

## Fig. 230

### Turnbuckle

**Size Range:** 3/8" through 2 1/2"

**Material:** Forged steel

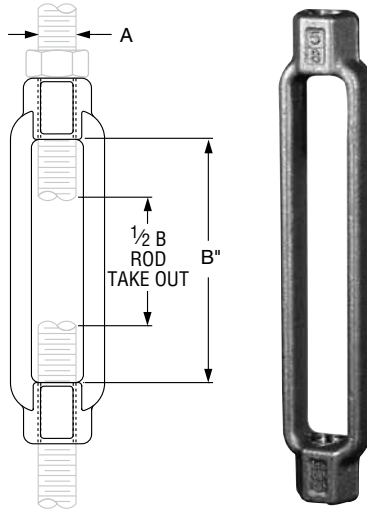
**Finish:** Plain or Galvanized

**Service:** Provides adjustment up to 6" for 12" Fig. 230 and 3" for 6" Fig. 230.

**Approvals:** Complies with Federal Specification A-A-1192A (Type 13), WW-H-171-E (Type 13), ANSI/MSS SP-69 and MSS SP-58 (Type 13).

**Ordering:** Specify rod size, figure number, name and finish.

**Note:** The acceptability of galvanized coatings at temperatures above 450°F is at the discretion of the end user.



**FIG. 230: LOADS (LBS) • WEIGHTS (LBS) • DIMENSIONS (IN)**

Rod Size A •	Max Load		Weight	
	650°F	750°F	B= 6" Opening	B=12" Opening
3/8	730	572	0.42	–
1/2	1,350	1,057	0.65	1.20
5/8	2,160	1,692	0.98	1.58
3/4	3,230	2,530	1.50	2.35
7/8	4,480	3,508	1.90	4.05
1	5,900	4,620	2.60	4.02
1 1/4	9,500	7,440	4.50	–
1 1/2	13,800	10,807	6.40	–
1 3/4	18,600	14,566	11.00	–
2	24,600	19,265	14.90	–
2 1/4	32,300	25,295	19.60	–
2 1/2	39,800	31,169	26.90	–

• Tapped right hand and left hand thread. Larger rod sizes or openings available upon request

## Fig. 233

### Turnbuckle

**Size Range:** 1 1/4" through 5"

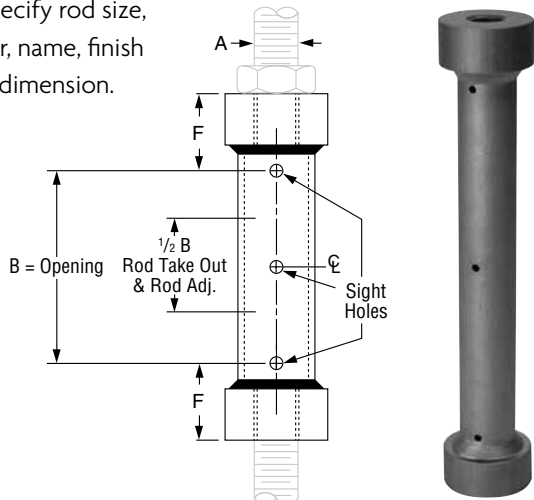
**Material:** Carbon steel

**Finish:** Plain or Galvanized

**Services:** Provides adjustments up to 12" with loads up thru 184,000 pounds.

**Approvals:** Complies with Federal Specification A-A-1192A (Type 13), WW-H-171-E (Type 13), ANSI/MSS SP-69 and MSS SP-58 (Type 13).

**Ordering:** Specify rod size, figure number, name, finish and opening dimension.



**FIG. 233: LOADS (LBS) • WEIGHTS (LBS) • DIMENSIONS (IN)**

Rod Size* A	Max Load	Weight/Opening				F
		B= 6"	B=12"	B=18"	B=24"	
1 1/4	9,500	–	9.0	10.8	12.6	2 1/8
1 1/2	13,800	–	12.4	14.9	17.4	2 3/8
1 3/4	18,600	–	11.7	14.2	16.7	
2	24,600	–	20.9	24.7	28.5	3 3/16
2 1/4	32,300	–	29.5	34.6	39.7	3 1/4
2 1/2	39,800	–	28.3	33.4	38.5	
2 3/4	49,400	35.6	41.8	48.1	54.3	3 1/2
3	60,100	41.6	49.1	56.6	64.1	3 13/16
3 1/4 •	71,900	39.6	47.0	54.5	62.0	
3 1/2 •	84,700	72.5	82.9	93.3	103.7	4 1/16
3 3/4 •	98,500	69.6	80.0	90.4	107.30	
4 •	113,400	110.7	125.1	139.4	153.6	5
4 1/4 •	129,400	107.1	121.5	135.7	150.0	
4 1/2 •	146,600	233.5	255.2	276.9	298.6	6 13/16
4 3/4 •	164,700	227.6	249.3	271.0	292.7	
5 •	184,000	221.4	243.1	264.8	286.5	

• Furnished with 4 UN series threads. \*Tapped right hand and left hand thread.