AIR COMPRESSOR BELT DRIVE
HONDA PETROL 100 LITRE

TSACP5

www.thetoolshed.co.nz

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Thank You

For the purchase of this ToolShed product. We try our hardest to supply customers like you with the best quality products available, at the best price possible. We cant wait to continue working together in the future.

Please contact us for any servicing, replacement parts, or questions you might have about your ToolShed product by visiting our website, or calling: 0800 948 665.

PRODUCT DETAILS

Product Model	*ToolShed Air Compressor Belt Drive Honda Petrol 100 Litre*
Product Code	*TSACP5*

DISTRIBUTED BY:

Note:

This manual is for your reference only. Due to the continuous improvement of the ToolShed products, changes may be made at any time without obligation or notice.

Warranty:

This product may be covered under The ToolShed warranty. For more information, see our Terms & Conditions at www.thetoolshed.co.nz

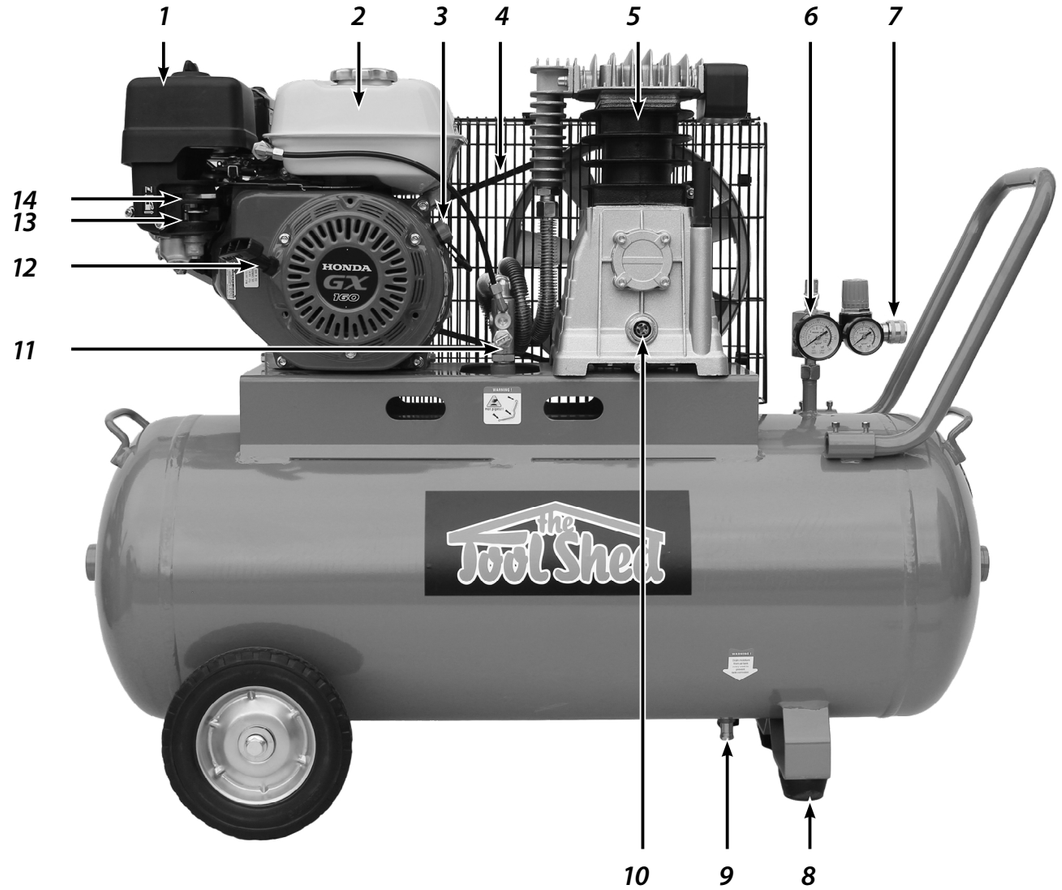
SPECIFICATIONS

Type	Honda Petrol Engine 6.5hp
Tank Size	100 Litre
Free Air Delivery (FAD)	280 LPM | 9.8 CFM
Displacement	380 LPM | 13.4 CFM
Maximum Power	6.5 HP
Maximum Pressure	8 Bar | 116 PSI
Engine Speed	1500/3000 RPM
Pump Speed	500/1000 RPM
Net Weight	67 kg
Gross Weight	78 kg
Package Size	1120 x 420 x 820mm

Intended Use

The compressor is intended to provide compressed air in a multitude of applications, for example, to power pneumatic tools, operate air dusters and spray guns, inflate tyres, and supply air for pneumatic valves and actuators.

PRODUCT IDENTIFICATION



1	Air Filter	***8***	Rubber Foot
2	Fuel Tank	***9***	Drain Bung
3	ON/OFF Switch	***10***	Oil Sight Level Glass
4	V Belt	***11***	Unloader Valve
5	Pump	***12***	Pull Starter
6	Pressure Gauge	***13***	Fuel Lever
7	Quick Connect Fitting	***14***	Choke Lever

SAFETY GUIDELINES

WARNING

READ ALL SAFETY WARNINGS & INSTRUCTIONS. Failure to follow instructions and warnings could lead to serious injury, electric shock, or fire.

Work Area Safety

- **Ensure that your work area is kept clean and well lit.** Lack of visibility and clutter greatly increase the risk of accident when using tools.
- **Keep bystanders, pets, and children clear when operating this power tool or machine.** They can cause distraction or risk injury to themselves.
- **Ensure you are not operating the power tool or machinery in the presence of dust, liquids, flammable gases, or anything that can create an explosive atmosphere.** Power tools and machinery can create sparks which can lead to ignition and fire hazards in working environments.

Personal Safety

- **Always wear personal protective equipment (PPE).** Eye protection, ear protection, dust masks, and other protective equipment will help to reduce the risk of personal injury or long-term illnesses.
- **Dress appropriately. DO NOT wear loose clothing that can get caught in moving parts.** Keep hair, loose clothing, jewellery, and anything else that could be of risk, away from moving parts in the machine, or they could become caught therein.
- **Always remain alert and DO NOT operate power tools or machinery under the influence of any substances such as alcohol or drugs, including prescription medications.** Lack of focus could lead to injury or accidents while operating these power tools and machinery.
- **Always ensure proper footing and balance.** Overreaching can lead to slipping and falling which can result in injury or accident.
- **Ensure the power switch is in the OFF position before connecting any battery, or power source to the power tool or machinery.** This can cause injury as tools and machinery can suddenly fire incidentally when live, causing accidents.
- **Use all provided dust collection and extraction attachments, if included.** This equipment, along with the use of PPE dust masks, can help keep you safe from dust, and keep your work site clear from hazards.
- **Ensure loose parts such as wrenches or adjusting keys are removed before starting the power tool or machinery.**

SAFETY GUIDELINES

Power Tool & Machinery Use & Care

- **Use the correct tool for the job.** Forcing a tool to do a job it was not designed for increases the risk of accident or injury.
- **Disconnect tools and machinery from power, or remove batteries before doing any maintenance or adjustments, or before storing the tools and machinery.** This reduces or removes the risk of a power connection that causes the tool or machinery to accidentally fire, which can help prevent injury or accident.
- **Check the general condition of the power tool for damage or any problems that could affect the way the tool or machine works.** An unrepaired tool or machine can lead to accident and injury. Only have your tool or machine repaired with genuine parts from The ToolShed.
- **Only use the power tool and machinery with genuine parts or accessories that are designed to be used with this power tool and machinery.** Failure to do so could result in accident or injury, or damage your tool or machinery.
- **Store your tool or machinery out of reach of children, and away from untrained personnel when not in use.** Use by somebody untrained, or a child, could lead to accident or serious injury.

SAFETY GUIDELINES

Fuel & Engine Safety

- Engine exhaust contains carbon monoxide, a colourless, odourless, poison gas. Breathing carbon monoxide will cause nausea, dizziness, fainting or death. If you start to feel dizzy or weak, get fresh air immediately.

WARNING

Operate this machine outdoors only in a well-ventilated area and point the exhaust away from you.

- DO NOT operate the machine inside any building, including garages, basements, crawlspaces and sheds, enclosures, or compartments, including the storage compartment of a recreational vehicle.
- DO NOT allow exhaust fumes to enter a confined area through windows, doors, vents, or other openings.
- NEVER use inside a home or garage, EVEN IF doors and windows are open. ONLY use OUTSIDE and far away from windows, doors, and vents.

WARNING

Using an engine indoors CAN KILL YOU IN MINUTES. Engine exhaust contains Carbon Monoxide. This is a poison you cannot see or smell.

Gasoline & Vapours

DANGER

GASOLINE AND GASOLINE VAPOURS ARE HIGHLY FLAMMABLE AND EXPLOSIVE. Fire or explosion can cause severe burns or death.

- Gasoline is highly flammable and explosive.
- Gasoline can cause a fire or explosion if ignited.
- Gasoline is a liquid fuel, but its vapours can ignite.
- Gasoline is a skin irritant and needs to be cleaned up immediately if spilled on skin or clothes.
- Gasoline has a distinctive odour; this will help detect potential leaks quickly.
- In any petroleum gas fire, you should not attempt to extinguish the flames unless it can be done in such a way by turning the fuel supply valve OFF. This is because if a fire is extinguished and a supply of fuel is not turned OFF, then an explosion hazard could be created.
- Never fill the gas tank to capacity as gasoline needs room to expand if temperature rises.
- Never use gasoline that is stale, contaminated, or mixed. Avoid getting contaminants, dirt or water in the fuel tank.

SAFETY GUIDELINES

When Adding or Removing Gasoline

- DO NOT light or smoke cigarettes.
- Turn the engine off and let it cool for at least two minutes before removing the gasoline cap. Loosen the cap slowly to relieve pressure in the tank.
- Only fill or drain gasoline outdoors in a well-ventilated area.
- DO NOT pump gasoline directly into the engine at the gas station. Use an approved container to transfer fuel to the engine.
- DO NOT overfill the gasoline tank.
- Always keep gasoline away from sparks, open flames, pilot lights, heat, and other sources of ignition.
- DO NOT refill the fuel tank while the engine is running or while the engine is still hot.
- When spills of fuel or oil occur, they must be cleaned up immediately. Dispose of fluids and cleaning materials as per local regulations.

When Starting the Engine

- DO NOT attempt to start a damaged engine.
- Make certain that the gasoline cap, air filter, spark plug, fuel lines, and exhaust system are properly in place.
- Allow spilled gasoline to evaporate fully before attempting to start the engine.
- Make certain that the compressor is resting firmly on level ground.
- Spark from a removed spark plug wire can result in fire or electrical shock.

Pneumatic Safety

- **Never attempt to ingest or expel the compressor air internally to yourself or other persons or animals.**
- **Never aim at yourself, others, or animals:** Always keep the tool pointed away from any body parts while operating. Be mindful of the tool's direction and potential recoil or kickback. **Never** attempt to block the air outlet with your finger or any part of your body.
- **Wear personal protective equipment (PPE):** Always wear appropriate PPE, such as safety goggles or a face shield, hearing protection, gloves, and sturdy footwear. Pneumatic tools can generate high-speed projectiles or create loud noise.
- **Check the tool condition:** Inspect the tool before each use to ensure it is in good working condition. Look for any signs of damage, loose parts, or leaks.
- **Use the correct air pressure:** Adjust the air pressure according to the manufacturer's recommendations for the specific tool. Using excessive pressure can lead to tool failure or cause accidents.
- **Securely connect hoses and fittings:** Ensure that all hoses, fittings, and connections are properly secured and tightly fastened.
- **Use proper technique and grip:** Hold the tool firmly and use both hands when operating it.
- **Disconnect the tool when not in use:** Before performing any maintenance or adjustments, or when taking breaks, always disconnect the tool from the air supply.

SAFETY GUIDELINES

Service

- **Have your tools and machinery serviced at The ToolShed with ToolShed replacement parts.** This will ensure that the safety of the power tool or machine is maintained.

WARNING

The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Always Use Common Sense

- It is not possible to cover every conceivable situation you can face. Always exercise care and use your common sense. If you get into a situation where you feel unsafe, stop and seek expert advise. Contact your dealer, service agent, or an experienced user. Do not attempt any task you feel unsure of!
- **Do not let familiarity gained from the frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

Compressor Specific Safety

- **Know your air compressor.** Read the operator's manual carefully. Learn its applications and limitations, as well as the specific hazards.
- **Never touch the moving parts of the compressor during operation.** Never place your hands, fingers, or other body parts near the moving parts of the compressor.
- **Never operate this compressor without all the guards and safety features in place and in proper working order.** If maintenance or servicing requires the removal of guards or safety features, ensure they are replaced before resuming general operations with the compressor.
- **Always wear safety goggles or equivalent as a minimum PPE requirement.** Compressed air must never be aimed at anyone, or any part of the body, or animals.
- **Turn off the Compressor.** Always switch off the compressor completely and remove compressed air from the tank prior to servicing, inspecting, maintaining, cleaning, replacing, or checking parts.
- Petrol or diesel engine-powered compressors should only be installed or operated outdoors in a well ventilated area away from building doors, windows, and vents.
- Always refuel an engine-powered compressor outdoors in a well-ventilated area. Do not remove the fuel cap or refuel the compressor while the engine is running. Always turn engine off and allow it to cool down before refuelling. Do not overfill the fuel tank; leave room for the fuel to expand. Check for fuel leaks after refuelling. Do not operate the engine if a fuel leak is discovered.

OPERATION MANUAL

SAFETY GUIDELINES

- Store the compressor properly. When not in use, the compressor should be stored in a dry, locked place.
- Always ensure your compressor is level and stable. Using your compressor on uneven or unstable ground may cause it to tip over.
- Always move the air compressor only using the handles and/or wheels.
- Always use the correct type of tool for the operation to be carried out.
- This air compressor is designed to compress normal air. Never use it to compress any other types of gases.
- This air compressor is not to be used for filling scuba or oxygen air bottles or tanks.
- If the compressor appears to be operating unusually, making strange noises, or otherwise appears defective, stop using it immediately and contact your nearest ToolShed for servicing or part replacement advise.
- Protect material lines and air lines from damage or puncture.
- Check hoses for weak or worn condition before each use, making certain all connections are secure. Do not use if a defect is found.
- Keep hose and power cord away from sharp objects, chemical spills, oil, and solvents.
- Release all pressures within the system slowly. Flown dust and debris may be harmful.
- Never leave a tool unattended with the air hose attached.
- Inspect tank annually for rust, pin holes, or other imperfections that could cause it to become unsafe.
- Never weld or drill holes in the air tank.
- **Drain the tank of moisture after each day's use.** If the compressor will not be used for a while, it is best to leave the drain valve open until it will be used again. This will allow moisture to completely drain out and help prevent corrosion on the inside of the tank.
- For the risk of bursting: Do not adjust the regulator to result in an output pressure greater than the marked maximum pressure of the attachment you are using.
- Use the air compressor only for its intended use. Do not alter or modify the unit from the original design or function.
- Always keep the motor air vent clean. The motor air vent must be kept clean so that air can flow freely at all times. Check for dust and build-up frequently.

Efficient Usage Tips

- For efficient operation of the compressor at full continuing load and at maximum operating pressure, make sure the temperature of the work environment does not exceed 25°C.
- We advise you to use the compressor at 70% maximum duty per hour at full load, as this ensures efficient operation of the compressor long-term. (Meaning: If the compressor's cycle time is 10 Minutes; 7 Minutes ON motor pumping and 3 Minutes OFF, motor not pumping). When the motor is pumping the attached air tool can not be used. Only use the attached air tool while the compressor is not pumping.

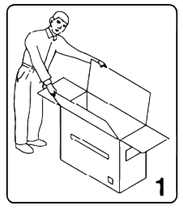
ASSEMBLY

NOTE

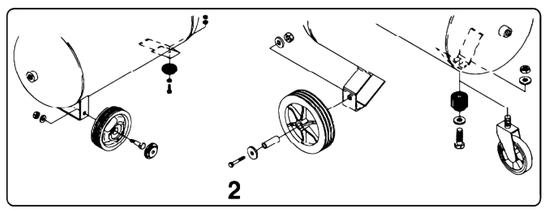
The information contained in this instruction manual is designed to assist you in the safe operation and maintenance of this compressor. Some illustrations in this manual may show details or attachments that differ from those on your own compressor.

Installation

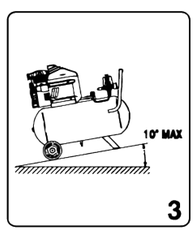
- Remove the compressor from its packaging (Fig.1). Ensure it is in perfect condition and no damage occurred during transport.



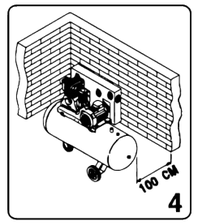
- Fit the wheels and rubber tabs on the tanks where the are not already fitted, following Fig.2. **IF** the wheels are inflatable, maximum inflatable pressure must be: 1.6 Bar/24 PSI.



- Position the compressor on a flat surface, or with a maximum tilt angle of 10°, as shown in Fig.3. Ensure set up is in a well-ventilated area, protected against the elements.

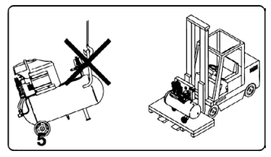


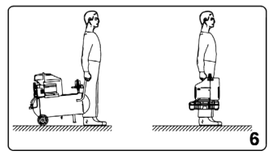
- To ensure good ventilation and efficient cooling, the compressors belt guard must be at least 100cm away from any wall (Fig.4).



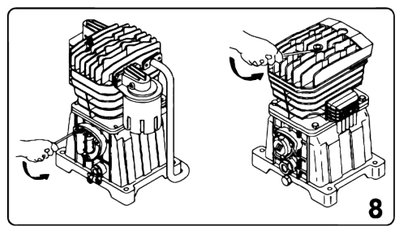
Usage Instructions

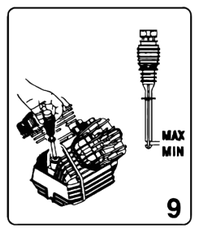
- Take care when transporting or moving the compressor, ensuring you do not overturn it, or lift it with hooks or ropes.

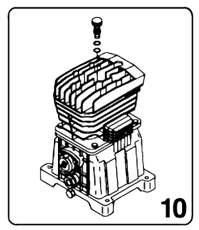




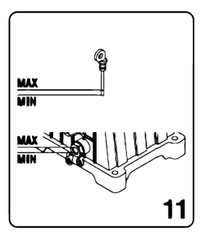
- Replace the plastic plug on the guard cover (Fig.8-9) with the oil level stick (Fig.9) or with the relevant breather plug (Fig.10).







- Check oil level, consulting the reference marks on the oil stick (Fig.9) or the oil level inspection window (Fig.11).



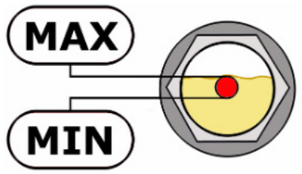
OPERATION

CAUTION

Always check the air requirement of the tool you wish to use to ensure that it is within the range of this air compressor's air output.

Check Oil Level Sight Glass

- The compressor oil level can be viewed through the sight glass – the compressor must be on a level surface. **Check this daily.**
- The top of the red dot indicates that full mark and the bottom of the red dot indicates the low mark. Always ensure the oil level is correct before operating the compressor.



Shut Tank Drain if Pressure Won't Build Up

- **Drain air tank — Daily.**
- A drain valve is fitted to the air receiver tank to permit the release of water condensation that would otherwise corrode the tank and damage pneumatic devices.
- Loosen the drain nut and allow any condensed water to escape, once all the air and moisture has been released, tighten (finger tighten only) the drain valve.

Only Operate the Compressor on a Flat Surface

- Do not operate the compressor on inclines, on a rooftop, or elevated position that could allow the unit to fall or be tipped over. Always turn the unit off before moving.

Prior to Starting

- Before operating the air compressor, always check first to ensure that there is no damage or missing parts. If so, rectify these issues before proceeding further.
- Check the compressors pump oil level by looking at the sight glass. Add oil, if required, through the oil fill cap, **only when the unit is not operating.** Do not overfill with oil.
- Check that the outlet valve, if fitted, is closed.
- Any connected air hose(s) and/or distribution pipe(s) should not be open to the atmosphere. This is to prevent any injuries from 'hose whip' and/or high-pressure air discharge. In the event that an air line is cut or broken, the air supply must be immediately closed off at the compressor. Do not attempt to "catch" the loose end of a discharging air hose.
- Check the tank drain air valve is closed.
- Any unusual noise or vibration likely indicates a problem with the compressor. Do not continue to operate the unit until the source of the problem has been identified and corrected.

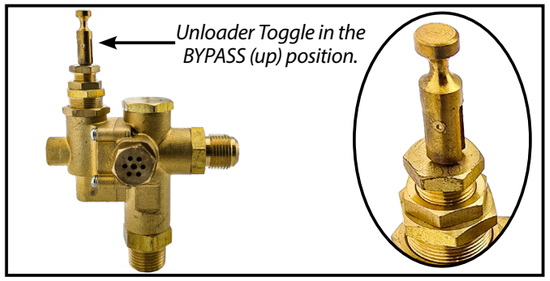
OPERATION

Run In Procedure

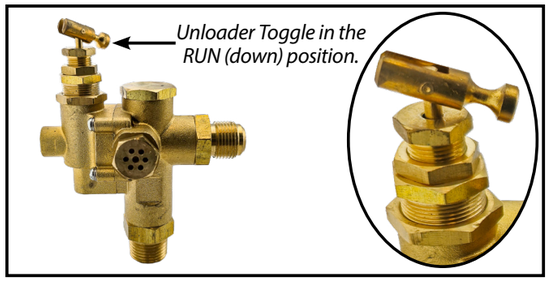
- When starting the air compressor for the first time, leave it to run for 10 minutes without load. Leave the air cock completely open. After 10 minutes, check the drain bung has remained closed, and shut the main air cock. As tank pressure increases, check that the compressor stops automatically once maximum pressure is reached.

Starting the Compressor

- After completing you daily checks, lift the unloader toggle to the "BYPASS" position.

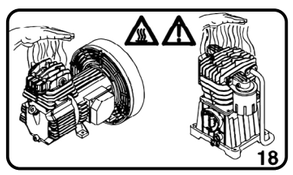


- Move the fuel lever to the "ON" position.
- Move the choke lever to the "CLOSED" position.
- Turn the engine switch to the "ON" position.
- Pull the starter cord lightly until you feel resistance, then pull briskly, return the starter cord gently, the engine should start, if not, repeat this step.
- Once the engine is running, slowly move the choke lever to the "OPEN" position.
- Allow the engine to warm up to operating temperature whilst the compressed air is bypassing through the unloader valve.
- Move the unloader toggle to "RUN" position.



- With the engine running properly, the compressor will fill the air tank. Once the maximum pressure is reached, the engine and pump slow down to idle speed. When the pressure drops to the cut-in level, the engine and pump return to full revs. This cycle continues until the compressor is turned "OFF."
- For example: the compressor will stop when it reaches 8 Bar/116 PSI (as the maximum operating pressure) and will restart automatically when the pressure inside the tank drops to 6 Bar/87 PSI.

NOTE: The head/cylinder/delivery tube unit can reach high temperatures. Take care when working near these parts that you do not touch them to avoid possible burns and injury (Fig.18–19).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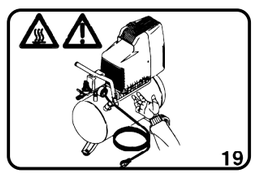
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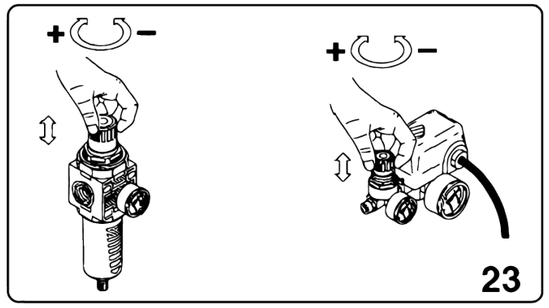
OPERATION

Adjusting Operating Pressure

- You do not have to use the maximum operating pressure at all times. On the contrary; the pneumatic tool being used generally requires less pressure. On compressors supplied with a pressure reducer, operating pressure must be correctly adjusted.
- Release the pressure reducer knob by pulling it up, adjust pressure to the required value by turning the knob clockwise to increase pressure, and counter-clockwise to reduce it.
- Once you have obtained the optimum pressure, lock the knob by pressing it downwards (Fig.23).



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- For pressure reducers equipped without a pressure gauge, the set pressure can be seen on the graduated scale located on the reducer body.
- On pressure reducers equipped with a pressure gauge, pressure can be seen on the gauge itself.

NOTE

Some pressure regulators do not have a "Push to Lock" button, therefore simply turn the knob to adjust the pressure.

Stopping the Compressor

- At the end of the day, stop the engine by turning the engine switch to OFF and closing the fuel valve.
- Put a container below the drain valve to collect the condensate.
- Open the drain valves slowly. Condensation will drain from the air receiver.
- Close the drain valve when the air receiver has fully drained.
- Turn the air regulator fully counter-clockwise to close off the air supply.
- Operate the air tool to discharge any pressure in the air line before disconnecting the airline and the air tool.

MAINTENANCE

- Before cleaning or performing any maintenance, you must ensure the tool is switched off and the spark plug lead has been removed.
- Compressed air is the most effective way to clean this tool. Always wear PPE safety goggles when cleaning tools with compressed air.
- Ventilation openings and switch levers must be kept clean. DO NOT attempt to clean by inserting pointed objects through openings.
- Do not use chemicals when cleaning this tool, especially on plastic parts as this may cause damage or cracking.
- If you discover any damaged or broken parts, consult your nearest ToolShed for replacements and advise.

Before Performing Maintenance

Before attempting any type of maintenance job or servicing on the compressor, make sure of the following:

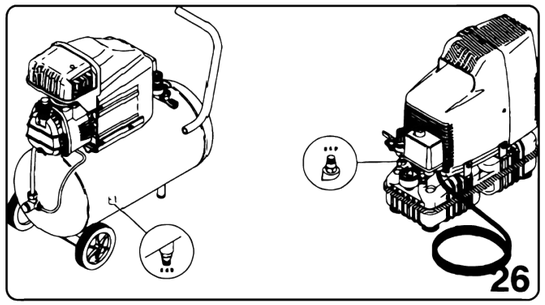
- The master power switch is in the **"0"** OFF position.
- The Pressure switch and the control unit switches are all OFF, in the **"0"** position.
- Ensure you have removed the spark plug lead to prevent accidental starting.
- Ensure there is no pressure in the air tank.

⚠ WARNING

Do not use the compressor without the filter or any removable parts. Use a separate source of compressed air to clean parts of this compressor.

After Every Use

- The compressor generates condensate water which accumulates in the tank. It is recommended the condensate in the tank should be drained after every use.
- This is done by opening the drain cock (Fig.26) on the underside of the tank.
- Take care if there is any remaining compressed air in the tank, the condensate may release with considerable force.

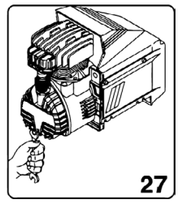


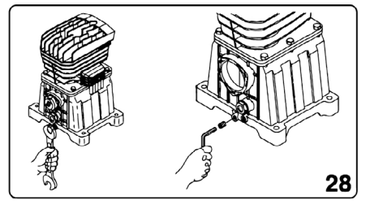
- Recommended pressure: 1–2 Bar maximum.
- Leave the drain tap open when the compressor is not in use, so any moisture can continue to drain.
- **Remember to close the valve before the next use.**

MAINTENANCE

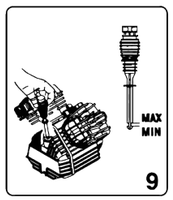
Oil Changes

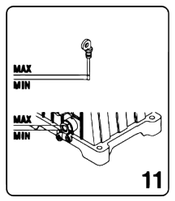
- We recommend using Synthetic Oil SAE 20 for the compressor.
- A full change of oil is recommended through the pumping element within the first 100 hours of duty.
- **To do this:** Unscrew the oil drain plug on the housing cover, and allow all the oil to flow out.
- Once no more oil drips out, re-screw the plug until tight (Fig.27–28).

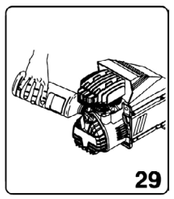


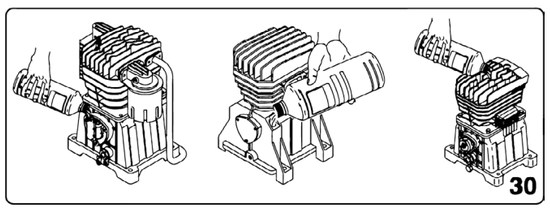


- Pour oil into the upper hole of the housing cover (Fig.29–30) until it reaches the level indicated on the oil level stick (Fig.9) or the indicator (Fig.11)





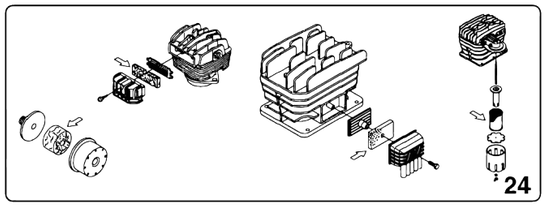




- Pour oil into the upper hole of the head in belt assisted units designed for topping up in that area (Fig.30).
- **After every use:** it is recommended to check the oil level of the pumping element (Fig.11) to see if it needs topping up.

Every 50 Hours

- After every 50 hours of use with the compressor, we advise to dismantle the suction filter and clean the filter element by blowing compressed air onto it (Fig.24).



- It is recommended to replace and/or clean the filter element more often if operated in a dusty environment.

Storage

- Ensure the power switch is in the **OFF** position to turn off the compressor.
- Run the air tool to relieve the air pressure in the hose, then remove the air hose and the tool, or release the pressure from the tank by the drain valve.
- Drain the condensate water from the tank. Leave the valve open until the next usage.
- Store the air compressor in its normal operating position in a dry and protected area.
- Ensure the compressor is stored in a way that it cannot be used by children or other unauthorised persons.

MAINTENANCE

Checking Belt Tension

- Check belt tension occasionally, especially if compressor performance drops and your air filters are clean.
- A poorly fitted belt will slip, resulting in less drive to the compressor pump pulley, this can make the compressor run continuously trying to obtain the shut off pressure, resulting in the compressor motor/pump over heating.
- V belts should be adjusted to allow about a 10mm deflection when pushed by a finger in the middle of the belt span.

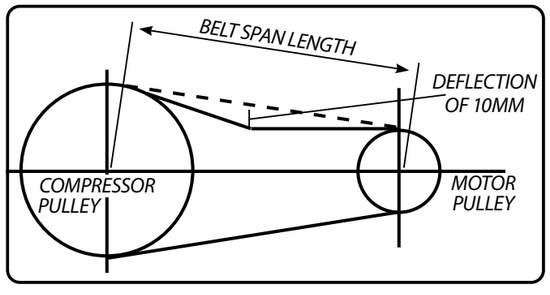
1. Ensure the compressor is turned off and non-operational.

2. Remove the Wire belt guard.

3. Lay a straight edge across top surface of the belt.

4. Push down on belt in the middle of the span and measure the deflection.

5. If the deflection is correct, refit the wire belt guard (compressor must not be run without the guard installed).



Belt Tensioning

- With the compressor completely switched off and the wire belt guard removed.
- Loosen the motor anchor bolts, push the motor away from the pump and retighten anchor bolts.
- Lay a straight edge across the top surface of the belt, recheck belt tension, readjust as required.
- Ensure that both pulleys are properly aligned and the belt is running true.
- Refit the wire belt guard (compressor must not be run without the guard installed).

Belt Straightness

- Belt straightness is paramount to a safe and reliable air compressor. The belt should always run in a straight line between the two pulleys. If the belt is on an angle this could cause excessive strain and wear on components. The belt should run parallel to the two pulleys. If not, adjust the belt.
- To adjust the belt straightness, follow these steps;

1. Loosen the pump bolts.

2. Slide the pump to the appropriate position.

3. Tighten the pump bolts.

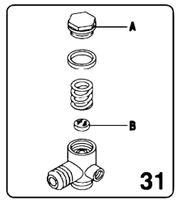
4. Check belt straightness and repeat if needed.

5. Check belt tension and correct if necessary.

TROUBLESHOOTING

Loss of Air in Valve Under Pressure Switch

This usually occurs when the check valve has been poorly tightened. Refer to Fig.31 to remedy:



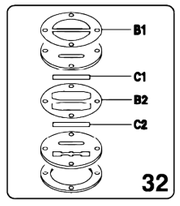
- Discharge all pressure from the tank.
- Unscrew the hexagon-bolt head of the valve (A).
- Carefully clean both the rubber disk (B) and its housing.
- Refit all the parts accurately.

Air Losses

- This can be caused by a poorly tightened connection.
- Check all connections, wetting them with soapy water to find any leaks.

Compressor Turns, but does not Load

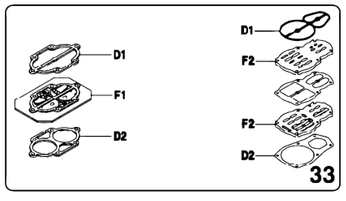
Coaxial Compressors (Fig.32):



- This may be caused by the failure of the valves (C1 & C2) or of the seals (B1 & B2).
- Replace the damaged part.

Pulley Drive Compressors (Fig.33):

- This may be caused by the failure of the valves (F1 & F2) or of the seals (D1 & D2).
- Replace the damaged part.
- Check if there is too much condensate water in the tank



TROUBLESHOOTING

FAULT	POSSIBLE CAUSE	SUGGESTED SOLUTION
Petrol Engine Hard to start	Improper oil level	Your compressor is fitted with low oil shut off – fill oil to correct level
	Stale fuel	Drain and replace fuel
	Fouled, incorrect or improper spark gap	Replace and reset spark gap
Motor Will Not Start, Runs Slowly or Repeatedly Trips Out Overload Protection.	Pressure switch not turned on.	Turn on pressure switch.
	Air receiver tank pressure above cut-in pressure.	Nil (no fault). Unit will start when pressure drops.
	Nil or restricted discharge air flow through non-return valve.	Repair or replace non-return valve.
	Damaged motor cowl and/or fan, other motor faults.	Replace cowl and/or fan, replace motor.
	V-Belts too tight or misaligned.	Adjust belts to proper tension & alignment.
	Compressor pump partially or totally seized.	Repair or replace compressor pump.
Compressor Pump Does Not Come Up To Speed.	Loose motor pulley, loose compressor flywheel or loose/worn V-belts.	Tighten or replace pulleys as required, check alignment and adjust V-belt tension.
	Low supply voltage.	Check no load and full load supply voltage. Upgrade power supply circuit if required. Disconnect any appliances on the same supply circuit.
	Damaged or worn.	Replace compressor pump valves and or blown head gaskets.
	Compressor pump partially seized.	Repair or replace compressor pump.
Excessive Noise (Including Knocking and Rattling) or Vibration.	Loose motor pulley, loose compressor pulley. V-belts too tight or misaligned.	Tighten or replace pulleys as required. Check alignment and adjust V-belt tension.
	Low oil level.	Add oil.
	Pistons hitting cylinder heads.	Remove cylinder heads and check for foreign matter on top of pistons.
	Damaged or worn crankshaft bearings, crankshaft, con-rods, piston pins, pistons, cylinders and/or valves.	Replace components or entire pump.
	Faulty non-return valve.	Repair or replace non-return valve.
	Loose fasteners.	Check and tighten fasteners.

OPERATION MANUAL

TROUBLESHOOTING

FAULT	POSSIBLE CAUSE	SUGGESTED SOLUTION
Slow Pressure Rise or Unable to Reach Cut-Out Pressure.	Air demand exceeds compressor pump capacity.	Reduce air demand or use larger or additional compressor(s).
	Air leaks.	Tighten, refit, or replace leaking connections or components.
	Blocked or dirty inlet air filters.	Clean or replace air filter elements.
	Loose motor pulley, loose compressor flywheel pulley or loose/worn V-belts.	Tighten or replace pulleys as required. Check alignment and adjust V-belt tension.
	Head unloaders not fully retracting (usually indicated by air blowing out from air filter inlets).	Repair or replace head unloaders.
	Damaged or worn compressor pump valves and/or blown cylinder head gaskets.	Replace compressor pump valves and/or cylinder head gaskets.
	Damaged or worn piston rings and/or cylinders.	Replace components or entire compressor pump.
	Faulty non-return valve.	Repair or replace non-return valve.
Compressor Pump Runs Excessively Hot (Potentially Melts the Air Filter Enclosures).	Incorrect direction of rotation.	Check compressor pulley turns in correct direction. Change electric motor wiring connections if incorrect.
	Ambient temperatures too high or insufficient ventilation.	Reduce ambient and/or improve ventilation.
	Low oil level.	Add oil.
	Excessive cycle duty.	Reduce air demand.
	Damaged or worn compressor pump valves and/or blown cylinder head gaskets.	Replace compressor pump valves and/or cylinder head gaskets.
Excessive Cycling Between Pumping Mode and Off Mode.	Excessive duty cycle.	Reduce air demand.
	Air leaks.	Tighten, refit, or replace leaking connections or components.
	Excessive condensation in air receiver tank.	Drain air receiver tank more regularly.
Water Discharge In Air.	No fault, this is normal operation. Condensation quantity will increase with duty cycle and humidity.	Install automatic drain tank valve or manually drain tank more often.
Compressor Does Not Switch Off and Safety Valve Discharges.	Faulty pressure switch.	Replace pressure switch.
	Faulty safety valve (use tank pressure gauge to help diagnose fault).	Replace pressure valve

TROUBLESHOOTING

FAULT	POSSIBLE CAUSE	SUGGESTED SOLUTION
Excessive Oil In Discharge Air.	Blocked or dirty air inlet filters.	Clean or replace air filter elements.
	Overfilled with oil.	Drain oil down to high level mark.
	Low oil viscosity.	Replace with correct oil.
	Excessive duty cycle.	Reduce air demand.
	Blocked or damaged crankcase breather.	Clean or replace crankcase breather.
	Damaged or worn intake valves, piston rings, pistons, and/or cylinders.	Replace components or entire compressor pump.
Low Suction or Air Blowing Out At Air Filter Inlets During Pumping Mode.	Damaged or worn compressor pump inlet valves and/or blown cylinder head gaskets.	Replace compressor pump inlet valves and/or cylinder head gaskets.
No Short Discharge of Air From the Pressure Switch After Reaching Cut Out Pressure or Being Manually Switched Off.	Faulty unloader valve in pressure switch.	Replace unloader valve or complete pressure switch.
	Blocked or damaged unloading line.	Clean or replace unloading line.
	Blocked or faulty non-return valve.	Clean, repair or replace non-return valve.
Continuous Discharge of Air From the Pressure Switch After Reaching Cut-Out Pressure or Being Manually Switched Off.	Faulty non-return valve.	Repair or replace non-return valve.
Air Receiver Tank Does Not Hold Pressure When Compressor is Off and Discharge Outlet Valve is Closed.	Faulty non-return valve.	Repair or replace non-return valve.
	Air leaks.	Tighten, refit, or replace leaking connections or components.
Oil Appears 'Milky' In Sight Glass.	Water contamination in oil.	Replace oil and move compressor to less damp or humid location.
External Oil Discharge From Compressor Pump.	Oil leaks.	Tighten, refit, or replace leaking connections or components.
Oil Appears Black In Sight Glass.	Graphite carry-over from cast iron material (initial oil fill only).	Replace oil.
	Oil dirty and/or overheated (initial or subsequent oil fill).	Replace oil and check for compressor pump overheating.