



NOTE

All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters [and inches]. Unless otherwise specified, dimensions have a tolerance of ± 0.13 [± 0.005] and angles have a tolerance of $\pm 2^\circ$. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This specification covers the requirements for application of ANSI C136.41-2013 Rotatable Dimming Receptacles typically used for roadway and area lighting. All contacts are pre-installed into the receptacle housing and pre-crimped with 305 mm (12.0 in.) lead-wire, with 14 AWG stranded wire used on the three line voltage AC circuits and 18 AWG wire used on the four signal dimming control voltage DC circuits. Receptacle assemblies are available with both 105°C and 150°C rated wire. Receptacle assemblies are also available with either 2 or 4 dimming control pad-style contacts.

When corresponding with TE Connectivity (TE) Personnel, use the terminology provided in this specification to facilitate inquiries for information. Basic terms and features of this product are provided in Figure 1.

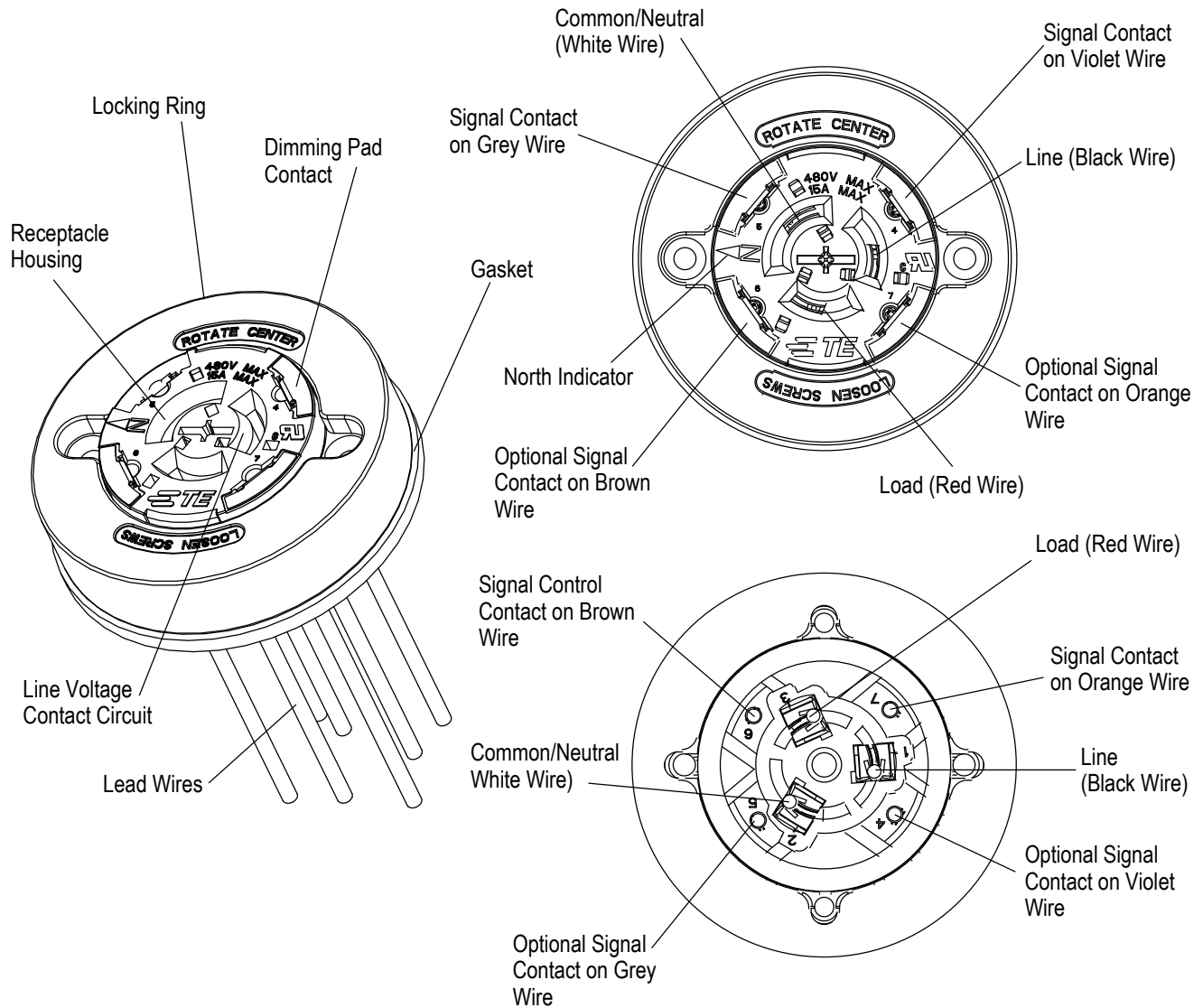


Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

- Added new text to Paragraph 3.6.A. and new artwork and information to Figure 4

2.2. Customer Assistance

Reference Product Base Part Number 2213627-[] and Product Code K50 are representative of the ANSI C136.41-2013 Rotatable Dimming Receptacles. Use of these numbers will identify the product line and help you to obtain product and tooling information. Such information can be obtained through a local TE Representative, by visiting our website at www.te.com, or by calling PRODUCT INFORMATION at the number at the bottom of page 1.

2.3. Drawings

Customer Drawings for product part numbers are available from the service network. If there is a conflict between the information contained in the Customer Drawings and this specification or with any other technical documentation supplied, the information contained in the Customer Drawings takes priority.

2.4. Specifications

Product Specification [108-32059](#) provides product performance and test information for the ANSI C136.41-2013 Dimming Receptacle.

3. REQUIREMENTS

3.1. Safety

Perform all wiring of receptacle with power turned OFF.

3.2. Limitations

The connectors are designed to operate in a temperature range of -40° to 85°C [-40° to 185°F].

3.3. Material

The housing is made of UL 94V-0 rated thermoplastic. The line voltage contacts are made of phosphorous bronze plated overall with tin. Dimming pad contacts are made of brass with gold plating in contact pad area, tin plated in wire crimp area with nickel under-plate on entire contact.

3.4. Storage

A. Ultraviolet Light

Prolonged exposure to ultraviolet light may deteriorate the chemical composition used in the product material.

B. Shelf Life

The product should remain in the shipping containers until ready for use to prevent deformation to components. The product should be used on a first in, first out basis to avoid storage contamination that could adversely affect performance.

C. Chemical Exposure

Do not store product near any chemical listed below as they may cause stress corrosion cracking in the material.

Alkalies	Ammonia	Citrates	Phosphates	Citrates	Sulfur Compounds
Amines	Carbonates	Nitrites	Sulfur	Nitrites	Tartrates

3.5. Shipping

A. Handling

The receptacle assembly is supplied with a mating face cap to provide protection during shipping. Dimming contact pads are lubricated with an electrical contact lubricant; therefore after removal of the protective cap, avoid contact with the dimming contact pads which could remove the electrical contact lubricant.

B. Separation of Locking Ring from Assembly

If the locking ring becomes separated from the main assembly during shipping, it can be re-attached using the procedure shown in Figure 2. The ring is snapped onto the center receptacle housing with the TE logo aligned with either screw hole. The locking ring can then be rotated until it stops so that it is well retained on the center receptacle housing.

Align the TE logo with one of the screw holes, then snap on the lock ring.

Turn the lock ring full clockwise (or turn the center housing full counter-clockwise).

The lock ring will stop with the North indicator adjacent to the screw hole.

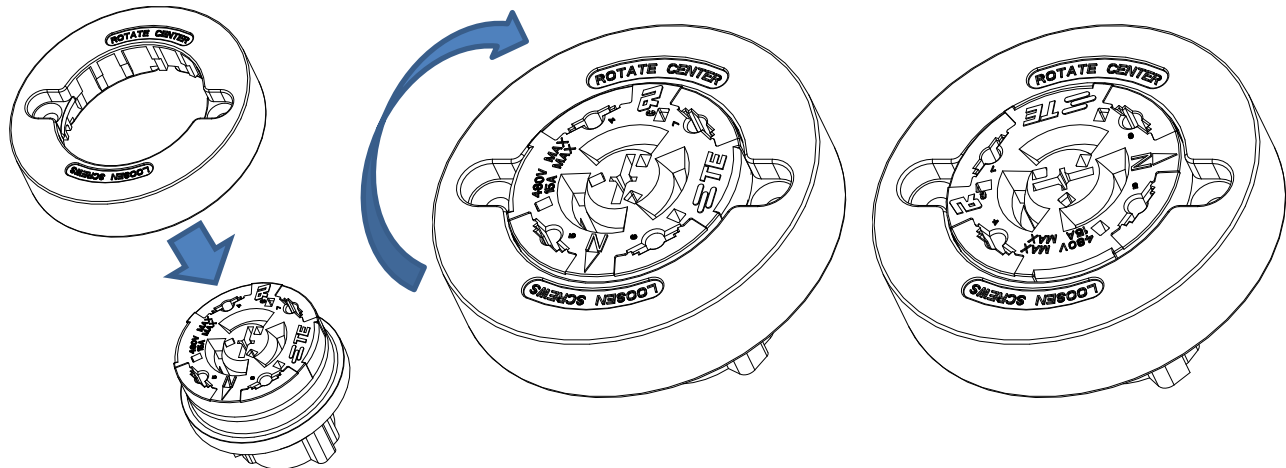


Figure 2

3.6. Receptacle Mounting

A. Mounting (Figure 3)

A flat surface shall be provided on luminaire housing to mount receptacle assembly. The flatness of the mounting surface shall be within 0.5 mm, including any surface irregularities from painting or plating. To provide water-tight mounting, it is highly recommended that the TE gasket (p/n 2213626-1) be used to seal surfaces between receptacle assembly and luminaire housing. This TE gasket is available kitted with the receptacle assembly or can be bulk ordered separately. The receptacle housing has two mounting holes which accept #8 size flat-head recessed screws with 82° bevel heads. Screws of the appropriate length and type must be determined by the luminaire manufacturer. When using the TE Gasket, a screw torque of 1.0 to 2.0 N-m is recommended. Do NOT exceed 3.0 N-m. If the luminaire has a built in raised sealing ring on the mounting surface, please consult with TE engineering for assistance for a custom gasket design.



CAUTION

If a non-TE gasket is used, it is the responsibility of the installer to determine the mounting screw torque to ensure a water-tight seal between the receptacle and luminaire housing. Please use customer print 2213626 for the gasket reference design. The following gasket features are critical to the proper operation and sealing of the rotatable dimming socket: the gasket thickness, gasket inner diameter, and the gasket durometer (40 Shore A hardness).



CAUTION

Never mount the Rotating Dimming Receptacle without a gasket present or an improper gasket design with an undersized inner diameter. Damage may occur to the locking ring when the screws are torqued to specification.

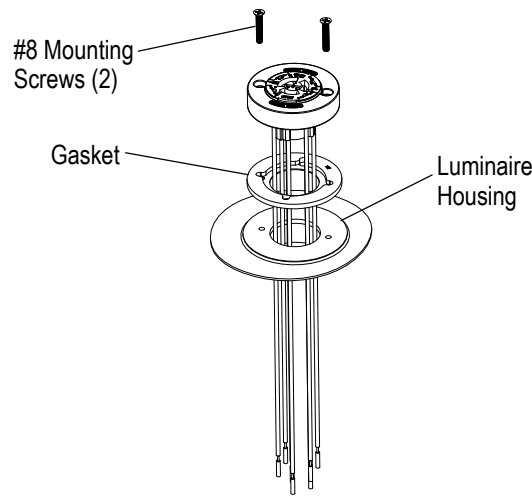


Figure 3

B. Mounting Hole Pattern

The recommended mounting hole pattern is shown in Figure 4.

Recommended Mounting Layout

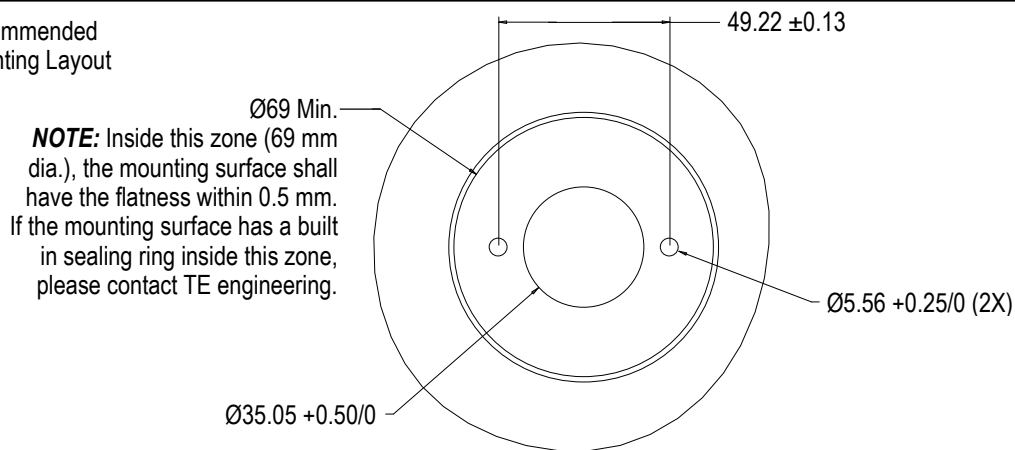


Figure 4

C. Mounting Location and Orientation

Locate the receptacle where artificial light cannot fall on the mating photocell causing it to turn off or cycle (on and off) at night. If possible, orient the receptacle so the North indicator points North.

D. Workmanship

The housing must not be damaged in any way. There shall be no nicked wire insulation.

3.7. Wire Connections and Diagram

A. Wire Connections

The receptacle wires must be appropriately spliced with the correct line voltage power or dimming signal source. When splicing lead wires with crimp-style splices, wire nuts, etc., ensure the proper size splicing connector per the manufacturer's recommendation is being used.



DANGER

Extreme caution must be taken to ensure that power is OFF prior to disconnecting or connecting any wires to prevent electrical shock.



NOTE

All wire connections must be electrically insulated.

B. Wiring Diagram

The receptacle wires must be appropriately spliced with the correct line voltage power or dimming signal source. Refer to the wiring diagram example shown in Figure 5. Wiring diagram shown is for general information only. Luminaire manufacturer must determine wiring diagram based upon their ballast/driver with dimming control components.

Wiring Diagram
(For General Information Only)

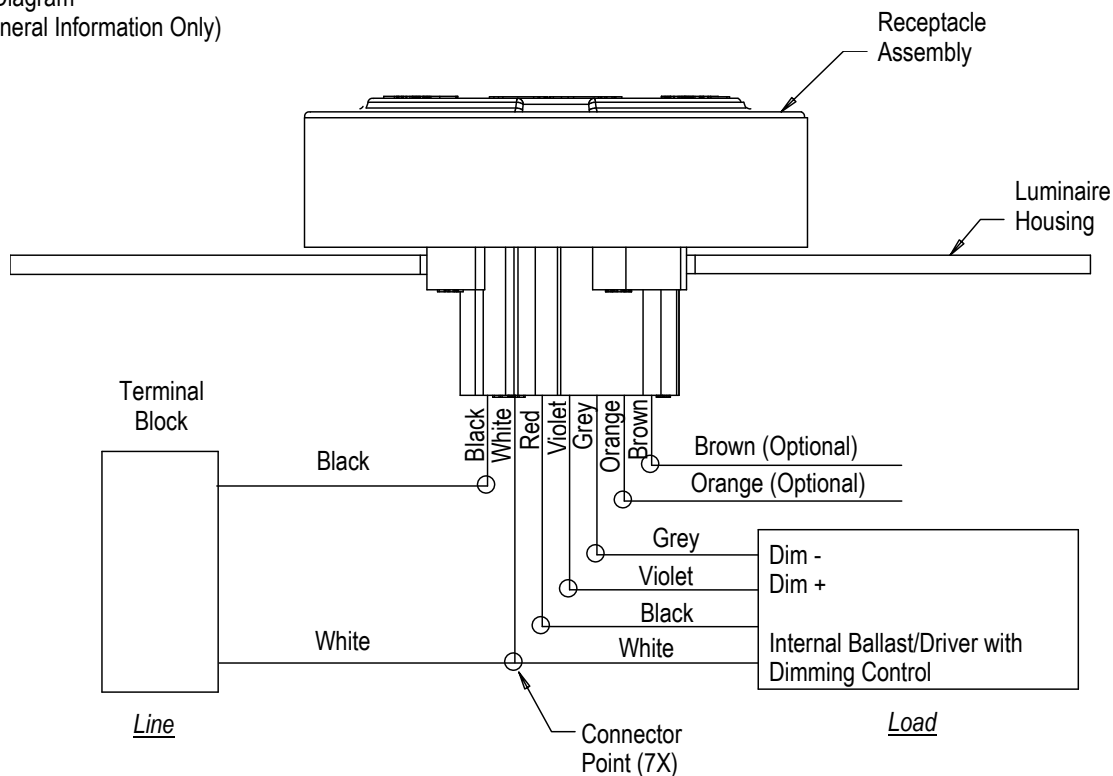


Figure 5

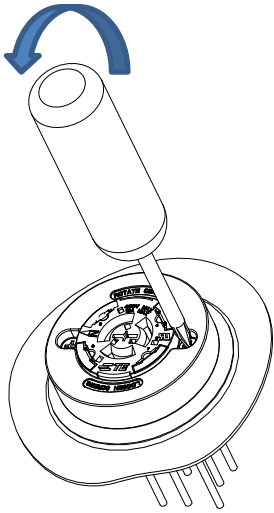
3.8. Strain Relief

It is recommended that a means be provided to support the wire bundle extending away from the receptacle assembly to prevent inadvertent application of high force to the wire bundle from transmitting into the wire/connector interface. The suggested strain relief method is to use a cable tie and anchor mounted inside the luminaire.

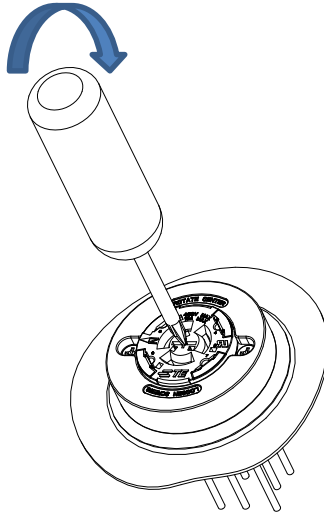
3.9. Rotating the Mounted Receptacle

Once the light fixture is installed in the field, it is easy to rotate the receptacle so the North indicator is aimed properly. Loosen the mounting screws just enough so the center receptacle housing rotates freely in the locking ring. Use a screwdriver to aim the center receptacle housing so the North indicator points in the desired direction (typically due North). The Rotatable Dimming Receptacle is designed to limit the total rotation to 355° with a stop feature. If the desired direction can't be achieved by turning clockwise due to the stop feature, simply turn the center receptacle housing counter-clockwise to the desired position. Once the desired aiming is achieved, the mounting screws can then be tightened to the proper torque. See Figure 6.

Loosen (do not remove) mounting screws.



Use the screwdriver to turn the center housing to the proper aiming.



Re-tighten the screws to the proper torque.

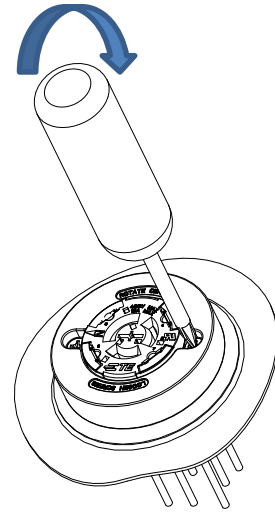


Figure 6

3.10. Mating and Un-mating Photocell to Receptacle

Align photocell blades with receptacle power contact circuits. Note that the neutral photocell blade is larger than the line and load blades, providing mating polarization. After properly aligning the blades to the receptacle power contact circuits, push downward until the photocell is bottomed on the receptacle's mating surface, slightly compressing gasket of the photocell. Then complete mating by twisting the photocell in a clockwise direction. The photocell will lock into position. To un-mate, reverse the aforementioned mating process. Reference Figure 7.

1. Push Downward
2. Twist Clockwise to Lock

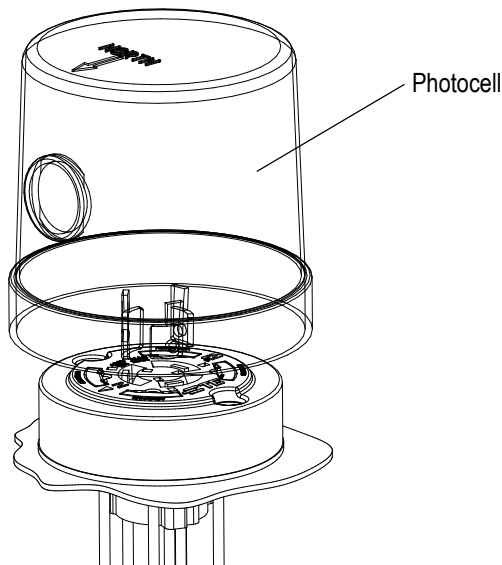


Figure 7

3.11. Replacement and Repair

The contacts and housings are not repairable. DO NOT use an assembly with damaged or defective contacts and/or housings. If damaged, replace the receptacle assembly with a new one.

4. QUALIFICATIONS

ANSI C136.41-2013 Rotatable Dimming Receptacles have not yet been sent for agency evaluation and testing.

5. TOOLING

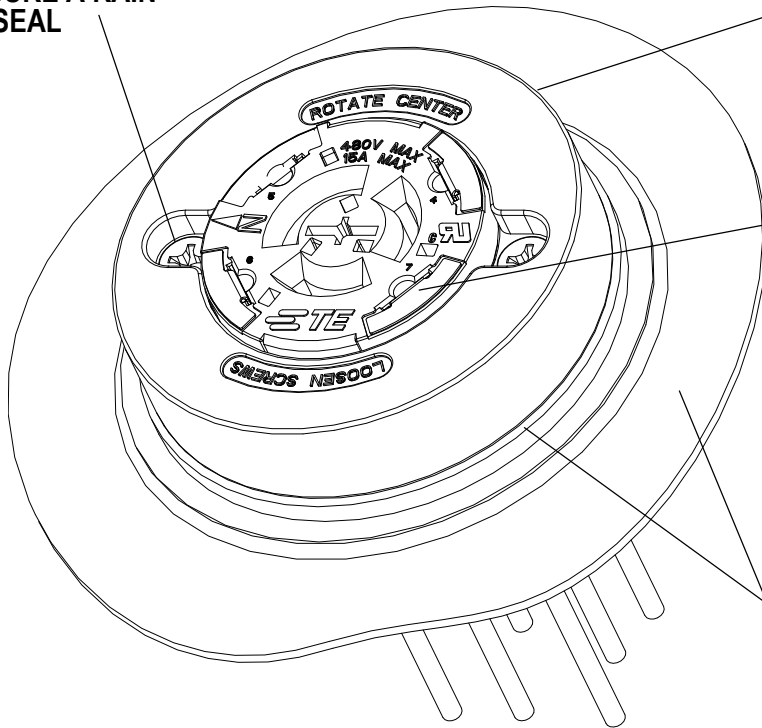
No special tooling is require for the installation of this product line.

6. VISUAL AID

The illustration below shows a typical application of ANSI C136.41-2013 Dimming Receptacles. This illustration should be used by production personnel to ensure a correctly applied product. Applications which DO NOT appear correct should be inspected using the information in the preceding pages of this specification and in the instructional material shipped with the product or tooling.

SCREWS MUST BE PROPERLY TIGHTENED TO ENSURE A RAIN-TIGHT SEAL

RECEPTACLE HOUSING MUST NOT BE CRACKED OR DAMAGED IN ANY WAY



DIMMING CONTACT PAD SURFACE MUST NOT BE DAMAGED IN ANY WAY

LUMINAIRE HOUSING AND GASKET MUST BE PROPERLY INSTALLED

FIGURE 7. VISUAL AID