

IMPORTANT! Read carefully before operating this tool.

Failure to operate any power tool properly can result in personal injury and/or property damage!



7.2.1.3 GENERAL SAFETY RULES

- Multiple hazards: Read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near the power tool. Failure to do so can result in serious bodily injury.
- Only qualified and trained operators should install, adjust or use the power tool.
- Do not modify the power tool. Modifications may reduce the effectiveness of safety features and increase the risk to the operator.
- Do not discard the safety instructions – give them to the operator.
- Do not use a tool if the tool has been damaged.
- Warnings shall be given against the risk of explosion or fire due to the material being processed.
- Warnings shall be given against the risk of cutting.



7.2.1.4 PROJECTILE HAZARDS

- Failure of the work piece, of accessories, or parts of the tool itself may generate high velocity projectiles.
- Always wear impact resistant eye protection during operation of the tool. The grade of protection required should be assessed for each use.



7.2.1.5 ENGAGEMENT HAZARDS

- Entanglement hazard – drilling, scraping and/or lubrication can wear through belt or gloves and not kept away from tool and accessories.

7.2.1.6 OPERATING HAZARDS

- Use of the tool may expose the operator's hands to hazards including crushing, impacts, cuts and abrasions and heat. Wear suitable gloves to protect hands.
- Operator and maintenance personnel must be physically able to handle the tool, weight and/or size of the tool.
- Hold the tool correctly to be ready to counteract normal or sudden movements – have both hands available.
- Maintain a balanced body position and proper footing.
- Keep hands away from rotating or reciprocating accessories, spindle or other moving parts.
- Remove the start and stop device in the case of an interruption of the energy supply.
- Use only lubricants recommended by the manufacturer.



7.2.1.7 REPEATING MOTION HAZARDS

- When using a power tool, you may experience discomfort in your hands, arms, shoulders, neck, or other parts of your body.
- When using a power tool, position your body in a comfortable posture. Maintain secure footing and avoid awkward or off-balance positions. Change your posture during extended tasks to avoid body aches, discomfort and fatigue.
- If you experience symptoms such as pain or numbness or recurring discomfort, pain, tingling, itching, swelling, numbness, burning sensation, or stiffness, do not ignore these warning signs. Promptly tell your employer and consult a qualified health professional.

7.2.1.8 ACCESSORY HAZARDS

- Only use accessories and types of accessories and consumables that are recommended by the power tool manufacturer.



7.2.1.9 WORKPLACE HAZARDS

- Slips, trips and falls are major causes of workplace injury. Be aware of slippery surfaces caused by use of the tool and also of trip hazards caused by the air line or hydraulic hose.
- Proceed with care in sensitive surroundings. Hidden hazards may exist, such as electricity or other utility lines.
- This power tool is not intended for use in potentially explosive atmospheres and is not insulated from coming into contact with electric power.
- Make sure there are no electrical cables, gas pipes etc. that could cause a hazard if damaged by use of the tool.



7.2.1.10 DUST AND FUME HAZARDS

- Dust from some work processes can cause cancer, birth defects or other respiratory diseases. Risk assessment of these hazards and implementation of appropriate controls is essential.

- If the pneumatic tool is working in a dust filled environment reduced air flow can be dust-hazard.
- Dusts and fumes generated when using power tools can cause health (for example cancer, birth defects, asthma and/or dermatitis), risk assessment of these hazards and implementation of appropriate controls is essential.
- Risk assessment should include dust created by the use of the tool and the potential for disturbing existing dust.
- Operate and maintain the power tool as recommended in these instructions, to minimize dust or fume emissions.
- Direct the exhaust air as to minimize disturbance of dust in a dust filled environment.
- When dust or fumes are created, the priority shall be to consider them at the point of exposure.
- Additional features or accessories for the collection, extraction or suppression of airborne dust or fumes should be correctly used and maintained in accordance with the manufacturer's instructions.
- Select, maintain and replace the consumable/interchangeable tool as recommended in these instructions, to prevent an unnecessary increase in dust or fumes.
- Use respiratory protection as instructed by your employer or as required by occupational health and safety regulations.



7.2.1.11 NOISE HAZARDS

- Unprotected exposure to high noise levels can cause permanent, disabling, hearing loss and other problems such as tinnitus (ringing, buzzing, whistling or humming in the ears).
- Risk assessment of these hazards and implementation of appropriate controls is essential.
- Appropriate controls to reduce the risk may include actions such as damping materials to prevent work pieces from 'banging'.
- Use hearing protection as instructed by your employer or as required by occupational health and safety regulations.
- Operate and maintain the power tool as recommended in these instructions, to prevent an unnecessary increase in noise levels.
- Select, maintain and replace the consumable/interchangeable tool as recommended in these instructions, to prevent an unnecessary increase in noise.



7.2.1.12 VIBRATION HAZARDS

- Exposure to vibration can cause disabling damage to the nerves and blood supply of the hands and arms.
- Avoid exerting effort when working in cold conditions and keep your hands warm and dry.
- If you experience numbness, tingling, pain or whitening of the skin in your fingers or hands, stop using the power tool, and tell your employer. You should also seek medical advice from a qualified occupational health professional.
- Operate and maintain the power tool as recommended in these instructions, to prevent an unnecessary increase in vibration.
- Select, maintain and replace the consumable/interchangeable tool as recommended in these instructions, to prevent an unnecessary increase in vibration levels.
- Support the weight of the tool in a stand, suspension or balance, because the operator can then use a lighter grip to support the tool.
- Position the tool with a light but safe grip taking account of the required hand reaction forces, because the risk from vibration is generally greater when the grip force is higher.

7.2.3 ADDITIONAL SAFETY INSTRUCTIONS FOR PNEUMATIC POWER TOOLS – AIR SUPPLY & CONNECTION HAZARDS

- Air under pressure can cause severe injury.
- Never direct air at yourself or anyone else.
- Snapping hoses can cause severe injury. Always check for damaged or loose hoses and fittings.
- Release any stored air before coupling or uncoupling. Use couplings that are rated for the intended application.
- Do not exceed the maximum air pressure stated on the tool.
- Use safety check safety valve to safeguard against pressure loss to tool and hose to hose connection failure.
- Never carry an air tool by the hose.

Nitrocat Impact Manual

David Baud



Nitrocat Impact Manual:

Speciality Impact Munitions The Training Academy, North Carolina. Department of Justice. North Carolina Justice Academy, 2002

HIGH EXPLOSIVE STUDENT IMPACT MANUAL TINA. WALDROM, 1997

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web easy handling bolt numbering shall be done clockwise around the flange with the following sequence the table below shows the torque sequence for flanges with 4 to 32 bolts number of bolt studbolt tightening sequence to follow 4 bolt flange 1

3 2 4 8 bolt flange 1 5 3 7 2 6 4 8 12 bolt flange 1 7 4 10 2 8 5 11 3 9 6 12 16 bolt

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web for flanges with 12 or more bolts 1 st round 20 percent of final torque 2 nd round 40 percent of final torque 3 rd round 80 percent of final torque 4 th round 100 percent of final torque final round clockwise or counter clockwise around the flange please take note the above bolt tightening sequences are the most

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web ensure the bolt lengths allow for a minimum of 2 3 threads protruding beyond the top of the nut when tightened bolts must be tightened according to the below sequence options assemble bolts hand tight maximum 30 of final tightening torque as per below cross pattern sequences

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web step 1 liberally lubricate all load bearing surfaces including threads and flat washers then install and finger tighten all fasteners number the bolts flange according to the bolt torque sequence step 2 set the torque wrench to 1 3 of the target torque value and tighten in an order bolts 1 2 3 4 until all have been tightened

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