AT-SERIES HIGH EFFICIENCY CENTRIFUGAL BLOWERS
Models AT-700, AT-800 and AT-1200

PAXTON PRODUCTS

SERVICE & MAINTENANCE MANUAL

ITW Air Management
10125 Carver Road, Cincinnati, OH 45242
1-513-891-7474 | techsupport@paxtonproducts.com
www.paxtonproducts.com
SAFETY PRECAUTIONS

Safety First! When installing, operating, or servicing the equipment, always use proper safety procedures in accordance with Federal, State and Local laws and regulations. To avoid injury to yourself, others, or damage to the equipment, adhere to the following safety practices.

- **Always use qualified personnel and electricians** for installation, maintenance and servicing of all Paxton blowers and motors. Electrical connections, servicing and maintenance should be performed only by properly trained, certified and licensed electricians. Operating a blower without proper grounding could result in personal injury or death.

- **Always disconnect the electrical power** at the circuit breaker or fuse box, before working on the motor and/or blower assembly. Take special precautions to ensure that the **power cannot be turned “ON”** while you are working on the motor and/or blower assembly. Observe proper lockout/tagout procedures.

- **Always wear safety glasses** while working on any Paxton blower assembly. Per OSHA regulations, always wear hearing protection when working near operating blowers.

- **Do not operate** the motor/blower assembly without the belt guard properly installed, or with the blower inlet **unprotected** by a filter element assembly.

- **Do not operate** the motor/blower assembly with the discharge outlet open. Always connect the outlet to the system piping or Paxton control valves. Failure to operate blowers under a working load could result in high current draw, damaging the motor and electrical systems.

- **Always** keep hands, tools, long hair, loose clothing, neckties, jewelry or similar loose items away from all moving or rotating parts.

- **Use caution** around all water-cooled units; the blower head assemblies operate at high temperatures, causing the outer surfaces to be dangerous to the touch.

- **Always** install motor current protectors (for 3-phase units), circuit breakers or fuses for line protection. Devices should be sized per motor nameplate data.
WELCOME TO PAXTON PRODUCTS!

Paxton Products has been manufacturing high efficiency centrifugal blowers for nearly 60 years. A Paxton Air System delivers superior drying and blow off performance while conserving energy by coupling high-efficiency centrifugal blowers with Paxton’s custom-engineered air delivery devices.

To ensure peak performance and maintain the warranty for your Paxton Air System, please read and follow all service and maintenance guidelines, using genuine Paxton components.

MAINTENANCE GUIDELINES

In order to maintain the blower warranty, it is necessary to use genuine Paxton replacement parts replaced at the minimum frequency prescribed below.

<table>
<thead>
<tr>
<th>Paxton part</th>
<th>1 or 2 shifts/day operation</th>
<th>3 shifts/day operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belts</td>
<td>12 months</td>
<td>6 months or 4000 hours</td>
</tr>
<tr>
<td>Belt Springs</td>
<td>12 months</td>
<td>6 months or 4000 hours</td>
</tr>
<tr>
<td>Tensioners</td>
<td>24 months</td>
<td>12 months</td>
</tr>
<tr>
<td>Filters</td>
<td></td>
<td>Filters must be changed as often as needed to maintain blower or system performance as measured by increased pressure drop across the filter. The filter must be changed if the pressure drop exceeds 10” of water column. Filter change frequency will vary widely based on environmental and atmospheric conditions. Minimum recommended filter change frequency is every 12 months for 1 or 2 shift/day operation; and every 6 months for 3 shift/day operation.</td>
</tr>
</tbody>
</table>

TABLE OF CONTENTS

4 GETTING TO KNOW YOUR BLOWER
8 BELT REPLACEMENT
11 FILTER REPLACEMENT
13 FILTER AND SILENCER REPLACEMENT
16 TENSIONER AND/OR SPRING REPLACEMENT
22 BLOWER HEAD REPLACEMENT
AT-SERIES BLOWER, EXPLODED VIEW

- Inlet Air Filter
- Blower Head
- Motor Plate
- Idler/Tensioner
- Motor Pulley
- Belt Guard
- Belt
- Motor
- Air Outlet
- Blower Pulley
A blower is a popular method for pumping air for industrial applications. Blowers use centrifugal force to aid the pumping. Your new Paxton high efficiency centrifugal blower consists of the following key components:

1. **Motor**
2. **Belt Drive Assembly**
   a. Motor Plate
   b. Motor Pulley
   c. Blower Pulley
   d. Idler/Tensioner
   e. Belt
   f. Belt Guard
3. **Blower Head**
   a. Bearing carrier with ABEC-7 bearings
   b. Scroll
   c. Impeller (inside the scroll)
4. **Inlet Air Filter**

---

**HOW THE BLOWER WORKS**

An electric motor spins at about 3500 rpm, and through the blower’s belt and pulley system, it causes the impeller to spin at 15,000–18,000 rpm. Room air is drawn into the blower through the inlet air filter. The inlet air comes into contact with the spinning impeller, accelerating the air. The accelerated air exits the blower at high velocity and pressures of 30–100 inches of water (75–250 mbar). The accelerated air is discharged into the piping system as it travels to the air delivery devices.

*The blower must not be used without an inlet air filter, as the incursion of dust or dirt into the blower will damage the impeller and void the warranty.*
STARTING AND STOPPING

Blower performance over the long term is maximized by minimizing starts and stops. If your application requires frequent starts and stops, the installation of a variable frequency drive (preferred) or soft start system is highly recommended to reduce the initial start up torque. This is particularly critical for larger horsepower models.

ℹ️ Do not start and stop the blower more than 6 cycles per hour, without the use of a variable frequency drive.

BLOWER OPERATION

1. After ensuring correct motor shaft rotation and connecting the air delivery devices, your new Paxton blower is now ready to use.

2. Switch the power “ON” to the blower unit and let it run while you measure the blower's voltage and amperage rating and compare to the values listed on the motor nameplate. Measure amperage and voltage on L1, L2 and L3 to ground using a Clamp Meter.

⚠️ Do not operate the blower if it exceeds the voltage or current ratings on the motor nameplate. Call Paxton Technical Support at 1-800-441-7475.

ℹ️ If wired improperly and running backwards, the amp draw of the motor will be ½ to ¾ of the nameplate amp draw, and the blower performance will be about 50% of normal.

3. The blower will achieve steady state operation in 30–60 minutes.

To ensure peak performance of your Paxton Air System, please read and follow all service and maintenance procedures carefully, as defined in the Service and Maintenance Manual, enclosed with the shipment and available online at:

www.paxtonproducts.com/products/centrifugalblowers/atseries
MEASURING PRESSURE DROP

The inlet air filter must be replaced whenever the pressure drop across the filter exceeds 10” of water column, or annually, whichever comes first. A drop in pressure indicates a dirty filter. A complete loss of pressure indicates an electrical power issue or a mechanical problem such as a belt failure.

For intake air filter monitoring, Paxton recommends adding a vacuum tap, which can be field installed or ordered from Paxton with the blower, part # 8005555-MOD. An intake gauge kit is also recommended, part # 8005555-KIT.
1. Disconnect power to blower.

Follow proper lockout/tagout procedures to ensure that the power cannot be turned on while you are working on the blower.

2. Remove belt guard by loosening 4 screws using Phillips screw driver. Place belt guard aside.

3. Using 5/16” hex key, loosen tensioner by rotating up/clockwise to release tension on belt.

4. Slip belt off beginning at blower pulley, then unwrapping from the motor pulley.
5. Take new belt from box and ensure that the rotation arrow on the belt matches the rotation arrow on the blower.

6. Wrap belt around motor pulley and pull up toward blower pulley.

7. Using one hand to hold the belt and one to release the tension on the tensioner, wrap belt around blower pulley ensuring that the grooves are aligned.
8. Verify that the grooves in the belt are aligned with the grooves on the motor and blower pulleys by manually turning the belt clockwise.

9. Replace belt guard.

Belts are not resistant to ozone. Exposure to ozone will cause pre-mature belt failure. If ozone is present in the atmosphere, Paxton recommends that the blower be relocated to an area not contaminated with ozone.
TOOLS NEEDED FOR INSTALLATION

None

1. Disconnect power to blower.

⚠️ Follow proper lockout/tagout procedures to ensure that the power cannot be turned on while you are working on the blower.

2. Remove wing nut and plastic washer.
3. Remove old filter and discard.
4. Take new filter and install.
5. Replace plastic washer and wing nut.
1. Disconnect power to blower.

⚠️ Follow proper lockout/tagout procedures to ensure that the power cannot be turned on while you are working on the blower.

2. Remove wing nut and plastic washer from filter.

3. Remove old filter and discard.
4. Grasp silencer with both hands and tug to remove.

5. Slide new silencer onto shaft and push into place until flush against the back plate of the filter housing.

ℹ️ The silencer is non-directional.
6. Slide new filter onto the shaft over the silencer.

7. Replace wing nut.
Follow proper lockout/tagout procedures to ensure that the power cannot be turned on while you are working on the motor.

**TOOLS NEEDED FOR INSTALLATION**

- 5/32” hex wrench
- 5/16” hex wrench
- Needle Nose Pliers
- 3/4” wrench

1. Remove belt guard and belt.

2. Unhook spring from pin.
3. Using 5/32” hex wrench, loosen the pivot arm cap, then remove the bolt, spacer and spring.
4. Slide the pivot arm and tensioner off of pivot arm shaft. Remove the plastic bushings with the old pivot arm; but leave the metal spacer on the shaft.

5. To replace spring only, use needle nose pliers to bend head of spring to remove.

6. Insert new spring onto pivot arm assembly. Use needle nose pliers to bend spring to tighten.
7. Apply white lithium grease to pivot arm shaft and to internal diameter of plastic bushing, then slide new pivot arm and tensioner assembly onto pivot arm shaft.

8. Slide end of spring onto pin and tighten head of spring.
9. Put spacer on shaft then reinstall pivot arm cap, ensuring that the spring is inside cap. Tighten to 20 in-lbs (2.3 Nm) of torque.

10. Reinstall belt.

11. Check alignment of tensioner. Arrow on plate should align with center of tensioner.
12. If it is not aligned, remove the belt and loosen the four bolts behind the motor pulley using a ¾” wrench, and adjust the center to center distance until the tensioner is aligned.

Be careful not to damage the motor pulley and its grooves, when tightening or loosening the bolts behind the motor pulley.

"A" configuration:

i. If the center line of the tensioner is below the arrow, then move the motor plate to the right, which would increase the center to center distance.

ii. If the center line of the tensioner is above the arrow, then move the motor plate to the left, which would decrease the center to center distance (moving the blower head closer to the motor pulley).
Check alignment every time the belt is changed.

"B" configuration:

i. If tensioner is to the right of arrow, then increase the center to center distance by moving the motor plate up (which will move the blower head up too).

ii. If tensioner is to the left of the arrow, then decrease the center distance by moving the motor plate down (moving the blower head closer to the motor pulley).

13. Once tensioner is aligned, reinstall belt and belt guard.

Check alignment every time the belt is changed.
Follow proper lockout/tagout procedures to ensure that the power cannot be turned on while you are working on the motor.

**TOOLS NEEDED FOR INSTALLATION**

- 5/16” nut driver
- Phillips head screwdriver
- T45 torx
- 5/16” hex key

1. Remove filter and housing by loosening the coupling clamp, and pull entire housing and coupling away from blower. Set aside.

2. Disconnect coupling/hose to air delivery devices.
3. Remove belt guard and set aside.
4. Remove belt (refer to page 8).

5. Using T45 torx, loosen 4 bolts around the blower pulley that hold the blower head in place.

6. Slide blower head and blower pulley away from the mounting plate.
7. Remove blower head from shipping box.

Be very careful not to damage the blower pulley during unpacking or installation.

8. Slide blower pulley in through mounting plate hole to result in blower on one side of plate and pulley on opposite side. Align blower head with 4 bolts. Ensure proper alignment of outlet for existing air delivery device connections.
9. Finger tighten the 4 bolts, supporting the blower head on the other side of the plate.

10. Tighten blower head bolts to 20 ft-lbs (27 Nm) of torque.

**i** Be very careful not to damage the blower pulley while tightening bolts. Do not touch the band clamp on the blower head.
11. Check pulley alignment by using a straight edge to ensure motor pulley and blower pulley are flush to +/- 0.02".

12. If not aligned, the motor pulley can be adjusted using a ¼" hex wrench. Loosen both bolts, then remove one of the two 2 bolts on motor pulley. (A belt can be used to hold the motor pulley while loosening the bolt.)
13. Using the removed bolt, put into the hole at 90 deg and tighten. When tightening the bolt into this third hole, the motor pulley will loosen so that it can be slid in or out on the shaft to cause alignment. The motor pulley should be aligned to the chamfer of the blower pulley, because tightening of the motor pulley again will draw the motor pulley out slightly, thus coming into alignment with the blower pulley.

14. Once aligned with straight edge, back the bolt out from the third hole and put back into the 1st hole. Torque, to 35 ft-lbs (49 Nm), then recheck alignment again. Repeat adjustment if needed.

15. Reinstall belt and belt guard.

16. Remove cap from blower head inlet and reinstall filter.
17. Remove red cap from blower head outlet and reinstall coupling to air delivery devices.
OUR INDUSTRY LEADING
3-YEAR WARRANTY

3-Year Warranty for Paxton AT- and XT-series Blowers

Paxton Products, an ITW Company
10125 Carver Road, Cincinnati, OH 45242
1-513-891-7474 | techsupport@paxtonproducts.com
www.paxtonproducts.com