GURPS® Fourth Edition

Loadouts:™ Low-Tech Armor™

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Rules and statistics in this book are specifically for the ***GURPS Basic Set,*** *Fourth Edition.* Page references that begin with B refer to that book, not this one.

The sun doth gild our armour; up, my lords!

– William Shakespeare, ***Henry V***

Introduction

GURPS Low-Tech departs from the ***GURPS Basic Set*** in the way it handles armor. In particular, it has more-detailed rules for assembling a suit of armor from separate pieces. This assembly can involve pieces of armor of different types, which is historically accurate but involves an additional level of detail. ***Low-Tech*** only lists armor that covers the torso. For armor that covers other parts of the body, you need to use the *Armor Locations Table* (***Low-Tech,*** p. 100). This can take time to calculate; time that you may not have. Alternatively, you can use ***GURPS Low-Tech: Instant Armor,*** but if you want realism, you must first research the type of historical armor that you want your character to wear.

GURPS Loadouts: Low-Tech Armor has done the research for you. This supplement examines the armor worn by various historical cultures and uses the rules in ***Low-Tech*** to model them in a simple format. These loadouts describe what a typical warrior of a specific culture would have worn during the time in question. Most of the time, they refer to the elite of a society, since these were often the only ones who made extensive use of body armor, but there are exceptions (such as the *Imperial Roman Legionary,* p. 20).

The loadouts here include clothing, armor, and shields. Just add the other items your warrior may need for battle – such as weapons, belts, traveling gear, maintenance tools, and so on – for a complete array of equipment. Similarly, the horse loadouts cover all of the defensive needs, though not miscellany such as blankets, saddles, saddlebags, and bridles. If it protects you in battle, ***Low-Tech Armor*** has it calculated and ready ahead of time – just choose, don, and fight!

Recommended Books

This supplement requires the ***GURPS Basic Set*** to use. It references *several* of the rules in ***GURPS Low-Tech,*** though each loadout includes enough information to use it on its own. As well, the new rules for hit locations refer to ***GURPS Martial Arts.***

Additional Rules

GURPS Low-Tech classifies armor in a handful of generic categories. Occasionally those categories don't take into account the subtle differences and unique features of some kinds of armor. The loadouts in this book show how the rules and mechanics presented in ***Low-Tech*** can be used to accurately model specific armor from a particular culture. Some of these loadouts make use of the following additional rules to add a finer level of detail.

Clothing

All loadouts include ordinary clothing (***Low-Tech,*** p. 98), which comprises a loincloth and some variation of tunic (torso only), shirt (torso and arms), or shirt and pants (torso, arms, and legs). Assume a base 15 seconds don time for normal clothing, modified by the *Armor Locations Table* (***Low-Tech,*** p. 100). For example, a short-sleeved tunic has Don 15 (torso), but a long-sleeved shirt (torso *and* arms) has Don 23, while long pants (legs) have Don 15. A full outfit of a long-sleeved shirt and long pants has Don 38.

Many of these loadouts assume that the fighter has a "knightly" social status and so the price of his clothing is calculated using the cost of living of someone with at least Status 2. A short-sleeved tunic costs 40% of this; a long-sleeved one, 60%; and long pants, 40%. Weight uses the same percentages. The loincloth is subsumed into the other clothing and not listed separately. Footwear is normally included in the cost of ordinary clothing but these loadouts assume that more specialized military footwear is required, so this is calculated and listed separately.

Example: A Status 2 fighter has a cost of living of $3,000 (p. B265). According to ***Low-Tech*** (p. 98), ordinary clothing (assumed to be a long-sleeved shirt and long pants) costs 20% of cost of living, or $600, and weighs 4 lbs. It takes 38 seconds to don. When purchased separately, a tunic that covers only the torso (40%) is $240, 1.6 lbs., Don 15; a long-sleeved shirt (60%) is $360, 2.4 lbs., Don 23; and long pants (40%) are $240, 1.6 lbs., Don 15.

Reading the Loadouts

See *Armor Tables* (p. B282) for an explanation of the notation and abbreviations used here. In brief:

Common Name: The description of the piece, in modern English.

Ethnic Name: The proper name of the armor, in its language of origin.

Location: The part of the body that the item covers; see *Armor Locations Table* (***Low-Tech,*** p. 100).

DR: The amount of Damage Resistance it gives. The DR of some armor, such as mail, varies depending on damage type (see the notes after the table). "*" means that the armor is flexible and susceptible to blunt trauma (p. B379).

Cost: The item's price, in ***GURPS*** $.

Weight: The item's weight, in pounds (rounded to the nearest tenth).

Don: The time required, in seconds, to put on this piece of armor; see *Donning Armor* (***Low-Tech,*** p. 102).

Notes: Many items have special features or restrictions; see the notes after the table.

Face Hit Location

Helmets can have different attachments covering various parts of the face (see *Face Protection,* ***Low-Tech,*** p. 112). If the face is hit from the front, then roll 1d and consult the following table to see which part of the face is hit. These sub-locations can also be targeted deliberately at the indicated penalties.

All face injuries give -5 to knockdown rolls, and critical hits use the *Critical Head Blow Table* (p. B556). See p. 137 of ***Martial Arts*** for details on the ear, jaw, and nose.

1 – *Jaw* (-6 to hit). Any *crushing* hit gives an extra -1 to knockdown rolls.

2 – *Nose* (-7 to hit). If damage is *impaling, piercing, or tight-beam burning,* then the skull is hit instead. Any other damage that delivers HP/4 breaks the nose, which counts as a major wound (p. B420) to the face.

3 – *Ear* (-7 to hit). Any injury over HP/4 is lost. However, any *cutting* injury over twice this amount removes the ear.

4-5 – *Cheek* (-6 to hit). No special effect.

6 – *Eye* (-9 to hit). Any armor surrounding the eyes (e.g. full helm or spectacles) applies to the attack. In order to bypass the armor, the eyes have to be targeted at -10 (see *Harsh Realism – Armor Gaps,* ***Low-Tech,*** p. 101).

Armor Gap – Inside Thigh

Many types of thigh armor do not cover the entire thigh. Often, the armor consists of a single panel that rests on the *front* of the thigh, leaving the back exposed. This isn't a problem when mounted on horseback, as the vulnerable part of the thigh rests against the saddle. When on foot, however, this vulnerability presents a new target for opponents; use the following rules.

An unarmored inside thigh may be *deliberately* targeted at -8 if the target is facing the attacker. If the attacker is striking from behind, then the *entire* thigh is unarmored, so the penalty is only -3. The GM may rule that any major wound (p. B420) inflicted with a *cutting, impaling, piercing,* or *tight-beam burning* weapon hit the femoral artery, in which case *Mortal Wounds* (p. B423) doesn't apply; see *Veins and Arteries* (***Martial Arts,*** p. 137) for details.

Examples include most *rigid* thigh armor, such as the English tassets (p. 45), Japanese *haidate* (p. 33), and the Mongol *quya guja* (p. 31). The main exception is the European *cuisse,* which fully encloses the thigh on a suit of plate. Mail and scale hauberks that reach to the knees are split front and back to facilitate movement; this leaves the inside thigh exposed, but the -8 applies to attacks from both the front *and* rear.

Abdomen Hit Location

GURPS Low-Tech divides the torso into two hit locations: chest (locations 9-10; no penalty to hit) and abdomen (location 11, -1 to hit), the latter of which *includes* the groin (formerly location 11). On an abdomen hit, roll 1d and consult the following table to see exactly where it landed. These sub-locations can also be targeted deliberately at the indicated penalties.

1 – *Vitals* (-3 to hit). Increase the wounding modifier for any *impaling* or *piercing* attack to ×3.

2-4 – *Digestive Tract* (-2 to hit). On a major wound (p. B420), you must roll HT-3 to avoid a special infection (see *Infection,* p. B444).

5 – *Pelvis* (-3 to hit). On a major wound, you fall down! You cannot stand, and can only fight if you assume a sitting or lying posture. Until healed, you have Lame (Missing Legs) (p. B141).

6 – *Groin* (-3 to hit). Human males (and males of similar species) suffer *double* shock from *crushing* damage (maximum -8), and get -5 to knockdown rolls.

Leg Armor and DX

Some types of leg armor reduce the fighter's ability to move; for example, certain types of European mail hauberks reached down past the knees and could hamper the legs. The Japanese removed the heavy lamellar panels that covered the thighs *(haidate)* when they were not mounted (p. 33) to assist movement on foot. The Mycenaean Dendra panoply (p. 6) had a segmented thigh guard that could be unlaced when armor was needed for foot combat. Late medieval munitions plate covered the torso and arms of infantry troops, but often left the legs unprotected (called "half plate"). This wasn't just to reduce cost; it was to keep the infantry mobile and reduce encumbrance.

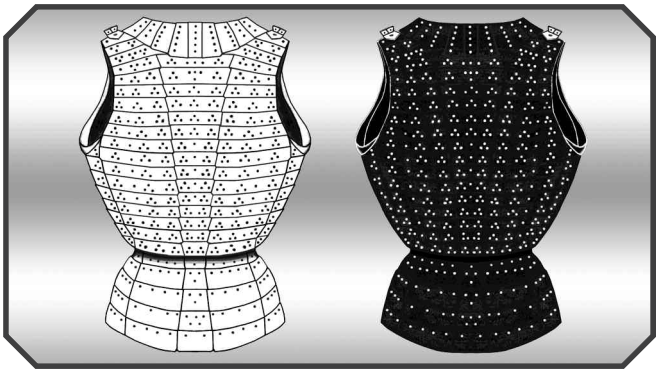
Low-Tech has layered leg armor give -1 to DX for any action that involves the legs, such as climbing, running, or fighting (but not mounted combat). As an *optional* rule, this penalty should apply when *any* heavy or bulky armor covers the thighs. Relevant loadouts note when this is the case. Shin greaves would not be affected, nor would the custom-made articulated plate suits of the European knight.

Restrictive Neck Armor

Some types of neck protection, such as *bevors* and *ventails,* also cover part of the face. This can severely restrict head movement, so fighters took any opportunity to remove them when there was a lull in the fighting. Some didn't wear them at all, preferring to take the risk and leave their throats exposed. As an *optional* rule, such restrictive neck armor gives -1 to any action that requires free movement of the head, including all rolls in combat. This rule is mentioned in any loadout where it would be appropriate.

About the Author

Dan Howard has an Arts degree in History and Classical Studies. He was co-author of ***GURPS Low-Tech*** and author of many articles and supplements for Steve Jackson Games. Dan has written a book titled *Bronze Age Military Equipment,* for Pen and Sword Books Ltd, and has published an e-book called *Compact Castles* on e23. He holds a second dan black belt in Oh Do Kwan Tae Kwon Do and has competed internationally. Other interests include military history, ancient armor research, permaculture gardening, and renewable energy. He lives in Maitland, Australia, with his wife and three children.



Kiribati Warrior

The same day he sent me a present of two corselets, made in the island fashion of plaited fibre, heavy and strong. One had been worn by Teñkoruti, one by Tembaitake; and the gift being gratefully received, he sent me, on the return of his messengers, a third – that of Tembinatake.

– Robert Louis Stevenson

The Kiribati Islands (also known as the Gilbert Islands) are a group of 33 coral atolls in the west-central Pacific Ocean. They are populated largely by Micronesians who engaged in intertribal warfare until the islands became a British protectorate in 1892. Each clan was based in a home district called a *kaainga*. The chief of each kaainga was also the military commander. Warfare was used to increase the landholding of a kaainga and as a mechanism to address the balance of power. If one kaainga became too powerful, several smaller clans would band together and attack. The losers were banished from their home island. If they were lucky or strong enough, they would find a place on another island to settle and recuperate. Some feuds continued for generations. Non-Kiribati islands were also raided for slaves and booty.

The armor these warriors wore was intended to protect from sharktooth-edged weapons and sling stones. It was made largely from plaited sennet, a type of coconut fiber *(coir)*. The first layer consisted of a shirt called a *kanoa n tanga,* which was lightly padded but not enough to provide any DR (treat as Status 1 ordinary clothing). Over this was a long-sleeved jacket *(tanga),* made of a flexible weave (treat as light layered cloth). Fixed to the *tanga* and projecting up behind the head and neck was a rigid panel *(otangana)* intended to shield the back of the head from missiles. Over the jacket was a thicker, more-rigid corselet *(otana)* – also of plaited coir. Treat this as medium layered cloth. In addition, a wide girdle *(te katibana)* made of rayskin covered the stomach.

Their legs were covered by padded trousers *(kawáerake),* which should be treated as light layered cloth. A coconut fiber helmet *(baratekora)* with cheek guards protected the head; treat it as a pot helm made of medium layered cloth. It was often covered with another helm, called *barantauti,* made from spiny skin of a porcupinefish *(diodon)*. Feet were bare.

Shields

Kiribati warriors didn't normally carry shields. They preferred two-handed weapons, relying on their armor for protection.

Through this perturbed period of history the figure of Teñkoruti stalks memorable. In war he was swift and bloody; several towns fell to his spear, and the inhabitants were butchered to a man. In civil life this arrogance was unheard of. When the council of Old Men was summoned, he went to the Speak House, delivered his mind, and left without waiting to be answered. Wisdom had spoken: let others opine according to their folly. He was feared and hated, and this was his pleasure.

– Robert Louis Stevenson

Kiribati Warrior Loadout (TL0)

The two layers of *tanga* and *otana* total DR 5 on the chest, and the *tanga* and *katibana* provide DR 4* on the abdomen. The combination also gives -1 to DX (see *Layered Armor,* ***Low-Tech,*** p. 103). The *baratekora* and *barantauti* both cover the skull, giving DR 6.

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Shirt	*Kanoa n tanga*	torso, arms	0	$144	2.4	23	
Leggings	*Kawáerake*	legs	2*	$150	12	20	
Torso Padding	*Tanga*	torso, arms	2*	$225	18	30	
Corselet	*Otana*	chest	3	$263	15	23	
Girdle	*Katibana*	abdomen	2*	$30	3.8	5	
Neck Guard	*Otangana*	neck (back), head (back)	3	$62	3.5	–	
Helmet	*Baratekora*	skull, cheeks, ears	4	$87	6.7	6	[1, 2]
Helmet	*Barantauti*	skull	2*	$24	3	4	
TOTAL	**–**	**–**	**–**	**$985**	**64.4**	**111**	

Notes

[1] Protects the face on a roll of 3-5 on 1d.

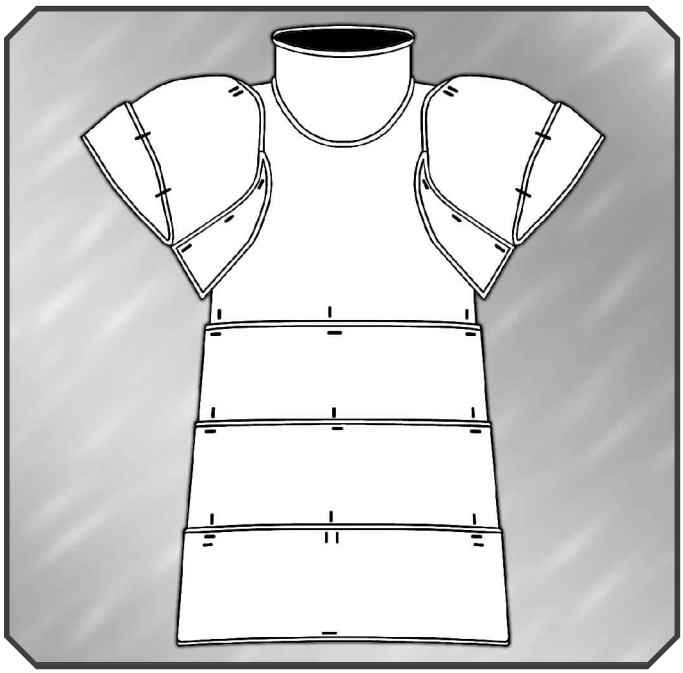
[2] Gives Hard of Hearing (p. B138).

Mycenaean Dendra Warrior

But the corselet Phyleides wore defended him, solid and built with concave plates of metal, which, in days past, Phyleus had taken home from Ephyra and the river Selleëis.

– Homer, ***The Iliad***

The bronze armor known as the Dendra panoply was found in a grave shaft at Dendra, which was the cemetery for the Mycenaean citadel at Midea. It can currently be found in the Archaeological Museum of Nauplion, Greece. It is the only complete example of this type of armor. The panoply has been dated to the Late Helladic period, when all of the great civilizations fielded chariot archers. Given the complete coverage that this armor provided, including a high neck turret and heavy thigh armor, it is likely that it was intended to be worn by a charioteer (heavy armor compensated for the lack of a shield). However, this was a very modular type of armor. It could easily have been adapted for foot combat by removing the neck turret and unlacing the segmented plates that covered the thighs.



The Mycenaean state had tight control over the supply of bronze. All bronze weapons and armor were provided by the treasury, and only the elite warriors (Status 2 and above) wore bronze armor. The Dendra panoply consisted of a solid bronze cuirass *(thôrâx)* covering the chest. Laced to the bottom of the cuirass were three wide segmented plates *(mitrè)* covering the abdomen and thighs. A tubular "turret" called a *perilaimio* sat upon the shoulders and covered the neck and lower part of the face. Large bronze pauldrons *(guala)* protected each shoulder. This was all worn over a light woolen or linen tunic *(khitôn)* and a loincloth *(zoma)*. Light bronze guards covered the forearms *(perikarpio)* and the shins *(knèmides)*. Sandals *(pedila, hupodemata)* protected the feet.

The helmet *(korus)* found with the armor was made of boars' tusks (see *Horn,* ***Low-Tech,*** p. 106) attached to a leather skullcap with cheek guards *(chalkoparheos)*.

Infantry

To turn the Dendra panoply into armor suitable for infantry, simply slip off the neck guard (two seconds) and unlace the segmented plates (16 seconds) covering the thighs and rump, leaving a single plate covering the stomach and groin (front only). In a hurry, the laces could be cut (taking four seconds). This modified panoply provides very similar protection to the armor worn during the Trojan War (use *Homeric Hero Loadout,* p. 9).

Horses

See *Chariot Horse Heavy Loadout* (p. 8) for details.

Bronze Age Dendra Charioteer Loadout (TL1)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Khitôn*	torso	0	$240	1.6	15	
Corselet	*Thôrâx*	chest	4	$4,500	9	34	
Fauld	*Mitrè*	abdomen, thighs	3	$1,680	11.2	32	[1]
Pauldron	*Guala*	shoulders	4	$600	1.2	5	
Neck Turret	*Perilaimio*	neck, jaw	4	$600	1.2	5	[2]
Vambraces	*Perikarpio*	forearms	3	$1,000	2	12	[3]
Greaves	*Knèmides*	shins (front)	3	$1,000	2	12	[4]
Sandals	*Pedila*	feet (bottom)	1	$25	0.5	10	
Helmet	*Korus*	skull, cheeks, ears	4	$65	7.7	6	[5, 6, 7]
TOTAL	**–**	**–**	**–**	**$9,110**	**36.4**	**131**	

Notes

[1] -1 to DX for actions involving the legs (see *Leg Armor and DX,* p. 4).

[2] Protects the face on a roll of 1 on 1d.

[3] Protects the arms on a roll of 1-3 on 1d.

[4] Protects the legs on a roll of 1-3 on 1d (front only).

[5] Gives Hard of Hearing (p. B138).

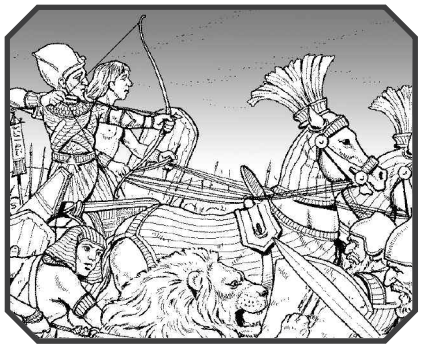
[6] Protects the face on a roll of 3-5 on 1d.

[7] +1 SM for Intimidation (see ***Low-Tech*** p. 113).

Bronze Age Chariot Archer

Then Rameses uprose, like his father, Montu in might,
All his weapons took in hand, and his armor did he don,
Just like Baal, fit for fight;
And the noble pair of horses that carried Pharaoh on,
Lo! 'Victory of Thebes' was their name,
And from out the royal stables of great Miamun they came.
– *The Poem of Pentaur*

In the middle of the Bronze Age, the elite from virtually all of the major cultures (Egyptians, Hittites, Hurrians, Canaanites, Mycenaeans, Aryan Indians, Shang Chinese, etc.) took to the battlefield in light chariots. The charioteer's weapon of choice was the bow. Both the driver and the archer had both hands occupied and so could not carry a shield; their armor was designed to compensate for this deficiency.



Armor was a scale *sariam,* consisting of a knee- or ankle-length, sleeved scale corselet. The driver of the chariot usually had more complete coverage than the archer; he would have long sleeves and neck armor, while the archer's arms and neck were exposed. The best evidence for Bronze-Age scale armor comes from the Hurrian palace at Nuzi, where texts describe armor made from both bronze and leather. An excellent example of Bronze Age-leather scale armor was found in the tomb of Tutankhamen; it is currently located in the Cairo Museum in Egypt.

Most chariot warriors would wear a panoply that the Arraphians called a *tarkumazi,* which consisted of scale torso armor *(sariam),* a similar scale kilt *(dutiwa)* that reached to the knees or ankles, and half- or full-length sleeves made with lighter scales. They wore a neck guard called a *tikku,* though it is unclear how it was constructed; here it is assumed to be a turret like the Dendra armor. The elite would have worn bronze scale while other charioteers wore scale made from rawhide or hardened leather. Underneath, they wore a tunic and leggings (priced for Status 2), with sandals protecting the feet.

The helmet *(gurpisu)* also consisted of bronze or hide scales laced to a leather or felt foundation. It was crested with horsehair or feathers (*gurpisu sippuru* means "crested helmet") and had bronze cheek guards.

For character and adventure ideas, see ***GURPS Egypt.***

Chariot Archer

The loadout in the table was usually only worn by the chariot driver. An archer would be less encumbered. Remove the *ahi* (sleeves) and *tikku* (neck guard), for a loadout total of $8,223, 75.5 lbs., Don 99.

Leather

As noted above, not all charioteer armor was made of bronze. It is possible that leather armor was more popular than bronze. For example, during the aftermath of the Battle of Megiddo, Egyptian records say that they captured 200 leather corselets but only two bronze ones. Treat leather scale armor as layered leather (***Low-Tech,*** p. 105).

Leather Scale Sariam (torso): DR 3, $220, 26 lbs., Don 30.

Horses

Horses were protected with scale armor called *sariam* just like human armor. A pad *(parassannu)* made of leather or felt was placed over the horse from the withers to the loin to cover the flanks. Over this was metal scale covering the chest and flanks *(sariam sa sisi),* and the belly and rump *(dutiwa sa sisi).* The head and neck were also covered in padding *(milu)* and scale *(gurpisu sa sisi).* A lighter type of horse barding called *tahabsu* was made of leather and felt.

Bronze Age Charioteer Loadout (TL1)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	–	torso, arms	0	$360	2.4	23	
Pants	–	legs	0	$240	1.6	15	
Corselet	*Sariam*	torso	5	$4,400	40	30	
Kilt	*Dutiwa*	thighs, knees	5	$2,200	20	15	[1]
Armored Sleeves	*Ahi*	arms	3	$640	8	15	[2]
Neck Guard	*Tikku*	neck, jaw	4	$600	1.2	5	[3]
Helmet	*Gurpisu*	skull, cheeks	6	$998	11	6	[4, 5]
Sandals	–	feet (bottom)	1	$25	0.5	10	
TOTAL	**–**	**–**	**–**	**$9,463**	**84.7**	**119**	

Notes

[1] -1 to DX for actions involving the legs (see *Leg Armor and DX,* p. 4).

[2] -1 DR vs. *crushing.*

[3] Protects the face on a roll of 1 on 1d.

[4] Protects the face on a roll of 4-5 on 1d.

[5] +1 SM for Intimidation (see ***Low-Tech,*** p. 113).

Chariot Horse Heavy Loadout (TL1)

Scale armor is layered over cloth, for DR 5 on the head, neck, torso, and upper legs, and -1 to DX for layered armor (see ***Low-Tech,*** p. 103).

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Padded Caparison	*Parassannu*	neck, torso, upper legs	2*	$750	60	100	[1]
Padded Chanfron	*Milu*	head, neck	2*	$150	12	20	
Armored Chanfron	*Gurpisu sa sisi*	head, neck	3	$1,280	16	30	[2]
Front Caparison	*Sariam sa sisi*	chest, upper legs (front)	3	$1,920	24	45	[1, 2]
Rear Caparison	*Dutiwa sa sisi*	abdomen, upper legs (rear)	3	$1,920	24	45	[1, 2]
TOTAL	**–**	**–**	**–**	**$6,020**	**136**	**240**	

Notes

[1] Protects the legs on a roll of 3-6 on 1d.

[2] -1 DR vs. *crushing.*

Chariot Warfare

With the bow let us win cattle.
With the bow let us win the contest and violent battles.
The bow ruins the enemy's pleasure.
With the bow let us conquer all the corners of the world.
– Indian battle hymn from ***Rig Veda***

Chariot warfare during the Bronze Age consisted largely of opposing units of chariot archers supported by massed ranks of shield-bearing spearmen and skirmishers called "chariot runners". The shield bearers stood in a wall formation but contributed little to the battle; their primary role was to form a screen behind which the chariots could regroup. The smallest tactical unit was a group of 10 chariots; five such units (50 chariots) made up a squadron. Each squadron had its own commander – he and his driver were likely the only charioteers wearing bronze armor. Chariot tactics were to form up in a line and gallop toward the enemy. As the opposing forces closed to within about 200 yards, the archers would shoot arrows over their horses' heads toward the enemy. Early salvoes were unaimed volleys, then archers would pick out individual targets as the range closed. At some point, the chariots wheeled off before contact was made, and archers continued to shoot while withdrawing for another pass. Alternatively, the formation would split in two, half on each side, hoping to outflank the enemy.

Either the driver and passenger wore heavy armor, or the driver carried a shield, which was used to protect himself and his passenger. If the driver is carrying a shield and wants to be able to block, his Teamster *and* Block rolls are at -2. Only one block is permitted per turn, so a good tactic for a group of archers is to concentrate on one chariot at a time rather than everyone shooting at individual targets. If targets are too heavily armored against arrows, aim for the horses instead.

Chariot archers used light chariots (***Low-Tech***, p. 137). The elite bronze-armored bowmen generally wielded straight composite bows while the lesser ranks in leather armor had regular bows (***Low-Tech***, p. 76). As noted in ***Low-Tech***, all ranged attacks from a chariot are at -1 even on good roads or level, smooth terrain. This falls to -3 on bad roads, mildly hilly terrain, or level ground with a slightly uneven surface. A light chariot has SR 1, so you can get a maximum Aim bonus of +1. Speed penalties don't apply while you are traveling directly toward or away from the target, but your speed *and* your target's speed must both be taken into account when you pass each other (see p. B469).

The Teamster (Equines) skill is used to drive a chariot (p. B225). When executing complex maneuvers or when the horses are galloping (80% or more of full Move), a skill roll is needed every *10 seconds*. A failed roll results in an overturned chariot with the passengers suffering from the equivalent of a five-yard fall (see *Falling*, p. B431). Also roll DX for each horse; on a critical failure, the horse breaks a leg!

An injured or frightened horse can become *spooked*. See p. B397 for attempting to bring the animal back under control, except that the Teamster skill is used instead of Riding. Failure to do so results in an overturned chariot.

Then he took his shield, his battleaxe, and his armful of javelins. Now after I had let his weapons issue forth, I avoided his missiles as they passed me by uselessly, one close to another. He charged me, and I shot him, my arrows sticking in his neck. He cried out and fell on his nose. I felled him with his own battleaxe and raised a cry of victory over his back . . . Then I carried off his goods and plundered his cattle.

– Story of Sinuhe

Once a charioteer has fallen from his vehicle, he becomes far more vulnerable. The victorious chariot would stop to finish off the foe with the help of chariot runners, while the enemy runners would try to protect their fallen comrades. These skirmishers wielded weapons of bronze – including javelins, knives, axes, shortswords, or khopeshes – and they carried a small or medium buckler. The winner of the fight stripped the vanquished of their equipment. The most desirable loot consisted of chariots, horses, and metal armor.

Homeric Hero

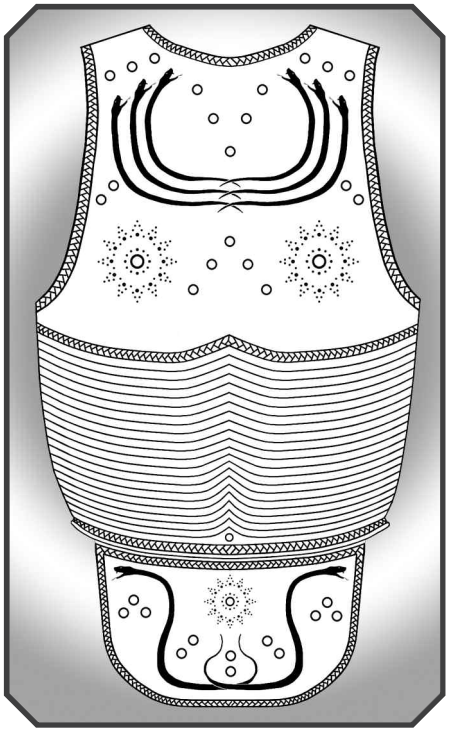
Therefore he gave the King as a gift of grace this armor. Now there were ten cobalt bands upon it, and twelve of gold, and twenty of tin. And towards the opening at the throat there were three cobalt serpents rearing up on either side, like rainbows . . .

– Homer, ***The Iliad***

The events described in Homer's epic, *The Iliad,* occurred during the Trojan War, which allegedly took place near the end of the Bronze Age between the Greeks *(Achaeans)* and the Trojans *(Danaans)*. Militarily, this was a time of transition, after the dominance of the chariot archer but before the rise of hoplite infantry. Chariots were still used but Homer described them as a kind of "battle taxi" that conveyed the hero to the battlefront, where he dismounted and conducted most of his fighting on foot. If the chariot took part in the fighting at all, it was as a skirmisher. Homer's heroes were still heavily armored but not as comprehensively as earlier chariot warriors. Only the upper classes (Status 2+) fought in this manner.

Based on a combination of Homer's work and archaeological evidence dating to the same time period, it is possible to get some idea of what Homer's *Achaean* might have looked like. He wore a thigh-length tunic *(khitôn)* under a bronze cuirass *(thôrâx)* that was heavily decorated with embossing, chasing, gilding, and colored enamel. A similarly decorated belly plate *(mitrè)* hung off the front to protect the stomach and groin. Some may have worn shoulder pauldrons *(guala)* that were smaller than the Dendra example (p. 6). A wide leather belt *(zoster),* decorated and reinforced with metal plates, wrapped around the waist; it covered the gap between *thôrâx* and *mitrè* and helped hold the two halves of the cuirass together. The arms and thighs were unprotected, but light bronze plate greaves *(knèmides)* guarded the shins while sandals *(pedila, hupodemata)* covered the feet.

The head was protected by a bronze helmet *(korus)* with large cheek guards *(chalkoparheos)* that curved around the eyes. Homer describes the helmets as "hollow-eyed," but the famous Greek *Corinthian* full-helm was not developed until much later (see *Greek Hoplite,* p. 13). These helmets were adorned with two or more animal horns *(phalos)* protruding from the front and a horsehair crest on top.



Shields

The shield *(aspis, sakkos)* was circular in shape and made of multiple layers of oxhide with a heavily decorated bronze facing and a rim of bronze or hide. It was held by a central handgrip and the boss could be fashioned to look like the head of a fantastic creature. A strap *(telamon)* helped bear some of the weight of the shield and allowed it to be slung on the back when not in use. It is listed in the *Shield Table* (***Low-Tech,*** p. 116).

Homeric Buckler, Large: DB 3, $150, 20 lbs., DR 4, HP 22, Cover DR 9.

Decoration

Most of the heroes described by Homer had armor and shields that were intricately decorated with embossing, precious metals, and enamel. It would be reasonable to apply *Styling* (***Low-Tech,*** p. 14) to any items listed in the loadout.

Homeric Hero Loadout (TL1)

If the abdomen is hit from the front, there is a 3-in-6 chance that it hits both the *mitrè* and *zoster* (total DR 6); otherwise just the *mitrè* (DR 3) applies.

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Khitôn*	torso	0	$240	1.6	15	
Corselet	*Thôrâx*	chest	4	$4,500	9	34	
Fauld	*Mitrè*	abdomen (front)	3	$75	2	6	
Girdle	*Zoster*	abdomen (partial)	3	$75	2	6	[1]
Pauldrons	*Guala*	shoulders	4	$600	1.2	5	
Greaves	*Knèmides*	shins (front)	3	$1,000	2	12	[2]
Sandals	*Pedila*	feet (bottom)	1	$25	0.5	10	
Helmet	*Korus*	skull, cheeks, ears	5	$1,350	4.8	9	[3, 4, 5]
TOTAL	**–**	**–**	**–**	**$7,865**	**23.1**	**97**	

Notes

[1] Protects the abdomen on a roll of 1-3 on 1d.
[2] Protects the legs on a roll of 1-3 on 1d (front only).
[3] Gives Hard of Hearing (p. B138).
[4] Protects the face on a roll of 3-5 on 1d.
[5] +1 SM for Intimidation (see ***Low-Tech,*** p. 113).

Assyrian Infantry

The Assyrian came down like the wolf on the fold,
And his cohorts were gleaming in purple and gold;
And the sheen of their spears was like stars on the sea,
When the blue wave rolls nightly on deep Galilee.
– Lord Byron, ***The Destruction of Sennacherib***

Named after their original capital, Assur, the Assyrians were a Semitic people living in the northern region of Mesopotamia. Apart from brief periods of expansion in the early 18th and mid-14th centuries B.C., the Assyrians were largely subjugated by their more powerful southern neighbors throughout most of the Bronze Age. It wasn't until the end of this period that they really started to expand and consolidate their territory through a succession of aggressive warrior-kings.

The Assyrians mentioned in the Bible were the first great power of the Iron Age. They took advantage of the greater availability of iron over bronze to equip much of their infantry in metal armor. This iron scale armor still looked and functioned the same as earlier Bronze-Age armor, but it was no longer the exclusive province of the elite; the elite still wore bronze, but iron was far more common. Infantry tactics involved the use of "archer pairs," where one man would wield a bow while the other protected him with spear and large shield.

The archers tended to be more heavily armored than the shield-bearers, with short-sleeved scale corselets *(siriam)* covering the torso, shoulders, upper arms, and thighs. Sometimes the scale armor extended down past the knees in a long skirt *(dutiwa)*. Underneath was a knee- or ankle-length, sleeved tunic *(kitû)* with a fringed hem (Status 0). Greaves *(kimṣu)* covered the shins and knees, while sandals *(šêpu)* protected the feet. Shield-bearers were less well armored – some wore a scale *siriam* while others had little more than a helmet and a circular pectoral covering the vitals.

Helmets *(gurpisu)* were tall and conical with an elongated point at the top. These were made of either bronze or iron. The bronze ones were likely to be made from a single plate while the iron ones were of spangenhelm construction. Many had cheek guards. Officers' helmets were adorned with crests; some had scale aventails protecting the back of the neck.

Shields

Shields *(arytu)* were oval or rectangular, made of wicker, and faced with hide. They were large enough to protect both the spearman and an archer, and were wielded by means of a central handgrip. Some were curved at the top to help stop high-trajectory missiles – especially useful during sieges. The stats for a light large buckler would be most appropriate, but only when using *Damage to Shields* (p. B484); otherwise, give Assyrians a heavy large buckler (see ***Low-Tech*** p. 114).

Arytu, Light: DB 3, $68, 10 lbs., DR 2, HP 18, Cover DR 6.
Arytu, Heavy: DB 3, $90, 20 lbs., DR 4, HP 22, Cover DR 9.

Assyrian Archer Loadout (8th to 7th Century B.C.) (TL2)

The *dutiwa* and *kimṣu* can be replaced with a longer *dutiwa* that reaches to the ankles:

Long Dutiwa (groin, legs): DR 4, $550, 28 lbs., Don 30, [3].

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Kitû*	torso, legs	0	$144	4.8	46	
Corselet	*Siriam*	torso, shoulders, upper arms	4	$660	33.6	36	[1]
Kilt	*Dutiwa*	thighs	4	$248	12.6	14	[2, 3]
Greaves	*Kimṣu*	shins, knees	3	$550	4.4	25	[4]
Sandals	*Šêpu*	feet (bottom)	1	$25	0.5	10	
Helmet	*Gurpisu*	skull, cheeks	5	$340	3.8	9	[5]
TOTAL	**–**	**–**	**–**	**$1,967**	**59.7**	**140**	

Notes

[1] -1 DR vs. *crushing*.
[2] Protects the legs on a roll of 5-6 on 1d.
[3] -1 to DX for actions involving the legs (see *Leg Armor and DX*, p. 4).
[4] Protects the leg on a roll of 1-4 on 1d.
[5] Protects the face on a roll of 4-5 on 1d.

Assyrian Shield-Bearer Loadout (8th to 7th Century B.C.) (TL2)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Kitû*	torso, legs	0	$120	4	30	
Pectoral	–	vitals (front)	4	$150	1.2	5	[1]
Sandals	*Šêpu*	feet (bottom)	1	$25	0.5	10	
Helmet	*Gurpisu*	skull, cheeks	5	$340	3.8	9	[2]
TOTAL	**–**	**–**	**–**	**$635**	**9.5**	**54**	

Notes

[1] Also protects the upper chest (area 9) on a roll of 1-3 on 1d (*Pectorals*, p. 18).
[2] Protects the face on a roll of 4-5 on 1d.

Scythian Horse Archer

[Horses'] hooves they collect, clean, split, and make from them as it were python scales . . . These pieces they bore and stitch together with the sinews of horses and oxen, and then use them as corselets that are as handsome and strong as those of the Greeks. For they can withstand blows of missiles and those struck in close combat.

– Pausanias

The term *Scythian* was used by Greeks and Romans to describe all the nomadic inhabitants of the region known as "Scythia" – the lands in central Asia ranging from the Danube in the west to China in the east. They first appear in recorded history in the eighth century B.C., in Assyrian accounts during the reign of Sargon II. There were many different cultures but they shared a nomadic lifestyle and spoke a variety of Indo-European languages. The dominant people were the Iranian-speaking "Royal Scythians" referred to by Herodotus. Tribes include the Auchatae, Catiaroi, Traspians, and Paralatae. Their state reached its greatest power in the fourth century B.C. under the reign of Ateus. Later peoples supplanted the Scythians, including Sarmatians, Cimmerians, Sakas, Alans, Goths, Huns, and so on, but their style of warfare was very similar. Scythians were known for their horsemanship and are considered to have been the first to ride the horse in battle. They are also thought to have developed horse archery using compact composite bows, and may have invented the stirrup in order to help a rider stand in the saddle to give a more stable platform from which to shoot a bow.

Scythian armor was predominantly scale – made from iron, rawhide, or even horse hoof. After Greek contact, they began styling their armor in the Greek manner, with wide shoulder flaps laced to the breast, and some wore leg greaves. Additional panels of scale were occasionally worn on the front of the abdomen and thighs. Clothing was a long-sleeved kaftan *(kurta)* made of hemp, felt, or supple leather that wrapped over to the left and was held closed with a belt. It was slit at the thighs to facilitate riding a horse. Trousers were usually made of wool. Thicker kaftans were used as standalone armor by poorer fighters; treat as padded cloth (***Low-Tech,*** pp. 103-104). Soft leather shoes protected the feet.

Scythians are distinguished by a tall, pointed conical hat called a *baslyk,* but in battle they wore a variety of helmets, from scaled *baslyks* to Greek *Corinthians*. Decoration was in the form of horsehair crests.

Shields

The Scythian shield was rectangular with rounded sides, and made of wicker and hide (some were reinforced with scales). It was dished slightly and, when using a spear or sword, was held as a buckler by means of two straps near the center. It was sometimes called a "winged shield," and served a second purpose for an archer: When shooting, he would sling it horizontally, so its DR protected his upper back (areas 9-10, back only) and shoulders. Another common shield was the crescent-shaped buckler known as a *pelta* (see *Medium Shield,* ***Low-Tech,*** p. 114).

Apart from the scale-reinforced shields, the stats for a light shield would be more appropriate for the Scythians, but this should only be permitted if *Damage to Shields* (p. B484) is in use. Otherwise, give Scythians a heavy medium shield (see ***Low-Tech*** p. 114).

Shield, Light Winged: DB 2, $45, 7 lbs., DR 2, HP 16, Cover DR 6.

Shield, Heavy Winged: DB 2, $60, 14 lbs., DR 4, HP 20, Cover DR 9.

Horses

A few horses wore light armor, which was limited to chamfrons and peytrals made of hide scales.

Chamfron (head): DR 3, $110, 13 lbs., Don 15.
Peytral (chest (front)): DR 3, $220, 26 lbs., Don 30.

Scythian Horse Archer Loadout (6th to 4th Century B.C.) (TL2)

As noted above, over the next two millennia, various other peoples would inhabit the lands of Scythia: the Sarmatians, Avars, Huns, Mongols, etc. These cultures are linked by their reliance on the horse and nomadic lifestyles. Lamellar armor eventually replaces scale and the dominant shield becomes circular; use the loadout for Mongol cavalry (p. 32).

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Kurta*	torso, arms, thighs	0	$94	3.1	30	
Pants	–	legs	0	$48	1.6	15	
Corselet	–	chest	4	$413	21	23	[1]
Girdle	–	abdomen (front)	4	$69	3.5	4	[1]
Thigh Guards	–	thighs (front)	4	$124	6.3	7	[1, 2, 3]
Shoes	–	feet	1	$40	2	10	
Helmet	*Baslyk*	skull	5	$140	7.8	6	[1, 4]
TOTAL	**–**	**–**	**–**	**$928**	**45.3**	**95**	

Notes

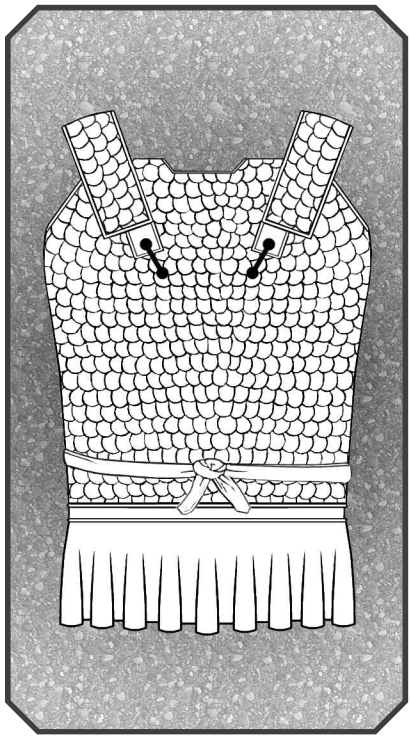
[1] -1 DR vs. *crushing*.
[2] -1 to DX for actions involving the legs (see *Leg Armor and DX,* p. 4).
[3] Covers only outside thigh (see *Armor Gap – Inside Thigh,* p. 4).
[4] +1 SM for Intimidation (see ***Low-Tech,*** p. 113).

Persian Immortal

They could not, however, kill Masistius at first, for he was outfitted in the following manner: he wore a purple tunic over a concealed corselet of golden scales; thus they accomplished nothing by striking at the corselet, until someone saw what was happening and stabbed him in the eye.

– Herodotus, ***Histories***

The Immortals (Greek *Athanatoi*) were an elite force of Persian soldiers who served the Achaemenid Empire. In times of peace, they formed the Persian King's bodyguard; when at war, they formed the core of the infantry. Herodotus reckons that their number was kept at a constant troop strength of 10,000, and that they were in existence since at least the time of Cyrus the Great (580-529 BC). They were disbanded after Alexander's victory at the Battle of Issus in 333 B.C.



The majority of Persian fighters are depicted in sleeved tunics *(jâmah),* trousers *(pay-jâmah),* and soft leather shoes *(chamtak, padu).* Higher status troops (Status 2+) wore a scale corselet *(bagtar)* made of iron (sometimes bronze or gold-plated) over this clothing. Occasionally, a loose, knee-length, sleeveless garment *(kurta)* was worn over the top to conceal the armor (treat as summer clothing).

Most infantry wore a thick felt cap *(tiara)* with an integrated scarf that could be pulled over the face when marching through the desert (cost and weight of the scarf are negligible). Metal helmets were called *khaudâ* and were worn over the tiara; they were conical with a high peak and had cheek guards. Officers' helmets had crests (not included in this loadout).

Shields

The large shield *(spara)* was oval-shaped, made of wicker and faced with hide. The wicker canes were woven through slitted strips of rawhide while wet and then allowed to dry. They had a central handgrip and a metallic boss. Some shields are depicted standing up by themselves, probably by means of a strut on the back. An archer could use the shield as cover while still having both hands free for shooting. Some of the regular infantry carried a large rectangular shield, but over time it was phased out in favor of the oval one. The stats for a light large buckler would be most appropriate, but only if *Damage to Shields* (p. B484) is in use. Otherwise, give Persians a heavy large buckler (see ***Low-Tech,*** p. 114).

Spara, Light: DB 3, $68, 10 lbs., DR 2, HP 18, Cover DR 6.

Spara, Heavy: DB 3, $90, 20 lbs., DR 4, HP 22, Cover DR 9.

Cavalry

Persian cavalry *(asabâra)* was armored in the same way as infantry *(pasti).* Most had no armor, but wealthier riders wore bronze or gilded iron scale underneath a tunic. They did not commonly carry shields, but experts think some adopted the wicker and leather *pelta* (crescent-shaped medium shield) from Scythian mercenaries. Some metallic helmets *(khaudâ)* were worn (see above), but the felt *tiara* was more common.

Horses

Some horses *(aspa)* wore barding. The most common was a peytral made of iron scale (see *Animal Armor,* ***Low-Tech,*** p. 117).

Scale Peytral (torso (front)): DR 4, $550, 28 lbs., Don 30.

Persian Immortal – Infantry Loadout (6th to 5th Century B.C.) (TL2)

The combination of *khaudâ* and *tiara* gives DR 5 on the skull and ears.

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Shirt	*Jâmah*	torso, arms	0	$360	2.4	23	
Pants	*Pay-jâmah*	legs	0	$240	1.6	15	
Corselet	*Bagtar*	torso	4	$550	28	30	
Padded Cap	*Tiara*	skull, ears	1*	$15	1.8	5	[1, 2]
Shoes	*Padu*	feet	1	$40	2	10	
Helmet	*Khaudâ*	skull, ears, cheeks	4	$345	2.8	9	[1, 3]
TOTAL	**–**	**–**	**–**	**$1,550**	**38.6**	**92**	

Notes

[1] Gives Hard of Hearing (p. B138).
[2] Protects face on a roll of 3 on 1d.
[3] Protects the face on a roll of 3-5 on 1d.

Greek Hoplite

Men wear their helmets and their armor for their own needs, but they carry shields for the men of the entire line.

– Plutarch, ***Moralia***

Hoplites were the heavily armored, spear-wielding soldiers of the Greek city-states. They arose as an answer to the conflict between those city-states. Battle seems to have occurred at pre-arranged locations between tight formations *(phalanxes)* of men. The citizen-soldiery of the opposing cities shoved and stabbed at each other until one side broke and routed. Each citizen had to provide his own equipment and, as such, needed to have a certain level of wealth to do so. It was the so-called "middle classes" (Status 1) who did the bulk of the fighting. Most had at least one servant who carried their equipment and helped them don their armor just before battle.

Armor initially consisted of a bronze cuirass *(thorax)* that covered the chest. For a short period, hoplites wore upper arm guards *(epicheiris),* forearm vambraces *(perikarpio),* and thigh guards *(paramèridion),* but all were later discarded in favor of a kilt of overlapping quilted linen strips *(pteruges)*. Bronze greaves *(knèmides)* reached up to protect the knees and wrapped around to cover virtually all of the lower leg. Underneath was a linen or light woolen tunic *(chitôn, exomis);* sandals *(sandalon)* protected the feet. Some hoplites, such as the Spartans, wore a cloak *(chlamys)* into battle. It is debatable whether it was colored red (as seen in popular media); some probably were.

They wore a bronze full helm *(kranos, perikephalaios)* with a horsehair crest, known today as the *Corinthian* helm. It enclosed the head completely, leaving holes for the eyes and a vertical slit for breathing. Some were fashioned so that they could be tilted up and back to rest on top of the head, with the cheek guards holding it in place, when not in use.

Later, lower classes (Status 0) fought as hoplites and they abandoned bronze cuirasses in favor of nonmetallic ones (layered linen or leather) known as *linothorax* and *spolas*. Some were reinforced with scale *(pholidôtós)*. They also replaced the *Corinthian* helm with one that was more open (e.g., *Calcidian, Pilos*). Crests were far less common, but most had cheek guards. Greaves were still made of bronze and covered the knees. For linen armor, use the Macedonian *Pezhetairos Loadout* (p. 14). The *Late Hoplite Loadout* includes a leather *spolas*.

Shields

The Argive shield *(aspis),* carried by both early and late hoplites, was circular and deeply dished. It was made of wood, lined with leather, had a bronze rim, and was sometimes faced with bronze. Only two-thirds of it protected the bearer; the remaining third projected out past the elbow to partially cover the man standing to his left (see *Argive Shield,* ***Low-Tech,*** p. 115).

Aspis: DB 2, $120, 15 lbs., DR 4, HP 20, Cover DR 9, +1 DB when used in a shield wall.

Early Hoplite Loadout (7th to 6th Century B.C.) (TL2)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Chitôn*	torso	0	$96	1.6	15	
Cloak	*Chlamys*	torso, thighs (back)	0	$40	2	20	
Corselet	*Thorax*	chest	4	$4,500	9	34	
Kilt	*Pteruges*	abdomen	2*	$38	3	5	
Greaves	*Knèmides*	shins, knees	3	$2,200	4.4	25	[1]
Sandals	*Sandalon*	feet (bottom)	1	$25	0.5	10	
Helmet	*Kranos*	head	4	$3,930	4	19	[2, 3, 4]
TOTAL	**–**	**–**	**–**	**$10,829**	**24.5**	**128**	

Notes

[1] Protects the legs on a roll of 1-4 on 1d.

[2] -1 DR over the entire face.

[3] Gives Hard of Hearing (p. B138) and No Peripheral Vision (p. B151).

[4] Crest gives +1 SM for Intimidation (see ***Low-Tech,*** p. 113).

Late Hoplite Loadout (5th to 4th Century B.C.) (TL2)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Chitôn*	torso	0	$48	1.6	15	
Corselet	*Spolas*	chest	2	$94	11.3	23	
Kilt	*Pteruges*	abdomen	2*	$38	3	5	
Greaves	*Knèmides*	shins, knees	3	$2,200	4.4	25	[1]
Sandals	*Sandalon*	feet (bottom)	1	$25	0.5	10	
Helmet	*Pilos*	skull, cheeks, ears	4	$890	3	9	[2, 3]
TOTAL	**–**	**–**	**–**	**$3,295**	**23.8**	**87**	

Notes

[1] Protects the legs on a roll of 1-4 on 1d.

[2] Gives Hard of Hearing (p. B138).

[3] Protects the face on a roll of 3-5 on 1d.

Macedonian Warrior

And Alexander, being easily known by his shield and a large plume of white feathers on each side of his helmet, was attacked on all sides, yet escaped wounding, though his cuirass was pierced by a javelin in one of the joinings.

– Plutarch, ***The Life of Alexander***

Macedonia was considered a primitive backwater by the Greeks until the reign of Philip II, the father of Alexander the Great. Philip was a master of political and military strategy and forged his people into a formidable force. He came to power in 359 B.C. after the Macedonians had suffered a defeat by the Illyrians, which resulted in the death of his brother, the previous king. Macedonia was in trouble – the Thracians and Paionians had invaded the east while the Athenians had landed a force in the south. Philip had to react quickly: He married the great-granddaughter of the Illyrian king to secure a truce, he held off the eastern threat with promises of tribute, and he marched a force south to deal with the Athenians. The Macedonians were victorious, giving Philip some breathing space.

Philip immediately set about social and military reforms. He started bringing the sons of nobles to court to educate them. This instilled an abiding loyalty to the king and kept potential hostages near to hand to guarantee their fathers' obedience. He continued his brother's reforms of the military, increasing the size of the *Hetairoi* ("companions," the Macedonian cavalry) and retraining them for frontal attacks rather than skirmishing operations. In this he emulated the Thessalians, who were the first truly "heavy" cavalry, specializing in shock tactics. Philip also revolutionized the infantry, creating two main units. The main one was called *Pezhetairoi* ("foot companions"), and he gave them new weapons and tactics. He changed the phalanx formation, making it deeper, and replaced the one-handed thrusting spear with a longer two-handed pike called a *sarissa*. In order to be effective, more men were required in each phalanx, which in turn necessitated a much higher level of training and discipline to maneuver. The troops were drilled incessantly to achieve this. The other main infantry troop type was the *hypaspists* ("shield-bearers"), whose main task was to protect the flanks of the phalanx. These were elite infantry, armed and armored in a very similar manner to the traditional Greek hoplite. The best of these formed part of the king's bodyguard *(Agema)*.

Body armor *(kotthubos)* was mainly nonmetallic. Layered linen corselets would have been most common but leather was probably worn as well. Some officers wore bronze cuirasses *(thorakes)*. All body armor covered only the chest. The abdomen was covered by cloth strips called *pteruges*. The arms and thighs were unguarded but bronze greaves *(knèmides)* protected the shins and knees, and sandals *(sandalion)* covered the feet.

The helmet *(konos, kausia)* was usually made of bronze and of either the *Phrygian* type (conical with the rounded point angled forward) or the *Pilos* type (conical). Some had cheek guards.

Shields

Philip reduced the size of the hoplite shield so it wouldn't interfere with the two-handed operation of the sarissa. Called the *thyreos,* it was still circular but not as deeply dished. In addition to a forearm strap, it had a neck strap *(telamon)* to help control it.

Thyreos: DB 1, $50, 7 lbs., DR 4, HP 15, Cover DR 7.

Hypaspist Loadout

Use *Late Hoplite Loadout* (p. 13).

Cavalry

Hetairoi were usually no more heavily armored than the infantry. Most would have worn linen corselets but a few wealthier cavalry troops wore bronze *thorakes*. Bronze greaves covered the shins and knees, and helmets were similar to those worn by the infantry. However they usually did not carry shields. Use *Pezhetairos Loadout* (below), but without the shield. Macedonian horses were unarmored.

The enemy, long astonished both at the smartness and the discipline of the drill, did not await the approach of Alexander's troops . . .

– Arrian, ***History of Alexander and Indica***

Pezhetairos Loadout (4th to 3rd Century B.C.) (TL2)

Common Name	Ethnic Name	Location	DR	Cost	Weight	Don	Notes
Tunic	*Chitôn*	torso	0	$48	1.6	15	
Corselet	*Kotthubos*	chest	3	$263	15	23	
Kilt	*Pteruges*	abdomen	2*	$38	3	5	
Greaves	*Knèmides*	shins, knees	3	$2,200	4.4	25	[1]
Sandals	*Sandalion*	feet (bottom)	1	$25	0.5	10	
Helmet	*Kausia*	skull, cheeks, ears	4	$890	3	9	[2, 3]
TOTAL	**–**	**–**	**–**	**$3,464**	**27.5**	**87**	

Notes

[1] Protects the legs on a roll of 1-4 on 1d.
[2] Gives Hard of Hearing (p. B138).
[3] Protects the face on a roll of 3-5 on 1d.

Warring States Yongshi

From this chariot one man can control everything. Just because you are wounded, would you bring ruin on our enterprise? When you put on armor and take up weapons you should be ready to die. While your wound is not fatal, you must go on!

– Zuo Zhuan

The Warring States period in China (475-221 B.C.) began when seven states emerged as major powers in China and then fought for dominance. The period ended with the Qin conquering the other states, thus uniting a fragmented, feudal country. The Qin's leader, King Zheng, took the name Qin Shi Huang ("First Qin Emperor"). During his short reign, he secured the northern borders (and started building the Great Wall of China) and expanded his territory to the south. Qin Shi Huang died in 210 B.C. and his Dynasty didn't long survive him. It was supplanted by the Han Dynasty in 206 B.C.

While the tech level of the Chinese during this period is considered Iron Age (TL2), their armor consists of typologies that had remained largely unchanged since the Bronze Age (TL1). An early type of armor was called *ko kia.* It originated in the Chou period (1122-255 B.C.), but saw use through the Qin and Han periods. The *ko kia* consisted of a sleeveless cuirass *(shang lü)* and knee-length fauld *(hia lü),* made of multiple layers of rhinoceros hide, and coated in colored lacquer (usually red or black). When rhinoceros became scarce, buffalo was used instead. The philosopher, Siûn K'ing, also mentions armor made of sharkskin. Lighter cuirasses were sometimes reinforced with antler *(jung kia).* During the Warring States period, bronze scales were attached to a leather backing. This, in turn, was superseded by lamellar, which needed no backing at all.

In 1974, local farmers uncovered some pottery fragments while digging a well about 50 miles east of the city of Xi'an, in Shaanxi province. The fragments turned out to be part of a huge tomb in which the Emperor himself, Qin Shi Huang, was buried with over 7,500 life-size pottery figures of soldiers *(yongshì)* and horses *(ma).* The soldiers' bodies were protected by small rectangular plates, assembled into lamellar armor. Based on other finds, it is likely that most of the armor was rawhide lamellar *(kiai),* probably lacquered in black. However, bronze scale *(tuan kin wei kia)* was worn by some officers and charioteers at the time. If iron lamellar *(k'ai kia)* was worn, it was very rare; it became more common during the Han period. Panels made from smaller lamellar plates cover the abdomen *(shang)* and shoulders *(chi wo ye).* The legs were unprotected but sometimes vambraces *(han)* were worn on the forearms. A thick scarf wrapped around the neck prevented the edges of the cuirass from chafing. Footwear was leather shoes *(xie)* or wooden sandals with square toes. Underneath the armor was a knee-length, long-sleeved cotton tunic *(lei)* and a cotton loincloth *(du bi kun).*

Even though the terracotta soldiers were not sculpted with helmets on their heads, helmets *(tou mou)* were found in a separate burial pit. They are of two main types – either a solid bronze pot helm or an iron lamellar pot helm. Some had neck guards *(ya-hia),* cheek guards, nasals, and crests.

For more information on this period, see ***GURPS China.***

Qin Charioteers

Chariot drivers are more-heavily armored, with a neck guard, loosely laced lamellar sleeves that reach to the wrists, and a longer *shang* that reached almost to the knees. These plates are more likely to have been made of bronze than of hide.

Rhinoceros Hide

The armorers (han jên) make the cuirasses (kia). Those made from the hide of the two-horned rhinoceros (si) consist of seven layers of hide; those made from the hide of the single-horned rhinoceros (se) consist of six layers. Those made from a combination of both hides consist of five layers. The first endure a hundred years; the second, two hundred; the third, three hundred.

– The Chou li

All three types of rhinoceros armor mentioned above can be represented as heavy layered leather (***Low-Tech,*** p. 105) of different qualities. *Si kia* is cheap, *se kia* is good, and *si se kia* is fine. See *Leather of Quality* (***Low-Tech,*** p. 105) for details.

Si kia (torso, thighs): DR 3, $232, 38.5 lbs., Don 34.
Se kia (torso, thighs): DR 4, $578, 38.5 lbs., Don 34.
Si se kia (torso, thighs): DR 5, $2,890, 38.5 lbs., Don 34.

The thigh armor protects the legs on a roll of 5-6 on 1d. It gives -1 to DX for actions involving the legs (see *Leg Armor and DX,* p. 4), and the inside thigh is exposed (see *Armor Gap – Inside Thigh,* p. 4).

Cavalry

During the Warring States period, Chinese cavalry started to adopt clothing that was very similar to the Central Asian nomads in the north – including trousers *(tao-ku),* long-sleeved jacket *(ao-zi),* and leather boots *(xue).* On the chest was worn a lamellar cuirass *(tuan kin wei kia).* The trousers and jacket were thick enough to provide DR; treat as padded cloth (***Low-Tech,*** pp. 103-104).

Shields

There were many types of shield *(tun).* A small one used on chariots was called *kie tun* (small shield). The standard infantry shield was called *pu tun* (foot shield), which was tall and rectangular with a vertical spine. Another kind *(pei k'uei),* used mainly by cavalry, was circular, made of wood and hide. The *pang pai* was a pavise-type shield (used for cover instead of active blocking) that could stand up to eight feet in height. Most shields were lacquered in red or sometimes black.

Kie tun: DB 1, $40, 6 lbs., DR 4, HP 15, Cover DR 7.
Pu tun: DB 3, $90, 20 lbs., DR 4, HP 22, Cover DR 9.
Pei k'uei: DB 2, $60, 14 lbs., DR 4, HP 20, Cover DR 9.
Pang Pai: DB n/a, $120, 27 lbs., DR 4, HP 24, Cover DR 10.

Horses

During the Warring States and Qin periods, horse armor *(ma k'ai)* was rare. It isn't until the Han period that it became more common. When armored, the horse was completely covered in panels made of hide or metal lamellar. Use *Mongol Heavy Horse Loadout* (p. 32).

The victorious army is like pent-up waters released, bursting through a deep gorge.

– Sun Tzu

Qin Infantry Loadout (TL1)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Lei*	torso, arms, thighs	0	$94	3.1	30	
Corselet	*Kiai*	chest	3	$165	19.5	23	
Fauld	*Shang*	abdomen	3	$55	6.5	8	
Pauldrons	*Chi wo ye*	shoulders	3	$22	2.6	3	[1]
Shoes	*Xie*	feet	1*	$40	2	10	
Helmet	*Tou mou*	skull, cheeks, ears, nose	5	$143	7.9	6	[2, 3, 4]
TOTAL	**–**	**–**	**–**	**$519**	**41.6**	**80**	

Notes

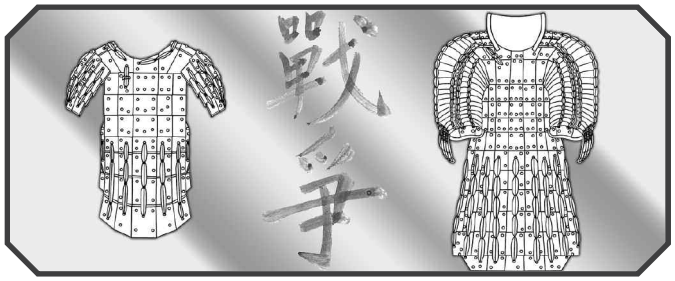
[1] Protects the arms on a roll of 6 on 1d.
[2] Gives Hard of Hearing (p. B138).
[3] -1 DR vs. *crushing.*
[4] Protects the face on a roll of 2-5 on 1d.

Qin Charioteer Loadout (TL1)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Lei*	torso, arms, thighs	0	$468	3.1	30	
Corselet	*Tuan kin wei kia*	chest	4	$1,650	21	23	
Fauld	*Shang*	abdomen, thighs	4	$1,540	19.6	21	[1, 2, 3]
Armored Sleeves	*Chi wo ye*	arms	3	$640	8	15	
Neck Guard	*Ya-hia*	neck	4	$110	1.4	3	
Shoes	*Xie*	feet	1	$40	2	10	
Helmet	*Tou mou*	skull, cheeks, ears, nose	7	$2,410	6	9	[4, 5]
TOTAL	**–**	**–**	**–**	**$6,858**	**61.1**	**111**	

Notes

[1] -1 to DX for actions involving the legs (see *Leg Armor and DX,* p. 4).
[2] Protects the legs on a roll of 5-6 on 1d.
[3] Inside thigh is exposed when on foot (see *Armor Gap – Inside Thigh,* p. 4).
[4] Gives Hard of Hearing (p. B138).
[5] Protects the face on a roll of 2-5 on 1d.



Qin Cavalry Loadout (TL1)

Lamellar layered over padded cloth gives -1 to DX (see *Layered Armor,* ***Low-Tech,*** p. 103).

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Lei*	torso, arms, thighs	0	$94	3.1	30	
Leggings	*Tao-ku*	legs, groin	1*	$50	6	15	
Corselet	*Tuan kin wei kia*	chest	4	$1,650	21	23	
Padded Sleeves	*Ao-zi*	torso, arms	1*	$75	9	23	
Boots	*Xue*	feet, shins	0*	$108	2	10	[1]
Helmet	*Tou mou*	skull, cheeks, ears, nose	7	$2,410	6	9	[2, 3]
TOTAL	**–**	**–**	**–**	**$4,387**	**47.1**	**110**	

Notes

[1] +1 DR vs. *cutting.*
[2] Gives Hard of Hearing (p. B138).
[3] Protects the face on a roll of 2-5 on 1d.

Parthian Cataphractus

All parts of their bodies were covered with thick scales, so fitted that the stiff-joints conformed with those of their limbs; . . . arrows that fell upon them could lodge only where they could see a little through tiny openings opposite the pupil of the eye, or where through the tip of their nose they were able to get a little breath.

– Ammianus Marcellinus

While heavy cavalry had been used by other cultures, such as the Thessalians and the Macedonians, the Parthians were the first to fully outfit the horse and rider in heavy armor. The Latin *cataphractus* comes from the Greek *kataphraktos,* which means "fully enclosed." It was very expensive to maintain a force of cataphracts and this task was usually performed by the landowning elite who had the resources to provide armor and horses, and the time to train. Horses had to be strong with good endurance, and the Parthians commandeered the Nisean horse-breeding program of the Medians to supply suitable mounts.

Armor for both rider and horse was iron or bronze scale *(zânopûsh),* though sometimes mail *(zrâdha)* was worn. The rider wore a knee-length scale corselet that was split front and back to enable mounting a horse. It had long sleeves of light scale reaching to the wrist. Clothing was a sleeved, woolen *kaftan* that covered the thighs, and woolen trousers.

The head and face were covered by a close-fitting helmet that left only the eyes exposed. A light scale aventail *(mighfar)* hung from the bottom of the helmet to protect the throat and neck.

The Parthians also made extensive use of more lightly armored horse archers, who were renowned for being able to shoot their bow behind them while retreating (the "Parthian shot"). See *Scythian Horse Archer Loadout* (p. 11) for details.

Shields

Shields *(seppar)* were fairly small, circular, and made of hide. They were strapped to the forearm to free up the left hand so it could help steady the two-handed lance *(kontos),* which was held in a couched position.

Seppar: DB 1, $40, 6 lbs., DR 4, HP 15, Cover DR 7.

Sasanid Persians

The Sasanids, successors to the Parthians, were the last pre-Islamic rulers of the Persian Empire (224-651 A.D.). During this period, they were the main rival to the Roman and early Byzantine Empires. The Sasanid knightly caste was called *Azadan* ("freemen"), and they formed the backbone of the Sasanid military, which extensively utilized cavalry – both heavy and light. The Romans used the terms *cataphractus* and *clibanarius* to refer to Sasanid heavy cavalry, and they were equipped very similarly to their Parthian predecessors and their Byzantine rivals – wielding both the lance and the bow, and wearing heavy scale or mail armor. Use the *Parthian Cataphractus Loadout* (below) or the *Byzantine Kataphraktos Loadout* (p. 22). The Sasanians also made extensive use of light cavalry – mainly horse archers and skirmishers (use *Mongol Light Cavalry Loadout,* p. 32).

Horses

Horse armor was constructed in sections, with panels of scales covering the animal's head, neck, shoulders, waist, and flank. Each panel overlapped its neighbor; they were laced together and strapped to the horse. Use *Byzantine Heavy Horse Loadout* (p. 23).

Parthian Cataphractus Loadout (1st Century B.C. to 1st Century A.D.) (TL2)

Common Name	Ethnic Name	Location	DR	Cost	Weight	Don	Notes
Tunic	*Kaftan*	torso, arms, thighs	0	$468	3.1	30	
Pants	–	legs	0	$240	1.6	15	
Corselet	*Zânopûsh*	torso, thighs, knees	4	$1,100	56	60	[1, 2, 3]
Armored Sleeves	–	arms	3	$160	8	15	[1]
Gauntlets	–	hands	3	$32	1.6	10	[1]
Boots	–	feet, shins	0*	$108	2	10	[4]
Helmet	–	head, face	5	$465	4.4	14	[5]
Aventail	–	neck	3	$16	0.8	–	[1, 6]
TOTAL	**–**	**–**	**–**	**$2,589**	**77.5**	**154**	

They placed great confidence in their armor, which was very strong and secure.

– Emperor Aurelian

Notes

[1] -1 DR vs. *crushing.*

[2] -1 to DX for actions involving the legs (see *Leg Armor and DX,* p. 4).

[3] Inside thigh is exposed when on foot (see *Armor Gap – Inside Thigh,* p. 4).

[4] +1 DR vs. *cutting.*

[5] Protects the face on a roll of 2-6 on 1d.

[6] Protects the face on a roll of 1 on 1d.

Republican Roman Legionary

We march to war completely armed: our heads are covered with helmets, our breasts with cuirasses, and our whole bodies with large rounded shields. Wherever the enemy may strike, he will encounter a covering defense.

– Titus Caesar

Before the fourth century B.C., virtually all warfare on the Italian peninsula was conducted with Greek-style phalanxes (use early hoplite and late hoplite loadouts, p. 13). In 390 B.C., Rome suffered a crushing defeat at the hands of the Gauls. This prompted a reorganization of the military by Marcus Furius Camillus. Instead of the phalanx, Camillus introduced the *maniple* which was smaller, more maneuverable, and divided into three battle lines – *hastati, principes,* and *triarii.*

The *hastati* were the poorest of the heavy infantry (Status -1). They fought with spears *(hastae)* and large shields *(scutae)*. These were the youngest and least-experienced men who stood at the front of the formation with support from javelin-wielding skirmishers *(velites)*. The hastati usually wore no armor apart from a bronze helmet *(cassis)* with cheek guards *(mandibulars)* and a crest *(crista)* of three upright black or purple feathers. Some had a small bronze chest protector *(pectorale)* covering the upper chest (see *Pectorals,* in box below) and a single shin greave *(ocrea)* on the leading leg. Everyone wore a linen tunic *(tunica)* and loincloth *(subligaculum)* underneath, along with military boots called *caligae* (below).

The *principes* stood next in line. If the hastati failed to break the enemy, they would fall back to allow the principes to take their place. Like the hastati, the principes were armed with spear and large shield. Being more wealthy (Status 0), they were more likely to have been equipped with body armor. Those with the means wore bronze breastplates *(demi-thorax),* and their shins and knees were protected with bronze greaves *(ocrea)*. A bronze helmet *(cassis)* covered the head and cheeks (but not the ears), adorned with the same feather crest *(crista)* as the hastati.

The *triarii* stood behind the principes. They were the oldest, wealthiest, and most-experienced troops (Status 1). If the principes failed to defeat the enemy, they would fall back and allow the triarii to take over. It was seen as a desperate battle if the triarii entered the fray, because it meant that both the hastati and the principes had been overcome. The triarii fought as Greek hoplites in tight phalanx formation, with spears *(hastae)* and round Argive shields *(clipei)*. Being the wealthiest and best equipped of the infantry, *every* member wore a bronze cuirass *(thorax)* with *pteruges,* greaves *(ocrea)* and full helmet *(galea);* use *Early Hoplite Loadout* (p. 13).

The richest troops (Status 2 or 3) formed the cavalry *(equites)*. Their armor was the same as the triarii but with enclosed boots *(calcei)* instead of *caligae,* and trousers *(braccae)* covering their legs.

The *velites* were even poorer than the hastati (Status -1) and could not afford to serve in the ranks. They were skirmishers armed with shortsword, javelins, and medium round shield *(parma)*. Velites had no armor.

For more information on this period, see ***GURPS Imperial Rome.***

Caligae

Roman military boots were called *caligae.* They were worn by most infantry, including centurions, and saw continuous use throughout the Republican and Imperial periods. Although *caligae* resemble sandals and are called "sandals" in most books, they are more properly classed as a boot. They are made of leather, laced up the center of the foot, and tied to the leg above the ankle. Their open, sandal-like construction is designed to facilitate air flow (to prevent foot diseases) and reduce the likelihood of blisters on long marches. The soles were reinforced with iron studs to reduce wear (see *Hobnails,* ***Low-Tech,*** p. 98). In cold weather, infantry sometimes added woolen socks. $50, 1.5 lbs.

Pectorals

A pectoral is a small chest plate that guards against attacks on the vitals. It also has a chance of protecting the upper chest (location 9 but not 10), which can be targeted at -1; this increases with the plate's size. Historical examples usually covered the front, not the back, and were held in place by straps.

Use the table below with the following statistics:

Odds of Protection: Odds on 1d that the DR protects against a hit on location 9 from the front. It *always* protects the vitals from the front!

Cost/Weight: Percentage of cost and weight of equivalent torso armor (***Low-Tech,*** pp. 110-111) for a plate this big.

Penalty: Additional penalty to avoid the pectoral, beyond that to target the upper chest (-1), for a net -2 to -4. If using *Targeting Chinks in Armor* (p. B400), vitals protected by a pectoral are targeted at -7 plus this penalty (so at -8 to -10); success halves DR.

Odds of Protection	***1/6***	***2/6***	***3/6***	***4/6***	***5/6***
Cost/Weight	5%	7%	10%	13%	16%
Penalty	-1	-1	-2	-2	-3

Example: Bronze plate with DR 5 is $8,000 and 16 lbs. for the torso. A typical Roman pectoral of this material has 3/6 odds of protecting location 9 from the front. It uses 10% of this cost and weight: $800, 1.6 lbs. An attack to the upper chest aimed at avoiding it takes -3; one targeting chinks in armor on the vitals takes -9.

Shields

The Roman panoply consists firstly of a shield (scutum), the convex surface of which measures two and a half feet in width and four feet in length, the thickness at the rim being a palm's breadth. It is made of two planks glued together, the outer surface being then covered first with cloth and then with calf-skin. Its upper and lower rims are strengthened by an iron edging which protects it from descending blows and from damage when rested on the ground. It also has an iron boss (umbo) fixed to it which turns aside the most formidable blows of stones, spears, and heavy missiles in general.

– Polybius, ***The Histories***

During this period, the *scutum* was long and oval-shaped. It had a central handgrip, an iron boss, and a strap for carrying it on the back. Treat as a large Roman scutum (***Low-Tech,*** p. 115).

Republican Scutum: DB 3, $200, 22 lbs., DR 4, HP 27, Cover DR 10.

Camillan Triarius Loadout

Use *Early Hoplite Loadout* (p. 13).

Camillan Hastatus Loadout (TL2)

The soldier will not be permitted to fight without a helmet, but the pectoral and leg greave are optional. The loadout will be much cheaper without these additions.

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Tunica*	torso	0	$24	1.6	15	
Pectoral	*Pectorale*	vitals (front)	4	$600	1.2	5	[1]
Greave	*Ocrea*	shin, knee (one leg)	3	$1,100	2.2	13	[2]
Sandals	*Caligae*	feet (bottom)	1	$50	1.5	10	[3]
Helmet	*Cassis*	skull, cheeks	4	$910	4	9	[4, 5]
TOTAL	**–**	**–**	**–**	**$2,684**	**10.5**	**52**	

Notes

[1] Protects the upper chest (area 9) on a roll of 1-3 on 1d (see *Pectorals,* p. 18).

[2] Protects the leading leg on a roll of 1-4 on 1d.

[3] Ignores penalties for bad footing (see *Hobnails,* ***Low-Tech,*** p. 98).

[4] Protects the face on a roll of 4-5 on 1d.

[5] +1 SM for Intimidation (see ***Low-Tech,*** p. 113).

Camillan Principe Loadout (TL2)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Tunica*	torso	0	$48	1.6	15	
Breastplate	*Demi-Thorax*	chest (front)	4	$2,250	4.5	17	
Greaves	*Ocrea*	shin, knee	3	$2,200	4.4	25	[1]
Sandals	*Caligae*	feet (bottom)	1	$50	1.5	10	[2]
Helmet	*Cassis*	skull, cheeks	4	$910	4	9	[3, 4]
TOTAL	**–**	**–**	**–**	**$5,458**	**16**	**76**	

Notes

[1] Protects the legs on a roll of 1-4 on 1d.

[2] Ignores penalties for bad footing (see *Hobnails,* ***Low-Tech,*** p. 98).

[3] Protects the face on a roll of 4-5 on 1d.

[4] +1 SM for Intimidation (see ***Low-Tech*** p. 113).

Polybian Legionary

By the time of the second Punic war (late third century B.C.) the Roman army fought as described by Polybius in his work, *The Histories*. The thrusting spear had been discarded in favor of the shortsword *(gladius)* and throwing spear *(pilum),* while the triarii discarded the *clipeus* in favor of the larger and heavier *scutum* that the other troops used. Mail armor was becoming more popular than bronze plate. The Romans had adopted mail from the Gauls; known as *lorica hamata,* it was fashioned in the Greek style with wide shoulder flaps attached to the breast. The mail was edged in leather and it is likely that this formed part of an integrated padded liner, so there was no need for a separate padded garment underneath. A scarf called a *focale* was worn to stop armor from chafing the neck. Cloaks were also worn while on campaign – in warmer weather the *sagum* was used, while the heavier, hooded *paenula* was worn in colder climates.

Shields

Polybian shields are the same as those carried by Camillan principes (above). Treat as a large Roman scutum (***Low-Tech,*** pp. 115-116).

Republican Scutum: DB 3, $200, 22 lbs., DR 4, HP 27, Cover DR 10.

Polybian Principe/Triarius Loadout (TL2)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Tunica*	torso	0	$48	1.6	15	
Scarf	*Focale*	neck	0	$5	0.2	3	
Cloak	*Sagum*	torso, thighs (back)	0	$59	2	19	
Mail Shirt	*Hamata*	torso, shoulders	5*	$1,320	19.8	17	[1]
Greaves	*Ocrea*	shin, knee	3	$2,200	4.4	26	[2]
Sandals	*Caligae*	feet (bottom)	1	$50	1.5	10	[3]
Helmet	*Cassis*	skull, ears	4	$910	4	9	[4, 5]
TOTAL	**–**	**–**	**–**	**$4,592**	**33.5**	**99**	

Notes

[1] -2 DR vs. *crushing*.

[2] Protects the legs on a roll of 1-4 on 1d.

[3] Ignores penalties for bad footing (see *Hobnails,* ***Low-Tech,*** p. 98).

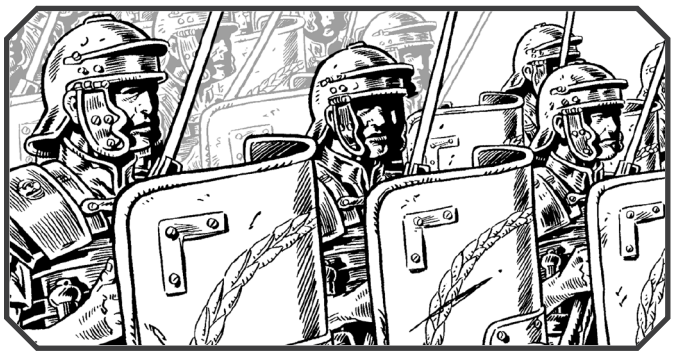
[4] Protects the face on a roll of 4-5 on 1d.

[5] +1 SM for Intimidation (see ***Low-Tech*** p. 113).

Imperial Roman Legionary

Near the end of the first century B.C., the Roman army introduced a new type of armor: a cuirass of segmented iron plates, known today as *lorica segmentata.* This was an early example of munitions armor, issued to men who couldn't afford mail or a bronze cuirass; after the Marian reforms, legionaries' equipment costs were deducted from their pay! This type of armor remained in use for the next three centuries.

Segmentata consisted of cheap-quality segmented plate covering the chest and shoulders. Under this went a lightly padded *subarmalis,* with heavily padded shoulders and a kilt of overlapping quilted linen strips *(pteruges)* covering the abdomen. Under this was a regular linen tunic *(tunica)* and loincloth *(subligaculum).* A scarf called a *focale* was worn to stop armor from chafing the neck. Cloaks *(sagum, paenula)* were also worn (see *Polybian Legionary,* pp. 19-20). On the legionary's legs and feet, he wore iron knee-length greaves *(ocreae)* and hobnailed sandals *(caligae).*



Although the *cassis* had changed shape from Republican times, it still had cheek guards *(mandibulars)* and a crest *(crista),* but now it was more likely to be made from iron rather than bronze.

Not So Cheap

Occasionally, armor and helmets were better quality. A good-quality *segmentata* would have DR 4, cost $765, and weigh 20.4 lbs. Good quality *ocrea* would have DR 4, cost $825, and weigh 6.6 lbs. A good-quality *cassis* would have DR 5, cost $360 and weigh 4.8 lbs.

Shields

By this time, the *scutum* had been shortened, and the edges squared off. It was made with laminated birch, covered with leather and faced with linen. The edge was reinforced with rawhide rather than iron. Treat as a medium Roman scutum (***Low-Tech,*** pp. 115-116).

Imperial Scutum: DB 2, $140, 16 lbs., DR 4, HP 25, Cover DR 10.

Imperial Legionary Loadout (TL2)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Tunica*	torso	0	$48	1.6	15	
Scarf	*Focale*	neck	0	$5	0.2	3	
Cloak	*Sagum*	torso, thighs (back)	0	$60	2	20	
Corselet	*Segmentata*	chest, shoulders	3	$306	20.4	39	[1]
Kilt	*Pteruges*	abdomen	2*	$38	3	5	
Greaves	*Ocrea*	shin, knee	3	$330	6.6	25	[2]
Sandals	*Caligae*	feet (bottom)	1	$50	1.5	10	[3]
Helmet	*Cassis*	skull, cheeks	4	$162	4.8	9	[4, 5]
TOTAL	**–**	**–**	**–**	**$999**	**40.1**	**126**	

Notes

[1] Protects the arms on a roll of 6 on 1d.

[2] Protects the legs on a roll of 1-4 on 1d.

[3] Ignores penalties for bad footing (see *Hobnails,* ***Low-Tech,*** p. 98).

[4] Protects the face on a roll of 4-5 on 1d.

[5] +1 SM for Intimidation (see ***Low-Tech,*** p. 113).

Byzantine Eastern Roman Legionary

Some of our men saw him . . . and attacked him with lances, driving in on both flanks, but the iron shafts proved ineffective . . . Meanwhile he budged in neither direction, for as they pushed him with equal force this way and that, he remained poised and balanced in the middle. To Isaac this seemed a favorable omen, when attacks from right and left both failed to dislodge him.

– Michael Psellos, ***Chronographia***

The Byzantine army had two key components – the *skoutatoi* and the *kataphraktoi.* ***GURPS Hot Spots: Constantinople, 527-1204 A.D.*** offers more details about this era.

Skoutatos

These soldiers formed the bulk of the Byzantine army. They were heavy infantry named after the large shield *(skouton)* they carried. The *skoutatoi* were trained to coordinate with mixed units including archers *(toxotai)* and cavalry *(kataphraktoi).* The Byzantines are alleged to have been the first to adopt combined-unit task forces as part of their military doctrine called the *Strategikion.*

Clothing consisted of a sleeveless tunic *(chiton)* and sturdy shoes *(arbuleh).* For armor, the state issued a long-sleeved padded garment *(kabadion, skaramangion)* that covered the torso and arms. Quilted cloth strips *(pteruges)* were attached to the shoulders to cover the upper arms and to the bottom edge to cover the thighs. The front ranks were also issued an iron lamellar cuirass *(klibanion)* and splint greaves *(podopsella, chalkotuba)* made of iron or wood. Some also had splint vambraces on their forearms *(cheiropsella, manikellia).* A domed or conical helmet *(kassidion)* made of iron protected the head; some had a leather aventail.

Sometimes this was all covered with a sleeveless garment *(epilôrikion)* made of layered cloth with an outer layer of leather – or a padded skirt reinforced with splints *(kremasmata)* was worn for additional abdominal protection. Soldiers with heavier armor were permitted to ride mules when on the march.

Options

The *klibanion* and limb guards *(cheiropsella* and *podopsella)* were usually only issued to those in the front ranks. If anyone else wanted this armor they would have to purchase it themselves, though mail was preferred by those who had the wealth to buy their own metal armor.

Both the *epilôrikion* and the *kremasmata* are optional, and they were rarely worn together. Replacing the *epilôrikion* with the *kremasmata* (below) changes the loadout total to $1,451, 82.2 lbs., Don 134.

Kremasmata (abdomen): DR 1*, $16, 1.9 lbs., Don 5, [4].

The *klibanion, kabadion,* and *kremasmata* combination gives DR 5 (DR 4 vs. *crushing*) on the chest and DR 2* (DR 3 vs. *cutting*) on the abdomen. The *kabadion, klibanion,* and *epilôrikion* one gives DR 8 (DR 7 vs. *crushing*) on the chest; this is *three* layers of armor, though, for -2 to DX (see *Layered Armor,* ***Low-Tech,*** p. 103).

Shields

The *skouton* (or *skutos*) was initially oval-shaped, made of wood, with hide facing and metal reinforcing, but the Byzantines later adopted the kite shield (***Low-Tech,*** p. 116) around the same time as western Europe, or even a little earlier.

Skoutos: DB 2, $60, 14 lbs., DR 4, HP 20, Cover DR 9.
Kite Shield: DB 3, $120, 18 lbs., DR 4, HP 21, Cover DR 9.

Byzantine Skoutatos Loadout (TL2)

The *pteruges* and the *kabadion* both cover the upper arms, giving DR 3* in this location. The *klibanion* is layered over the *kabadion,* resulting in DR 5 on the chest and -1 to DX (see *Layered Armor,* ***Low-Tech,*** p. 103).

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Chiton*	torso	0	$48	1.6	15	
Torso Padding	*Kabadion*	torso, arms	1*	$75	9	23	
Shoulder Guards	*Pteruges*	shoulders, upper arms	2*	$30	2.4	6	[1]
Kilt	*Pteruges*	thighs	2*	$68	5.4	9	[2]
Corselet	*Klibanion*	chest	4	$550	28	30	[3]
Jack	*Epilôrikion*	torso	3	$350	20	30	
Vambraces	*Cheiropsella*	forearms	3	$88	5	8	[4, 5]
Greaves	*Podopsella*	shins	3	$219	22.5	19	[4, 6]
Shoes	*Arbuleh*	feet	1	$40	2	10	
Helmet	*Kassidion*	skull	5	$310	3.6	9	
Aventail	–	face (back), neck	3*	$7	0.8	–	[7]
TOTAL	**–**	**–**	**–**	**$1,785**	**100.3**	**159**	

Notes

[1] Protects the arms on a roll of 5-6 on 1d.
[2] Protects the legs on a roll of 5-6 on 1d.
[3] -1 DR vs. *crushing.*
[4] +1 DR vs. *cutting.*
[5] Protects the arms on a roll of 1-3 on 1d.
[6] Protects the legs on a roll of 1-3 on 1d.
[7] -2 DR vs. *crushing.*

Kataphraktos

The pride of the Byzantine Empire, the Imperial Cataphract was a bow- and lance-wielding heavy cavalryman. While capable of frontal assaults, where they would adopt a wedge formation, the *kataphraktoi* preferred flanking and enveloping tactics. They would open with arrow volleys followed by a lance charge when the enemy line started to falter. If the enemy was too strong, they would charge and withdraw, firing arrows as they retreated (the "Parthian shot"), hoping to draw some of the enemy out of line.

Armor consisted of a hooded, long-sleeved, mail hauberk *(lôrikion halysidoton)* or scale corselet *(lôrikion folidoton)* that reached as low as the ankles and was split front and back to facilitate mounting a horse. Some wore a quilted *epilôrikion* over the top for additional protection. Gauntlets *(cheiromanikia)* consisted of leather gloves backed with mail. Splinted greaves *(podopsella)* were strapped over soft leather boots *(endromides)* to protect the shins. According to the *Strategikion,* they carried a tool kit for repairing their own armor.

Helmets *(kassidion)* were domed or conical, and crested with horsehair that was dyed the color of the wearer's unit. Many helmets had a mail mask that covered all of the face except for the eyes. Some helmets had a crest in the form of small flags on either side. Horse armor was similarly decorated.

Options

The mail *halysidoton* could be replaced with the scale *folidoton.* It provides the same complete coverage (head, torso, arms, thighs, knees). Use the *Parthian Cataphractus Loadout* (p. 17).

Shields

The small round shield *(thyreos)* was painted in the unit colors and insignia of the bearer, and strapped to the left arm. This freed both hands to control the horse and wield weapons.

Thyreos: DB 1, $40, 6 lbs., DR 4, HP 15, Cover DR 7.

Varangian Guard

The Varangians *(Væringjar)* were Scandinavian and Russian adventurers and traders who traveled through Russia and Ukraine into the Byzantine Empire in the eighth and ninth centuries. In 839, Emperor Theophilus negotiated with them to supply mercenaries for his army. By the time of Basil II a century and a half later, the Varangians were serving as the Emperor's personal bodyguard – having proven themselves to be more loyal than the Greeks, since they were aloof from local political and religious intrigues. Scandinavians made up the bulk of the Varangian Guard until the aftermath of the Battle of Hastings (1066), when disinherited Anglo-Saxons wandered east in search of employment.

The armor worn by the Varangians was the same as their northwestern relatives. Use the *Viking Raider Loadout* (p. 24) for 10th-century Varangians and the *11th-Century Húscarl Loadout* (p. 25) for later Varangians.

Byzantine Kataphraktos Loadout (TL2)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Chiton*	torso	0	$48	1.6	15	
Torso Padding	*Kabanion*	torso, arms	1*	$75	9	23	
Corselet	*Halysidoton*	torso, arms, thighs, knees	5*	$2,400	36	30	[1, 2, 3]
Coif	*Halysidoton*	head, neck (back)	5*	$360	5.4	5	[1]
Gauntlets	*Cheiromanikia*	hands	3*	$50	1.2	10	[1, 4]
Greaves	*Podopsella*	shins	3	$175	10	15	[5, 6]
Boots	*Endromides*	feet, shins	0*	$108	2	10	[5]
Helmet	*Kassidion*	skull	5	$330	4.6	12	[7]
Aventail	–	head, neck	3*	$15	0.4	–	[1]
TOTAL	**–**	**–**	**–**	**$3,561**	**70.2**	**120**	

Notes

[1] -2 DR vs. *crushing.*
[2] Protects the legs on a roll of 4-6 on 1d.
[3] Inside thigh is exposed when on foot (see *Armor Gap – Inside Thigh,* p. 4).
[4] Gives Ham-Fisted 2 (p. B138).
[5] +1 DR vs. *cutting.*
[6] Protects the legs on a roll of 1-3 on 1d.
[7] +1 SM for Intimidation (see ***Low-Tech,*** p. 113).

Kataphraktoi *wear hooded coats of mail reaching to their ankles, which can be tied up by thongs and rings.*

– Strategikion

Horses should wear protective pieces of iron armor about their heads, and trappers of iron or felt, or else breast and neck coverings such as the Avars use.

– Strategikion

Horses

Even Byzantine horses were heavily armored. Barding included felt, layered cloth *(kentukla),* leather, mail *(zabai),* or scale/lamellar. Some horses were armored like the Avars with lamellar or felt covering the head, neck, and forequarters. Some horses were completely covered with a trapper of cloth, felt, mail, or scale (metal or leather).

Byzantine Light Horse Loadout (TL2)

The crinet and peytral are layered over the *kentukla,* which results in DR 5 (DR 4 vs. *crushing*) on the neck and front of the torso, as well as -1 to DX for layered armor (see ***Low-Tech,*** p. 103).

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Padded Caparison	*Kentukla*	neck, torso, upper legs	2*	$750	60	100	[1]
Chanfron	–	head	3	$160	8	15	[2]
Crinet	–	neck	3	$160	8	15	[2]
Peytral	–	torso (front)	3	$320	16	30	[2]
TOTAL	**–**	**–**	**–**	**$1,390**	**92**	**160**	

Notes

[1] Protects the legs on a roll of 3-6 on 1d.
[2] -1 DR vs. *crushing.*

Byzantine Heavy Horse Loadout (TL2)

The mail caparison was layered over the *kentukla,* resulting in a DR of 5* on the neck, torso, and legs, but -1 to DX for layered armor (see ***Low-Tech,*** p. 103).

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Padded Caparison	*Kentukla*	neck, torso, upper legs	2*	$750	60	100	[1]
Chanfron	–	head	3*	$250	6	8	[2]
Caparison	–	neck, torso, upper legs	3*	$2,500	60	75	[1, 2]
TOTAL	**–**	**–**	**–**	**$3,500**	**126**	**183**	

Notes

[1] Protects the legs on a roll of 3-6 on 1d.
[2] -2 DR vs. *crushing.*

Scale Mail?

One type of mail unique to the Romans is a construction consisting of small metal scales attached to a backing of mail. It has erroneously been called *lorica plumata* but a more accurate term would be *lorica hamata squamataque.* Each scale is bent at 90° along the top. There are four holes in this bent section through which the mail links are threaded. Just like regular Roman mail, the backing consists of alternate rows of solid and riveted links.

What is unusual is the incredibly small size of all of the components. Each ring could have a diameter as small as 1/8" and the scales were 1/4" by 3/8". A reconstruction of one of these armors required an estimate of 20,000 scales and 160,000 links to complete. The intricate assembly meant that even a skilled armorer couldn't manage more than around 40 scales per day, so he would need 500 days to make one garment! There is no doubt that it was an extremely expensive armor limited to the elite of Roman society. There are perhaps a dozen surviving examples in the archaeological record from all parts of the Roman Empire, including Italy, Germany, Britain, and Turkey.

The scales are very thin and the armor is just as flexible as regular mail, so in ***GURPS Low-Tech,*** it should be treated as a type of mail, not a type of scale, but it should be assigned TL3 like mail and plates (see ***Low-Tech,*** p. 107). The following statistics are for the chest and abdomen:

Hamata Squamataque: TL3, DR 5* (DR 3 vs. *crushing*), $2,000, 16 lbs., Don 15.

Viking Raider

King [Harald] himself had a coat of mail called "Emma" that reached to the knees and was so strong that no weapon could bite into it.

– *Ljósvetninga Saga*

The Viking era is the period between the eighth and 11th centuries when Scandinavian explorers and adventurers traveled the waterways in their longships for trade and plunder. The word "viking" *(víkingr)* referred to one of these overseas expeditions. They were adept at amphibious warfare; their longboats had shallow drafts that enabled them to row up small inlets and rivers, taking nearby settlements by surprise. Tactics involved attacking any individuals who might pose a threat, grabbing as much loot and as many slaves as possible, and then leaving before any serious resistance could be mustered.

Only the most wealthy Vikings (Status 2+) wore armor. Most had little more than a shield and a helmet. There is little evidence for cloth or leather armor. Those who had the means owned a thigh- or knee-length mail shirt *(brynja, brynje)* with elbow-length sleeves. It was cinched at the waist by a belt and worn over a long-sleeved shirt *(kyrtil)* and pants *(brók)*. Shoes *(skór)* were ankle-length and made of leather. Helmets *(hjálmr)* were simple pot helms of *spangenhelm* construction with a nasal *(nasbjargir)* and occasional spectacles or cheek guards *(kinnbjargir)*. A mail aventail *(halsbiorg)* protected the neck.

For character and adventure ideas related to this period, see ***GURPS Vikings*.**

Helm Options

Some helms were fitted with additional face protection such as spectacles or cheek guards:

Spectacles: DR 4, $15, 0.1 lb., protects face on a roll of 6 on 1d, gives No Peripheral Vision (p. B.151).

Cheek Guards: DR 4, $45, 0.4 lb., protects face on a roll of 3-5 on 1d, gives Hard of Hearing (p. B138).

Shields

Viking shields *(skjildi)* were circular and lightweight with an iron boss and central handgrip. The stats for a light medium shield would be most appropriate, but this shield should only be permitted if *Damage to Shields* (p. B484) is in use. Otherwise, give Vikings a heavy medium shield (see ***Low-Tech,*** p. 114).

Skjildi, Light: DB 2, $45, 7 lbs., DR 2, HP 16, Cover DR 6

Skjildi, Heavy: DB 2, $60, 14 lbs., DR 4, HP 20, Cover DR 9

Viking Raider Loadout (TL2)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Shirt	*Kyrtil*	torso, arms	0	$360	2.4	23	
Pants	*Brók*	legs	0	$240	1.6	15	
Mail Shirt	*Brynja*	torso, shoulders, upper arms	5*	$1,440	21.6	21	[1, 2]
Shoes	*Skór*	feet	1	$40	2	10	
Helmet	*Hjálmr*	skull, nose	5	$325	3.7	12	[3]
Aventail	*Halsbiorg*	neck	5*	$60	0.9	–	[1]
TOTAL	**–**	**–**	**–**	**$2,465**	**32.2**	**81**	

Notes

[1] -2 DR vs. *crushing*.

[2] Protects the arms on a roll of 5-6 on 1d.

[3] Protects the face on a roll of 2 on 1d.

Odin's men rushed forwards without armor, were as mad as dogs or wolves, bit their shields, and were strong as bears or wild oxen, and killed people at a blow, but neither fire nor iron told upon them. This was called Berserkergang.

– *Ynglinga Saga*

Anglo-Saxon Húscarl

Then girt him Beowulf in martial mail,
nor mourned for his life.
His armor broad and brightly shined,
woven by hand, should the waters try;
well could it ward the warrior's body
that battle should break on his breast in vain
nor harm his heart by the hand of a foe.

– Beowulf

Húscarl ("house man"), a term borrowed from the Scandinavians, originally described a lord's household retainer. By the 11th century in Anglo-Saxon England, these húscarls had evolved into a professional fighting force of up to 3,000 (Status 2) men, housed and fed by the king, and paid for by a special tax. The húscarls were treated as an independent guild and had their own laws. Disputes and issues of discipline were handled internally. When not at war, the húscarls served as public servants – collecting taxes, witnessing charters, arresting criminals, protecting VIPs, and so on. After the Norman invasion in 1066, many surviving húscarls crossed to the Continent to be employed as mercenaries. Some served the Byzantine Emperor in the *Varangian Guard* (p. 22).

Húscarls were expected to supply their own armor and weapons (though the king would reward exceptional service with gifts). The king could dismiss them if their gear was not of an appropriate standard, so húscarls acquired the best equipment they could afford. Armor consisted mainly of mail *(byrne)* worn over a woolen shirt *(cyrtel)* and pants *(bróc)*. Ankle-height leather shoes *(sceó)* covered the feet. Earlier *byrnies* stopped at the elbows and thighs, but later ones covered the elbows and knees. Separate leg armor was very rare. Some later hauberks had an integrated mail hood to cover the head. On top of this was a conical helmet *(helm)* with a nasal *(nasbeorh)* and sometimes cheek guards *(buccala)*. Some helms had a mail aventail called a *healsbeorh*.

Shields

Shields *(scyld)* initially consisted of circular "saxon" shields (see *Viking Raider Loadout,* p. 24), but later the húscarl adopted this inverted-teardrop kite shield:

Scyld: DB 3, $120, 18 lbs., DR 4, HP 21, Cover DR 9.

10th-Century Húscarl Loadout (TL2)

Use *Viking Raider Loadout* (p. 24).

Sutton Hoo Helmet

Sutton Hoo is the site of two Anglo-Saxon cemeteries in which was found an undisturbed Anglo-Saxon ship burial, dating to the first half of the seventh century. It is believed that Rædwald, ruler of East Anglia, was buried in the ship along with his personal possessions. The site yielded a wealth of artifacts, including the rusted remains of a mail *byrne;* one unusual feature is that the mail links were closed with copper rivets rather than iron. However, the most astounding find at Sutton Hoo was an iron helmet, intricately ornamented in tin and bronze, complete with neck guard, ear guards, and full face visor (with nose, mustache, and eyebrow decoration). It resembles several Swedish examples dating to the same time period but is more elaborate.

The base statistics are as follows:

Pot Helm (skull): DR 4, $300, 2.4 lbs. Don 9.
Neck Guard (neck (back)): DR 4, $45, 0.4 lb.
Visor (face), DR 4, $75, 0.6 lb.
Padding: +1 DR, $10, 1.2 lbs.
***TOTAL:* DR 5, $430, 4.6 lbs., Don 9.**

However, the helmet is very elaborately decorated, which increases cost by +9 CF (see *Styling,* ***Low-Tech*** p. 14), boosting its price to a respectable $4,300. The result is an awe-inspiring helmet that covers all of the head leaving only the eyes, throat, and jaw vulnerable. The ear guards give Hard of Hearing (p. B138), and the visor gives No Peripheral Vision (p. B151). The face is protected on a roll of 2-6 on 1d.

11th-Century Anglo-Saxon Húscarl Loadout (TL2)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Shirt	*Cyrtel*	torso, arms	0	$360	2.4	23	
Pants	*Bróc*	legs	0	$240	1.6	15	
Hauberk	*Byrne*	torso, shoulders, upper arms, elbows, thighs, knees	5*	$2,100	31.5	27	[1, 2, 3, 4, 5]
Shoes	*Sceó*	feet	1	$40	2	10	
Helmet	*Helm*	skull, nose, cheeks, ears	5	$355	4	12	[6, 7]
Aventail	*Healsbeorh*	neck	5*	$60	0.9	–	[1]
TOTAL	**–**	**–**	**–**	**$3,155**	**42.4**	**87**	

Notes

[1] -2 DR vs. *crushing.*
[2] Protects the arms on a roll of 4-6 on 1d.
[3] Protects the legs on a roll of 4-6 on 1d.
[4] -1 to DX for actions involving the legs (see *Leg Armor and DX,* p. 4).
[5] Inside thigh is exposed when on foot (see *Armor Gap – Inside Thigh,* p. 4).
[6] Gives Hard of Hearing (p. B138).
[7] Protects the face on a roll of 2-5 on 1d.

Norman Milite

. . . being privily aimed at with an arrow from a distance, though by whose audacity is unknown, he [Henry I] opportunely and fortunately escaped, by the interposition of his firmly linked hauberk.

– William of Malmesbury

The word *Norman* means "North man" – referring to the Vikings who raided and later settled in northern France (renamed "Normandy"). They abandoned their pagan religion, adopting Christianity along with Carolingian feudalism. Within three generations, they were more French than Scandinavian, but many Norman knights were poor and land-hungry. They invaded Sicily in 1060 and England in 1066, and were prominent among the Crusaders who went to the Middle East in search of land and fortune.

At the core of the Norman military machine were the king's household retainers (Status 2), the *familia regis,* who were paid for full-time military service. These cavalrymen *(milite)* were expected to supply their own equipment, but they would be reimbursed for any gear that was lost or damaged in service of their lord. Body armor consisted of a knee-length mail hauberk *(broigne)* that was split front and back to facilitate horse riding. They wore long sleeves that covered most of the forearm. They usually didn't protect their shins, but William the Conqueror is depicted wearing mail leggings. Clothes included a long-sleeved linen tunic *(chainse),* baggy trousers *(braies)* that narrowed to fit snugly above the knee, and *chausses,* which covered the shins and knees, and were held on with crisscrossed bindings. Leather shoes *(çabot/sabot)* covered the feet.

The head was protected by a mail hood *(coife)* that was often integrated into the *broigne,* topped by a conical helmet *(helme)* with a nasal. The helmets were more often made from a solid plate of iron than with a *spangenhelm* construction. Standard padding was worn underneath, just like all helmets, but in this case the arming cap was worn under the coif.

In addition to this, a flap of mail on the chest, called a *ventail,* could be lifted up over the face and tied behind the head to protect the throat and jaw. It made breathing more difficult and limited head movement, though; many less-experienced fighters opted not to wear it, leaving their lower face and throat exposed. The discomfort and restrictiveness should be worth -1 to many physical skills, including combat skills (see *Restrictive Neck Armor,* p. 4).

For more information on this period, see ***GURPS Middle Ages 1.***

Shields

Shields *(escu)* were almost exclusively of the kite variety (***Low-Tech,*** p. 116). The *escu* had a central boss, two arm straps *(enarmes),* a handgrip near the edge, and a strap *(guige)* to sling it over the back.

Escu: DB 3, $120, 18 lbs., DR 4, HP 21, Cover DR 9.

Horses

Horse armor was not employed by the Normans during this period.

11th-Century Norman Milite Loadout (TL2)

The combination of *coife, ventail,* and *nasal* means that the face is protected on a roll of 1-3 on 1d. The combination of padding, *coife,* and *helme* means that the skull has a total DR of 10 (DR 8 vs. *crushing*).

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Shirt	*Chainse*	torso	0	$360	2.4	23	
Leggings	*Braies & Chausses*	legs	0	$240	1.6	15	
Mail Shirt	*Broigne*	torso, arms, thighs, knees	5*	$2,400	36	33	[1, 2, 3, 4]
Padded Cap	–	skull	1	$130	1.5	3	
Coif	*Coife*	head, neck (back)	5*	$390	5.9	6	[1, 5, 6]
Ventail	–	jaw, neck (front)	5*	$60	0.9	3	[1, 7, 8]
Helmet	*Helme*	skull, nose	4	$3,750	2.3	9	[9]
Shoes	*Çabot*	feet	1	$40	2	10	
TOTAL	**–**	**–**	**–**	**$7,370**	**52.6**	**102**	

Notes

[1] -2 DR vs. *crushing.*

[2] Protects the legs on a roll of 4-6 on 1d.

[3] -1 to DX for actions involving the legs (see *Leg Armor and DX,* p. 4).

[4] Inside thigh is exposed when on foot (see *Armor Gap – Inside Thigh,* p. 4).

[5] Protects the face on a roll of 3 on 1d.

[6] Gives Hard of Hearing (p. B138).

[7] Protects the face on a roll of 1 on 1d.

[8] -1 to combat rolls (see *Restrictive Neck Armor,* p. 4).

[9] Protects the face on a roll of 2 on 1d.

This last man cut off the king's thigh and carried it away, but William was much angered by this vile deed and sent the man from his service.

– Baudri of Bourgueil,
The Battle of Hastings

The Crusades

The Franks smote him with their lances, overthrowing him, and they smote his horse. Reversing their lances, they then began to stab into him with them. But Khitâm was wearing a coat of mail, the links of which were so strong that their lances could have no effect on it.

– Memoirs of Usâmah Ibn-Munqidh

By the end of the 11th century, the Seljuq Empire occupied all the center of Asia Minor, leaving only Lesser Armenia under Byzantine control. This encroachment into the Byzantine sphere of influence is one of the reasons why Pope Urban called the First Crusade (using the loss of Jerusalem to help rally support). But by the time the Crusaders arrived in 1098, the Seljuq Empire had already started to break up. Seljuq officers in control of Mesopotamia and Syria had declared themselves independent, and further east, various Seljuq houses squabbled over territory. There was no coherent force capable of resisting the Europeans when they established a succession of Crusader States in Anatolia (including the recapture of Jerusalem), calling the region "Outremer." The Europeans were able to exploit Seljuq dissension and maintain control of Outremer for the next half a century.

In Arabia at this time, most of the fighting was conducted by foreigners. Only the more provincial Arab nobility was interested in warfare. The Turks provided horse archers and the Kurds had the best heavy cavalry. Heavy infantry was composed mainly of ex-slave warriors called *Ghulams* (see *Turkic Mamluks,* p. 30). It was a Turk named Imad al-Din Zangi, ruler of Damascus, who forged a coalition of Muslim cities and presented a challenge to the Crusader States. His son, Nur al-Din, conquered Edessa in 1144 and drove out the Franks, which led to the launch of the Second Crusade in 1145. By the time it ended, the Crusaders had failed to retake Edessa and Nur al-Din was in control of both Damascus and a unified Syria. He then gained control of Egypt and installed a promising Kurdish commander named Salah al-Din *(Saladin)* as vizier. Shortly afterward, Nur al-Din died and Saladin was elected Sultan of both Egypt and Syria, and founded the Ayyubid dynasty. After the Battle of Hattin in 1187, Saladin had captured both Acre and Jerusalem, leaving just Antioch and Tripoli in Crusader control. This led to the Third Crusade and the famous conflict between Saladin and Richard the Lionheart.

For more information on this period, including character notes and templates, see ***GURPS Crusades.***

Usâmah's *Kazaghand*

Usâmah Ibn-Munquidh wrote about wearing a *kazaghand* constructed of two layers of mail during an incident when Saladin admonishes him for not donning his armor before a battle. He replies:

By Allah I can not put on anything more. We are in the early part of the night and my kazaghand is furnished with two coats of mail, one on top of the other. As soon as I see the enemy I shall put it on.

After the battle, he demonstrates the armor's construction to Saladin:

I pulled out my knife and ripped it at the breast and disclosed the side of the two layers of mail. The kazaghand enclosed a Frankish coat of mail extending to the bottom of it, with another coat of mail on top of it reaching as far as the middle. Both were equipped with the proper linings, felt pads, silk stuffing, and rabbits' fur.

This would be treated as concealed armor (see ***Low-Tech,*** p. 102) with two layers of mail. The Frankish mail would be heavy mail with DR 5/3* covering the torso ($1,200, 18 lbs.) and the arms ($600, 9 lbs.). The other layer would be *light mail* covering the chest only (DR 3/1*, $375, 9 lbs.). This gives a total DR of 8/4* on the chest and 5/3* on the abdomen and arms. The armor layering rules (***Low-Tech,*** p. 103) give the wearer -1 to DX.

Seljuq Saracen

The armor of the Seljuq nobility was similar to the armor of European nobility. It consisted primarily of a mail shirt *(baktah zereh)* with long sleeves *(astine-e zereh)* and either an integrated collar or a separate mail standard called a *gariban.* The mail skirt that covered the abdomen and thighs was called *daman zereh.* Mail leggings were called *nagavits.* Frankish mail was highly prized and preferred over local mail armor, which tended to be lighter. Under the mail was a lightly padded garment called a *jivrak* and trousers *(berten).* Vambraces *(saedin)* and greaves *(saghin)* protected the forearms and shins. Mail gauntlets *(dastuvana)* covered the hands and soft leather riding boots *(chakmeh)* covered the feet and shins.

One popular type of armor was the *kazaghand,* which consisted of mail armor sandwiched between two layers of padding. In Europe this armor became known as *jazerant.* One chronicler, Usâmah Ibn-Munquidh, described his own kazaghand as being made of two layers of mail, separated and sandwiched by padding (see *Usâmah's Kazaghand,* above).

Further north, less mail was worn, with lamellar *(jawshan)* being more popular; sometimes both were worn with a lightly padded garment called a *qarqal* in between.

Helmets *(targ, khud)* were rounded or conical with an elongated point. Most had nasals and some had cheek guards. The padded cap worn underneath the helmet was called *aragchin.*

Shields

The shield *(tur)* was usually circular and made of wood and/or hide. It was strapped to the forearm and had a metallic boss.

Tur: DB 2, $60, 14 lbs., DR 4, HP 20, Cover DR 9.

Horses

Horse armor consisted mainly of felt padding *(tidifâf)* but some mail barding *(bargestvan)* was also used.

Tidifâf: (neck, torso, upper legs): DR 2*, $750, 60 lbs., Don 120, protects the legs on a roll of 3-6 on 1d.

Bargestvan: (neck, torso, upper legs): DR 3*, $2,500, 60 lbs., Don 75, -2 DR vs. *crushing,* protects the legs on a roll of 3-6 on 1d.

The *bargestvan* may be layered over the *tidifâf* for additional protection, but then the horse's DX is at -1 (see *Layered Armor,* ***Low-Tech,*** p. 103).

Seljuq Cavalry Loadout (TL2)

The combination of *baktah* and *jawshan* gives a DR of 7 (4 vs. *crushing*) on the chest and -1 to DX (see *Layered Armor,* ***Low-Tech,*** p. 103). The thighs are protected by a double layer of mail giving DR 6* (DR 2* vs. *crushing*) [2].

The *gariban* is a mail standard, which covers the neck, shoulders, and part of the upper chest. If the neck or shoulders are hit, then it *automatically* intercepts the attack. If the chest (including vitals) is hit, then the *gariban* protects on a roll of 1-2 on 1d . The collar part of the standard is not flexible like regular mail and so, if the neck is hit, its full DR is applied to *all* damage including *crushing*.

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Shirt	*Jivrak*	torso, arms	0	$360	2.4	23	
Pants	*Berten*	legs	0	$240	1.6	15	
Mail Shirt	*Baktah zereh*	chest	3*	$375	9	12	[1]
Mail Sleeves	*Astine-e zereh*	arms	3*	$250	6	8	[1]
Mail Skirt	*Daman zereh*	abdomen, thighs	3*	$350	8.4	11	[1, 2]
Mail Leggings	*Nagavits*	legs	3*	$500	12	15	[1]
Corselet	*Jawshan*	chest	4	$413	21	23	[3]
Vambraces	*Saedin*	forearms	3	$250	2	12	[4]
Greaves	*Saghin*	shins	3	$500	4	23	[5]
Gauntlets	*Dastuvana*	hands	3*	$50	1.2	10	[1]
Boots	*Chakmeh*	feet, shins	0*	$108	2	10	[5]
Helmet	*Khud*	skull, cheeks, nose	7	$585	5.8	12	[6]
Standard	*Gariban*	neck, shoulders, upper chest	3*	$110	2.7	3	[7]
TOTAL	**–**	**–**	**–**	**$4,091**	**78.1**	**177**	

Notes

[1] -2 DR vs. *crushing*.
[2] Protects the legs on a roll of 5-6 on 1d.
[3] -1 DR vs. *crushing*.
[4] Protects the arms on a roll of 1-3 on 1d.
[5] Protects the legs on a roll of 1-3 on 1d.
[6] Protects the face on a roll of 2, 4-5 on 1d.
[7] Protects the chest and vitals on a roll of 1-2 on 1d.

European Crusaders

As noted above, the arms and armor of European Crusaders were very similar to those of their Middle Eastern opponents. The *hauberk* was shortened to cover the torso only (*haubergeon,* or "little hauberk"). Under the *haubergeon,* a padded garment called an *aketon* covered the torso and arms. The legs and feet were protected by mail leggings *(chaussons)* and the hands were covered by mail mittens called *mufflers* that were often attached to the sleeves of the *haubergeon*.

On the head, a mail *coife* covered the shoulders and part of the upper chest. Over this was a flat-topped helmet (with face visor), a *bascinet,* and mail *aventail*.

By the time of the Third Crusade (1187) a lighter *aketon* (DR 0) was sometimes worn underneath the mail and a heavier textile defense was layered over the top. This would usually consist of a thickly padded corselet made of felt or quilted cloth (see *Layered Cloth,* ***Low-Tech,*** p. 103), or an armored surcoat (see ***Low-Tech,*** p. 105).

Use the loadout for *Norman Milite* (p. 26) for Europeans fighting in the First and Second Crusades. Use the loadout on p. 29 for the Third Crusade.

Knights Templar

A truly fearless knight, he is secure on every side, for his soul is protected by the armor of faith, just as his body is protected by the armor of steel. He is thus doubly armed, and need fear neither demons nor men.

– Bernard de Clairvaux (about 1135)

The knights of the Order of the Temple, or the "Knights Templar," were the most famous of the Christian military orders. They constructed many fortifications across Europe and the Holy Land, and were instrumental in creating the banking industry, becoming obscenely wealthy in the process. In battle, the Templars wore a distinctive white surcoat with a red cross, and were considered among the most skilled and disciplined fighting units of the Crusades. Their armor was no different from that of other crusading knights at the time.

Use *Norman Milite Loadout* (p. 26) for early Templars. Use *Third Crusade – European Loadout* (p. 29) for later Templars.

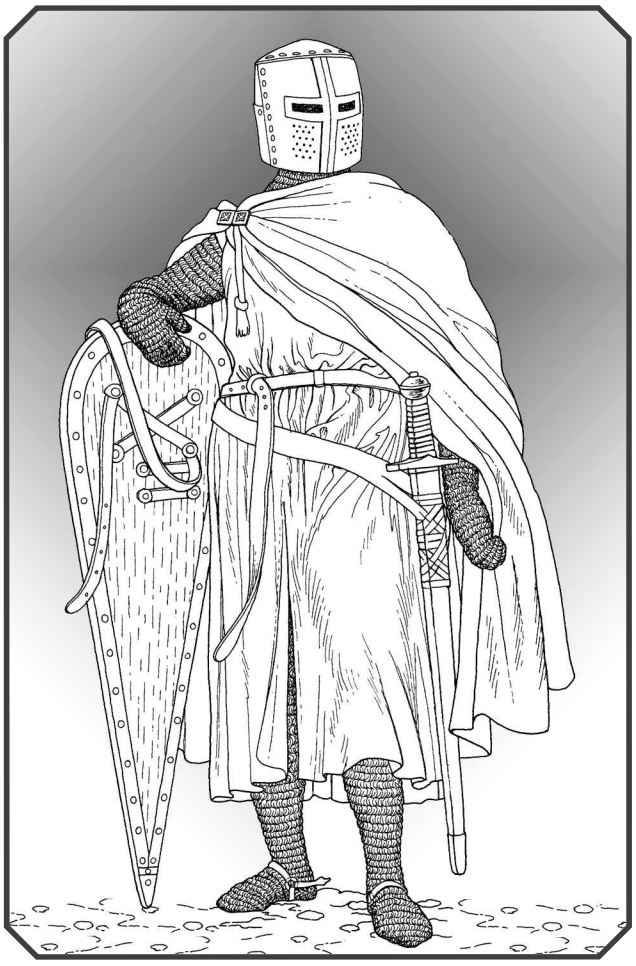
Shields

Though the kite shield *(escu)* was still the most common, cavalry was starting to use the smaller, heater variant *(targe)*.

Escu: DB 3, $120, 18 lbs., DR 4, HP 21, Cover DR 9.
Targe: DB 2, $75, 13 lbs., DR 4, HP 19, Cover DR 8.

Horses

In addition to mail, horse armor started to be made from large pieces of *cuirbouilli* covering the head *(chaufrein),* neck *(crinière),* flanks *(flanchières),* and rear *(croupière)*. The chest armor *(picière)* was enlarged to also cover the upper legs (+50%), Sometimes combinations of both leather and mail were used. The loadout uses hardened leather panels.



I saw some with from one to ten arrows sticking in them, and still advancing at their ordinary pace . . .
– Bahâ'al-Dîn, ***The Life of Saladin***

Third Crusade European Loadout (TL2)

The combination of *aketon* and *haubergeon* gives a DR of 5* (3 vs. *crushing*) on the torso and arms, and -1 to DX (see *Layered Armor,* ***Low-Tech,*** p. 103).

The *coife* is extended to cover the neck, shoulders, and part of the upper chest. If the neck or shoulders are hit, then it automatically intercepts the attack. If the chest (including vitals) is hit, then the *coife* protects on a roll of 1-2 on 1d.

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Padded Shirt	*Aketon*	torso, arms	1*	$98	11.7	30	
Pants	*Braes & Chausses*	legs	0	$240	1.6	15	
Mail Shirt	*Haubergeon*	torso, arms	4*	$1,350	22.5	23	[1]
Mail Leggings	*Chaussons*	legs, feet	3*	$550	13.2	21	[1]
Gauntlets	*Mufflers*	hands	4*	$90	1.5	10	[1, 2]
Coif	*Coife*	skull, ears	4*	$405	6.8	7	[1, 3]
Helmet	*Helme*	skull, face	7	$6,135	6	9	[4]
TOTAL	**–**	**–**	**–**	**$8,868**	**63.3**	**115**	

Notes

[1] -2 DR vs. *crushing*.
[2] Gives Ham-Fisted 2 (p. B138).
[3] Protects the chest on a roll of 1-2 on 1d (including vitals).
[4] Protects the face on a roll of 2-6 on 1d.

Third Crusade Horse Loadout (TL2)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Chamfron	*Chaufrein*	head	2	$63	7.5	15	
Crinet	*Crinière*	neck	2	$63	7.5	15	
Peytral	*Picière*	chest, upper legs (front)	2	$188	22.5	45	[1]
Flanchard	*Flanchières*	torso (sides)	2	$63	7.5	15	
Crupper	*Croupière*	torso, upper legs (rear)	2	$188	22.5	45	[1]
TOTAL	**–**	**–**	**–**	**$565**	**67.5**	**135**	

Notes

[1] Protects the legs on a roll of 4-6 on 1d.

Turkic Mamluks

A padded garment can be worn beneath the jawshan, as the Europeans wear beneath their iron cuirasses. This is the qarqal. It will protect the wearer from both heat and cold, and from the blows of maces and kafir kubat which soften the flesh and weaken the bones. If mail is worn beneath it, then both protection and safety are found.

– *The Nihayat al-Su'l*

The bulk of the fighting in the Middle East was conducted by slaves, purchased while young, and trained to serve their patron. Once their training was complete, they were freed. Initially, they were called *Ghulams* but later became known as *Mamluks* (which means "owned").

By the 14th century, lamellar armor had begun to be superseded by solid plate. Initially, breastplates were circular and covered only the vitals, but in the following century, plate armor evolved into a more complete defense for the chest. It consisted of four large, hinged plates called *chahr ayne* ("four mirrors") and provided coverage similar to a European cuirass, but not as closely tailored. The breastplate was called *sineband,* the backplate, *poshtband,* and the side plates were called *bagalband.* Some were made of hardened rhinoceros hide; treat this as heavy hardened leather (***Low-Tech,*** p. 105) and see p. 15.

Vambraces *(bazuband)* cover both the forearm and elbow; many have attached gauntlets *(dastuvana)* made of mail or padded cloth. Knee cops were called *zanuband* and greaves either *sagband* or *ranak.* All of this was worn over a mail shirt *(baktah zereh)* with long sleeves *(astine-e zereh)* and mail leggings *(nagavits).* Under the armor, warriors wore a lightly padded garment called a *qarqal* and trousers *(berten).* Helmets *(khud)* were a one-piece, elongated, conical shape with cheek guards, a brim, and an adjustable nasal.

Shields

Shields *(separ)* were still circular but smaller and more often made of solid metal.

Iron Separ: DB 1, $200, 4.5 lbs., DR 4, HP 15, Cover DR 7.

Horses

Mamluk armor hadn't changed much from earlier Seljuq barding (p. 28).

Tidifâf: (neck, torso, upper legs): DR 2*, $750, 60 lbs., Don 120, protects the legs on a roll of 3-6 on 1d.

Bargestvan: (neck, torso, upper legs): DR 3*, $2,500, 60 lbs., Don 75., -2 DR vs. *crushing,* protects the legs on a roll of 3-6 on 1d.

The *bargestvan* may be layered over the *tidifâf* for additional protection, but then the horse's DX is at -1 (see *Layered Armor,* ***Low-Tech,*** p. 103).

Mail and Plates

In the 15th century, metal plates started being incorporated into the assembly of the mail itself. This mail-and-plates construction (also called *jawshan*) appeared around the same time in Persia, Turkey, and Mughal India. Use the Mughal loadouts (p. 44) for men and horse armor.

15th- to 17th-Century Mamluk Heavy Cavalry Loadout (TL4)

The combination of *qarqual, baktah,* and *chahr ayne* gives DR 10 on the chest (DR 8 vs. *crushing*) and -2 to DX because three layers are being worn (see *Layered Armor,* ***Low-Tech,*** p. 103). The forearms, elbows, knees, and shins have DR 6.

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Padded Shirt	*Qarqal*	torso, arms	1*	$75	9	23	
Pants	*Berten*	legs	0	$48	1.6	15	
Mail Shirt	*Baktah zereh*	torso	3*	$500	12	15	[1]
Mail Sleeves	*Astine-e zereh*	arms	3*	$250	6	8	[1]
Mail Leggings	*Nagavits*	legs	3*	$500	12	15	[1]
Corselet	*Chahr ayne*	chest	6	$1,875	15	34	
Vambraces	*Bazuband*	forearm, elbow	3	$300	2.4	15	[2]
Gauntlets	*Dastuvana*	hands	3*	$50	1.2	10	[1]
Poleyns	*Zanuband*	knees	3	$50	0.4	6	[3]
Greaves	*Sagband*	shins	3	$500	4	23	[4]
Boots	*Chakmeh*	feet, shins	0*	$108	2	10	
Helmet	*Khud*	skull, cheeks, nose, ears	7	$6,760	5.2	12	[5, 6]
TOTAL	**–**	**–**	**–**	**$11,016**	**70.8**	**186**	

Notes

[1] -2 DR vs. *crushing.*
[2] Protects the arm on a roll of 1-4 on 1d.
[3] Protects legs on a roll of 4 on 1d.
[4] Protects legs on a roll of 1-3 on 1d.
[5] Protects face on a roll of 3-6 on 1d.
[6] Gives Hard of Hearing (p. B138).

If he fails to [wipe off damp lamellar], the inside of it will rot and it will become out of shape.

– *The Nihayat al-Su'l*

Mongol Cavalry

The upper part of their helmet is of iron or steel, while that part guarding the neck and throat is of leather. Whereas the majority wear leather armor, some have their armor completely wrought in iron.

– Johannes de Plano Carpini

In the 13th century, the Mongols embarked on an aggressive policy of expansion under the inspired leadership of Temuchin, known later as Genghis Khan. The first to fall were northern China and Korea. Next was Persia, where two Mongol generals were audaciously ordered to hunt down the Shah in his own empire. The Mongol army chased him throughout the Persian empire, finally cornering him and a few retainers on an island in the Caspian sea. By 1222, the mighty Persian Empire was under Mongol control. The next two years saw the first Mongol excursion into Europe, with Armenia and Georgia being laid waste.

When Genghis died in 1227, his son Ogadai took control. Russia was invaded in 1236 and five years later, the Mongols moved into Hungary, allegedly traveling 300 miles through hostile territory to arrive at the capital in three days. Within a few months the Mongols had smashed all opposition in Poland and the Balkans. They were preparing to move into Western Europe when Ogadai died. The Horde withdrew back to Karakoram to elect a new Khan and never returned.

Afterward, the Mongol empire was split into three geographical regions – China/Mongolia, Persia, and Russia. In 1255, the Persian Mongols invaded Syria, Palestine, and Iraq, eventually sacking Baghdad in 1258. By 1274, the Chinese Mongols had completed the conquest of southern China and turned their attention to Japan. They made two invasion attempts, both foiled by typhoons destroying their fleets. Expansion attempts into southeastern Asia were also less than successful.

Mongol clothing consisted of a long-sleeved, thigh-length, leather or felt garment called a *degel* (or *dêl*), fastened at the waist by a leather belt *(bus)*. It was worn over an undershirt *(oyčur)* of linen or silk (see ***Low-Tech,*** p. 104) and long trousers *(emüdü)*. On the head was a hood or hat *(malgâ)* with earflaps, made of felt and fur. Boots *(gudusu)* were thick and warm – made of leather and felt. In winter, woolen socks *(oyimasu)* were necessary. A padded *degel* is called a *terleg,* and this is all that most Mongols would have worn to battle. Occasionally, either leather lamellar was worn, or the *terleg* was reinforced with leather or metal scales laced on the outside or riveted on the inside like a European *brigandine,* called *khatangu degel.*

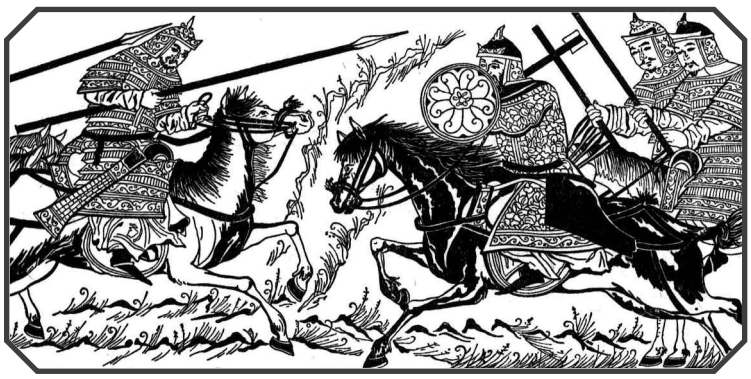
Carpini

Johannes de Plano Carpini journeyed to the court of the great Khan in 1246. In one of his reports, he described how Mongol lamellar armor was made:

They beat out in large numbers thin iron plates a finger broad and a full hand long. In each they bore eight small holes, through which they pull three straight leather thongs. Thereupon they arrange these plates one above the other, as it were, descending by degrees, and tie the plates to the thongs mentioned by means of other small and tender thongs drawn through the holes. And in the upper part they fasten a single, small thong, doubled on each side, and sewn on to another, that the plates may be well and tightly knit together. Thus a uniform protection is effected by these plates, and such armor is made for their horses as well as for the men. It is so highly polished that a man may mirror his face in it.

The wealthiest members of the heavy cavalry wore loosely fitting iron lamellar armor called *khatangu navch* over the *degel.* The individual plates (*navch,* or "leaf") were long and thin and laced together with leather thongs. In addition to covering the chest, the armor had panels that covered the stomach *(quya güjege)* and front of the thighs *(quya guja)*. Large lamellar panels covered the shoulders *(quya küjügün)* and upper arms. Boots *(gudusu)* were reinforced with metal scales (*hajrs,* or "fish scale"). Similar styles of armor were also adopted by the Chinese, Tibetans, and Russians.

Head protection *(duyulya)* for most warriors was a padded cap with earmuffs (light layered cloth). Helmets *(malgâ)* were conical in shape with a dome at the apex and a spike or horsehair crest. A lamellar, three-sectioned aventail of leather (or occasionally iron) covered the back and the sides of the head, including the cheeks. Some officers wore full face visors.



Shields

The Mongols used a small round shield *(kerisge)* made of wound wicker covered with leather.

Kerisge: DB 1, $40, 6 lbs., DR 4, HP 15, Cover DR 7.

Horses

Mongol horses *(aduu)* were stocky, with fairly short legs and a large head. They averaged 12-14 hands in height. A Mongol's wealth was measured in the number of horses he owned. Horse barding varied from felt padding to iron lamellar. The loadout is for iron lamellar.

A Mongol without a horse is like a bird without wings.
– Mongolian proverb

13th- to 14th-Century Mongol Light Cavalry Loadout (TL1)

Some *degels* were reinforced with leather scales covering the torso, arms, and thighs *(khatangu degel)*. Replace the *terleg* with the following:

Khatangu Degel (torso, arms, thighs): DR 3, $429, 50.7 lbs., Don 59, [1].

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Shirt	*Oyčur*	torso, arms	0	$72	2.4	23	
Pants	*Emüdü*	legs	0	$48	1.6	15	
Corselet	*Terleg*	torso, arms, thighs	2*	$293	23.4	39	[1]
Boots	*Gudusu*	feet, shins	2*	$90	7.2	10	[2]
Helmet	*Duyulya*	skull, cheeks, ears	2*	$35	2.8	4	[3, 4]
TOTAL	**–**	**–**	**–**	**$538**	**37.4**	**91**	

Notes

[1] Protects the legs on a roll of 5-6 on 1d.
[2] Protects the legs on a roll of 1-3 on 1d.
[3] Protects the face on a roll of 3-5 on 1d.
[4] Gives Hard of Hearing (p. B138).

13th- to 14th-Century Mongol Heavy Cavalry Loadout (TL2)

Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Shirt, Silk	*Oyčur*	torso, arms	0	$1,440	2.4	23	[1]
Pants	*Emüdü*	legs	0	$48	1.6	15	
Corselet	*Khatangu Navch*	chest	4	$413	21	23	
Pauldrons	*Quya Küjügün*	shoulders, upper arms	4	$110	5.6	6	[2]
Fauld	*Quya Güjege*	abdomen (front)	4	$69	3.5	4	
Tassets	*Quya Guja*	thighs (front)	4	$124	6.3	7	[3, 4, 5]
Boots	*Gudusu Hajrs*	feet, shins	4	$330	16.8	18	[6]
Helmet	*Malgâ*	skull	7	$530	6.2	12	[7]
Aventail	*Quya Küjü'ün*	neck (back), ears, cheeks	4	$31	1.6	3	[8, 9]
TOTAL	**–**	**–**	**–**	**$3,095**	**65**	**111**	

Notes

[1]+1 DR vs. *cutting* and *impaling* (see *Silk,* ***Low-Tech,*** p. 104).
[2] Protects the arms on a roll of 5-6 on 1d.
[3] Protects the legs on a roll of 5-6 on 1d.
[4] -1 to DX for actions involving the legs (see *Leg Armor and DX,* p. 4).
[5] Covers only outside thigh (see *Armor Gap – Inside Thigh,* p. 4).
[6] Protects the legs on a roll of 1-3 on 1d.
[7] Crest gives +1 SM for Intimidation (see ***Low-Tech,*** p. 113).
[8] Gives Hard of Hearing (p. B138).
[9] Protects the face on a roll of 3-5 on 1d.

Mongol Heavy Horse Loadout (TL2)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Chamfron	–	head	4	$275	14	15	
Crinet	–	neck	4	$275	14	15	
Large Peytral	–	chest, upper legs	4	$825	42	45	[1]
Flanchard	–	sides	4	$275	14	15	
Crupper	–	abdomen, upper legs	4	$825	42	45	[1]
TOTAL	**–**	**–**	**–**	**$2,475**	**126**	**135**	

Notes

[1] Protects the legs on a roll of 4-6 on 1d.

Japanese Samurai

However, Japanese armor has, for the sake of easier movement, unavoidable and exposed weak points, and it is this design defect that is targeted by the ***omote*** *set of techniques in* ***Katori Shinto-ryu.***

– Otake-shihan

The Kamakura period began with the end of the Gempai War in 1185 when the Minamoto clan defeated the Taira. Minamoto Yoritomo was declared *shogun* in 1192 and established a new government, known as the *Kamakura Bakufu*. This period was not peaceful; internal strife resumed after Yoritomo's death in 1199, and the Mongols invaded Japan in 1274 and again in 1281. These conflicts, especially the Mongol invasions, led the Japanese to reconsider the way they conducted warfare. This reform included changes to armor design.

At the beginning of the Kamakura period the samurai was, first and foremost, a horse archer, and his armor was designed with this purpose in mind. The classical box-shaped *ô-yoroi* ("great armor") was heavy and cumbersome – worn exclusively by the bow-wielding samurai elite. It consisted of panels of heavy lamellar (see ***Low-Tech,*** pp. 106-107). The main C-sectioned cuirass *(dô)* covered the front, back, and left side of the samurai, while the right side was protected by a solid metal plate *(waidate)*. To cover the front abdomen, four panels *(kusazuri)* hung from the bottom of the cuirass. The shoulders were protected by large lamellar panels *(sode),* which slid around to safeguard the samurai's back, like a shield, when he was shooting a bow. Splinted guards covered the forearms *(kote)* and shins *(suneate)*. Gauntlets called *tekkô* protected the hands. Sometimes the thighs (front only) were bolstered by additional panels called *haidate,* but these were considered awkward to wear while afoot. Straw sandals *(waraji)* protected the feet.

Underneath the armor, samurai wore a light cotton *kimono* (summer clothing) and loincloth *(fundoshi)*. Over this was the *kamishimo,* which consisted of a long-sleeved shirt *(kataginu)* and trousers *(hakama)*. The shirt was secured around the waist with a sash *(obi)*. Cords were used to secure the clothing at the wrists and ankles.

On his head, a samurai wore a *kabuto,* which consisted of two parts: the bowl *(hachi)* and the neck guard *(shikoro)*. The bowl was made of a *spangenhelm* construction and the neck guard was made of lamellar or segmented panels. On the front was a brim *(mabizashi),* which protected the face from downward blows. The sides of the helmet had two protrusions called *fukigaeshi,* which were intended to prevent a sword stroke from cutting the lacing that held the neck guard in place. A decorative crest *(date)* was fixed to the front of the helmet – not to the top, as was typical of other cultures. The face was protected by a plate called *men yoroi* (see *Face Armor,* below). Hanging from the bottom of this was a throat guard *(nodowa),* usually made of lamellar.

Later Developments

While it was well-suited to horse-archery, the *ô-yoroi* was too cumbersome for foot combat. Several modifications were made to make it more comfortable, but eventually, samurai abandoned the design. Instead they turned to the armor that their servants wore *(maru-dô)* and adapted it for their use, creating the *haramaki-dô*. This armor was lighter than the *ô-yoroi,* and fitted more closely to the body, eliminating the need for the *waidate*. By the end of the Kamakura period in 1333, this was the most common form of Samurai armor. The snugly fitting cuirass *(dô)* was made of lamellar and laced closed either on the right side *(maru-dô)* or at the rear *(haramaki-dô)*. The rest of the armor was similar to the earlier *yoroi,* except that it was lighter and more suited for foot combat. The *sode* were smaller, the *haidate* was rarely worn to protect the thighs, but the *suneate* were extended up so that they covered both the shins *and* the knees. Cavalry troops sometimes wore the *horô* ("arrow catcher"). It was a decorated cloth sail tied to the neck and waist that billowed out behind the rider (see *Arrow Curtains,* ***Low-Tech,*** p. 104).

For more information on this period, see ***GURPS Japan.***

Face Armor

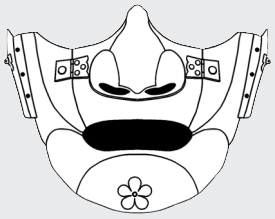
The Japanese used various types of plates for face protection; they varied by which parts were covered. The *sômen* covered the entire face; the *happuri* protected the brow and cheeks; the *menpô* covered the lower half of the face up to the eyes (including the nose); the *hoate* was more abbreviated, covering the chin, jawline, and cheeks; and the *hanbô* was similar but didn't extend up to cover cheeks. The *hanbô* was the most common, though the *menpô* is most commonly associated with samurai. They were made from light plate. Also see *Face Hit Location,* pp. 3-4.

Face Armor Table

Ethnic Name	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Sômen	face	3	$50	0.5	3	[1]
Menpô	jaw, cheeks, nose	3	$40	0.4	3	[2]
Happuri	eyes, cheeks	3	$30	0.3	3	[3]
Hoate	jaw, cheeks	3	$30	0.3	3	[4]
Hanbô	jaw	3	$10	0.1	3	[5]

Notes

[1] Protects the face on a roll of 2-6 on 1d.
[2] Protects the face on a roll of 1-2, 4-5 on 1d.
[3] Protects face of a roll of 4-6 on 1d.
[4] Protects face on a roll of 1, 4-5 on 1d.
[5] Protects face on a roll of 1 on 1d.



Shields

Japanese warriors used shields up until about the sixth century. After that, they were mainly used in siege warfare. The *te-date* was a large rectangular shield made of wood and leather. The *tate* was a large pavise (used for cover rather than DB); after the advent of firearms, it was sometimes made thinner but covered with metal plate.

Te-date: DB 3, $90, 20 lbs., DR 4, HP 22, Cover DR 9.
Tate: DB n/a, $120, 27 lbs., DR 4, HP 24, Cover DR 10.
Tate, Metal-Plated: DB n/a, $240, 27 lbs., DR 5, HP 24, Cover DR 11.

Horses

Japan had indigenous horses, but most cavalry mounts were originally imported from Korea and China. Barding was largely limited to chamfrons and peytrals made of leather lamellar or metal plate. For leather barding, use the loadout for Scythian horses (p. 11). For plate barding, use the following:

Chamfron (head): DR 4, $750, 6 lbs., Don 23.
Peytral (chest (front)): DR 4, $1,500, 12 lbs., Don 45.

The Hazards of Lamellar

When soaked with water the armor becomes very heavy and cannot be quickly dried; so that in summer it is oppressive and in winter liable to freeze. Moreover, no amount of washing will completely free the lacing from any mud or blood which may have penetrated it, and on long and distant campaigns it becomes evil-smelling and overrun by ants and lice, with consequent ill effects on the health of the wearer.

– Sakakibara Kozan, ***Chukokatchu Seisakuben***

Sakakibara Kozan wrote of the problems Japanese armor had during extended campaigns. This may, at least partially, explain the tendency for later styles of armor to use less lacing. "Mail and plates" replaced the lacing altogether with patches of mail. If armor maintenance rules are being used (see ***GURPS Low-Tech Companion 2: Weapons and Warriors,*** p. 25), the GM may rule that scale and lamellar lose 1 HP per *week,* rather than one per month as other armor types.

12th- to 13th-Century Japanese Samurai Loadout (TL2)

Select a type of face armor (p. 33) and add it to the loadout.

If the tactical combat rules are being used, the *waidate* protects the chest (including vitals) from any attack on the wearer's right side (or the front if he is shooting a bow). If these rules are not being used then it protects the chest (including vitals) on a roll of 1-2 on 1d.

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Kimono*	torso, arms, thighs	0	$234	1.6	30	
Shirt	*Kataginu*	torso, arms	0	$360	2.4	23	
Pants	*Hakama*	legs	0	$240	1.6	15	
Corselet	*Dô*	chest, back, left side	5	$619	22.5	17	
–	*Waidate*	chest (right)	6	$469	3.8	9	
Fauld	*Kusazuri*	abdomen (front)	5	$138	5	4	
Tassets	*Haidate*	thighs (front)	5	$248	9	7	[1, 2]
Pauldrons	*Sode*	shoulders, upper arm	5	$220	8	6	[3, 4]
Vambraces	*Kote*	forearm	3	$110	6.3	8	[5, 6]
Greaves	*Suneate*	shins	3	$219	12.5	15	[5, 7]
Gauntlets	*Tekkô*	hands	3	$100	0.8	10	
Sandals	*Waraji*	feet (bottom)	1	$25	0.5	10	
Helmet	*Hachi*	skull, eyes	7	$605	5.8	9	[8]
Aventail	*Shikoro*	neck (back)	4	$17	0.8	3	[9]
Gorget	*Nodawa*	neck (front)	4	$11	0.6	3	[9]
TOTAL	**–**	**–**	**–**	**$3,615**	**81.2**	**169**	

Notes

[1] -1 to DX for actions involving the legs (see *Leg Armor and DX,* p. 4).
[2] Covers only outside thigh (see *Armor Gap – Inside Thigh,* p. 4). Protects the legs on a roll of 5-6 on 1d.
[3] Covers the chest (rear only) when shooting a bow.
[4] Protects the arms on a roll of 5-6 on 1d.
[5] +1 DR vs. *cutting.*
[6] Protects the arms on a roll of 1-3 on 1d.
[7] Protects the legs on a roll of 1-3 on 1d.
[8] Protects the face on a roll of 6 on 1d.
[9] -1 DR vs. *crushing.*

14th- to 15th-Century Japanese Samurai Loadout (TL2)

Select a type of face armor (p. 33) and add it to the loadout.

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Kimono*	torso, arms, thighs	0	$234	1.6	30	
Shirt	*Kataginu*	torso, arms	0	$360	2.4	23	
Pants	*Hakama*	legs	0	$240	1.6	15	
Corselet	*Dô*	chest	4	$413	21	23	[1]
Fauld	*Kusazuri*	abdomen (front)	4	$69	3.5	4	[1]
Pauldrons	*Sode*	shoulders	4	$55	2.8	6	[1, 2]
Vambraces	*Kote*	forearms	3	$110	6.3	10	[3, 4]
Greaves	*Suneate*	knees, shins	3	$230	13.1	20	[3, 5]
Gauntlets	*Tekkô*	hands	3	$100	0.8	10	
Sandals	*Waraji*	feet (bottom)	1	$25	0.5	10	
Helmet	*Hachi*	skull, eyes	7	$595	5.8	12	[6]
Aventail	*Shikoro*	neck (back)	4	$17	0.8	3	[1]
Gorget	*Nodawa*	neck (front)	4	$11	0.6	3	[1]
Arrow Curtain	*Horô*	chest (back)	0	$80	2	3	[7]
TOTAL	**–**	**–**	**–**	**$2,539**	**62.8**	**172**	

Notes

[1] -1 DR vs. *crushing.*

[2] Protects the arms on a roll of 6 on 1d.

[3] +1 DR vs. *cutting.*

[4] Protects the arms on a roll of 1-3 on 1d.

[5] Protects the legs on a roll of 1-4 on 1d.

[6] Protects the face on a roll of 6 on 1d.

[7] +1 DR vs. light missiles when traveling at Move 2 or more (see *Arrow Curtains,* ***Low-Tech,*** 104).

Japanese Mounted Archery

If they would test their armor, they should test only the front. Furthermore, while ornamentation on armor is unnecessary, one should be very careful about the appearance of his helmet. It is something that accompanies his head to the enemy's camp.

– Yamamoto Tsunetomo, ***Hagakure***

Samurai practiced horse archery on the battlefield from the Heian to the Sengoku periods (ninth to 17th centuries), but it declined in importance from the end of the 13th century onward. Initially, combat involved lines of mounted samurai shooting arrows while charging at the enemy, only to wheel away at the last moment to reform for another charge. However, by the end of the 11th century mounted combat had devolved into the ritualistic formality of a duel. Instead of disciplined archers charging and shooting in formation, a samurai now rode into the fray shouting out challenges, declaring his military prowess and family lineage, before attacking whichever enemy combatant he had singled out. Tactical deployment was futile because commanders could no longer control hot-blooded warriors intent on winning glory and honor. Battle was little more than a confused melee of horsemen. Foot soldiers played little part in samurai warfare at this time. A samurai's retainers were tasked with carrying their lord's equipment and assisting him if he were unhorsed. Because there was no pitched infantry battle, casualties tended to be fairly light.

The above form of battle is well-suited to roleplaying. The PCs can play individual fighters and use mechanics for one-on-one combat rather than being stuck in a formation with lots of other fighters. They can be less concerned with the outcome of a battle and concentrate on winning individual duels with enemy opponents. Each victory (especially over famous opponents) will increase his reputation and his family's. The Horse Archery technique is described on p. B231 and the mounted combat rules are on pp. B396-398, but the more-detailed Mounted Shooting Technique (***Martial Arts,*** p. 77) and the Kyujutsu style (***Martial Arts***, pp. 179-180) would also be appropriate for samurai archers. Riding rolls are at -3 for riding with no hands unless you have the Hands-Free Riding technique (***Martial Arts***, p. 73).

The Japanese bow *(yumi)* was a laminated composite of wood and bamboo. It differed from other bows in that it was asymmetrical, with two-thirds of its two-meter length *above* the handgrip (see ***Martial Arts***, p. 215). Some archers trained by shooting at live dogs *(inuomono),* but the practice was discouraged by Buddhist priests.

The horse archery tradition predominated until the Mongol invasions in 1274 and 1281 (see *Mongol Cavalry*, pp. 31-32). Mongol fighters had no interest in Japanese ritualistic duels and samurai suffered the ignominy of having their mounts shot from under them. Samurai equipment and tactics proved to be ill-suited for fighting on foot. Luckily, the Mongol invasions failed and the samurai had the opportunity to revise their tactics. From this time onward, samurai tactics started to shift away from mounted archery to focus on fighting with swords and polearms, placing more emphasis on infantry combat.

Moro Warrior

The Moro is not at all over-awed or impressed by an overwhelming force. If he takes a notion to fight, it is regardless of the number of men he thinks are to be brought against him. You cannot bluff him.

– General John J. Pershing

The term "Moro" or "Moors" was used by the Spanish to refer to people of Mindanao and Borneo. Many were converted to Islam by the Sultanates of Majapahit before European contact. The earliest Muslim tomb in Java dates to 1238 A.D. During Spanish colonial rule (1565-1898), most of the Philippines converted to Christianity, but Mindanao remained Muslim.

Clothing consisted mainly of a light shirt called a *habay-habay* (summer clothing). Legs and feet were bare. The most common form of armor in the Pacific islands was made from cane or woven plant fibers. In the Philippines, the most common body armor was a sleeveless padded jack called a *barote,* or a corselet woven from plant fibers (use the *Kiribati Warrior Loadout,* p. 5).

Most advanced metalworking technologies, such as cannon forging, keris smithing, and metallic armor, were introduced to the Philippines by Indonesian colonists – especially those from Java. Metal armor was introduced to Indonesia by Indian or Persian contacts. This armor is called *baju zirah; baju* is the native term for "armor" and *zirah* seems to have been derived from the Persian *zereh,* which means "mail." It opened down the front like many Middle Eastern armors. Fine mail covered the abdomen and arms. The main distinction between this mail and plates and that of India and the Middle East is that it was made of brass, not iron, and the mail links were usually butted, not riveted (butted mail and plates gets -1 DR vs. *impaling* while regular butted mail gets -3 DR vs. *impaling*). Sometimes the plates were made of horn from the carabao (a type of water buffalo), rather than metal.

Many helmets are copies of Spanish designs such as the morion and cabasset, but made of brass rather than iron.

Shields

The *klebit* is an elongated buckler made of wood, shaped into points on the top and bottom. Some, called *klebit bok,* were decorated with hair from the heads of decapitated enemies.

Klebit: DB 3, $90, 20 lbs., DR 4, HP 22, Cover DR 9.

16th- to 18th-Century Moro Warrior Loadout (TL3)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Tunic	*Habay-habay*	torso, arms	0	$36	1.2	23	
Corselet	*Baju zirah*	chest	5	$2,550	15	15	[1]
Mail Skirt	*Daman zirah*	abdomen	3*	$765	3.8	4	[2, 3]
Mail Sleeves	*Astinu zirah*	arms	3*	$1,530	7.5	8	[2, 3]
Helmet	*Morion*	skull	7	$510	5.2	12	
TOTAL	**–**	**–**	**–**	**$5,391**	**32.7**	**62**	

Notes

[1] -1 DR vs. *crushing* and *impaling.*
[2] -2 DR vs. *crushing.*
[3] DR 1 vs. *impaling.*

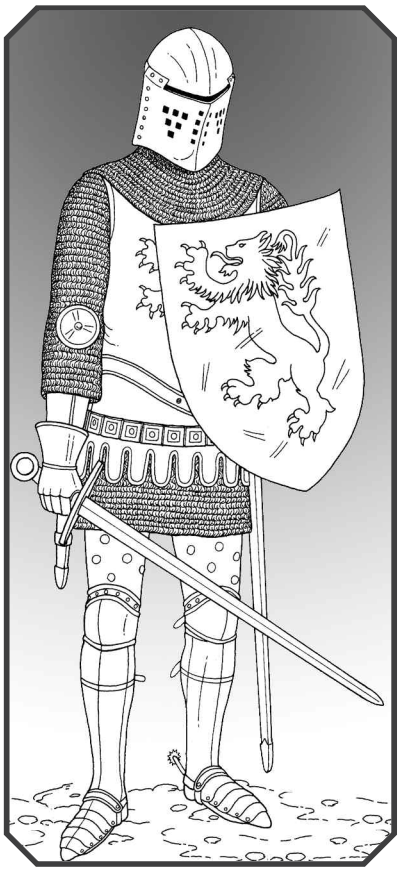
In pitched battle, the Moros carried a collection of krises, kampilans, and barongs, as well as spears, and wore "vivid turbans and carabao [water buffalo] armor and even shirts of mail" along with iron or brass helmets.

– James Arnold, ***The Moro War***

14th-Century French Chevalier

Standing in front of their own men they faced the archers with their chests so solidly protected with plate and mail and leather shields, that the arrows were either fended off directly or broken in pieces by the hard objects or were diverted upwards . . .
– Geoffrey le Baker, at the Battle of Poitiers (1356)

During the 13th and 14th centuries, European armor gradually shifted from mail to plate. Armor scholars refer to this as the "transitional period." Iron plates began to be strapped on top of mail armor to improve protection. Initially the shins and joints (knees, elbows, and shoulders) were covered with plate, followed by the rest of the limbs and torso. During this time, solid plate torso armor was very rare; far more common was the *coat of plates,* known at the time as a "pair of plates" or simply "plates." This consisted of overlapping horizontal plates riveted to the inside of a cloth or leather garment (see ***Low-Tech,*** p. 108), and was worn over a mail *haubergeon.* This would have been the armor worn by a French knight *(chevalier)* when he faced the English at Crécy in 1346 and Poitiers in 1356.



The arms were protected by a hinged forearm guard *(avant-bras),* a similar guard for the upper arm *(arrière-bras),* a cup-like guard *(coudière)* on the elbow, and spaulders *(espauliers)* on the shoulders. Rounded plates *(besagues)* were laced to the front of the shoulders to protect the armpits. Gauntlets *(gantelets)* were similar to sabatons – segmented plates (with separate fingers) attached to a leather glove.

Mail leggings (now called *chaussons*) were covered with further defenses: Plate shin guards *(greves)* were hinged in two sections and wrapped around the entire leg, while the thighs were protected by *gamboised cuisses* that usually consisted of a quilted textile defense, sometimes reinforced with metal splints. A globose knee cop *(polain)* was attached to the bottom of the cuisse and strapped under the knee, completing the leg harness. The feet were protected by *sabatons* made of segmented plates riveted to a leather foundation.

The neck was protected by a guard *(bavière),* which included a plate that covered the jaw (see *Face Hit Location,* pp. 3-4). It made breathing more difficult and limited head movement – many less-experienced fighters opted not to wear it, leaving their lower face and throat exposed. The discomfort and restrictiveness should be worth -1 to many physical skills, particularly in combat (see *Restrictive Neck Armor,* p. 4). Under this, the collar *(colletin)* of the mail *haubergeon* ("little hauberk") was constructed of a denser weave, so that it stood rigid around the neck (treat as banded mail, ***Low-Tech,*** p. 107).

On his head, the chevalier wore a greathelm *(heaume)* over a *bascinet,* all over a mail *coife.* The greathelm was discarded after the initial lance charge (leaving the bascinet as the primary head protection), so that the fighter could see and breathe more easily in the crush of battle. The greathelm hung by a suspension chain (from his armor or saddle) enabling the knight to easily retrieve it later. By this time, virtually all helmets were of *single-piece* construction and no longer have +9 CF, but still get a -25% weight adjustment (see *Helmet Options,* ***Low-Tech,*** p. 112).

The leggings worn under the armor had two parts. The *braes* were short pants that reached the knee. The *hose* covered from ankle to mid-thigh and was suspended from a garment called a *pourpoint* – the precursor to the *arming doublet* (see ***Low-Tech*** p. 101). Over the top of the armor was a jupon *(guipon)* bearing the knight's coat of arms. It was shorter and better fitted than the earlier surcoat.

Shields

The teardrop-shaped kite shield had been reduced in size, evolving into the heater shield – called so by modern historians because its shape is similar to the old-fashioned "flat iron" used to iron clothing. These medium-sized shields *(targe)* were strapped to the knight's arm and commonly used to display his coat of arms.

Targe: DB 2, $75, 13 lbs., DR 4, HP 19, Cover DR 8.

Horses

While armor provided French knights with good protection against English arrows, their horses were not so fortunate, and this was the main French vulnerability in battles such as Crécy (1346). The French knights quickly learned to dismount and fight on foot, like the English, when faced with longbows. During this time it was rare for cavalry horses to be armored in anything heavier than a quilted cloth *caparison* or *cuirbouilli* barding (use *Third Crusade Horse Loadout,* p. 29). Only the most wealthy would have covered their horses with mail. There are rare depictions of segmented plate barding, similar to the coat of plates, with the peytral enlarged to partially cover the front legs. This loadout is for segmented plate.

14th-Century French Chevalier Loadout (TL3)

The combination of *coife* and *bascinet* gives a total DR of 10 (DR 8 vs. *crushing*). The combination of *bavière* and *bascinet* means that the face is protected on a roll of 1 or 3 on 1d. If the knight didn't have a *heaume* then he would have a visor *(visière)* for his *bascinet,* which would be hinged at the top or side; DR 7, Cost $157, 1 lb., one second to close, two to open. When closed it would provide full protection for the face (roll 1 for *bavière* and 2-6 for *visière*), but give No Peripheral Vision (p. B151).

An arm harness consists of *espauliers, arrière-bras, coudières,* and *avant-bras.* It provides complete protection for the arm and is layered over the sleeves of a *haubergeon,* giving a total of DR 6 (DR 4 vs. *crushing*). *Besagues* mean the armpits cannot be targeted from the front without contending with their DR; to avoid armor, the armpit must be hit from the side or rear (see *Harsh Realism – Armor Gaps,* ***Low-Tech,*** p. 101).

Total protection on the torso is DR 8 (DR 6 vs. *crushing*), the shins and feet have DR 6 (DR 4 vs. *crushing*), and the thighs have DR 6 (DR 7 vs. *cutting,* DR 4 vs. *crushing*).

Since there are two layers of armor on most of the body, the chevalier is -1 to DX (see *Layered Armor,* ***Low-Tech,*** p. 103).

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Padded Shirt	*Pourpoint*	torso, arms	0	$160	3	15	
Pants	*Braes & Hose*	legs	0	$240	1.6	15	
Mail Shirt	*Haubergeon*	torso, arms	3*	$750	18	23	[1]
Mail Collar	*Colletin*	neck	5	$90	1.3	5	
Corselet	*Plates*	torso	5	$1,200	32	45	
Surcoat	*Guipon*	torso	0	$240	1.6	15	
Pauldrons	*Espauliers*	shoulders	3	$100	0.8	5	
–	*Besagues*	armpit (front)	4	$250	0.4	3	
Rerebraces	*Arrière-bras*	upper arms	3	$100	0.8	5	
Couters	*Coudière*	elbows	3	$50	0.4	3	
Vambraces	*Avant-bras*	forearms	3	$250	2	12	
Gauntlets	*Gantelet*	hands	3	$60	1.6	10	[2]
Mail Leggings	*Chaussons*	legs, feet	3*	$550	13.2	17	[1]
Gamboised Cuisses	*Cuissards*	thighs	3	$197	11.3	17	[3]
Poleyns	*Polains*	knees	3	$50	0.4	3	
Greaves	*Greves*	shins	3	$500	4	23	
Sabatons	*Sabatons*	feet	3	$60	1.6	5	
Coif	*Coife*	head	3*	$150	3.6	5	[1]
Neck Guard	*Bavière*	neck, jaw	3	$100	0.8	5	[4, 5]
Helmet	*Bascinet*	head	7	$638	5.3	15	[6, 7]
Greathelm	*Heaume*	head	6	$875	7	16	[6, 8]
TOTAL	**–**	**–**	**–**	**$6,610**	**110.7**	**262**	

Notes

[1] -2 DR vs. *crushing.*
[2] Gives Ham-Fisted 2 (p. B138).
[3] +1 DR vs. *cutting.*
[4] Protects the face on a roll of 1 on 1d.
[5] -1 to combat rolls (see *Restrictive Neck Armor,* p. 4).
[6] Gives Hard of Hearing (p. B138).
[7] Protects the face on a roll of 3 on 1d.
[8] Gives Tunnel Vision (p. B151).

14th-Century Heavy Horse Loadout (TL3)

The following types of barding were more common than the loadout:

Padded Caparison (TL1) (neck, torso, upper legs): DR 2*, $750, 60 lbs., Don 120, protects the legs on a roll of 3-6 on 1d.

Light Mail Caparison (TL2) (neck, torso, upper legs): DR 3*, $2,500, 60 lbs., Don 75, -2 DR vs. *crushing,* protects the legs on a roll of 3-6 on 1d.

This battle between Broye and Crecy this Saturday was right cruel and fell, and many a feat of arms done that came not to my knowledge.

– Froissart, ***The Battle of Crecy***

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Chamfron	*Chanfrein*	head	3	$300	8	23	
Crinet	*Crinière*	neck	3	$300	8	23	
Peytral	*Poitrail*	chest, upper legs (front)	3	$900	24	68	[1]
Flanchards	*Flanchière*	torso (sides)	3	$300	8	23	
Crupper	*Croupière*	abdomen, upper legs (rear)	3	$900	24	68	[1]
TOTAL	**–**	**–**	**–**	**$2,700**	**72**	**205**	

Notes

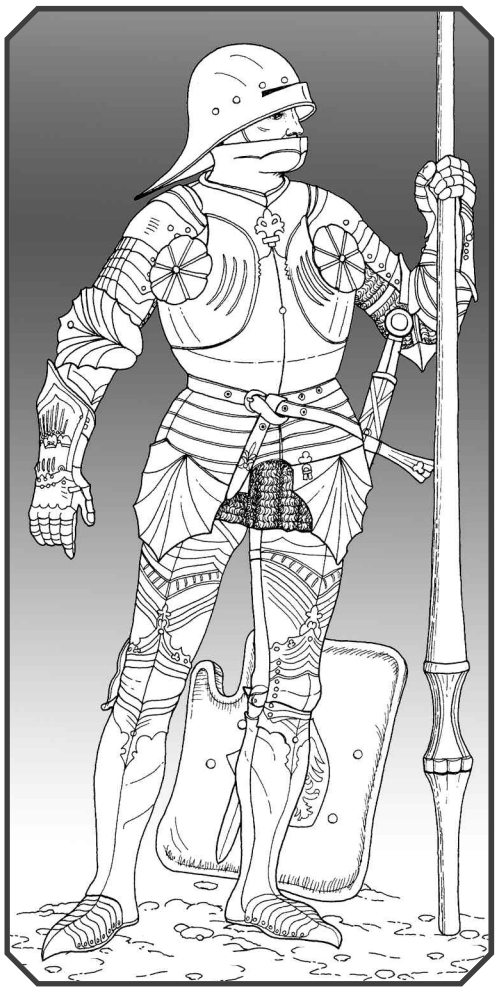
[1] Protects the legs on a roll of 4-6 on 1d.

15th-Century German Ritter

Indeed, whenever I leave my tower I face danger. If I fall into the hands of those who are at war with my overlord, they seize me and carry me away. If my luck is bad, I lose half my patrimony in ransom . . . No wonder we must spend large sums on horses and arms and employ retainers at great expense to ourselves. I cannot travel a mile from my home without putting on armor. I dare not even go hunting or fishing except clad in iron.

– Ulrich von Hutten

In the 15th century, the two most important armor-producing centers were located in northern Italy (mainly Milan and Brescia) and southern Germany (Augsburg, Innsbruck, Landschut, and Nuremburg). Early in that century, there was little difference between German and Italian armors. By the middle of the century, two distinct styles started to emerge. Italian plate armor became smooth and rounded, with globose breastplates. In Germany, the distinctive "Gothic style" had an elongated form; the cuirass was slender at the waist with all surfaces enhanced by elegant flutes and ribs. It was also more often made of hardened steel.



Unlike the coat of plates of the 14th century, chest armor was a solid cuirass *(kürass)* – a breast and back plate *(brust und rüchen)* – of hardened steel. To keep weight down, the backplate was usually thinner than the breastplate. From this time onward, a well-armored knight was encased head to foot in solid plate armor. This plate suit was known as *harnasch* ("harness") and was worn over an arming doublet *(pannzar)*.

The fauld and tassets *(beintaschen, bauchreifen, krebs)* covering the abdomen and hips were segmented. Arm armor was the same as last century, with hinged tubes covering the forearms *(unterarmzeug, armrohen)* and upper arms *(oberarmzeug, hinterarm)*. Elbow guards *(armkachen)* were larger, with more overlap on the arm plates. Shoulder pauldrons *(achseln, schulterpanzerung)* were also enlarged so that they covered the armpit, removing the need for a *besague*.

The lower half of the legs was protected by greaves *(beinrohren)* and knee cops *(kniebuckel, kniestuck),* the same as previously, but solid plate *cuisses (diechlinge, schenkelschiene)* replaced earlier *gamboised cuisses* on the thighs. A *brayette (stahlmaschen-unterschutz)* made of mail covered the buttocks and groin, which was also covered with a codpiece *(gliedschirm)* when the fighter was not mounted on a horse.

Gauntlets *(handschuh)* were of two main types: The *hentzen handschuh* was a mitten gauntlet and the *gefingerte handschuh* had individually articulated fingers. Foot armor *(eisenschuh)* was more finely articulated than previous sabatons.

Helmets such as the *armet* were beginning to fit the head more closely; the bottom half of the helmet was made of two hinged halves that closed with a pin under the chin. It was worn over a metal collar called a *gorget (halsberge, kragon)*.

In Germany, however, the *sallet (schalem)* and *bevor (kinnreff)* were more popular; the bevor was more advanced than earlier bevors, being worn on the inside of the cuirass, and including a chin guard that was articulated and hinged; pressing or turning a stud enabled it to be dropped open, and taking out a pin enabled it to be removed entirely. It limited head movement and, like the earlier *bevor,* should give -1 to combat rolls (see *Restrictive Neck Armor,* p. 4).

Visors *(visier)* were almost universal – some lifted up and others were hinged at the side *(klappvisier)*. Some *sallets* had an *integrated* visor – the brim of the helmet came down past the nose and a long eye-slit was cut into the front; the bevor covered the rest of the face. Greathelms *(stechhelm)* were used mainly in tournaments.

The comprehensive protection granted by full plate allowed the knight to discard his shield. This enabled him to wield two-handed weapons, which were more effective against heavily armored opponents.

Arm Harness

An arm harness consists of *schulterpanzerung, oberarmzeug, armkachen,* and *unterarmzeug*. It provides complete protection for the arm, but the forearm and elbow have lighter (DR 4) plate while the rest of the arm is DR 5. The *schulterpanzerung* is large enough to act like a *besague,* meaning that the armpits cannot be targeted without contending with their DR (see *Harsh Realism – Armor Gaps,* ***Low-Tech,*** p. 101). This effectively means that the only way to target the armpit is to wait for the wearer to raise his arm and hit him from the side – requiring a previous Wait maneuver (and being in his side hex if using tactical combat).

Fluting Options

As noted above, German Gothic armor is noted for having many flutes and ribs. It would be reasonable to add fluting to any (or all) of the following pieces for a 10% weight reduction and +4 CF (see *Fluting,* ***Low-Tech,*** p. 110): *brust, rüchen, beintaschen, achseln, oberarmzeug, armkachen, unterarmzeug, diechlinge, kniebuckel, beinrohren, handschuh,* and *eisenschuh.*

On Palm Sunday last King Edward began a very hard fought battle near York . . .

– Richard Beauchamp,
The Battle of Towton

Horses

Plate barding *(anzerdecke)* was starting to become common. As stated in *Animal Armor* (***Low-Tech,*** p. 117), plate armor for horses is separated into separate pieces. With the exception of the lower legs, the horse was covered completely in plate including tubes for the ears and a guard for the tail *(schwanze).* The chest armor *(brustpanzer)* was enlarged to also cover the upper legs (+50%).

15th-Century German Ritter Loadout (TL4)

The *stahlmaschen* and *beintaschen* give DR 8 (DR 6 vs. *crushing*) on the abdomen. The *stahlmaschen* and *gliedschirm* give DR 7 (DR 5 vs. *crushing*) over the groin. Because less than half of the torso is covered with layered armor, there is no DX penalty (see *Layered Armor,* ***Low-Tech,*** p. 103).

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Arming Doublet	*Pannzar*	torso, arms	0	$160	3	15	
Arming Hose	*Hosen*	legs	0	$240	1.6	15	
Breastplate	*Brust*	chest (front)	7	$4,690	7.5	17	
Backplate	*Rüchen*	chest (back)	4	$1,875	3	17	
Mail Skirt	*Stahlmaschen*	abdomen	3*	$125	3	4	[1]
Fauld	*Beintaschen*	abdomen	5	$1,125	6	12	
Codpiece	*Gliedschirm*	groin	4	$250	0.4	3	[2]
Pauldrons	*Achseln*	shoulders	5	$750	1.2	5	
Rerebraces	*Oberarmzeug*	upper arms	5	$750	1.2	5	
Couter	*Armkachen*	elbows	4	$250	0.4	3	
Vambraces	*Unterarmzeug*	forearms	4	$1,250	2	12	
Cuisses	*Diechlinge*	thighs	4	$2,250	3.6	21	
Poleyns	*Kniebuckel*	knees	4	$250	0.4	3	
Greaves	*Beinrohren*	shins	4	$2,500	2.5	3	
Gauntlets	*Handschuh*	hands	4	$300	1.6	10	[3]
Sabatons	*Eisenschuh*	feet	4	$300	1.6	10	
Helmet	*Schalem*	head	8	$3,138	5.3	15	[4]
Visor	*Visier*	face	7	$782	1	3	[5, 6]
Gorget	*Kinnreff*	neck, jaw	7	$875	1.4	4	[7, 8]
TOTAL	**–**	**–**	**–**	**$21,860**	**46.7**	**177**	

Notes

[1] -2 DR vs. *crushing.*

[2] The codpiece must be removed before mounting a horse.

[3] Gives Ham-Fisted 2 (p. B138).

[4] Gives Hard of Hearing (p. B138).

[5] When visor is down the wearer has No Peripheral Vision (p. B151).

[6] Protects the face on a roll of 2-6 on 1d.

[7] Protects the face on a roll of 1 on 1d.

[8] -1 to combat rolls (see *Restrictive Neck Armor,* p. 4).

15th-Century Heavy Horse Loadout (TL4)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Chamfron	*Ross-stirn*	head	5	$3,750	6	23	
Crinet	*Mähnenpanzer*	neck	5	$3,750	6	23	
Large Peytral	*Brustpanzer*	chest, upper legs (front)	5	$11,250	18	68	[1]
Flanchard	*Flankenpanzer*	torso (sides)	5	$3,750	6	23	
Crupper	*Kruppanzer*	abdomen, upper legs (rear)	5	$11,250	18	68	[1]
TOTAL	**–**	**–**	**–**	**$33,750**	**54**	**205**	

Notes

[1] Protects the legs on a roll of 3-6 on 1d.

16th-Century Italian Condottiere

A fighter who has his head covered with steel, his breast protected by a cuirass and by a shield, his legs and arms armored, is much more fit to protect himself from the pikes and to get within them than lightly armored infantry.

– Niccolò Machiavelli

During the time of Machiavelli (15th and 16th centuries), Italy was in turmoil. Popes engaged in warfare, and the various city-states vied for status and lucrative markets while trying to ward against invasion by foreign powers. Governments were generally short-lived, and political alliances constantly changed. Italian mercenary captains, known as *condottieri,* thrived in this environment. A *condotta* was a contract between a mercenary company and a city-state. This document was signed by the company's commander, the *condottiere.* It was no coincidence that Milan was one of the most advanced armor-producing centers in the world. The constant state of warfare in Italy over a prolonged period led to many innovations in armor design. Wealthy and influential commanders were constantly looking for any advantage and were willing to pay for it.

The greater prevalence of firearms and heavy bows led to armor being made of heavier plate than previously, much of it hardened steel. Heavy cavalry continued to be covered head to foot in steel, and the loadout below reflects this type of armor. Most of the pieces in the loadout are the same as the earlier German harness (but using Italian terms) and so won't be repeated here.

The helmet continued to evolve, though. The *armet (galea, celata)* was equipped with a turn around the edge of the neck that engaged with the gorget *(goletta),* which was articulated to enhance flexibility. This turn enabled the wearer to move his head without leaving a vulnerable gap at the neck; in effect, this means that an attack to the neck can no longer bypass DR, since there are no gaps to exploit (see *Harsh Realism – Armor Gaps,* ***Low-Tech,*** p. 101).

Infantry had less coverage. Plate harness *(arnesi)* covered the torso – breast *(petto),* back *(schiena),* and abdomen *(falda* or *panziera)* – and arms, but left the legs unprotected. "Half plate" reached to the thighs while "three-quarter plate" reached to the knees. This was the trade off for having heavier plate to help resist firearms.

For more information on this period, see ***GURPS Hot Spots: Renaissance Florence.***

Padded Jacks

Layered cloth is a surprisingly effective means of protection. The Ordinances of Louis XI of France (1461-1483) state how these jacks should be constructed.

And first they must have for the said jacks, thirty, or at least twenty-five, folds of cloth, and a stag's skin; those of thirty, with the stag's skin being the best cloth that has been worn and rendered flexible, is the best for this purpose, and these jacks should be made in four quarters. The sleeves should be as strong as the body, with the exception of the leather, and the arm-hole of the sleeve must be large, which arm-hole should be placed near the collar not on the bone of the shoulder, that it may be broad under the arm-pit and full under the arm sufficiently ample and large on the sides below. The collar should be like the rest of the jack, but not be too high behind, to allow room for the sallet. This jack should be laced in front, and under the opening must be a hanging piece (porte piece) of the same strength as the jack itself. Thus the jack will be secure and easy, provided there be a pourpoint without sleeves or collar of two folds of cloth, that shall be only four fingers broad on the shoulder; to which pourpoint shall be attached the hose. Thus shall the wearer float, as it were, within his jack, and be at his ease; for never have been seen half-a-dozen men killed by stabs or arrow wounds in such jacks, particularly if they be troops accustomed to fighting.

Treat the padded jack as heavy layered cloth on the torso (DR 4) and medium layered cloth on the arms (DR 3): $775, 38 lbs., Don 45.

Horses

Plate barding is essentially the same as in the previous century. Italian terms are *testera* (head), *pechera* (chest), *cuello* (neck), *grupera* (rump), *flanqueras* (flanks), *guardamalso* (tail). Use the *15th-Century Heavy Horse Loadout* (p. 40).

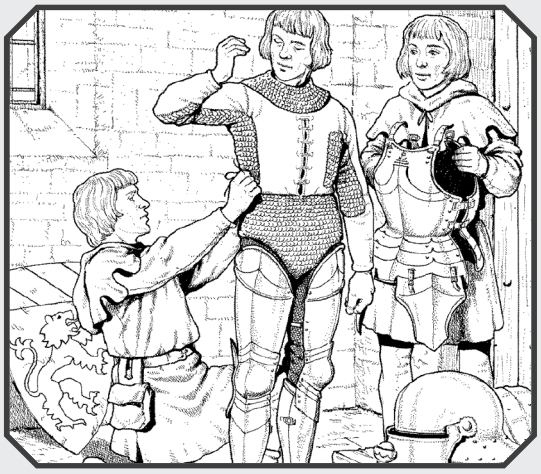
Knights who are at the wars eat their bread in sorrow . . . they give up their bodies to the adventure of life in death. Moldy bread or biscuit, meat cooked or uncooked; today enough to eat and tomorrow nothing, little or no wine, water from a pond or butt, bad quarters, the shelter of a tent or branches, a bad bed, poor sleep with their armor still on their backs, burdened with iron, the enemy an arrow-shot off.

– Gutierre Diaz De Gamez, ***The Unconquered Knight***

How a Man Shall Be Armed . . .

This is the beginning of the title to a 15th-century manuscript explaining the equipment of a knight who is entering a tournament to fight on foot. It starts with a detailed description of a lightly padded *arming doublet* and leggings *(hosen),* to which the various pieces of armor are attached with cords called "points."

He shall have no shirt upon him except for a doublet of fustian lined with satin, cut full of holes. The doublet must be strongly built; the points must be set at the break in the arm in the front and back. The gussets of mail must be sewn onto the doublet also at the break in the arm and at the underarm . . . Also a pair hosen of worsted wool and pair of short bulwarks of thin blanket to put about his knees for the chafing of his leg-harness . . . He should wear a pair of thick shoes, provided with points sewn on the heel and in the middle of the sole to a space of three fingers.



Most types of armor are donned by starting from the bottom and moving up. It is difficult to do this, and takes longer, without assistance (see *Donning Armor,* ***Low-Tech,*** p. 102). If someone is interrupted in the middle of putting on a suit of armor, he might have the legs in place but no torso or arm armor. The helmet and gauntlets are last. Note that the donning times listed don't include the time to unpack and pick up each item.

First you must set the sabatons and tie them to the shoe with small points that won't break. And then the greaves and cuisses over the breeches of mail. Then place the fauld upon his hips. And then the breast and backplates, the vambraces and rerebraces, and then gauntlets. Hang the dagger on his right side, his short sword upon his left side in a round ring that it may be easily drawn. And then put his surcoat upon his back. The bascinet follows, laced to cuirass in front and back that it sits just so. And then his long sword in his hand. And a small pennant bearing the figure of Saint George or Our Lady in his left hand to bless him as he goes towards the field and in the field.

16th-Century Italian Condottiere Loadout (TL4)

The combination of *falda* and *braghetta* gives DR 9 (DR 7 vs. *crushing*) on the abdomen.

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Arming Doublet	*Farsetto*	torso, arms	0	$160	3	15	
Arming Hose	*Calze*	legs	0	$240	1.6	15	
Breastplate	*Petto*	chest (front)	9	$6,563	10.5	17	
Backplate	*Schiena*	chest (back)	7	$4,688	7.5	17	
Mail Skirt	*Braghetta*	abdomen	3*	$125	3	4	[1]
Fauld	*Falda*	abdomen	6	$1,500	8	12	
Codpiece	*Conchiglione*	groin	6	$500	0.8	3	[2]
Pauldrons	*Spallaccio*	shoulders	9	$1,750	2.8	5	
Rerebracers	*Bracciali*	upper arms	9	$1,750	2.8	5	
Couters	*Cubitiera*	elbows	7	$625	1	3	
Vambraces	*Bracciali*	forearms	7	$3,125	5	12	
Cuisses	*Cosciali*	thighs	7	$5,625	9	21	
Poleyns	*Ginocchielli*	knees	7	$625	1	3	
Greaves	*Gambiera*	shins	6	$5,000	8	23	
Gauntlets	*Mittene*	hands	4	$300	1.6	10	[3]
Sabatons	*Scarpe*	feet	4	$300	1.6	10	
Gorget	*Goletta*	neck	9	$875	1.4	3	
Helmet	*Galea*	head	10	$5,263	9.9	17	[4, 5]
TOTAL	**–**	**–**	**–**	**$39,014**	**78.5**	**195**	

Notes

[1] -2 DR vs. *crushing.*

[2] The codpiece must be removed before mounting a horse.

[3] Gives Ham-Fisted 2 (p. B138).

[4] Gives Hard of Hearing (p. B138).

[5] When visor is down the wearer has No Peripheral Vision (p. B151).

Indian Mughal Warrior

He let him pass and, by mistake, shot me in an armpit from as near as a man on guard at the Gate stands from another. Two plates of my armor cracked.

– *Journal of Emperor Babur*

The Mughal Empire was an Islamic imperial power that ruled the majority of India from 1526 until its decline in the 18th century. It was responsible for the spread of Persian culture throughout India.

Babur, a Timurid commander, was the first Mughal Emperor. His father was a descendant of Tamerlane, founder of the Timurid Dynasty, and his mother was a descendant of Genghis Khan. His successful invasion brought northern India, Pakistan, Afghanistan, and Bangladesh under his control. His son, Humayun, expanded that influence with Persian assistance. By 1600, most of India was under Mughal control.

The wealth of the Persian Empire and the fertile plains of Hindustan helped to fund the many campaigns into the Indian subcontinent. The majority of the Mughal armies consisted of Iranian, Turanian, and other Central Asian mercenaries. They served loyally only as long as they were being regularly paid, and would leave for a more lucrative contract. They had no stake in the outcome of a battle and no interest in local politics. This limited their effectiveness in battle because the mercenaries' primary interest was in staying alive and accumulating wealth. Horses were expensive (and earned the trooper a pay bonus), so they were hesitant to risk them in any serious conflict, resulting in less aggressive tactics than some situations required. Nevertheless, the Mughals ruled most of India for more than a century, until the 18th century, when their influence started to wane. Invasions by Marathas and Afghans reduced the Mughals to puppet rulers by 1757, and the Indian Rebellion in 1857 destroyed what was left of their empire.

Clothing consisted of a cotton tunic called a *qabcha,* a *turban* for the head, and shoes called *jutis* or *khussa.* Infantry armor in southern India consisted of little more than a layered cotton corselet called a *peti* (the *turban* was thick enough to provide some protection for the head). In northern India, horses were more common and so were cavalry units. These men were well protected in hardened steel armor. Over the padded *qarqal* was worn a knee-length hauberk of mail and plates *(bagtar)* that also covered the upper arms. Sometimes a heavy quilted cotton jacket *(chilta)* was layered over the top. Steel vambraces *(dastana)* covered the forearms and elbows, while greaves *(ranak)* protected the shins.

A domed helmet *(dabalgha, khud)* with cheek guards and a mail aventail *(mighfar)* covered the head.

Shields

Shields were circular and medium-sized. Larger, heavier shields *(juna)* were made of wood and hide. Lighter variants *(pahri)* were made of cane and bamboo. The quintessential Indian shield was the *dhal.* It was made of steel or lacquered hide with a round, convex shape and two straps for the forearm to pass through. The face of the *dhal* was elaborately decorated with brightly colored paint and sometimes reinforced with small bosses. The *pahri* is a light shield variant and should only be permitted if *Damage to Shields* (p. B484) is in use.

Juna: DB 3, $90, 20 lbs., DR 4, HP 22, Cover DR 9.
Pahri: DB 2, $45, 7 lbs., DR 2, HP 16, Cover DR 6.
Dhal: DB 2, $60, 14 lbs., DR 4, HP 20, Cover DR 9.

Horses

Horse armor also consisted of mail and plates. When assembled, the various sections covered the horse completely except for below the knees.

Elephants

While horses were prevalent in northern India, elephants were more common in the south. The elephant was used militarily for many things, from carrying heavy loads to reconnaissance and field engineering. During the Mughal period, the elephant had lost some importance in battle, but it still fought on occasion. The heaviest armor currently in existence is a set of elephant armor in the Royal Armouries in Leeds. The Leeds example is incomplete, but originally it consisted of a six-piece (three per side) caparison covering the body, a chamfron for the head extending halfway down the trunk with flaps for the ears, and a final bib covering the throat. All of this is made of mail-and-plates and weighs almost 260 lbs. Other examples were made of scale or mail or simply padded cloth. When in battle, three or four men typically rode on the elephant. The *mahout* sat behind its head while two or three archers rode in an armored *houdah* on its back. Some houdahs were modified to mount two heavy muskets *(gajnal)*.

Mughal Equipment

The chain mail worn by the higher classes was wrought of pure steel rings, and the whole weighed scarcely ten pounds. But however little oppressive may have been the weight of this armor, its effect on a hot Indian day . . . must have been serious.

– Henry George Keene, ***A Sketch of the History of Hindustan*** *(1885)*

Mughal melee weapons (*kotah-yaraq* or "short arms") consisted of swords, axes, maces, spears, and daggers. Swords were often worn over the shoulder rather than at the waist. By this time firearms were becoming popular; so, in addition to traditional ranged weapons such as composite bows, Mughals wielded matchlocks and pistols (***Low-Tech***, p. 93). The artillery division *(topkhanah)* also deployed rockets (***Low-Tech***, p. 87).

16th- to 17th-Century Southern Mughal Infantry Loadout (TL0)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Shirt	*Qabcha*	torso	0	$48	1.6	15	
Corselet	*Peti*	chest	3	$263	15	23	[1]
Shoes	*Khussa*	feet	1	$40	2	6	
Padded Cap	*Turban*	skull	1*	$10	1.2	3	
TOTAL	**–**	**–**	**–**	**$361**	**19.8**	**47**	

Notes

[1] -1 DR vs. *crushing.*

16th- to 17th-Century Northern Mughal Cavalry Loadout (TL4)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Padded Shirt	*Qarqal*	torso, arms	1*	$75	9	23	
Pants	*Berten*	legs	0	$240	1.6	15	
Hauberk	*Bagtar*	torso, thighs, knees	6	$7,500	30	32	[1, 2]
Mail Sleeves	–	upper arms, shoulders	6	$1,000	4	6	[1, 3]
Vambraces	*Dastana*	forearms, elbows	5	$2,250	3.6	14	[4]
Greaves	*Ranak*	shins	5	$3,765	6	23	[5]
Shoes	*Khussa*	feet	1	$40	2	10	
Helmet	*Dabalgha*	skull, ears, cheeks	6	$1,735	4	12	[6, 7]
Aventail	*Mighfar*	neck	3*	$25	0.6	–	[8]
TOTAL	**–**	**–**	**–**	**$16,630**	**60.8**	**135**	

Notes

[1] -1 DR vs. *crushing.*

[2] Inside thigh is exposed when on foot (see *Armor Gap – Inside Thigh,* p. 4).

[3] Protects the arms on a roll of 5-6 on 1d.

[4] Protects the arms on a roll of 1-4 on 1d.

[5] Protects the legs on a roll of 1-3 on 1d.

[6] Protects the face on a roll of 3-5 on 1d.

[7] Gives Hard of Hearing (p. B138).

[8] -2 DR vs. *crushing.*

After going through the rains of Hindustan, a bow and arrow north of the countries of the Hindu Kush cannot be drawn even. It is ruined.

– Journal of Emperor Babur

Mughal Horse Loadout (TL3)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Chamfron	–	head	5	$500	10	10	[1]
Crinet	–	neck	5	$500	10	10	[1]
Peytral	–	chest, upper legs (front)	5	$1,500	30	30	[1, 2]
Flanchards	–	torso (sides)	5	$500	10	10	[1]
Crupper	–	abdomen, upper legs (rear)	5	$1,500	30	30	[1, 2]
TOTAL	**–**	**–**	**–**	**$4,500**	**90**	**90**	

Notes

[1] -1 DR vs. *crushing.*

[2] Protects the legs on a roll of 4-6 on 1d.

Mughal Elephant Loadout (TL3)

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Caparison	–	torso, upper legs,	5	$11,000	220	220	[1, 2]
Chanfron	–	head, neck (back), trunk, ears	5	$2,000	40	40	[1, 3]
Bib	–	neck (front)	5	$1,000	20	20	[1]
TOTAL	**–**	**–**	**–**	**$14,000**	**280**	**280**	

Notes

[1] -1 DR vs. *crushing.*

[2] Protects the legs on a roll of 4-6 on 1d.

[3] Protects the face on a roll of 2-3 on 1d.

English New Model Soldier

The harquebusier, besides a good buff coat, is to have the back and breast of the cuirassier's arming. The defensive arms of the dragoons are an open head-piece with cheeks, and a good buff coat with deep skirts.

– Gervase Markham, ***Soldier's Accidence***

The derisory nickname "roundhead" was given to supporters of Parliament by the Royalists during the English Civil War (1642-1651). These men wore their hair close-cropped, in contrast to the courtly fashion of wearing long, curled wigs. The Parliamentarians created the New Model Army in 1645. It was the first army that could be deployed anywhere in the country rather than being tied to a particular county or garrison. These men were full-time soldiers rather than part-time militia; even the officers were "career military" rather than holders of political or religious office.

Infantry consisted of mixed units of musketeers and pikemen ("shot and pike"). The pikemen stopped the enemy cavalry from charging through a formation of infantry while the musketeers tried to shoot enough of the other side's pikemen to create a gap for their own cavalry to exploit. At the start of the Civil War, musketeers were armored with a long-sleeved buff coat and munitions cuirass. Pikemen wore the same plus a segmented fauld and tassets. By the end of the Civil War, musketeers wore a sleeveless buff coat (if they were lucky) and most pikemen were reduced to a munitions-quality breastplate and tassets (no fauld). The tassets protected the thighs and half of the abdomen (but not the stomach or groin).

The soldier's head was protected by either a Spanish-style *morion* or, more commonly, a pot helm with a brim, a neck guard, and an open, three-bar grill protecting the face from sword cuts (only stopping *swinging* attacks). Heavier helmets had shoulder struts to take some of the weight off the neck. By this time, all helmets were single-piece and do not cost extra (see *Spangenhelms vs. Single-Piece Helmets,* ***Low-Tech,*** p. 112). Helmet padding was called a "Monmouth hat," and some musketeers chose to wear this by itself, without the helmet. Clothing consisted of a long-sleeved linen shirt with breeches covering the thighs and groin, and hose over the knees and shins. Footwear consisted of shoes for common infantry or "bucket-topped" boots for officers and cavalry, which were folded over below the knee when walking.

The buff coat (made from elk or deer hide, not buffalo) became more popular than textile armors during this time, probably because of the widespread use of firearms; leather provides better protection from powder burns, which were caused by weapons being fired in close proximity and also by malfunctions. The rapid development of firearms after the Civil War meant that infantry soon stopped wearing body armor altogether, while the introduction of the *bayonet* meant that the pikeman was no longer a tactical necessity.

Cavalry

The more lightly armored *dragoons* operated as both light cavalry and mounted infantry. All cavalry wore a buff coat, leather gloves, and leather "bucket-topped" boots that were pulled up over the thighs when riding and folded over below the knee when walking. Over their regular hose were worn "boot hose" to stop the leather boots from damaging the hose. The heavy cavalry troops consisted of harquebusiers (who wielded arquebuses; see ***Low-Tech,*** p. 92). Nicknamed "ironsides," these men were armored with a steel cuirass over a buff coat, and sometimes a gorget covering the neck and a metal "bridle gauntlet" on the left hand. Faulds and tassets weren't usually worn while mounted. Cavalry plate is generally better than infantry armor and is not cheap quality.

17th-Century English Cuirassier (TL4)

The best troops were armored head to foot in heavy plate, but these troops were expensive to raise and maintain, and were thus rare during the Civil War. One example, however, was the "London Lobsters," led by Sir Arthur Haselrig. At the Battle of Roundway Down in 1643, Haselrig survived four close-range firearms shots and several sword thrusts. He was only unseated when his horse was attacked (see ***Low-Tech Companion 2,*** p. 25).

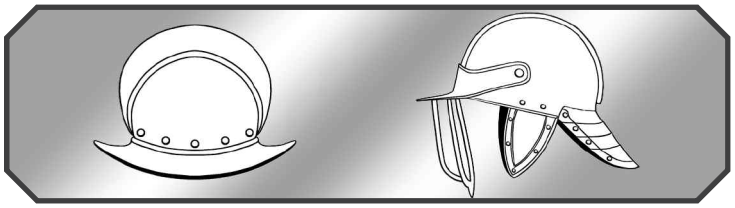
Use the *16th-Century Italian Condottiere Loadout* (p. 42) but replace the *petto* with a heavier breastplate:

No Arming Doublets

And because that no man can conveniently and fitly be armed, unless he be first properly appareled for his armor and also for the use of his weapon and that in the camp and army of Tilbury in 1588 whereas there were regiments of diverse shires with diverse bands both of demi-lances and lighthorsemen I did see and observe so great disorder and deformity in their apparel to arm withal, as I saw but very few of the army that had any convenience of apparel and chiefly of doublets to arm upon, whereof it came to pass that most of them did wear their armor very uncomely, uneasily . . .

– Sir John Smythe (1588)

As p. 103 of ***Low-Tech*** states, munitions plate doesn't need to be specially tailored for the wearer; however, it does need an arming doublet to fit comfortably (see *Arming Garments,* ***Low-Tech,*** pp. 101-102). During the English Civil War, this doesn't seem to have been very common. Instead of a well-fitted arming doublet, many types of armor had a cloth or leather liner instead, as noted by Sir John Smythe. This causes the wearer -1 DX *and* -1 DR, due to the incorrect fit.



Proofed Breastplate (chest (front)): DR 12, $9,375, 15 lbs., Don 17.

As with German Gothic armor (see *15th-Century German Ritter,* pp. 39-40), you can reduce weight by adding fluting to any of the plate pieces for a 10% weight reduction and +4 CF (see *Fluting,* ***Low-Tech,*** p. 110).

Early 17th-Century English Infantry Loadout (TL4)

The combination of buff coat and cuirass should give DR 9 on the chest (front) and DR 7 on the chest (back). However, the wearer suffers -1 to DX due to *Layered Armor* (***Low-Tech,*** p. 103), and another -1 to DX (total -2 to DX) and -1 to DR because of the lack of an arming doublet (see *No Arming Doublets,* p. 45), giving DR 8 on the chest (front) and DR 6 on the chest (back).

The *Monmouth hat* is listed separately rather than being incorporated into the helmet because it was commonly worn by itself.

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Shirt	–	torso, arms	0	$72	2.4	23	
Leggings	*Braies & Hose*	legs	0	$48	1.6	15	
Light Buff Coat	–	torso, arms, thighs	2*	$195	23.4	59	
Breastplate	–	chest (front)	7	$525	10.5	17	
Backplate	–	chest (back)	5	$375	7.5	17	
Fauld	–	abdomen	4	$120	8	12	
Tassets	–	thighs (partial)	5	$225	4.5	11	[1, 2]
Gloves	–	hands	0	$15	0.5	10	[3]
Shoes	–	feet	1*	$40	2	10	
Helmet	–	skull, cheeks, neck (back)	5	$300	5.3	9	[4]
Grill	–	face	5	$30	0.5	–	[5]
Padded Cap	*Monmouth Hat*	skull	1*	$10	1.2	3	
TOTAL	**–**	**–**	**–**	**$1,955**	**67.4**	**186**	

Notes

[1] Protects the leg on a roll of 6 on 1d.

[2] Covers only outside thigh (see *Armor Gap – Inside Thigh,* p. 4).

[3] Gives Ham-Fisted 1 (p. B138).

[4] Protects the face on a roll of 4-6 on 1d.

[5] Only vs. *swinging* attacks.

Late 17th-Century English Infantry Loadout (TL4)

The combination of buff coat and breastplate gives DR 8 (chest) and DR 6 (back) because of the lack of an arming doublet (see *No Arming Doublets,* p. 45). This also gives -1 to DX in addition to the usual -1 to DX for *Layered Armor* ***(Low-Tech,*** p. 103), for a total of -2 to DX.

The removal of the backplate reduces weight but leaves the fighter's back completely vulnerable. The lack of a fauld leaves the abdomen *partially* vulnerable; the tassets are enlarged to cover both the thighs (protects leg on a roll of 6 on 1d) and the lower half of the abdomen (on a roll of 1-3 on 1d).

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Shirt	–	torso, arms	0	$72	2.4	23	
Leggings	*Braies & Hose*	legs	0	$48	1.6	15	
Light Buff Coat	–	torso, thighs	2*	$145	17.4	44	
Breastplate	–	chest (front)	7	$525	10.5	17	
Large Tassets	–	thighs (partial), abdomen (partial)	5	$500	10	12	[1, 2, 3]
Gloves	–	hands	0	$15	0.5	10	[4]
Shoes	–	feet	1	$40	2	10	
Helmet	–	skull, cheeks, neck (back)	5	$300	5.3	9	[5]
Grill	–	face	5	$30	0.5	–	[6]
Padded Cap	*Monmouth Hat*	skull	1*	$10	1.2	3	
TOTAL	**–**	**–**	**–**	**$1,685**	**51.4**	**143**	

Notes

[1] Protects the leg on a roll of 6 on 1d.

[2] Protects the abdomen on a roll of 1-3 on 1d.

[3] Covers only outside thigh (see *Armor Gap – Inside Thigh,* p. 4).

[4] Gives Ham-Fisted 1 (p. B138).

[5] Protects the face on a roll of 4-6 on 1d.

[6] Only vs. *swinging* attacks.

17th-Century English Harquebusier Loadout (TL4)

The combination of pot helm and *Monmouth hat* gives the skull DR 7. The combination of buff coat and breastplate gives DR 11 on the chest (front). The wearer also suffers -1 to DX per *Layered Armor* (***Low-Tech,*** p. 103). This combination could sometimes be just enough to stop musket shot. There are accounts where a shot trooper removed his holed breastplate to discover metal fragments (from the shot and the damaged armor) caught in his buff coat.

Common Name	*Ethnic Name*	*Location*	*DR*	*Cost*	*Weight*	*Don*	*Notes*
Shirt	–	torso, arms	0	$144	2.4	23	
Leggings	*Braies & Hose*	legs	0	$96	1.6	15	
Heavy Buff Coat	–	torso, thighs	3	$290	29	44	
Buff sleeves	–	arms	2*	$50	6	15	
Breastplate	–	chest (front)	8	$1,313	10.5	17	
Backplate	–	chest (back)	6	$938	7.5	17	
Gorget	–	neck	6	$125	1	3	
Gauntlets	–	hand (left)	6	$125	1	5	[1]
Gloves	–	hand (right)	0	$8	0.3	5	[2]
Boots	*Bucket-Tops*	feet, legs	2*	$110	13.2	18	
Helmet	–	skull, cheeks, neck (back)	6	$625	3.8	9	[3]
Grill	–	face	5	$30	0.5	–	[4]
Padded Cap	*Monmouth Hat*	skull	1*	$10	1.2	3	
TOTAL	**–**	**–**	**–**	**$3,864**	**78**	**174**	

Notes

[1] Gives Ham-Fisted 2 (p. B138).
[2] Gives Ham-Fisted 1.
[3] Protects the face on a roll of 4-6 on 1d.
[4] Only vs. *swinging* attacks.

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They, astounded at the flash of the armor, and the swiftness of the charge, and attacked by showers of arrows and missiles, half naked as they were, never stopped to resist but gave way.

– Arrian