

MUELLER® GAS

DH-5/EH-5 Drilling Machines

⚠ WARNING:

1. Read and follow instructions carefully. Proper training and periodic review regarding the use of this equipment is essential to prevent possible serious injury and/or property damage. The instructions contained herein were developed for using this equipment on fittings of Mueller manufacturer only, and may not be applicable for any other use.
2. Do not exceed the pressure ratings of any components or equipment. Exceeding the rated pressure may result in serious injury and/or property damage.
3. Safety goggles and other appropriate protective gear should be used. Failure to do so could result in serious injury.
4. Pressure test, check for and repair leaks in all fittings and components each time one is installed or any joint or connection is broken. Failure to find and repair a leak from any source in the fittings, by-pass lines or equipment could result in an explosion and subsequent serious injury and/or property damage.
5. Mueller® Drilling Machines and Equipment have been carefully designed and engineered to work together as a unit. The use of equipment manufactured by someone other than Mueller Co. may cause excessive wear or a malfunction of the Mueller machines.

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Reliable Connections™

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All warranties, expressed or implied, for Mueller Drilling Machines are rendered null and void if the machines are used with shell cutters or equipment manufactured by someone other than Mueller Co.

MUELLER® DH-5 / EH-5 Drilling Machines

General Information

DH-5 DRILLING MACHINE

Capacity and Use

The DH-5 Drilling Machine is a hand or power operated machine used for drilling holes 1/8" to 2 1/8" inclusive, in any size or kind of pipe (Under certain conditions the maximum size may be increased to 3 3/4".)

For complete information on the uses of this machine and the tools and equipment required for its use see the latest Mueller Gas Catalog at muellergas.com.

Working Pressure and Temperature Rating

- 1200psig (8273 kPa) Maximum Working Pressure
- 100° F (38° C) Max. Temp. Rating

The working pressure or temperature rating is reduced accordingly if any attachment, valve, or fitting subjected to pressure or temperature during the drilling operation has a maximum working pressure or temperature rating different than that specified above.

Equipment Furnished

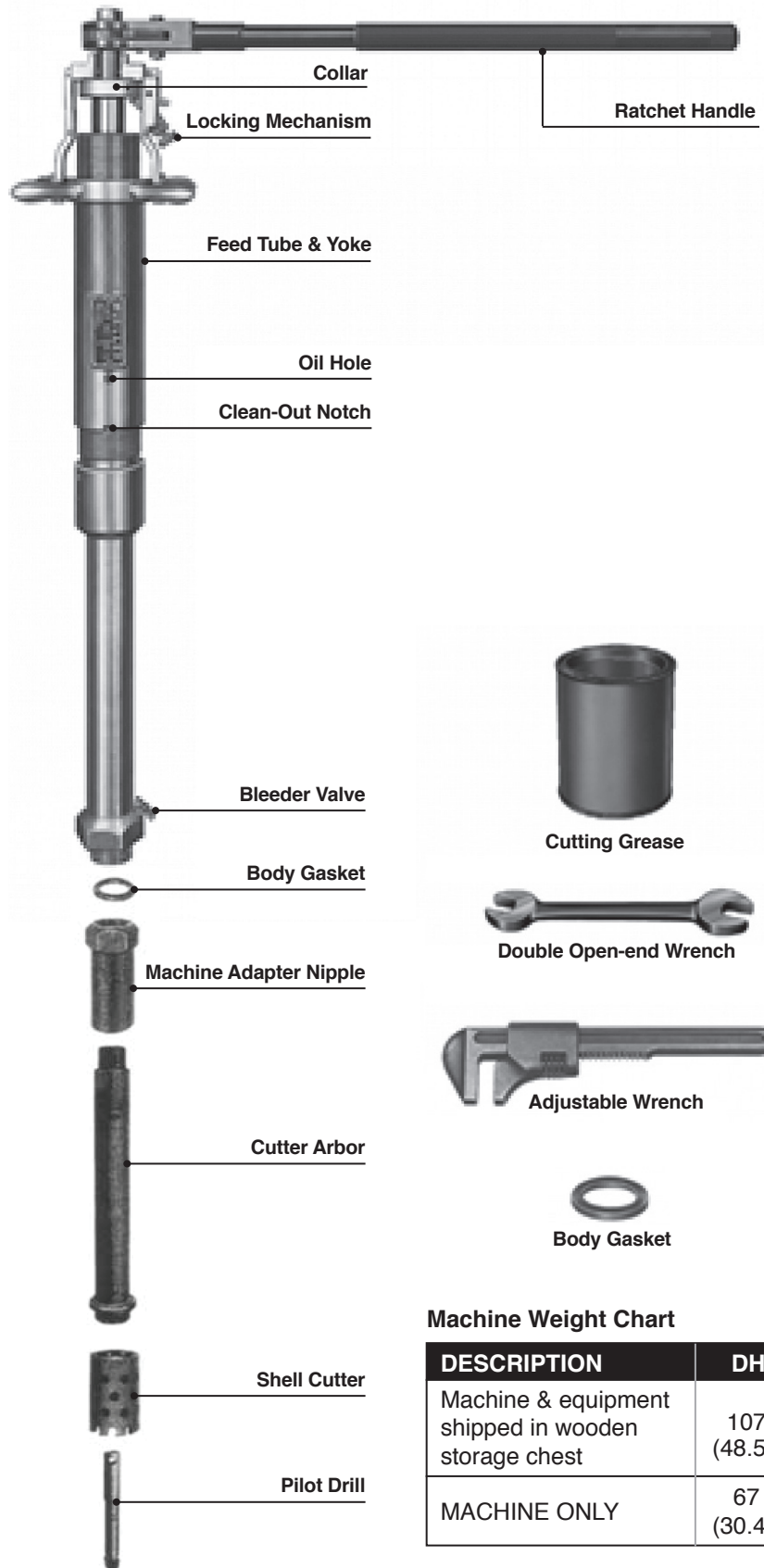
- Wooden Storage Chest
- Reversible Ratchet Handle
- Body Gasket
- Adjustable Wrench
- Double Open-end Wrench
- Cutting Grease
- Operating Instruction Manual

The machine adapter, cutter arbor, shell cutter and pilot drill shown at right are not included in the equipment furnished with this machine. These items must be ordered according to the size and type required.

Length of Travel

DH-5 Drilling Machine has 14" (356 mm) Boring Bar Travel.

NOTE: For Operating Instructions see pages 4 and 5. For DH-5 Drilling Machine Parts see page 6.



Machine Weight Chart

DESCRIPTION	DH-5
Machine & equipment shipped in wooden storage chest	107 lb (48.5 kg)
MACHINE ONLY	67 lb (30.4 kg)

MUELLER® DH-5 / EH-5 Drilling Machines

General Information

EH-5 DRILLING MACHINE

Capacity and Use

The EH-5 Drilling Machine is a hand or power operated machine used for drilling holes $\frac{1}{8}$ " to $2\frac{1}{8}$ " inclusive, in any size or kind of pipe (Under certain conditions the maximum size may be increased to $3\frac{3}{4}$ ".)

For complete information on the uses of these machines and the equipment and attachments required for their use see the latest Mueller Gas Catalog at muellergas.com.

Working Pressure and Temperature Rating

- 1200psig (8273 kPa) Maximum Working Pressure
- 100° F (38° C) Max. Temp. Rating

The working pressure or temperature rating is reduced accordingly if any attachment, valve, or fitting subjected to pressure or temperature during the drilling operation has a maximum working pressure or temperature rating different than that specified above.

Equipment Furnished

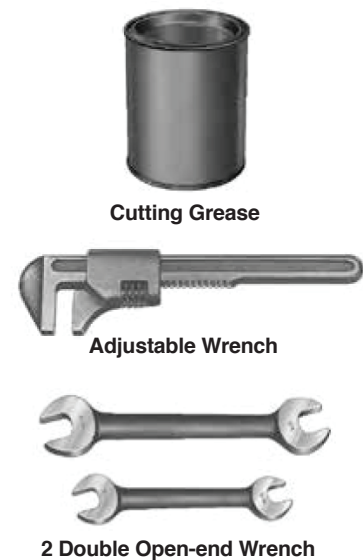
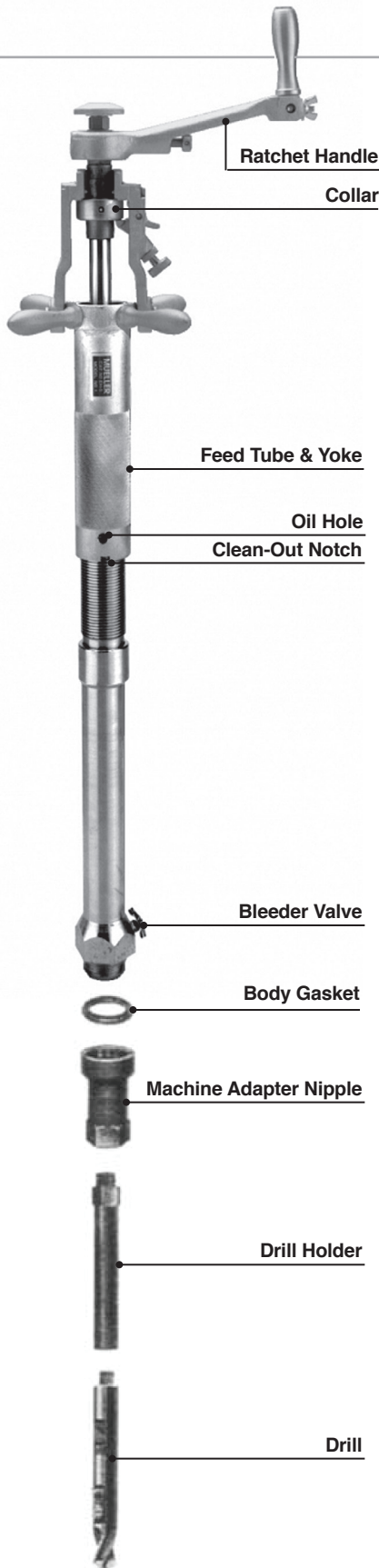
- Wooden Storage Chest
- Reversible Ratchet Handle
- Body Gasket
- Adjustable Wrench
- 2 – Double Open-end Wrench
- $\frac{9}{16}$ " x $\frac{11}{16}$ "
- $\frac{3}{4}$ " x $\frac{13}{16}$ "
- Cutting Grease
- Operating Instruction Manual

The machine adapter, drill holder and drill shown at right are not included in the equipment furnished with this machine. These items must be ordered according to the size and type required.

Length of Travel

EH-5 Drilling Machine has $12\frac{1}{8}$ " (308 mm) Boring Bar Travel.

NOTE: For Operating Instructions see pages 4 and 5. For EH-5 Drilling Machine Parts see page 7.



Machine Weight Chart

DESCRIPTION	EH-5
Machine & equipment shipped in wooden storage chest	52 lb (23.5 kg)
MACHINE ONLY	24 lb (10.8 kg)

OPERATION

1. Oil all working parts, especially the collar on the boring bar. Keep oil treated surfaces and boring bar well lubricated and free from dirt and foreign material. (Invert the DH-5 or EH-5 Machine and lubricate it through both lower and top oil holes in addition to the points mentioned previously.)

DH-5 and EH-5 Machines are equipped with O-ring packing. Under normal conditions the only maintenance required for these O-rings is lubrication. If the O-rings should become excessively worn they should be replaced.

NOTE: Avoid using petroleum-based lubricants.

2. Advance boring bar until drilling tools may be attached.

3. Attach drilling tools to boring bar. If drilling tools to be used will not pass completely through the machine adapter to be used, attach the machine adapter before attaching the drilling tools (see instruction no. 5).

4. Apply a small amount of Mueller® cutting grease to the leading edges of the shell cutter and/or drill.

5. Attach proper size machine adapter to the body of the machine making sure that the body gasket or washer is in place and in good condition.

6. Retract boring bar to its rearmost position.

7. Attach drilling machine and machine adapter to the valve that is to be drilled through.

8. Open valve being used.

9. Advance boring until drill or pilot drill contacts the pipe to be drilled.

10. Retract boring bar a slight amount.

11. Adjust feed tube and yoke so that the yoke is engaged with the top of the friction collar on boring bar. Raise pivot arm of locking mechanism on side of yoke so that it is positioned under friction collar and lock in place with operating screw. Close bleeder located at bottom of the machine before drilling operation is begun.

12. Measure and mark the travel required to complete the drilling operation. (Mark the point on the body that the feed tube will reach when drilling is completed.)

13. DRILL MAIN – POWER OPERATED METHOD USING H-604 AIR OR H-704 HYDRAULIC POWERED OPERATOR.

The DH-5 and EH-5 Drilling Machines have been designed to permit the addition of a power operator. The power operator will drive the tools and provide automatic feed during the drilling operation.

IMPORTANT: When using H-604 air motor power operator, maintain pressure of 90psi. We recommend the use of a gage at the throttle to determine the actual pressure of air at the motor.

The gear case attaches to the machine by the means of two socket sockets. The inner or small socket drives the boring bar. The outer or large socket drives the feed yoke through a gear reduction as the boring bar is rotated. The resulting feed on the drill is .010" per revolution of the boring bar.

The operator takes the torque of the motor resulting from the drilling operation, so the motors are equipped with a squeeze-type trigger throttle. If for any reason a drill should stick, the motor can be shut off quickly.

- a) Place the gear case and motor on the drilling machine aligning the sockets with the square shank on the boring bar and feed yoke. Socket which controls feed yoke should be closed and wing nut tightened securely.
- b) Set position of air switch to give **clockwise** rotation of boring bar.

MUELLER® DH-5 / EH-5 Drilling Machines

Operating Instructions

13A. DRILL MAIN – HAND OPERATED METHOD

Drill the hole by operating the ratchet handle **clockwise** and turning the feed tube and yoke **clockwise** a little at a time. Use a light, even feed at the start, then a heavier feed and finish with a light, even feed. Due to the balanced pressure design of these machines, the line pressure thrust load will not be transmitted to the boring bar. The special locking mechanism that locks the boring bar to the feed yoke prevents the drill from spiraling into the hole before the hole is completely drilled. To prevent over-feeding when drilling small holes and also when starting to drill larger holes, apply the feed by gripping the knurled section of the feed tube instead of the feed handles. This will apply a light, even feed. Feed handles should be used to apply a heavier feed.

NOTE: When nearing the completion of the cut, DO NOT over-feed or the cutting tools may be forced through before all the metal is drilled or cut out.

The EH-5 Machine is furnished with a combination ratchet and crank handle. When drilling small holes, the crank handle should be turned upward and rotated in continuous circles instead of ratcheting.

14. Continue drilling operation until pipe is drilled through completely. This can be determined by the feel of the feeding mechanism, the pull on the ratchet handle or by measuring the advance of the boring bar. If drilling is not completed, retract boring bar slightly and ratchet and feed slowly to remove the remaining metal a little at a time.

15. When drilling operation is completed, turn operating screw on locking mechanism **counter-clockwise** to unlock pivot arm. Remove feed yoke from friction collar and retract boring bar to its rearmost position. Be sure that the drill or pilot drill clears the valve gate.

⚠ CAUTION: DO NOT reverse rotation of ratchet handle when retracting the boring bar.

16. Close valve being used. Open bleeder valve located at bottom of machine to bleed gas from machine before adapter and machine are removed from valve.

17. Remove drilling machine and machine adapter as a unit.

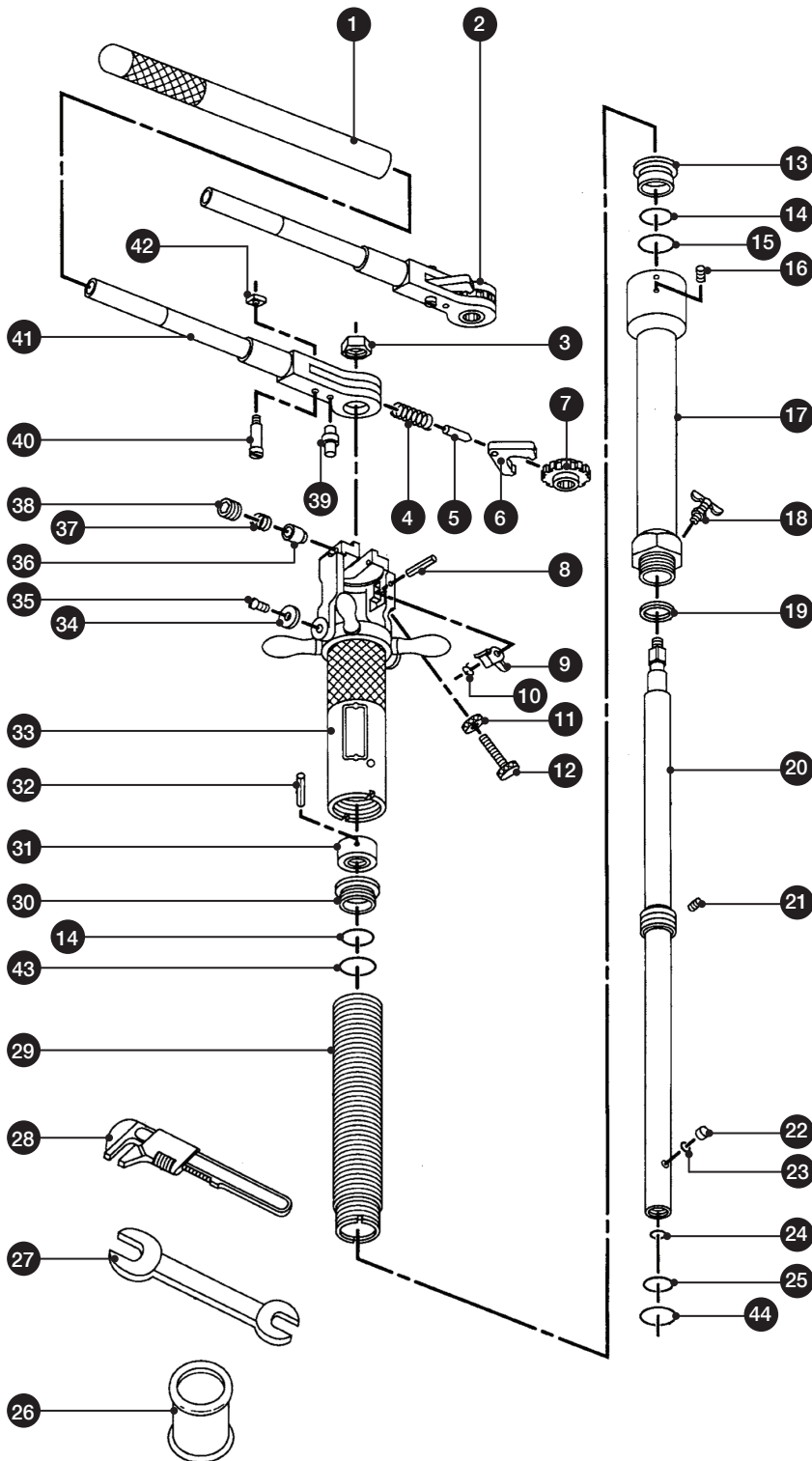
18. Advance boring bar and remove machine adapter and drilling tools from machine.

19. After being used, clean dirt and foreign material from machine and equipment. Lubricate machine and give drilling tools a light coat of oil to protect them from rust. When not in use, the machine and equipment furnished with each machine should be stored in the box furnished. The machines should be disassembled periodically, and the boring bar and machine body thoroughly cleaned both inside and out. By doing this, any grit, chips, or other foreign material that might have possibly accumulated on the boring bar or in the body of the machine may be detected and removed before any damage is done. An accumulation of foreign material on either the boring bar or inside the body will restrict the reverse travel of the boring bar.

SPECIAL NOTE: In general, the machines should be lubricated as described in instruction No. 1. However, due to extreme conditions in some areas (dust, sand, etc.) it may be advisable not to lubricate the feed sleeve or threaded ports of these machines since it would tend to increase the abrasive or wearing action. This procedure, of course, must be at the discretion of the operator.

MUELLER® DH-5 / EH-5 Drilling Machines

DH-5 Drilling Machine Parts



PARTS LIST

ID	PART NO.	PART NAME
1	86391	Handle Extension
2	85308	Ratchet Handle
3	46029	Retainer Nut
4	40007	Spring
5	40006	Spring Pin
6	40004	Ratchet Dog
7	40137	Ratchet Wheel
8	502027	Rollpin
9	502025	Pivot Arm
10	502026	Pivot Arm Spring
11	502029	Lock Nut
12	502028	Operating Screw
13	503319	Body Bushing
14	79268	Boring Bar O-ring (6)
15	500652	O-ring
16	301170	Body Set Screw
17	503318	Body
18	40870	Bleeder Valve
19	33278	Body Gasket (2)
20	580991	Boring Bar Complete
21	500653	Retaining Screw
22	500654	Retainer Screw
23	500655	Screen
24	51427	Freeze Plug
25	78827	Boring Bar O-ring
26	88366	Cutting Grease
27	58196	Wrench
28	91664	Adjustable Wrench
29	89276	Cylinder
30	526254	Cylinder Bushing
31	580992	Friction Collar
32	503324	Rollpin
33	580994	Feed Tube & Yoke Complete
34	50133	Washers
35	79745	Retainer Screws
36	500851	Detents
37	59810	Detent Springs
38	305006	Detent Retainer Screws
39	40139	Stud
40	40138*	Bolt
41	80111	Handle Bar
42	46255*	Nut
43	48175	O-ring
44	45374	O-ring (3)
45	680352	Storage Chest (not shown)

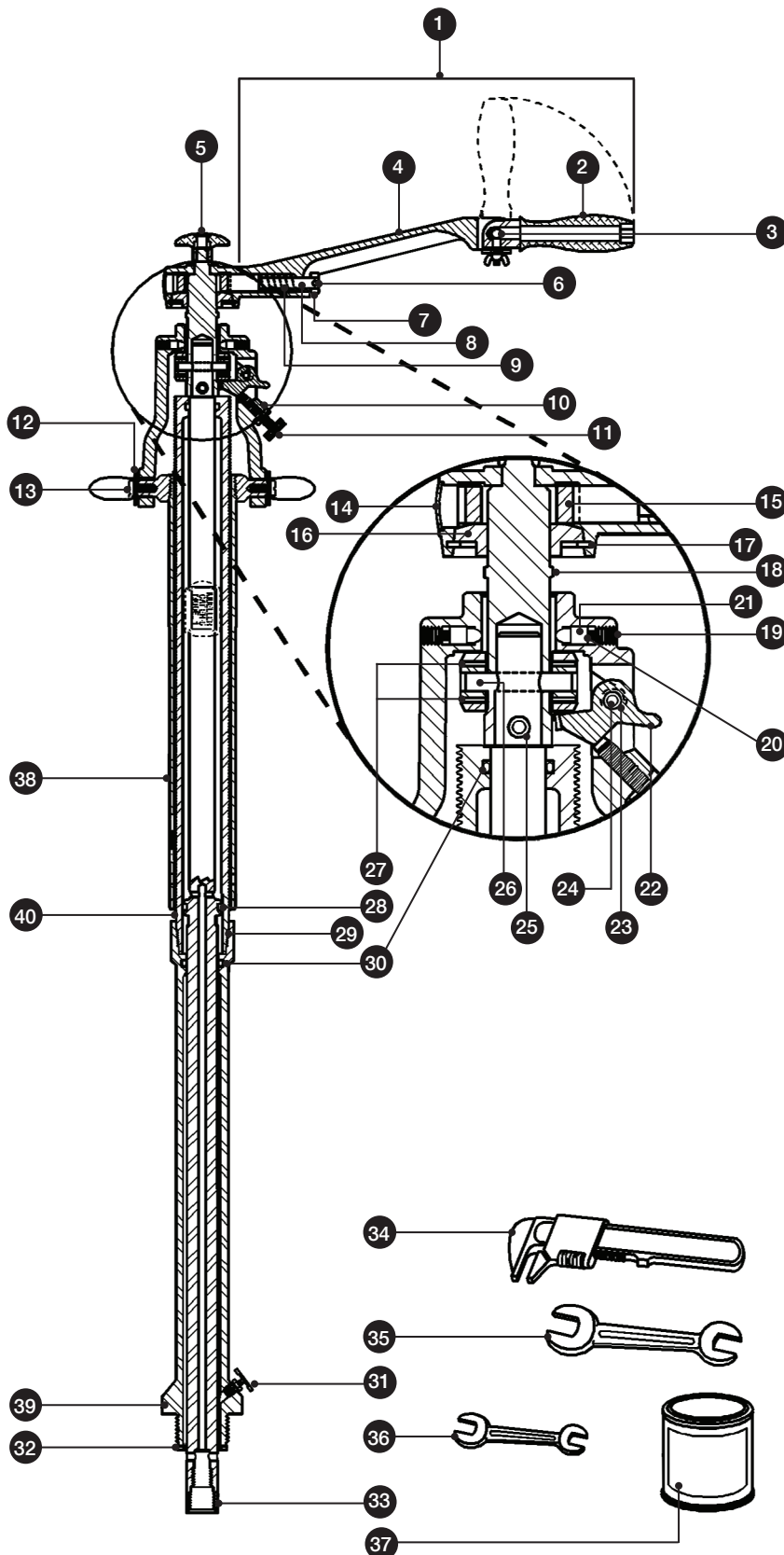
TO ORDER: Specify Part Number and Part Name (including catalog number and model number of machine)

NOTE: These illustrations are for parts identification only. DO NOT use these illustrations for assembly or disassembly of machine. Mueller Co. offers a machine repair service. Contact Mueller Customer Service Center for details.

*Order both parts when replacing either one.

MUELLER® DH-5 / EH-5 Drilling Machines

EH-5 Drilling Machine Parts



PARTS LIST

ID	PART NO.	PART NAME
1	580897	Ratchet Handle Complete
2	80085	Crank Handle
3	500635	Handle Pin
4	51484	Handle
5	83431	Knob Complete
6	500803	Operating Pin
7	37863	Detent Knob
8	51426	Ratchet Dog
9	37883	Spring
10	502029	Lock Nut
11	502028	Operating Screw
12	537126	Bushing (2)
13	312443	Stem Fastener (2)
14	51427	Freeze Plug
15	503162	Ratchet Wheel
16	503163	Wheel Bushing
17	51428	Retaining Ring
18	503160	Boring Bar (Top)
19	305006	Hex Socket Set Screw (2)
20	59810	Spring (2)
21	500851	Detent (2)
22	502025	Arm
23	502026	Spring
24	502027	Roll Pin
25	503158	Roll Pin
26	48130	Friction Collar Pin
27	580610	Friction Collar
28	79345	O-ring
29	96993	Set Screw
30	79350	O-ring (2)
31	40870	Drain Valve
32	47756	Fiber Gasket
33	526550	Boring Bar (Bottom)
34	91664	Adjustable Wrench
35	96536	Wrench 3/4" x 13/16"
36	59787	Wrench 9/16" x 11/16"
37	88366	Cutting Grease
38	681570	Feed Tube And Yoke
39	526552	Body
40	526551	Cylinder
41	311658	Storage Chest (not shown)

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TO ORDER: Specify Part Number and Part Name (including catalog number and model number of machine)



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