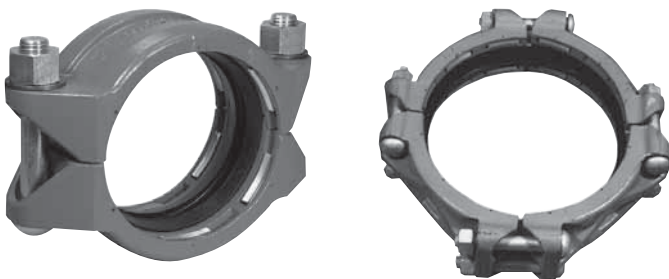


# Couplings for Plain-End Pipe

## Installation Instructions

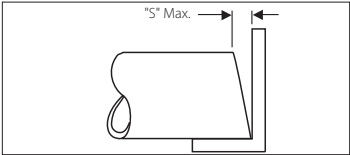


Style 99  
Roust-A-Bout Coupling

**! WARNING**

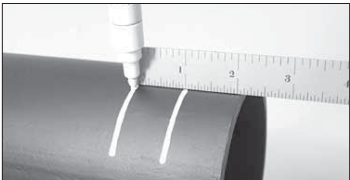
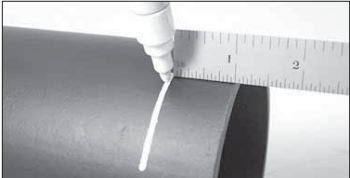


- Read and understand all instructions before attempting to install any Victaulic piping products.
  - Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.
  - Wear safety glasses, hardhat, and foot protection.
- Failure to follow these instructions could result in serious personal injury, improper product installation, and/or property damage.



**1. PREPARE PIPE ENDS:** Square cut the pipe ends (“S” dimension shown) within ½ inch/0.8mm for 1 – 6-inch/ 33.7 – 168.3-mm sizes and ⅙ inch/1.6mm for 8 – 12-inch/219.1 – 323.9-mm sizes.  
**NOTE:** Both pipe ends must be the same outside diameter.

**1a.** Make sure pipe ends are clean and free from damage and scratches within 1 ½ inches/38mm from the ends. Remove cutting particles.



**2. MARK PIPE ENDS:** Using a measuring tape and a bright-colored pencil or paint stick, place a mark 1 inch/25 mm from the pipe ends. This mark will be used for reference in centering the gasket during installation. Make at least four of these marks equally-spaced around the circumference of the pipe ends.

**2a.** Refer to the “Insertion Depth Requirements” table below. Using a measuring tape and a bright-colored pencil or paint stick, make an additional mark on the pipe ends at the measurement listed in this table. This mark will be used for visual inspection to make sure the pipe is inserted properly in the coupling. Make at least four of these marks equally-spaced around the circumference of the pipe ends.

**Insertion Depth Requirements**

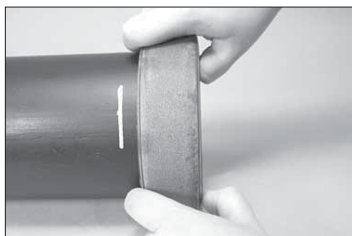
Size		Insertion Depth (2nd Mark)
Nominal Size inches or mm	Actual Pipe Outside Diameter inches/mm	inches mm
1	1.315 33.7	1 ¼ 32
1 ½	1.900 48.3	1 ½ 38
2 – 3	2.375 – 3.500 60.3 – 88.9	1 ¾ 45
76.1 mm	3.000 76.1	1 ½ 38
3 ½	4.000 101.6	1 ⅞ 48
4	4.500 114.3	2 ⅞ 54
139.7 mm	5.500 139.7	1 ¾ 45
5 – 6	5.563 – 6.625 141.3 – 168.3	2 ¼ 57
165.1 mm	6.500 165.1	2 ¼ 57
8 – 10	8.625 – 10.750 219.1 – 273.0	2 ⅞ 61
12	12.750 323.9	2 ¼ 57



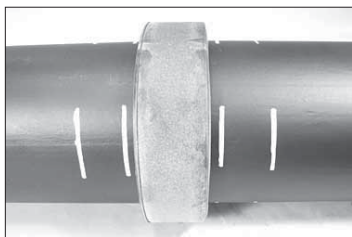


### 3. CHECK GASKET AND

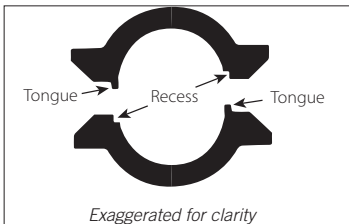
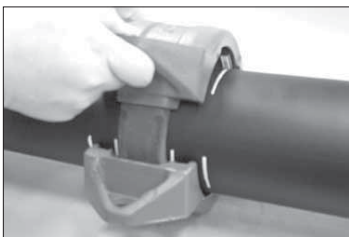
**LUBRICATE:** Check the gasket to make sure it is suitable for the intended service. The color code identifies the gasket grade. Apply a thin coat of Victaulic Lubricant or silicone lubricant to the gasket lips and exterior.



**4. INSTALL GASKET:** Install the gasket over the pipe end. Make sure the gasket does not overhang the pipe end.



**5. JOIN PIPE ENDS:** Align and bring the pipe ends together. Slide the gasket into position by centering it between the first set of pipe marks. **NOTE:** The pipe ends should be butted; however, if a gap is present between the pipe ends, the gap must not exceed  $\frac{1}{4}$  inch/6.4 mm.



**6. INSTALL HOUSINGS:** Install the housings over the gasket. Make sure the tongue-and-recess features mate properly (tongue in recess) and that the housings are centered between the second set of pipe marks. The second set of marks must indicate full insertion into the coupling.

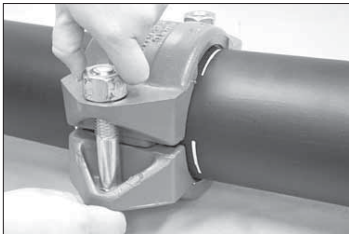
**NOTE:** The 1-inch/33.7-mm; 76.1 mm; 1½-inch/48.3-mm; and 139.7-mm sizes do not contain the tongue-and-recess features.



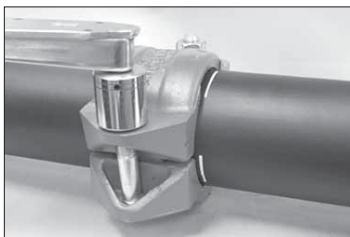
### CAUTION

- Make sure the gasket does not become rolled or pinched while installing the housings.

Failure to follow this instruction could cause damage to the gasket, resulting in joint leakage.



**7. INSTALL BOLTS/NUTS:** Insert the bolts. Thread a nut onto each bolt finger-tight. **NOTE:** Make sure the oval neck of the bolts seat properly in the bolt holes.



**8. TIGHTEN NUTS:** Tighten all nuts evenly by alternating sides until the required torque value is achieved at each nut. Refer to the “Style 99 Torque Requirements” table below for the required torque value. **The use of a torque wrench is strongly recommended for proper assembly of Style 99 Roust-A-Bout Couplings.** **NOTE:** It is important to tighten all nuts evenly to prevent gasket pinching and to produce bolt pad gaps that are equal on both sides of the coupling.

## ⚠ WARNING

- The housings’ tongue and recess features must be mated properly (tongue in recess).
- Torque requirements, specified in these instructions, must be achieved for proper coupling installation.
- Bolt pad gaps must be equal on both sides of the coupling.
- Keep hands away from coupling openings during tightening.

**Failure to follow these instructions could result in joint failure, serious personal injury, and/or property damage.**

## RE-INSTALLATION OF STYLE 99

**COUPLINGS:** Style 99 Couplings can be re-installed as long as the teeth inside the coupling housings are clean and free from any damage. If pipe ends contain damage or scratches within 1 ½ inches/38mm from the ends, corrective action must be taken by cutting off the ends and preparing them in accordance with Step 1 on page 160.

## Style 99 Torque Requirements

Size		Torque Requirements
Nominal Size inches or mm	Actual Pipe Outside Diameter inches/mm	ft-lbs N•m
1	1.315 33.7	35 48
1 ½	1.900 48.3	60 81
2 – 2 ½	2.375 – 2.875 60.3 – 73.0	150 203
76.1 mm	3.000 76.1	95 129
3 – 4	3.500 – 4.500 88.9 – 114.3	200 271
139.7 mm	5.500 139.7	160 217
5	5.563 141.3	250 339
165.1 mm	6.500 165.1	250 339
6 – 8	6.625 – 8.625 168.3 – 219.1	250 339
10	10.750 273.0	300 407
12	12.750 323.9	350 475

## Style 99 Helpful Information

Size		Style 99	
Nominal Size inches or mm	Actual Pipe Outside Diameter inches/mm	Nut Size inches/Metric	Socket Size inches/mm
1	1.315 33.7	¾ M10	1 ⅛ 17
1 ½	1.900 48.3	½ M12	¾ 22
2 – 2 ½	2.375 – 2.875 60.3 – 73.0	⅝ M16	1 ⅛ 27
76.1 mm	3.000 76.1	½ M12	¾ 22
3 – 4	3.500 – 4.500 88.9 – 114.3	¾ M20	1 ¼ 32
139.7 mm	5.500 139.7	¾ M20	1 ¼ 32
5	5.563 141.3	⅞ M22	1 ⅞ 36
165.1 mm	6.500 165.1	1 M24	1 ⅝ 41
6	6.625 168.3	1 M24	1 ⅞ 41
8 – 10	8.625 – 10.750 219.1 – 273.0	⅞ M22	1 ⅞ 36
12	12.750 323.9	1 M24	1 ⅞ 41

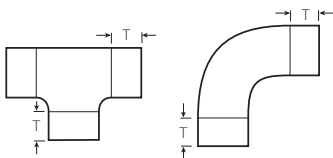


## Required Tangent Lengths for Plain-End Pipe Fittings (for Style 99 Roust-A-Bout Couplings)

### WARNING

- The required tangent lengths, listed below, must be used when connecting Style 99 Roust-A-Bout Couplings to fittings for plain-end pipe.
- Failure to follow this instruction could cause joint failure, resulting in serious personal injury and/or property damage.

Style 99 Roust-A-Bout Couplings require sufficient tangent lengths for proper assembly to fittings. The following table applies to all fittings for plain-end pipe used with Style 99 Roust-A-Bout Couplings (elbows, tees, laterals, wyes, crosses, bull plugs, and nipples).



Size		Required Minimum Tangent Length "T"
Nominal Size inches or mm	Actual Pipe Outside Diameter inches/mm	inches/mm
1 ½	1.900 48.3	1.50 38.1
2	2.375 60.3	1.75 44.5
2 ½	2.875 73.0	1.75 44.5
76.1 mm	3.00 76.1	1.50 38.1
3	3.500 88.9	1.75 44.5
3 ½	4.000 101.6	1.75 44.5
4	4.500 114.3	2.00 50.8
139.7 mm	5.500 139.7	1.75 44.5
5	5.563 141.3	2.13 54.1
6	6.625 168.3	2.13 54.1
165.1 mm	6.500 165.1	2.13 54.1
8	8.625 219.1	2.25 57.2
10	10.750 273.0	2.25 57.2
12	12.750 323.9	2.25 57.2

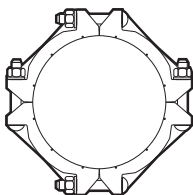
## Style 99 - Roust-A-Bout Coupling (14-inch/355.6-mm and Larger Sizes)

### **WARNING**

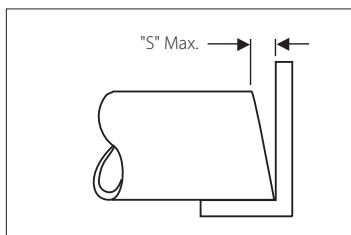


- Read and understand all instructions before attempting to install any Victaulic piping products.
  - Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.
  - Wear safety glasses, hardhat, and foot protection.
- Failure to follow these instructions could result in serious personal injury, improper product installation, and/or property damage.

Style 99 Couplings, in 14-inch/355.6-mm and larger sizes, are cast in segments to ease handling.



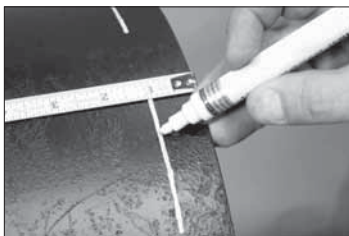
Typical 14 – 18-inch/355.6 – 457-mm Sizes



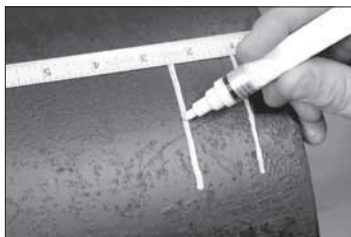
*Exaggerated for clarity*

**1. PREPARE PIPE ENDS:** Square cut the pipe ends ("S" dimension shown) within  $\frac{1}{16}$  inch/1.6 mm. **NOTE:** Both pipe ends must be the same outside diameter.

**1a.** Make sure pipe ends are clean and free from damage and scratches within  $1\frac{1}{2}$  inches/38 mm from the ends. Remove cutting particles.



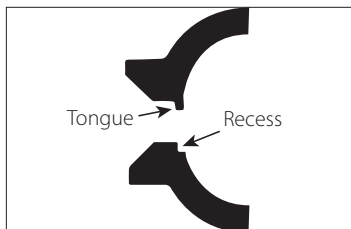
**2. MARK PIPE ENDS:** Using a measuring tape and a bright-colored pencil or paint stick, place a mark 1 inch/25 mm from the pipe ends. This mark will be used for reference in centering the gasket during installation. Make at least four of these marks equally-spaced around the circumference of the pipe ends.



**2a.** Refer to the “Insertion Depth Requirements” table below. Using a measuring tape and a bright-colored marking pencil or paint stick, make an additional mark on the pipe ends at the measurement listed in this table. This mark will be used for visual inspection to make sure the pipe is inserted properly in the coupling. Make at least four of these marks equally-spaced around the circumference of the pipe ends.

### Insertion Depth Requirements

Size		Insertion Depth (2nd Mark)
Nominal Size inches	Actual Pipe Outside Diameter inches/mm	inches mm
14 – 18	14.000 – 18.000 355.6 – 457	2 3/8 61



### 3. ASSEMBLE SEGMENTS:

Assemble the segments loosely into two equal halves, as shown above. Make sure the tongue and recess features mate properly (tongue-to-recess). Allow slight clearance between the segments to ease assembly onto the pipe.



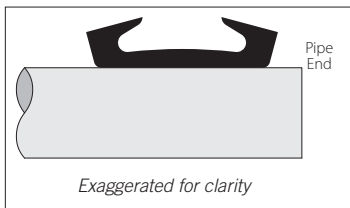
### 4. CHECK GASKET AND

**LUBRICATE:** Check the gasket to make sure it is suitable for the intended service. The color code identifies the gasket grade. Apply a thin coat of Victaulic Lubricant or silicone lubricant to the gasket lips and exterior.

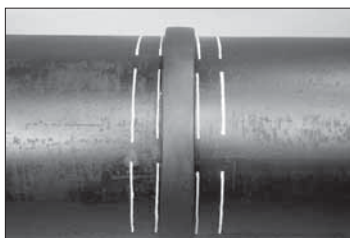


### CAUTION

- Always use a compatible lubricant to prevent the gasket from pinching/tearing during installation. Failure to follow this instruction could result in joint leakage.



**5. INSTALL GASKET:** For larger-size couplings, it may be easier to turn the gasket inside out, then slide it over the pipe end. Make sure the gasket does not overhang the pipe end.



**6. JOIN PIPE ENDS:** Align and bring the pipe ends together. Roll the gasket into position by centering it between the first set of pipe marks. **NOTE:** The pipe ends should be butted; however, if a gap is present between the pipe ends, the gap must not exceed 1/4 inch/6.4 mm.



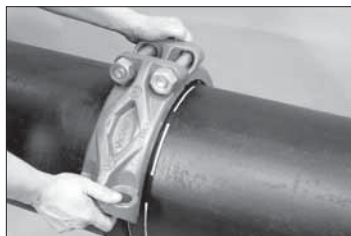
## CAUTION

- Make sure the gasket does not become rolled or pinched while installing the housings.

Failure to follow this instruction could cause damage to the gasket, resulting in joint leakage.

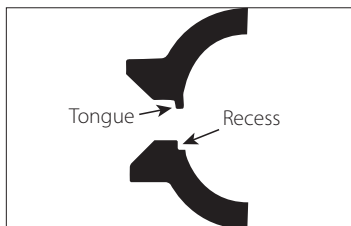
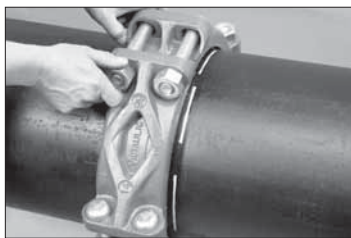


**8. TIGHTEN NUTS:** Tighten all nuts evenly by alternating sides until the required torque value is achieved at each nut. Refer to the “Style 99 Torque Requirements” table below for the required torque value. **The use of a torque wrench is strongly recommended for proper assembly of Style 99 Roust-A-Bout Couplings.** **NOTE:** It is important to tighten all nuts evenly to prevent gasket pinching and to produce bolt pad gaps that are equal at each set of bolt pads.



### 7. INSTALL FIRST SEGMENT

**ASSEMBLY:** Install one of the pre-assembled halves over the gasket.



### 7a. INSTALL REMAINING

**SEGMENT ASSEMBLY:** Install the second assembly onto the pipe, making sure the tongue-and-recess features mate properly (tongue to recess) and that the housings are centered between the second set of pipe marks. While supporting the weight of the assembly, install the remaining bolts, and thread the nuts finger-tight onto the bolts. **NOTE:** Make sure the oval neck of each bolt seats properly in the bolt hole.



## WARNING

- The housings' tongue and recess features must be mated properly (tongue in recess).
- Torque requirements, specified in these instructions, must be achieved for proper coupling installation.
- Bolt pad gaps must be equal on both sides of the coupling.
- Keep hands away from coupling openings during tightening.

Failure to follow these instructions could result in joint failure, serious personal injury, and/or property damage.

### Style 99 Torque Requirements

Size		Torque Requirements
Nominal Size inches	Actual Pipe Outside Diameter inches/mm	ft-lbs N•m
14 – 18	14.000 – 18.000 355.6 – 457	350 475

### Style 99 Helpful Information

Size		Style 99	
Nominal Size inches	Actual Pipe Outside Diameter inches/mm	Nut Size inches/Metric	Socket Size inches/mm
14 – 18	14.000 – 18.000 355.6 – 457	1 M24	1 5/8 41





**RE-INSTALLATION OF STYLE 99 COUPLINGS:** Style 99 Couplings can be re-installed as long as the teeth inside the coupling housings are clean and free from any damage. If pipe ends contain damage or scratches within 1 ½ inches/38mm from the ends, corrective action must be taken by cutting off the ends and preparing them in accordance with Step 1 on page 164.

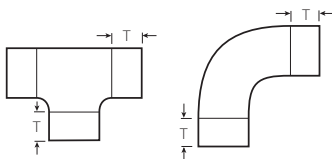
### Required Tangent Lengths for Plain-End Pipe Fittings (for Style 99 Roust-A-Bout Couplings)

#### WARNING

- The required tangent lengths, listed below, must be used when connecting Style 99 Roust-A-Bout Couplings to fittings for plain-end pipe.

Failure to follow this instruction could result in serious personal injury and/or property damage.

Style 99 Roust-A-Bout Couplings require sufficient tangent lengths for proper assembly to fittings. The following table applies to all fittings for plain-end pipe used with Style 99 Roust-A-Bout Couplings (elbows, tees, laterals, wyes, crosses, bull plugs, and nipples).



Size		Required Minimum Tangent Length "T"
Nominal Size inches	Actual Pipe Outside Diameter inches/mm	inches/mm
14 – 18	14.000 – 18.000 355.6 – 457	2.25 57.2