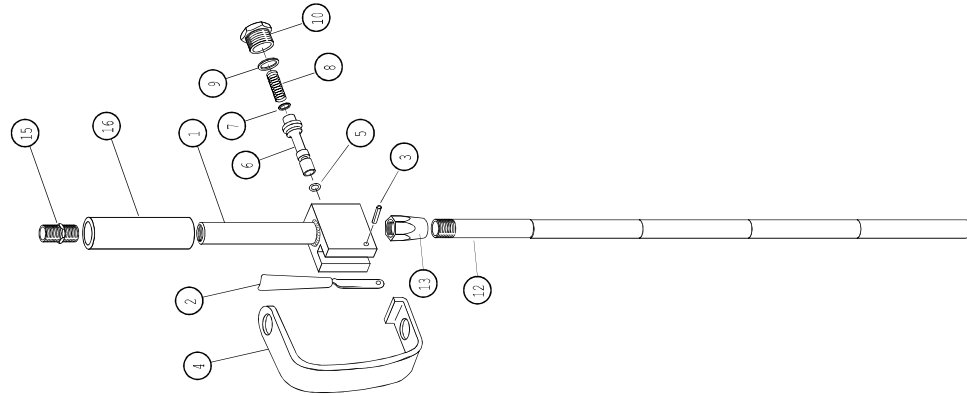


# MAINTENANCE AND REPAIR

# SAFETY AND OPERATING INSTRUCTIONS (General)

## Air Lance



Attention to a few fundamental points will prolong the life of the tool, keep it in service and ensure maximum working efficiency. Ensure that the operator reads and understands what he is required to do to comply with these points prior to using the tool. Ensure also that the carries out his part of the instructions.

1. Ensure the machine is disconnected from air supply before doing any work on it.
2. Ensure the machine is held firmly in a vice or fixture for dismantling.
3. Correct tools for dismantling and assembling must be used.
4. When using a solvent or cleaner, follow the manufacturer's instructions.
5. Before clearing the machine for use, ensure that all the connections and joints are tight, looseness causes air losses, vibration and general inefficiency.
6. Always blow out the hose before connecting to the tool to prevent dirt or other foreign matters being carried into the working parts of the tool.

### Lubrication

All pneumatic tools require regular and adequate lubrication to prevent excessive wear and ensure efficient operation. Particular attention should be paid to lubrication during the initial running in period of a new tool.

The tool works at top speed and full power right from the start, so lack of lubrication during this period, before the tool is loosened, can lead to excessive wear on all working parts.

Where an oil reservoir is incorporated in the tool it should be filled daily.

Before starting work each day, pour a small quantity of the correct grade of oil into the air inlet and blow out the hose to ensure no dirt or moisture is lying in the hose. Couple the hose to the tool and give the tool a short burst. Care must be taken not to over-oil the tool to avoid excess oil blowing from the tool and damaging the working surface.

Only clean oil of the correct grade, as stated, should be used for lubrication. A heavy or dirty oil is useless as it will only serve to "gum up" the tool.

### Recommended Oil :

The following oils are recommended for use with Macdonald tools and these or their equivalents should be used in normal conditions. For abnormal conditions e.g. extreme heat, consult the oil company.

- SHELL           Clavis 25
- BP                 Energel LPT 80
- ESSO             Zence 46
- MOBIL           Almo 525



1. Never exceed the maximum air pressure recommended for the machine, usually this is 7.5 bar (110 p.s.i.g.) for hand held machines.

2. Do not use damaged, frayed or deteriorated hoses and fittings. Always store hoses properly after use away from heat sources or sunlight. A hose failure can cause injury.

3. When blowing out a hose or air line, ensure the open end is held securely, a free end will whip and can cause injury. Open the supply air cock carefully and ensure that any particles are ejected safely. A blocked air hose can become a compressed air gun.

4. Close the air cock at the compressor or the supply line and release the line pressure before disconnecting the hose. The air cock should be within easy reach of the work area.

5. Personal protection such as safety glasses, gloves and safety footwear should be worn by the operator and other personnel where work operation or regulations require their use. Ear defenders should be worn.

6. Depending on the material being worked on, precautions may be required against the generated dust.

### USE OF THE MACHINE

1. Use only approved inserted tools.
2. Worn inserted tools can promote breakage, reduce work rate and increase vibration. An inserted tool which breaks can cause injury.
3. Do not use frozen tools. In freezing conditions, store tools undercover, preferably in a warm building. Freezing conditions can make hardened steels brittle and cause breakage.
4. A proper working position should be adopted to ensure stability in the event of a breakage of an inserted tool.
5. Always turn off compressed air supply and release the air pressure in the hose before changing the inserted tool or before disconnecting the hose.

6. Always present the tool as squarely as possible to the working surface to minimise the effects of side loading on the inserted tool.

7. Do not use in circumstances where the tool may strike a live but possibly concealed electric cable.

8. If the compressed air supply stops during operation of the machine the throttle lever should be released immediately.

9. Never hold onto the inserted tool, use the bottom sleeve or silencer.

**Air Supply**  
Always ensure that an adequate supply of compressed air at a pressure of 6 bar (90 p.s.i.g.) minimum is available to the tool. Reduced air pressure will affect the performance of the tool adversely.  
Use the shortest length of hose possible between the compressor and the tool to avoid undue pressure drop through the hose.

### General

The tools require adequate flows of compressed air at around 6 bar pressure for efficient operation. Always blow out the hose carefully before coupling to the tool in case dirt or foreign matter is carried into the tool in the air stream.  
If the tool sticks completely, the most likely cause is dirt or improper or insufficient lubrication. If this happens the tool should be dismantled by a competent engineer, the parts should be thoroughly cleaned in a suitable solvent, lightly oiled and re-assembled. Keep the tool tight, do not allow any fasteners or connections to become loose because this can lead to air losses, vibration, excessive wear and inefficiency.  
Always use sharp mills and chisels or spades because dull cutting edges cause the tool to absorb the blow instead of cutting through the workpiece. This results in operator fatigue, chisel breakage and poor productivity.