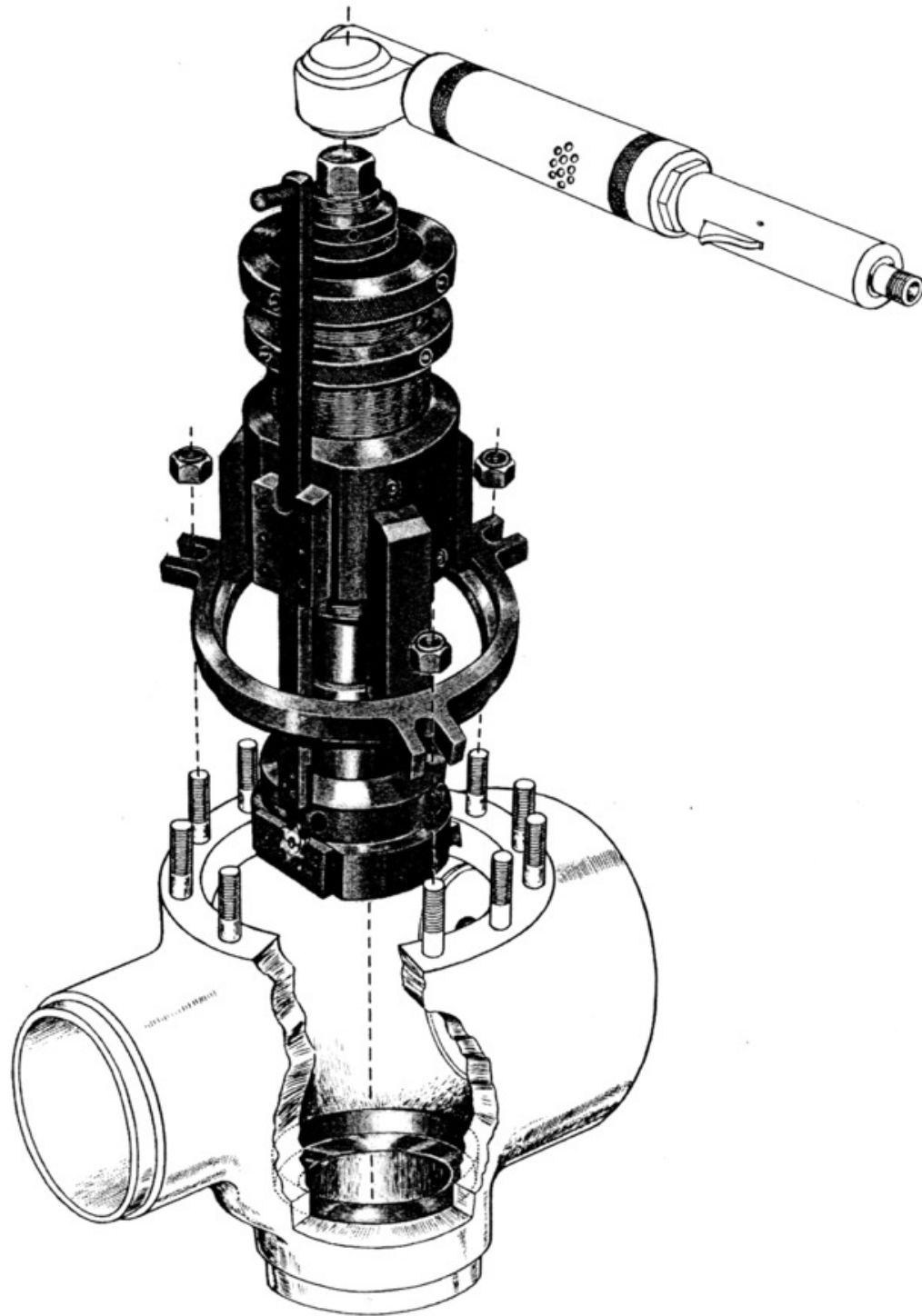


Grimsley's Portable Machines
For Boring And Facing
End Loaded Ball Valves In-Line
EL Series
Patent No. 4,463,366



GRIMSLEY'S HOUSE OF TOOLS, INC.

Specializing in Portable Tools

Grimsley's Portable Boring Bars
EL Series
Originally designed for, but not limited to
Boring and Facing End Loading Ball Valves
From 200 to 500 - 2" to 5"

Description

The EL series Portable Boring Bars are portable bars capable of boring and re-facing ball valves in line, removing corrosion, porosity or cuts. The EL series are precision made and are ideal for re-machining valve bore or seats especially after re-welding. By using an adapter, machines can be used for boring valve "O" ring cavity in valves using "O" rings and switching to proper boring and facing head for boring and automatic facing of the bottom bore and seat. With adaptation, these machines can be used for other boring applications.

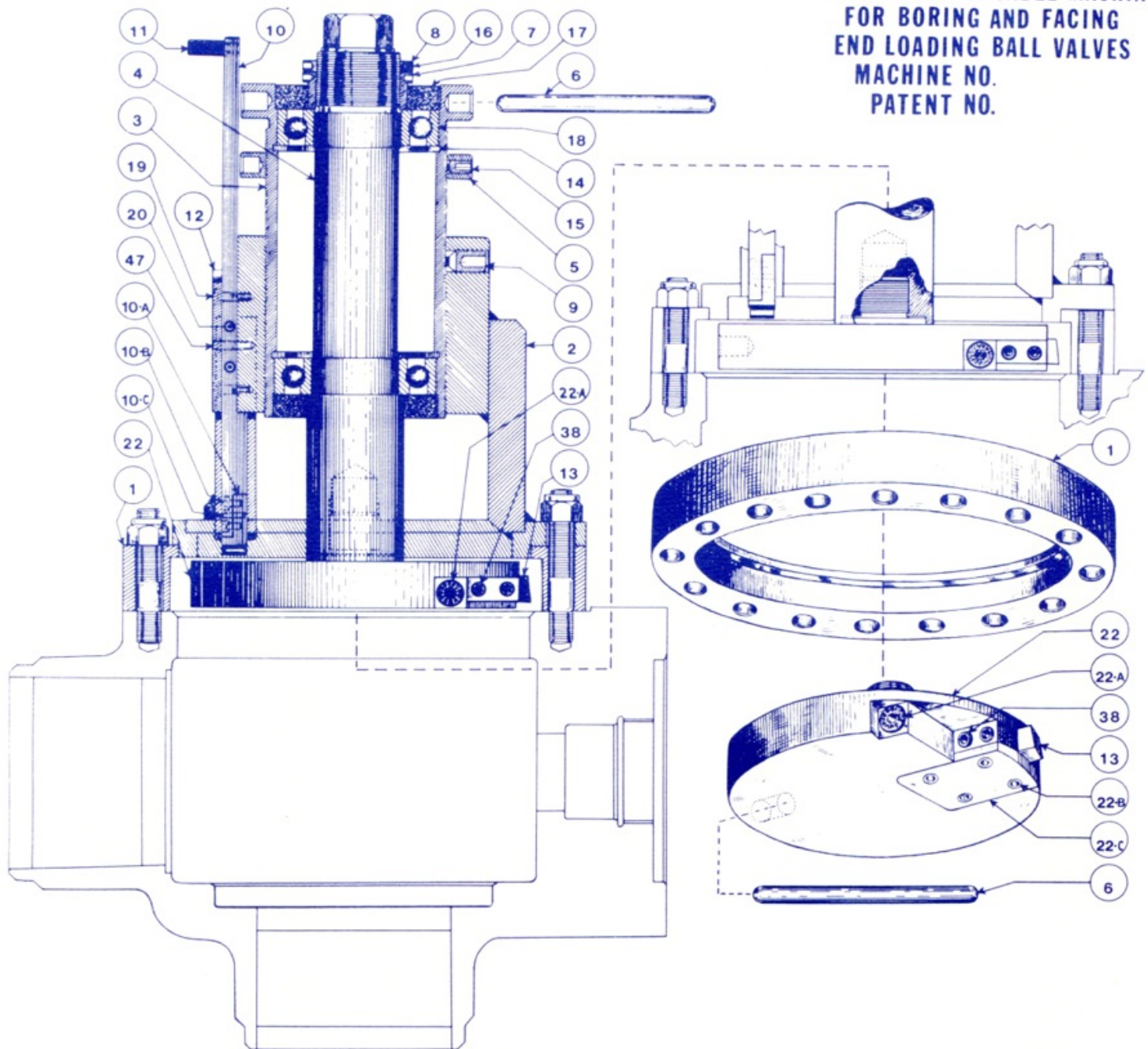
<u>Model Number</u>	<u>Size</u>
EL-200	2 Inch
EL-250	2 - 1/2 Inch
EL-300	3 Inch
EL-400	4 Inch
EL-500	5 Inch

EL KITS include machine, pneumatic motor, tool bits, allen wrenches and carrying case.

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**GRIMSLEY'S PORTABLE MACHINE
FOR BORING AND FACING
END LOADING BALL VALVES
MACHINE NO.
PATENT NO.**



**PARTS FOR END LOADING BALL VALVE
BORING AND FACING MACHINES**

PARTS NO.	QTY.	DESCRIPTION
1	1	ADAPTER RING
2	1	HOUSING
3	1	ADJUSTMENT SCR.
4	1	DRIVE SHAFT
5	1	DEPTH STOP RING
6	1	FEED PIN
7	1	THRUST RING
8	1	LOCK RING

9	5	DAMPER SCREW
10	1	CROSS FEED BAR
11	1	FEED BAR KNOB
12	1	FEED BAR CAP
13	1	TOOL BIT J-17
14	2	RETAINER
15	1	P.I.C. "NOMAR" SET SCR.
16	1	P.I.C. "NOMAR" SET SCR.
17	2	OIL SEAL
18	2	ANG. CONT. BRG.
19	4	SOC. HEAD SCR.

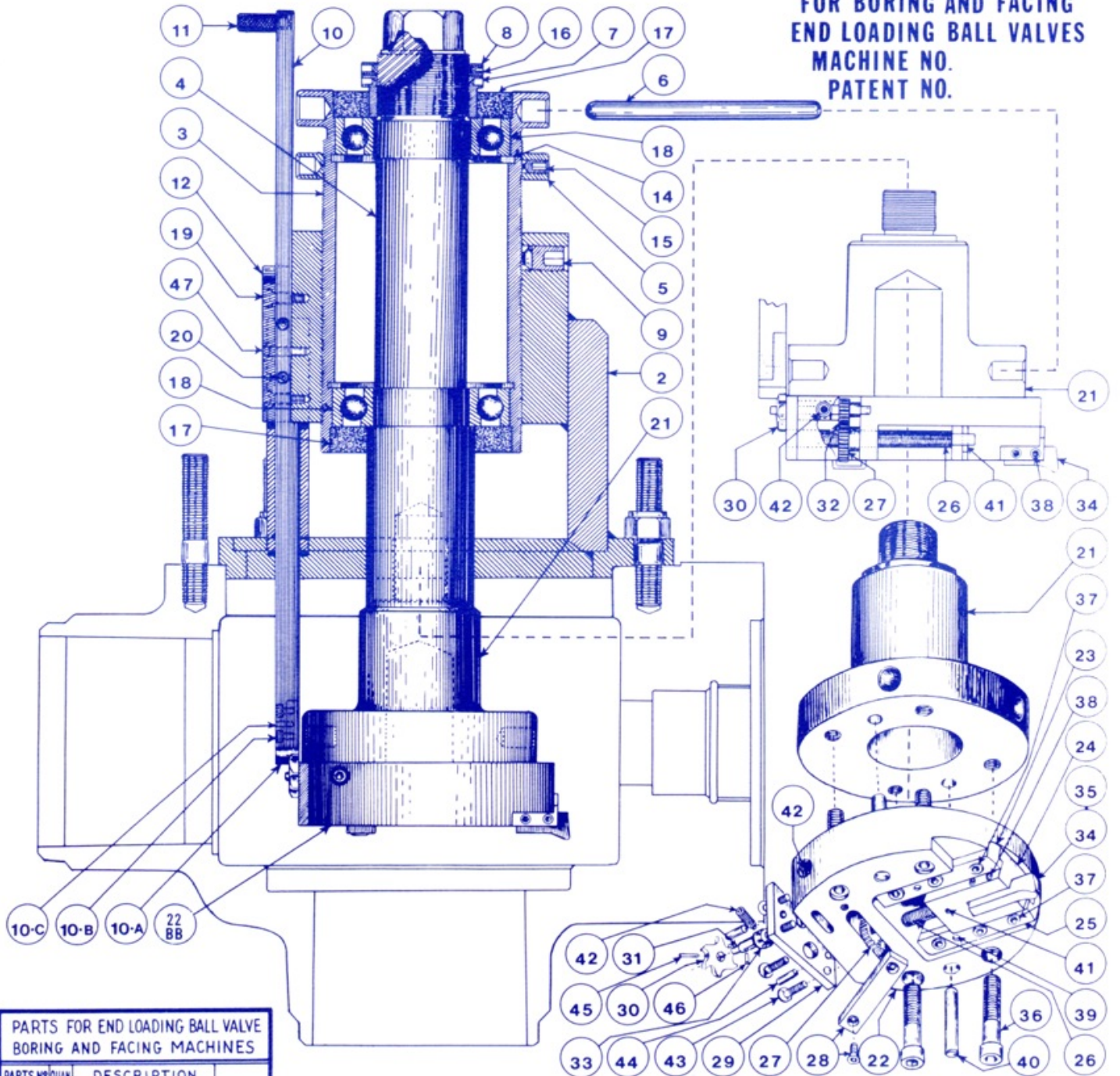
20	2	P.I.C. "NOMAR" SET SCR.
22	1	CUTTER BODY J-17
22-A	1	FEED SCREW J-17
22-B	4	SOC HEAD SCR J-17
22-C	1	CUTTER COVER PLATE J-17
38	2	FLAT POINT SOC SET SCR J-17

47	2	DOWEL PIN
48	1	1/4 SQ DRIVE HANDLE
49	1	1/8 HEX SOCKET-REG.
50	1	ALLEN WRENCH 1/8 HEX.
51	1	ALLEN WRENCH 3/32 HEX.
52	1	WOOD CARRY CASE
10-A	1	CROSS FEED BAR TIP
10-B	2	SOC. HEAD SCR.
10-C	1	DOWEL PIN

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**GRIMSLEY'S PORTABLE MACHINE
FOR BORING AND FACING
END LOADING BALL VALVES
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PARTS FOR END LOADING BALL VALVE BORING AND FACING MACHINES		
PARTS NO.	QUAN.	DESCRIPTION
2	1	HOUSING
3	1	ADJUSTMENT SCR.
4	1	DRIVE SHAFT
5	1	DEPTH STOP RING
6	1	FEED PIN
7	1	THRUST RING
8	1	LOCK RING
9	5	DAMPER SCREW
10	1	CROSS FEED BAR
11	1	FEED BAR KNOB
12	1	FEED BAR CAP
14	2	RETAINER RING
15	1	P.I.C.'NOMAR'S SET SCR.

16	1	P.I.C.'NOMAR'S SET SCR.
17	2	OIL SEAL
18	2	ANG. CONT. BRG.
19	4	SOC. HEAD SCR.
20	2	P.I.C.'NOMAR'S SET SCR.
21	1	ADAPTER
22	1	CUTTER BODY
23	1	CAP L. H.
24	1	TOOL BLOCK
25	1	CAP R. H.
26	1	FEED SCREW
27	1	FEED GEAR LARGE
28	1	GEAR COVER
29	1	PLATE

30	1	FEED STAR
31	1	FEED SHAFT
32	1	FEED GEAR SMALL
33	1	FEED DETENT
34	1	TOOL BIT (BORE & FACE)
35	1	TOOL BIT (BORE ONLY)
36	4	SOC. HEAD SCREW
37	6	BUTT. HD. SOC. SCR.
38	2	FLAT POINT SOC. SET SCR.
39	2	DOWEL PIN
40	2	PULL DOWEL
41	1	ROLL PIN
42	1	SPRING PLUNGER
43	6	FLAT HEAD SOC. SCR.

44	2	DOWEL PIN
45	1	ROLL PIN
46	2	ROLL PIN
47	2	DOWEL PIN
48	1	1/4" SQ DRIVE HANDLE
49	1	1/8" HEX SOCKET-REG.
50	1	ALLEN WRENCH 3/8" HEX.
51	1	ALLEN WRENCH 1/2" HEX.
52	1	WOOD CARRY CASE
10A	1	CROSS FEED BAR TIP
10B	2	SOC. HEAD SCR.
10C	1	DOWEL PIN

Operation

1. To machine a valve in line, select the proper machine for the valve.
2. Remove valve bonnet and all operating gear.
3. Plug all openings to eliminate entry of foreign matter into the system.
4. Run vertical feed screw up far enough to clear the tool bit.
5. Install boring head for boring and facing seat in bottom of valve.
6. Install machine on valve making sure machine is fitting flat on flange surface of valve.
7. Use hand feed for boring and automatic feed for facing. The pilot on the bottom of the boring bar housing fits into the bore, at top of valve body. This pilot assures alignment with bottom bore of valve. This procedure is the same for valves with an "O" ring assembly at the top of the valve. The only exception is the use of the adapter piece No.1 when setting up to bore "O" ring surface.
8. Install adapter ring on valve (making sure all burrs are removed from valve flange surface and adapter ring). The ring will fit over valve studs to ensure that the ring is tight enough to stay in place while machine is being installed and aligned with top bore.
9. Use dial indicator to align bar. When bar is in alignment, install boring bar on top of adapter ring with dial indicator attached to bar.
10. Rotate boring bar 360 degrees until bar shows perfect read-out on inside of "O" ring bore.
11. Tighten nuts holding adapter piece 1, so that it will continue to hold alignment until all boring and facing is complete.
12. Remove boring bar from the adapter ring.
13. Install machine to the adapter and valve, tighten nuts to eliminate any movement or realignment of the bar.
14. Start drive motor and begin hand feeding, turning feed screw clockwise at a normal feed to produce a smooth finish. If more metal needs to be removed to obtain a smooth finish, follow the instructions below.
15. Extend tool bit by loosening allen screws sufficiently to allow tool bit to be extended enough to clean-up or to allow tool bit to be extended enough to clean-up or remove the machine.
16. While the adapter is firmly attached to the valve, remove the machine.
17. Remove the boring head used for "O" ring bore and install the boring and facing head for the bottom bore of the valve.
18. Determine the amount needed to be removed from bottom bore.
19. Adjust the tool bit to bore the required amount.
20. Hand feed boring bar of machine. Prior to installing second boring head, examine the seat surface.
21. Back the stop ring away from the housing (using feeler gauges) the amount to be removed from the seat and, with motor running, feed bar down to firm contact with housing.
22. Set the automatic feed by pushing the automatic feed bar (Part No. 11) down to contact with feed star (Part No. 30).
23. Hold down feed bar until valve seat is finished. Tool bit (Part No. 34) will automatically feed from outside in. To check finish on seat or bottom bore, remove boring bar and examine bore and seat. If machining is complete, remove boring bar and adapter. Otherwise, do not disturb adapter until all necessary machining is completed.

Maintenance

After each use, thoroughly clean all chips or any type of grit or dust from machine. Examine machine and all component parts for burs and/or contamination of threads. Clean oil and/or grease from machine.

Equipment should be thoroughly cleaned after each use, sprayed with water displacing rust inhibiting chemical before storing in storage case. If machine is to be used in a contamination area, clean in accordance with government specifications.

GRIMSLEY'S HOUSE OF TOOLS, INCORPORATED WILL NOT BE RESPONSIBLE FOR DAMAGE CAUSE BY IMPROPER USE OR STORAGE OF THEIR EQUIPMENT.

CALL FOR DEMONSTRATION OR SERVICE

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