

IMPORTANT: RECEIVING INSTRUCTIONS

Visually inspect all components for shipping damage. If any shipping damage is found, notify carrier at once.

Shipping damage is NOT covered by warranty. The carrier is responsible for all repair or replacement costs resulting from damage in shipment.

! WARNING

Do not use broken or damaged cable puller component parts. Damaged parts can cause structural weakness resulting in failures at loads below rated capacity.



CATALOG NUMBER	DESCRIPTION
CP8006	Brutus™ Power Puller – with 600' rope; for exposed or concealed conduit (Wt: 495 lbs.). Includes metal case with casters (Cat. #CM16).



CATALOG NUMBER	DESCRIPTION
CP8003	Brutus™ Power Puller – with 300' rope; for exposed or concealed conduit (Wt: 440 lbs.). Includes metal case with casters (Cat. #CM16).



CATALOG NUMBER	DESCRIPTION
CP8000	Brutus™ Power Puller – for exposed or concealed conduit (Wt: 235 lbs.). Includes metal case with casters (Cat. #CM16).



CATALOG NUMBER	DESCRIPTION
CP8000D	Brutus™ Power Puller – for exposed conduit (Wt: 355 lbs.). Includes metal case with casters (Cat. #CM16).

SAFETY FIRST

IMPORTANT - USER SAFETY AND PROTECTION: In setting up systems, take care to select the proper components and design to insure appropriate integration with your operations and existing equipment. Observe all safety measures to avoid the risk of personal injury and property damage from your application or system.

GARDNER BENDER CANNOT BE RESPONSIBLE FOR DAMAGE OR INJURY CAUSED BY UNSAFE USE, MAINTENANCE OR APPLICATION OF ITS PRODUCTS. Please contact **GARDNER BENDER** for guidance when you are in doubt as to the proper safety precautions to be taken in designing and setting up your particular application.

INTRODUCTION

Gardner Bender produces three different models of cable pullers. Each version uses the CP800 power head assembly. Differences between models are based on the accessories included with each model or the length of rope provided with the cable puller. Since the same CP800 power head is part of each model, the instructions and safety information apply to all uses of GB powered cable pullers.

Cable pulling encounters a wide variety of situations and materials. Because of that variety, it is not possible to provide instruction that applies to each unique situation. Principles presented here provide as much general assistance as possible. Assembly instructions are specific. Follow them precisely to ensure safe, reliable and effective cable puller installations.

All instructions are important, but safety is paramount during pulling. Safety alert symbols are located throughout this manual, and a separate section is included to identify specific safety concepts.

Before operating the GB cable puller, read and understand this entire manual. If you do not understand any area or subject, contact Gardner Bender at 1-414-352-4160 or 1-800-624-4320. Ask for Technical Services.

SAFETY ALERT SYMBOLS

The symbol to the left is used in conjunction with a danger, warning or caution statement. It alerts operators, supervisors and all personnel that safety precautions are required during specific situations and under specific conditions. Failure to comply with safety data could result in serious injury or death.



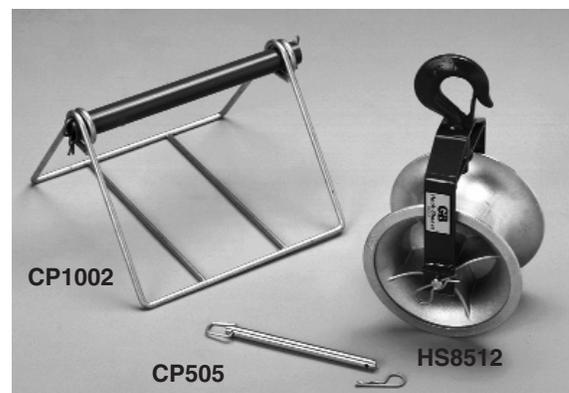
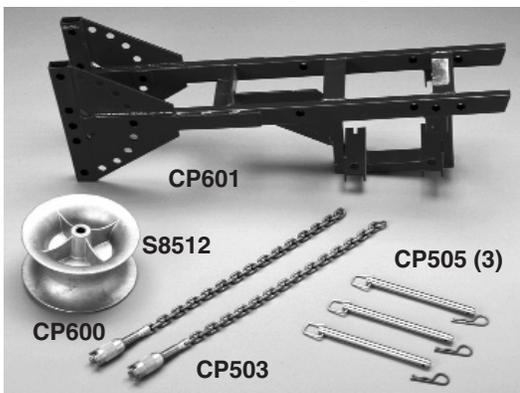
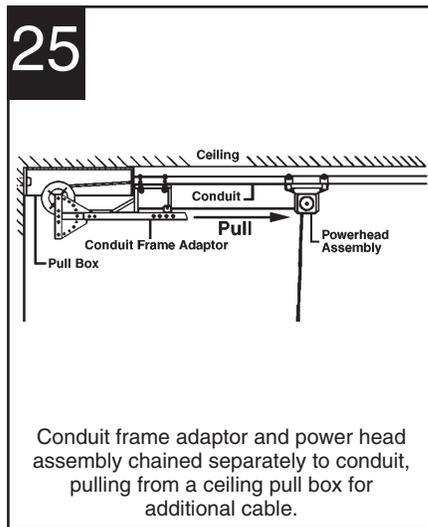
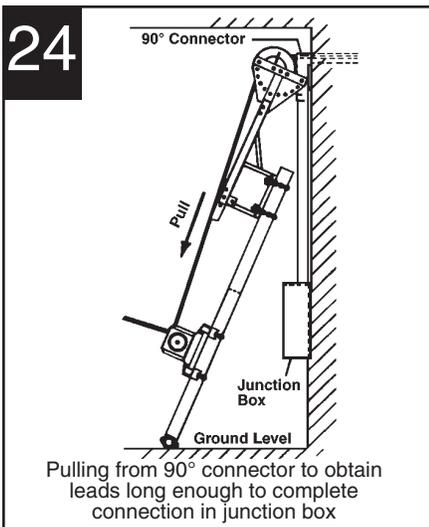
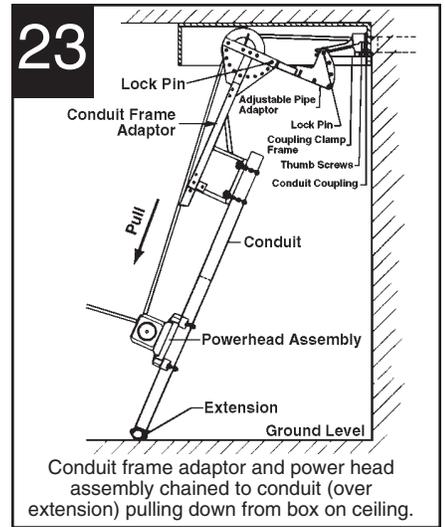
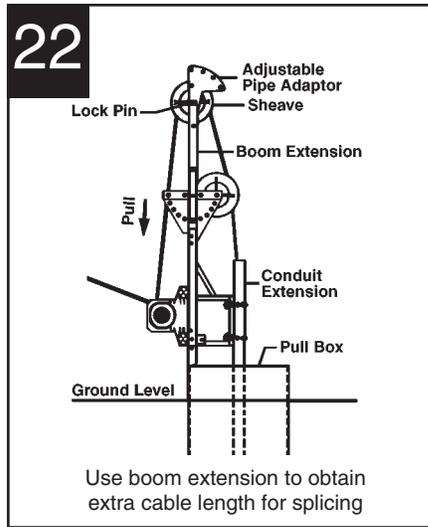
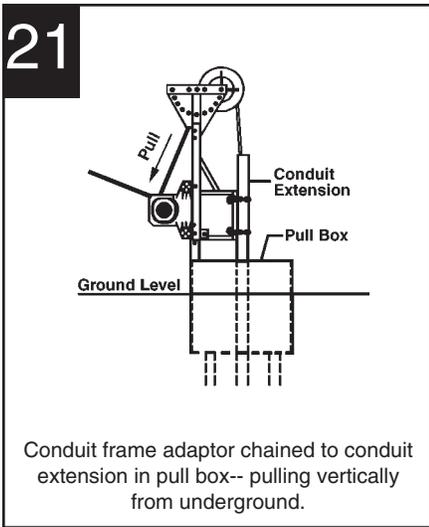
This symbol indicates a high probability that death, severe injury or major property damage could result.



This symbol indicates serious but less probability that death, severe bodily injury or major property damage could result.

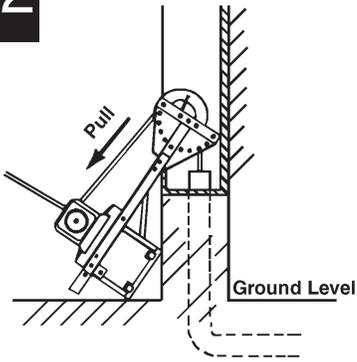


This is a less serious alert but still demands attention to detail. It indicates a hazard that may cause minor injuries.



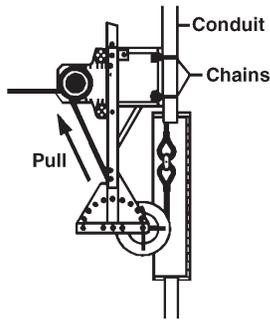
Refer to Contents Chart on page 16 for puller set components.

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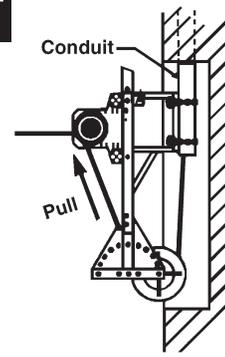
Conduit frame adapter resting on floor and on back of box -- pulling up

13



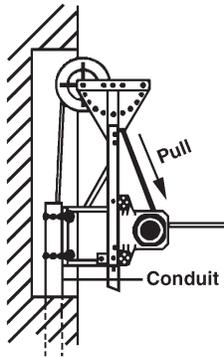
Conduit frame adapter chained to exposed conduit -- pulling down

14



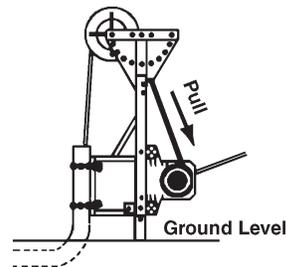
Downward pull -- conduit frame adapter chained to conduit extension

15



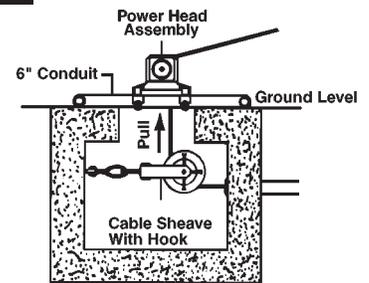
Upward pull -- conduit frame adapter chained to conduit extension

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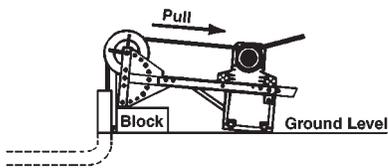
Conduit frame adapter chained to conduit -- pulling up

17



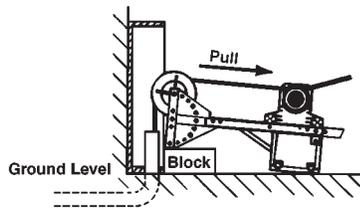
Power head assembly chained to 6" conduit with two 90° bends pulling from underground conduit using cable sheave with hook

18



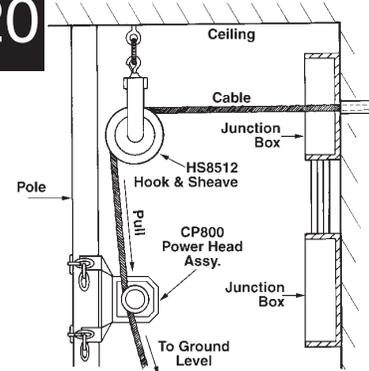
Resting conduit frame adaptor on floor over conduit and pulling up

19



Resting conduit frame adaptor on floor and blocks over conduit and pulling up

20



Pulling additional cable from junction box (1) down to junction box (2) using cable sheave with hook and power head assembly chained to pole.



SPECIFICATIONS
Power Cable Puller CP800
Figure 1

CP800 Power Head with Bracket

- 120 VAC 50/60 HZ rectified to D. C.
- 15 AMP - Start Up
- 5 AMPS @ No Load
- 5.5 AMPS per 1,000 lbs.
- Max. 30 AMPS @ 8,000 lbs.
- Permanent Magnet Motor
- Weight 65 lbs.
- Maximum Pulling Capacity - 8,000 lbs.
- Capstan - 12 R.P.M.
- On-Off Toggle Switch
- 3-Prong Grounded Power Cord
- Non-Reversing Capstan
- Load Meter

SAFETY PRECAUTIONS

! DANGER

The powered cable puller CP800 and its accessories are designed specifically for pulling electrical cable through conduit or across cable trays. GB does not recommend pulling any other objects or materials. Using this unit for any other pulling or lifting activity could result in serious injury or death.

! WARNING

Operate the Cable Puller only in well lighted areas.

! DANGER

Cable puller models CP800, CP8003, CP8006 and CP8000D plus accessory items are rated at 8,000 lbs. maximum pulling force. Attempts to exceed 8,000 lbs. could result in severe injury, death and major property damage.

! CAUTION

All pull set-ups must be approved by qualified supervisors. Follow all safety precautions and wear appropriate safety clothing.

! WARNING

Keep the pull rope away from the operator's feet. Coil the tailing rope in an area where the operator cannot become entangled.

! WARNING

Do not allow pull rope to wrap around the legs, arms or torso of anyone. A quick release of the rope will cause severe injuries.

! DANGER

Never stand directly under a vertical pull. Do not stand directly in front of a pull rope under tension. The operator must stand at an angle to the capstan. Keep all other personnel away from the cable puller.

! CAUTION

Inspect all cable puller components prior to pulling cable. Never use worn or damaged parts or accessories.

! WARNING

Never use general purpose rope. Use only GB double braided polyester, 3/4" diameter rope. All rope must have a working load of 8,000 lbs. minimum. Rope that breaks under tension may recoil, causing serious injuries and property damage.

! CAUTION

After each pull, inspect the rope for abrasion and cuts in the strands. Do not use damaged rope for pulling cable.

CAUTION

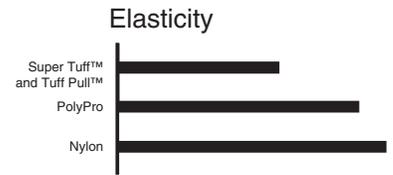
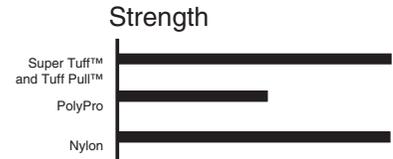
Select the Right Rope for the Job.

Always choose a strong, durable rope with limited elasticity and long service life. When selecting and using a rope it is essential to choose the proper size and type for each job need. The material, tensile strength and recommended working load are critical factors.

Polyester ropes such as Tuff Pull™ and Super Tuff Pull™ are preferred for cable pulling because of their low elasticity, high strength and endurance as compared to other types of rope.

Observe Recommended Practices for Safe Handling and Proper Care of Pulling Rope.

- **Working load rating** represents the maximum pulling load to which the rope should be subjected. It increases with rope diameter and is calculated for rope in good condition with appropriate splices under normal service. Note that working load guidelines are void under conditions of rapid or sudden load changes.
- **Tensile strength** is the average breaking point of new, unused rope. While it gives some indication of the rope's ability to withstand sudden or shock loads, tensile strength decreases over time as the rope is used and should *not* be relied upon as an indication of working strength.



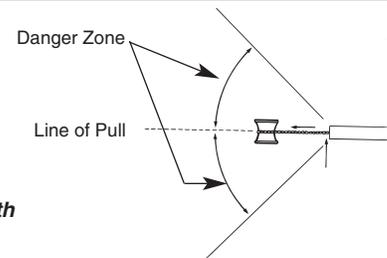
WARNING

If a Rope Breaks Under Tension, it Can Recoil Causing Serious Injury!

All synthetic rope under load will recoil if it, or a fitting (chain, hook, bolt, etc.) fails. The snap-back action will propel the rope – and any still-attached metal fittings – at high speed. Serious injury to persons or property in the vicinity is possible.

Always check all fittings, splices, connectors, etc. before using rope.

Do not allow anyone to stand directly in line with rope under tension!



Inspect Rope Thoroughly Before Use

Avoid using rope that shows signs of wear, such as frayed ends, broken yarns or pulled strands. Open the strands of braided rope and look for powdered fiber, a sign of internal wear. When fibers show wear, the rope

should be respliced or downgraded. A heavily-used rope will often become compacted or hard, a sign of reduced strength. If in doubt, destroy the used rope and replace it.

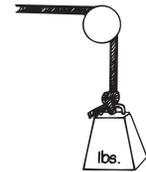


CAUTION

Do Not Overload the Rope

Handle loads slowly and smoothly to avoid sudden strains or shock loads, which can exceed the rope's breaking strength. Such "dynamic loading" occurs when a load is picked up, stopped, moved or swung, and may subject the rope to two or three times its

normal working load. The affect is greater on low-elongation types of rope and on shorter lengths of rope, although high-elongation ropes can recoil dangerously if broken.



Vary Rope Application to Distribute Wear Evenly

Reverse the rope, end-for-end, between uses. Also, alternate the lay of the rope around capstan and sheaves from job to job.

Repeated hauling of a line over a capstan in a counterclockwise direction changes the twist of each strand, causing hockles or backturning that cannot be removed. Repeated clockwise hauling stiffens the rope and causes it to kink easily.

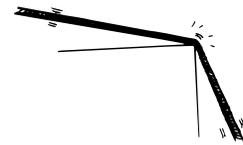


CAUTION

Avoid Abrasive Conditions

Rough surfaces and sharp edges can severely damage rope. Do not pull rope over sharp bends or angles. Make sure chocks, capstans, sheaves and pulleys are free of burrs and rust and rotate freely.

Keep the rope surface clean. Do not drag it over rough ground; dirt and grit will work into and cut inner fibers.



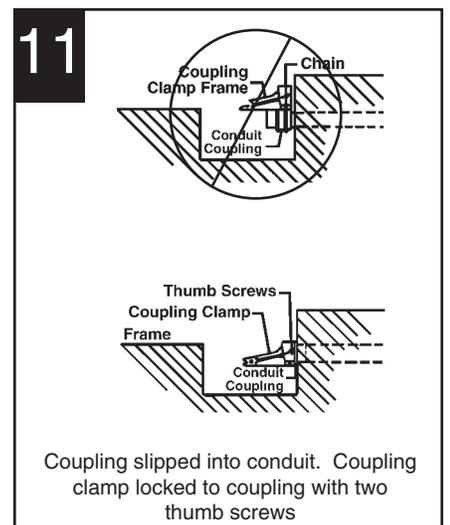
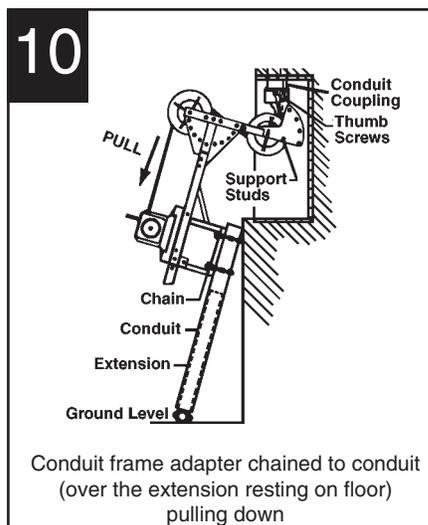
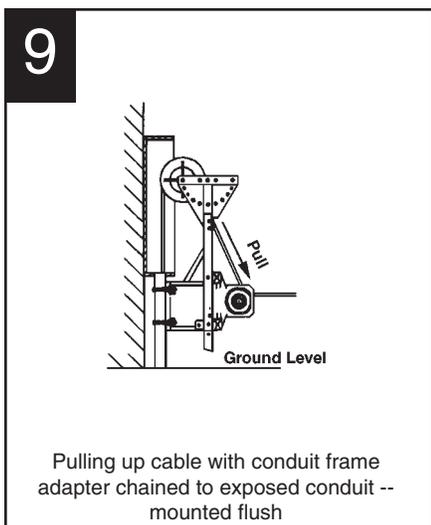
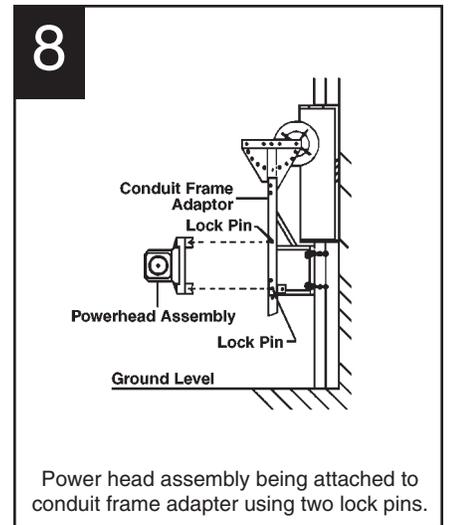
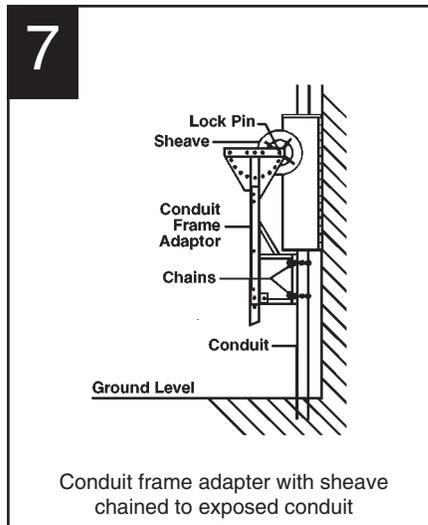
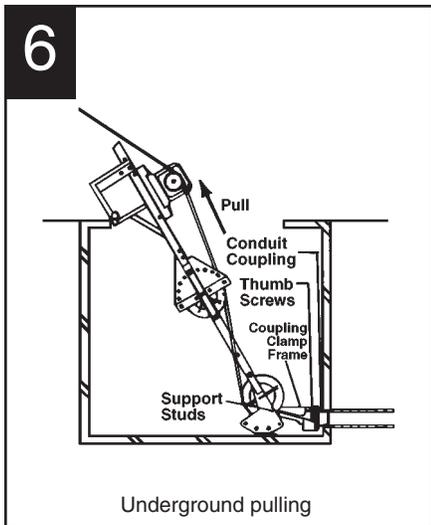
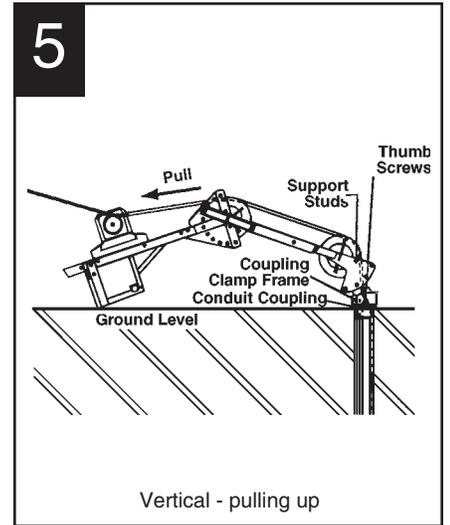
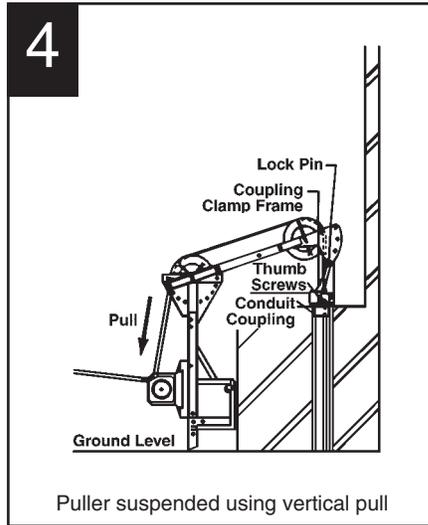
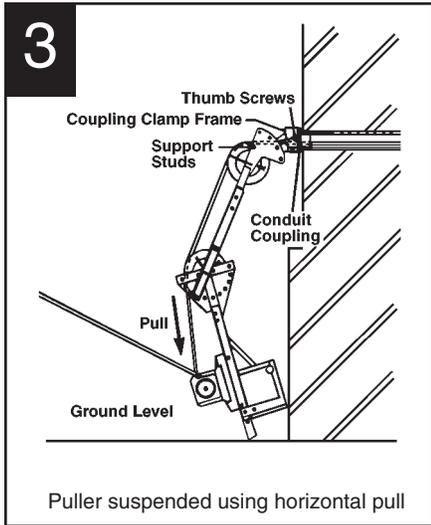
IMPORTANT! Store Rope Properly

Avoid damaging storage and use conditions that can weaken rope:

- **Store rope in a clean, dry area.** Keep coils off dirt or concrete floors. Instead, store it in well-ventilated racks.

- **Keep rope away from chemical contact or fumes.** Solvents, acids and alkalis can damage rope, especially natural fibers.
- **Avoid exposing rope to excessive heat** (in excess of 140° F) in either use or storage. Heat weakens rope, even after it has cooled. Also, avoid friction heating caused by slippage around winches or sheaves.





The Power Head capstan rotates in one direction only and is non-reversing; it will not reverse under load or when the power is off. To make your pulls easier, it is recommended that you fully wrap the capstan with rope.

! WARNING

Do not stand directly in line with rope under tension. The operator must be positioned far enough to one side that injury will not occur if rope or other components should break.

Before actually using your puller, review the following 26 pictures showing the versatility of and suggested applications for the Gardner Bender Powered Cable Puller. These same pictures are also on the inside cover of the metal storage case for ready reference in the field.

If the Power Head is used in other than its normal installed position (See figure 16) the rope must be wound on the capstan in the opposite direction.

Rope:

The use of a 3/4" diameter double braid 100% polyester rope is recommended – such as GB’s 300' reel of 3/4" diameter polyester rope (RST7530 -- white rope with a red streamer). For assistance in pay out of the rope, use a CP1002 Rope Reel Stand.

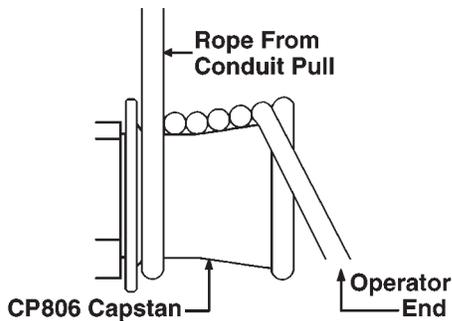
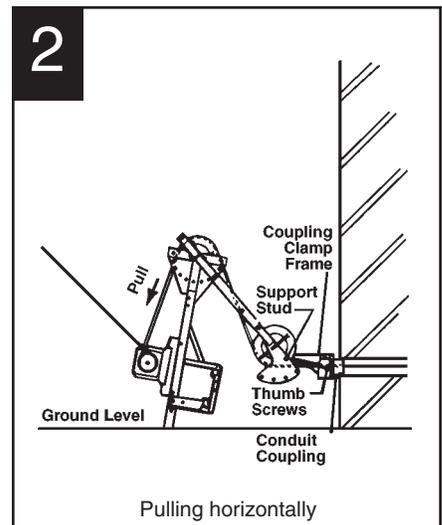
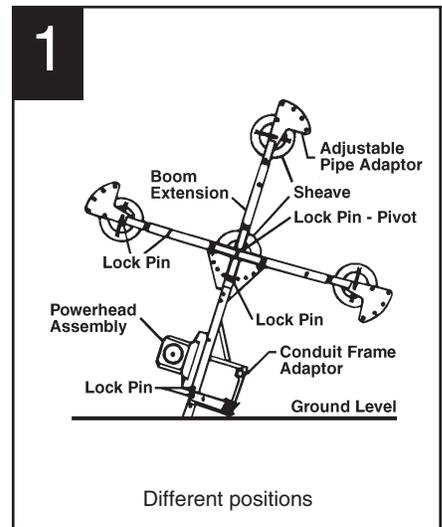


Figure 16



OPERATION

Cable Puller Components

I. CP800 Power Head

The power head consists of an electric DC motor rectified for AC current. The motor is mated to a 3-stage planetary gear drive system. Attached to the motor are the on/off switch, load meter and power cord. At the gear drive output end is a capstan for rope. The entire power head assembly is bolted to a steel bracket assembly. Maximum pulling capacity is 8,000 lbs. Power source requires 120VAC, 50/60 HZ and a 20 AMP circuit.



Avoid motor overheating during cable pulls. For pulls in excess of 4,000 lbs., stop motor, tie off rope, and let motor cool for five to seven minutes. Use load meter to constantly monitor pulls. Sudden spikes or jumps in pull forces indicate increased friction. The load meter is calibrated in 1,000 lb. increments. Color coding provides a quick reference of what pull range is being shown. Green 0 - 4,000 lbs; Yellow 4,000 - 8,000 lbs; Red 8,000 - 10,000 lbs.



Immediately stop any cable pull during which the load meter registers in the red zone. Do not operate puller when pull requires more than 8,000 lbs. of pulling force. Cable puller and accessories are rated for a maximum of 8,000 lbs. pull force.

The CP800 power head assembly can be used alone or in conjunction with a variety of accessories. For recommended set-ups, refer to the illustrations at the end of this instruction manual. Virtually every cable pull has unique differences. Due to the differences, it is not possible to show every set-up. However, the principles of cable pulling will be explained and each set-up must apply the principles correctly to avoid dangerous situations.

II. Power Head Installation



Use only the mounting chains CP503 or CP504 to attach the power head to accessories and fixed supports. Using any other chain could cause the power head to stretch the chain, loosen or move. A loose or stretched chain could cause injury, death or property damage.

Mounting the power head to another accessory is accomplished using two chains (CP503 or CP504) or two CP505 eight-inch anchor pins. The pins are designed for mounting CP800 to the CP601 frame adaptor. See figure 2.

The chains are also used for mounting the CP800 and CP601 to another object.

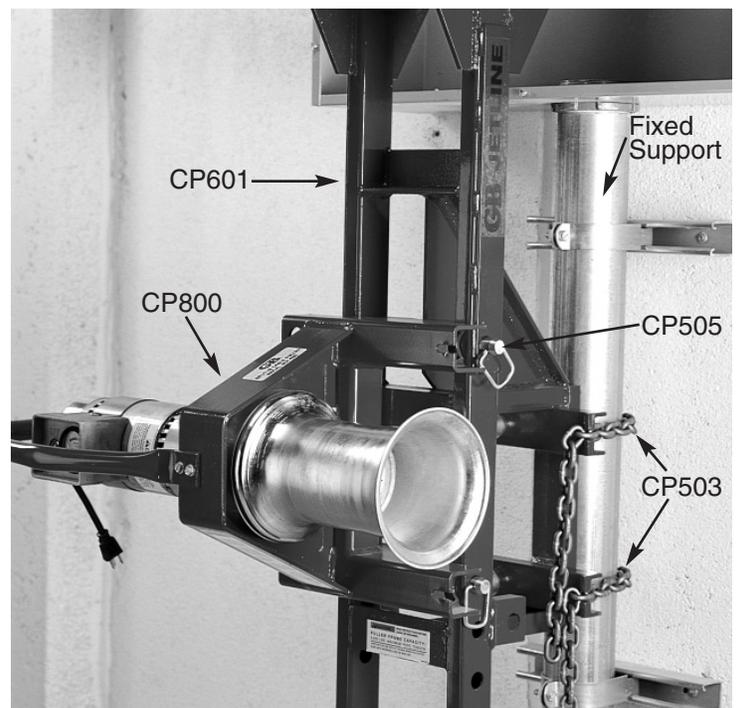
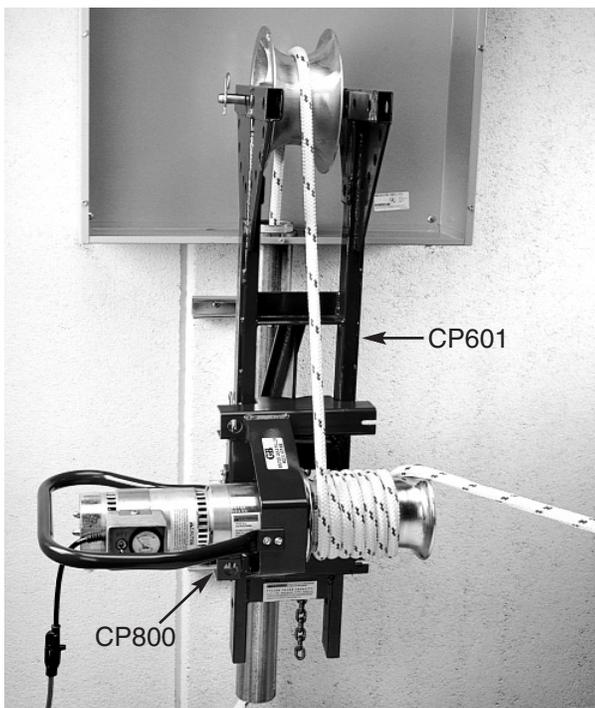


Figure 2

CAUTION

Tighten chains securely. The hand grips are slotted to accept a screwdriver shank, wrench handle or flat steel bar. Make certain the chain stays straight. Avoid side loading the adjusting screw pins. See figure 3.

CP503 Hand Grip Wrenching Slots - Tighten with screwdriver shank, adjustable wrench handle, a piece of flat steel, or hex socket wrench (allen wrench).

CAUTION

Make sure that the links (A) are straight during installation. Avoid side loading conditions on the pins that connect the chain to the adjusting screw. This can occur when directly connecting the CP800 (without puller frame) to a large column or I-beam.

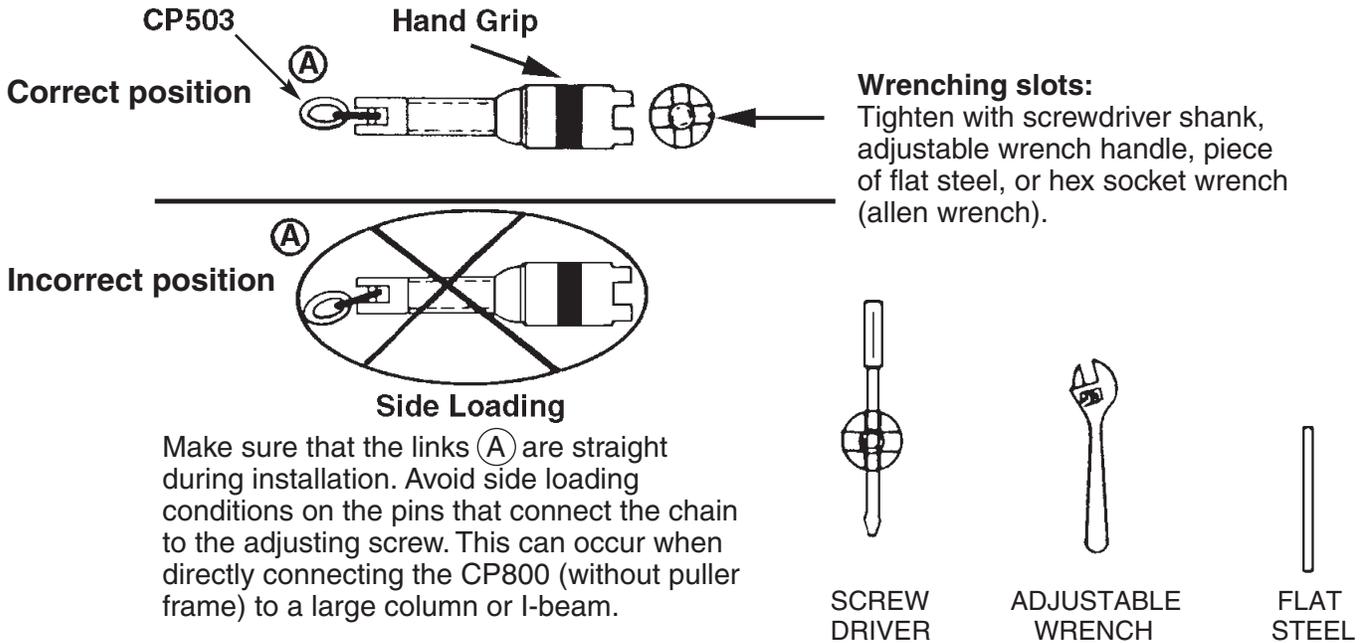
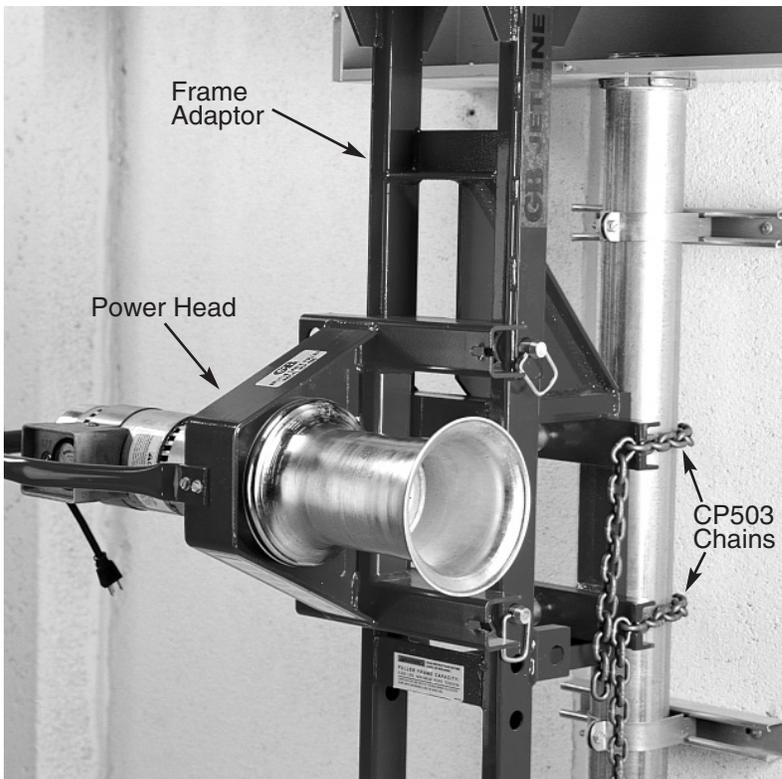


Figure 3



1. Secure the power head to a fixed support that is capable of withstanding 8,000 lbs. of pulling forces in the direction of the pull line on the capstan. See figure 4.
2. Position the puller using a supporting structure that directs the forces of the pull parallel to or into the supporting structure. Do not pull directly against the mounting chains.
3. Mounting chains are limited to obstacles from a minimum of 2" diameter to a maximum of 10" diameter.

Figure 4

III. Extension Boom to Basic Puller Frame

Attach the CP631 Extension Boom to the CP601 Conduit Frame Adapter along with the S8512 Sheave using a CP622 ten-inch Lock Pin. Insert (1) CP622 ten-inch Lock Pin thru CP631 Boom and into the hole pattern of the CP601 Conduit Frame Adapter to position the angle of the CP631 Extension Boom. See figure 12.

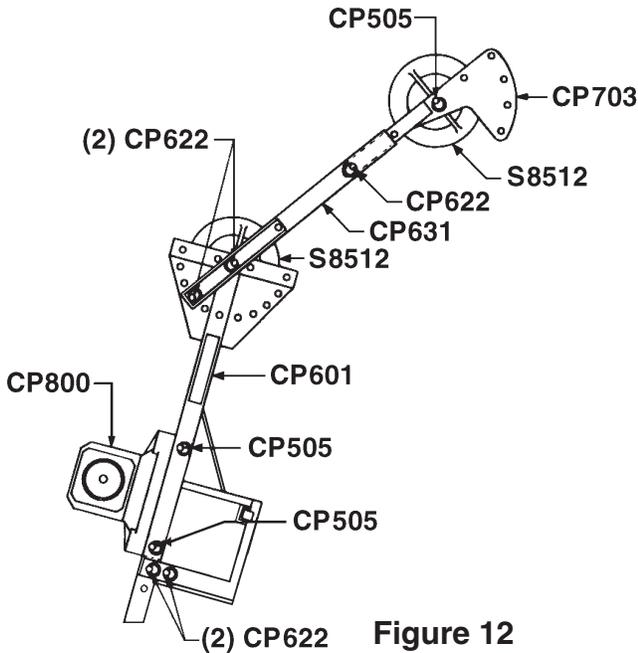


Figure 12

Basic Frame to Extension for Elevated Use.

See figure 13.

For elevated pulls, attach the basic frame to the CP701 extension using 2 (CP503) 2-foot chains.

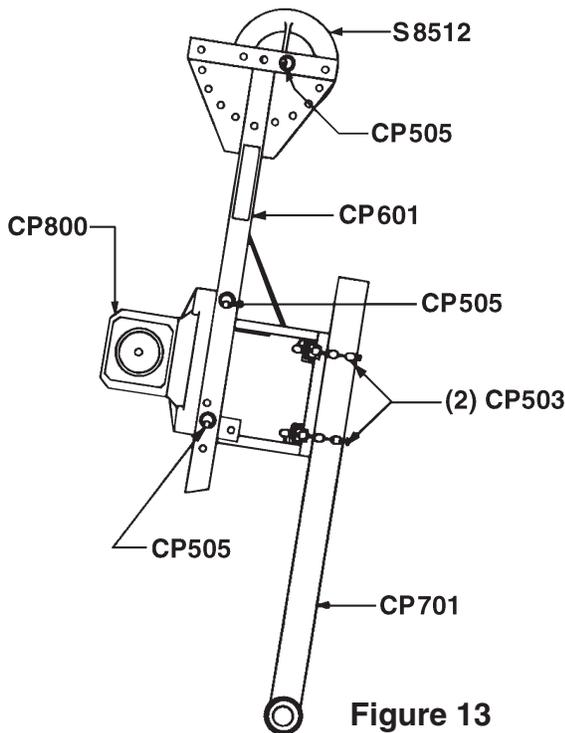


Figure 13

IV. Operating Instructions:

The Cable Puller frame is rated for a maximum pull of 8000 pounds.



DO NOT make pulls on the frame in excess of 8000 pounds.

The CP800 Power Head comes equipped with a load meter to monitor the actual pulling force. To further assist monitoring of the load, the load meter is color coded as follows:

0 to 4,000 lbs. Green Band - Most Average Pulls
4,000 to 8,000 lbs. Yellow Band - Heavy Pulls



To avoid overheating the motor when making pulls in excess of 4,000 lbs., stop the motor every five to seven minutes and let it cool or provide external cooling (i.e. fan).



8,000 to 10,000 lbs. Red Band - Do not operate power head in this load range.

CP800 Power Head Electrical Specifications

120 V.A.C. 50/60 Hz

Amperes: 15 AMPS for 3500 lbs. Maximum Pulls
 20 AMPS for 5000 lbs. Maximum Pulls
 30 AMPS for 8000 lbs. Maximum Pulls

ON/OFF Toggle Switch
 3-Prong Grounded Power Cord
 Non-reversing Capstan

The Power Head is normally attached to the CP601 Conduit Adapter Frame by (2) CP505 Lock Pins.

Note: If Power Head is to be attached to a large member, such as a utility pole, 2 (CP504) 6 foot chains are required.

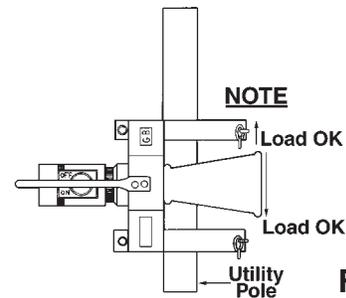


Figure 14



Do not make pulls directly away from power head. See figure 15. For correct pulling applications, see illustrations on pages 12 through 15.

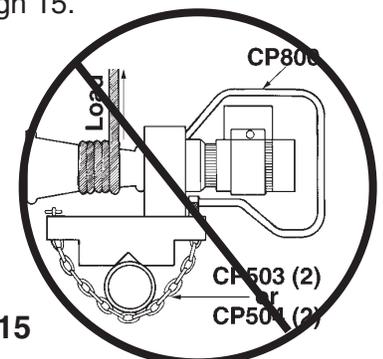


Figure 15

! WARNING

To avoid injury and damage to equipment, place the coupling clamp over conduit couplers CP704, CP705, CP706, CP707 or CP708. Do not attach the coupling clamp to the outside of the conduit using chains or similar devices.

- 2). The slots in the coupling frame are designed to engage the trunion studs on CP703 frame adaptor. To use other angles or gain height, a CP505 8-inch lock pin may be installed through holes in the frame adaptor. The coupling frame slots can rest under the pin instead of the trunion studs. See figure 10.

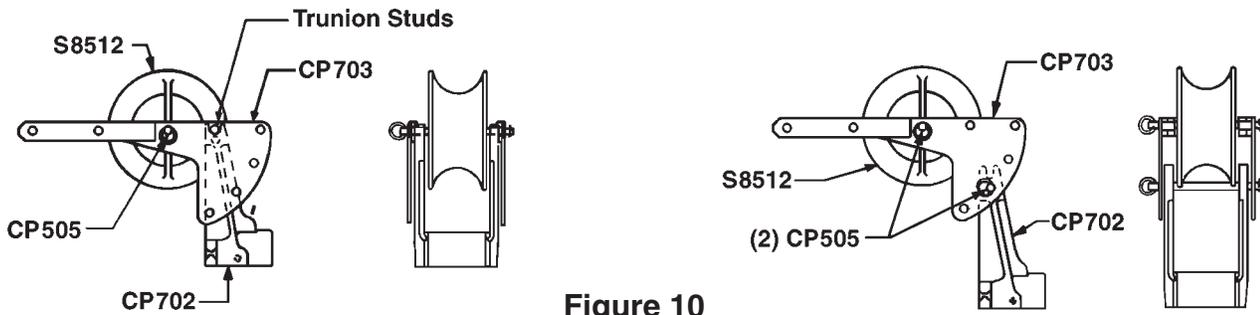


Figure 10

The CP702 Coupling Clamp Frame may be used two ways on the CP703 Adjustable Pipe Adaptor. It may be mounted freely against the trunion studs on the CP703 Adjustable Pipe Adaptor. Or...

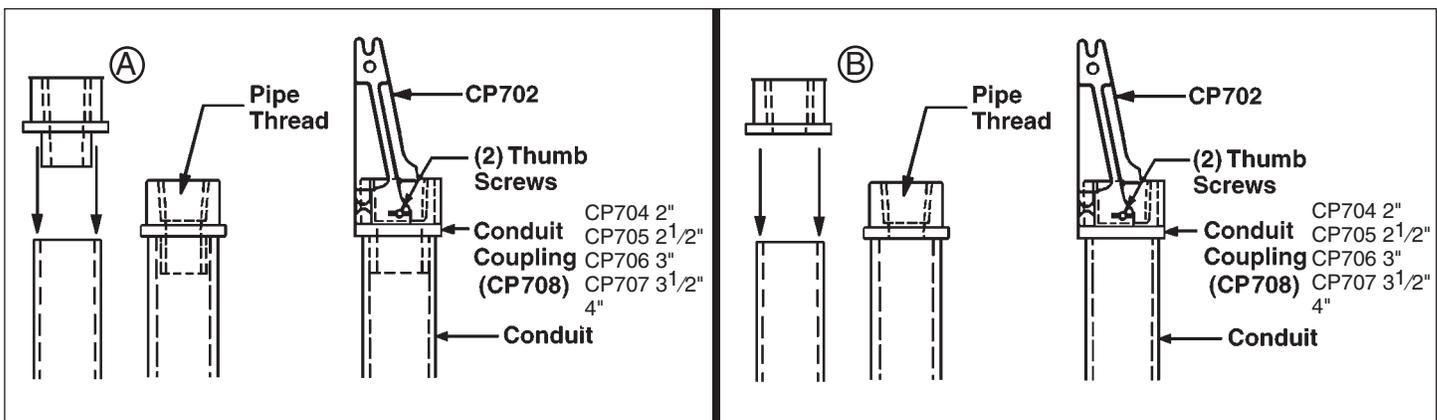
It may be pinned securely to any of the location holes of the CP703 Adjustable Pipe Adaptor, using a (CP505) 8-inch Lock Pin.

NOTE: CP702 coupling clamp must always be used with CP705 frame adaptor.

d. Conduit Couplers CP704, CP705, CP706, CP707 and CP708

- 1). Conduit couplers are used to secure a location for attaching the CP702 adjustable pipe adaptor. Couplers are threaded onto rigid or I.M.C. conduit with the external flange facing toward the conduit. See figure 11.
- 2). The flexible pipe adaptor is to be placed over the coupler until it bottoms against the flange. Tighten adaptor thumb screws to secure it to the conduit coupler.
- 3). Two versions of flanges were manufactured. From 1976 to 1988, couplers were long enough to be inserted into conduit (A). A flange separated the larger and smaller sections. See figure 11. From 1988 to 1996 couplers were manufactured without a threaded section below the flange (B).

NOTE: CP702 coupling clamp must always be used with CP703 frame adaptor.



1976-1988
Coupling Design

Figure 11

1988 - 1996
Coupling Design

! DANGER

Mounting the cable puller with the mounting chains requires that both chains be fully tightened in order to have maximum holding power. Loose chains could cause components to break under load. Broken components will fly out of control and can cause severe injury, death or major property damage.

III. Assembling Cable Puller Accessories

The following illustrations are requirements when using various accessories. Follow these procedures prior to the pull set-ups shown in the diagrams on pages 12-15.

a. Conduit Frame Adaptor - CP601

- 1) All pull set-ups require the CP601 frame adaptor. The adaptor is used to mount the power head and pulling sheaves. Some set-ups will also require the CP703 - Adjustable Pipe Adaptor.
- 2) Position the power head CP800 on the conduit frame adaptor (CP601). Position the power head on the frame and secure using two 8-inch long pins (CP505). See figure 5.

! CAUTION

Be sure the mounting pins (CP505) pass through the power head frame and the CP601 frame. Insert retaining clips in the end of each pin.

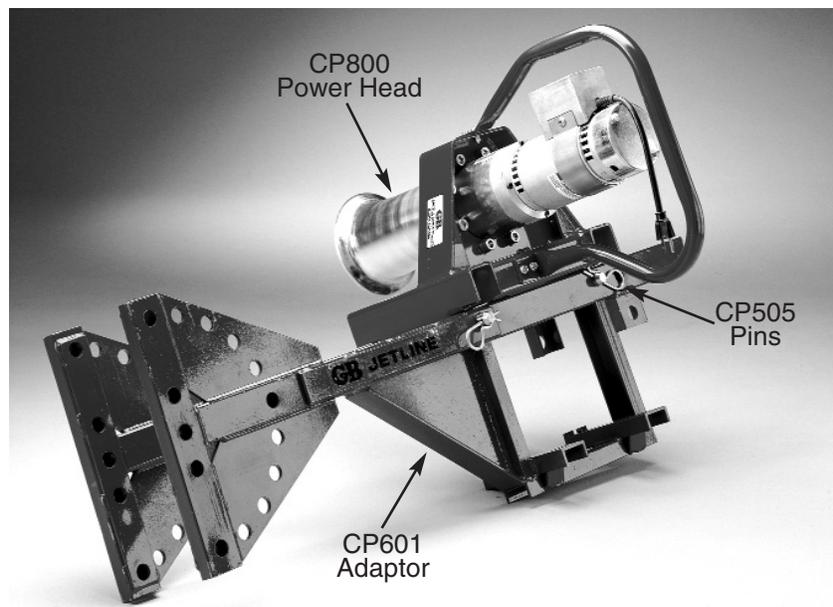
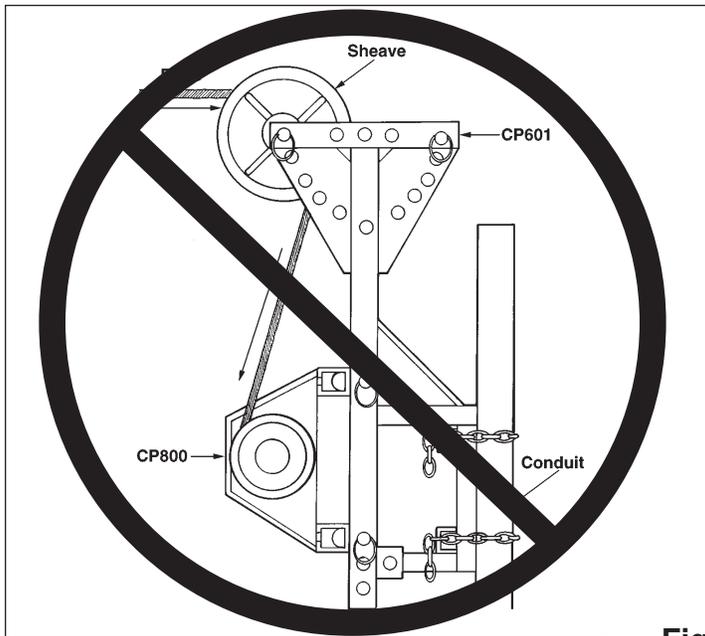


Figure 5

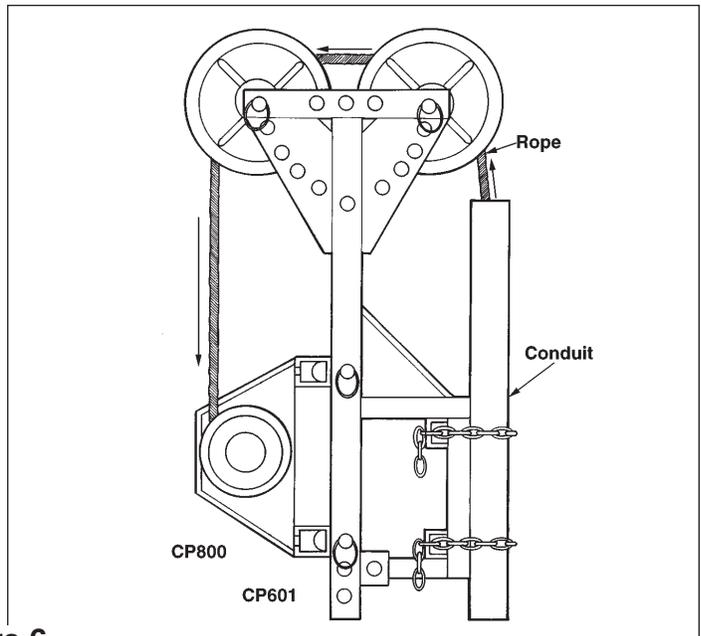
- 3) The combination conduit frame adaptor and power head assembly can be mounted to exposed conduit or attached to other accessory pieces.
- 4) For all cable pulls, a 10-inch sheave (S8512) or two sheaves must be installed to direct the pull rope out of the conduit to the power head. The sheaves can be installed in any of the five holes along the top of the CP601 frame. One CP505, 8-inch lock pin is required for each sheave.

! WARNING

Do not use exposed conduit as a mounting anchor to pull in opposing directions. See figure 6. Resulting forces could cause conduit damage and injuries to operators.



Incorrect Setup



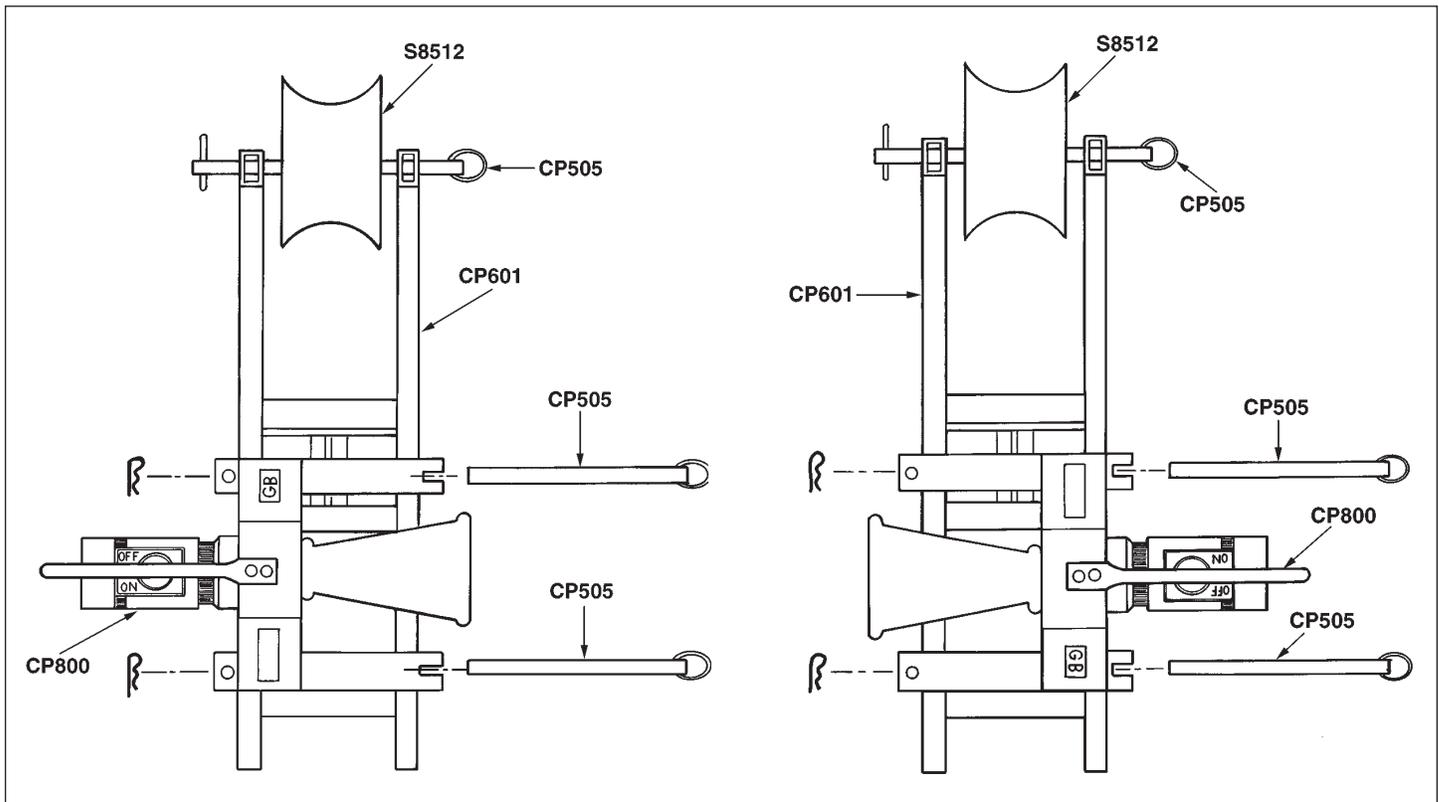
Correct Setup

**Figure 6
Rope Conduit
CP800 CP601**

- 5). The CP800 power head can be mounted to the CP601 frame in two ways. The position is dependent on space constraints. See figure 7.

Capstan rotation is always clockwise (as viewed from end of capstan). If power head is rotated, pull rope must always be wound from narrow end toward wide end of capstan to prevent overlap.

Figure 7: In this position, the capstan rotates in the opposite direction; therefore, the rope must be wound in the opposite direction.



Normal Mounting Position of CP800

Optional Mounting Position of CP800

Figure 7

b. Adjustable Pipe Adaptor CP703.

- 1) The adjustable pipe adaptor is used with the CP601 conduit frame adaptor. Install by inserting the CP703 pipe adaptor into the conduit frame adaptor. The legs must be inserted until end hole is aligned with the hole closest to the frame adaptor cross member. See figure 8.



To avoid damage to the CP703 pipe adaptor, do not mount to the frame adaptor using the first hole. The two pieces require support by using the entire length of the frame adaptor opening.

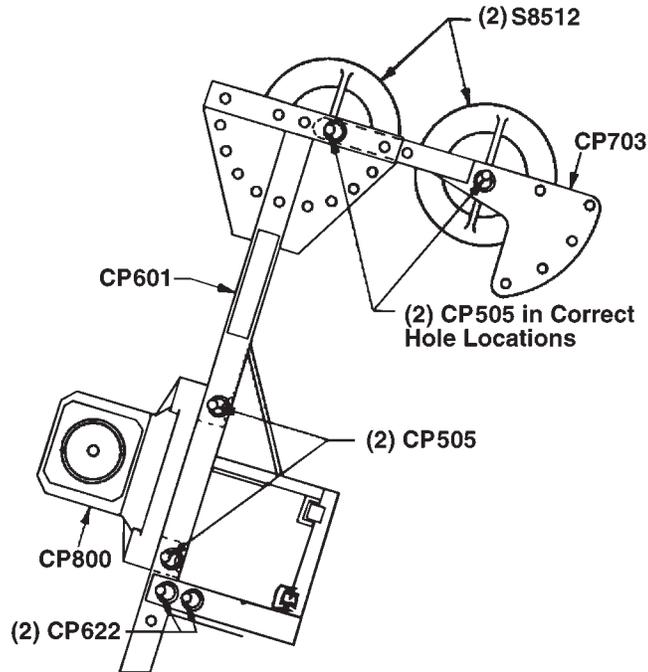


Figure 8

- 2) Use of the CP703 pipe adaptor also requires the S8512 10-inch sheave for the rope to travel across. The sheave must be mounted with one CP505 8-inch pin as shown in figure 9. (See figure 12 for optional method.)



To avoid damage to equipment, do not mount sheaves to CP703 using the holes along the curved frame. The holes on the curvature are used as alternate locations to attach the frame to the conduit coupler adaptor CP702 with CP505 pins.

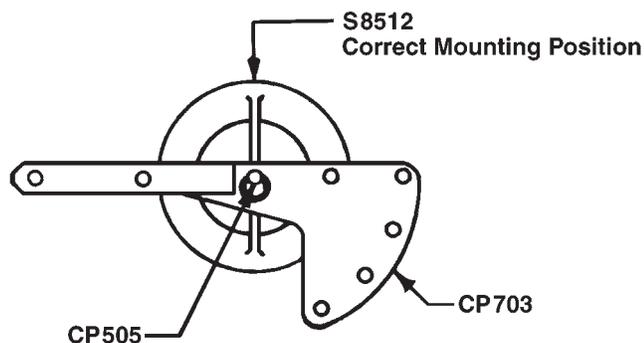


Figure 9

c. Coupling clamp frame CP702

- 1) Coupling clamp frame CP702 is used to provide a connection between the conduit and the puller frame. See figure 10.

Contents of Powered Cable Puller Sets

Model No.	Description	Quantity Included in Puller Sets			
		CP8006	CP8003	CP8000	CP8000D
CP800	Power Head Assembly	1	1	1	1
CP802	Base Mounting Bracket Included in CP800				
CP10	Load Readout Meter & Switch Assembly	*	*	*	*
CP15	Foot Switch for Remote Operation	*	*	*	*
CP503	2" Chain Assembly	3	3	3	2
CP504	6" Chain Assembly	*	*	*	*
CP505	8" Lock Pins	5	5	5	3
CP601	Conduit Frame Adaptor	1	1	1	1
S8512	12" Sheave	2	2	2	1
CP622	10" Lock Pins	3	3	3	*
CP631	Boom Extension	1	1	1	*
CP701	Puller Base Extension	1	1	1	*
CP702	Coupling Clamp	1	1	1	*
CP703	Adjustable Pipe Adaptor	1	1	1	*
CP704	2" Conduit Coupling	*	*	*	*
CP705	2 1/2" Conduit Coupling	*	*	*	*
CP706	3" Conduit Coupling	1	1	1	*
CP707	3 1/2" Conduit Coupling	1	1	1	*
CP708	4" Conduit Coupling	1	1	1	*
CP709	6" Lock Pin	1	1	1	*
CP806	Capstan	*	*	*	*
CP1002	Rope Reel Stand		1		
HS8512	12" Cable Sheave with Hook	1	1	1	*
CM-16	Metal Case with CM44 Casters	1	1	1	1
RST7530	Double Braided Rope (3/4" x 300' Spool)	*	1	*	*
RST7560	Double Braided Rope (3/4" x 600' Spool)	1	*	*	*

In order to guarantee maximum performance and safety, use only original GB rope.

* Optional accessories not included in puller sets – can be ordered individually.

REPAIR AND SERVICE INSTRUCTIONS: For repair service and parts contact your nearest GARDNER BENDER Service Center. The Service Center will provide complete and prompt service on all GARDNER BENDER products.

<p>PARTS AND SERVICE: For quality workmanship and genuine GARDNER BENDER parts, select an Authorized GB Service Center for your repair needs. Only repairs performed by an Authorized Service Center displaying the official GB Authorized sign are backed with full factory warranty. Contact GARDNER BENDER (414) 352-4160 for the name of the nearest GB Authorized Service Center.</p>	<p>WARRANTY: GARDNER BENDER warrants its products against defects in workmanship and materials for 1 year from date of delivery to user. Chain is not warranted. Warranty does not cover ordinary wear and tear, abuse, misuse, overloading, altered products or use of improper fluid.</p>	<p>WARRANTY RETURN PROCEDURE: When question of warranty claim arises, send the unit to the nearest GB Authorized Service Center for inspection, transportation prepaid. Furnish evidence of purchase date. If the claim comes under the terms of our warranty the Authorized Service Center will REPAIR OR REPLACE PARTS AFFECTED and return the unit prepaid.</p>
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