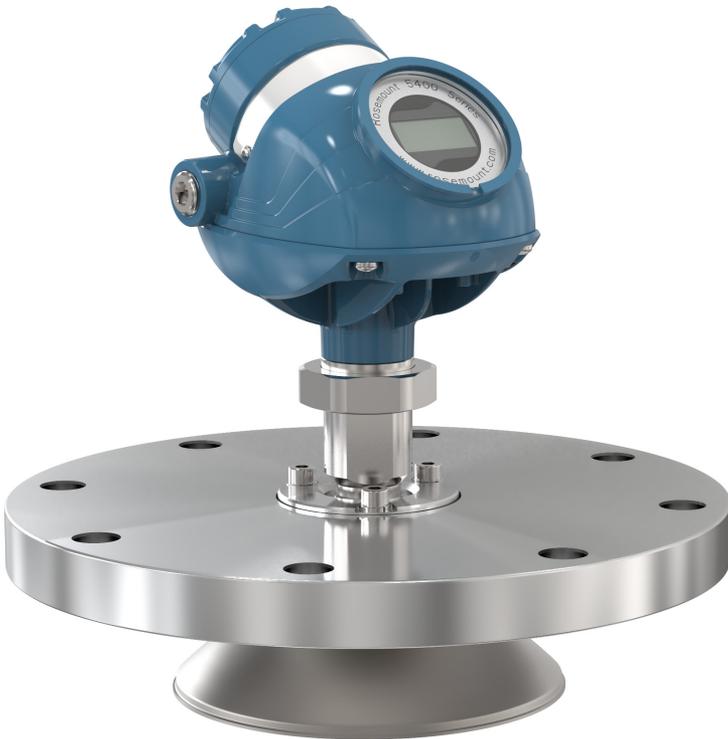


Rosemount™ 5400 Level Transmitter

Mounting Instructions for Parabolic Antenna



1.0 About this guide

This Quick Start Guide provides mechanical installation instructions for the Rosemount 5402 Level Transmitter with parabolic antenna.

For information about electrical installation and configuration, refer to the Rosemount 5400 [Quick Start Guide](#).

WARNING

Failure to follow safe installation and service guidelines could result in death or serious injury.

- Make sure the transmitter is installed by qualified personnel and in accordance with applicable code of practice.
- Use the equipment only as specified in this Quick Start Guide and the Reference Manual. Failure to do so may impair the protection provided by the equipment.
- Any substitution of non-authorized parts or repair, other than exchanging the complete transmitter head or antenna assembly, may jeopardize safety and is prohibited.

Explosions could result in death or serious injury.

- Verify that the operating environment of the transmitter is consistent with the appropriate hazardous locations specifications.
- To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.
- Before connecting a Field Communicator in an explosive atmosphere, make sure the instruments in the loop are installed in accordance with intrinsically safe or non-incendive field wiring practices.
- To avoid process leaks, only use O-rings designed to seal with the corresponding flange adapter.
- Do not remove the transmitter while in operation.

Electrical shock can result in death or serious injury.

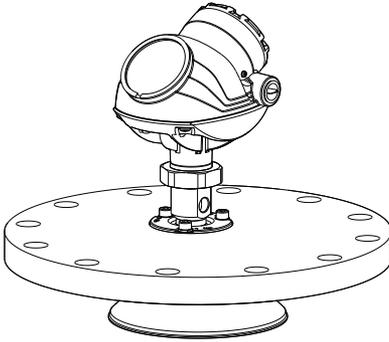
- Avoid contact with the leads and terminals. High voltage that may be present on leads can cause electrical shock.
- Make sure the main power to the Rosemount 5400 Level Transmitter is off and the lines to any other external power source are disconnected or not powered while wiring the transmitter.
- Ground device on non-metallic tanks (e.g. fiberglass tanks) to prevent electrostatic charge build-up.

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Connect the air purging	page 19

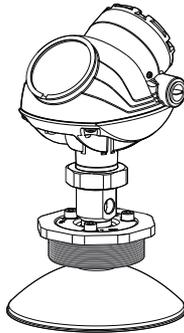
2.0 Parabolic antenna overview

Flanged version



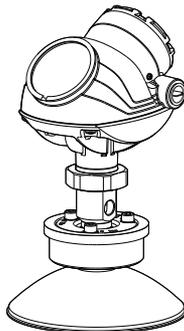
page 4

Threaded version



page 5

Welded version

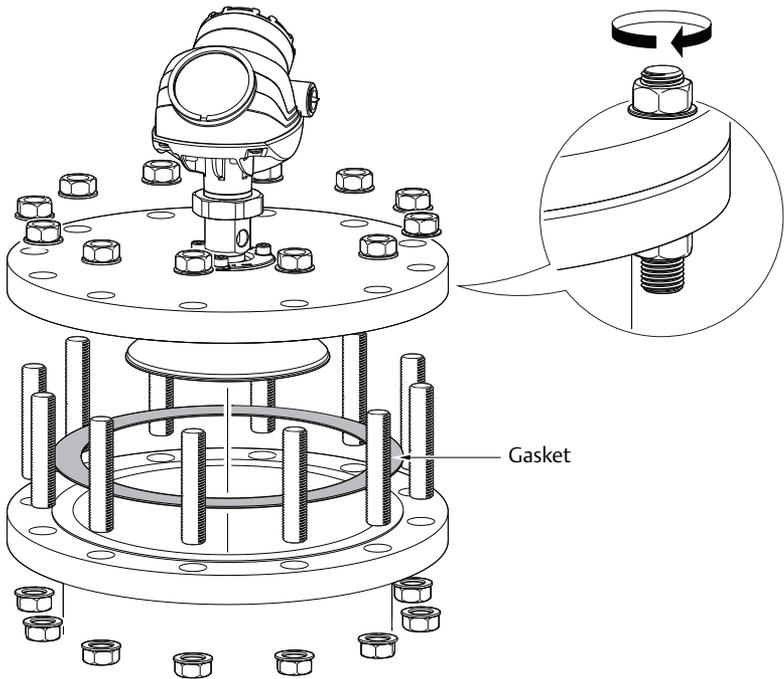


page 9

3.0 Mount the flanged version

Step 1: Mount the device on tank

Tighten the bolts and nuts with sufficient torque for the flange and gasket choice.

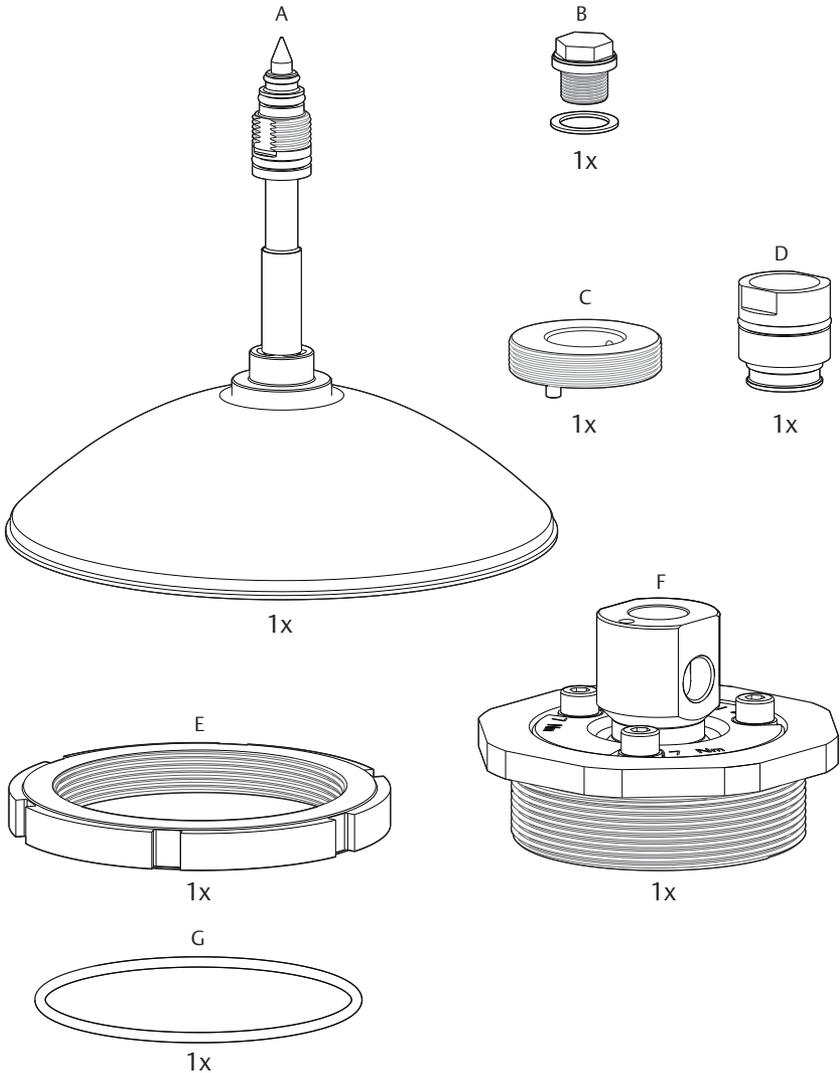


Step 2: Adjust the inclination of the antenna (see page 15)

Step 3: Connect the air purging (see page 19)

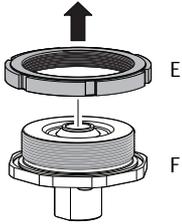
4.0 Mount the threaded version

Figure 1. Components

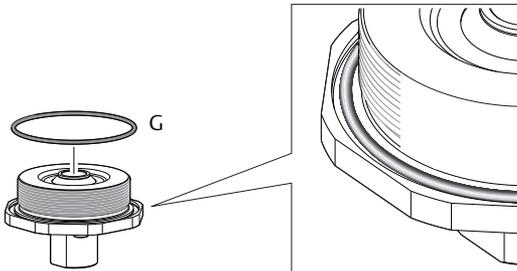


- A. Antenna
- B. Purge plug kit (optional with order)
P/N 05400-1200-0001
- C. Threaded sleeve
- D. M20 adapter
- E. Lock nut G 3 1/2" (optional with order)
P/N 05400-1200-0002
- F. Antenna adapter with ball joint
- G. O-ring

Step 1: Remove the lock nut (if applicable)

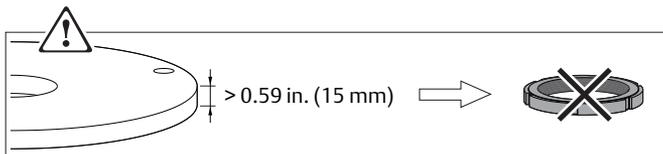
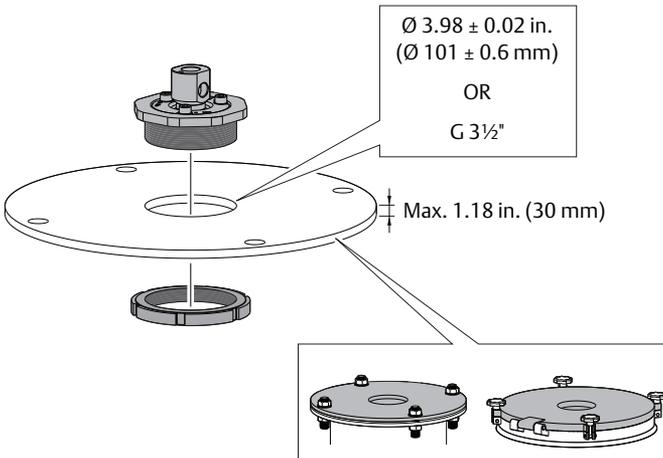


Step 2: Mount the O-ring



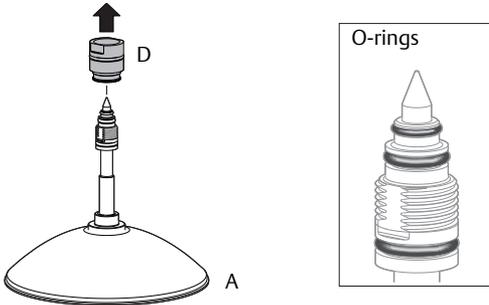
Step 3: Mount the antenna adapter on flange/manhole cover

Ensure the antenna adapter fits tightly to the flange/manhole cover.

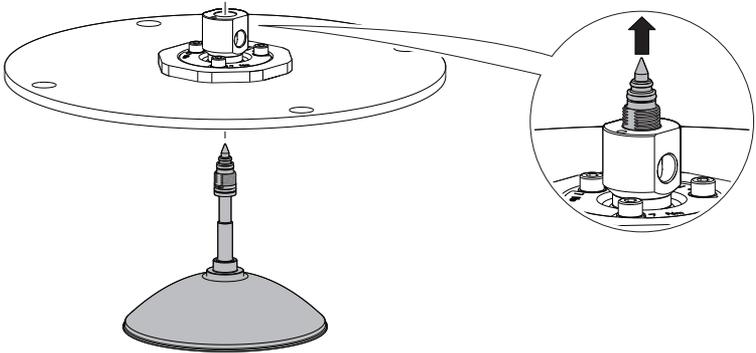


Step 4: Remove the M20 adapter

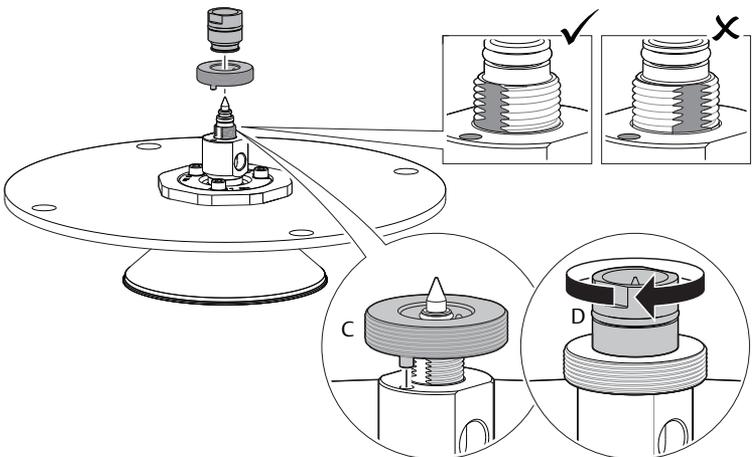
Visually inspect the O-rings for damage and dirt.



Step 5: Carefully insert the antenna

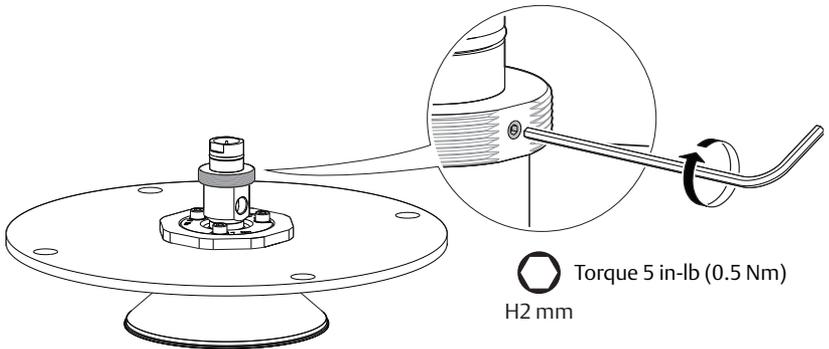


Step 6: Secure the antenna



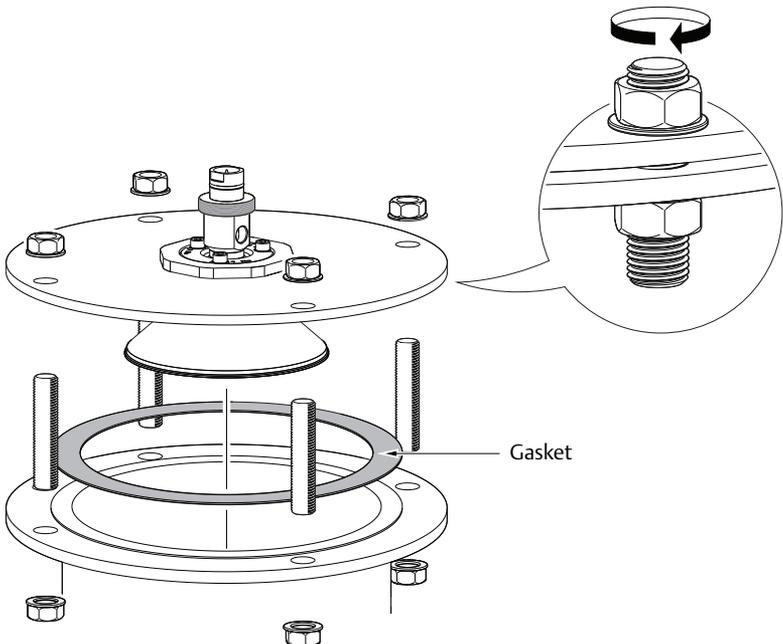
 Torque 180 in-lb (20Nm)
27 mm

Step 7: Tighten the set screw



Step 8: Mount the antenna assembly on tank

Tighten the bolts and nuts with sufficient torque for the flange and gasket choice.

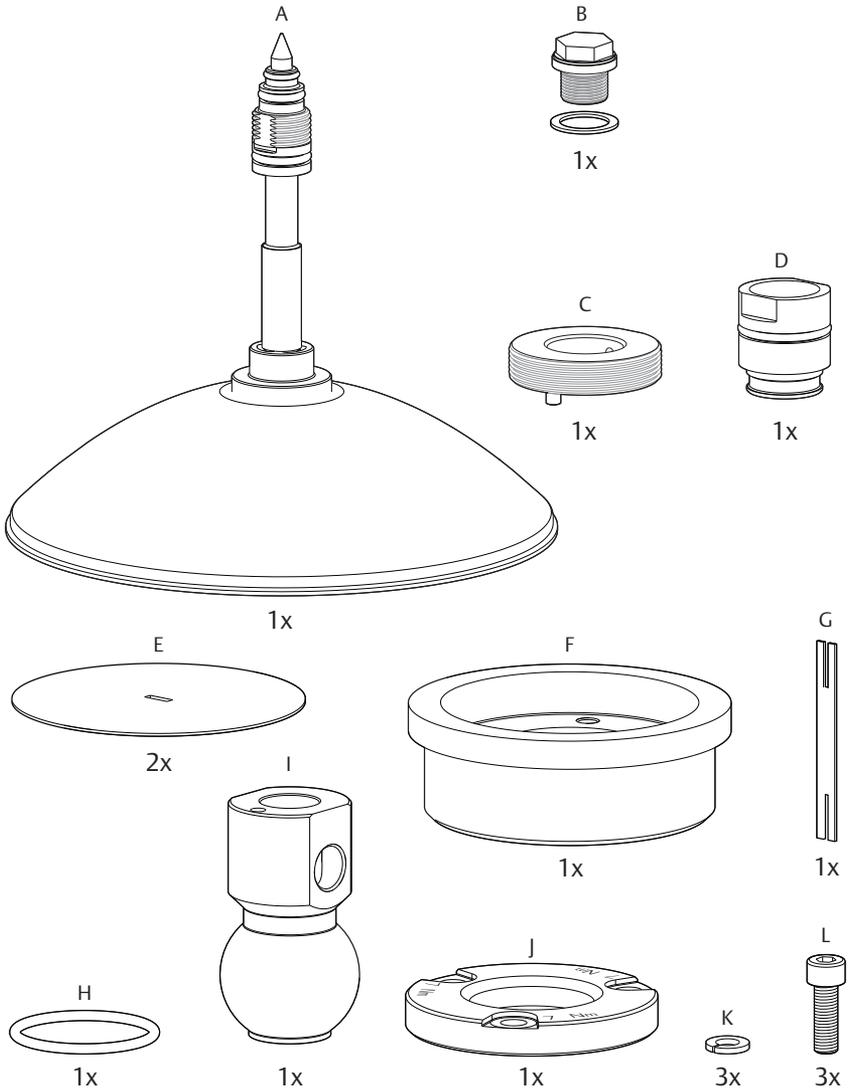


Step 9: Adjust the inclination of the antenna (see page 15)

Step 10: Connect the air purging (see page 19)

5.0 Mount the welded version

Figure 2. Components

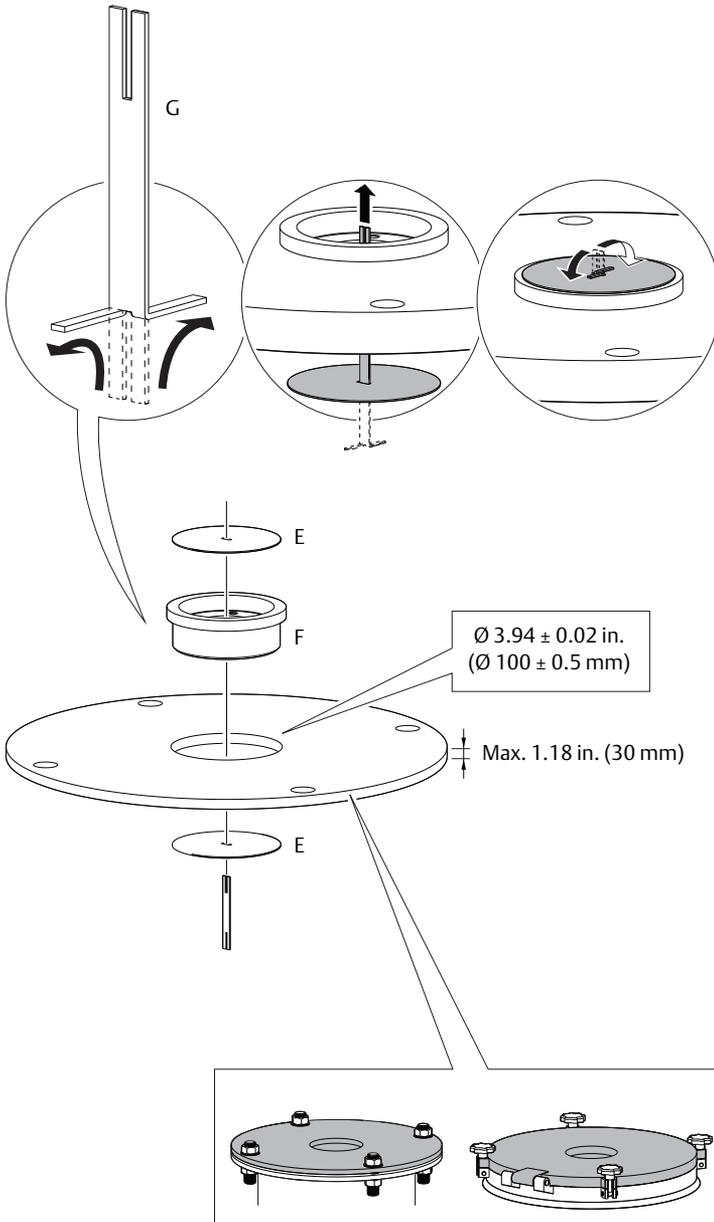


- A. Antenna
- B. Purge plug kit (optional with order)
P/N 05400-1200-0001
- C. Threaded sleeve
- D. M20 adapter

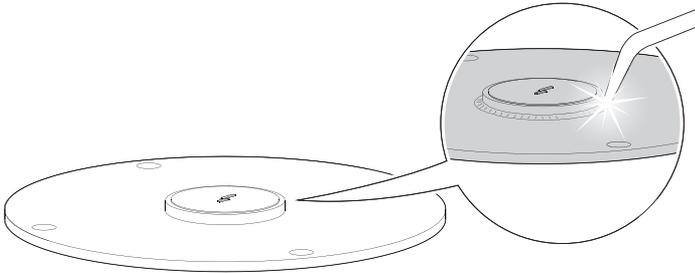
- E. Weld protection plate
- F. Flange ball
- G. Weld protection bar
- H. O-ring
- I. Ball joint
- J. Clamp flange
- K. Washer
- L. M8 screw

Step 1: Mount the protection plates to flange/manhole cover

These plates protect the internal surfaces of the flange ball from dust and sparks during welding.

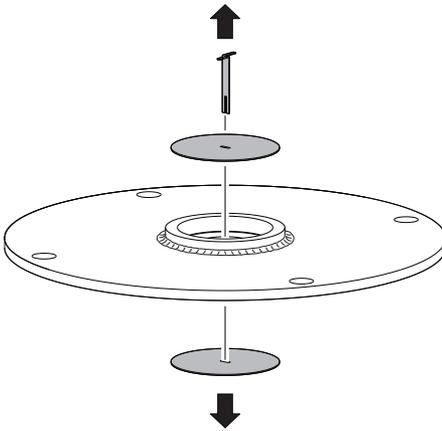


Step 2: Weld the flange ball

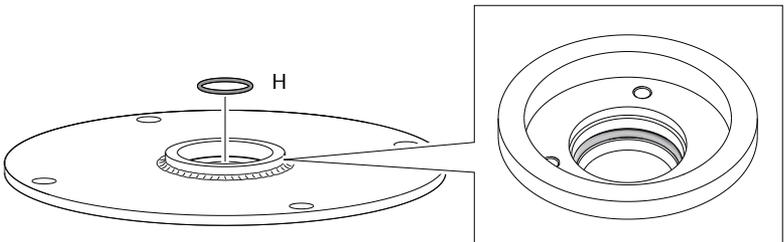


Step 3: Remove the protection plates

Visually inspect the internal surfaces of the flange ball for damage and dirt.

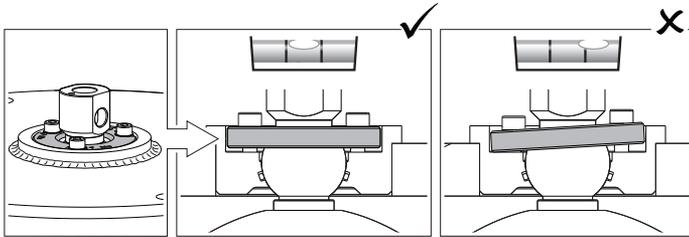
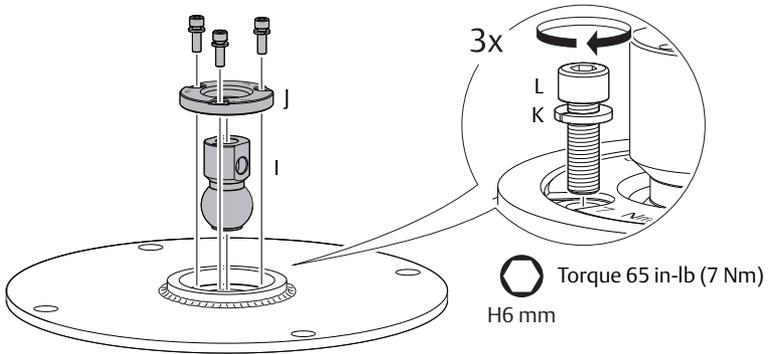


Step 4: Mount the O-ring



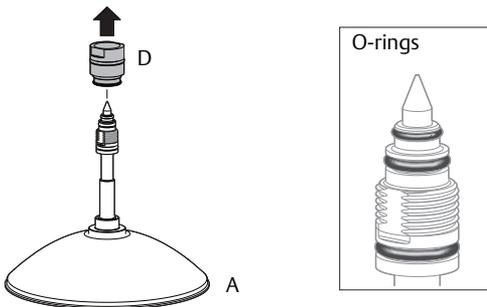
Step 5: Mount the ball joint

Insert the ball joint, place the clamp flange with the “7 Nm” marking side up, and then gradually tighten the M8 screws.

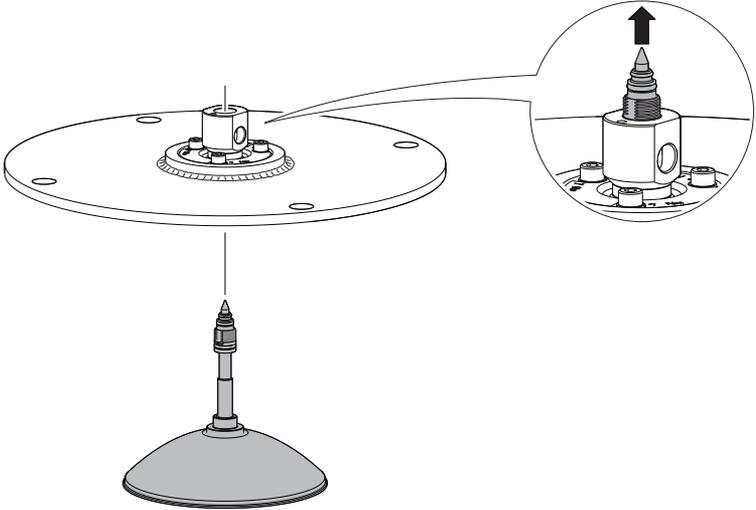


Step 6: Remove the M20 adapter

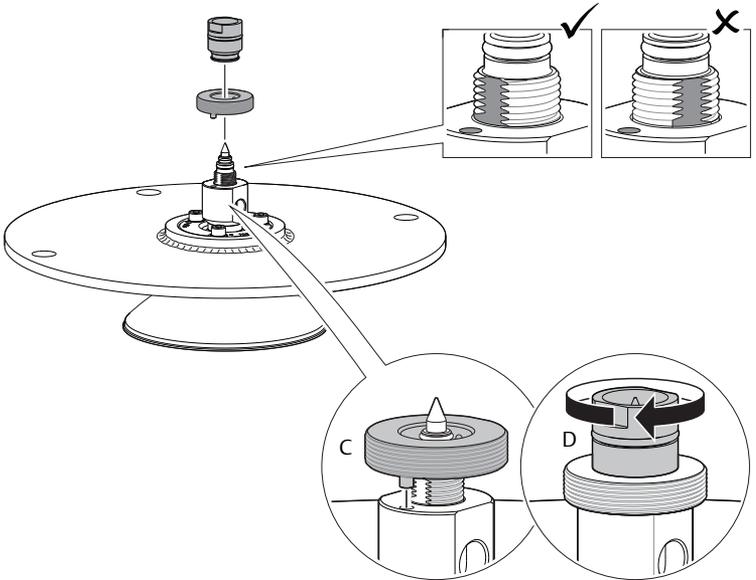
Visually inspect the O-rings for damage and dirt.



Step 7: Carefully insert the antenna

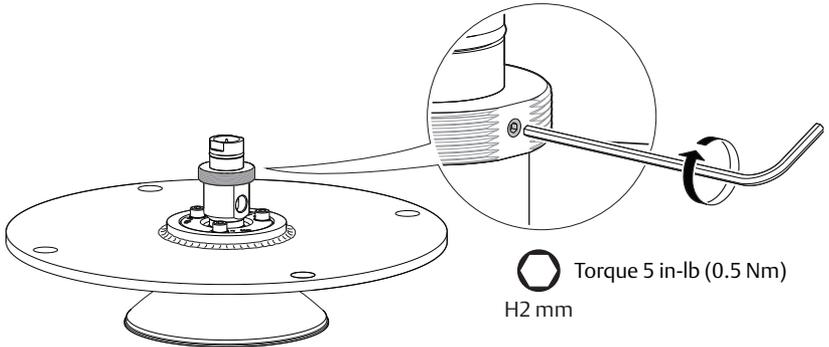


Step 8: Secure the antenna



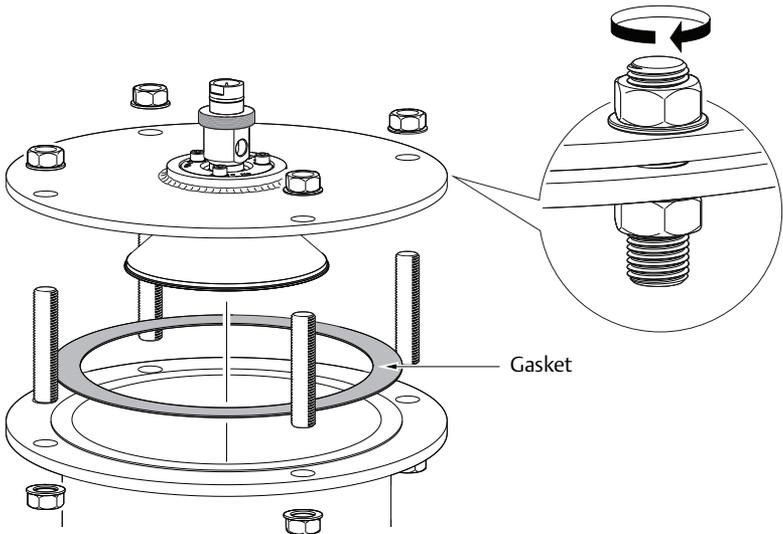
 Torque 180 in-lb (20 Nm)
27 mm

Step 9: Tighten the set screw



Step 10: Mount the antenna assembly on tank

Tighten the bolts and nuts with sufficient torque for the flange and gasket choice.



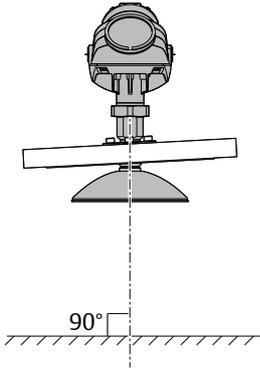
Step 11: Adjust the inclination of the antenna (see page 15)

Step 12: Connect the air purging (see page 19)

6.0 Adjust the inclination of the antenna

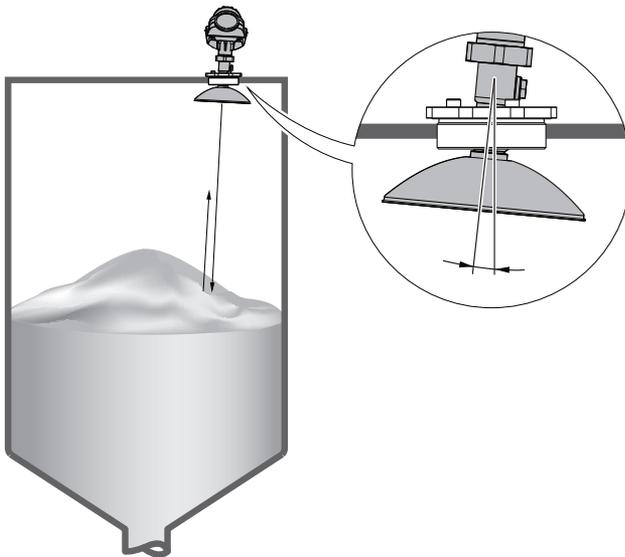
6.1 Orientation

- General best practice is to initially align the parabolic antenna vertically to the ground.



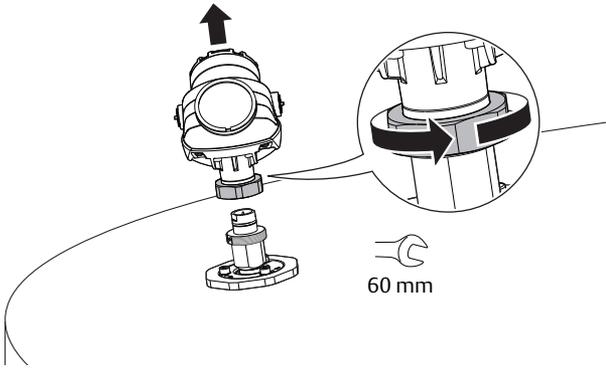
- If the surface echo is weak, a small inclination of the antenna toward the surface slope may improve the performance.

The angle of slope differs during filling and emptying, and thus the signal strength. Therefore, monitor the entire cycle to verify optimum antenna inclination.

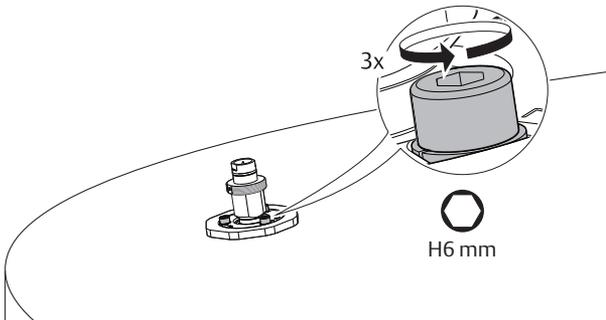


6.2 Procedure

Step 1: Remove the transmitter head (if applicable)



Step 2: Loosen the M8 screws until the antenna can tilt smoothly



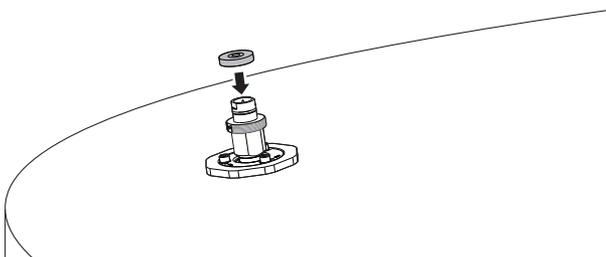
⚠ WARNING

Contents may be under pressure

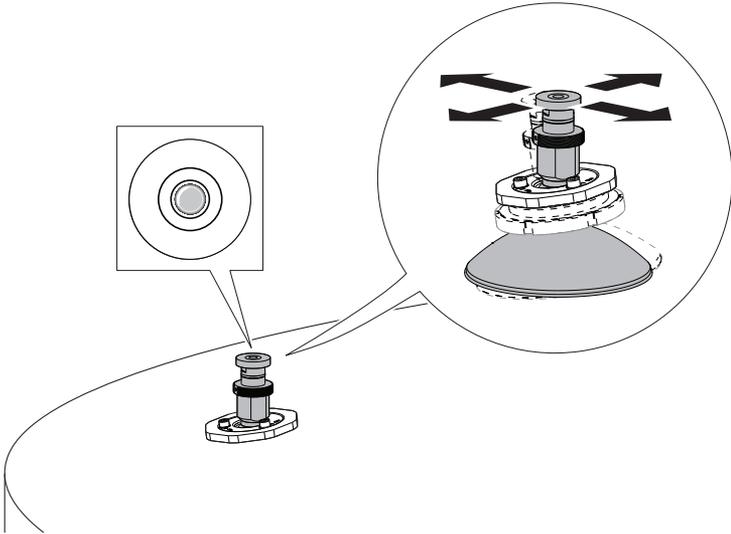
Do not loosen the M8 screws while in operation.

Attempting to do so may release pressurized gases, resulting in serious injury or death.

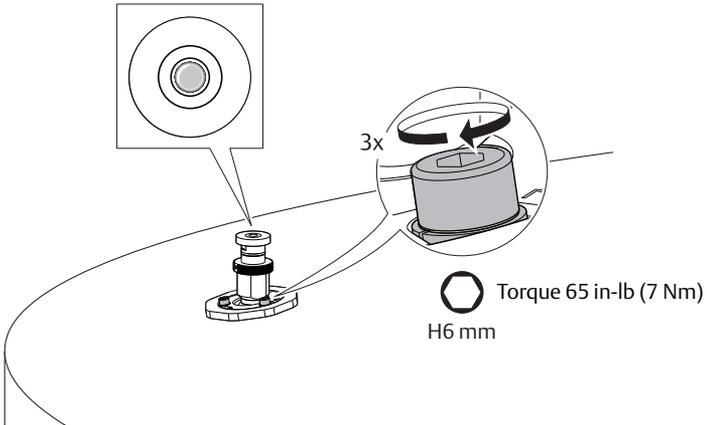
Step 3: Place the circular level on top of the antenna assembly



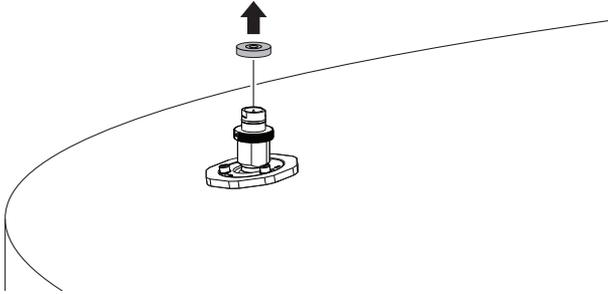
Step 4: Adjust the inclination of the antenna



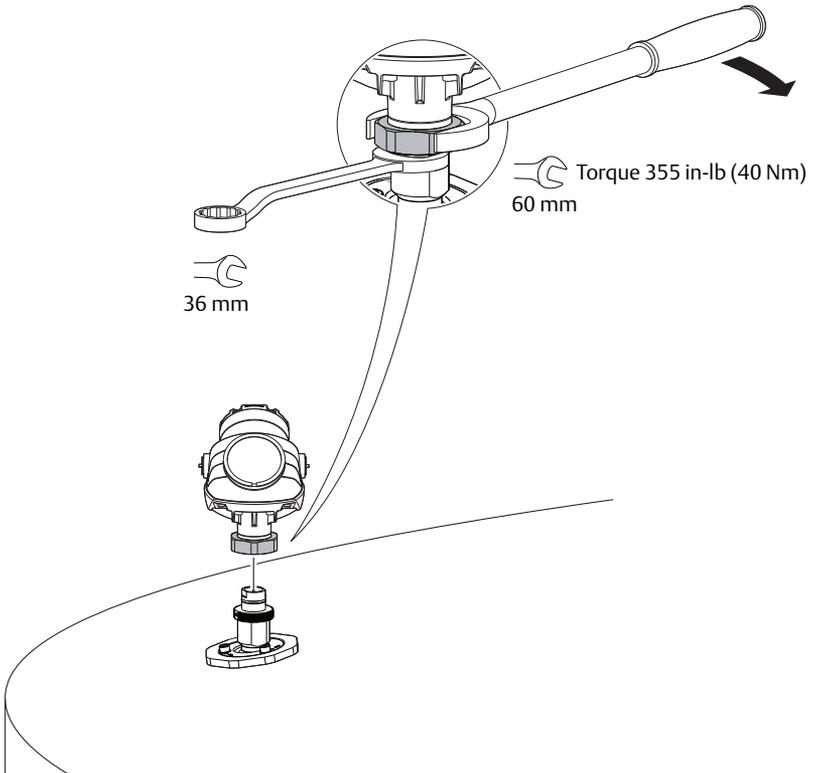
Step 5: Gradually tighten the M8 screws



Step 6: Remove the circular level

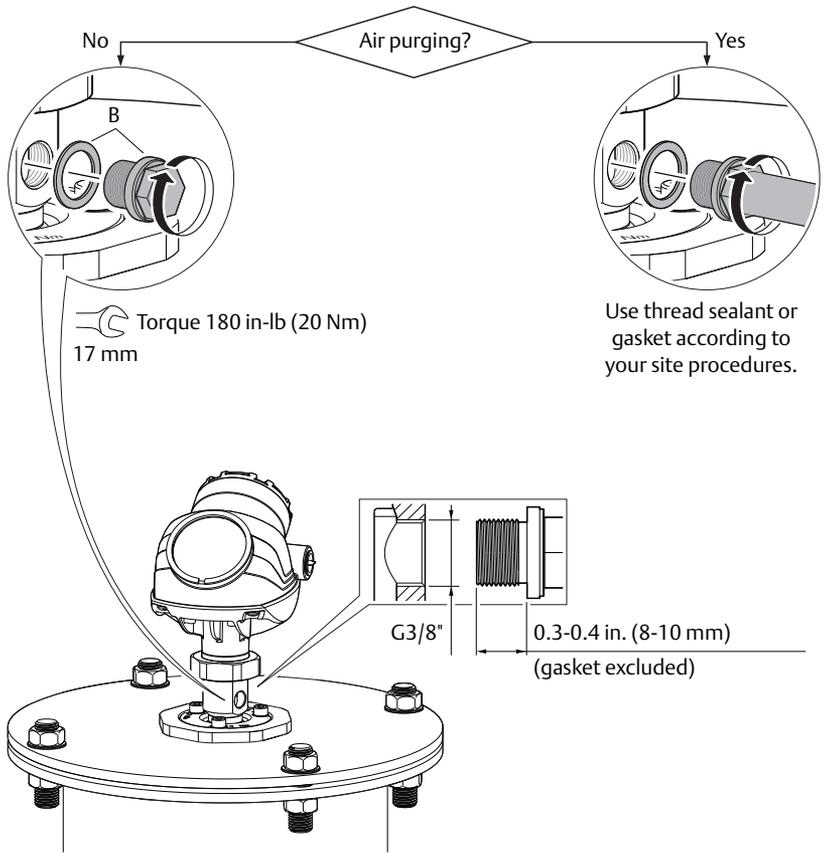


Step 7: Mount the transmitter head



7.0 Connect the air purging

If air purging is not used, plug and seal the entry with the air plug kit (optional with order) or a suitable blanking plug.



Proceed with electrical installation. For further instructions, see the Rosemount 5400 [Quick Start Guide](#).



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