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Roll Rite Composite Bow Installation Requirements and Instructions

Instruction Part # 103749

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Installation Requirements



- Failure to follow installation requirements may result in potentially hazardous condition
- Read all product information and instructions before proceeding with installation
- Composite bow shall be installed following the process and order provided in the installation instructions. Failure to follow the stated procedure may result in potentially hazardous condition
- Bow shall not be subjected to temperatures above 150°F



- During and after installation, spring energy will be stored in the composite bow. Use caution during installation to avoid sudden release of spring energy.
- Composite bows shall be installed according to the following interface requirements:
 - Fastener hole shall be drilled according to the following specifications:
 - Diameter = $\frac{1}{4}$ " in. (6.5 mm)
 - Location = Horizontal hole centered on height and depth of the tubular bow receiver (See Fig 3.)
 - Use fastener specification
 - Bolt: 1/4 "-20x2"
 - Nut: ¼"-20 Nylock; Torque fastener to 86 in-lb (0.6 Nm)



Parts Reference:

Installation Instructions

Complete steps 1-5 with all bows to be install before proceeding.

1. Cut composite bow to the desired length based on trailer width and bow height (See Fig 2.) If using 1 bow per receiver pocket, cut two 3" pieces from the remainder of bow for later use.

| | Desired Arch | 8" | 9" | 10" | 11" | 12" | 13" | 14" | 15" | 16" |
|-------------------------|-----------------|---------|---------|---------|----------|----------|----------|----------|----------|----------|
| Inside Width of Body | | | | | | | | | | |
| 84 | | 84" | 84 5/8" | 85 1/4" | 85 7/8" | 86 5/8" | 87 3/8" | 88 1/4" | 89 1/8" | 90 1/2" |
| 85 | | 85" | 85 1/2" | 86 1/8" | 86 7/8" | 87 1/2" | 88 3/8" | 89 1/8" | 90 1/8" | 91" |
| 86 | | 86" | 86 1/2" | 87 1/8" | 87 7/8" | 88 1/2" | 89 1/4" | 90" | 91" | 92" |
| 87 | | 87" | 87 1/2" | 88 1/8" | 88 3/4" | 89 1/2" | 90 1/4" | 91" | 91 7/8" | 92 7/8" |
| 88 | | 88" | 88 1/2" | 89" | 89 3/4" | 90 3/8" | 91 1/8" | 92" | 92 7/8" | 93 3/4" |
| 89 | | 89" | 89 1/2" | 90" | 90 5/8" | 91 3/8" | 92 1/8" | 92 7/8" | 93 3/4" | 94 5/8" |
| 90 | | 90" | 90 1/2" | 91" | 91 5/8" | 92 3/8" | 93" | 93 7/8" | 94 5/8" | 95 1/2" |
| 91 | | 91" | 91 1/2" | 92" | 92 1/2" | 93 1/4" | 94" | 94 3/4" | 95 1/2" | 96 1/2" |
| 92 | | 91 7/8" | 92 3/8" | 93" | 93 1/2" | 94 1/4" | 95" | 95 5/8" | 96 1/2" | 97 1/2" |
| 93 | | 92 7/8" | 93 3/8" | 93 7/8" | 94 1/2" | 95 1/8" | 95 7/8" | 96 5/8" | 97 1/2" | 98 3/8" |
| 94 | | 93 7/8" | 94 3/8" | 94 7/8" | 95 1/2" | 96 1/8" | 96 7/8" | 97 1/2" | 98 3/8" | 99 1/4" |
| 95 | | 94 7/8" | 95 3/8" | 95 7/8" | 96 1/2" | 97" | 97 3/4" | 98 1/2" | 99 3/8 | 100 1/8" |
| 96 | | 95 3/4" | 96 1/4" | 96 7/8" | 97 3/8" | 98" | 98 3/4" | 99 1/2" | 100 1/4" | 101 1/8" |
| 97 | | 96 3/4" | 97 1/4" | 97 3/4" | 98 3/8" | 99" | 99 5/8" | 100 1/2" | 101 1/4" | 102" |
| 98 | | 97 3/4" | 98 1/4" | 98 3/4" | 99 3/8" | 100" | 100 5/8" | 101 3/8" | 102 1/8" | 103" |
| 99 | | 98 3/4" | 99 1/4" | 99 3/4" | 100 1/4" | 100 7/8" | 101 1/2" | 102 1/4" | 103" | 103 7/8" |



- 2. Install the *Bow Receiver Mounting Bolts* in the *Bow Receivers* and install nuts on *Bow Receiver Mounting Bolts* finger tight.
- 3. Slide the *Bow Receiver* over the end of the *Bow* until the bow rests against the *Bow Receiver Mounting Bolt*. If using a single bow in each receiver, install a 3" piece (that was cut in step 1) in the bottom ½ of the *Bow Receiver*. If using 2 bows per receiver slide both bows in, one cupped up and the other cupped down. If installed properly, the 2 bows, or bow and bow segment, together will result in a round shape with the seam being horizontal (see Fig. 3).



- 4. Using the Hole in the *Bow Receiver* as a guide drill 1/4" horizontal hole through the *Bow* and the 3" section, or second bow. This hole should be half in each of the *Bow* pieces as shown in Fig. 3.
- 5. Install 1/4" *Bow Securing Bolt* following the torque specification in Installation Requirements. The *Bow Receiver* should be held securely to both bow sections at this point.
- 6. Mount the *Bow Bracket Mounts* in the desired locations inside the body.
- 7. Remove the *Bow Receiver Mounting Bolt* from one end, position this end of the *Bow Receiver* in one of the *Bow Bracket Mounts* and reinstall the bolt and nut finger tight (see Fig. 4).





In the following steps you will be forcing an arch into the *Bows* which will introcuce stored spring energy. Face the *Bow Bracket Mount* & pull the end of the bow down such that the arch and stored spring energy is above and behind you - **Never position any part of your body above the bow**.

- 8. Prepare installation work area:
 - a. Clear all non-essential persons from installation area
 - b. Set-up installation area barriers and caution placards to prevent bystanders from coming into potential contact with unintentional release of stored spring energy.
- 9. Remove the *Bow Receiver Mounting Bolt* from the non secured end of the bow. Carefully arch the bow until the *Bow Receiver* lines up with the corresponding *Bow Bracket Mount* on the opposite side of the body and reinstall the *Bow Receiver Mounting Bolt* and finger tighten the nut.
- 10. Rock the installed bow back and forth allowing the arch to self center. Now tighten the *Bow Receiver Mounting Bolts* and nuts to 35 ft-lbs.

Composite Bow Maintenance:

Check bows periodically for damage, especially at each end near the bow pockets. If bow appears cracked, carefully remove and replace.

Optional Equipment:

If your bows experience premature surface wear "Bow Socks" may be available please contact Roll Rite Customer Service @ 800-297-9905.

Once Again Roll Rite, LLC would like to Thank You for your business and offer you not only the finest product in our industry, but the best customer service as well. We would like to invite you to visit our web site at <u>www.rollrite.com</u>, where you can find a complete set of parts diagrams.

Additionally we would love to hear from you if you have any questions or issues:

Phone - 800-297-9905 Fax – 888 TARP FAX (888-827-7329) E-mail – info@rollrite.com