

PUMA M3.1Q DHD 3.5

HAMMER TYPE / S (Standard) CODE / 0006030-000001



SPARE PARTS

ITEM / DESCRIPTION	kg /	lb	CODE
1 Backhead 2 3/8" Reg M ⁽¹⁾	7.3	16.2	0106030-010000
2 O`ring 2-145	0	0	C180010-002145
3 Check Valve Dart	0.2	0.4	0106040-030003
4 Pin	0.1	0.2	0106030-200000
5 Check Valve Spring	0.1	0.2	0106040-050002
6 Air Guide	1.2	2.6	0106030-080000
7 Choke ⁽²⁾	0	0	0101030-040000
8 O`ring 2-224	0	0	C180010-002224
9 Piston	4.8	10.5	0106030-110000
10 Wear Sleeve	8.8	19.4	0106030-100000
11 Bit Guide DHD-3.5	0.4	0.9	0106030-130000
12 O`ring 2-143 (Qty:2)	0	0	C180010-002143
13 Bit Retainer DHD-3.5	0.1	0.3	0106030-140000
14 O`ring 2-143	0	0	C180010-002143
15 Chuck Bit DHD-3.5	2.4	5.3	0106030-160000
16 Bit DHD 3.5	-	-	-

(1) Other thread types can be delivered at request
(2) Different Choke sizes are available

GENERAL DESCRIPTION

NET WEIGHT		OUTSIDE DIAMETER		HAMMER LENGTH		HAMMER LENGTH WITH BIT			
						CLOSED BIT		EXTENDED BIT	
kg	lb	mm	in	mm	in	mm	in	mm	in
25	55	85	3.3	760	29.9	826	32.5	860	33.9

AIR CONSUMPTION

PRESSURE	psig	100	150	200	250	300	350	barg	6.9	10.3	13.8	17.2	20.7	24.1
VOLUME	SCFM	123	190	258	325	393	460	m3/min	3.5	5.4	7.3	9.2	11.2	13.1

Check 05/2017

GHB Ground Engineering AG
Schulstrasse 11
CH-6443 Morschach

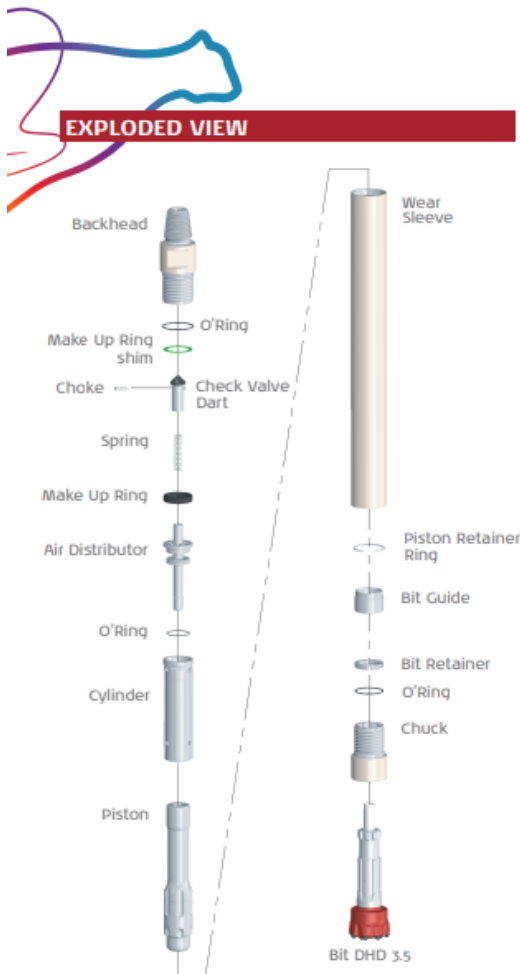
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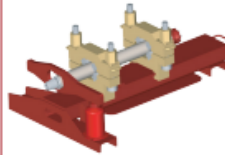
PUMA 3.1 MAINTENANCE SHEET

DHD 3.5

EXPLODED VIEW



DISASSEMBLY



WARNING!

- Use hammer disassembly bench.
- Do not apply heat on components
- Use good wrench
- Do not apply wrenches on the inserts
- Apply clamps in recommended areas "C"

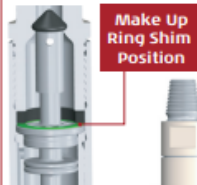
DISASSEMBLY SEQUENCE

- 1 Loosen hammer at the Chuck side
- 2 Unscrew and remove chuck, Retainer, Bit guide and Bit
- 3 Flip and disassemble hammer at Backhead
- 4 Unscrew Backhead and remove O'Ring
- 5 Extract Valve, Spring, Air guide, Make up ring, ring shim
- 6 Remove cylinder
- 7 Remove piston
- 8 Flip wear sleeve
- 9 Extract flat stop ring



A Bit Side		B Back Head Side		C Clamp Zones	
mm	inch	mm	inch	mm	inch
140	5.5	220	8.6	50-100	2.0 - 3.9

ASSEMBLY



Make Up Ring Shim Position

WARNING!

- 1 All components must be in good conditions for use
- 2 Follow assembly sequence shown in "Exploded View"
- 3 Clean and lubricate every component before installing
- 4 Make sure the ring shim is in its right position
- 5 Check space ("S") clearance between Backhead shoulder and wear sleeve shoulder
- 6 Apply pre torque on Backhead against Wear sleeve

Distance "S"	
inch	mm
0.08 a 0.14	2,2 a 3,8

PRE-TORQUE	
ft-lb _i	kq-m
2350 - 2450	326 - 340



LUBRICATION

OIL GRADE SELECTION (cst)

Work Pressure	TEMPERATURE		ISO GRADE
	Ambient Air	Discharge	
100 - 150 psig 6.9 - 10.3 barg	-20°C to 30°C	< 100°C	50 to 100
	-4°F to 86°F	< 212°F	
	over 30°C	> 30°C	100 to 150
150 - 350 psig 10.3 - 24.1 barg	-20°C to 30°C	< 100°C	150 to 220
	-4°F to 86°F	< 212°F	
	over 30°C	> 100°C	220 to 320
	Over 86°F	> 212°F	

OIL CONSUMPTION (gal/h)

Drilling	WORK PRESSURE (psig)				
	150	200	250	300	350
Without water	0.5	0.7	0.9	1.2	1.5

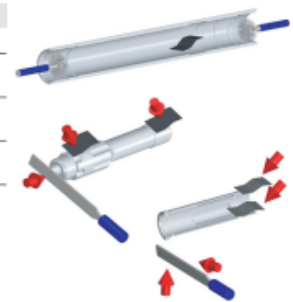
MAINTENANCE

STANDARD MAINTENANCE PROGRAM

OPERATION CONDITIONS	INSPECT EVERY:
• Stable, non abrasive ground	200 (operating hours)
• No water injection	
• Stable and abrasive ground	100 (operating hours)
• With or without water injection	
• Unstable and abrasive ground	50 (operating hours)
• With or without water injection	

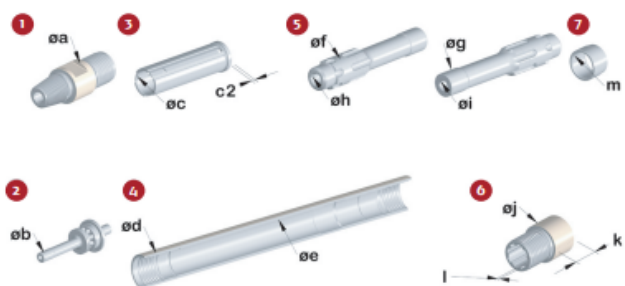
COMPONENT INSPECTION AND REPAIR.

All components must be washed thoroughly with the appropriate solvent, removing all accumulated dirt. Use sand paper to smoothen the steel surface and remove friction marking, leaving all contacts, sliding and threaded surfaces in good smooth condition.



DIMENSIONS LIMITS mm (in)

COMPONENT	DIMENSION	DHD-3.5
1 Back Head	ø External a	74 (2.913")
2 Air Guide	ø Flute b	20,71 (0.815")
3 Cylinder	ø Internal c	51,6 (2.031")
	Shoulder width c2	5 (0.197")
4 Wear Sleeve	ø External d	74 (2.913")
	ø Internal e	64,09 (2.523")
5 Piston	ø Ext. body f	63,78 (2.511")
	ø Ext. tail q	51,29 (2.019")
	ø Int. body h	25,15 (0.990")
	ø Int. tail i	21,16 (0.833")
6 Chuck	ø External j	74 (2.913")
	External Length k	47,0 (1.850")
	Spline width l	3,1 (0.122")
7 Bit Guide	ø Internal m	52,51 (2.067")



Check : 05/2018