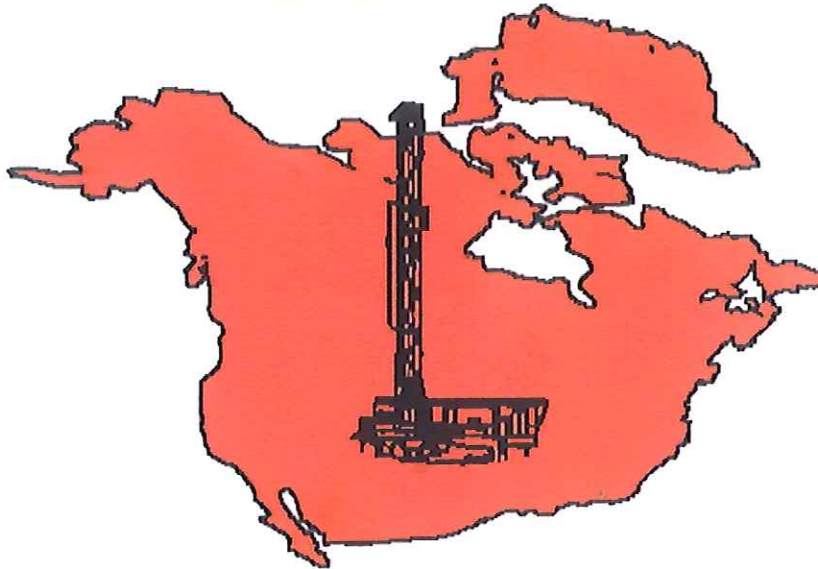


# Sphere Drilling Supplies

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**1-800-230-8472**

Phone (403)720-9333 Fax (403)236-2010  
Calgary - Alberta - Canada

\*QUOTE\* - There can't be a crisis next week. My schedule is already full.



# SPHERE DRILLING SUPPLIES

## DOWN HOLE HAMMERS AND BITS

STOCKING DISTRIBUTORS OF DOWN HOLE HAMMERS AND BITS.

PARTS AVAILABLE FOR ALL MAKES OF HAMMERS.

CONVENTIONAL AND CENTER SAMPLING HAMMERS AND BITS.

RENTAL HAMMERS

ON SITE REBUILDS

BACK HAMMERS

DRILL THROUGH CASING HAMMERS

## MANUFACTURED PARTS AND CONSUMABLES

SUBS

PIPE WRENCHES

DRILL PIPE

HANDLING WRENCHES

DUAL WALL DRILL PIPE

PIPE WIPERS

CASING - THREADED AND NON-THREADED

DRIVE SHOES

WIRELINE CORE PIPE

FLOAT VALVES

DISCHARGE HEADS

PETOL WRENCHES

PICK UP SWIVELS

STABILIZERS

NEW AND RECONDITIONED TRICONE BITS - SEALED AND AIR BEARING

AIR SWIVELS - STANDARD AND REVERSE CIRCULATION.

## DRILLING FLUIDS AND HOLE CONDITIONERS

DISTRIBUTOR FOR MATEX PRODUCTS.

## ENVIRONMENTALLY SAFE PRODUCTS

ENVIRO PLUG - FINE, MEDIUM AND COARSE

ENVIRO GROUT

EXPAND - LOSS OF CIRCULATION MATERIAL

TORQUELESS

ROCK DRILL OIL

GREASE

THREAD COMPOUND

FOAMER

HYDRAULIC FLUID

BIO CUT PLUS

BENTONITE PRODUCTS

## OTHER HOLE CONDITIONING PRODUCTS

THREAD COMPOUND - COPPER BASE

POLYMERS - LIQUID AND POWDER

ROCK DRIL OIL

LINSEED SOAP

## COMPLETE MACHINE SHOP FACILITIES ON SITE

*\* QUOTE : The person who knows HOW will always have a job. The person who knows WHY will always be his boss.*

## DOWN THE HOLE HAMMERS AND HAMMER BITS

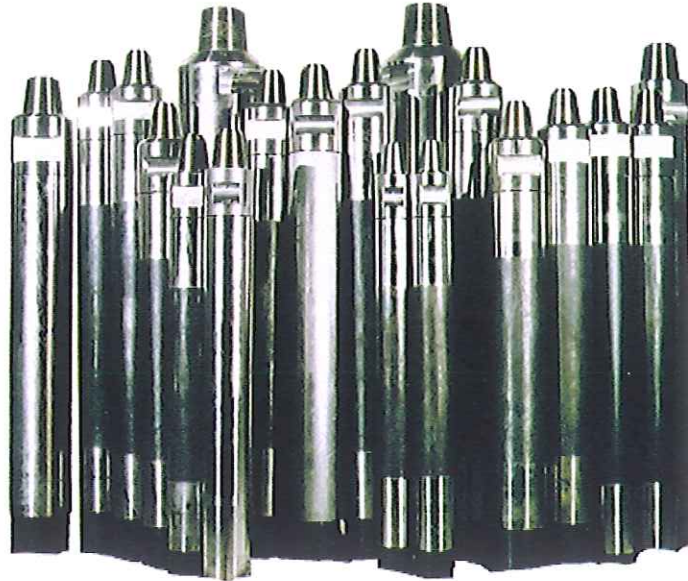
3112 - 80th Avenue S.E, Calgary, Alberta Canada T2C 1J3  
Telephone (403) 720-9333 \* Fax (403) 236-2010 \* Toll Free 1-800-230-8472



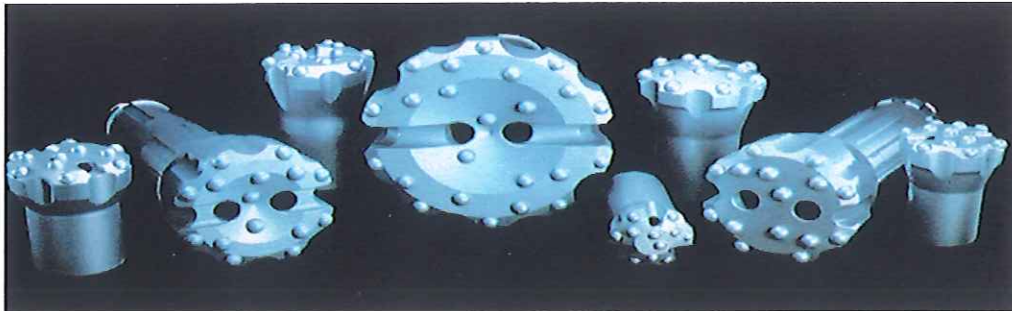
# SPHERE DRILLING SUPPLIES

## SALES AND RENTALS

PARTS AVAILABLE FOR ALL MAKES OF HAMMERS



WIDE SELECTION OF HAMMER BITS ALL TYPES AND SIZES



DROP CENTER    CONCAVE    FLAT FACE    DOUBLE GAUGE    STEP GAUGE



MODEL  
NUMBER  
SD-4

CHOKE  
SIZE  
BLANK

150  
PSIG  
200

200  
PSIG  
275

250  
PSIG  
350

300  
PSIG  
420

350  
PSIG  
485

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# SPHERE DRILLING SUPPLIES

SD-4HD	1/8	215	300	390	470	545
	3/16	245	340	440	525	610
	3/8	445	605	765	905	1040
SD-5	BLANK	260	365	475	585	700
SD-5HD	1/8	285	390	515	635	760
	3/16	315	430	565	690	825
	1/4	340	455	620	760	910
	5/16	410	555	710	860	1020
	BLANK	410	565	725	885	1050
SD-6	BLANK	410	565	725	885	1050
SD-6HD	1/8	435	595	765	935	1110
	3/16	465	630	815	990	1175
	1/4	490	660	870	1060	1260
	5/16	560	755	960	1160	1370
	3/8	610	830	1050	1265	1480
SD-6LV	BLANK	260	375	500	625	730
SD-6LVHD	1/8	285	405	540	675	770
	3/16	315	440	590	730	835
	1/4	340	465	645	800	920
	5/16	410	565	735	900	1030
	3/8	460	640	825	1005	1140
SD-6SE	BLANK	275	385	500	615	830
	1/8	300	415	540	665	890
	3/16	330	450	590	720	955
	1/4	355	480	645	790	1040
	5/16	425	575	735	860	1150
	3/8	475	650	825	995	1260
SD-8	BLANK	440	625	810	985	1160
	1/8	465	655	850	1035	1220
	1/4	520	715	955	1160	1370
	3/8	640	890	1135	1365	1590
	7/16	730	995	1265	1510	1760
	1/2	830	1105	1380	1655	1940
	BLANK	400	660	950	1235	
SD-10	1/8	420	685	985	1270	
	1/4	470	750	1025	1325	
	3/8	575	860	1150	1485	
	1/2	750	1080	1395	1690	
	BLANK	740	1100	1550	1900	
SD-12	1/8	755	1125	1580	1940	
	1/4	805	1190	1670	2020	
	3/8	885	1300	1815	2165	
	1/2	1000	1390	2030	2380	
	80	80	100	150	200	
	PSIG	PSIG	PSIG	PSIG		
SD-15	BLANK	800	1000	1500	2000	
	3/8	935	1163	1735	2265	
	1/2	1040	1291	1917	2480	
	5/8	1175	1454	2151	2720	



# SPHERE DRILLING SUPPLIES

## DOWN HOLE HAMMERS AND BITS

STOCKING DISTRIBUTORS OF DOWN HOLE HAMMERS AND BITS.

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# SPHERE DRILLING SUPPLIES

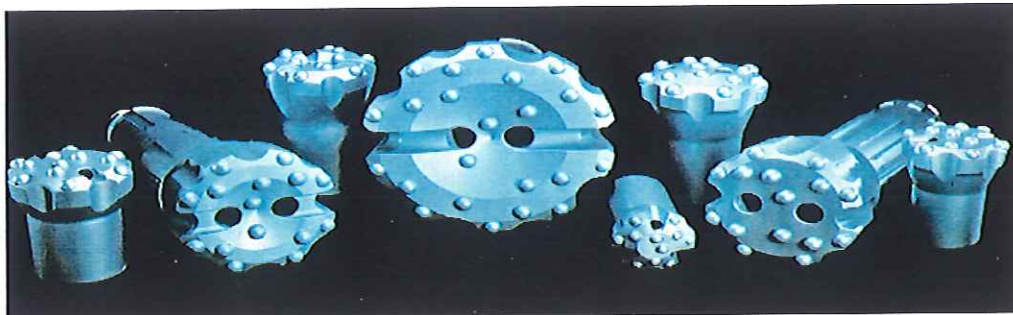
## DOWN THE HOLE HAMMERS AND HAMMER BITS

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## WIDE SELECTION OF HAMMER BITS ALL TYPES AND SIZES



DROP CENTER    CONCAVE    FLAT FACE    DOUBLE GAUGE    STEP GAUGE



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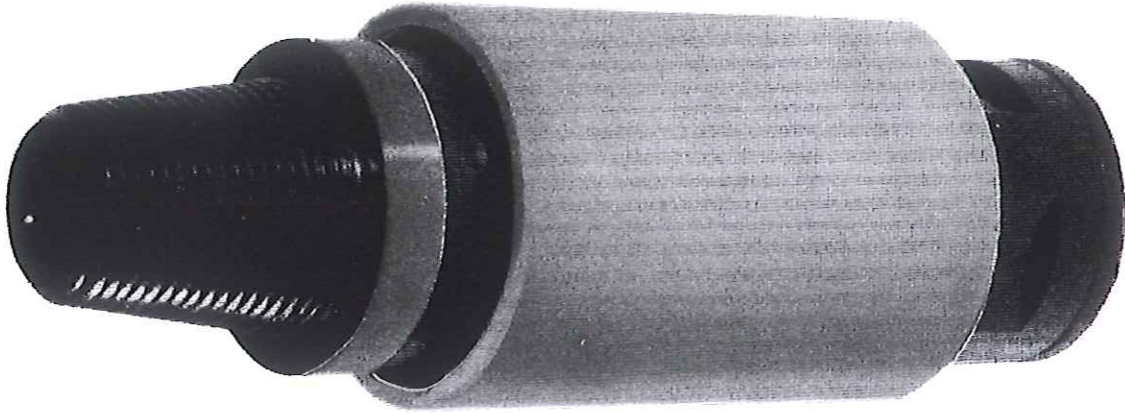


# SPHERE DRILLING SUPPLIES

MODEL NUMBER	CHOKE SIZE	150 PSIG	200 PSIG	250 PSIG	300 PSIG	350 PSIG
SD-4	BLANK	200	275	350	420	485
SD-4HD	1\8	215	300	390	470	545
	3\16	245	340	440	525	610
	3\8	445	605	765	905	1040
SD-5	BLANK	260	365	475	585	700
SD-5HD	1\8	285	390	515	635	760
	3\16	315	430	565	690	825
	1\4	340	455	620	760	910
	5\16	410	555	710	860	1020
SD-6	BLANK	410	565	725	885	1050
SD-6HD	1\8	435	595	765	935	1110
	3\16	465	630	815	990	1175
	1\4	490	660	870	1060	1260
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SD-6SE	3\8	460	640	825	1005	1140
	BLANK	275	385	500	615	830
	1\8	300	415	540	665	890
	3\16	330	450	590	720	955
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SD-15	1\4	805	1190	1670	2020	
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	1\2	1000	1390	2030	2380	
	BLANK	800	1000	1500	2000	
	3\8	935	1163	1735	2265	
SD-15	1\2	1040	1291	1917	2480	
	5\8	1175	1454	2151	2720	



# SPHERE DRILLING SUPPLIES



## BACK HAMMERS

The Back Hammer is designed to hammer in the reverse direction for when your drilling tools have become stuck or jammed down in a hole.

It provides upward percussion and vibration to help free restricting material. The hammer can be adapted to any tool joint above the surface or directly below the top head. The hammer has also been designed so that it will not damage top subs, drive motors or any other parts of your drilling machine.

In addition to the above, provisions can be made by changing the choke to supply air to the bottom of the hole for flushing purposes.

### TYPICAL SPECIFICATIONS

Outside diameter	5 1/2"
Length ( overall )	16 3/8"
Length ( shoulder to shoulder )	12 1/2"
Standard Threading	3 1/2" API Reg. Pin Up by 3 1/2" API Reg. Box Down
Weight	64 lbs.
Operating Pressure	150 PSI to 350 PSI

*\*QUOTE\* - The reason adults are always asking little kids what they want to be when they grow up is 'cause they're looking for ideas.*





# SPHERE DRILLING SUPPLIES

SUPPLIERS OF ANY CONSUMABLE PARTS YOU MAY REQUIRE

## DRIVE SHOES



## SHALE TRAPS



## TRICONE ROCK BITS



*\*QUOTE\** - My wife and I go fifty-fifty on everything: I tell her what to do - and she tells me where to go!



# SPHERE DRILLING SUPPLIES

## HAMMER PARTS



## VARIETY OF STOCK ITEMS



## DRILLING FLUIDS AND HOLE CONDITIONERS



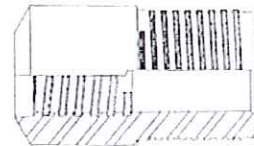
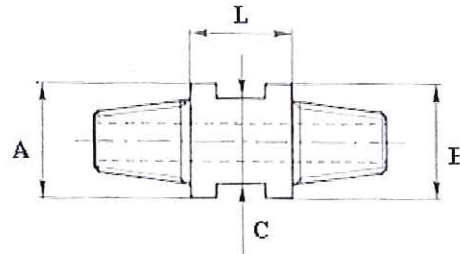
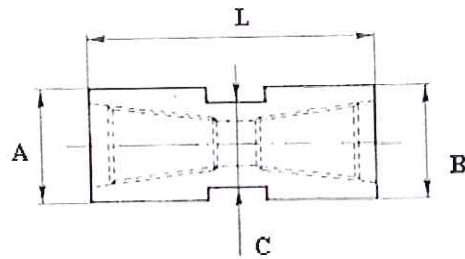
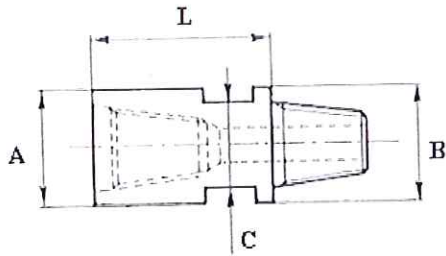
**\*QUOTE\*** - It's no fun being boss. You have to come in early to see who comes in late!

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# SPHERE DRILLING SUPPLIES

## Adaptor Subs & Couplings



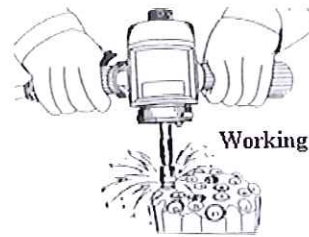
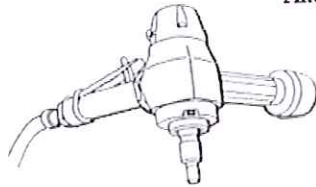
## Fishing Spears & Overshots



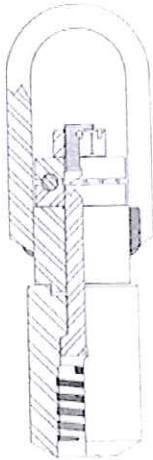
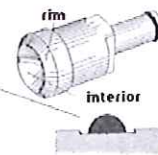


# SPHERE DRILLING SUPPLIES

**Bit Sharpening Pins  
And Grinders**



Tools efficiently grind  
both steel & carbide in  
easy step



**Hoisting Swivels**



**Chain Wrenches  
And Tong Dies**





# SPHERE DRILLING SUPPLIES

SUPPLIER OF QUALITY UNDER REAMER SYSTEMS

## 1. STRATEX



## 2. MITSUBISHI



## 3. ODEX / TUBEX



## 4. RING BIT SYSTEM



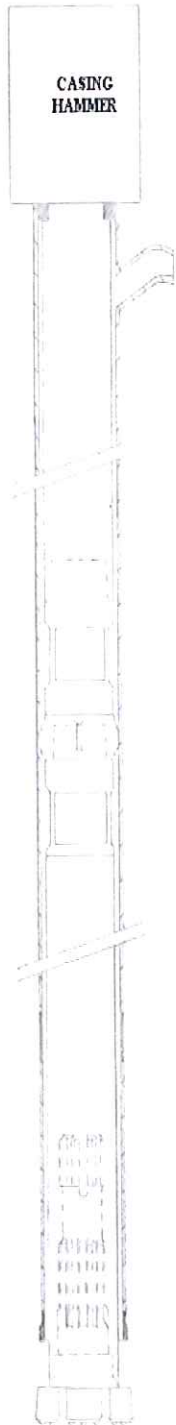
*\*QUOTE\* - Girlfriend to a friend: "I'll never forget the first time I saw Darryl. He was standing on a hill, his hair was blowing in the breeze, and he was too proud to run after it."*

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# SPHERE DRILLING SUPPLIES

## KNOCK OFF RING BIT SYSTEM (NO GUIDE DEVICE REQUIRED WITH CASING HAMMER)



**DRIVER  
BIT**



**CASING  
SHOE**



**RING  
BIT**



### DRIVER BITS FOR 6" CASING (6 5/8" O.D.)

CASING WALL  
THICKNESS

PART No.

SHANK

.188

360188D

360 I.R.

.188

5315188D

5315 (SD-6)

### RING BITS FOR 6" CASING

CASING WALL  
THICKNESS

PART No. BIT O.D.

RING BIT ID

.188

6188-8

8"

5.90"

### OVERSIZE RING BITS AVAILABLE UPON REQUEST

KNOCK-OFF RING BIT  
OVERBURDEN SYSTEM

# STRATEX

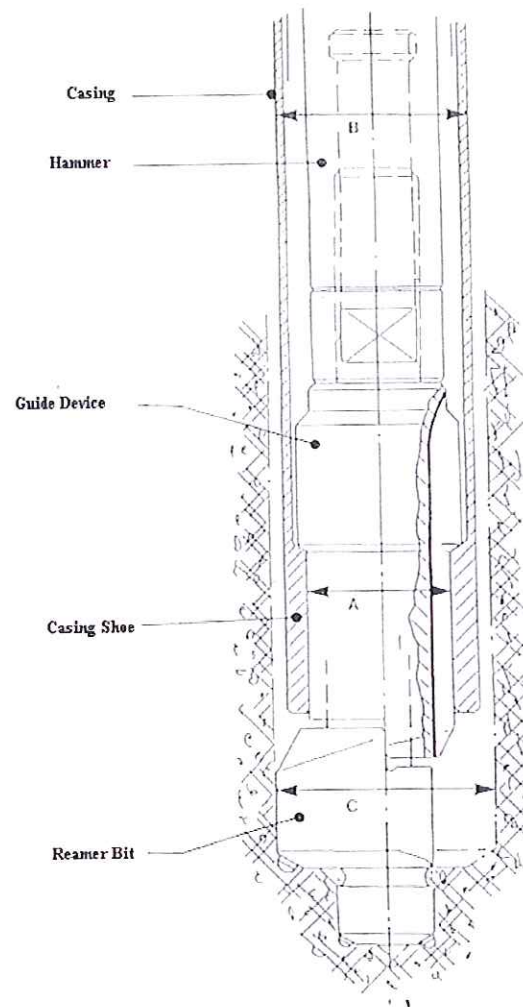
## TOOL SIZE (inches/mm)

	A	B	C
70	2.750	3.500	3.750
	70	89	95
80	3.125	4.000	4.875
	80	102	124
90	3.625	4.500	5.000
	90	115	127
115	4.500	5.500	6.125
	115	140	155
140	5.500	6.625	7.500
	140	168	190
165	6.500	7.625	8.750
	165	194	222
190	7.500	8.625	9.750
	190	219	250
215	8.500	9.625	11.000
	215	245	280
240	9.500	10.750	12.250
	240	273	312

A - Inside diameter casing shoe.

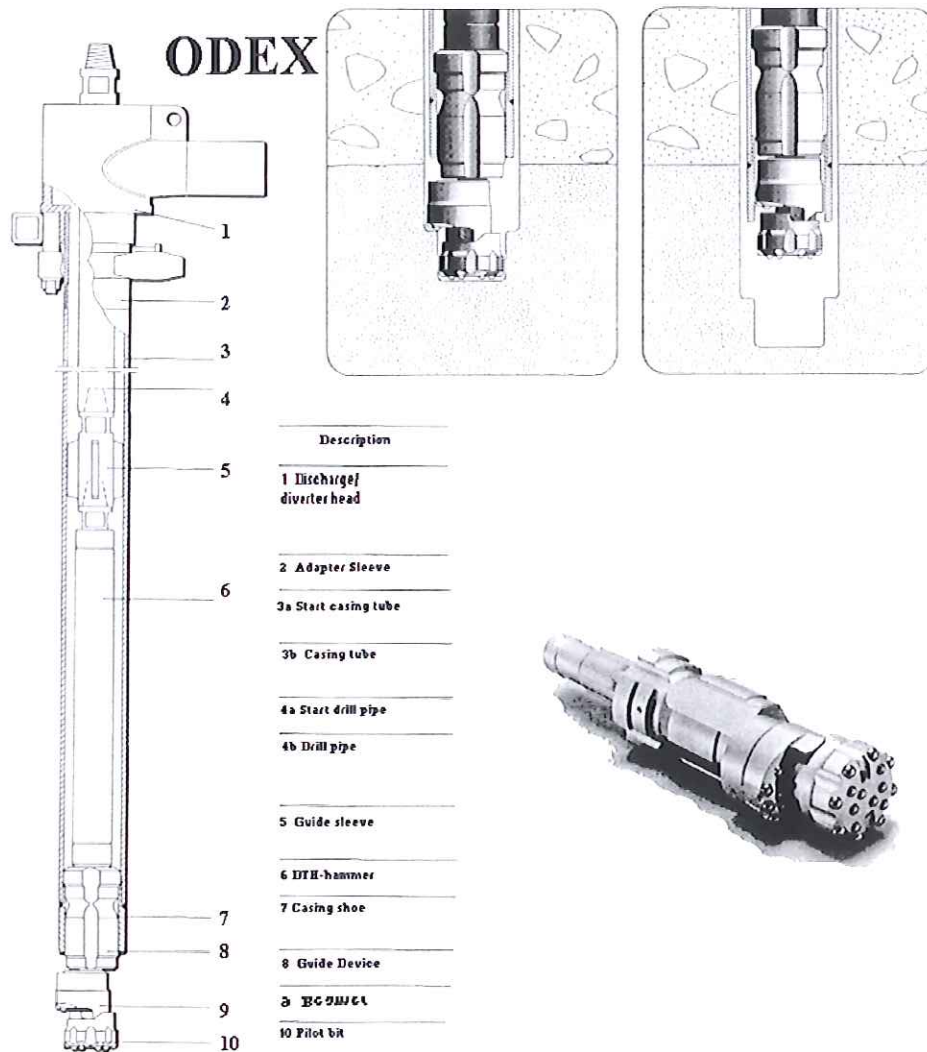
B - Outside casing diameter.

C - Hole diameter.





# SPHERE DRILLING SUPPLIES

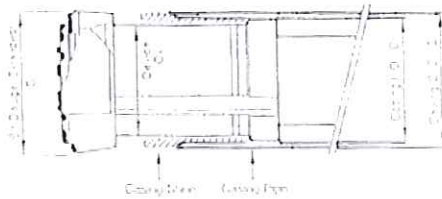






# SPHERE DRILLING SUPPLIES

## ■ Appropriate Casing & Hammer Type



## mitsubishi

Type	Two Wing	Three Wing	Bit Gauge		Applicable Casing Pipe			Device O.D. D4	Hammer type	1	2	3	4	5
			Extended D1	Retracted D2	Max ID D2	Max ID D3	Nominal Size							
			mm	mm	mm	mm	In.	mm						
68	•		95	68	89.1	78.1	3"	69	DHD065					•
90	•		125	91	114.3	102.0	4"	92	DHD3.5, COP 32, MACH 33	•		•		•
115	•		152	114	141.3	126.6	5"	115	SD4, DHD340AP, COP32, MACH44, N4	•		•		•
140	•		185	140	168.3	153.2	6"	141	SD-5, DHD350R, COP52, MACH50, N55	•		•		
165	•		215	166	196.0	178.8	7"	167	SD-6, DH-6, COP62, N6	•		•		
190	•		237	189	222.0	202.3	8"	190	SD-6, DH-6, COP62, N6	•		•		
215	•		272	217	254.0	241.0	9"	218	SD-8, DHD380M, N80	•		•		
240		•	290	238	273.1	254.5	10"	240	SD-8, DHD380M, N80	•	•	•		
280		•	340	281	323.9	301.7	12"	283	SD-10, DHD380M, N80	•	•	•		
315		•	373	318	355.6	336.6	14"	320	SD-12, DHD112, N120	•	•	•	•	
365		•	425	363	406.4	387.4	16"	365	SD-12, DHD112, N120	•	•	•	•	
410		•	478	412	457.2	435.0	18"	414	SD-15, DHD112S, N120S	•	•	•	•	
460		•	530	461	508.0	482.6	20"	463	SD-15, DHD112S, N120S, SD-18, N180	•	•	•	•	
510		•	580	509	558.8	533.4	22"	511	SD-15, DHD112S, SD18, N180		•		•	
560		•	630	559	609.6	584.2	24"	561	SD-18, DHD120A, N180		•		•	
600		•	685	600	660.4	631.8	26"	603	DHD120A, N240		•		•	
650		•	737	650	711.2	679.21	28"	652	DHD120A, N240		•			
695		•	789	695	762.0	730.0	30"	697	DHD126, N240, N240S		•			
745		•	842	744	812.8	780.0	32"	746	DHD126, N240S		•			

\* When ordering, information about casing diameters (O.D. and I.D.) is necessary.

\* Order made bits can be manufactured upon request.

\*1: Water Well

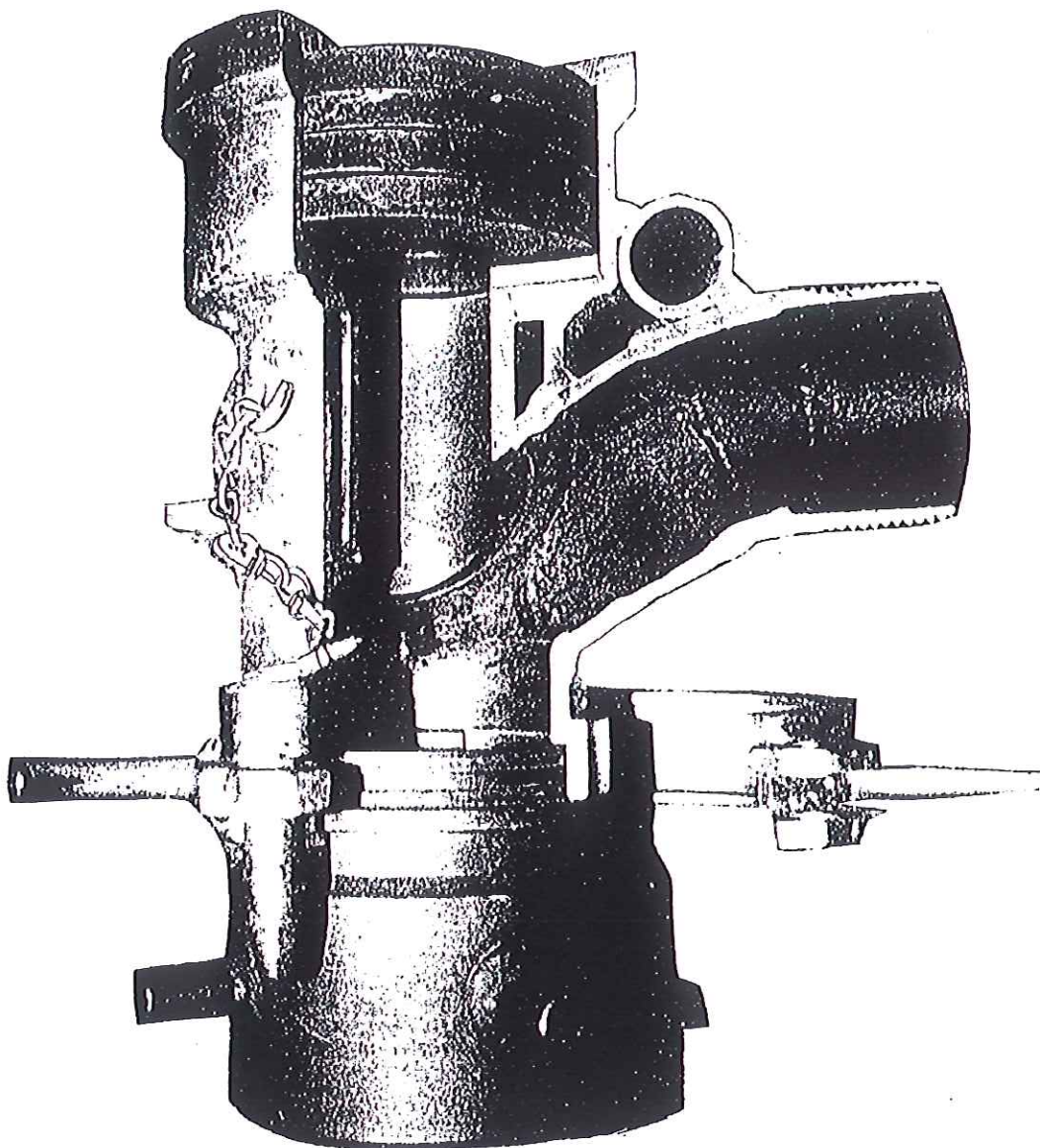
\*2: Piling, Foundation

\*3: Pipe roof, Water Service, Water Remove, Anchoring

\*4: Geothermal Oil Well



**SPHERE DRILLING SUPPLIES**



**Discharge Head Cut-Away**

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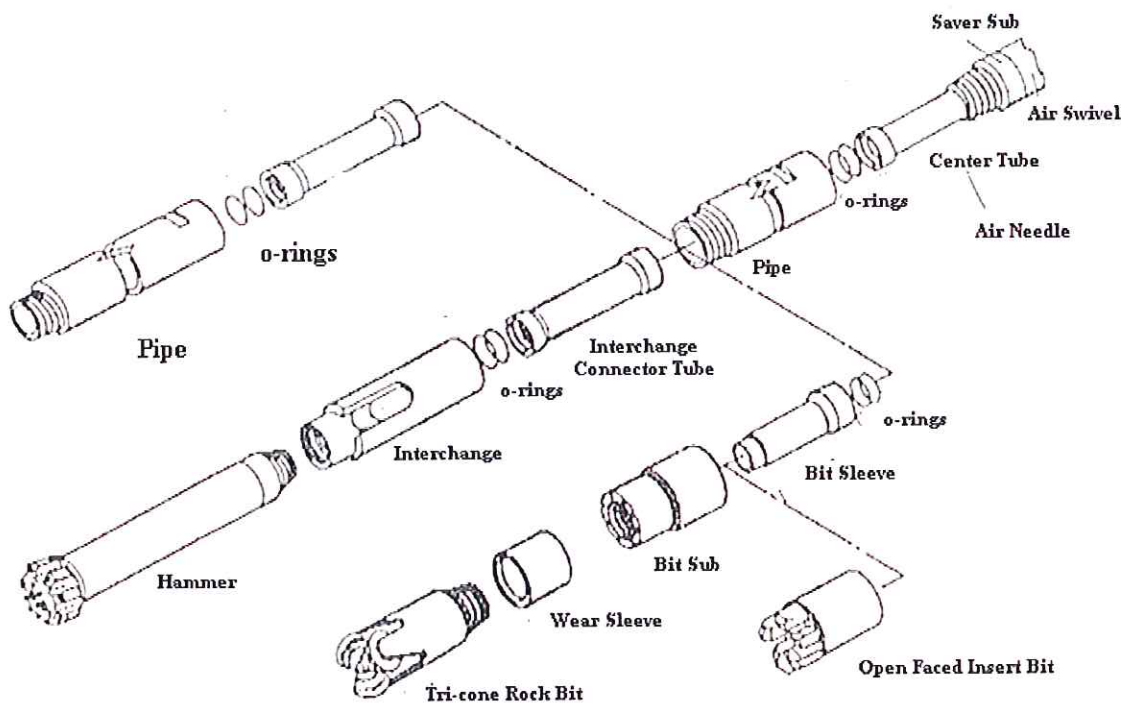


# SPHERE DRILLING SUPPLIES

## CSR PIPE

### CSR DRILLING METHOD

C.S.R. ( Centre Sample Recovery ) dual wall pipe actually consists of two pipe, one within the other. The outer pipe is designed to withstand the torque and shock loads associated with rotary drilling, leaving the inner pipe in its patented mount relatively unstressed. The drilling fluid ( air; water; mist ) is injected down between the pipes and across the bit face, returning up through the center of the inner pipe to the surface with the cuttings. The samples are returned continuously and uncontaminated.



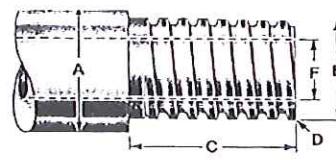
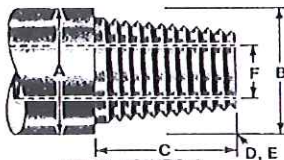
\* QUOTE\* - Boss: "How can one person make so many mistakes in just one day?" Employee: "I get up early."



# SPHERE DRILLING SUPPLIES

## Drill Rod Thread Information

- A - Outside Diameter Of Tool Joint
- AA - Outside Diameter Of Box On Cable Tool Joint
- B - Major Thread Diameter
- C - Length Of Pin
- D - Threads Per Inch
- E - Taper Per Foot
- F - Tool Joint Bore



TOOL JOINTS & CABLE TOOL DRILLING JOINTS

FLUSH JOINT STRAIGHT THREAD

Tool Joints	Abbreviation	A	B	C	D	E	F
2-3/8 API Regular	2-3/8 Reg	3-1/8"	2-5/8"	3"	5	3"	1"
2-3/8 API Regular (DSI Mod.)	2-3/8 Reg	3"	2-5/8"	2-3/8"	5	3"	1-1/2"
2-7/8 API Regular	2-7/8 Reg	3-3/4"	3"	3-1/2"	5	3"	1-1/4"
3-1/2 API Regular	3-1/2 Reg	4-1/2"	3-1/2"	3-3/4"	5	3"	1-1/2"
4-1/2 API Regular	4-1/2 Reg	5-1/2"	4-5/8"	4-1/4"	5	3"	2-1/4"
5-1/2 API Regular	5-1/2 Reg	6-3/4"	5-33/64"	4-3/4"	4	3"	2-3/4"
6-5/8 API Regular	6-5/8 Reg	7-3/4"	6"	5"	4	2"	3-1/2"
7-5/8 API Regular	7-5/8 Reg	8-7/8"	7"	5-1/4"	4	3"	4"
2-3/8 API Internal Flush	2-3/8 IF	3-1/2"	2-7/8"	3"	4	2"	1-3/4"
2-3/8 API Internal Flush LH	2-3/8 IF LH	3-1/2"	2-7/8"	3"	4	2"	1-3/4"
2-7/8 API Internal Flush	2-7/8 IF	4-1/2"	3-25/64"	3-1/2"	4	2"	2-1/8"
2-7/8 API Internal Flush LH	2-7/8 IF LH	4-1/2"	3-25/64"	3-1/2"	4	2"	2-1/2"
3-1/2 API Internal Flush	3-1/2 IF	4-3/4"	4-1/64"	4"	4	2"	2-11/16"
3-1/2 API Internal Flush LH	3-1/2 IF LH	4-3/4"	4-1/64"	4"	4	2"	2-11/16"
4" API Internal Flush	4 IF	5-3/4"	4-53/64"	4-1/2"	4	2"	3-1/4"
4-1/2 API Internal Flush	4-1/2 IF	6-1/8"	5-1/4"	4-1/2"	4	2"	3-3/4"
2-3/8 Mayhew Junior	2-3/8 MJ	2-7/8"	2-21/64"	2-1/4"	4	2"	1-1/2"
2-3/8 Mayhew Regular	2-3/8 MR	3-1/4"	2-35/64"	3"	4	1-1/2"	1-5/8"
2-3/8 Joy Full Hole	2-3/8 Joy FH	3-1/8"	2-35/64"	3"	4	1-1/2"	1-5/8"
2-3/8 Failing Exploration	2-3/8 FEDP	2-31/32"	2-1/2"	2-3/4"	4	2"	1-1/2"
2-7/8 Failing Exploration	2-7/8 FEDP	3-3/4"	3-1/8"	3-1/4"	4	2"	1-7/8"
3-1/2 API Full Hole	3-1/2 FH	4-5/8"	4"	3-3/4"	5	3"	2-1/8"
4" API Full Hole	4" FH	5-1/4"	4-9/32"	4-1/2"	4	2"	2-13/16"
4-1/2 API Full Hole	4-1/2 FH	5-3/4"	4-51/64"	4"	5	3"	3"
Flush Joint Straight Thread	Abbreviation	A	B	C	D	E	F
E-Rod	E-Rod	1-5/16"	1"	1-1/2"	3	NONE	7/16"
EW-Rod	EW-Rod	1-3/8"	1-1/16"	1-9/16"	3	NONE	7/16"
A-Rod	A-Rod	1-5/8"	1-17/64"	1-3/4"	3	NONE	9/16"
AW-Rod	AW-Rod	1-3/4"	1-3/8"	1-7/8"	3	NONE	5/8"
B-Rod	B-Rod	1-29/32"	1-13/32"	1-7/8"	5	NONE	5/8"
BW-Rod	BW-Rod	2-1/8"	1-11/16"	2-1/2"	3	NONE	3/4"
N-Rod	4-Thread N-Rod	2-3/8"	1-7/8"	2-3/8"	4	NONE	1"
N-Rod Failing type	3-Thread N-Rod	2-3/8"	1-7/8"	2-3/8"	3	NONE	1-1/8"
NW-Rod	NW-Rod	2-5/8"	2-7/32"	2-3/4"	3	NONE	1-3/8"
RW-Rod	RW-Rod	1-3/32"	3/4"	1-1/4"	4	NONE	23/32"
HW-Rod	HW-Rod	3-1/2"	2-27/32"	3-9/32"	• 3	NONE	2-3/8"
Cable Tool Drilling Joints	Abbreviation	A	AA	B	C	D	E
1-1/8 X 1-3/4 API	1-3/4 API	2-1/2"	2-5/8"	1-3/4"	2-1/2"	8	3"
1-1/2 X 2-1/4 API	2-1/4 API	3-1/8"	3-1/4"	2-1/4"	3"	8	3"
1-5/8 X 2-5/8 API	2-5/8 API	3-5/8"	3-3/4"	2-5/8"	3-1/2"	7	3"
2 X 3 API	3 API	4-1/4"	4-3/8"	3"	4"	7	3"
2-1/4 X 3-1/4 API	3-1/4 API	4-1/2"	4-3/4"	3-1/4"	4"	7	3"
2-1/2 X 3-1/2 API	3-1/2 API	5"	5-1/4"	3-1/2"	4-1/4"	7	3"
2-3/4 X 3-3/4 API	3-3/4 API	5-1/4"	5-1/2"	3-3/4"	4-1/2"	7	3"
3-1/4 X 4-1/4 API	4-1/4 API	6-1/4"	6-1/2"	4-1/4"	5"	7	3"
3-1/2 X 4-1/2 API	4-1/2 API	6-1/2"	6-3/4"	4-1/2"	5-1/2"	7	3"
4 X 5 API	5 API	7"	7-3/8"	5"	5-1/2"	7	3"
4-1/4 X 6 API	6 API	8-1/4"	8-5/8"	6"	7"	7	3"



# SPHERE DRILLING SUPPLIES

## A.S.A. PIPE SCHEDULES

UPPER FIGURES

Wall thickness in inches

LOWER FIGURES

Weight per foot in pounds

Pipe size	O.D. in inch	SS	5	10S	10	20	30	40S & STD	40	60	E.H.	80	100	120	140	160	DBLE E.H.
1/8	405		.035 1383	.049 1863	.049 1863			.068 2447	.068 2447		.095 3145	.095 3145					
1/4	540		.049 2570	.065 3297	.065 3297			.088 4248	.088 4248		.119 5351	.119 5351					
3/8	675		.049 3276	.065 4235	.065 4235			.091 5676	.091 5676		.126 7388	.126 7388					
1/2	840	.065 5383	.065 5383	.065 6710	.083 6710			.109 8510	.109 8510		.147 1088	.147 1088				.187 1304	.294 1714
3/4	1050	.065 6838	.065 6838	.083 8572	.083 8572			.113 1131	.113 1131		.154 1474	.154 1474				.218 1937	.308 2441
1	1315	.065 8678	.065 8678	.109 1404	.109 1404			.133 1679	.133 1679		.179 2172	.179 2172				.250 2844	.358 3659
1 1/4	1660	.065 1107	.065 1107	.109 1806	.109 1806			.140 2273	.140 2273		.191 2997	.191 2997				.250 3765	.382 5214
1 1/2	1900	.065 1274	.065 1274	.109 2085	.109 2085			.145 2718	.145 2718		.200 3631	.200 3631				.281 4859	.400 6408
2	2375	.065 1604	.065 1604	.109 2688	.109 2688			.154 3653	.154 3653		.218 5022	.218 5022				.343 7444	.436 9029
2 1/2	2875	.083 2475	.083 2475	.120 3531	.120 3531			.203 5793	.203 5793		.276 7661	.276 7661				.375 1001	.552 1370
3	3500	.083 3029	.083 3029	.120 4332	.120 4332			.216 7576	.216 7576		.300 1025	.300 1025				.437 1432	.600 1858
3 1/2	4000	.083 3472	.083 3472	.120 4973	.120 4973			.226 9109	.226 9109		.318 1251	.318 1251				.636 1432	.885 2285
4	4500	.083 3915	.083 3915	.120 5613	.120 5613			.237 1079	.237 1079	.281 1266	.337 1498	.337 1498		.437 1901		.531 2251	.674 2754
4 1/2	500							.247 1253			.355 1761					.710 3253	
5	5563	.109 6349	.109 6349	.134 7770	.134 7770			.258 1462	.258 1462		.375 2078	.375 2078		.500 2704		.625 3296	.750 3855
6	6625	.109 7585	.109 7585	.134 9289	.134 9289			.280 1897	.280 1897		.432 2857	.432 2857		.562 3639		.718 4530	.864 5316
7	7625							.301 2537			.500 3805					.875 6308	
8	8625	.109 9914	.109 9914	.148 1340	.148 1340	.250 2236	.277 2470	.322 2855	.322 2855	.406 3564	.500 4339	.500 4339	.593 5087	.718 6093	.812 6776	.906 7469	.875 7242
9	9625							.342 3390			.500 4872						
10	1075	.134 1519	.134 1519	.165 1870	.165 1870	.250 2804	.307 3224	.365 4048	.365 4048	.500 5474	.500 5474	.593 6433	.718 6433	.843 8920	1000 1041	1125 1157	
11	1175							.375 4555			.500 6007						
12	1275	.156 2107	.165 2218	.180 2416	.180 2420	.250 3338	.330 4777	.375 4956	.406 5353	.562 7316	.500 6542	.687 8851	.843 1072	1000 1255	1125 1397	1312 1603	
14	1400	.156 2307		.188 2773	.250 3671	.312 4568	.375 5457	.375 5457	.437 6337	.593 8491	.500 7209	.750 1061	.937 1307	1093 1507	1250 1702	1406 1891	
16	1600	.165 2790		.188 3175	.250 4205	.312 5236	.375 6258	.375 6258	.437 8277	.593 1075	.500 8277	.750 1365	.937 1648	1093 1923	1218 2235	1437 2451	1593 2451
18	1800	.165 3143		.188 3576	.250 4739	.312 5903	.375 8206	.437 7059	.562 1048	.750 1382	.500 9345	.750 1708	.937 2080	1156 2441	1375 42	15627 3085	1781 3085
20	2000	.188 3978		.218 4605	.250 8273	.375 7860	.500 1041	.593 7860	.812 1229	.500 1664	.500 1041	1031 2089	1280 2561	1500 2964	1750 2411	1968 3790	
24	2400	.218 5537		.25 6341	.250 9462	.375 1408	.562 9462	.375 1408	.687 1712	.968 2381	.500 1255	1218 2964	1531 3674	1812 4294	2062 4831	2343 5419	
26	260			.312 8560	.500 1362			.375 1026			.500 1362						
28	280			.312 9226	.500 1468	.625 1827		.375 1106			.500 1468						
30	300			.312 9893	.500 1575	.625 1961		.375 1186			.500 1575						
32	320			.312 1056	.500 1682	.625 2094		.375 1267	.688 2301		.500 1682						
34	340			.344 1237	.500 1789	.625 2228		.375 1347	.688 2448		.500 1789						
36	360			.312 1189	.500 1896	.625 2361		.375 1427	.750 2823		.500 1896						

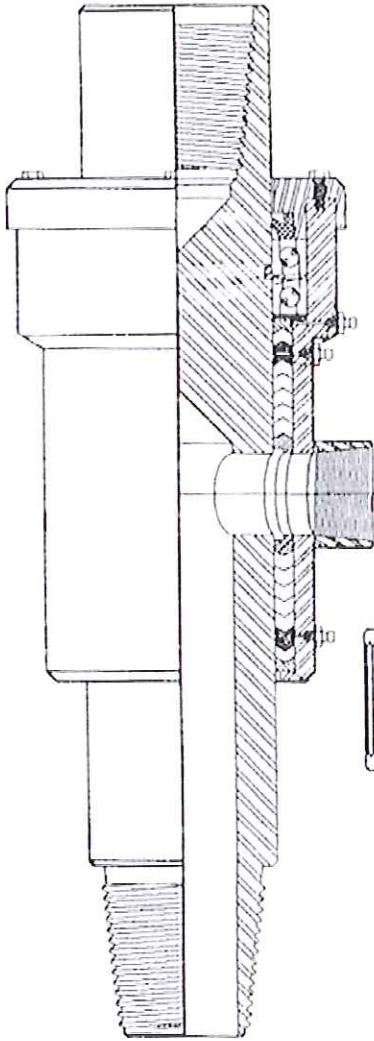
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A333

A335  
A312

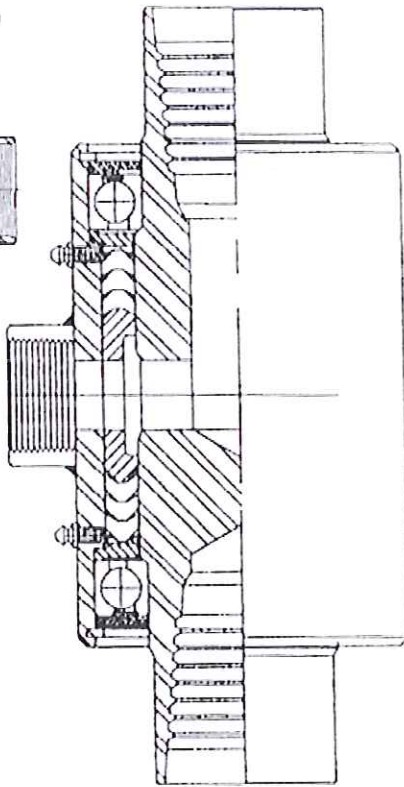


# SPHERE DRILLING SUPPLIES

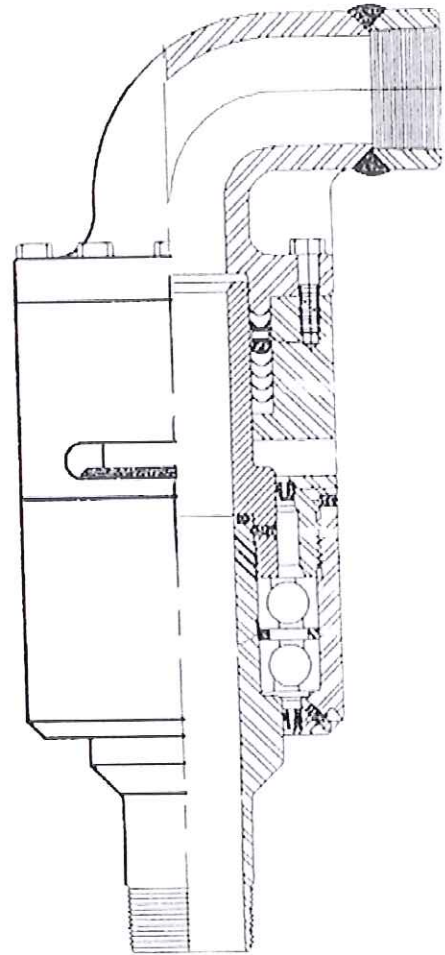
Side Inlet Swivel



Inline Swivel



Goose Neck Swivel



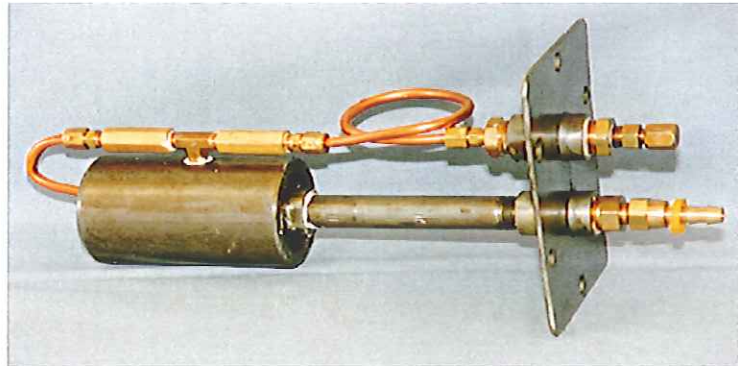


# SPHERE DRILLING SUPPLIES

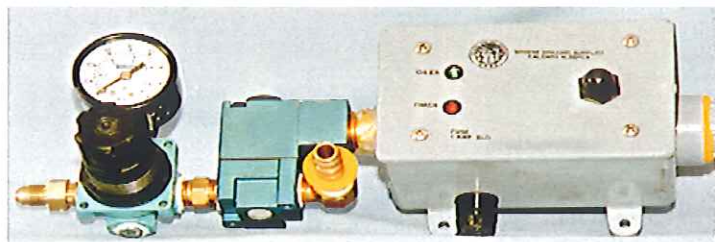
## LUBRICATOR



## LUBRICATOR PUMP



## LUBRICATOR REGULATOR



\*QUOTE\* - Good news, Jackson, starting next month your take-home pay will exceed your deductions.

7939 - 54th Street S.E., Calgary, Alberta T2C 4R7  
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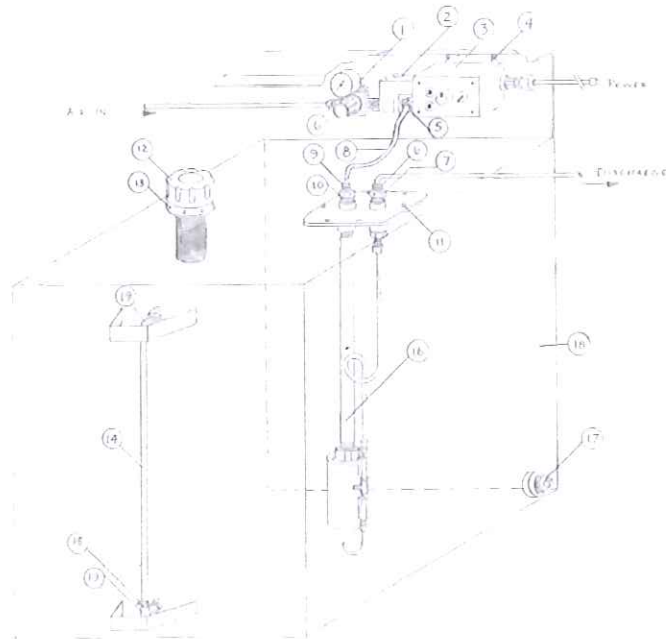


# SPHERE DRILLING SUPPLIES

## SPHERE IN LINE LUBRICATOR

AVAILABLE IN 7 1/2 GALLON AND 50 GALLON TANKS

Number	Part
	Regulator
1	Solnoid (mac valve)
2	Timer c/w 160 psi gauge
3	1/4 UNC bolt, nut, lock, washer
4	1/4 npt 90 elbow c/w 3/8" push on
5	# 4 JIC
6	1/4 NPT male
7	3/8" ID black hose 300 psi
8	# 6 JIC swivel c/w 3/8" push on
9	# 6 JIC male to 1/2 npt male
10	SW16 UNF X 3/4" bolt
11	Filler cap c/w filter
12	# 10 sheet metal screws
13	Site tube - 3/8" ID clear hose
14	Hose clamp
15	Pump assembly
16	Drain plug - 1" NPT male
17	50 gallon tank (steel)
18	1/4 NPT 90 elbow to 3/8" push on.
19	



**\*QUOTE\*** - My wife knows all my jokes backwards, or at least, that's how she tells them.



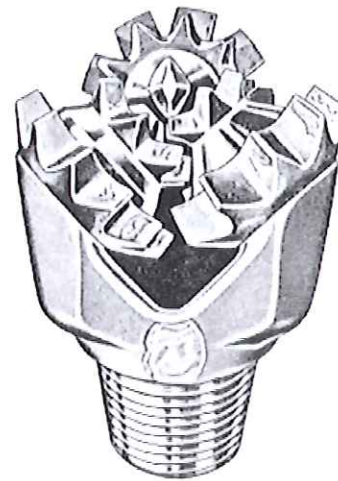


# SPHERE DRILLING SUPPLIES

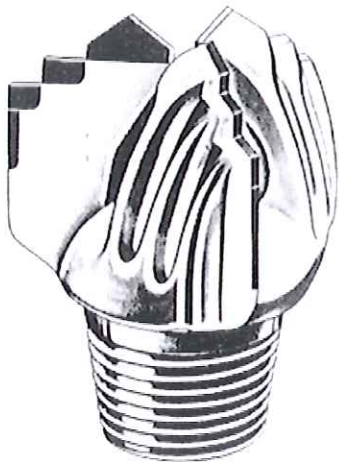
## Rotary Drilling Bits All Sizes For All Formation Types



**Tungsten Carbide  
Tri Cone Button Bits**



**Milltooth Tri Cone  
Rotary Rock Bits**



**Insert Bits**



# SPHERE DRILLING SUPPLIES

## Rock bits

## Insert bits

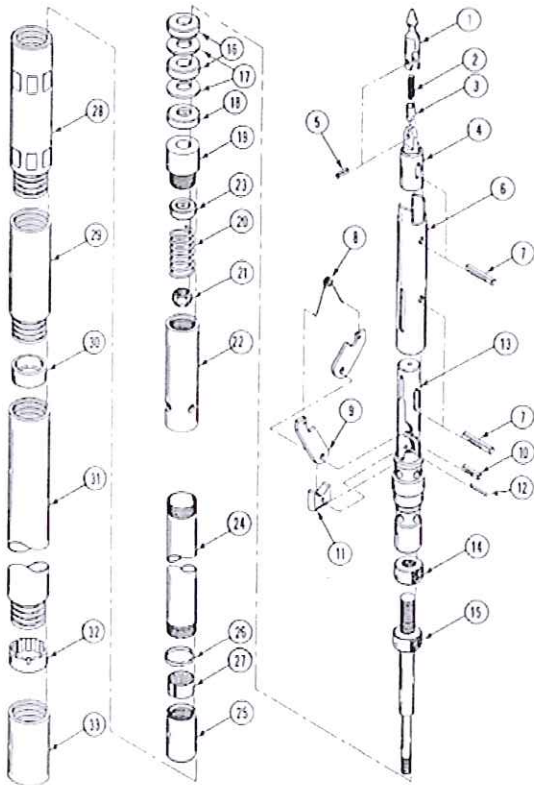
Bit sizes All Formations 3-Cone		Reg API Pin Size	Approx. Weight		Size of bit		Rod Pin Connection	Approx. Wt.	
Inche s	mm	(inches)	lbs.	kg.	Inches	Mm		Lbs.	kg.
					1 7/8	47.6	E	1.25	.6
2 7/8	73.0	4 N-Rod	3	1.4	2	50.8	AW	1.5	.7
2 15/16	74.6	4 N-Rod	3	1.4	2 1/4	57.2	AW	2.25	1.0
3	76.2	4 N-Rod	4	1.8	2 1/2	63.5	AW	2.75	1.2
3 1/8	79.4	4 N-Rod	4	1.8	2 3/4	69.9	AW	3.5	1.6
3 1/4	82.6	4N-Rod	4	1.8	3	76.2	N 3 or 4	4	2
3 1/2	88.9	4 N-Rod	4	1.8	3 1/4	82.6	N 3 or 4	5	2
3 5/8	92.1	2 3/8 API	5	2.3	3 1/2	88.9	N 3 or 4	5.5	2.5
3 3/4	95.3	2 3/8 API	5	2.3	3 3/4	95.3	N 3 or 4	6	2.5
3 7/8	98.4	2 3/8 API	6	2.7	4	101.6	2 3/8	6	2.5
4	101.6	2 3/8 API	7	3.2	4 1/4	108.0	2 3/8	7	3
4 1/8	104.8	2 3/8 API	8	3.6	4 1/2	114.3	2 3/8	7.5	3.5
4 1/4	108.0	2 3/8 API	9	4.1	4 3/4	120.7	2 3/8	14	6.5
4 1/2	114.3	2 3/8 API	10	4.5	5	127.0	2 3/8	14	6.5
4 5/8	117.5	2 3/8 API	11	5.0	5 1/4	133.4	3 1/2	15.5	7
4 3/4	120.7	2 7/8 API	13	5.9	5 1/2	139.7	3 1/2	17	7.5
4 7/8	123.8	2 7/8 API	14	6.4	5 5/8	142.9	3 1/2	18	8
5	127.0	2 7/8 API	15	6.8	6	152.4	3 1/2	18	8
5 1/8	130.2	2 7/8 API	16	7.3	6 1/8	155.6	3 1/2	20	9
5 1/4	133.4	2 7/8 API	18	8.2	6 1/4	158.8	3 1/2	21	9.5
5 1/8	142.9	3 1/2 API	22	10.0	6 1/2	162.8	3 1/2	22	10
5 7/8	149.2	3 1/2 API	23	10.4	6 3/4	169.0	3 1/2	23	10.5
6	152.4	3 1/2 API	23	10.4	7	175.3	3 1/2	24	12
6 1/8	155.6	3 1/2 API	24	10.9	7 1/4	181.6	3 1/2	25	12.5
6 1/4	158.8	3 1/2 API	26	11.8	7 3/8	184.7	3 1/2	26	13
6 1/2	165.1	3 1/2 API	29	13.2	7 3/4	194.1	3 1/2	27	13.5
6 3/4	171.5	3 1/2 API	32	14.5	7 7/8	197.2	3 1/2	29	14



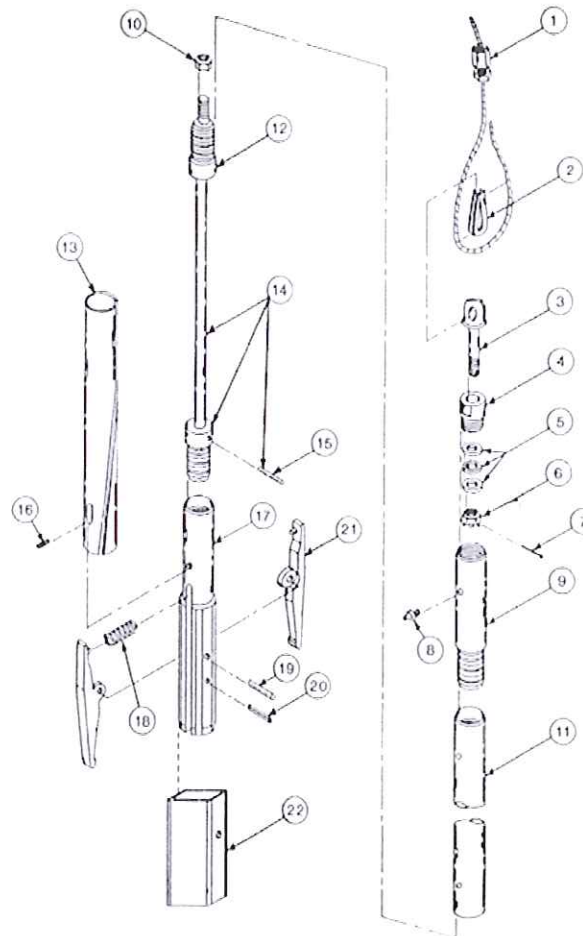
# SPHERE DRILLING SUPPLIES

## Conventional And Wireline Coring Equipment

### Corebarrels



### Overshots



- Conventional And Wireline Drill Rods
- Casing
- Diamond Impregnated Coring Bits
- Casing Shoes
- Reaming Shells
- Water Swivels
- Fishing Tools
- Wedges
- Non Coring Bits

**\*QUOTE\*** - It's true that I've driven through a number of red lights in my life. But it's also true that I've stopped at a lot of green lights that I've never gotten credit for.

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# SPHERE DRILLING SUPPLIES

## DIAMOND CORING DRILL BITS "Q" WIRELINE DIAMOND BITS

SIZE	CORE DIAMETER (INCHES)		HOLE DIAMETER (INCHES)		HOLE VOLUME (US gal/100 ft)
	Decimal	Fractional	Decimal	Fractional	
AQ, AQ-U	1.062	1-1/16	1.890	1-5/8	14.6
AQTK, AQTK-U	1.202	1-13/64	1.890	1-5/8	14.6
BQ, BQ-U	1.432	1-7/16	2.350	2-23/64	22.7
BQTK, BQTK-U	1.601	1-31/64	2.350	2-23/64	22.7
NQ, NQ-U	1.875	1-7/8	2.980	2-63/64	36.3
NQ2*	1.990	2	2.980	2-63/64	36.3
HQ, HQ-U	2.500	2-1/2	3.782	3-25/32	58.3
PQ	3.345	3-11/32	4.827	4-53/64	95.1
BQ-3	1.320	1-5/16	2.350	2-23/64	22.7
NQ-3	1.775	1-25/32	2.980	2-63/64	36.3
HQ-3	2.406	2-13/32	3.782	3-25/32	58.3
PQ-3	3.270	3-9/32	4.827	4-53/64	95.1

## "HD/CHD" WIRELINE DIAMOND BITS

SIZE	Decimal	Fractional	Decimal	Fractional	HOLE VOLUME (US gal/100 ft)
HD/CHD 76	1.713	1-23/32	2.980	2-63/64	36.6
HD/CHD 101	2.500	2-1/2	3.990	3-63/64	64.6
CHD 134	3.345	3-11/32	5.276	5-9/32	113.5

## "LTK" DIAMOND BITS

SIZE	Decimal	Fractional	Decimal	Fractional	HOLE VOLUME (US gal/100 ft)
LTK 46	1.395	1-13/32	1.829	1-53/64	13.4
LTK 46	1.395	1-13/32	1.890	1-5/8	14.6
LTK 56	1.785	1-25/32	2.216	2-7/32	19.9

## OTHER DIAMOND CORING BITS

SIZE	Decimal	Fractional	Decimal	Fractional	HOLE VOLUME (US gal/100 ft)
FWG	0.735	47/64	1.175	1-11/64	5.6
EWG, EWM, EWL	0.845	27/32	1.485	1-31/64	9.0
AWG, AWM, AWL	1.185	1-3/16	1.690	1-5/8	14.6
BWG, BWM, BWL	1.655	1-21/32	2.350	2-23/64	22.7
NWG, NWM, NWL	2.155	2-5/32	2.980	2-63/64	36.3
FWG	3.000	3	3.907	3-21/32	62.3
2-3/4 X 3-7/8	2.690	2-11/16	3.875	3-7/8	61.2
4 X 5-1/2	3.970	3-31/32	5.495	5-1/2	123.4
4 X 7-3/4	5.970	5-31/32	7.750	7-3/4	245.1

All dimensions, weights and volumes shown are nominal.

## WIRELINE DRILL RODS "Q" WIRELINE DRILL RODS

SIZE	OD (in)	ID (in)	WEIGHT (lb/10 ft)	THREADS PER INCH	CONTENT (US gal/100 ft)
AQ	1-3/4	1-3/8	31	4	7.7
BQ	2-3/16	1-13/16	40	3	13.4
NQ	2-3/4	2-5/8	52	3	23.0
HQ	3-1/2	3-1/16	77	3	36.2
PQ	4-5/8	4-1/16	109	3	71.5

\* Coupling ID \*\*With Coupling  
PQ Rod Body ID = 4-3/16 in

## "Q" WIRELINE THIN KERF DRILL RODS

SIZE	OD (in)	ID (in)	WEIGHT (lb/10 ft)	THREADS PER INCH	CONTENT (US gal/100 ft)
AQTK	1-3/4	1-15/32	24	4	8.8
BQTK	2-3/16	1-29/32	32	3	14.6

## FLUSH-JOINT CASING

SIZE	OD (in)	ID (in)	WEIGHT (lb/10 ft)	THREADS PER INCH	CONTENT (US gal/100 ft)
AW	2-1/4	1-29/32	35	4	14.8
BW	2-7/8	2-3/8	70	4	23.0
NW	3-1/2	3	86	4	36.7
HW	4-1/2	4	113	4	65.2
PW	5-1/2	5	144	3	102.0