Work Safe!

IMPORTANT:

When care is taken to insure that the right tool is operated properly; and the safety and maintenance procedures are followed, accidents can be avoided. Read and follow all instructions and directions, comply with all rules governing the use of power tools, personal protective equipment and equipment guards.

For more information refer to:
General Industry Safety & Health Regulations 29 CFR, Part 1910 and where applicable Construction Industry Safety & Health Regulations 29 CFR, Part 1929 available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402

Safety Code For Portable Air Tools, ANSI B186.1 and Z87.1, available from American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018

Operators Instructions and Safety Precautions

These pages are meant to highlight sections of safety standards published by the American National Standards Institute and the Occupational Safety and Health Administration. This is not meant to replace those standards but only highlight certain areas.

When care is taken to ensure that the right tool is operated properly, and safety and maintenance procedures are followed, accidents can be avoided. Read and follow all instructions and directions. Comply with all rules governing the use of power tools, personal protective equipment and equipment guards.

Remember— machines, attachments and accessories must be used only for the purpose for which they were designed. Safety reasons and product liability prohibit any modifications to tools. Any attachments or accessories must be agreed to in advance with an authorized technical representative of T.C. Service Co.

The grinding equipment must be approved for the rated speed of the machine. The rated speed, marked on the machine, should not be exceeded. Be sure to learn the proper handling and storage of abrasive wheels and inserted tooling.

Inspect the wheel guard for any signs of wear and that it is properly mounted to the tool. Any guard showing signs of wear such as bends, chips, nicks, or cracks should be replaced.

Always wear eye and hearing protection, and when necessary, other personal protective equipment such as gloves, an apron, and helmet.

Airborne particulate resulting from the grinding process can cause hazards. Wear appropriate protective equipment.

Check hose size and air pressure. The air pressure at the tool shall not exceed 90 psi (6.2 bar). All hoses should be inspected regularly and kept away from heat, oil and sharp edges. Be sure the tool is secured to the air hose.

Measure the speed of grinders every 20 hours of actual use or once per week, whichever comes first.

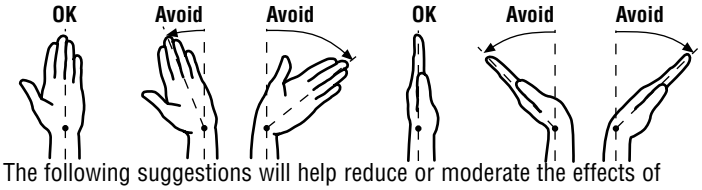
Measure speed of all types of grinders after maintenance or repair, whenever a grinder is issued from the tool crib and at each wheel change. Several readings should be taken. Tachometers must be checked and calibrated on a regular basis according to the manufacturer's recommendations.

This form of inspection should be made with the grinding wheel or tooling removed.

Proper mounting of grinding wheels and inserted tooling is crucial to safe operation and efficient working conditions. Ensure the exhaust air is directed away from bystanders.

Disconnect the tool from the air supply before doing any service. This prevents accidental start-ups. Do not disassemble or adjust the governor. The governor is guaranteed for the life of the tool, if not abused.

Ergonomics— Work Healthy



The following suggestions will help reduce or moderate the effects of repetitive work motion and/or extended vibration exposure:

1) Do NOT over-grip the machine/tool. Use only the force required to maintain control.

2) Keep hands and body dry and warm. (Blood flow is important – exercise hands and arms as often as necessary).

3) Keep wrists as straight as possible. (AVOID hand positions that require the wrist to be flexed, hyper extended or turned side-to-side.

4) AVOID anything that may inhibit blood circulation such as smoking tobacco or prolonged exposure to cold temperatures.

5) Do NOT support body-weight on the tool during operation.

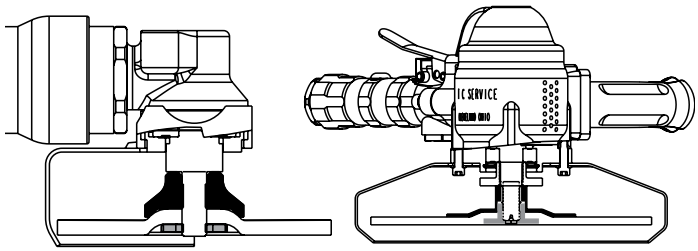
6) Maintain a stress-free posture for the entire body.

Prolonged exposure to vibrations created by vibrating sources may cause health hazards. There are gloves, handle wraps and other forms of protective measures available to help reduce the hazard. The fit and condition of any vibration abatement measure must be monitored.

Safety in Operation

The safety procedures for operating air tools are everyone's responsibility. The following lists several aspects of air tool safety that should be considered during operation. Please be aware of the these aspects and report any unsafe practice you see to a supervisor or safety officer immediately.

- Start any new wheel under a bench and away from bystanders. (Run for a minimum of one minute.)
- When starting a cold/new wheel, apply to the work slowly, allowing the wheel to warm gradually.
- Support the work piece properly.
- When cutting off, support the work piece so that a jamming of the wheel does not occur. (A slot shall remain constant or become wider during operation.)
- If a jamming of the wheel does occur during a cutting off operation, shut the air supply off to the tool and ease the wheel free. (Inspect the wheel for damage before continuing operation.)
- Ensure that sparks from the process do not create a hazard to the eyes or will ignite the environment.
- Grinders shall not be used in potentially explosive atmospheres.
- Pneumatically driven tools are not generally insulated from coming in contact with electrical sources. Be sure to avoid contact with wires or other possible current carrying sources.
- The operator must check that no bystanders are in the vicinity.
- Remember that the tool will continue to spin after the throttle has been released.
- If a grinder fitted with an abrasive wheel is dropped, the wheel must be thoroughly examined before re-use.
- Disconnect the tool from the air source before servicing and changing wheels.
- Release the control device in case of interruption of air supply.
- Always keep the tool in a clean, dry place when not in use.
- Beware of loose hair and clothing so as not to become tangled or trapped during operation.
- The inserted tool on heavy types of percussive non-rotary tools is exposed to heavy strains and can after long periods of use break due to fatigue.
- Unexpected tool movement or breakage of inserted tooling may cause injuries to lower limbs.
- Unsuitable postures may not allow counteracting of normal or unexpected movement of a power tool. (A working position shall be adopted which remains stable in the event of a break up of inserted tooling.)
- Do not hold the tool near the body when operating.
- Keep a firm grip on the tool body during operation.
- Immediately shut off the tool if unusual vibration or sound is detected. Remove and inspect the wheel or tooling, and check the tool speed (RPM) with an accurate tachometer.
- Use of over-speeding grinder or unbalanced wheels may result in serious injury.



Guarding

Always make sure that the guard provided with the tool/equipment is in place and positioned between the operator and the grinding wheel or other moving part. Flying debris from the workpiece and/or the wheel itself can cause a hazard. The guard should be positioned so as to deflect debris away from the working surface and away from the operator. The diagram above details the proper positioning of the guard to protect any handles the operator might grip and the area where the operator stands.

Special Notice!

Machine Overhauls—At least twice a year at heavy/daily operation and once a year at lighter duty, all machines/tools should be dismantled, cleaned and inspected. Internal parts should be checked for wear or damage. Be particularly careful of the governor assembly. Careless treatment may prevent it from functioning. **Always check the free speed of machine/tool following service.**

Pneumatically driven power tools are not generally insulated from coming into contact with electrical sources. Be sure to AVOID contact with wires or other possible current carrying sources.

Explosive atmospheres must not be ignited. To prevent injury and property loss from fire and explosion use non-sparking process.

STAY ALERT

DO NOT USE THE TOOL WHILE UNDER THE INFLUENCE OF ALCOHOL, DRUGS OR MEDICATION.

Mounting Grinding Wheels and Guards

- Check operating speed marked on wheel—it must equal or exceed rated spindle speed.
- Inspect wheel for cracks or chips—if found, do not use.
- Do not fit a wheel that has been soaked in or exposed to any liquids.
- Wheel fit on spindle shall be free but not loose.
- Attach wheel with flanges conforming to international standards. Be sure all flanges are in good condition. Flanges should have a flat contact with the wheel and be without cracks or burrs.
- Do not use unauthorized bushings or adapters to attach large hole abrasive wheels.
- Use blotters when provided with grinding wheel.
- Do not mismatch wheel and spindle thread.
- Spindle and spindle thread shall be without damage or wear.
- Do not bottom spindle thread ends in cup or plug wheels with threaded insert—use an authorized spacer.
- Tighten properly mounted wheel to prescribed torque.
- **Remember** – test run every new wheel in an area away from other workers (example: under workbench) for at least one minute.