

RAM SPEED

Bronze Age Naval Warfare

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1.0 INTRODUCTION

RamSpeed is a two-player game about battles between Greek, Roman, and Phoenician galleys (oar-powered warships). Players maneuver their galleys and attempt to sink their opponents'. The game can be expanded to include multi-player or fleet actions.

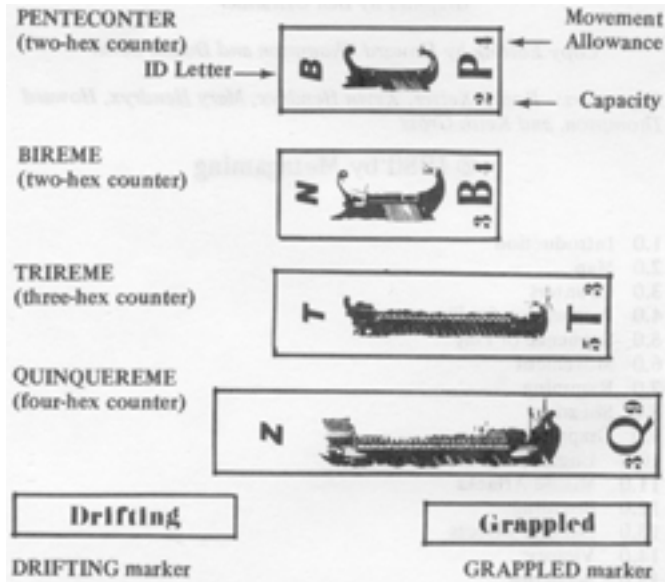
RamSpeed will bring to mind the clash of bronze and iron-beaked warships, decks aswarm with catapults, archers, and marines. Galleys lacked the destructive power of modern, high-technology weapons, but to those early seamen, combat was just as deadly. Naval combat in the preChristian era had its own nasty surprises, which players will come to recognize and employ.

2.0 MAP

The map is a hex-grid which represents open water. Gamers may wish to tape maps together for fleet actions or they may wish to add coastlines, fortresses, reefs, islands, or shallow waters.

3.0 COUNTERS

Each counter represents a single galley. Counters are in two colors, one for each side. Note that a counter does not occupy a single hex on the map, but rather occupies two, three, or four hexes. Each counter is marked with its Capacity, Movement Allowance, and ID Letter. Galleys are of four types:



4.0 PREPARATION FOR PLAY

4.1 Scenarios. RamSpeed has three scenarios (see rule 15.0). Players must first decide which one of these to play, or else make up their own scenario. The scenario rules tell how many Build Points each side has.

4.2 Building Galleys. With his Build Points, each player may build as many or as few galleys as he wishes. Build Points are used for galleys (hull and rowing banks) and for Boarding Parties and missile weapons to put in those galleys. A player does not have to use all of his Build Points.

4.2.1 Basic Galley Costs: See the Galley Types table, chart 16.1.

4.2.2 Missile Weapons and Boarding Parties: Each Boarding Party and each type of missile weapon has a Size, as well as a Build Point cost. (See Weapon Types table, chart 16.2) Each galley can have missile weapons and/or Boarding Parties whose combined Size is equal to its Capacity.

EXAMPLE: A Bireme, which has a Capacity of three, could have two catapults (Size one each) and two Boarding Parties (Size ½ each). The total cost would be 40 Build Points (32 for the galley itself, three for each of the two catapults, and one for each of the two Boarding Parties).

4.3 Ship Record Sheets. On a copy of the Ship Record Sheet, each player makes a record for each of his galleys. Initially, the galley's ID Letter, type, missile weapons, and Boarding Parties are recorded. Later, hull damage, rowing bank damage, missile weapons damage, changes in Boarding Parties, and use of Double and Triple Speed are recorded. (All of these terms will be explained later.)

Players may agree to keep their Ship Record Sheets secret from each other.

4.4 Setting Up. Each player rolls a die. The high roller sets up first. (Roll again in case of ties.) This player places his ships within four hexes of the eastern map edge. Then the other player sets up within four hexes of the western map edge.

5.0 SEQUENCE OF PLAY

Each turn consists of several phases, which must be done in order.

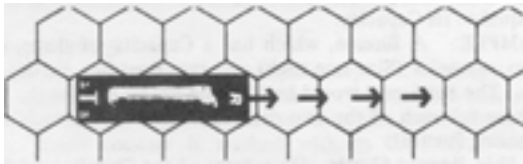
- I. *Roll for initiative.* Each player rolls a die; roll again in case of ties. The high roller moves first that turn.
- II. *First Player's Movement.* The player with the high die roll in the Initiative phase moves each of his galleys, attempting to Ungrapple, Ram, Shear, or attempting to Grapple as he does so.
- III. *Second Player's Movement.* Same as first player's movement.
- IV. *Missile Attacks.* Each missile weapon may fire at an enemy galley which is in range. These attacks are considered to be simultaneous, although the player with initiative does his attacks first.
- V. *Boarding.* Each galley with Boarding Parties may attack an enemy galley with which it is Grappled, attempting to capture it.

6.0 MOVEMENT

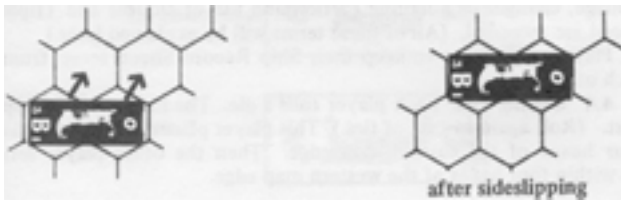
6.1 General. During each Movement phase, a player may move some, none, or all of his galleys. Each turn, each galley may move a number of hexes determined by its Movement Allowance. Unused movement may not be saved for next turn. A galley may move less than its Movement Allowance. Galleys move on at a time. Movement is not simultaneous.

6.2 Other Galleys. No more than one galley may occupy a hex at any time. Galleys may be in hexes next to each other without affecting each other.

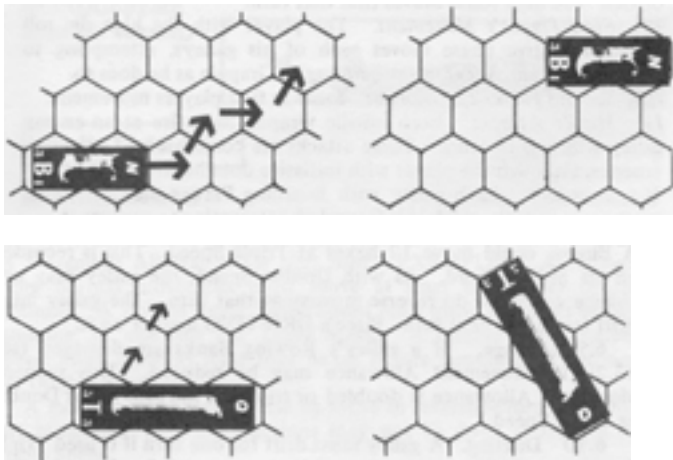
6.3 Straight-Ahead Movement. If a galley moves forward (towards the ID letter on the counter) it may move a number of hexes equal to its Movement Allowance. Thus, a Penteconter or Bireme may normally move straight ahead four hexes and a Trireme or Quinquereme may move three hexes.



6.4 Sideslipping. A galley may also move by moving one hex sideways and forward, so that the galley occupies a row of hexes parallel to the ones it originally occupied.



This maneuver counts as one hex of its Movement Allowance. However, the galley must move one hex straight ahead before moving each hex of sideslipping. This straight-ahead movement preceding sideslipping must have been done that turn.



6.5 Changing Course. A galley may change course by having its stern (the end with the Capacity and Movement Allowance numbers) swing while the bow (front) remains in place. The galley will then be pointed 60 degrees (one hexside) to the direction that it was originally pointed. Changing course counts as several hexes of the galley's Movement Allowance, depending on the size of the galley:

Penteconter: 1 hex

Bireme: 2 hexes

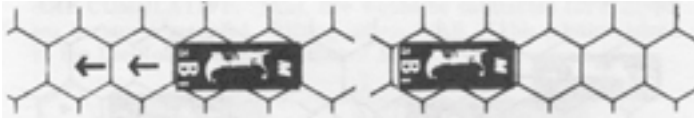
Trireme: 2 hexes

Quinquereme: 3 hexes

Any non-drifting galley may change course once per turn, even if it is damaged (see 13.2).

A galley may change course more than one per turn. **EXAMPLE:** A Bireme could change course and then move two hexes straight ahead, or change course twice to end up pointing 20 degrees from its original direction.

6.6 Reverse Movement. A galley may move directly backwards without changing its direction.



Each hex entered by reverse movement counts as two hexes of its Movement Allowance. Thus galleys which have only one hex of movement left may not do reverse movement. Reverse movement may be combined with other types of movement. Each ship may do reverse movement more than once per turn. **EXAMPLE:** A Penteconter, which has a Movement Allowance of four, could move one hex in reverse, change course, and then move one hex straight ahead.

6.7 Double Speed. Each galley may move at twice its Movement Allowance *three times during the game*. **EXAMPLE:** a Bireme, with a Movement Allowance of four, could move up to eight hexes at Double Speed. Whenever a galley moves at Double Speed, a mark is placed in the Double Speed space on its Ship Record (see rule 4.3). *A galley may not change course or do reverse movement during a turn in which it moves Double Speed; it may only move straight ahead and/or sideslip.*

6.8 Triple Speed. Each galley may move at three times its normal Movement Allowance *once* during the game. **EXAMPLE:** A Bireme could move 12 hexes at Triple Speed. This is recorded on its Ship Record. As with Double Speed, the galley may not change course or do reverse movement that turn. The galley must drift (see 6.10) next turn. Place a DRIFTING marker on it.

6.9 Damage. If a galley's Rowing Banks are damaged (see 13.2), its Movement Allowance may be reduced. This reduced Movement Allowance is doubled or tripled if the galley uses Double or Triple Speed.

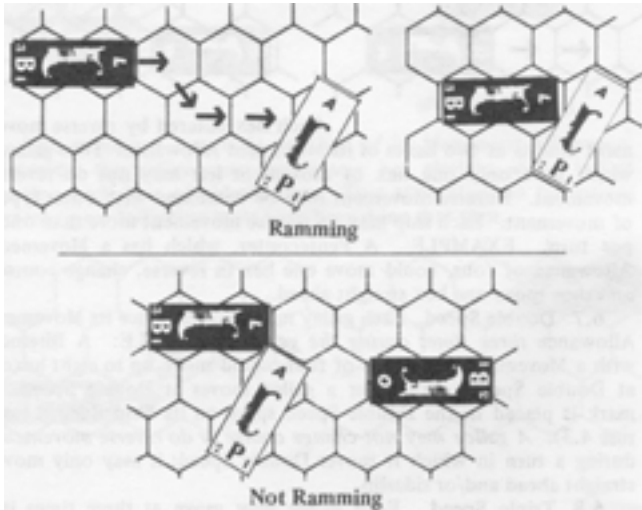
6.10 Drifting. A galley must drift for one turn if it used Triple Speed on the previous turn or if it was successfully sheared by an enemy galley on the previous enemy Movement phase (see 8.7). A galley must drift for the rest of the game if its Rowing Banks are completely destroyed (see 13.2). A drifting galley must move one hex straight ahead each turn. If this hex is occupied by another galley, the drifting galley does not move that turn. Drifting galleys cannot ram or shear but may do grappling, ungrappling, boarding, and missile attacks.

A DRIFTING marker is placed on each galley which must drift.

6.11 Leaving the Map. Galleys which leave the board may not return. Any galley partly off the map is considered to have left the map.

7.0 RAMMING

7.1 Movement Before Ram Attempts. A galley can ram an enemy galley during its Movement phase. If the bow of the galley (the end containing the ID letter) is next to any part of an enemy galley and if the galley is pointed towards any hex occupied by the target galley, the player may declare that the galley is attempting to ram.



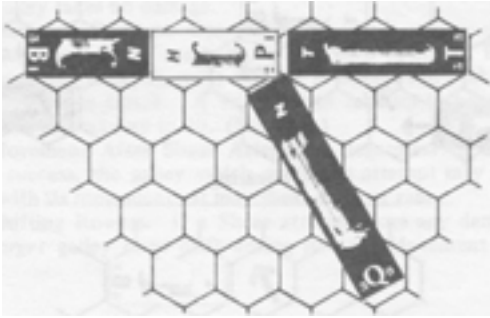
However, the ramming galley must have moved at least half of its Movement Allowance *for that turn*.

EXAMPLES: A Trireme using normal movement must move at least two hexes before ramming. A Bireme using Triple Speed must move six hexes before ramming, or else not use Triple Speed. A Bireme using Double Speed must move at least four hexes before ramming, or else not use Double Speed.

A galley may change course or move in reverse before ramming, but remember that these actions may not be done at Double or Triple Speed.

7.2 Success of Ramming Attempts. To determine whether or not a ramming attempt is successful, the attacking galley type and target galley type are determined, the Ram/Shear Attempt table (see 16.3) is consulted, and a die is rolled. This die roll may be modified; see rule 7.3. If the modified die roll is less than or equal to the number shown on the Ram/Shear Attempt table for those galleys, ramming has occurred. If not, the galley has missed its ram attempt. EXAMPLE: If a Trireme is attempting to ram a Bireme and if no die roll modifiers apply, a die roll of 1, 2, or 3 means that the Trireme has successfully rammed, but a die roll of 4, 5, or 6 means that it is unsuccessful.

7.3 Die Roll Modifiers. If the target galley is drifting (due to Rowing Bank destruction – see 13.2), the ramming players may subtract two from the die roll to determine the success of ramming. If the ramming target ship is grappled, three may be subtracted. In addition, the ramming player may subtract one for a stern attack, i.e. – the ramming galley is directly behind the target galley. Two may be subtracted for a flank ram (any hex not directly behind or in front of the target galley). THESE MODIFICATIONS ARE CULMULATIVE. Thus, five would be subtracted for attempting to ram a grappled, drifting galley. (All of this is summarized in the Die Roll Modifiers section of 16.3.)



EXAMPLE: The Bireme is not ramming the Penteconter's stern or flank and does not get a die roll modifier, and thus needs a 1 or 2 for success. The Trireme gets a -1 modifier for ramming the target's stern and thus needs a 1, 2, or 3 for success. The Quinquereme is ramming the Penteconter's flank and thus needs a 1, 2, or 3.

7.4 Damage from Ramming. If a ramming attempt is successful, the player rolls one die (for a Penteconter), two dice (for a Trireme), or three dice (for a Quinquereme) to determine the damage done to the target galley's hull. For a Bireme, one die is rolled and then one is added to the result. If ramming was at Double Speed, damage is tripled. This number of marks is placed in the Hull Damage section of the target galley's Ship Record (see 13.1 for effects). EXAMPLES: For a Bireme ramming at Double Speed, a "4" is rolled on one die, then one is added to the die roll, and then the damage is doubled, yielding 10 points of Hull Damage. For a Quinquereme ramming at Triple Speed, a three-dice roll of 13 would be tripled to give 39 points of damage.

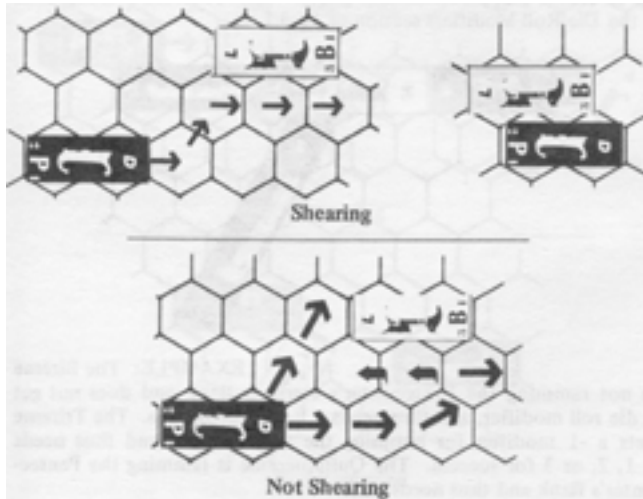
The ramming galley doesn't take damage.

7.5 Fouling. If the ramming attempt was successful, the ramming galley may not move any farther that turn. However, the target galley may move normally in its next Movement phase, if it was not sunk.

7.6 Movement After Unsuccessful Ramming Attempts. If the ramming attempt was unsuccessful, the ramming galley may continue moving. Attempting to ram does not cost any Movement Allowance. The galley may not attempt to ram again that turn, although it may Shear or Grapple.

8.0 SHEARING

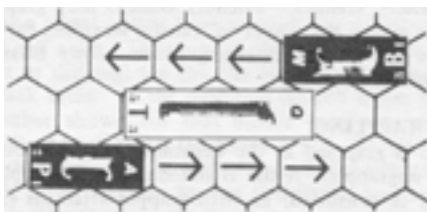
8.1 Movement Before Shear Attempts. A galley may attempt to Shear an enemy galley (i.e., break its oars) during its Movement phase. The galley must either begin its movement in or move into or through all hexes on one side of the target galley. As soon as the galley is on hexes parallel to the target galley, one hex past the target's bow or stern, a Shear attempt may be announced.



A galley must move at least one hex before attempting to Shear; it cannot Shear while remaining motionless. It cannot Shear while doing reverse movement.

8.2 Success of Shearing Attempts. To determine whether or not a Shearing attempt is successful, the attacking and target galley types are determined, the Ram/Shear Attempt table (16.3) is consulted, and a die is rolled. This die roll may be modified (see 8.3). As with ramming, the Shearing attempt is successful if the modified die roll is less than or equal to that shown on the table.

8.3 Die Roll Modifiers. Three may be subtracted from the die roll for successful shearing if the target galley is Grappled. In addition, one may be subtracted if the target galley is pointed in the opposite direction from the Shearing galley. **EXAMPLE:** The Bireme gets the opposite direction modifier but the Penteconter does not.



8.4 Damage from Shearing. One to three dice, depending on the type of attacking galley (same as Ramming) are rolled to determine the damage done to the target galley. (See chart 16.4.) This number of marks is placed in the Rowing Banks section of the target galley's Ship Record. Double Speed and Triple Speed don't increase the damage. See 13.2 for the effects of this damage. The Shearing galley takes no damage.

8.5 Maximum Damage. Only half of a galley's oars are on each side. A Penteconter can't take more than two points of Rowing Bank damage in a single shearing attack. A Bireme can't take more than six points per attack. A Trireme can take up to nine and a Quinquereme can take up to 20. (See 16.9).

8.6 Movement After Shear Attempt. Regardless of a Shear attempt's success, the galley which made the attempt may always continue with its movement. It may shear again or ram.

8.7 Shifting Rowers. If a Shear attempt does any damage at all, the *target* galley must drift during its next Movement phase. See 6.10.

9.0 GRAPPLING

9.1 Movement Before Grappling Attempts. If a galley *ends* its movement with any part of it next to any part of an enemy galley, it may attempt to Grapple that enemy galley, to enable boarding later. The galley may have done any type or amount of moving that turn.

9.2 Success of Grappling Attempts. To determine whether or not a Grappling attempt is successful, the attacking and target galley types are determined, the Grappling/Ungrappling table (16.5) is consulted, and a die is rolled. No die roll modifiers apply. If the die roll is less than or equal to that shown on the Grappling/Ungrappling table, the Grappling attempt is successful. **EXAMPLE:** A Trireme can grapple a Bireme on a die roll of 1, 2, 3, or 4.

A GRAPPLED marker is placed across the two ships.

9.3 Effects of Grappling. Neither of the two galleys involved can move until one of them has ungrappled. Boarding Combat (see 12.0) occurs during the Boarding phase, unless the enemy galley has not yet moved and is able to ungrapple during its turn or unless neither player wants Boarding Combat.

9.4 Multiple Grappling Attempts. If a galley ends its movement next to more than one enemy galley, it may attempt to Grapple any or all of them without penalty.

9.5 Friendly Galleys. Friendly Galleys may grapple automatically. This allows the player to transfer Boarding Parties between them at the end of the Boarding phase. *Only* Boarding Parties may be transferred.

10.0 UNGRAPPLING

If a ship is grappled at the beginning of its movement, it may attempt to ungrapple. A die is rolled and the Grapple/Ungrapple table (16.5) is consulted, as with grapple attempts (see 9.2). If the attempt is successful, the GRAPPLED marker is removed. If the galley is not grappled with any other enemies, it may move up to $\frac{1}{2}$ its Movement Allowance (with fractions rounded down). EXAMPLE: A Trireme with a Movement Allowance of three could ungrapple and then move one hex. If the first Ungrappling attempt is unsuccessful or if the ship is grappled to a second enemy ship, a second attempt may be made. However, the galley may not move after the second attempt.

Ungrappling is automatic between friendly galleys.

11.0 MISSILE ATTACKS

11.1 Sequence of Attacks. During each Missile Attack phase, each missile weapon on each galley may fire at an enemy galley. Even though the player with initiative (see 5.0) does his missile attacks first, the attacks are considered simultaneous; missile weapons which are destroyed still get to fire in that turn only.

11.2 Range. The range is the number of hexes from the attacking galley to the target galley, counting the target hex but not the firing galley's hex. Range is *always* determined between the *closest* hexes of the two galleys.



EXAMPLE: The range is two hexes. A missile weapon may not fire at a galley if the range is more than that weapon's Maximum Range (see Weapon table, 16.2). Also, a catapult or onager may not fire at a galley if the range is less than that weapon's Minimum Range (see Weapon Types table). Missile weapons may fire over intervening galleys.

11.3 Success of Missile Attack. To determine whether or not a missile attack hits its target, the players determine the weapon type and the target galley type, consult the Missile Attack table (16.6), and roll a die. This number is modified if the target galley is Grappled or drifting; see the Die Roll Modifiers section of the Missile Attack table. If the modified die roll is less than or equal to the number shown for that missile weapon and target type on the Missile Attack table, the target is hit. EXAMPLE: A catapult hits a Bireme on a die roll of 1 or 2 if the Bireme is moving normally, 1, 2, or 3 if the Bireme is drifting, and 1, 2, 3, or 4 if the Bireme is Grappled by a third galley.

11.4 Damage from Missile Weapons. Each type of missile weapon does a certain amount of damage if it hits; see Weapon Types chart (16.2). To determine where this damage occurs on the target galley, a die is rolled and the Hit Location table (16.7) is consulted. A number of marks equal to the missile weapon's damage are put in this section of the Ship Record. See 13.0 for damage effects. EXAMPLE: If a catapult, which does three points of damage, hits a galley and a "2" is rolled for the Hit Location, the galley receives three points of Hull Damage.

EXCEPTIONS:

- A. Archers and arbalests do no damage if they hit the Hull.
- B. If a weapon hits Boarding Parties, but if the target galley has no Boarding Parties, roll the Hit Location again. Do the same for hits on Missile Weapons when the target has none.
- C. If a weapon hits the target's missile weapons, but if the target has more than one type of missile weapon, roll a die and consult the Hits on Missile Weapons table (16.7) to see which weapon is hit. Keep rolling until an available weapon type is indicated.

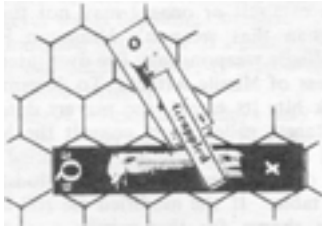
11.5 Secret Damage. If players agree, each player may roll for Hit Location without letting his opponent see the die roll, so that the opponent will not know where damage was taken.

11.6 Multiple Attacks. Each missile weapon on a galley may fire at the same one. A separate attack is done for each missile weapon that is firing. No weapon may fire more than once per turn.

12.0 BOARDING

12.1 When Boarding May Occur. During the Boarding phase, after Missile Attacks, Boarding Combat can occur between galleys which are Grappled. Either galley can initiate Boarding Combat, regardless of which one did the Grappling. No Boarding occurs if neither ship wishes it to.

12.2 Boarding combat. For each of the two galleys involved, a die is rolled and the Boarding Combat table (chart 16.8) is consulted. The indicated number of Boarding Parties is crossed from the enemy's Ship Record Sheet. The effects of Boarding Combat are simultaneous.



EXAMPLE: The Quinquereme has eight Boarding Parties and the Bireme has six. A "2" is rolled for the Quinquereme's attack and a "4" is rolled for the Bireme's attack. Thus, the Bireme loses two Boarding Parties and the Quinquereme loses one.

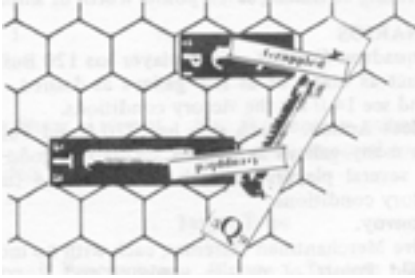
12.3 Capturing Ships. If all of one Galley's Boarding Parties are eliminated in Boarding Combat, or if it had none to begin with, and if the other galley has at least one surviving Boarding Party, capture may occur. The losing player gives the winning player the captured galley's Ship Record. The winning player must then transfer at least one Boarding Party onto the captured galley which is loaded to its Capacity with missile weapons, but otherwise the captured ship's Capacity may not be exceeded. EXAMPLE: Six Boarding Parties could not be moved onto a captured Penteconter.

Capture does not occur if both sides have Boarding Parties left, or if neither side has Boarding Parties left.

12.4 Restrictions on Captured Galleys. Captured galleys may not use Triple Speed, but may otherwise move normally. They may not Ram, Shear, or make Missile Attacks. They may Grapple, Ungrapple, and do Boarding Combat. A captured galley remains captured even if the Boarding Parties on it are eliminated by missile attack.

12.5 Setting Adrift. If a player is able to capture a galley (see 12.3) but does not wish to, the player may instead destroy all of the galley's Rowing Banks so that the galley will drift for the rest of the game. The Boarding Parties then stay on their original galley.

12.6 Multiple Galleys. If a galley is grappled with more than one enemy galley, it may do Boarding Combat attacks against any or all of them. If it attacks more than one enemy galley, its Boarding Parties are divided between the enemies and a separate die roll is made against each enemy. Each enemy galley may make a separate Boarding Combat Attack against that galley. Boarding Parties are divided up before any die rolls are made. **EXAMPLE:** The Quinquereme, with eight Boarding Parties, is grappled and both a Bireme with two Boarding Parties and a Trireme with four Boarding Parties. The Quinquereme may simultaneously attack the Trireme with six Boarding Parties and the Bireme with two. The Trireme and Bireme each make an attack against the Quinquereme. Thus, four die rolls are made in the Boarding phase.



13.0 DAMAGE EFFECTS

13.1 Hull Damage. Hull Damage occurs from Ramming and missile attacks by catapults and onagers. When a galley has taken a certain number of points of Hull Damage (see Damage Effects table, 16.9), it sinks and is removed from the game. **EXAMPLE:** A Trireme sinks when it has 30 points of Hull Damage. Hull Damage has no effect before the time of sinking.

13.2 Rowing Bank Damage. Rowing Bank Damage occurs from Shearing and missile attack. When a galley has taken Rowing Bank Damage, it might have its Movement Allowance reduced. When a maximum number of points of Rowing Bank Damage are taken, the galley must drift (see 6.10) for the rest of the game. See Damage Effect table, 16.9, for these limits for each galley type. **EXAMPLE:** A Bireme is reduced to Movement Allowance of 2 when it has taken six points of Rowing Bank Damage and must drift when it has taken 12 points of Rowing Bank Damage.

13.3 Boarding Party Losses. Boarding Parties can be eliminated through missile attack or Boarding Combat. Each point of damage destroys one Boarding Party. When a galley is boarded and has no Boarding Parties of its own, it is captured; see 12.3.

13.4 Damage on Missile Weapons. Missile weapons can be hit by enemy missile attacks. Each hit is on a particular type of missile weapon. A missile weapon is destroyed when it has taken damage equal to its Build Point value (archer unit = 1, arbalest = 2, catapult = 3, and onager = 5). However, a single missile weapon may never destroy more than one enemy missile weapon. Excess damage points are disregarded. **EXAMPLE:** A hit by a catapult, which does three points of damage, would destroy one archer unit, arbalest, or catapult, or would damage an onager. Damaged missile weapons function normally until destroyed.

14.0 VICTORY

At the beginning of the game, each player's fleet is assigned a value:

Each Penteconter:	1 Victory Point
Each Bireme:	2 Victory Points
Each Trireme:	3 Victory Points
Each Quinquereme:	5 Victory Points

As soon as either player has captured or sunk 2/3 of the enemy fleet, based on these Victory Points, he has won. **EXAMPLE:** If a player has a fleet worth 10 Victory Points, his opponent wins by capturing or sinking seven points worth of ships.

15.0 SCENARIOS

15.1 Squadron Combat. Each player has 120 Build Points and may construct as many or as few galleys as desired. See rule 4.4 for set-up and see 14.0 for the victory conditions.

15.2 Fleet Action. Each side has 220 Build Points and may construct as many galleys as desired. This is a good multi-player game, with several players on each side. See 4.4 for set-up and 14.0 for victory conditions.

15.3 Convoy.

Convoy: Five Merchantmen (Biremes, each with no more than four total Build Points of missile weapons and Boarding Parties) and two Quinqueremes, each with up to 20 Build Points of missile weapons and Boarding Parties.

Raiders: 300 Build Points, in any number and types of galleys.

Set-Up: First the Convoy galleys set up within eight hexes of the southeast corner of the map. The Raiders set up within eight hexes of the northwest corner of the map.

Victory: Ignore rule 14.0. The Convoy player wins if three merchantmen exit the board within eight hexes of the northwest corner. The Raider player wins if three merchantmen are captured or sunk. The game continues until one player wins.

Special Rule: The merchantmen may not use Double Speed or Triple Speed and may not run or shear.

16.0 CHARTS AND TABLES

16.0 Galley Types.

Type	Build Point Cost (Empty)	Capacity	Movement Allowance	Changing Course (MA cost)
Penteconter	14	2	4	1
Bireme	32	3	4	2
Trireme	48	5	3	2
Quinquereme	90	9	3	3

16.2 Weapon Types.

Type	Build Point Cost	Size (in Capacity Points	Minimum Range	Maximum Range	Damage Points
Archer Unit	1	1/2	1	3	1
Arbalest	2	1	1	4	2
Catapult	3	1	2	5	3
Onager	5	2	3	6	5
Boarding Party	1	1/2	--	--	--

16.3 Ram/Shear Attempt. For the moving galley to hit the target galley, a modified die roll *less than or equal to* the number shown is needed.

Target Type				
Attacker Type	Penteconter	Bireme	Trireme	Quinquereme
Penteconter	3	4	5	5
Bireme	2	3	4	5
Trireme	2	3	4	5
Quinquereme	1	2	3	4

Ram Attempt Die Roll Modifiers	Shear Attempt Die Roll Modifiers
Target is grappled: -3	Target is grappled: -3
Target is drifting: -2	Target is in opposite direction as attacker: -1
Flank Attack: -2	
Stern Attack: -1	

16.4 Damage from Ramming and Shearing.

Attacker Type	Dice rolled to determine damage
Penteconter	1
Bireme	1+1 (add 1 point to die roll)
Trireme	2
Quinquereme	3

Ramming Only: Double the result for Double Speed, triple for Triple Speed.

Shearing Only: No more than ½ of Rowing Banks per attack.

16.5 Grappling/Ungrappling. For the moving galley to grapple with or ungrapple from the non-moving galley, a die roll less than or equal to the number shown is needed.

Moving Galley Type	Non-moving Galley Type			
	Penteconter	Bireme	Trireme	Quinquereme
Penteconter	3	2	1	1
Bireme	4	3	2	1
Trireme	5	4	3	2
Quinquereme	5	5	4	3
No die roll modifiers.				

16.6 Missile Attack. For the missile weapon to hit, a modified die roll less than or equal to the number shown is needed.

Weapon Type	Target Type			
	Penteconter	Bireme	Trireme	Quinquereme
Archer Unit	3	4	5	6
Arbalest	2	3	4	5
Catapult	1	2	3	5
Onager	1	2	3	4
Die Roll Modifiers	See Weapons table for damage done.			
Target is grappled: -2				
Target is drifting: -1				

16.7 Hit Location. Roll a die and consult this table each time a missile weapon hits its target.

Die Roll	Location
1, 2, or 3	Hull (1)
4	Rowing Banks
5	Boarding Parties (2)
6	Missile Weapon (2, 3)
Hits on Missile Weapons (4)	
Die Roll	Weapon Type
1	Archer Unit
2	Arbalest
3, 4	Catapult
5, 6	Onager

Notes:

- (1) Archers and arbalests have no effect on the Hull.
- (2) Roll for Hit Location again if the target has none.
- (3) Roll for Hits on Missile Weapons if the target has more than one type.
- (4) Roll on this table again if the target has none of the indicated type.

16.8 Boarding Combat. The number shown is the number of defending Boarding Parties eliminated.

Die Roll	Number of Attacking Boarding Parties										
	1	2	3	4	5	6	7	8	9	10	11+
1	1	1	1	1	1	2	2	2	2	3	3
2	1	1	1	1	1	1	2	2	2	2	3
3	0	1	1	1	1	1	1	2	2	2	2
4	0	0	1	1	1	1	1	1	2	2	2
5	0	0	0	1	1	1	1	1	1	2	2
6	0	0	0	0	1	1	1	1	1	1	2

16.9 Damage Effects. The numbers shown are the damage points needed.

Galley Type	Hull Damage To Sink	Reduce Speed to:		Rowing Bank Damage:	
		2/3	1/2	1/3	Drift
Penteconter	10	--	2	--	4
Bireme	20	--	6	--	12
Trireme	30	6	--	12	18
Quinquereme	50	16	--	24	40



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Galley Type ID Letter

Missile Weapons: Type Number Damage

Type Number Damage

Type Number Damage

Number of Boarding Parties:

Hull Damage:

Rowing Bank Damage:

Double Speed Used:

Triple Speed Used:



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