



**WESTLOCK**  
CONTROLS CORPORATION

# BEACON™ MONITOR INSTALLATION AND OPERATIONS MANUAL

<b>IOM: Tech-205</b>		<b>Revision: C</b>	
<b>Prepared By: C. Spence</b>	<b>Date: 11/19/10</b>	<b>Drafting Work Order: 20850</b>	<b>ECN: 12486</b>
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[www.westlockcontrols.com](http://www.westlockcontrols.com)

## Revision History

### Revision

Initial release • Rev. A. 8/20/05 • Rev. B. 11/19/10 • Rev. C. 2/20/14

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## 1. Introduction

### 1.1. Product Certification

There are no applicable agency approvals, product markings, operating pressure specifications or electrical ratings for this product group. The operating temperature range for all Beacon products is -40C to +85C but range may be restricted when used on other products with agency approval due to agency testing requirements.

### 1.2. Warnings

Consult official Westlock Controls catalogue literature page WESMC-0577 for list of known chemical exposures that can be tolerated by the Beacon product. Consult factory before exposing the product to any chemicals or environments not listed therein to prevent risk of product degradation. There are no applicable electrical hazards or pinch hazards on this product when installed per factory specifications. Adhere to installation torque specifications for mounting screws to avoid damage to the product that may permit ingress of contaminants into the sealed Beacon assembly.

### 1.3. Description

The Westlock Beacon provides visual, mechanically linked valve position monitoring that can be seen from up to 150 feet away in any direction.

### 1.4. Principles of Operation

The Westlock Beacon contains an inner cylinder, concentric outer cylinder, seal and, when required, a coupler. The inner cylinder mechanically couples to the shaft of the rotary Westlock control unit directly, or to a rotary actuator with the use of a coupler or beacon shaft. The inner cylinder rotates with the shaft of the actuator or control/monitoring unit and is labeled with the possible flow paths or positions. The outer cylinder of the Beacon has alternating clear windows and shrouded areas which reveal the appropriate valve status or flow path markings for the current valve position, while shrouding other markings. Mounting hardware fixes the outer cylinder to the Westlock control unit housing or actuator mounting bracket. The seal prevents ingress of substances between inner and outer cylinder that could impede the function of the beacon or cloud the viewing windows.

### 1.5. Special Features

There are no special features applicable to the Beacon product.

## 2. Order Guide

### Standard Flowpaths

#### QUARTER TURN



STANDARD  
(BLACK & YELLOW)

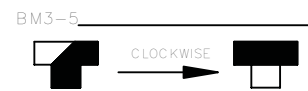
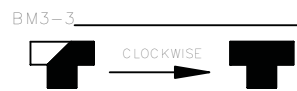


ANSI BLUE  
(GAS-LOW HAZARD)



ANSI RED  
(FIRE QUENCHING)

#### QUARTER TURN 3-WAY



#### 180 DEGREE 3-WAY



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# Ordering Guide

## Quarter Turn

BM2-Y (N/C)	Black Open/Yellow Closed	BM2-B	ANSI Blue and White
BM2-RG (N/C)	Green Open/Red Closed	BM2-R (N/C)	ANSI Red and White
BM2-Y-FE (N/C)	Black Open/Yellow Closed, French and English Text		

## Quarter Turn 3-Way

BM3-1	See Standard Flowpaths
BM3-3	See Standard Flowpaths
BM3-5	See Standard Flowpaths

## 180 Degree 3-Way

BM3-7	See Standard Flowpaths
BM3-9	See Standard Flowpaths

### 3. Definitions

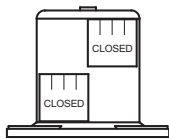
Not applicable.

### 4. Installation

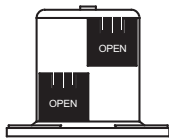
#### 2-Way, 90 degree BM2-Y(N/C) or BM2-RG(N/C) On Westlock Controls Unit

1. ASSEMBLE INNER BEACON TO OUTPUT SHAFT
2. PLACE THE O'RING IN THE STEPPED RECESS PROVIDED IN THE OUTER BEACON HOUSING BOTTOM SURFACE. HOLD THE O'RING IN POSITION AND PLACE THE OUTER BEACON HOUSING OVER INNER BEACON. ROTATE THE OUTER BEACON HOUSING TO OBTAIN GRAPHIC DISPLAY THAT MATCHES VALVE FLOW PATH AS ILLUSTRATED.

VALVE CLOSED = SINGLE COLOR OVERALL



VALVE OPEN = CHECKER PATTERN OVERALL

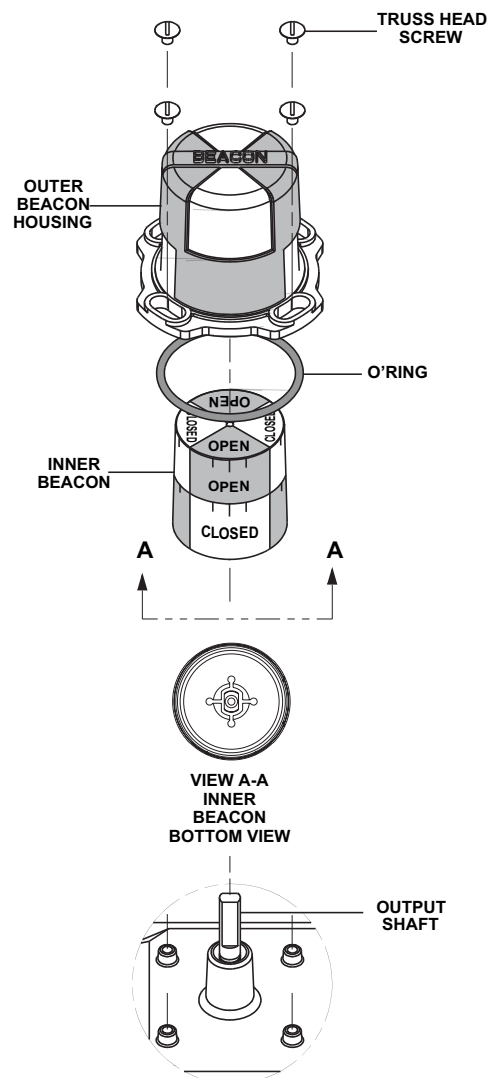


NOTE: FOR BEACON MONITORS WITH A BLACK OUTER BEACON HOUSING AND RED & GREEN INNER BEACON;

VALVE CLOSED = RED  
VALVE OPEN = GREEN

3. SECURE THE OUTER BEACON HOUSING TO THE UNIT WITH (4) TRUSS HEAD SCREWS PROVIDED WITH ORIGINAL UNIT.

**IMPORTANT:** DO NOT EXCEED 10 in-lb OF TORQUE FOR EACH SCREW TO SECURE OUTER BEACON.



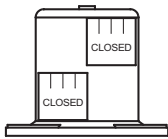
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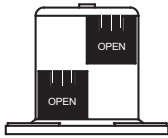
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## 2-Way, 90 degree BM2-Y(N/C) or BM2-RG(N/C) On Actuator

1. ASSEMBLE "BAA" BRACKET KIT ONTO THE ACTUATOR, USING HARDWARE PROVIDED IN THE SAME KIT.
2. ASSEMBLE GROMMET INTO LARGE CENTER HOLE OF BRACKET.
3. ASSEMBLE BEACON SHAFT THROUGH GROMMET AND INTO ACTUATOR SHAFT SLOT OR INTO COUPLER FOR NON-NAMUR ACTUATORS.
4. ASSEMBLE INNER BEACON ONTO BEACON SHAFT.
5. PLACE THE O'RING IN THE STEPPED RECESS PROVIDED IN THE OUTER BEACON HOUSING BOTTOM SURFACE. HOLD THE O'RING IN POSITION AND PLACE THE OUTER BEACON HOUSING OVER INNER BEACON. ROTATE THE OUTER BEACON HOUSING TO OBTAIN GRAPHIC DISPLAY THAT MATCHES VALVE FLOW PATH AS ILLUSTRATED.



VALVE CLOSED = SINGLE COLOR OVERALL



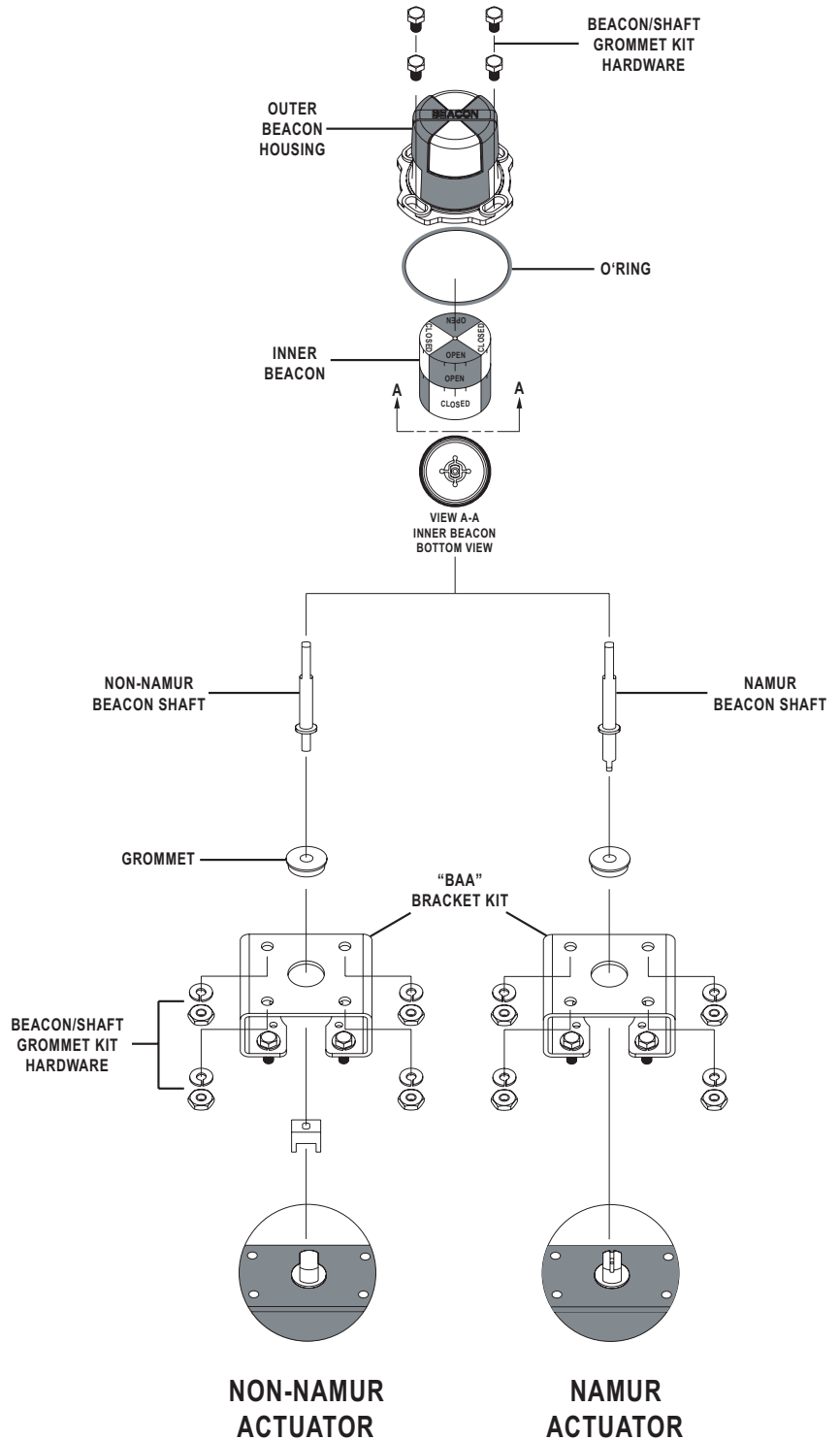
VALVE OPEN = CHECKER PATTERN OVERALL

NOTE: FOR BEACON MONITORS WITH A BLACK OUTER BEACON HOUSING AND RED & GREEN INNER BEACON;

VALVE CLOSED = RED  
VALVE OPEN = GREEN

6. SECURE THE OUTER BEACON HOUSING TO THE BRACKET WITH (4) HEX HEAD SCREWS, NUTS & WASHERS PROVIDED IN THE BEACON SHAFT/GROMMET KIT.

**IMPORTANT:** DO NOT EXCEED 10 in-lb OF TORQUE FOR EACH SCREW TO SECURE OUTER BEACON.



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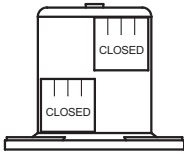
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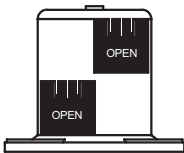
## 2-Way, 90 degree BM2-Y-LP(N/C) On Westlock Controls Unit

1. ASSEMBLE INNER BEACON TO OUTPUT SHAFT
2. PLACE THE O'RING IN THE STEPPED RECESS PROVIDED IN THE OUTER BEACON HOUSING BOTTOM SURFACE. HOLD THE O'RING IN POSITION AND PLACE THE OUTER BEACON HOUSING OVER INNER BEACON. ROTATE THE OUTER BEACON HOUSING TO OBTAIN GRAPHIC DISPLAY THAT MATCHES VALVE FLOW PATH AS ILLUSTRATED.

VALVE CLOSED =SINGLE COLOR OVERALL



VALVE OPEN=CHECKER PATTERN OVERALL



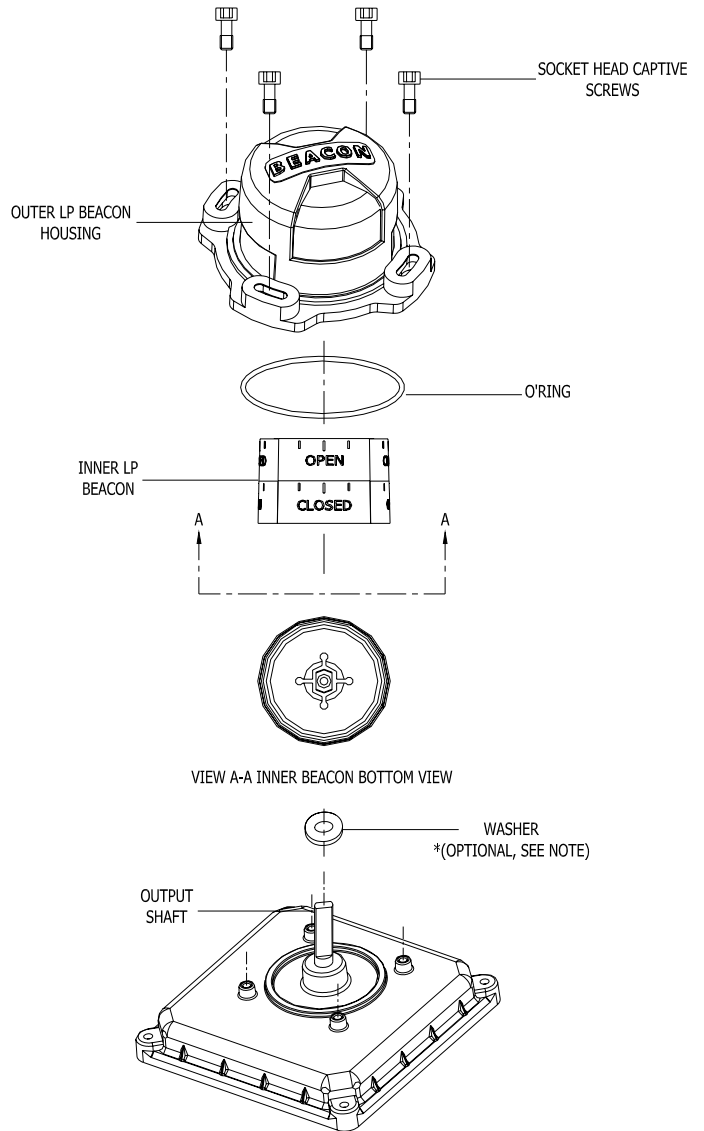
NOTE: FOR BEACON MONITORS WITH A BLACK OUTER BEACON HOUSING AND RED & GREEN INNER BEACON;

VALVE CLOSED=RED  
VALVE OPEN=GREEN

3. SECURE THE OUTER BEACON HOUSING TO THE UNIT WITH (4) SOCKET HEAD CAPTIVE SCREWS PROVIDED.

**IMPORTANT:** DO NOT EXCEED 10 in-lb OF TORQUE FOR EACH SCREW TO SECURE OUTER BEACON.

**\*NOTE:** LOW PROFILE BEACON DESIGNS HAVE CHANGED AND THE INSTALLATION OF A WASHER MAY BE NECESSARY FOR UNITS ORDERED PRIOR TO 12/31/2013. IF THE INNER BEACON GRAPHICS ARE NOT ALIGNED CORRECTLY WITH THE WINDOWS OF THE OUTER BEACON ASSEMBLY THEN INSTALL THE WASHER PROVIDED.



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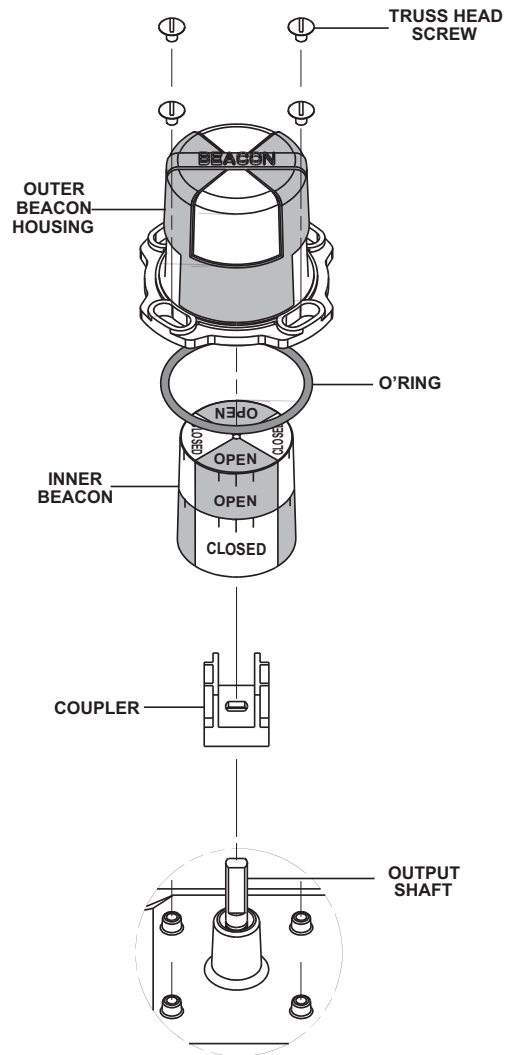
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## All Other Beacons On Westlock Controls Units

1. ASSEMBLE COUPLER INTO INNER BEACON.
2. ASSEMBLE INNER BEACON WITH COUPLER TO OUTPUT SHAFT OF UNIT.
3. PLACE THE O'RING IN THE STEPPED RECESS PROVIDED IN THE OUTER BEACON HOUSING BOTTOM SURFACE. HOLD THE O'RING IN POSITION AND PLACE THE OUTER BEACON HOUSING OVER INNER BEACON. ROTATE THE OUTER BEACON HOUSING TO OBTAIN GRAPHIC DISPLAY THAT MATCHES VALVE FLOW PATH.
4. SECURE THE OUTER BEACON HOUSING TO THE UNIT WITH (4) TRUSS HEAD SCREWS PROVIDED WITH ORIGINAL UNIT.

**IMPORTANT:** DO NOT EXCEED 10 in-lb OF TORQUE FOR EACH SCREW TO SECURE OUTER BEACON.



## **WESTLOCK CONTROLS CORPORATION**

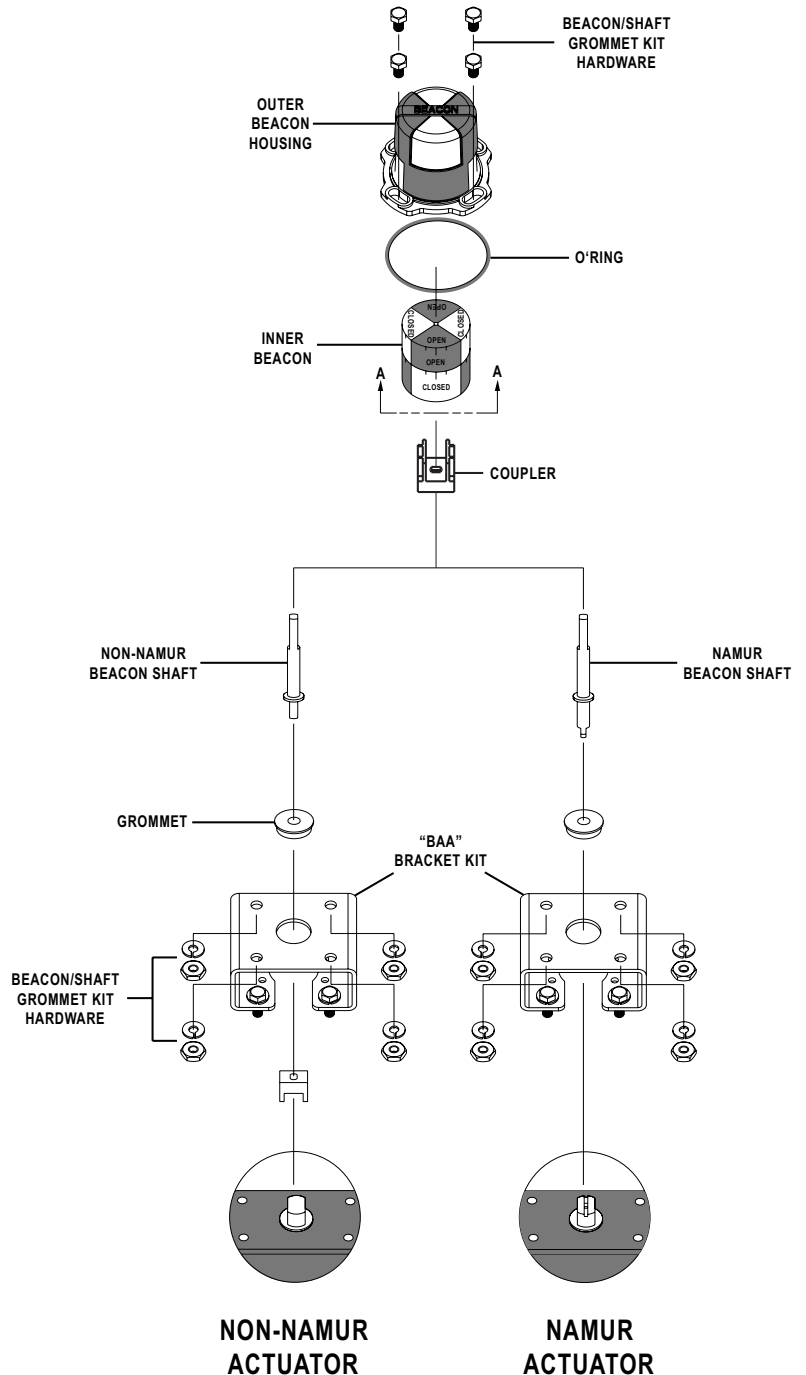
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## All Other Beacons On Actuator

1. ASSEMBLE "BAA" BRACKET KIT ONTO THE ACTUATOR, USING HARDWARE PROVIDED IN THE SAME KIT.
2. ASSEMBLE GROMMET INTO LARGE CENTER HOLE OF BRACKET.
3. ASSEMBLE BEACON SHAFT THROUGH GROMMET AND INTO ACTUATOR SHAFT SLOT OR INTO COUPLER FOR NON-NAMUR ACTUATORS.
4. ASSEMBLE COUPLER INTO INNER BEACON.
5. ASSEMBLE INNER BEACON WITH COUPLER ONTO BEACON SHAFT.
6. PLACE THE O-RING IN THE STEPPED RECESS PROVIDED IN THE OUTER BEACON HOUSING BOTTOM SURFACE. HOLD THE O-RING IN POSITION AND PLACE THE OUTER BEACON HOUSING OVER INNER BEACON. ROTATE THE OUTER BEACON HOUSING TO OBTAIN GRAPHIC DISPLAY THAT MATCHES VALVE FLOW PATH.
7. SECURE THE OUTER BEACON HOUSING TO THE BRACKET WITH (4) HEX HEAD SCREWS, NUTS & WASHERS PROVIDED IN THE BEACON SHAFT/GROMMET KIT.

**IMPORTANT:** DO NOT EXCEED 10 in-lb OF TORQUE FOR EACH SCREW TO SECURE OUTER BEACON.



### 5. Field Wiring

Not applicable; the Westlock Beacon is not an electrical device.

### 6. Maintenance and Repair

None required.

### 7. Appendix

None

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