MASPORT

BUILT TO WORK AS HARD AS YOU DO

# OWNER/OPERATOR MANUAL

# MB1000

**Warning!** This Manual includes important product safety information. Misuse of this product may result in severe injury or death. Read this manual carefully before attempting to use this product.


**Masport Incorporated**
6801 Cornhusker Hwy
Lincoln, NE 68507

**www.masportpump.com**
**Email:** cs@masportpump.com

**Phone:** 800-228-4510
**Hours:** M-F | 8am-5pm (CST)

# Record of Purchase

## Serial Number: _____

## Date Purchased: _____

Please carefully read the installation, operation, and maintenance instructions for your Masport Blower. These are provided to assist you and they assume users have a basic level of mechanical competence.

If you have any questions about the correct installation, operation, or maintenance procedures, please ask Masport.

# Contents

# Masport Standard Limited Warranty

**Limited Warranty:**

THE LIMITED WARRANTY SET FORTH IN THIS SECTION (THIS "LIMITED WARRANTY") GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

SUBJECT TO THE TERMS SET FORTH HEREIN, MASPORT HEREBY WARRANTS THAT DURING THE WARRANTY PERIOD (DEFINED BELOW) THE PRODUCTS PURCHASED FROM MASPORT ON THE SITE OR OTHERWISE WILL, IN NORMAL AND INTENDED USE AND SERVICE, BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP.

OUR RESPONSIBILITY FOR DEFECTIVE PRODUCTS IS LIMITED TO REPAIR OR REPLACEMENT AS SET FORTH IN THIS LIMITED WARRANTY. NEITHER ANY PERFORMANCE OR OTHER CONDUCT, NOR ANY ORAL OR WRITTEN INFORMATION, STATEMENT, OR ADVICE PROVIDED BY US OR ANY OF OUR SUPPLIERS, AGENTS, OR EMPLOYEES WILL CREATE A WARRANTY, OR IN ANY WAY INCREASE THE SCOPE OR DURATION OF THIS LIMITED WARRANTY.

### Who May Use This Limited Warranty?

This Limited Warranty extends only to the Customer and the original end-user (if such original end-user is someone other than the Customer). As such, this Limited Warranty does not extend to any subsequent or other owner, transferee, or beneficiary of the Products.

### What Does This Limited Warranty Cover?

During the Warranty Period, this Limited Warranty covers defects in materials and workmanship in Products purchased from Masport on the Site or otherwise.

### What Is The Period Of Coverage Under This Limited Warranty?

This Limited Warranty starts on the date set forth on the Order Confirmation to Customer for the warranted Products and lasts for twelve (12) months thereafter (the "Warranty Period").

### How Do You Obtain Warranty Service?

The Customer or original end-user must provide notice of covered defects in writing to Masport during the Warranty Period and within thirty (30) calendar days following the Customer's or original end-user's discovery of such defect (the "Notice Period").

### What Does This Limited Warranty Not Cover?

Notwithstanding anything herein to the contrary, this Limited Warranty does not cover any of the following, each of which are hereby expressly excluded therefrom:

A. Defects that are not discovered during the Warranty Period;
B. Defects that are not reported to Masport in writing within the Notice Period;
C. Usual and customary deterioration or wear resulting from normal use, service, and exposure;
D. Any Products that are transported outside of the United States;

E. Any shortages or discrepancies, all of which shall be exclusively governed by the Inspection and Claims section of these Terms set forth above;
F. Any claims for loss, damage, cost, or expense caused by any delay or damage in shipment or delivery damage, all of which shall be exclusively governed by the terms set forth in the Product Delivery section above;
G. Shipping or other costs incurred to return the Products to Masport for warranty inspection;
H. Damage to persons or property other than the Products, or for any incidental, consequential, or special damages.
I. Any defect and/or any loss, damage, cost, or expense incurred by Customer, original end-user, or any third party to the extent the same arise out of, relate to or result, in whole or in part, from any one or more of the following:
    1. Theft, vandalism, accident, war, insurrection, fire or other casualty;
    2. Defects or damage caused by the Customer, original end-user, or any third party;
    3. Exposure to corrosive, chemical, ash, smoke, fumes, or the like;
    4. Any Products that have been altered, modified, or repaired by Customer, original end-user, or any third party without Masport's prior written consent;
    5. Failure to perform any preventative maintenance;
    6. Storage;
    7. Combination or use of the Products with any products, materials, processes, systems, or other matter not provided or authorized in writing by Masport;
    8. External causes such as accidents, abuse, or other actions or events beyond our reasonable control; or
    9. Any misuse of the products, including any use of the Products not in conformity with product manuals or contrary to product warnings.

### Resolution of Warranty Claims:

In the event Masport is notified of a warranty claim in conformity with the notice requirements set forth above, Masport shall, with the full cooperation of Customer and/or original end-user (which shall include, without limitation, return of the Products for warranty inspection if requested by Masport), immediately undertake an investigation of such claim. To the extent Masport determines, in its sole discretion, that the warranty claim is covered by this Limited Warranty, Masport will, as Customer and original end-user's sole and exclusive remedy and at Masport's option, either:

A. Ship replacement products to Customer or original end-user; or
B. Ship repaired product(s) to Customer or original end-user.

Masport shall not be responsible to Customer or original end-user for the cost of dismantling any defective Products or installing replacement Products, all of which shall be and for all purposes remain the sole responsibility of Customer and original end-user.

### Customer's Responsibility to Masport Concerning Original End-Users:

Customer warrants and represents that if it resells any Products or incorporates any Products into its own merchandise for the purpose of sale, Customer will:

A. In all instances causes such purchaser to be bound by, and agree to, this Limited Warranty as set forth herein, including all terms and limitations thereof;
B. Properly affix all warning labels to all Products;
C. Provide the applicable Masport product manuals to such purchasers.

### Disclaimer of Implied Warranties:

CUSTOMER EXPRESSLY ACKNOWLEDGES AND AGREES THAT: (I) THIS LIMITED WARRANTY SET FORTH HEREIN IS AN INTEGRAL PART OF THE AGREEMENT PURSUANT TO WHICH THE PRODUCTS WERE PURCHASED; (II) CUSTOMER (FOR ITSELF AND ON BEHALF OF THE ORIGINAL END-USER, IF APPLICABLE) HAS ACCEPTED THIS LIMITED WARRANTY AS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY MASPORT TO CUSTOMER AND ORIGINAL END-USER WITH RESPECT TO THE PRODUCTS; AND (III) THIS LIMITED WARRANTY IS REFLECTED IN THE PURCHASE PRICE FOR THE PRODUCTS. MASPORT MAKES NO OTHER REPRESENTATIONS OR WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, WITH RESPECT TO ANY PRODUCTS, GOODS, OR SERVICES SOLD OR PROVIDED TO THE CUSTOMER PURSUANT TO THE AGREEMENT OR OTHERWISE, INCLUDING WITHOUT LIMITATION ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR USE, ALL OF WHICH ARE EXPRESSLY HEREBY DISCLAIMED.

### Limitation on Liabilities and Damages:

THE REMEDIES DESCRIBED ABOVE ARE YOUR SOLE AND EXCLUSIVE REMEDIES AND OUR ENTIRE OBLIGATION AND LIABILITY FOR ANY BREACH OF THIS LIMITED WARRANTY OR THE AGREEMENT. TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT SHALL MASPORT BE LIABLE FOR ANY SPECIAL, INDIRECT, PUNITIVE, COVER, INCIDENTAL OR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED, WHETHER IN CONTRACT OR TORT OR UNDER ANY OTHER THEORY OF LIABILITY, INCLUDING WITHOUT LIMITATION, LOSS OF REVENUE, ANTICIPATED PROFITS, BUSINESS OR SALES, ANY LOSS OF GOODWILL OR REPUTATION, OR THE COSTS OF SUBSTITUTE GOODS OR PRODUCTS, EVEN IF MASPORT OR AN AUTHORIZED REPRESENTATIVE THEREOF HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN ADDITION, TO THE EXTENT PERMITTED BY APPLICABLE LAW, WE (INCLUDING OUR PARENT, SUBSIDIARIES, AND AFFILIATES, AND OUR AND THEIR OFFICERS, DIRECTORS, MANAGERS, AGENTS, AND EMPLOYEES) ARE NOT LIABLE, AND YOU AGREE NOT TO HOLD US RESPONSIBLE, FOR ANY DAMAGES OR LOSSES RESULTING DIRECTLY OR INDIRECTLY FROM:

A. YOUR USE OF OR YOUR INABILITY TO USE OUR PRODUCTS;
B. SUSPENSION OR OTHER ACTION TAKEN WITH RESPECT TO THE PRODUCTS OR BREACH OF ANY OF THESE TERMS; OR
C. YOUR NEED TO MODIFY PRACTICES, CONTENT OR BEHAVIOR OR YOUR LOSS OF OR INABILITY TO DO BUSINESS, AS A RESULT OF CHANGES TO THE AGREEMENT.

NOTWITHSTANDING ANYTHING CONTAINED HEREIN TO THE CONTRARY, IN NO EVENT SHALL THE TOTAL LIABILITY OF MASPORT TO YOU OR ANY THIRD PARTY FOR ALL DAMAGES, LOSSES, AND CAUSES OF ACTION (WHETHER IN CONTRACT OR TORT, INCLUDING, BUT NOT LIMITED TO, NEGLIGENCE, PRODUCT LIABILITY OR OTHERWISE) ARISING FROM THE AGREEMENT OR YOUR PURCHASE OR USE OF THE PRODUCTS EXCEED, IN THE AGGREGATE, THE LISTED PURCHASE PRICE PAID BY YOU FOR THE PRODUCTS YOU PURCHASED PURSUANT TO THE TERMS HEREUNDER.

Some jurisdictions do not allow the exclusion of damages, so such exclusions may not apply to you. The limitation of liability set forth above shall only apply to the extent permitted by applicable law.

### Limitation on time to file claims:

TO THE FULLEST EXTENT PERMITTED BY LAW, ANY CAUSE OF ACTION OR CLAIM YOU MAY HAVE ARISING OUT OF OR RELATING TO THE AGREEMENT OR YOUR USE OF OUR PRODUCTS MUST BE COMMENCED WITHIN SIX (6) MONTHS AFTER THE CAUSE OF ACTION ACCRUES, OTHERWISE, SUCH CAUSE OF ACTION OR CLAIM IS PERMANENTLY BARRED.

### Indemnification:

You agree to indemnify and hold harmless Masport, its affiliated companies and their respective officers, directors, employees, managers, agents, successors, and assigns ("Indemnified Parties") from and against any claim or demand (including reasonable attorneys' and experts' fees and costs) made by any party due to or arising out of your (a) breach of the Agreement, (b) improper use of the Products, (c) breach of any law or the rights of a third party, or (d) failure to strictly comply with your obligations to Masport concerning original end-users or any representations made by you to such original end-user. Masport shall promptly notify you in writing of any threatened or actual claim or demand and reasonably cooperate with you to facilitate the settlement or defence thereof. You shall have sole control of the defence or settlement of any claim or demand, provided that Masport, at our option and expense, may participate and appear on an equal footing with you. You shall not settle any claim or demand without the written consent of the Indemnified Parties, with such consent not to be unreasonably withheld or delayed.

# Introduction

Congratulations on your purchase of a Masport Blower. We are delighted you have chosen to join the community of satisfied customers using Masport equipment in daily professional operations.

Our products are backed by over 100 years of engineering excellence and are specifically designed and engineered to meet the needs of hard-working pumpers around the world.

Our expert product development, manufacturing and distribution teams work to rigorous quality standards and a strict testing regime. To produce our precision blower, we only use the finest quality components and materials to ensure the durability of your blower. Every blower is factory tested before shipping and is backed up with a one-year warranty against all manufacturing defects. This system ensures you receive a quality product.

This manual provides all the information you will need to run your pump correctly to ensure a long and efficient service life. If you have any questions, please contact your local Masport representative or Masport directly.

## Our History:

Masport designs, manufactures, and assembles vacuum pumps, blowers and associated products. The company was established by Harold Mason and Reuben Porter under the name City Engineering in Auckland, New Zealand, in 1910. Within a couple of years, the Mason and Porter business, or Masport as the company later became known, was manufacturing vacuum pumps and a range of engines to power all types of farm equipment.

Masport first looked to international markets with trial exports of vacuum pumps to the United States in 1956 – and has never looked back since. In 1991 the ownership of Masport's vacuum pump division was transferred to Skellerup Holdings – an iconic New Zealand Company which also celebrated its centenary in 2010.

With Masport on board you have an efficient and reliable pump backed by the best service and support that has made Masport the #1 choice for pumpers worldwide.

**Over 100 Years of Engineering Excellence**

# Intended Use

Masport blowers are intended to be used for loading and unloading of liquid material. The blower is commonly used for liquid waste transport, septic tank cleaning, oil field water trucks, car wash or grease trap cleaning and many other industrial applications.

**WARNING!** Masport blowers must not be used to move flammable or highly caustic material. Use of this pump for moving hazardous material may result in machinery failure, bodily injury or even death.

# Installation

Whatever the configuration of the vacuum system on your truck or trailer, all components and plumbing must be of adequate size, or the system will not operate correctly.

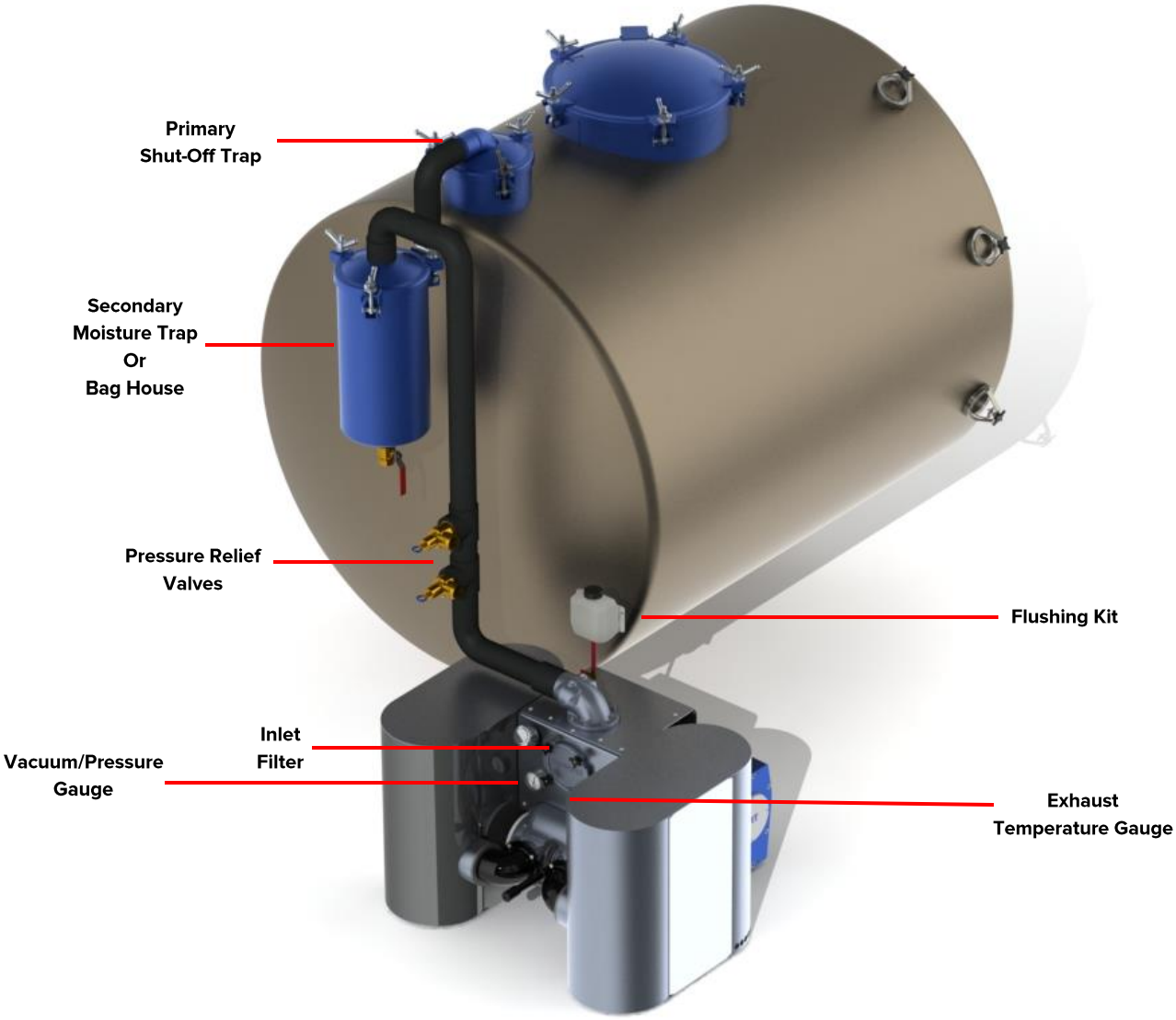
**WARNING!** The MB1000 requires a minimum of 4” I.D diameter plumbing and corresponding 4” I.D components. Using plumbing and components smaller than 4” I.D. will restrict airflow and the blower may overheat and be damaged.

Ensure all pipes, hoses and fittings are thoroughly cleaned before fitting and free of any kind of dirt or debris. Any solid particles ingested by the blower may cause irreparable damage that will result in loss of performance and increased operating noise. Some form of pipe sealant should be used on all thread connections to prevent leaks.

## Hose:

Any hose used in the system is to be rated for at least 28”Hg vacuum and 25 PSI pressure, and withstand air/oil temperatures up to 300 F. Hot-tar and asphalt hose is designed for use in this type of environment.

# Recommended System Components




## Primary Shut-Off Trap:

A float ball shut-off that prevents liquid in the tank from overflowing into the system and entering the blower. Liquid entering the blower can damage or destroy the blower.

## Secondary Moisture Trap (Scrubber):

Removes liquid still in the air stream after passing through the Primary Trap. The Scrubber should be drained after every load.

## Bag House (Optional)

Bag houses are typically used in systems where dry material is being pumped. Specifications of the bag house depends on the frequency and type of dry material being pumped.

## Pressure Relief Valve:

Regulates the amount of pressure the system is exposed to. It should be located between the Scrubber and the blower on the clean side of the system and be of sufficient flow capacity to fully relieve the blower.

**WARNING!** Operating your system without a properly installed pressure relief valve in good working order could lead to equipment damage or catastrophic failure resulting in severe injury.

## Inlet Filter:

Prevents small particulate matter from entering the blower. This filter should be checked and cleaned or replaced regularly.

## Vacuum/Pressure Gauge:

Liquid filled gauges provide accurate measurements that allow monitoring of the blower system under both vacuum and pressure operating modes.

## Exhaust Temperature Gauge:

Provides accurate measurements that allow monitoring of the blower system exhaust temperature under both vacuum and pressure operating modes.

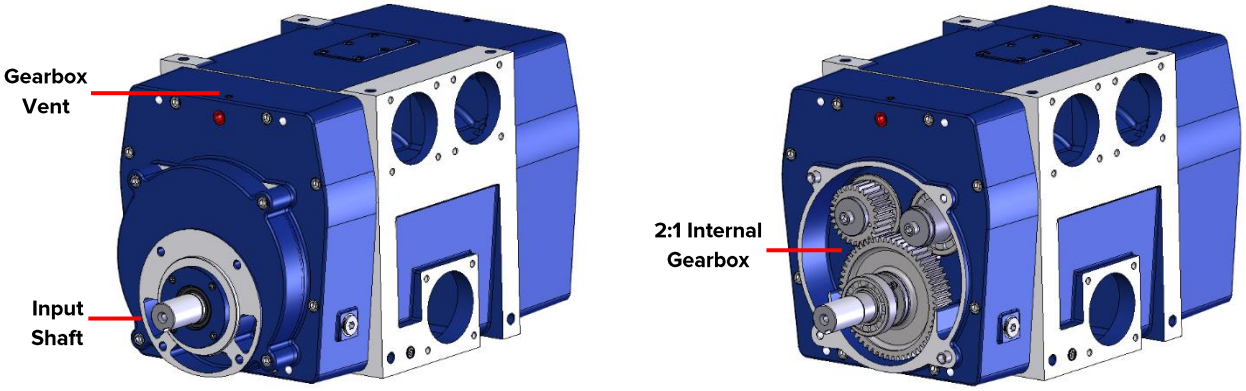
## Flushing Kit:

The flushing kit supplies a cleaning fluid to the blower. This extends the blowers life by preventing the build-up of carry-over from liquid level traps causing contamination.

# Drive Systems

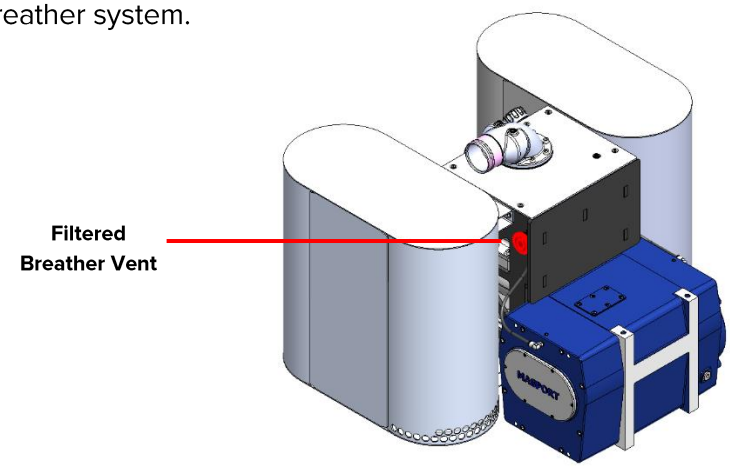
The blower is designed with an internal 2:1 gearbox. This means that the RPM required at the input shaft of the blower is half the speed as required at the blowers' lobes (i.e., an input speed of 2,000 RPM will drive the blowers' lobes at a speed of 4,000 RPM).

**Note:** It is normal for the input shaft to have axial movement. The blower's lobes are connected to the input shaft via the gearbox drive.




**WARNING!** All RPMs shown in this manual are the required RPM at the input shaft.

To ensure pressure is relieved from the gearbox a vent has been designed into the gearbox casing. To prevent unwanted contaminants from entering the gearbox this vent is connected to a filtered breather system.




**WARNING!** It is important check and clean the filtered breather vent regularly to ensure it is functioning as designed. When using a pressure washer to clean the blower or truck avoid the avoid the filtered breather vents to mitigate oil contamination.

Whichever drive system is chosen (PTO or Hydraulic) ensure it is adequately sized to suit the pump requirements. The chosen motor needs to satisfy the horsepower and RPM requirements of the pump.

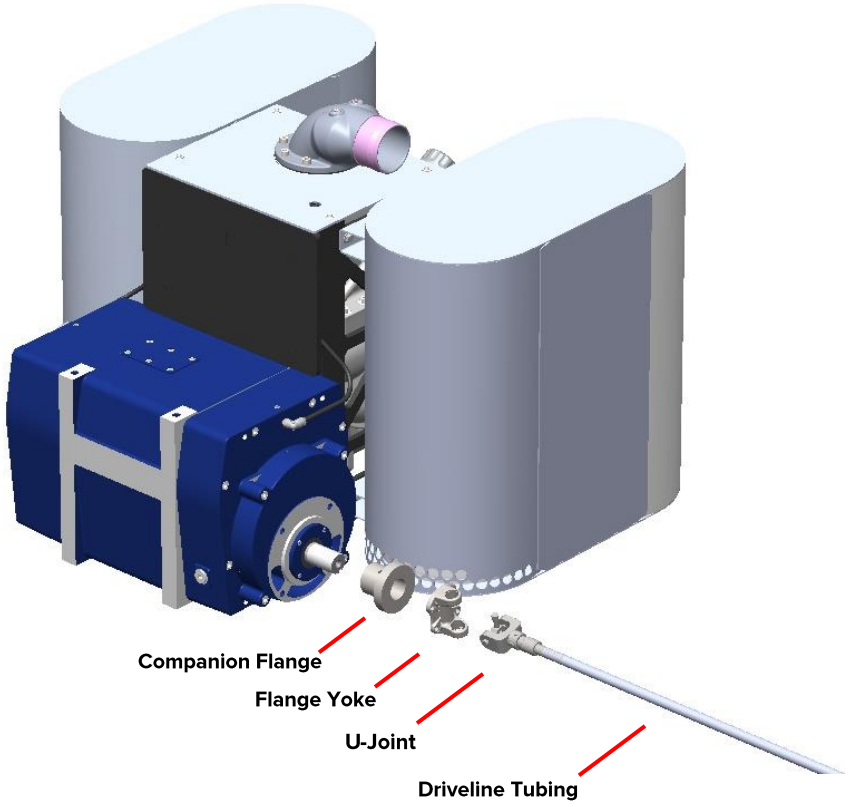
**WARNING!** Ensure that all moving parts are properly guarded.

## PTO Drive:

The blower is designed to be direct driven by a PTO drive shaft. The recommended setup and configuration are as follows:

- Companion Flange.
- Flange Yoke.
- U-Joints to meet the HP requirements.
- 2.5” Heavy Wall or 3” Standard Wall Driveline Tubing.

**Note:** The Dana Spicer 2-1-1313-9 Companion Flange and Dana Spicer 2-2-329 Flange Yoke and are recommended as ideal PTO Drive components.



**Note:** Ensure an adequately rated Slip Shaft (Splined) connection is used within the Drive Shaft from the PTO to the Input Shaft. The Slip Shaft must be adquately engaged on the spline but free in movement for the range of travel on the Input shaft.

When using a chassis with an automatic transmission a soft start PTO is required and the PTO ratio should be appropriate to drive the pump in the desired RPM range specified in this manual. It is recommended to use the lowest PTO ratio to achieve the desired RPM as this will provide the softest start up.

**WARNING!** Do not engage “Hot Shift PTO’s” outside of the manufacturer’s specification as damage to the PTO, driveline or blower may occur. Slowly ramp the blower up to speed to prevent shocking the system.

Due to the higher driveline speeds required to run a blower it is recommended to install a driveshaft loop or appropriate guarding to protect vital chassis components such as wiring, transmissions, etc. in the event of a U-joint or driveshaft failure.

**WARNING!** Install a drive shaft loop to contain the drive shaft in the event of a failure.

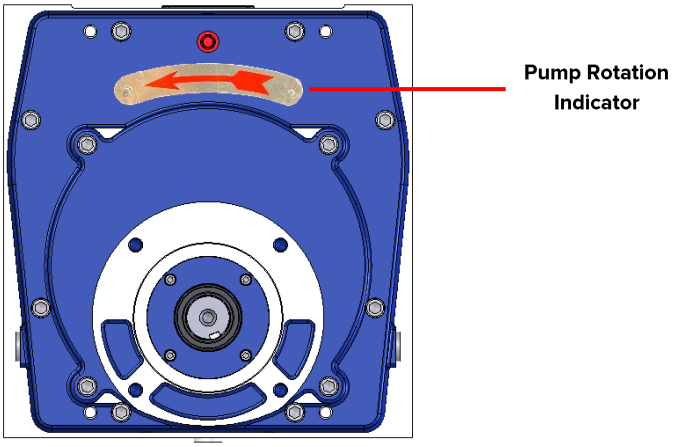
## Hydraulic Drive:

The blower can be driven with an appropriately sized hydraulic system utilizing a hydraulic motor with an SAE B or SAE C flange, hydraulic adaptor, and coupler set.

**Note:** Ensure the input shaft float is centred when closing the coupling clearance or alternatively ensure the coupling insert has minimum axial clearance of 0.030” (0.75mm) before locking hub to input shaft.

# Rotation of the Blower

The blower is a single shaft design. It is available in a Clockwise (CW) or Counter-Clockwise (CCW) configuration to accommodate either direction drive setup. There is an arrow printed onto the end cover indicating the proper pump rotation. Ensure that the drive system direction corresponds to the direction shown on the pump.




**WARNING!** Always run the blower in the direction as indicated.

# Pump Speeds and Power Requirements

The table below provides the recommended speed and power requirements (hp) for optimal blower life and performance.

| Blower | Input RPM | | Vacuum ("Hg) | | | | | Pressure (PSIG) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5 | 10 | 15 | 20 | 27 | 5 | 7 | 10 |
| MB1000 | 1,000 | Minimum | 5.0 | 10.1 | 14.3 | 18.9 | 26.5 | 7.6 | 11.7 | 18.5 |
| | 1,750 | Recommended | 10.2 | 17.4 | 28.1 | 36.3 | 50.6 | 13.8 | 20.6 | 31.8 |
| | 2,000 | Maximum | 10.8 | 20.7 | 31.4 | 42.2 | 57.4 | 15.9 | 23.7 | 37.8 |

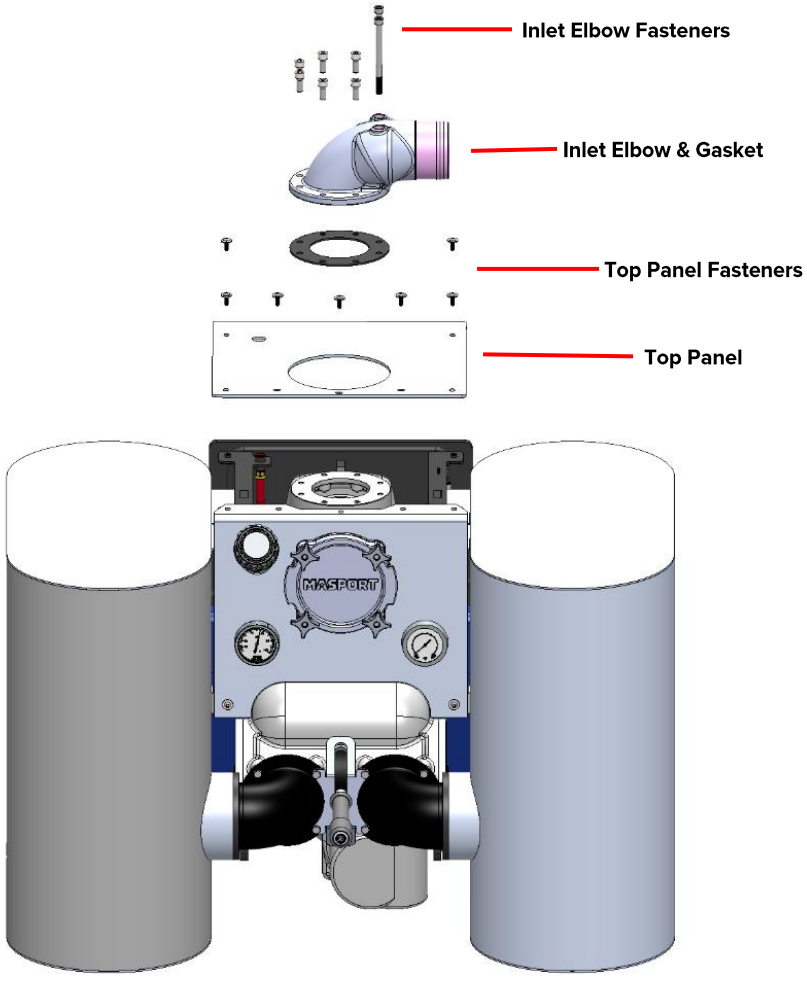
**Note:** Heat build-up is the limiting factor in the blower's performance. Operating above or below the recommended speed range will increase the heat produced and negatively impact the life of the blower.

The maximum allowable operating vacuum will vary depending on the RPM, ambient temperature, altitude, and time running. When installing a MB1000 it is recommended to operate at a normal input RPM of 1,750.

# Frame Mounting to Chassis

The best way to gain access to the blower frame is to drill mounting holes and fit the necessary fasteners is by removing the top panel from the cabinet. To achieve this the following steps are to be followed:

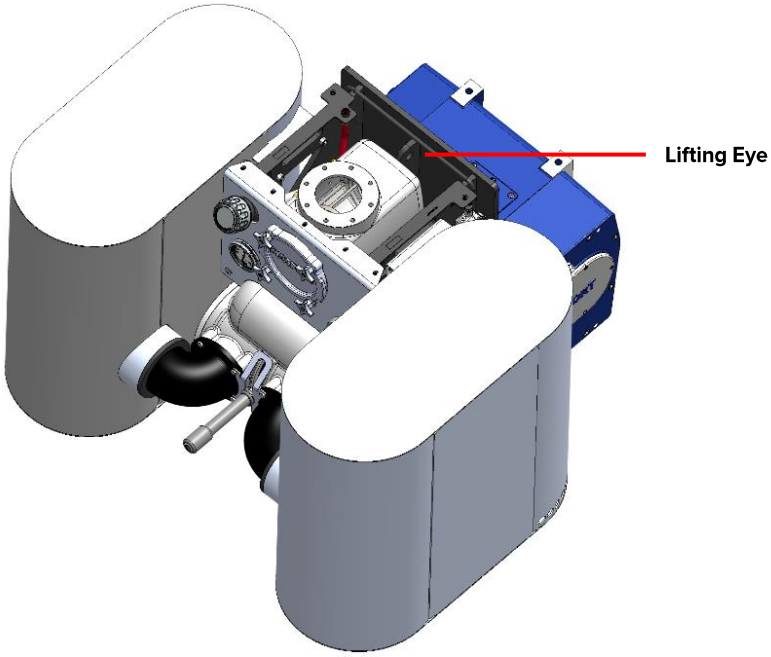
- Remove inlet elbow fasteners.
- Remove inlet elbow and gasket.
- Remove top panel fasteners.
- Remove top panel.



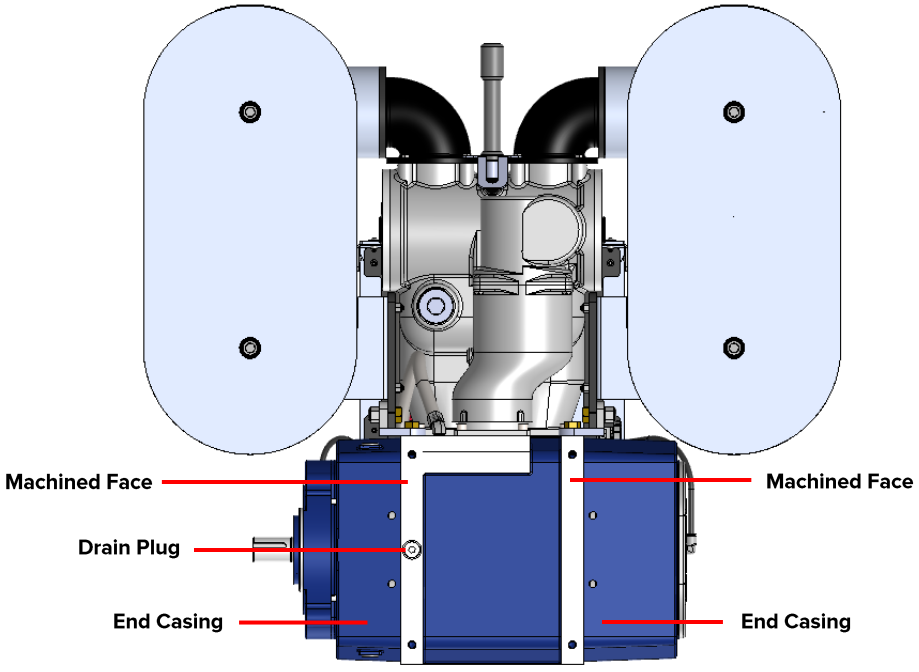

## Handling:

Use an appropriately sized lifting strap for lifting the blower. The base is equipped with a lifting eye that is positioned approximately at the centre of gravity.

**WARNING!** The MB1000 weighs approximately 1,000 pounds. Lifting straps that can support this weight are required.




**WARNING!** Do not rest the blower on the end casings or drain plug. To properly protect the internal mechanisms the blower must be rested on the machined faces on the underside of the blower.




*Underside of Blower*

# Vacuum & Pressure Operation

The handle is used to change the blower operation from vacuum to pressure or pressure to vacuum by shifting the handle through 90 degrees in a vertical motion.

There are three operating positions:

- Full Pressure (Top)
- Neutral (Center)
- Full Vacuum (Bottom)


**WARNING!** Never feather the handle to regulate vacuum or pressure. Feathering will cause the blower to overheat.

# Air Flow Control

The airflow rate on the blower can be adjusted by changing the speed of the blower. This can be accomplished by changing the PTO ratio or engine speed.

# Sound Level

It is recommended to monitor the blower while running to listen for resonance frequencies (i.e., increased levels of noise). These can occur at certain RPMs, and if detected adjust the input RPM to be above or below the resonance frequency speeds.

**WARNING!** Ensure operators wear hearing protection as noise levels can exceed 85 dB.

# Pressure Relief Valve

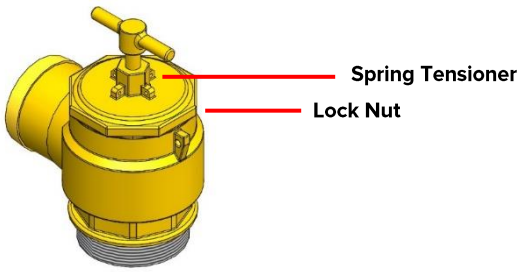
It is recommended to set the pressure relief valves below 10 PSI. This level is adequate in majority of applications.

**WARNING!** The MB1000 blower is not designed to be operated at a continuous pressure above 10 PSI. Operating above this level can cause catastrophic failure.

To set the pressure relief valve:

- Unscrew the Lock Nut.
- Using a 15mm wrench turn the Spring Tensioner clockwise to increase the pressure and counterclockwise to reduce pressure.
- When the pressure level is set retighten the Lock Nut.

The pressure relief valve setting should be verified by using a quality liquid filled pressure gauge.



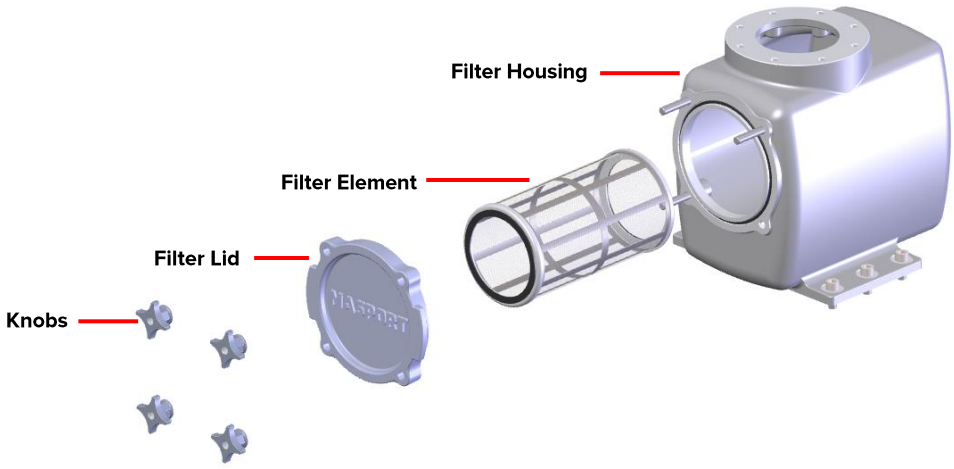

**WARNING!** Ensure to check the maximum airflow capacity of the Pressure Relief Valve to determine the number of Pressure Relief Valves required to be able to relieve the MB1000 at free airflow (i.e., 1,000 CFM).



# Inlet Filter Cleaning

The inlet filter element should be inspected and cleaned weekly for use in vacuum mode, and daily for use in pressure mode. To check and clean the inlet filter element:

- Remove the four knobs and filter lid.
- Remove the filter element and clean with soap and water and dry. Remove any debris from the filter housing.
- Ensure filter element end caps are wiped off after cleaning.
- Reinstall filter element, filter lid and tighten four knobs.




**WARNING!** Inspect and clean the inlet filter at the end of each day, or anytime liquids or solids have been allowed to enter the blower.

Scan or Click the QR Code to Purchase
**Replacement Inlet Filter Elements**

# Flushing Information

The blower comes standard with a remote flushing kit. The flushing kit is used to introduce small amounts of flushing fluid into the blower to cleanout debris and inhibit rust.

Masport blowers are best flushed by using the Masport specially formulated Flushing Fluid. This is available from your local Masport representative or by contacting Masport directly.

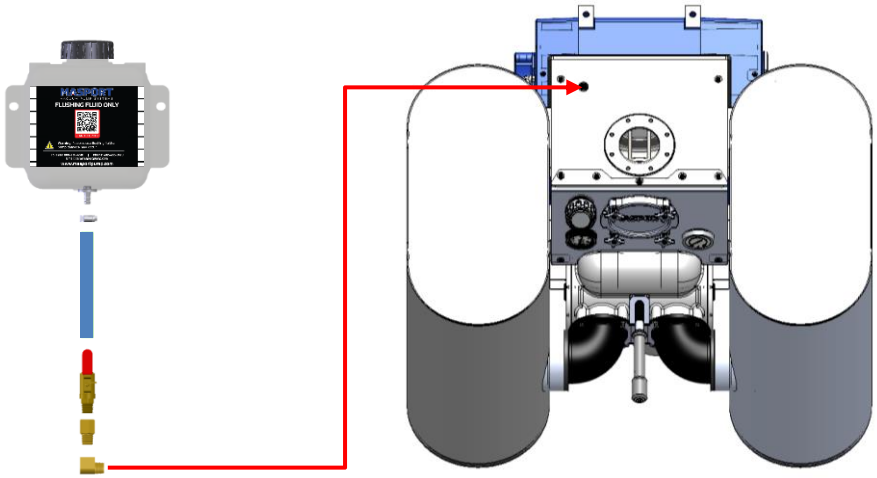
| Part Number | Volume | Type |
|---|---|---|
| 13989 | 1 Gallon | Flushing Fluid |
| 13991 | 4 Gallons | Flushing Fluid |
| 13992 | 12 Gallons | Flushing Fluid |

Scan or Click the QR Code to Purchase
**Flushing Fluid & Flushing Kits**

## Flushing Procedure:

Flushing frequency: weekly, preferably at the end of a workday, more often if carry-over from traps contaminate the pump.

- Connect the Flushing Kit to the flushing port on top of the blower.



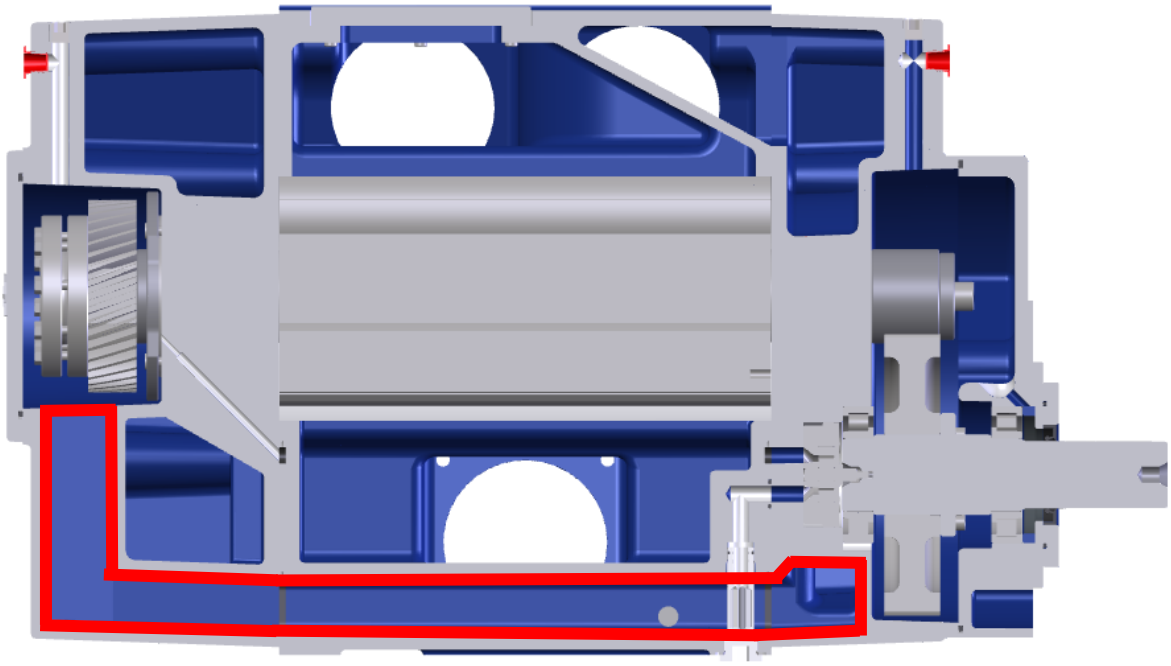
- Run the truck at idle to engage the blower.
- Move the handle to the pressure position (Top).
- Open the ball valve to begin flushing fluid flow.
- Continue to run the blower until the fluid level drops 1 graduation (approximately 7 fluid ounces).
- Close the ball valve.
- Continue to operate the blower for 3 additional minutes to ensure all fluid is purged from the blower.
- Stop the blower and move the handle to the neutral position.
- Drain the moisture trap (scrubber) and dispose of used fluid at an approved recycling site.

**WARNING!** Flush the blower at the end of each day, or anytime liquids or solids have been allowed to enter the blower.

# Gear Casing Oil Changeover

The blower has one central oil sump (as highlighted in red in the image below) that is used to lubricate the drive end and non-drive end of the blower.

**Note:** The MB1000 as standard comes supplied with new oil. The MB1000 requires 2.9 quarts of oil to fill it from empty.



The oil needs to be periodically changed as follows:

- Initial oil change after 100 hours of operation.
- Repeated oil changes after 500 hours of subsequent operation.

Blowers require a high-quality synthetic oil. Oil specifically formulated for Masport blowers is available from your local Masport representative or by contacting Masport directly.

| Part Number | Volume | Type |
|---|---|---|
| 72060 | 3 Quarts | All Seasons Blend |

Scan or Click the QR Code to Purchase
**All Seasons Blower Synthetic Oil**

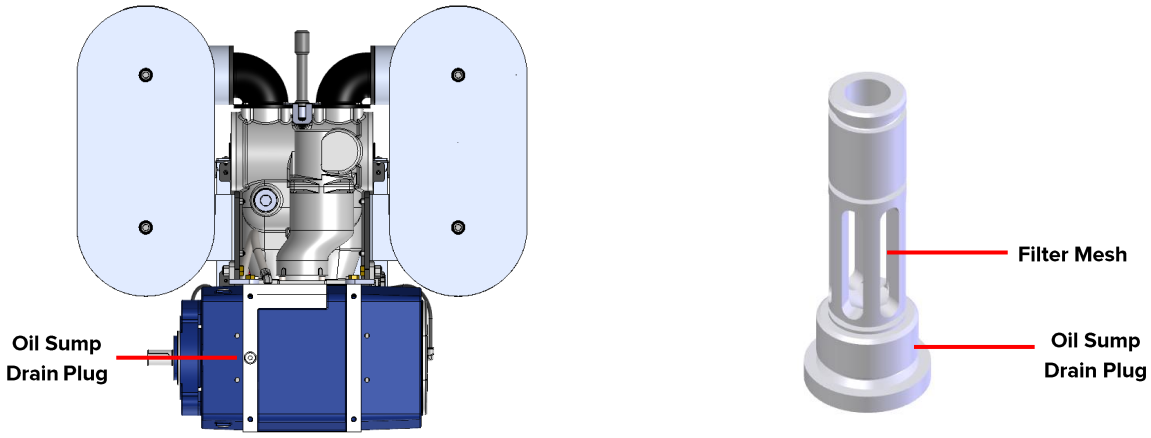
Substitute synthetic oils approved for use in Masport blowers:

| Ambient Temperature | Viscosity | Type |
|---|---|---|
| Above 90°F | ISO 320 | Summit Syngear SH-7320<br>Mobile SHC 632 |
| 32°F - 90°F | ISO 220 | Summit Syngear SH-7220<br>Mobile SHC 630 |
| 0°F - 32°F | ISO 150 | Summit Syngear SH-7150<br>Mobile SHC 629 |
| Below 0°F | ISO 100 | Summit Syngear SH-7100<br>Mobile SHC 627 |

**Note:** Check pour point to determine minimum temperature.

To replace the oil in the blower:

- Position truck/blower on a level surface.
- Run blower to warm the oil.
- Obtain an oil catch pan and place under drain plug on the bottom of the blower. Remove drain plug and drain the oil sump completely of oil.
- Clean filter mesh on oil sump drain plug and dry.




*Underside of Blower*

**WARNING!** The presence of excessive metallic shavings in the oil can indicate internal issues with the blower. Contact Masport directly if this occurs.

- Once all the oil has drained reinstall the cleaned drain plug. Ensure the mesh is refitted to the upstand if removed for cleaning.
- Remove oil cap and dipstick from oil fill line and insert a funnel. Slowly pour in 2.9 quarts of oil. It takes time for the oil to travel into the oil sump. Allow oil to drain and settle in sump before adding more.


**WARNING!** Insufficient or excessive oil can cause catastrophic blower failure.

- Clean and reinstall dip stick.
- Verify oil is within specified levels on the dipstick and reinstall oil cap.

# Clean Out Procedure

If the blower becomes flooded with carryover, the following procedure should be followed to clean it out:

- Remove the inlet filter, exhaust silencer, ballast silencer and control manifold.
- With high pressure water, clean intake, exhaust, and ballast areas. Slowly turn the input shaft as you clean the lobes with water.
- Continue to spray water into the inlet of the blower until the discharge shows only clean water.
- Disassemble and clean the valve assembly. Allow to dry then reassemble.
- With the blower running, spray a small amount of penetrating oil into the intake and run until no liquid comes out the exhaust.
- If the blower was flooded, it is highly probable the exhaust silencer has material in it as well. Clean it out using the inlet, outlet and drain locations for access. Drain all fluids from the silencer and allow it to dry.
- When everything is clean and dry, reassemble the inlet filter, exhaust silencer and ballast silencer.

# Maintenance and Important Operating Tips

To keep the blower in a workable condition, operators should undertake regular maintenance and keep a written log of those checks.

## Before Starting:

- Ensure pressure relief valves are installed in the system and adjusted to recommended settings, taking into account the altitude of the job location.
- Always bleed the tank to atmospheric pressure before switching the valve from vacuum to pressure or from pressure to vacuum.

## Every Load:

- Drain the scrubber after each tank load. If nothing drains when the ball valve is opened never assume it is empty, check for a blockage in the valve.
- Monitor vacuum/pressure and temperature gauges to detect any irregularities or problems.

## Daily:

- Check and clean the Inlet Filter. Ensure the filter is completely dry before refitting. This checking process must be done anytime contamination may have entered the system.
- Flush the blower with Masport Flushing Fluid, or anytime liquids or solids have been allowed to, or suspected of entering the blower.

## Weekly:

- Check to ensure the blower RPM is within the recommended range. Running the pump too fast or too slow may cause damage.
- Wash any dirt off the blower as it needs to be clean to allow heat to radiate and prevent it from overheating.
- Check and clean the gearbox vented breather filter mounted on the side of the blower base.

## Annually:

- Check bolt mountings, drive universal joints, and drive coupling alignment and condition.

## Storage:

- If the blower is to be sitting for an extended period, it needs to be flushed prior to storage.
- While in storage rotate the input shaft three to four revolutions every two weeks to keep the internal gears coated in oil.

## For Safe Operation:

- Wear the correct Personal Protective Equipment.
- Never use the blower to move flammable or highly caustic material.
- Do not open any ball valve on any components when the tank is under vacuum, as this will cause foreign material to enter the blower.

- Do not over speed or under speed the blower as either will cause overheating.
- Do not engage power take off at high RPM. Only engage at idle.
- Always disengage the blower when driving to or between job sites by locking the handle in the neutral position (Middle)
- Never spin the blower backwards.
- No maintenance should be undertaken, or parts be removed if there is either pressure or vacuum in the tank.

# Troubleshooting

## The Blower Does Not Spin Freely

**Potential causes to check and resolve:**

- Lobes are contacting each other.
- Deposit buildup on cylinder wall.
- Object was ingested into the blower.

## The Blowers Performance Is Impaired

**Potential causes to check and resolve:**

- Inlet plumbing or filter clogged.
- Exhaust plumbing clogged.
- Ballast plumbing is clogged.
- Handle is not fully seated in correct position.
- Faulty relief valve.
- Faulty gauges.
- Vacuum or pressure leaks in the system plumbing or tank.

## Oil Or Liquid Leaking from the Blower

**Potential causes to check and resolve:**

- Oil level is too high.
- Oil sump gaskets and seals worn.
- Drive shaft seal worn.
- Oil sump plugs worn.
- Blower operated at excessive angle.

For further issues or additional information contact an authorized Masport distributor or Masport directly.

# Blower Service & Rebuild

Rebuilding is beyond the scope of this owner's manual and should only be performed by trained technicians. Please contact Masport directly to arrange rebuilding of the blower.


**www.masportpump.com**