



GripSafe®ST Pipe Reinforcement Device (PRD)



Installing and Using the Pipe Reinforcement Device (PRD)

Follow instructions in the operating manual specifically **Section 5. Preparing the 4" – 12", 14" SCH 60-160, and 16" SCH 120-160 Nominal Pipe Size (NPS) GripSafe ST Outboard Retraction Blocking Plug (ORB) for Installation**, and **Section 6. Installing the GripSafe® ST NPS 4" – 12", 14" SCH 60-160, and 16" SCH 120-160 Inboard Insertion Blocking Reverse Pressure Plug (IIB).**

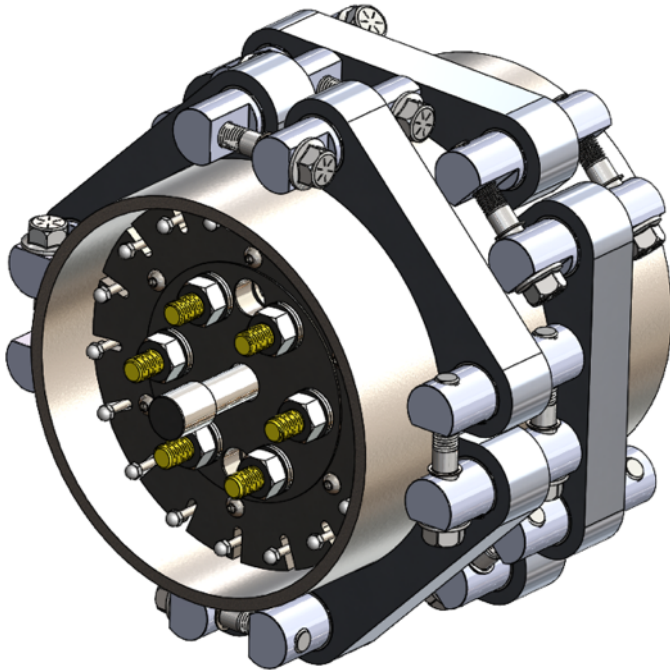


Figure 1: Properly Installed PRD on Pipe

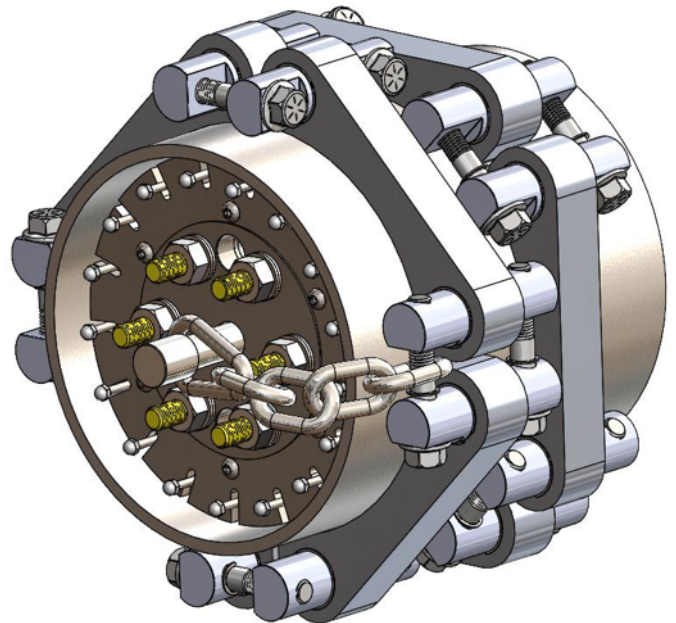


Figure 2: PRD on Pipe with Safety Gag



NOTE: Pipe Reinforcement Devices are used to give support to thin walled pipes. PRDs can also be used as a Safety Gag Device by adding a safety chain to the front of the plug where procedures require this addition.

- 1.1 As noted above, follow instructions in the operating manuals for preparation and installation of the GripSafe ORB and/or IIB plugs, depending upon which plug type you are installing.
- 1.2 Tighten the compression hex nuts in order to expand the seal to where it is touching the inner surface of the pipe and holding itself in place. **DO NOT** torque to the maximum value as indicated in the GripSafe ST installation manual until after the PRDs are in position. Failure to follow this step can cause distortion in thin wall pipes due to the seal forces exerting onto the pipe.

- 1.3** After the seal has expanded and prior to full torque, place the PRD Positioning Scale as shown in the below image where the short end touches the spring plate to reference the scale and then scribe/mark the pipe at the notch locations of the wedges and seal. The notches illustrate where the PRDs should be positioned to help reinforce the pipe from seal and wedge distortion that can occur in thin walled pipe.

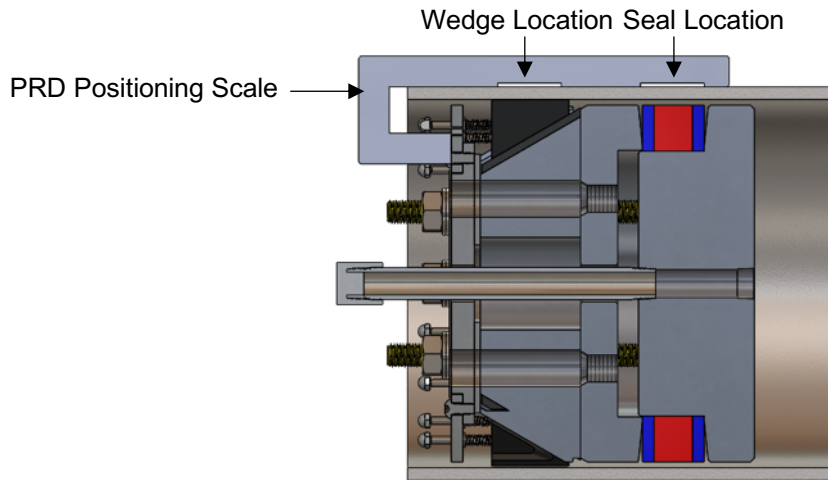
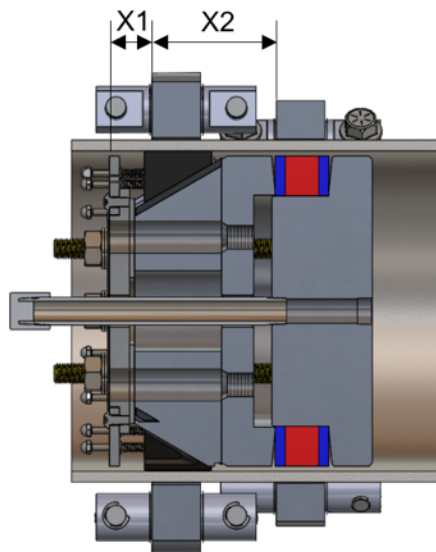
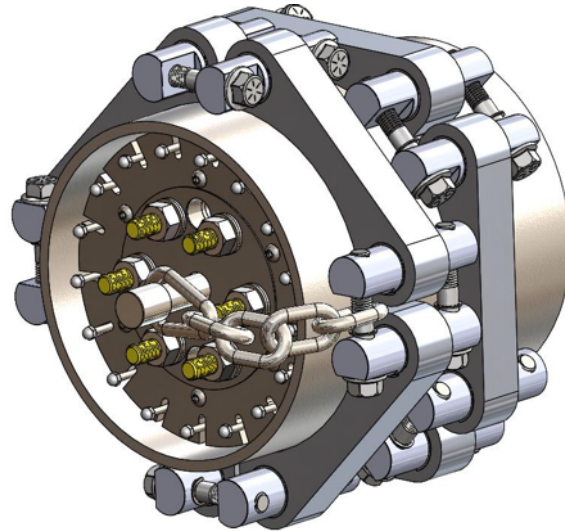


Figure 2: PRD Positioning Scale

- 1.4** Another alternate method to position the PRDs is to measure out the distance from the face of the spring plate to the wedge location and seals. See table and figure below for the sizes and their respected distances



- 1.5 After PRDs have been installed, then fully torque the plug to the specified values pertaining to the pipe plug you are installing (found in either the ORB or IIB Operating Manuals) to complete the installation.
- 1.6 If safety gag chains are required, follow the instructions below for installing them.



- 1.7 Once the PRD's and the plug are installed, you can add the extra chain links to the system to satisfy any safety protocols that are required.
- 1.8 The chain length is dependent on how deep the plug is positioned into the pipe. Extra chain length can be cut to the length required for installation.
- 1.9 Below is a table with chain sizes and lengths.

SIZE	PIPE CLAMP BOLT SIZE	SIZE OF CHAIN	INSIDE WIDTH	NUMBER OF CHAIN LINK	INSIDE LINK LENGTH	CHAIN CONNECTOR (CROSBY PART NUMBER)	PEAR-SHAPED LINKS	PEAR-SHAPED LINKS CROSBY
4	0.75	0.5	0.75	7	1.782	1013192	YES	1013575
6	0.75	0.5	0.75	7	1.782	1013192	YES	1013575
8	0.75	0.5	0.75	7	1.782	1013192	YES	1013575
10	0.75	0.5	0.75	7	1.782	1013192	YES	1013575
12	0.75	0.5	0.75	7	1.782	1013192	YES	1013575
14	0.75	0.625	0.851	9	2.016	1013236	YES	1013595
16	0.75	0.625	0.851	9	2.016	1013236	YES	1013595
18	0.75	0.625	0.851	9	2.016	1013236	YES	1013595
20	0.75	0.625	0.851	11	2.016	1013236	YES	1013595
24	0.75	0.625	0.851	11	2.016	1013236	YES	1013595
30	0.75	0.625	0.851	13	2.016	1013236	YES	1013595
36	0.75	0.625	0.851	13	2.016	1013236	YES	1013595