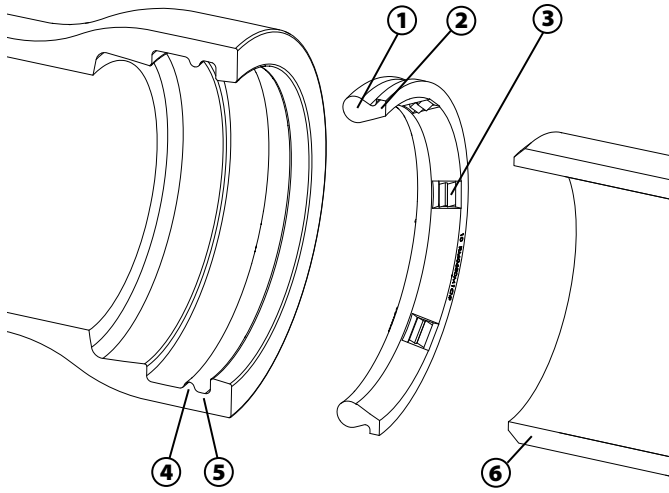


INSTALLATION INSTRUCTIONS

Read installation instructions first before installing. Check parts to ensure that no damage has occurred during transit and that no teeth are missing. Also check the diameter of the pipe and the size marked on the Piranha to ensure you have the proper size.

Piranha™ Restraint Gasket

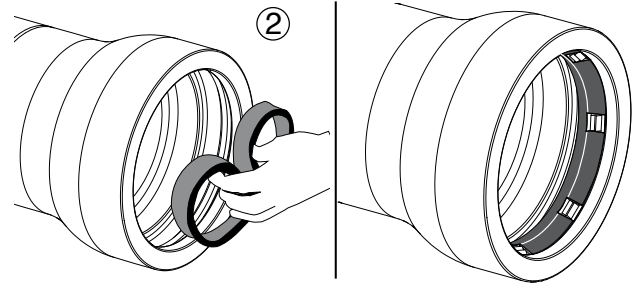
Joint Restraint for Bell and Spigot Push-On connections (*TYTON JOINT® pipe).



COMMON TERMS

- 1. Sealing Bulb:** Portion of the gasket that creates and maintains a seal in the joint.
- 2. Gasket Heel:** Portion of the gasket that helps prevent the gasket from being dislodged during installation.
- 3. Stainless Steel Teeth:** The portion of the gasket that provides restraint in the joint.
- 4. Bell Ridge:** Feature in the bell that allows the teeth to transfer the restraint load.
- 5. Gasket Race:** Feature in the bell that retains the gasket during installation.
- 6. Spigot / Plain End:** Plain end ductile iron pipe that is pushed into the bell end.

Step 1 • Inspect the pipe and gasket ensuring that it is in good order, free from debris, and clean in all areas. Check all surfaces inside and out. Remove any edges that could damage the gasket, and remove foreign matter such as tar, paint, rust and dirt in the gasket groove.



Step 2 • Loop the gasket and insert into the socket with rounded bulb-end first. Press the gasket until it is fully seated inside the gasket race. Large gaskets may require multiple loops evenly spaced around the gasket.

NOTES ON FIELD CUT PIPE

When field cuts are anticipated, Romac recommends using factory gauged pipe. If a field cut is necessary, measure the pipe OD at the cut to ensure that it falls within the range shown below.

SUITABLE PIPE OD FOR FIELD CUTS

NOMINAL PIPE SIZE (INCHES)	PIPE DIAMETER (INCHES)		PIPE CIRCUMFERENCE (INCHES)	
	MIN	MAX	MIN	MAX
4	4.74	4.86	14.88	15.28
6	6.84	6.96	21.47	21.88
8	8.99	9.11	28.25	28.63
10	11.04	11.16	34.69	35.06
12	13.14	13.26	41.28	41.66
14	15.22	15.35	47.81	48.22
16	17.32	17.45	54.41	54.81
18	19.42	19.55	61.00	61.41
20	21.52	21.65	67.59	68.03
24	25.72	25.85	80.78	81.22

Bevel the edge of the field cut pipe .25" at a 30 degree angle. Round the edge and remove sharp edges which could damage the gasket. See drawing below. **NOTE:** Break the edges of the bevel.

SPIGOT END

RECOMMENDED BEVEL



Installation Instructions continued on back →

Piranha™ Restraint Gasket

NOTES ON FIELD CUT PIPE (cont.)

Measuring from the cut end of the pipe, make an assembly mark according to the table below.

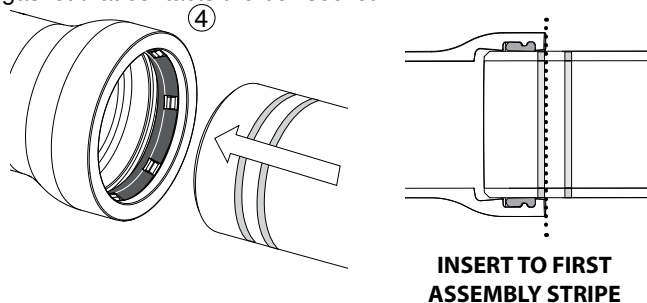
ASSEMBLY MARK & ALLOWABLE DEFLECTION

NOMINAL PIPE SIZE (INCHES)	LOCATION OF ASSEMBLY MARK (Inches)	MAX. JOINT DEFLECTION (degrees)	DEFLECTION OF 18 FOOT LENGTH (inches)	APPROX. RADIUS OF CURVE PRODUCED BY SUCCESSION OF JOINTS - 18 FOOT LENGTHS (feet)
4	2.75	5	19	205
6	2.94			
8	3.25			
10	3.31			
12	3.31	4	15	257
14	4.56			
16	4.56			
18	4.56			
20	5.06	2.5	9.5	412
24	5.50			

When no deflection is necessary, measure the depth of the bell and make a mark on the spigot at this depth. This will indicate when the pipe is fully homed. When deflection is necessary use the table to mark the insertion depth and deflect after insertion.

Step 3 • Check to see that the plain end of the pipe is properly beveled and free of any square or sharp edges which may interfere with, or damage the gasket. Lubricate the ID (exposed face) of the gasket and approximately six inches of the Spigot OD with an approved lubricant per ANSI/AWWA C111/A21.11. Use of soapy water as a lubricant is not recommended.

NOTE: Do not lubricate the bell socket or the surface of the gasket that contacts the bell socket.



Step 4 • Insert the spigot end into the bell and keep both sections of pipe aligned without deflection. Insert pipe until the entire first assembly stripe has passed the outer face of the bell. The second installation mark indicates when the pipe is fully homed.

NOTE: For maximum allowable joint deflection, don't fully 'home' or bottom out the spigot end of the pipe, as no deflection will be possible once the pipe is fully bottomed out in the assembly.

Step 5 • After insertion to the first assembly stripe, the pipe can be deflected. See "Assembly Mark & Allowable Deflection" table for allowable deflection.

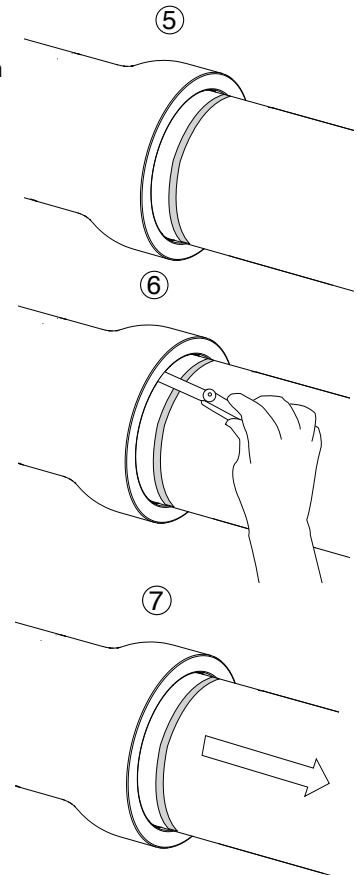
Step 6 • Use a feeler gauge to ensure that the gasket has not been dislodged from the gasket cavity during installation.

Step 7 • Apply a setting force in the opposite direction of assembly to engage teeth.

For 4" - 12" Piranha, up to 0.25" of extension can be expected to set teeth.

For 14" - 24" Piranha, up to 0.5" of extension can be expected to set teeth.

NOTE: The Piranha gasket is not to be reused.



PRECAUTIONS

1. The Piranha is not designed for above ground installations.
2. Failure to properly lubricate will increase installation forces drastically and increases the risk of tearing or dislodging the gasket during installation.
3. Failure to properly bevel plain end, or spigot end may result in the gasket becoming dislodged during assembly.
4. For installation in cold weather, keep the temperature of the Piranha gasket above 40°F.

For more product information and a list of precautions, refer to the complete installation instructions at www.romac.com, or contact Romac Industries at 1.800.426.9341.