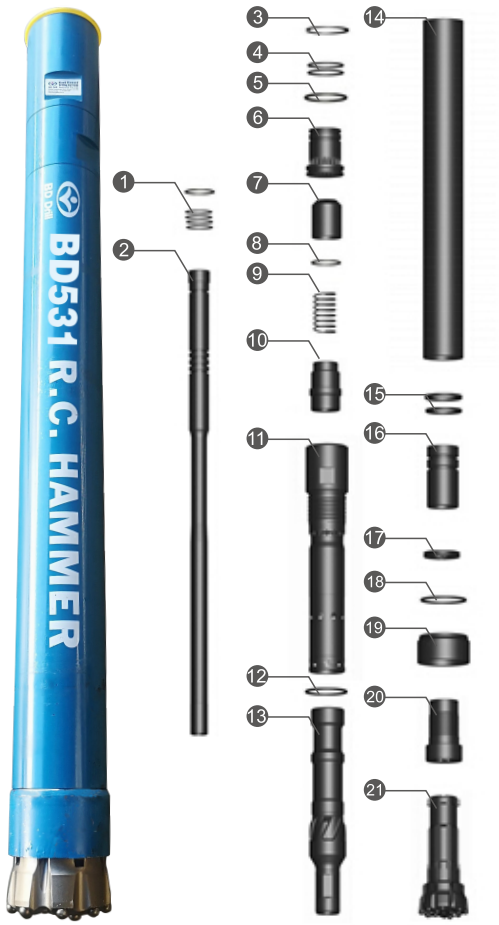
BD531 R.C. HAMMER

Black Diamond
Drilling Services Australia
BD Drill PTY LTD ABN 17 607 927 560

3" R.C. Hammers	Item Description	Weight (Kg)	Part Number
	1 O ring (Sample Tube) x 4	0.01	BD531-SK-STUBE
	2 Sample Tube	1.97	BD531-STUBE-R3
	3 Circlip	0.04	BD531-CIRCLIP
	4 O ring (Distributor 1) x2	0.01	BD531-SK-DIST-1
	5 O ring (Distributor 2) x1	0.01	BD531-SK-DIST-2
	6 Distributor	0.37	BD531-DIST
	7 Check Valve/Plunger	0.08	BD531-CVALVE
	8 O ring (Check Valve) x 1	0.01	BD531-SK-CVALVE
	9 Spring	0.1	BD531-SPRING
	10 Mount Sample Tube	0.49	BD531-STUBE-MOUNT
	11 Inner Cylinder/Top Barrel	3.4	BD531-ICYL-R3
	12 O ring (Inner Cylinder) x 1	0.01	BD531-SK-ICYL
	13 Piston	4.69	BD531-PISTON
	14 External Cylinder/Barrel/Piston Case	9.2	BD531-ECYL
	15 Seal Cover/O ring (Bearing Bush) x 2	0.02	BD531-SCOVER
	16 Bearing Bush	1.03	BD531-BUSH
	17 Bit Stop Ring	0.08	BD531-SRING
	18 O ring (Bit Stop Ring) x 1	0.01	BD531-SK-SRING
	19 Shroud	0.45	BD531-SHROUD-85/83
	20 Drive Sub	1.6	BD531-DSUB
	21 Drill Bit	4.2	BD531-85DC-TV
	22 Seal Kit (Item 2+4+7+8+11+18+21)	0.2	BD531-SK

Technical Data

Length(Less bit)	Weigth(Less bit)	External Diameter	Bit Shank	Hole Range	Connection Thread
1069mm	29.0kg	Φ81	BD531	Φ84-Φ100	3 " Remet
Box Size	Impact rate at 2.4Mpa	Recommended rotation speed		Air Consumption	
				200-500(PSI)	
1100x110x120mm	30HZ	25-40r/min		300-1200(CFM)	

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RECOMMENDED SAFETY PROCEDURES

The mining industry continues to demand even higher levels of safety and productivity. In order to meet these requirements, we work continuously to develop even safer products, and to produce comprehensive manuals enabling for safer and effective use of our products.

IT'S ALL ABOUT EVERYONE'S HEALTH

Helping you to ensure a safer workplace and healthier workforce is of the utmost importance to us. The well-being of any person coming into contact with our equipment is paramount. Therefore, we strive to identify and assess potential risk factors that could threaten the health of you and your employees.
All of the products in this catalogue are designed to meet safety requirements.

DRESS RIGHT FROM HEAD TO TOE

You must wear appropriate personal protective equipment (PPE) at all times. This is what we strongly recommend, to help avoid injury:

- Safety helmet
- Hearing protection
- Safety glasses
- Protective high visibility clothing
- Respiratory protection
- Safety boots
- Any site-specific PPE as required

BE AWARE OF ALL SAFETY PROCEDURES

We ask that you start by obeying all instructions given. Never work under an unsupported roof or close to potential pinch point locations. Beware of the potential hazards of a loose roof and ribs, and scale down roof and ribs prior to bolting. It is important to bolt early in the mining process – as soon as is safely and practically possible.
Safe work procedures should incorporate inspection before the machine operates, and also through regular monitoring based upon mining conditions, safety and hazard management systems. Workers should be provided with safety information, instruction and training on transportation, installation, operational care and disposal of drilling tools.

MAKE A RISK ANALYSIS BEFORE YOU START

Pay attention to safety when planning all of your work. Before you start, always take your time to go through all operations. Identify any potential risks and take appropriate measures to avoid them. If necessary, seek expert advice on how to help minimize risks. Finally, make sure that you have the right resources to perform all tasks in the safest manner possible.

Please check **www.safeworkaustralia.gov.au** for more information.

Reverse Circulation Service Guide

Black Diamond Drilling Services
BD Drill Australia Pty Ltd.

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 type breakouts are recommended. (See diagram). When holding bits for breakout, use a secure plate or pot 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.

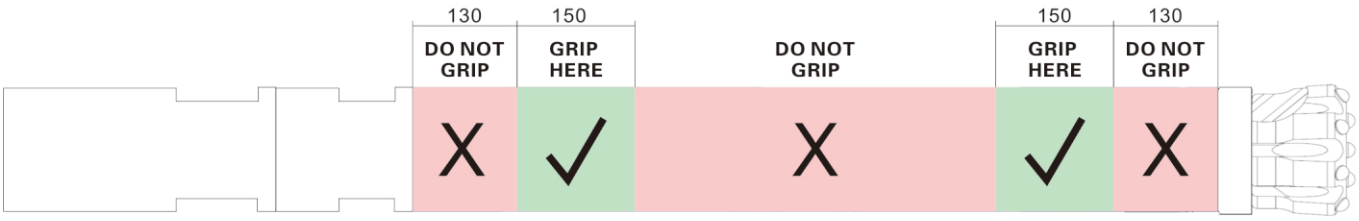


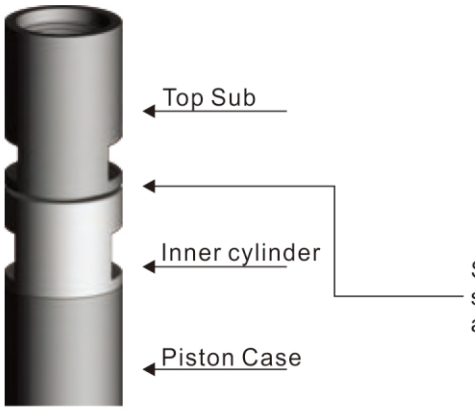
Figure1:Gripping Locations For BD DRILL Reverse Circulation Hammer

Lubrication

Correct lubrication is critical to the performance and longevity of the hammer.

Recommends:

- Oil Grade: SAE 320 Hammer Oil for most operating conditions
- Rate: 2 liter/hour minimum via an 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 is assembled and hand-tightenedhammer

Stand off
0,6 mm to 1 mm
0.024'' to 0.04''

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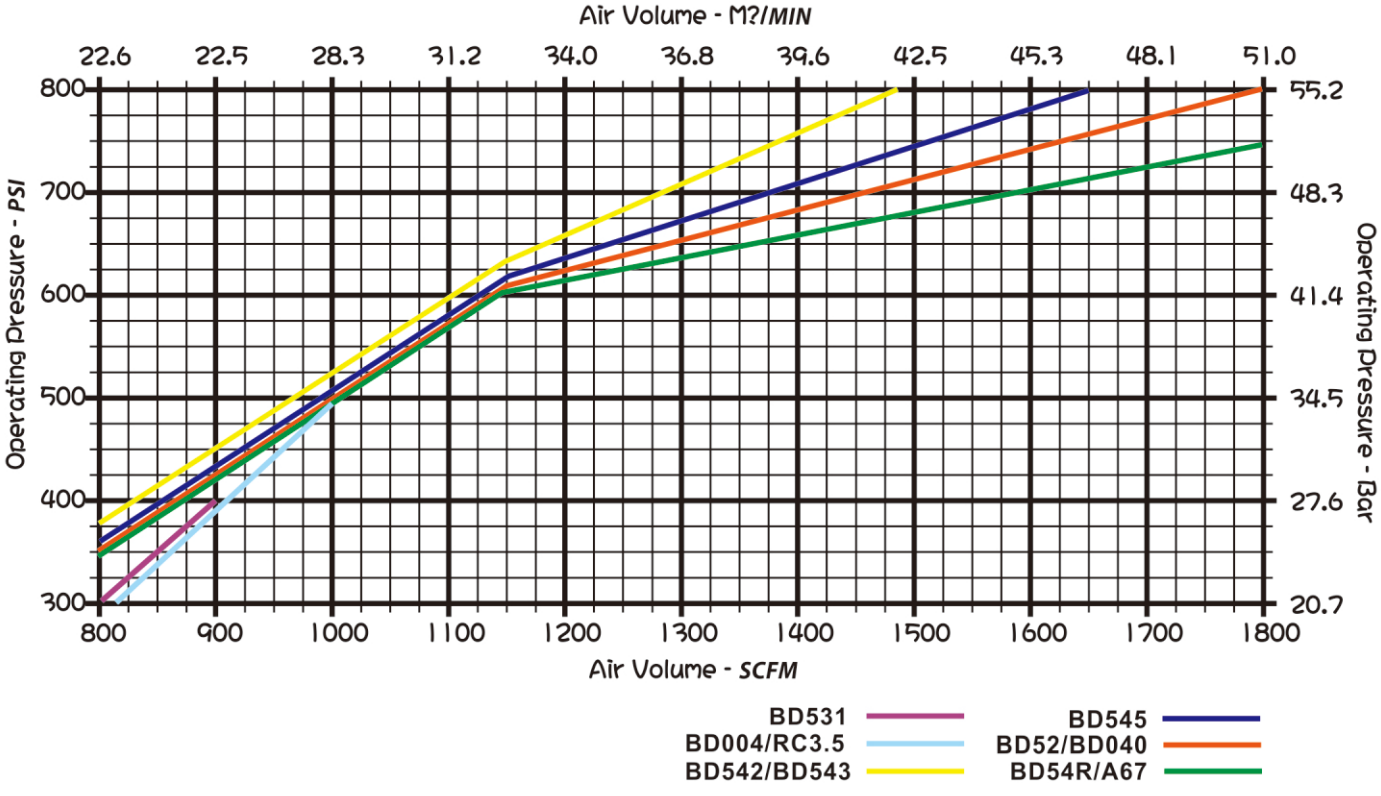
SPECIFICATIONS

Hammer	BD531	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 (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	69.4	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)45	(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 larger air package to be used

AIR CONSUMPTION/OPERATING PRESSURE



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