

If printed 17 inches tall (from black-outlined edge to black-outlined edge) the scale of these drawings is 1/350.



BACKGROUND HISTORY

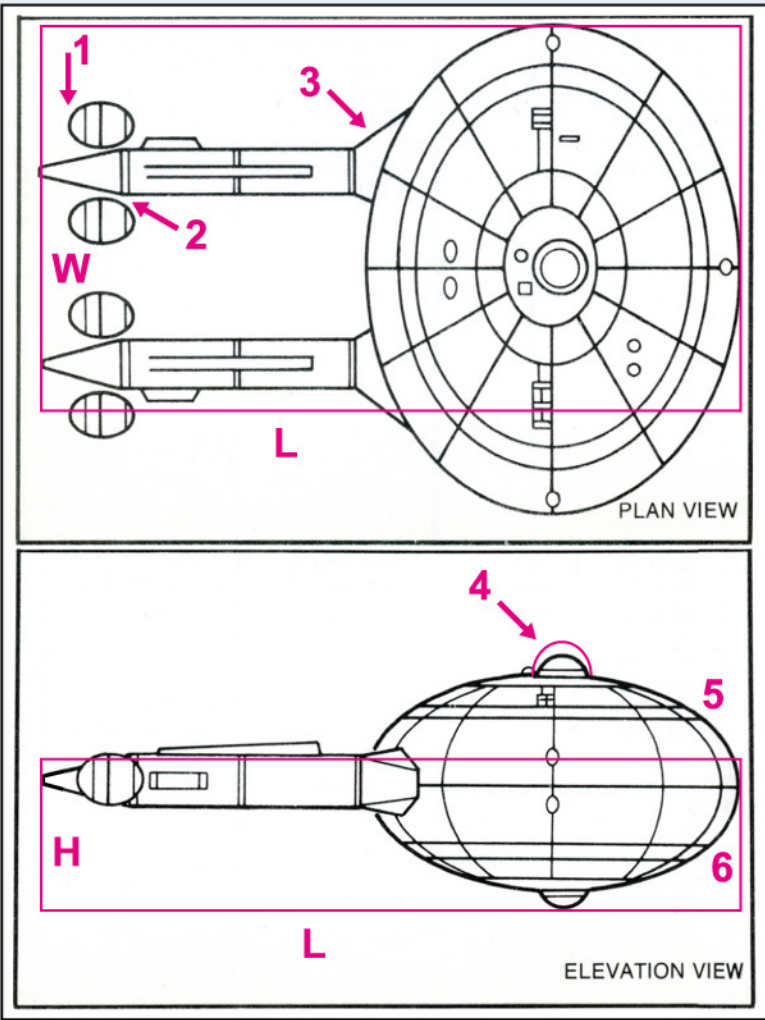
This project is an extrapolation of the U.S.S. ENTERPRISE drawings developed in the year 2020. Those drawings were governed by 3 criteria:  
(1) The 11-foot-2.08-inch (3.4-meter) studio model,  
(2) The Writer's Guide, and  
(3) The 79 episodes plus the original pilot.  
There are no such criteria to guide these drawings, but the basic design philosophy is to complete this ship in the same style that Franz Joseph (FJ) developed for his Technical Manual and in the same style as his Heavy Cruiser blueprints. The goal is to try and fit all the components inside the hull. But what are "all the components"? What are the roles of "Cruisers" in the STAR TREK universe, especially of ships in early or pre-Federation days?

A "Cruiser" was a type of warship used on Earth. It was generally the largest ship in a fleet after Aircraft Carriers and Amphibious Assault ships. A Cruiser can usually perform several operation roles including Search-and-Destroy, Ocean Escort, and Sea Denial.

The term "Cruiser" has been used for several hundred years and has changed its meaning over time.

The MANN-Class was used primarily for strategic purposes by Star Fleet Command. It provided defense and security within the ever-growing jurisdiction of the Federation. The ships of this Class served from 2154 until 2192.

CONSTRUCTION NOTES



I started with the line drawings and dimensions given in the book "Star Trek Spaceflight Chronology" - that book also contains a painting by Rick Sternbach on Page 145. Part of it is reproduced here, at right.

The dimensions provided in the book (represented with pink rectangles at left) do not coincide with the proportions shown in the 2 line drawings. If the ship is drawn to match all three (3) of the given dimensions, the result is very distorted (see bottom left).

Further analysis is in the "CONSTRUCTION NOTES (continued)" at the bottom center of this page.

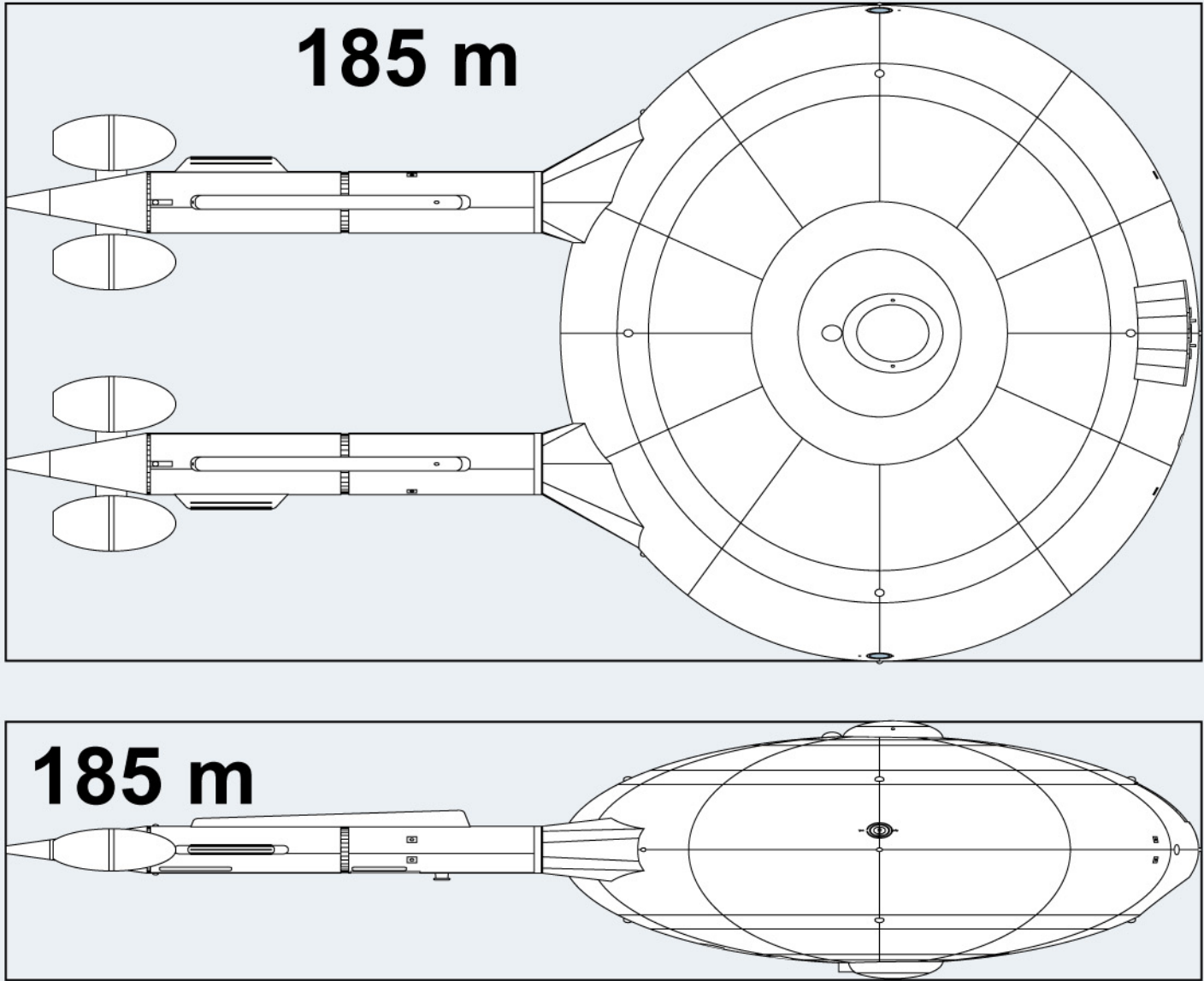
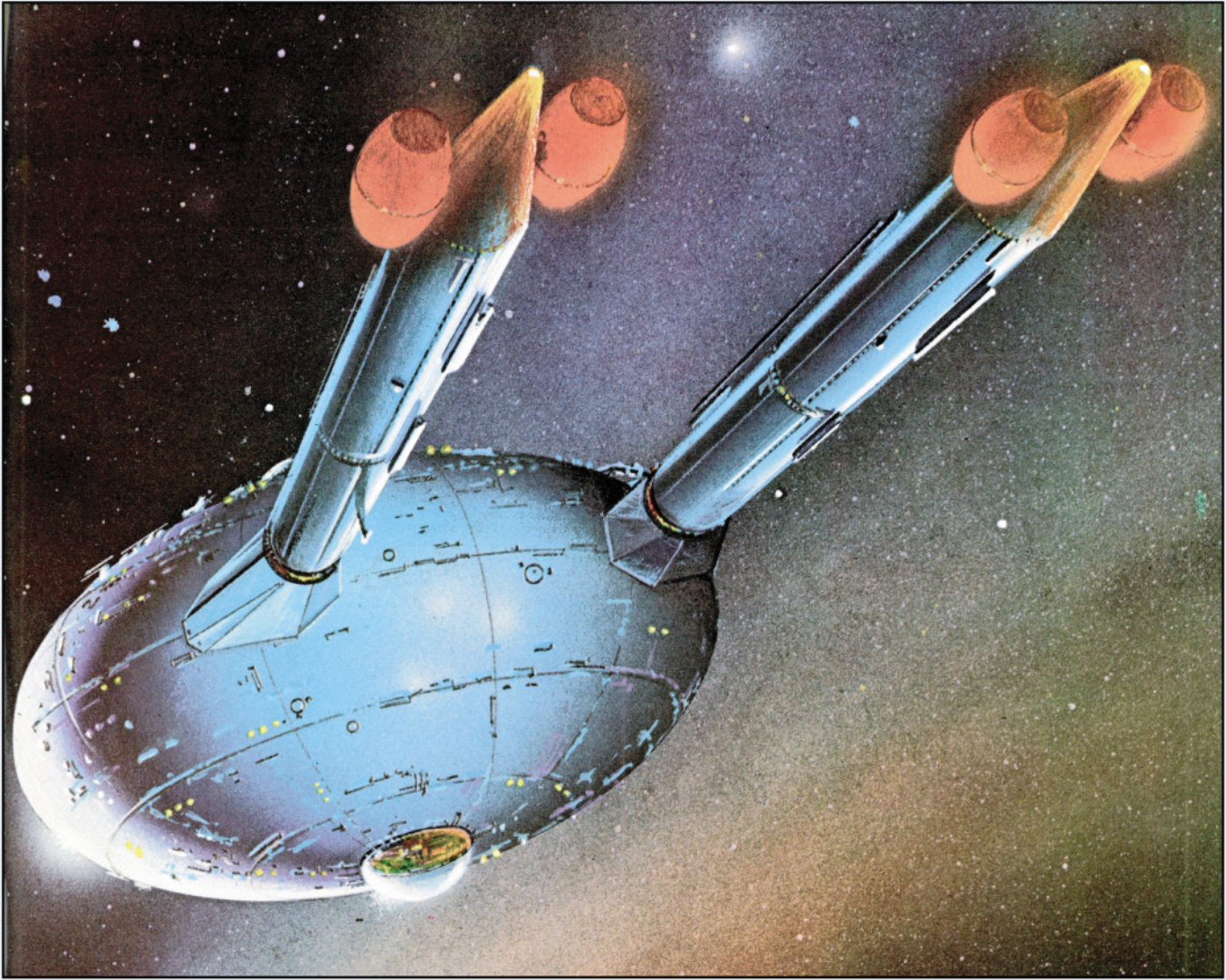
- Other details to note:
- (1) The ovals have a flat face at the rear in the painting (at right),
  - (2) The ovals are not connected to the cone in the drawing (at left),
  - (3) A multi-faceted connection is shown at this location in the painting,
  - (4) The dimensions given for the Command Dome make it too tall,
  - (5) This is where I chose to place the Hangar Bay,
  - (6) This is where I chose to place the Deflector Dish.

In CHARLIE X we saw how thick the walls are and also what is in the walls. The DESILU plans show walls that are 1 foot (0.3 meters) thick and sometimes even thicker. I decided to make all walls, decks, and hulls 1 foot thick. In a few places, they are even thicker.

In the profile drawing (Page 3) the light grey horizontal lines represent a constant ceiling height of 8 feet throughout the entire ship. I chose a ceiling height of 8 feet (2.44 meters) for each level of the ship.

Very little canonical information exists for this class of ship; most of the surface details and markings are from my imagination.

RICK STERNBACH'S PAINTING



CONSTRUCTION NOTES (continued)

The dimensions given in the book are: 185 meters long, 101.7 meters wide, and 40 meters tall. The proportions of the 2-view drawings (also given in the book) do not coincide with those numbers.

OPTION 1  
If we set the height to be 40 meters, the length is about 112 meters and the width is about 78 meters. Using the deck thickness and ceiling height as established for all my other plans, this gives the ship about 14 decks. The volume of the ellipsoidal Main Hull is about 86,000 cubic meters.

OPTION 2  
If we set the width to be 101.7 meters, the length is about 149 meters and the height is about 52 meters. Using the deck thickness and ceiling height as established for all my other plans, this gives the ship about 18 decks. The volume of the ellipsoidal Main Hull is about 189,000 cubic meters.

OPTION 3  
If we set the length to be 185 meters, the width is about 129 meters and the height is about 66 meters. Using the deck thickness and ceiling height as established for all my other plans, this gives the ship about 23 decks. The volume of the ellipsoidal Main Hull is about 371,000 cubic meters.

The volume of the U.S.S. ENTERPRISE from the original series is about 280,000 cubic meters. Comparing the MANN-Class to the U.S.S. ENTERPRISE we can see:

Option 1 is too small.  
Option 3 is too big.  
Option 2 seems to be the best fit.  
Option 2 provides reasonable numbers for a ship which is supposed to have a crew of 294, compared to a crew of 157 on the MARSHALL-Class ships and compared to a crew of 432 on CONSTITUTION-Class ships.  
This also fits well for a ship which is supposed to be from about 50 years after the MARSHALL-Class ships and from about 40 years before the CONSTITUTION-Class ships.

Therefore, at left are the original dimensions (which distort the proportions) and at right are the adjusted dimensions (which maintain the proportions). The next page shows all three (3) options and compares them to the MARSHALL-Class and CONSTITUTION-Class.

