PARTS HEADQUARTERS INC.
1175 APPLEBY LINE, UNIT C2, BURLINGTON, ONTARIO L7L 5H9
TEL: 905-332-3271 FAX: 905-332-9497 TOLL FREE: 1-800-267-2082
INTERNET: www.partshq.com

BAZOOKA DIAMOND DRILL

PARTS, SERVICING & OPERATING

MANUAL

PARTS HEADQUARTERS INC.
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Safety Precaution – Noise Levels

Air powered underground diamond drills are noisy during operation and are to be operated with the silencing equipment as supplied by the drill manufacturer. Motor speeds must be kept within the recommended maximum revolutions per minute given in the manual.

Even with silencers attached, maximum noise levels may be in the range of 100 to 112 dBA, depending on the type of drill, local reverberation, accessory air powered equipment and the condition of the equipment.

In certain jurisdictions, the Department of Labour (or similar organizations, CSST in the province of Quebec) requires that employees wear hearing protection at Leq noise levels higher than 85 or 90 dBA. Typical recommendations are as follows:

Leq up to 105 dBA	Class A Hearing Protector
Leq up to 110 dBA	Class A Plug and Class A or Class B Muff

(Leq noise level is the average noise level, usually measured over 8 or 40 hours, to account for time spent at much lower noise levels when the drill is not running. Leq levels are typically 3 dBA lower than the maximum noise level).

The Department of Labour also requires or recommends that employees have hearing tests when hired and on an annual basis. JKS Boyles strongly recommends that these precautions be followed and both muffs and plugs be worn when operating the air powered diamond drills.

It is recommended that the drill user determines the requirement of the Department of Labour (or similar organization having jurisdiction in the area in which he is operating the equipment). Information on hearing protection and hearing testing services is also available from the Canadian Diamond Drilling Association (CDDA) or your nearest JKS Boyles office.

The CDDA representative who can supply information on hearing protection and hearing testing is:

Canadian Diamond Drilling Association

www.canadiandrilling.com

City Centre
437-101 Worthington Street East
North Bay, Ontario
P1B 1G5

Tel: (705) 476-6992
Fax: (705) 476-9494
E-mail: office@cdda.ca

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GENERAL INFORMATION

HOW TO ORDER

A formal purchase order on company letterhead mailed or faxed is satisfactory. Email orders are satisfactory if full company details are provided. Telephone orders should be confirmed in writing through mail, fax or Email.

The purchase order should contain: the full company name, address, phone and fax numbers (for quick reference or clarification) as well as details to contact the authorizing purchasing personnel.

Please list on the purchase order: quantity, part number, item description, price, shipping address and preferred routing for shipments

When ordering complete machines or major assemblies please furnish complete descriptions of the power unit required, sprocket ratios preferred, swivelhead type, chuck jaws sizes, and other relative information of standard optional equipment preferred.

When ordering pumps please furnish complete description of the power unit required, the sprocket size preferred, the bore size, if a transmission, chain or belt drive is preferred and if gear reduction is required.

WHERE TO SEND THE ORDER

Mail or fax orders to:

PARTS HEADQUARTERS INC.
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INTERNET: www.partshq.com

Email orders to:

Larry Meyer	larry@partshq.com
Rob Lee	rob@partshq.com

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TERMS AND CONDITIONS

TERMS

NORTH AMERICA: Net 30 days on approved credit
Overdue payment of invoices incur monthly interest charges of 1.5%)

EXPORT SALES : Confirmed irrevocable letter of credit drawn on Canadian Bank
Net 30 days credit terms available through Canadian EDC guarantees
If purchasing company has an acceptable EDC credit rating
Visa or MasterCard acceptable for payment with references
Payment in advance of shipment by wire transfer to Canadian Bank

DELIVERY

Most items are available from stock and you will receive a confirmed order acknowledgement specifying shipment date. Shipments will be routed by the most direct and economical means of transportation unless otherwise specified and your order should indicate if partial orders are acceptable.

RETURN OF GOODS

Goods may be returned with the advance express written permission of Parts HeadQuarters Inc. Goods returned are subject to 25% restocking charges. Special equipment is not returnable. Only new drilling material is returnable. No credit will be issued for used drill material or tools. Parts HeadQuarters Inc. retains the right to inspect and reject any material returned for credit and to deny credit for any goods judged not to be suitable for resale.

GENERAL INFORMATION

Prices and specifications listed are subject to change at any time without notice.
Quotations for products are dated and valid for no more than 60 days from the date shown.
All prices are F.O.B. Parts HeadQuarters Inc warehouse, Burlington, Ontario, Canada, L7L 5H9.
Federal and Provincial taxes where applicable are extra and charged on PHQ invoices.
The cost of exporting documents and insurance may be added and shown on PHQ invoices.
Prepaid freight and handling charges may be added and shown on PHQ invoices.

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STANDARD TERMS OF SALE

CONDITIONS OF SALE

All sales by JKS/Parts HeadQuarters of products offered and sold by them shall be subject to the following conditions which shall be deemed incorporated into all orders and offers to purchase submitted to JKS/Parts HeadQuarters , for acceptance and into all their acceptances and contracts of sale.

1. Disclaimer of Liability for Consequential Damage
JKS/Parts HeadQuarters shall not be liable in any event for any loss of income, goodwill, increased costs or any special, indirect, incidental or consequential damages arising out of or in connection with this sale.

2. Warranties
There are no warranties Express or implied made by JKS/Parts HeadQuarters except for their following standard warranty; JKS/Parts HeadQuarters warrants new and unused core drilling machines and accessory equipment of our own manufacture against defects in material and workmanship caused by normal use and service, for a period of 90 days from date of original use, but not to exceed 6 months from the date of shipment from our premises. The obligation under this warranty is limited to the replacement or repair of such parts deemed by us to have been defective at the time of sale. Any alterations or changes to the product design by the customer invalidates any warranty claims. We reserve the right to inspect any defective part claims. Before such parts are returned to our premises, our written approval must be obtained and the parts then returned at the customer's expense. Product not manufactured by us are subject to the original manufacturer's warranty only.

4. Prices
Prices apply to quantities and specifications requested by the buyer or as outlined in price lists published by JKS/Parts HeadQuarters JKS/Parts HeadQuarters reserves the right to change their prices without notice.
Prices on written quotations will remain firm within the validity period specified in each quotation.

5. Delivery
JKS/Parts HeadQuarters are not liable for any delay in manufacturing or delivering any of the products, if such delay shall be due to one or more of the following causes:
fire; destruction of premises; strike; lockout; acts of God; accident; delay in transportation war (whether declared or undeclared); riot; insurrection; blockade; embargo; acts; demands; or requirements of Canada or the country in which or through which delivery is to be made; or of any province, state or territory thereof or of any governmental subdivision thereof; decrees or restraining orders of any court or judge; or any other cause whether similar or dissimilar to those herein before enumerated, beyond the reasonable control of JKS/Parts HeadQuarters.

6. Terms of Payment
Standard terms are net 30 days from date of invoice unless otherwise stated. Products are sold F.O.B. JKS/Parts HeadQuarters premises unless otherwise stated. JKS/Parts HeadQuarters reserve the right to apply finance charges to overdue accounts at 2 % above the prime rate charged by the chartered banks in Canada.

7. Title and Risk of Loss
Full risk of loss (including transportation delays and losses) shall pass to the buyer upon delivery of products there under to the F.O.B. point. However, JKS/Parts HeadQuarters , retain title, for security purposes only to all products until payment in full is received.

8. Taxes
Any sales, use, or similar taxes imposed on this sale or on the transaction are not included in the price. Such taxes shall be shown separately on applicable invoices and paid for by the buyer. If applicable, JKS/Parts HeadQuarters Inc., will accept a valid exemption certificate from the buyer, however, if an exemption certificate previously accepted is not recognized by the government taxing authority, and JKS/Parts HeadQuarters is required to pay the taxes covered by such exemption certificate, buyer agrees to promptly reimburse JKS/Parts HeadQuarters for the taxes paid on the buyer's behalf.

9. Claims by Buyer
Claims for any shortages or product quality made by the buyer against JKS Parts HeadQuarters., shall be made in writing to JKS Boyles International Inc., within ten (10) days after receipt of the shipment. Claims covered under warranty will be reported as outlined in paragraph 2.

10. Return of Saleable Product
No product may be returned to JKS/Parts HeadQuarters , without their prior authorization. Product authorized for return must be shipped "PREPAID" and will be subject to a restocking charge.

Setting charges on unused products are non-refundable.

11. Cancellation of Orders
After an order has been accepted, no cancellation by the buyer shall be binding on JKS/Parts HeadQuarters without their prior within consent and subject to such conditions as will indemnity JKS/Parts HeadQuarters Inc., against loss for commitments made and in process and completed custom work.

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OPERATING AND SERVICING INSTRUCTIONS

Refer to Plate #723

BAZOOKA DRILL WITH EYE-BOLT ANCHOR AND BIPOD MOUNTING SETUP

(a) With the cylinder sprag firmly bedded into the floor or other suitable foundation and while manually supporting the machine at the required angle, drill a hole, for the eyebolt, within an approximate 6" radius of the proposed bore.

(b) Install the retrievable eyebolt assembly, ensuring that the wedge is hammered tightly into position.

(c) Mount the Bazooka on the eyebolt and position the bipod legs to provide the required elevation and direction.

(d) Inject a small quantity of lubricating oil directly into the vane motor intake to ensure adequate initial lubrication and couple up both air and water lines.

(e) Fill the airline lubricator.

DRILLING INSTRUCTIONS

(a) Dress the face, removing any protuberances likely to damage the diamond bit.

(b) Assemble the starting barrel and motor adapter coupling and position the machine.

(c) Open the directional control valve (7A) and the advance control (7) and feed control (21) carefully allowing the motor to advance until the bit is just clear of the face. (reversing the advance control valve (7) will stop the forward feed.)

(d) Open the throttle (10) and regulate until the required rotational speed is obtained.

(e) Open the water valve (15).

(f) Adjust the feed control valve (21) to allow the corebarrel assembly to advance slowly. Steady the assembly in the vicinity of the reaming shell to prevent wandering, and commence drilling.

(g) Once the bit has advanced approximately 1/2" (depending on the formation), gradually increase both r.p.m. and penetration rate, and drill normally.

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(h) To add or change rods, close the throttle (10) and reverse the valve (7), and water valve (15). Actuate the directional control valve (7A). This will allow the motor to be withdrawn to its starting position. Continue drilling.

(i) To withdraw the equipment from the hole, return the motor to the cylinder and pull out the drill rod, breaking at the suitable point. On long holes, movement of the bipod feed to a position sufficiently forward to allow the Bazooka to swing down from the drill rods in multiples. When drilling is resumed it is important to make sure that the drill is correctly realigned with the hole.

JKS

BAZOOKA DRILL

Parts HeadQuarters Inc.
DIAMOND DRILLING EQUIPMENT

REFERENCE NUMBERS SHOWN. ORDER BY PART NUMBERS SHOWN IN PARTS LIST.

PLATE 1100-A

PARTS HEADQUARTERS INC.
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PARTS MANUAL

Master Parts List for: 2504058 BAZOOKA DRILL ASSY 24" FEED

BAZOOKA DRILL ASSEMBLY WITH BVB-6 ('62 SERIES) VANE MOTOR, 6" CYLINDER, 24" CHANGE, "EW" ROD ADAPTER, EYE-BOLT ANCHOR,BIPOD MOUNTING, 1/2" 4-WAY CONTROL VALVE AND TOOLS

PART NO.	DESCRIPTION	PLATE NO.
2910414	MUFFLER KIT BAZOOKA	M
2504029	PIPING ASSY (BAZOOKA DRILL)	M PL723
2504022	BIPOD ASSEMBLY	M PL309
2504005	CYLINDER ASSEMBLY 24" STROKE	M PL305A
2504002	MOTOR ADAPTER GROUP	M PL307
2502003	BVB 6" VANE MTR BAZOOKA 16 HP.	M PL468

NOT PART OF 2504058 BUT REQUIRED WITH AIR MOTORS.

PART NO.	DESCRIPTION	PLATE NO.
F61	LARGE CAPACITY DUAL FEED LUBRICATOR	F61

INDIVIDUAL COMPONENTS

PART NO.	DESCRIPTION	QUANTITY
5201467	OPEN END WRENCH	1
2504271	EX HOLE COLLARING GUIDE BAZOOK	1
2504020	EYE BOLT & WEDGE ASSY / EW	1
1910308	SUB EW ROD PIN TO AW ROD PIN	1

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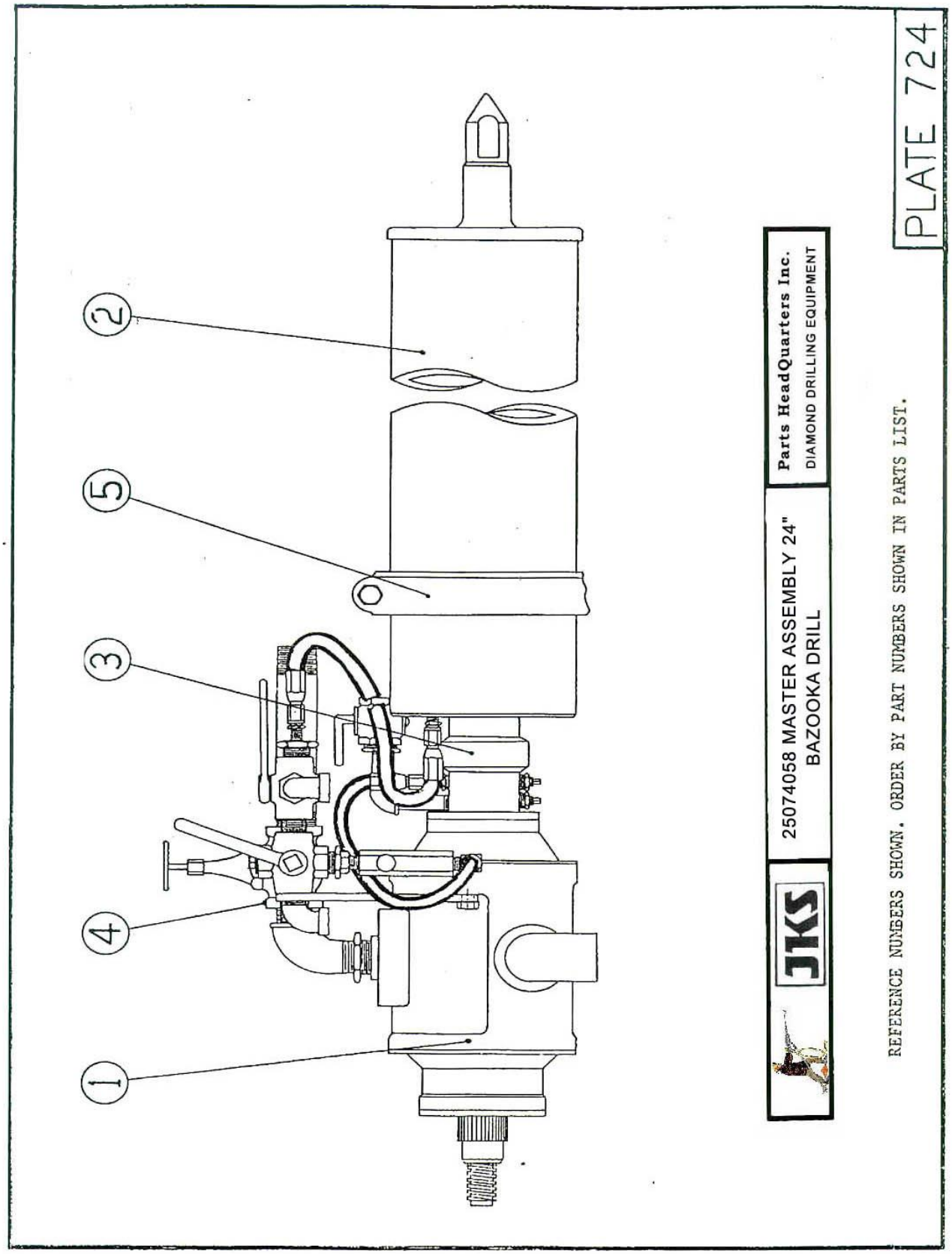

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PARTS MANUAL

Product: 2910414 MUFFLER KIT BAZOOKA
Drawing # M

ITEM	QTY	PART NO.	DESCRIPTION
1	2	2910567	EXHAUST MUFFLER 2-1/2"
2	96	6784615	2 1/2" SUCTION HOSE
3	24	6784615	2 1/2" SUCTION HOSE
4	72	6784615	2 1/2" SUCTION HOSE
5	5	5201540	3" MUFFLER CLAMP
6	1	2910568	BUSHING (BAZOOKA)

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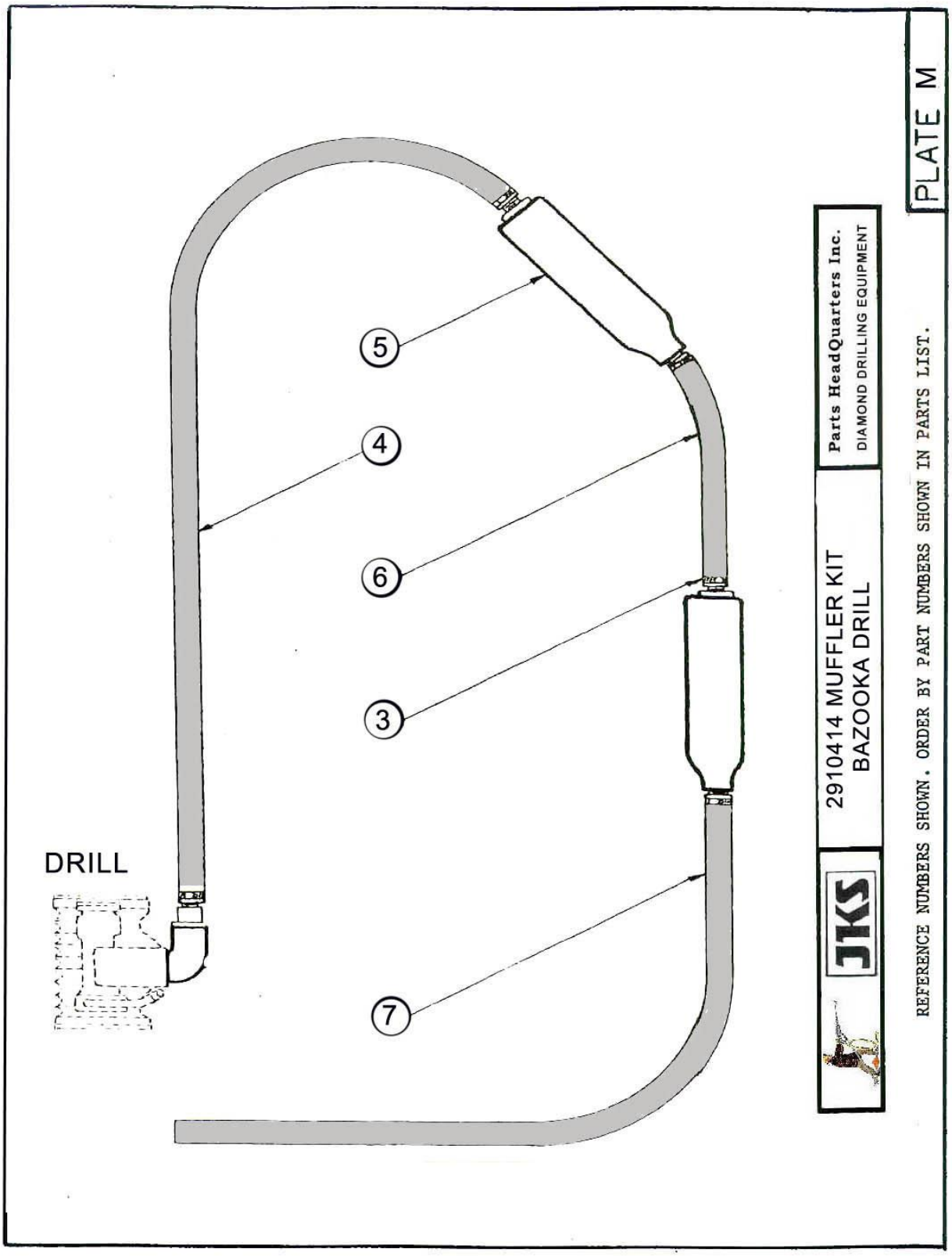

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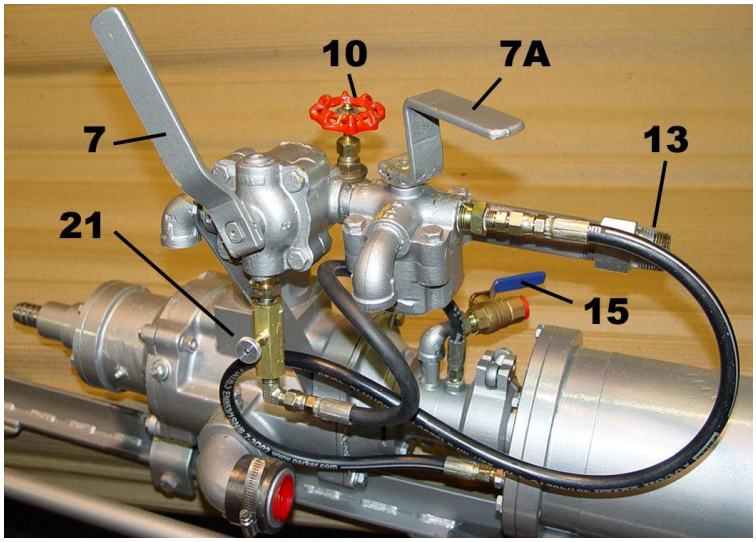
BAZOOKA CONTROLS - DRILLING POSITION



7A DIRECTIONAL CONTROL VALVE SHOWN IN THE FORWARD FEED DRILLING POSITION.

7 ADVANCE CONTROL VALVE SHOWN IN THE FORWARD FEED DRILLING POSITION

10 THROTTLE VALVE (DRILL ROTATION CONTROL)

21 FEED CONTROL NEEDLE VALVE USED TO SET FLOW OF AIR TO CYLINDER FOR FEED

21 ADVANCE CONTROL VALVE IN THE ON POSITION ALLOWS AIR TO FLOW FROM AIR SUPPLY THROUGH FEED CONTROL NEEDLE VALVE TO THE PISTON ROD (AIR FLOWS THROUGH THE PISTON ROD TO THE BACK OF THE CYLINDER TO BUILD FEED PRESSURE FOR DRILLING.

15 WATER VALVE IN THE FULL ON POSITION.

PIPING CONFIGURATION IS TO BE AS SHOWN TO OPERATE THE DRILL FOLLOWING INSTRUCTIONS. A PROPER CONTROL PIPING SCHEMATIC IS ILLUSTRATED IN PLATE 723 ON PAGE 15 OF THE MANUAL.

Drilling Operations:

Inspect lubricator (Page 24) to insure adequate oil supply. Lubricant should be visible through the fill port.

Check controls are in the off position (see BAZOOKA CONTROLS SET IN THE RETRACT POSITION Page 13).

Turn on the air supply and water supply at the header.

- Rotate the feed control needle valve (21) to off.
- Move advance control lever (7A) and feed control lever (7) to the positions shown in the illustration.
- Gradually increase feed pressure by slowly turning the feed control needle valve (21)
- Advance the bit to the face. Reversing the advance control lever (7) will stop forward feed.
- **TIP** *The feed can be "sticky" or "jerky" at first when the drill has not been operated for a period of time. It is advisable to move the drill back and forwards several times until the feed and retract motion is smooth*
- Begin slow rotation of the drill rods by opening throttle valve (10) supplying air to the rotation motor.
- Gradually increase rotation speed by turning and opening the throttle valve (10)
- Once the bit has penetrated the face turn the water valve (6) on.
- Monitor flow of water and adjust valve (6) until adequate flow is observed.
- Adjust feed pressure, rotation speed and water flow until satisfactory drilling performance is observed.
- Monitor the drill at all times during drilling operations to maintain optimum drill performance.
    - Observe water flow to be sure of continuous supply.
    - Observe smooth rotation of drill rods and take action if sudden changes occur.
- When drill reaches end of the run reverse the advance control lever (7) to stop forward feed
- Turn off rotation by closing the throttle valve (10)

SAFETY WARNING

The 16Hp motor powering the Bazooka Drill rotates at 3000 rpm. A long string of rods in the hole builds up a powerful momentum. Never wear loose clothing that could be caught by and be wrapped around the drill rod.

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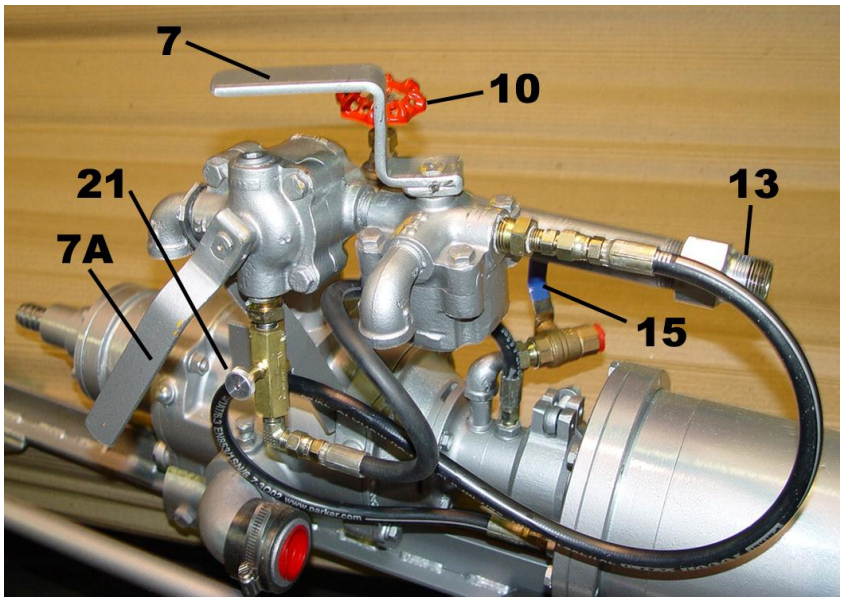
BAZOOKA CONTROLS – RETRACT POSITION



7A DIRECTIONAL CONTROL VALVE SHOWN IN THE REVERSE FEED RETRACT POSITION.

7 ADVANCE CONTROL VALVE SHOWN IN THE REVERSE FEED RETRACT POSITION

10 THROTTLE VALVE (DRILL ROTATION CONTROL)

21 FEED CONTROL NEEDLE VALVE SETS FLOW OF AIR FROM CYLINDER DURING RETRACTION

21 ADVANCE CONTROL VALVE IN THE RETRACT POSITION ALLOWS AIR TO FLOW FROM THE FEED CYLINDER THROUGH CONTROL NEEDLE VALVE. SETTING OF THE NEEDLE CONTROL VALVE CONTROLS THE SPEED THE CYLINDER WILL RETRACT. AIR FLOWS THROUGH THE PISTON ROD FROM THE BACK OF THE CYLINDER TO EXHAUST THROUGH THE VALVE.

15 WATER VALVE IN THE FULL OFF POSITION.

PIPING CONFIGURATION IS TO BE AS SHOWN TO OPERATE THE DRILL FOLLOWING INSTRUCTIONS.

A PROPER CONTROL PIPING SCHEMATIC IS ILLUSTRATED IN PLATE 723 ON PAGE 15 OF THE MANUAL.

Retracting the Drill:

Air supply and water supply is on at the header.

- Set the feed control needle valve (21) to off.
- Move advance control lever (7A) and feed control lever (7) to the positions shown in the illustration.
- Set the rate of exhaust air flow from the cylinder by turning the feed control needle valve (21)
- Lowering the rate of exhaust air flow slows the movement of the feed cylinder.
- Increasing the rate of exhaust air flow speeds the movement of the feed cylinder.
- Use the feed control lever (7) to move the drill back from the face pulling rods from the hole.
- Secure the rods at the collar
- Uncouple the drill from the drill rods
- Move the drill further back to allow removal of the drill rod.
- Uncouple the drill rod from the drill rods protruding from the face and remove it.
- Advance the drill to the face to couple to the rods in the hole using the feed control lever (7)

SAFETY WARNING

Be careful when advancing the Bazooka drill using the feed cylinder. The Bazooka Drill has a six inch diameter feed cylinder capable of exerting a pressure of 2800 lbs with an air supply pressure of 100 psi. The feed cylinder on the drill can advance very rapidly if not controlled using the needle valve (21) to regulate the flow of exhaust air from the cylinder. There is a “Pinch Point” between the front of the drill and any drill rods protruding from the face. Operators should avoid placing any part of the body in the line of the advancing drill when returning to the face to retrieve rods using the pneumatic feed.

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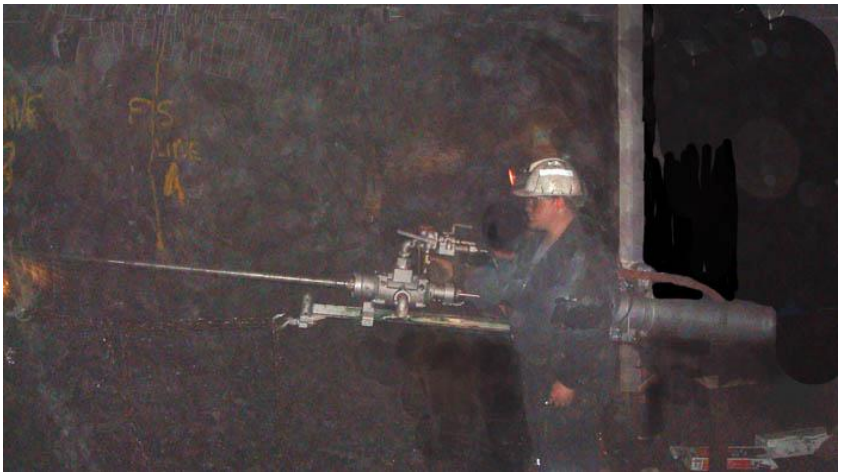
COLUMN BAR MOUNTED BAZOOKA

Maximum depth drilling with a Bazooka can be best achieved by mounting the drill on a rigid column bar.

The Bazooka is capable of drilling holes and retrieving EW size 0.995" (25.2mm) diameter rock cores from depths of 150 feet (45 meters) in the vertical position and 300 feet (90 meters) in the horizontal drilling position using light weight aluminum drill rods.

The Bazooka is capable of drilling holes and retrieving AW size 1.385" (35.1mm) diameter rock cores from depths of 100 feet (30 meters) in the vertical position and 200 feet (60 meters) in the horizontal drilling position using light weight aluminum drill rods.



PHQ provides a complete column bar set-up for the Bazooka drill. The heavy wall tube column bar is held in place by the powerful MineJack Ratchet Jack providing a very solid and rigid base for the Bazooka drill cylinder to push against when drilling or retracting drill rods from the hole.

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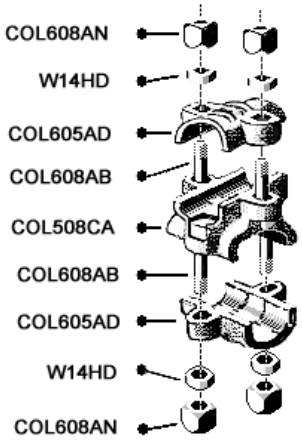
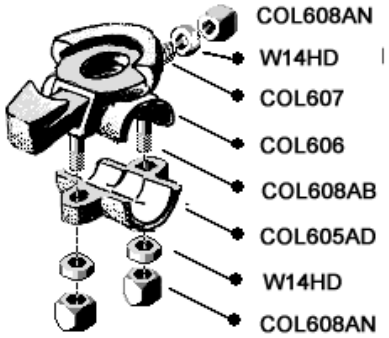
COLUMN BAR SET-UP COMPONENTS

Weight of complete BB9600 Column Bar with Mine Ratchet Jack (Purdie Jack) 177 lbs (78 kg)

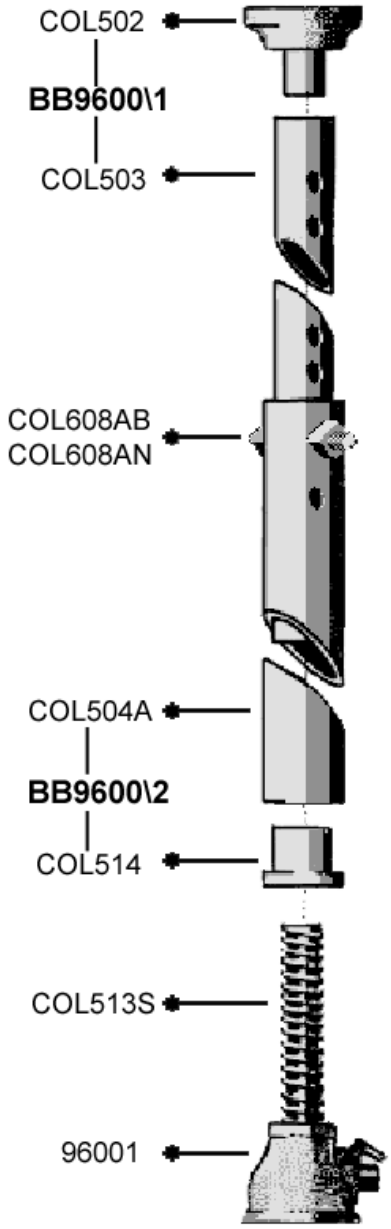
Weight of Mine Ratchet Jack (Purdie Jack) 55lbs (25 kg)

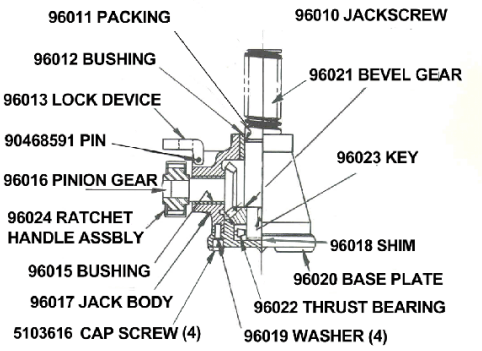


COL508CA UNIVERSAL CLAMP

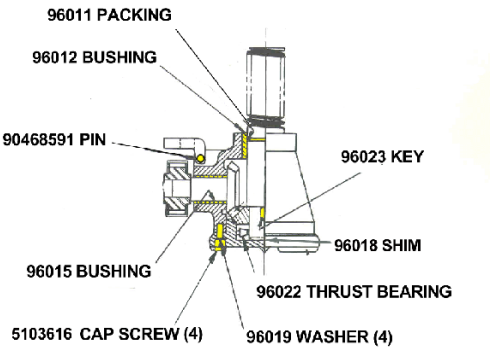


COL606X SWING DUMP CLAMP





96000 PURDIE MINE JACK



96002 JACK REPAIR KIT

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TOP CAP PRECISION MACHINED TO THE INSIDE DIAMETER OF THE INNER TUBE AND WELDED TO FIT SQUARELY ON TUBE.

INNER COLUMN BAR FROM SEAMLESS THICK WALL ALLOY STEEL TUBING FOR LONGER LIFE AND PRECISION FIT TO OUTER BAR, GIVES SMOOTH SLIDING AND RIGIDITY AT MAXIMUM EXTENSION.

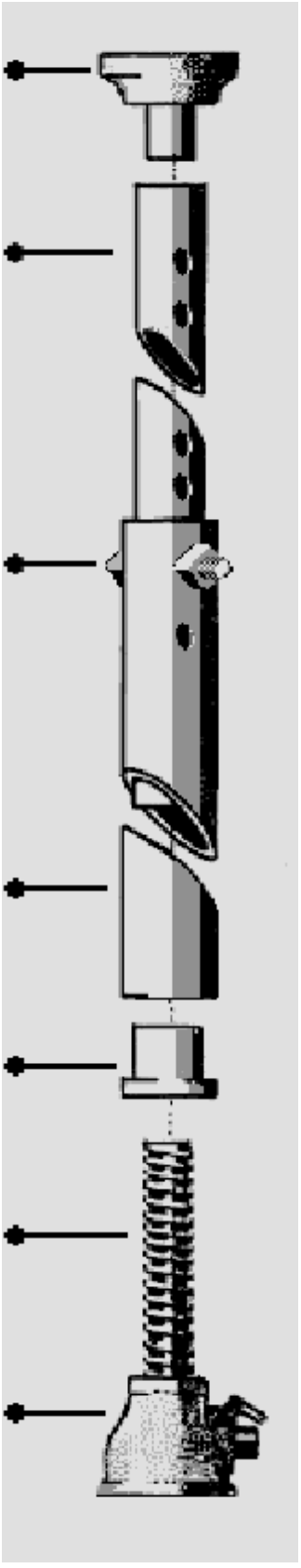
ONE INCH DIAM HIGH ALLOY BOLT AND COLUMN NUT QUICKLY AND POSITIVELY HOLDS THE INNER EXTENSION TUBE AT VARIED HEIGHTS BETWEEN SEVEN AND ELEVEN FEET. THIS "THROUGH" BOLT LOCKS BOTH TUBES FROM TURNING.

OUTER COLUMN BAR FROM SEAMLESS THICK WALL ALLOY STEEL TUBING FOR LONGER LIFE AND PRECISION FIT TO INNER BAR, GIVES SMOOTH SLIDING AND RIGIDITY AT MAXIMUM EXTENSION. PLUG WELDED ABOVE SCREW TRAVEL KEEPS THE JACKSCREW CLEAN.

HIGH ALLOY COLUMN JACKSCREW NUT PRECISION MACHINED TO FIT INSIDE DIAMETER OF THE OUTER TUBE AND WELDED TO FIT SQUARELY ON TUBE.

JACKSCREW MADE FROM HIGH ALLOY STEEL. RUGGED "BOX" TYPE THREAD GIVES STRENGTH AND LONG WEAR.

THE MINEJACK (or PURDIE JACK) A RUGGED AND DEPENDABLE RATCHET TYPE JACKBAR FOR EASY APPLICATION OF MAXIMUM PRESSURE REQUIRED.



PARTS HEADQUARTERS INC.
1175 APPLEBY LINE, UNIT C2, BURLINGTON, ONTARIO L7L 5H9
TEL: 905-332-3271 FAX: 905-332-9497 TOLL FREE: 1-800-267-2082
INTERNET: www.partshq.com

PARTS MANUAL

Product: 2504029 PIPING ASSY (BAZOOKA DRILL)
Drawing # M PL723

ITEM	QTY	PART NO.	DESCRIPTION
1	1	2504197	HOSE-FEED VALVE TO CYLINDER
2	1	2504278	SUPPORT BRACKET BAZOOKA
3	1	5201243	REDUCER - NPT/F-NPT
4	1	5201005	1" 90 DEG STREET ELBOW
5	2	5201003	1/2" STREET ELBOW
6	1	5212003	1 HVY B PIPE
7	2	2801243	4 WAY VALVE 1/2"
8	1	5200078	1/2" STEEL PIPE PLUG
10	1	5201615	GLOBE VALVE 1" 300#
11	2	5291080	NIPPLE - NPT/NPT
12	2	5201229	REDUCER - NPT/F-NPT
13	1	2504193	MANIFOLD BAZOOKA
14	1	2504200	HOSE ASSY 1/4 ID X 41" LG
15	1	5201602	2 WAY AIR VALVE
16	2	5201226	REDUCER BUSH. STL.-3/8X1/4NPT
17	1	5201228	REDUCER - NPT/F-NPT
18	1	5211704	3/8 NPT X 2" HD PIPE NIPPLE
19	1	5201002	3/8" X 90 DEG. STREET ELBOW
20	1	5210102	1/4" CLOSE NIPPLE
21	1	5201720	VALVE

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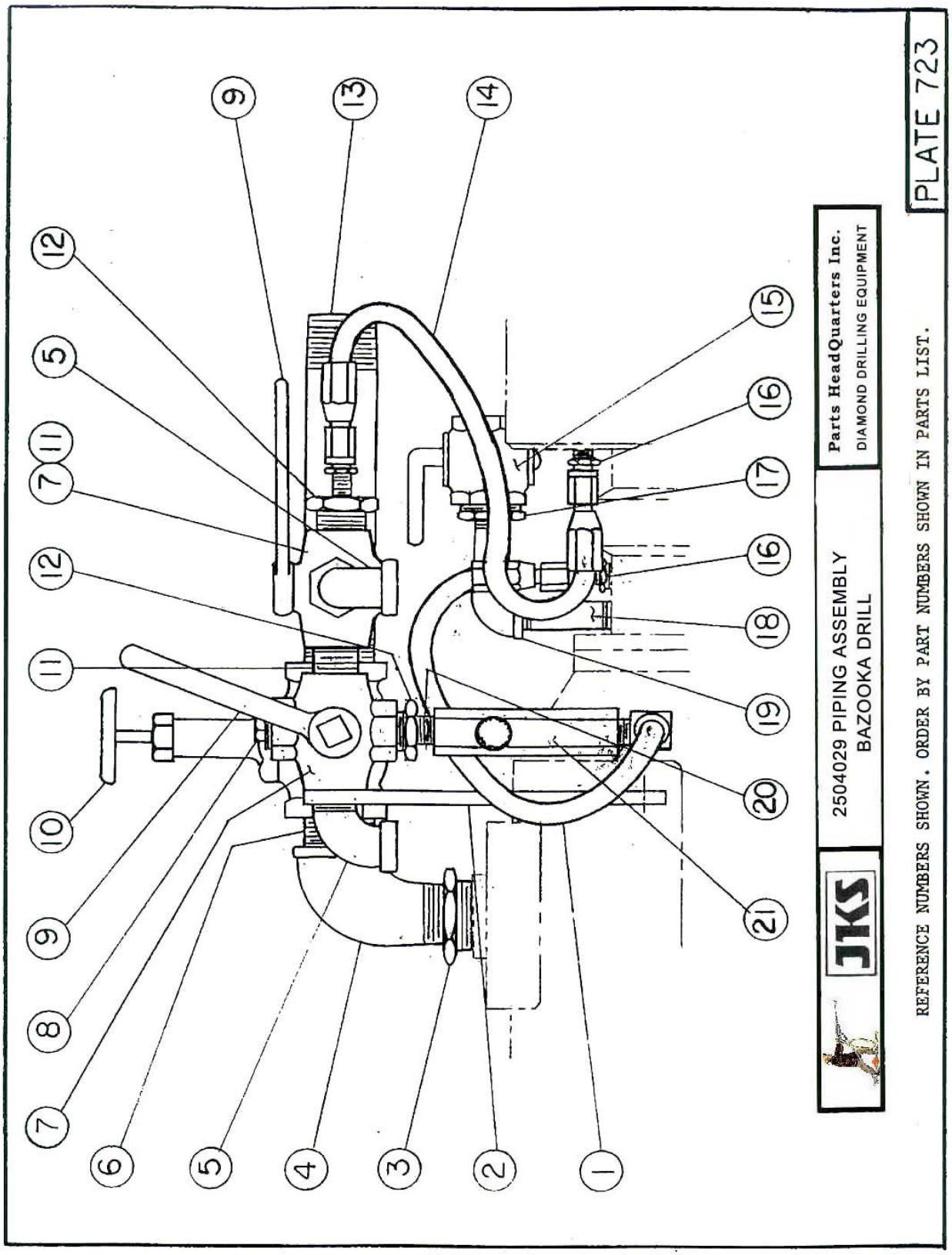

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PARTS MANUAL

Product: 2504022 BIPOD ASSEMBLY
Drawing # M PL309

ITEM	QTY	PART NO.	DESCRIPTION
1	1	2504226	CYL CLAMP &B1-POD MOUNT BAZOOK
3	2	2504170	SPRAG CLAMP
4	2	1831905	5' XRT STEEL ROD LESS CPLG
5	2	2504171	LEG CLAMP EYE BOLT
6	2	5117003	5/8-11UNC X 1:1/2" LG HHCS
7	4	5170912	3/4 SELFLOCK NUT (90049018)
8	4	5180312	3/4 IN FLAT WASHER
9	1	5117103	5/8-11UNC X 1:3/4" LG HHCS
15	1	2504273	ANCHOR BAR
16	2	5117503	5/8-11UNC X 2:3/4" LG HHCS
17	1	2504172	ANCHOR HOOK ASSY BAZOOKA
18	1	5171316	SELF LOCK NUT 1 IN NF (D1073A)
19	1	2504269	MOTOR SUPPORT BAZOOKA
	5	5170610	5/8-11UNC HEX NUT
	2	2504101	SPRAG POINT - BAZOOKA BIPOD

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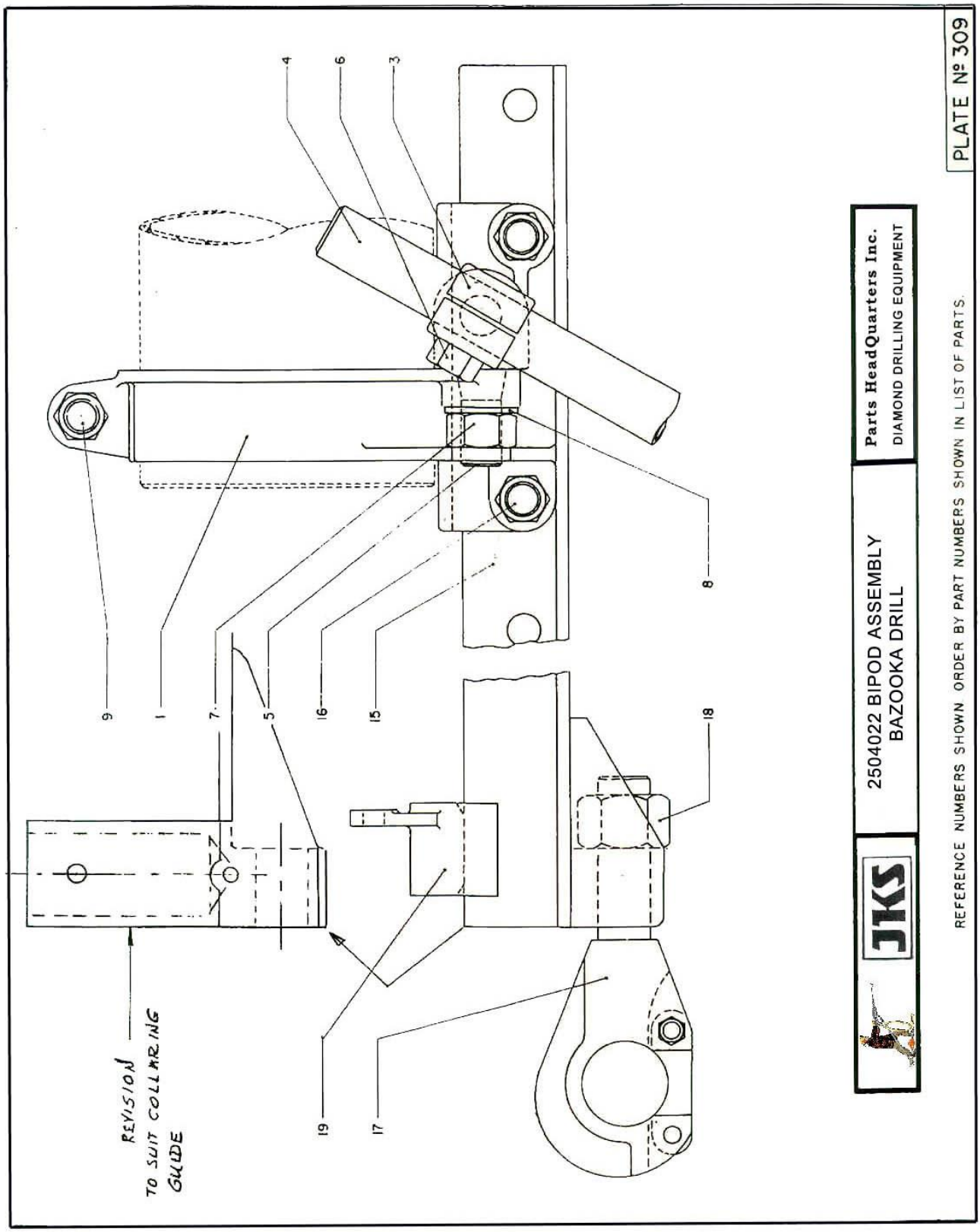

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INTERNET: www.partshq.com

PARTS MANUAL

Product: 2504005 CYLINDER ASSEMBLY 24 STROKE
Drawing # M PL305A

ITEM	QTY	PART NO.	DESCRIPTION
1	1	2504152	PISTON ROD 24" STROKE BAZOOKA
2	1	5040060	OIL SEAL
3	1	2504238	PISTON ROD BUSHING
4	1	2504240	SPLIT LOCK RING BAZOO&ROD PULL
5	1	2504239	CLAMP RING BAZOOKA
6	6	5102803	5/16-18UNC X 1-1/4" LG HHCS
7	1	5030736	O RING
9	1	2504214	CYLINDER 24" STROKE BAZOOKA
10	1	2504221	PISTON DISC REAR BAZOOKA
11	1	2504224	PISTON BAZOOKA
12	1	2504220	PISTON DISC FRONT BAZOOKA
13	2	2504222	PISTON CUP
15	6	5111003	1/4-20UNC X 1:1/2" LG HHCS
16	6	5170904	1/4-20 NC HEXNUT SELF LOC
17	1	2504217	CYLINDER CAP
18	2	5030834	O RING
19	1	5050600	RETAINING RING
20	1	5200077	3/8" NPT SQ HEAD PIPE PLUG
21	1	2504218	CYLINDER CAP
22	2	5102403	5/16-18 UNC X 3/4" LG HHCS
23	1	2504101	SPRAG POINT - BAZOOKA BIPOD
	8	5180805	5/16 LOCKWASHER EXTERNAL TOOTH

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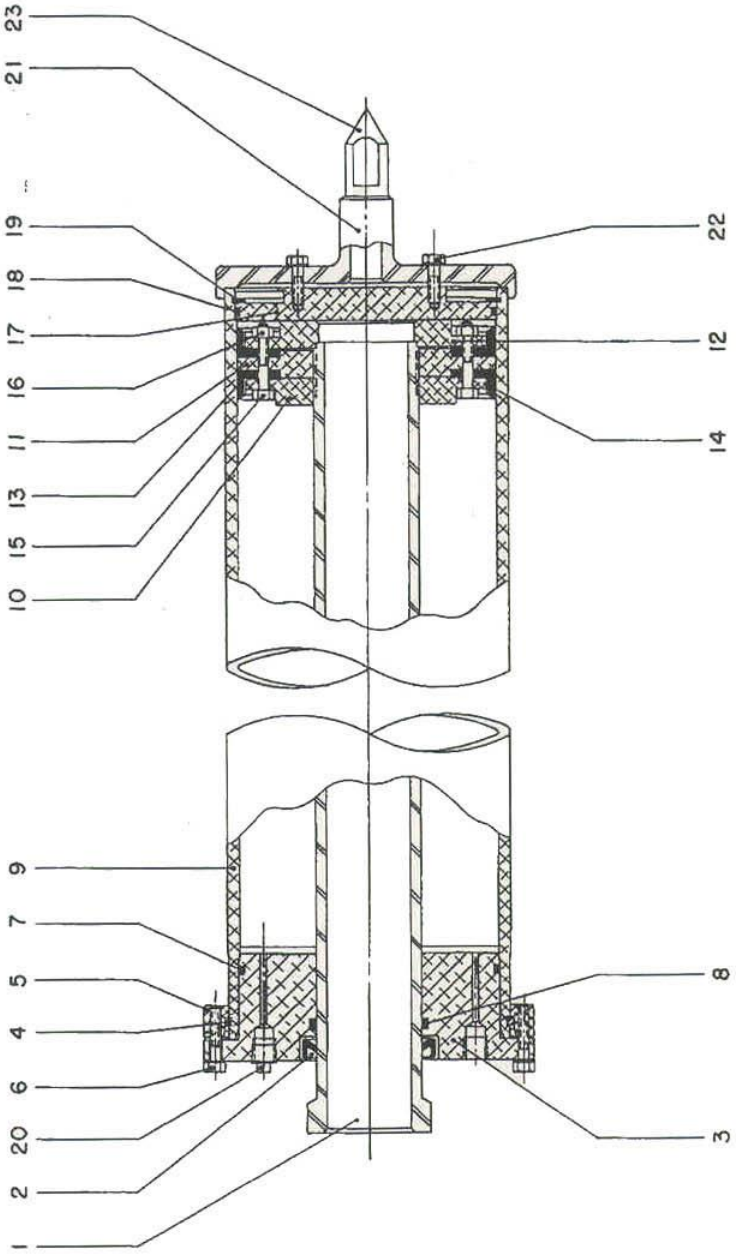


BAZOOKA DRILL

AIR CONTROLLED CYLINDER ASSEMBLY

Parts HeadQuarters Inc.
DIAMOND DRILLING EQUIPMENT

2504005 CYLINDER ASSEMLBY 24"
BAZOOKA DRILL

JKS

REFERENCE NUMBERS SHOWN. ORDER BY PART NUMBERS SHOWN IN LIST OF PARTS.

PLATE Nº 305A

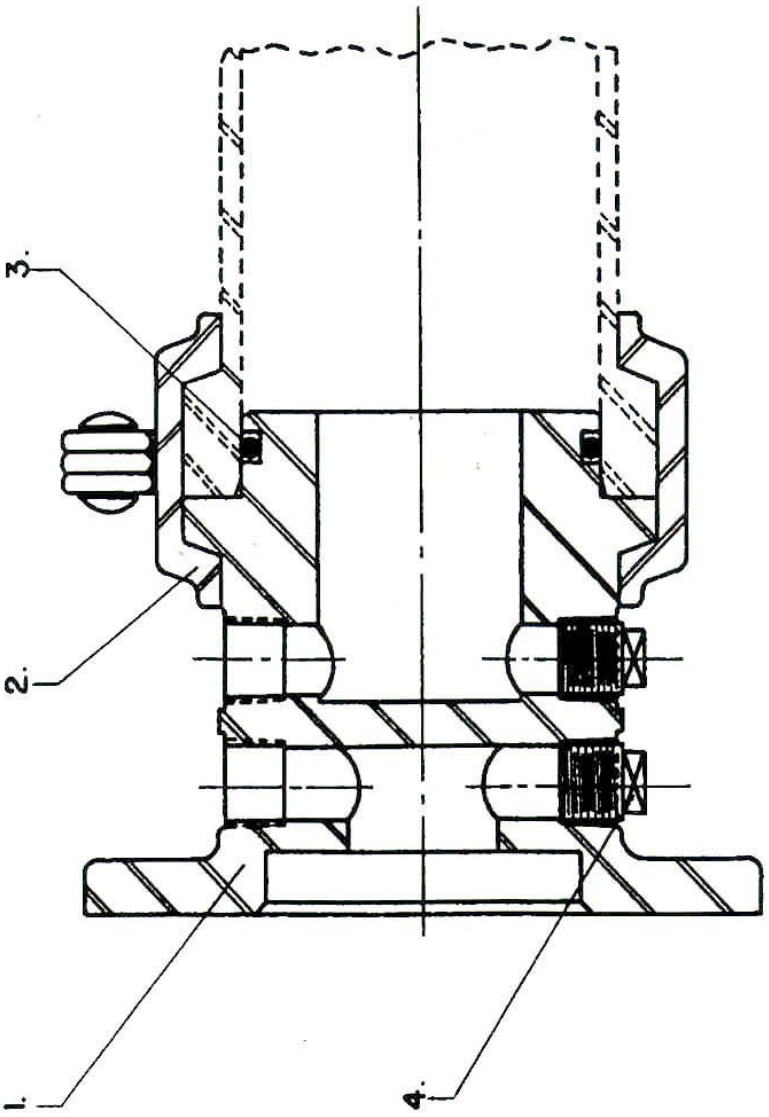
PARTS HEADQUARTERS INC.
1175 APPLEBY LINE, UNIT C2, BURLINGTON, ONTARIO L7L 5H9
TEL: 905-332-3271 FAX: 905-332-9497 TOLL FREE: 1-800-267-2082
INTERNET: www.partshq.com

PARTS MANUAL

Product: 2504002 MOTOR ADAPTER GROUP
Drawing # M PL307

ITEM	QTY	PART NO.	DESCRIPTION
1	1	2504110	MOTOR ADAPTER BAZOOKA
2	1	2504111	CYLINDER CLAMP ASSY BAZOOKA
3	1	5030804	O RING
4	2	5200077	3/8" NPT SQ HEAD PIPE PLUG
	2	5201226	REDUCER BUSH. STL.-3/8X1/4NPT
	4	5102403	5/16-18 UNC X 3/4" LG HHCS
	4	5180805	5/16 LOCKWASHER EXTERNAL TOOTH

PARTS HEADQUARTERS INC.
1175 APPLEBY LINE, UNIT C2, BURLINGTON, ONTARIO L7L 5H9
TEL: 905-332-3271 FAX: 905-332-9497 TOLL FREE: 1-800-267-2082
INTERNET: www.partshq.com



ADAPTER ASS'Y-VANE MOTOR TO CYLINDER.

Parts HeadQuarters Inc.
DIAMOND DRILLING EQUIPMENT

2504002 MOTOR ADAPTER GROUP
BAZOOKA DRILL

JKS

REFERENCE NUMBERS SHOWN. ORDER BY PART NUMBERS SHOWN IN LIST OF PARTS.

PLATE Nº 307

PARTS HEADQUARTERS INC.
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TEL: 905-332-3271 FAX: 905-332-9497 TOLL FREE: 1-800-267-2082
INTERNET: www.partshq.com

PARTS MANUAL

Product: 2502003 BVB 6 VANE MTR BAZOOKA 16 HP.
Drawing # M PL468

ITEM	QTY	PART NO.	DESCRIPTION
1	1	2502320	MOTOR HOUSING BVB-6
2	1	2501136	REAR END PLATE BVB-6
3	1	2501137	FRONT END PLATE BVB-6
4	1	2502125	MOTOR LINER BVB-6
5	1	2504181	MOTOR REAR HOUSING COVER
6	1	2504232	ROTOR BVB-6
7	6	2502122	ROTOR BLADE BVB-6
8	1	5000051	BEARING
9	1	5010006	BEARING
10	1	2501348	REAR BEARING SPACER +.462
11	1	5050244	RETAINING RING
12	1	5051118	RETAINING RING
13	3	2501335	LINER & END PLATE KEY
14	1	2503114	AIR INLET NUT
15	1	5030806	O RING
16	1	2503123	AIR SCREEN (ALL VANE MOTORS)
17	1	2501117	OUTLET ELBOW BVB-6 BVF-44P
18	1	2501332	ELBOW LOCKSCREW & NUT
19	1	5052281	RETAINING RING
20	1	2504783	WATERSWIVEL & BEARING RETAINER
21	1	5042013	V PACKING SET BVB-6
22	1	5030711	O RING
23	1	5030713	O RING
24	1	5030802	O RING
25	1	2504249	DRIVE HOUSING BVB-6
26	1	2504250	SPINDLE BEARING RET BVB-6
27	1	2504251	BEARING SPACER BVB-6
28	1	2504252	DRIVE SPINDLE BVB-6
29	1	5010117	BEARING
30	1	5000065	BALL BEARING
31	1	5040152	OIL SEAL
32	1	5051196	RETAINING RING
33	3	5200800	1/8 GREASE FITTING
34	6	5102603	5/16-18UNC X 1" LG HHCS
35	2	5103603	3/8-16UNC X 1" LG HHCS
36	2	5113003	3/8-16 UNC X 1:1/2" LG HHCS
37	2	5113236	3/8-24 UNF X 2" LG HHCS
38	2	5113336	3/8-24UNF X 2 1/4" LG HHCS
39	4	5171006	3/8-24 UNF HEX NUT
40	6	5180505	5/16 LOCKWASHER
41	8	5180506	3/8 LOCKWASHER

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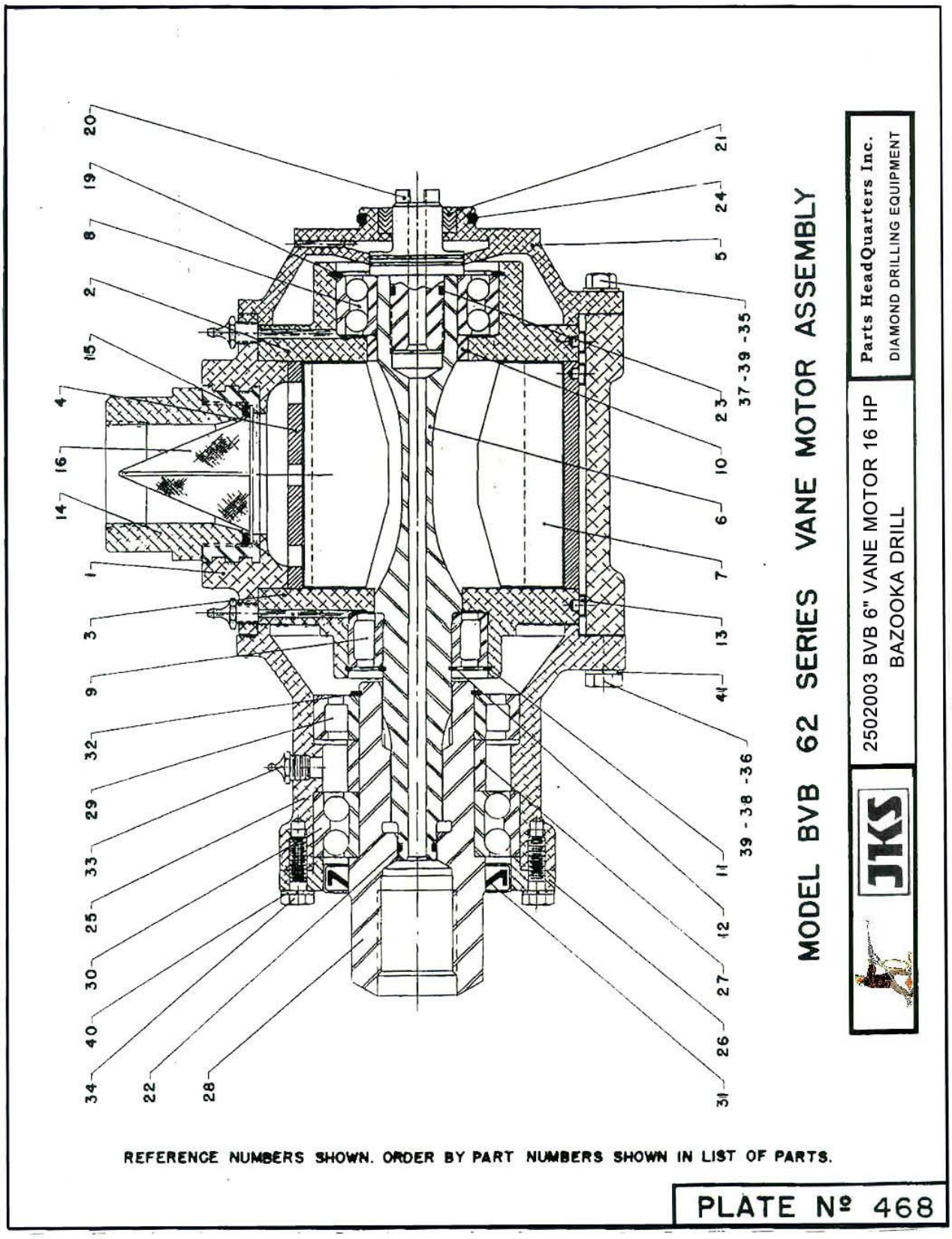

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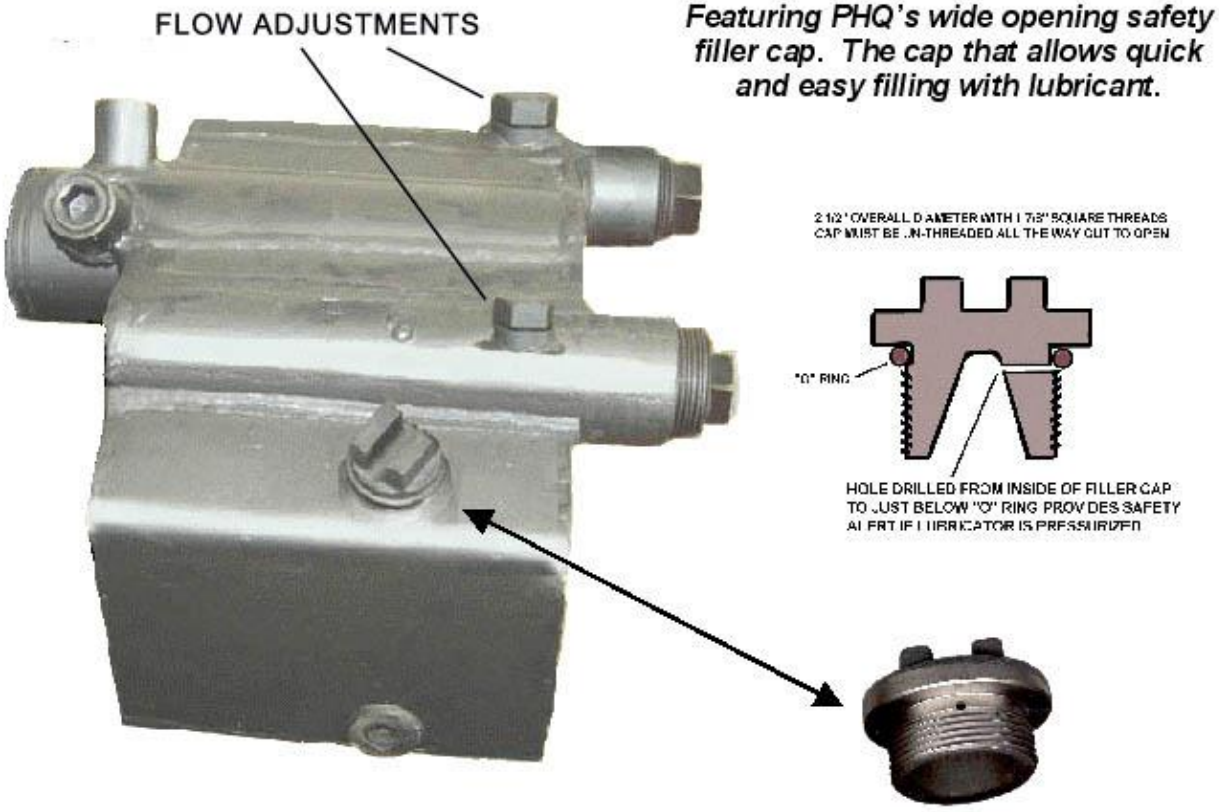
PHQ F61 Large Capacity Lubricator



TO ADJUST FLOW OF LUBRICANT REMOVE TWO CAP NUTS INDICATED AND TURN NEEDLE POINT VALVE CLOCKWISE TO REDUCE FLOW AND COUNTERCLOCKWISE TO INCREASE

PHQ F61 Lubricator

The Safety cap feature warns the operator with the hiss of escaping air should the lubricator be pressurized.

PARTS HEADQUARTERS INC.
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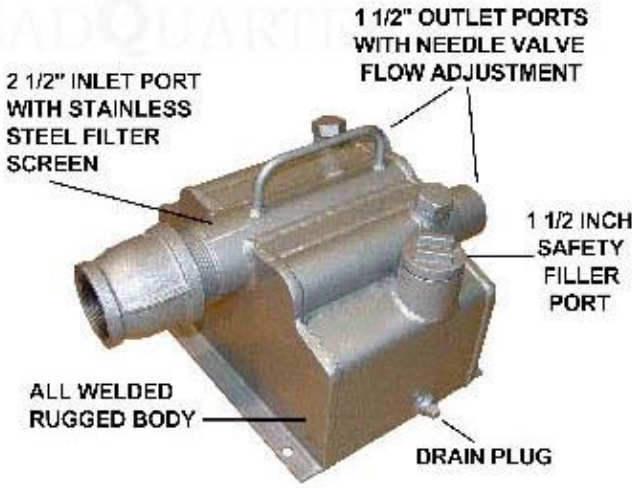
INTERNET: www.partshq.com

Features

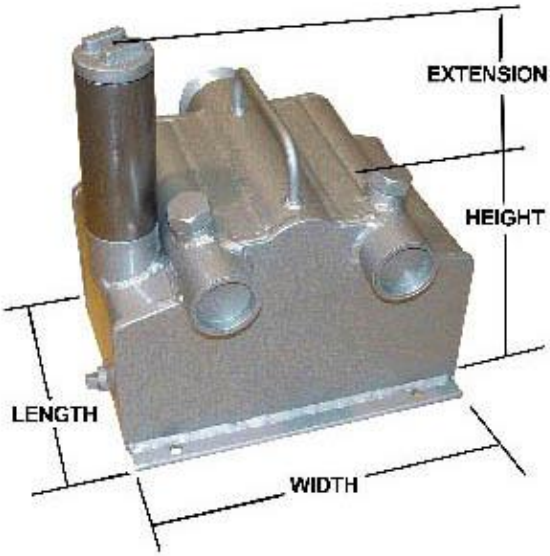
Large mouth safety filler cap for ease of filling with rock drill grease or oil.

Lubrication flow is easily adjusted with the turn of a screw driver. Available with screw in extension filler ports for mounting within the frame of a long-hole drill carrier.



PHQ F61 Lubricator Specifications

CAPACITY	
1.5 gallons (6.8 liter)	
LENGTH	
11.75 inches (300mm)	
WIDTH	
12.25 inches (262mm)	
HEIGHT	
10.35 inches (262.mm)	
NOZZLE EXTENSION LENGTH	
5.25 inches (134mm)	
WEIGHT OF LUBRICATOR (Empty)	
44 pounds (20kg)	
AIR CONNECTION	**HOSE SIZE**
1 ½ inch bsp	1 ½ inch – 38mm
SUITABLE FOR DRIFTER DRILLS	
PHQ36-IR S36-IR PR123 BBC120	



THE PHQ F61 lubricator is constructed from welded steel plate and the vessel has been pressure tested to an excess of 500 psi

PHQ carries a full range of parts for the PHQ-F61 Lubricator in stock. Parts made in Canada to precise specifications using only the highest quality tool steel

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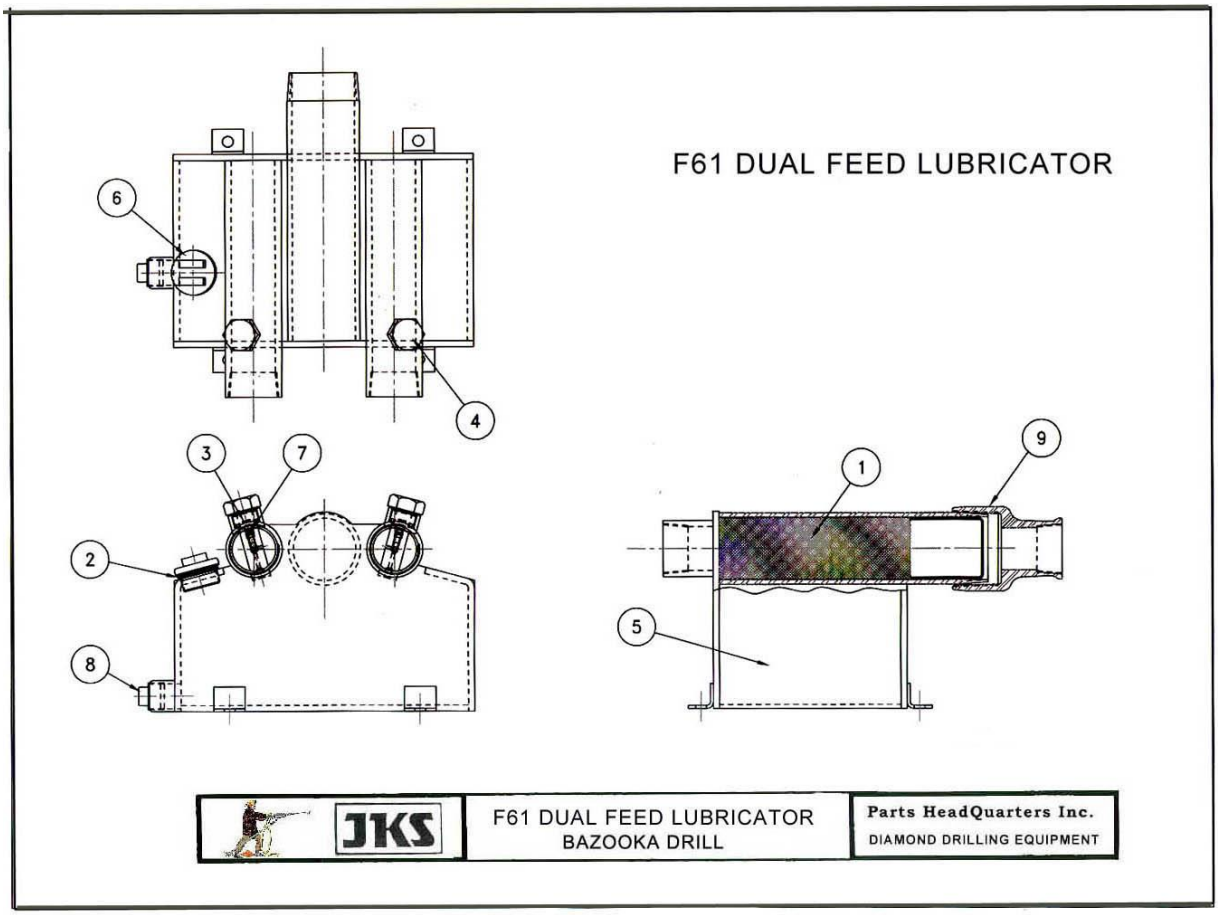

PARTS MANUAL

Product: F61 DUAL FEED LUBRICATOR
Drawing F61

ITEM	QTY	PART NO.	DESCRIPTION
1	1	C3272	FILTER ELEMENT
3	1	910660224	FILLER PLUG O RING
4	2	D1878	ADJUSTING SCREW
5	2	D2104	ADJUSTING SCREW CAP
6	1	F61SF	LUBRICATOR BODY
7	1	174118211	FILLER PLUG
8	2	164301	O RING
9	1	F61COUPLING	REDUCER COUPLING

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PHQ JKS Vane Motors are lubricated entirely by oil mixed with the air supply.

An adequate supply of the proper oil is absolutely necessary. This is particularly important because when a good air supply is available the motors can be operated in excess of the recommended 4000 R.P.M.

Standard practice is to introduce the oil into the air through an "Air Line Lubricator" installed in the air line adjacent to the drill. The drill operator is normally responsible for the proper operation of the lubricator.

The "Dualfeed" Air Line Lubricator fills a long overdue need for a compact, rugged lubricator with a large oil capacity. In use, this lubricator eliminates the risk of running out of oil, reduces the number and frequency of refills, and lessens the possibility of contaminating the oil that can be caused by frequently adding oil in small quantities. Two rates of oil feed are available simply by uncoupling it and turning it end for end.

RECOMMENDED OILS ARE LISTED FOLLOWING:

-Supplier-	-Brand Name-
Imperial Oil Company	Arox EP 45, 56 or 80
Mobile Oil Company	Alma #5
Gulf Oil Company	Rock Drill Oil 66 or 59
Shell Oil Company	Tonna 'F'
Standard Oil Company	Chevron Febis K53
Texaco Oil Company	Rock Drill Lubricant 'EP'

NOTE: An ordinary engine oil is not recommended. Its rate of consumption will be very high and it will not lubricate properly, especially at higher temperatures.

The foregoing recommendations are for average operating conditions. Where extreme conditions of heat, moisture or severe dust exist, Boyles should be consulted.

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***PHQ** was formed over twenty five years ago to supply pneumatic underground mining equipment, parts and mining hardware.*

***PHQ** grew into the manufacturing of complete percussion drills, drill feeds, drill centralizers, remote control panels, mufflers, diamond drills, high pressure pumps, diamond drilling rods, core barrels, adapters and accessories..*

***PHQ** cooperates in the research of the use of water hydraulic drills. PHQ worked with CANMET and the University of Sherbrooke to develop an anti-vibration handle for rock drills.*

***PHQ** continually strives toward excellence*

***PHQ** up-graded our in-house quality system in 2009 from ISO9001:2000 to ISO9001:2008 passing the first audit of the up-graded system with no faults whatsoever the first time around.*

***PHQ** passed our annual re-registration audit of our quality system this year in our Burlington shop with no faults for the tenth time in a row.*

ISO 9001-2008
US SIC 5082
QMI
SAI GLOBAL
REGISTERED
CERT 002485
NACE 651.6

***PHQ** adopted the logo of a miner running a pneumatic hand held jackleg drill as the symbol of our company and in integral part of the Logo that we proudly display. It signifies our commitment to producing pneumatic drilling equipment for the mining industry.*