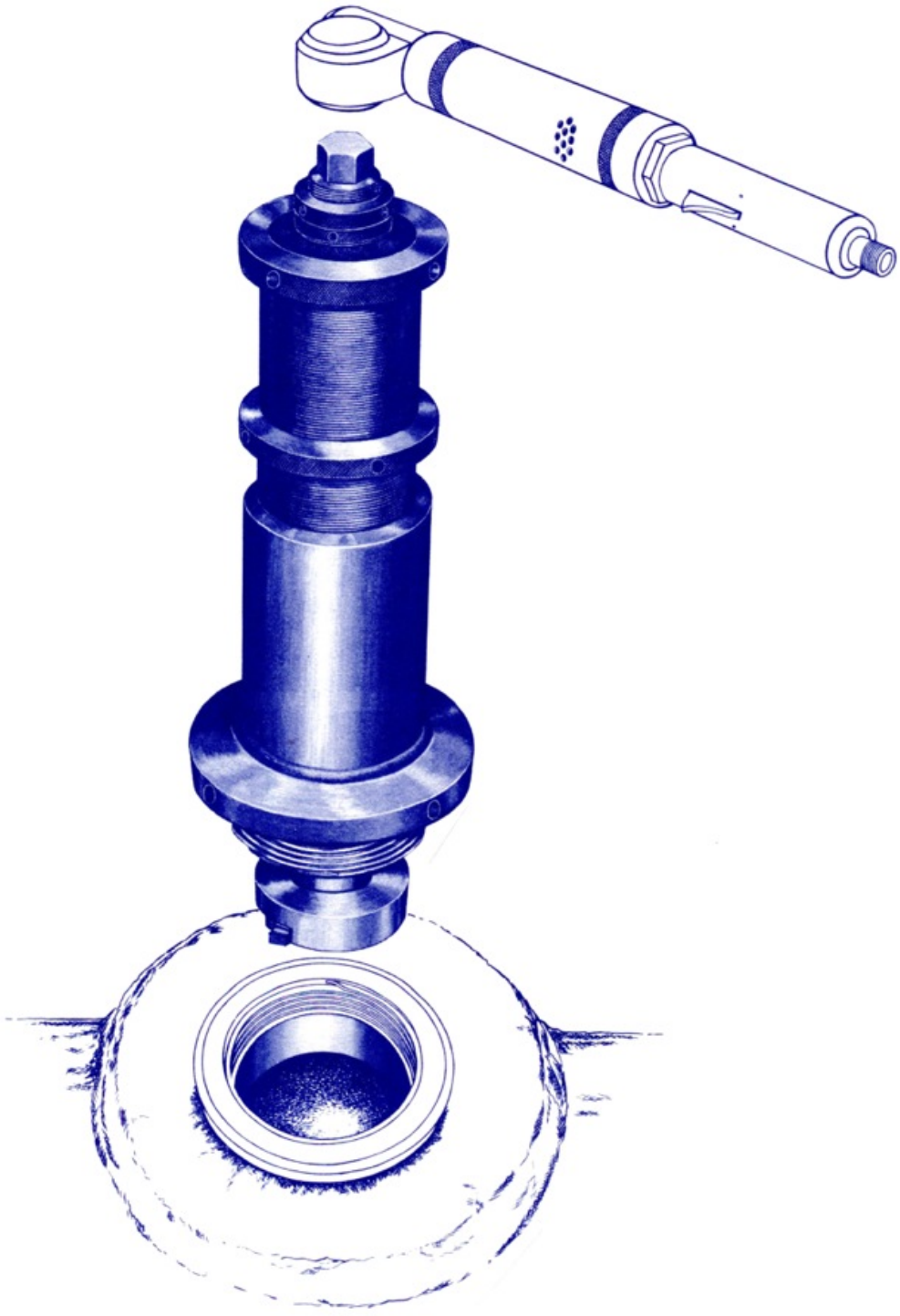
GRIMSLEY'S PORTABLE BORING BAR
FOR BORING 600-1500 LB.
STEAM VALVES, SEAL RING SEATS
MODEL 212A PATENT NO. 4,011,793



GRIMSLEY'S HOUSE OF TOOLS, INC.

Specializing in Portable Tools

Specifications on The Grimsley Portable Boring Bar for 600 to 1500 Lb. High Pressure Steam Valves for Boring Seal Ring Surfaces

The Grimsley Model 212 Portable Boring Bar is a portable bar capable of boring seal ring surfaces in-line and in any position or angle in-line, without removing valve.

The subject bar has been used on all types of 600 to 1500 lb. steam valves, and is capable of machining any seal ring surface of any manufacturer's valves used on ships or stationary power plants.

The portable boring bar is unique in that the one basic unit is capable of machining all sizes from 2" to 12" valves, and larger using an adapter and boring head for the various sizes and styles. The weight of complete boring bar including air motor to drive the bar is approximately 65 lbs., the overall length is 20⅞" and can be set up and operated by one man.

The time involved for machining the seal ring surface depends on two main factors:

1. If surface is scored or cracked and needs welding, welding surface would require more time for machining, approximately 45 minutes to machine.
2. If surface is in fair condition, machine time is approximately 20 to 30 minutes.

Seal ring surface can be bored (machined) to any specified size.

The adjustments are very simple, requiring practically no tooling for set ups (1 pin to secure bonnet nut and one allen wrench for securing cutting bit and one pin for securing cutter head to end of bar.)

The subject boring bar has been proven and has saved many thousands of dollars by its use. Savings to high pressure valve users will run into the millions of dollars a year.

NOTE: The subject machine is operated with a special triple geared motor. Adapters are available for various sizes and style valves manufactured by Crane, Walworth, Anchor, Velan, etc. Adapters are available for any size from 2" through 12" and other sizes will be made available upon receipt of drawings, sizes and styles. When ordering boring bars, furnish size and styles of valves to be bored. Otherwise the standard bar for Walworth valves will be furnished.

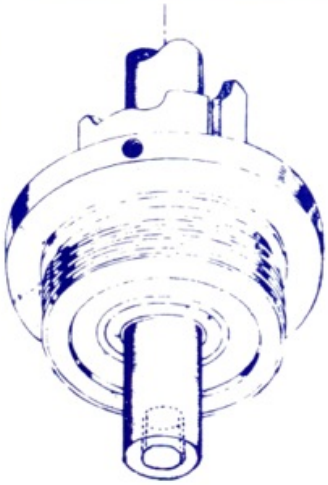
Bars will be furnished in a wooden packing case unless otherwise specified. All ferrous metal parts will be sprayed with a rust inhibitor and preservative.

RECOMMENDED AIR MOTOR
MODEL GHT CWL - 1609A, (80 RPM-at 90 PSI)
120 FT. LBS. TORQUE

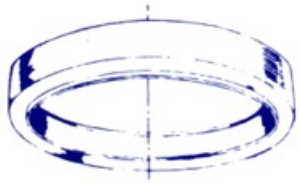
Instructions for Machining Seal Ring Seats with The Grimsley Portable Boring Bar

1. First, after steam lines have been secured making sure there is no steam pressure on the valve or in the line, remove valve operating mechanism, remove valve bonnet, old seal ring, etc. Clean valve body, face of valve and threads. Select proper adapter for the size valve. Select the proper adapter and cutter head and install on the boring bar. Take micrometer readings of the seal ring seat to determine if out of round, if found to be out of round the amount of metal to be removed will be determined by the amount of out of roundness, you will have to clean up the largest size to bring the bore to a perfect circle.
2. Set your tool bit to remove minimum amount necessary to remove all out of roundness and/or remove any scratch or cut on face of seat. If cut in seat is .015 or more, take a clean up cut through the scored seat with a die grinder and carbide bur, weld the cut and remove excess metal with the same die grinder and carbide bur. Install boring bar and remove the remainder of the metal to a smoothe bore. If feed on bar is properly handled it will not be necessary for honeing.
3. If overlay (or cladding) is beyond reboring ie; over the maximum allowed for reboring and refitting of new seal ring, the valve should be rewelded using proper procedure and rebore valve to the original size as specified by valve manufacturer. Make new seal ring to suit.
4. From actual experience it has been found that a clearance of .003 is the optimum and requires much less pressure and expanding of the seal ring to obtain a perfect seal.
5. Machining and fitting the seal ring to the seat of the valve body is very simple after you determine the size.
6. It is recommended that two seal rings per valve be made, one exact size less .003 and one over size probably .025 for use as and when the valve neds repairing again.
7. Install new seal ring, reassemble valve bonnet and operating mechanism.

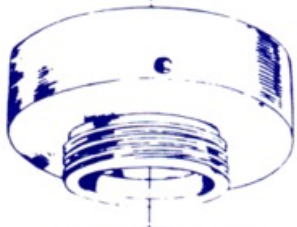
NOTE: Grimsley's House of Tools, Inc. will not be responsible for damage caused by erroneous use of this equipment.



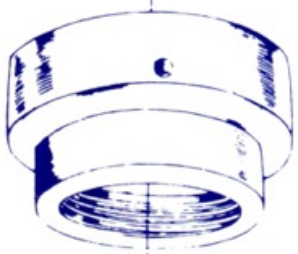
Pc. 1 — Boring bar made with adapter for a 5" valve with inside threads.



Pc. 2 — Spacer ring to be used with all adapters



Pc. 3 — Adapter for use on valve with inside threads



Pc. 4 — Shows adapter for valve with outside threads

Pc 5 — Shows cutter head

All adapters to be made to fit boring bar and reduced in size for smaller valves or enlarged to suit larger valves

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