Compressed Air - Safe Use

Document No.	Work description
SMS-06-SW-0839	This SWI outlines the safe practices for working with or on sources of Compressed Air
	Scope This document outlines the hazards and precautions relevant to work with compressed air from portable compressors or fixed 'shop' air, as well as on pneumatic systems in RSD Where compressed air is to be used to power pneumatic tools, this SWI should be used in conjunction with SMS-06-SW-0809 Pneumatic Tools
Review date 27/11/10	**References** • NSW OHS Regulation 2001, Part 5.4 • AS4024.1 Safeguarding of Machinery • SMS-06-GD-0225 Plant • SMS-06-GD-0323 Personal Protective Equipment • SMS-06-GD-0403 Plant Risk Assessment • SMS-06-SW-0481 Portable Air Compressors • SMS-16-SR-0057 Inspection and testing • SMS-06-SW-0809 Pneumatic Tools • SMS-06-PR-0173 Plant and Equipment Lock-out Tag-out • SMS-05-SR-0027 Records management

Responsible supervisor	PPE and precautions	Competencies or qualifications	Licences or permits required
Line Manager	Safety Eyewear or full face protection Protective Gloves Hearing Protection Long sleeved overalls/shirt or long pants Safety Footwear Operate according to the manufacturer's instructions	Competent in the use of this SWI	Nil additional

Tools and equipment required

IF CONTROL MEASURES ARE NOT SUITABLE AND MAJOR CHANGES ARE NEEDED, CONDUCT A RISK ASSESSMENT AND DEVELOP NEW CONTROLS ACCORDING TO SMS-06-PR-0104 WORKPLACE RISK MANAGEMENT.

Warning

The following warnings apply throughout this SWI:

- *High pressure air can seriously injure personnel therefore ensure you always wear eye and hearing protection as well as protective clothing*
- *Never point air at yourself or others – it can cause air bubbles to enter the bloodstream through the skin which can cause death*
- *Use only approved lubricants when servicing fittings. The use of unapproved oil or other hydrocarbons on fittings poses a significant fire risk.*
- *To minimise spread of dust never clean your clothes with compressed air and avoid using compressed air to clean objects. Use manual cleaning with a brush or vacuum instead*

Site / Job planning

Follow all worksite procedures, eg. induction, Pre-Work Brief

Remember normal work clothing is no protection against injury from compressed air

Check the Duty Cycle of the compressor (especially portable compressors), to ensure that the compressor is able to supply the required air pressure that the Pneumatic Tool needs to operate safely

Pre-operational checks	If using a portable air compressor always operate as per the manufacturers instructions and in accordance with SMS-06-SW-0481 Portable Air Compressors Before using a compressor always check that: • the compressed air receiver (compressor's cylinder / tank) for damage corrosion, contamination or evidence of air and oil leaks • the compressors oil level is correct • air hoses are free of cracks, splits or other forms of deterioration • there are no missing or broken parts and that all screws are completely tight • couplings are not loose or damaged and that threads are not worn • isolation fittings are connected where applicable • all pneumatic connectors safety devices (i.e. lock collars/safety chains) are fully secured to prevent any unexpected uncoupling • clean air is available for use and that filters are serviceable • any regulators are set to a maximum of 621 Kpa (90 PSI) or in accordance with the compressor manufacturers instructions
Setting up	Uncoil air hoses and ensure they are free from damage or kinks Ensure the placement of air hoses does not cause a trip hazard to yourself or others Connect the fittings with the air isolated and no pressure in the line Keep a firm grip on all connections during fitting Ensure all fittings are secured correctly Check that the pressure guage on the compressor is set in accordance with manufacturer's instructions or, if unavailable or unknown, a maximum of 621 Kpa (90 PSI) Charge the hose with air
Using compressed air	Only use the compressed air for the purpose it is intended Perform work in accordance with the task requirements, the tools capabilities and your training Inspect the hoses, regulator and compressor at regular intervals during the work
	***Warning*** • *Immediately discontinue the use of compressed air at the first sign of air release from a crack or other deterioration* • *If a hose connection breaks, isolate the air before trying to recover the hose as you may be injured by the whipping hose or the escaping air*
Changing or adjusting fittings	Turn off any equipment being used (i.e. keeping your finger off the trigger of a pneumatic tool) Disconnect the compressed air supply Make the change or adjustment Check the fitting is fully secured Reconnect the compressed air supply Test the tool before reusing it again
	***Warning*** • *Failure to ensure that air supply has been disconnected before interacting with a fitting could lead to injury*
Clean-up	Isolate air from the compressor and ensure air has been released before coiling hoses and stowing correctly
	***Warning*** *To prevent injury always:* • *Firmly hold all fittings while disconnecting air hoses* • *Point air hoses away from personnel when disconnecting air hoses* • *Ensure air is released from hoses before coiling*

Inspection and maintenance	Inspect the tool and hoses for any damage before stowing Compressed Air Receivers (i.e. compressor's cylinder / tank) are to be drained frequently to prevent accumulation of liquid inside the unit. Note: Air Receivers having automatic drain systems will not require this Conduct maintenance as per the Manufacturer's specifications and recommendations Get an authorised dealer to do any repairs or checks / alterations to the tools settings Maintain inspection and test records in accordance with SMS-16-SR-0057 Inspection and Testing and SMS-05-SR-0027 Records Management
	***Warning*** • *Never stow equipment that is not safe for the next person to use. Faulty equipment must be tagged with an "Out of Service" tag in accordance with SMS -06-PR-0173 Plant and Equipment Lock-out Tag-Out and notify your Line Manager as soon as practicable* • *Failure to ensure the compressed air receiver, is drained of moisture frequently could lead to increased internal corrosion and it exploding when pressurised, causing serious injury or death* • *Never undertake any maintenance or repairs that you are not qualified and authorised to carry out*
Additional Controls	