



FIG. 646
FIG. 647

Concrete Rod Attachment Plate
Concrete Clevis Plate

SERVICE: To provide hanger rod attachment to the underside of concrete slabs. Allows vertical hanger rod adjustment or permits horizontal pipe movement through hanger rod rotation. Attached by post-installed or cast-in-place anchor bolts in 3,000 psi minimum compressive strength normal weight and lightweight, cracked and uncracked concrete loaded by static tensile forces from piping or similar services.

MATERIAL: Carbon Steel meeting ASTM: A36, A307 Gr A and A563 Gr A
Stainless Steel Type 304 and 316 meeting ASTM: A240, F593 and F594

FINISH: Black or Hot-Dip Galvanized meeting ASTM A123

MAX TEMP: 650°F for Black Carbon Steel and Stainless Steel
350°F for Hot-Dip Galvanized Carbon Steel

ORDERING: Specify figure number, rod size, material and finish. (Order anchor bolts and hardware separately.)

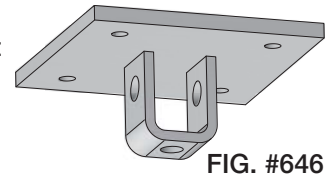


FIG. #646

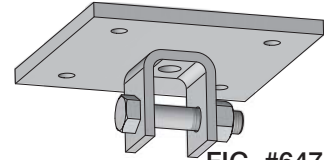


FIG. #647

SIZE	T x W	BOLT B	A	C	E	F	G	H	J	K	P	Q	R	S	V	Y	WEIGHT EACH, LBS.		MAX. REC. LOAD, LBS.
																	FIG. #646	FIG. #647	
3/8	3ga x 2	1/2 x 2 3/4	1	10	2	2	4 7/8	9/16	3/8	9/16	1/2	2	4	1 1/2	3	6	11.6	11.9	730
1/2	3ga x 2	5/8 x 2 3/4	1	10	2	2	4 7/8	11/16	3/8	9/16	1/2	2	4	1 1/2	3	6	11.6	12.0	1350
5/8	3ga x 2	3/4 x 3	1	10	2	2	4 7/8	13/16	1/2	9/16	1/2	2	4	1 1/2	3	6	15.2	15.8	2160
3/4	3/8 x 2 1/2	7/8 x 3 1/2	1	10	2	2	4 3/4	15/16	1/2	11/16	5/8	2 3/4	6	1 9/16	5	10	16.1	17.0	3230
7/8	3/8 x 2 1/2	1 x 4	1	10	3	3	6 5/8	1 1/16	1/2	11/16	5/8	2 3/4	6	2 1/16	5	10	16.7	18.1	4100
1	1/2 x 3	1 1/8 x 5 1/2	2	12	3	3	6 7/8	1 1/4	3/4	13/16	3/4	3 1/8	6	2 3/4	6	12	35.0	36.9	5400
1 1/8	1/2 x 3	1 1/4 x 5 1/2	2	12	3	3	7 13/16	1 3/8	3/4	15/16	7/8	3 1/2	10	2 3/4	6	12	35.2	37.9	5800
1 1/4	5/8 x 4	1 3/8 x 6 †	2	12	3	3	7 3/4	1 1/2	3/4	15/16	7/8	3 1/2	10	3	6	12	40.9	43.0	5800
1 1/2	3/4 x 5	1 5/8 x 6 1/2 †	2	12	4	4	8 7/8	1 3/4	1	1 1/8	1	4 3/8	10	3 1/2	7	14	57.6	60.0	5800

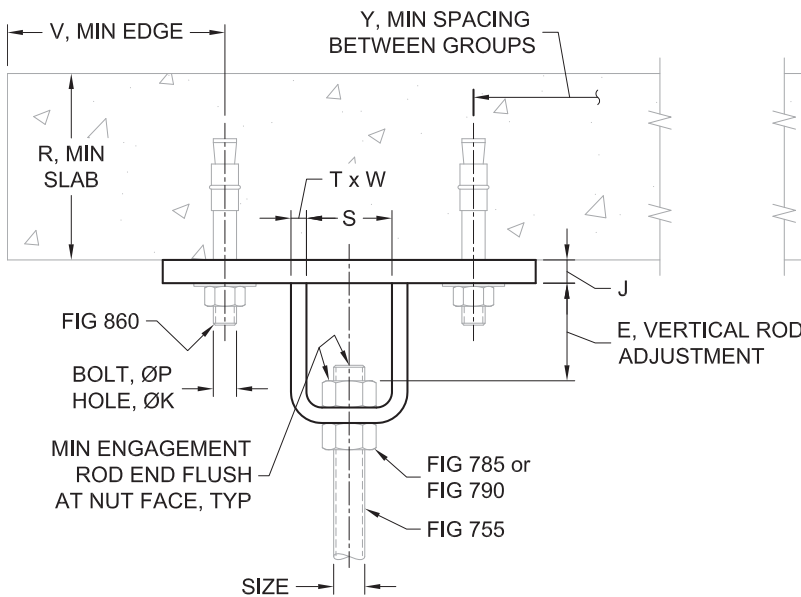


FIG 646

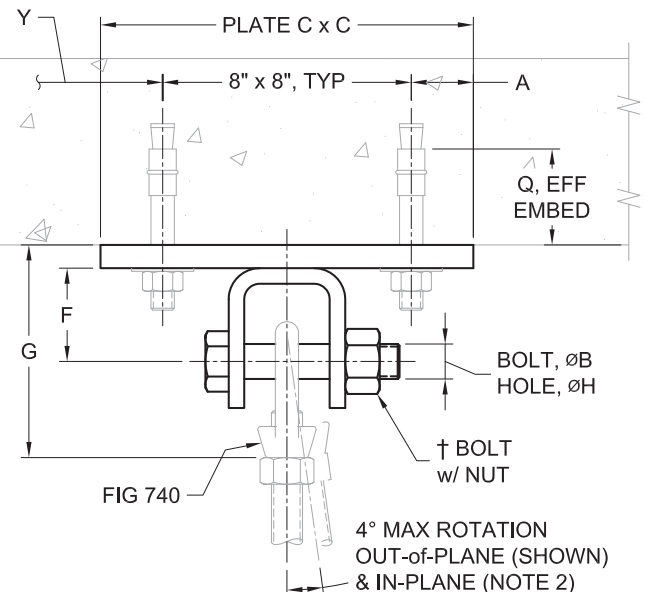


FIG 647

Notes:

- † Figure 647 bolt and nut replaced by pin with cotters.
- 1. Concrete attachment based on Powers Fasteners Power-Stud+ SD1 post-installed wedge expansion anchor bolt in 3,000 psi minimum compressive strength cracked concrete. Concrete failure modes in accordance with American Concrete Institute (ACI) 318, Appendix D, 2011. Minimum safety factor of 3.5 and 4.0 for steel and concrete failure modes, respectively. Maximum recommended loads presented above are unfactored. Condition B applies.
- 2. Maximum hanger rod in-plane and out-of-plane rotation resultant ≤ 4° per MSS SP-58. Pipe attachment shall provide rotation.
- 3. Other anchor bolt types and embedment depth combinations may be used. Contact factory for assistance.