

Hatsan Lightning PCP Compressor 4500PSI Air for PCP Airguns



Operation Manual

Rev 1.1 2018

Thank you for choosing the Hatsan Lightning PCP Air Compressor.

Always exercise caution when operating this compressor. It will allow you to fill your PCP storage reservoirs and large volume airguns with ease. Please read the entire manual very carefully before use. Any damage or injury resulting from misuse or incorrect handling is the sole responsibility of the owner and/or operator.

This symbol 🗥 marks warnings and cautions in this operation manual. Carefully follow them for your own safety and the safety of others.

<u>∧</u> Warning!

- 1. Use only in a well-ventilated area. Do not operate in an area where liquid contaminants can be drawn into the compressor.
- 2. Do not operate near smoke or an open flame.
- 3. This compressor generates pressurized air, heat, and noise. Eye, skin, and ear protection are recommended during use.
- 4. The compressor should only be dismantled by a competent technician, otherwise serious damage/injury/death may be caused to you or others.
- 5. Improper disassembly/reassembly will result in leaks, damage, and may void your warranty.
- 6. Never attempt to dismantle any portion of this compressor when it is pressurized or is hot after running.
- 7. Use only approved filters, hoses, fittings, and accessories. It is your responsibility to check for leaks before using to fill (see instructions later in this manual).
- 8. This compressor is designed to produce dry compressed air only. Do not attempt to feed other gasses or pressurized air through for compression. NO OTHER GAS OR GAS COMBINATION CAN BE USED.
- 9. Failure to follow instructions and heed warnings may result in damage, serious injury, and/or death.

This compressor has a maximum operating pressure of 4500 PSI (310 BAR) and a maximum operating temperature of 195 Degrees Fahrenheit. Do not allow the machine to operate above these conditions.

WHAT'S IN THE BOX?

- Hatsan Lightning 4500 PSI PCP Compressor
- 110V Power Cord
- Crankcase Breather
- Test Plug
- Spare Seal Kit
- Spare Filter Media
- Operation Manual

- This compressor is not intended to produce breathable air.
- To reliably produce clean and dry air, the dryer filter media and desiccant must be monitored on a regular basis and changed when necessary. Filter life will vary due to many factors, including but not limited to: humidity, temperature, purge frequency, and cycle times.
- Wear safety glasses when operating this equipment.
- Always monitor the compressor while it is running. Never let it run above its maximum operating pressure or temperature.
- Do NOT set the output pressure shut-off above your airgun or air reservoir's maximum pressure rating, and NEVER set the shut-off pressure above 310 BAR / 4500 PSI for any reason.
- Remain clear of auto-purge and manual purge discharge openings. The escaping air can cause damage.
- Noise from purging may be loud, especially if you are in a small space. Hearing protection is recommended while the compressor is operating.
- When filling a large reservoir, it can become very warm to the touch. It is okay to place the bottle/tank into a bucket of water to help dissipate heat as long as none of the water comes in contact with the valve or any compressor components.
- Parts of this compressor can become hot enough to cause burns. Do not operate the compressor without all its protective panels in place, and do not reach into the compressor frame during or immediately after operation.

SECTION INDEX

- 1. Fluid Requirements
- 2. Parts of Your Compressor
- 3. Initial Setup Instructions
- 4. Digital Gauge Operation
- 5. Compressor Break-In
- 6. System Leak Test
- 7. Compressor Fill Operation
- 8. Maintenance
- 9. Troubleshooting
- 10. Warranty and Service

1. FLUID REQUIREMENTS

Fluid Purpose	Fluid Type	Fluid Volume
Coolant – 25%-50% Antifreeze*	G-05 or Equivalent	5.0L (mixed)
Crankcase Oil	ISO 100	400cc

*Add distilled water ONLY.

*25% minimum recommended mixture for corrosion and freeze protection.

*Do not exceed 50% antifreeze mixture or cooling efficiency will be reduced.

These fluids can be found at most auto parts or farm supply stores. Contact HatsanUSA if you have any questions.

2. PARTS OF YOUR COMPRESSOR



3. INITIAL SETUP INSTRUCTIONS

It is recommended that you follow these initial setup instructions before using your compressor for filling. Failure to do so may result in poor performance or premature breakdown.

- 1. Select a suitable floor location and clear space for your compressor to be unpacked.
- 2. With the help of another person, carefully remove your compressor from its box and place it in the cleared area.
- Visually inspect the compressor for any shipping damages before continuing onto the next steps.
- 4. Loosen and remove fasteners to remove Front, Back, and Right-side panels.
- 5. Remove fill plug from crankcase located on the right-hand side of the compressor.
- 6. Fill oil up to the red indicator dot. <u>A DO NOT OVERFILL!</u>
- 7. Locate the crankcase breather in the accessory pack, and thread it into the oil fill port.
- 8. Remove coolant tank lid located on the back side of the compressor, and verify the drain valve is in the closed position (handle perpendicular to the outlet).
- 9. Fill coolant tank to max fill line and replace lid.
- 10. Locate the fill whip and attach it to the output block located on the front side of the compressor, in the lower left-hand corner.

4. DIGITAL GAUGE OPERATION

The digital gauge controls Auto-Stop and Auto-Purge set points, as well as reads out system pressure in BAR or PSI.

Display Units:

- Press and release the "+" button to change the displayed units of pressure between BAR and PSI.
- A green LED will indicate which of the two units is selected.

Auto Purge Interval:

- Press and hold the "+" button for 3 seconds to enter the auto purge interval setting mode.
- Press and release the "+" button to increase the time increment by 1 minute intervals.
- Press and release the "-" button to decrease the time increment by 1 minute intervals.
- Once your interval has been selected, press and hold the "+" button for 3 seconds to exit the auto purge interval setting mode.



NOTE: The purge interval timer begins once fill pressure reaches 50 BAR, so first purge will occur later than the set interval. This is normal.

Auto Stop Pressure:

- Press and hold the "-" button for 3 seconds to enter the auto stop pressure setting mode.
- Press and release the "+" button to increase the pressure by 10 BAR / 145 PSI intervals.
- Press and release the "-" button to decrease the pressure by 10 BAR / 145 PSI intervals.
- Once your pressure has been selected, press and hold the "-" button for 3 seconds to exit the auto stop pressure setting mode.

4.1 DIGITAL GAUGE OPERATION - CALIBRATION

In the event that your digital gauge does not match the accuracy of your analog reference gauge, follow these instructions to re-calibrate the digital gauge. A Only calibrate the digital gauge with a known accurate reference gauge. You must complete all of these steps in order to properly calibrate the gauge.

- 1. Check that fluid levels are full.
- 2. Make sure that all switches are in the off position.
- 3. Connect 110V power cable to a working, grounded 110V outlet.
- 4. Connect your test or reference gauge to the outlet hose. If it is inline with your reservoir, ensure the reservoir valve remains closed throughout this procedure. A DO NOT attempt to fill a reservoir during the calibration procedure.
- 5. Set shut-off pressure to 310 BAR / 4495 PSI.
- 6. Switch on the cooling system switch.
- 7. Press the "+" button once, then press the "-" button 5 times. The display should begin flashing ("0000", "0010", "0020", "0030", or "0040").
- 8. Use the "+" button to change the displayed value until it reads "0000".
- 9. Press the "-" button to set the zero pressure value.
- Switch the compressor switch on and allow the system to pressurize until the reference gauge reads 100 BAR / 1450 PSI, then switch off. Verify that there are no leaks before proceeding through the following steps.
- 11. Press the "+" button once, then press the "-" button 5 times. The display should begin flashing.
- 12. Use the "+" button to change the displayed value until it matches the reference gauge pressure in MPa.
 100 BAR = 10 MPa ("0010" on the display).
- 13. Press the "-" button to set the value.
- 14. Follow steps 10-13 for 200 and 300 BAR (2900 and 4350 PSI) to calibrate the "0020" and "0030" points respectively.
- 15. The "0040" calibration should NEVER be changed from its set value, and cannot be calibrated with this compressor.

If you experience trouble calibrating your digital gauge, please contact HatsanUSA customer service for assistance at Service@HatsanUSA.com or 877-278-4448 Ext. 201.

5. COMPRESSOR BREAK-IN

Follow these break-in steps prior to using the compressor to fill any reservoir.

- 1. Check that fluid levels are full.
- 2. Make sure that Cooling System, Compressor, and Auto Purge switches are in the "OFF" position.
- 3. Connect 110V power cable to a working, grounded 110V power outlet The pressure gauge will power on and the display will illuminate.
- 4. Set shut-off pressure Max 310 BAR / 4495 PSI.
- 5. Install supplied test plug into the end of the fill whip.
- 6. Open the bleed valve located below the fill whip.
- 7. Move the Auto Purge switch to the "ON" position.
- 8. Move the Cooling System switch to the "ON" position The cooling fan should power on, and coolant should begin to circulate throughout the system. △ DO NOT operate the compressor if coolant is not circulating.
- 9. Switch the compressor "ON" and run for 10-15 minutes with the bleed valve open.
- 10. Close the bleed valve and allow the system to begin building pressure.
- 11. When the shut-off pressure is met, the Compressor will shut off and the Auto Purge will activate, purging the system of moisture and draining the fill side of the air system.
- 12. Open the bleed valve to drain remaining pressure from the air system.

6. SYSTEM LEAK TEST

Follow these system leak test steps prior to using the compressor to fill any reservoir for the first time, before use after storage, or any time you suspect there may be a pressure leak.

- 1. Check that fluid levels are full.
- 2. Make sure that Cooling System, Compressor, and Auto Purge switches are in the "OFF" position.
- 3. Connect 110V power cable to a working, grounded 110V power outlet The pressure gauge will power on and the display will illuminate.
- 4. Set shut-off pressure Max 310 BAR / 4496 PSI.
- 5. Install supplied test plug into the end of the fill whip.
- 6. Close the bleed valve located below the fill whip.
- 7. Move the Cooling System switch to the "ON" position The cooling fan should power on, and coolant should begin to circulate throughout the system. ▲ DO NOT operate the compressor if coolant is not circulating.
 - Leave the Auto Purge switch in the "OFF" position for this test.
- 8. Switch the compressor "ON" and run until the shut-off pressure is met. The Compressor will shut off upon completion of this step.
 - You may manually switch the Compressor "OFF" at any time to test at a lower pressure.
- 9. Look at the pressure gauge readout, and listen for any sounds of escaping air. Small leaks may not be heard, but may be determined by watching the gauge. Small leaks can be checked for by spraying soapy water onto areas around fittings. If bubbles form in the sprayed solution, air is escaping at that point.
 - It is normal for the pressure to drop very slowly (<10 BAR / Hour) as air bypasses the cylinder seals.
- 10. Open the bleed valve to drain pressure from the air system.
- 11. Tighten any loose fittings and/or replace any damaged fittings or hoses.
 - Contact HatsanUSA for service and/or replacement parts at <u>Service@HatsanUSA.com</u>.

7. COMPRESSOR FILL OPERATION

Follow these startup instructions to begin filling.

- 1. Check that fluid levels are full.
- Make sure that Cooling System, Compressor, and Auto Purge switches are in the "OFF" position.
- 3. Connect 110V power cable to a working, grounded 110V power outlet The pressure gauge will power on and the display will illuminate.
- 4. Set shut-off pressure Max 310 BAR / 4496 PSI.
- 5. Close the bleed valve located below the fill whip.
- 6. Attach the fill hose to the air reservoir you will be filling.
- 7. Switch the Cooling System "ON" The cooling fan should power on, and coolant should begin to circulate throughout the system. ▲ DO NOT operate the compressor if coolant is not circulating.
- 8. Once the compressor has built up 20 BAR (290 PSI), open the valve on your reservoir (if so equipped) to begin filling.

CAUTION: Depressurize the system before attempting to start the

compressor. The compressor motor will not start if pressure is detected, and you will be prompted to relieve pressure prior to starting the compressor. Use the manual bleed knob to let the pressurized air out of the system.

Follow these shutdown instructions to stop filling, or once the auto shut-off pressure is reached.

- 1. Set the compressor switch "OFF" (leave the cooling system running).
- 2. Close the valve to your air reservoir if so equipped.
- 3. Open the pressure release (bleed) valve, below the fill hose outlet.
- 4. After the system has been depressurized, disconnect the fill hose from your reservoir.
- 5. Continue to allow the cooling system to run for at least 2 minutes after shut-down, then switch the Cooling System "OFF".

8. MAINTENANCE

Proper maintenance of your Lightning Compressor is critical to its longevity. Failure to properly maintain your compressor will result in premature failure, and may void your warranty.

- Use only approved filters, hoses, fittings, and accessories. It is your responsibility to check for leaks before using to fill.
- Use only approved fluids in this compressor. Failure to do so may result in accelerated wear and premature failure.
- To reliably produce clean and dry air, the dryer filter media and desiccant must be monitored on a regular basis and changed when necessary. Filter life will vary due to many factors, including but not limited to: humidity, temperature, purge frequency, and cycle times.
- Parts of this compressor can become hot enough to cause burns. DO NOT operate the compressor without all its protective panels in place, and do not reach into the compressor frame during or immediately after operation.

Leak Checks

- Perform a System Leak Test every 50 hours of runtime or every six months whichever occurs first.
 - Additionally, perform a System Leak Test any time the compressor is transported or unused for more than three months.

Filters and Desiccant

- Replace the cartridge filter and desiccant media every 50 hours of runtime or every six months whichever occurs first.
 - Closely monitor the output of the manual bleed valve. If it begins to expel liquid, change the dryer filter and desiccant media immediately.
- Inspect the air inlet filter every 20 hours or once per month whichever occurs first. Replace the filter if it is visibly dirty, is wet, or has any rips or tears in the media.

<u>Fluids</u>

- Check oil and coolant levels prior to every use of the compressor.
- Use ONLY approved fluids in this compressor (see Required Fluids chart).
- Drain and replace the oil after the first 20 hours of runtime, then every 100 hours of runtime or every year whichever occurs first.
 - **DO NOT use regular motor oil in the crankcase!** ISO 100 compressor oil is required for proper operation and longevity of this compressor.
 - Operation in certain environments may require more frequent oil change intervals. Change the oil if it is visibly dark or dirty, or if it foams during use.
- Drain and replace the water/coolant after 100 hours of runtime or once per year whichever occurs first.
 - Use G-05 or equivalent/compatible antifreeze only. Mix distilled water only DO NOT use tap water or mineral water!
 - 100% distilled water can be used in the cooling system without antifreeze, however, the change interval should be reduced to every 20 hours or once per month.

9. TROUBLESHOOTING

Problem	Possible Cause(s)	Solution(s)	
Pressure gauge does not	No power to compressor	Plug power cord into working 110V grounded power outlet.	
power on or illuminate	Reset button is tripped	Depress the reset button.	
Cooling system does not	No power to compressor	Plug power cord into working 110V grounded power outlet.	
turn on	Reset button is tripped	Depress the reset button.	
	No power to compressor	Plug power cord into working 110V grounded power outlet	
Compressor motor does	Reset button is tripped	Depress the reset button.	
not start	Pressurized system	Release pressure by opening the bleed valve until system is depressurized.	
System does not build pressure	Bleed valve is open	Close bleed valve by turning the screw clockwise until is it hand tight.	
	Fill whip is not connected	Insert test plug into fill whip or connect whip to reservoir.	
System takes a long time to fill or build pressure	Bleed valve is open or partially open	Close bleed valve by turning the screw clockwise until is it hand tight.	
	Leak in system	Perform System Leak Test to locate the leak.	
Compressor stops filling before desired shut-off pressure	Incorrect shut-off pressure	Check and adjust shut-off pressure to desired pressure.	
	Reset button has tripped	Close fill valve on reservoir, open bleed valve and allow the system to depressurize. Depress the reset button and restart the filling process.	
Operating temperature too high	Cooling system not "ON"	Switch the cooling system "ON".	
	No water/coolant in tank	Make sure the drain valve is closed and refill the coolant tank.	
	Cooling system capacity exceeded	Carefully drain and refill the coolant tank with fresh, cool water/coolant.	
Coolant not circulating	Frozen water/coolant	Discontinue operation until water thaws. Drain coolant tank and fill with 50/50 antifreeze/water mix.	

If you experience a problem that is not covered by this troubleshooting guide, or if you continue to have the same problem, discontinue use and contact HatsanUSA (<u>Service@HatsanUSA.com</u> or (877)-278-4448 x201) for assistance.

10. WARRANTY AND SERVICE

One Year Limited Warranty – The Hatsan Lightning Air Compressor is warranted to the original retail customer for one (1) year from the date of purchase. A copy of the original purchase receipt is required for any warranty repairs. This warranty is non-transferable.

Warranty Claims and Repair – Use the Customer Service Form on our website (www.hatsanusa.com) to file a repair or return request. This form is available under the "Contact Us" tab at the top of our website. You can also call HatsanUSA, Inc. at (877) 278-4448 x201. **Proof of purchase must accompany all warranty claims.**

Implied Warranties – Any implied warranties, including merchantability and fitness for a particular purpose, are limited to the duration of One (1) year from date of retail purchase. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. To the extent any provision of this warranty is prohibited by federal, state, or municipal law which cannot be preempted, it shall not be applicable. This warranty gives you specific legal rights and you may also have other rights which vary from state to state and country to country.

What Is Covered

- Repairs required due to manufacturing defect including parts and labor
- Return shipping of the repaired or replaced product back to the consumer

What Is NOT Covered

- Repairs required due to abuse, misuse, neglect, or failure to perform proper maintenance
- Consumables or components that are subject to normal wear
- Shipping damage or damages resulting from drops, impacts, or natural disasters
- Any component that has been modified in any way
- Consequential or incidental damages or expenses
- Property damage

Warranty Exceptions

This warranty will become void for any of the following reasons:

- The compressor has been used for any purpose outside of its indicated function
- The compressor has been operated outside of the provided operating temperature and pressure limitations
- The compressor has been disassembled and improperly reassembled
- The compressor has not been maintained
- The compressor has been used with unapproved chemicals
- The compressor has been equipped with unapproved, non-original parts
- The compressor has suffered damage due to mishandling
- The compressor has been improperly stored
- The compressor has been abused or misused in any way

Contact HatsanUSA:

- Web: <u>https://hatsanusa.com/pages/customer-service-form</u>
- Phone: (877) 278-4448 x201
- Email: Service@HatsanUSA.com
- Mail*: HatsanUSA, Inc.

PO Box 576

Bentonville, AR 72712

*Note: DO NOT send packages or returns to this address. Return address will be provided upon distribution of RMA number.

Fill History – Use this chart to record your fills. Doing so can help keep track of runtime and aid in determining when to perform maintenance.

<u>Date</u>	Reservoir Description	Fill Pressure	<u>Fill Time</u>
1/1/2018	74ci / 6.8L Carbon Fiber	0-4500 PSI	58 min.

Maintenance History – Use this chart to keep record of your maintenance intervals.

<u>Date</u>	<u>Runtime (Hrs)</u>	Maintenance Performed	Notes
1/1/2018	0	Oil and Coolant Fill	ISO 100 / G-05 30%



facebook.com/HatsanUSA



instagram.com/hatsan_usa



youtube.com/c/HatsanUSAInc



www.HatsanUSA.com

HatsanUSA, Inc.

PO Box 576 Bentonville, AR 72712 P: 479.273.5629 F: 918.517.3040