

BISON DEEP WELL HAND PUMP

WARNING: All pumps are shipped with a brass bushing and brass hose adapter. You may want to check local codes to see if a hose bibb backflow preventer should be used when connecting a hose to the hose adapter on the pump. **CHECK YOUR LOCAL PLUMBING CODE!!**

Check the contents of the box to be sure everything you ordered has been received. Be sure to check the serial number on the pump head assembly to see that it matches your invoice/packing list number.

READ ALL INSTRUCTIONS BEFORE BEGINNING THE ACTUAL PUMP INSTALLATION.

DO'S & DON'TS FOR PUMP INSTALLATION

READ BEFORE PROCEEDING WITH INSTALLATION

DO NOT:

DO NOT BEGIN THE INSTALLATION WITHOUT FIRST READING THE ENTIRE INSTRUCTION BOOKLET, STUDYING AND UNDERSTANDING THE DIAGRAMS.

DO NOT ATTEMPT THE INSTALLATION BY YOURSELF.

DO NOT BEGIN THE INSTALLATION OF THE PUMP WITHOUT FIRST CHECKING THE WATER LEVEL IN YOUR WELL TO BE SURE YOU HAVE ENOUGH PIPING AND ROD TO INSTALL THE PUMP CYLINDER AT LEAST 20' BELOW THE STATIC WATER LEVEL IN YOUR WELL.

DO NOT OVER TIGHTEN THE 1 1/4" PVC PIPING INTO THE PVC FEMALE PIPE THREAD BELL END OF THE SCH. 120 PLASTIC PIPES. THE PIPE CAN BE THREADED WITH A PAIR OF PLIERS OR A 12" PIPE WRENCH.

DO NOT USE LARGE PIPE WRENCHES FOR THE ASSEMBLY OF THE PVC PIPING.

DO NOT INSTALL THE PUMP DURING A THUNDER AND LIGHTENING STORM. BE AWARE OF ANY OVERHEAD POWER LINES.

DO NOT ASSEMBLE MORE THAN ONE - 8' SECTION OF PVC PIPE AND 3/8" STAINLESS STEEL ROD AT A TIME.

DO NOT HURRY THE INSTALLATION OF YOUR PUMP. THINK BEFORE YOU ACT.

DO NOT LOWER THE PUMP AND PIPE SECTIONS INTO THE WELL BY THE SAFETY ROPE. GRAB THE PIPE SECURELY WITH BOTH HANDS AND LOWER THE PIPE, CYLINDER AND SAFETY ROPE INTO THE WELL, 8' AT A TIME, USING THE PLYWOOD PADDLE AS A STOP. (DETAIL "D") THE SAFETY ROPE SHOULD BE TIED OFF TO A SECURE OBJECT, i.e. THE WELL CASING, SO THAT IT CAN BE LOWERED SLOWLY AND SAFELY. IF YOU ARE GOING DOWN MORE THAN 15 LENGTHS, MECHANICAL MEANS OF LOWERING THE PIPE AND ROD INTO THE WELL IS RECOMMENDED ALONG WITH THE BISON LIFTING TOOL (BP-LT) AND ADJUSTABLE ROD (BPPR-125SSAR). GLOVES WOULD BE RECOMMENDED WHEN HANDLING THE ROPE.

DO'S:

DO READ THE INSTALLATION INSTRUCTIONS AND STUDY ALL DIAGRAMS. BEGIN THE INSTALLATION WHEN YOU ARE CONFIDENT THAT YOU UNDERSTAND THE INSTRUCTIONS COMPLETELY.

DO MAKE SURE THAT YOU RECEIVED ALL OF THE PARTS YOU ORDERED BEFORE BEGINNING THE INSTALLATION.

DO HAVE ANOTHER PERSON TO HELP YOU WITH THE INSTALLATION. IF YOU ARE NOT COMFORTABLE WITH THE MECHANICS OF THE INSTALLATION, WE SUGGEST THAT YOU HIRE THE SERVICES OF YOUR PLUMBER OR WELL INSTALLER TO ASSIST YOU.

DO MAKE SURE THAT ONE END OF THE SAFETY ROPE IS SECURELY TIED TO THE CYLINDER AND THE OTHER END TO A SECURE OBJECT, i.e. THE WELL CASING.

DO TURN THE ELECTRICITY OFF TO THE SUBMERSIBLE PUMP, IF YOU HAVE ONE AND ARE INSTALLING YOUR HAND PUMP IN THE SAME WELL, BEFORE BEGINNING THE INSTALLATION.

DO USE THE PLYWOOD PADDLE PROVIDED TO AID IN THE INSTALLATION OF YOUR PUMP. (SEE INSTRUCTIONS)

DO THREAD THE ENDS OF THE RODS TOGETHER SO THEY BUTT UP AGAINST EACH OTHER, THEN TIGHTEN THE LOCK NUTS WITH 1/2" & 9/16" OPEN END WRENCHES.

DO USE TEFLON TAPE ON ANY MALE PIPE THREADS THAT ARE NOT ALREADY TAPED BEFORE YOU SCREW THEM TOGETHER.

Note: Bison Pumps and any of its affiliates will not be held responsible for defects or damage to this product due to inexperienced or negligent workmanship during installation of the pump and associated parts.

BISON DEEP WELL HAND PUMP

INSTALLATION INSTRUCTIONS

(We recommend two people be involved for ease of installation.)

STEP #1 - Make sure you have read and understand the installation instructions.

STEP #2 - If you are installing the pump in a well casing specifically dedicated to a hand pump, go to **STEP #6**.

STEP #3 - If you are installing your **BISON DEEP WELL HAND PUMP** in the same casing as a submersible pump or piping that goes to a jet pump, proceed as follows.

STEP #4 - Remove the existing well cover or well seal, whichever you may have and set it aside. NOTE: If you have a submersible pump, **be sure to shut the electricity off to the pump before beginning the installation of the Bison Hand Pump.** If you are installing in the same casing as a submersible pump, you will notice in most cases, the electrical wire exits the top of the casing and then runs back down to the ground with a piece of conduit. To continue with the installation of your **Bison Hand Pump**, you will need to drill a hole through the side of the well casing and install an electrical conduit ell in the side of the casing. This will allow you to pass the wire from outside the casing, through the conduit ell to the inside of the casing where you can re-connect the wires to the submersible pump. (See Detail "E" - Back Cover)

STEP #5 - You may need to lift your submersible pump or deep well jet assembly and foot valve in order to pass the **Bison Pump Cylinder** by the pitless adapter.

STEP #6 - Remove the **Bison Pump Cylinder** from the box, remove the red plastic plug from the pump cylinder and discard. Raise the PVC t-handle to loosen the piston seal. Once you have released the piston seal, pump the t-handle up and down a few times to loosen the seal. As you pump the piston, you will hear the check valves "burp". This

indicates that the check valves are functioning properly (see "Detail "C").
(The plastic t-handle can then be discarded.)

STEP #7 - Start the assembly of your **Bison Pump**. If you have purchased a complete kit, you will notice that the safety rope has been securely tied to the pump cylinder when you received your pump. Note: Tie the other end of the rope to a secure object, i.e. the well casing, temporarily. The safety rope will be tied to the 1/4" eye bolt on the bottom of the well adapter in step #13. (See Detail "A").

STEP #8 - Assemble your first piece of 3/8" stainless steel rod to the rod protruding from the cylinder. Pull the rod in the **Bison Pump Cylinder** all the way to the top to connect the first rod. As you assemble the stainless steel rod couplings and rod, screw the rod into the coupling until it butts up against the rod in the coupling. Use pliers to lock the rods together. Be sure to tighten the 3/8" stainless steel lock nuts on both sides of the rod coupling. When you receive your rod, one of the lock nuts will already be tightened securely. You will notice that as you assemble the rod and piping in the well, the weight of the rod may push the piston in the pump cylinder down so that the rod lowers inside the 1 1/4" PVC pipe to a point where you can't reach it to connect the next rod coupling. We recommend that as you connect each rod, simply thread on the **Bison Rod Retrieval Tool (BP-RTT)** to pull the rod up as far as you can and connect a pair of vice grips to hold the rod in place while you secure the coupling and tighten the lock nuts. This can be done each time, if necessary.

STEP #9 - Screw the 1 1/4" PVC male end of the first 8' section of pipe into the 1 1/4" female thread in the head of the pump cylinder. Use Teflon tape or pipe dope compound on all pipe threads.

STEP #10 - Lower the cylinder and the first 8' section of piping into the well and continue to connect the 3/8" rod sections and 1 1/4" PVC pipe until you have lowered all of the pipes into the well. Note: Use the slotted plywood paddle you received with your pump, to slide under the 1 1/4" PVC bell end of the pipe and rest the paddle on top of the well casing. This will hold the pump in place while you assemble the rod and

pipe. (See Detail "D")

STEP #11 - The Bison Well Head with Stainless Steel Well Adapter can now be installed. This entire assembly will be threaded in to the 1 1/4" PVC bell end on the last piece of 8' pipe and rod that you have just installed in the well. Remove the 3/8" allen head shoulder bolt at the top of the handle connection to the lift rod. (See Detail "A").

STEP #12 - Screw the 3/8" rod coupling that is protruding from the bottom of the 1 1/4" well head and connect it to the last rod coupling sticking out of the 1 1/4" PVC pipe in the well, tighten and secure. Then screw the 1 1/4" **Well Head** into the 1 1/4" PVC bell end of the pipe. (This step is done easier with two people.)

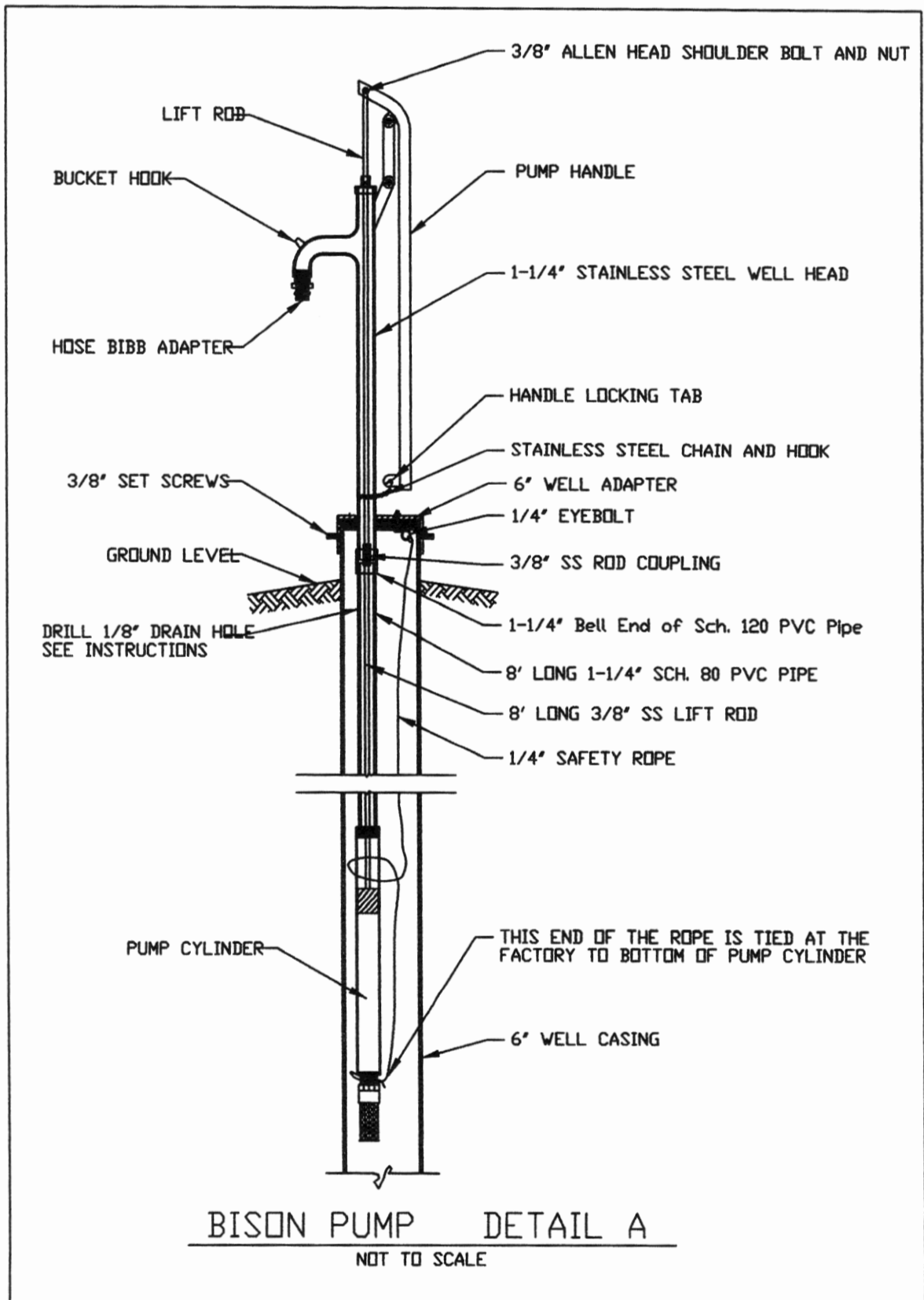
STEP #13 - Tie the end of the safety rope to the 1/4" eye bolt on the underside of the well adapter. (See Detail "A") Set the well adapter and pump head on to the casing, squarely and straight. Then tighten the 4- stainless steel nuts. Tighten the 4 square headed bolts on the well adapter to secure it to the casing. Check to make sure the pump head is square and straight on the well casing, making sure all the bolts are tight. Place the 4-rubber boots on the square headed bolts of the well adapter. Re-connect the pump handle to the lift rod with the 3/8" allen head shoulder bolt. **DO NOT OVERTIGHTEN THE SHOULDER BOLT AS THIS WILL CAUSE THE PUMP HANDLE TO PUMP HARD.**

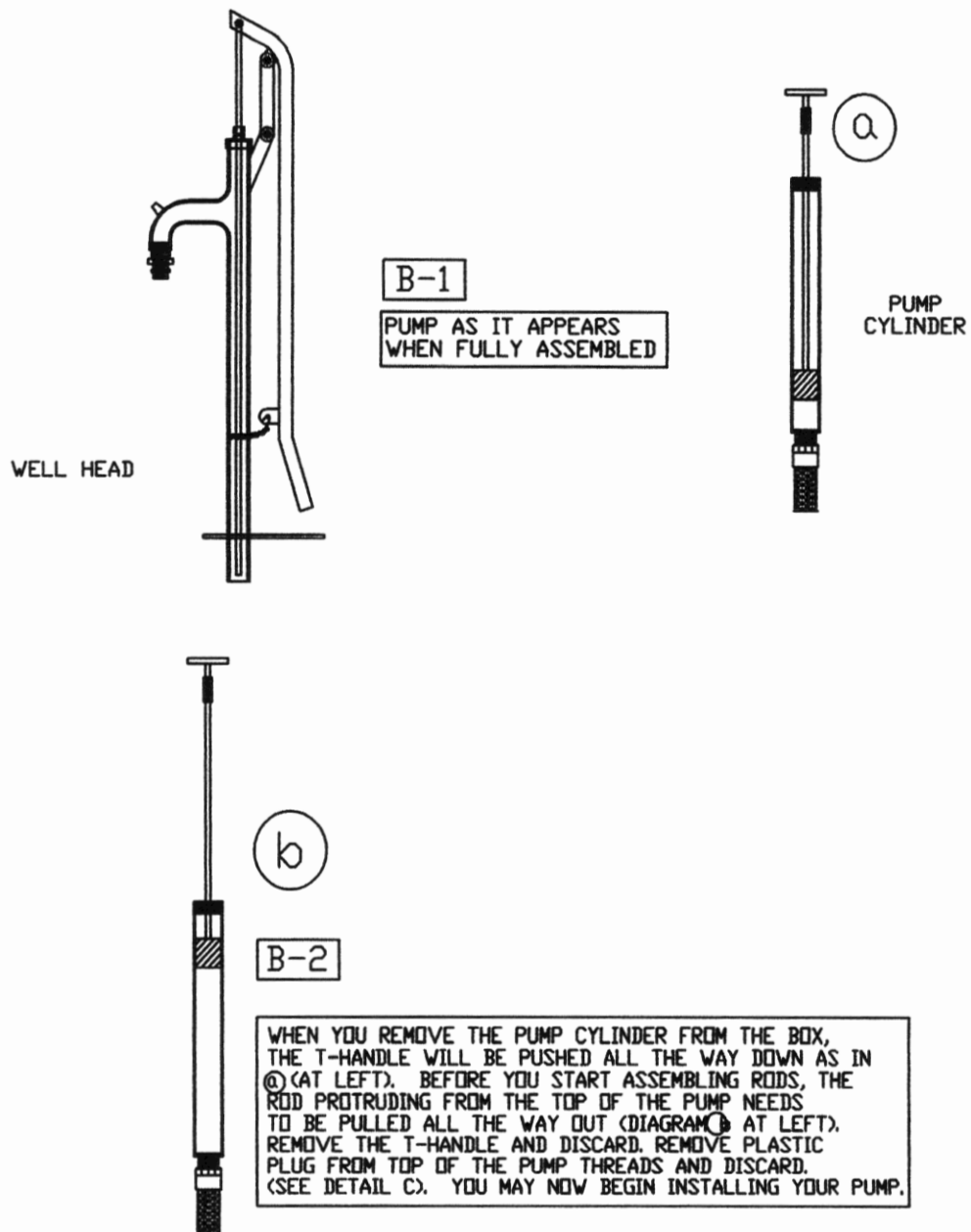
STEP #14 - Pump the handle on your **Bison Deep Well Hand Pump** and enjoy a cold glass of water directly from your well.

(Note: If you are currently treating the water in your home, remember that the water you pump directly from your well is untreated water. Bison Pumps recommends that you have your water tested to be sure that it is good quality potable drinking water.)

Additional Installation Tips:

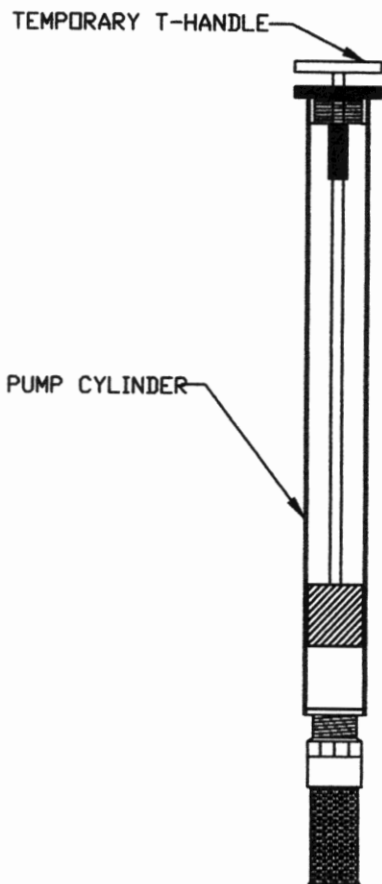
1. If you live in an area that experiences freezing temperatures, be sure to drill an 1/8" hole in the 1 1/4" PVC pipe approximately 6' to 7' below the well adapter. If you experience freezing temperatures that could have a frost penetration deeper than 7', drill the hole lower on the 1 1/4" PVC pipe. (See Detail "A")
2. If you experience any deficiencies or malfunction of your **Bison Deep Well Hand Pump**, please call 1-800-339-2601 for assistance and answers to your specific questions or concerns.
3. **Be sure to check local plumbing codes in your area to be sure your installation meets all code requirements.**
4. You will notice that a handle locking loop is attached to your pump handle along with a stainless steel chain and hook. If you choose, you can use either a paddle lock or a cable lock to secure the handle to the pump when not in use. Locking the handle is totally optional.
5. You will also notice that a brass hose bibb cap is shipped with the hose bibb adapter. This cap can be tightened to the hose bibb to keep insects out when the pump is not in use. **Caution: In the winter months, be sure to let the pump drain back completely before securing the brass cap. You may not want to use the cap during the winter.**
6. **Thank you for investing in a Bison Deep Well Hand Pump.**





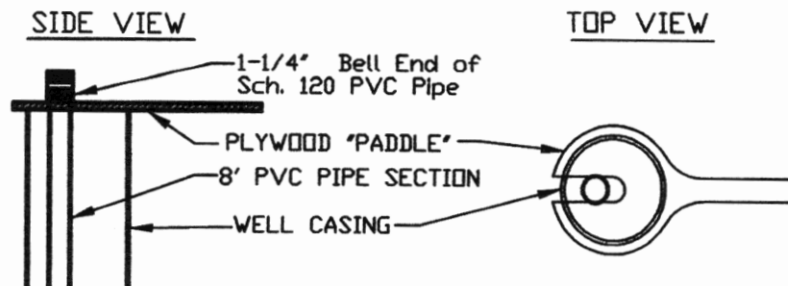
BISON PUMP DETAIL B

NOT TO SCALE

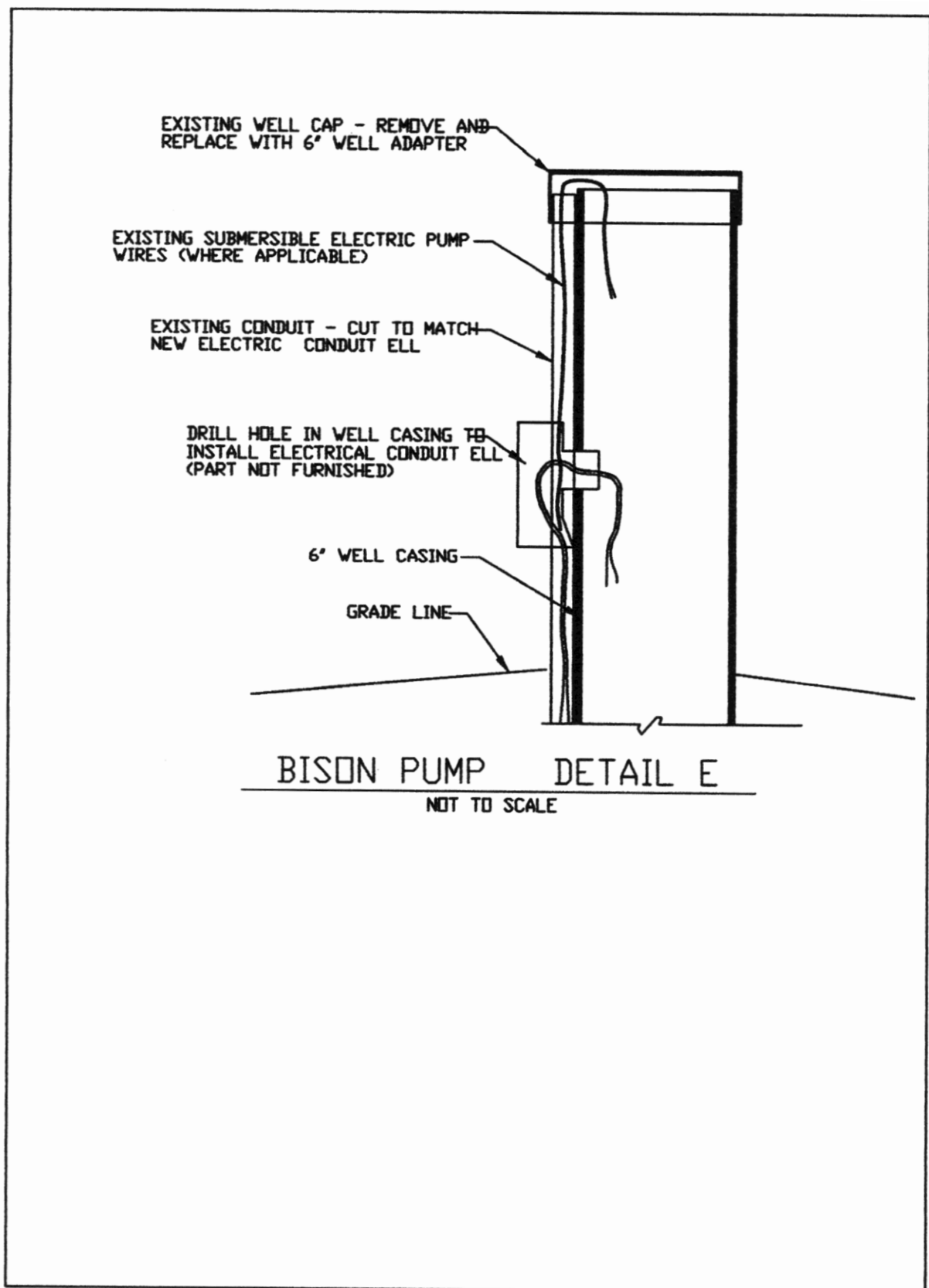


PUMP THE PISTON UP AND DOWN A FEW TIMES TO WORK THE PISTON SEALS. DISCARD THE T-HANDLE PRIOR TO INSTALLATION.

BISON PUMP DETAIL C
NOT TO SCALE



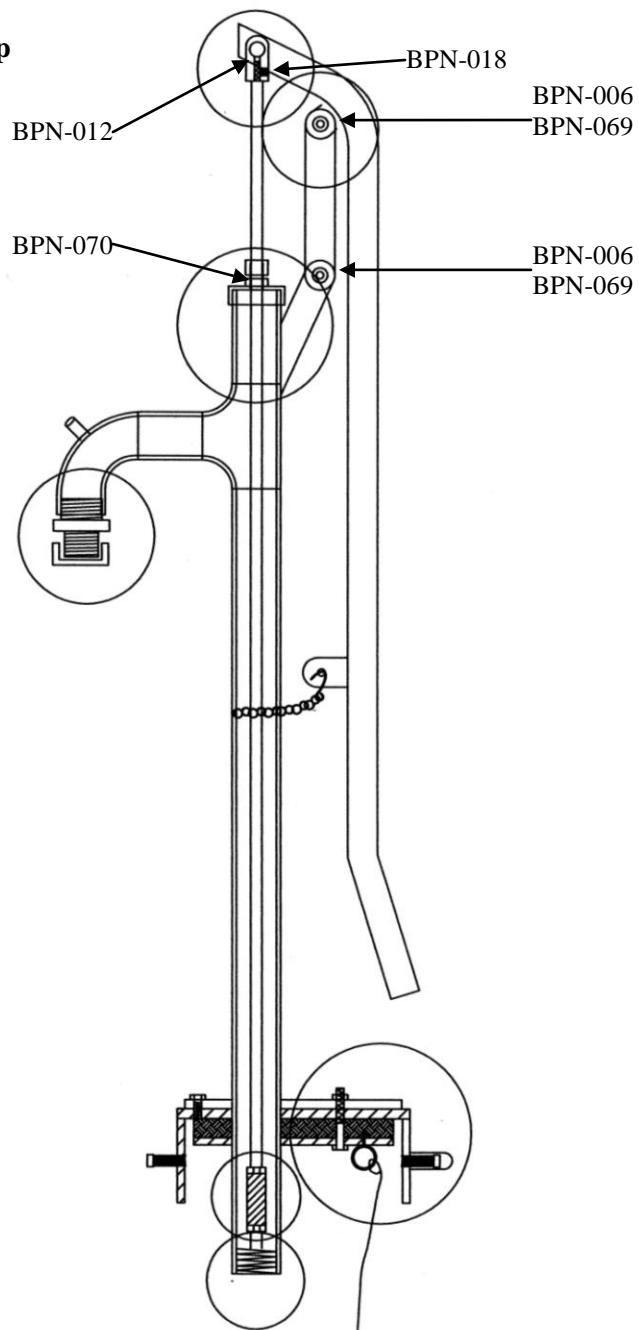
BISON PUMP DETAIL D
NOT TO SCALE



BISON DEEP WELL HAND PUMP

PARTS BREAKDOWN

**Bison Pumps Deep Well Pump
BPH-125**



BPN-RPK

Repair Kit DW Hand Pump

BPN-006	Wash Flat Nylon 3/8" x1-1/16
BPN-070	PackRope Teflon 1/8" x 60"
BPN-012	Bush Brz 3/8"x1/2"x3/4" -Hdl
BPN-069	Nut Ny-locknut 316 3/8"-16
BPN-018	scr Cup P.Set 316 1/4"x1/4"
BPN-121	Cup Seals Buna 3" Cyl

Part Numbers

Options DW Hand Pump

BPN-330C	Check Valve for Pressurizing Tanks
BPN-375C	Conduit Ell

Bison Pumps Cylinder Performance Chart

Cylinder Size	Pipe Size	Static Water Level	Oz/Stroke Output	Approximate GPM	Lbs. Pressure Exerted on Handle
3"	1-1/4"	0' - 30'	20	4-1/2 – 5 gpm	15
3"	1-1/4"	31' - 75'	17	4 gpm	50
3"	1-1/4"	76' - 100'	14	3 gpm	80
2"	1-1/4"	0' – 10'	11	5 gpm	5
2"	1-1/4"	11' – 125'	7	3gpm	40
2"	1-1/4"	126' - 150'	5	2-1/2 gpm	50
2"	1-1/4"	151' - 200'	5	2-1/2 gpm	60
1-1/2"	1"	0' – 10'	6	3 gpm	Effortless
1-1/2"	1"	11' - 50'	4	2 gpm	10
1-1/2"	1"	51' - 100'	4	2 pgm	15
1-1/2"	1"	101' - 150'	3	1-1/2 pgm	35
1-1/2"	1"	151' - 200'	3	1-1/2 pgm	40

Maximum static levels depths for the practical use of a hand pump are as follows:

- 1-1/2" Cylinder; up to a 200' static water level
- 2" Cylinder; up to a 200' static water level
- 3" Cylinder; up to a 100' static water level

1. The information in the chart is based on actual field tests.
2. The gallons per minute (gpm) output on each cylinder size is based on the Bison Pump being operated by a 200 lb. male, 6' tall, stroking the handle sixty times in one minute. Over time, the gallons-per-minute output is directly related to the physical condition of the operator.
3. The highlighted lines in the chart are approximate limits to each size cylinder (+/- 10%).
4. On static water levels 100' and greater, the pump should be installed using mechanical lifting and lowering devices (i.e. electric winch, manual hoist, etc.). This should be done by experienced installers with appropriate equipment.
5. Always install the pump with safety rope properly tied off and secured. Two people are required for most installations.