BD54 R.C. HAMMER

Compatibility: RE054, RE547, MR132, AD670



Black Diamond Drilling offers a complete range of reverse circulation hammers along with fully integrated R.C. Bits and Shrouds that have been designed to provide a world-class sampling system. Precision engineering enables our R.C. Hammers to excel in maintaining an efficient and smooth flow of drill cuttings to the surface, ensuring cleaner, more accurate samples. This leads to more reliable data for exploration and better overall hole quality.

SPECIFICATIONS

Item	Diameter Ø	
	mm	inch
Hammer	130	4 3/4
Bit	133 – 146	5 1/4 – 5 11/16”
Suits medium to hard ground conditions		

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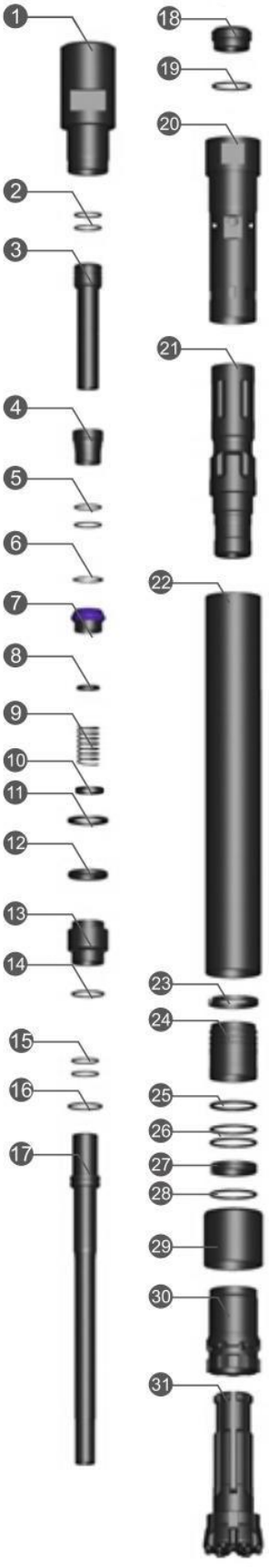
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Top Sub Assembly

	Product Code	Description	Amt	Compatibility
A	Top Sub Assembly Remet 4.5”			
1	BD54-TSUB-R4.5	Top Sub Remet 4.5"	1	33-054-R45
2	BD54-SK-ASCREEN-R4.5	O Ring Adaptor Tube Remet 4.5"	2	38-054-001
3	BD54-ASCREEN-R4.5	Adaptor Tube Remet 4.5"	1	20-054-R45
4	BD54-AIRSCREEN	Air Screen	1	21-054-000
5	BD54-SK-AIRSCREEN	O Ring (Air Screen)	2	38-054-001
6	BD54-SRING-ASCREEN	Stop Ring	1	-
B	Top Sub Assembly Metzke 4.5”			
1	BD54-TSUB-M4.5	Top Sub Metzke 4.5"	1	33-054-M45
2	BD54-ASCREEN-M4.5	Adaptor Tube Metzke 4.5"	1	20-054-M45
3	BD54-AIRSCREEN	Air Screen	1	21-054-000
4	BD54-SK-AIRSCREEN	O Ring (Air Screen)	2	-
5	BD54-SRING-ASCREEN	Stop Ring	1	-

Hammer Assembly

	Product Code	Description	Amt	Compatibility
7	BD54-CVALVE	Check Valve/Plunger	1	25-055-000
8	BD54-SK-CVALVE	Y Ring (Check Valve)	1	38-055-001
9	BD54-SPRING	Spring	1	22-054-000
10	BD54-SSEAT	Spring Seat	1	39-054-000
11	BD54-MUR-STEEL	Make Up Ring, Steel	1	24-054-000
12	BD54-MUR-VITON	Make Up Ring, Viton	1	28-054-000
13	BD54-DIST	Distributor	1	29-054-000
14	BD54-SK-DIST	O Ring (Distributor)	1	38-054-001
15	BD54-SK-STUBE1	O Ring (Sample Tube)	2	38-054-001
16	BD54-SK-STUBE2	O Ring (Sample Tube)	1	38-054-001
17	BD54-STUBE	Sample Tube Lower	1	37-054-000
18	BD54-STUBE-MOUNT	Mount Sample Tube	1	30-054-000
19	BD54-SK-STUBE-M	O Ring (Mount Sample Tube)	1	38-054-001
20	BD54-ICYL	Inner Cylinder	1	31-054-000
21	BD54-PISTON	Piston	1	36-054-000
22	BD54-ECYL	External Cylinder/Piston Case	1	35-054-000
23	BD54-PRING	Piston Retaining Ring	1	23-054-000
24	BD54-BUSH	Bearing Bush	1	26-054-000
25	BD54-SK-BUSH1	O Ring (Bearing Bush)	1	38-054-001
26	BD54-SK-BUSH2	O Ring (Bearing Bush)	1	38-054-001
27	BD54-SRING	Bit Stop Ring	1	27-054-000
28	BD54-SK-SRING	O Ring (Bit Stop Ring)	1	38-054-001
29	BD54-SHROUD-143/140.5-DB BD54R-SHROUD-143/140.5-DB	Shroud (Retaining Option)	1	40-054-507 40-054RM-507
30	BD54-DSUB BD54R-DSUB	Drive Sub (Retaining Option)	1	16-054-000 16-054R-000
31	BD54-143DC-TPD BD54R-143DC-TPD	Drill Bit	1	63-054-510DC 63-054R-510DC
32	BD54-SK	Seal Kit	1	38-054-001



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Bit Selection Table

Bit Product Code	Diameter		Compatibility
	Metric	Imperial	
BD54-136DC-TPD	136mm	5 3/8”	63-054-506DC
BD54-140DC-TPD	140mm	5 1/2”	63-054-508DC
BD54-143DC-TPD	143mm	5 5/8”	63-054-510DC
BD54-146DC-TPD	146mm	5 3/4”	63-054-512DC



Shroud Selection Table

Shroud Product Code	Diameter		Compatibility
	Metric	Imperial	
BD54-SHROUD-136/133.5-DB	136mm	5 1/16”	40-054-505
BD54-SHROUD-140/137.5-DB	140mm	5 1/2”	40-054-507
BD54-SHROUD-143/140.5/DB	143mm	5 5/8”	40-054-509
BD54-SHROUD-146/143.5-DB	146mm	5 3/4”	40-054-511



General Specifications

Description	Metric	Imperial
Piston Case OD	130mm	5 1/8”
Hammer length	1294mm	4’ 2 15/16”
Hammer Weight	84.5 kg	186lb 4 5/8oz
Bit Size Range	136 - 146mm	5 3/8 – 5 11/16”
Drill Rod Diameter	114mm	4 1/2”
Spanner Flat Width – Inner Cylinder	50mm	2”
Spanner Flat Width – Top Sub	50mm	2”

Air Consumption

Pressure		Consumption	
psi	bar	cfm	m^3/min
400	27.6	875	24.3
450	31.1	950	27.1
500	34.5	1000	28.3
550	38.0	1075	30.5
600	41.4	1125	32.0

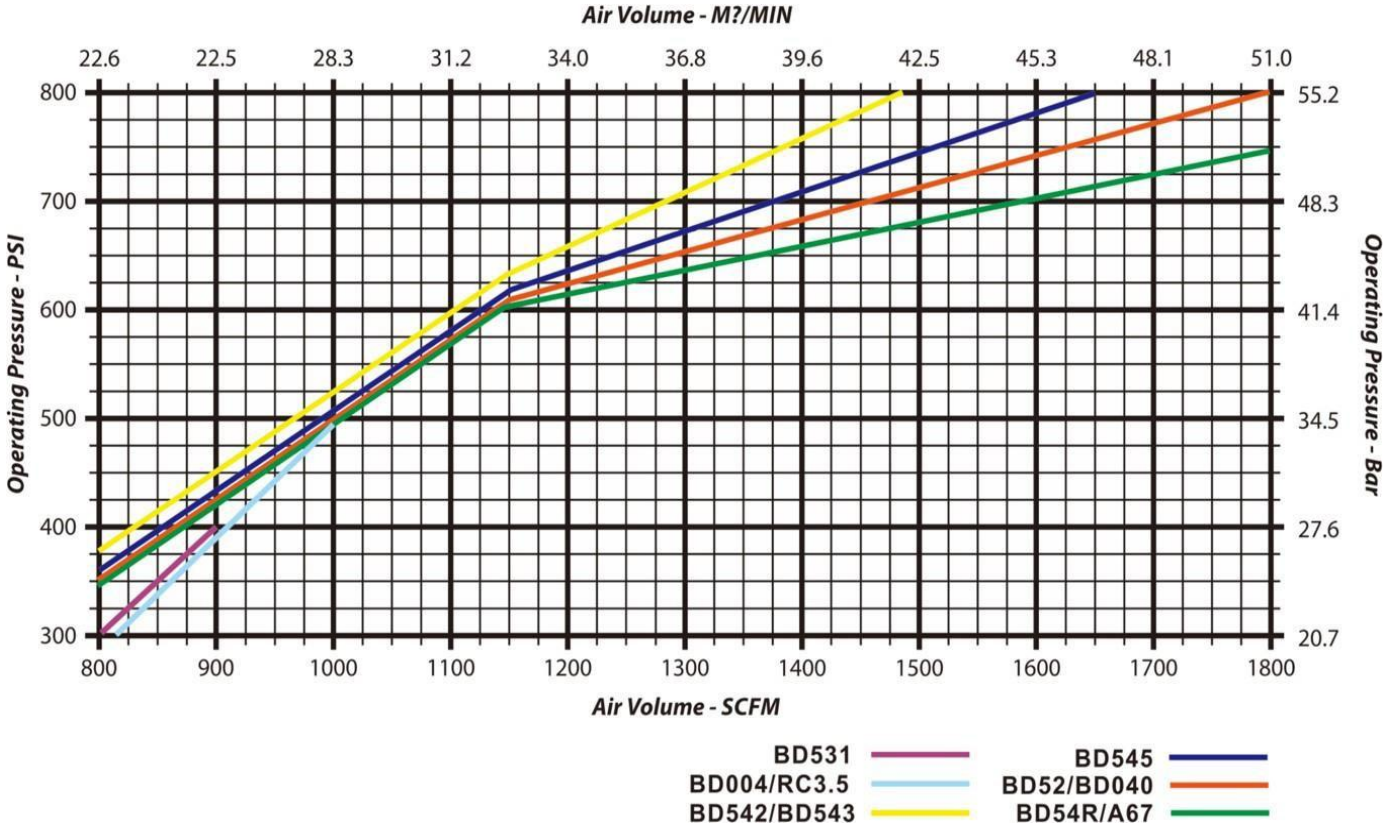
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REVERSE CIRCULATION GENERAL SPECIFICATIONS

Hammer	BD351	RC3.5	BD004			BD542			BD543		BD545		BD040				BD52		BD54		A67
Top sub thread	R3"	R3"	R3.5"	R4"	M4"	R3.5"	R4"	M4"	R4"	M4"	M4.5	R4.5	M4"	R4"	M4.5"	R4.5"	m4.5"	R4.5"	M4.5"	R4.5	M4.5"
Package case size	(L)1100 (W)110 (H)120	(L)1230 (W)120 (H)150	(L)1300 (W)150 (H)180			(L)1230 (W)140 (H)170					(L)1260 (W)150 (H)180		(L)1300 (W)150 (H)180				(L)1300 (W)160 (H)190		(L)1300 (W)160 (H)190		(L)1330 (W)160 (H)190
Recommended bit size, mm	86-100	100-110	111-125			113-133					123-140		127-140				133-143		136-146		136-146
Bit shank	RE531	RC3.5	RE004			RE542			RE543		RE545		RE040				PR52		PR54		BD67
External diameter, mm	81	94	107			109.5			116		117.5		121				120.5		130		132
Length excl. thread, mm (Less bit)	1069	1184	1252			1191					1261		1210				1227		1294		1200
Hammer weight, Kg (Less bit)	29	44	52			57			63		65		53.8	47.5	69.8	69.4	68.5		84.5		81.8
Piston weight, Kg	4.8	8.3	10.5			11.6			11.6		13.5		13.6				14.3		16.8		17
Wrench flat, mm	No wrench flat	(L)82 (W)40	(L)90 (W)40	(L)90 (W)50	(L)90 (W)50	(L)95 (W)45	(L)95 (W)45	(L)95 (W)50	(L)95 (W)45	(L)95 (W)50	(L)102 (W)50	(L)102 (W)50	(L)94 (W)50	(L)94 (W)50	(L)94 (W)50	(L)94 (W)50	(L)94 (W)50	(L)94 (W)50	(L)100 (W)50	(L)100 (W)50	(L)95 (W)51

Drilling conditions and project specifications may require a larger air package to be used

AIR CONSUMPTION/OPERATING PRESSURE



REVERSE CIRCULATION SERVICE GUIDE

When breaking a hammer down, avoid placing breakout tools in the mid-section of the cylinder (barrel). Recommended breakout points are 130mm from each end of cylinder. Wrap around chain breakouts are recommended (see diagram). When holding bits for breakout, use a secure plate or opt to grab the bit head, but never on the gauge row buttons.

This information is included with every Hammer purchase.

DO NOT APPLY HEAT OR DIRECT IMPACT TO HAMMER WHEN CRACKING JOINTS AS THIS TYPICALLY DAMAGES THE HAMMER.

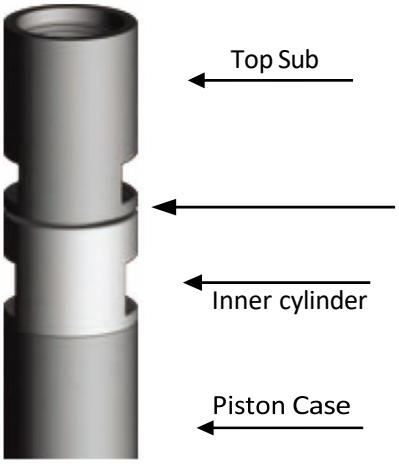


Figure 1: Gripping Locations for BD DRILL Reverse Circulation Hammer

Lubrication: Correct lubrication is critical to performance and longevity.

Recommended:

- Oil Grade: SAE 320 Hammer Oil for most operating conditions
- Rate: 2 litre/hour minimum via automatic feeder
- Double the rate when injecting fluids such as water, foam & polymers
- Clean and relubricate the hammer each day after use to prevent corrosion and premature failure



Stand-off is the gap existing between the top sub and the inner cylinder when the hammer is assembled and hand tightened

Stand off
0.6mm to 1mm
0.024” to 0.04”