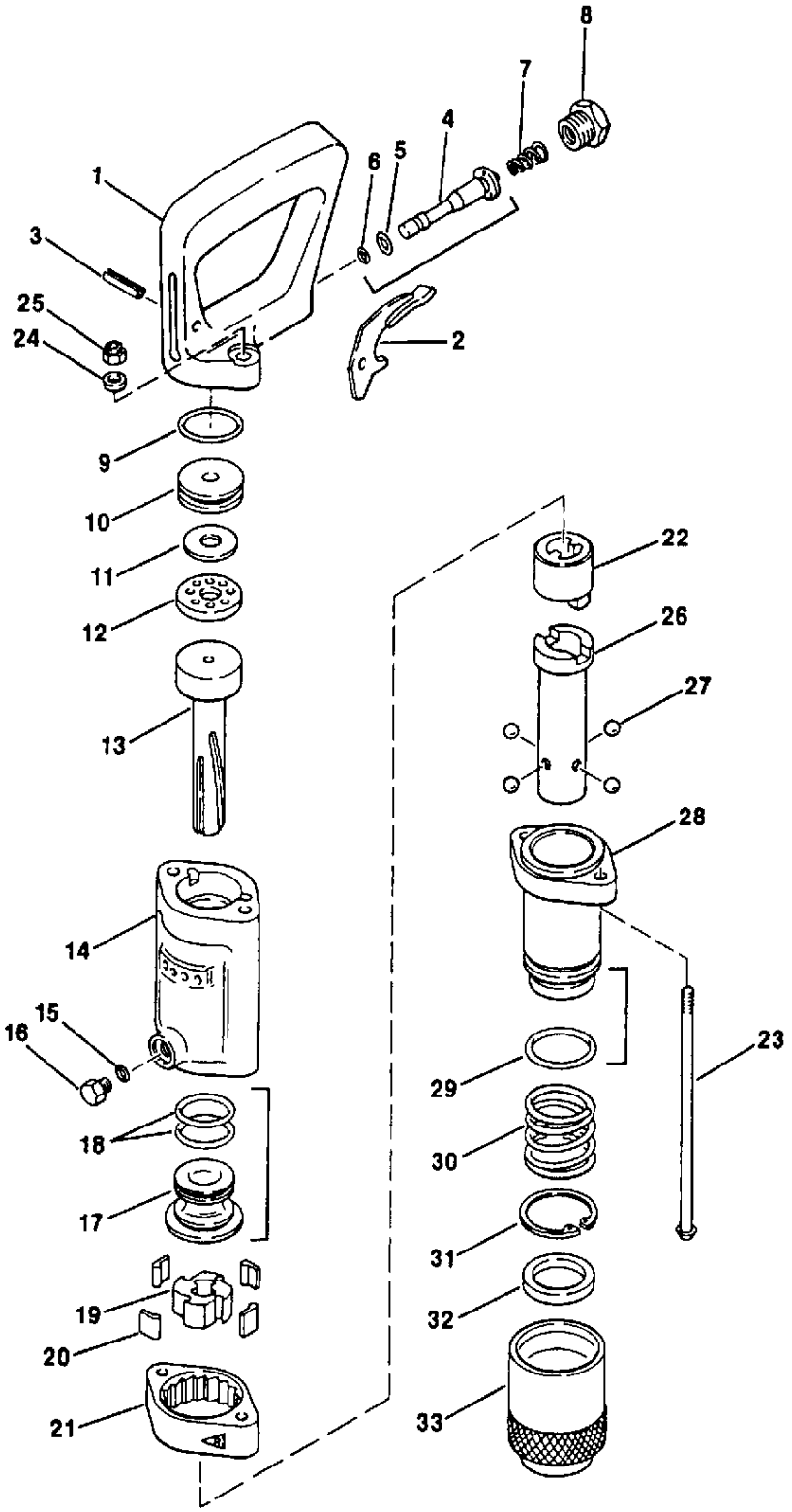
MRD–9 UTILITY DRILL ILLUSTRATION



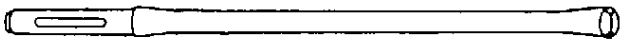
PARTS LIST

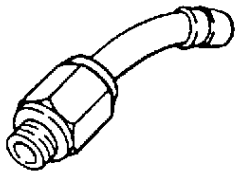
INDEX NO.	PART NUMBER	QTY. REQ.	DESCRIPTION
1	68722111	1	Handle, Bare
2	68722112	1	Trigger
3	68723013	1	Pin, Trigger Pivot
4	68722214	1	Valve, Throttle
5	68524031	1	O–Ring, .236ID x .118W (70)
6	68CJ0004	1	O–Ring, .193ID x .075W (70)
7	68013180	1	Spring, Throttle Valve
8	68722498	2	Bushing, Air Inlet
9	68CJ0023	1	O–Ring, 4.212ID x 1.41W (70)
10	68722114	1	Chest, Valve
11	68722115	1	Valve, Disc
12	68722116	1	Seat, Valve
13	68722221	1	Piston
14	68722118	1	Cylinder
15	68CJ0009	1	O–Ring, .413ID x .106W (70)
16	68722120	1	Plug, Oil Reservoir
17	68722119	1	Bushing, Front Washer
18	68524111	2	O–Ring, 1.176ID x .070W (90)
19	68722220	1	Carrier, Rotation Pawl
20	68722122	4	Pawl, Rotation
21	68722222	1	Ratchet
22	68722124	1	Driver, Chuck
23	68722134	2	Bolt, Side Rod
24	68VR0208	2	Washer, Side Rod Bolt
25	68VE8080	2	Nut, Side Rod Bolt (Nylok)
26	68722657	1	Chuck, 3/4" Round x 3 3/4"
	68722979	1	Chuck, .571" Hex x 3 1/2"
27	68CB0008	4	Ball, Rotation Sleeve
28	68722129	1	Fronthead
29	68CJ0028	1	O–Ring, Buna N 1 1/2 x 3/16
30	68722511	1	Spring, Retainer
31	68CL1044	1	Clip, Steel Retainer
32	68722281	1	Ring, Steel Retainer
33	68722280	1	Retainer, Steel

DRILL BITS FOR MRD–9

Bit diameter (In.)	Drilling depth (maximum) PART NUMBER 8"DD	PART NUMBER 12" DD
5/16	250028–411*	–
3/8	250028–412*	–
7/16	250028–413*	–
15/32	250028–414*	–
1/2	250026–687	250026–688 (10 1/2"DD)
5/8	250026–689	250026–690
3/4	250026–691	250026–692
7/8	250026–693	250026–694
1	250026–695	250026–696
1 1/8	250026–697	250026–698
1 1/4	250026–699	250026–700
1 3/8	250026–701	250026–702
1 1/2	250026–703	250026–704
1 5/8	250026–705	250026–706
1 3/4	250026–707	250026–708
Moil Point		250027–004
Chiesel, 1" Blade		250027–005
Chiesel, 2" Blade		250027–006

*Solid stem (no blowing hole)





Optional air inlet swivel
3/8" NPT x 1/2" hose stem
Part No. 250012–532

REPAIR TOOLS FOR MRD–9 UTILITY DRILL

All components are **Metric** except external air inlet swivel **Threads** which are NPT. Only locally purchased metric wrenches are required for disassembly and assembly.

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

Model **MRD–9** Utility Drill – 21 CFM (9.9 L/S) at 100 PSIG (6.9 bar).

CFM (L/S) x NUMBER OF TOOS 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.

ON–THE–JOB TROUBLE SHOOTING
(MRD–9 UTILITY DRILL)

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
	Automatic Valve Clogged	Flush Tool with Mixture of Oil and Diesel Fuel
	Insufficient Lubrication	Add a Small Amount of Light–Weight Non–Detergent Oil into Hose. Refill oil reservoir.
Tool Runs Erratically	Osha (Velocity Valve) Tripping	Inspect Valve for Proper Sizing
	Foreign Material in Tool Inlet	Remove Foreign Material
	Automatic Valve Sticking	Flush Tool With Mixture of Oil and Diesel Fuel. Reduce Amount of Oil/Moisture to Tool
Tool Will Not Run (Air Blows thru Exhaust)	Automatic Valve Stuck	Flush Tool with Mixture of Oil and Diesel Fuel
	Lack of Oil	Fill Oil Reservoir
Tool Continues to Run	Throttle Valve Stuck	Flush Tool with Mixture of Oil and Diesel Fuel
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	Imporoper Down Pressure	Apply Sufficient Down Pressure
	Clogged Blow Tube or Drill Stem	Cleared Blocked Passages
	Bit Binding in Hole	Keep Drill, Steel and Bit Aligned with Hole
	Dull Bit	Use Sharp Bit
	Insufficient Lubrication	Fill Oil Reservoir, Add a Small Amount of Light–Weight Oil into Hose
	Excessive Down–Pressure in Soft Ground	Drill at Part Throttle in Soft Ground

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