

# HMA MISSILE COMBAT SYSTEM

By Bill Gant, January 2009

The following rules replace HârnMaster 3<sup>rd</sup> edition's missile combat system (see COMBAT 15 to 17).

## MISSILE ATTACK SEQUENCE

The missile sequence is used when a character shoots or throws a missile as a result of selecting a missile attack ACTION OPTION. The sequence comprises six parts (see sidebar).

### 1. ATTACK DECLARATION

The Attacker may shoot/throw a missile at any target in *Line of Sight*. The missile-caster declares the Target, Missile Weapon and Aiming Zone (High, Mid or Low). If no Aiming Zone is declared, the default is MID Zone.

### 2. DEFENCE DECLARATION

The defensive options available depend on whether the target is aware of the attack and the Velocity of the missile. Device-propelled missiles (e.g. arrows, quarrels and slingstones) are **High-Velocity (HV)** missiles; thrown projectiles are **Low-Velocity (LV)**.

An *unengaged* target is generally considered *aware* of any attack. However, the GM may request a test of *Awareness* in conditions of poor visibility, ambush, surprise, or when the target is busy performing a task requiring concentration. Targets *engaged* with another enemy are generally *unaware* of a Missile Attack, but again an Awareness test can be made if there is doubt.

**BLOCK:** The target's shield, weapon or other object may block an incoming missile, whether by chance or by design. There are two types of block: An *Active Block* is an attempt by the target to intercept the missile with a blocking shield, weapon or other object. A *Passive Block* occurs when the missile strikes the shield or weapon without any effort on the part of the target (i.e. by accident). Only one shield, weapon, etc, is designated as the blocking object (usually the best).

- An engaged target or one unaware of the incoming missile may not *actively* block, but may *passively* block if equipped with a shield, weapon or other appropriate object.
- The EML used for an *active* missile block is the applicable weapon skill. It is modified according to the type of shield (or object) being used; larger shields are better. EML may also be modified by whether the missile is High- or Low-Velocity. Modifiers are read from the BLOCK TL / EML table.

## MISSILE ATTACK SEQUENCE

1. Attack Declaration
2. Defence Declaration
3. EML Calculation
4. Attack Resolution
5. Strike Location
6. Strike Impact / Injury

## LINE OF SIGHT

If a straight line can be drawn to the target that does not pass through any part of another character's hex, and is not blocked by a physical obstacle, such as a building or higher ground, the target is in Line of Sight.

An archer may shoot over a friendly or enemy character to hit a screened target, provided the target is further away from the obstacle than the archer is to the obstacle. That is, if the obstacle is three hexes from the archer, the target must be four or more hexes from the obstacle.

## BLOCKING OBJECTS

Any object may block incoming missiles. The GM might allow a character carrying a barrel, for example, to consider it the equivalent of a kite shield for the purpose of a passive block, at least.

Shield	BLOCK TL / EML		
	Passive Block TL	Active Block EML	
		LV	HV
Tower	35	ML+20	ML-10
Kite	30	ML+15	ML-15
Knight	25	ML+10	ML-20
Round	25	ML+10	ML-20
Buckler	15	ML+0	ML-30
Other	--	ML-30	ML-60

## ☐ CATCHING MISSILES

The target may attempt to catch a *Low-Velocity* missile using *half* of (Unarmed Combat EML -30) with the BLOCK table - a successful Block is a catch. Any Strike result has a 50% chance of striking the blocking hand/arm; otherwise, the missile strikes the targeted zone.

**DODGE:** A target *aware* of the attack can attempt to evade a Low-Velocity missile at full Dodge, or a High-Velocity missile at 50% Dodge.

**IGNORE:** If the target is unaware of the attack, the **IGNORE** defence is automatically selected. It may also be used by a brave target, aware of the attack, who wishes to impress someone (like an embalmer). This defence does not involve a Defender roll. If a strike occurs (MS/CS), the body location struck may still be protected by passive cover, such as from a tree or wall.

### 3. EML CALCULATION

The basic skill for casting a missile is the applicable weapon **EML**. Any thrown item that does not have a specific skill uses *Throwing* skill. A javelin, for example, is thrown with *Javelin* skill, while a rock, tankard of ale or tree branch would use *Throwing*. EML is adjusted by whichever of the following modifiers apply, all of which are cumulative.

**PHYSICAL PENALTY:** Injury, Fatigue and Encumbrance penalties are subtracted from ML. If the character is stationary, the GM may allow *half* the Encumbrance penalty for casting missiles.

**AIMING ZONE:** The default Aiming Zone is Mid (no penalty), but aiming at the High or Low Zone attracts a -10 penalty.

**RANGE:** The accuracy and impact of missile weapons depends on missile type and range. These effects are noted on the MISSILE DATA TABLE.

**ATTACKER MOVING OR MOUNTED:** If the Attacker is moving or mounted, apply a penalty of EML -10 or more, to a maximum of -40.

**TARGET MOVING:** If the target is moving, a penalty equal to the target's Dodge SI is applied. See sidebar.

**CROSS WIND:** If the windforce is greater than 1 and is neither a tail wind nor a head wind, subtract 10×Windforce from EML.

**HEAD/TAIL WIND:** The GM may modify the effective range by increasing it by one (e.g. Medium becomes Long) for a *head* wind, or decreasing it by one for a *tail* wind.

**TARGET SIZE:** Modify EML by target size as follows:

Tgt Height	1'/less	2'/less	4'/less	6'/less	8'/less	16'/less	32'/less
EML	-20	-15	-10	+0	+10	+15	+20

There is no modifier for man-sized targets, unless they offer a smaller effective target. A prone man, for example, presents a target about 2 feet tall, and a crouching man about 4 feet tall. Similar height adjustments may apply to other targets at GM discretion.

**ENVIRONMENT:** Mist, rain, smoke, darkness, etc, have a significant effect on missile accuracy, especially at longer ranges. The GM may assess a special penalty as follows:

Range	Definition	Penalty
Short	Eyesight ×2 hexes or less	ML-10
Medium	Eyesight ×4 hexes or less	ML-20
Long	Eyesight ×8 hexes or less	ML-40
Extreme	Beyond Eyesight ×8 hexes	Impossible

### TARGET MOVEMENT

If the target is stationary, there is no modification.

If the target is moving about, such as in battle, the Attacker suffers a Target Movement penalty equal to the target's **Dodge SI**. This is regardless of whether the target is aware of the incoming missile, and may be combined with any of the three Defence options (i.e. Block, Dodge or Ignore).

### MISSILE DATA TABLE

The MISSILE DATA TABLE (at the end of this article) shows the EML and Impact values for each range bracket (e.g. Short range) for a particular weapon.

For example, the EML penalty for a *Shorkana* at 4-6 hexes range is -20 (Medium range), but at 7-12 hexes, the penalty is -40 (Long range).

### RESTRICTED TRAJECTORY

Ranges for most missile weapons assume they can be shot/cast on a rising trajectory, but this may not be possible in a dense wood, narrow passageway, etc. Extreme and Long range missile use in such situations should be prohibited, and Medium range should attract a special penalty of 10-20.

### BOWS & PRECIPITATION

Wet bowstrings lose their tautness and are easily ruined if the bow is strung. When rain strikes, professional arches commonly unstring their bow and keep the bowstring dry by rolling it up and storing it under their helmet.

If an archer does not mind risking a bowstring, a bow can be used during rain. Bowstrings have a WQ of 9. Test this WQ after each shot.

**Remember:** There is also an Environment penalty of -10 to -40 on the archer to reflect reduced visibility in rain.

### BOWS & AIR TEMPERATURE

Very cold (wooden) bows often shatter when drawn. If the air temperature is freezing, archers who attempt to draw their bow must first make a Weapon Damage Check to see whether the bow remains intact when drawn.

## 4. ATTACK RESOLUTION

The Attacker and the Defender must make a 1d100 skill roll against their appropriate EML. Results are read from the MISSILE ATTACK TABLE.

MISSILE ATTACK TABLE

DEF ►		BLOCK				DODGE				IGNORE	◄ DEF	
		CF	MF	MS	CS	CF	MF	MS	CS	No Roll		
ATTACKER	CF	Wild	Wild	Wild	Wild	Wild	Wild	Wild	Wild	Wild	ATTACKER	
	MF	●	●	●	●	●	●	●	●	●		
	MS	M★2	<u>M★2</u>	Block	Block	M★2	<u>M★2</u>	●	●	<u>M★2</u>		
	CS	M★2	M★2	<u>M★2</u>	Block	M★2	M★2	<u>M★2</u>	●	M★2		

**WILD:** If the missile weapon is being thrown, a Fumble roll is required. If the weapon is a device (e.g. bow), roll for weapon damage against WQ:

**MF:** The bowstring (or sling thong) has snapped or stretched out and is now useless. No missile is released and the weapon must be re-strung (or in the case of a sling re-wound) before it can be used again.

**CF:** No missile is released and the bow (if applicable) loses 10 pounds of Draw Weight due to unusual stress. If the weapon is a sling, treat as MF. In extreme cases (15% chance), the bow stave (or the tiller or bow of a crossbow) snaps.

If the Fumble roll or weapon damage check succeeds, the shot is *wild*. The GM randomly chooses the nearest character (friendly or enemy) and treats the wild shot as a missile attack on that character (50% chance of striking).

● **MISS:** The missile misses the target, but may strike a nearby secondary target. If applicable, there is a 20% chance the missile has struck an adjacent character to the left (odd) or right (even). If the target is mounted, a Miss gives a 20% chance of the steed being struck (or the rider being struck if the steed is the target).

**BLOCK:** The missile strikes the Defender's blocking shield or weapon. Check for weapon damage to the blocking weapon if the missile's base Impact is five (5) or greater.

See the Optional Rule in the sidebar regarding Passive Shield Blocks.

★ **STRIKE:** The missile strikes the target. Roll 2d6 and add the missile's base Impact (according to range) to determine Strike Impact.

See the Optional Rule in the sidebar if the striking missile was *thrown*.

### UNARMED BLOCKS

If blocking a missile with a body part, the Block attempt is made at EML -30 for Low-Velocity missiles, -60 for High-Velocity. A successful Block is treated as a (★2) strike on the blocking body part (e.g. hand or forearm).

If the Defender rolls CS when blocking with a body part, the missile is deflected harmlessly instead of being a strike on the blocking body part.

### □ PASSIVE SHIELD BLOCKS

If a shield *passively* (instead of *actively*) blocks a missile weapon, the missile may penetrate it and harm the Defender. Treat a WQ10 shield as having the following base Armour Protective Values: **B7 E10 P8 F6**. Increase or decrease these base values by 1 per WQ point above or below 10. For example, a WQ13 shield would have the following APVs: B10 E13 P11 F9.

Missile Strike Impact is the same as for a strike against an Ignore defence.

If the missile does penetrate the shield, a weapon damage check is also required.

### □ MAXIMUM THROWN IMPACT

For *thrown* missiles, the maximum roll on 2d6 from any **M★2** strike is the thrower's *Skill Index*. (For *device-propelled* missiles, treat any **M★2** strike as **M★2**.)

For every 10 points that the thrower sacrifices from EML, the thrower's SI is considered to be one level higher for the purpose of determining maximum impact.

## 5. STRIKE LOCATION

Generate the Strike Location for the MID (default), HIGH or LOW Zones as appropriate, by rolling 1d100 and consulting the MISSILE STRIKE LOCATION TABLE below.

**PASSIVE COVER:** If the GM feels all or part of the target is behind cover (e.g. tree, wall, etc), the PASSIVE COVER GUIDE (at the end of this article) may be used to determine whether the missile strikes the intervening object instead of the target.

If the target is protected by multiple covers (e.g. light woods, heavy undergrowth and a 4' wall), apply whichever single value is greatest.

In some cases (such as with Passive Shield Blocks - see above), the missile might penetrate the covering item and still hit the target, though with lesser impact. The level of protection is determined at GM discretion.

## ☐ ZONE TARGETING

If the Attacker rolls equal to or less than *half* EML, a Substantial Success is achieved. If the roll is above half EML but equal to or less than full EML, a Normal Success is achieved.

**Normal MS:** The missile strikes the MID Zone, regardless of which Aiming Zone was actually targeted.

**Normal CS / Substantial MS:** The missile strikes the Aimed Zone.

**Substantial CS:** The missile strikes a specific Body Zone (Head, Arms, Torso or Legs) rather than just High, Mid or Low. Strike Location is generated in some convenient manner for the Body Zone within the Aiming Zone.

MISSILE STRIKE LOCATION TABLE

AIMING ZONE			STRIKE LOCATION ▼
HIGH EML -10	MID EML +0	LOW EML -10	
01 – 15 16 – 28 29 – 39	01 – 03 04 – 06 07 – 08	• • •	SKULL FACE † NECK
40 – 54 55 – 64 65 – 68 69 – 73 74 – 76	09 – 16 17 – 24 25 – 27 28 – 32 33 – 34	• 01 – 02 03 – 04 05 – 09 10 – 14	• SHOULDER • UPPER ARM • ELBOW • FOREARM • HAND
77 – 90 91 – 96 97	35 – 53 54 – 72 73	15 – 19 20 – 33 34 – 35	THORAX ABDOMEN GROIN
98 – 00 • • • •	74 – 85 86 – 93 94 – 95 96 – 99 00	36 – 51 52 – 76 77 – 84 85 – 97 98 – 00	• HIP • THIGH • KNEE • CALF • FOOT
† FACE: 01 – 15 Jaw      66 – 80 Nose 16 – 30 • Eye      81 – 90 • Ear 31 – 65 • Cheek    91 – 00 Mouth			• ODD Roll = Left • EVEN Roll = Right

### The Tale of Alberon

Once upon a time a shepherd called Alberon was tending his flock, when a smallish dragon dropped by for lunch. The beast circled the pasture, panicking the sheep, and prepared to swoop down on a lone ewe. Alberon, a brave lad and a pretty good archer, sought to protect his flock. He jumped up to distract the beast, which rewarded his effort by swooping towards him instead. With amazing coolness, he drew his bow and neatly put an arrow in the beast's eye at a mere fifty yards. As he was admiring the shot, it occurred to Alberon that this beast, while clearly as dead as a large, scaly doorknob, was still doing a pretty fair clip straight at him. Alberon had just enough time to mutter "Oops" when several hundred pounds of dragon meat landed atop him with great impact. The moral, of course, is - chivalry be damned - always shoot a swooping dragon in the back (or be ready to jump).

## 6. STRIKE IMPACT / INJURY

The base Impact of a missile weapon is affected by the range to the target. The MISSILE DATA TABLE shows the base Impact for a given weapon at each range bracket. Some missile weapons are listed with Impact given as a percentage of its normal base Impact.

Missile Strike Impact is determined by rolling **2d6** and adding the missile's base Impact rating. The target's Armour Protective Value (APV) for the location struck is subtracted from the Strike Impact to determine the Effective Impact.

Once the Strike Location and Effective Impact have been determined, injury effects are generated using the INJURY TABLES.

### ☐ RANDOM ASPECT

Arrows and quarrels always strike with the business end (usually Point). Slingstones have only Blunt aspect. Some thrown weapons, however, may strike with one of several aspects, determined by rolling 1d6:

MISSILE STRIKE ASPECT						
Weapon	1	2	3	4	5	6
Taburi	B	B	P	P	P	P
Shorkana	B	B	E	E	E	E
Spear/Javelin	B	P	P	P	P	P
Other	B	B	E	E	P	P

MISSILE DATA TABLE				
WEAPON	SHORT Hexes/Imp EML +0	MEDIUM Hexes/Imp EML -20	LONG Hexes/Imp EML -40	EXTREME Hexes/Imp EML -80
Shortbow (40)	20 / 4	40 / 3	80 / 2	160 / 2
Shortbow (60)	20 / 6	40 / 5	80 / 4	160 / 3
Longbow (80)	25 / 8	50 / 7	100 / 6	200 / 5
Longbow (100)	25 / 10	50 / 9	100 / 8	200 / 7
Hartbow (90)	30 / 9	60 / 8	120 / 7	240 / 6
Hartbow (120)	30 / 12	60 / 11	120 / 10	240 / 8
Crossbow (80)	20 / 7	40 / 6	80 / 5	160 / 4
Crossbow (140)	25 / 11	50 / 10	100 / 9	200 / 8
Staff Sling	25 / 5	50 / 4	100 / 3	200 / 3
Sling	15 / 4	30 / 3	60 / 2	120 / 2
Javelin *	8 / 6	16 / 5	32 / 4	64 / 3
Spear *	6 / 7	12 / 6	24 / 5	48 / 4
Blowgun	5 / 0	10 / 0	20 / 0	40 / 0
Taburi *	4 / 4	8 / 3	16 / 2	32 / 2
Shorkana *	3 / 5	6 / 4	12 / 3	24 / 2
Melee Weapon *	2 / 100%	4 / 100%	8 / 50%	16 / 50%

**DW** Bows are rated for Draw Weight (lbs). To determine the maximum DW (pull) that a character can draw and shoot, add STR and Bow SI together and multiply by 5 lbs.

\* Thrown weapon.

**Hexes** The maximum distance within a range category. For example, a target is considered to be in Short Range of a Longbow (100) if it is within 25 hexes (125 feet) of the archer.

**Imp** Impact determined by range. Arrow impact shown is Point aspect; Blunt or Edge is 1 less than shown. If impact is given as a percentage, it is the percentage of the weapon's normal base melee impact value.

**EML** The missile caster adjusts EML based on range.

**HV / LV** Arrows, crossbow bolts and slingstones are *High Velocity* (HV) missiles. All thrown weapons are *Low Velocity* (LV) missiles.

## PASSIVE COVER GUIDE

Best Available Cover	ARAKI (38")			HUMAN (68")			HRU (144")		
	High	Mid	Low	High	Mid	Low	High	Mid	Low
Light Woods	10%	40%	50%	10%	20%	30%	10%	20%	30%
Heavy Woods	20%	60%	80%	20%	40%	60%	20%	40%	50%
Light Undergrowth	10%	20%	40%	-	-	20%	-	-	10%
Heavy Undergrowth	10%	20%	50%	-	10%	30%	-	-	20%
Wall (3')	15%	80%	100%	-	25%	75%	-	-	15%
Wall (4')	100%	100%	100%	-	50%	100%	-	-	60%
Wall (5')	100%	100%	100%	50%	100%	100%	-	-	75%
Wall (6')	100%	100%	100%	100%	100%	100%	-	20%	90%
Battlements	100%	100%	100%	10%	60%	100%	-	20%	75%
Mantlet or Arrow Slit	100%	100%	100%	90%	95%	100%	-	50%	100%
Window	40%	80%	100%	20%	50%	80%	100%	75%	75%

The Passive Cover Guide gives the percentage chance of striking cover according to the targeted Aiming Zone (High, Mid or Low). If, for example, the target is a human behind a 4' wall, and the Aiming Zone is Mid, there is a 50% chance that the wall will intercept the missile.

If the target is protected by multiple covers, apply whichever single value is greatest.

Note that missiles may penetrate certain types of cover. The GM should assign Armour Protective Values for flimsy cover.

The table shows a range of examples but is by no means exhaustive; other cover/target types are left to GM discretion.

## APPENDIX 1

### AMMUNITION

Characters equipped with a Javelin or Shorkana may carry two or three (each is listed as a separate weapon). Keeping track of remaining stock is essential.

Most archers carry 12–24 arrows/quarrels (typical price: 15d per dozen). Up to half a dozen or so of these can be tucked under the archer's waist belt for quick access, and the rest carried in a canvas arrow bag. Alternatively, the arrows are contained in a cloth or leather quiver attached to the waist belt and fastened at each end by a drawstring; in action the quiver is opened at both ends and folded back, to expose both the feathers and the arrow heads.

Archers often also carry an extra bow (unstrung and wrapped in cloth), and three bowstrings for each bow. Keeping track of the number of arrows is rarely important, but this can be done if desired.

Assuming there is a plentiful supply of stones, ammunition for Slings and Staff Slings can be ignored.

### CROSSBOWS

A crossbow is essentially a powerful shortbow mounted horizontally on a wooden stock with a trigger device to cock and release a short arrow which is called a bolt or quarrel. Its advantage over other bows is that it can be carried loaded and ready to shoot, but this is offset by its longer time to reload.

The use of crossbows is not widespread in western Lythia. They are forbidden for military use by canon and secular law in all civilised realms, and carrying one may draw suspicion and harassment. Nevertheless, crossbows are employed by the Khuzdul, and some brigands.

There are four broad classifications for crossbows, according to draw weight:

- **Light Crossbow** (to 130 lbs): The most common type of crossbow, primarily used for hunting. The bow (prod) is wooden and the draw weight is low enough to permit a competent user to draw back the bowstring by hand or with the aid of a simple tool such as a Belt & Claw (see below).

- **Medium Crossbow** (140 to 350 lbs): A more powerful hunting crossbow with a composite prod comprising layers of wood, horn and sinew. Despite its heavy draw weight (generally requiring a Belt & Claw or Lever to span), its range and impact are limited by the weapon's short draw length.
- **Heavy Crossbow** (360 to 1,070 lbs): A Khuzan military crossbow with a steel or steel-reinforced prod. The draw weight is so heavy that a Lever or Windlass is required to pull back the bowstring.
- **Siege Crossbow**: A rare Khuzan weapon that is almost exclusively used for stronghold defence. The steel prod permits a very heavy draw weight that requires a Windlass to span the weapon. The weapon is heavy and bulky, requiring it to be braced against a hard surface (e.g. crenel) to accurately shoot at range.

### CROSSBOW RELOAD TIMES

While bows may be shot and reloaded within a single combat round, crossbows take longer – the time is affected by the spanning method used to reload.

Typical reload times are shown in the table below:

Spanning Method	STR Req'd	Reload Time
By Hand	Up to 1x	+1 round
Belt & Claw	Up to 3x	+2 rounds
Lever	Up to 5x	+3 rounds
Windlass	Over 5x	+5 rounds

### Spanning Method

- **By Hand**: A light crossbow can be spanned by simply placing a foot in the stirrup at the front of the weapon, and drawing the bowstring back to the crossbow's nut with both hands.
- **Belt & Claw**: Required for heavier crossbows where pulling the bowstring back by hand is too difficult. The crossbowman places his foot in the stirrup, then bends down and attaches a special metal claw at his belt to the bowstring. As he straightens his back the claw pulls the bowstring back to the nut. This is generally the limit of crossbow spanning technology among Lythians. A Belt & Claw typically weighs 2 lbs and costs 10d.

- **Lever:** More powerful crossbows require mechanical spanning devices to draw back the bowstring. The simplest is a Lever, an articulated Khuzan device that hooks on to the stirrup and gives the user's arm a mechanical advantage as he pulls or pushes back the upper limb of the lever, which in turn causes the bowstring to be pushed back to the nut. A Lever typically weighs 3 lbs and costs 25d.
- **Windlass:** To reload the most powerful crossbows, a Windlass must be used; this is a system of pulleys and a pair of rotating arms that are attached to the butt of the crossbow. The arms are rotated to crank the bowstring back to the nut. This secret technology is only available to the Khuzan warrior elite. A Windlass weighs around 5 lbs and costs 60d+.

### STR Req'd

The Strength rating required to draw a particular cross-bow (or bow) is determined as follows:

$$\text{STR Req'd} = (\text{Draw} / 5) - (\text{Weapon SI})$$

*Draw* is the draw weight of the weapon in pounds. For example, a light crossbow with a draw weight of 100 lbs, in the hands of a user with a Crossbow SI of 8, has a Strength requirement of 12.

The crossbow can be drawn and loaded by hand if the STR Req'd is equal to or less than the user's STR attribute. Otherwise, a tool/device must be used.

For example, if the STR Req'd is 24 and the user's STR is 15, a Belt & Claw is required.

### Reload Time

This is the number of rounds required to fully reload the crossbow, during which time the crossbowman may not shoot; shooting requires a separate turn.

For example, a crossbowman using a Windlass for his 500 lbs heavy crossbow can typically shoot only once every 6 rounds (5 rounds to load; one to shoot).

❑ **Rapid Reload:** If the crossbowman achieved CS when shooting, reduce the Reload Time for the next shot (only) by 1 round.

## APPENDIX 2

### EXTENDED BOW & CROSSBOW DATA TABLE

WEAPON	WT	WQ	B	PR	SHORT	MEDIUM	LONG	EXTREME
Crossbow, Light, 10lb	2	9	1	24d	3 / 1p	5 / 1p	10 / 1p	20 / 1p
Crossbow, Light, 20lb	2	9	1	24d	6 / 2p	12 / 1p	24 / 1p	48 / 1p
Crossbow, Light, 30lb	3	9	2	36d	10 / 3p	20 / 2p	40 / 2p	80 / 2p
Crossbow, Light, 40lb	3	9	2	36d	15 / 4p	30 / 3p	60 / 2p	120 / 2p
Crossbow, Light, 50lb	4	9	2	49d	15 / 4p	30 / 3p	60 / 2p	120 / 2p
Crossbow, Light, 60lb	4	9	2	49d	20 / 5p	40 / 4p	80 / 3p	160 / 3p
Crossbow, Light, 70lb	5	10	3	60d	20 / 6p	40 / 5p	80 / 4p	160 / 3p
Crossbow, Light, 80lb	5	10	3	60d	20 / 7p	40 / 6p	80 / 5p	160 / 4p
Crossbow, Light, 90lb	6	10	3	71d	20 / 8p	40 / 7p	80 / 6p	160 / 5p
Crossbow, Light, 100lb	6	10	3	71d	20 / 9p	40 / 8p	80 / 7p	160 / 6p
Crossbow, Light, 110lb	6	10	3	71d	20 / 9p	40 / 8p	80 / 7p	160 / 6p
Crossbow, Light, 120lb	7	10	3	84d	20 / 10p	40 / 9p	80 / 8p	160 / 7p
Crossbow, Light, 130lb	7	10	3	84d	20 / 10p	40 / 9p	80 / 8p	160 / 7p
Crossbow, Medium, 140lb	8	10	3	96d	25 / 11p	50 / 10p	100 / 9p	200 / 8p
Crossbow, Medium, 150lb	8	10	3	96d	25 / 11p	50 / 10p	100 / 9p	200 / 8p
Crossbow, Medium, 160lb	8	10	3	96d	25 / 12p	50 / 11p	100 / 10p	200 / 8p
Crossbow, Medium, 170lb	9	10	3	109d	25 / 12p	50 / 11p	100 / 10p	200 / 8p
Crossbow, Medium, 180lb	9	10	3	109d	25 / 12p	50 / 11p	100 / 10p	200 / 8p
Crossbow, Medium, 190lb	9	10	3	109d	25 / 13p	50 / 12p	100 / 10p	200 / 9p
Crossbow, Medium, 200lb	9	10	3	109d	25 / 13p	50 / 12p	100 / 10p	200 / 9p
Crossbow, Medium, 210lb	10	11	4	120d	25 / 13p	50 / 12p	100 / 10p	200 / 9p
Crossbow, Medium, 220lb	10	11	4	120d	25 / 13p	50 / 12p	100 / 10p	200 / 9p
Crossbow, Medium, 230lb	10	11	4	120d	25 / 14p	50 / 13p	100 / 11p	200 / 10p
Crossbow, Medium, 240lb	11	11	4	131d	25 / 14p	50 / 13p	100 / 11p	200 / 10p
Crossbow, Medium, 250lb	11	11	4	131d	25 / 14p	50 / 13p	100 / 11p	200 / 10p
Crossbow, Medium, 260lb	11	11	4	131d	25 / 15p	50 / 13p	100 / 12p	200 / 10p





WEAPON	WT	WQ	B	PR	SHORT	MEDIUM	LONG	EXTREME
Crossbow, Heavy, 890lb	24	13	4	289d	30 / 23p	60 / 21p	120 / 18p	240 / 16p
Crossbow, Heavy, 900lb	24	13	4	289d	30 / 23p	60 / 21p	120 / 18p	240 / 16p
Crossbow, Heavy, 910lb	25	13	4	300d	30 / 23p	60 / 21p	120 / 18p	240 / 16p
Crossbow, Heavy, 920lb	25	13	4	300d	30 / 23p	60 / 21p	120 / 18p	240 / 16p
Crossbow, Heavy, 930lb	25	13	4	300d	30 / 23p	60 / 21p	120 / 18p	240 / 16p
Crossbow, Heavy, 940lb	25	13	4	300d	30 / 24p	60 / 22p	120 / 19p	240 / 17p
Crossbow, Heavy, 950lb	25	13	4	300d	30 / 24p	60 / 22p	120 / 19p	240 / 17p
Crossbow, Heavy, 960lb	25	13	4	300d	30 / 24p	60 / 22p	120 / 19p	240 / 17p
Crossbow, Heavy, 970lb	26	13	5	311d	30 / 24p	60 / 22p	120 / 19p	240 / 17p
Crossbow, Heavy, 980lb	26	13	5	311d	30 / 24p	60 / 22p	120 / 19p	240 / 17p
Crossbow, Heavy, 990lb	26	13	5	311d	30 / 24p	60 / 22p	120 / 19p	240 / 17p
Crossbow, Heavy, 1000lb	26	13	5	311d	30 / 24p	60 / 22p	120 / 19p	240 / 17p
Crossbow, Heavy, 1010lb	26	13	5	311d	30 / 24p	60 / 22p	120 / 19p	240 / 17p
Crossbow, Heavy, 1020lb	26	13	5	311d	30 / 25p	60 / 22p	120 / 20p	240 / 17p
Crossbow, Heavy, 1030lb	27	13	5	324d	30 / 25p	60 / 22p	120 / 20p	240 / 17p
Crossbow, Heavy, 1040lb	27	13	5	324d	30 / 25p	60 / 22p	120 / 20p	240 / 17p
Crossbow, Heavy, 1050lb	27	13	5	324d	30 / 25p	60 / 22p	120 / 20p	240 / 17p
Crossbow, Heavy, 1060lb	27	13	5	324d	30 / 25p	60 / 22p	120 / 20p	240 / 17p
Crossbow, Heavy, 1070lb	27	13	5	324d	30 / 25p	60 / 22p	120 / 20p	240 / 17p
Crossbow, Siege, 1080lb	27	13	5	324d	35 / 25p	70 / 22p	140 / 20p	280 / 17p
Crossbow, Siege, 1090lb	27	13	5	324d	35 / 25p	70 / 22p	140 / 20p	280 / 17p
Crossbow, Siege, 1100lb	28	13	5	336d	35 / 26p	70 / 23p	140 / 21p	280 / 18p
Crossbow, Siege, 1110lb	28	13	5	336d	35 / 26p	70 / 23p	140 / 21p	280 / 18p
Crossbow, Siege, 1120lb	28	13	5	336d	35 / 26p	70 / 23p	140 / 21p	280 / 18p
Crossbow, Siege, 1130lb	28	13	5	336d	35 / 26p	70 / 23p	140 / 21p	280 / 18p
Crossbow, Siege, 1140lb	28	13	5	336d	35 / 26p	70 / 23p	140 / 21p	280 / 18p
Crossbow, Siege, 1150lb	28	13	5	336d	35 / 26p	70 / 23p	140 / 21p	280 / 18p
Crossbow, Siege, 1160lb	29	13	5	349d	35 / 26p	70 / 23p	140 / 21p	280 / 18p
Crossbow, Siege, 1170lb	29	13	5	349d	35 / 26p	70 / 23p	140 / 21p	280 / 18p
Crossbow, Siege, 1180lb	29	13	5	349d	35 / 26p	70 / 23p	140 / 21p	280 / 18p
Crossbow, Siege, 1190lb	29	13	5	349d	35 / 27p	70 / 24p	140 / 22p	280 / 19p
Crossbow, Siege, 1200lb	29	13	5	349d	35 / 27p	70 / 24p	140 / 22p	280 / 19p
Shortbow, 10lb	1	10	1	12d	3 / 1p	5 / 1p	10 / 1p	20 / 1p
Shortbow, 20lb	1	10	1	12d	6 / 2p	12 / 1p	24 / 1p	48 / 1p
Shortbow, 30lb	1	10	1	12d	10 / 3p	20 / 2p	40 / 2p	80 / 2p
Shortbow, 40lb	2	10	1	24d	20 / 4p	40 / 3p	80 / 2p	160 / 2p
Shortbow, 50lb	2	10	1	24d	20 / 5p	40 / 4p	80 / 3p	160 / 3p
Shortbow, 60lb	2	10	1	24d	20 / 6p	40 / 5p	80 / 4p	160 / 3p
Shortbow, 70lb	2	10	1	24d	20 / 7p	40 / 6p	80 / 5p	160 / 4p
Shortbow, 80lb	3	11	2	36d	25 / 8p	50 / 7p	100 / 6p	200 / 5p
Shortbow, 90lb	3	11	2	36d	25 / 9p	50 / 8p	100 / 7p	200 / 6p
Shortbow, 100lb	3	11	2	36d	25 / 10p	50 / 9p	100 / 8p	200 / 7p
Longbow, 10lb	1	10	1	12d	3 / 1p	5 / 1p	10 / 1p	20 / 1p
Longbow, 20lb	1	10	1	12d	6 / 2p	12 / 1p	24 / 1p	48 / 1p
Longbow, 30lb	1	10	1	12d	10 / 3p	20 / 2p	40 / 2p	80 / 2p
Longbow, 40lb	2	10	1	24d	20 / 4p	40 / 3p	80 / 2p	160 / 2p
Longbow, 50lb	2	10	1	24d	20 / 5p	40 / 4p	80 / 3p	160 / 3p
Longbow, 60lb	2	10	1	24d	20 / 6p	40 / 5p	80 / 4p	160 / 3p
Longbow, 70lb	2	10	1	24d	20 / 7p	40 / 6p	80 / 5p	160 / 4p
Longbow, 80lb	3	11	2	36d	25 / 8p	50 / 7p	100 / 6p	200 / 5p
Longbow, 90lb	3	11	2	36d	25 / 9p	50 / 8p	100 / 7p	200 / 6p
Longbow, 100lb	3	11	2	36d	25 / 10p	50 / 9p	100 / 8p	200 / 7p
Longbow, 110lb	3	11	2	36d	25 / 11p	50 / 10p	100 / 9p	200 / 8p
Longbow, 120lb	3	11	2	36d	25 / 12p	50 / 11p	100 / 10p	200 / 8p
Longbow, 130lb	4	11	2	48d	30 / 12p	60 / 11p	120 / 10p	240 / 8p
Longbow, 140lb	4	11	2	48d	30 / 13p	60 / 12p	120 / 10p	240 / 9p
Longbow, 150lb	4	11	2	48d	30 / 13p	60 / 12p	120 / 10p	240 / 9p
Longbow, 160lb	4	11	2	48d	30 / 14p	60 / 13p	120 / 11p	240 / 10p
Longbow, 170lb	4	11	2	48d	30 / 14p	60 / 13p	120 / 11p	240 / 10p
Longbow, 180lb	4	11	2	48d	30 / 15p	60 / 13p	120 / 12p	240 / 10p
Longbow, 190lb	5	11	2	60d	30 / 15p	60 / 13p	120 / 12p	240 / 10p
Longbow, 200lb	5	11	2	60d	30 / 15p	60 / 13p	120 / 12p	240 / 10p

<b>WEAPON</b>	<b>WT</b>	<b>WQ</b>	<b>B</b>	<b>PR</b>	<b>SHORT</b>	<b>MEDIUM</b>	<b>LONG</b>	<b>EXTREME</b>
Hartbow, 10lb	1	12	1	48d	3 / 1p	5 / 1p	10 / 1p	20 / 1p
Hartbow, 20lb	1	12	1	48d	8 / 2p	16 / 1p	32 / 1p	64 / 1p
Hartbow, 30lb	1	12	1	48d	15 / 3p	30 / 2p	60 / 2p	120 / 2p
Hartbow, 40lb	1	12	1	48d	20 / 4p	40 / 3p	80 / 2p	160 / 2p
Hartbow, 50lb	2	13	1	96d	25 / 5p	50 / 4p	100 / 3p	200 / 3p
Hartbow, 60lb	2	13	1	96d	25 / 6p	50 / 5p	100 / 4p	200 / 3p
Hartbow, 70lb	2	13	1	96d	25 / 7p	50 / 6p	100 / 5p	200 / 4p
Hartbow, 80lb	2	13	1	96d	30 / 8p	60 / 7p	120 / 6p	240 / 5p
Hartbow, 90lb	2	13	1	96d	30 / 9p	60 / 8p	120 / 7p	240 / 6p
Hartbow, 100lb	2	13	1	96d	30 / 10p	60 / 9p	120 / 8p	240 / 7p
Hartbow, 110lb	3	13	2	144d	30 / 11p	60 / 10p	120 / 9p	240 / 8p
Hartbow, 120lb	3	13	2	144d	30 / 12p	60 / 11p	120 / 10p	240 / 8p
Hartbow, 130lb	3	13	2	144d	35 / 12p	70 / 11p	140 / 10p	280 / 8p
Hartbow, 140lb	3	13	2	144d	35 / 13p	70 / 12p	140 / 10p	280 / 9p
Hartbow, 150lb	3	13	2	144d	35 / 13p	70 / 12p	140 / 10p	280 / 9p
Hartbow, 160lb	3	13	2	144d	35 / 14p	70 / 13p	140 / 11p	280 / 10p
Hartbow, 170lb	3	13	2	144d	35 / 14p	70 / 13p	140 / 11p	280 / 10p
Hartbow, 180lb	4	14	2	192d	35 / 15p	70 / 13p	140 / 12p	280 / 10p
Hartbow, 190lb	4	14	2	192d	35 / 15p	70 / 13p	140 / 12p	280 / 10p
Hartbow, 200lb	4	14	2	192d	40 / 15p	80 / 13p	160 / 12p	320 / 10p

**Key:**

**WEAPON:** Type of bow/crossbow, with draw weight.

**WT:** Weight of the weapon in pounds.

**WQ:** Weapon Quality.

**B:** Base Blunt impact of the weapon if used in melee.

**PR:** Typical retail price for the weapon.

**SHORT/MEDIUM/LONG/EXTREME:** The maximum distance (in hexes) and base impact at each range category.