



## SBP2® Pendant Pushbutton Stations Installation Instructions



SBP2® Pendant Pushbutton Stations  
Installation Instructions  
June 2020



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# Table of Contents

1	Installing and Wiring the SBP2® Pendant Pushbutton Station .....	8
1.1	Taking Precautions During Installation .....	8
1.2	Taking Precautions During Wiring .....	9
1.3	Disassembling Enclosure .....	9
1.4	Installing Pendant Control Cable .....	9
2	Wiring and Marking Information .....	10
3	Considering the Environment.....	11
4	Operating the SBP2 Pendant Pushbutton Station Safely .....	12
4.1	Conducting a Pre-Operation Inspection.....	12
5	Typical Installation of the Strain-Relief Round Cable.....	13
6	Wiring and Repairing .....	15
7	Performing Maintenance.....	16
8	Practicing Safe Crane Operation .....	17
8.1	General Handling.....	17
9	Reassembling the Enclosure .....	19
10	Removing the Button Cover and Nameplate Insert .....	20
11	Assembly Drawing .....	21
12	Parts List .....	22
13	Replacement Parts .....	23

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For more information, please visit [www.columbusmckinnon.com/magnetek](http://www.columbusmckinnon.com/magnetek).

Accessories Description	Catalog #
2-Position Selector Switch	SBP2-L2
3-Position Selector Switch N.C. in Center	SBP2-L3
3-Position Selector Switch N.O. in Center	SBP2-L3B
120-Volt Red Pilot Light-Mounts in Standard Button Hole	SBP2-PLX-R
120-Volt Green Pilot Light-Mounts in Standard Button Hole	SBP2-PLX-G
120-Volt White Pilot Light-Mounts in Standard Button Hole	SBP2-PLX-W
120-Volt Yellow Pilot Light-Mounts in Standard Button Hole	SBP2-PLX-Y
120-Volt Yellow Pilot Light-Mounts in Standard Button Hole	SBP2-PLX-Y
Red Mushroom On/Off Switch-Push/Pull	SBP2-SMMH
Blank to Cover Button Hole	SBP2-BLNK
Cable Grip Kit*	CG-KIT

*\*Kit Includes nut, washer and six grommets.*

## PREFACE AND SAFETY

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## PRODUCT SAFETY INFORMATION

Magnetek, Inc. (Magnetek) offers a broad range of radio remote control products, control products and adjustable frequency drives, industrial braking systems, and power delivery products for material handling applications. This manual has been prepared by Magnetek to provide information and recommendations for the installation, use, operation and service of Magnetek's material handling products and systems (Magnetek Products). Anyone who uses, operates, maintains, services, installs or owns Magnetek Products should know, understand and follow the instructions and safety recommendations in this manual for Magnetek Products.

The recommendations in this manual do not take precedence over any of the following requirements relating to cranes, hoists, lifting devices or other equipment which use or include Magnetek Products:

- Instructions, manuals, and safety warnings of the manufacturers of the equipment where the Magnetek Products are used,
- Plant safety rules and procedures of the employers and the owners of the facilities where the Magnetek Products are being used,
- Regulations issued by the Occupational Health and Safety Administration (OSHA),
- Applicable local, state, provincial, or federal codes, ordinances, standards and requirements, or
- Safety standards and practices for the industries in which Magnetek Products are used.

This manual does not include or address the specific instructions and safety warnings of these manufacturers or any of the other requirements listed above. It is the responsibility of the owners, users and operators of the Magnetek Products to know, understand and follow all of these requirements. It is the responsibility of the employer to make its employees aware of all of the above listed requirements and to make certain that all operators are properly trained.

No one should use Magnetek Products prior to becoming familiar with and being trained in these requirements and the instructions and safety recommendations for this manual.

## PRODUCT WARRANTY INFORMATION

Magnetek, hereafter referred to as Company, assumes no responsibility for improper programming of a device (such as a drive or radio) by untrained personnel. A device should only be programmed by a trained technician who has read and understands the contents of the relevant manual(s). Improper programming of a device can lead to unexpected, undesirable, or unsafe operation or performance of the device. This may result in damage to equipment or personal injury. Company shall not be liable for economic loss, property damage, or other consequential damages or physical injury sustained by the purchaser or by any third party as a result of such programming. Company neither assumes nor authorizes any other person to assume for Company any other liability in connection with the sale or use of this product.

For information on Magnetek's product warranties by product type, please visit [www.columbusmckinnon.com/magnetek](http://www.columbusmckinnon.com/magnetek).

## DANGER, WARNING, CAUTION, AND NOTE STATEMENTS

Read and understand this manual before installing, operating, or servicing this product. Install the product according to this manual and local codes.

The following conventions indicate safety messages in this manual. Failure to heed these messages could cause fatal injury or damage products and related equipment and systems.



### DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.



### WARNING

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



### CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

## 13 Replacement Parts

Description	Catalog #
Single-Speed 2-Button Switch	SBP2-A2
Single-Speed 2-Button Switch (N.O./N.C. per button)	SBP2-AB2
Single-Speed 2-Button Switch (Each button with two N.O. Contacts)	SBP2-D2
Two-Speed 2-Button Switch	SBP2-S
Three-Speed 2-Button Switch	SBP2-T
Momentary On/Off 2-Button Switch	SBP2-B
Maintained On/Off 2-Button Switch	SBP2-H2
Maintained On/Off (N.O./N.C.) 2-Button Switch	SBP2-H3
Button Cover Black for Single-, Two-, Three-Speed Switches	WC2-LB
Button Cover – Red for On/Off Switches	WC2-R
Button Cover – Green for On/Off Switches	WC2-G
Button Cover – Black Oil Resistant	WC2-BS
Legend Sheet for Button Covers	004-1060
Two-Button Enclosure	SBP2-E2
Four-Button Enclosure	SBP2-E4
Six-Button Enclosure	SBP2-E6
Eight-Button Enclosure	SBP2-E8
Ten-Button Enclosure	SBP2-E10
Twelve-Button Enclosure	SBP2-E12
Top Assembly 3/4" NPT	SBP2-TA1
Top Assembly 1" NPT	SBP2-TA2
Screws for Enclosure	009-1250
Washers for Enclosure	009-1256
Switch Gasket	004-7280

## 12 Parts List

	Description	Catalog #
<b>Two-Button</b>	Two-Button On/Off	SBP2-2-WB
	Two-Button All Single-Speed	SBP2-2-WA
	Two-Button All Two-Speed	SBP2-2-WS
	Two-Button All Three-Speed	SBP2-2-WT
<b>Four-Button</b>	Four-Button (2) Single-Speed with On/Off	SBP2-4-WB
	Four-Button (2) Two-Speed with On/Off	SBP2-4-WBS
	Four-Button All Single-Speed	SBP2-4-WA
	Four-Button All Two-Speed	SBP2-4-WS
	Four-Button All Three-Speed	SBP2-4-WT
<b>Six-Button</b>	Six-Button (4) Single-Speed with On/Off	SBP2-6-WB
	Six-Button (4) Two-Speed with On/Off	SBP2-6-WBS
	Six-Button (4) Three-Speed with On/Off	SBP2-6-WBT
	Six-Button All Single-Speed	SBP2-6-WA
	Six-Button All Two-Speed	SBP2-6-WS
	Six-Button All Three-Speed	SBP2-6-WT
<b>Eight-Button</b>	Eight-Button (6) Single-Speed with On/Off	SBP2-8-WB
	Eight-Button (6) Two-Speed with On/Off	SBP2-8-WBS
	Eight-Button (6) Three-Speed with On/Off	SBP2-8-WBT
	Eight-Button All Single-Speed	SBP2-8-WA
	Eight-Button All Two-Speed	SBP2-8-WS
	Eight-Button All Three-Speed	SBP2-8-WT
<b>Ten-Button</b>	Ten-Button (8) Single-Speed with On/Off	SBP2-10-WB
	Ten-Button (8) Two-Speed with On/Off	SBP2-10-WBS
	Ten-Button (8) Three-Speed with On/Off	SBP2-10-WBT
	Ten-Button All Single-Speed	SBP2-10-WA
	Ten-Button All Two-Speed	SBP2-10-WS
	Ten-Button All Three-Speed	SBP2-10-WT
<b>Twelve-Button</b>	Twelve-Button (10) Single-Speed with On/Off	SBP2-12-WB
	Twelve-Button (10) Two-Speed with On/Off	SBP2-12-WBS
	Twelve-Button (10) Three-Speed with On/Off	SBP2-12-WBT
	Twelve-Button All Single-Speed	SBP2-12-WA
	Twelve-Button All Two-Speed	SBP2-12-WS
	Twelve-Button All Three-Speed	SBP2-12-WT

### NOTICE

NOTICE indicates a potential equipment damage message.

*NOTE: A NOTE statement is used to notify people of installation, operation, programming, or maintenance information that is important, but not hazard-related.*



### WARNING

Do not operate the SBP2 Pendant Pushbutton Station unless you are fully trained and qualified to operate the overhead material handling system of which this SBP2 is a component. For applications other than overhead cranes or hoists, consult Electromotive Systems at 1-800-288-8178.

Read the entire contents of this manual before you install or use the SBP2 Pendant Pushbutton Station.



### WARNING

If the pendant cable grip is not properly sized to fit the pendant cable, contamination of the pendant housing is possible. Contaminants that enter the switch contacts may result in a potentially unsafe operating condition.

When cutting, stripping and installing wires, ensure that contaminants do not fall into the enclosure. Contaminants that enter the switch contacts may result in a potentially unsafe operating condition.

Some pendant cable manufacturers add talc to their cable during the manufacturing process. This talc can migrate from the cable into the housing of the pendant station. As a result, the contamination of the switch contacts may occur, resulting in a potentially unsafe operating condition. Electromotive Systems therefore recommends only the use of talc-free cable for the wiring of all pendant stations.

Remove all contaminants from the housing and switch contact areas prior to sealing the enclosure and putting the pendant into service.



### CAUTION

Prior to the installation, inspection, or repair of the pendant station, disconnect power at the source following the lockout/tagout procedures as outlined in ANSI Z244.1.

## 1 Installing and Wiring the SBP2® Pendant Pushbutton Station

### 1.1 Taking Precautions During Installation

- Do not expose the unit to cold blasts of air that might cause condensation (for example, an air conditioning duct).
- Do not expose the unit to cleaning solvents that will penetrate and damage the unit's enclosure.
- Do not use cable that is split or cracked.
- Whenever possible, assemble the pendant in a vertical position to avoid contaminants falling into the enclosure.
- Attach the pushbutton station to the strain-relief cable so that no tension forms on the pushbutton cable directly.



#### **DANGER**

HIGH VOLTAGES ARE PRESENT IN THE CONTROL PANEL, JUNCTION BOXES, THE PENDANT'S ELECTRICAL COMPONENTS AND THE CONNECTION BETWEEN THESE COMPONENTS.

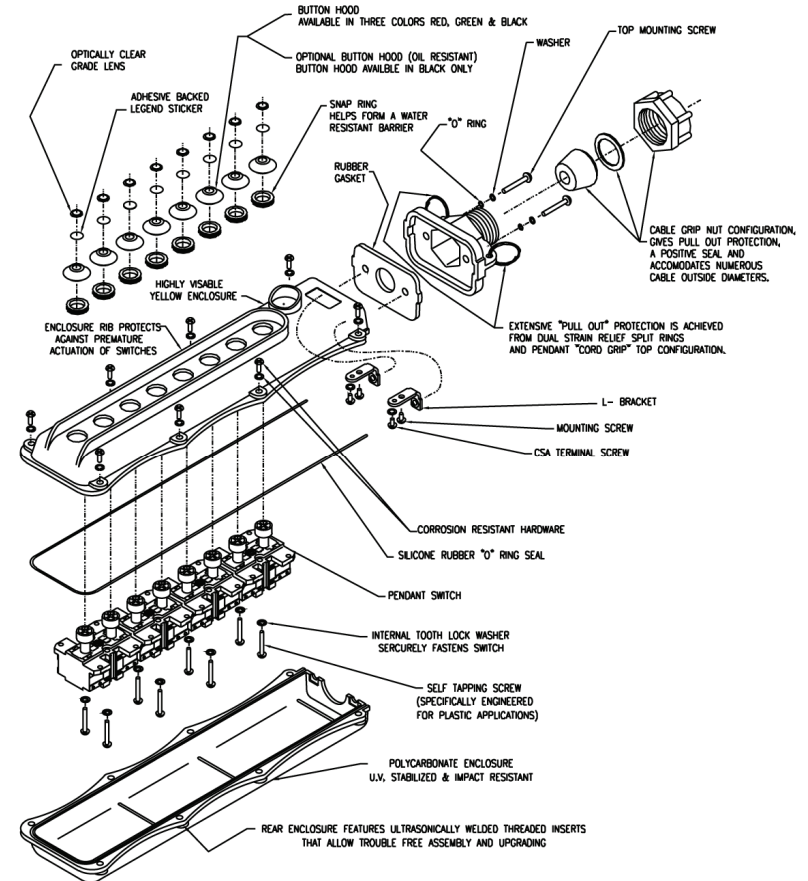
Before installing, servicing or inspecting any electrical or mechanical components of this power equipment, disconnect power at the source and follow proper lockout/tagout procedures.

DO NOT make or break electrical connections (for example, plugs and receptacles) without first disconnecting power at the source and following proper lockout/tagout procedures.

REFER TO ANSI Z244.1 PERSONNEL PROTECTION – LOCKOUT/TAGOUT OF ENERGY SOURCES.

Only qualified personnel should install components, inspect and/or service this equipment.

## 11 Assembly Drawing





## 10 Removing the Button Cover and Nameplate Insert

1. Using a small screwdriver, pry out the plastic nameplate insert.
2. Press one side of the nameplate insert into one side of the rubber button cover, and pry the button cover side to wedge in the plastic nameplate insert.
3. Remove the button cover (boot) only after disassembling the enclosure and removing the switch from the enclosure. Then press out the nylon retaining ring (using a small screwdriver) that secures the button cover in the enclosure hole.
4. Snap the button cover into the enclosure hole from the front.

## 1.2 Taking Precautions During Wiring

- If the cord grip on the top of the pendant does not fit the cable properly, water or dust may penetrate through the cable grip and cause damage to the buttons or cause the cranes and hoists to function improperly.
- When cutting or stripping wires, ensure that particles do not fall into the pendant enclosure.
- Use a UL-listed round crimp-style terminal when connecting the wiring terminal. Do not solder the terminal or connect the bare wires directly.

## 1.3 Disassembling Enclosure

1. Unscrew pendant cable grip nut.
2. Remove the top cover by loosening its two screws.
3. Remove the back cover by loosening the enclosure screws.

## 1.4 Installing Pendant Control Cable

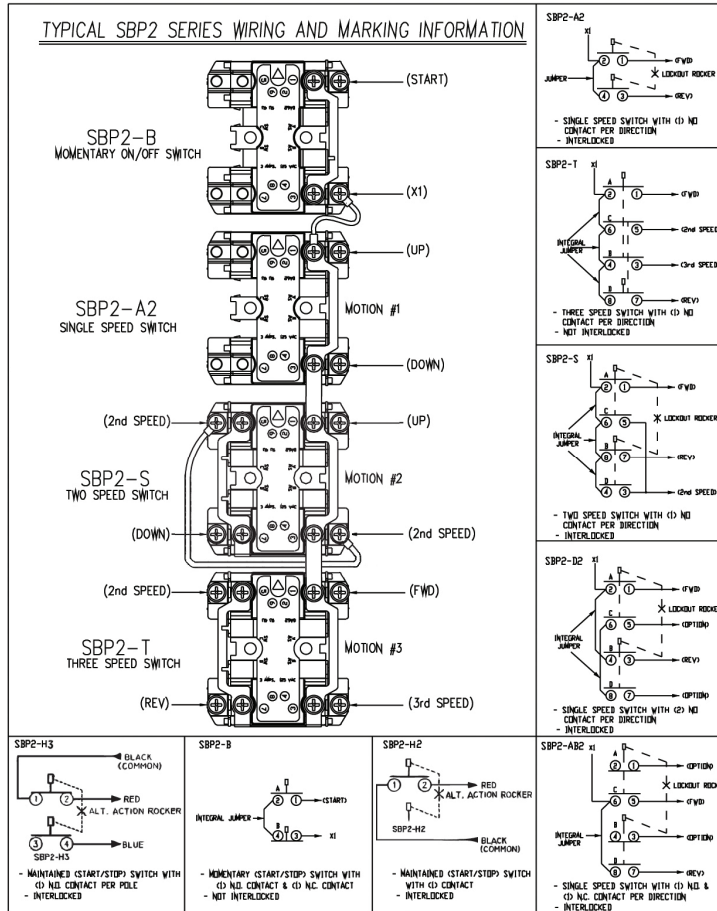
*NOTE: Magnetek recommends the use of a suitable outdoor-rated, oil-resistant pendant cable that is both UL listed and CSA recognized. When cutting or stripping wires, ensure that particles do not fall into the enclosure.*

1. Feed the cable through the cable grip nut, compression washer, cable gland grommet, pendant top gasket, pendant top and enclosure until the cable extends along the entire enclosure length. Then hand-tighten the pendant top unit.
2. To ease cable installation, attach the pendant top to the pendant enclosure front half, leaving the back off and exposing the switches.
3. Strip back the cable outer jacket to within one inch of the top of the enclosure.
4. Cut, strip and terminate each cable conductor.

*NOTE: Use a provided or UL-listed closed-loop or forked-type terminal lug.*

5. Fasten each cable conductor to its respective terminal screw. (**See *Wiring and Marking Information on page 10.***)
6. Code the opposite ends of the cable conductors to ensure proper wiring.

## 2 Wiring and Marking Information



Pendants include a cord grip nut, compression ring and six cable grommets. See below for grommet sizing.

Cable Diameter	Grommet #
0.375" – 0.437"	00-4987
0.437" – 0.562"	00-4980
0.500" – 0.625"	00-4981
0.562" – 0.687"	00-4982
0.625" – 0.750"	00-4983
0.687" – 0.812"	00-4984

## 9 Reassembling the Enclosure



### WARNING

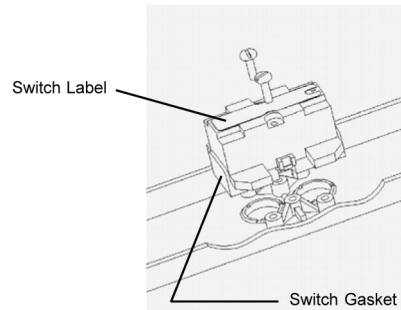
When tightening enclosure screws, do not exceed 9 in.-lb of torque. Overtorquing enclosure screws may cause damage to the enclosure.

1. Ensure that there are no bare cable conductor strands and that all conductors are insulated from each other.
2. Make sure that the enclosure water seal is properly placed in the groove of the front cover.
3. Reattach the back cover while carefully keeping the cable conductors inside the enclosure wiring area. Tighten the enclosure assembly screws.
4. Reinstall the pendant top and the top gasket. Tighten the top screws.
5. Tighten the pendant cable grip nut until the cable is sealed and secure.
6. Install the pendant strain-relief split rings and strain-relief cables if applicable.



## CAUTION

Do not operate the equipment and/or the pendant without a switch gasket and label. Replace damaged switch gaskets and labels to prevent contamination of the switch contacts. Call Magnetek at 800-288-8178 for replacement gaskets and labels.



## 3 Considering the Environment

- Do not expose the unit to cold blasts or air that might cause condensation (for example, air conditioning duct).
- Do not expose the unit to cleaning solvents that will penetrate the unit's enclosure.

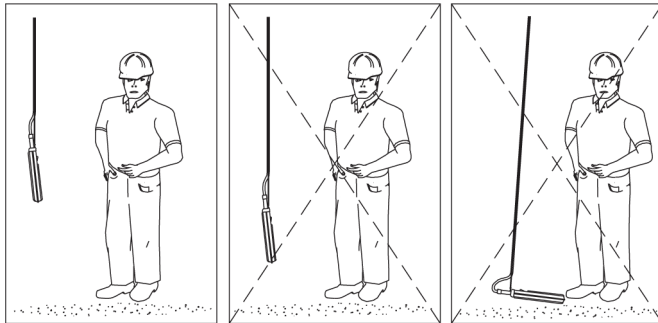
## 4 Operating the SBP2 Pendant Pushbutton Station Safely

When using a pendant station, take the following precautions:

### 4.1 Conducting a Pre-Operation Inspection

1. Ensure that the overall condition of the unit's exterior is sound.
2. Ensure that the buttons function normally (return to the OFF position when released) and that they contain labels identifying their proper function.
3. Remove any dirt, sand or moisture buildup.
4. Ensure the cable has no damage.
5. Ensure that the strain-relief wire supporting the cable is installed (if applicable).

Install the pendant station at a height of approximately 3 ft 6 in. from the ground, as shown below.



## 8 Practicing Safe Crane Operation

- When moving a load with the crane, stand facing the suspended load; move the load away from you.
- Perform only one operation at a time.
- When you are not using the pendant station, hang the unit as shown **on page 12**; do not let it lay horizontally.
- If a problem occurs during the operation of the pushbutton station, stop operation immediately and contact the person in charge of maintenance. Prior to inspection or repair of the pendant station, disconnect power at the source following lockout/tagout procedures as outlined in ANSI Z244.1.
- Check the enclosure and insulating material for any damage.



### WARNING

If you detect cracks or other abnormalities in any part, replace the part immediately. Failure to do so may cause the crane or hoist to function improperly.

Replace a split or cracked enclosure and rain-proof button caps, cable armor, cable or other parts immediately to prevent water from permeating the pushbutton enclosure. Water entering the enclosure could cause an electrical shock or cause the crane and hoists to function improperly.

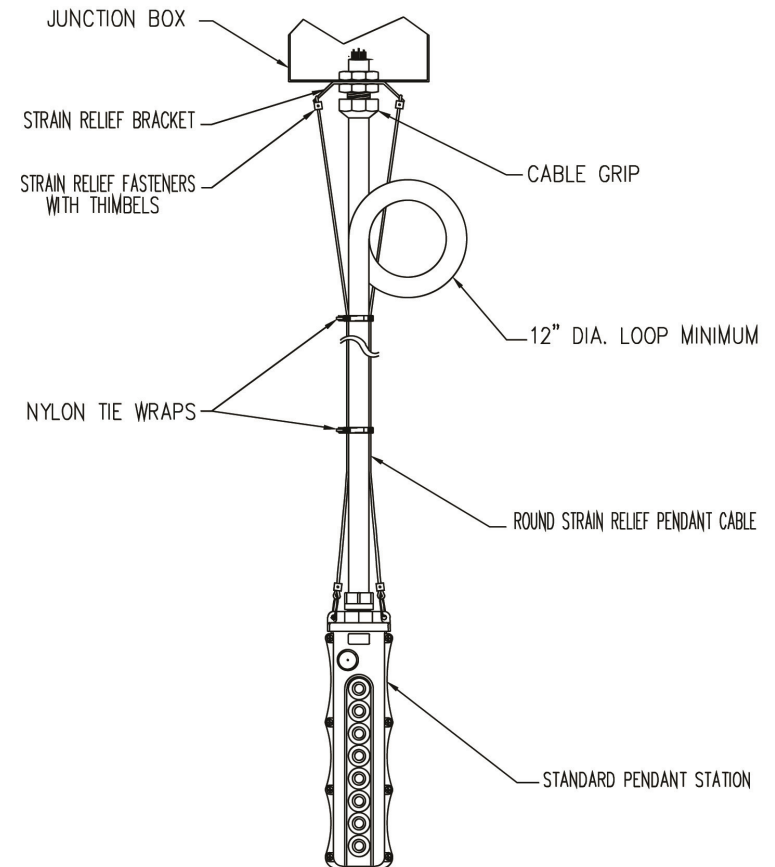
### 8.1 General Handling

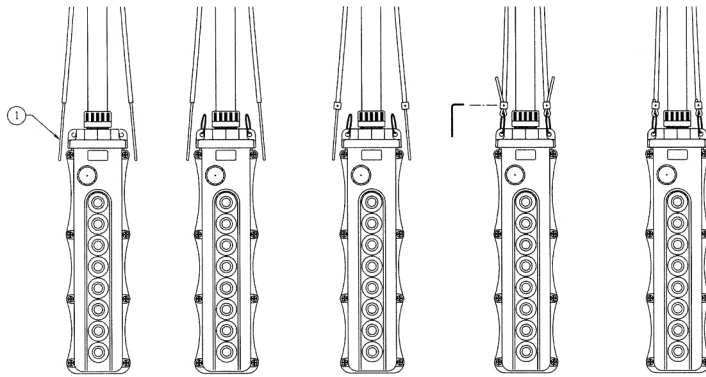
- Do not place the pendant in a pool of water or immerse it in water.
- Do not let the pendant slam into a hard object, wall or other object.
- Do not attempt to turn the knobs or switches beyond their travel limits.

## 7 Performing Maintenance

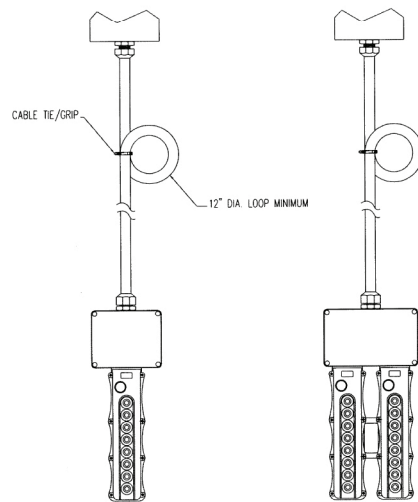
- On a continual basis, ensure that the interlock mechanism is operating properly and that the buttons return to the OFF position when released.
- Inspect the condition of the pendant on a regular basis (dependent on duty cycle).

## 5 Typical Installation of the Strain-Relief Round Cable





1. REMOVE INSULATION FROM STRAIN RELIEF CABLE
2. INSTALL STRAIN RELIEF SPLIT RINGS
3. INSTALL STRAIN COLLAR (W/ GRUB SCREWS)
4. THREAD STRAIN RELIEF WIRE THROUGH SPLIT RING AND BACK THROUGH COLLAR
5. TIGHTEN GRUB SCREW TO SECURE LOOP MAKING SURE STRAIN RELIEF IS INSTALLED CORRECTLY TO GIVE PULL-OUT PROTECTION
6. TRIM OFF WIRED ENDS



WHEN STRAIN RELIEF CABLE IS NOT AVAILABLE  
CABLE TIE INSTALLATION SHOULD CREATE  
SUFFICIENT GRIP TO HOLD THE LOOP IN PLACE DURING  
REGULAR ACTIVITY BUT ALSO ACT AS A STRAIN RELIEF  
GIVING PULL-OUT PROTECTION WHEN UNDER ABNORMAL LOAD.

## 6 Wiring and Repairing

- Use an approved round crimp-style terminal when wiring the terminals. Do not solder the terminal or connect the bare wires directly.
- Replace the cable if it is cracked or split.
- When cutting or stripping wires, ensure that particles do not fall into the enclosure.