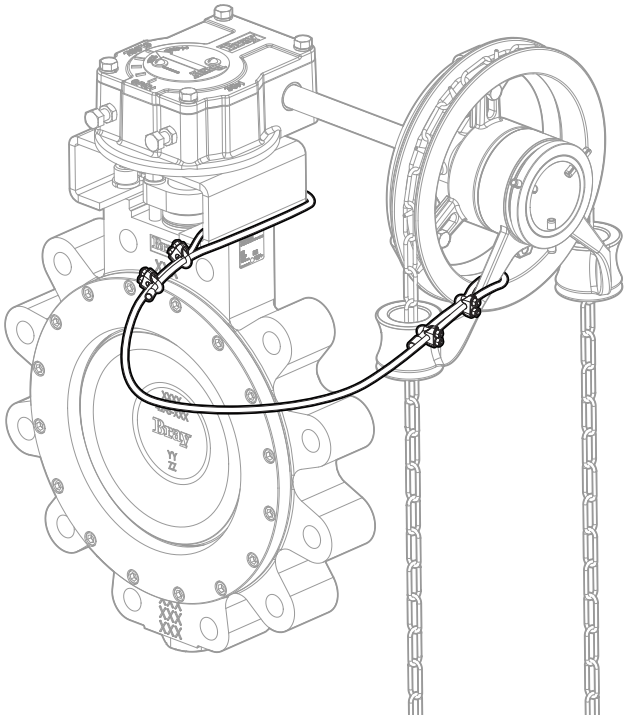
SERIES 04

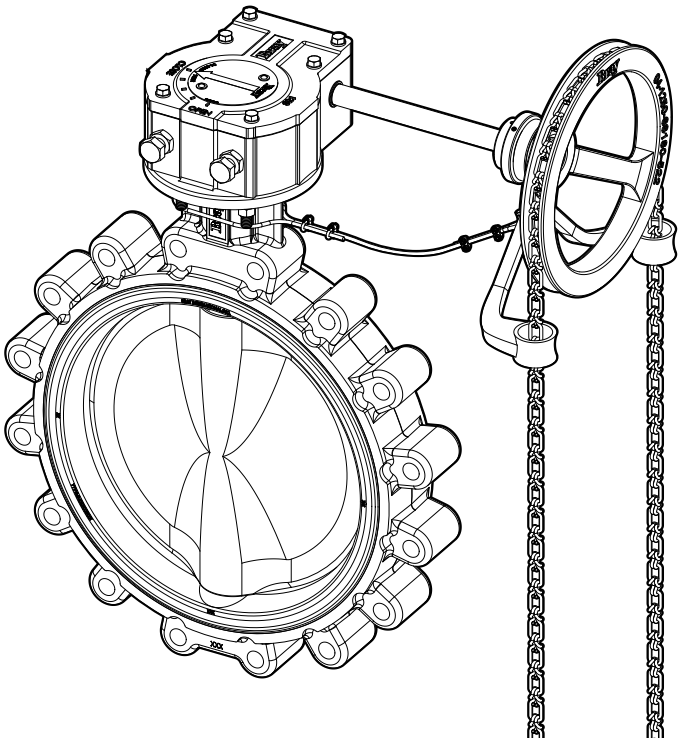
RETAINING CABLE KIT FOR HAND WHEEL CHAIN

Installation, Operation and Maintenance Manual

BOLT-ON CHAINWHEEL



DIRECT MOUNT CHAINWHEEL



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CONTENTS

READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY.
SAVE THIS MANUAL FOR FUTURE USE.
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1.0 DEFINITION OF TERMS

All information within this manual is relevant to the safe operation and proper care of your Bray valve. Please understand the following examples of information used throughout this manual.

Specific instructions for non-standard materials of construction, temperature range, etc. should be referred to the factory.

1.1 Safety Statements

To prevent unwanted consequences, standard symbols and classifications are used as shown below:

DANGER
Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.

WARNING
Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION
Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE
Used without the safety alert symbol, indicates a potential situation which, if not avoided, may result in an undesirable result or state, including property damage.

NOTE: Provides important information related to a procedure.

2.0 INTRODUCTION

Bray chainwheels are designed to easily attach to Bray S04 gear operators, making them ideal for manual operation of valves positioned in challenging or inaccessible locations. Each chainwheel is equipped with safety cable kit, providing an added layer of safety to prevent accidental detachment from the gear operator and it's use is strongly recommended to ensure operator safety.

The safety cable kits are available in both galvanized steel and stainless-steel options.

3.0 HAZARD-FREE USE

This device left the factory in proper condition to be safely installed in a hazard-free manner. The notes and warnings in this document must be observed by the user if this safe condition is to be maintained and hazard-free operation of the device assured.

Take all necessary precautions to prevent damage to the retaining safety cable and parts due to rough handling, impact or improper use.

4.0 WARNINGS

1. WARNING
Failure to read, to understand, and to follow warnings and instructions can result in serious injury or fatality.

2. WARNING
Bypassing this safety device may lead to serious injury or fatality.

3. WARNING
Wire cable needs proper care and maintenance for optimal safety and long service life. For a better understanding of wire cable we highly recommend the Wire Cable Users Manual by the Wire Cable Technical Board.

4. WARNING
Inspect wire cable regularly. Use inspection instructions as guidelines only. Check the general condition of the wire cable. Also, look for localized damage and wear, especially at wire cable attachments. Inspect all parts that come in contact with the wire cable. Look for kinks, broken wires, abrasions, lack of lubrication, rust damage, loose threaded fasteners, crushing, and a reduction of diameter, stretch or other obvious damage. If any of these conditions exists or if there is any other apparent damage to the wire cable, dispose of the wire cable. For specific inspection procedures, refer to various OSHA and ANSI publications.

5. WARNING
Attachments must have at least the same Working Load Limit as the wire cable used. Clips, sleeves, shackles, etc. must match in size to provide adequate safety protection. Proper installation of clips to wire, and wire to designated parts of valve is crucial for maximum efficiency and safety.

When applying U-Bolt over dead end of wire cable – live end rests in saddle. Tighten nuts evenly, alternating from one nut to the other. See **Figure 3C** on Page 7.

When creating a loop around specified equipment, the loop must be secure enough so that it will not slip off.

When applying anchor shackle with cotter pin, make sure nut is securely fastened and cotter pin is installed so that the nut cannot come loose from the bolt. See **Figure 4A** on page 8.

6. WARNING
Avoid shock loads. Avoid impacting or jerking of cable. Do not hang from wire cable. Keep out of the line of force of any load. This device is a safety precaution; any unnecessary load placed on the wire cable may reduce its ability to function properly.

5.0 INSTALLATION

5.1 Bolt-On Chainwheel Installation - 8" and 12"

Read through and understand all of the instructions before beginning.

KIT CONTENTS

Galvanized Steel Kit	Stainless Steel Kit
One 5 ft long 3/16 in diameter galvanized wire cable with a stop sleeve on each end	One 5 ft long 3/16 in diameter stainless steel wire cable with a stop sleeve on each end
Four 3/16 in galvanized wire cable clips	**Four** 3/16 in stainless steel wire cable clips

1. Dismantle two wire cable clips.
2. Loop wire cable around bracket or neck of valve. See **Figure 2**.
3. Close the loop by applying a wire cable clip. Secure the loop with the second wire cable clip and firmly tighten all wire cable nuts. See **WARNING Note 5** on page 6 and **Figure 3C**.
4. Dismantle the two remaining wire cable clips.
5. Loop the wire cable around one "arm" of the chain wheel guide. See **Figure 2**.
6. Close the loop by applying a wire cable clip. Secure the loop with the second wire cable clip and firmly tighten all wire cable nuts. See **WARNING Note 5** on page 6 and **Figure 3C**.

Figure 1: Wire cable and clips

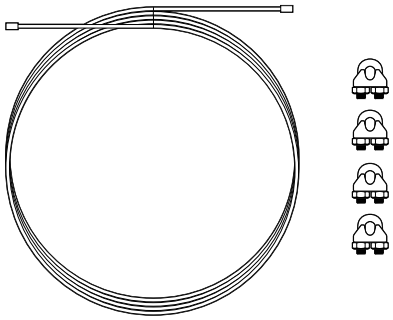


Figure 2: Wire cable secured around the valve/ bracket and chain wheel arm.

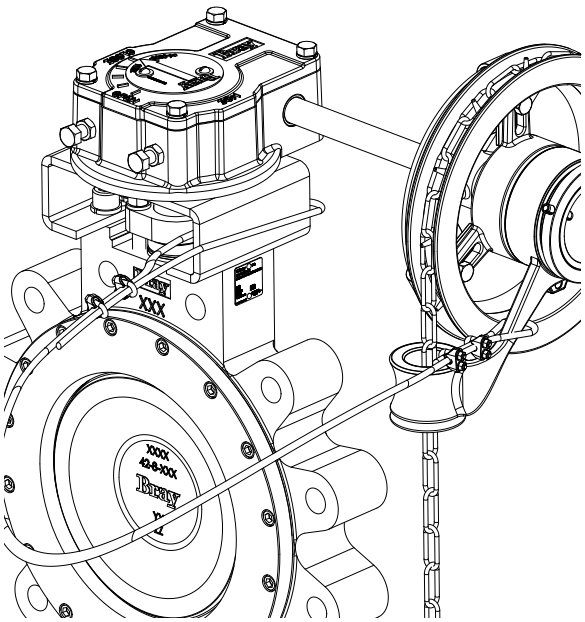
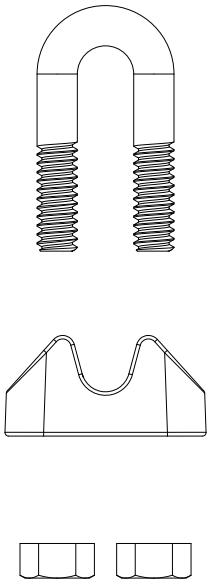
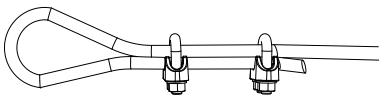


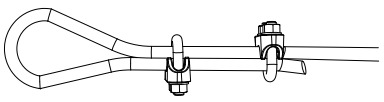
Figure 3: Correct assembly and use of wire cable clips.



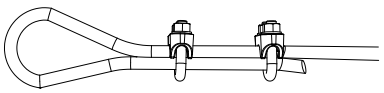
✗ **3A:** Incorrect



✗ **3B:** Incorrect



✓ **3C:** Correct



5.2 Bolt-On Chainwheel Installation - 18″ and 24″

Read through and understand all of the instructions before beginning.

KIT CONTENTS

Galvanized Steel Kit	Stainless Steel Kit
One 5 ft long ¼ in diameter galvanized wire cable with a stop sleeve on each end	**One** 5 ft long ¼ in diameter stainless steel wire cable with a stop sleeve on each end
Four ¼ in galvanized wire cable clips	**Four** ¼ in stainless steel wire cable clips
One ⅜ in stainless steel bolt anchor shackle with cotter pin	**One** ⅜ in Stainless steel bolt anchor shackle with cotter pin

1. Dismantle the anchor shackle by removing cotter pin, loosening and removing nut and bolt from the u-shaped body. See **Figure 4A**.
2. Insert the shackle through the hole at the top of the chain guide, as shown in **Figure 5**. Start by inserting the bolt into one ear of the anchor shackle. Next, slide the loop at the end of the wire (held in place by the wire clips) onto the bolt. After that, insert the bolt through the second ear of the anchor shackle and tighten the nut to secure it. Finally, add the cotter pin to keep the anchor shackle secure. See **WARNING Note 5** on page 6 and **Figure 5**.
3. Dismantle the two remaining wire cable clips.
4. Loop wire cable around bracket or neck of valve. See **Figure 6**.
5. Close the loop by applying a wire cable clip. Secure the loop with the second wire cable clip and firmly tighten all wire cable nuts. See **WARNING Note 5** on page 6 and **Figures 3C** on page 7.

Figure 4: Wire cable, clips and anchor shackle with cotter pin

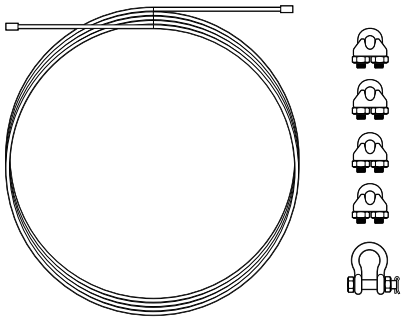


Figure 5

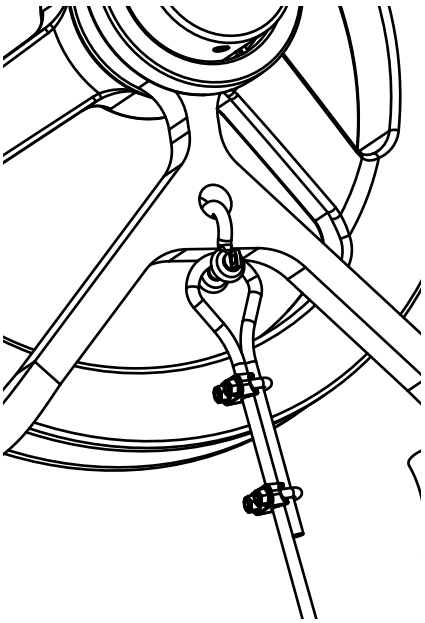


Figure 6

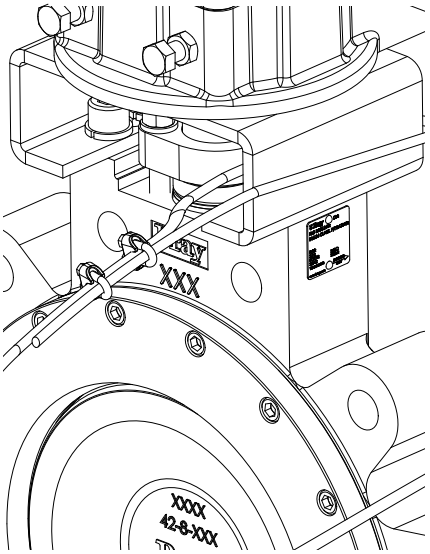
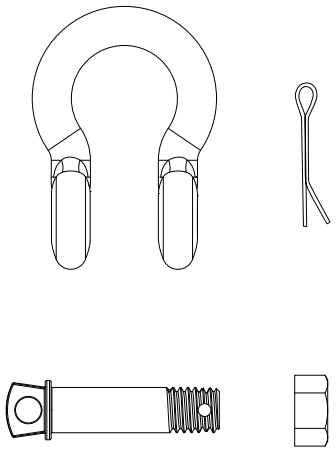


Figure 4A: Anchor shackle with cotter pin.



5.3 Direct Mount Chainwheel Installation - 9″ to 12.5″

Read through and understand all of the instructions before beginning

KIT CONTENTS

Galvanized Steel Kit	Stainless Steel Kit
One 5 ft long 3⁄16 in diameter galvanized wire cable with a stop sleeve on each end.	One 5 ft long 3⁄16 in diameter stainless steel wire cable with a stop sleeve on each end.
Four 3⁄16 in galvanized wire cable clips.	**Four** 3⁄16 in stainless steel wire cable clips.

1. Dismantle two wire cable clips.
2. Loop wire cable around bracket or neck of valve. See **Figure 8**.
3. Close the loop by applying a wire cable clip. Secure the loop with the second wire cable clip and firmly tighten all wire cable nuts. See **WARNING Note 5** on page 6 and **Figure 3C** on page 7.
4. Dismantle the two remaining wire cable clips.
5. Pass the wire cable through the hole in the chainwheel guide. See **Figure 8**.
6. Close the loop by applying a wire cable clip. Secure the loop with the second wire cable clip as and firmly tighten all wire cable nuts. See **WARNING Note 5** on page 6 and **Figures 3C** on page 7.

Figure 7: Wire cable and clips.

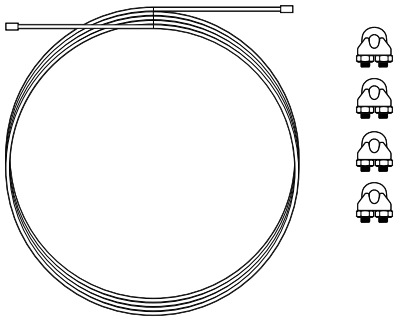
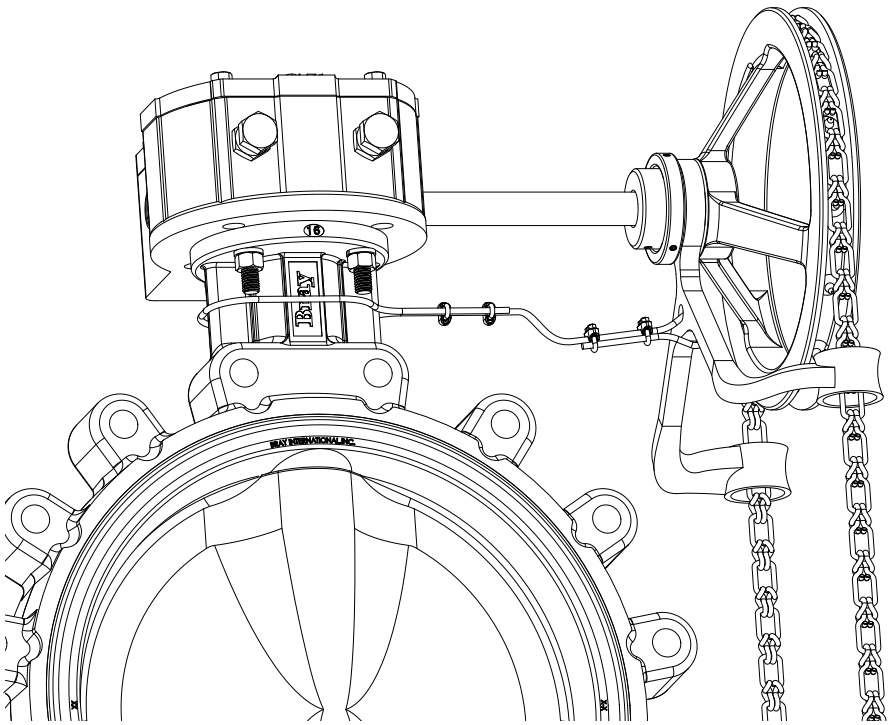


Figure 8: Valve neck.



5.4 Direct Mount Chainwheel Installation - 19″ to 24″

Read through and understand all of the instructions before beginning

Each Kit Contains:

Galvanized Steel Kit	Stainless Steel Kit
One 5 ft long ¼ in diameter galvanized wire cable with a stop sleeve on each end.	**One** 5 ft long ¼ in diameter stainless steel wire cable with a stop sleeve on each end.
Four ¼ in galvanized wire cable clips.	**Four** ¼ in stainless steel wire cable clips.

1. Dismantle the two wire cable clips.
2. Loop wire cable around bracket or neck of valve. See **Figure 10 and Figure 11.**
3. Close the loop by applying a wire cable clip. Secure the loop with the second wire cable clip and firmly tighten all wire cable nuts. See **WARNING Note 5** on page 6 and **Figure 3C** page 7.
4. Dismantle the two remaining wire cable clips.
5. Pass the wire cable through the hole in the chainwheel guide. See **Figure 10.**

NOTE: Do not use anchor shackle on Direct Mount Chainwheel installation**.**

6. Close the loop by applying a wire cable clip. Secure the loop with the second wire cable clip and firmly tighten all wire cable nuts. See **WARNING Note 5** on page 6 and **Figure 3C.**

Figure 9: Wire cable and clips.

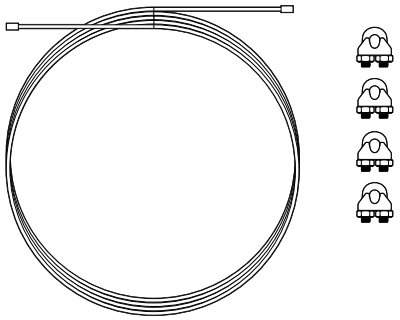


Figure 10: Wire cable secured around the neck of the valve.

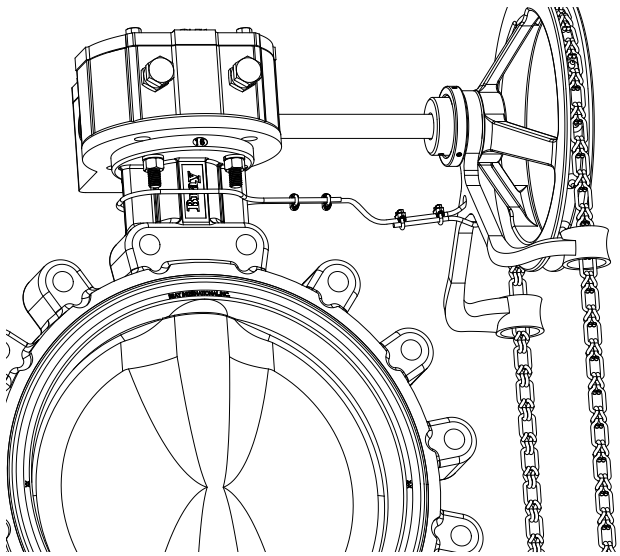
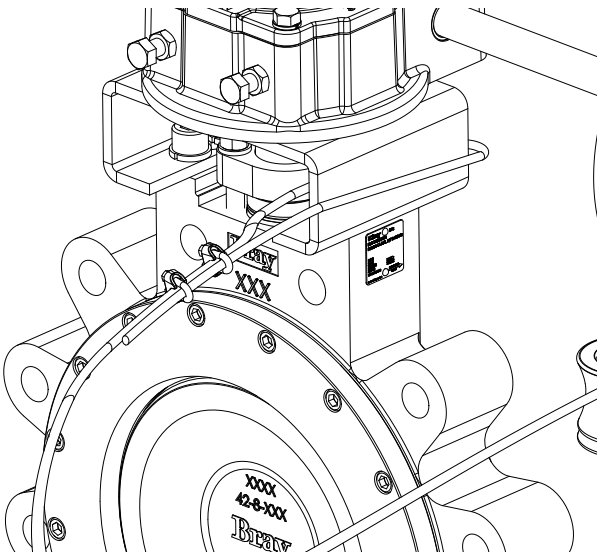


Figure 11 Wire cable secured around the bracket of the valve.



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