

HAVA

RH658 - ROCK DRILL

INSTRUCTION MANUAL



► INTRODUCING THE HAVA HANDHELD PNEUMATIC ROCK DRILL

The HAVA Rock Drill is a powerful and durable handheld pneumatic tool, engineered for a variety of drilling applications. With the capability to drill holes ranging from 27 mm to 48 mm in diameter, it utilizes H22 integral or extension steels to reach depths of up to 6 meters.



AVAILABLE IN TWO MODELS

Hava Rock Drill Dry Applications -

- *Quarry Drilling, Bench Mining & General Excavation*
- *In Marble & Granite Industries*
- *Construction & Surface mining*

Hava Rock Drill Wet Applications -

- *In Underground Mines & Tunnels*
- *Horizontal / Inclined Drilling*

► HAVA ROCK DRILL DRY

- This air-flushed medium-duty rock drill excels in efficiency for holes up to 6 meters deep, though it performs optimally for depths of 3 to 3.6 meters. Designed to tackle the toughest materials found in nature, including rock and ore, the HAVA Rock Drill is your reliable solution for demanding drilling tasks.

► HAVA ROCK DRILL WET

- This water-flushed model is designed for horizontal or inclined dustless drilling, ideally paired with a pusher leg for applications in underground mines and tunnels.

► TECHNICAL DATA

Model	Weight	AIR REQUIREMENT		PISTON		IMPACT	DRILLING	HOSE CONNECTION	
		(at 6 bar) m ³ /Min	(87 PSI) Cfm	Diameter MM	Stroke MM			Air MM	Water MM
DRY	25	3.4	119	65	60	2000	425	19	—
WET	26	2.9	101	65	60	2050	410	19	12.7

► AIRLINE LUBRICATOR

IMPORTANT: LUBRICATION IS ESSENTIAL

- Always use the Lubricator while drilling.
- Use only rock drill oil. *No licenses necessary*
- Monitor the oily mist from the exhaust.
- Ensure the Lubricator is positioned at the correct distance of 3 meters.



► WARNING: INSUFFICIENT LUBRICATION CAN LEAD TO DAMAGE

- Lack of adequate lubrication results in frictional wear. In a typical rock drill, the piston reciprocates at a rate of 1800 to 2000 times per minute, with other internal components moving in sync. This friction generates heat, which can lead to serious issues. Even with high-quality metallurgy, insufficient oil can create enough heat to cause tiny surface cracks, potentially resulting in complete part failure.
- To prevent this, always use airline lubricators specifically designed to provide the necessary lubrication, ensuring smooth operation and minimizing frictional wear on the piston.

► LUBRICANTS

- Using the wrong type of oil, such as engine oil, can lead to premature wear or failure of components. Engine oil lacks the emulsification properties needed to mix effectively with water without losing its effectiveness.

We recommend following oil for rockdrills - available at Harlen Supplies:

- Using the wrong type of oil, such as engine oil, can lead to premature wear or failure of components. Engine oil lacks the emulsification properties needed to mix effectively with water without losing its effectiveness.
- CAS Magna RD Compound - available in 500ml sachets.
- Flexicor 220 - available in 210L and 20L drums.
- Flexicor 320 - available in 210L and 20L drums.



► OPERATOR TIPS FOR MAXIMIZING MACHINE PERFORMANCE

Essential Hints for Operators:

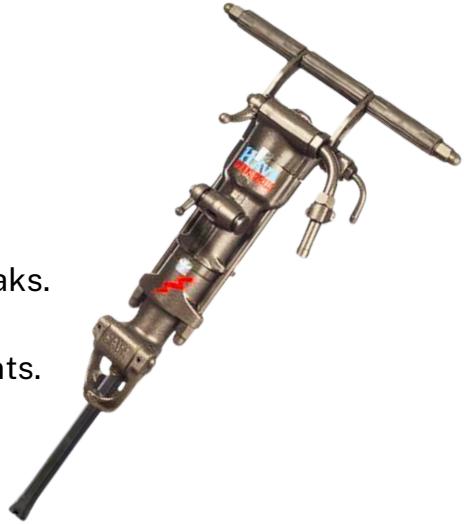
- **Prepare Your Hose:** Always blow out the hose to ensure it is clean before coupling.

Maintain Air Pressure:

- Use a short pipe length for optimal air flow.
- Minimize joints in the hose to reduce potential leaks.
- Ensure there are no leaks or blockages at the joints.

Feed Pressure Guidelines:

- **Start with Caution:** Avoid excessive feed pressure at the beginning. Align the machine, then collar it while using reduced feed pressure at half throttle until the bit takes hold. This prevents unnecessary strain on drill rods and bits.
- **Proper Guidance:** Keep the rock drill steady on the surface. Use the arch of your foot to guide the bit end of the drill steel and start the rock drill at a low speed.

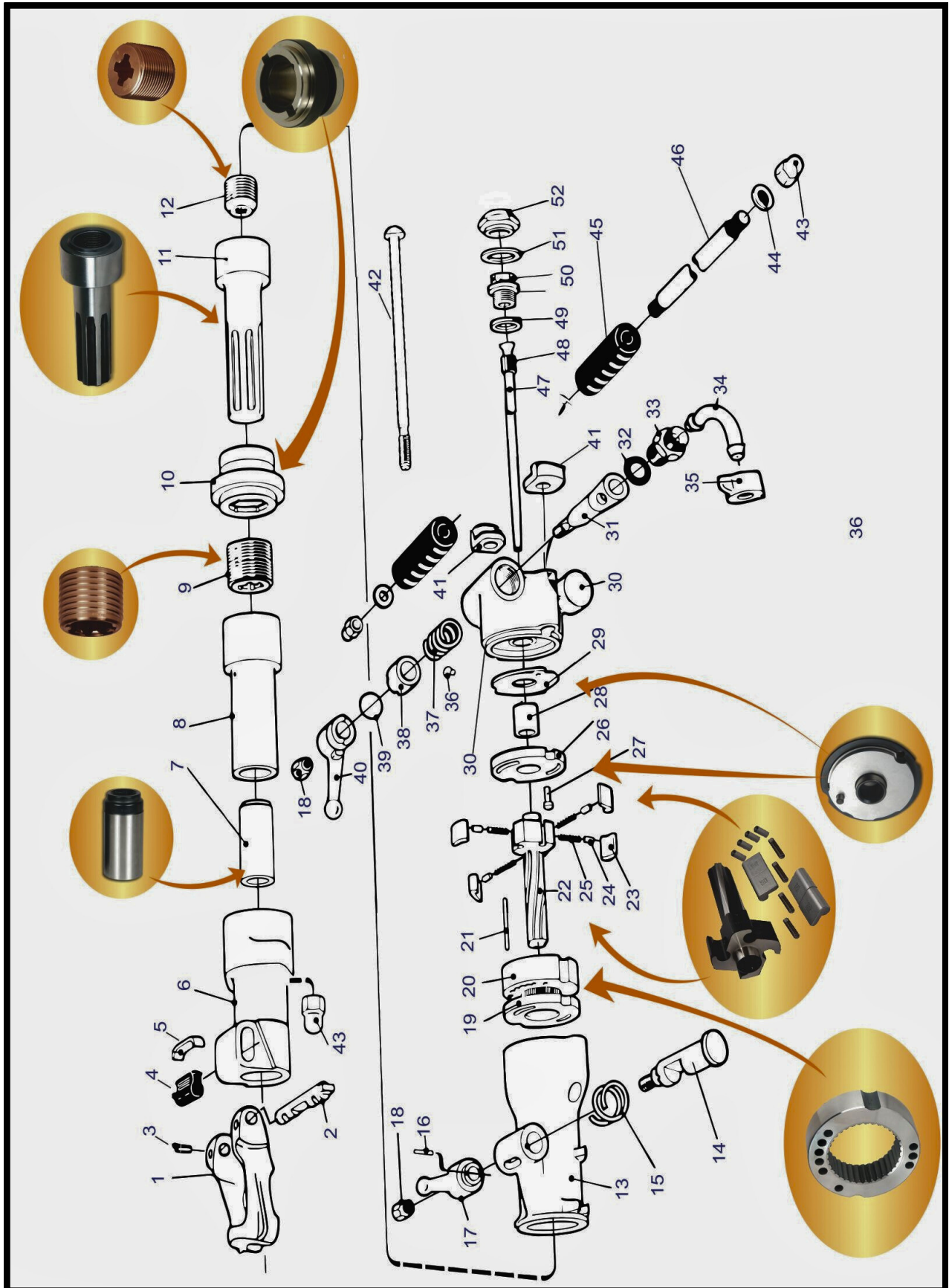


For Optimal Rock Drill Performance, Remember:

- **Use the Right Compressor:** Ensure your compressor has the appropriate capacity, delivering clean air with the correct humidity level.
- **Always Use a Lubricator:** Use only rock drill oil — never engine oil.
- **Regular Maintenance:** Overhaul your rock drills regularly and replace worn parts promptly with genuine HAVA spares.
- **Inspect Chuck Bushing:** Check the chuck bushing regularly; excessive wear can damage the drill steel, piston, rifle bar, rifle nut, and air and water tubes.
- **Pawl Maintenance:** Periodically check the pawls and always replace all pawls together as a complete set.

By following these guidelines, you'll ensure the longevity and efficiency of your rock drill.

▶ ROCK DRILL (DRY) - EXPLODED VIEW

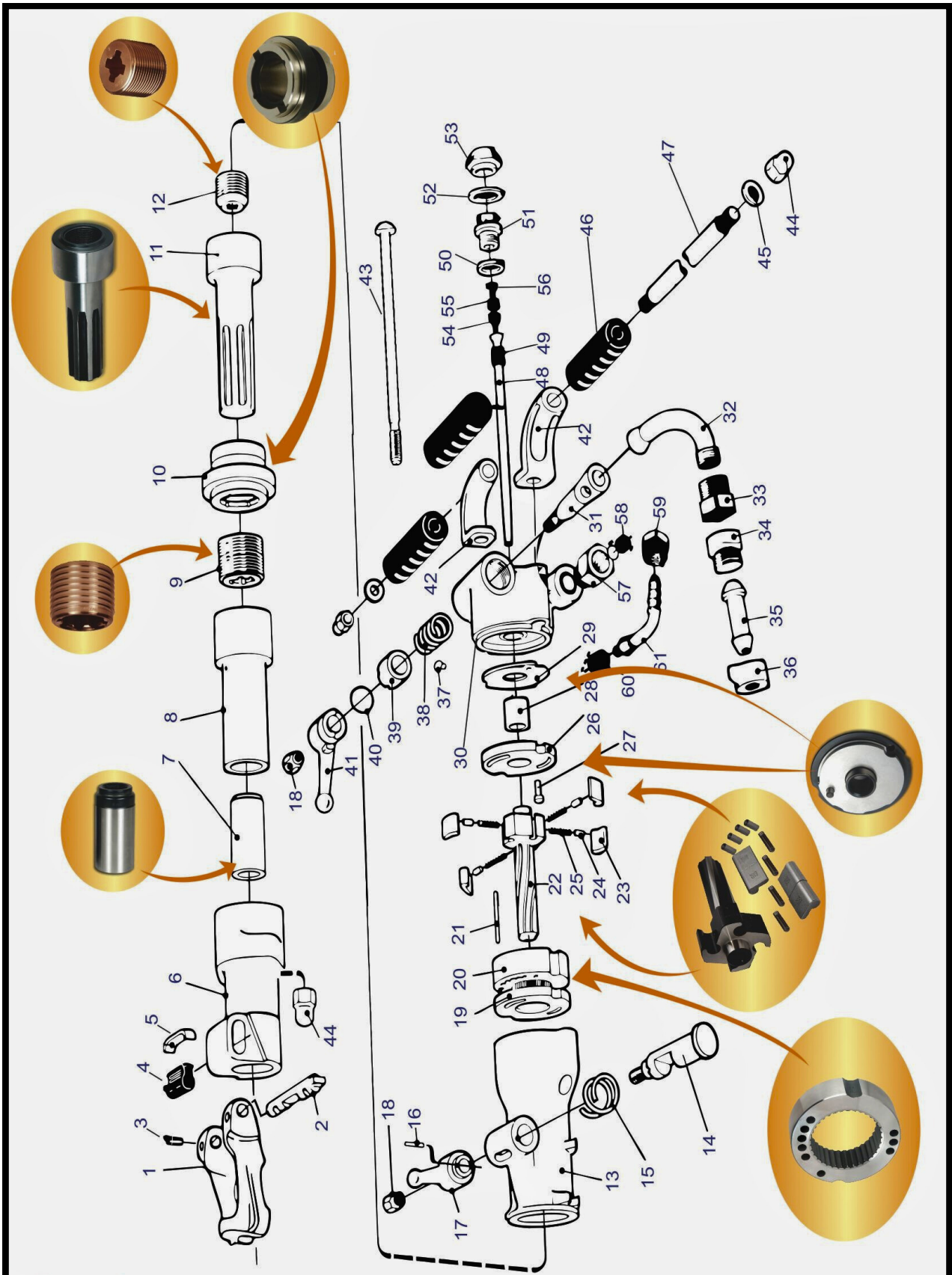


SPARE PART LIST OF ROCK DRILL (DRY)



SR.NO.	DESCRIPTION	REF NO.	SR.NO.	DESCRIPTION	REF NO.
1	Retainer	3121-0851	27	Guide Pin	3100-9665
2	Retainer pin	3121-0852	28	Bush for Cover	3100-9894-01
3	Tension pin	0108-3392	29	Main Valve	3106-8681
4	Rubber Buffer	3121-0030	30	Back Head	3115-0569
5	Buffer Plate	3121-0029	31	Throttle Valve	3121-0349
6	Front Head	3121-0342	32	Washer	3115-1045
7	Chuck Bushing	3121-0023	33	Adopter	9000-0345
8	Rotation Chuck	3121-0769	34	Hose nipple	3115-1170
9	Chuck Nut	3115-1221	35	Wing Nut	9000-0338
10	Intermediate Part	3121-0339	36	T.Pin	3121-0329
11	Piston	3100-8478	37	Spring for Throttle Valve	3111-0136
12	Rifle Nut	3100-9299-05	38	Lock Washer	3121-0332
13	Cylinder	3121-0337	39	O-Ring	0663-2128
14	Outlet Valve	3106-9949	40	Lever Handle Top	3115-0573
15	Spring for Outlet Valve	3121-0338	41	Washer for Bracket	3115-0574
16	Elastic pin	0108-3330	42	Side Rod	3121-0343
17	Lever Handle Bottom	3106-9950	43	Dome Nut	3121-0292
18	Conical Nut	3006-8734	44	Washer	3000-0119-01
19	Guide Disc	3106-8683	45	Rubber Grip	3101-1372
20	Ratchet Ring	3106-8682	46	Handle Bolt	3121-0360
21	Pin for Ratchet Ring	0108-1336	47	Air Tube	3121-0352
22	Rifle Bar	3101-3154	48	Rubber Packing	3121-0336
23	Pawl	3101-3159	49	Seal Washer (small)	3000-9341-02
24	Pawl Pin	3100-9641-01	50	Adopter	3100-9623-01
25	Pawl Spring	3100-9140-02	51	Seal Washer (large)	3101-4146
26	Cover	3106-8680	52	Protective Nut	3100-9643-01

➤ ROCK DRILL (WET) - EXPLODED VIEW



SPARE PART LIST OF ROCK DRILL (WET)



SR.NO.	DESCRIPTION	REF NO.
31	Throttle Valve (Wet)	3121-0331
32	Elbow (Wet)	3101-1371
33	Adopter (Wet)	3101-1370
34	Adopter (Wet)	9000-0350
35	Hose Nipple (Wet)	9000-0325
36	Wing Nut	9000-0338
37	T- Pin	3121-0329
38	Spring for Throttle Valve	3111-0136
39	Lock Washer	3121-0332
40	O-Ring	0663-2128
41	Lever Handle Top	3115-0573
42	Bracket Set (Left & Right)	3121-0344-45
43	Side Rod	3121-0343
44	Dome Nut	3121-0292
45	Washer	3000-0119-01
46	Rubber Grip	3101-1372
47	Handle Bolt	3121-0360
48	Air Tube (Wet)	3115-0028
49	Rubber Packing (Wet)	3000-0121
50	Seal Washer (small)	3000-9341-02
51	Adopter	3100-9623-01
52	Seal Washer (large)	3101-4146
53	Protective Nut	3100-9643-01
54	Guide Ring (Wet)	3121-0776
55	Rubber Packing (Wet)	3100-9646
56	Water Tube (Wet)	3121-0588
57	Adopter (Wet)	3121-0010
58	Packing (Wet)	3121-0012
59	Adopter (Wet)	3100-9652
60	Rubber Packing (Wet)	3100-9653
61	Hose Water Nipple (Wet)	3100-9654

SR.NO.	DESCRIPTION	REF NO.
1	Retainer	3121-0851
2	Retainer pin	3121-0852
3	Tension pin	0108-3392
4	Rubber Buffer	3121-0030
5	Buffer Plate	3121-0029
6	Front Head	3121-0342
7	Chuck Bushing	3121-0023
8	Rotation Chuck	3121-0769
9	Chuck Nut	3115-1221
10	Intermediate Part	3121-0339
11	Piston	3100-8478
12	Rifle Nut	3100-9299-05
13	Cylinder	3121-0337
14	Outlet Valve	3106-9949
15	Spring for Outlet Valve	3121-0338
16	Elastic Pin	0108-3330
17	Lever Handle Bottom	3106-9950
18	Conical Nut	3006-8734
19	Guide Disc	3106-8683
20	Ratchet Ring	3106-8682
21	Pin for Ratchet Ring	0108-1336
22	Rifle Bar	3101-3154
23	Pawl	3101-3159
24	Pawl Pin	3100-9641-01
25	Pawl Spring	3100-9140-02
26	Cover	3106-8680
27	Guide Pin	3100-9665
28	Bush for Cover	3100-9894-01
29	Main Valve	3106-8681
30	Back Head (Wet)	3115-0568

➤ ROCK DRILL TROUBLE SHOOTING CHART - TROUBLE, CAUSE & REMEDY

- **Rapid wear of rifle nut and/or rifle bar -**

Cause - Usually due to faulty lubrication. May also be due to grit in machine or contamination of oil.

Remedy - Keep machine clean and use plenty of the proper rock drill oil.

- **Breaking pistons and/or rifle bars -**

Cause - Usually due to heat cracking caused by faulty lubrication. May also be caused by bad steel shanks or excessive chuck bushing wear.

Remedy - Proper lubrication and replacement of worn parts.

- **Spalling of piston face -**

Cause - May be due to steel shanks having improperly shaped striking faces. May also be caused by badly worn chuck bushing allowing steel to be struck at an angle.

Remedy - Check shank faces and replace worn chuck bushings.

- **Breaking side rods -**

Cause - May be caused by uneven tension on rods or by loose rods. Usually caused by piston and / or Intermediate part worn beyond limits, allowing piston to strike front end.

Remedy - Check tension on side rods. Check clearance between int. part & piston and replace one or both, if necessary.

- **Broken pawls/Ratchet Ring -**

Cause - Invariably caused by the operator turning the drill steel in the wrong direction with a pipe wrench in an effort to free stuck drill steel.

Remedy - Replace or instruct operator.

- **Broken or battered water tubes -**

Cause - Shanks improperly punched. Badly worn chuck bushing.

Remedy - Check shank, chuck bushing & striking face of piston.

- **Broken steel shanks -**

Cause - Usually caused by worn chuck bushing or striking face of piston not square and flat. Frequent breakages in shank might also be due to uneven steel quality.

Remedy - Check chuck bushing & striking face of piston. Replace accordingly.

➤ ROCK DRILL TROUBLE SHOOTING CHART - TROUBLE, CAUSE & REMEDY CONTINUE ➤

- **Drill refuses to start -**

Cause - May be because of plugged exhaust ports, frozen piston due to faulty lubrication, main valve stuck by gummy lubricant, or plugged air passages due to dirt or rubber from worn hose lining.

Remedy - Check exhaust ports. Dismantle drill, clean and re-oil. clean air passages. If due to frozen piston, remove piston and repair surfaces, where possible, by stoning or fine emery cloth. Replace worn hose.

- **Drill refuses to rotate or weak rotation -**

Cause - May be caused by bad drilling ground (gravelly, clay seams, bug holes, etc) May be loss of big gauge allowing bit to blind in hole. Also may be due to worn chuck busing, chuck nut, piston, rifle nut, rifle bar.

Remedy - Replace bit if worn. Replace any or all worn parts.

- **Drill does not have standard hitting power -**

Cause - May be due to short shanks. Short piston (through wear or regrinding), loss of front end cushion, low air pressure (at source, long runs of small dia. hose or pipe or plugged air passages in drill). If an air line filter is used, it may be plugged.

Remedy - Check shank and piston. Check front end cushion. Check air passages in drill and be certain air filter is clean. Check compressor for proper loading and unloading pressures. Check ir lines to be certain they will carry required volume of air.

- **Drill heats -**

Cause - New drills may heat, particularly at int. part, due to close fits and heavy work load or lack of oil, Heating in other than new drills are always caused by faulty lubrication, although hot air from an overloaded compressor is a contributing factor.

Remedy - Take it easy with new drill and give it lots of oil. With older drills use enough of the proper oil and use a compressor large enough to avoid overloading.

HARLEN SUPPLIES (PTY) LTD

Physical Address: Unit D46, Ifafi Business Centre
Corner of Mauser and Cannon Crescent,
Ifafi, Hartbeespoort, 0260

Office Contact No: (0)10 442 1773 – admin@harlensupplies.co.za /
info@harlensupplies.co.za

Web Address: www.harlensupplies.co.za

Sales Enquiries:

Quarry Industry - Dustin Harlen - 083-616-0523 – dustin@harlensupplies.co.za

Mining Industry - Dylan Harlen – 082-384-7201 – dylan@harlensupplies.co.za

Construction Industry - Inalé Snyders – 079-500-4203 – inale@harlensupplies.co.za



Harlen Supplies (Pty) Ltd offers an extensive selection of products and solutions for your rock breaking and drilling needs. Our range includes handheld rock drills, drill steel, drill bits, Top Hammer rods, bits and couplings, as well as DTH rods, bits and hammers.

HAVA