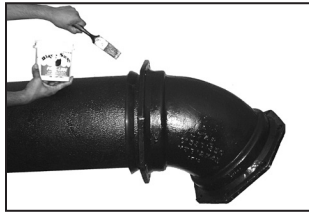




Split Stargrip® series 3000S

Split Mechanical Joint Wedge Action Restraint
for New or Existing Ductile Iron Pipe

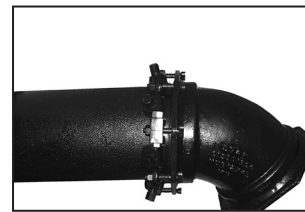
INSTALLATION INSTRUCTIONS - SIZES 3" - 48"

**STEP 1**

Existing joint must be disassembled and thoroughly cleaned. If necessary, replace the existing gasket with a field cut gasket. Brush both the gasket and the plain end with soapy water or approved pipe lubricant, which meets ANSI/AWWA C111/A21.11. Firmly insert the split gasket into the bell cavity.

**STEP 2**

Remove the clamping bolts from the split Stargrip®. Loosely assemble the halves on the pipe, making sure that the lip extension is towards the mechanical joint bell. Then reinstall the clamping bolts. Do not remove rubber washers prior to installation. Washers have been provided for proper wedge placement during shipment and installation.

**STEP 3**

Slide the loosely assembled Stargrip® towards the MJ bell and insert T-Bolts and hand-tighten the nuts.

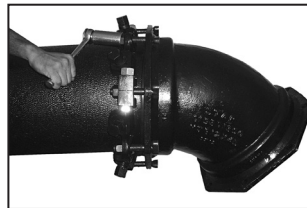
**STEP 4**

Tighten Clamping bolts on the Split Stargrip® to the following:

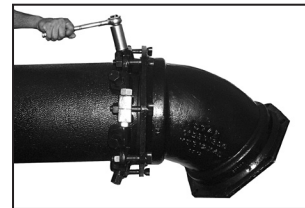
3" - 12": 100-125 FT-LBS.

14" - 36": 250-275 FT-LBS.

42" - 48": 300-325 FT-LBS.

**STEP 5**

Tighten the T-bolts to normal range of bolt torque. It is necessary that the gland be brought up toward the bell flange evenly, maintaining approximately the same distance between the gland and the face of the flange at all points around the socket. T-Bolts should be tightened alternately on the opposite sides (Star Pattern) (see table A).

**STEP 6**

Hand tighten the torque limiting twist off nuts in a clockwise direction until all wedges are in firm contact with the pipe surface.

Continue tightening in an alternative manner going on opposite sides [Star Pattern], until all of the nuts have been twisted off.

If removal is necessary, utilize the 5/8" hex head provided. [If reassembly is required, assemble the joint in the same manner as above and tighten the wedge bolts to 90 ft-lbs on sizes 3"-20", 120 ft-lbs on sizes 24"-36" & 130 ft-lbs on sizes 42"-48"].

(TABLE A) T-HEAD BOLT & NUT DETAILS

PIPE SIZE (IN)	BOLT SIZE (IN)	RANGE ¹ OF TORQUE (FT-LBS)
3	5/8	45-60
4-24	3/4	75-90
30-36	1	100-120
42-48	1 1/4	120-150

¹These torque ranges are requirements of AWWA C600

Notes:

- Stargrip® Series 3000S restraints are designed for use on ductile iron pipe that meets all physical requirements of ANSI/AWWA C151/A21.51. The pipe must be fully annealed to assure primary carbides have been dissolved and pearlite has been converted to ferrite. Please contact Star Pipe Products for technical assistance.
- Not to be used on plain end fittings or PVC or HDPE pipe.
- May also be used on steel pipe* up to 12" (*transition gasket required on 12" and under). For 14" and larger steel applications, contact Star Pipe.
- Stargrips® must be adequately wrapped or protected if they are covered by concrete to ensure that concrete does not enter the wedge pocket.
- Tightening of T-Bolts and torque limiting twist off nuts can be performed by use of Wrench (box, ratchet or pneumatic).
- For applications exceeding the maximum pressure ratings listed, please contact Star Pipe Products for recommendations (see Tandem Stargrip® Series 3000T on page 11).
- For applications with vertical offsets, please contact Star Pipe Products for technical assistance.
- For applications on existing pipe, the pipe needs to be structurally sound and the surface needs to be relatively free of any corrosive by-products in order for the wedges to function properly. Please contact Star Pipe Products for technical assistance.
- Pressure ratings shall not exceed the maximum pressure rating of the ductile iron pipe it is installed on.

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