

Safety



Use proper lifting techniques to avoid injury to personnel.

Handling

- Avoid damage to the bowed roll and its cover during lifting.
- If lifting points are on the roll face, ensure weight bearing surface area is ≥ 12 inches wide to prevent damage to the internal parts or the cover.

Installation

- Bowed rolls are installed into a pillow block or flange mount. Refer to page 4 of this publication for mounting dimensions and bolt sizes.
- The mounts are designed to accommodate a ball that aligns with the axis during adjustments and positioning. Ensure that the ball is present before tightening the mount.
- During the initial installation, ensure that the roll is square to the web travel. A misaligned roll can cause excessive wear on the roll cover and cause the web to run off to one side.

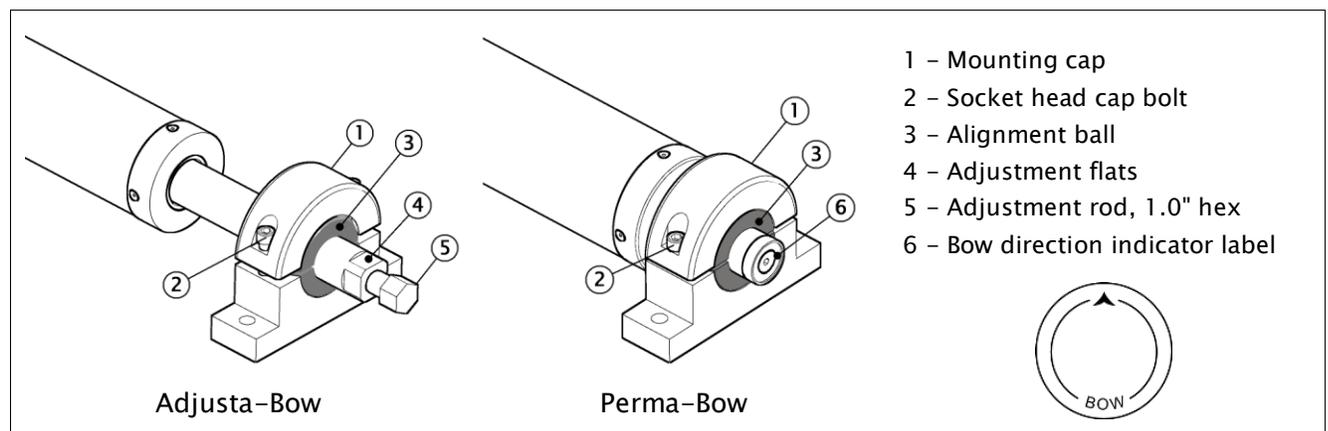
Roll cover maintenance

- The standard cover on a bowed roll is a Nitrile compound in the color green. Other types of cover compounds are available for specific applications.
- If the bowed roll is to be stored or left inoperative for an extended period of time, wrap the roll cover to protect it from dirt and grease.
- Use a mild cleaning solution to clean dirty covers. Avoid acetone and solvents unless your cover can withstand them.
- Never use or allow sharp objects to come in contact with the surface of the roll.

Repairs

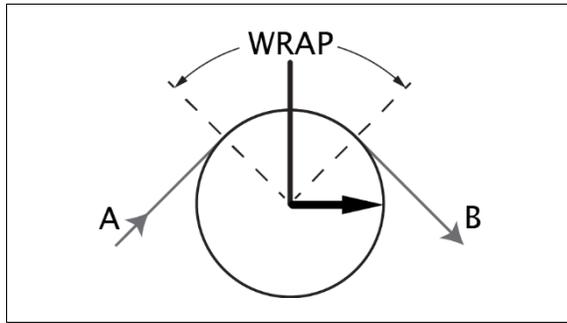
- Return the product to Maxcess if you need repairs. **Do not disassemble the bowed roll.**

Components



Bow direction – wrap angle, tension and orientation

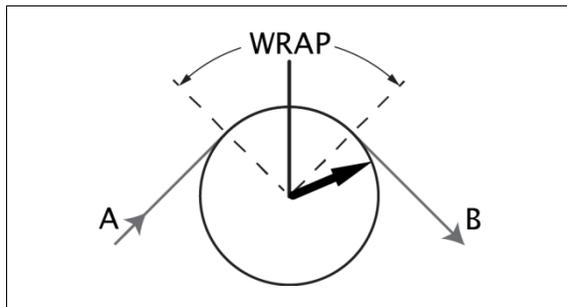
The bold black arrow indicates the direction of bow apex.



Standard orientation

The bow direction is set perpendicular to the bisector of the wrap angle (thick line) and points in the direction of the web travel.

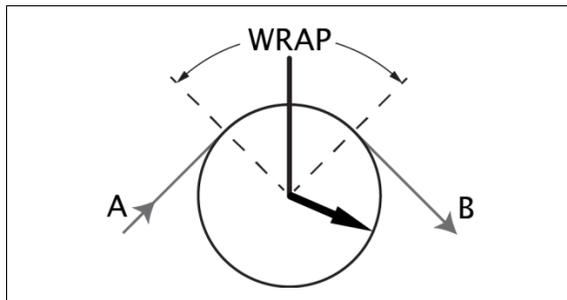
In this orientation, the edges and center will travel equal distances from A to B, which results in uniform spreading.



Tightening the center of the web

Turn the apex of the bowed roll into the web, decreasing the angle between the web angle bisector and the bow apex.

The center of the web travels a greater distance than the edges, which causes spreading to occur at the center.



Tightening the edges of the web

Turn the apex of the bowed roll away from the web, increasing the angle between the web angle bisector and the bow apex.

The web edge travels a greater distance than the center, which causes spreading to occur at the edges.



If you loosen the roll mounting cap bolts at both ends at the same time while making any adjustment, the bow apex of the roll can move. Secure the roll before loosening both ends.

Perma-Bow

Positioning the bow direction

May require the use of a strap wrench (Maxcess Part No. 270033231)

1. Start at the far end of the bowed roll: loosen both socket head cap bolts in the pillow block cap.
2. Holding the roll firmly, loosen the cap bolts on the operator side and turn the bow apex toward the desired direction. There is a label on the end of the roll that indicates the direction of the bow. Use a strap wrench, if necessary, to rotate the roll.
3. Tighten cap bolts firmly at the operator end, and then at the far end of the bowed roll.

Adjusta-Bow

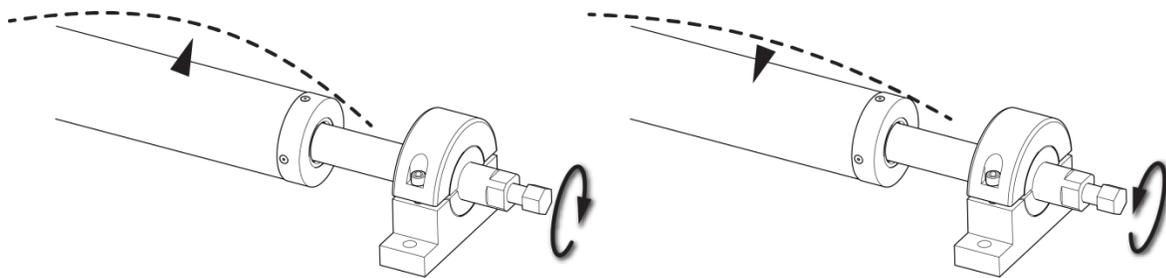
Notes

- Maximum bow amount is typically 3% of the roll face amount.
Example: 3% of 100" roll face = 3" bow.
- In a relaxed state, the bowed roll may be straight or have a slight bow.
- It is possible to decrease the bow to the point where the roll appears to be straight.



If you loosen the roll mounting cap bolts at both ends at the same time while making any adjustment, the bow apex of the roll can move. Secure the roll before loosening both ends.

Increase or decrease the bow

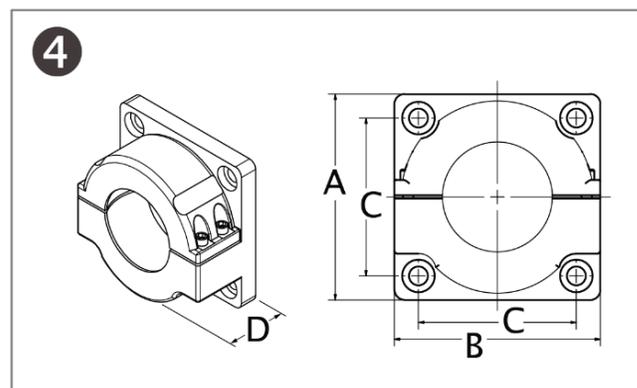
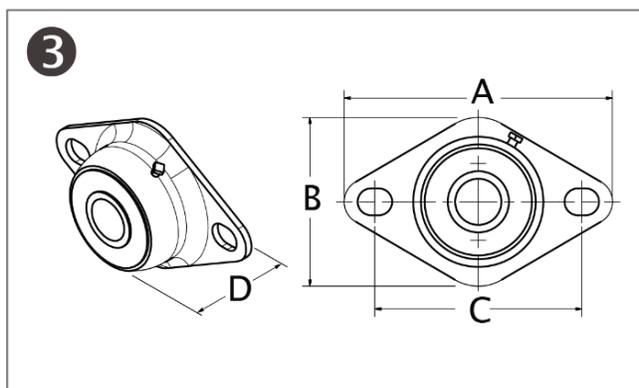
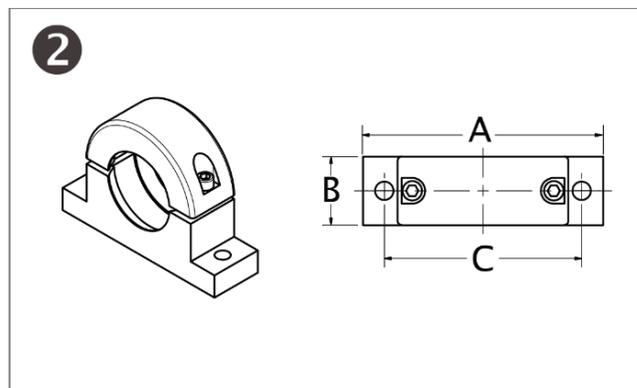
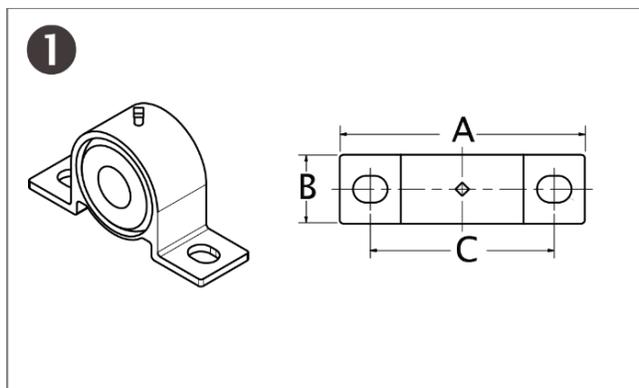


1. Loosen both bolts in the mounting cap at the adjusting end of bowed roll, allowing the ball to align itself with the roll axis during adjustment.
2. Insert wrench over the 1.0" hex head of the bow adjustment rod and turn the rod:
 - clockwise to increase the bow, or
 - counter-clockwise to decrease the bow.If the roll rotates in the mount, place a wrench over the adjustment flats to hold it in place during bow adjustment.
3. Tighten the bolts on the adjusting end of the roll.
4. Now loosen the bolts on the far end of the roll to allow the ball to align with the roll axis.
5. Tighten the bolts.

Position the direction of bow

1. Start at the far end of the bowed roll: loosen both bolts in the mounting cap.
2. At the adjusting end, before loosening the cap bolts, engage 1-1/4" wrench with bow positioning flats.
3. Hold the wrench firmly while loosening the socket head cap bolts on the adjusting end.
4. When bolts are loose, use the wrench to turn the bow apex toward the desired direction.
5. Tighten socket head cap bolts firmly at both ends of the roll to avoid movement of bow apex during machine operation.

Mounting options and dimensions



Mount Type	Bowed Roll Diameter	Figure	Bolt Size	Mount Dimensions		Hole Pattern	Width
				A	B	C	D
Pillow block	1.50	①	3/8" or [10 mm]	4.00	1.13	3.00	—
	3.50 to 4.50	②	1/2"	7.00	2.00	5.75	—
	5.25 to 6.50		3/4"	11.50	3.50	9.75	—
Flange	1.50	③	3/8" or [10 mm]	4.38	2.75	3.38	1.10
	3.50 to 4.50	④	3/8"	5.00	2.63	4.00	2.63
	5.25 to 6.50		5/8"	7.50	7.50	5.75	3.56



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