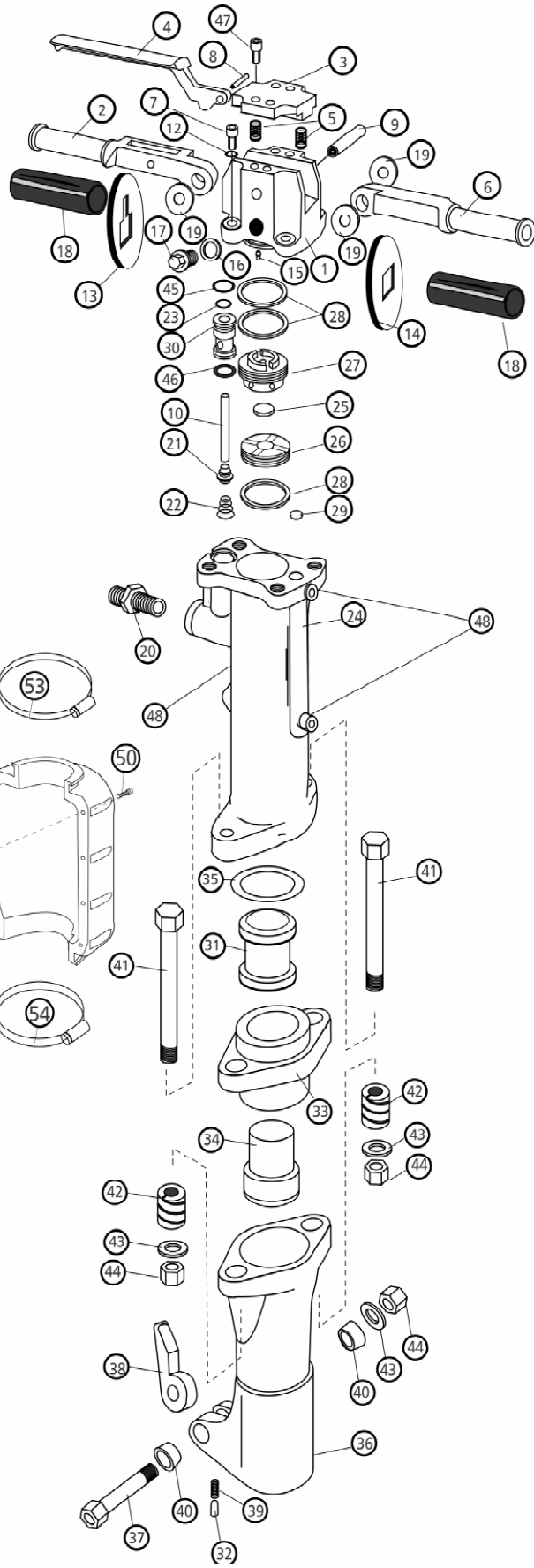


28S-VR Breaker



Macdonald

GENUINE SPARE PARTS

28S-VR Vibration Reduced Breaker

ILL.	Part	Description of Part	Per Tool
1	061101	Backhead	1
2	061102	Right Side Handle	1
O 3	066003	Top Cap	1
O 4	062010	Throttle Lever	1
R 5	062009	Handle Support Spring	2
O 6	061106	Left Side Handle	1
R 7	061125	Cap Screw	4
R 8	061108	Throttle Lever Pin	1
R 9	061109	Handle Locating Pin	1
O 10	061110	Throttle Valve Stem	1
R 12	061112	Backhead Washer	4
O 13	066009	Right Finger Guard	1
O 14	066010	Left Finger Guard	1
O 15	030618	Oilite Bush Assembly	1
R 16	003023	Oil Plug Gasket	1
R 17	003024	Oil Plug	1
R 18	007005	Rubber Grip	2
R 19	061124	Spacer Washer	3
O 20a	061123	Inlet Connection	1
O 20b	066007	Swivel Inlet Connection	1
R 21	061117	Throttle Valve	1
R 22	061118	Throttle Valve Spring	1
R 23	005007	Throttle Valve Stem Seal	1
24	062001	Cylinder	1
R 25	167004	Valve	1
26	062016	Valve Seat	1
R 27	062015	Valve Block	1
R 28	007006	Seal	3
29	057027	Kickport Plug	1
O 30	060005	Throttle Valve Casing	1
O 31	066005	Piston	1
R 32	435220	Steel Retainer Plunger	1
O 33	067001	Tappet Bush	1
O 34	001025	Tappet	1
R 35	023055	Tappet Bush Seal	1
O 36	067003	1.1/8" Chuck Housing	1
	067004	1.1/4" Chuck Housing	1
R 37	435240	Retainer Bolt	1
O 38	435270	Steel Retainer	1
R 39	435210	Steel Retainer Spring	1
R 40	435230	Retainer Bolt Bush	2
R 41	066006	Side Rod	2
R 42	062008	Side Rod Spring	2
R 43	805621	Washer	2
R 44	805620	Nut	2
R 45	007013	Throttle Valve Casing Seal	1
R 46	060008	Seal	1
O 47	061111	Capscrew	4
O 48	060013	Pressure Plug	3
Silencer Parts			
O 49	067005	Silencer (two halves)	1
R 50	910101	Cap Screw	8
R 51	029013	Washer	16
R 52	029009	Nut	8
O 53	906004	Jubilee Clip	1
O 54	906005	Jubilee Clip	1

Key R = Recommended Spares (ie stock)
O = Occasional Spares (order as required)

Note:
The finished (set) length
for the side rod springs
(40) is 35mm (1 3/8").

MAINTENANCE AND REPAIR

Attention to a few fundamental points will prolong the life of the tool, keep it in service and ensure maximum working efficiency. Ensure the operator reads and understands what he is required to do to comply with these points prior to using the tool. Ensure also that he 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	Clavus 25
BP	Energol LPT 80
ESSO	Zerice 46
MOBIL	Almo 525

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 moils 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 breakages and poor productivity.

Warning

NEVER ATTEMPT TO CHANGE A CHISEL, MOIL, ASPHALT CUTTER OR OTHER ACCESSORY ON A PNEUMATIC TOOL UNLESS THE TOOL HAS BEEN COMPLETELY DISCONNECTED FROM THE AIR SUPPLY.

THE CYLINDER OF THIS TOOL IS HARDENED AND SHOULD NOT BE WELDED UNDER ANY CIRCUMSTANCES. WELDING CAN CAUSE LOCAL SOFTENING.

SAFETY INSTRUCTIONS

1. Never exceed the maximum air pressure recommended for the machine, of six bar.
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.
7. Do not use in an explosive atmosphere where an accidental spark could create a hazard.
8. When moving the breaker from or to a truck or toolbox, try to share the load with a colleague. At all times when moving the breaker, use a good handling by: Positioning feet apart to give a stable base with the leading leg as far forward as is comfortable. Adopting a good posture with bent knees, a straight back, shoulders level and facing in the same direction as the hips. Get a firm grip on the breaker before lifting. Keep the breaker as close to the trunk as possible. Don't jerk - lift smoothly and don't twist the trunk when turning to the side.

OPERATING INSTRUCTIONS

1. Always wear correct Personal Protective Equipment.
2. Read manufacturers Operating Instructions.
3. Select the correct cutting tool for the job.
4. Operate breaker with handles horizontal.
5. Apply only minimum handle grip force.
6. Don't squeeze the handles tightly.
7. Let the weight of the breaker do the work - don't overload.
8. Move the cutting tool every 5 to 8 seconds.
9. Stop the breaker when moving the cutting tool.
10. Make sure the cutting tool does not become jammed.

USE OF THE MACHINE

1. Use only approved inserted tools, Scabbler / Scaler cutting bits, Rammer / Tamper butts or needles.
2. Worn Inserted Tools, Cutting bits / butts or needles can promote breakage, reduce work rate and increase vibration. An Inserted tool Cutting bit / butt or needle 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, Cutting bit/ butt or needle.
5. Always turn off compressed air supply and release the air pressure in the hose before changing the Inserted Tool, Cutting bit / butt or needles 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, Cutting bit / butt or needles.
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, Cutting bit / butt or needles whilst operating a Machine.