGE

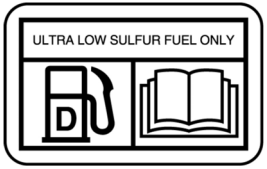
Maintenance schedule	Daily	Every year
Check tyre pressure (1)	x	x
Check tyres for uneven wear (1)	x	x
Check coupling head (1)	x	x
Check safety cable for damage (1)	x	x
Check height of adjusting facility		x
Check towbar, handbrake lever, spring actuator, reversing lever, linkage and all movable parts for ease of movement		x
Grease coupling head, towbar bearings at the housing of the overrun brake		x
Check brake system (if installed) and adjust if necessary		x
Oil or grease brake lever and moving parts such as bolts and joints		x
Grease sliding points on height adjusting parts		x
Check Bowden cable on height adjustable connection device for damage		x
Lubricate torsion bar axle trailing arm		x
Check brake lining wear		x
Check/Adjust lateral play of wheel bearing (compact bearing)		x
Check torque of wheel nuts		x

Note

(1) Daily or before a roadgoing movement.

For fuel specifications, please contact your Atlas Copco Customer Center.

DIESEL FUEL RECOMMENDATIONS



Ultra Low Sulfur Diesel (ULSD) fuel 0.0015 percent (£15 ppm (mg/kg)) sulfur is required by regulation for use in engines certified by regulation for use in engines certified to nonroad Tier 4 standards (U.S. EPA Tier 4 certified) and that are equipped with exhaust after treatment systems.

European ULSD 0.0010 percent (£10ppm (mg/kg)) sulfur fuel is required by regulation for use in engines certified to European nonroad Stage IIIB and newer standards and are equipped with exhaust aftertreatment systems.

Misfueling with fuels of higher sulfur level can have the following negative effects:

- Shorten the time interval between aftertreatment device service intervals (cause the need for more frequent service intervals).
- Adversely impact the performance and life of aftertreatment devices (cause loss of performance).
- Reduce regeneration intervals of aftertreatment devices.
- Reduce engine efficiency and durability.
- Increase the wear.
- Increase the corrosion.
- Increase the deposits.
- Lower fuel economy.
- Shorten the time period between oil drain intervals (more frequent oil drain intervals).
- Increase overall operating costs.
- Failures that result from the use of improper fuels will not be covered by warranty.

General information

For diesel engines that are equipped with SCR equipment, meeting the mandated exhaust emissions levels requires the use of diesel exhaust fluid (AdBlue).

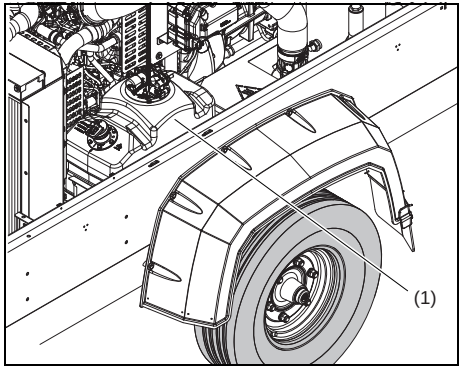
Diesel exhaust fluid (AdBlue) is available commercially, and its manufacture is regulated by the American Petroleum Institute (API).

For engines and machines with diesel exhaust fluid (AdBlue)/SCR equipment used in the U.S., the use of API certified diesel exhaust fluid is required.

Use of fluids that are not recommended by Atlas Copco can result in numerous problems including damage to the equipment.

As diesel exhaust fluid (AdBlue) is very corrosive, you need to thoroughly clean up any spilled diesel exhaust fluid (AdBlue).

FILLING UP DIESEL EXHAUST FLUID (ADBLUE)



1. Open the door on the right-hand side and fill the tank (1) with diesel exhaust fluid (AdBlue).
2. When you refill with diesel exhaust fluid (AdBlue), there is no need to wear protective clothing. However, we recommend that you wear gloves to prevent irritation to sensitive skin.

Do not use old diesel or oil containers to transfer diesel exhaust fluid (AdBlue) into the tank. Any non-dedicated equipment can lead to contamination. Even very small quantities of fuel/oil/ lubricant can damage your SCR system.

Do not replace diesel exhaust fluid (AdBlue) by a water/urea solution. Water or urea solution cause easily identifiable damage, including a build-up of calcium deposits from the minerals found in water and urea solution. Gradual degrading and clogging of the SCR system will result in costly replacement parts, reducing efficiency and lost time. These repairs will not be covered by warranty if it can be detected that the damage was caused by water, or urea solution.

If diesel exhaust fluid (AdBlue) is accidentally filled into the diesel tank or diesel into the diesel exhaust fluid (AdBlue) tank, do not start the engine! It is essential that you drain the tank with the unit still in its original position. If the engine is started, even just briefly:

- **The fluid will enter the wrong system, and this can have expensive consequences in the long and short term.**
- **Diesel exhaust fluid (AdBlue) is not compatible with some metals and materials, so it will slowly degrade the fuel system's pipework and components.**
- **Diesel will poison the catalyst which is expensive to replace (unwarrantable damage), resulting in downtime and maintenance bills.**

It is strongly recommended to use Atlas Copco branded lubrication oils for both compressor and engine.

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:

Never mix synthetic with mineral oil.

Remark:

When changing from mineral to synthetic oil (or the other way around), you will need to do an extra rinse:

After a complete change over to synthetic oil, run the unit for a few minutes to allow proper and complete circulation of the synthetic oil.

Then drain the synthetic oil again and fill again with new synthetic oil. To set correct oil levels, follow the normal instructions.

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.

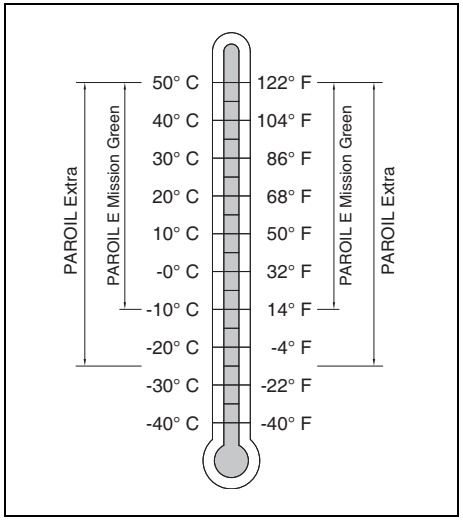
PAROIL prevents Soot build-up.

PAROIL is optimized for the latest low emission Stage IV, 3 & 2, Tier 4 Final, 3 & 2 engines running on low sulphur diesel for lower oil and fuel consumption.

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 at temperatures as low as -25°C (-13°F).

PAROIL E Mission Green is a mineral based high performance diesel engine oil with a high viscosity-index. Atlas Copco PAROIL E Mission Green is designed to provide a high level of performance and protection under 'standard' ambient conditions from -10°C (14°F) onward.

PAROIL Extra and PAROIL E Mission Green are low SAPS oil. These oils are to be used in Stage IV / Tier 4 Final engines in order to provide the full performance and life of the engine and aftertreatment systems.



Choose your engine oil based on the ambient temperatures in the actual operating area.

Synthetic engine oil PAROIL Extra

	Liter	US gal	Order number
can	5	1.3	1630 0135 01
can	20	5.3	1630 0136 01
barrel	210	55.5	1626 0102 00

Mineral engine oil PAROIL E Mission Green

	Liter	US gal	Order number
can	5	1.3	1630 0471 00
can	20	5.3	1630 0472 00
barrel	210	55.5	1630 0473 00

Engine oil level check

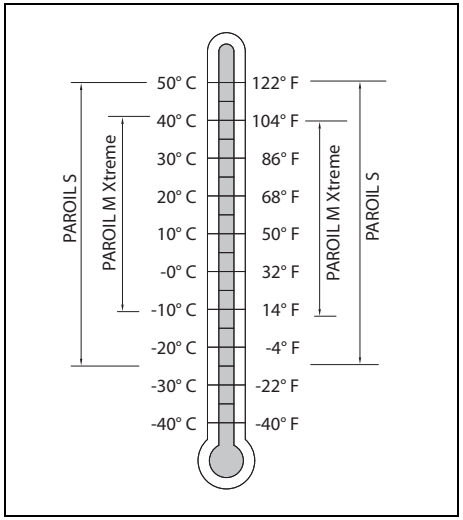
Also consult the Engine Operation Manual for the oil specifications, viscosity recommendations and oil change intervals.

For intervals, see **Preventive maintenance schedule**.

Check engine oil level in accordance with the instructions in the Engine Operation Manual and if necessary, top up with oil.

Engine oil and oil filter change

See section **Preventive maintenance schedule**.



Choose your compressor oil based on the ambient temperatures in the actual operating area.

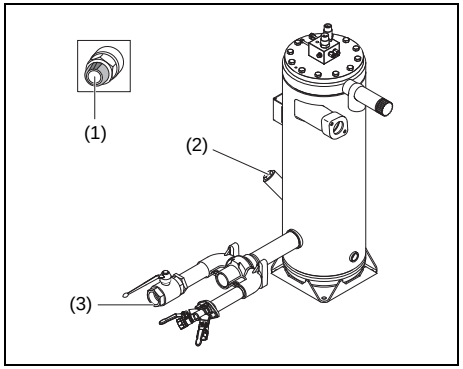
Synthetic compressor oil PAROIL S

	Liter	US gal	Order number
can	5	1.3	1630 0160 00
can	20	5.3	1630 0161 00
barrel	210	55.5	1630 0162 00
container	1000	265	1630 0163 00

Mineral compressor oil PAROIL M Xtreme

	Liter	US gal	Order number
can	5	1.3	1615 5958 00
can	20	5.3	1615 5959 00
barrel	210	55.5	1615 5960 00
container	1000	265	1615 5961 00

COMPRESSOR OIL LEVEL CHECK



DAILY CHECK

Check the compressor oil level daily, after running the compressor.

The compressor oil level needs to be checked with the compressor in an horizontal position after running the compressor to warm up so that the thermostatic valve is open.

1. Stop the compressor with closed air outlet valve (3) and let it rest for a short period, to allow the system to relief pressure inside the vessel and settle down the oil.
2. Depending on the level indicator, check the oil level via: the pointer of the oil level gauge (1). The pointer must register in the green area.
3. If the oil level is too low, add oil via the oil filler plug (2)

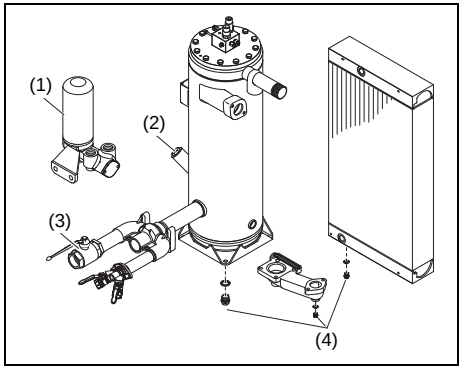
Before removing the oil filler plug, ensure that the pressure is released by opening the air outlet valve (3) and checking the vessel pressure on the controller or the pressure gauge.

4. Top up with oil until: the pointer of the oil level gauge is in the upper part of the green area
5. Reinstall and tighten the filler plug.

CHECK AFTER A LONGER PERIOD WITHOUT RUNNING THE COMPRESSOR

1. Depending on the level indicator, check the oil level via: the pointer of the oil level gauge (1). The pointer must register in the green area.
2. If the oil level is too low, remove the oil filler plug (2) and check if there is still oil in the vessel
   - No oil in the vessel: Top up the compressor with oil until the pointer of the oil level gauge is in the upper part of the green area and follow the steps as described above in **Daily check**.
   - Oil in the vessel: Start up the unit to warm up and give time for the thermostatic valve to open. Stop the compressor with closed outlet valve (3) and follow the steps described above in **Daily check**.

At temperatures below 0°C, you have to load the compressor to be sure that the compressor thermostat will be open.



The quality and the temperature of the oil determine the oil change interval.

The prescribed interval is based on normal operating conditions and an oil temperature of up to 100°C (212°F) (see section **Preventive maintenance schedule**).

When operating in high ambient temperatures, in very dusty or high humidity conditions, it is recommended to change the oil more frequently.

In this case, contact Atlas Copco.

1. Run the compressor until warm. Close the outlet valve(s) (3) and stop the compressor. Wait until the pressure is released through the automatic blow off valve. Unscrew the oil filler plug (2) by a single turn. This uncovers a vent hole, which permits any pressure in the system to escape.
2. Drain the compressor oil by removing all relevant drain plugs. Drain plugs are fitted on the air receiver (DPar), compressor element (DPcv, DPosv) and compressor oil cooler (DPoc) through the drain point in the frame. Catch the oil in a drain pan. Unscrew the filler plug (2) to speed up draining. After draining, reposition and tighten the drain plugs.
3. Remove the oil filters (1), e.g. by means of a special tool. Catch the oil in a drain pan.
4. Clean the filter seat on the manifold, taking care that no dirt drops into the system. Oil the gasket of the new filter element. Screw it into place until the gasket contacts its seat, then tighten one half turn only.
5. Fill the air receiver until the pointer of the oil level gauge is in the upper part of the green area. Be sure that no dirt gets into the system. Reinstall and tighten the filler plug (2).
6. Start the compressor and let it run unloaded for a few minutes.
7. Stop the compressor, wait a few minutes and top up with oil until the pointer of the oil level gauge is in the upper part of the green area.

Never add more oil. Overfilling results in oil consumption.

COMPRESSOR OIL FLUSHING PROCEDURE

Not respecting compressor oil changing intervals in accordance with the maintenance schedule, can lead to serious problems, including fire hazard! The manufacturer does not accept any liability for damage arising from not following the maintenance schedule or not using genuine parts.

To avoid problems when changing over to a new type of oil (see table) a special Compressor Oil Flushing Procedure has to be followed. The procedure is only valid in case the replaced oil has not exceeded its lifetime. For more information consult Atlas Copco Service dept.

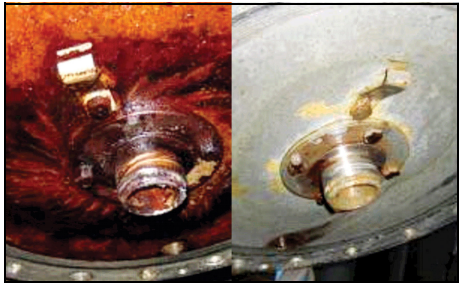
Aged oil can be recognized best by using an oil sampling analysis program. Indicators for aged oil are strong smell, or contamination such as sludge and varnish inside the oil vessel and oil stop valve or a brownish colour of the oil.

Whenever aged oil is discovered, eg. when changing the oil separator, contact Atlas Copco Service dept. to have your compressor cleaned and flushed.

1. First thoroughly drain the system when the oil is warm, leaving as little oil in the system as possible, especially in dead areas, if possible blow out remaining oil by pressurising the oil system. Check the instruction manual for detailed description.
2. Remove the compressor oil filter(s).
3. Open the oil vessel and remove the oil separator element.

Instructions on replacing the oil separator element are available from Atlas Copco Service dept.

4. Check the interior of the oil vessel (see pictures). If varnish deposits are discovered, contact Atlas Copco Service dept. and do not continue.
5. Put in a new oil separator, screw on new compressor oil filter(s) and close the oil vessel according to the instructions.
6. Fill the oil vessel with the minimum amount of replacement oil, run the compressor under light load conditions for 30 minutes.
7. Thoroughly drain the system when the oil is warm, leaving as little oil in the system as possible, especially in dead areas, if possible blow out remaining oil by pressurising the oil.
8. Fill the system with the final oil charge.
9. Run the compressor under light load conditions for 15 minutes and check for leakage.
10. Check the oil level and top up if necessary.
11. Collect all waste lubricant used during the flushing process and dispose of it in accordance with the applicable procedures for managing waste lubricant.



Vessel cover contaminated *clean*

Vessel contaminated *clean*

→	PAROIL M Xtreme	PAROIL S
PAROIL M Xtreme	draining *	flushing
PAROIL S	draining **	draining *

* When changing over to the same oil within the oil changing interval, draining is sufficient
** Change over not recommended

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 proper 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 anti-freeze, if required. 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 (9°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.

PARCOOL GREEN

PARCOOL GREEN is the only coolant that has been tested and approved by all manufacturers of engines currently used in Atlas Copco compressors and generators.

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

PARCOOL GREEN 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 GREEN inhibits corrosion, deposit formation is minimized. This effectively eliminates flow restriction problems through the engine coolant ducts and the radiator, minimizing the risk of engine overheating and possible failure.

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

PARCOOL GREEN is free of nitride and amines to protect your health and the environment. Longer service life reduces the amount of coolant produced and disposal requirements, which limits environmental impact.

To ensure protection against corrosion, cavitation and formation of deposits, the concentration of the additives in the coolant must be kept to 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.

For order numbers see spare parts list.

HANDLING PARCOOL GREEN

PARCOOL GREEN should be stored at ambient temperatures, while periods of exposure to temperatures above 35°C (95°F) should be minimized. PARCOOL GREEN can be stored for a minimum of 5 years in unopened containers without any effect on the product quality of performance.

PARCOOL GREEN is compatible with most other coolants based on ethylene glycol, but you only get the benefits of 5 years protection when its used on its own. Exclusive use of PARCOOL GREEN is recommended for optimum corrosion protection and sludge control.

For simple density-measuring of Ethylene Glycol and Propylene Glycol in general the standard available 'density' measuring devices are used to measure the concentration of EG. In case a device is used to measure EG, no PG can be measured afterwards as a result of the difference in the density. More specific measurements can be done by the use of a refractometer. This device can measure both EG and PG. A mix of both products will show unreliable results!

Mixed EG coolants with identical glycol type can be measured by use of a refractometer as well as the 'density' system. The mixed coolants will be considered as one product.

The use of distilled water is recommended. If you have exceptionally soft water it would be acceptable, as well. Basically, the engine metals are going to corrode to some extent no matter what water you use, and hard water will encourage the resulting metal salts to precipitate.

PARCOOL GREEN comes as a pre-mixed coolant to safeguard the quality of the complete product.

It is recommended that topping up of the cooling system is always done with PARCOOL GREEN.

COOLANT CHECK

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.

In order to guarantee the lifetime and quality of the product, thus optimising engine protection, regular coolant-condition-analysis is recommended.

The quality of the product can be determined by three parameters:

Visual check

- Verify the appearance of the coolant with regard to its colour and make sure that no loose particles are floating around.

pH measurement

- Check the pH value of the coolant using a pH-measuring device.
- The pH-meter can be ordered from Atlas Copco with part number 2913 0029 00.
- Typical value for PARCOOL GREEN = 8.4.
- If the pH-level is below 7 or above 9.5, the coolant should be replaced.

Glycol concentration measurement

- To optimise the unique engine protection features of the PARCOOL GREEN, the concentration of the Glycol in the water should always be above 33 vol.%.
- Mixtures exceeding a 68 vol.% mix ratio in water are not recommended, as this will lead to high engine operating temperatures.
- A refractometer can be ordered from Atlas Copco with part number 2913 0028 00.

In case of a mix of different coolant products this type of measuring might provide incorrect values.

TOPPING UP/REPLACING COOLANT

Caution: Do not top up when the engine is hot.

- Verify whether the engine cooling system is in a good condition (no leaks, clean,...).
- Check the condition of the coolant.
- If the condition of the coolant is no longer up to standard, the complete coolant should be replaced (see section **Replacing the coolant**).
- Always top-up with PARCOOL GREEN.
- Topping up the coolant with water only, changes the concentration of additives and is therefore not allowed.

REPLACING THE COOLANT

Drain

- Completely drain the entire cooling system.
- Used coolant must be disposed of or recycled in accordance with legislation and local regulations.

Flush

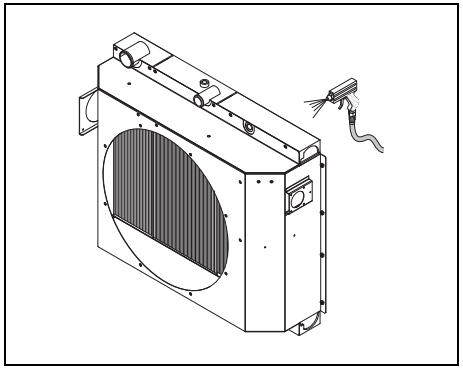
- Flush twice with clean water. Used coolant must be disposed of or recycled in accordance with legislation and local regulations.
- Using the Atlas Copco Instruction book, determine the amount of PARCOOL GREEN required and pour into the radiator top tank.
- It should be clearly understood that proper cleaning reduces contamination risks.
- In case of "other" coolant residues inside the system, the coolant with the lowest properties influences the quality of the ‘mixed’ coolant.

Filling procedure

- Fill the cooling system with PARCOOL GREEN 50/50, not faster than 19 l/min, to avoid air locks. In case a recovery tank is installed, do not fill the tank as it is intended for overflow.
- Do not install the cooling system filler cap.
- Vent air at the coolant drain tap, located at the rear of the frame.
- Start the engine and run at low idle.
- Increase the engine RPM to high idle.
- Run the engine at high idle for about 1 minute, in order to purge the air from the cavities of the engine block.
- Stop the engine.
- Check the coolant level. Maintain the coolant level flush with the bottom of the pipe for filling.
- Check the seal of the filler cap for damages and replace if needed. Fit the filler cap.
- Start the engine and inspect the cooling system for leaks and for proper operating temperatures.

Overfilling will result in less expansion volume and might result in coolant overflow. In case a recovery tank is installed, do not fill the recovery tank as it is intended for coolant overflow. A small amount of coolant in the recovery tank is allowed.

CLEANING COOLERS



Keep the coolers clean to maintain the cooling efficiency.

Remove any dirt from the coolers with a fibre brush. Never use a wire brush or metal objects.

Then clean by air jet.

Steam cleaning in combination with a cleansing agent may be applied.

To avoid damaging the coolers, angle between jet and coolers should be approx. 90° (do not use jet at max. power).

Protect the electrical and controlling equipment, air filters, etc. against penetration of moisture.

Close the service door(s).

Never leave spilled liquids such as fuel, oil, water and cleansing agents in or around the compressor.

BATTERY CARE

Before handling batteries, read the relevant safety precautions and act accordingly.

If the battery is still dry, it must be activated as described in section **Activating a dry-charged battery**.

The battery must be in operation within 2 months from being activated; if not, it needs to be recharged first.

ELECTROLYTE

Read the safety instructions carefully.

Electrolyte in batteries is a sulphuric acid solution in distilled water.

The solution must be made up before being introduced into the battery.

ACTIVATING A DRY-CHARGED BATTERY

- Take out the battery.
- Battery and electrolyte must be at an equal temperature above 10°C (50°F).
- Remove cover and/or plug from each cell.
- Fill each cell with electrolyte until the level reaches 10 mm (0.4 in) to 15 mm (0.6 in) above the plates, or to the level marked on the battery.
- Rock the battery a few times so that possible air bubbles can escape; wait 10 minutes and check the level in each cell once more; if required, add electrolyte.
- Refit plugs and/or cover.
- Place the battery in the compressor.

RECHARGING A BATTERY

Before and after charging a battery, always check the electrolyte level in each cell; if required, top up with distilled water only. When charging batteries, each cell must be open, i.e. plugs and/or cover removed.

Use a commercial automatic battery charger in accordance with the manufacturer's instructions.

Preferably use the slow charging method and adjust the charge current according to the following rule of thumb:

battery capacity in Ah divided by 20 gives safe charging current in Amp.

MAKE-UP DISTILLED WATER

The amount of water evaporating from batteries is largely dependant on the operating conditions, i.e. temperatures, number of starts, running time between start and stop, etc...

If a battery starts to need excessive make-up water, this points to overcharging. Most common causes are high temperatures or a too high voltage regulator setting.

If a battery does not need any make-up water at all over a considerable time of operation, an undercharged battery condition may be caused by poor cable connections or a too low voltage regulator setting.

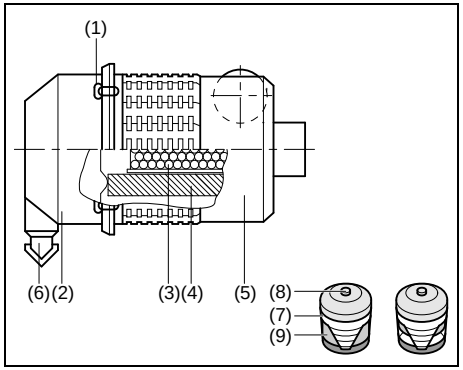
PERIODIC BATTERY SERVICE

- Keep the battery clean and dry.
- Keep the electrolyte level at 10 to 15 mm above the plates or at the indicated level; top up with distilled water only. Never overfill, as this will cause poor performance and excessive corrosion.
- Record the quantity of distilled water added.
- Keep the terminals and clamps tight, clean, and lightely covered in petroleum jelly.
- Carry out periodic condition tests. Test intervals of 1 to 3 months, depending on climate and operating conditions, are recommended.

If doubtful conditions are noticed or malfunctions arise, keep in mind that the cause may be in the electical system, e.g.loose terminals, voltage regulator maladjusted, poor performance of compressor, etc...

Adjustments and servicing procedures

AIR FILTER ENGINE/COMPRESSOR



1. Snap clips
2. Dust trap cover
3. Safety cartridge (option)
4. Filter element
5. Filter housing
6. Vacuator valve
7. Vacuum indicator
8. Reset button
9. Yellow indicator

CLEANING THE DUST TRAP

Remove dust daily.

To remove dust from the dust trap squeeze the vacuator valve (6) several times.

RECOMMENDATIONS

The Atlas Copco air filters are specially designed for the application. The use of non-original air filters may lead to severe damage of engine and/or compressor element.

Never run the compressor without air filter element.

New elements must also be inspected for tears or punctures before installation.

Discard the element (4) when damaged.

In heavy duty applications it is recommended to install a safety cartridge, which can be ordered with part no.: 2914 9311 00

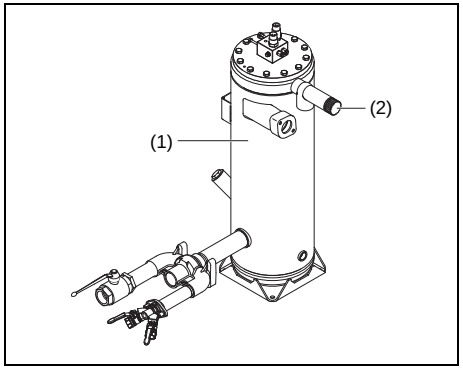
A dirty safety cartridge (3) is an indication of a malfunctioning air filter element. In that case replace the element and safety cartridge.

The safety cartridge cannot be cleaned.

REPLACING THE AIR FILTER ELEMENT

1. Release the snap clips (1) and remove the dust trap (2). Clean the trap.
2. Remove the element (4) and the safety cartridge.
3. Reassemble in reverse order of dismantling. Make sure the vacuator valve (6) points down.
4. Inspect and tighten all air intake connections.
5. Reset the vacuum indicator by pressing the reset button (5).

AIR RECEIVER



The air receiver (1) is tested according to official standards. Carry out regular inspections in conformity with local regulations.

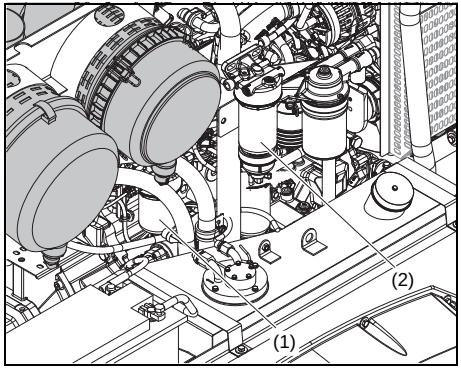
SAFETY VALVE

All adjustments or repairs are to be done by an authorized representative of the valve supplier.

Following checks must be carried out on the safety valve (2):

- A check of the opening of the lifting gear, twice a year. This can be done by screwing the cap of the valve anti-clockwise.
- An annual check of the set pressure according to local regulations. This check cannot be done on the machine and must be carried out on a proper test bench.

FUEL SYSTEM



Replacing the filter element

1. Unscrew the filter element (1) (2) from the adapter head.
2. Clean the adapter head sealing surface. Lightly oil the gasket of the new element (1) and screw the latter onto the header until the gasket is properly seated, then tighten with both hands.
3. Check for fuel leaks once the engine has been restarted.

The fuel system is self-priming and self-bleeding and does not require a bleeding procedure by the operator.

If the engine however will not start after filters are changed, use the small lever under the filter to manually fill and pressurize the system.

DRAINING INSTRUCTIONS

Fuel leaked or spilled onto hot surfaces or electrical components can cause a fire. To help prevent possible injury, turn the Power switch off when changing fuel filters or water separator elements. Clean up fuel spills immediately.

Regulary drain water from the fuel filter according to the instructions on the fuel filter (2).

Manually priming of the fuel system is not necessary. The electric fuel pump will be activated before the engine is started and will fill the fuel system.

BRAKE (= OPTION) ADJUSTMENT

Before jacking up the compressor, connect it to a towing vehicle or attach a minimum weight of 50 kg (110 lb) to the towbar.

BRAKE SHOE ADJUSTMENT

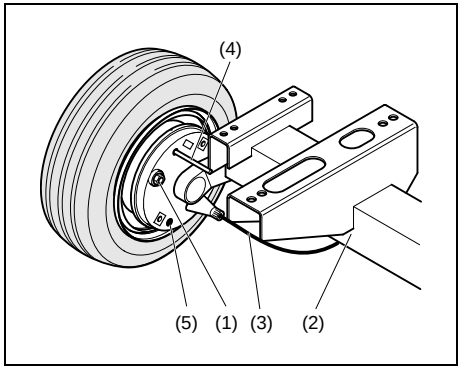
Check the thickness of the brake lining. Remove both black plastic plugs (5), one on each wheel. When the brake lining has been worn down to a thickness of 1 mm (0.039 in) or less, the brake shoes have to be replaced. After inspection and/or replacement re-insert both plugs.

Brake shoe adjustment re-establishes the brake lining-to-drum clearance and compensates for lining wear.

Lift and support the compressor. Make sure that all brakes are off (overrunbrake and hand brake lever). The brake cables must be free from tension. Lock the swivel cams of the wheel brake from the outside by means of a pin ý 4 mm (4) through the hole as shown in the Figure.

Turn the adjusting bolt (1) clockwise with a wrench till the wheel locks up. Center the brake shoes by actuating the parking brake several times.

Turn the adjusting bolt anti-clockwise until the wheel is running free in direction of travel (approx. 1 full turn of the adjusting bolt).



1. Adjusting bolt
2. Axle
3. Brake cable
4. Pin ý 4 mm
5. Plug

Check the position of the equalizer (see section **Brake cable adjustment**) with the parking brake actuated.

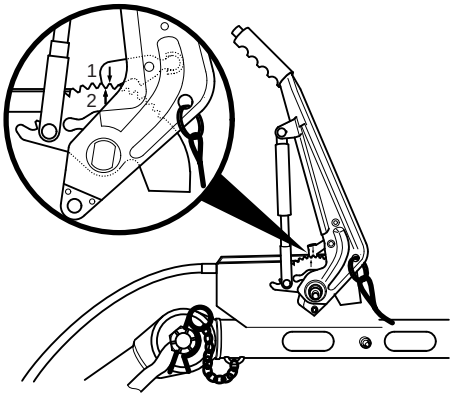
Perpendicular position of equalizer = identical clearance of wheel brakes.

Re-adjust the brake shoes, if necessary.

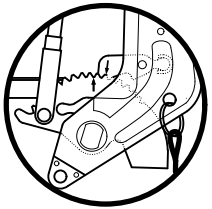
To test, slightly apply the parking brake and check identical brake torque on left and right side.

Remove locking pin (4). Remove clearance from brake cables.

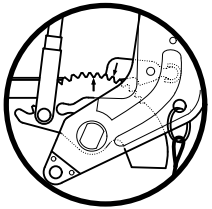
Check all lock nuts (**Brake cable adjustment**).



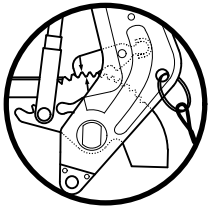
A. Adjusted correctly



B. Acceptable



C. Too loose; adjust brake cables (Section **Brake cable adjustment**)

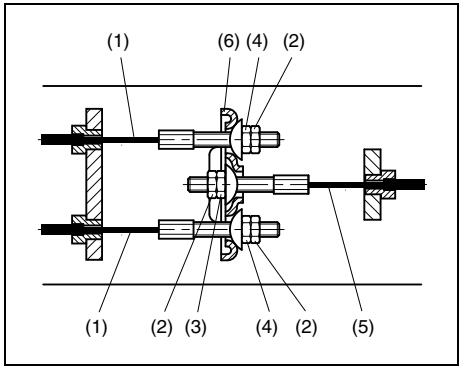


D. Too tight; adjust brake cables (Section **Brake cable adjustment**)

Correct and wrong position of markings

1. Check if the towing eye rod of the overrun brake mechanism is in the outmost position.
2. Check if the adjustable towbar (= option) is in the actual towing position.
3. Apply the hand brake lever.
4. Push the compressor a few centimeters backwards so that the brake lever is automatically pulled up further.
5. Check the position of the arrow marking ”1” at the catch lock in combination with the arrow marking ”2” at the toothed sector, according to A,B,C,D.

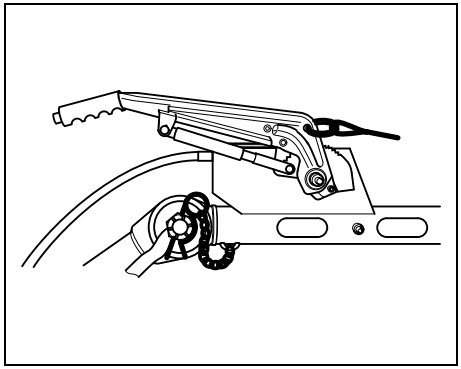
BRAKE CABLE ADJUSTMENT



1. Brake cable
2. Lock nut
3. Adjusting nut
4. Brake cable nut
5. Main brake cable
6. Equalizer

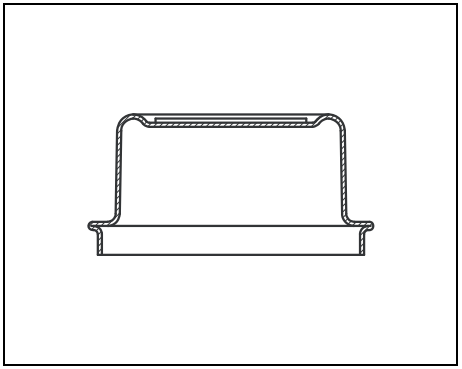
1. With the towing eye pulled out in the outmost position and the hand brake lever in the downward position (see Figure), loosen the lock nuts (2). Turn adjusting nuts and brake cable nuts (4) clockwise until there is no slack in the brake mechanism.

   The equalizer (6) must remain perpendicular to main brake cable (5).



2. Apply the hand brake lever several times and repeat the adjustment. Tighten the nuts with their lock nuts (2). Remove the jack and the blocks.
3. Road test the compressor and brake several times. Check brake shoe and brake cable adjustment and adjust if necessary.

WHEEL BEARING LUBRICATION



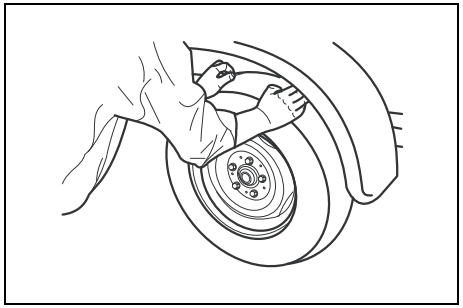
Compact bearings

Compact bearings are recognizable by cylindrical hub cap shape, see Figure.

Compact bearings are maintenance-free due to permanent lubrication and are designed for high mileages.

Therefore, there is no grease change or regreasing necessary.

WHEEL BEARING ADJUSTMENT



Jack up the compressor, release brakes.

Turn wheels manually and rock.

If any bearing play is perceivable, adjust the bearings.

Compact bearings

Compact bearings are recognizable by their cylindrical hub cap shape.

If noticeable bearing play is felt, the compact bearings should be replaced.

Conventional taper roller bearings

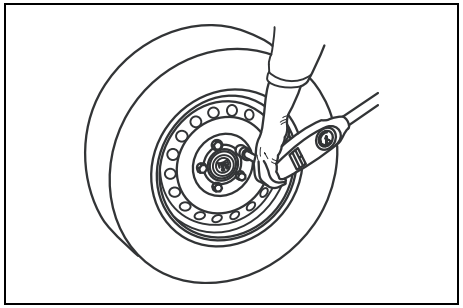
Taper roller bearings are recognisable by the conical profile of the hub cap.

- Lever off hub cap. Remove split pin from axle nut and tighten so that rotation of the wheel is slightly braked.
- Turn back the axle nut to the next possible split pin hole, by a maximum of 30 degrees.
- Insert split pin and bend ends slightly outwards.
- Check wheel rotation, fit hub cap.

Important:

The grease in the hub cap and bearing must not be contaminated with dirt during this job!

WHEEL BOLTS CHECK

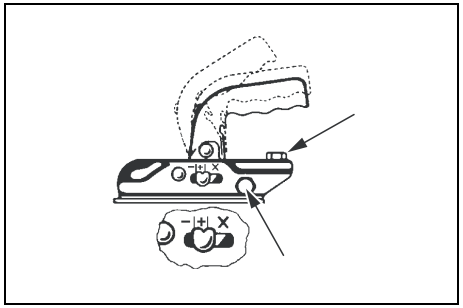


After the first run, likewise after each wheel change.

Tighten wheel bolts crosswise using a torque wrench and tightening torque in compliance with the table.

Tightening torques of wheel bolts

Spanner width (mm)	Thread	Tightening torque Nm (lbf.ft)
19	M 12x1.5	110 (81)
24	M 18x1.5	280 (207)



Check coupling head

Check coupling head for wear and correct operation.

Check the wear indicator (use within the "+" range only).

Check the coupling head fastenings (see arrows, Figure) at regular intervals for firm seating.

Check height adjustment facility

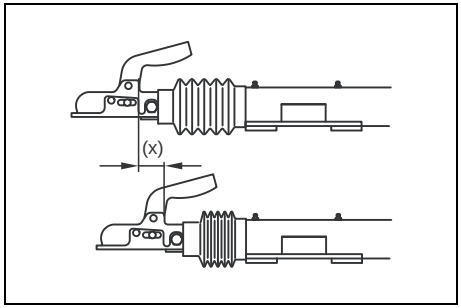
After every adjustment the clamping nuts must be tightened and secured with the spring elements.

Tightening torque:

M 24 = 250 - 350 Nm

M 32 = 350 - 400 Nm

Check tight fit of the clamping nuts and correct positioning of the adjustment facility.

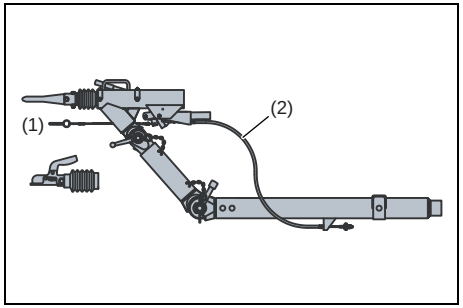


Brake play check

The check is carried out visually on the stroke (x) of the overrun coupling.

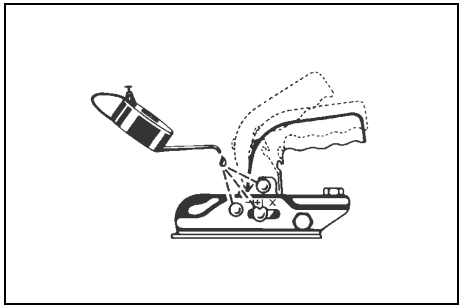
As soon as this is more than 50 mm when the brakes are applied, adjust the wheel brakes.

Check towbar, handbrake lever, spring actuator, reversing lever, linkage and all movable parts for ease of movement.



Check safety cable (1) for damage; every 5,000 kilometres or annually.

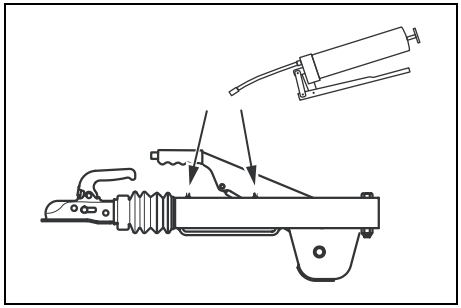
Check Bowden cable (2) on height-adjustable connection devices for damage; every 5,000 kilometres or annually.



Lubricate the coupling head

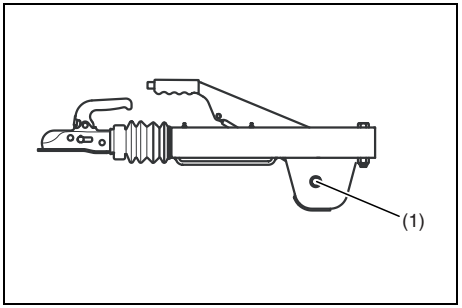
Oil ball coupling at regular intervals in the specified locations and moving parts.

Grease the contact surface of the ball of the towing vehicle.



Towbar bushes on the housing of the overrun coupling

Apply general purpose grease via the grease nipples until fresh grease can be seen emerging from the bushes.

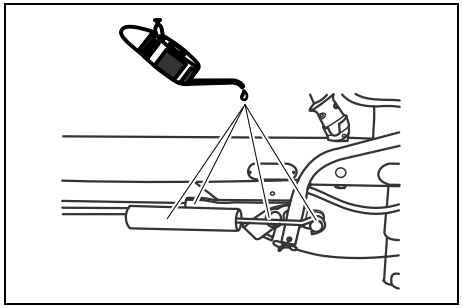


Reversing lever

Check reversing lever (1) for ease of motion.

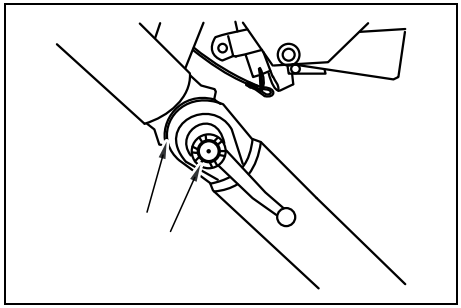
If fitted, apply general purpose grease via the grease nipple until fresh grease can be seen emerging from the bush.

If grease nipples are not fitted, then apply oil to the reversing lever bush.



Lubricate all moving parts and pivot pins at the overrun coupling

All moving parts of drawbar, handbrake lever, spring actuator, reversing lever, linkages etc. are to be oiled or greased as required.



Grease sliding locations on the height-adjusting device

Oil threaded parts and grease toothed parts.

Problem solving

It is assumed that the engine is in good condition and that there is adequate fuel flow to the filter and injection equipment.

An electrical fault must be traced by an electrician.

Make sure that the wires are not damaged and that they are clamped tight to their terminals.

For denomination of switches, relays, etc., see **Circuit diagram**.

See also section **Control panel**.

Problem: Compressor capacity or pressure below normal.

Possible faults	Corrective actions
Air consumption exceeds capacity of the compressor.	Check equipment connected.
Choked air filter elements (AF).	Remove and inspect elements. Clean or replace, if necessary.
Regulating valve defective.	Contact Atlas Copco.
Blow down valve stuck in open position.	Check and correct as necessary.
Unloading valve leaking.	With compressor running at max. load speed, disconnect hose leading to unloader. If air leaks from the hose, remove and inspect loading valve. Replace damaged or worn O-rings.
Oil separator element clogged.	Have element removed and inspected by an Atlas Copco Service representative.
Air intake throttle valve remains partially closed.	Check unloader and identify reason for open valve; if possible: solve; else: contact Atlas Copco.
Safety valve (SV) leaking.	Remove and inspect. Replace if not airtight after reinstallation.
Blow-off valve leaking.	Remove and inspect. Replace if necessary.

Problem: Engine loses power, compressor cannot be loaded.

Possible faults	Corrective actions
High soot load in DPF causes engine to run in safety mode.	Contact service partner.

Problem: Pressure in air receiver rises above maximum and causes safety valve to blow.

Possible faults	Corrective actions
Regulating valve defective.	Contact Atlas Copco Service.
Air leaks in regulating system.	Check hoses and their fittings. Stop leaks; replace leaking hoses.
Air intake throttle valve does not close for some reason.	Check unloader and identify reason for open valve; if possible: solve; else: contact Atlas Copco.
Minimum pressure valve malfunctioning.	Remove and inspect valve.
Blow-off valve malfunctioning.	Remove and inspect valve.

Problem: After working some time, the unit stops through a shutdown switch.

Possible faults	Corrective actions
Engine oil pressure too low.	Refer to the engine instruction manual.
Compressor or engine overheating.	See corrective actions “Compressor overheating”.
Fuel tank contains insufficient fuel.	Fill fuel tank.
Low coolant level.	Top up cooling system.

Problem: Air and oil mist expelles from air filters immediately after stopping.

Possible faults	Corrective actions
Plunger of oil stop valve jammed.	Remove and inspect. Replace if necessary. Replace air filter elements and safety cartridges. Check the oil level and add oil if necessary. Run the compressor for a few minutes, stop and recheck oil level.

Problem: Compressor overheating.

Possible faults	Corrective actions
Insufficient compressor cooling.	Locate compressor away from walls; when banked with other compressors, leave space between them.
Oil cooler clogged externally.	Clean oil cooler. Refer to section **Cleaning coolers**.
Oil cooler clogged internally.	Consult Atlas Copco.
Oil filters clogged.	Replace oil filters.
Oil level too low.	Check oil level. Top up with recommended oil if necessary.
Thermostatic by-pass valve remains stuck in opened position.	Remove valve and check for proper opening and closing. Replace if out of order.
Fan blade(s) broken.	Check and correct if necessary.
Oil stop valve malfunctioning.	Remove and inspect valve.
Oil separator element (OS) clogged.	Have element removed and inspected by an Atlas Copco Service representative.

Alternator precautions

1. Never reverse the polarity of the battery or the alternator.
2. Never break any alternator or battery connections while the engine is running.
3. When recharging the battery, disconnect it from the alternator. Before using booster cables to start the engine, be sure of the polarity and connect the batteries correctly.
4. Never operate the engine without the main or voltage sensing cables connected in the circuit.

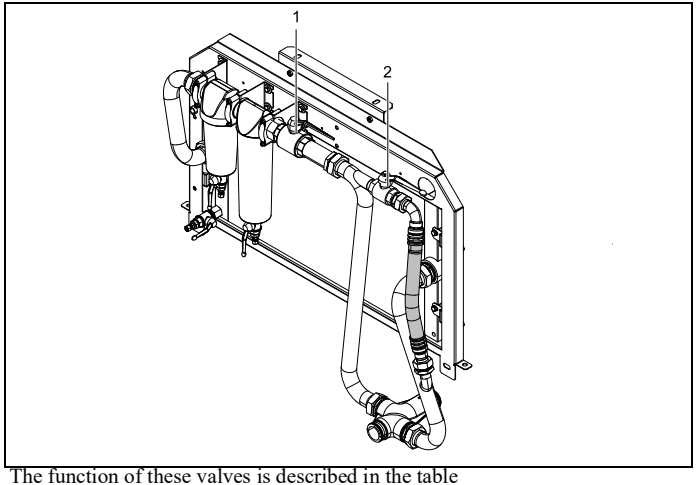
Available options

Vessel type:	EURO
	ASME
Towbar:	Adjustable with brakes (A)
Without towbar:	Support (without undercarriage)
	Skid (without undercarriage)
Towing eyes:	Atlas Copco
	DIN
	Ball
	Italian
	NATO
Towbar support:	Jockey wheel
Road signalisation:	Full (B)
Safety:	Wheel chocks
	Safety cartridge
Refinery equipment:	Spark arrestor
	Inlet shut down valve
Air quality equipment:	Aftercooler + water separator
	Aftercooler + water separator + fine filter PD
	Aftercooler + bypass valve (C)
Cold start:	-20°C (-4°F)
Customer colour:	Single
	Double
	Triple

A. These units meet your local safety regulations and are available with overrun and parking brakes.

B. Reflectors and lights for safety on the road.

C. The aftercooler option includes 2 bypass valve (1 and 2) when operating at ambient temperature below 10°C (50°F). The bypass valve has to be open in order to prevent the system from freezing. Frost can damage the aftercooler.
The bypass valves are placed in the indicated locations.



The function of these valves is described in the table below.

Valve 1	**Valve 2**	**Action**
Open	Open	Partial bypass of aftercooler
Open	Closed	No bypass of aftercooler
Closed	Open	Full bypass
Closed	Closed	No air at outlet

Technical specifications

TORQUE VALUES

FOR GENERAL APPLICATIONS

The following tables list the recommended torques applied for general applications during assembly of the compressor.

For hexagon screws and nuts with strength grade 8.8

Thread size	Torque value (Nm / lbf.ft)
M6	8 (6) +/-25 %
M8	20 (15) +/-25 %
M10	41 (30) +/-25 %
M12	73 (54) +/-25 %
M14	115 (85) +/-25 %
M16	185 (137) +/-25 %

For hexagon screws and nuts with strength grade 12.9

Thread size	Torque value (Nm / lbf.ft)
M6	14 (10) +/-21 %
M8	34 (25) +/-23 %
M10	70 (52) +/-24 %
M12	120 (89) +/-25 %
M14	195 (144) +/-23 %
M16	315 (233) +/-23 %

FOR IMPORTANT ASSEMBLIES

Assemblies	Torque value (Nm / lbf.ft)
Wheel bolts	see section **Wheel bolts check**
Bolts, axle/beams	205 (151.29) +/- 20
Bolts, towbar/axle	80 (59.04) +/- 10
Bolts, towbar/bottom	205 (151.29) +/- 20
Bolts, towing eye/towbar	80 (59.04) +/- 10
Bolts, lifting eye/flywheel housing	80 (59.04) +/- 10
Bolts, engine/drive housing (M12)	80 (59.04) +/- 10
Bolts, engine/drive housing (M14)	125 (92.25) +/- 10
Bolts, compressor element/drive housing	80 (59.04) +/- 5
Safety switches	35 (25.83) +/- 5
Joints adjustable towbar (M24)	275 (202.95) +/- 25
Joints adjustable towbar (M32)	375 (276.75) +/- 25

Secure the drain cock and tank cap of the fuel tank handtight.

REFERENCE CONDITIONS

Designation	Unit	XATS 186 JD ST4	XATS 186 JD ST4 AC	XATS 186 JD ST4 DPF	XATS 186 JD ST4 DPF AC	XAVS 186 JD ST4	XAVS 186 JD ST4 AC	XAVS 186 JD ST4 DPF	XAVS 186 JD ST4 DPF AC
Absolute inlet pressure	(bar(a))	1	1	1	1	1	1	1	1
	psi	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
Relative air humidity	%	0	0	0	0	0	0	0	0
Air inlet temperature	°C	20	20	20	20	20	20	20	20
	°F	68	68	68	68	68	68	68	68
Nominal effective working pressure	(bar(g))	10.3	10.3	10.3	10.3	14	14	14	14
	psi	149	149	149	149	203	203	203	203

The inlet conditions are specified at the air inlet grating outside the canopy.

LIMITATIONS

Designation		Unit	XATS 186 JD ST4	XATS 186 JD ST4 AC	XATS 186 JD ST4 DPF	XATS 186 JD ST4 DPF AC	XAVS 186 JD ST4	XAVS 186 JD ST4 AC	XAVS 186 JD ST4 DPF	XAVS 186 JD ST4 DPF AC
Minimum effective receiver pressure		(bar(g))	5	5	5	5	5	5	5	5
		psi	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5
Maximum effective receiver pressure, compressor unloaded		(bar(g))	10.5	10.5	10.5	10.5	14.2	14.2	14.2	14.2
		psi	152	152	152	152	206	206	206	206
Maximum ambient temperature at sea level with aftercooler		°C	50	45	50	45	45	40	45	40
		°F	122	113	122	113	113	104	113	104
Minimum starting temperature	cold weather eq	°C	-10	-10	-10	-10	-10	-10	-10	-10
		°F	14	14	14	14	14	14	14	14
	cold weather eq	°C	-25	-25	-25	-25	-25	-25	-25	-25
		°F	-13	-13	-13	-13	-13	-13	-13	-13
Altitude capability (m)			See altitude performance curves				See altitude performance curves			

PERFORMANCE DATA (4)(5)

At reference conditions, if applicable, and at normal shaft speed, unless otherwise stated.

Designation	Unit	XATS 186 JD ST4	XATS 186 JD ST4 AC	XATS 186 JD ST4 DPF	XATS 186 JD ST4 DPF AC	XAVS 186 JD ST4	XAVS 186 JD ST4 AC	XAVS 186 JD ST4 DPF	XAVS 1 86 JD ST4 DPF AC
Engine shaft speed, normal and maximum (rpm)									
at 7 (bar(g)) (102 psi) pressure setting	r/min	2200	2200	2200	2200	2200	2200	2200	2200
at 8.6 (bar(g)) (125 psi) pressure setting	r/min	2075	2075	2075	2075	2200	2200	2200	2200
at 10.3 (bar(g)) (150 psi) pressure setting	r/min	1925	1925	1925	1925	2200	2200	2200	2200
at 12 (bar(g)) (174 psi) pressure setting	r/min	-	-	-	-	2100	2100	2100	2100
at 14 (bar(g)) (203 psi) pressure setting	r/min	-	-	-	-	1950	1950	1950	1950
Engine shaft speed, compressor unloaded	r/min	1500	1500	1500	1500	1500	1500	1500	1500
Free air delivery (l/s) according to ISO 1217 ed.4									
at 7 (bar(g)) (102 psi) pressure setting	r/min	184	177	184	177	184	177	184	177
at 8.6 (bar(g)) (125 psi) pressure setting	r/min	173	166	173	166	184	177	184	177
at 10.3 (bar(g)) (150 psi) pressure setting	r/min	160	154	160	154	184	177	184	177
at 12 (bar(g)) (174 psi) pressure setting	r/min	-	-	-	-	174	167	174	167
at 14 (bar(g)) (203 psi) pressure setting	r/min	-	-	-	-	160	154	160	154
Fuel consumption according to ISO 1217 ed.4									
- at 100% FAD (full load) (5)	kg/h	17.46	17.46	17.46	17.46	20.81	20.81	20.81	20.81
	lb/h	38.5	38.5	38.5	38.5	45.9	45.9	45.9	45.9
- at 75% FAD (5)	kg/h	12.64	12.64	12.64	12.64	15.14	15.14	15.14	15.14
	lb/h	27.9	27.9	27.9	27.9	33.4	33.4	33.4	33.4
- at 50% FAD (5)	kg/h	11.01	11.01	11.01	11.01	13.67	13.67	13.67	13.67
	lb/h	24.3	24.3	24.3	24.3	30.1	30.1	30.1	30.1

Designation	Unit	XATS 186 JD ST4	XATS 186 JD ST4 AC	XATS 186 JD ST4 DPF	XATS 186 JD ST4 DPF AC	XAVS 186 JD ST4	XAVS 186 JD ST4 AC	XAVS 186 JD ST4 DPF	XAVS 1 86 JD ST4 DPF AC
- at 25% FAD (5)	kg/h	10.32	10.32	10.32	10.32	12.90	12.90	12.90	12.90
	lb/h	22.8	22.8	22.8	22.8	28.5	28.5	28.5	28.5
Fuel Consumption at 0% FAD (unload) (5)	kg/h	9.03	9.03	9.03	9.03	11.61	11.61	11.61	11.61
	lb/h	19.9	19.9	19.9	19.9	25.6	25.6	25.6	25.6
Specific fuel consumption at 100% FAD (5)	g/m^3	30.31	30.31	30.31	30.31	36.13	37.7	36.13	37.7
	lb/1000 cu.ft	1.89	1.89	1.89	1.89	2.25	2.35	2.25	2.35
Maximum typical oil content of compressed air	mg/m^3	5	5	5	5	5	5	5	5
	oz/1000 cu.ft	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Engine oil consumption (maximum)	g/h	13.8	13.8	13.8	13.8	16.6	16.6	16.6	16.6
	lb/h	0.031	0.031	0.031	0.031	0.036	0.036	0.036	0.036
Compressed air temperature at outlet valve without aftercooler or aftercooler bypassed	°C	100	39	100	39	105	39	105	39
	°F	212	102.2	212	102.2	221	102.2	221	102.2
Noise Sound Pressure Level (dB(A))									
- Sound pressure level (Lp) measured according to ISO 2151	dB(A)	71	71	71	71	71	71	71	71
- Sound power level (Lw) measured according to 2000/14/EC	dB(A)	99	99	99	99	99	99	99	99
DEF consumption in relation to fuel consumption	(%)	1 to 4	1 to 4	1 to 4	1 to 4	1 to 4	1 to 4	1 to 4	1 to 4

DESIGN DATA

Compressor

Designation	
Number of compression stages	1

Engine

Designation	Unit	XATS 186 JD ST4	XATS 186 JD ST4 AC	XATS 186 JD ST4 DPF	XATS 186 JD ST4 DPF AC	XAVS 186 JD ST4	XAVS 186 JD ST4 AC	XAVS 186 JD ST4 DPF	XAVS 1 86 JD ST4 DPF AC
Make		John Deere	John Deere	John Deere	John Deere	John Deere	John Deere	John Deere	John Deere
Type		4045HFC04	4045HFC04	4045HFC07	4045HFC07	4045HFC04	4045HFC04	4045HFC07	4045HFC07
Coolant		PARCOOL GREEN	PARCOOL GREEN	PARCOOL GREEN	PARCOOL GREEN	PARCOOL GREEN	PARCOOL GREEN	PARCOOL GREEN	PARCOOL GREEN
Number of cylinders		4	4	4	4	4	4	4	4
Bore	mm	106	106	106	106	106	106	106	106
	in	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
Stroke	mm	127	127	127	127	127	127	127	127
	in	5	5	5	5	5	5	5	5
Swept volume	l	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
	cu.in	274.6	274.6	274.6	274.6	274.6	274.6	274.6	274.6
Power output at normal shaft speed	kW	86	86	86	86	104	104	104	104
	BHP	115	115	115	115	139.5	139.5	139.5	139.5
Output according to		J1995 and ISO 3046							
Capacity of oil sump:									
- Initial fill	l	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
	US gal	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
- Refill (max.) (with filter change) (2)	l	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
	US gal	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Capacity of cooling system	l	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7
	US gal	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3

Designation	Unit	XATS 186 JD ST4	XATS 186 JD ST4 AC	XATS 186 JD ST4 DPF	XATS 186 JD ST4 DPF AC	XAVS 186 JD ST4	XAVS 186 JD ST4 AC	XAVS 186 JD ST4 DPF	XAVS 1 86 JD ST4 DPF AC
Rating type (acc. ISO3046-7)		intermittend				intermittend			
Emission compliance		Stage IV / Tier 4				Stage IV / Tier 4			

Unit

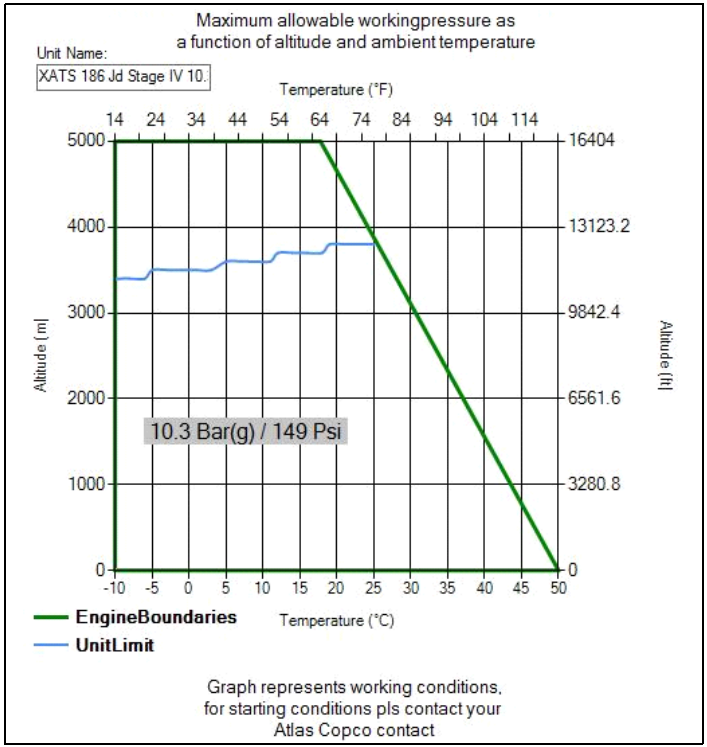
Designation	Unit	XATS 186 JD ST4	XAVS 186 JD ST4
Capacity of compressor oil system	l	26.5	26.5
	US gal	7	7
Net capacity of air receiver	l	42	42
	US gal	11	11
Capacity of standard fuel tanks	l	168	168
	US gal	44.4	44.4
Air volume at inlet grating (approx.) (1)	m^3/s	5.3	5.3
Capacity of DEF tank	l	17.6	17.6
	US gal	4.64	4.64

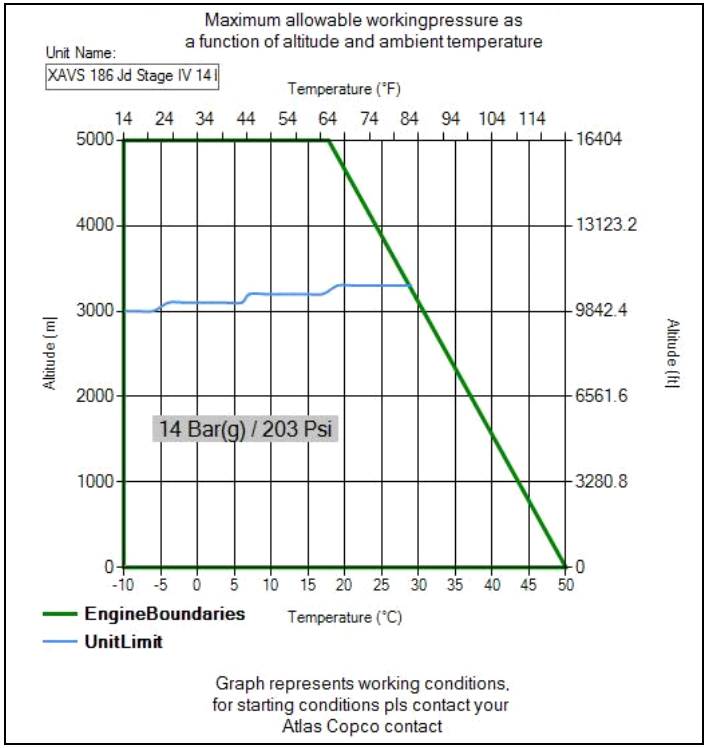
REMARKS

REMARKS	XATS 186 JD ST4	XAVS 186 JD ST4
	(1)(2)(3)(4)(5)	(1)(2)(3)(4)(5)
1	Air required for engine and compressor cooling, combustion and for compression.	
2	With filter change.	
3	Free Air Delivery guaranteed according ISO 1217 ed. 4 2009 annex D with tolerance of +/-5% for (25l/s)(53cfm) < FAD < (250l/s)(530cfm) and +/-4% for (250l/s)(530cfm) < FAD	
4	At reference conditions unless otherwise stated.	
5	To account for fuel used during regeneration the fuel consumption values have to be increased with 1.5%. This is an average percentage and is dependent on the working conditions of the compressor.	

ALTITUDE UNIT PERFORMANCE CURVES

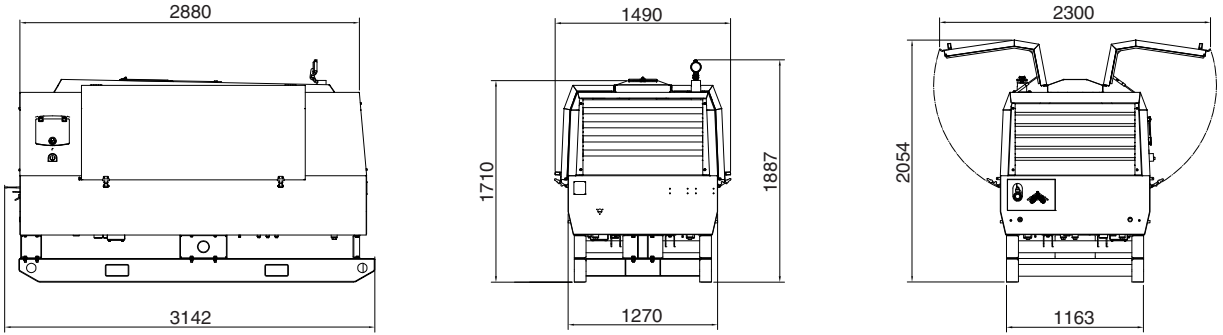
Max. allowable working pressure as a function altitude and ambient temperature.



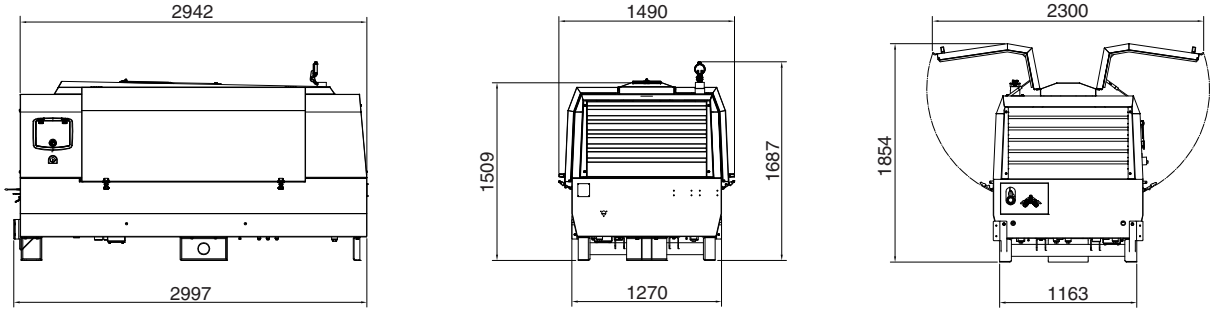

Maximum allowable workingpressure as
a function of altitude and ambient temperature
Unit Name:
XAVS 186 Jd Stage IV 14 l
Temperature (°F)
14 24 34 44 54 64 74 84 94 104 114
5000 4000 3000 2000 1000 0
16404 13123.2 9842.4 6561.6 3280.8 0
Altitude [m]
Altitude [ft]
14 Bar(g) / 203 Psi
-10 -5 0 5 10 15 20 25 30 35 40 45 50
Temperature (°C)
EngineBoundaries
UnitLimit
Graph represents working conditions,
for starting conditions pls contact your
Atlas Copco contact

Dimension drawings

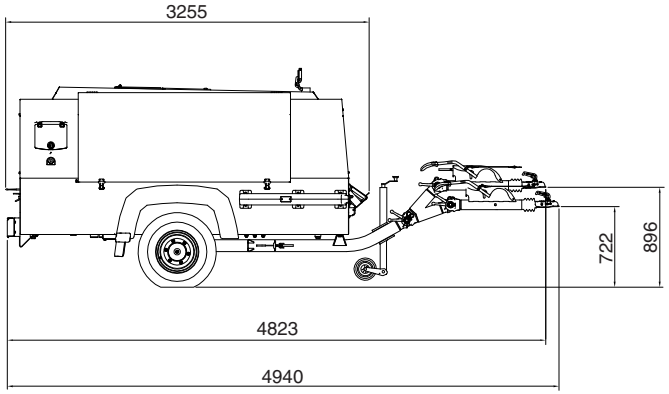
Skid version

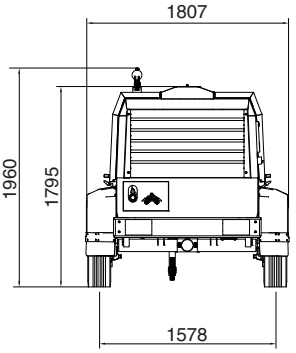


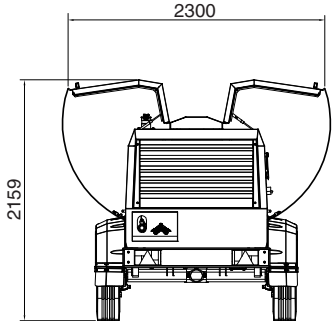
Support version



Unit dimensions in mm







Unit dimensions in mm

Circuit diagram

9822111145-02-1

INDEX	
SHEET	DESCRIPTION
1	INDEX & LEGEND
2	LEGEND
3	MAIN CIRCUIT
4	CONTROLLER
5	ECU ENGINE / ROAD SIGNALISATION
6	DOC / SCR WIRING
7	DOC / SCR WIRING
8	COMPRESSOR CONTROLLER
9	OPTIONAL

Color codes

0 = black	5 = green
1 = brown	6 = blue
2 = red	7 = purple
3 = orange	8 = grey
4 = yellow	9 = white

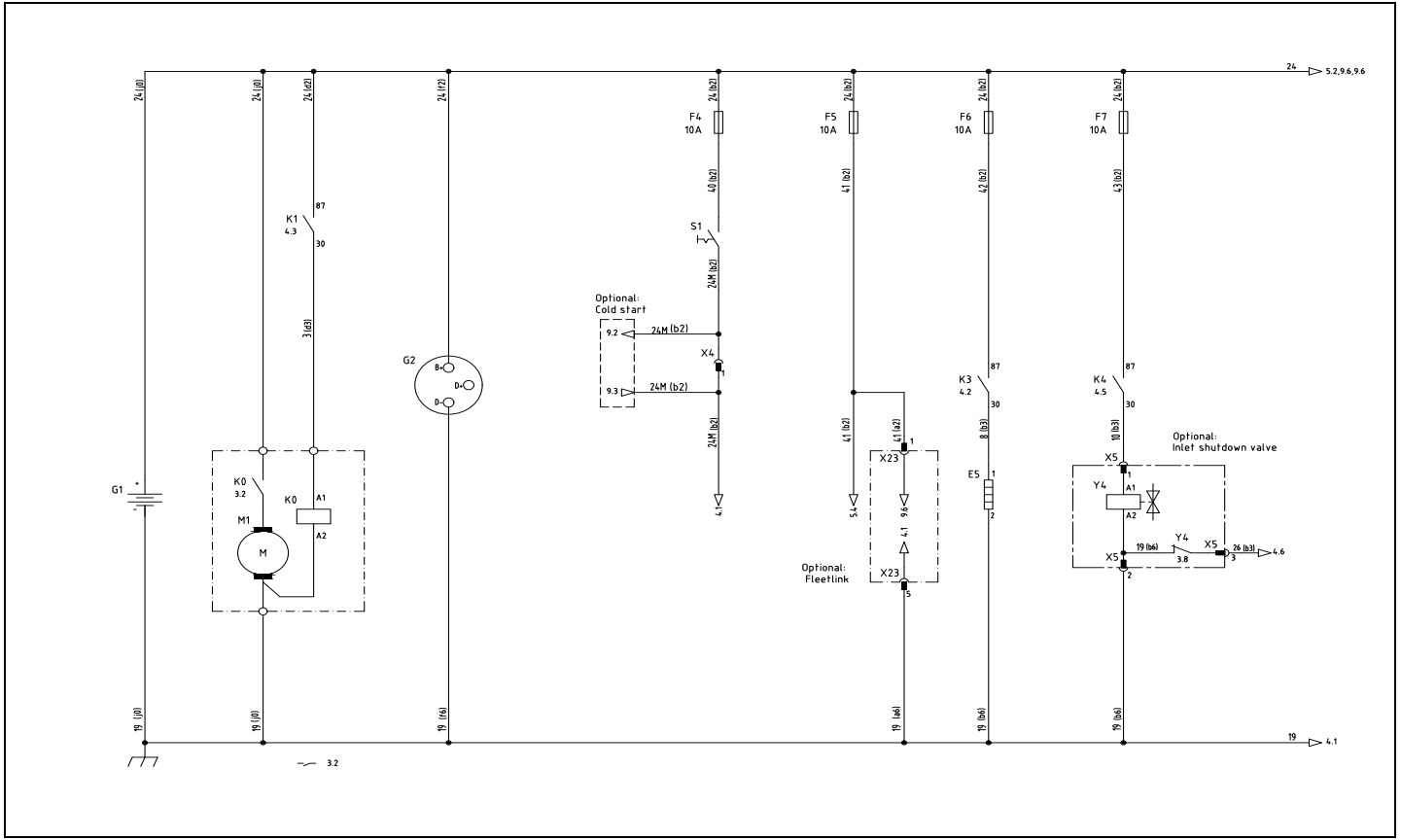
Wire sections

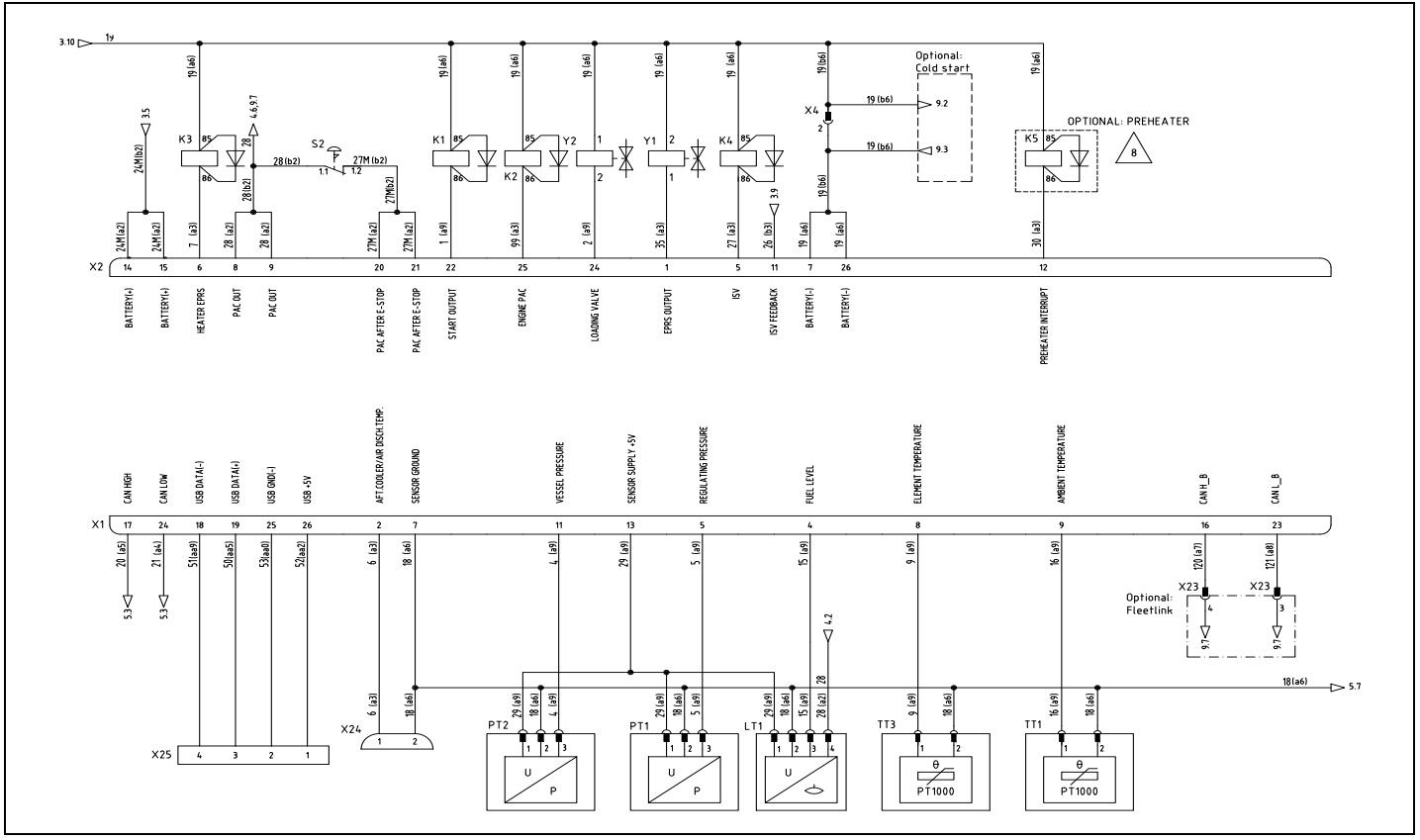
aa = 0,5 mm^2
ab = 0,75 mm^2
a = 1 mm^2
b = 1,5 mm^2
c = 2,5 mm^2
d = 4 mm^2
e = 6 mm^2
f = 10 mm^2
g = 16 mm^2
h = 25mm^2
i = 35 mm^2
j = 50 mm^2
k = 70mm^2
l = 95 mm^2

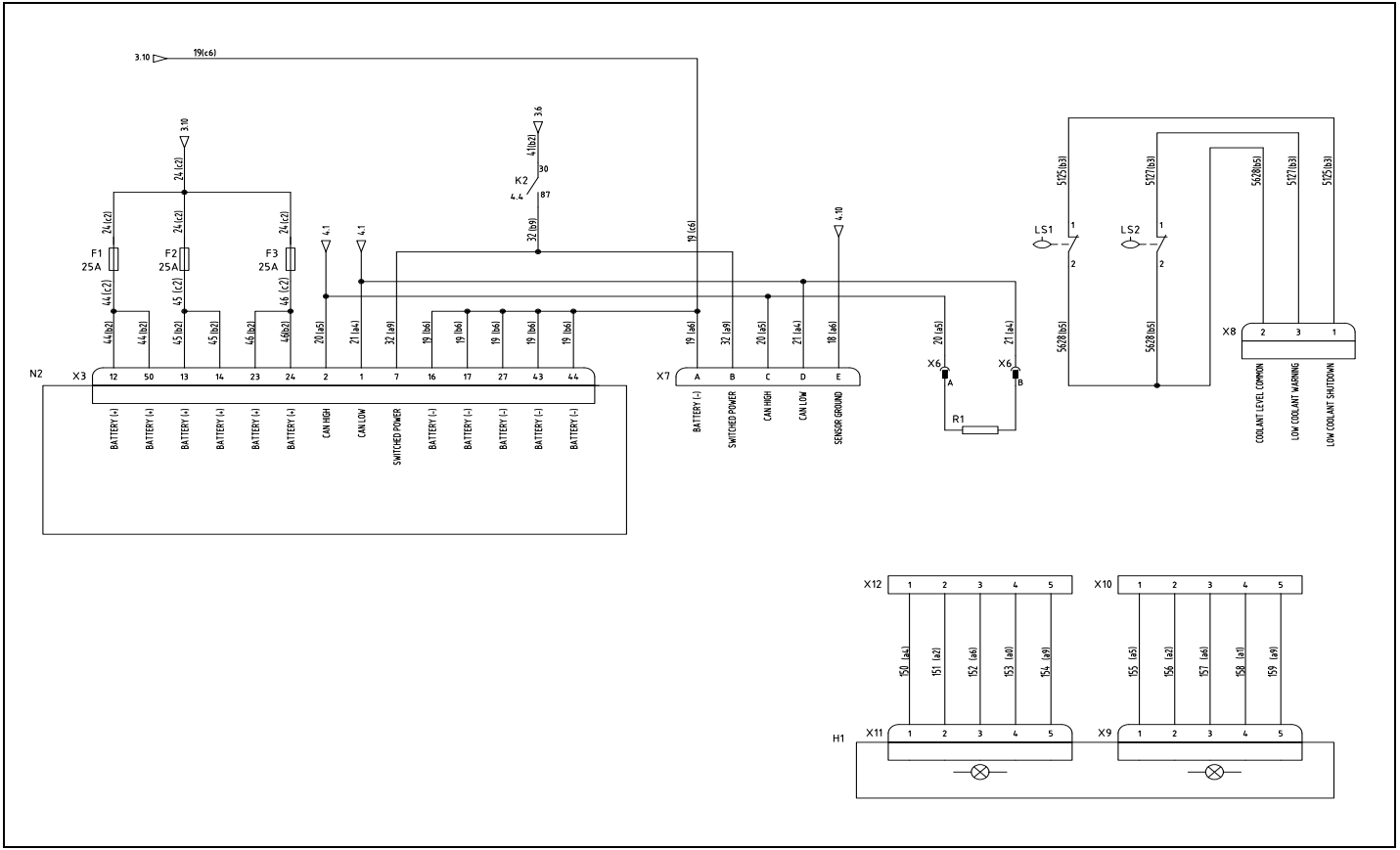
LEGEND					
TAG	Desc. 1	FUNCTION	Location	Pg	Col.
C1	CAPACITOR	POWER MODULE	MACHINE	9	2
D1	DIODE	MODULE CAPACITOR	WIRING	9	2
E1	HEATER	PREHEATER	OPTIONAL	9	9
E2	HEATER	PRESSURE LINE SCR DOSER	MACHINE	7	4
E3	HEATER	LINE SUPPLY MODULE	MACHINE	7	5
E4	HEATER	RETURN LINE DEF TANK	MACHINE	7	6
E5	HEATER	EPRS	MACHINE	3	7
F1	FUSE	ECU 25A	FUSE BOX	5	1
F2	FUSE	ECU 25A	FUSE BOX	5	2
F3	FUSE	ECU 25A	FUSE BOX	5	3
F4	FUSE	CONTROLLER 10A	FUSE BOX	3	5
F5	FUSE	EPAC 10 A	FUSE BOX	3	6
F6	FUSE	HEATER EPRS 10 A	FUSE BOX	3	7
F7	FUSE	INLET SHUTDOWN VALVE 10 A	FUSE BOX	3	8
F8	FUSE	PREHEATER 10A	OPTIONAL	9	6
F9	FUSE	PREHEATER TIMER 5A	OPTIONAL	9	6
G1	BATTERY		MACHINE	3	1
G2	ALTERNATOR	CHARGING	ENGINE	3	3
GT1	NOX TRANSDUCER	DPF/DOC INLET	MACHINE	6	1
GT2	NOX TRANSDUCER	SCR OUTLET	MACHINE	6	2
H1	LAMP	ROADSIGNALISATION	BUMPER	5	7
K0	RELAY	STARTER MOTOR	ENGINE	3	2
K1	RELAY	STARTER	FUSE BOX	4	3
K2	RELAY	EPAC	FUSE BOX	4	4
K3	RELAY	HEATER EPRS	FUSE BOX	4	2
K4	RELAY	INLET SHUTDOWN VALVE	FUSE BOX	4	5
K5	RELAY	PREHEATER INTERRUPT	FUSE BOX	4	8
LS1	LEVEL SWITCH	COOLANT LEVEL SHUTDOWN	MACHINE	5	8
LS2	LEVEL SWITCH	COOLANT LEVEL WARNING	MACHINE	5	9
LT1	LEVEL TRANSDUCER	FUEL	MACHINE	4	6
M1	MOTOR	STARTER	ENGINE	3	2
M2	PUMP	FUEL	OPTIONAL	9	8
N1	CONTROLLER	XC2003	MACHINE	8	1

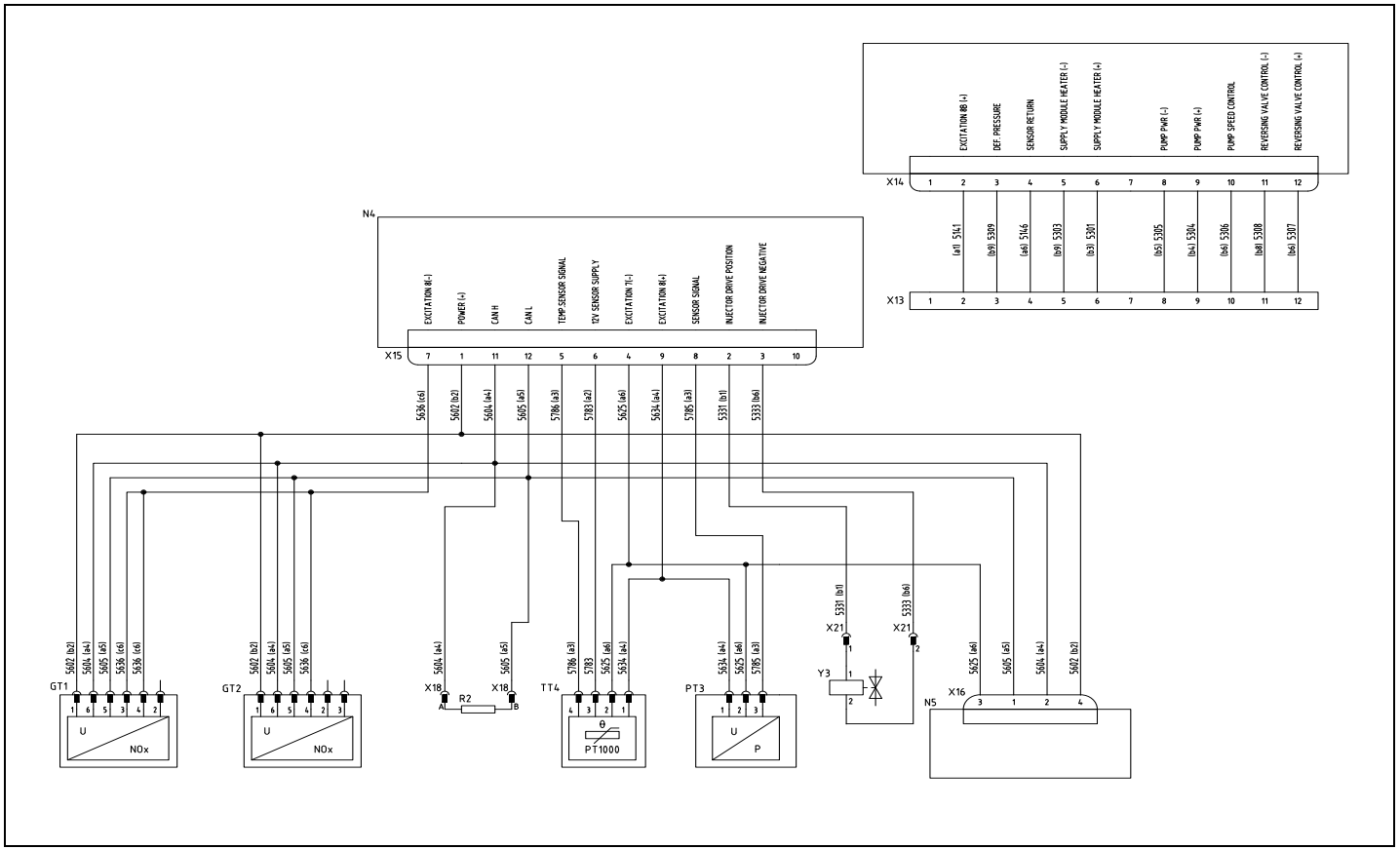
TAG	Desc. 1	FUNCTION	Location	Pg	Col.
N2	ECU	ENGINE	ENGINE	5	1
N3	UNIT	DEF DOSING	MACHINE	6	7
N4	MODULE	ENGINE AFTER TREATMENT	ENGINE	6	3
N5	CONNECTOR	DEF TANK	MACHINE	6	7
N6	MODULE	FLEETLINK	MACHINE	9	6
PT1	PRESSURE TRANSDUCER	REGULATING	MACHINE	4	5
PT2	PRESSURE TRANSDUCER	VESSEL	MACHINE	4	4
PT3	PRESSURE TRANSDUCER	DPF DELTA	MACHINE	6	5
Q1	TIMER	PREHEATER	OPTIONAL	9	6
R1	RESISTOR	J1939 CANBUS END 120 OHM	MACHINE	5	8
R2	RESISTOR	J1939 CANBUS END 120 OHM	MACHINE	6	4
R5	RESISTOR	J1939 CANBUS END 120 OHM	OPTIONAL	9	7
R6	RESISTOR	J1939 CANBUS END 120 OHM	OPTIONAL	9	9
S1	SWITCH	ON/OFF	MACHINE	3	5
S2	SWITCH	EMERGENCY STOP	MACHINE	4	3
TT1	TEMPERATURE TRANSDUCER	AMBIENT	MACHINE	4	8
TT3	TEMPERATURE TRANSDUCER	ELEMENT	MACHINE	4	7
TT4	TEMPERATURE TRANSDUCER	MODULE	MACHINE	6	4
X1	CONNECTOR	XC2003	MACHINE	4	1
X2	CONNECTOR	XC2003	MACHINE	4	1
X3	CONNECTOR	ECU 54PINS	MACHINE	5	1
X4	CONNECTOR	COLD START	MACHINE	3	5
X4.1	CONNECTOR	COLD START	MACHINE	9	2
X4.2	CONNECTOR	COLD START	MACHINE	9	3
X5	CONNECTOR	INLET SHUTDOWN VALVE	MACHINE	3	8
X6	CONNECTOR	END RESISTOR J1939 CANBUS	MACHINE	5	7
X7	CONNECTOR	DIAGNOSTIC	MACHINE	5	6
X8	CONNECTOR	COOLANT LEVEL INTERCONNECT	MACHINE	5	10
X9	CONNECTOR	ROADSIGNALISATION	MACHINE	5	9
X10	CONNECTOR	ROADSIGNALISATION	MACHINE	5	9
X11	CONNECTOR	ROADSIGNALISATION	MACHINE	5	7
X12	CONNECTOR	ROADSIGNALISATION	MACHINE	5	7
X13	CONNECTOR	DEF DOSING UNIT INTERCONNECT	MACHINE	6	7

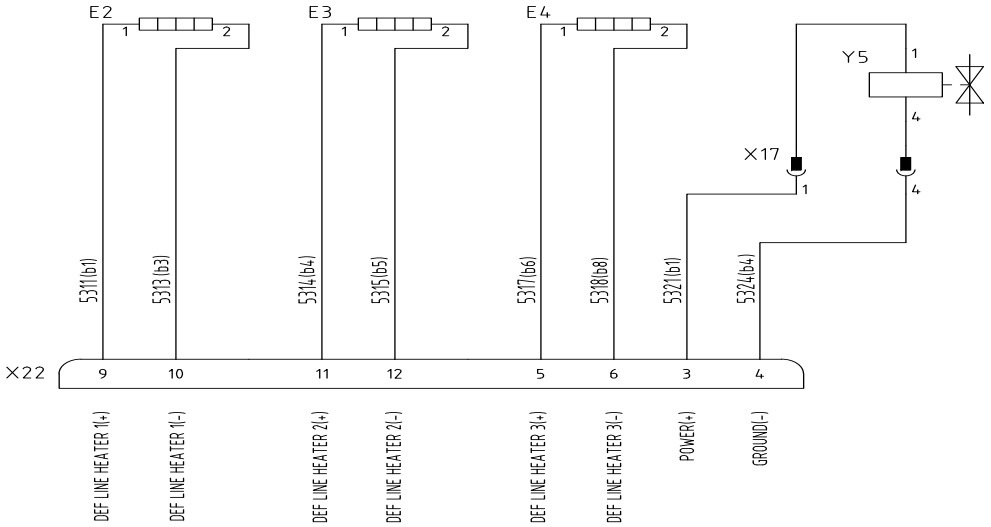
TAG	Desc. 1	FUNCTION	Location	Pg	Col.
X14	CONNECTOR	DEF DOSING UNIT	MACHINE	6	7
X15	CONNECTOR	AFTERTREATMENT MODULE	MACHINE	6	3
X16	CONNECTOR	DEF TANK HEADER	MACHINE	6	8
X17	CONNECTOR	DEF COOLANT CONTROL VALVE	MACHINE	7	6
X18	CONNECTOR	END RESISTOR J1939 CANBUS	MACHINE	6	4
X19	CONNECTOR	TIMER PREHEATER	OPTIONAL	9	6
X20	CONNECTOR	PREHEATER	OPTIONAL	9	9
X21	CONNECTOR	DEF DOSING CONTROL	MACHINE	6	7
X22	CONNECTOR	DEF DOSING SYSTEM INTERCONNECT	MACHINE	7	4
X23	CONNECTOR	FLEETLINK	MACHINE	3	7
X24	CONNECTOR	AFT.C. / AIR D.	MACHINE	4	3
X25	CONNECTOR	USB	MACHINE	4	2
X27	CONNECTOR	PRHEATER OPTION	OPTIONAL	9	6
X28	CONNECTOR	POWER SUPPLY PREHEATER	OPTIONAL	9	9
X29	CONNECTOR	EMERGENCY STOP PREHEATER	MACHINE	9	7
Y1	SOLENOID VALVE	EPRS	MACHINE	4	5
Y2	SOLENOID VALVE	LOADING	MACHINE	4	4
Y3	SOLENOID VALVE	DEF DOSING CONTROL	MACHINE	6	7
Y4	SOLENOID VALVE	INLET SHUTDOWN	MACHINE	3	8
Y5	SOLENOID VALVE	DEF COOLANT CONTROL	MACHINE	7	7

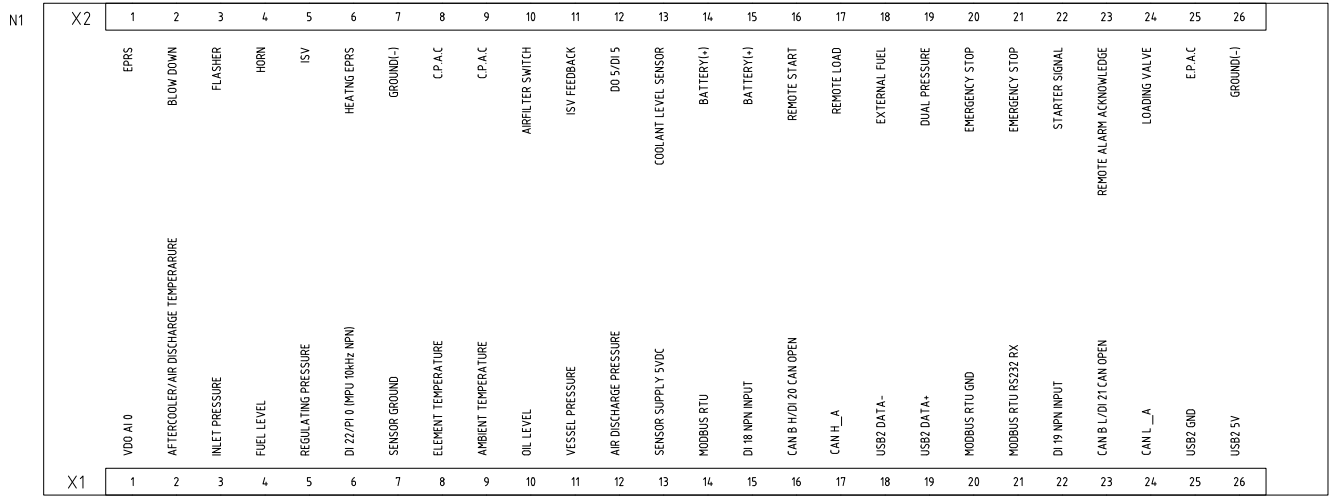

24
5.2,9.6,9.6
24 (j0)
24 (d2)
24 (f2)
24 (b2)
F4
10A
F5
F6
F7
40 (b2)
41 (b2)
42 (b2)
43 (b2)
K1
4.3
87
30
3 (d3)
S1
24M (b2)
Optional:
Cold start
9.2
9.3
X4
G2
B-
D-
K3
4.2
8 (b3)
K4
4.5
10 (b3)
Optional:
Inlet shutdown valve
X5
Y4
A1
A2
E5
K0
3.2
M1
M
G1
19 (j0)
19 (f6)
19 (b6)
19 (b6)
19
4.1
3.2
Optional:
Fleetlink
X23
5.4
9.6
4.1
19 (b6)
3.8
26 (b3)
4.6

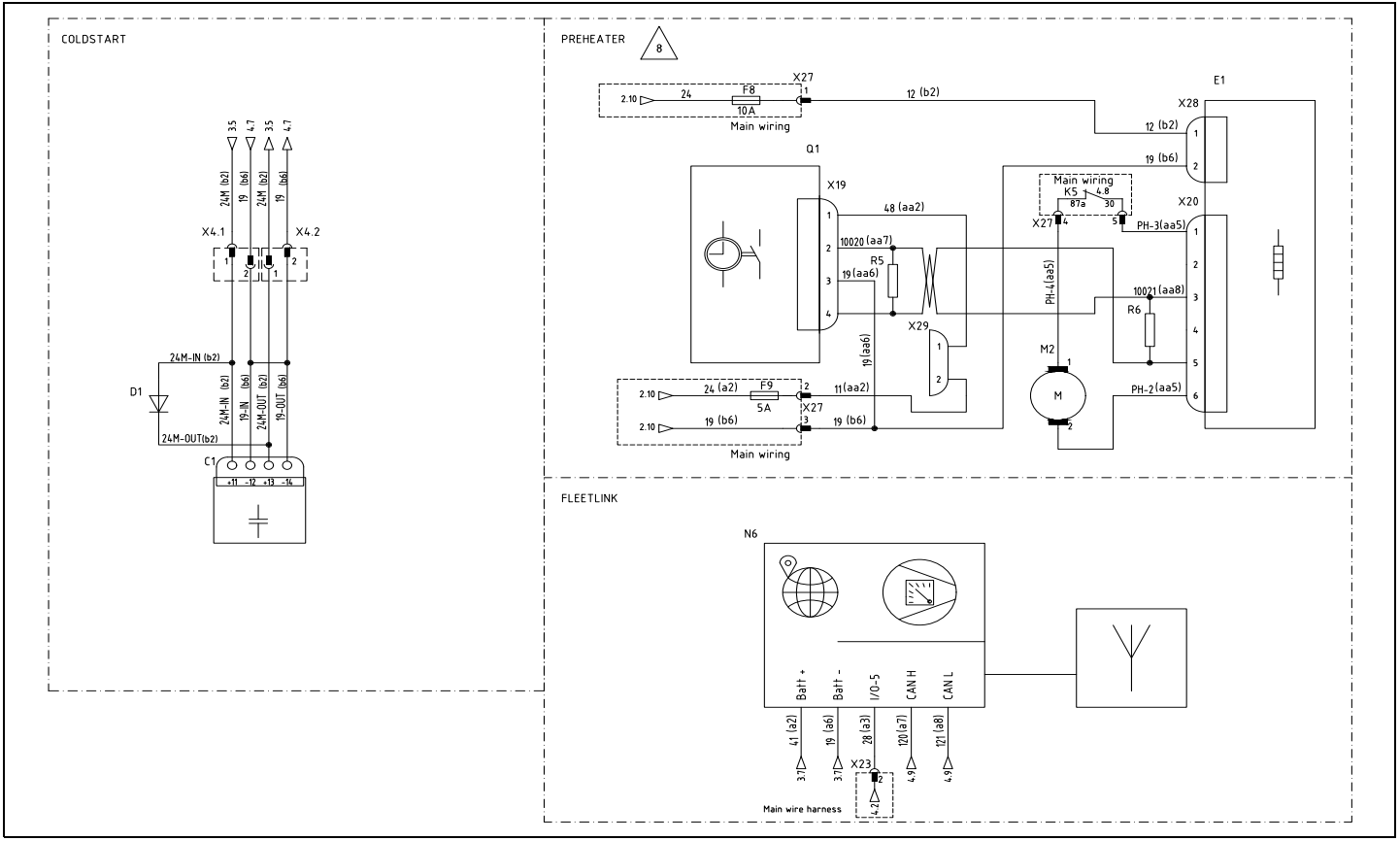

Optional:
Cold start
OPTIONAL: PREHEATER
BATTERY(+)
BATTERY(+)
HEATER EPRS
PAC OUT
PAC OUT
PAC AFTER E-STOP
PAC AFTER E-STOP
START OUTPUT
ENGINE PAC
LOADING VALVE
EPRS OUTPUT
ISV
ISV FEEDBACK
BATTERY(-)
BATTERY(-)
PREHEATER INTERRUPT
CAN HIGH
CAN LOW
USB DATA(-)
USB DATA(+)
USB GND(-)
USB +5V
AFT.COOLER/AIR DISCH.TEMP.
SENSOR GROUND
VESSEL PRESSURE
SENSOR SUPPLY +5V
REGULATING PRESSURE
FUEL LEVEL
ELEMENT TEMPERATURE
AMBIENT TEMPERATURE
CAN H_B
CAN L_B
Optional:
Fleetlink
PT2
PT1
LT1
TT3
TT1
PT1000
PT1000


3.10
19(c6)
3.10
24 (c2)
F1
25A
F2
25A
F3
25A
44 (c2)
45 (c2)
46 (c2)
4.1
4.1
3.6
41(b2)
K2
4.4
30
87
32 (b9)
19 (a6)
4.10
N2
X3
12
50
13
14
23
24
2
1
7
16
17
27
43
44
BATTERY (+)
BATTERY (+)
BATTERY (+)
BATTERY (+)
BATTERY (+)
BATTERY (+)
CAN HIGH
CAN LOW
SWITCHED POWER
BATTERY (-)
BATTERY (-)
BATTERY (-)
BATTERY (-)
BATTERY (-)
X7
A
B
C
D
E
BATTERY (-)
SWITCHED POWER
CAN HIGH
CAN LOW
SENSOR GROUND
X6
A
B
R1
LS1
LS2
X8
COOLANT LEVEL COMMON
LOW COOLANT WARNING
LOW COOLANT SHUTDOWN
X12
X10
X11
X9
H1
150 (a4)
151 (a2)
152 (a6)
153 (a8)
154 (a9)
155 (a5)
156 (a2)
157 (a6)
158 (a8)
159 (a9)

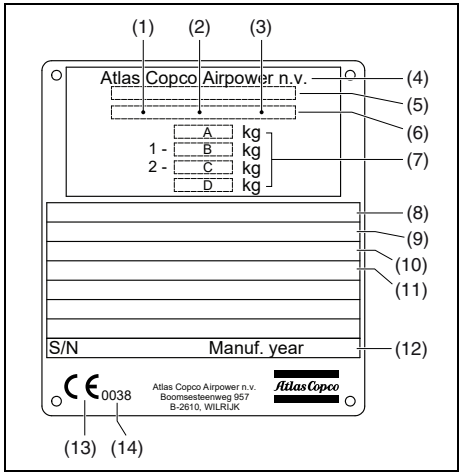

X14
EXCITATION 88 (+)
DEF PRESSURE
SENSOR RETURN
SUPPLY MODULE HEATER (-)
SUPPLY MODULE HEATER (+)
PUMP PWR (-)
PUMP PWR (+)
PUMP SPEED CONTROL
REVERSING VALVE CONTROL (-)
REVERSING VALVE CONTROL (+)
X13
(a1) 5141
(b1) 5309
(a6) 5146
(b1) 5303
(b3) 5301
(b5) 5305
(b4) 5304
(b6) 5306
(b8) 5308
(b6) 5307
N4
X15
EXCITATION 88 (-)
POWER (-)
CAN H
CAN L
TEMP-SENSOR SIGNAL
12V SENSOR SUPPLY
EXCITATION 71 (-)
EXCITATION 88 (+)
SENSOR SIGNAL
INJECTOR DRIVE POSITION
INJECTOR DRIVE NEGATIVE
5636 (c6)
5602 (b2)
5604 (a4)
5605 (a5)
5706 (a3)
5783 (a2)
5625 (a6)
5634 (a4)
5705 (a3)
5331 (b1)
5333 (b6)
GT1
GT2
U
NOx
X18
R2
TT4
θ
PT1000
PT3
P
Y3
X21
N5
X16


E2
1
2
E3
1
2
E4
1
2
Y5
1
4
X17
1
4
5311(b1)
5313(b3)
5314(b4)
5315(b5)
5317(b6)
5318(b8)
5321(b1)
5324(b4)
X22
9
10
11
12
5
6
3
4
DEF LINE HEATER 1(+)
DEF LINE HEATER 1(-)
DEF LINE HEATER 2(+)
DEF LINE HEATER 2(-)
DEF LINE HEATER 3(+)
DEF LINE HEATER 3(-)
POWER(+)
GROUND(-)


N1
X2
1 EPRS
2 BLOW DOWN
3 FLASHER
4 HORN
5 ISV
6 HEATING EPRS
7 GROUND(-)
8 C.P.A.C
9 C.P.A.C
10 AIRFILTER SWITCH
11 ISV FEEDBACK
12 DO 5/DI 5
13 COOLANT LEVEL SENSOR
14 BATTERY(+)
15 BATTERY(+)
16 REMOTE START
17 REMOTE LOAD
18 EXTERNAL FUEL
19 DUAL PRESSURE
20 EMERGENCY STOP
21 EMERGENCY STOP
22 STARTER SIGNAL
23 REMOTE ALARM ACKNOWLEDGE
24 LOADING VALVE
25 E.P.A.C
26 GROUND(-)
X1
1 VDO AI 0
2 AFTERCOOLER/AIR DISCHARGE TEMPERARURE
3 INLET PRESSURE
4 FUEL LEVEL
5 REGULATING PRESSURE
6 DI 22/PI 0 (MPU 10kHz NPN)
7 SENSOR GROUND
8 ELEMENT TEMPERATURE
9 AMBIENT TEMPERATURE
10 OIL LEVEL
11 VESSEL PRESSURE
12 AIR DISCHARGE PRESSURE
13 SENSOR SUPPLY 5VDC
14 MODBUS RTU
15 DI 18 NPN INPUT
16 CAN B H/DI 20 CAN OPEN
17 CAN H_A
18 USB2 DATA-
19 USB2 DATA+
20 MODBUS RTU GND
21 MODBUS RTU RS232 RX
22 DI 19 NPN INPUT
23 CAN B L/DI 21 CAN OPEN
24 CAN L _A
25 USB2 GND
26 USB2 5V


COLDSTART
PREHEATER
8
X27
F8
10A
Main wiring
2.10
24
12 (b2)
E1
X28
12 (b2)
19 (b6)
Q1
X19
48 (aa2)
10020 (aa7)
R5
19 (aa6)
Main wiring
K5
87a
30
X27
X20
PH-3(aa5)
PH-4(aa5)
10021 (aa8)
R6
X29
M2
M
PH-2(aa5)
F9
5A
24 (a2)
11(aa2)
19 (b6)
Main wiring
FLEETLINK
N6
Batt +
Batt -
I/O-5
CAN H
CAN L
41 (a2)
19 (a6)
28 (a3)
120 (a7)
121 (a8)
X23
Main wire harness
X4.1
X4.2
24M (b2)
19 (b6)
24M-IN (b2)
19-IN (b6)
24M-OUT (b2)
19-OUT (b6)
D1
C1
+11
-12
+13
-14

Data plate



1 Company code
2 Product code
3 Unit serial number
4 Name of the manufacturer
5 EEC or national type approval number
6 Vehicle identification number
7 Undercarriage
   A Maximum permitted total weight of the vehicle
   B Maximum permitted load on the towing eye
   C Maximum permitted load on axle (or front axle on dual axle units)
   D Maximum permitted load on rear axle (on dual axle units)
8 Model
9 Working pressure
10 Speed
11 Engine power
12 Manufacturing year
13 CE mark in accordance with Machine Directive 89/392 EC
14 Register number or number of notified body

Disposal

General

When developing products and services, Atlas Copco tries to understand, address, and minimize the negative environmental effects that the products and services may have, when being manufactured, distributed, used and disposed.

Recycling and disposal policy are part of the development of all Atlas Copco products. Atlas Copco company standards determine strict requirements.

Material selection, substantial recyclability, disassembly possibilities and separability of materials and assemblies are considered, as well as environmental perils and dangers to health during the recycling and disposal of the unavoidable rates of non-recyclable materials.

Your Atlas Copco compressor consists for the most part of metallic materials, that can be remelted in steelworks and smelting works and are therefore almost infinitely recyclable. The plastic used is labelled; sorting and fractioning of the materials for recycling in the future is foreseen.

This concept can only succeed with your help. Support us by disposing professionally. By assuring correct disposal of the product you help prevent possible negative consequences for environment and health as a result of inappropriate waste handling.

Recycling and re-usage of material help preserve natural resources.

Disposal of materials

Dispose of contaminated substances and material separately, in accordance with locally applicable environmental legislation.

Before dismantling a machine at the end of its operating lifetime drain and dispose of all fluids of according the applicable local disposal regulations.

Remove the batteries. Do not throw batteries into the fire (explosion risk) or residual waste. Separate the machine into metal, electronics, wiring, hoses, insulation and plastic parts.

Dispose of all components in accordance with applicable disposal regulations.

Remove spilled fluid mechanically; pick up the rest using an absorbing agent (for example sand, sawdust) and dispose of it in accordance with applicable local disposal regulations. Do not drain into the sewage system or surface water.

DIRECTIVE 2012/19/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL ON WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

This equipment falls under the provisions of the European Directive 2012/19/EU on waste electrical and electronic appliances (WEEE) and may not be disposed as unsorted waste.

The equipment is labelled in accordance with the European Directive 2012/19/EU with the crossed-out wheelie bin symbol.

At the end of life-time of the electric and electronic equipment (EEE) it must be taken to separate collection.

For more information, check with your local waste authority, customer center or distributor.

Maintenance Log

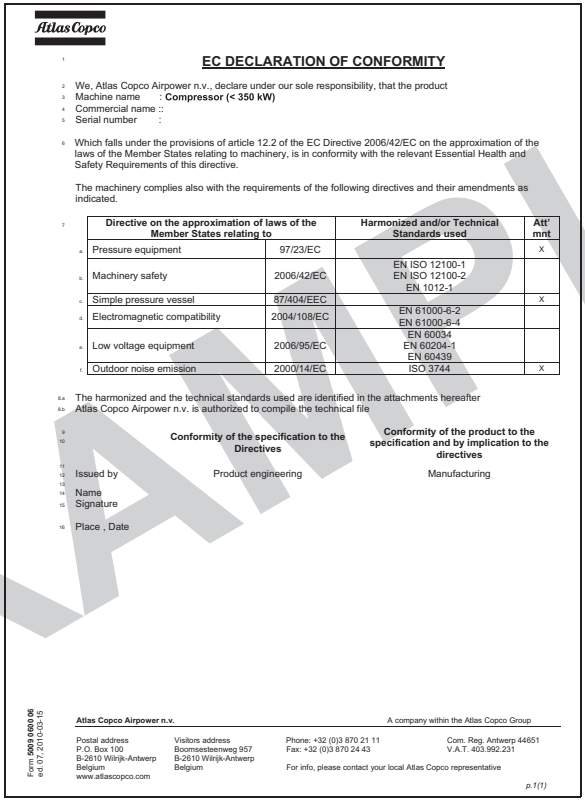
Compressor ..... **Customer** .....

Serial number..... .....

Service hours	Maintenance action	Date	By initials

Following documents are provided with this unit:

- Test Certificate
- EC Declaration of Conformity:



Atlas Copco

EC DECLARATION OF CONFORMITY

We, Atlas Copco Airpower n.v., declare under our sole responsibility, that the product
Machine name : **Compressor (< 350 kW)**
Commercial name ::
Serial number :

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' mnt
a.	Pressure equipment	97/23/EC		X
b.	Machinery safety	2006/42/EC	EN ISO 12100-1 EN ISO 12100-2 EN 1012-1	
c.	Simple pressure vessel	87/404/EEC		X
d.	Electromagnetic compatibility	2004/108/EC	EN 61000-6-2 EN 61000-6-4	
e.	Low voltage equipment	2006/95/EC	EN 60034 EN 60204-1 EN 60439	
f.	Outdoor noise emission	2000/14/EC	ISO 3744	X

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

	Conformity of the specification to the Directives	Conformity of the product to the specification and by implication to the directives
Issued by	Product engineering	Manufacturing
Name		
Signature		
Place , Date		

Form **5909 0600 06**
ed.07.2010-03-15

Atlas Copco Airpower n.v. A company within the Atlas Copco Group

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B-2610 Wilrijk-Antwerp
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Phone: +32 (0)3 870 21 11
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Com. Reg. Antwerp 44651
V.A.T. 403.992.231

For info, please contact your local Atlas Copco representative

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Notes

Scan the QR code to access into the Atlas Copco Spare Part List (ASL).

www.atlascopco.com