



SOLID WASTE

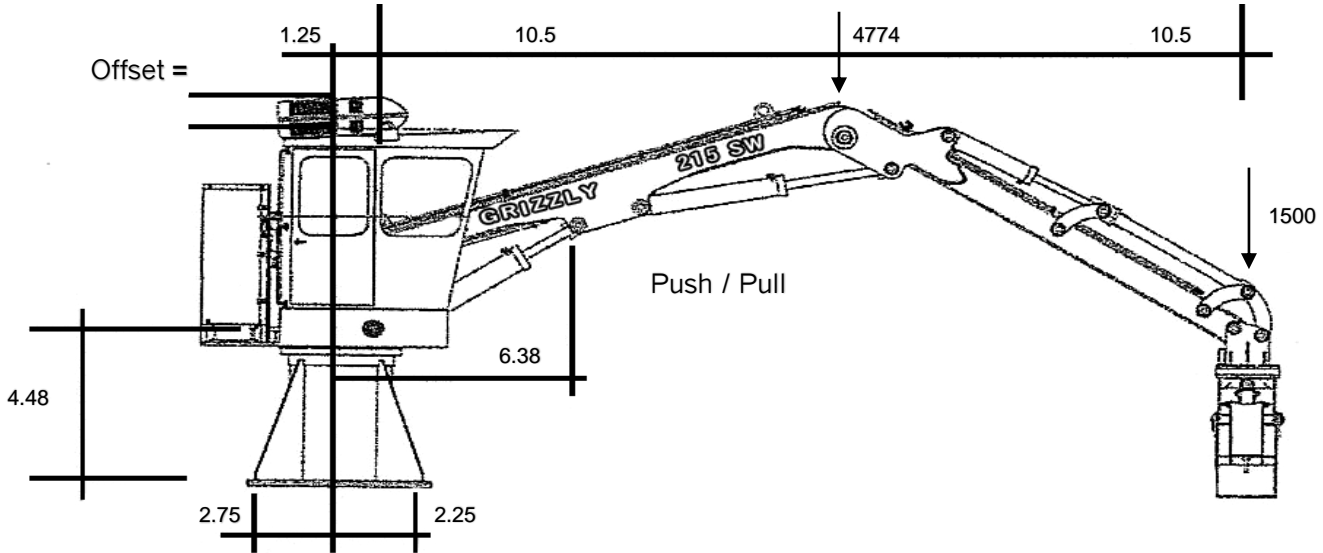
CRANE EQUIPMENT MANUFACTURING CORP.



33740 Seavey Loop • Eugene OR 97405-9602
www.grizzlycranes.com • ☎ (541) 746-9681 • 📠 (541) 746-8928

Certified Grizzly Knuckleboom Cranes

Model 215 SW, 21 ft. Boom, 5 ft. Base, 7 in. Cylinder



7" Diameter Main Cylinder
 2250 psi Hydraulic Pressure
 21' Boom
 3332 Wt. of Boom & Jib
 1442 Wt. Misc.
 5' Base Plate
 3" Diameter Rod
 13° Angle of Main Cylinder

Push = Area x pressure =
 Pull = (A1-A2) x pressure =

86,590 lbs.
 70,686 lbs.

Push = Sin13° =
 Push = Cos13° =
 Pull = Sin13° =
 Pull = Cos13° =

19,479 lbs.
 84,371 lbs.
 15,901 lbs.
 68,874 lbs.

Net Pick

$$= (6.38 \times 19479 + 11/12 \times 84371 - 10.5 \times 4774 - 21 \times 1500) / 21 =$$

5,714 lbs.

Moment =

$$= 10.5 \times 4774 + 21 \times (5714 + 1500) =$$

201,613 ft. lbs.

Reaction B =

$$= ((10.5 - 2.25) \times 4774 + (21 - 2.25) \times (5714 + 1500)) / 5 =$$

34,928 lbs.

Reaction A =

$$= 34928 + 4774 + 5714 + 1500 =$$

46,916 lbs.

Net Push

$$= (6.38 \times 15901 + 11/12 \times 68874 + 10.5 \times 4774 + 21 \times 1500) / 21 =$$

11,724 lbs.

Moment =

$$= (10.5 \times 4774 + (21 - 6.38) \times 15901 - 11 \times 68874 / 12) / 21 =$$

10,451 ft. lbs.

Reaction B =

$$= (2.75 \times 10451 - 4 \times 15901 + 4.48 \times 68874) / 5 =$$

54,739 lbs.

Reaction A =

$$= 54739 + 15901 - 10451 =$$

60,188 lbs.

Moment =

$$= 4.48 \times 68874 - 1.25 \times 15901 =$$

288,680 ft. lbs.



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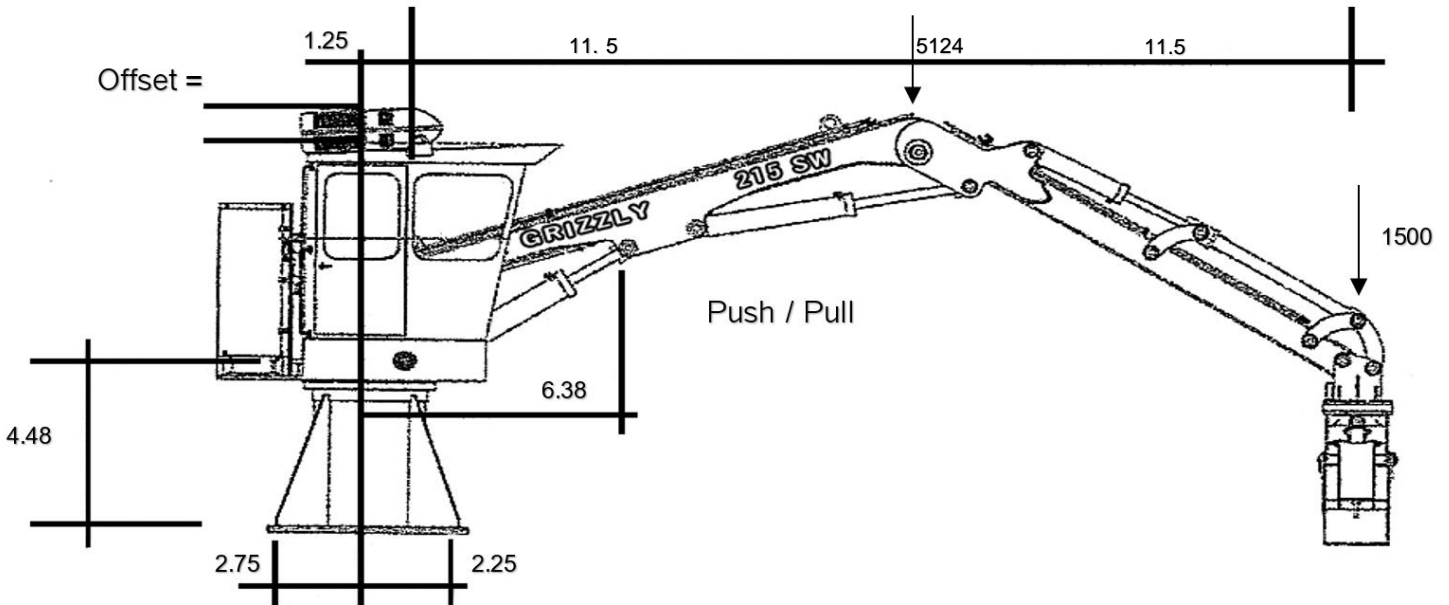


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Certify Grizzly Knuckleboom Cranes

Model 215 SW, 23 ft. Boom, 5 ft. Base, 7 in. Cylinder



7" Diameter Main Cylinder
 2250 psi Hydraulic Pressure
 23' Boom
 3682 Wt. of Boom & Jib
 1442 Wt. Misc.
 5' Base Plate
 3" Diameter Rod
 13° Angle of Main Cylinder

Push = Area x pressure =
 Pull = (A1-A2) x pressure =

86,590 lbs.
 70,686 lbs.

Push = Sin13° =
 Push = Cos13° =
 Pull = Sin13° =
 Pull = Cos13° =

19,479 lbs.
 84,371 lbs.
 15,901 lbs.
 68,874 lbs.

Net Pick

$$= (6.38 \times 19479 + 11/12 \times 84371 - 11.5 \times 5124 - 23 \times 1500) / 23 =$$

4,704 lbs.

Moment =

$$= 11.5 \times 5124 + 23 \times (4704 + 1500) =$$

201,613 ft. lbs.

Reaction B =

$$= ((11.5 - 2.25) \times 5124 + (23 - 2.25) \times (4704 + 1500)) / 5 =$$

35,225 lbs.

Reaction A =

$$= 35225 + 5124 + 4704 + 1500 =$$

46,553 lbs.

Net Push

$$= (6.38 \times 15901 + 11/12 \times 68874 + 11.5 \times 5124 + 23 \times 1500) / 23 =$$

11,218 lbs.

Moment =

$$= (11.5 \times 5124 + (23 - 6.38) \times 15901 - 11 \times 68874 / 12) / 23 =$$

11,307 ft. lbs.

Reaction B =

$$= (2.75 \times 11307 - 4 \times 15901 + 4.48 \times 68874) / 5 =$$

55,209 lbs.

Reaction A =

$$= 55209 + 15901 - 11307 =$$

59,803 lbs.

Moment =

$$= 4.48 \times 68874 - 1.25 \times 15901 =$$

288,680 ft. lbs.

Manufacturers of **"GRIZZLY"** Knuckleboom Cranes



Since 1977

Weights Certified by SSW Engineers



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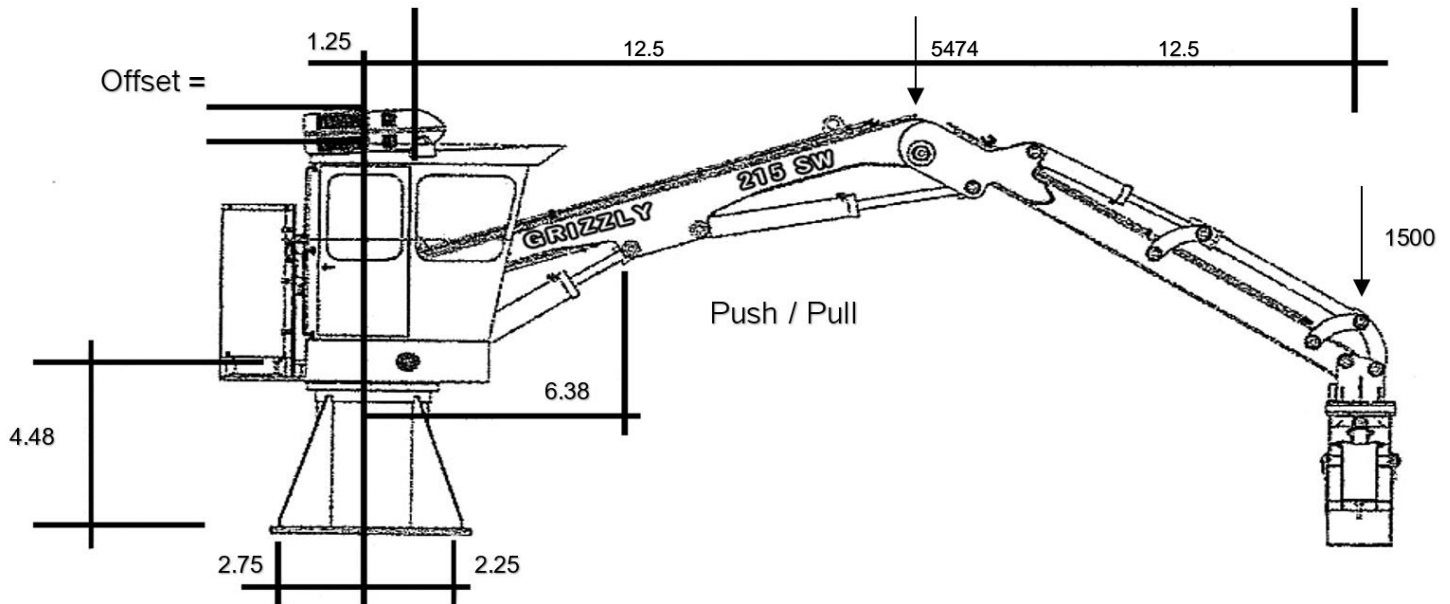


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Certify Grizzly Knuckleboom Cranes

Model 215 SW, 25 ft. Boom, 5 ft. Base, 7 in. Cylinder



7" Diameter Main Cylinder
 2250 psi Hydraulic Pressure
 25' Boom
 4032 Wt. of Boom & Jib
 1442 Wt. Misc.
 5' Base Plate
 3" Diameter Rod
 13° Angle of Main Cylinder

Push = Area x pressure =
 Pull = (A1-A2) x pressure =

86,590 lbs.
 70,686 lbs.

Push = Sin13° =
 Push = Cos13° =
 Pull = Sin13° =
 Pull = Cos13° =

19,479 lbs.
 84,371 lbs.
 15,901 lbs.
 68,874 lbs.

Net Pick

$$= (6.38 \times 19479 + 11/12 \times 84371 - 12.5 \times 5474 - 25 \times 1500) / 25 =$$

3,828 lbs.

Moment =

$$= 12.5 \times 5474 + 25 \times (3828 + 1500) =$$

201,613 ft. lbs.

Reaction B =

$$= ((12.5 - 2.25) \times 5474 + (25 - 2.25) \times (3828 + 1500)) / 5 =$$

35,462 lbs.

Reaction A =

$$= 35462 + 5474 + 3828 + 1500 =$$

46,263 lbs.

Net Push

$$= (6.38 \times 15901 + 11/12 \times 68874 + 12.5 \times 5474 + 25 \times 1500) / 25 =$$

10,820 lbs.

Moment =

$$= (12.5 \times 5474 + (25 - 6.38) \times 15901 - 11 \times 68874 / 12) / 25 =$$

12,055 ft. lbs.

Reaction B =

$$= (2.75 \times 12055 - 4 \times 15901 + 4.48 \times 68874) / 5 =$$

55,621 lbs.

Reaction A =

$$= 55621 + 15901 - 12055 =$$

59,467 lbs.

Moment =

$$= 4.48 \times 68874 - 1.25 \times 15901 =$$

288,680 ft. lbs.

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Certified Grizzly Knuckleboom Cranes

Model	215 SW	215 SW	215 SW
Boom Length (ft.)	21	23	25
Base Plate (ft.)	5	5	5
Main Cylinder (in.)	7	7	7
Hydraulic Pressure (psi)	2,250	2,250	2,250
Boom / Misc. Wt. (lbs.)	4,774	5,124	5,474
Grapple Weight (lbs.)	1,500	1,500	1,500
Angle of Main Cylinder (°)	13	13	13
Net Lift (lbs.)	5,714	4,704	3,828
Net Push (lbs.)	11,724	11,218	10,820
Moment (ft. lbs.)	288,680	288,680	288,680
Base Uplift (lbs.)	60,188	59,803	59,467
Base Down Pressure (lbs.)	54,739	55,209	55,621
Bolt Tension / Bolt (lbs.)	10,533	10,466	10,407
Bolt Shear / Bolt (lbs.)	2,680	2,680	2,680
Base Torque (ft. lbs)	76,389	76,389	76,389