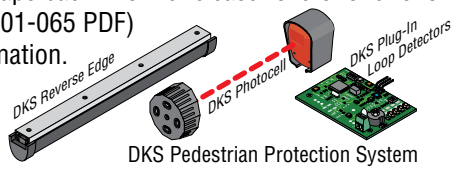
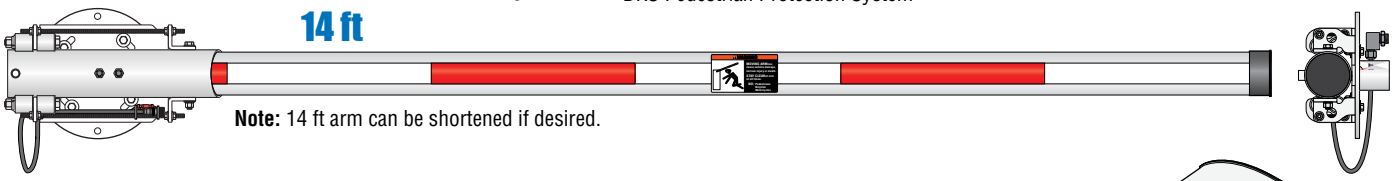
BREAK-AWAY ROUND ARM KIT for a 1601

DoorKing Part Number
8080-295

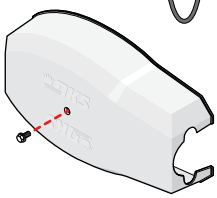
This kit is designed for a 1601 barrier gate operator **ONLY.** It **CANNOT** be used with a 1602, 1603 auto-spikes, 1620 lane barrier or a 1625 wedge barrier. The kit provides a breakaway bracket assembly for a **ROUND ARM ONLY**. Arm will reverse if lowering and a obstruction is encountered. If the arm is struck and breaks away (pivots in **ONE DIRECTION ONLY**, see below), gate operator will **automatically** shut down. The arm manually snaps back into the release rollers to function normally again. **NO** reset is necessary. See 1601/1602 Installation/Owner's manual (1601-065 PDF) for **ROUND** arm **safety protection device** information.



DKS Pedestrian Protection System



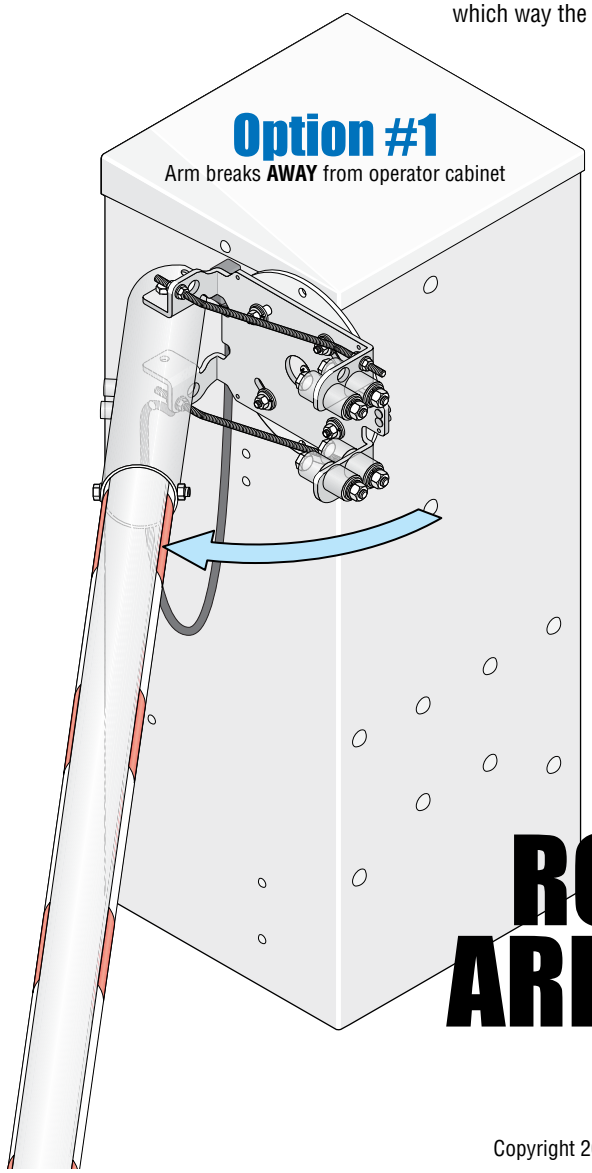
Note: 14 ft arm can be shortened if desired.


Plastic arm cover with securing bolt included.

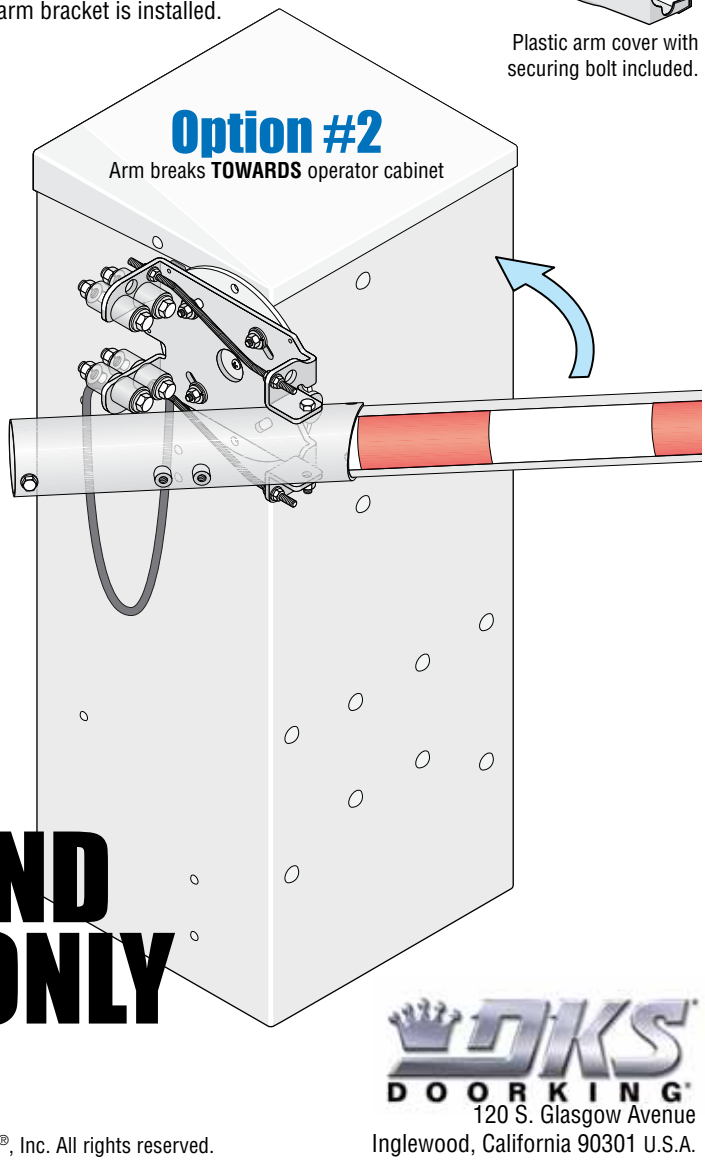
Break-Away ROUND Arm Bracket Direction Options

Break-Away arm bracket will only pivot in **ONE DIRECTION** depending on which way the break-away arm bracket is installed.

Option #1
Arm breaks **AWAY** from operator cabinet



Option #2
Arm breaks **TOWARDS** operator cabinet



ROUND ARM ONLY

DOORKING
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Inglewood, California 90301 U.S.A.

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8080-295

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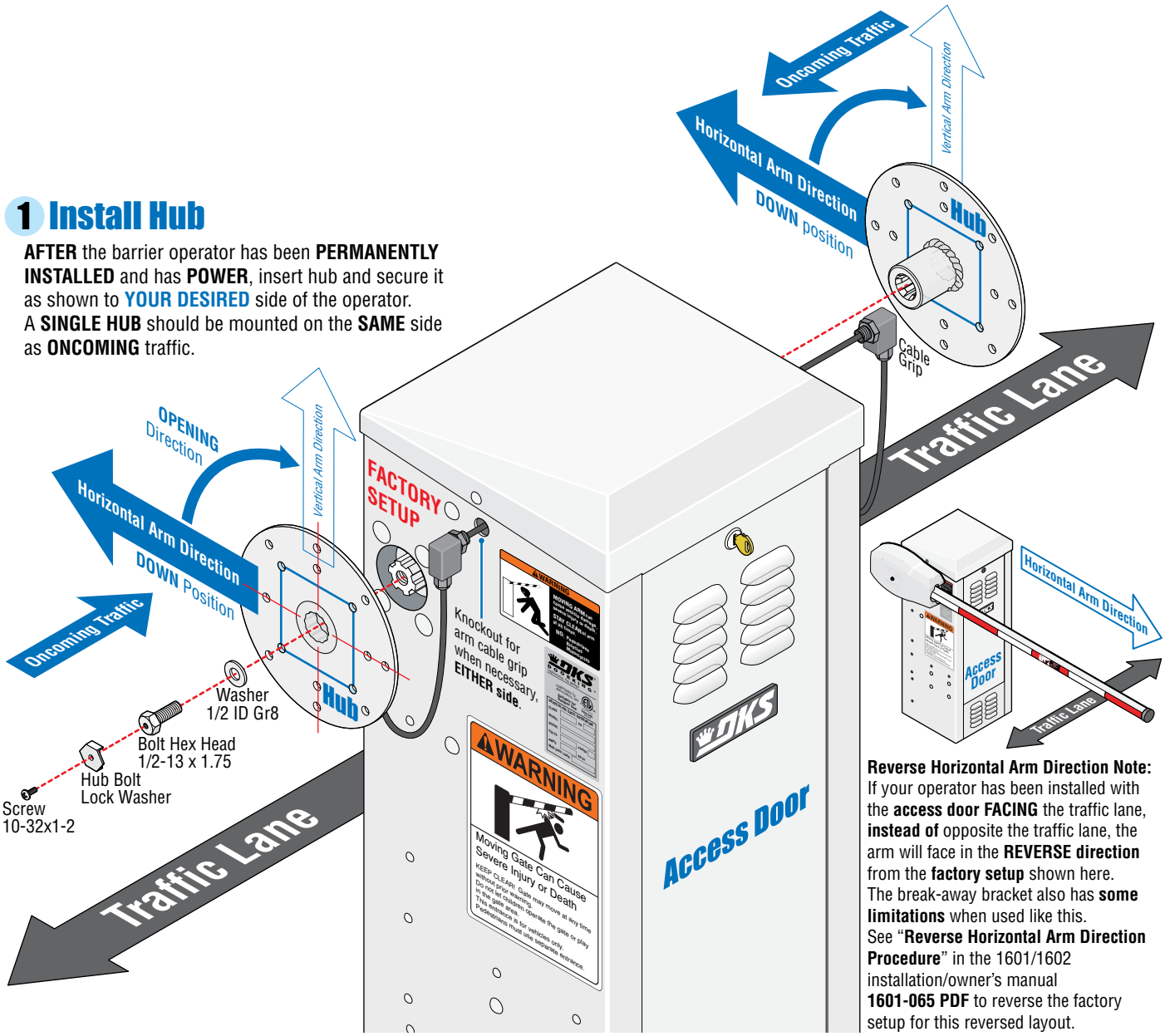
1 Install Hub

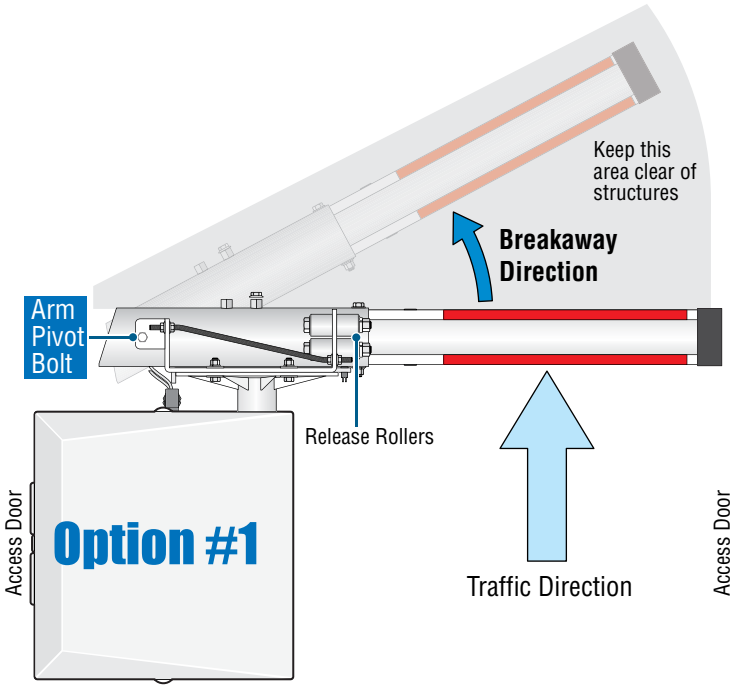
AFTER the barrier operator has been **PERMANENTLY INSTALLED** and has **POWER**, insert hub and secure it as shown to **YOUR DESIRED** side of the operator.
A **SINGLE HUB** should be mounted on the **SAME** side as **ONCOMING** traffic.



Reverse Horizontal Arm Direction Note:
If your operator has been installed with the **access door FACING** the traffic lane, **instead of** opposite the traffic lane, the arm will face in the **REVERSE direction** from the **factory setup** shown here. The break-away bracket also has **some limitations** when used like this. See "**Reverse Horizontal Arm Direction Procedure**" in the 1601/1602 installation/owner's manual **1601-065 PDF** to reverse the factory setup for this reversed layout.

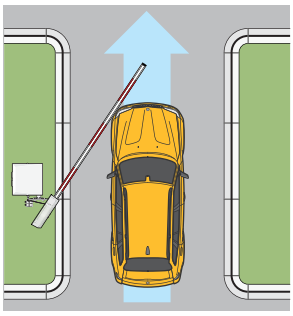
Break-Away Arm Direction Options

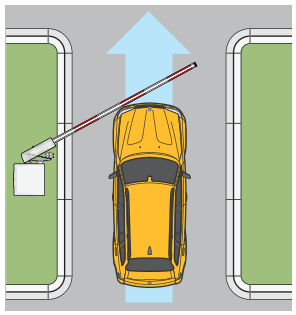
Arm will only pivot in **ONE DIRECTION** depending on which way the break-away arm bracket is installed. **Choose the desired break-away direction** and install break-away arm bracket accordingly (note position of **arm pivot bolt** and release rollers).



Option #2

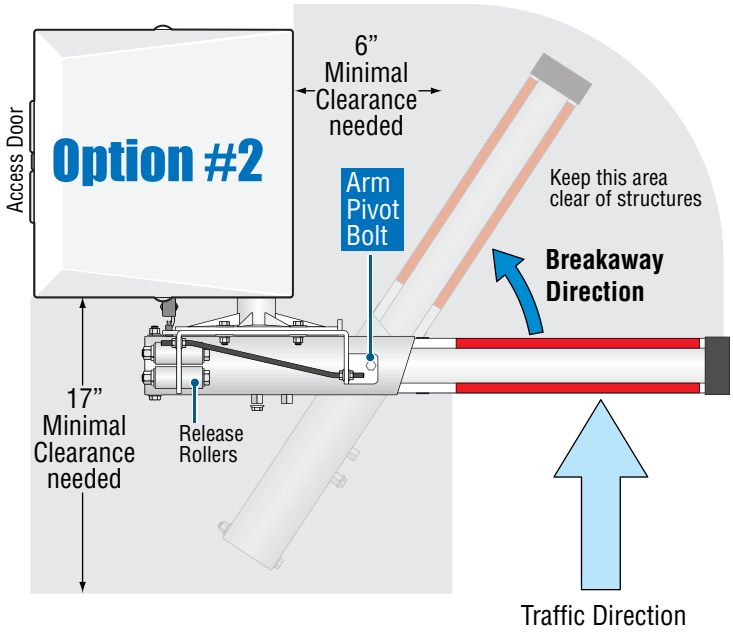
Arm breaks **TOWARDS** operator cabinet



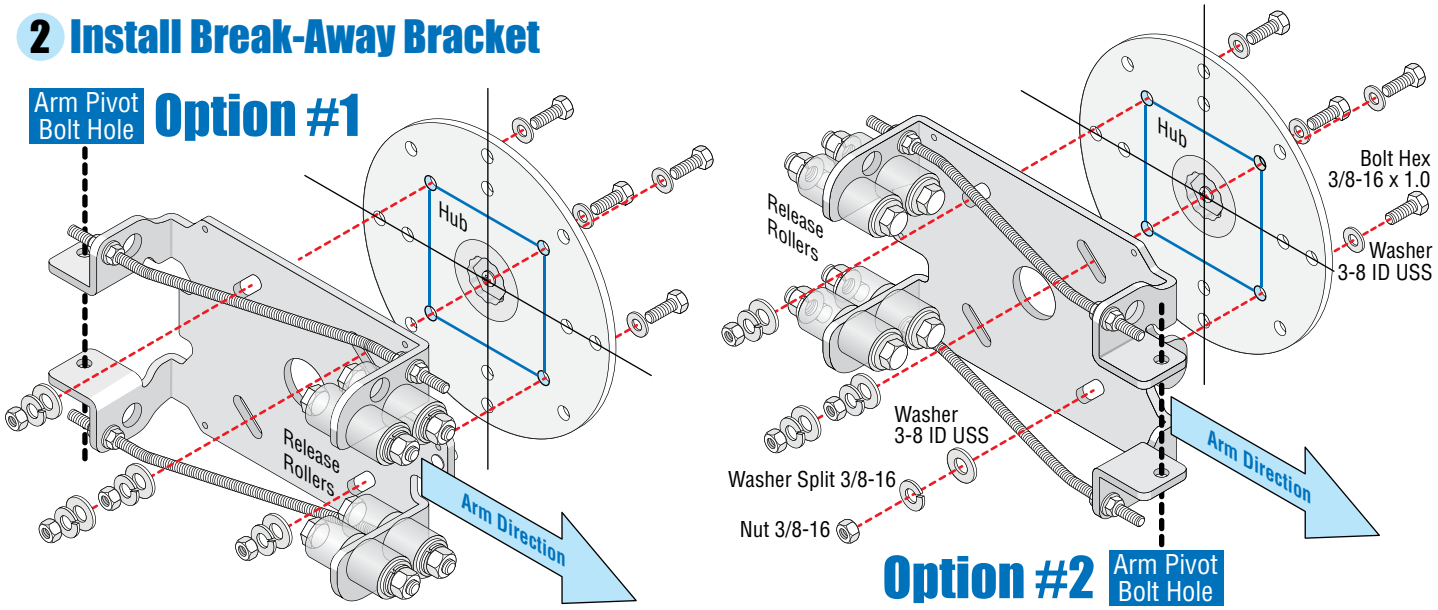


Option #1

Arm breaks **AWAY** from operator cabinet



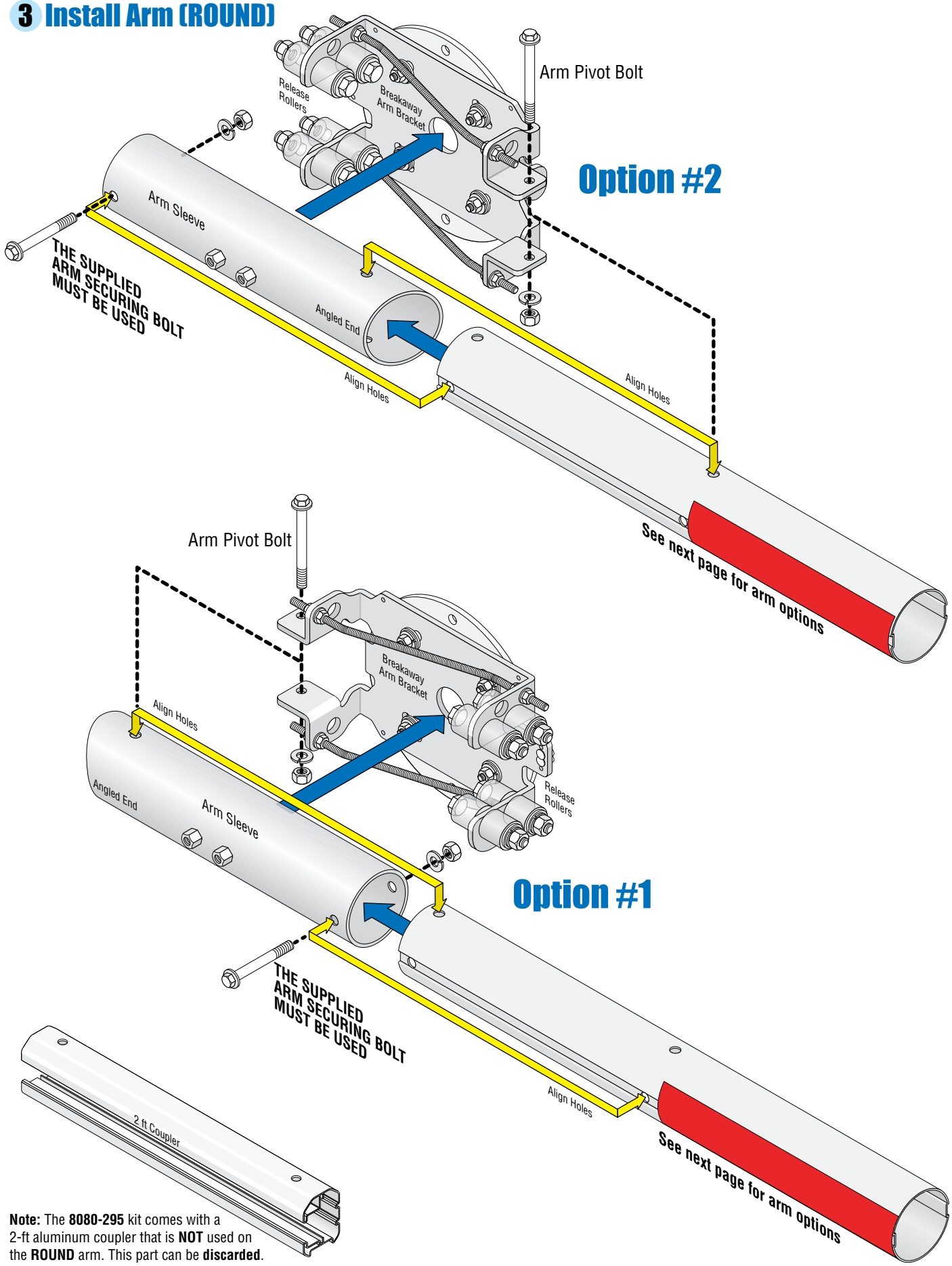
2 Install Break-Away Bracket



IMPORTANT Test the hub's **UP** and **DOWN** positions on the operator **BEFORE** installing arm bracket.

TURN OFF POWER BEFORE INSTALLING BRACKET

3 Install Arm (ROUND)



Note: The **8080-295** kit comes with a 2-ft aluminum coupler that is **NOT** used on the **ROUND** arm. This part can be **discarded**.

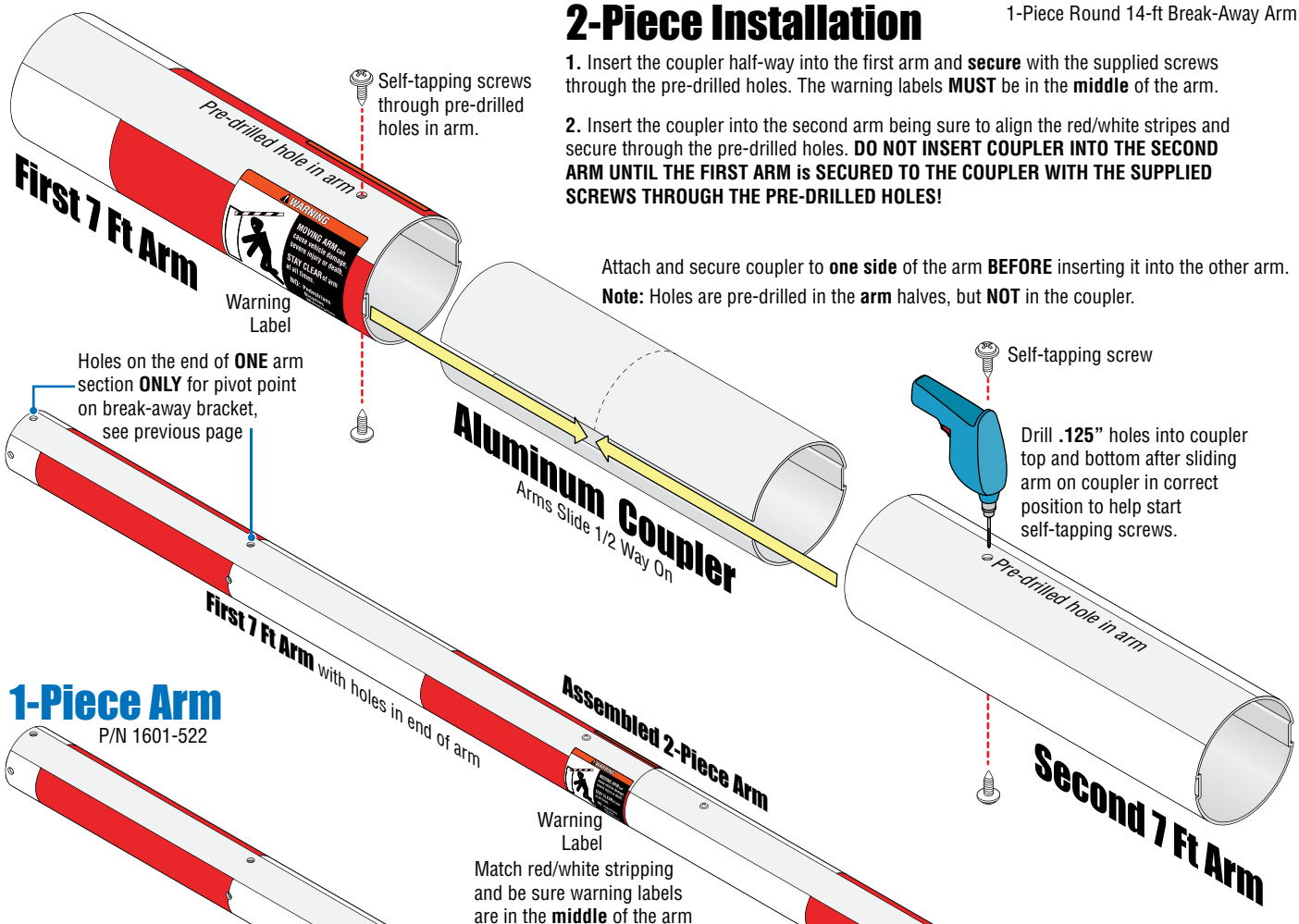
14 Ft ROUND Arm Options

DoorKing Part Numbers:

1601-528
2-Piece Round 14-ft Break-Away Arm

1601-522
1-Piece Round 14-ft Break-Away Arm

2-Piece Arm P/N 1601-528



2-Piece Installation

1. Insert the coupler half-way into the first arm and **secure** with the supplied screws through the pre-drilled holes. The warning labels **MUST** be in the **middle** of the arm.

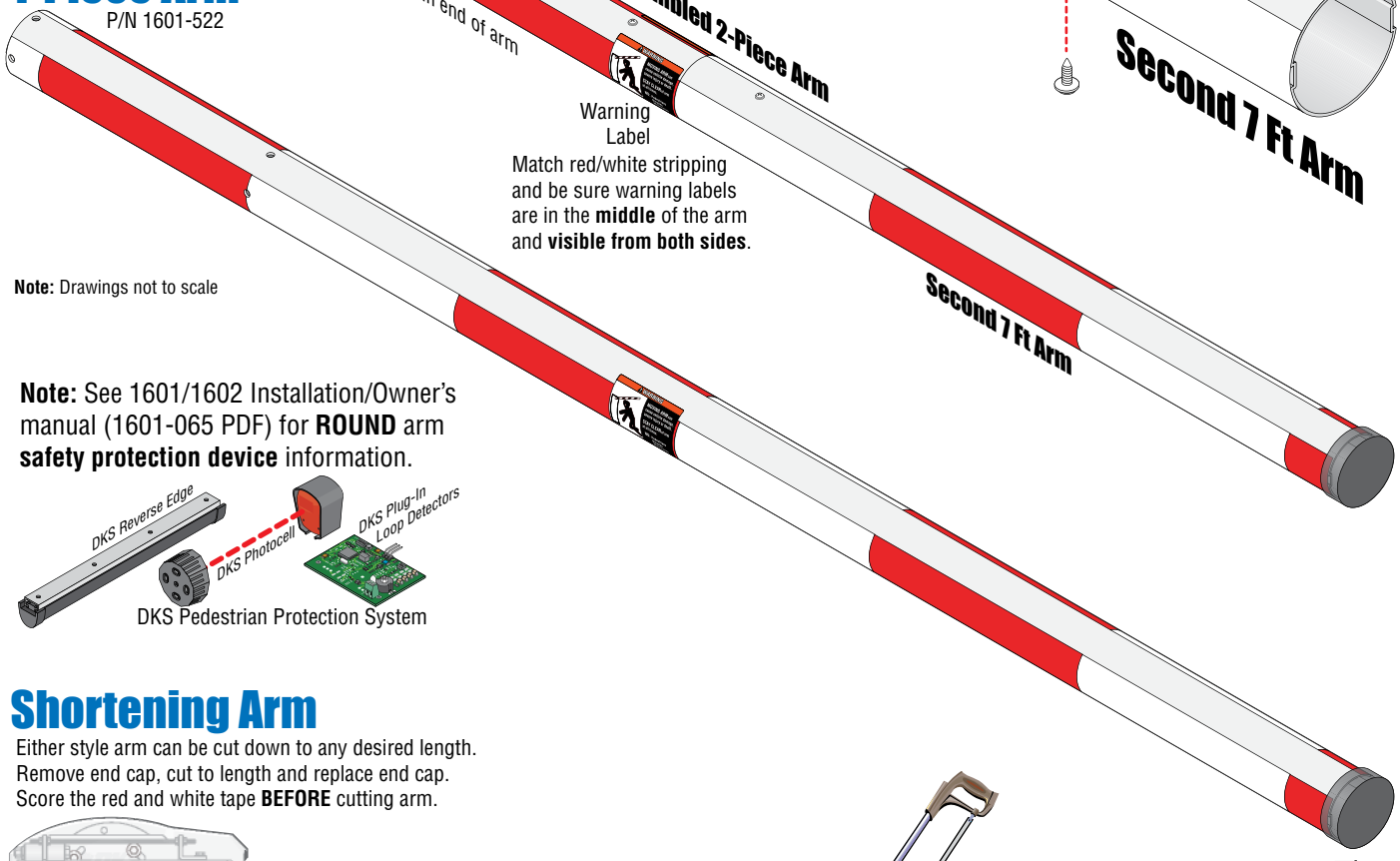
2. Insert the coupler into the second arm being sure to align the red/white stripes and secure through the pre-drilled holes. **DO NOT INSERT COUPLER INTO THE SECOND ARM UNTIL THE FIRST ARM is SECURED TO THE COUPLER WITH THE SUPPLIED SCREWS THROUGH THE PRE-DRILLED HOLES!**

Attach and secure coupler to **one side** of the arm **BEFORE** inserting it into the other arm.

Note: Holes are pre-drilled in the **arm** halves, but **NOT** in the coupler.

1-Piece Arm

P/N 1601-522



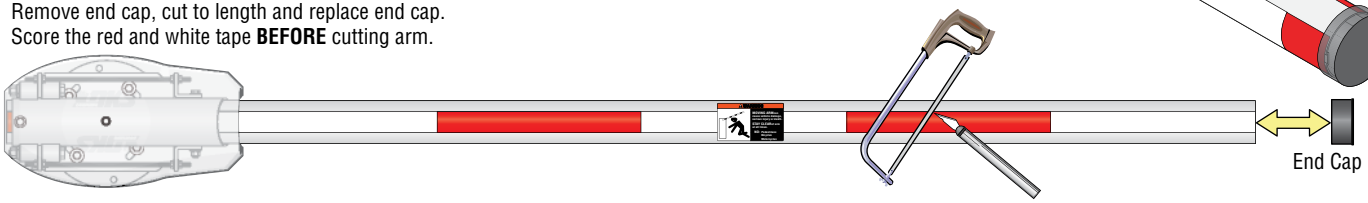
Note: Drawings not to scale

Note: See 1601/1602 Installation/Owner's manual (1601-065 PDF) for **ROUND** arm **safety protection device** information.

DKS Pedestrian Protection System

Shortening Arm

Either style arm can be cut down to any desired length.
Remove end cap, cut to length and replace end cap.
Score the red and white tape **BEFORE** cutting arm.

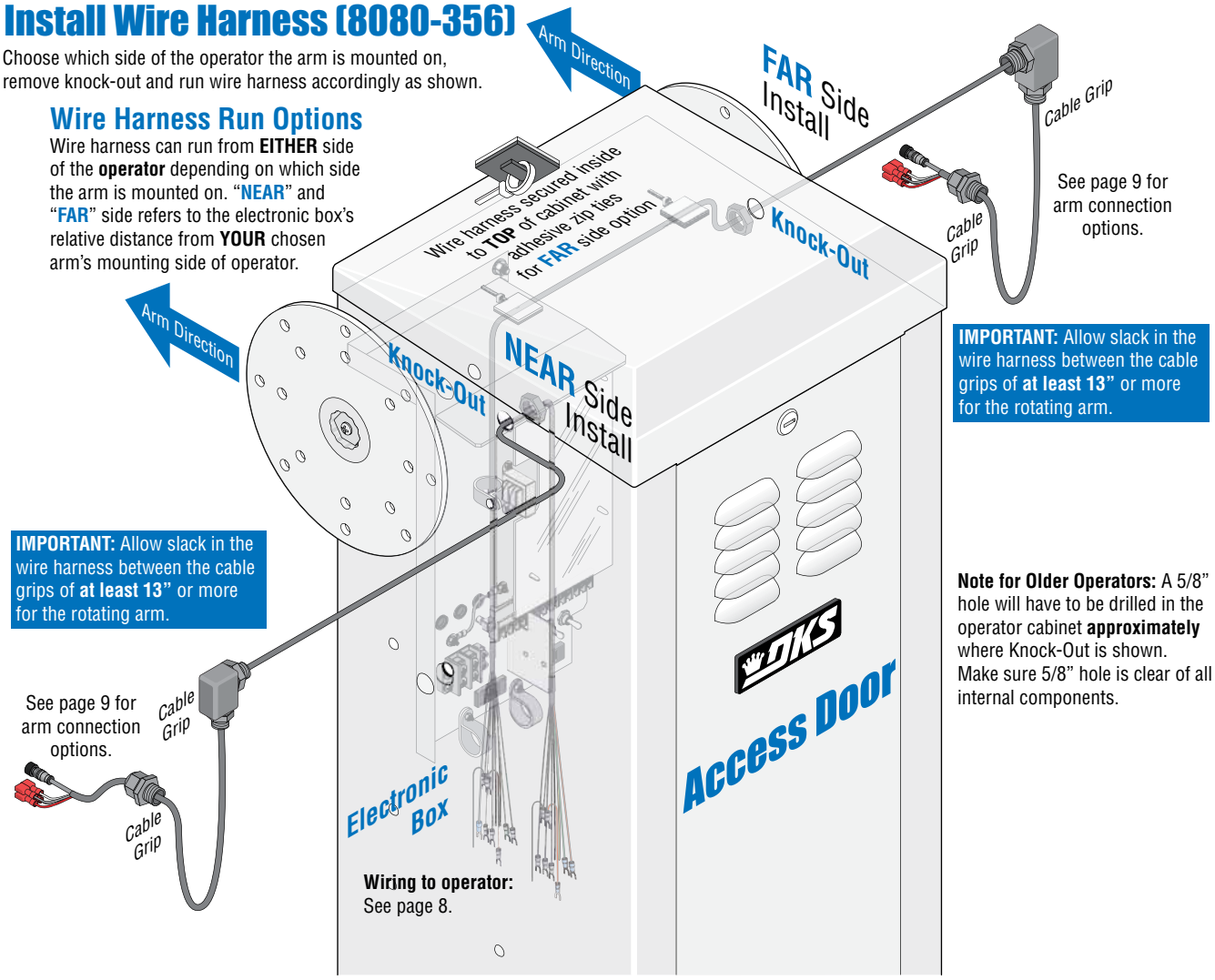


4 Install Wire Harness (8080-356)

Choose which side of the operator the arm is mounted on, remove knock-out and run wire harness accordingly as shown.

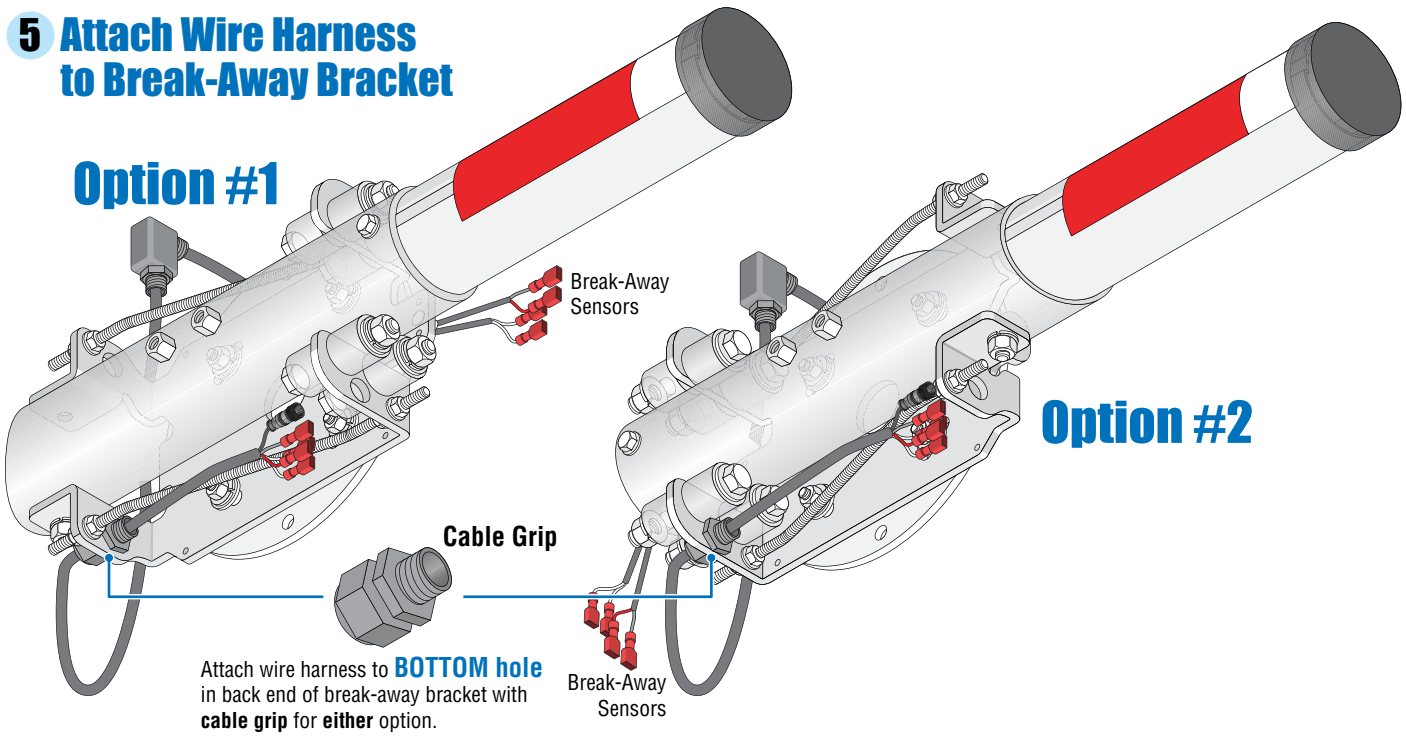
Wire Harness Run Options

Wire harness can run from **EITHER** side of the **operator** depending on which side the arm is mounted on. "**NEAR**" and "**FAR**" side refers to the electronic box's relative distance from **YOUR** chosen arm's mounting side of operator.

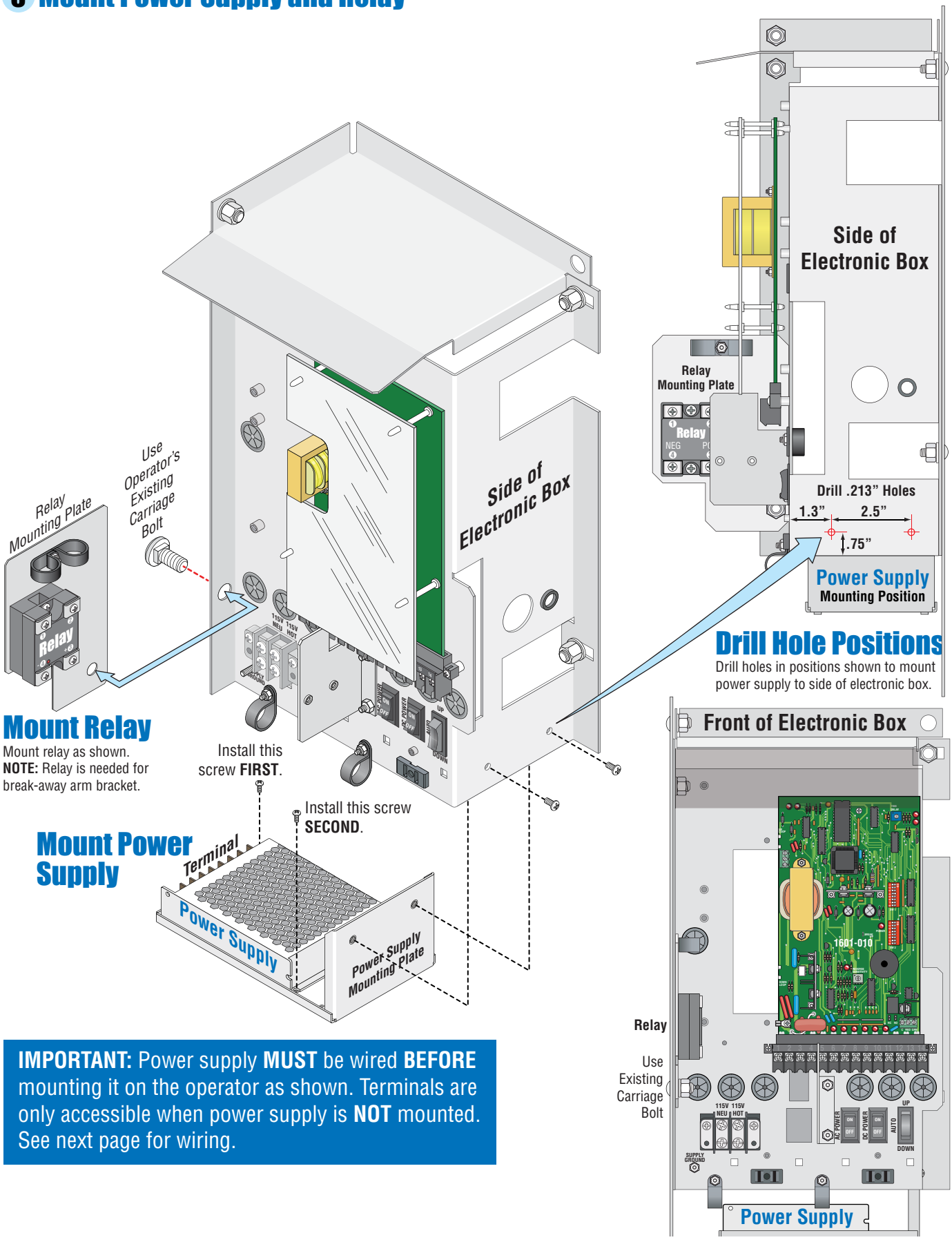


Note for Older Operators: A 5/8" hole will have to be drilled in the operator cabinet **approximately** where Knock-Out is shown. Make sure 5/8" hole is clear of all internal components.

5 Attach Wire Harness to Break-Away Bracket



6 Mount Power Supply and Relay

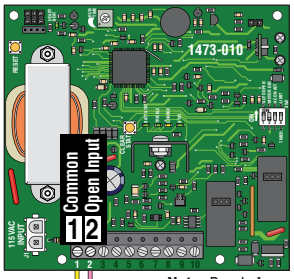


IMPORTANT: Power supply **MUST** be wired **BEFORE** mounting it on the operator as shown. Terminals are only accessible when power supply is **NOT** mounted. See next page for wiring.

7 Connect Wire Harness to Operator . . . . . and Wiring OPTIONS

MAKE SURE ALL POWER IS TURNED OFF TO OPERATOR!

Convenience Open 1473 On **SOME** Model Operators



Terminal 1 Battery Backup PCB Breakaway Sensor NC C9 L15

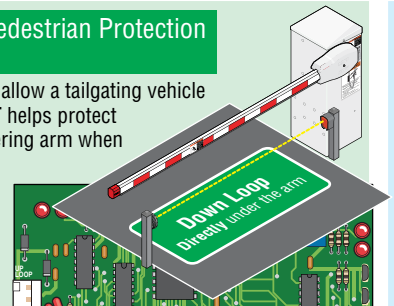
Terminal 2 Battery Backup PCB Breakaway Sensor NC C8 L13

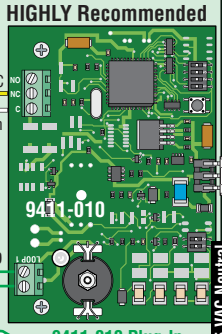
Note: Break-Away arm will **NOT** work with older model barrier operator with 2340-010 convienence open circuit board.

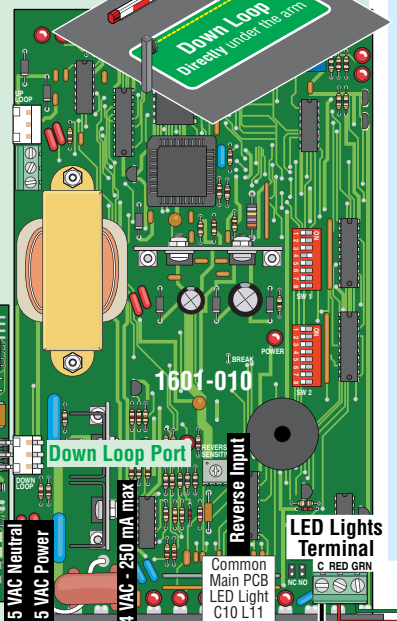
OPTIONAL DKS Pedestrian Protection System Set-up

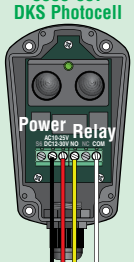
Note: The arm will **NOT** allow a tailgating vehicle unauthorized entry, **BUT** helps protect pedestrians from a lowering arm when they are in the arm's swing path. (Sold Separately)

Devices Required:
Plug-in Single Channel Loop Detector with Auxiliary Relay
P/N 9411-010
DKS Photocell
P/N 8080-057
See 1601-065 PDF for more info **when used**.
HIGHLY Recommended









8080-057 DKS Photocell

REQUIRED

Down Loop (In-Ground)

9411-010 Plug-In Loop Detector

Yellow NC

White Com

to #9

White to #14

Red to #5

Black to #14

Common Main PCB LED Light C10 L11

NO - Open - Green

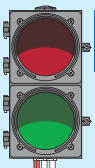
NC - Close - Red

V+ Power Supply - Black

Com

OPTIONAL LED Traffic Light

Different Kits Available



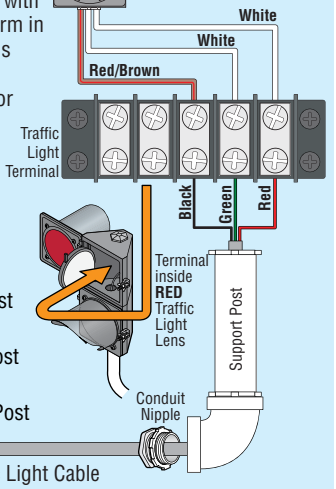
Note: The traffic light is wired together with the break-away arm in **some** installations when desired, so it's shown here for wiring reference. See Traffic Light 1603-264 PDF for more info **when used**.

Recommended

P/N 1603-221
6 Ft Cable/No Post

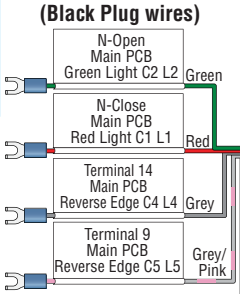
P/N 1603-222
6 Ft Cable/35" Post

P/N 1603-223
11 Ft Cable/95" Post



Traffic Light Cable

NOT USED (Black Plug wires)



Make sure **ANY** unused wires (Example: Convenience open **NOT** on your operator so wires are not used) are **properly terminated** and do **NOT** have exposed bare wires or metal connectors that could cause the operator to malfunction.

Wire Harness

9 labeled wires

8080-356 Harness

To Arm See next page

SUPPLY GND

Ground Panel Stud L24

Required

EXISTING Black Wire

Terminal 1 - Neutral Circuit Board L20

Terminal 2 Main PCB 110VAC HOT L14

Black

Common Main PCB 12V Negative C7 L12

L - Line Transformer L21

N - Neutral Transformer L22

White

Green

Ground Transformer L23

Terminal 1 - Hot Solid State Relay L19

110VAC HOT Solid State Relay L16

V- 12V Transformer 8.5A L18

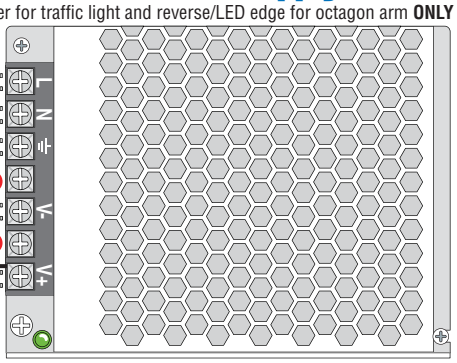
V+ Transformer 8.5A L17

Red/Blue

Black

1601-426 Power Supply 8.5A

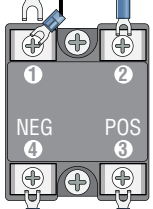
Power for traffic light and reverse/LED edge for octagon arm **ONLY**



Remove **EXISTING** wire **FROM** Main PCB Terminal 2 and connect it **TO Relay #1**

Relay

for Break-Away Sensors



Keep wires clear of all moving parts.

12V Positive (+) Solid State Relay C3 L3

12V Negative (-) Solid State Relay C6 L6

Blue

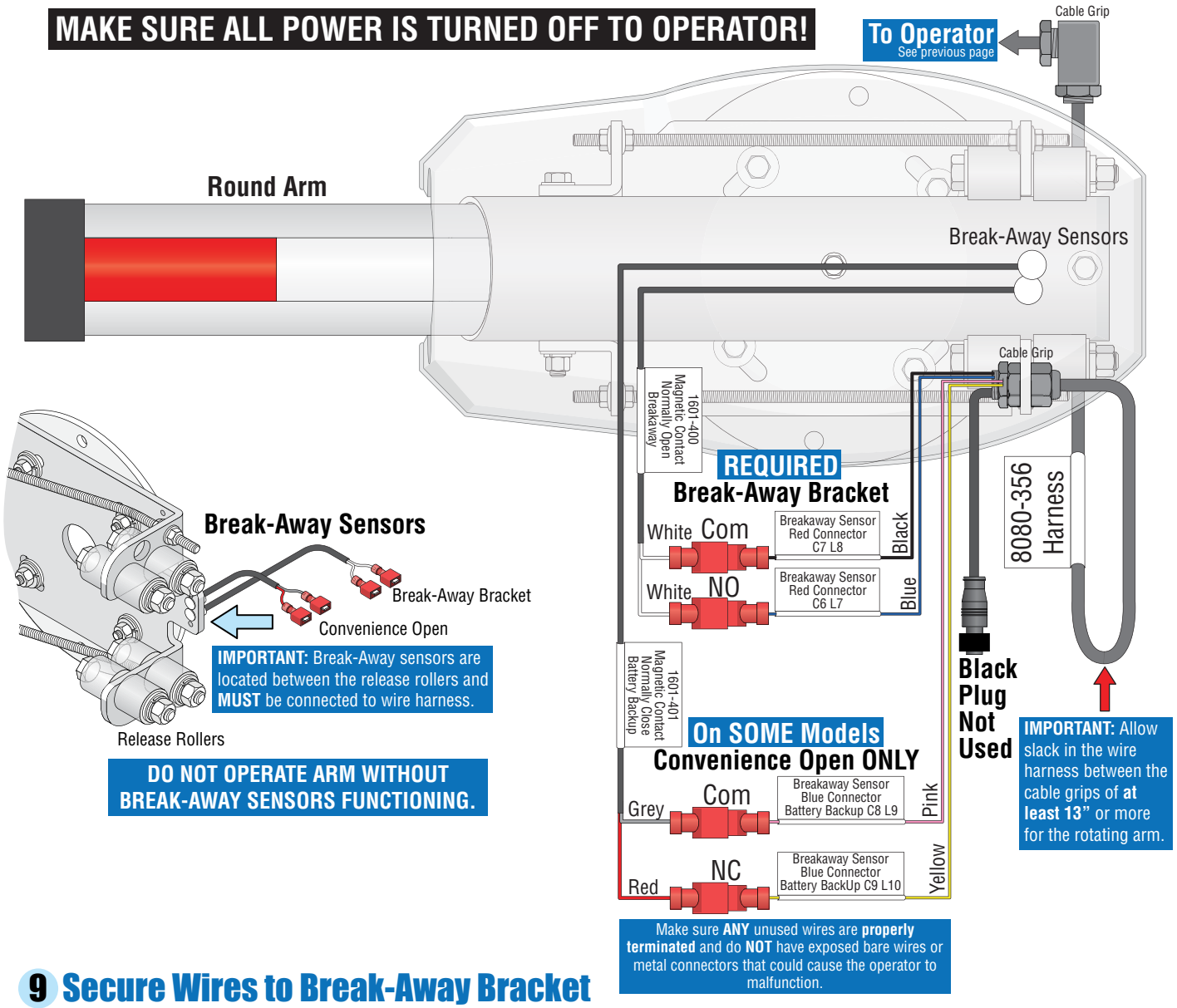
Red

Pink

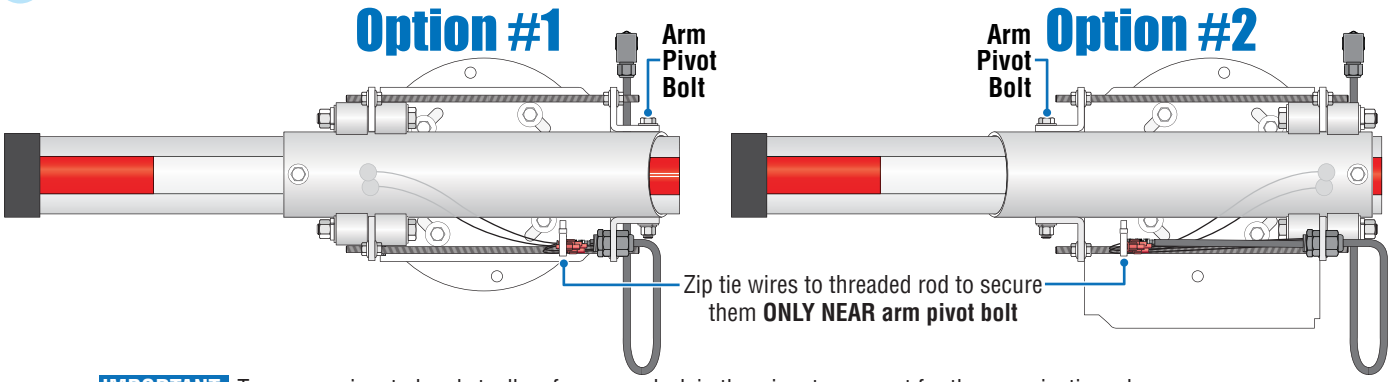
Yellow

8 Connect Arm to Wire Harness

MAKE SURE ALL POWER IS TURNED OFF TO OPERATOR!



9 Secure Wires to Break-Away Bracket



IMPORTANT: To secure wires to bracket, allow for some slack in the wires to account for the arm pivoting when arm "Breaks Away" from bracket. Test breakaway feature to **make sure** there is enough slack in the wires when securing wires. Make sure **plastic arm cover** will fit over the wires and it doesn't **RUB** any wires during operation.

10 Break-Away Arm Reset Procedure

If arm gets struck and breaks away, gate operator will automatically shut down (Break-away sensors are tripped). Snap arm back into the release rollers. Make sure all wires are out of the way of the arm when snapping arm back in position. **NO Reset is necessary**. Normal operation can continue.

DO NOT OPERATE ARM WITHOUT BREAK-AWAY SENSORS FUNCTIONING.