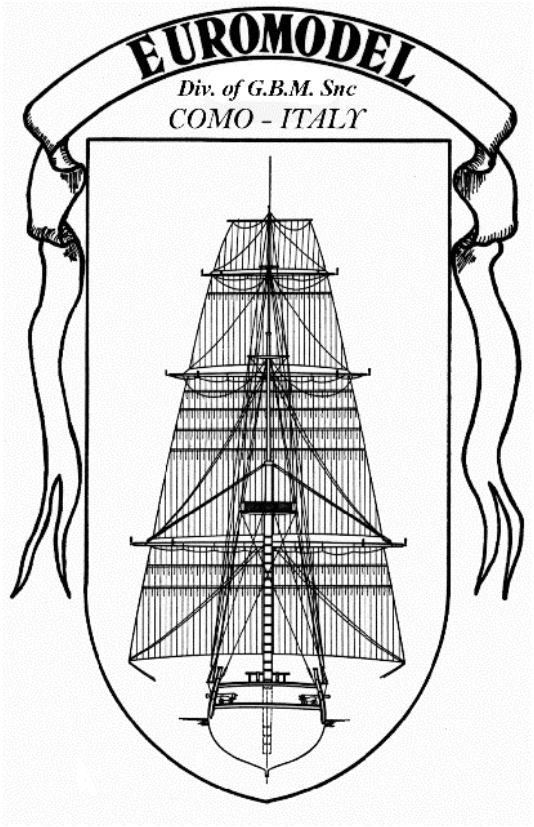


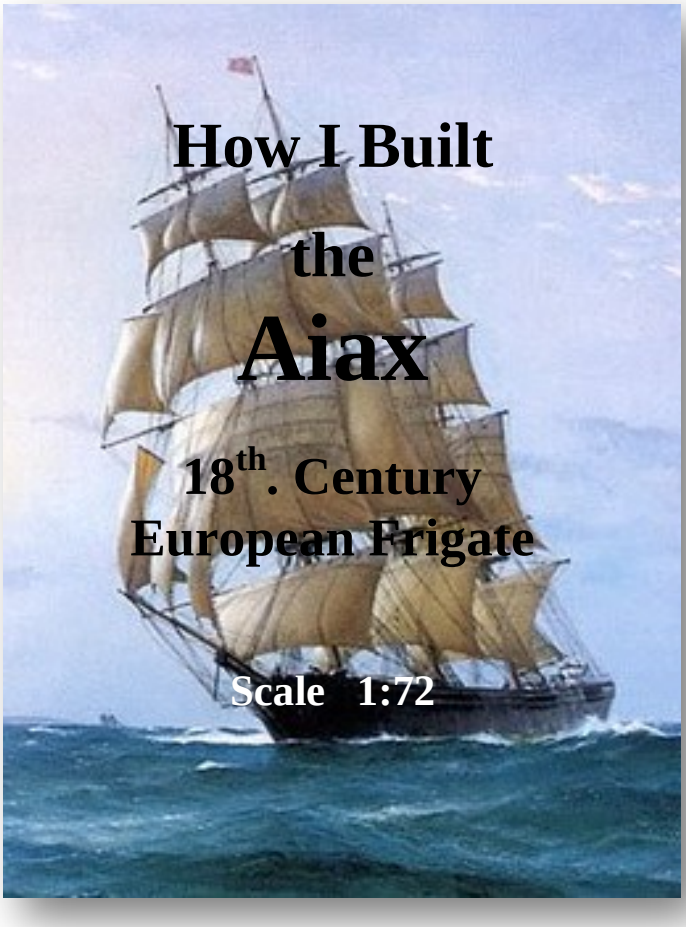


Figure 1: General Maritime View (source unknown)

Part 01

This build manual was based on the original text supplied by Euromodel and then expanded in detail as the actual ship was constructed by the author, Peter Coward. Neither the author or Euromodel have any commercial interest in this manual and it is published on the Euromodel web site in good faith for other persons who may wish to build this ship. Euromodel does not accept any responsibility for the contents that follow.

To my friend, Massimo

Whose untold generosity as owner of Euromodel G.B.M. Snc
inspired me to translate his plans and instructions.

Who opened his family to my family
and maintained a long relationship via the Internet
between Adelaide, South Australia and Como, Italy.

Who also inspired me whilst building a kit model of the
Aiax
to create a documented manual of construction
for others to utilize.

To him I owe a great debt of gratitude

Contents

[To navigate through the contents – use 'control + click']

Chapter 1: INTRODUCTION 7
Historical Notes 7
Construction Philosophy 8
Kit Building versus 'Scratch' Building 8
How *Did* I Build This Ship? 9
Kit Variations 10
Text References 10
The Ship Hull in Brief 11
Chapter 2: TRANSLATION (from Italian to English) ..... Errore. Il segnalibro non è definito.
Chapter 3: THE KIT 30
Drawings 30
Metal Decorations 31
Component list 32
Wood – Laser-cut 32
Wood – Limewood – listello tiglio 32
Plywood- compensata 32
Wood -Walnut 32
Accessories 33
Masts & Spars – Alberi e Pennone 35
Colours 35
Chapter 4: HULL STRUCTURE (Part 1) 37
Structural Integrity 37
Frames & the Keel 37
Gun Battery Deck Preparation 37
Fixing the Frames in Position 37
Cell Construction 37
Lower Small Deck (ponte di fraponte) 38
Mast Steps 38
Fixing Remaining Frames 39
Frame Adjustment 39
DISCUSSION 1: Planking Principles 40
DISCUSSION 2: Planking Gaps 40
Planking the Decks 41

Main Deck 41
Gun Deck 41
Main Deck Beams 1-7 & 10-11 42
Lower Small Deck Revisited (ponte di fraponte) 42
Main Deck Beams 8A and 9A 43
Mast Raking 44
Chimney, Ship's Galley (camino della cucina) 45
Chapter 5: STEERAGE, ANCHORAGE & HAULAGE 46
Steerage 46
Rudder 46
Rudder Pendants 46
Ship's Wheel (ruota del timone) 47
Anchorage 48
Anchor Assembly 48
Anchor Cable (gomene delle ancora) 48
Haulage 49
Cathead (gru di capone) 49
Capstans 50
ADVANCED NOTES 51
Tools 52
Rudder 54
Rudder Pendants 54
Anchor Assembly 55
Sheet Anchor (ancora di speranza) 55
Bow Anchor (ancora di posta) 56
Metal Hoops 56
Anchor Ring (cicala delle ancora) 56
Cathead (gru di capone) 57
Capstans 58
Ship's Wheel (ruota del timone) 60
Compass Binnacle 61
Galley Stove (cucina) 62
Main Deck Guns (12-pounders) 63

Illustrations

[The figures below are not hyperlinked]

Figure 1: General Maritime View (source unknown) 1
Figure 2: Model of the Aiax 7
Figure 3: Detailed Sectional View 8
Figure 4: Simple Handling of Large Sheets 30
Figure 5: Details of Stem (Bow) Post 30
Figure 6: Identifying Metal Decorations 31
Figure 7: Modeller's Colour Scheme A (not Ajax) 36
Figure 8: Modeller's Colour Scheme B (not Ajax) 36
Figure 9: Positioning Frames on False Keel 37
Figure 10: Formation of a Cell Strengthening Unit 38
Figure 11: Lower Deck 38
Figure 12: Mast Steps (from left to right) for Foremast, Main Mast and Mizzen Mast 38
Figure 13: Deck Used to Check Frame Positions (but not glued in) 39
Figure 14: Main Deck 'Three-Shift' Planking 41
Figure 15: Main Deck Fully Planked & Sealed 41
Figure 16: Centre Line Edge of Starboard Side of Gun Deck 41
Figure 17: Main Deck Beams 4A - 7A 42
Figure 18: Positioning of Main Deck Beams 42
Figure 19: Full Deck Beams in Position 42
Figure 20: Decks Supports 8A & 8B 43
Figure 21: Deck Supports 9A & 9B 43
Figure 22: Cut-outs in Frames 8 & 9 43
Figure 23: 8A Support Prior to Curving the Top Surface 43
Figure 24: Mizzen Mast Alignment Template 44
Figure 25: Foremast Alignment Template 44
Figure 26: Main Mast Alignment Template 44
Figure 27: Chimney 45
Figure 28: Ship's Steerage System 46
Figure 29: Tapering the Rudder 46
Figure 30: Rudder Pendant 46
Figure 31: Stock, Metal Anchor & Anchor Ring 48
Figure 32: Fisherman's Knot Detail 48
Figure 33: Completed Fisherman's Knot 48
Figure 35: Tiller Arm Projection 54
Figure 36: Ajax Rudder 54
Figure 37: Rudder - Pendant Rope Attachment 54
Figure 38: Underside View of Partially Completed Stock of Sheet Anchor; Advanced 55
Figure 39: Side View of Partially Completed Stock of Sheet Anchor; Advanced 55
Figure 40: Reduction in Width of Fluke; Advanced 55
Figure 41: Reduction in Size of Sheet Anchor Shank; Advanced 55
Figure 42: Underside View of Partially Completed Stock of Bow Anchor; Advanced 56
Figure 43: Anchor Ring & Metal Hoops; Advanced 56
Figure 44: Cathead; Advanced Version, Complete 57
Figure 45: Typical Cathead Rigging 57
Figure 47: Completed Wheel & Barrel 60
Figure 48: Completed Barrel 60

Figure 49: Representation of Method for Producing Barrel.....60
Figure 50: Completed Ship's Wheel 61
Figure 51: Ship's Binnacle.....61

Euromodel Kit Overview

Euromodel kits are based on sets of drawings by a naval architect and contain a comprehensive amount of detail that would be a challenge to the most serious ship modeller. This is in contrast to most other kits that whilst they also contain excellent plans, the intention there is to achieve a build similar to the plans provided. Euromodel offers plans that can be interpreted at various levels of complexity. If the builder has limited experience in the craft of shipbuilding, then the plans can be read at a simplistic level.

It could well be argued that the outcome is somewhere on the continuum between a standard model construction and a scratch model. How far you wish to extend this continuum is up to you. Your build of this ship will be determined by the degree of complexity you choose.

The kit material will go a long way towards achieving a good model but be aware that the purchase of some extra material might be necessary depending on how far you wish to go in emulating the plans. There will be little left over from the kit contents, but during the construction you should experience a compelling drive to create something better than the basic model.

Euromodel is aware of this challenge and so provides just the basic needs and leaves it up to the modeller to determine how far he will extend his skills.

If you wish, this does not have to be a complicated build to create a wonderful ship model.

In summary … my comments are not prescriptive and if the detail is sometimes a little too precise, please do not let this deter you. It will be up to you to take as much information as you wish and the rest to 'throw overboard'. It is your model, your creation, your handiwork.

Chapter 1: INTRODUCTION

Historical Background

The intricate designs for this frigate were developed by the highly respected designer, Mr. Sella di Genova in 1976/1977 and were taken from an old book of naval architecture published in German from the library of the Ansaldo Shipyards of Genoa. His focus was on an illustrated set of drawings of the actual ship 'Aiax'. The plans illustrate in great detail the construction of a typical European frigate of the late 18th. century. Also included are suggested modifications that would present a ship more typical of the early 19th. century. The builder of this kit then has the choice of two different ships.

Figure 2: Model of the Aiax

The original papers are no longer available and unfortunately no records of the text were kept by the previous owners of this company. Thus the current Euromodel organisation presents this ship in good faith as a classic example of an eighteenth century European frigate. (For some reason, the astute builders will note the presence of *English flags*! That is a mystery in itself).

Euromodel is anxious for support from enthusiastic modellers and those generally with a deep interest in naval history who might be able to track down this elusive German text describing the 'Aiax'. In return, Euromodel would be more than happy to offer a free Euromodel ship kit as a token of their gratitude.

EUROMODEL
Euromodel Division of the GBM Snc di Mazza Massimo & C.
Via Aldo Galli, 11
22100 COMO (CO)
ITALY
e-mail : euro@euromodel-ship.com
home page http://www.euromodel-ship.com

Any submitted photos & comments will become the property of Euromodel Division of the GBM Snc di Mazza Massimo & Co

Construction Philosophy

Euromodel have tried to simulate all the designs of the Aiax in every possible way, with attention to detail in order to appeal to the advanced model builder to construct this model. The designs allow you to construct the vessel using both pre-cut materials ready to use, and materials that require preparation.

Plan Sheet 2 contains a considerable amount of scratch information. This is a sheet that is useful in interpreting the hull structure but does contain much that is outside the scope of this kit.

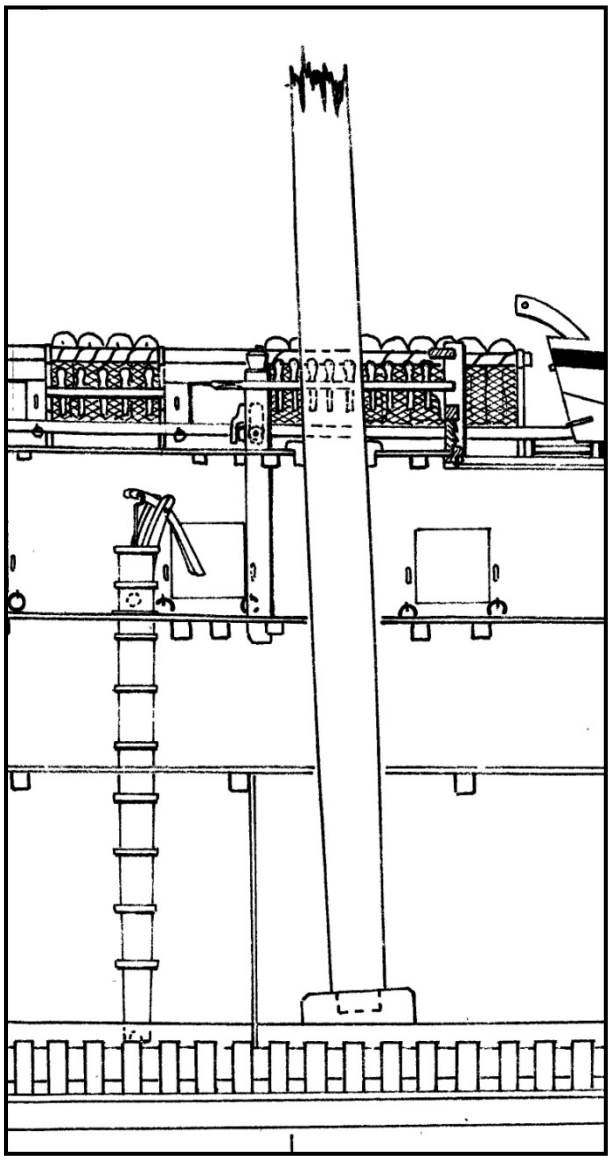


Figure 3: Detailed Sectional View

Kit Building versus 'Scratch' Building

There may well be some confusion in looking at the plans since there is some considerable detail intended for the 'scratch' builder but which is not provided for in the kit. The drawing above shows the detail that *could* be included below decks if engaging in a full scratch build.

This kit has a comprehensive array of items to utilise in building this ship. In many cases, these items may not display exactly the same dimensions as the plan sheets but nevertheless will enable the construction of a fine ship. The kit builder will use what is provided but the scratch builder will utilise the plans more fully and decide to spend far more time building particular items as well as purchasing further items to enhance the ship build.

How *Did* I Build This Ship?

I felt compelled to build this ship from the kit provided but at the same time felt myself drawn to the highly detailed plans which portray far more than the kit provides for. What to do?

I decided to create a text and photographic portrayal of how the ship could be built from the kit and located in a document on the Euromodel website named '**Aiax Notes'**. However, at many points I realised that there were alternative and more detailed construction processes that could be carried out. This usually meant the supply of extra material but having gone to the expense of purchasing the kit, the cost of the extra items was incidental. For these alternative processes, you will see some words or heading that by utilising 'control+click' will allow you to navigate directly to that area of **advanced notes** at the rear of this document. Try control+ click on the words 'advanced notes' in the previous sentence.

A good example is shown by the anchor capstan on Plan Sheet 2. The immense detail provided will enable the construction of a capstan bearing no resemblance to the piece supplied in the kit but will be of a greater historical accuracy. That degree of accuracy is beyond the scope of any kit but not the avid scratch builder. However ... I found myself continually referring to the plan sheet diagrams and calculating how I might improve upon what is in the kit. Somehow, I suspect every builder will become – to some degree – a 'kit/scratch' builder.

In any case it's essential to exercise patience and attention to detail while constructing this model. Without question this ship must be built with passion. The plans are there, an outline of the fundamental steps is there but in the end the modeller must display a high degree of flair. The plans must be studied at length before beginning because it is there that the builders will develop a 'set of instructions' for themselves. **The kit will not necessarily provide all that is required if the modeller aims to include some of the finer detail.**

The kit WILL enable an excellent model to be built from the materials supplied. The plans must be studied at length before beginning because it is there that the builders will develop a 'set of instructions' for themselves.

A complimentary criticism of Euromodel's kits is that the photos displayed on the internet do not portray the kit contents provided but in fact are scratch models. The simple fact is that there are so many variations and additions to the original design possible that (at the risk of repetition) no two ships are going to look the same. The more you examine the plans, the more you are likely to lean towards the 'scratch' style of construction.

Euromodel appreciates your choosing this product and wishes you a challenging experience. There is no question that the detail provided here on the plans and the material contained in the kit sets Euromodel kits apart from other kits available on the market.

Construction Manual

The following documentation will hopefully assist other future builders an easier pathway of construction. There is no doubt that others will see 'flaws' or better ways of carrying out some step. In the end, there can be no one way of doing anything so please read what I have written and then make your own judgement about the best method for you and your build.

With a limited build-time to create this hull, many might well criticise the quality of construction at some points and you might also be aware that photographing a small area on the hull and enlarging it produces a very different image to the one seen simply through the eye. So whatever you see, make yours better!

This manual is a real 'ship-building in progress' and unlike other similar texts, the non-publication-type photographs show the raw work as it is being done.

Kit Variations

The building discussion in the following pages considers what can be built from the kit components ('**Basic Version**') for the 1765 version of the Aiax but also considers more closely the immense detail shown in the plan sheets by providing more elaborate constructional details ('**Advanced Version**'). Some changes that could be considered ....

1. Creating the variations shown for the 1802 version – e.g. hull is shown to be copper-plated,
2. The wooden anchor stocks can be built to a more exacting shape,
3. The barrel of the ship's wheel assembly has considerable detailing,
4. The armament detailing can be anything on a spectrum from 'basic' through to very 'advanced',
5. The capstans following the drawing dimensions & layout more closely,
6. ..... etc ....

The kit does not provide the beams for supporting Main, Gun and Lower Decks … 3A, 4A, 5A, 6A …. etc. However, there was no difficulty in shaping these from scrap pieces [I used the edges of the 5 mm. plywood surrounding the laser-cut frames].

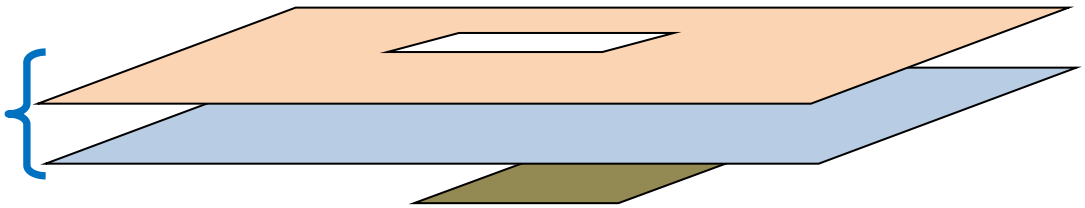
Text References

1. ***Historic Ship Models*** by Wolfram zu Mondfeld (1989). This book I have repeatedly utilised for historical accuracy when dealing with any part of a period ship. This is a 'must have' text. It explains everything nautical to do with early ships and is almost a required companion if you are building the Mordaunt – the front cover of my copy is in disarray and pages have fallen out (but never lost) and glued back in as I continually research nautical aspects related to the ship.

2. ***The Masting and Rigging of English Ships of War 1625 – 1860*** by James Lee (1984). Another indispensable book! Without this, the masting and the rigging would have been difficult.

The Ship Hull in Brief

The following points simply highlight my attention to detail – you may not necessarily agree but it is a starting point.



DECK	COMMENTS
Gun Battery	
Main	
Lower Small Deck	
Stern Transom	

TO BE EDITED

Italian – English Plan Translation

(A number of terms shown on the Plan Sheets but not included in the lists below can be located on the Euromodel website where a translation of 'Nautical Terms' exists)

Tavola 1 **VISTA DI ASSIEME**	Plan Sheet 1 **OVERALL DRAWING**

Tavola 2 **VISTE ESTERNE SCAFO – PIANTA – SEZIONI E PARTICOLARI**	**Plan Sheet 2** **HULL – COMPLETE VIEW, PLAN & CROSS SECTION**
VISTA LONGITUDINALE DA TRIBORDO (versione e del 1765) Impavesate dipinte: Fondo: Azzurro pallido Bandiere e Ornato: Bianco Corone e aste delle band: Oro	**LONGITUDINAL SECTION OF THE HULL ON STARBOARD SIDE (1765 version)** Decorations painted as follows: Background: Light blue Flags & ornaments: white Crowns & flagstaff: gold
VISTA DELLA POPPA (1765)	**STERN VIEW 1765**
VISTA DELLA PRORA **(**a sinistra della (symbol as shown) versione del 1802 – a destra quella del 1765)	**BOW VIEW** (on the left of the centre line (1802 version) – on the right side (1765 version)
CODICE DEI COLORI **Oro (per la versione del 1765/ Giallo ocra (versione del 1802)**	**COLOUR CODE** gold (1765 version)/ yellow (ecru) (1802 version)
VISTA LONGITUDINALE DA TRIBORDO (versione e del 1802) Candelieri in piatto di acc 1 x 0.5 No. 2 listelli 2 x 1 Rete a maglia romboildale 2 x 1. Cavo 0.2 tingere marrone scuro Legature con cavo 0.4 Bordo esterno: Bianco, parte superiore e bordo interno noco naturale	**LONGITUDINAL SECTION OF THE HULL ON STARBOARD SIDE (1802 version)** Flat stanchions, size 1 x 0.5mm. 2 strips of 2 x 1mm. Diamond-shaped netting 2x1mm. Cable diameter 0.2mm – tinted dark brown Tie with thread of diameter 0.4mm Outside board: white Upper part & inside board: natural white
VISTA DELLA POPPA (1802)	**STERN VIEW 1802**
SEZ. X-X (scala 2:1) Valida per entrambe le versioni	**SECTION X-X (Scale 2:1)** Valid for both version
SEZIONE VERSO PRORA SULL'ORDINATA MAESTRA	**SECTION VIEW OF MAIN FRAME TOWARD THE STERN**
VISTA IN PIANTA (vedere nota*) **ATTENZIONE!** La vista in pianta mostra in alto (babordo) la murata, l'impavesata, il capo di banda, i pezzi di artiglieria in coperta della versione del 1765; in basso (tribordo) sono illustrati gli stessi dettagli per la versione del 1802. Tuttii particolari della zona centrale, sia del ponte di coperta che del pone batteria sono	**PLAN VIEW (see note *)** The deck view shows the following: on the upper part (portside) the bulwarks, the decorations, the cap rail and deck guns of the 1765 version: the lower part in starboard) shows the same details for the 1802 version. The other details of the central part of the view, as the central deck and the gun deck are identical for the two versions (except when specified otherwise)
VISTA DA 'A' Parapetto poppiero del barcarizzo Stemma (per la sola versione del 1765) gigli oro su pondo azzuro scuro leoni oro su fondo rosso vivo. Rimanenti parti: oro	**'A' VIEW** Stern deck railing Emblem (only for 1765 version) lillies are gold, on dark blue background; lions are gold on bright red background. The rest are gold.

Tavola 2	Plan Sheet 2 (cont.)
VISTA DA 'B' Parapetto prodiero del barc.	**'B' VIEW** Aft deck railing
CARRONATA DA 8 LIBBRE (1802)	**EIGHT-POUNDER CARRONADE (1802) (No. 28)**
Particolare brande rotoli di tela grezza giallina (fuori scala)	Hammock – netting – detail of hammock. Roll of yellow coarse fabric (not to scale)
PEZZO DA 4 LIBRE (1765)	**FOUR-POUNDER GUN (1765)** D-brace; E-gun tackle; F-recoil tackle
DISPOZIONE ARTIGLIERIE PONTE COPERTA (fuori scala) NB. I'pezzi da 12 libbre (Part 29) del ponte batteria sono attrezzati come i pezzi da 4 libbre per entrambe le versioni – (vedere tabella) Part PEZZI DA 4 LIBBRE PEZZI DA 12 LIBBRE A Bozzello tipo '2Y' Bozzello tipo '2H' B Bozzello tipo 'Y' Bozzello tipo 'H' C Bozzelli tip '3H' Bozzelli tipo '3L' D Cavo 0.5 Cavo 0.75 E Cavo 0.2 Cavo 0.4 F Cavo 0.25 Cavo 0.5	**MAIN LAYOUT OF DECK GUNS (not to scale)** N.B. The twelve pounders (part 29) of gun deck are rigged the same way as the four pounders in both versions (see table that follows) Part 4-pounder guns 23-pounder guns A Block type '2Y' Block type '2H' B Block type 'Y' Block type 'H' C Blocks type '3H' Blocks type '3L' D Cable diam. 0.5mm. Cable diam. 0.75mm. E Cable diam. 0.2mm. Cable diam. 0.4mm. F Cable diam. 0.25mm. Cable diam. 0.5mm.
DETTAGLIO DELLA GRU DI CAPONE (fuori scala) Paranco di capone mm.0.3 Amante della gru di capone (cavo 0.75, fasciato con cavo 0.1) Nodo amante della gomena dell'ancora Bozzello tipo '3H' (v tav.) Stroppo e gancio in acc. Cicala dell'ancora	**DETAIL OF CAT-HEAD** (not to scale) Cat-head tackle 0.3mm. Support of cathead hoist (cable 0.75mm covered with cable 0.1mm.) Anchor cable knot attaching rope to anchor, 0.25mm. Block type '3H', see table Block's strap and hook Showing 'puddening' the anchor ring with tarred cloth, rope & yarn

DETTAGLIO DELLA SISTEMAZIONE ... Cavo di grippa 0.5. Serrabozze 0.75. Il cavo di grippa r le gomene delle ancore devono essere tinti marrone scuro per simulare la catramatura	**DETAIL OF THE ANCHOR SETUP** Lift cable 0.5mm., support cable 0.75mm. The support cable and the anchor cable must be tinted in dark brown to simulate tar covering
NOTA – I DETTAGLI TIPICI ED I PARTICOLARI COSTRUTTIVI DI TUTTE LE TAVOLE SONO NELLA STESSA SCALA	**THE TYPICAL DETAILS OF CONSTRUCTION IN ALL THE TABLES ARE IN THE SAME SCALE OF THE MODEL UNLESS OTHERWISE SPECIFIED**
Per i particolari costruttivi 1:32 vedere 004; per i bozzelli vedere tav 006	For details of constructions 1:32 see Plan Sheet 4; For the blocks, see Plan Sheet 6
NOTE: 5 – Altre indicazioni sulla colorazione da adottare sono date (ove necessario) per i vari particolari 6 – Usare colori e vernice trasparente semilucidi – le canne dei pezzi di artiglieria (se in ottone o bronzo) devono essere ossidate per ottenere un aspetto invecchiato – per simulare il colore metallico di parti costruite in legno)o altro materiale non metallico) usare un a miscela di	NOTE: 5 – Other instructions regarding the colouring to be used are given (where necessary) in various detailed sketches. 6 – Use flat varnishes & paints. Gun barrels (if brass or bronze) must be oxidized to produce an antique look. To obtain a metallic look on parts made from wood (or other materials non-metallic), use mixture of black & gold paint for the bronze and black & silver for the steel.

Tavola 2	Plan Sheet 2 (cont.)
NOTE: 2- Gli ornati di poppa della versione del 1802 sono dipinti (non in rilievo) sono pure dipinti gli ornati su fondo nero dello specchio di poppa e delle finestre laterali della versione del 1765. 3- Il tavolato dei ponti e colore legno naturale chiaro e finito a cera d vernice trasparente. 4- Sono colore rosso vivo: l'interno delle murate – l'interno e i lati dei portelli dei cannoni – i'affusto delle artigliere ed il tappo di bocca delle stesse – i porta proiettili – le cavigliere – le pazienze – gli argani – le pompe ...	**NOTE:** 2- The stern ornaments of the 1802 version are painted (not in relief) also painted are the ornamentations on black background of the stern galleries and the windows (side) in the 1765 version. 3- The deck boards are natural wood of light texture and are finished with wax or transparent varnish. 4- Bright red paint will be used on: inside of bulwarks – inside and sides of the gunport covers – gun mounts and gun barrel plugs – cannonball racks – belaying pin racks – capstan – and bilge pumps.
NOTE: **1-** Eccezioni al codice dei colori: a) Telai delle finestre laterali e di poppa che devono essere bianchi per entrambe le ... b) Le cifre 'GR' (George Rex – Giorgio III.1760-1820) della versione del 1802 a la corona di alloro che le circonda che ... c) La carena della a versione del 1802 che va lasciata color rame (trattare il rame con acido solforico per ottenere un aspetto invecchiato)	**NOTE:** **1-** Exceptions to the colour code: a) The framework of the side windows and the stern windows must be painted white on both versions. b) The letters GR (George Rex – George III 1760-1820) of the 1802 version and the laurel crown that surrounds the letters are painted in gold. c) The hull below the water line in 1802 version is made of copper plates oxidized with sulfuric acid to obtain an antique look (with a 'patina' layer).

Tavola 3 OSSATURE – PONTI – SPECCHIO DI POPPA E DETTAGLI COSTRUTTIVI	Plan Sheet 3 FRAMES – DECKS – STERN DETAIL & CONSTRUCTION
SEZIONE LONGITUDINALE SULLA DELLA OSSATURA DELLO SCAFO No. 4 traversini in compens. da 5mm	**LONGITUDINAL SECTION ON THE CENTRELINE OF THE HULL FRAMEWORK** Four plywood cross pieces 5mm. thickness – planking thickness
(22) PONTE DI BATTERIA (compensato sp. mm 2)	**(22) GUN DECK (2mm. plywood) –** hatch frames made half thickness of deck planks
(23) PONTE DI COPERTA (compensato sp. mm 1) Rigature (distanza mm 4) eseguite con un punterualo acuminato per simulare il tavolato dei ponti. Dopola rigatura passare carta vetrata fine e ricalcare le righe con una matita semidura (3H) per simulare la catramatura tra le tavole.	**(23) MAIN DECK (1mm. plywood)** Scribed lines (4mm apart) made with a sharp awl to simulate the deck boards. After the scribing, sandpaper with fine grit paper and mark the scratches with a 3H pencil to simulate the tarring inbetween the boards.
(21) FRAPONTE (compensato sp. mm 2)	**(21) LOWER DECK**
(16) No. 1 pezzo a dis (17) No. 1 pezzo opposto a dis (14) No. 1 pezzo a dis. (15) No. 1 pezzo opposto (18), (19), (20) No. 2 pezzi (8A), (9A) – Sp. mm 5 (8B), (9B) – Sp. mm 1.5	(16/17) 2 stern filler blocks from **supplied** 8x30x140 mm. (14) 1 block for stern transom from **supplied** 5x15x140 mm. (15) 2 bow filler blocks from **supplied** 20x20x140 mm. (18), (19), (20) Two pieces(**scrap**, for mast steps) (8A), (9A) – 5mm. thick, soft wood (**scrap**; short deck beams) (8B), (9B) – 1.5mm. thick, soft wood (**scrap**; beam brackets)

(10A) Tratto da asportare in corrispondenza del boccapor to (*)del ponte di coperta	(10A) Remove this piece to leave space for the hatch (*) on the main deck
(26) Mater: legno pregiato – primo di eseguire le foralure curvare a caldo i due particolari fissando il 26 sul 25 a mezzo di piccoli spilli che saranno rimossi per separare i due pezzi a curvatura ottenuta	(26) Material: special with hot water or steam. After bending remove the two pieces by taking pins wood – before cutting holes for the windows, join the two pieces 25 and 26 with small pins then bend to proper shape off.
(25) Contromarcare da Part. 26. Mater: legno pregiato	(25) Mark these holes following those cut in No. 26. Material legno pregiato
(24) Sogomare al montaggio delle mensole a goccia (v. Tav005) Posiz. dei traversini indicati sul dis. d'assieme (Fissare il pezzo primo di montare il ponte di	(24) Shape sides after being mounted (Plan Sheet 5). Position of boards is indicated on the full-scale plan (Install this piece before installing the main deck). The edges must meet.
(30) PARATIA DI PRORA Mater: Legno compens. Sp.mm.2 Aggiustare al montaggio Rigare per simulare il simulare (entrambi i lati)	**(30) FORWARD BULWARK** Material: 2mm plywood Shape it when installing Scratch (scribe) to simulate the boards (both sides)
VISTA PROSPETTICA DELLA PARATIA DI PRORA (fuori scala) Vedere anche TAV.002) Do listello 3.5x3.5; 3x1; 2x3.5	**PROSPECTIVE VIEW OF FORWARD BULWARK** (not to scale) (see Plan Sheet 002) Made from 3.5 x 3.5mm. – 3 x 1mm. – 2x3.5mm. strips
NOTE 1. Per i particolari 27-28-29 ed altri dettagli vedere TAV.003 bis. 2. Salvo ave diversamente indicato il materiale e legno compensato da 5mm di spessore. 3. Le mastre dei boccaporti vanno dipinte color noce (Orivestite con impiellacciatura di noce) 4. I ponti devono essere verniciati con vernice trasparente semilucida dopo l'avvenuto ...	NOTE 1. For details 27, 28 & 29 & other details, refer to Plan Sheet 003 addendum 2. Except where indicated differently, the material used is 5mm. plywood. 3. The frames of the hatches will be stained with walnut (or covered with walnut strips). 4. Decks coated clear, semi-gloss varnish after fixtures in place such as capstans, guns & belaying pin racks.

Tavola 3 bis **Dritto di prora – chiglia dritto del timone particolari vari**	**Plan Sheet 3 Addendum** **Detail particulars of stern, keel & rudder post**
(27)RUOTA DI PRORA ... (instructions now superflous except for the serious modeller who wishes to make up all the individual pieces in the stem post as shown in the diagram)	**(27) STEM POST –** this is **now supplied as one laser - cut piece** and care must be taken to fit this in with the curvature of the hull as well as fitting in with the keel piece (28)
(28) CHIGLIA – Materiale: legno pregiato Contrallare la lunghezza sullo scafo finito e ... etc. Lasciare mater in piv.; Eseguire a montaggio P.27	**(28) KEEL DETAIL : Special wood** Check length of the hull with part 27 Leave extra material; Make this cut matching with 27
(29) DRITTO DEL TIMONE Materiale: legno pregiato Profilo corrispondente a quello della chiglia Tagliare dopo il montaggio	**(29) RUDDER POST DETAIL** Material: special wood The shape must be the same as the keel Cut out after installing
(37) TIMONE – Materiale: legno pregiato Tagliare a filo della tangente inferiore chiglia Dettaglio agugliotti (Scala 2:1) Perno 0.5 (Ricavato da spillo) Lamierino ottone ricotto Sp.1/10; interno 0.75 Dettaglio delle femminelle (fuori scala)	**(37) RUDDER DETAIL – Material : special wood** This cut follows the line of the keel Hinges detail (scale 2:1) – male hinges Pin 0.5 mm diameter (make from a pin) Burnished brass 0.1 mm. thick, inside diam. 0.75 mm. Detail of female hinges (not to scale)
(38) DEL TIMONE – Materiale: legno pregiato Inclinozione da definire a montaggio in modo che la barra stia orizzontale. Da posizionare in modo che la barra risulli bloccato ...	**(38) RUDDER BAR DETAIL–Material:special wood** This angle is determined when installing so that the bar is in a horizontal position. Install the pin so that the bar is fastened to the rudder.
VISTE PROSPETTICHE (fuori scala) Listello 3x1 II° Incinta – Listello 2x1 Incintone 0 Listello 12x1.5mm Coronamento – Listello 3x1 Impavesata (versione 1765) – legno compensato Sp. 1mm (Rigatura sui due lati per simulare il fasciame) Listelli 3x1 Listello 2x1 mezzotondo; Braca del timone 1	**PROSPECTIVE VIEWS (not to scale)** Wood strip 3x1mm II° wood-strike – wood strip 2x1mm. Wale: wood strip 12x1.5mm. Capping Board – strip 3x1mm. Bulwark (1765 version) plywood of 1mm thickness (grooved on both sides to simulate wood planks) Wood strips 3x1mm. Half-round strip 2x1mm.; Rudder Harness 1mm. diam.
VISTA LATERALE (scala 2:1) Le parti indicate con linea tratto e punto sono ... **MODO DI ESEGUIRE LE VETRATE (fuori scala)** NB. Fare attenzione alle diverse inclinozioni da dare al perpex, al telaio ecc. Listelli mm0.5x2.5 Perpex Sp. 2mm Listelli mm 0.5x1.5 Tagli – larghezza mm0.5 – profondita 1mm	**SIDE VIEW (scale 2:1)** Parts indicated by dot & dash line-1765 version only **METHOD OF MAKING WINDOWS (not to scale)** N.B. Observe different angles in which plastic is grooved and strips are installed and the frames are cut. Wood strips 0.5x2.5mm Plastic 2mm thickness Wood strip 0.5x1.5mm. thickness Grooves: width 0.5mm, depth 1mm
(31,32) No. 1 Pezzo a Dis., No. 1 Pezzo opposto a Dis (33,34) No. 1 Pezzo a Dis., No. 1 Pezzo opposto a Dis (35,36) No. 1 Pezzo a Dis., No. 1 Pezzo opposto a Dis NOTE *Parti da aggiustare a montaggio adattandole sullo scafo. I particolari sopra illustrati sono da ricavare in scala.	One piece each for starboard & port side One piece each for starboard & port side One piece each for starboard & port side NOTE These parts must be shaped and matched to the hull when installing. The details shown above must be made in scale.

Tavola 4 **Particolari 1-32/ 42-44 - cavaletto**	**Plan Sheet 4**
(1) GRUETTA – No. 2 Pezzi (Scala 2:1)	**(1) CRANE BOOM** (2 pieces) Scale 2:1
(2) GRU DI CAPONE (Scala 2:1) Foro 1 / No. 1 Pezzo a dis / No. 1 Pezzo opposto	**(2) CATSHEAD (Scale 2:1)** Hole 1mm. diam./ Two pieces, port and starboard
(3) CAVIGLIERA Foro 1	**(3) BELAYING PIN RACK** Hole 1mm. diam.
(4) PAZIENZA Ponte di coperta / Acc 0.75	**(4) BELAYING PIN RACK** Main Deck / Steel wire 0.75mm.
(5) BITTA / Ponte batteria NB. Questo pezzo deve essere sistemato in loco prima di fissare il ponte di coperta.	**(5) BITT /** Gun deck N.B. This piece must be in place before installing the main deck
(6, 9 & 16) SCALE E MASTRE BOCCAPORTI (Scala 2:1) Ricavare in scala dai boccaporti della TAV.002 Ponte di coperta ; Ponte batteria Determinare a mont.	**(6, 9 & 16) LADDERS & HATCH FRAMING (Scale 2:1)** Make in scale from the hatches from Plan Sheet 2 Main deck ; Gun deck Height to be determined during assembly.
(7) CAMINO DELLA CUCINA Lamierino Sp.0.1	**(7) KITCHEN FUNNEL** Metal 0.1mm. thickness
(8) **CAMPANA DEI QUARTI** (Scala 2:1) Parapetto prodiero (V. TAV.002)	(8) **WATCH'S BELL** (Scale 2:1) Forward deck railing (see Plan Sheet 2)
(10) ARGANO (Scala 2:1) **PART. DEGLI SCONTRI** (Scala 4:1) **ASPE (Scala 2:1)** – No. 8 Pezzi	**(10) CAPSTAN** (Scale 2:1) **DETAILS FOR STOP BARS** (Scale 4:1) **BARS (**Scale 2:1) – 8 pieces
(11) SCIALUPPA **REMO** – No. 12 Pezzi / Cuoio Sp. 0.1 Albero maestra / A. Di trinchetto Asta di maestra/ Asta di trinchetto Bompresso / Alighiero **TIMONE/ BARILOTTO/ SASSOLA**	**(11) LIFE BOAT** **OARS –** 12 pieces / Leather 0.1mm. thickness Main mast / Foremast Main mast boom/ Foremast boom Bowsprit/ Gaff **RUDDER/ WATER CASK (2 PIECES)/ SCOOP**
(12) CANOTTO Albero / Asta/ Asta della Bandiere **REMO** – No. 6 Pezzi / Per l'alighiero v. part. a lato	**(12) ROWBOAT** Mast/ Boom/ Flagpole **OARS –** 12 pieces / for gaff, see (11) detail
(13) CAVIGLIERA Parapetto poppiero (v. TAV.002) No. 1 Pezzo a dis / No. 1 Pezzo opposto	**(13) BELAYING PIN RACK** Stern deck railing (see Plant Sheet 2) Two pieces, port and starboard
(14) POMPA DI SENTINA (labelled as (11)) (Scala 2:1) – No. 2 Pezzi	**(14) BILGE PUMP** Scale 2:1 – two pieces
(15) ARGANO DI TONNEGGIO (Scala 2:1) Per gli scontri vedere l'argano di part. 10 **ASPE** – No. 10 pezzi / Tratto a sez. quadra	**(15) CAPSTAN (Scale 2:1)** for stop bars, see detail part (10) **BARS** – 10 pieces / Square cross section
(17) CHIESUOLA DELLE BUSSOLE (Scala 2:1) Lato ruota del timone lampada Cassetti / Ripostigli Bussole con snodo cardanico	**(17) COMPASS HOUSING (Scale 2:1)** Side facing rudder wheel lamp Drawers / Storage spaces Compass with universal joints

(18) RUOTA DEL TIMONE (Scala 2:1) No. 1 Pezzo L=16 (Lato opposta ruota) No. 1 Pezzo L=15 (Lato ruota)	(18) SHIP'S WHEEL (Scale 2:1) Piece L-16 is opposite to the wheel Piece L-15 is to the side of wheel
(20) ASTA DI BANDIERA (Solo per la versione del 1765) Tratto a sez. quadra	**(20) FLAGPOLE** (1765 version) Square cross-section
(19) VEDERE TAV.006	**(19) REFER TO PLAN SHEET 6**
(21) FANALE DI CORONAM (vers. del 1765) Piatto di acc. 0.75x0.1 attorcigliato	**(21) NAVIGATIONAL LIGHT (1765 version)** Steel strip twisted 0.75 x 0.1mm. size
(22) FANALE DI CORONAMENTO (1802)	**(22) NAVIGATIONAL LIGHT (1802 version)**
DETTAGLI PROSPETTICI DELLA SISTEMAZIONE DELLE CAVIGLIERE & PORTAPROIETTILI versione del 1765 – No. 1 portaproittili a sinistra di ogni artiglieria in coperta versione del 1802 – La sistemazione dei portaproittili ettili e identica alta version e del 1765 **A: PORTAPROIETTILI (Scala 2:1)** No. 12 Pezzi / Pollini di piombo 1	**PROSPECTIVE DETAILS OF LOCATION OF BELAYING PIN RACK AND CANNONBALL RACKS** 1765 version – (A) one cannonball rack on the left of every gun on the deck 1802 version – location of the cannonball rack is the same as 1765 version **A: CANNONBALL RACKS** (Scale 2:1) Twelve pieces – lead cannonballs 1mm. diam.
(23, 24, 25, 26) CAVIGLIERE Aggiustare a montaggio 23 – No. 4 Pezzi; 24 – No. 4 Pezzi; 25 – No. 2 Pezzi ... Tutti i fori sono 1	**(23, 24, 25, 26) BELAYING PIN RACKS** Shape it when installing 23 – 4 pieces; 24 – 4 pieces; 25 – 2 pieces; 26 – 2 pieces All holes are 1mm. diam.
(27) ARTIGLIERIA DA 4 LIBBRE Solo per versione del 1765 No. 12 Pezzi completi ... cuneo / base / No. 24 Pezzi	**(27) FOUR POUNDER GUNS** 1765 version – 12 pieces (Scale 2:1) wedge / base / 24 pieces
(28) **CARRONATA DA 8 LIBBRE**(Scala 2:1) Solo per versione del 1802 No. 12 Pezzi completi ... ALZO (ottone) / centro di rotazione * Determinare a montaggio in modo che il pezzo rimanga orizzontale	**(28) EIGHT POUNDER GUNS** (Scale 2:1) 1802 version – 12 pieces JACK (brass) / centre pin *Install the gun barrel so that it rests in a horizontal position
(31) ANCORA DI SPERANZA (No. 2 Pezzi) lamierino Sp. 0.1	**(31) EMERGENCY ANCHOR –** two pieces metal band 0.1mm. thickness
(30) ANCORA DI POSTA (No. 2 Pezzi)	**(30) REGULATION ANCHOR** – two pieces
(32) GAVITELLO – No. 2 Pezzi (Scala 2:1)	**(32) BUOY –** 2 pieces, Scale 2:1
(42)PARASARTIE DI TRINCHETTO– 2 Pezzi sez. Y-Y tipico	**(42) FOREMAST CHANNELS** Section Y-Y (typical)
(43) PARASARTIE DI MAESTRA – No. 2 Pezzi	**(43) MAINMAST CHANNELS –** 2 pieces
(44) PARASARTIE DI MEZZANA – No. 2 Pezzi	**(44) MIZZEN MAST CHANNEL –** 2 pieces
CAVALLETTO DI SOSTEGNO (Legno pregiato) dell 'ossatura 'A' / no. 2 Pezzi / feltro	**SUPPORT STAND FOR HULL** (special wood) centering of transverse frame 'A' / 2 pieces / felt cloth
(29) ARTIGLIERIA DA 12 LIBBRE (Scala 2:1) No. 26 Pezzi completi (per entrambe le versioni) canna / affusto tipo 'A' – cuneo di alzo base del cuneo / affusto tipo 'B' Tutte le quote non indicate sona i identiche a quelle dell'affusto tipo 'A' Aggiustare al montaggio in modo che la canna rimanga orizzont e al centro del sabordo	**(29) TWELVE POUNDER GUNS** (Scale 2:1) 26 pieces (for both versions) gun barrel / gunmount type 'A' / wedge base of the wedge / gunmount type 'B' All measurements not indicated are identical to the gunmount type 'A'. When installing, level gun barrel horizontally in middle of gun port.

TOTALE PEZZI PER SCATOLA DO MONTAGGIO		**NUMBER OF PIECES FOUND IN KIT**	
canne	No. 26	cannon barrels	26 pieces
affusto tipo ‘A’	No. 14	gun mounts, type ‘A’	14 pieces
affusto tipo ‘B’	No. 12	gun mounts, type ‘B’	12 pieces
ruote 5	No. 28	wheels, 5mm. diameter	28 pieces
ruote 6	No. 28	wheels, 6mm. diameter	28 pieces
cunei	No. 14	wedges	14 pieces
basi	No. 14	bases	14 pieces

Tavola 5 **Bompresso, Alberi e Pennoni**	**Plan Sheet 5** **Bowsprit, Masts & Yards**
A: BOMPRESSO cuoio sp.0.1 lamierino mm. 0.1 *Definire a montaggio Tratto a sezione quadra Aggiustare al montaggio. L’asse del bompresso deve arere und inclinazione di 29° rispetto id linea di galleggiamento Mastra	**A: BOWSPRIT** leather 0.1mm. thickness metal band, 0.1 mm. thickness *Refer when installing Square out end Shape this end to match when assembling. The centerline of the bowsprit must be placed on an angle of 29^{o} referring to the waterline Bowsprit collar/ coaming – detail (scale 2:1)
A1: ASTA DI FIOCCO Tratto a sezione ottagonale	**A1: JIB BOOM** thick part is octagonal in shape (scale 4:1 / 2:1)
A2: ASTA DI BANDIERA DI BOMPRESSO	**A2: BOWSPRIT FLAGPOLE**
A3: TESTA DI MORO DI BOMPRESSO asta di fiocco, 4.5 asta di bandiera di bompresso lamierino mm. 0.1 pennaccino	**A3: BOWSPRIT CAP** (Scale 2:1) (Jib Boom) 4.5mm. diameter hole for jib boom bowsprit flagpole metal band 0.1mm. thickness dolphin striker
A4: PENNACCINO fori 0.6	**A4: DOLPHIN STRIKER** hole, 0.6mm. diameter
A5: PENNONE DI CIVADA lamierino mm. 0.1 marciapiede del p di civada 0.5 (solo per visione del 1765)	**A5: BOWSPRIT YARD** metal band 0.1mm. thickness footropes of bowsprit yard 0.5mm. diam. (1765 version only)
PARTICOLARE TIPICO DEL MARCIAPIEDE DEI PENNONI (fuori scala)	**DETAIL OF FOOTROPE FOR THE BOWSPRIT** (not to scale)
PARTICOLARE TIPICO DEL ASTE BUTTAFUORI SCOPMARI E ... prora	**DETAILS OF THE STUN’SLS BOOMS** – (not to scale) bow
B: ALBERO DI TRINCHETTO tratto a sez. quadra lamierino mm. 0.1 determinare a montaggio strollo di maestra cuoio sp.0.1 / prora determinare a montaggio controstrollo di maestra	**B: FOREMAST** squared-off section metal band 0.1mm. thickness position of main stay to be determined on assembly leather 0.1mm. thickness / bow position of upper mainstay determined when assembling

BA: No. 1 SQUADRA dis No. 1 SQUADRA opposta (Scala 2:1)	**BA:** (Scale 2:1) Each piece is squared on opposite sides (2 pieces)
BB: BARRA COSTIERE No. 2 Pezzi	**BB: TRESTLE TREE** – two pieces
BA: No. 1 SQUADRA dis No. 1 SQUADRA opposta (Scala 2:1)	**BA:** (Scale 2:1) Each piece is squared on opposite sides (2 pieces)
BB: BARRA COSTIERE No. 2 Pezzi	**BB: TRESTLE TREE** – two pieces
BC: BARRA TRAVERSA ant.. L=63;post.. L = 65	**BC: CROSSTREE** forward = 63mm.;post.. = 65mm.
BD: No. 2 pezzi / R. = 4	**BD: BOLSTERS** 2 pieces / radius = 4mm.
BE: No. 1 pezzo (Scala 2:1)	**BE: WOODEN CLEAT** 1 piece (Scale 2:1)
BF: No. 1 pezzo a dis – No. 1 pezzo opposto	**BF: WOODEN CLEATS** 1 piece opposite sides
BG: MASTRA	**BG: MAST RING**
B1: COFFA DI TRINCHETTO legno compensata Sp. 1	**B1: FOREMAST TOP** Plywood 1mm. thickness
B2:TESTA DI MORO DI TRINCHETTO	**B2: FOREMAST CAP**
B3: ALBERO DI PARROCCHETO tratto a sez quadrata .. ottogonale cavatoie con puleggia / prora **B3A**: No. 1 pezzo a dis / No. 1 pezzo opposto **B3B**: No. 2 Pezzi (scala 2:1)	**B3: FORE TOPSAIL MAST** squared piece octagonal section holes with pulley / bow **B3A**: two bolsters **B3B**: two pulley blocks (scale 2:1)
B4: CROCETTA DI TRINCHETTO (scala 2:1) **B4A**: barra costiera a dis **B4B:** barra costiera opposta	**B4: TOPSAIL MAST CROSSTREE** (scale 2:1) **B4A**: crosstree, portside **B4B**: opposite crosstree
B6: ALBERO DI VELACCINO (ottogonale) foro 0.6 / 2 fori, 0.4	**B6: FORE TOPGALLANT MAST** (octagonal) hole, 0.6mm. diameter / 2 holes, 0.4mm. diameter
B7: PENNONE DI TRINCHETTO ottogonale / 72.5	**B7: FOREMAST YARD** octagonal / 72.5mm.
B8: PENNONE DI PARROCCHETTO Il 'marciapiede' e tutte le dimensioni non indicate sono identiche a quelle del pennone di civada (A5)	**B8: FORE TOPSAIL MAST** The footropes & all other dimensions not shown here are same as bowsprit yard (A5)
B9: PENNONE DI VELACCINO	**B9: FORE TOPSAIL YARD**
C: ALBERO MAESTRA lamierino Sp. 0.1 / cuoio Sp. 1 tratto a sez. quadrata NB. L'alberio di maestra deve risultare inclinata di 2° verso poppa rispetto la perpendicolare alla linea di galleggiamento. La coffa, le teste di moro e la crocetta devono essere parallete alla linea di galleggiamento. Definire e a montaggio **CA1**: squadra a dis / **CA2**: squadra opposta **CB: BARRA COSTIERA –** No. 2 Pezzi **CC1**: L=68 / **CC2**: L = 73 **CD**: No. Pezzi = 2 **CE: MASTRA**	**C: MAIN MAST** metal band, 0.1mm thickness / leather 1mm. thickness squared-off section N.B. Mainmast must have a 2o incline towards stern referring at the perpendicular line with the waterline. The mast top, the mast caps and topmast crosstree must be parallel to waterline. Height from main deck determined at assembly **CA1& CA2: MAST CHEEKS** - opposite each other **CB: TRESTLETREE** – 2 pieces **CC1**: length = 68mm. / **CC2**: Length = 73mm. **CD: BOLSTER** – 2 pieces **CE: MAST RING**
C1: COFFA DI MAESTRA - compensato Sp. 1 **C1A: FANALE DI COFFA** (scala 2:1)	**C1: MAINMAST TOP -** plywood 1mm. thickness **C1A:TOP NAVIGATIONAL LIGHT** (scale 2:1)
C2: TESTA DI MORO DI MAESTRA	**C2: MAINMAST CAP**
C3: TESTA DI MORO DI GABBIA - octangale **C3A+C3B** No. 1 pezzo & No. 1 pezzo opposta cavatoie con pulegge (cavabuono) tratto a sez. quadrata	**C3: MAIN TOPMAST –** octanagal **C3A+C3B: BOLSTERS**, 2, opp.holes+pulleys (dormant stay) square cross-section

Tavola 6 **Bompresso, Alberi e Pennoni**	**Plan Sheet 6** **Bowsprit, Masts & Yards**
BIGOTTE A CANALI (scala 2:1) **–** 33,34,35,36	**GROOVED DEADEYES** (scale 2:1) – 33,34,35,36
COLLARE (scala 2:1) **–** 37,38	**ROPE COLLAR** (scale 2:1) **–** 37,38
MOCCA DI RAGNA (scala 2:1) - 39	**SPIDER SPREADER** (scale 2:1) - 39
CAVIGLIA (scala 4:1) - 40	**BELAYING PIN** (scale 4:1)
GALOCCIA (scala 2:1) - 19	**CLEAT** (scale 2:1) - 19
DETTAGLIO DELLO STROPPO IN ACC. DEI BOZZELLI (fuori scala)	**DETAIL OF THE BLOCKS' STRAPS** (not to scale)
PARTIC. DELLA CAVIGLIERA DELL'ALBERO DI MEZZANA (solo per ...1802)	**DETAIL OF THE MIZZEN MAST BELAYING PIN RACK** (only for 1802 version)
NOTE Per i particolari costruttivi 42-45, vedere TAV.004	**NOTE** For construction details for 42-45, refer to Plan Sheet 4
LEGENDA **Sigaltura dei bozzelli** La sigla tra virgolette identifica il tipo di bozzello. Il no dopo la sigla e il progressivo relativo a ciascun tipo di bozzello. Esempio: "2L" 4 "2L".... bozzello a 2 passaggi del tipo "L" 4 .... bozzello no. 4 del tip indicato La sigla	**LEGEND** **Code markings of the blocks** The letters in between " " identify the types of blocks. The number after the code in between " " indicates the progressive type of blocks. For example: "2L" 4 "2L" ... block with 2 holes, type L 4 .... block no. 4 of shown code The code in quotation marks indicate the corresponding block on the opposite side shown in the plan.
LEGENDA indica il punto di passaggio diuna manovra volante (bozzello, passaggio a murata, ecc.) prima di essere data volta (*) l'asterisso indica che particolare cui e riferito ... (**) Il doppia asterisco indica che il particolare deve essere prevista per la sola versione del 1802 indica il no. progressivo della caviglia a galoccia a cui deve essere data volta la manovra volante. indica che alla manovra deve essere data volta sulla bitta controssegnata dal no. nel cerchio indica che la manovre va legata all'anello del corrispondente bozzello fiss indica il no. progressivo del punto fisso (dormiente) di uno monovra	**LEGEND** indicates passage of running rigging (block, pass-through of bulwarks, etc) before being fastened (*) indicates that this rigging is used only in 1765 version (**) indicates that this rigging is used only in 1802 version. All locations not indicated by asterisks are common to both versions. shows the number of belaying pin or cleat where the running rigging must be tied. shows the running rigging must be tied to the bitt marked by the number in the circle shows that the running rigging is tied to the strap of the corresponding block shows the progressive number of the starting point of the rigging

Tavola 7 **Manovre fisse e particolari relativi**	**Plan Sheet 7** **Fixed rigging detail**
PART. DELLO STRALLO E CONTROSTRALLO DI MEZZANA (fuori scala)	**DETAIL OF THE TWO MIZZEN STAYS** (not to scale)
PARTIC. DELLE GRISELLE (fuori scala)	**DETAIL OF THE RATLINES** (not to scale)
PARTIC. DEGLI INCAPPELLAGGI DEG....	**DETAIL OF TOP OF THE STAYS** (not to scale)
PARTIC. DEGLI INCAPPELLAGGI DELLE SARTIE (fuori scala)	**DETAIL OF THE TOP OF THE SHROUDS** (not to scale)
PART. 2 (fuori scala) – solo per la versione del 1802 36, 38 – cavo 2 fasciato con cavo 0.1	**PART 2** (not to scale) – only for 1802 version 36, 38 – 2mm. thread covered with 0.1mm. thread
PARTICOLARE DELLE CROCETTE (fuori ... coffa di maestra	**DETAILS OF THE CROSSTREES** (not to scale) mainmast top
PARTICOLARE DELLE COFFE DI TRINCHETTO E MAESTRA (fuori scala) Rete di filo 0.1 maglia Romboidale 2x1mm; colore: marrone N.B.Nella vista laterale delle coffe sono state omesse le bigotte e le sartie per maggior chiarezza. Le parti indicate con linea e punto sono relative al solo albero di maestra. Il diametro delle manovre e il tipo di bozzello al di sopra della linea sono relativi all'albero do maestra; quelli al di sotto della linea all'al ... etc	**DETAILS OF THE FOREMAST & MAINMAST TOPS** (not to scale) Thread netting 0.1mm. diameter Diamond-shaped netting 2x1mm; brown colour N.B. On the side view of the tops, the deadeyes and the shrouds have been omitted for better clarity. Parts indicated with dot and dash lines refer only to the mainmast. The diameters of the rigging above the line refer to the mainmast and those under the line refer to the foremast.
PARTICOLARE DELL'ATTREZZATURA DEL BOMPRESSA E DELL'ASTA DI FIOCCO ...etc Travergini in legno mm. 0.5x1.5x14.5 Cuoio sp. 0.1mm	**DETAIL OF THE BOWSPRIT & JIB BOOM RIGGING (2:1 scale)** Wooden strips 0.5x1.5x14.5 mm. Leather, 0.1mm. thickness
PARTICOLARE IN PIANTA DELL'ATTREZZATURA DEL ... etc	**HORIZONTAL VIEW OF THE BOWSPRIT & JIB BOOM RIGGING**
A. BOMPRESSO A1 ASTA DI FIOCCO A2 ASTA DI BANDIERA DI BOMPRESSA A3 TESTA DI MORO DI BOMPRESSA A4 PENNACINO B. ALBERO DI TRINCHETTO B1 COFFA DI TRINCHETTO B2 TESTA DI MORO DI TRINCHETTO B3 ALBERO DI PARROCCHETTO B4 CROCETTA DI PARROCCHETTO B5 TESTA DI MORO DI PARROCCHETTO B6 ALBERO DI VELACCINO C. ALBERO MAESTRA C1 COFFA DI MAESTRA C2 TESTA DI MORO DI MAESTRA C3 ALBERO DI GABBIA C4 CROCETTA DI GABBIA C5 TESTA DI MORO DI GABBIA C6 ALBERO DI VELACCIO D. ALBERO DI MEZZANA D1 COFFA DI MEZZANA D2 TESTA DI MORO DI MEZZANA D3 ALBERO DI CONTROMEZZANA	A. BOWSPRIT A1 JIB BOOM A2 FLAGPOLE OF BOWSPRIT A3 BOWSPRIT CAP A4 DOLPHIN STRIKER B. FOREMAST B1 FOREMAST TOP B2 FOREMAST CAP B3 FORE TOPSAIL MAST B4 FORE TOPSAIL MAST CROSSTREE B5 FORE TOPSAIL CAP B6 FOR TOPGALLANT MAST C. MAINMAST C1 MAINMAST TOP C2 MAINMAST CAP C3 MAIN TOPSAIL MAST C4 MAIN TOPMAST CROSSTREE C5 MAIN TOPMAST CAP C6 MAIN TOPGALLANT MAST D. MIZZEN MAST D1 MIZZEN MAST TOP D2 MIZZEN MAST CAP D3 MIZZEN MAST TOPSAIL MAST

E. BOMPRESSO A1 ASTA DI FIOCCO A2 ASTA DI BANDIERA DI BOMPRESSA A3 TESTA DI MORO DI BOMPRESSA A4 PENNACINO F. ALBERO DI TRINCHETTO B1 COFFA DI TRINCHETTO B2 TESTA DI MORO DI TRINCHETTO B3 ALBERO DI PARROCCHETTO B4 CROCETTA DI PARROCCHETTO B5 TESTA DI MORO DI PARROCCHETTO B6 ALBERO DI VELACCINO G. ALBERO MAESTRA C1 COFFA DI MAESTRA C2 TESTA DI MORO DI MAESTRA C3 ALBERO DI GABBIA C4 CROCETTA DI GABBIA C5 TESTA DI MORO DI GABBIA C6 ALBERO DI VELACCIO H. ALBERO DI MEZZANA D1 COFFA DI MEZZANA D2 TESTA DI MORO DI MEZZANA D3 ALBERO DI CONTROMEZZANA	E. BOWSPRIT A1 JIB BOOM A2 FLAGPOLE OF BOWSPRIT A3 BOWSPRIT CAP A4 DOLPHIN STRIKER F. FOREMAST B1 FOREMAST TOP B2 FOREMAST CAP B3 FORE TOPSAIL MAST B4 FORE TOPSAIL MAST CROSSTREE B5 FORE TOPSAIL CAP B6 FOR TOPGALLANT MAST G. MAINMAST C1 MAINMAST TOP C2 MAINMAST CAP C3 MAIN TOPSAIL MAST C4 MAIN TOPMAST CROSSTREE C5 MAIN TOPMAST CAP C6 MAIN TOPGALLANT MAST H. MIZZEN MAST D1 MIZZEN MAST TOP D2 MIZZEN MAST CAP D3 MIZZEN MAST TOPSAIL MAST
PARTICOLARE DELLE RIGGIE DELLE BIGOTTE DELLE COFFE E DELL ... filo acc. 0.5 / filo acc. 0.7	**DETAILS OF THE DEADEYE STRAPS FOR THE CROSSTREES AND TOPS** (not to scale) steel wire 0.5mm. diam. / 0.75mm. diam.
PARTICOLARE DELLE LANUE DELLE BIGOTTE DEI PARASARTIE (fuori scala) piatto 0.3 / filo acc. 1 (1802)	**DETAIL OF THE STRAPPING FOR DEADEYES OF THE SHROUD** (not to scale) plate thick., 0.3mm / steel wire 1mm. diam. (1802 only) cross ties 0.4mm. diam.
N.B. Escluso gli arridatoi delle bigotte e i tiranti die bozzelli che sono color corda naturale, tutte le altre manovre de vono essere tinte color ... etc.	N.B. Except for the deadeyes & block rigging which is of natural colour rope colour, all the other rigging must be painted dark brown to simulate the tarring of them.
NOTE 1.Tutte le superfici delle coffe, le barre costiere, le barre traverse, le teste di moro, le crocette, i tratti di albero trale coffe e la teste di moro e tra le crocette e la teste di moro, sono di color nero semilucido in entrambe le versioni. 2.Per la legenda dei simboli usati sulla presente, perle bigotte i bozzelli edi particolari indicati ner due concentrici vedere la Tav.006. 3.Per i particolari A e D3, vedere TAV.005	**NOTE** 1.The surfaces of the tops with their crosstrees and trestle trees plus the caps, the crosstrees and pieces of mast between the caps and the tops and between the crosstrees and the caps are semi-gloss black in both versions. 2. For the list of symbols used in this table for the deadeyes, the blocks and the details indicated in the double circles, see Plan Sheet 6. 3.For the detail of A and D3, see Plan Sheet 5.

Tavola 8 **Manovre dei pennoni, asta di mezzana, picco e bome**	**Plan Sheet 8** **Fixed rigging detail for yards, mizzen boom, gaff**
PARTIC. DELLA DRIZZA DEI PENNONI DI PARROCCHETTO E DI GABBIA (fuori scala)	**DETAIL OF THE HALYARD FOR THE FORE TOPSAIL AND THE ROYAL YARD** (not to scale)
PARTIC. DEI PARANCHI DI DRIZZA DEI PENNONI DI TRINCHETTO E DI ... barre costiere della coffa (per maggior chiarezza la coffa non e stata rappresentata)	**DETAIL OF THE HALYARD FOR THE MAIN FOREYARD AND MAIN YARD** (not to scale) side pieces for the top (for better clarity, top is not fully drawn)
PARTIC. DELLA TROZZA DEI PENNONI DI PARROCCHETTO E DI GABBIA (fuori scala) sperette in legno 1.5 forate 0.5 oppure perline in vetro da bittoutteria di pinte color legno **versione del 1765 (totale no. 27 pezzi)** no. 7 per trozza a sla di mezzana no. 10 per pennone di parrocchetto no. 10 per pennone di gabbia **versione del 1802 (totale no. 20 pezzi)** no. 10 per trozzo pennone di parrocchetto no. 10 per trozzo pennone di gabbia **PARTIC. DELLA TROZZA DEI PENNONI DI TRINCHETTO, MAESTRA E MEZZANA** (fuori scala) (le manovre contrassegnate da asterisco e relativi bozzelli sono da amettere per il pennone di mezzana) bozzelli fissati sotto le barre traverse delle coffe salsicciotto di cavo intrecciato 0.4 e rivestito in cuoi Sp. 0.1	**DETAILS OF PARRELS FOR THE FORE TOPSAIL YARD & ROYAL YARD** (not to scale) wood balls 1.5mm. diam. Drilled 0.5mm. hole or glass beads painted like wood **1765 version (total 27 pieces)** 7 pieces for the mizzen mast gaff parrel 10 pieces for the fore topsail yard parrel 10 pieces for the royal yard parrel **1802 version (total 20 pieces)** 10 pieces for the topsail yard parrel 10 pieces for the royal yard parrel **DETAILS FOR THE PARREL OF THE FOREYARD, MAINYARD AND MIZZEN YARD** (not to scale) (the rigging marked by an asterisk and the blocks related to them must be omitted for the mizzen yard) blocks are attached under the top bars braided cable and covered with leather (o.4mm. diam.) cable and thickness 0.1mm. for leather

MANOVRE DELL'ASTA DI MEZZANA E BRACCI DEL PENNONE DI CONTROMEZZANA DEL 1765 Tutte le manovre del pennone di mezzana e quelle non indicate del pennone di contromezzana sono identiche alle manovre dei corrispondenti pennoni della versione 1802	**RIGGING FOR THE SAIL BOOM OF THE MIZZEN MAST AND BRACES FOR THE MIZZEN TOPSAIL YARD of the 1765 version f** All the riggings for the mizzen yard and thosenot indicated for the mizzen topsail yard are identical to the rigging for the corresponding yards of the 1802 version
PARTC. DELLA TROZZA DELL'ASTA DI MEZZANA vedere partic. 1	**DETAILS OF THE SAIL BOOM PARREL FOR THE MIZZEN MAST** see detail 1 at the top of Plan Sheet
A5 PENNONE DI CIVADA B7 PENNONE DI TRINCHETTO B8 PENNONE DI PARROCCHETTO B9 PENNONE DI VELACCINO C7 PENNONE DI MAESTRA C8 PENNONE DI GABBIAS C9 PENNONE DI VELACCIO D4 PENNONE DI MEZZANA D5 PENNONE DO CONTROMEZZANA D6 ASTA DI MEZZANA (1765) D7 BOME (1802) D8 PICCO (1802)	A5 BOWSPRIT YARD B7 FOREMAST YARD B8 FORE TOPSAIL YARD B9 FORE TOPGALLANT YARD C7 MAINMAST YARD C8 CROW'S NEST YARD C9 MAIN TOPGALLANT YARD D4 MIZZEN YARD D5 MIZZEN TOPSAIL YARD D6 SAIL BOOM MIZZEN YARD (1765) D7 BOOM 1802 D8 GAFF 1802
NOTE 1.Il braccia di sinistra '1' del pennone di trinchetto (B7) passo in un bozzello "M" sull'altro loto coffa dimaestra rispetto a quello in vista. 2.Per i simboli usati sulla presente vedere la legenda di TAV.006. 3.Escluso ove diversamente indicita tutte le manovre dei pennonmi della versione 1765 e 1802 sono identiche. 4. Per le manovre delle vele quadre vedere RAV.010. Per le manovre dei fiocchi, delle vele di strallo e della rando vedere TAV.009. 5.Per le altre manovre del pennone di civada (A5) vedere TAV.009/007. 6.Tutti i pennoni, il bome ed il picco della versione 1802 devono essere dipinti nero semilucido. 7.Le trozze dei pennoni di velaccino (B9) e di velaccio (C9) sono identiche a quella del ...	NOTE 1.The left brace '1' of the foremast yard (B7) goes through a block "M" on the other side of the main top referring to one in view. 2.For symbols used in this table, see the list in Plan Sheet 6. 3.Besides where indicated differently, all yard rigging for the 1756 & 1802 versions are identical. 4.For the rigging of the square sails, see Plan Sheet 10. For the rigging for the jibs and the staysails and the spanker sails, see Plan Sheet 9. 5.For the other rigging of the bowsprit yard (A5), see Plan Sheets 7 & 9. 6.All yards, boom & gaff of 1802 must be painted semi-gloss black. 7.Parrels of fore topgallant sail yard (B9) & main topgallant yard (C9) are same as those of bowsprit yard (A5).
Bozzelli tip "H' fissati uno all'inter no della prima sartia di mezzana di dritto c l'altro all'interno della corrispondente sartia di sinistra	The "H" type blocks are installed one on inside of first shroud of mizzen mast on right side and the other on inside of corresponding shroud of the left side

Tavola 9 **Bandiere – vele di taglio (fiocchi-v.distrallo-randa) e manovre relative**	**Plan Sheet 9** **Flags - Stay sails and rigging detail**
LEGENDA DELLE VELE 1.TRINCHETTINA 2.CONTROFIOCCO 3.FIOCCO (solo per la versione del 1802) 4.VELA DI STRALLO DI MAESTRA (1802) 5.VELA DI STRALLO DI GABBIA 6.VELA DI STRALLO DI VELACCIO 7.VELA DI STRALLO DI CONTROVELACCIO 8.VELA DI STRALLO DI MEZZANA (1802) 9.VELA DI STRALLO DI CONTROMEZZANA (1802) 10.RANDA (1802) 11.RANDA (1765) 12.VELA DI CIVADA (1765)	**NAME OF SAILS** 1.FLYING JIB 2.OUTER JIB 3.INNER JIB (1802 only) 4.MAIN-STAYSAIL (1802 only) 5.MAIN-TOPMAST STAYSAIL 6.MAIN-TOPGALLANT-STAYSAIL 7.MAIN-ROYAL-STAYSAIL 8.MIZZEN TOPMAST STAYSAIL (1802 only) 9.MIZZEN TOPGALLANT STAYSAIL (1802 only) 10. SPANKER SAIL (1802) 11.SPANKER SAIL (1765) 12.BOWSPRIT SAIL (1765)
La ‘6’ passa nello cavatoia superiore a destra dell’albero. La ‘7’ passa dalla stesso lato nello cavatoia inferiore. La ‘8’ passa nelle due cavatoie a sinistra dell’albero.	The No. 6 stay passes through the upper hole on the right side of the mast. No. 7 rope is inserted on the same side of the mast through the lower hole. The two No. 8 ropes pass through the hole on the left side of the mast.
Anelli in legno – esterno mm 8 – sezione 0.75	Wooden rings-exterior diam. 8mm. section diam. 0.75mm.
La ‘1’ passa nello cavatoia con puleggia superiore sul lato dell’albero. La ‘3’ passa dalla stesso lato nello cavatoia inferiore. La ‘2’ passa nelle due cavatoie a destra dell’albero.	The No. 1 stay passes through the pulley of the upper hole on the same side of the mast. No. 3 rope is inserted on the same side of the mast through the lower hole. The two No. 2 ropes pass through the hole on the right side of the mast.
DETTAGLIO ‘A’ filo acc. 0.5 anello in filo acc. 1 (esterno mm. 8)	**DETAIL ‘A’** steel wire ring, diameter 0.5mm steel wire ring, diam. 1mm. (exterior diam. 8mm.)
DETTAGLIO DELLE SCOTTE DEI FIOCCHI E VELE DI STRALLO (fuori scala) lato di babordo (sinistra) lato do babordo (destra) marciapiede 0.5 (1765)	**DETAILS OF THE LEADS FOR THE JIB SAILS AND STAYSAILS** (not to scale) port side (left) starboard side (right) footropes, 0.5mm. diameter (1765)
DETTAGLIO DELLE ESTREMITA DEI FIOCCHI E DELLE VELE DI STRALLO (fuori scala) anello in filo acc. 1 (esterno mm. 4)	**DETAILS OF DOWN HAULS FOR THE JIB SAIL AND THE STAYSAIL** (not to scale) steel wire ring, diam. 1mm. (exterior diam. 4mm.)
VENTI DELL’ASTA DI FIOCCO (ved. Tav.007)	**BOWSPRIT STAYS** (see plan Sheet 7)

NOTE 1.La mura della vela di strallo di controvelaccio (7) deve passare in un bozzello di tipo “L” fissato all’interno dell’ultima sartia di dritta dell’albero di parrocchetto, scendere lungo l’albero ed essere legato ad una goloccia fissata all’interno dell’ultima sartia di trinchetto all’allezza della terza grisella cominciando ... 2.Le due mure della vela di strallo di velaccio (6) devono passare in due bozzelli di tipo “L” fissati uno a dritta e l’altro a sinistra dell’interno della penultima sartia (versa poppa) dell’alb. Di parrocchetto, scendere lungo l’albero ed essere legate a due galllocce fissate all’interno della penultima sartia di maestra (verso poppa) all’altezza della terza grissella. 3.Le due mure della vela di strallo di contromezzana devona passare (una a dritta e una a sinistra) in una bigotta tipo “E” fissata all’interno della prima sartia di maestra verso prora e essere legate ad una galloccia fissata piu in basso all’interno della stessa sartia. 4.Le bandiere e le vele devono essere ricavate in scala dall presente tavola 5.Per i vari simboli reppresentati sullo presente la vedere la legenda di TAV.006	**NOTE** 1.The lead of the main royal staysail No. 7 passes through a block of the “L” type which is tied on the inside of the right shroud of the fore topsail mast. This lead goes down along the mast to a cleat on the inside of the last shroud of the foremast at the height of the third ratline beginning from the bottom. 2.The two leads of the main royal staysail No. 6 passes through the two blocks of the “L” type which are tied one on the right and one on the left on the inside of the last shroud (towards stern) of the fore topsail mast. Run down alongside the mast are tied to two cleats installed on the inside of the next to the last shroud of the main mast (towards stern) at the height of the third ratline. 3. The two leads of the mizzen topgallant staysail must pass through (one on right, one on left) of the deadeyes type “E” installed on the inside of the first of the main shroud towards the bow and will be tied at a cleat installed on the same shroud but lower. 4.The flags and the sails are made in scale from this plan sheet. 5.For the list of symbols used on this plan, refer to Plan Sheet 6.
Tavola 10 **Vele quadre e relative manovre**	**Plan Sheet 10** **Square sails & rigging detail**
PARTIC. No. 1 (scala 2:1)	**DETAIL No. 1** (scale 2:1)
PARTIC. No. 2 (fuori scala) I matafioni di inferitura illustrati sono quelli della versione del 1765. Quelli doppi della versione del 1802 si eguono ... I matafioni di inferitura	**DETAIL No. 2** (not to scale) The yard beckets shown here are the 1765 version. The double beckets of the 1802 version are made the same way. Yard beckets
PARTIC. No. 3 (scala 2:1) I matafioni sempliei di terzaruolo del 1765 si eguono allo stess modo. Matafioni di terzaruolo del 1802	**DETAIL No. 3** (scale 2:1) The reef points of the 1765 version are made in the same manner. Reef points of the 1802 version.
PARTIC. No. 4 (scala 2:1)	**DETAIL No. 4** (scale 2:1)
LEGENDA DELLE VELE 1. Vela di trinchetto 2. Vela di parrocchetto 3. Vela di velaccino 4. Vela di maestra 5. Vela di gabbia 6. Vela di velaccio **7.** Vela di contromezzana	**NAME OF SAILS** 1. FOREMAST SAIL 2. FORE TOPSAIL 3. FORE TOPGALLANT SAIL 4. MAIN SAIL 5. TOP SAIL 6. MAIN TOPGALLANT SAIL **7.** MIZZEN TOPSAIL

NOTE 1.Le vele sono disegnate visite da poppa (faccio post... 2.Le manovre indicate con linea trattegiata passono sulla faccia opposta a quella in vista (anteriore). 3.I matafioni di inferitura della vela al pennone (Partic.1) ed i matafioni di terz aruolo sulla sinistra della vela sono della versione del 1765 quelli doppi ... 4.Escluso gli stroppi dei bozzelli, che sono color mkarrone scuro, tutte le manovre devono essere color... 5..... 6.Per la legenda dei simboli adottati sulla presente vedere TAV006 7.Tutte le manovre sono identiche sia per la versione del 1765 che del 1802.	**NOTE** 1.The sails are drawn looking from the stern (stern side). 2.The rigging drawn with dotted lines run on the forward side of the sail)forward). 3.The yard beckets (detail 1) and the reef lines on the left side of the sail are the 1765 version. The double ones on the right side are the 1802 version. 4.Except for the block straps which are dark brown, all the rest of the rigging are a natural rope colour. 5.The sails are made from scale from this plan sheet. 6.For the list of symbols used on this plan, refer to Plan Sheet 6. 7. The rigging is identical for both the 1765 and 1802 versions.
Tavola 11 **Piano di costruzione**	**Plan Sheet 11** **Building Plan**
PIANO LONGITUDIANLE profilo ponte di coperta profilo ponte batteria profilo fraponte	**LONGITUDINAL DRAWING** sheer line of main deck sheer line of gun deck sheer line of lower deck
PIANO ORIZZONTALE (linee d'acqua)	**HORIZONTAL DRAWING (water lines)**
PIANO TRASVERSALE (ORDINATE) curvatura del bolzone linea retta del baglio	**OVERALL DRAWING (FRAME CAMBER)** main deck curve straight line of ribs
NOTE I profili dei ponti sono riferiti alla mezzeria nave; per determinarne il profilo a murata usare la sagoma del bolzone illustrat sulla sinistra della tavola.	**NOTE** The profile of the deck refers to the centre line of the ship; to determine the profile use the shape drawn on the left side of this plan.

Chapter 3: THE KIT

Drawings

Frame Identification ...
Plan Sheets 2 and 11 utilise the system of Frames 1-6 aft of the Middle Frame and A-E abaft. Plan Sheet 3 utilises 2-13 aft of the stern. No problems – I just relied on the straight numbering system !

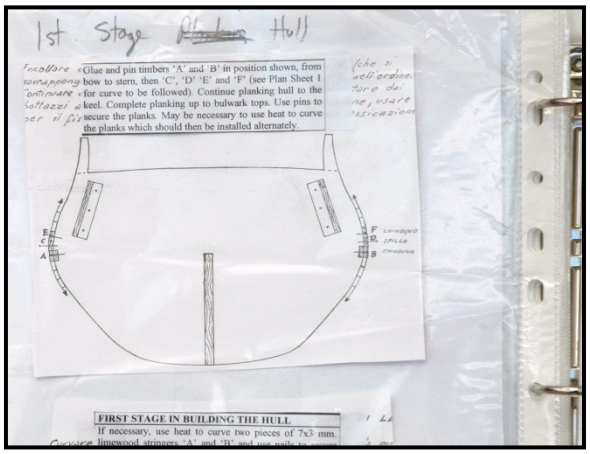


Figure 4: Simple Handling of Large Sheets

Manipulating the Drawings ...
A point I found useful was for many – but not all – plan sheets to be carefully cut into small sections and placed into plastic sleeves in a folder. This way I could arrange the drawings in semblance of order of construction. Another very useful step was to print off the Italian-English translations, cut out the English translations and stick them over the appropriate Italian words – Fig. 4.

Scratch vs. Kit …
At all times the challenge is to see how far you wish to go towards a scratch build. The diagrams are well drawn and allow a scratch-built kit to be readily developed. The difficulty is to separate the essential detail necessary to build the kit from the other more seriously accurate detail. The drawing opposite depicts a composite collection of timbers forming the stem (bow) post.

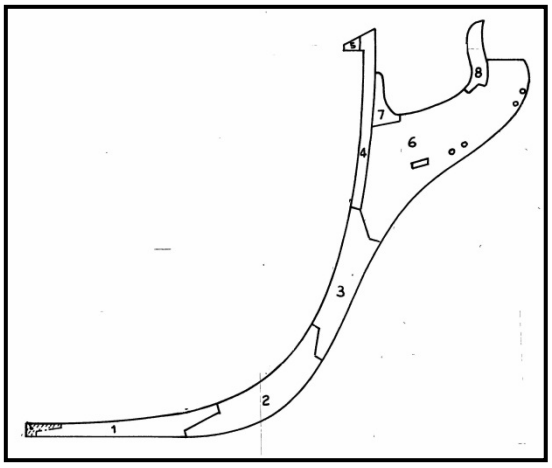


Figure 5: Details of Stem (Bow) Post

The kit supplies one laser-cut stem post without any detail whatosever. So you can decide to produce all the component parts (a big task) or simply go with the blank piece as it is supplied. What you could do is to carve all the joint lines onto the surface to simulate the individual pieces. Realise that this myriad of choices is yours for many other parts of the ship !

Metal Decorations

All cast metal decorations are contained in small but unmarked plastic packets. They have very few blemishes to remove. On the reverse side of the casting there is a specific number that identifies that piece. There are some excellent side and stern views on pages in the instructional manual that allows the kit builder to identify the castings with little problem.

Now is the time to go through every packet, count & identify the pieces. What I then did was to place an identifying name or number inside each packet and re-staple them ready for future use.

Figure 6: Identifying Metal Decorations

Much patience is required to identify these pieces and I would caution against direct contact with the skin – use gloves when cleaning & painting the pieces. Certainly any filing should be carried out in a separate area that can be easily cleaned up. Obviously any painting and gilding will need to be done before assembly onto the ship. More on their useage later.

Scrap Material

The laser-cut material in this kit is surrounded by pieces of wood which may appear to be superfluous – do not discard this 'waste' as there will be a number of places in the ship build where it becomes useful.

Component list

Wood – Laser-cut

Hull:

Keel (1) – Chiglia

Transverse Frames (12) - Ordinate

Decks:

Gun Deck (1) - Ponte di batteria

Main Deck (1) - Ponte di coperta

Lower Small Deck (1) – Ponte di fraponte

Bow Bulkhead (1) – Paratia di prua

Stern:

Stern Balcony/ Transom (1) - Specchio di poppa

Rudder (1) – Timone

Posts:

Stem (Bow) Post (1) - Ruota di prua

Support Base (1) - Invasatura anteriore + posteriore

Wood – Limewood – listello tiglio

8 x 30 x 100 mm. **Filler Blocks for Stern Buttocks** - Blocchetto di riempimento di poppa

5 x 15 x 140 mm. **Filler Block for Closure of Stern Template (in conjunction with metal casting no. : Art. 11/135)** – Chiusura specchio di poppa con losca del timone

20 x 20 x 140 mm. **Filler Blocks for Bow** - Blocchetto di riempimento di prua

Plywood- compensata

1 x 60 x 200 mm. **Mast Tops** - Coffe

Wood – Ramin - ramino

2 x 7 x 300 mm. (1) **Stiffener Main Mast** - Rinforzi albero di maestra

2 x 6 x 250 mm. (1) **Stiffener Fore Mast** - Rinforzi albero di trinchetto

Wood - Limewood

1.0 x 6 x 650 mm. (60) **First Planking** - 1° Fasciame

Wood -Walnut

1 x 6 x 650 mm. (60) **Second Planking** - 2° Fasciame

0.5 x 4 x 600 mm. (45) **Deck Planking** - Rivestimento ponti

10 x 10 x 220 mm. (1) **Cradle Support Cross Pieces** - Traversa invasatura -

4 x 7 x 600 mm. (1) **False Keel, Rudder Post** - Sottochiglia , Dritto del timone

1 x 8 x 400 mm. (1) **Gun Port Lining** – Battuta portelli cannoni

2 x 12 x 650 mm. (2) **Wale** - Incintoni

2 x 2 x 650 mm. (1) **Stern Handrail & Crew Gangway** – Costruzione parapetto poppiera e prodiero del barcarizzo

1x 2 x 650 mm. (1) **Stern Handrail & Crew Gangway** – Costruzione parapetto poppiera e prodiero del barcarizzo

3 x 3 x 130 mm. (1) **Crosstrees of Lower Foremast** - Barre traverse albero di trinchetto

1 x 2.5 x 260 mm. (1) **Crosstrees or Top Ribs Main Mast & Foremast** – Crocetta albero di maestra e di trinchetto

1.5 x 2 x 100 mm. (1) **Crosstrees or Top Ribs Foremast** – Crocetta albero di trinchetto

2.5 x 3 x 100 mm. (1) **Crosstrees or Top Ribs Main Mast** – Crocetta albero di maestra

3 x 3 x 650 mm. (1)	**Main Mast Crosstree, Supports for Bow Pin Rail** - Balaustra , Barre traverse albero di maestra, colonnine sostegno capodibanda di prua
1 x 1 x 650 mm. (2)	**Mast Tops,Bow Walkway** – Coffe, Camminamento di prua
3 x 5 x 220 mm. (1)	**Top Ribs, Main & Foremast Mast** - Barre costiere albero di maestra e trinchetto
3 x 20 x 200 mm. (1)	**Mast Cheek** - Maschette
2 x 11 x 600 mm. (1)	**Channels, Nos. 42, 43 & 44 –** Parasartie
1 x 3 x 650 mm. (7)	**Mast Top Battens** – Listellatura coffe
1 x 7 x 600 mm. (1)	**Pin Rails, Nos. 23, 24, 25 & 26** - Cavigliera
4 x 4 x 300 mm. (1)	**Pin Rails** - Pazienza
2 x 5 x 300 mm. (2)	**Pin Rails** - Pazienza
4 x 9 x 80 mm. (1)	**Bitt Cross Piece, No. 5** - Bitta
3 x 15 x 40 mm. (1)	**Bitt Pin Knees, No. 5** - Bitta
5 x 5 x 400 mm. (1)	**Catheads,No. 2; Bitt Pins(bollards),No. 5; Fife Rail Pins,No. 13** Gru di capone, Bitta, Cavigliera
2 x 4 x 650 mm. (9)	**Cap Rail, Crew Gangway, Pin Rails, Column Support for Pin Rails** – Capodibanda, Parapetto poppiera e prodiero del barcaizzo, Cavigliere, Colonnine sostegno capodibanda
2 x 12 x 400 mm. (1)	**Gun Port Hatch** - Portelli cannoni
2 x 2 x 100 mm. (1)	**Mizzen Crosstree** – Barre traverse albero di mezzana
2 x 3.5 x 70 mm. (1)	**Mizzen Trestletree** – Barre costiere albero di mezzana
1 x 2 x 500 mm. (1)	**Parrels/ Yard Slings** – Trozze

Accessories

Anchor 50mm with stock & ring (2) - Ancora da mm. 50 con ceppo ed anello(Art.11/131)
Anchor 40mm with stock & ring (2) - Ancora da mm. 40 con ceppo ed anello(Art.11/009)
Barrel (2) – Botte (Art.22/112)
Belaying Pins, 8mm. (156) - Caviglia da mm. 8 (Art.22/144)
Bell (contained in 'Metal Decorations Set')

Blocks:
N.B. The plan sheet shows a larger variation of block sizes than that provided in the kit. This kit has amalgamated a number of blocks with similar sizes together – e.g. H and Y both use the same sized block.

H/Y/33:	**3mm., 1 hole(176) -** Bozzelli da mm. 3 a 1 foro (Art.22/026)
2H/2Y:	**4mm., 2 hole(78) -** Bozzelli da mm. 4 a 2 foro (Art.22/031)
L/M:	**5mm., 1 hole (142) -** Bozzelli da mm. 5 a 1 foro (Art.22/028)
2L/2M:	**5mm., 2 hole (47) -**Bozzelli da mm. 5 a 2 fori (Art.22/032)
3L/3H:	**5mm., 3 hole (69) -** Bozzelli da mm. 5 a 3 fori (Art.22/113)
N:	**7mm., 1 hole (9) -** Bozzelli da mm. 7 a1 fori (Art.22/030)
2N:	**7mm., 2 hole (8) -** Bozzelli da mm. 7 a 2 fori (Art.22/034)
F:	**Violin, 11 mm. (4) -** Bozzelli a violino da mm. 11 (Art.22/084)
34:	**Heart, 7 mm. (6) -** Bozzelli a cuore da mm. 7 (Art.22/157)
35/36:	**Heart, 10 mm. (3) -** Bozzelli a cuore da mm. 10 (Art.22/085)
37:	**To be made by builder**
38:	**To be made by builder**

Buoy (2) - Gavitello (Art.22/145)
Capstans: 11x16 mm. (1) - (Art.22/135); **15x20 mm. (1) –** Argano (Art.22/134)
Cleats (67) - Galloccia (Art.11/048)
Cleats (2) – Galloccia (Art. 11/049)

Deadeyes

N.B. The plan sheet shows a larger variation of deadeye than that provided in the kit. Due to restricted commercial availability, this kit has amalgamated the deadeyes according to diameter alone.

E/C: 3mm.(3-hole) (53) - Bigotte da mm. 3 (Art.22/018)
D/X/B: 5mm.(3-hole)(105) - Bigotte da mm. 5 (Art.22/020)
A: 7mm.(3-hole)(88) - Bigotte da mm. 7 (Art.22/022)

Deadeye Straps/ Chain Plates:

3mm.(6)- Landra Diam. mm. 3 (Art.11/358)
5mm., (18) - Landra Diam. mm. 5 (Art.11/313)
7mm., (22) - Landra Diam. mm. 7 (Art.11/312)

Eye Pins (30) - Anellino con gambo (Art.11/022)
Flag set (1) - Serie completa bandiere (Art.13/031)
Grating Strips (290) - Elementi paiolato (Art.22/056)

Guns:

Cannons - Cannoni: **28mm. (12)** (Art.11/119)**; 43mm. (26)** (Art.11/120)
Carriages - Affusti per cannoni **19mm. (12)** (Art.22/001); **27mm. (26)** (Art.22/125)
Gun Door Hinges (52) - Cerniere portelli cannoni (Art.11/129)
Wheels - Ruote per cannoni **diam. 4mm.(24)** (Art.22/149); **diam. 6mm. (84)** (Art.22/150);
Carriage Axles, wooden rod 2mm. - Tondini di kotò diam.mm. 2 per assali affusti
Trunnions (cannon pivot points), brass rod 1.5mm. (3) -Tondino ottone da mm. 1.5 per spine cannoni

Ladder (3) - Scala (Art.22/002)
Lantern, Small (1)- Lanterna piccola (Art.55/005)
Lantern, Large (1)- Lanterna grande (Art.55/004)

Mast Caps – Testa di moro ...

Main Mast (di maestra) (1) (Art.22/139);
Mizzen Mast (di gabbia e mezzana) (2)(Art.22/140);
Foremast (di trinchetto) (1) (Art.22/141);
Fore Lower Topsail Mast (di parrocchetto) (1) (Art.22/142);
Bowsprit (di bompresso) (1) (Art.22/143)

Metal Decorations Set - Serie completa decorazioni fuse (Art.11/145)
Plaque (1) - Targa invaso (Art.12/005)
Rigging Yarn
0.25mm. (Art. 77/025); 0.40mm. (Art. 77/040); 0.60mm. (Art. 77/060); 0.80mm. (Art. 77/080); 1.0mm. (Art. 77/100); 1.50mm. (Art. 77/150)
Rings, Brass (40) – Anello (Art.11/019)
Rudder hinges (4) - Cerniere timone complete (Art.11/122)
Sail Boat Hulls, 80mm. + 120mm. (1+1) - Scialuppa da mm. 80 (Art.88/003) /da mm. 120 (Art.88/002)
Sail Cloth, 450 x 900 mm. - Serie tela per vele mm. 450 x 900 (Art. 15/008)
Wheel, Ship's (1) - Ruota timone – (Art.22/099)
Set of Plans (12 sheets) - Serie disegni (No 12 Tavole) (Art.66/005)
Instructions - Istruzioni

Masts & Spars – Alberi e Pennone

10 x 330mm. (1), 10 x 520 mm. (1) ; 8 x 650 mm. (1);8 x 490mm.(1); 6 x 510 mm. (1); 6 x 240 mm. (1); 5 x 560 mm. (1); 5 x 600 mm. (1); 5 x 160 mm. (1); 4 x 450 mm. (1); 3 x 600mm. (1); 3 x 470mm. (1); 3 x 310mm. (1); 2 x 580mm. (1); 2 x 360mm.(1)

A: MAIN MAST

Main Mast - Albero di maestra (10 mm.)
Main Lower Topmast – Albero di gabbia (8 mm.)
Main Topgallant Mast – Albero di velaccio (6 mm.)

Yard Arms
Lower Yard – Pennone di maestra (6 mm.)
Lower Topsail Yard – Pennone di gabbia (6 mm.)
Topgallant Sail - Pennone di velaccio (3 mm.)

B: FOREMAST

Fore Lower Mast – Albero di trinchetto (10 mm.)
Fore Lower Topsail Mast- Albero di parrocchetto (8 mm.)
Fore Royal Sail Mast – Albero di velaccino (5 mm.)

Yard Arms
Main Yard – Pennone di trinchetto (8 mm.)
Lower Topsail Yard – Pennone di parrocchetto (5 mm.)

C: MIZZEN MAST

Mizzen Lower Mast – Albero di mezzano (8 mm.)
Mizzen Topmast – Albero di contromezzano (5 mm.)

Yard Arms
Yard – Pennone di mezzana (5 mm.)
Upper Topsail - Pennone di contromezzana (4 mm.)
Lateen - Asta di mezzana (5 mm.)

D: BOWSPRIT

Bowsprit Mast – Albero di bompresso (10 mm.)
Jib Boom- Asta di fiocci (5 mm.)

Yard Arms
Spritsail – Pennone di civada (4 mm.)
Flagstaff – Asta bandiere bompresso (3 mm.)

E: STERN

Stern Flag Pole – Asta bandiera di poppa (4 mm.)

F: SAILBOAT

Masts – Alberi scialuppa (3 mm.)
Yards – Buttafuori pennone di maestra e gabbia e trinchetto e parrocchetto e velaccino (3 mm.)
Yards – Pennone e bandiera e asta bandiera scialuppa; pennaccino (2 mm.)
Oars – Remi scialuppa (2 mm.)

Colours

Bianco - white	**Rosso vivo – bright red**	**Lego noce – walnut**

Nero – black	**Giallo ocra – ochre**	**Verde marcio – green**
Oro – gold	**Azzurro scuro – dark azure blue**	**Azzurro pallido – pale blue**

Euromodel have made the following suggestions but in the end it is up to you, the modeller.

Decks: natural colour finished with wax or varnish

Figure 7: Modeller's Colour Scheme A (not Ajax)

Gun barrels
These should be oxidized to produce an antique look.

White
Framework of side windows and stern windows; flags & ornaments

Non-ferrous kit items not covered by the colour of the detail they are attached to (e.g. gun door hinge) can be painted with a black & silver mixture to simulate steel.[black & gold for bronze].

Red
Bulwark inside surfaces, inside & sides of gunport covers, gun mounts & gun barrel plugs, cannonball racks, belaying pin racks, capstan, bilge pump.**[N.B. 'red' paints were manufactured using pigments such as red lead & iron oxides; the resultants paints were therefore a darker red & not a primary red colour].**

Walnut
Inside bulwarks, handrails, stairs, hatchway coamings, mast coamings, masts & yards, tops & crosstrees, winch stocks, inside of life boats & their stands, blocks, deadeyes & belaying pins.

Figure 8: Modeller's Colour Scheme B (not Ajax)

1765 Emblem
Lillies are gold on dark blue background. Lions are gold on bright red background. Remainder is gold.

Gold
Crowns & flagstaffs; also see reference above to emblem.

Chapter 4: HULL STRUCTURE (Part 1)

It is best to formulate your OWN method of assembly before starting. This applies to all stages and especially includes mast & rigging construction. The following instructions are prioritised to make the construction process as simple as possible. Keep in mind that they are only suggestions. Study the designs carefully as the instructions highlight only the major steps for construction.

Structural Integrity

Frames & the Keel

The nine transverse pre-cut 'bulkheads' [3 – 12] were slotted into the false keel as a dry run to determine which joints were too tight and which are too loose. All but one were an excellent fit and so only a minor adjustment was needed. Alignment of the beams supporting the decks was good but some adjustments would still have to be made due to the slight downward inclination of the decks. All nine frames were then removed from the false keel. Using a black pen, a mark was produced on the top of each frame equidistant from each side (i.e. a centre point that gives visual alignment of the whole structure).

Gun Battery Deck Preparation

This deck comes as one piece, but in order to fit it between the frames – and this is **an essential part of the frame alignment checking process** – it is necessary to cut it into halves along its centre line from bow to stern.

Fixing the Frames in Position

The false keel had a slight curve along its length so, to be safe, I constructed a set of block pairs (refer to 'B' in Fig. 8 on next page) that were separated by a distance equal to the keel thickness and mounted along a straight line onto a flat board. This enabled the keel to be straightened whilst installing the 'strengthening cell'

PVA is the adhesive of choice and Frame 7 was glued in first using a set square to check its alignment with the false keel.

When the Frame 7 joint was fully dry, Frames 6 & 8 were glued in position and again checking that they were square with the keel. At the same time, the diagonal distance between them as well as with Frame 7 was also checked. The glued joints were allowed to dry before proceeding any further. Frames were installed at alternate ends. Square & diagonal measurements and central alignment with the black marker points were constantly checked to ensure correct alignment (refer to Fig. 8). [I also checked spacing between the frames on each side of the keel using vernier calipers.] N.B. At this stage I only installed Frames 6-7-8-9. The other frames were installed later.

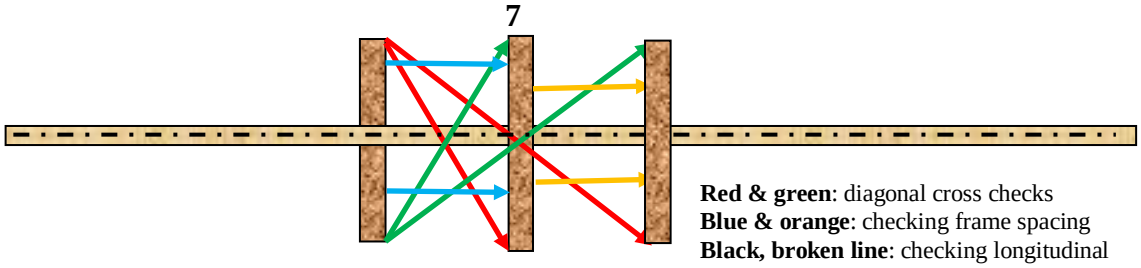


Figure 9: Positioning Frames on False Keel

These combined factors should provide for good symmetry throughout the ship but be warned that the frames are porous and if the stringers (see below) and the first planking are not soon put in place, moisture absorption and subsequent alteration of frame alignment can occur.

Cell Construction

Considering the size of this ship, any small degree of warping will magnify itself along the length so I decided to create a central cell within the ship's frames. This consisted of a set of three pairs of tightly fitting rectangular panels of scrap plywood at deck level and between Frames 6 – 9. Fig. 12 below says it all. I was just happier that this large ship now had more integral strength.

Figure 10: Formation of a Cell Strengthening Unit

Lower Small Deck (ponte di fraponte)

In the kit, the function of this deck seems to be to support the base of the stairs '9'. If a complete stove and chimney '7' were to be built, then this deck would support that as well. The drawings only show the chimney which is supported on the Gun Battery Deck above. As seen by Fig. 11, I chose not to plank this deck due to uncertainty over the amount of planking supplied. However, in hindsight, there was enough material and it would have been better to plank this before installation.

Mast Steps

All three masts have cut-out slots provided in the false keel. However, to hold the bottom of the masts in place, the mast steps have pieces of plywood (numbered 18, 19 & 20) shown in the drawings but I just utilised some scrap glued either side of the slots to form a useful seat for the masts when inserted at a later stage. NOTE: **All steps were approximately 2 mm. wider than the mast fitting into it to allow for adjustment of the mast inclination**. This was a point to watch when installing the Main Deck where the hole provided may well need to be elongated.

Figure 12: Mast Steps (from left to right) for Foremast, Main Mast and Mizzen Mast

Main Deck Beams 1-7 & 10-11

Before going any further, consideration was given to creating the supporting deck beams [4A to 7A] that lie beneath the Main Deck. They were easily cut from pieces of 5 mm. plywood I had in my scrap box. When fixing in place, remember they will be glued **on one side or the other of the frames**, largely depending on mast positioning – refer to Fig. 16 below.

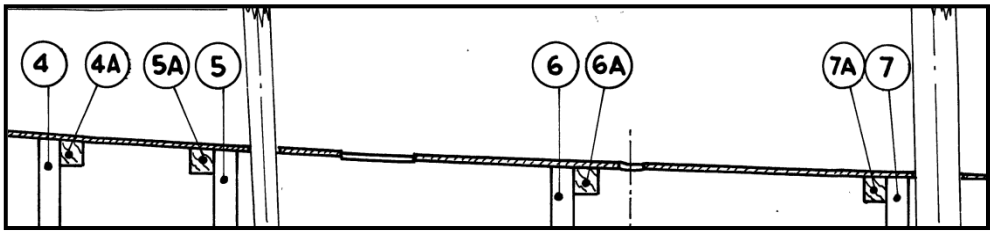
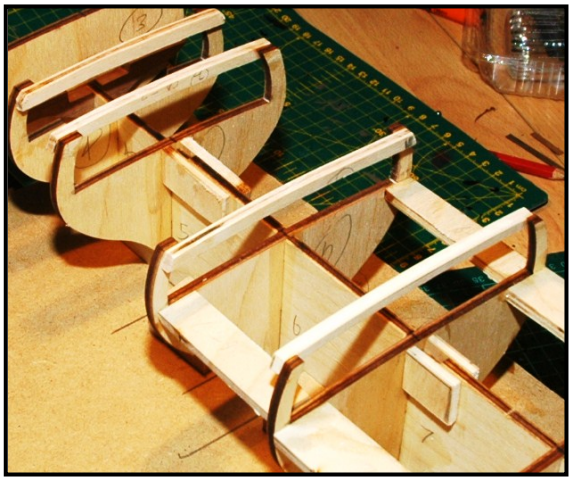


Figure 18: Positioning of Main Deck Beams



Beams 4A, 5A, 6A and 7A were glued in position – refer to Fig. 17.

Figure 17: Main Deck Beams 4A - 7A

Lower Small Deck Revisited (ponte di fraponte)

I painted black the two bulkheads immediately adjacent to this deck – otherwise any view through the hatchway would see the bare timber of the frame(s).

After planking the Main & Gun Decks, I found I had sufficient material to plank this small deck. I started from the starboard side (which is visible through the hatchway) and managed to cover approx. two thirds of the area. Not pristine, but enough to more than cover what could be seen.

With the first four beams in place, the two halves of the Gun Deck were fixed in place, first the portside and then the starboard. Beams 10A & 11A were checked for positioning and then glued in position.

Figure 19: Full Deck Beams in Position

Main Deck Beams 8A and 9A

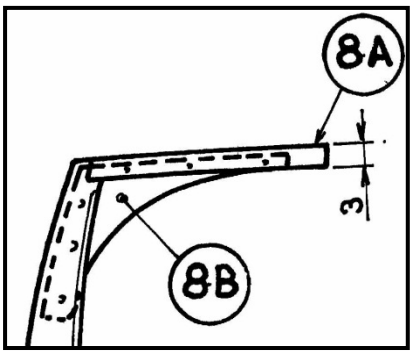


Figure 20: Decks Supports 8A & 8B

- Both **8A and 9A** were made from laminated 5 x 1 mm. scrap planking BUT were **different in length**: **8A's = 31.5 mm.; 9A's = 29.5 mm**.
- These two pieces were seated in a small housing cut out of the top of each of the frames.
- The support brackets **8B and 9B** were cut from some 1.5 mm. scrap plywood BUT were **different in shape**.
- Positioning of these was made by checking the through-alignment from Frame 7 to Frame 10

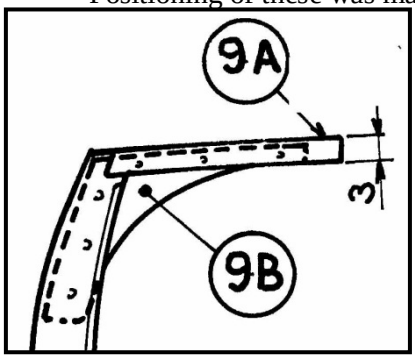


Figure 21: Deck Supports 9A & 9B

Figure 22: Cut-outs in Frames 8 & 9

Figure 23: 8A Support Prior to Curving the Top Surface

Mast Raking

At this point it was necessary to check the mast angles so that the mast step/Gun Deck mast hole/Main Deck mast hole alignment could be determined. This was especially so with the Mizzen Mast hole in the Gun Deck which was far too small and needed to be widened before adding the Main Deck.

For each of the three masts, I made a cardboard template (from the box the Ajax came in) as shown in each of the figures below. Resting the respective template on the Main Deck beams will allow any initial adjustment for the mast alignments to be determined.

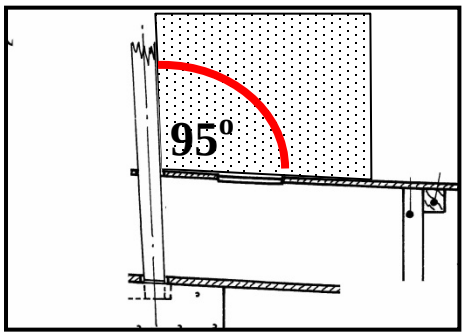


Figure 24: Mizzen Mast Alignment Template

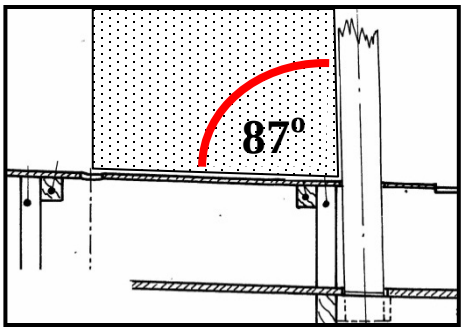


Figure 26: Main Mast Alignment Template

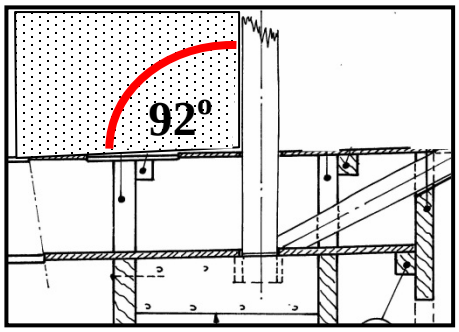


Figure 25: Foremast Alignment Template

Chimney, Ship's Galley (camino della cucina)

Unlike many other models, no details of the actual galley (stove) are given, which makes the decision of whether to build it or not easy! So a straightforward exercise of building the chimney alone whose base will fit into the space provided in the Gun Deck. I thought it best to have the chimney loose fitting at this point so that its fit into both decks can be judged and corrected, if necessary.

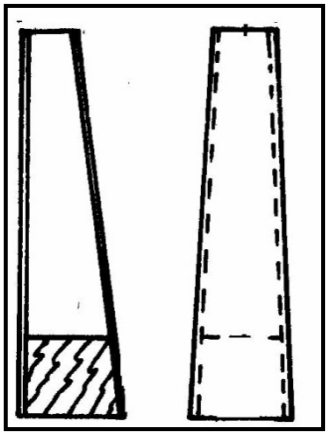


Figure 27: Chimney.....

Chapter 5: STEERAGE, ANCHORAGE & HAULAGE

Steerage

At the beginning of the 18th century, the ship's steering wheel appeared and with a rope system wrapped around its barrel it was connected through a to the rudder blade via a horizontal beam termed the tiller.

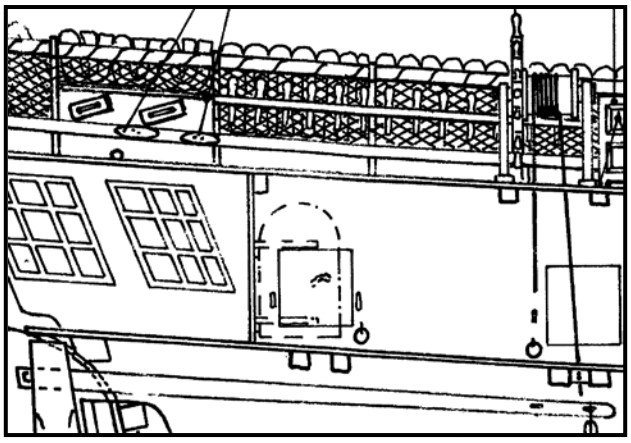


Figure 28: Ship's Steerage System

Rudder

The supplied blade is already laser-cut to shape **but** ... cutting is required to make room for the pintles ('rudder ions') attached to the hull.

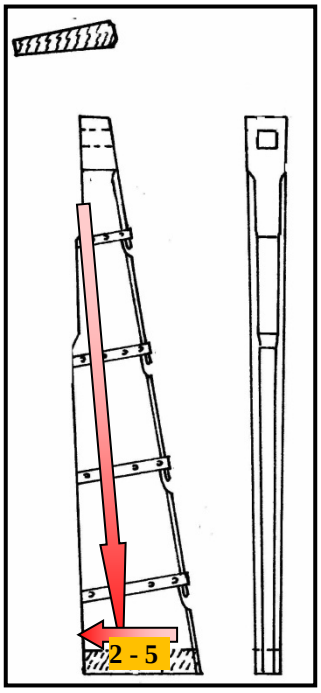


Figure 29: Tapering the Rudder

The blade was tapered from **7 mm. to 2 mm. on the aft edge from the top downwards** and from **7 mm. to 5 mm. on the inner edge**. Thus the maximum taper is at the bottom on the aft edge [Fig. 29 illustrates the tapering by increasing darkness].

There are **other choices** that could be made such as illustrating the use of separate timbers in the rudder and the presence of the tiller arm [use hyper-link above]. You may elect simply not to show the presence of the tiller arm at all.

Rudder Pendants

An eye pin and ring were inserted on each side near the top of the rudder to anchor the rudder pendants (ropes that could be used in the event of tiller damage). The 1.0 mm. rope was also attached to rings anchored on the stern with eye pins.

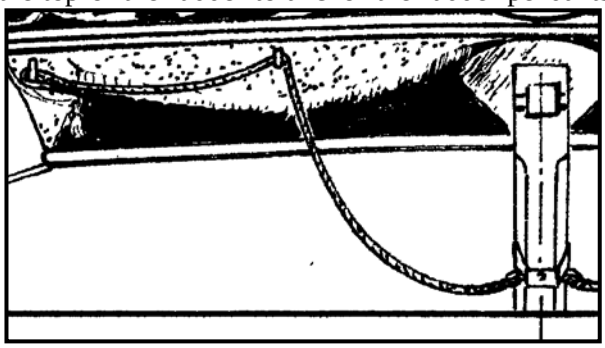


Figure 30: Rudder Pendant

Ship's Wheel (ruota del timone)

One or two large handwheels rotated a **barrel** with a **spindle** at each end and was supported on two **pedestals**. The rope around the barrel passed down through the deck and connected to the **tiller** (and hence to the **rudder**).

The drawings for the winding barrel depict an elaborate array of diameter dimensions from 3 – 5 – 6 – 8 mm. Without access to a lathe or other power tools, the barrel construction can be satisfactorily based on a 6 mm. length with a 3 mm. spindle length set into each end. It is worth looking at the'advanced' version to appreciate the ease with which I did construct the barrel according to the drawing specifications (admittedly I did use a bench-mounted sander without which I could not have done the more advanced version).

Step 1:	Using a length of 6 mm. rod, I squared off one end against my bench sanding disc.
Step 2:	This was then followed by adding a 3 mm. length to one end of the barrel.
Step 3:	The wheel supplied was was then glued onto the other end of the barrel.
Step 4:	On the other side of the wheel, another short length of 3 mm. were then added.
Step 5:	Pedestal columns were made from 6 x 1 mm. walnut planking – I found it better to work with a strip long enough for both pieces, drill the two 3 mm. holes, do any surface carving necessary and only then cut into two – one being 16 mm. and the other 15 mm. in length.
Step 6:	The wheel & barrel were of a very light timber (as supplied) & the pedestals a darker colour – painting was necessary to create a uniform colour.

Anchorage

The larger **sheet anchor** (ancora di speranza) and the smaller **bow anchor** (ancora di posta) are to be found on each side at the bow end. The attached ropes are connected to a nearby capstan. Buoys floating on the water surface indicate the vertical position of each anchor.

Figure 31: Stock. Metal Anchor & Anchor

Anchor Assembly

Euromodel must be congratulated for including ***four*** anchors – the majority of ship model kits contain only two! Some time needs to be spent on the metal components filing the surfaces to remove raised casting edges. At this stage, the top of the shank (above the wooden stock) will need to be very carefully drilled through to accomodate the **anchor ring (cicala delle ancora).** There may well be an impression of a hole, but this will need to be re-located further up the metal shank due to the thickness of the stock. This fits in well given the diameter of the anchor ring. The metal is fragile and and drilling must be done by hand ***very slowly*** to avoid breakages. [I had to reduce the thickness of the stock slightly before doing all of this!].

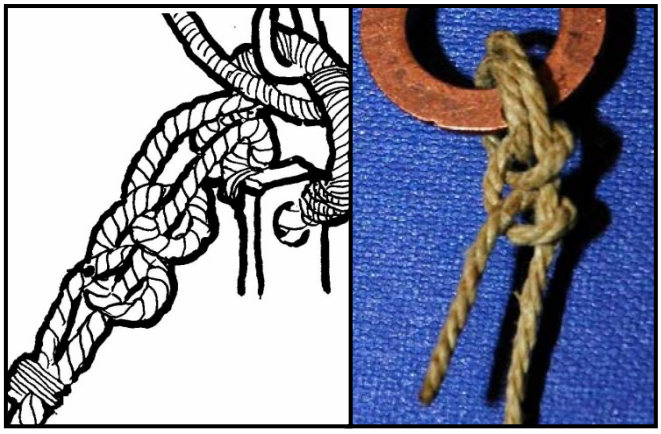


Figure 32: Fisherman's Knot Detail

Anchor Cable (gomene delle ancora)

At sea, the cable was often unreeved ('unrove' or 'undone') from the anchor ring and secured along the deck. During the 18th. century, the cable was secured to the ring with an 'fisherman's knot' - some references confirm its use on Mediterranean vessels during this time. The 'fisherman's knot' is an easy knot to create. Figure 42 illustrates this knot.

Do not colour the rope to simulate tar. Historically, these ropes were not coated with tar – handling would be difficult and in any case the ropes readily dried out after immersion.

So ... sheet anchor cable = 1.5 mm./ bow anchor cable = 1.0 mm.
seizing rope = 0.25 mm.

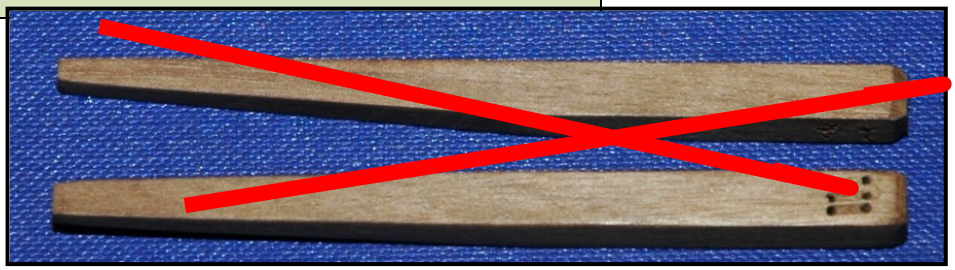
Figure 33: Completed Fisherman's Knot

Haulage

The **cathead** was a heavy beam extending well out from the hull for allow the lifting of large metal anchors without damaging the wooden hull.

Cathead (gru di capone)
This heavy wooden beam, used to raise anchors, carries three sheaves ('pulleys') at its outboard end. The anchor tackle is reeved through these sheaves and belayed to a cleat or timberhead on the forecastle. The drawings in Plan Sheets 1, 2 & 4 (not 'bis 02' as indicated on Plan Sheet 2) show a **fourth sheave on the side of the cathead** with the function in securing the bow anchor if it is left hanging from the cathead.

Hauling of the ropes was done by movement of the rotating **capstan** from the 17 century, the main capstan was located abaft the Main Mast for general lifting and the anchor capstan abaft of the Foremast on or under the Forecastle Deck for lifting the anchors. In the case of the Ajax, the anchor capstan is to be found on the Gun Deck between the Foremast and the Main Mast.



The six holes simulating the three sheaves in the cathead I produced by using a very fine drill. The hole drilling must be done slowly and care taken that the bit is at right angles to the surface. Even so, I started each hole ***from both sides*** and with some patience, the holes were drilled and channels carefully cut into the surface between each pair of holes.

The drawing (2:1) shows the fourth sheave contained in timber that the given dimensions indicate is 3.5 mm. thick. Measurement off the drawing indicates a thickness of only **2.8 mm.** For the sheave ('pulley') on the side of the cathead beam as shown I could have simplified things by **just inserting a brass planking nail** or even a thinned-down small deadeye – the 'Advanced' section shows my use of a metal sheave.

Some of the typical terms relating to the cathead assembly are :

1. **Cathead Block** (bozzello tipo '3H')
   The block available for this is a 3-hole, 5 mm. piece.

2. **Cathead Tackle** (paranco di capone)
   0.3 mm. rope starts from a vertical hole behind the sheaves in the cathead, through the block and cathead above and then to a timberhead of similar fixing point on the nearby bulwark.

3. **Cathead Tackle Hook** (stroppo e gancio in acc.)
   The hook and the strap around the block are both made from brass wire.

Capstans

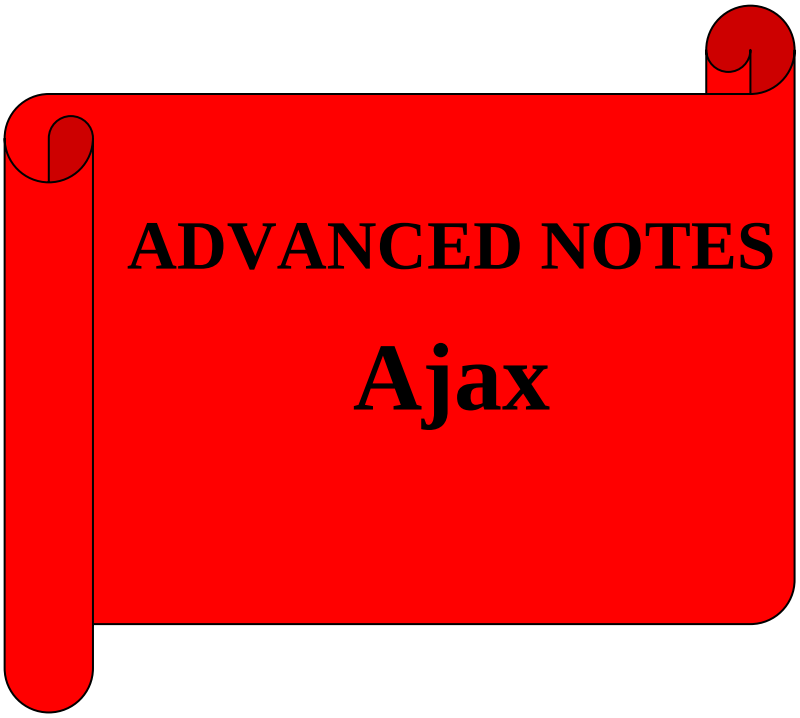
The **main capstan** (argano di tonneggio), located on the Main Deck abaft the Main Mast, was principally used to raise yards and the small boats, whilst the **anchor capstan** (argano a salpare) located forward of the Main Mast on the lower Gun Deck was used to raise the anchors.

Main capstan (argano di tonneggio)
This capstan ('argano') is actually a double-capstan design with two barrels fitted on the same spindle situated on two decks thus allowing double the number of men to operate it. Whelps ('ascialoni') were arranged around the barrel to help prevent the rope from slipping and strengthening chocks were fitted between the whelps.

The capstan supplied is of a reasonable size (**15 x 20 mm. height**) and approximates to the drawing dimension. All that was then required was the assembling of the **eight** whelps and creation of the bars. A further enhancement – not yet done – is to **square the round holes**. When attaching to the deck, the capstan was glued down onto the deck planking.

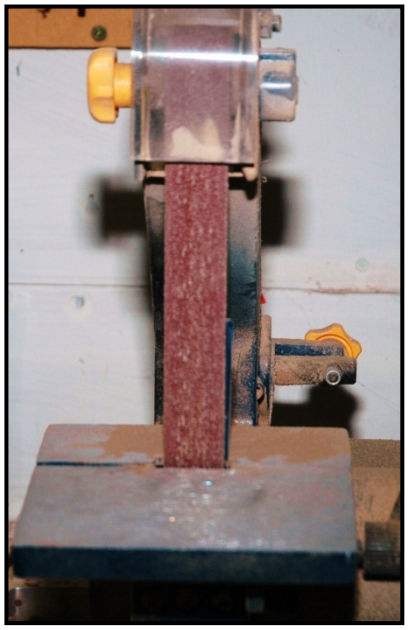
Anchor capstan (argano a salpare)
This capstan is mounted on the Gun Deck and is a single-capstan design with the spindle supported by a bearing just below the deck.

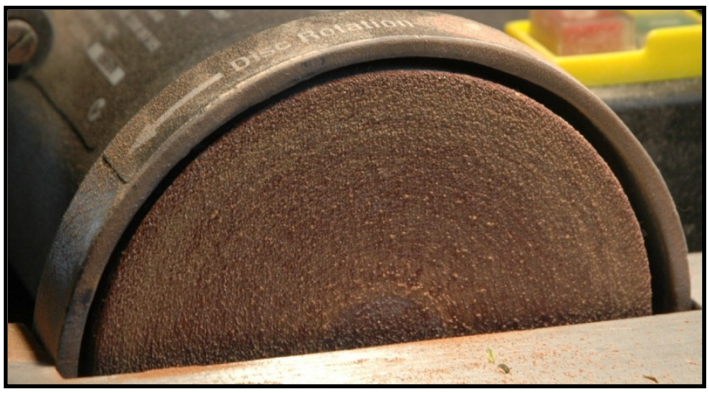
Again the capstan supplied is of a reasonable size (**11 x 16 mm. height**) and can be utilised without changing its shape.


ADVANCED NOTES
Ajax

Tools

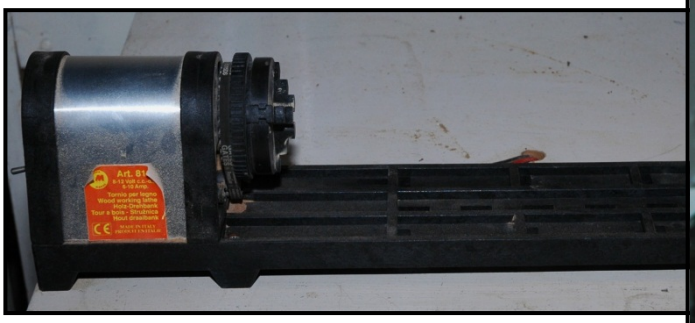
Apart from the normal range of cutting blades, cutting mats, fine metal files, large soldering iron (plank bending) etc., the following tools were essential or at the very least *useful*….

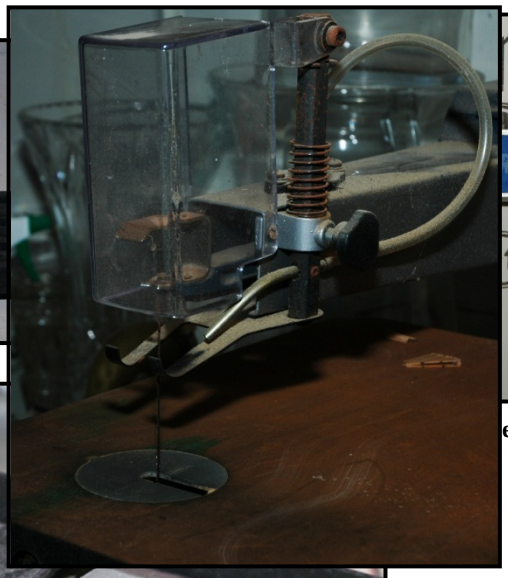




Vertical belt sander with attached sanding disc – absolutely indispensable

Dremel tools (high speed cutter tool, sanding drum & other bits; flexible drive attachment; along with a mini **drill**





er calipers – how could y

Jig saw – fine blade. No way I could have done without this work horse.

One of my most valuable tools will always be the glue syringe. Used with care, it can deliver just one very small droplet glue to the task in hand. Alternatively, it can deliver a constant stream. The advantage of this device is that it has a very small opening at the external tip which easily seals over after use where it comes in contact with the air. When next required, a pin prick through the small pocket of solidified glue at the tip allows the syringe to come back into use. I can leave the tool for months without use and it is always ready to use. I would not be without it.

Rudder

The rudder was made up with three or four lengths bolted together, each one stepped down in a "hance" to the rudder post. So deep lines were cut down either side of the blade to simulate the use of three timbers in creating the rudder blade.

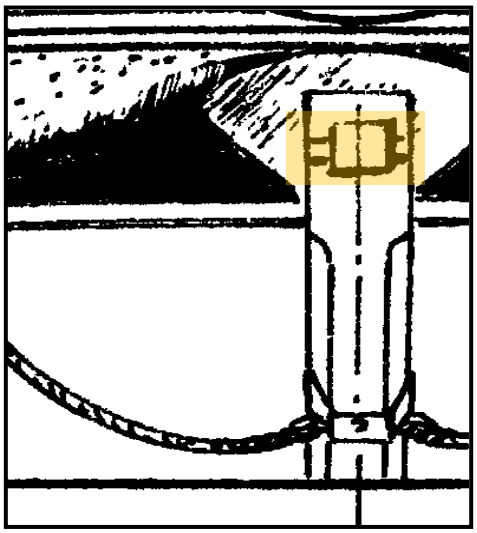


Figure 34: Tiller Arm Projection

Figure 35: Ajax Rudder

Near the top of the rudder, a **2.75 mm. square hole for the tiller arm** was produced. For the sake of completion, I produced a **2.5 mm. 'tiller arm'** projection out from the rudder – a total length of 6.0 mm. allowed the projection to fit into the rudder post. A horizontal locking pin (brass rod) was inserted through the projection directly against the rudder (Fig. 35).

Rudder Pendants

The eye pin + ring attaches the pendant rope to the rudder and is often anchored through a metal strap such as a metal pintle for added strength and not just the wood. Plan Sheet 2 appears to show this (not sure where pin is located – could be just off the pintle but I assume that it IS passing through the pintle)

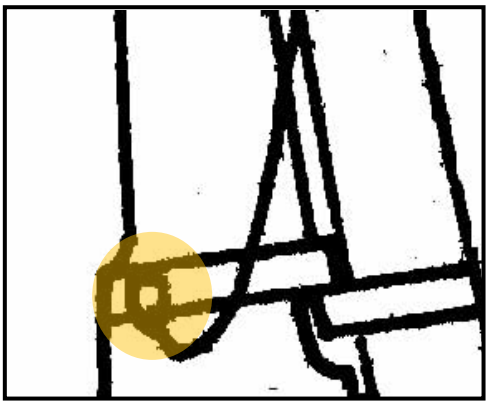


Figure 36: Rudder - Pendant Rope Attachment

Anchor Assembly

The metal castings approximated **very close in length** to the drawings but the other dimensions were markedly different. The wooden stocks were also different in their dimensions when compared to the described size and appearance. I thought I could modify the stocks supplied but that was not the case ...

Sheet Anchor (ancora di speranza)

Stock (ceppo dell'ancora)

Tough decision here ... do you change the stock size *and* the material ? **Reducing the stock** in size totally improves the appearance (Figs. 30 &31). This could be the only change that you make. However, what also improves the appearance is the **dividing of the stock longitudinally into two halves** (i.e. 'baulks'; Fig. 30). So you either make the stock from scrap timber or decrease the supplied stock to drawing size of **48.0 x 5.0 x 5.0 mm.**

Creating the baulks requires considerable care and working with scrap timber was easier than trying to work with the supplied piece.

Figure 37: Underside View of Partially Completed Stock of Sheet Anchor; Advanced

What remains to be done is to create a square hole that will not fully house the square shank of the anchor. This then creates a small space at the centre between the two baulks.

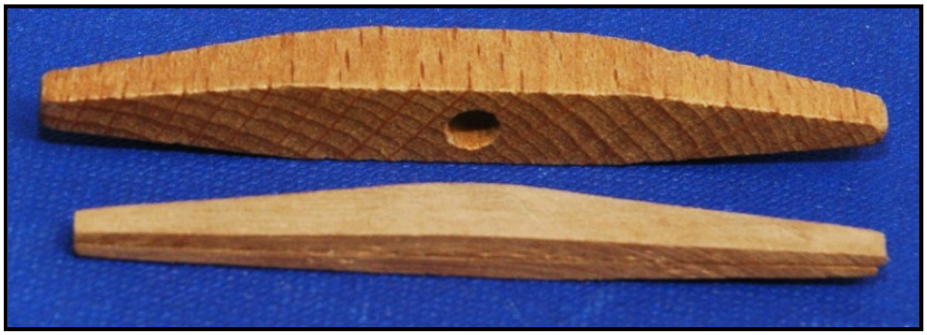


Figure 38: Side View of Partially Completed Stock of Sheet Anchor; Advanced

Metal Anchor

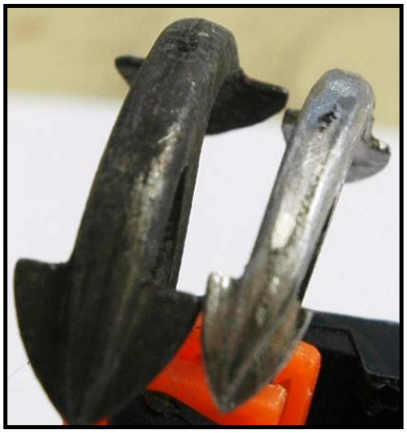


Figure 39: Reduction in Width of Fluke; Advanced

Figure 40: Reduction in Size of Sheet Anchor Shank; Advanced

Having created a wooden anchor stock of the plan dimensions, there was little choice but to then reduce the dimension of the metal anchor. ***Severe*** (but careful) filing of

all aspects of the casting did create an anchor that was much more in proportion to the stock (Figs. 53 & 54). Most significant changes were in the width & tapering of the shank (4 mm. finished at base to 3.5 mm. finished at top), the fluke size and the fluke-to-fluke dimensions. The latter could only be reduced slightly. **There is a need to identify & create a new position for the anchor ring.**

Bow Anchor (ancora di posta)

Figure 41: Underside View of Partially Completed Stock of Bow Anchor; Advanced

Stock

The drawing size of **40.0 x 3.5 x 3.5 mm.** was again smaller than the stock piece supplied. I chose to work with some scrap timber in order to create the correct dimensions. Apart from the length, the small adjustments in thickness and width simply produced a more proportioned object.

Metal Anchor

The fluke size was significantly reduced from a width of 12 mm. to 8 mm. and the shank was squared and given a taper. **The upper shank is only 2 mm x 2 mm. and is *very* fragile to work with !**

Metal Hoops

These bands hold the baulks together and for these I created some timber strips that were 0.5 x 1mm – a little thick (and also a little wider) but some careful sanding afterwards reduced the thickness. I found it easier to glue these on rather than use metal such as brass. To make my task a little easier, I painted each piece black before applying to the stock. The method of application was to simply apply each 'hoop' in four pieces working around the four faces in that order. The stock will remain 'natural timber' so any glue residue needs to be carefully removed as you work.

Anchor Ring (cicala delle ancora)

The four brass rings supplied were all approx. 6.5 mm. in diameter and will be utilised by most modellers. However, it was here again that I decided to work from the diagrams and created rings from some 0.81 mm. brass rod I had – 10 mm. diameter for the sheet anchors and 8 mm. for the bow anchor. Of interest, the ring would have a series of puddening – strips of tarred cloth followed by rope and finally some fine yard applied at each end of the rope and also in the middle. At this scale, it is reasonable to only apply the rope (0.25 mm.) – see Fig. 35. At this stage, the top of the shank (above the stock) will need to be very carefully drilled through to accomodate the anchor ring.

Figure 42: Anchor Ring & Metal Hoops; Advanced

Cathead (gru di capone)

This heavy wooden beam, used to raise anchors, carries three sheaves (‘pulleys’) at its outboard end. The anchor tackle is reeved through these sheaves and belayed to a cleat or timberhead on the forecastle. Plan Sheet 4 shows a **fourth sheave on the side of the cathead** as well as in Plan Sheets 1 and 2.

Figure 43: Cathead; Advanced Version, Complete

In its construction, I followed the drawings and utilised a **2.5 mm. diameter brass sheave (thickness of 1.1 mm.)** on the side of the cathead beam as shown but could have simplified things by just inserting a brass rod. The housing for the side sheave was made from a piece of 4.75 x 3.5 mm. wood piece (by laminating some scrap planking material followed by some sanding).

The following diagram *could* apply to the Ajax but is a generic layout and hence open to interpretation.

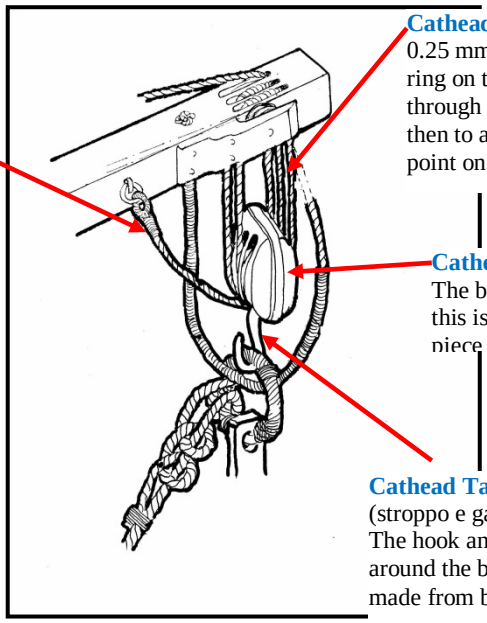


Figure 44: Typical Cathead Rigging

Capstans

The following discussion shows how I altered the overall height and width dimensions of two *larger* capstans to achieve more closely the drawing dimensions. By way of comparison, I also reduced the height of the main capstan head but not that of the anchor capstan head. That way, there is another choice for you to make.

Main capstan (argano di tonneggio)

An interesting exercise here .... essential tools included bench-mounted sanding disc and jigsaw.

When working with such small pieces, bitter experience including a broken finger and ripping flesh off the top of two fingers finally taught me to always utilise long-nosed pliers instead of my fingers... be warned !

The supplied capstan is 15 x 20 mm. height and appears to be satisfactory. However, my 15 x 20 mm. capstan measured only 13.66 mm. across the top short of the drawing size of 16.15 mm. So, I ventured into using a **20 x 25 mm. capstan** instead. Considerable work for what appears to be a minimal return but the visual improvement is huge !

- Firstly, I sanded the dome-shaped top almost flat but managed to retain a very slight curve.
- The upper & lower 'lips' on the head were removed.
- The base was reduced in thickness to 1.99 mm.
- The base was reduced in diameter to 15.8 mm.
- The head was carefully cut off flush at top of spindle.
- The head was reduced in thickness to 4.7 mm.
- The spindle was reduced in height slightly so that combined the dimension was then 18.75 mm.
- The head was glued back.
- The whelps were glued into position around the spindle.

I then had .....

Head Diameter = **16.33 mm.** (vs. *drawing size of 16.15 mm.*)
Base Diameter = **15.88 mm.** (vs. *drawing size of 15.0 mm.*)
Overall Height = **18.75 mm.** (vs. *drawing size of 18.75 mm.*)

Fig. XXX shows the two capstans … 15 x 20 mm. and 15 x 20 mm. Both are approx. the same height but the modified larger capstan produced a structure more in proportion to the intention of the drawing.

Anchor capstan (argano a salpare)
Another interesting exercise here. The supplied capstan is 11 x 16 mm. and appears to be satisfactory. However, my 11 x 16 mm. capstan measured only 9.5 mm. across the top and 10.5 mm. across the base, short of the drawing sizes of 12.25 mm. and 11.0 mm So, I ventured into using a **15 x 20 mm. capstan** instead. Again, considerable work for what appears to be a minimal return but the visual improvement is huge !

- Firstly, I sanded the dome-shaped top almost flat but managed to retain a very slight curve.
- The upper & lower 'lips' on the head were removed.
- The base was reduced in thickness to 1.85 mm., thus removing the bottom 'lip'.
- The spindle was cut through level with the top of the base.
- The whelps were glued into position around the spindle.
- The top section of the capstan + whelps was reduced in height to 14.4 mm. by carefully sanding the base of the whelps.
- The thin circular base was glued back onto the bottom of the whelps.

I then had .....

Head Diameter = **12.35 mm.** (vs. *drawing size of 12.25 mm.*)
Base Diameter = **12.8 mm.** (vs. *drawing size of 11.0 mm.*)
Overall Height = **16.25 mm.** (vs. *drawing size of 15.5 mm.*)

Fig. XXX shows the two capstans … 11 x 16 mm. and 15 x 20 mm. Both are approx. the same height but the modified larger capstan produced a structure more in proportion to the intention of the drawing.

Ship's Wheel (ruota del timone)

Euromodel has supplied a wheel which would be appreciated by the avid modeller. It closely resembles the overall dimensions and I was more than happy to go along with that piece. How far you go in creating the wheel support detail is up to you.

Figure 45: Completed Wheel & Barrel

Figure 46: Completed Barrel

Construction seemed like a daunting task with the 3 mm. diameter **spindles** at each end and the **barrel** with varying dimensions of 5, 6 and 8 mm. in between. I considered using my wood-working lathe but decided against that in preference to a very simple technique that would allow the formation of some very fine widths of 0.5 and 0.75 mm. without fracturing. The supporting **pedestal** columns mounted on **platforms** were easily created. A final touch on assembly will be the addition of **tiller rope** around the barrel and the creation of **tiller rope slots** in the deck.

Barrel requirements - wooden rods of 8, 6, 5 & 3 mm. [a reasonable alternative would have been to utilise a section of 6 mm. wooden rod as the total barrel].

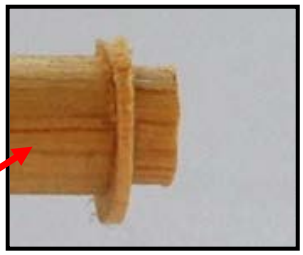


Figure 47: Representation of Method for Producing Barrel

Representation of what I did, but **not the actual piece** – **photo was taken as an afterthought** to help explain my handiwork. Working from the left of the photo, this shows the 6 mm. rod of the central barrel, a thin (0.75 mm.) 'slice' of an 8 mm. section added and sanded back and a 5 mm. section added ready for sanding back.

Step 1: Using a length of 6 mm. rod, I squared off one end against my bench sanding disc.
Step 2: After squaring off one end of an 8 mm. rod, I cut off a small section and glued this onto the 6 mm. rod from Step 1.
Step 3: After the glue was set, this 8 mm. piece was ground back to 0.75 mm. thickness – sanding on the bench disc creates a large amount of heat which can easily cause the PVA glue to partially melt so do this slowly.
Step 4: This was then followed by adding 5 mm. and 3 mm. sections as per the diagram.
Step 5: The 6 mm. rod was cut back to its correct length of 6.5 mm. and then 8 and 5 mm. sections added to this end as well.
Step 6: The wheel supplied was too thick (according to the diagram) and this was reduced to approx. 3.0 mm. It was then glued onto the barrel so formed.
Step 7: On the other side of the wheel, sections of 5 and 3 mm. sections were then added.
Step 8: Pedestal columns were made from 6 x 1 mm. walnut planking – I found it better to work with a strip long enough for both pieces, drill the two 3 mm. holes, do any surface carving necessary and only then cut into two – one being 16 mm. and the other 15 mm. in length.
Step 9: The wheel & barrel were of a very light timber (as supplied) & the pedestals a darker colour – painting was necessary to create a uniform colour. See Figure 46.

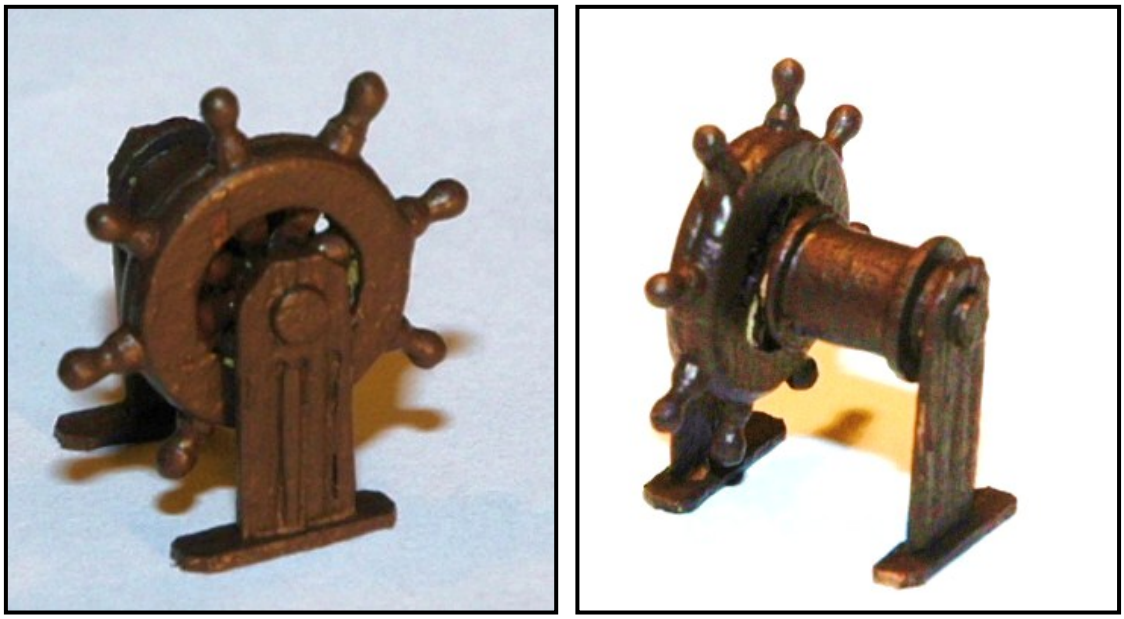


Figure 48: Completed Ship's Wheel

Photo (left) – foot of support appears to be not level but this is due to the paper sheet underneath. Photo (right) gives a good overview of steering gear. Lesson to be learnt here is to examine objects under a good magnifying glass - some painting needed to finish this off which was not obvious at first glance.

Compass Binnacle

The compass is underneath the Quarter Deck and to the majority of observers, its presence will not be easily seen. **As with the ship's wheel, you may feel that it is not necessary to build these compasses and the wooden cabinet (binnacle) that contains them.**

The wooden cabinet, typical of warships in the 17th/18th centuries, contains:

2 upper drawers,
2 lower cupboards;
2 compasses in the central section with a lamp in between for illumination at night.

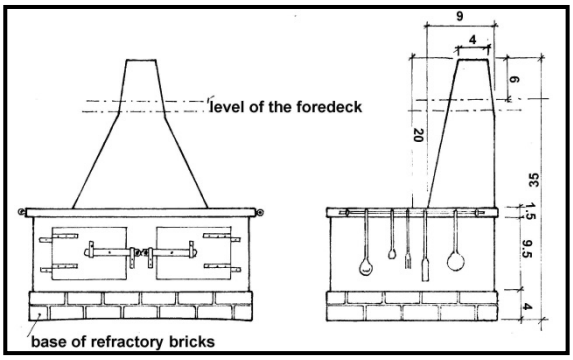
This structure was easily created from scrap pieces of timber. I was careful enough to produce an opening in the central vertical support to allow for positioning of a lamp which I created from portion of a spare stanchion. The door and drawer handles were created from small brass nails which I painted over with silver paint. The two compasses were formed from 6 mm. rod.

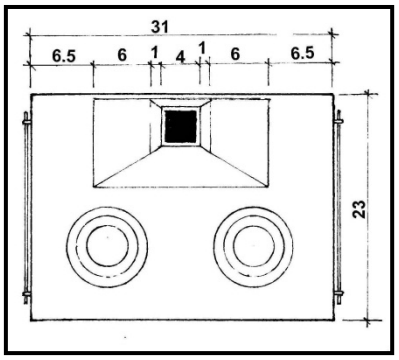
Figure 49: Ship's Binnacle

Incomplete – compasses still to be inserted; door & cupboard handles & eye pains to be painted. Both the 'drawers' and 'cupboards' are solid pieces of scrap timber. **N.B. eye pins too large !**

Galley Stove (cucina)

Seemingly out of order here but it is time to make a decision. The chimney of the ship's stove protrudes through the grating on the Forecastle Deck. Making only the chimney and gluing that on the grating would not look realistic. So, almost as a diversion, the complete stove was constructed. I used some pieces of scrap board and with careful use of a band saw and belt sander, easily produced the whole structure in one evening. How realistic do you wish to make it? Sadly, the stove will not be visible but the effort was still worthwhile! This can then be put to one side until after planking of the Main Deck.





Main Deck Guns (12-pounders)

There are fourteen guns complete with carriages that must be placed onto the Main Deck. Since the gun structures are totally visible, much effort needs to be put into creating the gun carriages and associated ropes.

Axle lengths to be cut …

front: carriage+ 6 mm. wheels + projection = +/- 10.35 + 4.5 + 2.6 = +/- 17.45 mm.

rear: carriage+ 5 mm. wheels + projection = +/- 10.35 + 4.5 + 2.6 = +/- 17.45 mm.

Construction Details (Main Deck carriages)

(Based on kit material)

STEP 1: Cut wheel axles of length +/- 17.45 mm. from supplied 2 mm. wooden rod (both lengths make an allowance for what would be cotter pin fitting). Slight chamfering of the ends of the axles prevents the wheels – which are a tight fit – from cracking.

STEP 2: Glue the carriage down onto the two axles.

STEP 3: At the front, create an angled slant on each cheek.

STEP 4: Paint the carriage with the colour of your choice (e.g. dark red).

STEP 5: Glue on the two front 6 mm. and the two rear 5 mm. wheels. **N.B. before sliding wheels onto the axle, test for a tight fit and, if necessary, utilize a round file to increase the wheel hole diameter**.

STEP 6: Create a quoin (wedge-shaped block) to support the rear of the barrel and glue in place. The interior maximum depth from the plan sheet is 6.0 mm. Using this figure, calculate the depth of bed.

STEP 7: Determine the inclination of the cannon required and utilize a template to maintain uniformity with all the carriages whilst gluing in the quoin (refer to photo below).

STEP 8: Cut 8.5 mm. section of the 1 mm. brass rod to form the cannon trunnions.

STEP 9: You may then wish to supplement what is in the kit by using trunnion straps as well as eye & ring bolt