

BOW DRAW WEIGHT

ADJUSTED WEIGHT CHART

Proper spine selection is the key to optimum arrow flight. With today's modern compounds, there are many variables that affect how an arrow reacts when it is thrust from the bow. The bow's cam, bow speed, arrow length and many other conditions affect performance during flight. Given the number of variables that require consideration, Carbon Express® STRONGLY recommends that you begin by using the company's adjusted bow draw weight chart to calculate a final pound number for your bow.

WARNING! FOR COMPOUND BOW USE: It is CRITICAL that you determine your proper adjusted bow draw weight before selecting arrow shafts. Selecting the wrong shaft could result in damage to the shaft and/or serious injury. To avoid serious injury and learn about safe hunting techniques, users must read the instructions and watch the videos at www.safearrow.com prior to shooting any arrow.

	Bow Draw Weight 59.9 lbs. or under	Bow Draw Weight 60 lbs. or over	Calculated Draw Weight
1. Measured Draw Peak Weight	-----	-----	= _____
2. Round Wheel	0	0	
Single Cam	+5	+7	
High-Energy Cam	+6	+8	= _____
3. 65% - 80% Let-Off	-4	-5	
50% Let-Off	0	0	= _____
4. Glue-In Target Points 60-79 grains	-9	-9	
Glue-In Target Points 80-99 grains	-7	-7	
Glue-In Target Points 100 grains	-6	-6	
Glue-In Target Points 110-120 grains	-5	-5	
Glue-In Target Points 145 grains	-4	-4	
Insert & 70-79 grains Screw-In Point	-9	-9	
Insert & 80-99 grains Screw-In Point	-8	-8	
Insert & 100 grains Screw-In Point	-7	-7	
Insert & 125 grains Screw-In Point	-6	-6	
Insert & 145 grains Screw-In Point	-5	-5	= _____
5. Arrow Length 25.9" or less	-2	-2	
Arrow Length 26" to 27.9"	+1	+1	
Arrow Length 28"	+2	+3	= _____
6. Finger Release	+3	+6	= _____
7. If the bow's speed rating exceeds:			
AMO	IBO		
240 FPS	300 FPS	+2	+3
245 FPS	306 FPS	+3	+4
250 FPS	313 FPS	+4	+5
255 FPS	319 FPS	+7	+8
260 FPS	325 FPS	+9	+10
270 FPS	335 FPS	+11	+12
280 FPS	345 FPS	+13	+14
290 FPS	360 FPS	+15	+16
			= _____

Adjusted Bow Draw Weight =

FIELD TARGET ARROWS

SELECTION CHART

SHAFT SELECTION CHART

	ARROW LENGTH												
	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"		
COMPOUND BOW (ADJUSTED WEIGHT)	16-21 lbs.	MXR2000	MXR1800	MXR1500	MXR1300 NS1200	NA1100 MXR1100 NS1000	NA1000 MXR1000 NS1000	NA900 MXR900 NS900					24-28 lbs.
	22-28 lbs.	MXR1500	MXR1300 NS1200	NA1100 MXR1100 NS1100	NA1000 MXR1000 NS1000	NA900 MXR900 NS900	NA830 MXR800 NS800	NP750 NA730 MXR700 NS700	NP700 NA680 MXR700 NS700	NP650 NA630 MXR600 NS600			29-34 lbs.
	29-34 lbs.	MXR1300 NS1200	MXR1100 NS1100	NA1000 MXR1000 MPR1000 NS1000	NA900 MXR900 MPR900 NS900	NA830 MXR800 NS800	NP750 NA730 MXR700 NS700	NP700 NA680 MXR700 NS700	NP650 NA630 MXR600 NS600	NP600 NA580 MXR600 NS600			35-39 lbs.
	35-39 lbs.	MXR1100 NS1100	NA1000 MXR1000 MPR1000 NS1000	NA900 MXR900 MPR900 NS900	NA830 MXR800 MPR800 NS800	NP750 NA730 MXR700 NS700	NP700 NA680 MXR700 NS700	NP650 NA630 MXR600 NS600	NP600 NA580 MXR600 NS600	NP550 NA530 MXR500	NP500 NA490		40-45 lbs.
	40-45 lbs.	NA1000 MXR1000 NS1000	NA900 MXR900 NS900	NA830 MXR800 NS800	NP750 NA730 MXR700 NS700	NP700 NA680 MXR700 NS700	NP650 NA630 MXR600 NS600	NP600 NA580 MXR600 NS600	NP550 NA530 MXR500	NP500 NA490 MXR500	NP450 NA450		46-51 lbs.
	46-51 lbs.	NA900 MXR900 NS900	NA830 MXR800 NS800	NP750 NA730 MXR700 NS700	NP700 NA680 MXR700 NS700	NP650 NA630 MXR600 NS600	NP600 NA580 MXR600 NS600	NP550 NA530 MXR500	NP500 NA490 MXR500	NP450 NA450 MXR400	NP400 NA410	MP350	52-57 lbs.
	52-57 lbs.	NA830 MXR800 NS800	NP750 NA730 MXR700 NS700	NP700 NA680 MXR700 NS700	NP650 NA630 MXR600 NS600	NP600 NA580 MXR600 NS600	NP550 NA530 MXR500	NP500 NA490 MXR500	NP450 NA450 MRX400	NP400 NA410 MXR400	NP350 NA380		58-63 lbs.
	58-63 lbs.	NP750 NA730 MXR700 NS700	NP700 NA680 MXR700 NS700	NP650 NA630 MXR600 NS600	NP600 NA580 MXR600 NS600	NP550 NA530 MXR500	NP500 NA490 MXR500	NP450 NA450 MXR400	NP400 NA410 MXR400	NP350 NA380	NP350		64-69 lbs.
	64-69 lbs.	NP700 NA680 MXR700 NS700	NP650 NA630 MXR600 NS600	NP600 NA580 MXR600 NS600	NP550 NA530 MXR500	NP500 NA490 MXR500	NP450 NA450 MRX400	NP400 NA410 MRX400	NP350 NA380	NP350			
	70-75 lbs.	NP650 NA630 MXR600 NS600	NP600 NA580 MXR600 NS600	NP550 NA530 MXR500	NP500 NA490 MRX400	NP450 NA450 MRX400	NP400 NA410 MRX400	NP350 NA380	NP350				

RECURVE BOW (BOW DRAW WEIGHT)

LEGEND:

NA = Nano-XR®

NP = Nano-Pro™ RZ

MXR = Medallion-XR™

NS= NANO.166 and Predator™

Note: For compound bows, you must first calculate your adjusted weight from the adjusted weight chart. Recurve bows use the weight on the right side from the draw weight of your bow at your draw length.

ARROW ASSEMBLY

INSTALLING PRESS FIT NOCKS

Firmly press the press fit nock into the shaft by applying pressure to the nock valley base only. Do not put direct pressure on the nock tabs - direct pressure on the nock tabs may cause the nock to deform, crack or break. Once seated flush against the shaft, the nock can be turned for precise tuning. Press fit nocks do not have to be glued to the shaft.

INSTALLING PIN NOCK ADAPTORS

On some arrows like Nano-Pro the Pin Nock Adaptors seat snug enough that glue is not needed. On other shafts like the Medallion the Pin Nock Adaptors are not designed to be a tight fit in the shaft. A dab of Hot melt glue is needed. We recommend using low temperature hot melt glue. Apply a small amount of heated glue to the Pin Nock Adaptor then heat up the adaptor and glue until the glue becomes runny. At this point place the Pin Nock Adaptor into the shaft. Once seated place the shaft end with adaptor into a container of cold water to cool the shaft and adaptor down. When removing the Pin Nock Adaptor place the nock end of the shaft in pan of boiling hot water till the adaptor can be pulled with pliers. **DO NOT USE AN EPOXY TO PUT THE PIN NOCK ADAPTOR IN FOR THEY WILL NEED TO BE REPLACE IF HIT ON THE BACK END.**

INSTALLING CARBON EXPRESS® GLUE-IN TARGET POINTS

We recommend using low temperature hot melt glue. Apply heated glue to the point shaft then heat up the point shaft and glue until the glue becomes “runny”. At this point, place the point into the shaft. Once seated, place the shaft and point into a container of cold water to cool the point and shaft down. When removing the points place the point end of the shaft in a pan of boiling water till the point can be pulled with pliers.

DO NOT USE A QUICK SETTING EPOXY. Quick setting epoxy can become brittle during the hardening process and may not create a sufficient bond between the arrow shaft and component.

DETERMINING YOUR CORRECT ARROW LENGTH

Using the bow and release system that you normally use (mechanical or fingers), draw the bow back to your anchor point. Have someone mark the shaft where it comes into contact with the front of the riser. Measure the length of the shaft from where the nock contacts the string (nock valley) to the spot marked. This distance is your standard arrow length. We recommend you cut one shaft and install the front end hardware of your choice to make sure the shaft is the correct length before cutting the other shafts.

PROCEDURES FOR CUTTING CARBON ARROWS

- 1) Always use a high-speed cut-off tool (above 5,000 rpm) with an abrasive wheel when cutting carbon shafts. Using tube cutters or hand saws will damage the carbon fibers.
- 2) Always cut carbon shafts with nocks in place.

WARNING!: Always use the appropriate respiratory protection (NIOSH Approved Dusk mask), and eye protection (safety glasses) when cutting arrow shafts.

PREPARING CARBON SHAFTS FOR FLETCHING

- 1) Using a clean white paper towel, wipe the shaft where the fletching will be applied with denatured alcohol. Continue to lightly wipe the shaft with alcohol until all carbon dust and residue is removed.
- 2) Wipe the base of the vanes with denatured alcohol also. Some vane producers use a mold-release agent in the manufacturing process that must be removed for solid adhesion between the shaft and vane.
- 3) Do not touch the portion of the shaft to be fletched, or the base of the vane, or allow them to come into contact with any surface once they have been cleaned.

FLETCHING CARBON SHAFTS

- 1) We recommend carbon shafts be fletched with CX™ Express Bond or super glue gel designed for carbon arrows.
- 2) Carbon shafts can be fletched with standard fletching jigs and clamps. For optimum performance and flight stability, we recommend bowhunters fletch their shafts using a helical clamp or a straight clamp with the jig offset at least 2 degrees.

RE-FLETCHING CARBON SHAFTS

(WARNING!: Never soak carbon shafts in any harsh chemical, including acetone.) MEK can be used on carbon shafts without damage to the finish if it is rubbed on the shaft with a clean rag.

- 1) Use a dull knife to remove old fletching and glue. Be very careful to only remove fletching and glue - do not remove any carbon fibers.
- 2) Repeat steps 1-3 detailed under Preparing Carbon Shafts for Fletching.

DISCLAIMER

While Carbon Express is committed to bringing its customers the best arrows, the arrows are not designed to impact a metal, plastic, concrete or other hard surface. Firing any Carbon Express® arrow into such a hard surface will not only damage the arrow, prohibiting any other use, but may also cause serious injury or death. Shooting an arrow into a target encased in plastic or other hard surface, such as a decoy designed with such attributes, exposes the arrow to such conditions, may damage the arrow and/or cause serious injury or death. Such a target should not be used with any Carbon Express® arrow. Use of such arrows with a hard surface impact voids any warranty, express or implied.

SAFETY WARNINGS FOR ARCHERS

The use of a bow and arrow requires considerable skill and should be treated with caution to avoid injury to persons and/or property. Bows and arrows should only be used by those who are properly trained in safety or under the supervision of a qualified instructor. Safety glasses should be worn while working with archery equipment. Read assembly instructions and all information included with arrows, hardware and adhesive packages.

WARNING! To avoid serious injury and learn about safe hunting techniques, users must read the instructions and watch the videos at: www.safearrow.com prior to shooting any arrow.

CARBON EXPRESS® ARROWS SHOULD ALWAYS BE FLEXED IN A GRADUAL ARC AND VISUALLY INSPECTED FOR DELAMINATION, SPLITTING, IMPACT CRUSH MARKS, OR ANY OTHER DAMAGE PRIOR TO SHOOTING. A DAMAGED SHAFT COULD FAIL COMPLETELY UPON RELEASE AND CAUSE INJURY TO YOURSELF OR OTHERS. NEVER SHOOT A CRACKED OR DAMAGED SHAFT.

- After loading into the bow, do not point the arrow at yourself or others. It may discharge accidentally and cause serious injury to yourself or others.
- Do not shoot unless the target is visible and you are aware of what is behind the target area.
- Be conscious of shooting technique and sequence. Careless handling of bow and arrows and/or distractions can lead to serious injury to yourself and others.
- Always check all arrow components prior to shooting. Loose components can cause unbalanced arrow flight and partial dry firing of the bow.

The proper arrow size for a selected bow may differ from that of other bow brands or models due to design differences, the particular bow's set-up, arrow weight, etc. “Adjusted Bow Draw Weight” is a calculation that accounts for such differences, making arrow selection more reliable. To choose the proper arrow shaft size for your bow, use the Adjusted Bow Draw Weight chart to determine your correct draw weight, then use the Arrow Selection Chart to select your arrow shaft size. If your set-up falls between shafts sizes, choose the higher size (stiffer spine).

WE RECOMMEND YOU SELECT THE LARGER SHAFT SIZE IF THE CHART INDICATES YOU ARE BETWEEN SIZES.

NOTE: Due to the equipment and accessory variations, other shaft sizes than the ones shown may be needed. Experimentation of shaft spine may be required to fit certain situations.

Shaft straightness tolerances measured over a 28” span.

SPECIFICATION SHEET

ARROW DESCRIPTION	Grains per inch	Spine	Straightness	Diameter
NANO-PRO™ RZ 650 (32.5")	6.5	0.650"	±0.0015"	0.191"
NANO-PRO™ RZ 600 (32.5")	6.9	0.600"	±0.0015"	0.193"
NANO-PRO™ RZ 550 (33")	7.2	0.550"	±0.0015"	0.197"
NANO-PRO™ RZ 500 (33")	7.6	0.500"	±0.0015"	0.200"
NANO-PRO™ RZ 450 (33")	8.1	0.450"	±0.0015"	0.206"
NANO-PRO™ RZ 400 (33")	8.7	0.400"	±0.0015"	0.210"
NANO-PRO™ RZ 350 (33")	9.6	0.350"	±0.0015"	0.215"
NANO-XR® 1100 (28")	4.9	1.100"	±0.0015"	0.181"
NANO-XR® 1000 (28")	5.2	1.000"	±0.0015"	0.184"
NANO-XR® 900 (29")	5.5	0.900"	±0.0015"	0.186"
NANO-XR® 830 (29")	5.8	0.830"	±0.0015"	0.189"
NANO-XR® 730 (30")	6.2	0.730"	±0.0015"	0.191"
NANO-XR® 680 (31")	6.4	0.680"	±0.0015"	0.194"
NANO-XR® 630 (31")	6.6	0.630"	±0.0015"	0.196"
NANO-XR® 580 (31")	7.2	0.580"	±0.0015"	0.201"
NANO-XR® 530 (31")	7.5	0.530"	±0.0015"	0.203"
NANO-XR® 490 (32.5")	7.8	0.490"	±0.0015"	0.205"
NANO-XR® 450 (32.5")	8.1	0.450"	±0.0015"	0.208"
NANO-XR® 410 (32.5")	8.6	0.410"	±0.0015"	0.212"
NANO-XR® 380 (32.5")	9.0	0.380"	±0.0015"	0.214"
MEDALLION-XR™ 2000 (29")	5.1	2.000"	±0.0025"	0.176"
MEDALLION-XR™ 1800 (29")	5.3	1.800"	±0.0025"	0.177"
MEDALLION-XR™ 1500	5.9	1.500"	±0.0025"	0.183"
MEDALLION-XR™ 1300	6.4	1.300"	±0.0025"	0.188"
MEDALLION-XR™ 1100 (29")	4.6	1.100"	±0.0025"	0.224"
MEDALLION-XR™ 1000 (29")	4.9	1.000"	±0.0025"	0.226"
MEDALLION-XR™ 900 (30")	5.2	0.900"	±0.0025"	0.228"
MEDALLION-XR™ 800 (30")	5.6	0.800"	±0.0025"	0.230"
MEDALLION-XR™ 700 (31")	6.0	0.700"	±0.0025"	0.233"
MEDALLION-XR™ 600 (31")	6.7	0.600"	±0.0025"	0.239"
MEDALLION-XR™ 500 (31")	7.6	0.500"	±0.0025"	0.244"
PREDATOR™ 1000 (30")	5.54	0.973"	±0.006"	0.228"
PREDATOR™ 900 (30")	5.97	0.871"	±0.006"	0.231"
PREDATOR™ 800 (30")	5.96	0.799"	±0.006"	0.244"
PREDATOR™ 700 (30")	6.45	0.694"	±0.006"	0.247"
NANO .166 1200 (31.5")	5.5	1.200"	±0.006"	0.212"
NANO .166 1100 (31.5")	6.7	1.100"	±0.006"	0.214"
NANO .166 1000 (31.5")	6.2	1.000"	±0.006"	0.217"
NANO .166 900 (30.5")	6.4	0.900"	±0.006"	0.219"
NANO .166 800 (30.5")	6.6	0.800"	±0.006"	0.220"
NANO .166 700 (30.5")	7.4	0.700"	±0.006"	0.225"
NANO .166 600 (30.5")	8.0	0.600"	±0.006"	0.230"



For more information on safe shooting go to www.safearrow.com

For Technical Assistance on any Carbon Express® Arrow and Dealer Orders, Call 1.800.241.4833
Eastman Outdoors, Inc. • 3476 Eastman Dr., Flushing, MI 48433 • carbonexpressarrows.com

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- **NANO-PRO™ RZ**
- **NANO-XR®**
- **MEDALLION-XR™**
- **PREDATOR™**
700, 800, 900, & 1000 Series only
- **NANO .166**

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- **600**
 - **700**
 - **800**
 - **900**
 - **1000**
 - **1100**
 - **1200**

**FIELD
TARGET
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