

Research shows that blasting productivity increases with abrasive feed rate up to a critical point. Once this point is exceeded, productivity actually declines—abrasive is wasted, particle velocity drops, and efficiency suffers. This guide outlines how to set up your TradeQuip 3051 Cabinet Blaster for maximum performance and value.

Tuning Your Blaster Air Supply

1. Manual Adjustment Required

The TQB BRANDS Cabinet Blasting Kit is manually tuned. You must determine the correct air/abrasive mix at the start of each job, as the optimal ratio varies by application.

2. Recommended Pressure Range

Ideal pressure depends on your air supply's ability to maintain constant pressure without drop. Variables include:

- Media type
- Nozzle size
- Air supply capacity

The typical operating range is **60–110 PSI**.

Never exceed the blaster's peak operating pressure rating.

Setup Procedure

1. Initial Pressure and Nozzle Test

- Start with the compressor regulator set to **60 PSI**.
- Install the **smallest nozzle** and test abrasive flow.
- Increase pressure in **10 PSI increments** until satisfactory abrasive flow and performance are achieved.

2. Media Consumption Note

Higher pressure combined with a larger nozzle will **greatly increase media consumption**.

3. Media Recycle Rate

Lower pressure and smaller nozzle selection will **extend the lifespan of recyclable media**.

Nozzle Selection

1. Performance Differences

For example:

- A **3.5 mm nozzle** cleans about **2.5× faster** than a **2 mm nozzle**, and also uses **2.5× the air** and **2.5× the abrasive**.

This is because nozzle flow area increases with the square of the radius.

- **Large nozzles** → higher productivity on open areas
- **Small nozzles** → better control for tight corners, welds, and detail work

2. Provided Nozzles

The TradeQuip 3051 Cabinet Blaster includes **4 mm, 5 mm, 6 mm, and 7 mm nozzles** (one of each).

Whenever changing nozzle size:

- Re-tune air pressure to match the new nozzle's consumption rate.

Blasting Technique

1. Blasting is more similar to **spray painting** than many operators expect.
2. **Consistent Nozzle Control**
 - Keep the nozzle at a **constant distance** from the surface.
 - Maintain a **smooth, steady motion**.

Common mistakes:

- Whipping the nozzle back and forth
 - Pausing too long in one spot (causing pitting or warping on thin metal)
 - Moving in excessively wide arcs (low productivity)
3. **Nozzle Angle**

A **45° angle** is typical for cleaning metal.
Adjusting the angle alters the cutting action, especially when removing thick paint or debris.
 4. **Distance Matters**

Air pressure energy drops quickly with increased distance.
Closer = more aggressive cutting.
Further away = gentler cleaning.
 5. **Surface Sensitivity**

Adjust distance to blast **harder or softer** depending on the surface material.
 6. With the correct abrasive, an appropriate nozzle, adequate airflow (CFM), and **60–110 PSI**, you can clean a wide range of surfaces effectively.
 7. **Substrate Protection**

For delicate or critical substrates:

 - Start with the smallest nozzle,
 - Test on sacrificial sample material,

Follow setup steps carefully before blasting the actual workpiece.
 8. **Soft Materials Warning**

Media feed or air pressure set too high can damage:

 - Timber
 - Masonry
 - Plaster
 - Other soft substrates

Always begin at the lowest operating pressure and match media type to the job.

Dry Media & Damp Air Supply

1. **Moisture Prevention**

Damp media clumps and clogs the system.
Use at least **one water separator**—preferably **two**—to ensure a dry air supply and prevent media caking.

Dust Extraction

1. Connect your workshop vacuum to the **vacuum ferrule** on the side of the 3051 Cabinet.
When using a workshop vacuum:
 - Install the **paper filter** over the standard filter.
 - This prevents abrasive dust from entering the vacuum motor and causing **bearing failure**.