A MOD FOR SAILWIND

Dangerous Waters

A Captain's Manual to Piracy, Gunnery and Survival
in the Waters of Al'Ankh, the Emerald Archipelago and Aestrin



ILLUSTRATED · WITH CHARTS, HISTORIES AND THE RULES OF THE SEA

RELEASE ONE · MMXXVI

A MOD FOR SAILWIND

Dangerous Waters

A Captain's Manual to Piracy, Gunnery and Survival

Being an account of the pirates who now cruise beyond the patrolled waters,
of the guns a merchant captain may buy to answer them,
and of the rules by which the two shall meet.

With three sea charts, illustrated profiles of the pirate schooner and of every gun,
short histories of piracy, of the chase, and of naval artillery in the Age of Sail,
and the complete rules of nerve, damage and the working of the guns.

RELEASE ONE

Written and built by Dixiecapt

for the Sailwind community, in the year 2026

Sailwind is the work of Raw Lion Workshop. Dangerous Waters is an unofficial modification and is not affiliated with them.
This manual describes Release One. Where the manual and the F1 settings menu disagree, the settings menu is the law of the ship.

TABLE OF CONTENTS

I Introduction — What Dangerous Waters Is 4

II The Features of the Mod 6

III How to Install 10

IV Charts of the Dangerous Waters 18

V A Brief History of Piracy in the Age of Sail 28

VI The Pirate Schooner — An Illustrated Profile 32

VII Chase and Evasion in the Age of Sail 35

VIII Naval Artillery in the Age of Sail 40

IX The Rules of Nerve and Damage 47

X Illustrated Weapon Profiles 56

XI Cannon Controls 65

XII The Old Chronian Refit 74

XIII Licences, Credits and How to Support the Work 80

The histories in Chapters V, VII and VIII are written for pleasure and for context; the rules in Chapters IX, X and XI describe the mod exactly as it ships.

Every number in the rules chapters is the mod's default value and can be changed in the settings menu (most with *Advanced settings* ticked).

CHAPTER I

Introduction

What Dangerous Waters Is

"The pirates have to be able to shoot back, or this mod was a waste of time."

— THE FIRST RULE LAID DOWN FOR THE BUILD

Sailwind is a game about the sea and the ship. It asks you to read the wind, trim your canvas, keep your stores, plot a course by the sun and the stars, and bring a cargo across open water for a modest profit. It is a quiet game, and a beautiful one, and until now the only things that could hurt you were the weather, the rocks and your own mistakes.

Dangerous Waters puts something else out there. Beyond the reach of the port patrols, in daylight and in a workable breeze, a topsail schooner under dark canvas and a black flag may raise you from astern. She has ten guns and a crew who want your cargo. She will size you up before she commits — how low you sit in the water, how many guns you carry and how heavy they are, how big your ship is against hers — and if the sum comes out in her favour she will run you down, lie alongside, throw her grapples, and take what she can carry. If it does not, she will leave you be. That is the whole mod in a sentence, and the rest of this manual is about what happens in between.

The mod adds three things to the game. It adds THE PIRATE: an enemy ship with a captain who thinks in terms of risk and reward, who sails by the same wind you do, who is blind in fog and in the dark, who offers you quarter before he sinks you, and whose nerve can be broken by good gunnery. It adds THE GUNS: five kinds of period ordnance, from a brass swivel on the rail to an eighteen-pounder Great Gun, sold at five arms merchants around the world, bought with your own coin, carried aboard like furniture, nailed down, loaded by hand or by your crew, and fired singly or in broadsides. And it adds THE CONSEQUENCES: her round shot floods your bilge and wounds your hull through the game's own damage systems; yours breaks her nerve, tears her canvas and slows her down; and if you have been beaten you can strike your colours, be plundered, and live.

Who this manual is for

It is for the merchant captain who has just seen a strange sail on the quarter and would like to know, quickly, what to do about it. It is also for the captain who wants to fit out a Brig with a battery and go looking for trouble, and who will want to know exactly how the guns are served, what each one costs,

and how far it throws. And it is for anyone who simply likes the period: three of the chapters are short histories — of piracy, of the chase, and of naval artillery in the Age of Sail — written to give the rules some flesh.

The manual is in three parts, though it is not divided so on the page. Chapters I to IV tell you what the mod is, how to install it, and where in the world it applies. Chapters V to VIII are the histories and the two illustrated profiles, of the pirate and of the guns. Chapters IX to XI are the rules: nerve, damage and the working of the guns, written as plainly as the author could manage, with every number the mod actually uses.

A word on the numbers

Every figure quoted in the rules chapters is a default. Almost all of them can be changed in the BepInEx settings menu (the F1 menu, if you have Configuration Manager installed; most are behind its *Advanced settings* box), and the menu entries carry their own explanations. The manual describes the mod as the author plays it and as it is shipped to you; if you change a number, the manual is wrong and the menu is right. Ranges are given in metres because that is what the game's own instruments and the mod's log use; a nautical mile is 1,852 metres, and a cable is roughly 185.

A word on the spirit of the thing

Dangerous Waters is not a naval-combat game bolted onto Sailwind. The pirate is a nuisance to be managed, not a boss to be farmed. A prudent captain will keep inside the patrolled waters when he can, sail at night when he must cross them, keep a sharp lookout to windward, and treat a fight as the last resort it was for every real merchant master. A captain who wants to fight will find that the mod rewards seamanship as much as gunnery: the weather gauge, the point of sail, a well-timed turn to bring a battery to bear, and the discipline to hold fire until she is close enough that the shot will tell. Above all it rewards knowing the rules, which is why this book exists.

ON THE STATE OF RELEASE ONE

This is the first public release. The pirate cannot be sunk in this release (she can be beaten, made to run, and made to strike), only the pirate schooner is used as a hull, and only round shot and canister are sold. Chain and bar shot, boarding her as a prize, more hulls and more shot are on the list for Release Two. Everything described in this manual is in the build you have; nothing described here is a promise.

CHAPTER II

The Features of the Mod

What the mod adds to Sailwind, set out in order: the pirate, her guns, your guns, the damage between you, and the sights and sounds of it.

Coastal pirate encounters

Hostile pirate schooners cruise the grounds about their four bases — Bone Isle, Eleann Island, Dead Cove and Sen'na — keeping clear of the five patrolled ports, and hunting laden merchants for their cargo and their coin. An encounter is rolled every thirty to forty-five minutes while you are in dangerous water, in daylight, with the wind under 25 knots; a little under half the rolls come up a sail, and once a pirate has gone no second one appears for three quarters of an hour — one or two encounters on a voyage, not a fleet. She appears about 800 metres off, on your windward quarter, and comes down on you with the weather gauge already hers.

A pirate with nerve

The pirate's captain runs on a hundred-point scale of *nerve*. Twenty seconds after she sights you she scans your ship — how deep you sit in the water (her greed), how much metal your heaviest broadside can throw and how large a ship you are (her fear) — and sets her starting nerve from the sum. A fat, lightly-armed trader is attacked with confidence. A ship that looks too dangerous is left alone. In the fight, every hit you land takes nerve off her by the weight of the shot, and when it falls below thirty she breaks off and runs; drive it to nothing and she strikes her colours.

She offers quarter, and she never shoots first

The pirate wants your cargo, and cargo on the sea bed is worth nothing to her. She will not fire until you do. When your bilge is filling or your hull is failing she hails you and holds her fire, giving you a chance to strike your colours and be plundered rather than sunk. Fire on her after a hail and she fights to sink you.

Boarding and plunder

If she gets alongside she matches your speed, holds station for fifteen seconds, fires the broadside that faces you if you have fought her, and throws her grapples. You then have thirty seconds to fight her off before your colours come down. Once they do, her boarding party spends half a minute ransacking the ship, takes up to two of your possessions and a share of every coin you carry, and casts off. She is a thief, not a murderer: quest items are spared, and there is a ceiling on the coin she takes.

Bounty for a beaten pirate

A pirate whose nerve has broken will run to windward under all sail. Chase her and keep hitting her and you can drive her nerve to nothing, at which point she strikes: she stops, furls, hauls down the black flag and lies to under your guns. Close within thirty metres and a prize crew takes her in; forty Gold Lions are paid into your purse for making the waters safer.

Fog and night blind her

In dense fog, and after dark, the pirate can see no further than 200 metres. Beyond that she holds the course she was on, sails at plain cruise, and her guns fall silent. A captain who keeps his distance until the light goes, then alters course, can slip away. Dawn gives her back her eyes.

She sails like a ship

The pirate sails by the game's own wind. Her speed depends on the strength of the breeze and on her point of sail — close-hauled she is slow, on a broad reach she is at her best — and on how much canvas she has left: every sail you shoot away comes straight off her speed until her crew can re-hoist it. She meets her helm like a real helmsman, wears round rather than tacking, and works to keep the weather gauge. In a gale she gives up the chase and runs for shelter.

Cannons, ballistics and gunnery

Period ordnance, bought and carried

Five guns are sold at five arms merchants around the world: the brass Swivel Gun for the rail, the brass 4-pounder Falcon, the iron 12-pounder Long Gun, the iron 18-pounder Great Gun, and the 18-pounder carronade the sailors call the Smasher. Each is a ship item: bought with your coin, carried aboard like furniture, set down where you want it, and nailed to the deck with the hammer. Shot, canister, powder kegs and sealed crates are sold alongside.

Batteries mapped from where you place the guns

Every carriage gun you bolt down to the left of your keel line joins the larboard battery; every one to the right joins the starboard battery; a gun on the centreline at either end is a bow or stern chaser. One order loads every carriage gun aboard with round shot from the ship's stores; one order fires a whole side. Every carriage gun recoils: fired, she kicks back to where she can be loaded, and loaded, her crew run her out again. One key stows every broadside gun along the side, or runs them all out.

The Old Chronian refit

The Caelanor and the Aelasyl are refitted to fight: fighting tops and lookout posts on their masts, a walkable net slung under the bowsprit, copper sheathing below the water, lids on their gun ports that open with the guns, and davits over the frigate's stern. Every piece is bought at the shipyard, with the ship's own parts. The lids, once fitted, open and close by a click, like any hatch, and ignore the click that fires a gun; the Aelasyl's close tight into their ports to keep the sea out in a seaway. The frigate also gains a bilge pump. Chapter XII has the whole refit.

Real loading, real stores

No gun fires without powder and shot aboard. Each charge comes out of a keg, each ball out of your stock, and a swivel takes a canister of grape. A gun may be served by hand — keg in hand, click; ball in hand, click — or by the crew, who take from the lockers and refuse when they are bare.

Ballistics and the skipping shot

Round shot leaves the muzzle at 200 metres a second and drops with gravity; a broadside is laid with a little elevation to carry it out to a useful range. A ball that arrives flat enough skips off the sea and flies on, up to three times, as gunners intended when they fired low. Every ball is followed to the end of its flight and scored where it lands.

Damage, both ways

Her round shot ties directly into Sailwind's own hull-integrity and bilge systems: a hit between wind and water floods the bilge and wounds the hull, a hit on the planking wounds the hull alone, and a raking hit along your keel does half as much again. A ball through the rigging on either ship has a one-in-five chance of parting the gear that holds a sail up, so that it comes down and must be re-hoisted. Guns that are not nailed down go over the side when a ship heels or sinks, and sink like the iron they are.

Sights and sounds

- Volumetric battle damage — splashes scaled to the weight of the shot, and one where a skipping ball first grazes the sea; ripping canvas, and splinters flying along the ball's own path through the timber.
- Speed-of-sound audio — gun reports built from historical recordings, with the delay of sound across open water, so a distant broadside is seen before it is heard.
- Hulls that grind — a fender keeps the two ships from passing through one another; the crunch of her coming alongside is felt in your deck and heard in the timbers.

- Ship's voice — a layer of wheel, slam, crest and sea sounds under way, tuned to the canvas you carry.
- The HMS Rose aboard — on the Old Chronian ships that carry these guns (the Caelanor, the Aelasyl and the Gloriana), three recordings made aboard the replica frigate *HMS Rose* are laid over the ship's own voice: her timbers and rigging working while you are on deck under sail, her capstan turning while the anchor is hauled, and her cabin, recorded under way, while you are below. Each has its own switch and volume under *Ship sounds* in the settings.

What the mod does not do

It does not add pirates to the ports, the patrolled waters, the night or a gale. It does not let you sink her in this release, or take her as a prize hull. It does not touch your own ship's handling except where a ball has hit it (and the Aelasyl's trim, above). And it does not shoot first.

CHAPTER III

How to Install

Two ways aboard: by the mod manager, or by hand into the plugins folder. Either takes about a minute.

What you need

Dangerous Waters is a BepInEx plugin for the Steam release of Sailwind. You need the game, BepInEx 5 installed for it, the Old Chronian ship mod, and the mod itself. Old Chronian is required, not recommended: the pirate is built from its Caelanor, and without it no pirate can be raised. If you already run other Sailwind mods you have BepInEx and can skip straight to the second section. Two other mods are recommended, neither of them required: BepInEx Configuration Manager, which gives you the F1 settings menu that this manual refers to throughout; and any navigation mod you like, because the pirates live beyond the reach of the ports and a captain who knows where he is stays out of trouble.

Installing with a mod manager

This is the easy way, and the way the author expects most captains to take.

1. Install the Thunderstore Mod Manager (or r2modman, which works the same way) and let it find Sailwind on your machine.
2. Make or choose a profile for Sailwind. The manager installs BepInEx into the profile for you if it is not already there.
3. Search the Sailwind community for *Dangerous Waters* and press *Install*. Its files land in `BepInEx/plugins/DangerousWaters/` inside the profile.
4. While you are there, install *BepInEx Configuration Manager* if you do not have it.
5. Start Sailwind from the manager's *Modded* button, not from Steam, or the profile is not used.

Installing by hand

The mod is also handed out as a plain zip on the Sailwind Discord, for captains who keep their own BepInEx.

1. If you do not have BepInEx: download BepInEx 5 (x64), unpack it into the Sailwind game folder — the one holding `Sailwind.exe` — and run the game once so BepInEx makes its `config` and `plugins` folders. Close the game.

2. Open the Dangerous Waters zip. Inside is one folder, `DangerousWaters`.
3. Copy that whole folder into `Sailwind/BepInEx/plugins/`, so that the game sees `BepInEx/plugins/DangerousWaters/DangerousWaters.dll` and, beside it, `CaelanorMastPlatforms.dll`, the `Sounds` folder and the mod's data files.
4. Start Sailwind.

WHAT IS IN THE FOLDER

The plugin itself, `DangerousWaters.dll`; the Old Chronian refit, `CaelanorMastPlatforms.dll` (Chapter XII), which replaces the old separate *Caelanor Mast Platforms* download — if you still have that one in another folder it is skipped, and may be deleted; `CaelanorHatchFix.dll`, the author's own small fix for the Caelanor's cabin hatch (Chapter XII); the `dwpirates` asset bundle and its manifest, which carry the pirate hull, the gun models, the shot and crates; `ship_references.txt` and `ship_sails.txt`, which tell the mod how to dress the pirate; `dw_merchants.txt`, the arms merchants' stalls; the black flag; and the `Sounds` folder of recorded gun reports and the HMS Rose. Keep them together. The mod refuses to raise a gun if the bundle is missing, and says so in the log.

THREE MODS THAT ARE OPTIONAL

The Dinghies mod supplies the boat and the davits for the Aelasyl's stern; without it no davits are offered, and nothing else is missed. The Shipyard Expansion mod lends its copper to the sheathing, so that a coppered Aelasyl matches a coppered brig; without it the sheathing wears a plain copper of its own. Old Chronian Fixes gives the Caelanor her bilge pump, and with it installed the Aelasyl gets the same pump; without it she has none.

Knowing it has worked

Load a save and put to sea. The first time you sail beyond the patrolled water a scroll appears: *Leaving patrolled waters. Keep a sharp lookout.* If you want proof before that, open `BepInEx/LogOutput.log` and look for the line *Dangerous Waters v0.1.1 loaded successfully*. In port, the arms merchants stand at Gold Rock City, Fort Aestrin, Dragon Cliffs, Fort Chronos and Eleann Island; their wares are set out in the morning and taken in at night like any other trader's.

The settings file

On its first run the mod writes `BepInEx/config/com.roy.dangerouswaters.cfg`. Every rule in this manual lives in that file, with an explanation beside it, and Configuration Manager shows them under F1 while you play, grouped by section. The settings a captain is likely to want — *General*, *Daylight*, *Plunder*, *Effects*, the pirate's rate of fire and range, the crew's hotkeys, the ship sounds — are

shown at once; the fine tuning and the diagnostics are behind Configuration Manager's *Advanced settings* box. Changes take effect at once. If you make a mess of it, delete the file and the mod writes a fresh one with the defaults.

A captain who wants the guns and the refit but not the fights unticks *Enable pirate encounters*, the first entry under *General*. No pirate is raised after that; the merchants, the guns, the refit and the ship sounds all stay, and the tick brings the pirates back whenever wanted.

The settings a captain will want

These are the entries shown under F1 without the *Advanced settings* box, with what each does and how it ships. Every change takes effect at once unless the entry says otherwise. The Old Chronian refit's own entries stand in a second list on the same screen, under *Caelanor Mast Platforms*.

GENERAL, REGIONS, DAYLIGHT AND WEATHER — WHEN A PIRATE MAY COME

Entry	Ships as	What it does
Enable pirate encounters	on	Untick it and no pirate is ever raised. The guns, merchants, refit and lids all stay.
Chance an encounter occurs (%)	45	The odds each time the dice are rolled while you are in dangerous waters.
Minimum seconds between rolls	1800	Half an hour between rolls, plus the random extra below.
Random extra seconds between rolls	900	Up to a quarter hour more, so she never comes to a timetable.
Minimum seconds after an encounter before the next roll	2700	Forty-five minutes' rest after a fight, however it ended.
Use the drawn pirate grounds and patrol areas	on	Pirates only in the grounds on the charts (Chapter IV), never inside a port's patrol.
Pirates active from / until (hour)	6 / 18	They hunt by daylight, in-game hours.
Maximum wind for an encounter (knots)	25	No new encounter begins above this; nobody boards in heavy weather.

THE PIRATE — how she fights

Entry	Ships as	What it does
Let her shoot first	off	Off by design: she wants your cargo afloat, so she closes and boards unless you fire.
Let her shoot back	on	Off, she wears her guns and never uses them.
Gun range in metres	300	Beyond this she holds her fire and closes.
Seconds between shots per gun	30	One crew serving one gun: her chasers, and every gun at point blank.
Seconds between coordinated broadsides	60	A whole side on her captain's order, beyond point blank.
Broadside before boarding, at most (s)	20	Abreast of you with a loaded side, she holds the grapples this long to fire it first.
Chance she fires into your rigging while you run (%)	40	Each of her guns, while you are making way beyond point blank.
Quarter — she offers it	on	When your bilge or hull crosses the line, her guns fall silent and she hails you to yield.
Despawn distance (m)	2600	This far off she is gone; it is also the clean-escape distance.
Dark weathered pirate sails	on	Her canvas grey, not white linen. Only her own sails are touched.
Fog — she goes blind in dense fog	on	In the fog she sees you only close to; beyond that she holds her course and her guns are silent.
Fog — night blinds her too	on	After sunset the same short sight; dawn gives her eyes back.

DAMAGE, GUNNERY AND THE CANNON KEYS

Entry	Ships as	What it does
Her shots damage your ship	on	Her balls write the game's own hull numbers: bilge between wind and water, hull above it.
Loose guns sink	on	A gun not nailed down that goes over the side sinks like iron.
Rigging hit drops a sail (%)	20	The chance a ball into the rigging parts the gear and lets a sail go.
Swivel gun reload (seconds)	30	One man, sponge to prime.
Shot skips off the sea	on	Grazing fire: a ball arriving flat enough skips and flies on.
Shot trail	off	A faint streak behind solid shot. Off: just see the ball fly.
Recorded cannon report (0, 1, 2)	2	Which guns use the recorded reports: none, hers only, or all.
Fire larboard / starboard battery	Alt+J / Alt+L	The two battery keys. Rebind them here.
Load larboard / starboard battery	—	Keys to have one side served; unbound unless you set them.
Serve the guns (crew loads from stores)	Alt+K	Every carriage gun charged and shotted from the kegs and opened crates.

PLUNDER, EFFECTS AND SHIP SOUNDS

Entry	Ships as	What it does
What the pirates take	Both	An item or two and a share of coin; CargoOnly or GoldOnly keep one half.
Items taken when plundered (at most)	2	Chosen at random from everything you own aboard.
Gold taken when plundered (%)	5	A flat share of every currency you carry.
Maximum coin taken	2000	A ceiling on one boarding, whatever your purse.
Extra coin share when nothing to take (%)	5	A little more money when they find nothing worth carrying.
Plunder spares quest items	on	Mission paperwork is never taken, so a raid cannot break a quest.
Gun effects / Gun sound	on / on	Flame, smoke and sparks; the report. Each can be turned off alone.
Loudness of your hits landing on her	0.25	Against 1.0 for her ball landing on you.
Most effects at once	70	A ceiling on live gun effects; one shot uses about eight.
Particle density	1.0	Halve it for a weaker machine; shapes and timing stay.
HMS Rose creaks under way, capstan, cabin	on, 0.8	Each recording has its own switch and volume.
Ship sounds — ships	caelanor, chronian, gloriana	Which ships carry the recordings; blank is every ship.
Hold the loud ones below a ceiling	on	Caps the game's own wash, wheel creak, wave slam and sea sounds on those ships.

THE OLD CHRONIAN SHIPS, AND THE DEBUG KEYS LEFT IN VIEW

Entry	Ships as	What it does
Aelasyl trim aft (m)	0.40	Shifts her ballast by the stern so she sits level; 0 is as built. Moves her at once.
Refits — Copper line, stern rise, bow rise (per ship)	set	Where the copper stops and how its edge climbs at bow and stern. Applies when she next loads.
Refits — Copper metal, smoothness, colour	set	The sheathing's sheen and tint.
Nerve scan the ship you are on	Alt+Y	Writes your ship's nerve and damage numbers to the log (Chapter IX).
Force spawn shortcut / works without debug hotkeys	Alt+P / off	Calls a pirate at once. Tick the switch to use it; it is for testing.
Boat catalog shortcut	Alt+B	Writes a census of your ship to the log, for bug reports.
Enable debug hotkeys	off	Developer shortcuts, one of which removes every gun you own. Leave it off.
Verbose logging	on	The detailed log that makes a bug report answerable.

Behind the Advanced box

Tick *Advanced settings* at the top of F1 and some two hundred more entries appear. They are the mod's workings, not its options: the pirate's hull and buoyancy figures, her gun seats and their heights, the nerve and damage tables of Chapter IX entry by entry, the merchants' prices and stock, the recoil distances, the sound ceilings for each kind of noise, and a long row of diagnostic probes and scans that were used in building the mod and are switched off for play. None of them needs touching; every rule in this manual is already their result. They are left in view for the curious and for anyone helping to find a fault, when a probe may be asked for and its line read from the log. If one is changed by accident, *Reset* beside it restores the shipped value, and deleting the settings file restores them all.

Updating and removing

To update, replace the folder (or let the manager do it); your settings file is kept, any new entries are added to it, and a default you never changed moves on to the new default. Entries that no longer do anything may stay in the file as harmless leftovers. To remove the mod, delete the folder. Sell or land your guns first: an item whose mod is gone is dropped from the save when it loads, and there is no compensation from the Admiralty.

Playing nicely with other mods

Dangerous Waters was developed alongside a full stable of the usual Sailwind mods and touches as little of the game as it can. Better Drag keeps your ship's handling entirely. Random Encounters' dense fog is honoured – the pirate goes blind in it just as she does in the game's own dawn mist. Modded hulls can be used as pirates by name in the settings (the *Pirate ship prefabs* entry, under *Advanced settings*), though only the schooner is dressed and armed by default and only she is supported in this release.

CHAPTER IV

Charts of the Dangerous Waters

Where the pirates cruise, where the patrols keep them off, and where a captain may buy a gun.

The pirate grounds and the patrols

The pirates have bases, and they cruise the waters about them. Four are known. Bone Isle, north of Aestrin, whose grounds run south, south-east and east of the isle for five hundred miles by the chart's reckoning — some thirty kilometres of sea — taking in the whole of the home islands' eastern and southern approaches. Eleann Island, west of Al'Ankh, whose grounds sweep north, east and south of it to the same distance, across the passage to the Gold Rock islands and Oasis. Dead Cove, in the heart of the Emerald Archipelago, with two hundred chart-miles, thirteen kilometres, of sea about it in every direction. And a smaller company working out of the Fire Fish Lagoon, about Sen'na, with a hundred, six kilometres and a half. No pirate cruises farther from her base than that. Outside these grounds the sea is empty of pirates: Happy Bay, Fort Chronos and the long open crossings between the regions are as safe as they ever were.

Five ports keep a patrol, and inside a patrol no pirate will show herself. Fort Aestrin, Oasis and Gold Rock City are patrolled to a hundred chart-miles, about 6.5 km, in every direction, to protect the trade junctions; New Port and Dragon Cliffs, in the archipelago, only to seventy, 4.5 km, and that is all. The Lagoon has no patrol. The rule, then, is short: you are in dangerous waters when you are inside a pirate ground and outside every patrol, and the mod tells you so once, with a scroll, the first time you cross the line. On the charts that follow the grounds are drawn with a bold line and a faint red wash, each with the black flag at the base, and the patrolled water is hatched.

When she comes

Pirates hunt by eye. No encounter begins before six in the morning or after six at night, ship's time, and none begins in a wind above 25 knots — nobody boards a ship in a strong breeze. While those conditions hold and you are in dangerous water, the dice are rolled every thirty to forty-five minutes, and a little under half the time they come up a sail; once a pirate has gone, no second one appears for three quarters of an hour. She appears about 800 metres off, and always on your windward quarter, so that she holds the weather gauge from the first moment. The scroll reads *Sail ho! She flies the black flag.*

From that moment the encounter runs until one of four things happens: she decides you are not worth it and sails away; she boards and plunders you and leaves; you break her nerve and she runs, or strikes; or you open the distance to 2,600 m, at which point she is lost over the horizon and rem-

oved. In dense fog and after dark she cannot see you beyond 200 metres, which makes the last of these a great deal easier.

The arms merchants

Five ports keep a cannon merchant. He stands at his own stall, with a table, a second man by the stool and his goods spread on, under and beside the table; guns are bought like any other ware, by looking at the piece and buying it, and carried away like furniture. His stock comes out at seven in the morning and goes in at six in the evening. The exception is Fort Chronos, where the Great Guns on the fort's roof stay out all night for the convenience of the garrison.

THE FIVE ARMS MERCHANTS AND THEIR WARES

Port	Region	Guns sold	Shot, powder and crates	The local rule
Gold Rock City	Al'Ankh	Swivel Gun, Falcon, Long Gun	4 lb and 12 lb shot, canister, kegs, crates	The law limits shot to twelve pounds.
Fort Aestrin	Aestrin	Long Gun, Great Gun	12 lb and 18 lb shot, kegs, crates	Iron only — the region's brass goes elsewhere — and the sale of 18-pounder carronades is forbidden.
Dragon Cliffs	Emerald	Swivel Gun, Falcon	4 lb shot, canister, kegs, crates	Brass only; the island has no iron founder.
Fort Chronos	Aestrin (far east)	Great Gun, Smasher	18 lb shot, kegs, crates	Specialises in eighteen-pounders of both patterns. The roof guns stand all night.
Eleann Island	Al'Ankh	Smasher	18 lb shot, kegs	A black market in carronades. Ask no questions.

Prices are in Gold Lions and each port takes its own coin at the local rate; the full price list is in Chapter X. A crate of shot is a fifth cheaper than the same shot loose, and the large keg is cheaper by the charge than the small.

READING THE CHARTS

The charts are laid out on the same latitude and longitude that the game's navigation mods and the community's Sailwind Map show, with north at the top and a degree to every nine kilometres; the ports are placed from the game's own positions, the grounds and patrols from the author's own drawing on that map, and the coastlines are the community map's surveys, drawn one and a half to nearly twice their true size so that they can be seen at all. The bold outlines are the pirate grounds and the hatched water is patrolled. A black flag is a pirate base; a crossed-guns mark is an arms merchant. The scale bars are in kilometres and nautical miles.

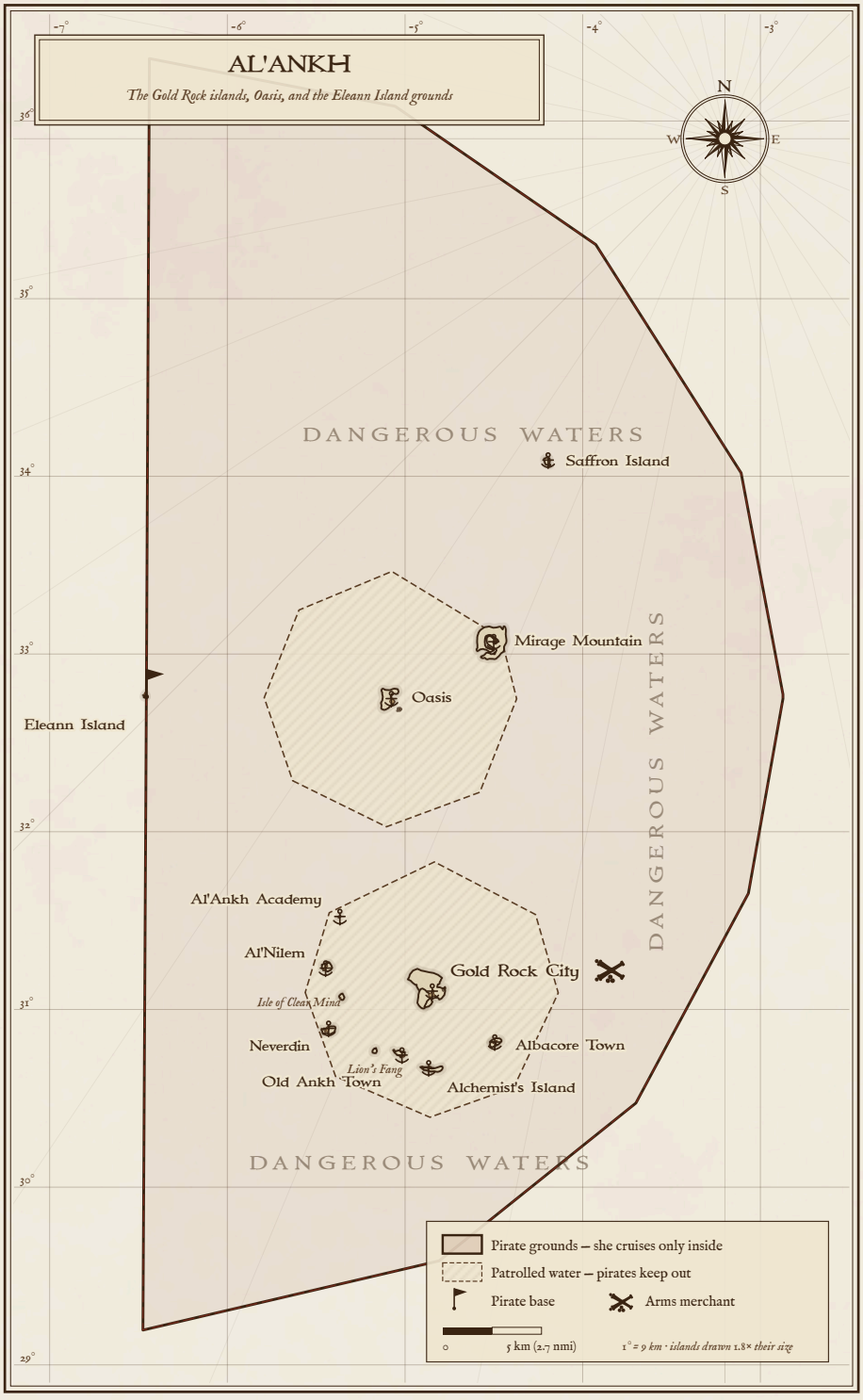


CHART I. *Al'Ankh. The Eleann Island grounds sweep north, east and south of the pirate base for thirty kilometres, across the whole passage to the Gold Rock islands and Oasis; the patrols of Gold Rock City and Oasis hold their own waters. Arms merchants at Gold Rock City and Eleann Island.*



CHART II. *The Emerald Archipelago and the Lagoon. The Dead Cove grounds cover thirteen kilometres about the base in every direction, with only the patrols of New Port and Dragon Cliffs held against them; a smaller company works six kilometres about Sen'na in the Fire Fish Lagoon, where nothing is patrolled. Arms merchant at Dragon Cliffs.*

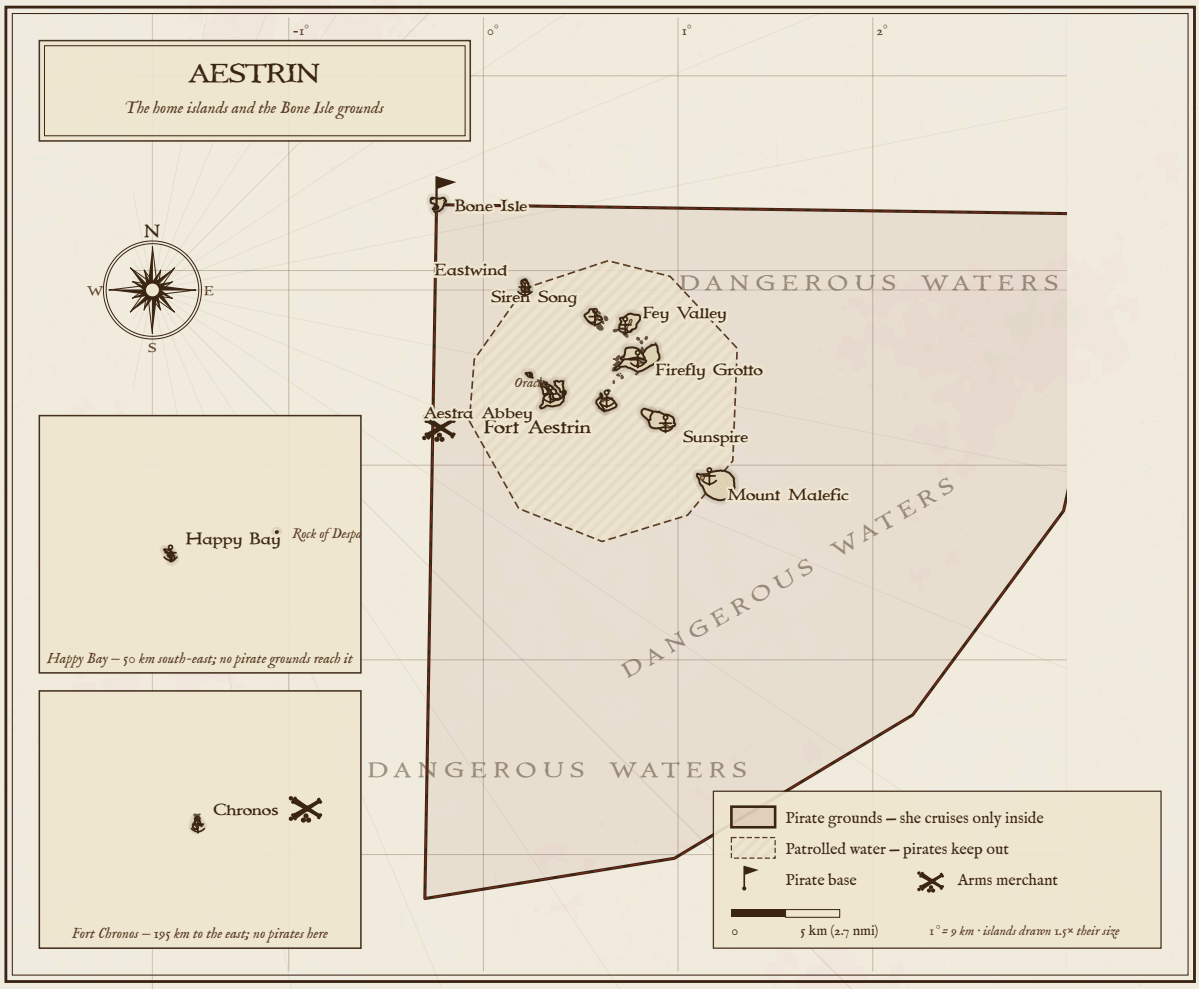


CHART III. *Aestrin, with Fort Chronos and Happy Bay inset. The Bone Isle grounds run south, south-east and east of the base for thirty kilometres and take in the home islands, whose only safe water is the Fort Aestrin patrol. No grounds reach Happy Bay or Fort Chronos. Arms merchants at Fort Aestrin and Fort Chronos.*

The islands, close

The three charts above must show thirty kilometres of pirate ground on a page, and at that scale an island is a thumbnail. The four that follow draw each island group at its true shape and about four times the scale, with the patrol and the edge of the grounds laid over them, for the captain who wants to know which side of the line his anchorage lies.

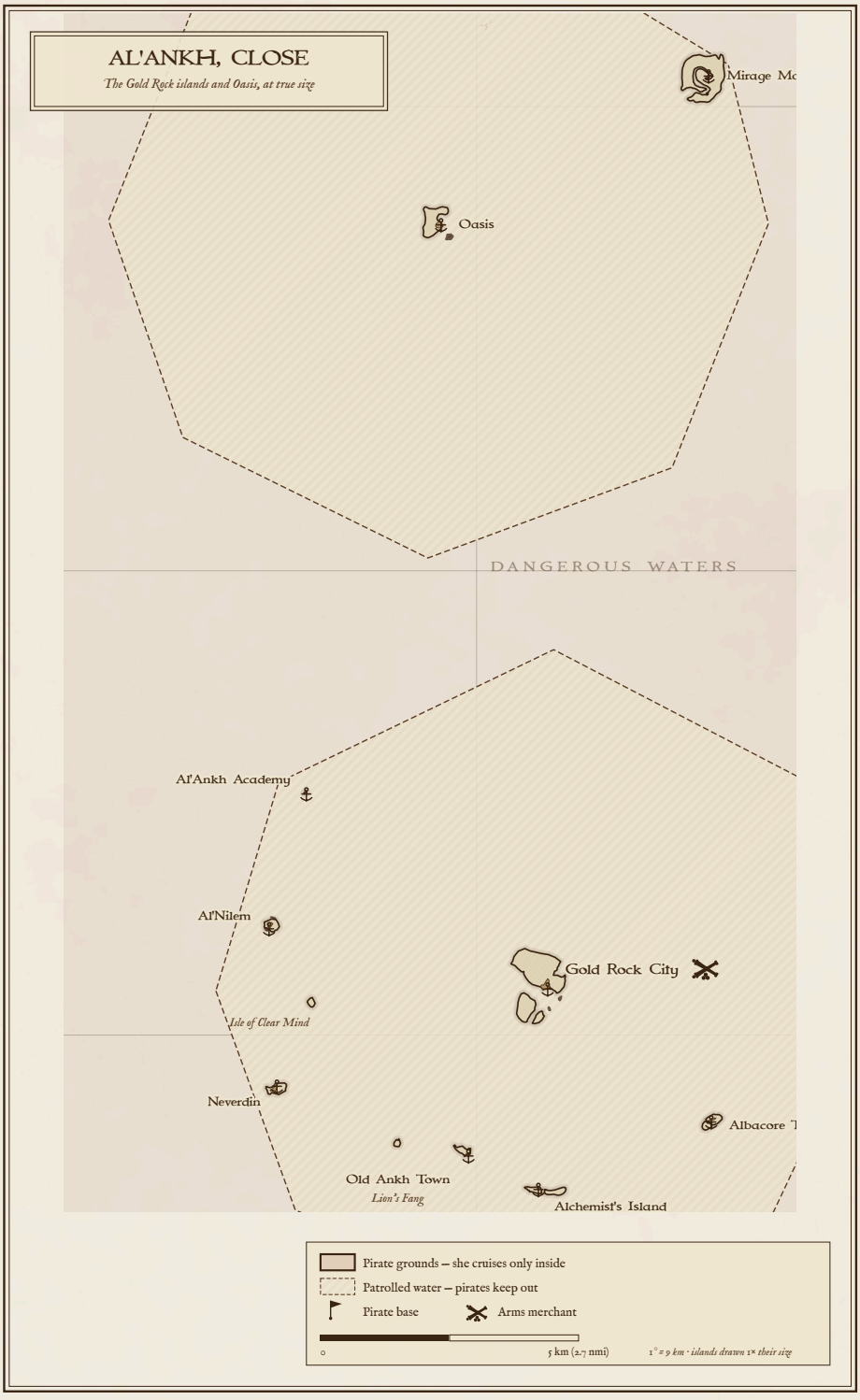


CHART IV. *Al'Ankh, close. The Gold Rock islands and Oasis at true size, each with its patrol; everything between and beyond them is the Eleann grounds.*



CHART V. *The Emerald Archipelago, close. New Port and Dragon Cliffs keep their small patrols; Dead Cove, between them, is the pirates' own harbour, and the water round Serpent Isle, Crab Beach and Sage Hills is theirs.*

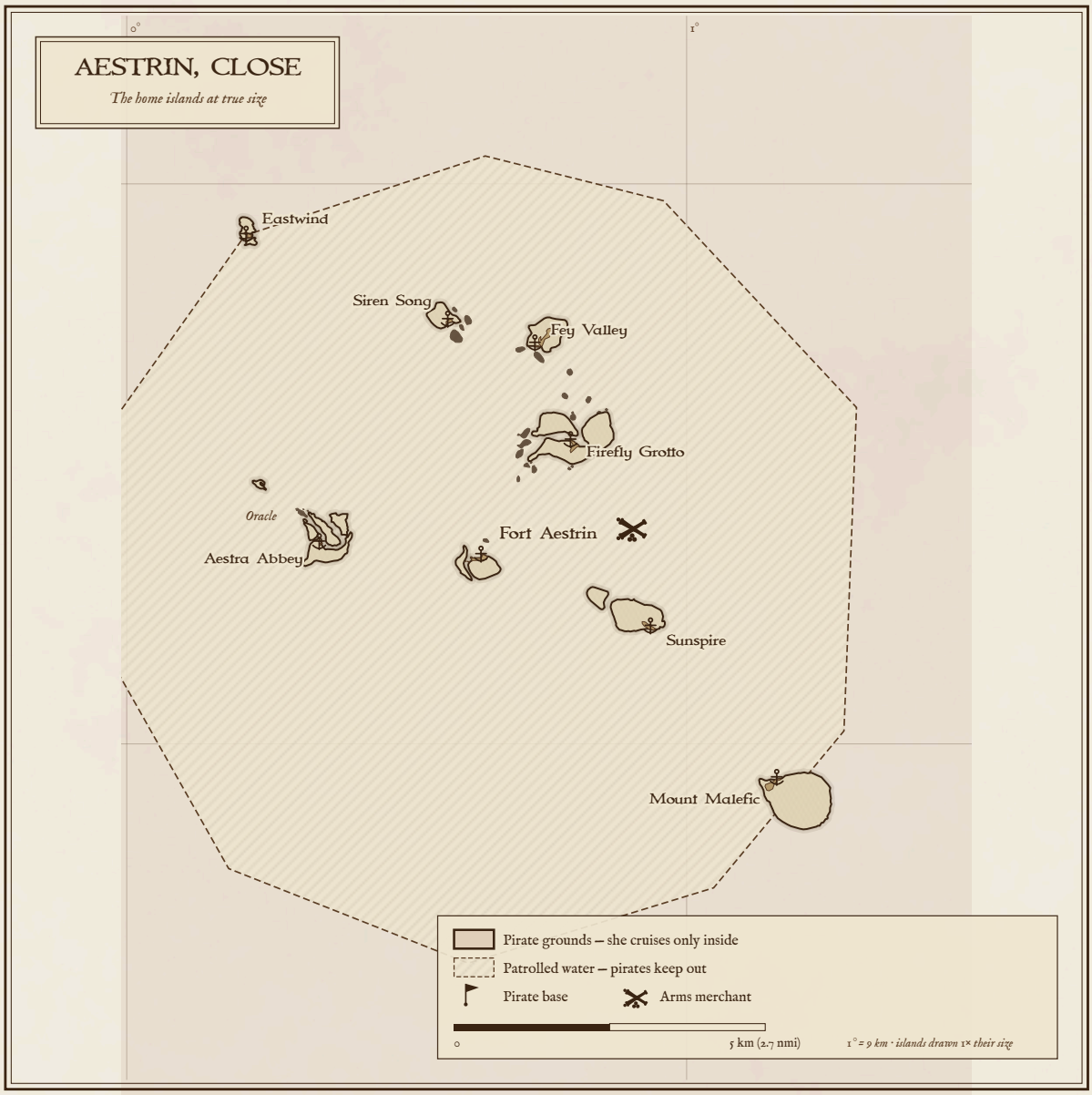


CHART VI. *Aestrin, close. The Fort Aestrin patrol covers the home islands from Eastwind to Sunspire; Mount Malefic lies just outside it, in the Bone Isle grounds.*



CHART VII. *The Fire Fish Lagoon, close. Sen'na, On'na, Kicia Bay and Fire Fish Town, all inside the Lagoon company's grounds, and nothing patrolled.*

CHAPTER V

A Brief History of Piracy in the Age of Sail

"Pirates and privateers rely on swift, decisive action to minimise damage to their intended prize."

— FROM THE INSTRUCTIONS GIVEN TO MERCHANT CAPTAINS

Piracy is as old as the sea trade it preys on. The first sea robbers we can name were already old news to the pharaohs: Egyptian records of the fourteenth century BC complain of raiders on the coast, and the collapse of the Bronze Age world two centuries later was hastened by the loose confederation of marauders that the Egyptians called the Sea Peoples. Wherever goods moved by water and no navy was there to stop it, somebody was waiting off the headland.

The ancient world

The Mediterranean produced the first great pirate power. By the second and first centuries BC the Cilicians, from the rugged southern coast of what is now Turkey, dominated the shipping lanes of the eastern sea. They were well organised, well armed and immensely profitable — they fed the Roman slave markets at Delos with tens of thousands of captives a year — and they were bold enough to seize a young Julius Caesar in 75 BC and hold him for ransom. He paid, raised a squadron, hunted them down and crucified them, and then went on to other things. The Cilicians, however, went on too, until in 67 BC the Senate handed Pompey the Great an extraordinary command over the whole Mediterranean. He divided the sea into thirteen districts, swept each with a squadron, drove the pirates east before him and finished them at Coracesium, all in a single summer of about three months. It remains the model for every anti-piracy campaign since: overwhelming force, everywhere at once, with nowhere left to hide.

The Middle Ages and the Renaissance

Piracy is a weed that grows in the gaps between empires, and the Middle Ages were full of gaps. Whenever a central power weakened, the raiders returned: Vikings in the north, Saracen corsairs in the south, and in the Mediterranean a three-cornered war between the Islamic corsairs of North Africa and the Levant, the maritime republics of Genoa and Venice, and a swarm of Christian privateers who were pirates to everyone but their own prince. In the fifteenth and sixteenth centuries the Ottoman Empire made sea-raiding an instrument of state; its *levends*, and the Barbary captains who

sailed under its protection, fought the fleets of Spain and the Holy League for control of the inland sea. The distinction between a pirate and a privateer was, then as later, largely a matter of whose paper you carried.

The Golden Age

The period every pirate story draws on runs, roughly, from the 1650s to the 1730s, and is usually divided into three.

The buccaneers, 1650-1680

Anglo-French seamen and cast-offs based at Tortuga and, later, at Port Royal in Jamaica, who lived by hunting wild cattle — the *boucan* on which they smoked the meat gave them their name — and by raiding Spanish shipping and Spanish towns in the Caribbean and across the isthmus into the Pacific. The greatest of them, Henry Morgan, sacked Panama in 1671 with over a thousand men and was knighted for it.

The Pirate Round, 1690s

As the Caribbean grew better policed, crews sailed east: from the American colonies round the Cape to Madagascar, and from bases at Sainte-Marie into the Indian Ocean and the Red Sea, where the pilgrim fleets and the East Indiamen of the Mughal Empire and the East India Company offered prizes richer than anything in the west. Thomas Tew and Henry Every made the Round famous; Every's capture of the Mughal treasure ship *Ganj-i-Sawai* in 1695 was probably the richest single act of piracy in history.

After the War of the Spanish Succession, 1715-1730

The peace of 1713 threw thousands of trained seamen, privateers and naval ratings alike, onto the beach with no work and no pay. Many of them turned pirate. For fifteen years the sea lanes of the Caribbean, the American coast and West Africa were worked by the captains whose names have lasted: Blackbeard, Bartholomew Roberts, Charles Vane, Calico Jack Rackham, Stede Bonnet, and the women Anne Bonny and Mary Read. Nassau, in the Bahamas, was for a few years an open pirate republic.

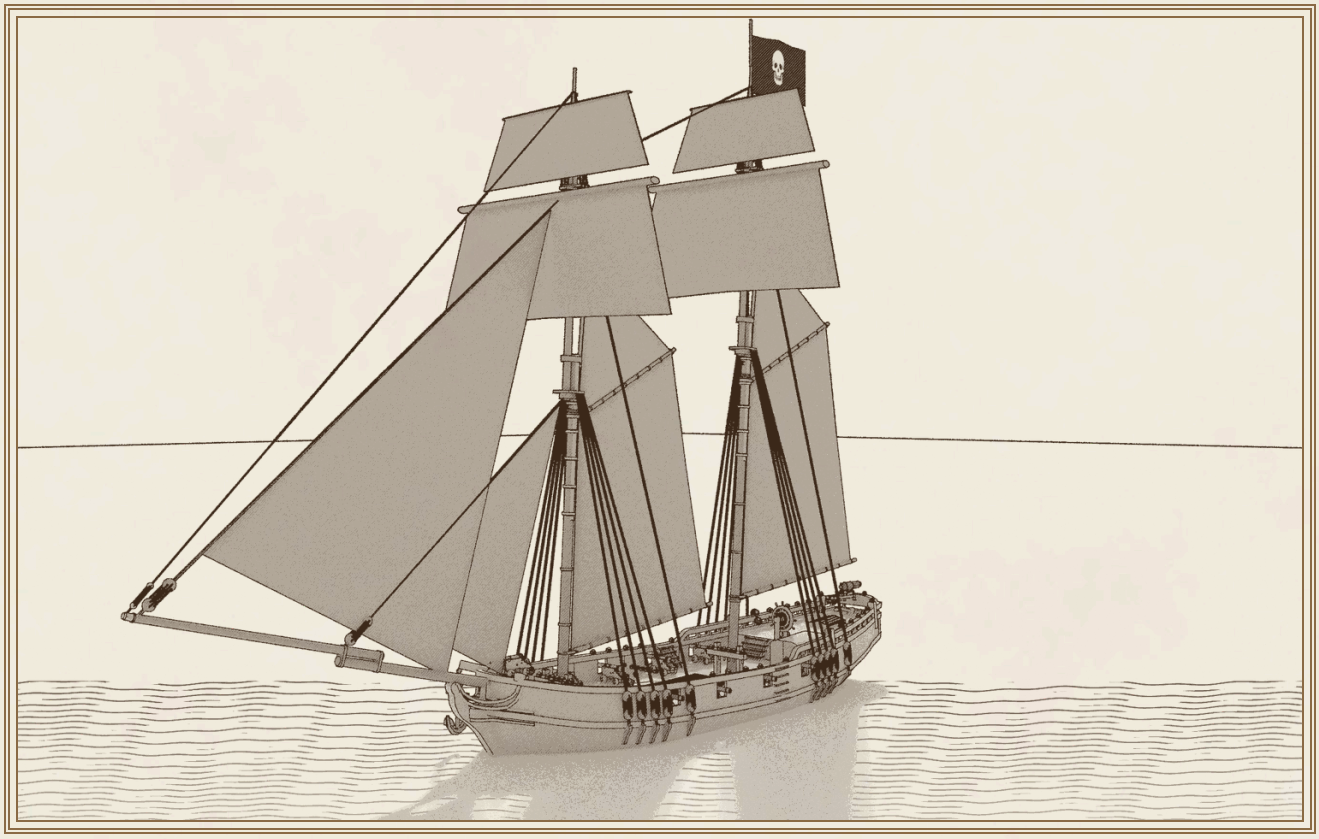


PLATE I. *The pirate's preferred instrument: a fast, weatherly, shallow-draughted vessel. A topsail schooner of the kind that now cruises the Dangerous Waters, under all plain sail.*

Havens, ships and methods

A pirate needed three things: a haven, a fast ship and a frightened victim. The havens were places with no governor or a bought one — Tortuga, Port Royal, Nassau, Sainte-Marie, the sand cays of the Bahamas, any river mouth with fresh water and a market for stolen goods. The ships were whatever could be taken and would sail: sloops and schooners above all, because they were fast, could point high into the wind, and drew little enough water to run where a frigate could not follow. A pirate sloop might carry ten or twelve small guns, a great many men, and a chest of pistols and muskets; when a captain like Roberts took a larger ship he cut down her upperworks, pierced her for more guns and packed her with two or three hundred hands.

The method was almost always the same, and it is the method this mod gives its pirates. Find a merchant in open water, well away from any port. Come down on her from windward so that she cannot turn away without losing speed. Show the black flag and fire a gun to make her heave to. If she did, nobody was hurt: the prize was boarded, her hold and her passengers were searched, a few things and a share of the money were taken, and she was let go — a pirate who sank his prizes soon found that nobody surrendered to him. If she ran or fought, the guns and the muskets came into it, and it went hard for her. The real weapon was terror, carefully cultivated, and the flag was its emblem.

The decline

It ended as it had ended for the Cilicians. In 1717 the Crown offered a general pardon to any pirate who came in and swore off the trade; hundreds did. Those who did not were hunted by a growing number of naval cruisers, tried in special Admiralty courts set up in the colonies so that the evidence did not have to be shipped home, and hanged in chains at the harbour mouth as an example. Informers were paid. Governors were replaced. By the early 1730s the Golden Age was over, not because the sea had changed but because the gaps between the empires had closed.

The Barbary corsairs and after

In the Mediterranean the older tradition outlived it. The corsairs of Morocco, Algiers, Tunis and Tripoli — the Barbary States — went on taking European and, after independence, American merchantmen, ransoming their crews or selling them into slavery, and taking tribute from the nations that preferred to pay rather than fight. The young United States fought two wars over it, in 1801 and 1815. The trade was finally crushed by the French conquest of Algiers in 1830, and with it the last of the Age of Sail's great pirate powers. Piracy itself, of course, never quite went away; it has only ever waited for the next gap.

THE PIRATES OF THESE WATERS

The captains who cruise beyond the patrols of Al'Ankh, the Emerald and Aestrin are of the last kind: small, fast, coastal raiders, sizing up every sail for its cargo and its guns, offering quarter before they fire, and taking a share rather than the whole. They are not sea wolves. They are businessmen with cannon, and they can be reasoned with by a heavier broadside.

CHAPTER VI

The Pirate Schooner

An Illustrated Profile

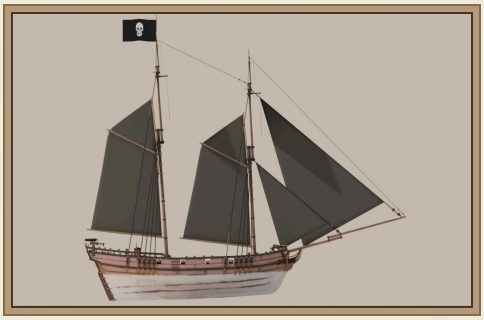
Know your enemy. Everything a captain can learn about her from the deck, and a few things he cannot.



Three-quarter view from off her bow.



Bow-on: square topsails over a schooner's fore-and-aft rig.



Broadside: 21.6 m of hull, masthead about 26 m above the sea.



From off her quarter — as you will most often see her coming.

Particulars

Hull	Caelanor sloop hull, 21.6 m (71 ft) on deck	Shot	4 lb and 18 lb round shot
Rig	Two-masted topsail schooner, eight sails	Opens fire	Only after you fire on her — never first
Colours	Dark weathered canvas, black flag	Broadsides	About every minute a side; the slowest crew sets the pace. One before she grapples
Guns	Ten: four Falcons a side, a Falcon bow chaser, a Smasher astern on a raised gun platform	Chasers	Every 27 to 36 s, as is each gun at point blank

Aim	Your hull; two guns in five into your rigging while you run; about 4° of spread

Speed by point of sail

Degrees off the wind	30°	45°	60°	90°	120°	180°
Her speed, knots	3.5	5.8	8.1	11.7	12.2	9.3

In 18 knots of wind or more with all her canvas set, once she is within about 150 m of you; from far astern she comes on faster. In 6 knots or less she makes under half of these speeds. Head to wind she only creeps (1.5 kn), so she beats 45-55° off it. Every sail you shoot away comes straight off her speed. Running away she beats to windward about 50° off the wind at two-thirds of her chasing pace — about 4.5 knots in a good breeze. If you stop or turn head to wind, she rows at 3 knots.

How she fights

Where	The grounds about Bone Isle, Eleann Island, Dead Cove and Sen'na, outside the five port patrols
When	Daylight, wind under 25 kn; a 45% chance every 30-45 min, none within 45 min of the last
Approach	Sighted about 800 m off; boards from your windward side
Boarding	Grapples alongside: 30 s to fight them off, then plunder
Plunder	Up to 2 items and 5% of your coin (10% if no items)
Quarter	Offered at 40% bilge or 40% hull: hold your fire to yield
Nerve	Your hits break it: below 30 she runs, at 0 she strikes
Prize	Stay within 30 m for 30 s after she strikes: 40 Gold Lions
Fog, night	Loses you beyond 200 m; runs for shelter above 34 kn
Escape	Open the range to 2.6 km. She cannot be sunk in this release

Her weak points

She is a small ship with small guns. A single eighteen-pound ball takes ten points of her nerve; four of them, well placed, will send her home. She cannot bear her broadside on you until she has come round, and while she is coming round she is silent. She cannot see in fog or in the dark. In light airs she crawls. Her stern is her most dangerous side to approach — the carronade is there — and her bow is her weakest: raking her from ahead or astern costs her half as much nerve again. And her captain is a businessman: show him enough metal at the scan and he will not even try.

Reading her from the deck

You will see her first as a dark sail on the windward quarter, well hull-down, and the scroll will tell you what she is. Her canvas is dirtied to a weathered grey and she flies the black flag at the main; nothing else in these waters looks like her. She carries a great deal of sail for her length — two square topsails over a fore-and-aft rig, a big gaff mainsail, staysails and jibs — which is why she is so fast off the wind and so handy on it. Her guns are hidden until they fire: four little four-pounders a side on the open deck, a fifth over the bows, and over the taffrail the one piece you should respect, a short, fat eighteen-pounder carronade, raised on a timber gun platform so that she fires clear of the rail, that she uses to discourage anyone who chases her.

Her captain does four things in order. He *scans* you, twenty seconds after he sights you, and decides whether you are worth it. He *closes*, working to keep the wind on the right side of him, at whatever speed the breeze allows. He *lies alongside* — seventeen metres off your beam, matching your speed, holding station — and after fifteen seconds throws his grapples. And then he *boards*. At no point in that sequence has he fired a gun, and unless you fire one he never will. If you have, he holds his station alongside for up to twenty seconds more and gives you the broadside that faces you before the grapples fly. Everything else in this manual is about what happens when you do.

CHAPTER VII

Chase and Evasion in the Age of Sail

"A stern chase is a long chase."

— THE OLDEST PROVERB OF THE SEA SERVICE

In the open sea a strange sail was rarely good news. To a merchant master with a hold full of cargo, or to a lone cruiser far from any squadron, every unknown ship on the horizon had to be treated as an enemy until she proved otherwise, and the decision she forced could not be put off: clear for action, or make sail and run. Most merchant captains ran. They were paid to deliver cargo, not to fight, and their ships were built to carry rather than to sail. The whole art of evasion in the Age of Sail grew out of that unequal contest — how a slower, heavier ship could avoid, outlast or discourage a faster, lighter one — and most of it comes down to the wind.

The weather gauge

A sailing ship cannot go straight into the wind. A square-rigged ship of the eighteenth century could not point much closer than six points — about 67 degrees — off it, and made leeway even then; a fore-and-aft rig, a schooner or a lateen-rigged dhow, could do a point or two better. Everything else follows from this. The ship that lies to *windward* of the other — that holds the *weather gauge* — can run down on her at any moment she chooses, on the fastest point of sail there is, while the ship to leeward cannot come up to her without turning into the wind and losing her way. The windward ship chooses when to fight and when to break off. The leeward ship can only run, and can only run in directions the windward ship can follow faster.

Captains were taught that command of the weather gauge was the single most important thing in a sea fight, and fleets manoeuvred for days to get it. A pirate, who did not want a fight at all but a surrender, wanted it even more, because it let him come down on his prize with the wind behind him and close before she could think. The pirates of these waters know this. When one of them is raised she is *always* on your windward quarter, and she works the whole encounter to stay there.

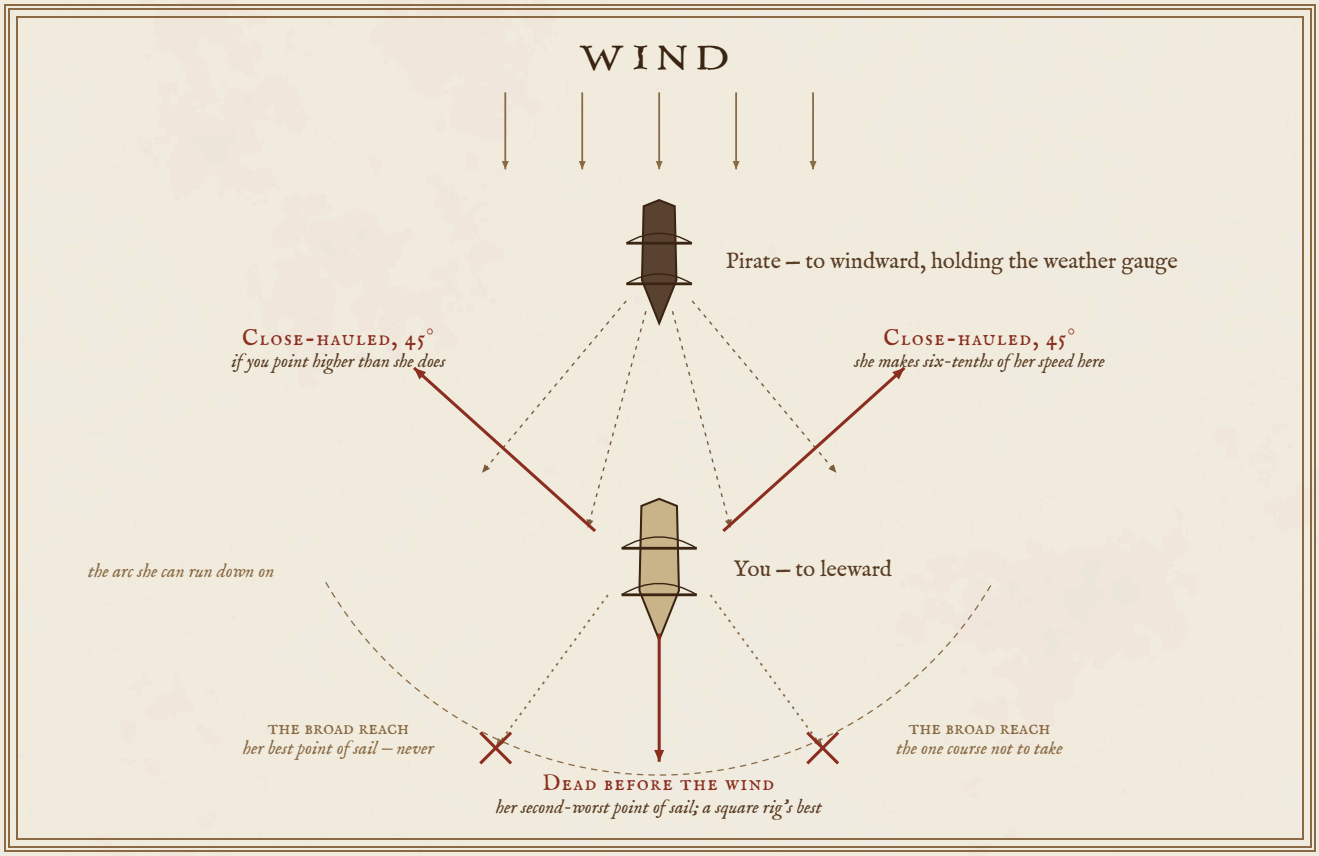


PLATE 2. *The geometry of an escape. The pirate lies to windward and can bear down on any point of the leeward arc. The merchant's two honest choices are to run close-hauled, if she points higher than her pursuer, or dead before the wind, where a schooner's sails blanket one another. The broad reach, where the schooner is fastest, is the one course never to take.*

Points of sail, and which ship is faster where

No rig is equally fast on every heading, and the difference between two rigs is where the escape is found. The pirate schooner's speed, as a fraction of her best, is roughly this: close-hauled at 45 degrees off the wind, six-tenths; on a beam reach, the full amount; on a broad reach with the wind over her quarter, a shade more than full — this is a schooner's best point of sail, and it is why the chase runs downwind; and dead before the wind, eight-tenths, because her own sails blanket one another and she has no apparent wind to speak of. She can point no higher than about 45 degrees, and head to wind she can only creep at a knot and a half until she bears away.

Set that against your own ship, which sails by the game's own rules, and the answer is usually plain:

- If you point higher than she does — a lateen dhow, a sloop, anything fore-and-aft and well trimmed — go close-hauled and hold it. She is at her slowest here, she makes leeway, and every mile you gain to windward is a mile she must beat for. This is the classic escape of the small fore-and-aft vessel from the square-rigger, and it works on her.

- If you do not — a square-rigged brig or a cog — put the wind dead astern and set every stitch. It is her second-worst point of sail and a square rig's strongest. Do not let her push you onto a broad reach: that is her water, not yours.
- Never turn broadside-on to run. You present the largest target you have and lose your forward way doing it. If you must fire while running, fire from a stern chaser.

Making a stern chase a long chase

The old proverb holds because a pursuer who gains a cable an hour still needs a whole day to close a mile, and a great deal can happen in a day: the wind can shift, the light can go, a patrol can come over the horizon. The pirates of these waters are impatient, and that impatience is your friend. If she fails to gain on you for **two minutes** together she gives the chase up. If you can open the range to **2,600 metres** she loses you entirely. And the sea itself is on your side: no new encounter begins in a wind above 25 knots, and a pirate already in chase runs for shelter once the wind has held above 34 knots for a quarter of a minute, or when a storm comes within a third of the way to her.

Wet sails, trim and ballast — the things that were true

Real crews in a chase wetted their canvas with buckets and the wash-deck pump, so that the swollen fibres held the wind that dry cloth let through; they shifted guns, water casks and cargo to trim the ship by the head or the stern, whichever she liked best; and they threw overboard whatever they could spare, boats, spare spars and in the last resort the guns, to lighten her. Sailwind models your trim and your weight and rewards a captain who stows his cargo low and level; it does not model wet sails, and neither does this mod. Nor does it give you decoy lanterns or safe shallows to run into. What it gives you is the wind, the dark, and your guns.

Shooting away her canvas

The one thing that will reliably slow a pursuer is to take her sails away. A ball fired into her rigging has a **one in five** chance of parting the gear that holds a sail up — halyard, sheet or stay — and bringing it down. Which sail is not a guess: the ball through her foretopsail drops her foretopsail. Her crew will have it re-hoisted in between forty seconds and a minute and a half, the small sails quicker than the big ones, but while it is down her speed falls in exact proportion to the canvas she has lost. Lose her a third of her rig and she makes a third less way. Two or three such hits in the first minutes of a chase are worth more than any amount of round shot into her hull, if what you want is to get away. And she knows the trick as well as you do. When you run, she fires high: about two guns in five are laid into your rigging to bring a sail down and slow you, because a prize that cannot make way is as good to her as one that has struck; alongside, or once you have stopped, every gun goes into your hull. A rigging hit on your ship has the same one-in-five chance of dropping one of your own sails, and a sail down in a chase is the chase lost.

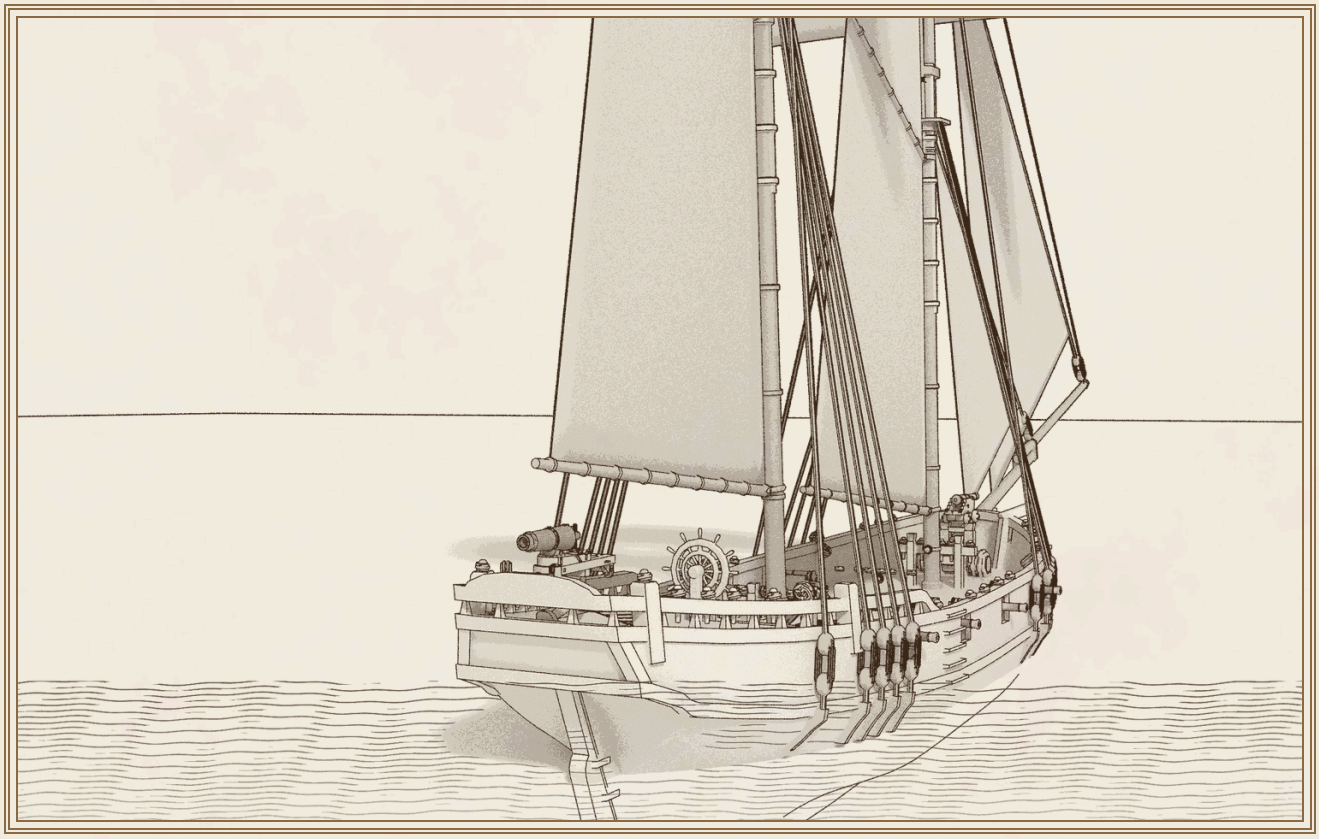


PLATE 3. *The view a pursuer gets. Over her taffrail, on a raised gun platform, the pirate carries a Smasher, an 18-pounder carronade, and she uses it on anyone who overhauls her. A chaser lets a ship fire along her own line of flight without turning from it.*

The dark and the fog

The commonest escape in history was the simplest. A chased ship held her course until nightfall, doused every light, and then altered course sharply — into the wind if she could, across it if she could not — and by morning she was gone. Captains put out lanterns on a cask and let it drift to draw the pursuer the wrong way; they showed false colours; they hoisted lanterns in the rigging of one ship to make a convoy look like a squadron. The pirates of these waters are as blind as any: in dense fog and after dark she cannot see you beyond 200 metres, and once she has lost you she holds the course she was on, at plain cruise, and does not fire. Hold her off until the light goes, then turn. Dawn gives her back her eyes.

Stopping, and why not to

A ship that lies hove to has surrendered the chase. When you stop, or turn head to wind and hang there, she clews up her canvas and comes alongside under her sweeps at three knots, and there is nothing you can do about it but fight. The same is true of her: a pirate whose nerve has broken runs to

windward under everything she has, and she cannot be stopped except by taking her sails or her nerve. If you mean to catch her, do it from her quarter, out of the arc of the carronade, and take her canvas first.

THE MANUAL'S ADVICE, IN ORDER

1. Keep inside the patrols when you can, and cross the open water at night or in fresh weather when you cannot.
2. When she is raised, decide at once: run, or fight. Do not dither on a broad reach.
3. Running, go close-hauled if you point higher than she does; otherwise dead before the wind. Set everything.
4. Fire at her rigging from a stern chaser as she closes. Every sail down is speed off her.
5. If she has not gained in two minutes she gives up. If it is near dusk, hold her off until dark and turn.
6. If she is alongside and you cannot fight her off, strike. You will be robbed, not sunk.

CHAPTER VIII

Naval Artillery
in the Age of Sail

"By modern standards these guns were extremely inefficient, difficult to load and short-ranged; and those three facts, with the handling of the ships that carried them, made the whole of naval tactics."

The Age of Sail, as gunners reckon it, runs from Lepanto in 1571 — the last great fight of the oared galleys — to Hampton Roads in 1862, when two ironclads pounded one another for four hours and neither could be hurt. For those three centuries the wooden sailing warship, mounting a bewildering variety of smooth-bore cannon along her sides, ruled the sea. The guns were cast in bronze or iron, loaded at the muzzle, fired by match or flint, and threw a solid iron ball a few hundred yards with any accuracy at all. Every tactic of the period — the line of battle, the broadside, the rake, the boarding action — was a way of getting the most out of a weapon that could do very little on its own.

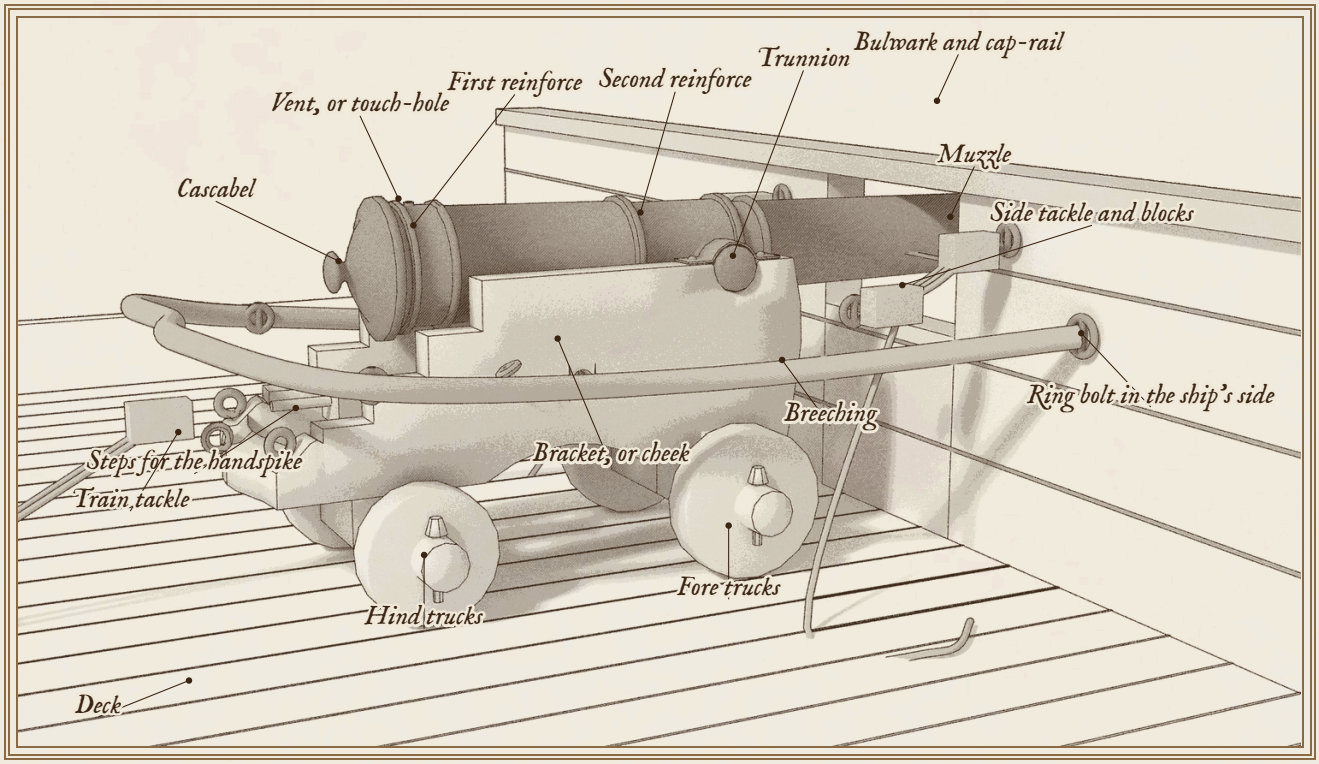


PLATE 4. *The parts of a naval gun on its truck carriage, run out through her port and rigged for sea: the breeching to check her recoil, the side tackles to run her out, the train tackle to haul her in. The Great Gun of these waters, an iron eighteen-pounder.*

Serving the gun

Firing a naval cannon was heavy, dangerous, disciplined work, and the drill was the same for a four-pounder on a merchant's quarterdeck as for a thirty-two on a first-rate's lower deck; only the number of men changed. A well-drilled crew could get off a round every ninety seconds or so for a while; a whole broadside, which waited on the slowest gun of the side, came every two or three minutes, and doctrine held it there to save powder and spare the guns from overheating and the men from mistakes. The drill ran in five movements.

1. Sponge

   A wet sheepskin sponge on a staff was run down the bore to put out any smouldering scrap of the last cartridge. Skip this, and the next charge went off in the loader's face.

2. Cartridge and wad

   The powder — loose in the early days, later sewn into a flannel or paper cartridge — went in first, followed by a wad of old rope and canvas, and both were driven home with the rammer.

3. Shot and wad

   The ball went in on top, with a second wad behind it to stop it rolling out when the muzzle was depressed or the ship rolled.

4. Run out

   The crew heaved on the side tackles until the front of the carriage was hard against the ship's side and the muzzle stood out of the port. This was the labour of the thing: a long eighteen-pounder on its carriage weighs the better part of two and a half tons, and the deck was seldom level.

5. Prime and fire

   The vent at the breech was filled with fine powder from a horn and touched off — with a linstock, a staff holding a length of smouldering slow-match, in the early period; with a flintlock and a lanyard from the middle of the eighteenth century. The gun leapt back until the breeching, a heavy rope made fast to ring bolts in the side, brought it up, and the sponge went in again.

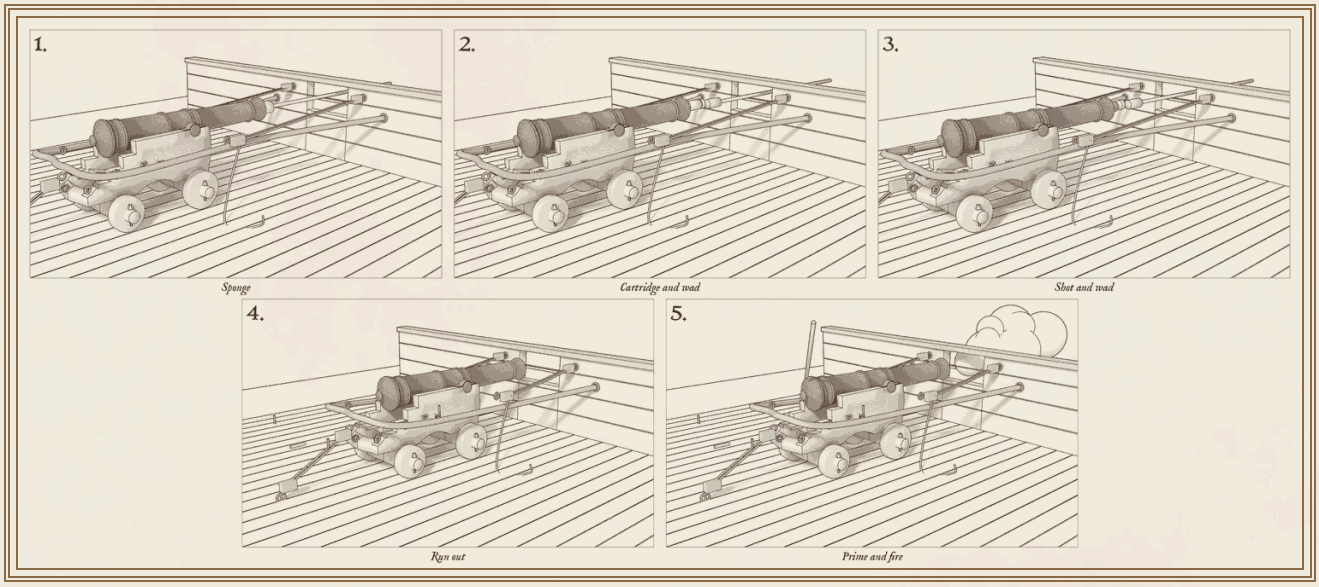


PLATE 5. *The five movements: sponge; cartridge and wad; shot and wad; run out; prime and fire. Drawn on a Great Gun, though the drill is the same for every carriage gun in these waters.*

The match was the weak point. Between the touch of the linstock and the discharge there was a noticeable delay, during which a rolling ship moved the muzzle, and accurate fire from a moving deck was as much luck as judgment. The flintlock, adopted by the Royal Navy through the second half of the eighteenth century, fired the gun the instant the lanyard was pulled and let a gun captain fire on the roll — waiting for the moment the bore came level with his mark — which is exactly what the pirate's gunners do in these waters.

Pound ratings

A complete list of the guns of the period would have to be made nation by nation and decade by decade, since two navies' twelve-pounders were seldom the same gun and any navy's guns changed with every generation of fashion. The one thing everyone agreed on was to name a gun by the weight of the solid iron ball it fired. The heavy guns of the line were the 42-, 32-, 24- and 18-pounders; the medium guns, carried on frigates and on the upper decks of larger ships, were the 12-, 9- and 8-pounders; and the light guns found on quarterdecks, on sloops and on merchantmen were the 6- and 4-pounders, with an assortment of swivel-mounted pieces of a pound or less below them. A ball's weight goes up with the cube of its diameter, so an eighteen-pounder's shot is only about five inches across — an inch and a half more than a four-pounder's — but four and a half times the metal, and it hits accordingly.

Long guns

The *long gun* was a cannon cast with a barrel longer in proportion to its bore than the standard pattern. The longer bore let the powder burn more completely and threw the ball faster and further, and the extra weight steadied the gun. Its natural place was at the bow and the stern, as a *chaser*, where a gun that could reach a fleeing or pursuing ship at long range was worth more than a whole battery that could not. Because the ends of a ship are her weakest and lightest parts, chasers were nearly always of medium calibre – nines and twelves – and the twelve-pounder Long Gun sold in these waters is the type exactly.

The carronade

The carronade was the opposite compromise. First cast by the Carron Company of Scotland in the 1770s, it was a short, light, thin-walled gun that fired a very heavy ball with a small charge of powder. It had no range and no accuracy to speak of, but at the distances at which most sea fights were actually decided – a pistol shot, a musket shot, yardarm to yardarm – a thirty-two-pound ball from a carronade smashed timber and sent splinters through a gun deck far more terribly than a long nine ever could. The sailors called it the *Smasher*. It weighed a third of what a long gun of the same calibre weighed, needed half the crew, and was mounted on a slide with a pivot pin instead of on trucks, so that it could be trained by two men and stowed fore-and-aft along the rail when not wanted. That made it the perfect gun for a small ship that wanted a big punch – a sloop, a privateer, a merchantman – and it is the perfect gun for a Sailwind captain who has no room for a Great Gun.

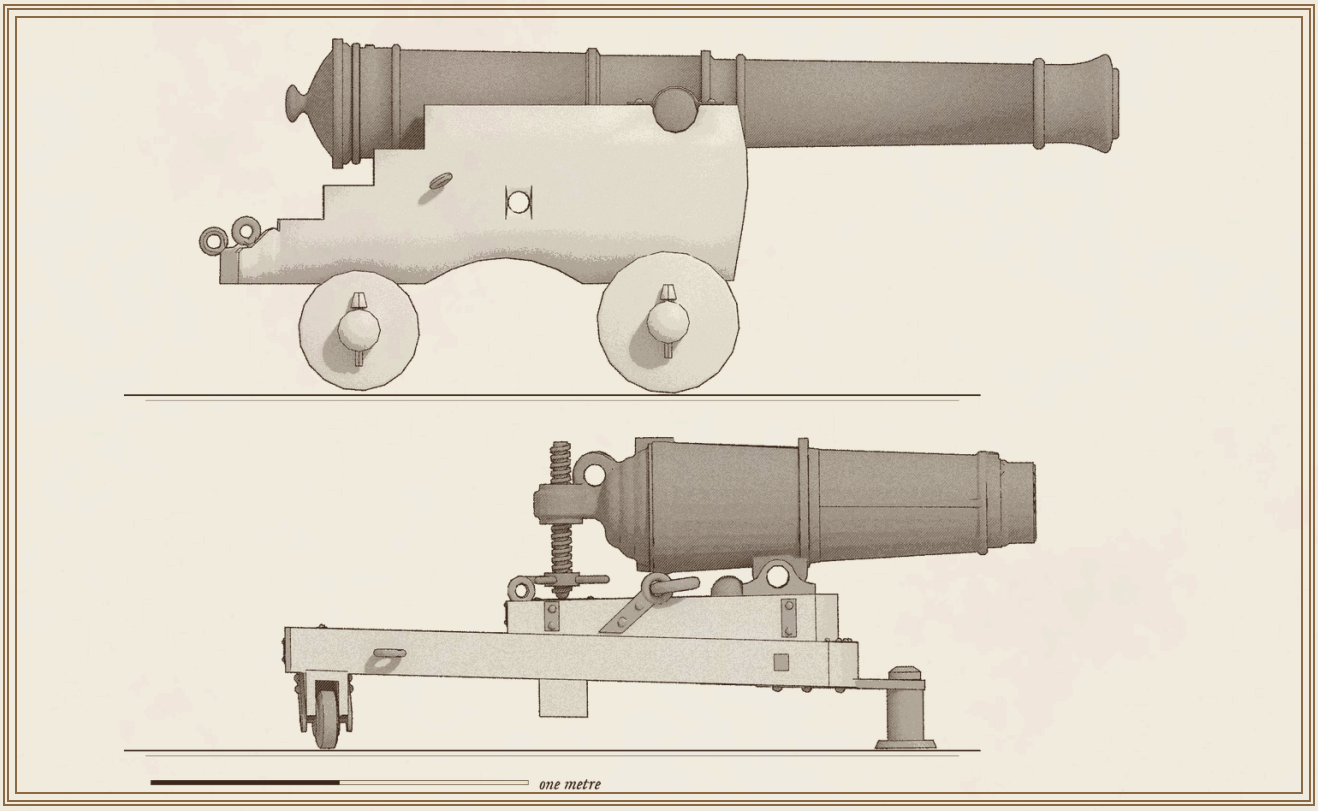


PLATE 6. *The two compromises, drawn to one scale. Above, the 12-pounder Long Gun: reach and weight. Below, the 18-pounder Smasher on its slide: half the length, a third of the weight for the calibre, and no reach at all.*

Shot

Besides the weight of the ball, a gunner chose the kind of shot to suit his target.

- Round shot — the solid cast-iron ball, the standard load for everything. It smashed hulls, dismounted guns and, fired low, skipped across the water like a flat stone to hit a ship between wind and water.
- Grape — a stand of smaller balls, three tiers of three, quilted in canvas about a wooden spindle so that it fitted the bore. It broke apart as it left the muzzle and scattered its balls over a ship's deck. Grape was fired at the quarterdeck to kill the officers and at a boarding party as it came over the rail.
- Canister — the same idea in a tin: a cylinder of musket balls that burst at the muzzle into a cone. Shorter-ranged than grape and deadlier inside it. In these waters the swivel gun fires nothing else.
- Chain and bar shot — two half-balls or two balls joined by a chain or a bar, which whirled through the air and cut rigging and sails. Not yet sold in these waters; expected in the next release.

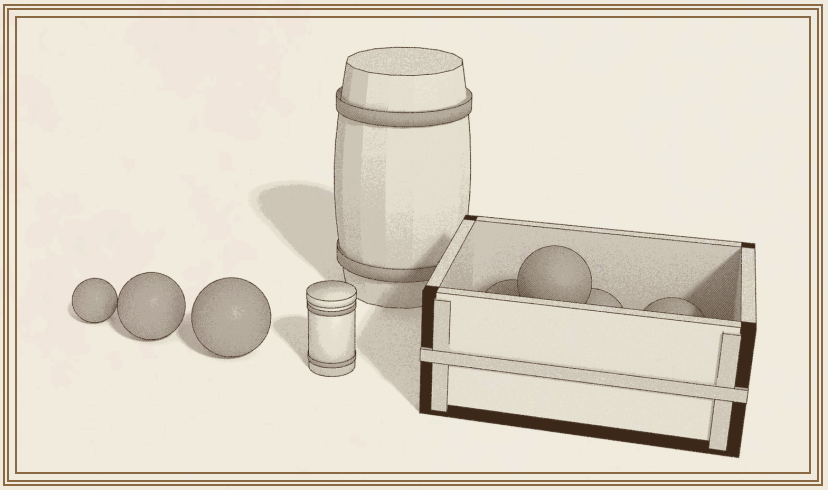


PLATE 7. *The shot of these waters: 4, 12 and 18-pound round shot, and the tinned canister of grape for the swivel gun, with the crates they come in.*

Three centuries in three paragraphs

Gunports and carriages, 1500-1600

Ships had carried guns since the fourteenth century, but they carried them on the upper deck and in the castles, where they could not be heavy. The square gunport, cut into the hull and closed with a lid, appeared around 1500 — the Portuguese, the French and the Mediterranean navies all claim it — and let heavy cannon be mounted low in the ship for the first time. With it came the four-wheeled truck carriage, which let a gun be run in and out and its recoil controlled on a crowded deck. Early batteries were a mixture: cheap wrought-iron breech-loaders firing stone, and expensive, long-lived cast-bronze muzzle-loaders firing iron.

The broadside, 1600-1750

By the seventeenth century the guns had been standardised into families — the demi-cannon, the culverin, the saker — and the ship had become a floating battery, with her guns ranged along both sides and her tactics built around firing them all at once. Round shot for hulls, chain and bar for rigging, grape and canister for men; and a drill, taught with the stopwatch, for getting the most out of a multi-ton weapon on a moving deck.

Flintlocks and carronades, 1750-1862

The last century of the sailing navies refined rather than revolutionised. The gunlock replaced the match; the carronade gave small ships a big ship's punch at close range; the sights, the tangent scales and the quoins grew more precise; and the shell gun, in the 1820s, began the end of it. In 1862 the ironclads met, the shot bounced, and the Age of Sail was over.

How it is in these waters

The mod keeps the drill and shortens the clock. A gun is served by hand in the five movements above — powder from a keg, then the ball, then run out and laid — or by the crew on one order; after firing she needs from nine seconds (a Falcon) to eighteen (a Great Gun) before she can be served again. Shot leaves the muzzle at 200 metres a second, drops with gravity, and skips off the sea if it arrives flat. Grape from a swivel throws nine balls. The pirate's guns run to the same law: her chasers every 27 to 36 seconds, and her whole broadside, when the slowest crew is ready, about once a minute.

CHAPTER IX

The Rules of Nerve and Damage

The complete rules of an encounter, from the first sighting to the last shot, with every number the mod uses. Read this one twice.

1. The course of an encounter

An encounter has a shape, and a captain who knows it can see each step coming. She is *raised* about 800 metres off on the windward quarter. Twenty seconds later she *scans* you and either commits or leaves. If she commits she *closes*, sailing by the wind, and she does not fire. She *comes alongside*, seventeen metres off your beam, matches your speed and holds station; after fifteen seconds of that she *throws her grapples*. You then have thirty seconds — the *last stand* — before your colours are struck and her boarding party is aboard for half a minute of *plunder*, after which she casts off and sails away in silence. That is the whole encounter if nobody fires a gun. The moment you do, her nerve and her guns come into it, and the rest of this chapter applies.

THE CLOCK OF A BOARDING, IF NOBODY FIRES

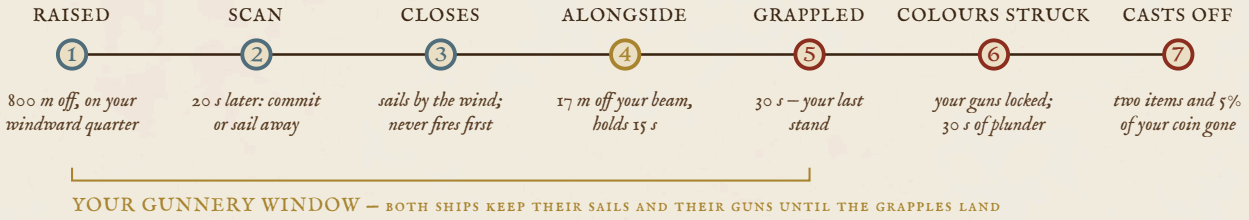
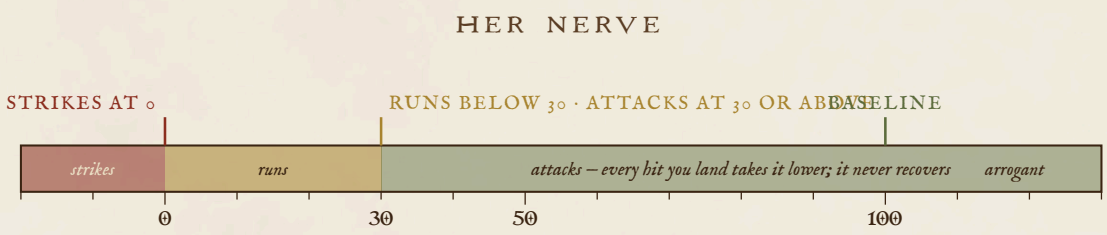


FIG. 1. *The clock of a boarding. Until the grapples land both ships keep their sails and their guns; this is your gunnery window.*

2. Her nerve

The pirate's captain runs on a scale of nerve, nominally from 0 to 100, though it can start above 100 and fall below 0. Three lines are drawn on it. At or above 30 she attacks. Below 30 her nerve is broken: she gives up the attack, turns to windward and runs for the horizon, firing her stern chaser at anyone who follows. At or below 0 — which can only be reached in combat — she strikes her colours. Nerve never recovers during an encounter.



Starting nerve can lie anywhere on this scale, above 100 for a small easy prey and far below 0 for a frigate she will not touch.

FIG. 2. *The nerve scale and its three lines.*

3. The opening scan — greed against fear

Pirates want the most loot for the least risk. Twenty seconds after she appears, the pirate takes one long look at your ship and sets her starting nerve from two things: how much she wants what you have, and how much she fears what you can do about it.

Greed: how deep you sit

She cannot see your gold. What she can see is how low you ride, so her greed is measured by your *laden ratio*: the deadweight of everything plunderable aboard — cargo, stores, furniture, possessions, but not your guns, shot and powder, and not you — divided by the bare weight of your hull. At a ratio of 1.0 she counts you HALF LADEN, worth 16 points; at 1.8 or more, FULLY LADEN, worth 30, the most greed she can feel. An empty ship is worth nothing to her. Between the marks the points run in a straight line.

Fear: weight of metal and size

Her fear is the sum of two numbers. The first is your *weight of metal*: the threat of your heavier broadside — larboard or starboard, whichever is more — plus every chaser on your centreline, plus a point for each swivel on the rail. Each gun counts by the shot it throws:

Gun	Threat points	Why
Swivel Gun	1	A rail gun for men, not for timber.
Falcon, 4-pdr	4	Clean small holes, little splintering.
Long Gun, 12-pdr	12	The frigate's punch; it shatters frames.
Great Gun, 18-pdr	18	Ship-of-the-line power; it crushes timber inward.
Smasher, 18-pdr carronade	18	The same ball, and she cannot tell the difference at a distance.

The second is your *size*, judged by the length of your hull against her own 21.6 metres. She is a medium coastal schooner, so a ship her own size frightens her not at all; a smaller one makes her overconfident, a larger one makes her cautious:

Tier	Your length ÷ hers	Size points	What she thinks
Tiny	under 0.5	−20	Defenceless prey. Fear is erased.
Small	0.5 to 0.8	−10	The standard vulnerable merchant.
Medium	0.8 to 1.41	0	Her own size. No bias.
Large	1.41 to 2.2	+10	Robust and risky.
Huge	2.2 and over	+20	A floating fortress. Suicidal.

The nerve check

Starting nerve = 100 − (weight of metal + size points) + cargo points

If the result is 30 or more she commits to the attack. If it is less she decides you are too dangerous, or not worth the trouble, and sails away at once. Notice that fear can be negative: a small, lightly armed ship *adds* to her nerve, and she comes on arrogant, with a great deal of nerve to be shot away before she thinks better of it.

THREE SHIPS SCANNED, EACH HALF LADEN (+16)

Ship	Heavier broadside and rail	Metal	Size	Fear	Starting nerve	Her decision
A small cog	One Falcon a side, one swivel	5	−10	−5	121	Attacks, and it will take a lot to shake her.
A brig	Two Long Guns a side, two swivels	26	0	26	90	Attacks, but she is brittle: eight Long Gun hits break her.
A heavy frigate	Eleven Great Guns a side	198	+20	218	−102	Passes. Coastal raiders do not fight fortresses.

One sum more. Before she commits, her captain counts what it would cost her to be fired on and then to take one full broadside from your heavier side, every gun hitting: fifteen for the shock, and five, seven and a half or ten for each gun by its weight of shot. If that alone would bring her nerve to nothing she does not attack, whatever your cargo. Four carronades a side are enough to be left alone.

SCAN YOURSELF

Stand on your own deck and press Alt+Y. The mod runs the pirate's scan on the ship you are standing on and writes the result to the log — your hull length, your laden ratio, your weight of metal, and the nerve she would start with. It is the quickest way to find out whether your new battery has made you not worth attacking.

4. Nerve in combat

Once she has committed, every gun you fire works on her nerve, and nothing else does.

What happens	Nerve lost	Notes
You fire any gun at all, for the first time	15	Once only, hit or miss, swivel or Great Gun. The shock of a prey that bites back.
A swivel's grape hits her	2.5	Per discharge, however many balls land.
A 4-pound ball hits her	5	Falcon.
A 12-pound ball hits her	7.5	Long Gun.
An 18-pound ball hits her	10	Great Gun or Smasher.

Three multipliers apply to a hit. A raking hit — a ball travelling within 30 degrees of her keel line, coming in from ahead or from astern — costs her half as much again (×1.5), because it travels the length of her deck. Grape at close range — a swivel discharge that strikes her from inside 30 metres — costs double (×2), for the horror of seeing several men go down at once. And a hit on her rigging — masts, spars, stays, shrouds or sails — costs only half a hull hit (×0.5), though it may bring a sail down, which is its own reward.

The arithmetic is worth doing once. A brig that scans at 90 fires her first broadside (−15 for the shock, and say two Long Gun hits, −15 more) and has her at 60. A second broadside with two more hits has her at 45. One raking Great Gun ball — 10 × 1.5 — would take her to 30 and no lower; one more hit of any kind breaks her. Six or seven good hits from a merchant brig, in other words, and she runs.

5. Breaking, and striking

Below 30 her nerve is gone. She turns to windward and runs, close-hauled about 50 degrees off the wind, at roughly two-thirds of her chasing speed, and she fires her stern carronade at anyone who follows her. Left alone she sails over the horizon and is gone. Chased and hit, her nerve keeps falling — it is not clamped at zero — and at 0 or below she strikes her colours: she stops, hands her sails, hauls down the black flag, and lies to under your guns. Both sides' guns fall silent, yours included. She lies

there for thirty seconds. If you come within 30 metres of her a prize crew boards her, she is taken in to be turned over to the authorities, and 40 Gold Lions are paid into your purse. If you do not close, she waits under struck colours until she is lost over the horizon, and the scroll tells you the prize is lost. She cannot be sunk and she cannot be kept.

6. Her gunnery

She never shoots first. When you fire on her there is a pause of about four seconds — her crews are standing easy; the order has to reach them and the guns be run out — and then she answers freely for the rest of the encounter. Her guns bear out to 300 metres; beyond that she holds her fire and closes. Her bow and stern chasers fire whenever they bear, every 27 to 36 seconds each; each of her broadsides fires as a whole battery, the moment every gun of that side can lay on you — or, if the rest of the side has not come round within eight seconds, with the guns that bear — and then waits about a minute while the slowest crew reloads. Inside 40 metres — point blank — every crew fires as its gun bears, at the chaser's pace. Once she is abreast of you with a loaded battery on the side that faces you, she holds her station and fires it before she grapples. She aims at your hull, half a metre above your waterline, with about four degrees of gunner's error — except that while you are running beyond point blank, about two guns in five are laid high into your rigging to bring a sail down — and she fires on the roll: each gun waits for the ship to bring its bore level with the mark, and holds if the moment does not come. There is no range too short for her; these ships fought muzzle to muzzle.

7. Quarter

The pirate would rather rob you than sink you. When your bilge reaches 40% — and again at 60 and at 80 — or when your hull's integrity falls to 40%, her guns fall silent and she hails you: *Heave to and avast firing to yield!* She keeps closing to board. If you hold your fire, she boards you and you are plundered, alive. If you fire on her after a hail, quarter is refused and she fights to sink you, until the next line is crossed and she hails you again. A captain who is losing should take the first hail; a captain who is winning should ignore it and keep hitting her.

8. Boarding and plunder

To board she must lie properly alongside — within eight metres fore or aft of your waist, and about seventeen metres off your beam — and hold there for fifteen seconds — longer, up to twenty seconds more, if the battery facing you is loaded and has not yet spoken; she fires it first. She cannot board from your quarter or your bow. When the grapples fly the scroll reads *You have been grappled! Last chance to fight them off!*, both ships hand their sails, and you have thirty seconds. In those thirty seconds every gun you can bring to bear on her is worth firing: break her nerve now and she casts off and runs. If you

do not, YOUR COLOURS ARE STRUCK. Your guns are locked — your ship is understood to be full of raiding pirates — and for thirty seconds her boarding party searches her. Then she casts off and leaves, in silence unless you fire on her as she goes, in which case she answers.

What she takes: up to **two items**, chosen at random from everything you own aboard — cargo, furniture, a placed gun, your spyglass — with mission and quest papers spared, so that a raid can never break a questline; and **five per cent** of every currency you carry, whatever coin she finds on you, with a ceiling of 2,000 coin in one boarding. If she finds nothing worth carrying she takes another five per cent instead. The scroll lists what went.

9. Damage to your ship

Her round shot is real. A ball that strikes your hull writes to the game's own damage: the same bilge and hull-integrity numbers that a reef or a storm writes to, so everything you already know about pumping and repair applies. Where the ball lands decides what it does.

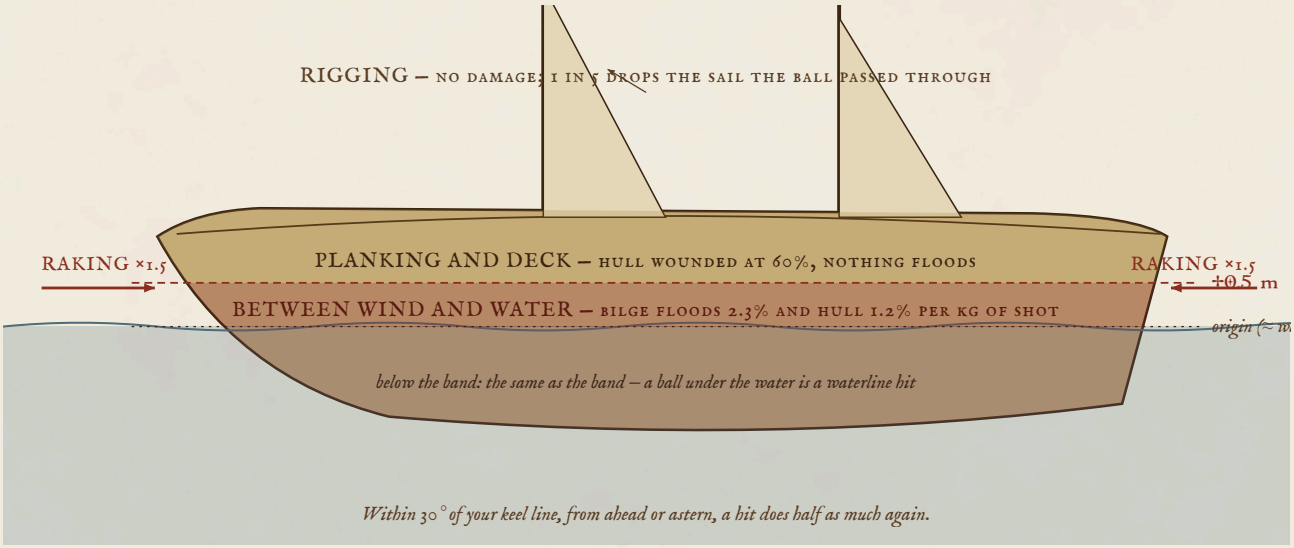


FIG. 3. *Where a ball lands is what it does. The waterline band is the half-metre above your ship's origin, which sits at about the waterline on a sloop.*

Hit	Bilge flooded	Hull wounded	Notes
Between wind and water at or below 0.5 m above your origin	2.3% per kg of shot	1.2% per kg of shot	The dangerous hit. At 100% bilge the game sinks you.
On the planking or the deck	none	60% of the above	Wounds the hull only. The game's own slow leak from hull damage still applies.
Raking, within 30° of your keel	×1.5 to either		From ahead or astern. Do not show her your stern.
In the rigging	none	none	One chance in five of dropping the sail the ball passed through, until you re-hoist it.

WHAT ONE WATERLINE HIT COSTS YOU

Her gun	Ball	Bilge	Hull
Falcon, 4-pdr (eight of them, and the bow chaser)	1.8 kg	4.1%	2.2%
Smasher, 18-pdr (her stern chaser)	8.2 kg	18.9%	9.8%

Read the second table carefully. Her broadside is eight little guns, and a full broadside on the waterline floods you a third — bad, but pumpable. Her carronade is a different animal: five waterline hits from it and you are gone, and it fires at whoever chases her. If you must pursue a running pirate, come up on her quarter, not dead astern.

Two more rules of damage. Loose guns sink. The game would float a gun that goes over the side; the mod does not. A gun that is not nailed down and goes into the sea sinks like the iron it is and is gone fifteen metres under, or after a minute lying more than two metres deep — swivels too. Nail your guns. And a ship that heels far enough can lose loose furniture over the rail, guns included; that is the game's own rule, and the reason for the first one.

10. Damage to her

Your shot does two things to her and neither of them is sinking. It takes her nerve, as above. And it takes her canvas: a ball into her rigging has one chance in five of bringing down the sail it passed through, and until her crew has it up again — forty seconds for her smallest sail, ninety for her largest — her speed falls in proportion to the canvas she is short. Her hull cannot be holed in this release. Her crew cannot be killed. She is beaten by making her afraid and by making her slow, which, as it happens, is how most pirates were beaten.

11. The sea, the light and the weather

- Fog. When the fog is dense she sees you only inside 200 metres. Outside it she holds her course, sails at plain cruise and does not fire; she sights you again a little inside the line so that she does not flicker on it. The game's own dawn mist counts, and so does a mod's fog bank.
- Night. After dusk the same 200-metre rule applies. Dawn gives her back her eyes at any range.
- Wind. No new encounter begins above 25 knots apparent. A chase already under way is abandoned once the wind has held above 34 knots for fifteen seconds; she runs for shelter.
- Storms. When the nearest storm comes within a third of the way to her, she gives up the chase.
- Distance. At 2,600 metres she is lost over the horizon and removed. If she has failed to gain on you for two minutes together, she breaks off on her own.
- Hove to. If your speed along your keel falls under half a metre a second she reads you as stopped, hands her canvas and comes alongside under sweeps; above a metre and a half she makes sail after you again.

READY REFERENCE

The Rules on One Card

To be cut out and pinned beside the wheel.

SHE APPEARS	Daylight, 06-18 h; wind under 25 kn; 800 m off, on the windward quarter. In the pirates' grounds, outside a patrol: forty-five in a hundred every 30 to 45 minutes, and none within 45 minutes of the last.
SHE DECIDES	Scan at 20 s. Nerve = 100 − fear + greed. Fear from your guns, your size and your gunnery; greed from your cargo. At 30 or better she attacks, unless your first broadside alone would break her; under 30 she leaves you.
HER GUNS	She never fires first. Four seconds after your first shot she answers, to 300 m. Each gun every 27-36 s; a coordinated broadside about once a minute a side, and one before she grapples.
YOUR SHOT	Shock −15 the first time you fire, hit or miss. Then −2.5 / −5 / −7.5 / −10 by weight of shot. Raking ×1.5; grape inside 30 m ×2; a hit in her rigging ×½, but it drops a sail.
HER NERVE	Below 30 she runs. At 0 she strikes: close to 30 m and hold there for 40 Gold Lions.
YOUR HULL	Shot at the waterline floods the bilge; higher up it wounds the hull. At 40% bilge or 40% hull she offers quarter: hold your fire to take it.
STRIKING	Alongside 17 m off your beam, within 8 m fore or aft; grapples in 15 s; 30 s to make a last stand; then 30 s of plunder: two items and 5% of your coin. Quest goods are spared.
GETTING AWAY	Fog and night blind her at 200 m. Above 34 kn she runs for shelter. If she has not closed in two minutes she gives up. At 2,600 m she is gone.

CHAPTER X

Illustrated Weapon Profiles

The five guns of these waters, each drawn from four sides at one scale, with her particulars and the keys that work her.

Five guns are sold in the world, and a captain should know them by sight and by weight. They are drawn here as they stand on the deck, all at the same scale, so that the little Falcon and the Great Gun can be judged against one another; the muzzle-on and side-on frames carry a one-metre bar. Prices are in Gold Lions and each port takes its own coin at the local rate. Ranges are the author's working figures for the gun as laid at a few degrees of elevation: *effective* is the distance inside which a competent gunner can expect to hit a ship, and *maximum* is where the ball ends up if you simply point her up and let go.



PLATE 8. *The five, side on, standing on the same deck line: Swivel, Falcon and Smasher above; Long Gun and Great Gun below. The bar is one metre.*

THE GUNS AT A GLANCE

Gun	Metal	Shot	Weight	Price	Effective — maximum	Swab-out	Sold at
Swivel Gun	brass	canister only (2 lb)	100 lb	7	50 yd — 200 yd	30 s drill	Gold Rock City, Dragon Cliffs
Falcon, 4-pdr	brass	4 lb ball or canister	800 lb	11	600 yd — 1,250 yd	9 s	Gold Rock City, Dragon Cliffs
Long Gun, 12-pdr	iron	12 lb ball or canister	1,500 lb	18	800 yd — 2,000 yd	14 s	Gold Rock City, Fort Aestrin
Great Gun, 18-pdr	iron	18 lb ball or canister	3,000 lb	24	500 yd — 1,750 yd	18 s	Fort Aestrin, Fort Chronos
Smasher, 18-pdr carronade	iron	18 lb ball or canister	1,000 lb	14	300 yd — 900 yd	10 s	Fort Chronos, Eleann Island

SHOT, POWDER AND CRATES

Article	Weight	Price, Gold Lions	Notes
18 lb round shot	18 lb	0.18	Great Gun and Smasher.
12 lb round shot	12 lb	0.12	Long Gun.
4 lb round shot	4 lb	0.04	Falcon.
Canister of grape	2 lb	0.08	Swivel Gun; a carriage gun takes one at close range if you load it by hand.
Small keg of powder	20 lb	3	25 charges.
Large keg of powder	80 lb	8	100 charges — cheaper by the charge.
Crate, 4 lb shot × 30	126 lb	0.96	Every crate holds thirty. A sealed crate is a fifth cheaper than the same shot loose. Break it open aboard and it is stores; sealed, it is cargo.
Crate, 12 lb shot × 30	366 lb	2.88	
Crate, 18 lb shot × 30	547 lb	4.32	
Crate, canister × 30	66 lb	1.92	

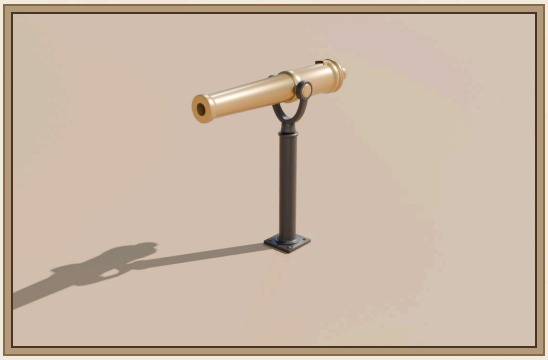
Every gun's price includes her carriage or her mount. Ball prices are the weight of the iron at a penny a pound, so a new calibre prices itself; the swivel and the Falcon carry a founding premium for the brass. A gun's weight here is her metal, which sets her price; what your ship carries for her is less — see *On Guns and Trim*.

ON GUNS AND TRIM

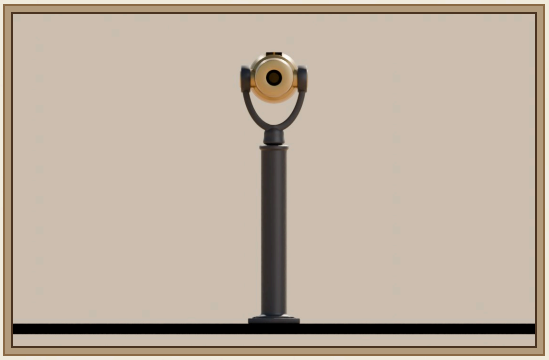
A gun is cargo until it is nailed down. Sailwind's ships are far lighter than real ones, so the guns' weights were calibrated to match Sailwind's ship weights: aboard, your ship carries a Swivel as 25½ kg, a Falcon as 127½, a Smasher or a Long Gun as 170 and a Great Gun as 255, so that a frigate can mount a full battery and still carry her cargo and stores. Shot, powder and crates keep their real weight. A battery still trims a ship: spread your guns fore and aft, keep the weight out of the ends, and do not trust another mod's deadweight readout to count them. A ship that heels far enough will put a loose gun over the side, where it sinks. The pirate's scan does not count your guns as cargo, so a battery makes you more frightening without making you more tempting.

The Swivel Gun

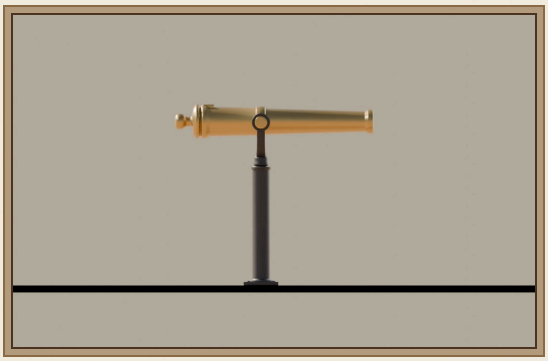
"Falconette" — brass, on an iron yoke and socket



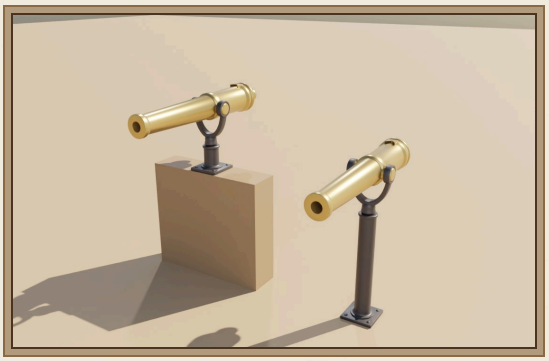
Three-quarter view from the muzzle (deck version).



Muzzle-on: the iron yoke straddles the barrel on both sides.



Side: trunnions 1.125 m above the deck, barrel 1.37 m.



Closer: deck version (right) and rail version on a rail (left).

Particulars

Shot	Canister of grape (2 lb) — canister only, nine balls	Range	Effective 50 yards — maximum 200
Powder	One charge from a small or large keg	Serving	30 s drill from the ship's stores, or by hand
Weight	100 lb of brass; the ship carries her as 25½ kg	Laying	60° up and down, all the way round
Price	7 Gold Lions	Size	Barrel 1.37 m; trunnions 1.125 m up (deck), 0.505 m (rail)
Mounting	Deck version on a deck, rail version on a gunwale	Sold at	Gold Rock City, Dragon Cliffs (deck and rail versions)

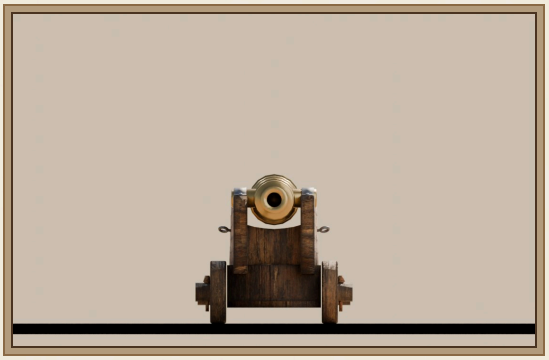
The swivel is a grape gun. She throws a canister of nine balls in a cone, she is aimed by eye and by hand — in aim mode she follows your look, all round the horizon and sixty degrees up and down — and she is served by one man in thirty seconds from the ship's stores, or faster by your own hand with a keg and a canister. She will not hole a hull; she costs the pirate two and a half points of nerve per discharge, doubled inside thirty metres, and she is the gun for a boarding party coming over the rail. Nail her to the gunwale where she can see both ways.

The Falcon

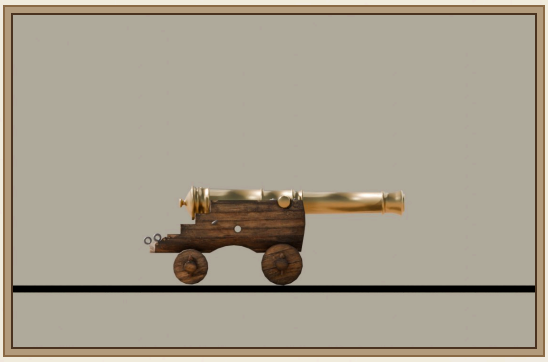
"Falcons" — 4-pounder, light naval gun, brass barrel on a truck carriage



Three-quarter view from the muzzle.



Muzzle-on: 0.72 m across.



Side: 1.80 m overall, bore axis 0.57 m above the deck.



From behind her, where her crew lay her.

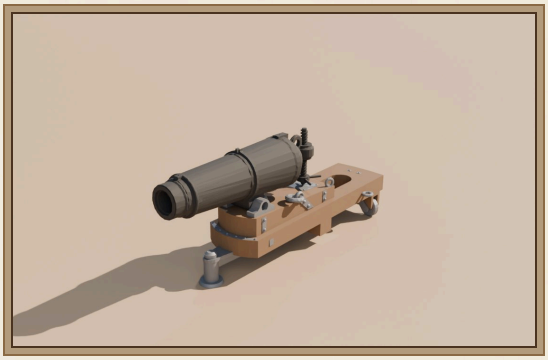
Particulars

Shot	4 lb round shot, or a canister of grape	Range	Effective 600 yards — maximum 1,250
Powder	One charge from a small or large keg	Swab-out	9 s after firing before she can be served
Weight	800 lb of brass and oak; the ship carries her as 127½ kg	Laying	14° up and down, 20° either side
Price	11 Gold Lions	Size	1.80 m long, 0.72 m wide, 0.69 m high; barrel 1.56 m
Build	Brass barrel on a four-truck carriage, iron fittings	Sold at	Gold Rock City, Dragon Cliffs

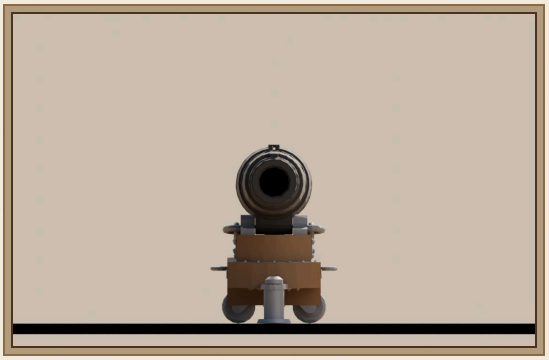
The entry gun, and the pirate's own. Light enough for a small trader's deck, cheap enough to buy in pairs, and quick to serve. Her ball costs the pirate five points of nerve a hit; the same ball from her Falcons floods *you* four per cent a hit on the waterline. Four of them a side, on a Brig, make a respectable battery and read as sixteen points of metal at her scan.

The Smasher

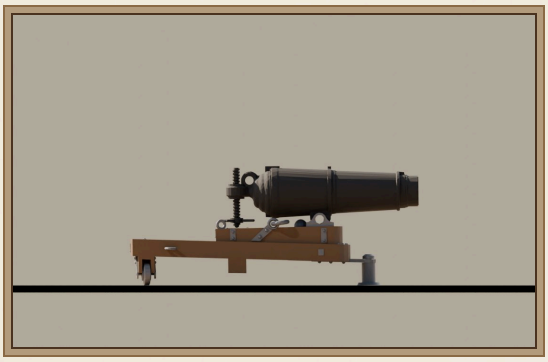
"Smashers" — 18-pounder carronade, on a slide with a pivot pin



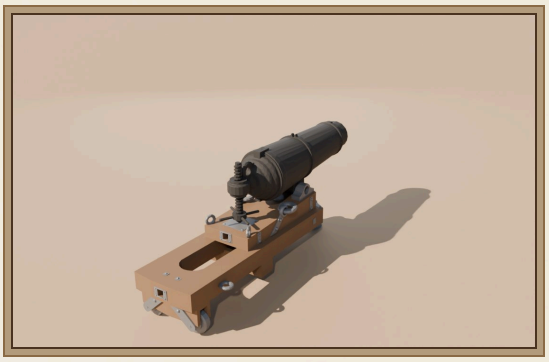
Three-quarter view from the muzzle.



Muzzle-on: 0.59 m across.



Side: 2.00 m overall, bore axis 0.61 m above the deck.



From behind her, where her crew lay her.

Particulars

Shot	18 lb round shot, or a canister of grape	Range	Effective 300 yards — maximum 900
Powder	One charge from a small or large keg	Swab-out	10 s after firing before she can be served
Weight	1,000 lb of iron and oak; the ship carries her as 170 kg	Laying	15° up and down, 25° either side
Price	14 Gold Lions	Size	2.00 m long, 0.59 m wide, 0.82 m high; barrel 1.38 m
Build	Iron carronade on an oak slide: pivot pin forward, trucks aft	Sold at	Fort Chronos, Eleann Island (black market)

An eighteen-pound ball for a third of the Great Gun's iron and half the deck. She has no reach — inside three hundred yards she is deadly and beyond it she is a noise — but she is the only heavy gun a small ship can carry. She stows on her pin: Alt + S with the pointer on her swings her a quarter turn to lie along the rail, and again runs her out. Fired, her upper carriage and barrel kick half a metre back along her slide while the slide itself, and the pivot pin, stay put; stowed, the upper carriage is slid

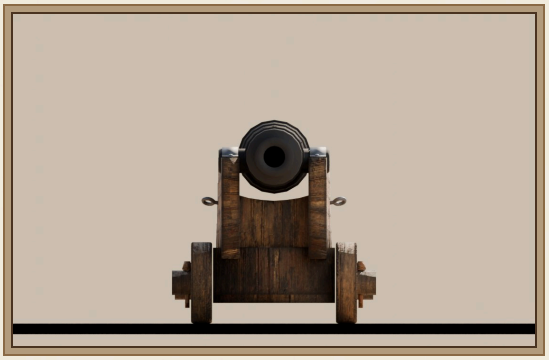
back to make her compact. Ten points of the pirate's nerve per hit, fifteen if she is raked. The pirate carries one over her stern for a reason, on a raised gun platform – and you may do the same (Chapter XI).

The Long Gun

"Bow Chasers" — 12-pounder, long naval gun, iron on a truck carriage



Three-quarter view from the muzzle.



Muzzle-on: 0.94 m across.



Side: 2.43 m overall, bore axis 0.77 m above the deck.



From behind her, where her crew lay her.

Particulars

Shot	12 lb round shot, or a canister of grape	Range	Effective 800 yards — maximum 2,000
Powder	One charge from a small or large keg	Swab-out	14 s after firing before she can be served
Weight	1,500 lb of iron and oak; the ship carries her as 170 kg	Laying	12° up and down, 15° either side
Price	18 Gold Lions	Size	2.43 m long, 0.94 m wide, 0.94 m high; barrel 2.20 m
Build	Seasoned cast iron on a four-truck carriage	Sold at	Gold Rock City, Fort Aestrin

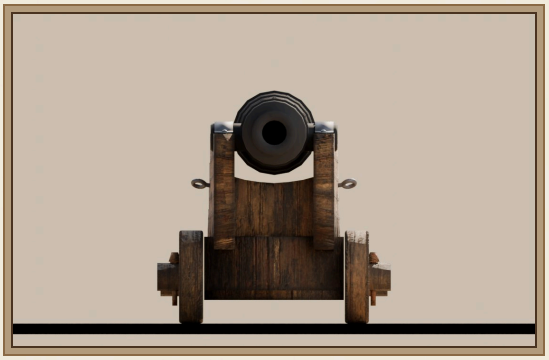
Reach costs money, and this is what it buys: the longest-ranged gun in the world, and the natural chaser. Set on the centreline at the bow or the stern she is recognised as a chaser, fires along your line of flight and is never stowed; set on the beam she is the frigate's punch, seven and a half points of nerve a hit and twelve points of metal at the scan. She is the heaviest gun Gold Rock City will sell you — the law there stops at twelve pounds.

The Great Gun

"Royals" — 18-pounder, great naval gun, the frigate's piece



Three-quarter view from the muzzle.



Muzzle-on: 1.08 m across.



Side: 2.69 m overall, bore axis 0.88 m above the deck.



From behind her, where her crew lay her.

Particulars

Shot	18 lb round shot, or a canister of grape	Range	Effective 500 yards — maximum 1,750
Powder	One charge from a small or large keg	Swab-out	18 s after firing before she can be served
Weight	3,000 lb of iron and oak; the ship carries her as 255 kg	Laying	10° up and down, 12° either side
Price	24 Gold Lions	Size	2.69 m long, 1.08 m wide, 1.07 m high; barrel 2.33 m
Build	Seasoned cast iron on a four-truck carriage	Sold at	Fort Aestrin, Fort Chronos

A ton and a half of iron and oak (255 kilograms to the ship that carries her), the dearest gun the dealers sell and the one that ends arguments. Ten points of nerve a hit, fifteen raking; eighteen points of metal at the scan, so that a ship with six of them a side is already, before a shot is fired, a ship the pirate will not touch. She is slow to serve, slow to lay and heavy on a small deck. She belongs on a frigate, and on the roof of Fort Chronos, where the garrison keeps a few out all night.

CHAPTER XI

Cannon Controls

How a gun is bought, carried, placed, nailed, laid, loaded, fired and stowed — by your own hand, and by the crew on your order.

1. Buying a gun

The arms merchant sets his wares out on, under and beside his table from seven in the morning until six at night. Walk up to a gun and look at it; its name and price come up as they do for any ware in the game. **Right-click** (or **R**) buys it, and the coin goes out of your purse in the port's own currency. Shot, canister, kegs and crates are bought the same way. Once she is yours she is a ship item like any other piece of furniture, and the rest of this chapter applies.

2. Carrying and placing

Guns are furniture, and furniture is lifted with **Alt**+**F**, not with **F** alone — so that a plain **F** on a mounted gun can mean something else later. Look at the gun and press **Alt**+**F** to pick her up; press it again to set her down where you are looking. While you carry her, **R** turns her fifteen degrees and the **mouse wheel** one degree, so that she can be squared to the rail. Set her on the deck — or on a raised gun platform, as the pirate carries her stern Smasher: nail a table down first, and if the gun fits on it with room to roll back a little, set her on it and nail her there too.

Then nail her down with the ship's hammer, exactly as you would nail a chest. A nailed gun cannot be lifted — **Alt**+**F** answers *She is nailed down; the hammer draws the nail* — and a nailed gun stays where she is when the ship heels. An unnailed gun does not, and a gun that goes over the side sinks. A gun is outlined when you look at her from up to four metres away, standing or kneeling, so you can see which one your keys will work.

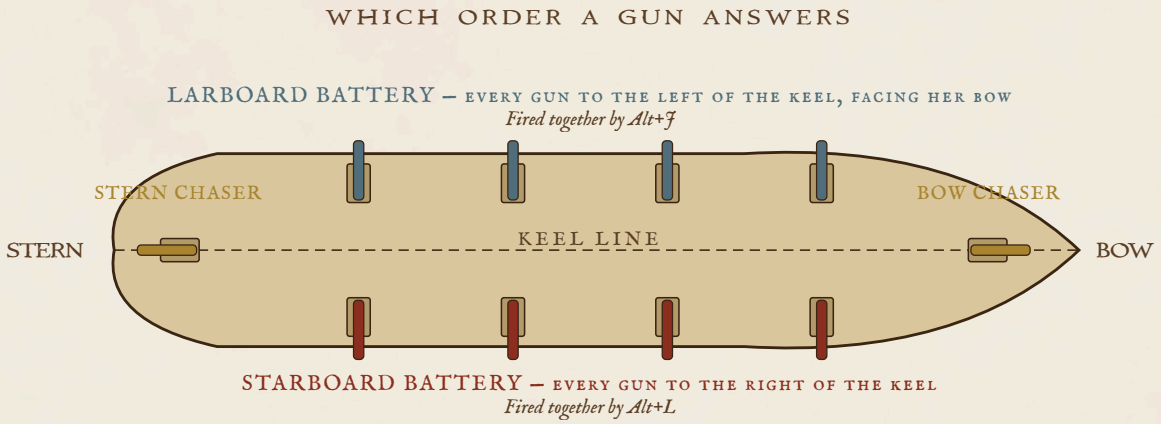


FIG. 4. *Where a gun stands decides which order she answers. Everything left of the keel line is the larboard battery; everything right of it is starboard; a gun on the centreline at either end is a bow or stern chaser, and fires by hand.*

3. Laying the gun — aim mode

Look at a mounted gun and press **E** (or **Right-click**) to take charge of her. The view goes to her breech and the scroll reads *Aim mode. Click to fire. E or right-click to leave.* In aim mode:

- **W** and **S** work the quoin — raise and lower the muzzle — at five degrees a second. Slower than traverse, because it is a wedge under half a ton of iron.
- **A** and **D** heave her round on her trucks, at eight degrees a second. A Falcon's whole twenty degrees of traverse takes about five seconds of work.
- **Left-click** fires her, if she is loaded. If she is empty the scroll tells you so.
- **E** or **Right-click** hands her back and returns you to the deck.

Each gun has her own limits of elevation and traverse — they are in her profile in Chapter X — and she stops at them. If you lay her on your own ship's timber the scroll warns you: *You are laid on your own ship! Shifting your aim is advised.* The warning is advice, not a lock.

4. Loading by hand

A carriage gun takes one charge of powder and one ball, in that order, and she will not take them any other way.

1. Handle cartridge. Pick up a keg of powder — small or large — and, holding it, click on the gun. One charge is poured and the keg is a charge lighter. *Charge poured.* If the keg is spent the scroll says so.

2. Shot the gun. Pick up a ball of her own calibre — 4 lb for a Falcon, 12 for a Long Gun, 18 for a Great Gun or a Smasher — and click on her. The ball leaves your hand and she shows loaded. *Ready to fire.* A ball of the wrong weight is refused with its name. A canister of grape is accepted by any carriage gun in place of a ball — by hand only; the crew never loads grape.

Click a ball on an empty gun and she answers *Powder first*. Click a keg on a charged gun and she answers *She already has her charge*. After she fires she must be sponged out before she will take a new charge: nine seconds for a Falcon, ten for a Smasher, fourteen for a Long Gun, eighteen for a Great Gun.

5. Loading by the crew — the captain's order

Alt+K is the order *Serve the guns*. Every carriage gun on the deck you are standing on is charged and shotted by the crew from the powder and shot aboard your ship. It costs real stores — one charge out of a keg and one round shot of her own calibre per gun; the crew never loads grape, so your canister is kept for the swivels, and a swivel is never served by this order — and it refuses when the lockers are bare: *The lockers are bare — no powder and no shot aboard.* If the stores run short part-way through, the guns that could be served are served and the scroll names what ran out. Only balls that are loose aboard, or in a crate you have broken open, count as stores; a sealed crate is cargo. The game's own crates cannot hold the mod's shot — set it on the deck, or keep it in its own crate.

6. Firing

By hand: in aim mode, Left-click. By the crew: Alt+J fires every loaded gun of the larboard battery together, and Alt+L fires the starboard battery. The J/Ł column of the keyboard is your left hand and your right. A battery order fires only guns that are loaded; if none are, the scroll says *Every gun on that beam is empty. Serve them first.* Chasers are not part of a battery and are fired by hand.

A battery fires its guns *as they are laid*. The order does not lay them for you: each gun goes off at the elevation and train you last left her at, in a ripple a fraction of a second apart, so a broadside is only as good as the laying that went before it. The habit to form is to lay every gun of a side while she is still closing — a few degrees of elevation carries the ball out to a useful range instead of splashing it alongside — and then to fire the side by the order when she bears. A stowed gun takes no part in a broadside; she would fire down her own deck.

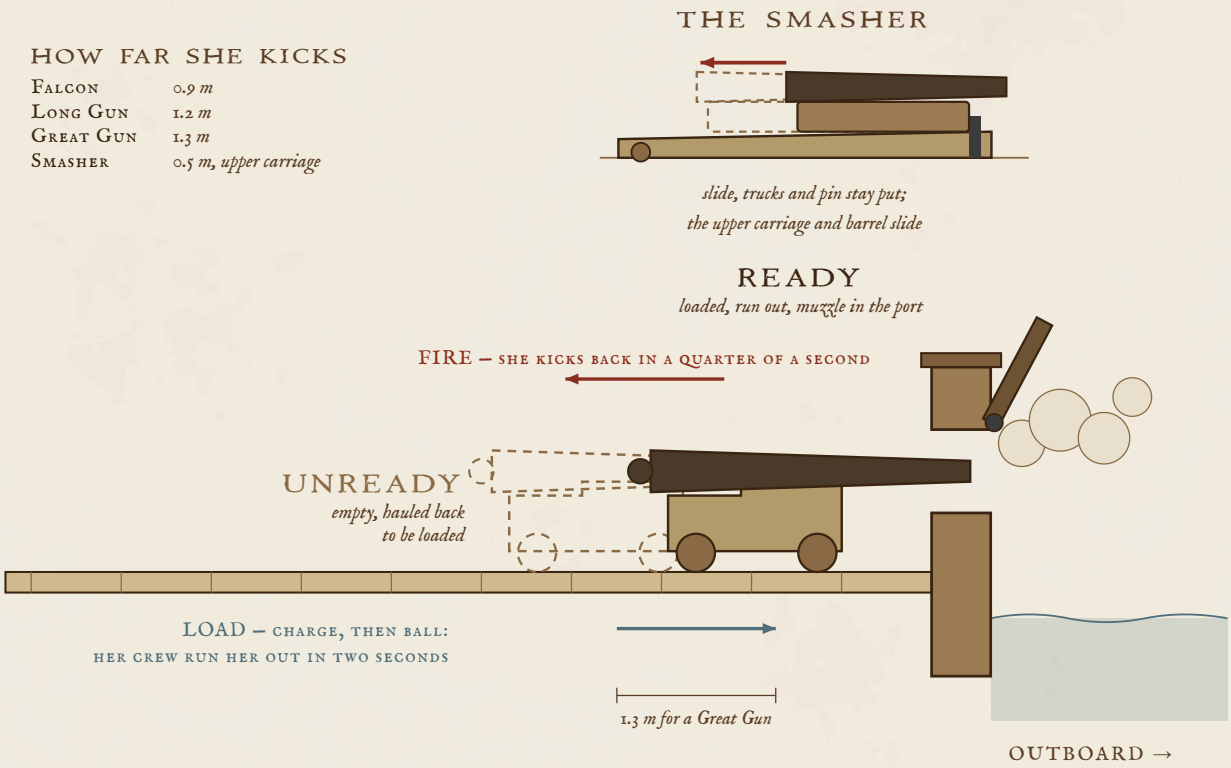
7. Recoil — Ready and Unready

A carriage gun has two places on the deck. Ready is where you set her down or ran her out: muzzle in the port, where she fires from. Unready is the same gun hauled back along her own barrel until her muzzle is clear of the port and easy to load — nine-tenths of a metre for a Falcon, 1.2 m for a Long

Gun, 1.3 m for a Great Gun. The Smasher is different: her slide, her trucks and the pivot pin at her nose never move; her *upper carriage* and barrel slide half a metre back along the bed, and you can watch the block under her ride along the slot in the slide.

The rule is simple: *an empty gun stands Unready; a loaded gun stands Ready.* When she fires she kicks straight back to Unready in a quarter of a second. Pour her charge and ram her ball – by hand, or by the crew with Alt+K – and her crew run her forward to Ready in about two seconds, to the very spot she fired from. Set down an empty gun, or run one out empty, and a moment later her crew back her off to Unready to be loaded. A gun you are laying is never hauled back under you, but she still kicks when she fires, and your view goes back with her. Swivels do not recoil; chasers do.

Leave her room. A gun at Ready needs her own length of clear deck behind her, and a gun on a raised platform needs the platform to be long enough for her kick. The places are kept through a save, so a gun reloaded Unready stays where she is until she is loaded. Pick a gun up and set her down again, and where she stands is her new Ready.



An empty gun stands Unready – set down, run out or fired; a loaded gun stands Ready. A stowed gun is neither.

FIG. 5. *Ready and Unready, from the side. Fired, she kicks back to Unready; loaded, her crew run her out to Ready again. Above, the Smasher: only her upper carriage and barrel slide.*

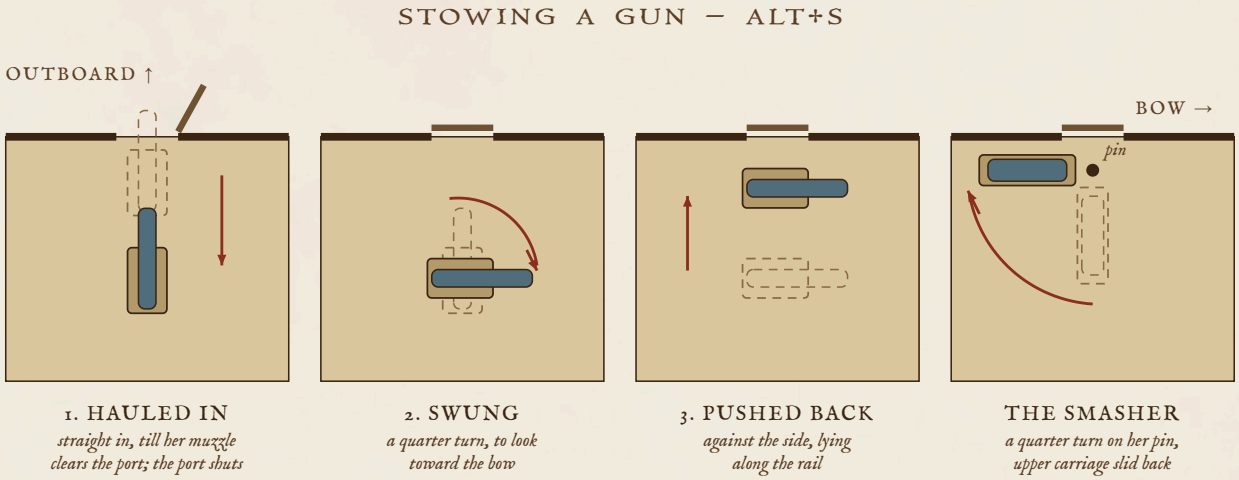
8. The swivel gun

The swivel is lighter and simpler. Alt+F picks her up and sets her down; the deck version stands on a deck and the rail version sits on a gunwale; nail her like any gun. E or Right-click takes charge of her, and in aim mode she follows your look — all the way round and sixty degrees up and down. Left-click fires her if she is loaded. Left-click when she is *empty* orders her served: one man sponges, charges, rams a canister and primes her in thirty seconds, from the ship's stores, and tells you if there is no powder or no canister aboard. By hand it is quicker: a keg, click; a canister, click. She fires nothing but canister.

9. Stowing the guns

A broadside gun can be stowed out of the way and run out again for a fight. Point at her and press Alt+S. The Smasher swings on her pivot pin, muzzle to the bow, to lie along the rail — ten degrees short of fore and aft, so that her breech keeps clear of a side that curves in — and as she comes round her upper carriage slides back on the slide so that she lies as compact as she can; run out, it slides forward to Ready as she swings, and back to Unready if she is empty. A carriage gun has no pin: her crew haul her in until her muzzle is clear of the port, swing her to look toward the bow, and push her back against the side. Alt+S again runs her out, to the very place and heading she was stowed from — and an empty gun then backs off to Unready. A gun standing Unready is stowed as if from her Ready spot. A stowed gun cannot be laid and sits out the broadside; her charge stays in her. The work is done quietly. On the Caelanor and the Aelasyl THE PORT FOLLOWS THE GUN: running her out opens the lid in front of her, and stowing her shuts it once her muzzle is clear. CHASERS ARE NEVER STOWED — a gun on the centreline, or one lying fore and aft in the forward or after fifth of the ship, is a chaser, and the scroll says so — and neither are swivels.

With the pointer on no gun at all, Alt+S is the order for every broadside gun aboard, in one press. If any gun is run out they are all stowed, and their ports shut; if all are stowed they are all run out, and their ports open. Chasers and swivels are passed by.



Alt+S again runs her out the same way backwards, and her port opens as she goes. Chasers and swivels are never stowed.

FIG. 6. *Stowing, seen from above: a carriage gun hauled in, swung and pushed back against the side; the Smasher turned on her pin, her upper carriage slid back.*

10. When the guns are silent

Two things lock your guns. When YOUR COLOURS ARE STRUCK — after the last stand, once she has grappled you — your ship is understood to be full of raiding pirates and nothing aboard will fire until they have gone. And when SHE STRIKES HERS, both sides' guns fall silent for the thirty seconds she lies to; a beaten enemy under struck colours is not fired on. In both cases the scroll tells you. There is no other lock: the mod will let you fire on a pirate who has hailed you, and take the consequences, and it will let you fire on her as she sails away with your goods, and she will answer.



FIG. 7. *The keys, on the keyboard. The crew's orders (Alt+K, J, L) can be rebound in the settings menu under Cannon, and the nerve scan (Alt+Y) under Debug; Alt+F, Alt+S and E are fixed.*

QUICK REFERENCE

Key	Where	What it does
Right-click / R	looking at a ware	Buy it from the arms merchant.
Alt + F	looking at a gun	Pick her up; again to set her down. Refused if she is nailed.
R / Wheel	carrying a gun	Turn her 15° / 1°.
Hammer	on a placed gun	Nail her to the deck or to a nailed gun platform (the game's own hammer, as for furniture). Every gun is nailed by hand. Draw the nail to move her.
E / Right-click	looking at a gun	Enter aim mode; the same keys leave it.
W S	aim mode	Raise / lower the barrel (5°/s).
A D	aim mode	Train her left / right (8°/s). The swivel follows the mouse instead.
Left-click	aim mode	Fire, if loaded. On an empty swivel: order her served (30 s).
Keg in hand, click	on a gun	Pour one charge of powder.
Ball in hand, click	on a charged gun	Shot her, with a ball of her calibre or a canister.
Alt + K	on deck	*Serve the guns*: the crew loads every carriage gun from the stores, round shot of her own calibre only. Never grape, never a swivel.
Alt + J	on deck	Fire the larboard battery. Each gun kicks back to Unready.
Alt + L	on deck	Fire the starboard battery.
Alt + S	looking at a broadside gun	Stow her / run her out. Her port shuts or opens with her.
Alt + S	looking at no gun	Stow or run out every broadside gun aboard. Chasers and swivels are never stowed.
Alt + Y	on any ship	Run the pirate's nerve scan on this ship and write it to the log.
F1	anywhere	The settings menu (with Configuration Manager installed).

A GUNNER'S ROUTINE

Before you leave port: buy the guns, set them square to the rail, nail them, and buy a keg and a crate of shot for each calibre aboard. Break one crate open and stow the balls on the deck by the guns. At the first sight of a sail, Alt+K. Hold your fire — she will not fire first — until she is inside two hundred metres and your battery bears; then Alt+J or L; the guns kick back, and K again the moment the swab-out is done runs them out loaded. Lay the chasers by hand. Nail the swivel by the wheel and keep a canister in her for the boarding party.

CHAPTER XII

The Old Chronian Refit

The Caelanor and the Aelasyl refitted to be formidable once again and face dangerous waters: tops to fight from, a net under the bowsprit, copper below the water, lids on the ports, davits astern. Every piece is bought at the shipyard; nothing in the Old Chronian mod itself is changed.

The pirate is built from the Old Chronian mod's Caelanor, and its two fighting ships — the brig-sloop Caelanor and the frigate Aelasyl — are the natural homes for a battery. Dangerous Waters refits them for the work. Everything in this chapter is done to the ship as she loads, by the mod, and undone when the mod is removed; the Old Chronian files are never edited, and an update to that mod does not disturb any of it. The refit is carried by a second plugin in the Dangerous Waters folder, *Caelanor Mast Platforms*, which replaces the old separate download of that name wherever it is found. It is also handed out on its own, as the *Old Chronian Refit*, for captains who want the ships without the pirates.

The refit at a glance

Take her into any shipyard. The new fittings stand in the list with the ship's own parts, and are bought and fitted like them. The Caelanor and the Aelasyl take the same refit, except that only the frigate wants davits and only she lacked a pump.

Fitting	Ship	Shipyard list	Price, bought / fitted
Fighting Top, one per mast	both	Masts	140 / 40
Fighting Top + Lookout Post, one per mast	both	Masts	220 / 60
Bowsprit Netting	both	Other	Aelasyl 180 / 60 · Caelanor 120 / 40
Copper Sheathing	both	Other	Aelasyl 1400 / 300 · Caelanor 600 / 150
Gun Port Lids	both	Other	Aelasyl 760 / 220 · Caelanor 320 / 90
Stern Davits	Aelasyl	with the *Dinghies* mod's own davits	as Dinghies prices them
Bilge pump	Aelasyl	Other, with the *Old Chronian Fixes* mod	—

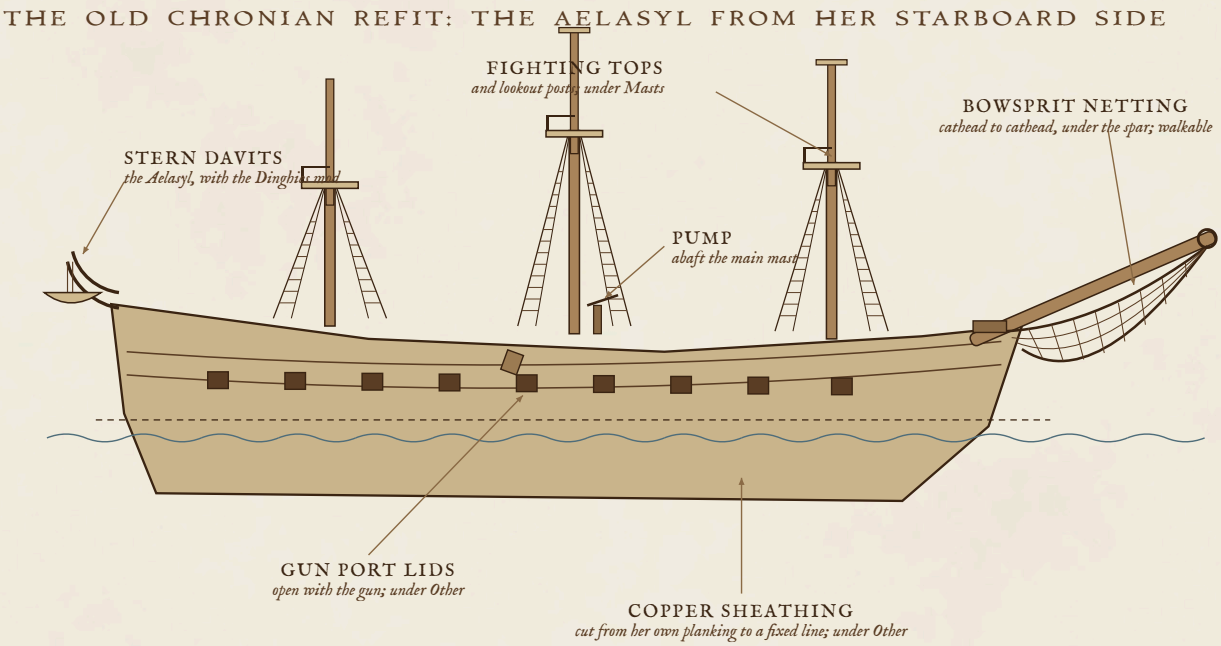


FIG. 8. *The Aelasyl refitted, from her starboard side: the tops and lookouts, the net slung under the bowsprit, the port lids, the copper to a fixed line, the pump abaft the main mast and the davits over her stern.*

Gun port lids

Both ships can be given lids on their gun ports, bought in the shipyard under *Other*; a ship fresh from the Old Chronian mod has none, and a save from before this release loads without them until they are bought. Fitted, look at a lid and click, and the whole side opens or closes together, as on the Xebec. The lids follow the guns: running a gun out opens the port before her muzzle, and stowing her shuts it once she is hauled in (Chapter XI). A lid ignores the click that fires a gun, so a gunner laid hard against the gunwale does not shut his own port. The Aelasyl's lids hang on an iron hinge barrel across their heads and carry a plug that closes into the port, so that in a seaway the gun deck stays dry.

The Caelanor's hatches

The Caelanor gains a sliding hatch over her forward companion, of the pattern the Gallus carries: click to slide it open toward the bow, and again to close it. Her cabin hatch is mended too: as the ship is shipped, its invisible walking surface is twice the length of the opening, and blocks the companion-way even with the hatch slid open. The *Caelanor Hatch Walk Collider Fix*, a small plugin of the author's own that ships in the same folder, trims it to the hatch itself, so you walk over it when it is shut and down through it when it is open.

Fighting tops and lookouts

A FIGHTING TOP is the platform at the head of the lower mast: planked to the round, rounded forward, railed aft, big enough for two men, a swivel gun and a pipe. A LOOKOUT POST is the smaller platform at the crosstrees above it. Both are bought in the shipyard, under *Masts*, one part per mast: *Fore Fighting Top*, *Fore Fighting Top + Lookout Post*, and the same for the main – and on the Aelasyl the mizen as well. Each needs its mast fitted first. A swivel gun nailed to a top's rim commands the enemy's deck from above; that is what fighting tops were for.

The Aelasyl's tops are wider than the Caelanor's, to clear her own heavier masthead plates, and her mizen top sits on the cap of the lower mast, above the shroud heads, where the furled gaff cannot foul it. Either side of the mast the planking is cut in a LUBBER'S HOLE, a true hole with planking all round it, where the lower shrouds come up through the top.

Climbing

The rule aloft is simple, and the ropes tell you which is which by lighting up when you look at them:

- Look at a HORIZONTAL line – a ratline, or a rung of the futtock ladder – and click: UP. From the lower shrouds, onto the fighting top; from the top, onto the lookout.
- Look at a VERTICAL line – a topmast shroud, or a stay – and click: DOWN. From the lookout, back to the top; from a top, down a stay to the deck.

The FUTTOCK SHROUDS are the short ladder that leans out from the lower shrouds to the rim of the top, four ropes with rungs between them, one ladder each side of every top: on a real ship they were how a man got over the edge of the top. Their rungs are horizontal and take you up. The leaning ropes themselves differ by ship. On the Caelanor they are the sailor's way up, and click up like the rungs. On the Aelasyl they are the way down: click a futtock rope or a lower shroud from her top and you are on her deck. The lubber's hole is not a way through for you – the top holds – but on the Caelanor it is a window: look down through it at the shrouds, they light, and a click takes you down to the deck on that side, the landsman's way.

Where a gun port on the Aelasyl leaves a gap in her shroud netting, a rope is run down the gap to the lowest rung, so the ladder reads whole from the deck.

The stays go down. Look at a stay from a top or a lookout and click, and you slide it: the fore stays land you on the foredeck, the mainstay at the foot of the foremast, and the main royal stay on the fore fighting top, where it belongs – or the deck below it if no top is fitted there. On the Aelasyl the mizen stays do the same, down to the main top.

Nothing is written on the screen; the rope simply lights, and the click does the rest. The topmast shrouds above the top can also be walked, for anyone who wants to do it the old way: stand at the foot of them on the top, look up, and walk forward – slowly, as on the ship's own shrouds.

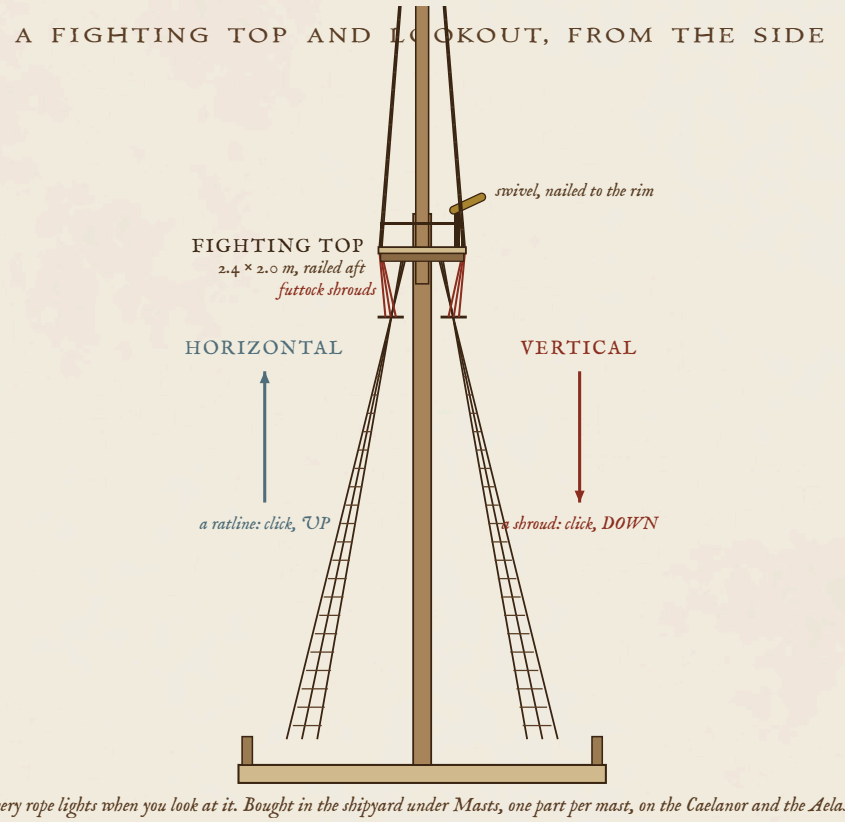


FIG. 9. *A fighting top and lookout on the Caelanor's foremast, from the side. Horizontal lines light and click you up; vertical lines light and click you down.*

Bowsprit netting

A safety net for the men on the headsails, slung UNDER the bowsprit: tied to the bow just under the spar where it passes out, its corners lashed round the ends of the catheads, its point gathered and lashed round the spar's end, the whole hanging between like a hammock. It passes through the beakhead and the figurehead's knee, as a net with holes may. Bought under *Other*, on both ships.

It is a place to stand. Jump down into it from the bow rail and walk out toward the point; it holds you, and so does the drop from the spar above. The net is tied to the ship as she is, not to a drawing: each rope's after end is found on her own hull as she loads, so it fits her bow flush, and the lashings are wrapped round her own cathead timbers where she has them.

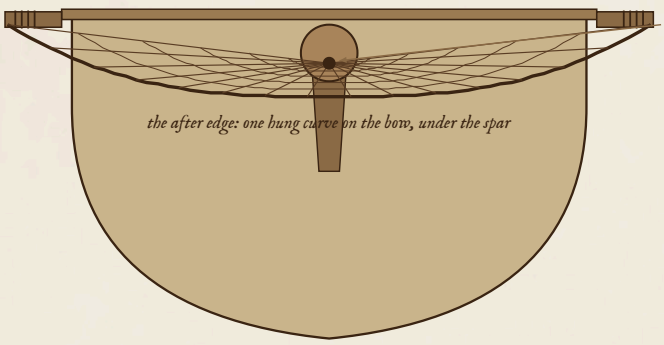


FIG. 10. *The netting from ahead: one hung curve on the bow under the spar, every rope running out to the point at the spar's end, the corners lashed round the catheads.*

Copper sheathing

A skin of copper over her bottom, cut from her own planking below a fixed line — a little above her load waterline, as a yard would lay it — and bought under *Other* on both ships. Where the *Shipyard Expansion* mod is installed the copper wears that mod's own metal, and matches the brig's; without it, a plain copper of its own. In this release the sheathing is for looks and for pride: the worm and the weed are not yet in the game to be kept off, and she sails the same with it or without.

Stern davits

The Aelasyl can carry a boat in davits over her stern. The davits are the *Dinghies* mod's own, which that mod hangs on the brig; Dangerous Waters moves them aft to the frigate's taffrail and offers them in her shipyard under the same name Dinghies gives them, with Dinghies' own boat to hang in them. Without the Dinghies mod there is no boat to hang, and no davits are offered.

The Aelasyl's pump

The frigate has no bilge pump of her own. Where the *Old Chronian Fixes* mod is installed — it is that mod which gives the Caelanor hers — Dangerous Waters fits the Aelasyl the same pump, standing upright just abaft the mainmast on the starboard side, worked like any pump in the game and listed in her shipyard under *Other*. Without that mod there is no pump model to fit, and the log says so. As Old Chronian built her she floats about a degree down by the head; Dangerous Waters shifts her ballast

0.4 m toward the stern so that, empty, she sits level, and guns and cargo still tell on her as they should. The amount is a setting under *Old Chronian ships*, *Aelasyl trim aft*, which takes effect at once, so it is best set with the ship in view from abeam; zero leaves her as built.

TWO COPIES OF OLD CHRONIAN

The refit reads the ships' own rigging to place its ropes. On the Thunderstore copy of Old Chronian some of that rigging cannot be read, and the mod falls back on measured tables for the lower ratlines and the futtock feet, lays the copper by tracing the hull instead of cutting it, and leaves out the gap ropes. Nothing fails and nothing is missing that matters; the fit is simply closest on the rebuilt Old Chronian that the mod was made against.

Sounds aboard

On the Caelanor, the Aelasyl and the Gloriana, the recordings of *HMS Rose* play over the ship's own voice: her timbers under way, her capstan at the anchor and her cabin below. Each has its own switch and volume under *Ship sounds* in the settings (Chapter II).

CHAPTER XIII

Licences, Credits and How to Support the Work

Who made what, on whose shoulders it stands, and how to keep the yard open.

Credits

Dangerous Waters was designed, written, tested and built by Dixiecapt, over the summer of 2026, for the Sailwind community. The pirate's behaviour, the nerve system, the gun economy, the merchants' stalls, the damage rules and the documents in this manual are his. He was helped, in the writing of code and of this book, by Claude Fable, Anthropic's AI model, which drafted the code, drew the diagrams and set the type to his direction, and he would like it known that every rule in the mod was argued over, tested at sea and ruled on by a human being with a ship to lose.

Sailwind

Sailwind is the work of Raw Lion Workshop. Dangerous Waters is an unofficial modification made with affection and without permission, in the usual way of these things; it is not endorsed by, supported by or affiliated with Raw Lion. The ports, the islands, the currencies, the ships you sail and the sea itself are theirs, and so is the Immortal typeface's place on the game's own signs, which this manual borrows for the same reason.

Ships, models and sounds

- The pirate hull is the Caelanor, from the *Old Chronian* ship mod, dressed with the game's own sails and the mod's own guns. Used with the permission of Old Chronian's author, who allowed edits to the Old Chronian ships and the use of the sloop as the pirate. Players need the Old Chronian mod installed.
- Gun-port lids and the fixed-battery pattern follow the sabord mechanism of the *Le Requin* 1750 mod, whose author's work taught this mod how a port lid should swing. Its author has given permission to revise and update the ship for players and to use it as a pirate mothership in a later release.
- The Old Chronian refit (Chapter XII) is fitted to the Old Chronian ships with their author's permission. The Aelasyl's davits and the boat in them are the *Dinghies* mod's own (proskynesis), moved to her stern when that mod is present. The copper sheathing wears the *Shipyard Expansion* mod's copper when that mod is present. Neither is bundled; each stays its author's.

- LilithMotherOfAll, for guidance with the code and advice on the damage system and on ship items.
- The swivel gun is based on *"Naval 0.75 swivel gun"* by lvpublic, published on Cults under the CC0 public-domain dedication, rebuilt with a one-piece brass barrel and an iron yoke for this mod.
- The carriage guns and the carronade were modelled for the mod; the carriage timber and barrel finishes were measured against the game's own materials so that they sit on a Sailwind deck without looking like visitors.
- Gun reports are built from historical recordings of black-powder ordnance, with a heavier report laid under them for the twelves and the eighteens, and played with the true delay of sound across water. Ship ambience under way is a recorded period-ship layer. Gun reports include recordings from the BBC Sound Effects archive (sound-effects.bbcrewind.co.uk), © BBC. The ship ambience is recordings of the *HMS Rose* from the King Collection: Watercraft Sound Effects Library.
- The flags and pennants of Fort Aestrin, Fort Chronos, Gold Rock City and Eleann Island, and the black flag itself, were painted for the mod.

This manual

- The profile renders of the pirate schooner and of the five guns, the plates, the sea charts and the diagrams were made for this book from the mod's own models and from the game's own positions of the ports. The coastlines on the charts are the island surveys of MoffKalast's Sailwind Map (moffkalast.github.io/Sailwind-Map), used with thanks.
- The histories in Chapters V, VII and VIII are written from the standard accounts: Muller's *Treatise of Artillery* (1768) and the later gunnery manuals for the drill; the general histories of piracy for the Golden Age; and the encyclopaedia for dates. They are short by design and make no claim to scholarship.
- Typefaces: Immortal by Graham Meade and Apostrophic Labs; IM Fell English and IM Fell DW Pica, Igino Marini's digitisations of the Fell types of 1680, under the SIL Open Font Licence; EB Garamond by Georg Duffner and Octavio Pardo, under the same licence.
- The manual is built from plain HTML with the Paged.js library (MIT) and set in Chromium.

The tools

BepInEx and Harmony, without which there would be no Sailwind mods at all; Blender, in which the guns were built and every plate in this book was lit; and the authors of *Better Drag*, *Random Encounters*, *Configuration Manager* and the rest of the stable that this mod was tested alongside.

Licence

Dangerous Waters © 2026 Dixiecapt. Free to download and play. Seek permission to alter. You may share the link; you may not repackage, sell, or re-upload the mod or its assets. Third-party assets remain under their own licences.

Link to the Thunderstore page or the Discord post rather than passing the files on, so that everyone gets the same build and the same fixes. The BBC recordings are used under the BBC's non-commercial terms, with credit, and the mod is not sold.

Bugs, questions and feedback

The mod is supported on the Sailwind Discord, in the modding channels, and on its Thunderstore page. When you report a bug, please send the `BepInEx/LogOutput.log` from the session — the mod writes down a great deal, and the answer is nearly always in there — together with what you were sailing, where you were, and what the pirate was doing. Requests are welcome. Release Two is already sketched, and the list is long.

How to support the work

Dangerous Waters cost its author a couple of hundred dollars of his own money to make — in models, in sound libraries, and in the tools that built the plates in this book — and a summer of evenings besides. He does not ask to be paid back. But if the mod has given you a good afternoon at sea, and you would like to see the next one, a coffee at ko-fi.com/dixiecapt is the way to say so. Every penny of it goes straight back into the yard: the next hull, the next set of guns, the next mod. Thank you for reading this far, and fair winds.

FINIS