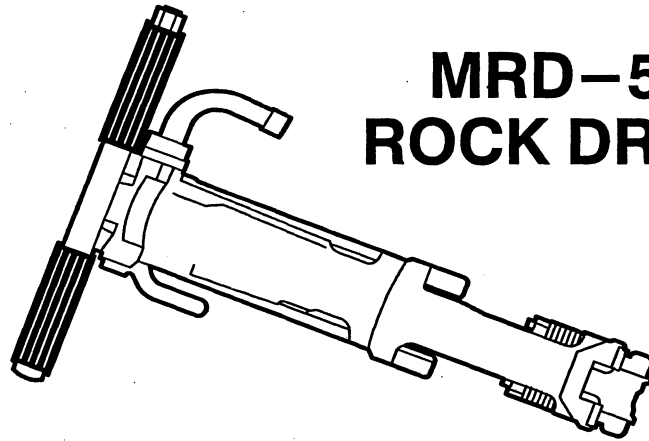


OPERATING INSTRUCTIONS AND PARTS LIST

MRD-55
ROCK DRILL

SUNAR

GENERAL INFORMATION

OPERATOR IS REQUIRED TO READ
ENTIRE INSTRUCTION MANUAL

▲ WARNING

Always turn off and disconnect air supply from tool before replacing steel or removing steel retainer.

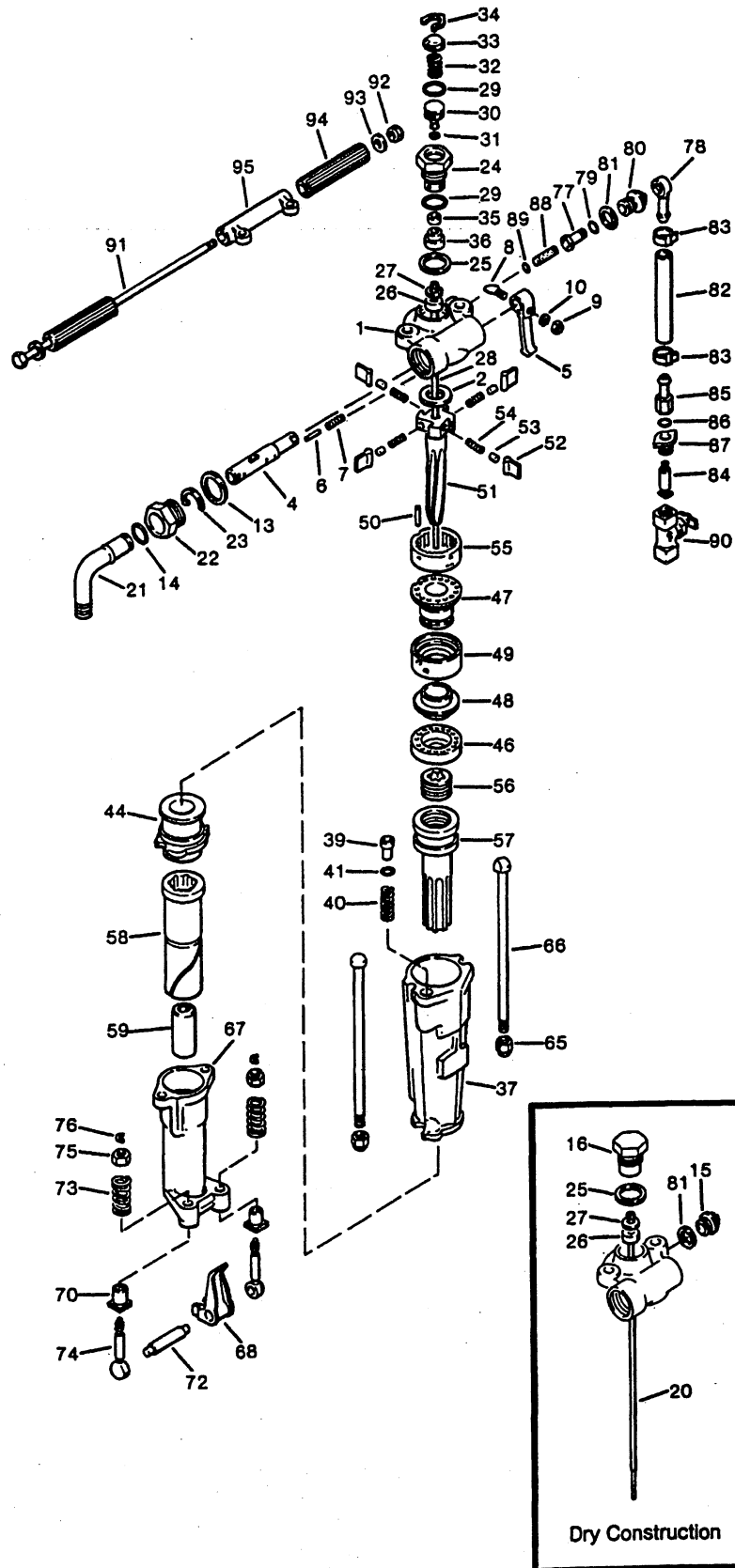
- COMPRESSED AIR SUPPLY (CFM [L/S] REQUIRED)**
Use an air compressor with sufficient CFM (L/S) (Cubic Feet per Minute [Liters per Second]) delivery to operate the tool(s) at a pressure of 90 to 100 PSI (Pounds per Square Inch) (6.2 to 6.9) bar. RE: Chart for CFM (L/S) requirements.
- AIR PRESSURE (PSI [BAR])**
Air pressure should be 90-100 PSI (6.2 to 6.9 bar) at the tool during operation. Higher pressure will increase kick back to operator, decrease performance, and may cause damage to tool. Lower pressure will reduce tool performance. It is important to realize that long lead hoses, manifolds and worn hose connections will cause a pressure drop. Use couplings and fittings of maximum I.D. size for the size hose being used. Reducers will restrict the air and result in less pressure at the tool.
- AIR HOSE AND FITTINGS**
Inspect air hoses, fittings and gaskets for cuts and abrasions. Check that fittings, both in the tool and on the hose, are secure. Use safety wire or chain to secure the couplings at the tool to prevent hose whipping should the hose become detached while pressurized. Clear hoses of debris and excess water before attaching to tool. For hoses in excess of 1/2" (13mm) inside diameter install a proper flow limiting valve per government Health and Safety Requirements.

▲ WARNING

When blowing through a hose or air line, ensure that the open end is held securely. A free end will whip and may cause injury.

- LUBRICATION**
The MRD-55 Rock Drill requires a constant feed line oiler.

MRD-55 ROCK DRILL ILLUSTRATION



PARTS LIST

INDEX NO.	PART NUMBER	QTY. REQ.	DESCRIPTION	INDEX NO.	PART NUMBER	QTY. REQ.	DESCRIPTION
1	250012-196	1	Backhead (inc. #14)	54	250012-242	4	Pawl Spring
2	250012-197	1	Backhead Washer	55	250012-243	1	Ratchet Ring
4	250012-198	1	Throttle Valve	56	250012-244	1	Rifle Nut
5	250012-199	1	Throttle Valve Handle	57	250012-245	1	Piston
6	250012-200	1	Throttle Valve Plunger	58	250012-246	1	Rotation Sleeve
7	250012-201	1	Throttle Valve Spring	59	250012-248	1	Sleeve Bushing 1" Hex x 4 1/4"
8	250012-202	1	Throttle Valve Bolt		250012-247	1	Sleeve Bushing 7/8" Hex x 4 1/4
9	250012-203	1	Throttle Valve Nut	65	250012-251	1	Side Rod Nut
10	250012-204	1	Throttle Valve Washer	66	250012-252	1	Side Rod
13	250012-207	1	Air Conn. Spring Washer	67	250012-253	1	Fronthead 4 1/4 Shank (inc #70)
14	250012-208	1	Air Conn. O-Ring	68	250012-255	1	Steel Retainer 1" x 4 1/4"
15	250012-209	1	Water Gland Plug		250012-254	1	Steel Retainer 7/8 x 4 1/4
16	250012-210	1	Blow Tube Gland	70	250012-256	1	Fronthead Bushing
20	250012-211	1	Blow Tube	72	250012-257	1	Retainer Pin
21	250012-205	1	Air Connection	73	250012-258	1	Retainer Spring
22	250012-206	1	Air Conn. Nut	74	250012-259	2	Retainer Bolt
23	250012-214	1	Air Conn. Retainer	75	250012-260	1	Retainer Nut
24	250012-215	1	Water Tube Gland	76	250012-261	1	Retainer Clamp
25	250012-217	1	Tube Gland Gasket	77	250012-262	1	Water Conn. Tube
26	250012-218	1	Tube Gasket	78	250012-264	1	Water Conn. Swivel
27	250012-219	1	Tube Washer				
28	250012-220	1	Water Tube	79	250012-265	1	O-Ring
29	250012-221	2	O-Ring	80	250012-266	1	Water Conn. Nut
30	250012-222	1	Water Valve Piston	81	250012-267	1	Water Conn./Plug Washer
31	250012-223	1	O-Ring				
32	250012-224	1	Water Valve Spring	82	250012-268	1	Water Hose
33	250012-225		Water Valve Spring Seat	83	250012-269	1	Hose Clamp
34	250012-226	1	Water Valve Retainer	84	250012-270	1	Swivel Hose Stem
35	250012-227	1	Water Valve Seat	85	250012-271	1	Swivel Hose Stem
36	250012-228	1	Water Valve Seat Retainer	86	250012-272	1	O-Ring
37	250012-229		Cylinder	87	250012-273	1	Swivel Hose Stem Nut
39	250012-230	1	Blowing Connection	88	250012-274	1	Water Conn. Tube
40	250012-231	1	Blowing Conn. Spring	89	250012-275	1	O-Ring
41	250012-232	1	O-Ring				
44	250012-233	1	Spacer	90	250012-276	1	Water Valve Complete
46	250012-234	1	Valve Chest Cover	91	250012-277	1	Handle Bolt
47	250012-235	1	Valve Guide	92	250012-278	1	Handle Bolt Nut
48	250012-236	1	Valve	93	250012-279	2	Handle Bolt Washer
49	250012-237	1	Valve Chest	95	250012-281	1	Short "D" Handle
50	250012-238	1	Dowel Pin	94	250012-280	2	Handle Grip
51	250012-239	1	Rifle Bar				
52	250012-240	1	Rotation Pawl	NS	250012-263	1	Water Hose Assy. (5277-A)
53	250012-241	1	Pawl Plunger	NS	250012-216	1	Water Tube Assy...(5224-A)
				NS	251315	1	1 Pt. Line Oiler (not included)

ON-THE-JOB TROUBLE SHOOTING (M-SERIES ROCK DRILLS)



Never remove retainer or replace tool steel with air supply connected to the air tool.

PROBLEM	PROBABLE CAUSE	REMEDY
Tool Runs Sluggish	Low Air Pressure at Tool	Increase Pressure to 90–100 PSI (6.2 to 6.9 bar)
	Insufficient Air Flow (CFM [bar])	Check Hoses, etc. for Leaks
	Insufficient Lubrication	Add a Small Amount of Rock Drill Oil.
Tool Runs Erratically	OSHA (Velocity Valve) Tripping	Inspect Valve for Proper Sizing
	Foreign Material in Tool Inlet	Remove Foreign Material
	Valve Sticking	Flush Tool with Small Amount of Penetrating Oil
Tool Will Not Run (Air Blows thru Exhaust)	Valve Stuck	Flush Tool with Small Amount of Penetrating Oil
Excessive Kick-Back	Air Pressure Too High at Tool	Reduce Pressure to 90–100 PSI (6.2 to 6.9 bar)
	Dull Cutting Edge on Bit	Replace with Sharp Bit
Slow Penetration	Improper Down Pressure	Apply Sufficient Down Pressure
	Cuttings not Being Removed From Hole	Use Blow Air Frequently to Keep Hole Clean
	Clogged Blow Tube or Drill Stem	Clear Blocked Passages
	Steel or Bit Binding in Hole	Keep Drill, Steel and Bit Aligned with Hole
	Dull Bit	Use Sharp Bit
	Insufficient Lubrication	Add a Small Amount of Rock Drill Oil into Hose
Stuck Steel	Cutting Not Being Blown From Hole	Use Blow Air Frequently to Keep Hole Clean
	Excessive Down-Pressure in Soft Ground	Drill at Part Throttle in Soft Ground
	Misalignment of Steel With Hole Causing Binding	Keep Steel and Drill Aligned with Hole

If suggested remedies fail to correct problem, disassembly and inspection must be performed to determine cause.

UNPACKING YOUR NEW SULLAIR ROCK DRILL

1. Visually inspect tool for any signs of damage during shipment.
2. Compare the Serial Number that is stamped on the tool (located on cylinder) to the packing list or invoice.
3. Fill out and mail the warranty registration card.

BEFORE START-UP AND BEFORE EACH USE

▲ WARNING

Never remove retainer or replace tool steel with air supply connected to the air tool.

1. Check all bolts, nuts and fittings for tightness.
2. Install a 3/4" NPT internal thread hose coupling (not supplied with tool) to air inlet connection.
3. Check that the line oiler is filled with a good rock drill oil.
4. Install drill rod (steel).
 - Select drill rod with correct size hex and shank length for tool chuck.
 - Check shank for wear. The end should be flat (square). A worn shank or an uneven end may result in damage to the tool or bit breakage.
 - Check that the blow hole in steel is clear.
 - Check cutting edge of bit for sharpness (use only sharp, properly dressed bits) and that blow hole is clear.
 - Insert shank into tool and close retainer securely.
5. Connect Air Hose
 - Use only air hose with a rated capacity equal to a minimum of 150% of the power source (air compressor) and with couplings secured by approved clamps.
 - Clear hose(s) to remove any dirt and accumulation of excess water and oil.

▲ WARNING

When blowing through a hose or air line, ensure that the open end is held securely. A free end will whip and may cause injury.

- Check rubber gaskets or washers in hose couplings for wear or cracks.
- Join couplings together tightly and secure with approved safety clips.

STARTING AND OPERATING THE TOOL

1. **DO NOT** run the tool without a steel securely installed and the latch retainer locked in the closed position.
2. **DO NOT** run the tool without the cutting edge (point) firmly against the work surface.
3. Always apply sufficient down pressure to keep the tool from bouncing. The proper amount of down pressure will vary depending on the material being worked, the type of cutting edge, and the weight of the tool. This can only be learned through experience. **DO NOT** allow the tool to bounce on the steel as this may damage the tool and steel.

RUNNING THE TOOL FOR EFFICIENT OPERATION / PRODUCTION

1. When starting (collaring) the hole, hold the drill firmly against the work and use a steel short enough so the drill can be handled comfortably. Depress the throttle lever gradually and drill at a slow speed until the hole is collared. The drill should be kept at right angles to the work until the hole is collared, then repositioned for angle drilling.
2. Always apply sufficient down pressure to keep the tool from bouncing. The proper amount of down pressure will vary depending on the material being drilled and the size and depth of the hole. The correct amount of down pressure, for maximum drilling efficiency, can only be learned through experience, but generally speaking, is usually recognizable by the rhythmic sound of the exhaust and the free rotation of the drill steel. Insufficient pressure will cause the drill to bounce, which may result in damage to the tool and may crack carbide bit inserts while too much pressure will slow down the drill and may result in stuck steel.
3. Keep the drill, the steel, and the hole aligned. Misalignment will reduce drilling speed, cause unnecessary wear in the tool, and may result in steel breakage.
4. Keep the hole clean. Use the blow only function of the drill frequently to remove cuttings.
5. Use half throttle in broken or heterogeneous material.
6. Raise bit from bottom of hole and blow hole clean before removing bit and steel.

AFTER USE

1. Disconnect air hose. **DO NOT** allow dirt or water to enter air inlet of tool.
 2. Pour a little oil (approximately 1 ounce [28 grams]) into the air inlet and chuck end of the tool. Position tool to allow oil to flow inward.
 3. Store in safe dry place.
- By following these steps, you will insure your Sullair Tool gives the type of service for which it was designed. Should you have any questions concerning this information, or if you would like additional information, please contact your Sullair Distributor.

CFM (L/S) AND PSI (BAR) REQUIREMENTS

Model MRD-55 Rock Drill 95 CFM (44 L/S) at 100 PSIG (6.9 bar)

CFM (L/S) x NUMBER OF TOOLS RATIO

For operation of several tools with one compressor use the following table (except for tools which require constant demand).

Number of Tools	1	2	3	4	5	6	7	8
Factor	1	1.8	2.7	3.4	4.1	4.8	5.4	6.0

Example: To operate three Model MPB-90A Paving Breakers, air for each is 62 CFM (29 L/S): Multiplier is 2.7 x 62 CFM (29 L/S) = 167.4 CFM (79 L/S). Consequently a 185 Portable would easily handle the three breakers.

READ SAFETY TIPS PRIOR TO OPERATING THE TOOL TO AVOID POSSIBLE INJURY

SAFETY

- Work gloves or vibration dampening gloves are recommended when operating pneumatic tools.
- Keep spectators at a safe distance from the work area.
- Wear proper clothing. Loose fitting clothes or jewelry can become caught in moving parts or on operating tools.
- Wear eye and face protection when operating tools.
- Wear safety shoes with steel toes when operating tools. **Never rest a tool on your foot for any reason.**
- Wear safety hats when operating tools or when working in immediate area.
- Wear ear protection when operating tools or when working in immediate area.
- Thoroughly inspect tool conditions before operating to:
 - Check all bolts for proper tightness.
 - Inspect retainer for wear which could cause the tool or steel to be propelled from the tool.
 - Inspect air hose fittings for cracks, worn threads or loose couplings that could permit detachment during operation.
 - Inspect tools and/or steels for proper sharpness and conditions (dull edge, nicks, cracks).
- Secure air hose to tool with a safety wire or chain to prevent whipping if it becomes detached from the tool.
- When using hose with internal dimension of 1/2" (13mm) or greater diameter install a proper flow limiting "OSHA valve" or "velocity fuse".
- DO NOT** lay an idle tool in dust or dirt unless all ports are covered with clean material.
- Disconnect tools from the air supply when not in use to prevent accidental actuation.

▲ WARNING

Never remove retainer or replace tool steel with air supply connected to the air tool.

- Operate the tool from a position that permits proper footing and balance.
- DO NOT** operate the tool without a steel or tool securely installed in the retainer.
- DO NOT** operate the tool without the steel or tool against the work surface.
- Operate the tool with firm and steady pressure. **DO NOT** force the tool.
- Limit air pressure at the tool not to exceed the tool's rated operating pressure.
- Inspect air hoses for cuts and abrasions prior to use.
- Never point a tool or an air hose at a person or indulge in horseplay with air tools and hose.
- Blow out all air lines and hoses prior to use.

▲ WARNING

When blowing through a hose or air line, ensure that the open end is held securely. A free end will whip and may cause injury.

- Keep hands off throttle until ready to start. Always keep both hands on the handle while operating.
- Follow OSHA standards and/or any applicable Federal, State, or Local codes, standards, and regulations where they apply.

▲ WARNING

Repetitive motions, uncomfortable positions and vibrations can cause injury to hands, fingers and wrists. Stop using any pneumatic tool if discomfort, tingling feeling or pain occurs. Consult a doctor before resuming use.



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Manufactured in Japan



PNEUMATIC TOOLS

SAFETY INSTRUCTIONS, UTILIZATION & MAINTENANCE

MARTELOS NEUMATICOS

CONSIGNAS DE SEGURIDAD, UTILIZACION MANTENIMIENTO

OUTILS PNEUMATIQUES

CONSIGNES DE SECURITE, UTILISATION – ENTRETIEN



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Michigan City, IN 46360

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SAFETY INSTRUCTIONS

GENERAL INSTRUCTIONS

- Prior to using pneumatic equipment, become familiar with any local regulations. It is essential to carry out any specific safety instructions concerning the site or place of operation.
- Make sure that only persons authorized to use compressed air equipment have access to the work area. Only trained persons, without any handicaps, and over 18 years of age are authorized to use the equipment.
- Always wear protective clothing and equipment (PPE) against:
 - Atmospheric exposure: appropriate, resistant, waterproof clothing. Never wear baggy clothes, rings or chains, which could become caught in moving parts or tools.
 - Heat or cold, tool vibrations: gloves.
 - Noise: hearing protectors.
 - Shocks: Helmet, safety shoes with non-slip soles.
 - Projectile risks: safety glasses, face guard.
 - Pollution: facemask.
- Never service equipment using dangerous products: gas/oil (diesel) petrol (gasoline) or any volatile ingredients. (explosion risk).
- Keep equipment clean, especially handles.
- Follow OSHA standards and/or any applicable Federal, State, or Local codes and regulations where they apply.

PRIOR TO START UP

- Check that the equipment is in good condition: no cracks, fissures or scaling.
- Make sure all bolts are undamaged and correctly tightened and that safety devices fitted to the equipment are in position and function correctly.
- Check for sleeve, shank and collar wear, which if too high could cause the ejection of the tool or other machine parts.
- Make sure that the clamp or bit retaining the tool is in good condition.
- Only use tools in accordance with manufacturer's specifications.
- Check tool sharpness, shank condition and wear. Check tool grinding and tool clearances and that the blowhole is in good condition for drilling hammers.
- Check the air hose, which must not be cracked or have any deep abrasions and make sure air hose is not blocked.
- Check that all connections are in good condition and correctly mounted and tightened to avoid any risk of sudden detachment when in operation. Make sure all gaskets are in place and in good condition.
- Make air hose connections safe from disconnecting by using appropriate safety clips.

UTILIZATION

- Only use the sleeve (couplings) specifically recommended for connecting the equipment to the supply air hose (except for equipment with rotating connections).
- Never pressurize an air hose (except during controlled venting) when not connected to the equipment.
- Use only a constant compressed air supply for the equipment and do not exceed the maximum rated pressure, 7 bar or 100 psi.
- Do not use equipment or tools for purposes for which they were not designed.
- Never use equipment without a tool (bit) or without the tool (bit) being completely inserted and latched **or retained** properly.
- Before any work, make sure that the tool cannot come in contact with any ducting or container transporting or containing fluids or electrical, telephone or other cables.
- Never point equipment or compressed air hose towards people or animals.
- To avoid any risk of sudden pressurization (air hose whipping risk) the compressor air valve should be opened progressively.
- Prior to start up, operator should be in a stable position and are holding equipment firmly with two hands without pressing on the trigger or throttle.
- Start up the equipment progressively to avoid any unexpected tool (bit) movements on the working surface.
- Make a tapping hole of a few cm / in. before drilling with full power.
- Never hold equipment by the clamp (hose).
- Orient the exhaust orifices to avoid any dangerous projections.

- Never manipulate the steel without gloves, because of the burn danger.
- Never let the tool rest on a foot.
- Never allow the equipment to lean on its trigger, to avoid uncontrolled start-ups.
- Never leave the equipment unprotected on the ground in dirt or mud.
- Never use the airlines to move equipment.
- Stop the equipment before moving it.
- After every shutdown, check all connections before re-pressurizing the circuit.
- Never disconnect a pressurized air hose without having shut off the air supply service valve. Wait until system has vented or make sure it has vented by running the equipment until all pressure has been released.
- When not in use, disconnect equipment to avoid accidental restarting. Store them under cover and out of reach of children.

OPERATION / MAINTENANCE

RECOMMENDATION

- Before starting equipment make sure you comply with the safety instructions given in the Safety section above.
- Required output: prior to start-up make sure that the compressor output is adequate for supplying one or several machines (tools) simultaneously at the recommended pressure.
- Important: A very long air hose, quick release couplings and connections can cause pressure drops resulting in a reduced compressed air pressure. Use connections having a maximum internal diameter, to reduce pressure losses.
- Vent (to clean) supply lines by using a progressive air blast (slowly opening tap / service valve) and make sure any impurities cannot penetrate into equipment (tools) when connecting up.
- Operating pressure: must not exceed **7 bar or 100 psi**. It must be checked as close as possible to the equipment (tool) and while it is operating normally.
- Use correctly ground tools (sharpened steels) in good condition.
- Do not use excessive force when mounting, bearing down on, tools to avoid "imbedding" the tool steel. When running, it must be possible to see dust discharging along the whole length of the steel.
- **Lubrication:** Pick hammers and jackhammers (Paving breakers and demolition tools) do not require any line lubrication under normal service conditions. The residual oil content in the compressed air usually provides sufficient lubrication. However, under certain conditions (compressed air cooled by an after cooler, or a very long supply line air hose or manifold) a very light oil can be used. Lubrication is achieved by injecting a few cm (1/2 oz.) of oil into the equipment, via the sleeve fitting / air inlet (or use an inline oiler, set to lowest position); this operation should be carried out at the end of the working day, and prior to each extended stoppage or storage.
- **Lubrication:** Drilling hammers are fitted with an oil reservoir, which should be filled up with a bodied oil (e.g. EP 140 or SAE 90 Wt.) oil before each drilling operation. Top end lubrication is same as above. When operating, monitor that the tool shank is correctly greased.
- **Storage:** After lubrication, store the equipment vertically with the retainer at the bottom in a sheltered place.
- **Operation problems:** If the piston gums up, only lubricate with the oil recommended.
- Never attempt to modify or repair any equipment yourself, call in an authorized Sullair After Sales Service Dealer, and only use original Sullair accessories and parts.

Sullair reserves the right to modify products and specifications without prior notice.

INSTRUCCIONES DE SEGURIDAD

INSTRUCCIONES GENERALES

- Antes de utilizar los equipos neumáticos familiarícese con las regulaciones locales y que siga cualquier instrucción específica referente al sitio o lugar de operación.
- Cerciórese que solamente las personas autorizadas para utilizar equipos de aire comprimido tengan acceso al área de trabajo. Sólo las personas capacitadas, sin impedimentos físicos, y que tengan más de 18 años están autorizadas para utilizar el equipo.
- Siempre utilice ropa y equipo de protección (PPE) contra:
 - La intemperie: ropa adecuada, resistente y a prueba de agua. Nunca utilice ropa suelta, anillos o cadenas que podrían engancharse en las partes móviles o en las herramientas.
 - El calor o el frío, y las vibraciones de herramientas: guantes.
 - El ruido: protectores para los oídos.
 - Choques: Cascos, calzado de seguridad y antideslizantes.
 - Riesgo de proyectiles: gafas de seguridad, máscara protectora.
 - La contaminación: máscara protectora.
- Nunca utilice productos peligrosos para hacer las tareas de mantenimiento del equipo: gas / petróleo (diesel), gasolina o cualquier ingrediente volátil (riesgo de explosión).
- Mantenga los equipos limpios, especialmente las empuñaduras.
- Cumpla las normas OSHA y/o cualquier código federal, estatal, o local cuando sean aplicables.

ANTES DEL ARRANQUE

- Cerciórese de que el equipo esté en buenas condiciones: sin grietas, fisuras o costras.
- Cerciórese de que los pernos no estén dañados, que estén ajustados correctamente, y que todos los dispositivos de seguridad del equipo estén instalados en su posición y que funcionen correctamente.
- Revise si hay desgaste en la camisa, el vástago o el collar, ya que si es excesivo, causaría la expulsión de la barrena u otras partes de la máquina.
- Verifique que la abrazadera o el mandril que sujeta la barrena esté en buenas condiciones.
- Sólo utilice las herramientas de acuerdo con las especificaciones del fabricante.
- Cerciórese de que la barrena esté afilada, y que el vástago esté en buenas condiciones, sin desgaste. Revise la trituración y que la herramienta tenga suficiente espacio, y que el orificio del soplete esté en buenas condiciones para los martillos perforadores.
- Revise la manguera de aire, que no debe tener grietas o abrasiones profundas, y verifique que no esté obstruida.
- Verifique que las conexiones estén en buenas condiciones y que estén montadas y ajustadas correctamente para evitar el riesgo de desprendimientos repentinos durante la operación. Cerciórese de que las juntas estén en sus posiciones y en buenas condiciones.
- Cerciórese de que las conexiones de las mangueras de aire estén aseguradas con sujetadores de seguridad adecuados para evitar que se desconecten.

UTILIZACIÓN

- Sólo utilice la camisa (acoplamiento) recomendada específicamente para conectar el equipo a la manguera de aire suministrada (con excepción de los equipos con conexiones giratorias).
- Nunca presurice una manguera de aire (excepto durante la ventilación controlada) cuando no esté conectada al equipo.
- Sólo utilice un suministro de aire comprimido constante para el equipo y no exceda la máxima presión nominal, 7 bar o 100 psi.
- No utilice el equipo o las herramientas para otros propósitos que no sean aquellos para los cuales fueron diseñados.
- Nunca utilice el equipo sin una barrena (broca) o sin que la barrena (broca) estuviera completamente insertada y asegurada o sujeta correctamente.
- Antes de hacer cualquier trabajo, cerciórese de que la herramienta no pueda tener contacto con algún conducto o recipiente que transporte o contenga fluidos o cables eléctricos, telefónicos o de otros tipos.
- Nunca apunte el equipo o la manguera de aire comprimido hacia las personas o los animales.
- Para evitar cualquier riesgo de presurización repentina (riesgo de latigazos de la manguera de aire) se debe abrir la válvula de aire del compresor progresivamente.
- Antes del arranque, el operador debe estar en una posición estable, sujetando el equipo fuertemente con las dos manos, sin apretar el gatillo o el regulador.
- Arranque el equipo progresivamente para evitar cualquier movimiento inesperado de la barrena (broca) sobre la superficie de trabajo.

- Perfore un orificio de pocos centímetros/pulgadas de profundidad antes de perforar a toda potencia.
- Nunca sujete el equipo por la abrazadera (manguera).
- Posicione el escape de salida de manera que no provoque accidentes peligrosos.
- Nunca manipule el accesorio de acero sin guantes debido al peligro de quemaduras.
- Nunca apoye la herramienta sobre el pie.
- Nunca permita que el equipo se apoye sobre el gatillo para evitar el arranque inesperado.
- Nunca deje el equipo desprotegido sobre tierra o fango.
- Nunca utilice las mangueras de aire para mover el equipo.
- Detenga el equipo antes de moverlo.
- Después de cada detención, revise todas las conexiones antes de represurizar el circuito.
- Nunca desconecte una manguera de aire presurizada sin antes haber cerrado la válvula de servicio de suministro de aire. Espere hasta que el sistema se haya ventilado o cerciórese de ello haciendo funcionar el equipo hasta que toda la presión haya sido evacuada.
- Cuando no los esté usando, desconecte los equipos para evitar arranques accidentales. Guárdelos bajo techo y fuera del alcance de los niños.

OPERACIÓN / MANTENIMIENTO

RECOMENDACIÓN

- Antes del arranque del equipo, cerciórese de que usted haya cumplido las instrucciones proporcionadas en la sección anterior de Seguridad.
- Rendimiento requerido: antes del arranque verifique que el rendimiento del compresor sea adecuado para prestar servicio a una o varias máquinas (herramientas) simultáneamente a la presión recomendada.
- Importante: Una manguera de aire muy larga o los acoplamientos y conexiones de rápido desenganche pueden causar caídas de presión, resultando en una reducción de la presión de aire comprimido. Utilice conexiones que tengan el máximo diámetro interior para reducir las pérdidas de presión.
- Ventile (limpie) las tuberías de suministro utilizando un soplido progresivo de aire (abriendo lentamente la válvula rosca de servicio) y cerciórese de que las impurezas no puedan penetrar en los equipos (herramientas) cuando esté haciendo las conexiones.
- Presión operativa: no debe exceder de **7 bar o 100 psi**. Se debe revisar la presión tan cerca como sea posible del equipo (barrena) y mientras esté funcionando normalmente.
- Utilice las barrenas adecuadas (accesorios de acero afilados) y cerciórese de que estén en buenas condiciones.
- No utilice fuerza excesiva durante la instalación o cuando presione la herramienta hacia abajo para evitar que se "incruste" el accesorio de acero. Cuando esté funcionando se podrá ver el polvo saliendo del accesorio utilizado.
- **Lubricación:** Los martillos picadores y los martillos rompedores no requieren una línea de lubricación bajo condiciones normales de trabajo. El contenido residual de aceite en el aire comprimido normalmente proporciona suficiente lubricación. Sin embargo, bajo ciertas condiciones (aire comprimido enfriado por un postenfriador, o por una manguera de suministro de aire muy larga o por un distribuidor) se puede usar un aceite muy liviano. La lubricación se logra por medio de una inyección de unos centímetros (1/2 onza) de aceite en el equipo, a través de la conexión de camisa / admisión de aire (o utilizando un lubricador en línea en la posición más baja); se debe llevar a cabo esta operación al final del día de trabajo, y antes de cada detención o almacenamiento prolongado.
- **Lubricación:** Los martillos perforadores están equipados con un depósito de aceite, que se debe llenar con un aceite viscoso (ej.: EP 140 o SAE grado 90) antes de cada de perforación. La lubricación de la parte superior es igual a la anterior. Cuando esté funcionando, controle que el vástago de la barrena esté lubricado correctamente.
- **Almacenamiento:** Después de lubricarlo, guarde el equipo verticalmente, con el retenedor en el fondo, en un lugar protegido bajo techo.
- **Problemas de operación:** Si el pistón se pega a las paredes del cilindro, lubríquelo solamente con el aceite recomendado. Nunca intente modificar o reparar un equipo usted mismo, si no funciona correctamente llame a un Concesionario Sullair autorizado de Servicio Posterior a la Venta, y utilice solamente partes y accesorios Sullair.

Sullair se reserva el derecho de modificar los productos y las especificaciones sin previo aviso.

CONSIGNES DE SECURITE

CONSIGNES GENERALES

Avant toute utilisation des appareils pneumatiques, prendre connaissance des réglementations locales éventuelles et respecter impérativement les consignes spécifiques au chantier ou du lieu d'utilisation.

- Tenir à distance de l'aire de travail les personnes non autorisées à utiliser les appareils pneumatiques. Seules sont autorisées les personnes correctement formées, non handicapées et de 18 ans au moins.
- Porter des vêtements et des équipements de protection individuelle contre (PPE) :
 - Les intempéries: vêtements résistants, ajustés, imperméables. Ne pas porter des vêtements amples ainsi que des bagues, chaînettes, gourmettes qui peuvent être happés par des organes mobiles, des outils.
 - La chaleur ou le froid, les vibrations, transmis par les outils: gants.
 - Le bruit : protection auditive
 - Les chocs éventuels : casque, chaussures de sécurité à semelle anti-dérapante. Les risques de projections : lunettes ou masque
 - La pollution : masque anti-poussières.
- Ne pas entretenir les appareils avec des produits dangereux : gasoil (diesel), essence ou tous ingrédients volatils (risque d'explosion).
- Maintenir les appareils propres, particulièrement les poignées.
 - Respecter les standards OSHA et/ou la législation local, fédérale applicable.

AVANT MISE EN SERVICE

- Vérifier le bon état de l'appareil: absence de criques, fissures, écaillages.
- S'assurer que tous les boulons sont en état et correctement serrés et que les sécurités équipant l'appareil sont en place et en bon état de fonctionnement.
- Vérifier l'usure de l'emmanchement, qui trop élevée peut entraîner l'éjection de l'outil ou d'autres pièces de l'appareil.
- S'assurer du bon état et du bon fonctionnement du loquet ou du décaleur retenant l'outil.
- N'utiliser que des outils conformes aux prescriptions du constructeur.
- Vérifier l'affûtage des outils, l'état et l'usure des queues. Vérifier la dépouille des outils et le bon état du trou de soufflage pour les perceurs.
- Vérifier l'état des tuyauteries qui ne doivent pas être craquelées ou présentées des écorchures profondes et s'assurer qu'elles ne sont pas bouchées.
- Vérifier le bon état, le montage et le serrage corrects des raccords afin qu'ils ne risquent pas de se détacher brutalement en cours de travail. S'assurer que les joints sont en place et en bon état.
- Sécuriser la tenue des raccords sur les tuyauteries à l'aide de fil de fer suffisamment résistant.

UTILISATION

- Utiliser uniquement la manchette recommandée avec l'appareil (sauf appareils avec raccord tournant) pour le raccordement à la tuyauterie d'alimentation.
- Ne jamais mettre sous pression une tuyauterie (sauf pour opération contrôlée de purge) non raccordée à l'appareil.
- Alimenter les appareils uniquement avec de l'air comprimé à pression constante et ne dépassant pas la pression maximum autorisée 7 bar ou 100 psi..
- Ne pas utiliser un appareil, ou un outil, pour un usage pour lequel il n'est pas conçu.
- Ne pas utiliser un appareil sans outil ou incomplètement emmanché (pas de fonctionnement à vide).
- S'assurer avant tout travail que l'outil ne pourra être en contact avec toute canalisation ou capacité transportant ou contenant des fluides ou des câbles de liaison électrique, téléphonique ou autre.
- Ne jamais pointer un appareil ou une tuyauterie d'air comprimé en direction de personnes ou d'animaux.
- Ouvrir progressivement le robinet d'alimentation en air comprimé afin d'éviter tout risque de mise en pression brutale (risque de foudroiement de la tuyauterie).
- Avant démarrage s'assurer d'être dans une position stable et tenir l'appareil fermement à deux mains sans appuyer sur la gâchette.
- Démarrer l'appareil de façon progressive afin d'éviter les mouvements intempestifs de l'outil sur le matériau.
- Exécuter un avant trou de quelques cm / in avant foration à pleine puissance.
- Ne jamais tenir l'appareil par le décaleur.

- Orienter les orifices d'échappement afin d'éviter des projections dangereuses.
- Ne pas manipuler les outils sans gants car risque de brûlures.
- Ne jamais laisser reposer l'outil sur un pied.
- Ne jamais poser un appareil en appui sur sa gâchette car risque de démarrage incontrôlé.
- Ne jamais laisser un appareil, sans protection, à terre dans la poussière ou la boue.
- Ne pas utiliser les tuyauteries pour déplacer un appareil.
- Arrêter l'appareil avant tout déplacement.
- Après chaque arrêt accidentel, vérifier tous les raccordements avant de remettre le circuit sous pression.
- Ne jamais débrancher une tuyauterie sous pression sans avoir fermé le robinet d'alimentation. Attendre sa mise à vide ou assurer cette mise à vide en faisant fonctionner l'appareil jusqu'à absence totale de pression.
- Débrancher les appareils lorsqu'ils ne sont pas utilisés afin d'éviter le risque d'un redémarrage accidentel. Les stocker à l'abri des intempéries et hors de portée des enfants.

ENTRETIEN RECOMMANDATIONS

Avant toute opération suivre toutes les consignes du chapitre ci-dessus.

- Débit nécessaire : avant toute mise en service s'assurer que le débit du compresseur est suffisant pour alimenter, à pression recommandée, le ou les appareils travaillant simultanément.
- Important : une tuyauterie très longue, des raccords rapides et des connexions occasionnent des pertes de charge entraînant une réduction de la pression d'air comprimé. Utiliser des raccords dont le diamètre intérieur est maximum afin de réduire les pertes de charge.
- Purger les tuyauteries d'alimentation en pratiquant une chasse d'air progressive (ouverture lente du robinet) et s'assurer que des impuretés ne peuvent pénétrer à l'intérieur de l'appareil lors du raccordement.
- Pression de travail : ne doit pas dépasser **7 bar ou 100 psi** bar. Elle doit être contrôlée le plus près possible de l'appareil et en cours de fonctionnement normal.
- Utiliser des outils en bon état correctement affûtés.
- Ne pas forcer exagérément sur l'appareil afin d'éviter le risque de "planter" l'outil. En fonctionnement on doit toujours voir sortir de la poussière le long de l'outil.

Lubrification : Les piqueurs et les brise-béton n'exigent pas de lubrification en ligne dans les conditions normales de service. La teneur résiduelle d'huile dans l'air comprimé assure généralement une lubrification suffisante. Cependant dans certaines conditions (air comprimé refroidi par un réfrigérant final ou une grande longueur de tuyauterie d'alimentation) une huile très fluide peut-être utilisée.

La lubrification est assurée en injectant dans l'appareil, par l'emmanchement, quelques cm³ (1/2 oz.) d'huile. Cette opération doit être assurée en fin de journée de travail et avant chaque arrêt prolongé.

Lubrification : Les perceurs sont équipés d'un réservoir d'huile qui doit être rempli, avant chaque perforation, avec une huile épaisse (exemple EP 140 ou SAE 90 Wt.). Surveiller, en cours de travail, le bon graissage de la queue de l'outil.

Stockage : après lubrification, stocker l'appareil verticalement, outil en bas, et dans un local protégé.

Incidents de fonctionnement : en cas de "gommage" du piston, nettoyer en injectant, par l'emmanchement, de l'huile fluide et ensuite lubrifier normalement.

• Ne pas essayer de modifier ou de réparer soi-même un appareil, faire appel au service après-vente agréé par SULLAIR et n'utiliser que les accessoires et pièces d'origine SULLAIR.

SULLAIR se réserve le droit de modifier, sans préavis, les produits et spécifications.

Warranty Policy Tools

WARRANTY PERIOD COMMENCES AT START-UP, INVOICE DATE, OR BEGINS THIRTY (30) DAYS AFTER DATE OF SHIPMENT FROM FACTORY, BUT NOT LATER THAN 12 MONTHS FROM DATE OF SHIPMENT FROM FACTORY.

A Sullair Air Tool, if used in accordance with manufacturer's instructions, is warranted against defects in materials and workmanship. M Series tools are also warranted against loss of performance due to wear. This warranty does not apply to any tool damaged by accident, misuse or negligence. The warranty shall continue for the periods of time as set forth below.

PRODUCT	WARRANTY PERIOD
MPB Series Paving Breakers	2 YEARS
MCD-30 Clay Digger, MDT-22 Demolition Tool	2 YEARS
MDT-30 Demolition Tool	1 YEARS
MBT-6 Tamper	1 YEAR
MCH Series Chipping Hammer:	
-Handle and Cylinder	2 YEARS
-Internal Parts, Excluding Retainer and Retainer Spring	1 YEAR
MRD Series Rock Drills and Utility Drill	1 YEAR
MRD-55 Heavy Duty Rock Drill	90 Days
MCV Series	6 Months
All Tools other than M Series	90 days

The warranty extends only to the Sullair Air Tool and is limited to the repair or replacement, as Sullair may elect, of any defective parts. Installation and transportation costs are not included. Sullair Corporation shall have the option of requiring the return to it of the defective tool or part transportation prepaid, for inspection.

THIS STATEMENT OF WARRANTY IS EXPRESSLY IN LIEU OF AND DISCLAIMS ALL OTHER EXPRESS WARRANTIES, IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER IMPLIED WARRANTIES. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THIS WARRANTY DOES NOT INCLUDE LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

All claims under this warranty should be made by contacting your local Sullair Representative.

 **SULLAIR® CORPORATION**
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1-800-SULLAIR (U.S.A. only) www.sullair.com

KEEP THIS STATEMENT WITH TOOL RECORDS

Model No. _____ Serial No. _____

Tool Purchased from _____ Date _____

Keep a copy of your Tool invoice with this Warranty form in a safe place, for warranty validation



HAND-HELD POWER TOOLS

Pneumatic Driven

Construction Products

PNEUMATIC CONTRACTOR TOOLS

Model	Weight (lbs)	Bore (in)	Stroke (in)	Warranty
PAVING BREAKERS- STANDARD "T" HANDLE				
MPB-90A	90	2 7/16	5 9/32	2 Years
MPB-60A	67 1/2	2 5/32	5 9/32	2 Years
MPB-35B	39	1 3/4	5 5/16	2 Years
MPB-30A	35 1/2	1 25/32	3 25/32	2 Years

PAVING BREAKERS- ANTI-VIBRATION

MPB-90AFG	97 1/2	2 7/16	5 9/32	2 Years
MPB-60AFG	75	2 5/32	5 5/32	2 Years

PAVING BREAKERS- SUPER SILENT OPTION

MPB-90AS	92	2 7/16	5 9/32	2 Years
MPB-60AS	69 1/2	2 5/32	5 5/32	2 Years

PAVING BREAKERS- ANTI-VIBRATION SILENCED

MPB-90AFSG	99	2 7/16	5 9/32	2 Years
MPB-60AFSG	76 1/2	2 5/32	5 3/32	2 Years

CLAY DIGGERS AND DEMOLITION TOOLS

MCD-30	33 3/4	1 25/32	3 25/32	2 Years
MDT-22	24 11/16	1 1/2	4 1/2	2 Years
MDT-30	33	1 1/2	7 1/2	2 Years

BACKFILL TAMPERS

MBT-6	40 1/2	1 1/2	5 1/2	1 Year
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ROCK DRILLS- DRY BLOW TYPE

MRD-55	56	2 5/8	2 11/16	90 Day
MRD-50	48 1/2	3	2 5/8	1 Year
MRD-40	45 1/2	2 11/16	2 3/8	1 Year
MRD-30	34	2 9/32	1 3/4	1 Year
MRD-9	9	1 11/32	1 3/8	1 Year

CHIPPING HAMMERS- 4 BOLT HANDLE CONNECTION

MCH-2	16 5/8	1 1/8	3	2 Years*
MCH-3	17 3/4	1 1/8	3 3/4	2 Years*
MCH-4	18 5/8	1 1/8	4 1/4	2 Years*
MLC-10	12	1 7/64	1 13/16	2 Years*

NEEDLE SCALER- CONVERTS TO WELD FLUX SCALER

SANS	6 1/2	1	1 5/8	90 Days
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WELD FLUX SCALER- CONVERTS TO NEEDLE SCALER

SWFS	6 1/2	1	1 1/8	90 Days
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RIVET BUSTER

MRB-8	30	1 3/16	8	90 Days
MRB-11	33	1 3/16	11	90 Days

*2 Years on Handle and Barrel, and 1 year on Internal Parts excluding Retainer and Retainer Spring.

PAVING BREAKER ACCESSORY TOOLS

Asphalt Cutters	Standard 3-inch Chisels
Bushing Tools	Standard Moil Points
Clay Spades	Standard Narrow Chisels
Brick Wedges	

CHIPPING HAMMER ACCESSORY TOOLS-RETAINER TYPE

2' Wide Blade Chisels	Flat Chisels
1-1/2" Wide Blade Chisels	Moil Points
Bushing Tools (1 piece)	Whip Hose

RIVET BUSTER ACCESSORY TOOLS-FOR CONCRETE

Chisels	Whip Hose
Moil Points	

UTILITY DRILL (MRD-9) ACCESSORY TOOLS

Carbide Tipped (Hollow) Drill Bits (Round & Hex Shank)	
Chipping Points	Whip Hose

ROCK DRILL STEEL

7/8" or 1" Hex Drill Steels (H-Thread)
H- Thread Carbide Rock Bits

LINE OILERS

Pressure feed and constant feed line oilers

AIR HOSE

I.D.	LENGTH	COUPLED	W.P.
3/4"	50'	2-Lug Quick Connects	250PSIG
3/4"	100'	2-Lug Quick Connects	250 PSIG
1/2"	8'	3/8" NPT, 7/8"-24 Swivel or 1/2" NPT Swivel	250 PSIG
1/2"	500'	Reel Uncoupled	250 PSIG
3/4"	500'	Reel Uncoupled	250 PSIG

BACKFILL TAMPER BUTTS

Pole Butt-Half Moon	4" Aluminum Butt
3" Aluminum Butt	6" Malleable Iron

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