Ingersoll Rand 422G-A

Ingersoll Rand 422G-A 5" Air Angle Grinder User Manual

1. Introduction

This manual provides essential information for the safe operation, maintenance, and troubleshooting of the Ingersoll Rand 422G-A 5" Air Angle Grinder. Please read and understand all instructions before using the tool. Proper use and maintenance will ensure optimal performance and extend the life of your grinder.
The Ingersoll Rand 422G-A is a powerful 0.6 HP, 5-inch pneumatic angle grinder designed for metal dressing, rust removal, weld preparation, and automotive bodywork fabrication. It features a unique motor controller to prevent over-speeding and an ergonomic grip for user comfort.

2. Safety Information

WARNING: Failure to follow these safety instructions may result in serious injury or property damage.

General Safety Rules

- Always wear appropriate personal protective equipment (PPE), including eye protection (safety glasses or face shield), hearing protection, and gloves.
- Ensure the work area is clean, well-lit, and free from clutter.
- Keep children and bystanders away while operating the tool.
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.
- Maintain a firm grip on the tool and be aware of its rotational force.
- Disconnect the air supply before making adjustments, changing accessories, or performing maintenance.
- Use only accessories rated for the grinder's maximum RPM.
- Inspect the tool and accessories for damage before each use. Do not use damaged equipment.
- Ensure the guard is properly installed and adjusted before operation.
- Do not force the tool; let the tool do the work at its intended speed.
- Secure the workpiece to prevent movement during grinding.
- Avoid accidental starting. Ensure the trigger is in the OFF position before connecting to the air supply.

Air Supply Safety

- Use clean, dry, regulated compressed air at the recommended pressure (typically 90 PSI).
- Do not exceed the maximum operating pressure of the tool.
- Ensure air hoses are free from kinks, cuts, or damage.
- Always use an air filter/regulator/lubricator (FRL) unit in the air supply line to ensure proper tool lubrication and prevent moisture damage.

3. Product Overview and Components

The Ingersoll Rand 422G-A Air Angle Grinder consists of several key components. Familiarize yourself with these parts before operation.



Figure 1: Angled view of the Ingersoll Rand 422G-A Air Angle Grinder, showing the main body, side handle, and protective guard.



Figure 2: Side view of the grinder, highlighting the main housing, trigger, and exhaust port.

Key Components:

- **Main Housing:** Contains the air motor and internal mechanisms.
- **Spindle:** The rotating shaft where grinding discs are attached.
- **Protective Guard:** Shields the user from sparks and debris. Must always be in place.
- **Side Handle:** Provides additional grip and control during operation. Can be repositioned.
- **Trigger/Throttle:** Activates and controls the tool's speed. Features a locking lever for safety.
- **Air Inlet:** Connection point for the compressed air supply.
- **Front Exhaust:** Directs exhaust air away from the workpiece.

4. Setup and Installation

4.1 Connecting to Air Supply

1. Ensure the grinder's trigger is in the OFF position.
2. Apply a few drops of pneumatic tool oil into the air inlet of the grinder.
3. Connect the air hose to the grinder's air inlet. Use a quick-connect coupler if available.
4. Ensure your air compressor is set to deliver clean, dry, regulated air at 90 PSI (6.2 bar).
5. Check all connections for leaks.

4.2 Installing Grinding Discs

WARNING: Always disconnect the air supply before installing or changing grinding discs.

1. Ensure the grinding disc is compatible with a 5-inch angle grinder and rated for a maximum speed of 12,000 RPM or higher.
2. Inspect the disc for any cracks, chips, or damage. Do not use damaged discs.
3. Position the protective guard to provide maximum protection for the specific grinding task.
4. Place the inner flange onto the spindle.
5. Mount the grinding disc onto the spindle, ensuring it sits flush against the inner flange.
6. Place the outer flange over the disc and onto the spindle.
7. Tighten the retaining nut securely using the appropriate wrench. Do not overtighten.
8. After installation, briefly run the grinder at a safe distance from yourself and others to check for proper disc seating and balance.

4.3 Attaching the Side Handle

The side handle can be attached to either side of the grinder head for optimal control and comfort, depending on the application and user preference.

1. Screw the side handle into one of the threaded ports on the grinder head until it is secure.
2. Ensure it is tightened firmly to prevent movement during operation.



Figure 3: Top-down view of the grinder with the side handle attached, illustrating its position for enhanced control.

5. Operating Instructions

WARNING: Always wear appropriate PPE and follow all safety guidelines before operating the grinder.

5.1 Pre-Operation Checklist

- Is the air supply connected and regulated to 90 PSI?
- Is the grinding disc correctly installed and secured?
- Is the protective guard properly positioned?
- Is the side handle firmly attached?
- Are all safety precautions understood and followed?
- Is the workpiece secured?

5.2 Starting and Stopping the Grinder

1. Hold the grinder firmly with both hands, one on the main housing and one on the side handle.
2. To start, depress the locking lever and then squeeze the trigger. The grinder will begin to rotate.
3. To stop, release the trigger. The disc will slow down and stop.

5.3 Grinding Techniques

- Allow the grinder to reach full speed before contacting the workpiece.
- Apply light, consistent pressure. Do not press too hard, as this can reduce efficiency, damage the disc, and strain the motor.
- Maintain a shallow angle (typically 15-30 degrees) between the grinding disc and the workpiece for optimal material removal and control.
- Move the grinder smoothly and continuously across the surface to achieve an even finish and prevent gouging.
- Be aware of sparks and debris direction. Position yourself and the guard to minimize exposure.

- Avoid grinding near flammable materials.

6. Maintenance

WARNING: Disconnect the air supply before performing any maintenance or cleaning.

6.1 Daily Maintenance

- **Lubrication:** Apply 5-10 drops of high-quality pneumatic tool oil into the air inlet before each use and after every hour of continuous operation. This is crucial for motor longevity.
- **Cleaning:** Wipe down the exterior of the tool with a clean, dry cloth. Remove any dust or debris from the air exhaust ports.
- **Inspection:** Check the air hose for wear or damage. Inspect the grinding disc and guard for any signs of damage.

6.2 Periodic Maintenance

- **Air Filter:** Regularly check and clean or replace the air filter in your FRL unit to ensure a clean air supply to the tool.
- **Internal Inspection:** For advanced maintenance, consult a qualified service technician. Do not attempt to disassemble the tool unless you are trained to do so.

6.3 Storage

- Store the grinder in a clean, dry place, away from moisture and extreme temperatures.
- Disconnect the air hose and remove any grinding discs before storage.

7. Troubleshooting

This section addresses common issues you might encounter with your Ingersoll Rand 422G-A Air Angle Grinder.

Problem	Possible Cause	Solution
Tool does not start or runs slowly.	Insufficient air pressure. Air supply disconnected. Lack of lubrication. Obstructed air inlet. Damaged internal components.	Check air compressor and regulator setting (should be 90 PSI). Ensure air hose is securely connected. Add pneumatic tool oil to the air inlet. Clean the air inlet screen. Contact a qualified service technician.
Excessive vibration.	Damaged or unbalanced grinding disc. Loose grinding disc or flanges. Worn internal bearings.	Replace the grinding disc. Ensure disc and flanges are securely tightened. Contact a qualified service technician.
Air leaks from tool.	Loose connections. Damaged O-rings or seals.	Tighten all air connections. Contact a qualified service technician for seal replacement.
Reduced power or efficiency.	Low air pressure. Clogged air filter. Lack of lubrication. Worn motor components.	Check air pressure and regulator. Clean or replace air filter. Lubricate the tool. Contact a qualified service technician.

8. Specifications

Technical specifications for the Ingersoll Rand 422G-A 5" Air Angle Grinder:

Model Number	422G-A
Power Source	Air Powered
Horsepower	0.6 HP
Maximum Rotational Speed	12,000 RPM
Disc Diameter	5 inches
Product Dimensions (L x W x H)	8.66"L x 6"W x 3.74"H
Item Weight	1.88 kg
Material	Metal
Air Inlet Size	*(Information not provided in source, common for air tools)*
Recommended Air Pressure	90 PSI (6.2 bar)

9. Warranty and Support

For warranty information, service, or technical support, please contact Ingersoll Rand customer service or visit their official website. Keep your purchase receipt as proof of purchase.
Ingersoll Rand Official Website: www.ingersollrand.com

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