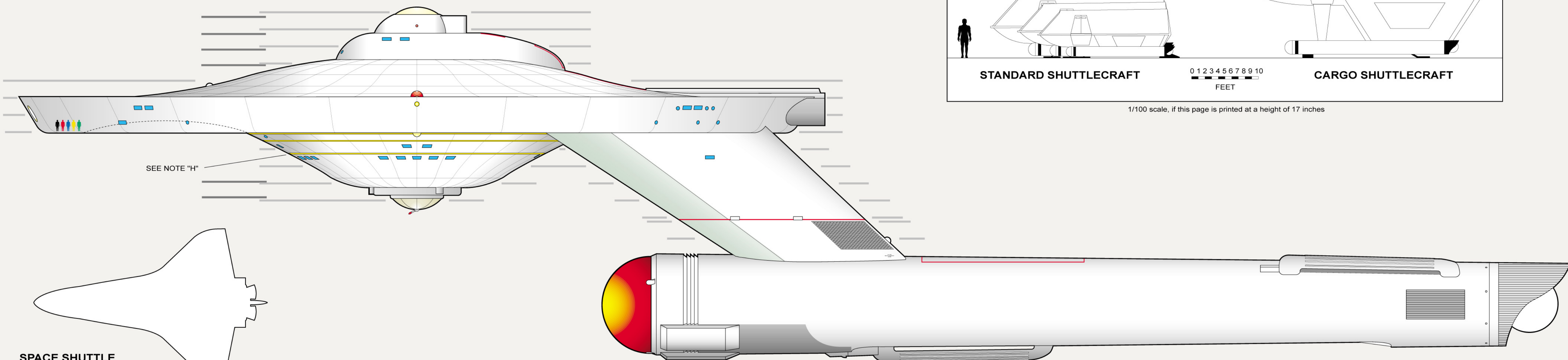




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SPACE SHUTTLE
(Shown here for
size reference)

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 the ships Franz Joseph (FJ) developed for his Technical Manual 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 "Scouts" in the STAR TREK universe?

A "Scout Cruiser" was a type of ship used on Earth. It was more lightly armed and armored than a "Protected Cruiser" or a "Light Cruiser", but larger than a "Destroyer". It was intended for fleet scouting duties and acting as a flotilla leader. As roles changed, the need for flotilla leaders decreased; their functions were adopted by all destroyers. In the Royal Navy, such leaders could be identified by colored bands painted on their funnels. Italian "Scout Cruisers" were also given secondary capabilities as fast mine layers.

The USA "Scout Cruisers" were characterized by high speed and little armor or armament. A USA "Scout Cruiser" was the first ship to launch an airplane.

According to the FASA Manual, Nelson-class Scouts have one Bank (of two Phasers) facing forward and a single Phaser facing aft. They also have only one Hangar Bay with one Shuttlecraft. Therefore, Nelson-class Scouts are slightly more heavily armed, but lighter than Hermes-class Scouts.

The primary mission of the Nelson-class Scout is to explore and map uncharted areas of space. It was not heavily armed and not particularly maneuverable; it relied on its speed to carry it to safety.

This layout retains the lines as established by FASA, but there were some problems which had to be resolved, and some modifications that had to be made to ensure the details on the 3-view drawings are consistent.

Starting with the original FASA drawing (see image at right) we can see some problems:

- (1) These two lines on the Front view show us where the pylon meets the Primary Hull,
- (2) This line on the Side view show us where the front of the pylon meets the Primary Hull,
- (3) This line on the Side view show us where the rear of the pylon meets the Primary Hull,
- (4) The footprint of the pylon where it attaches to the Primary Hull (cyan) should extend beyond the trailing edge of the Primary Hull. This is not how the top view shows it.

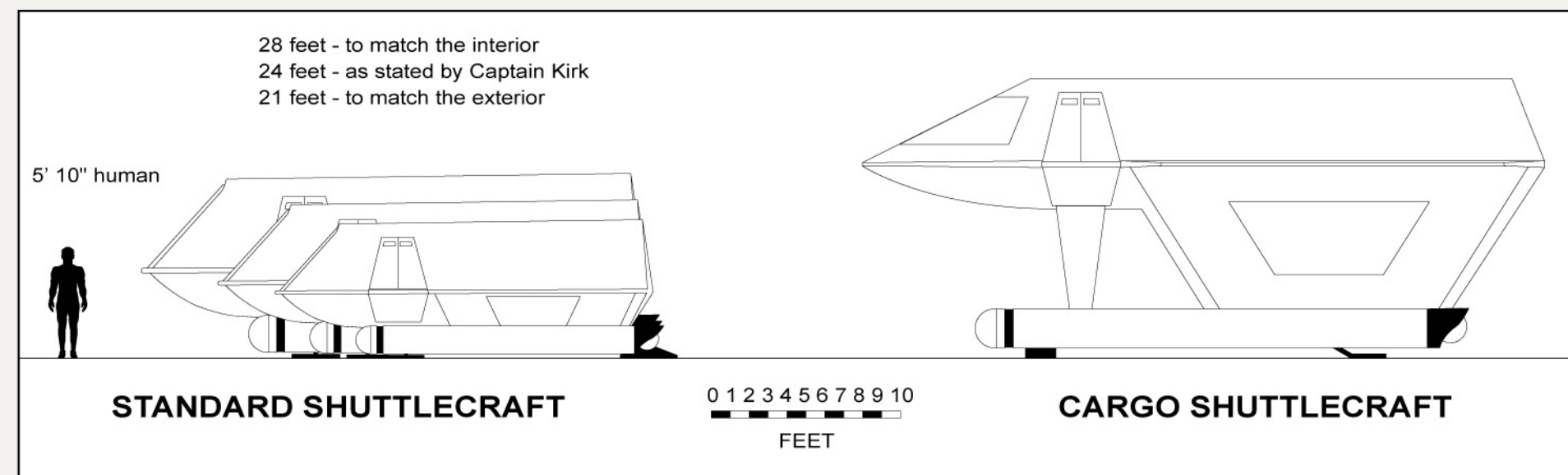
- (5) This line on the Side view show us where the rear of the pylon meets the Engine,
- (6) This line on the Side view show us where the front of the pylon meets the Engine,
- (7) These two lines on the Front view show us where the pylon meets the Engine,
- (8) The footprint of the pylon where it attaches to the Engine (orange) should be further outboard. This is not how the top view shows it.

- (9) Why are there two very thin pylons connecting the Primary Hull to the Engine?
- (10) The drawing shows 2 Phasers on the Primary Hull to port, and 2 to starboard; the manual says this class of ship only has 2 Phasers at the front and 1 at the rear.

Here are the solutions:

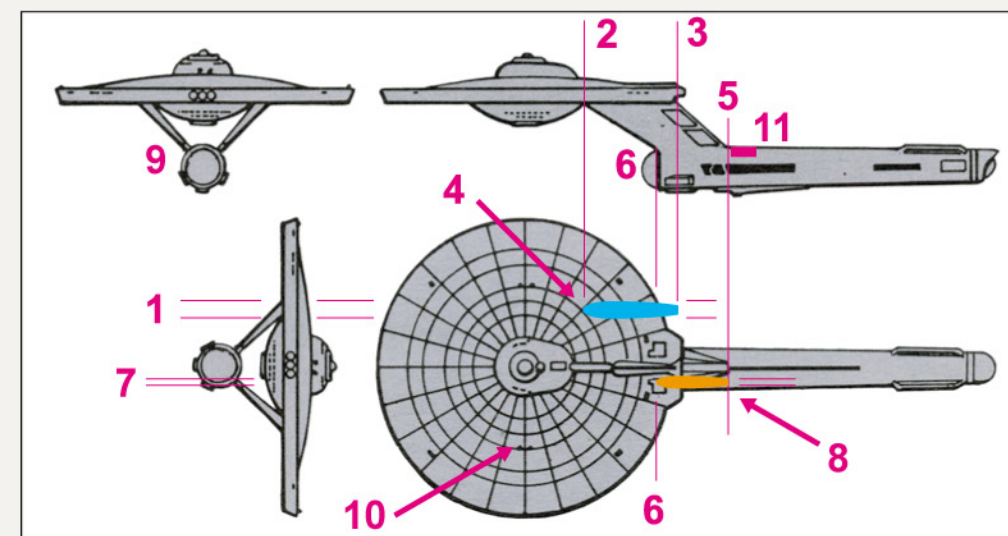
- (1-4) To keep the pylon from extending aft of the Primary Hull, I moved it inboard and I also moved it forward slightly.
- (5-6) The Engine Inspection Station (11) is accessible only if the nacelle is moved forward.
- (7-8) Moving the pylon inboard to resolve issues (1-4) also solves this problem.
- (9) To help strengthen the pylon-engine connection, I propose that there is a deck between the two pylons. In that deck is Warp Engineering.

The two pylons are at such an extreme angle, and are so thin at the bottom, that ladders and turbo-elevators cannot fit. Only Jefferies Tubes or stairs can provide access. Starfleet learned from the Saladin-class Destroyer and the Hermes-class Scout that combining the Impulse Engineering and Warp Engineering sections can be overwhelming for personnel. Installing a separate Warp Engineering section helped distribute the



1/100 scale, if this page is printed at a height of 17 inches

CONSTRUCTION NOTES

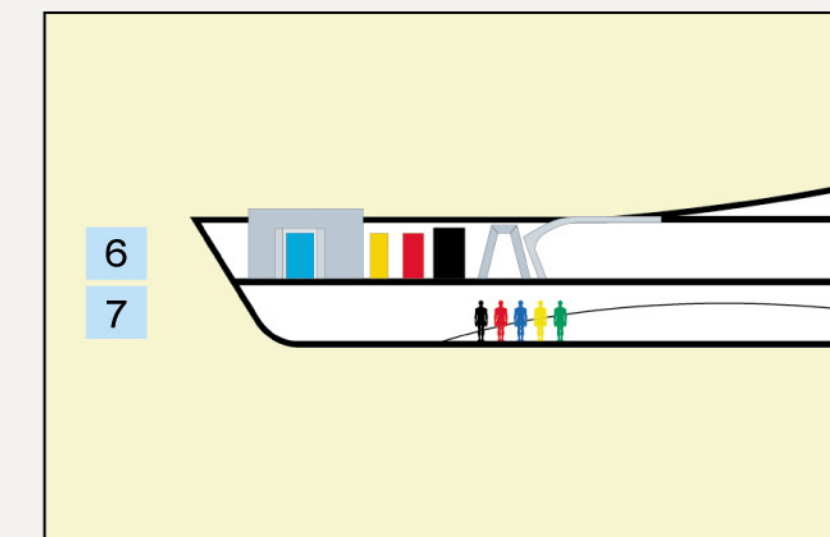


work load and kept the power conduits away from the habitable parts of the ship.
(10) The single Phaser at the rear was located at the extreme aft end of the Warp Engineering deck.

If there are no decks below the Primary Hull to connect to a Secondary Hull, then Deck 7 is not flattened at the rear. The flat portion allows a horizontal turbo-elevator shaft to reach aft to the outer ring of Deck 7, where Engineering is located. Without that flat portion, the outer ring of Deck 7 can only be reached by dropping down from Deck 6. Also, the undercut would affect the floor in Engineering.

Can the Primary Hull make an emergency landing? Why is there no Main Sensor Dish?

On Constitution-class ships the two triangular patterns on the underside of the Primary Hull are the Front Landing Legs, but on this class of ship, they were removed and egress hatches were installed.



There is no Main Sensor Dish; the Deflector System and Sensors in the bow of the Primary Hull were found to be adequate.

As with many of my other blueprint sets, I started at the edge of the primary hull (see image at left), where the height of 2 decks, the thickness of 1 floor, and the thickness of 2 hulls have to fit in this part of the saucer.

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, never thinner. In a few places, the walls are even thicker. This leaves a ceiling height of 8 feet (2.44 meters) for each level.

In the profile drawing (at the top of this page) the light grey horizontal lines show the initial deck locations. They represent a constant 8 foot ceiling throughout the entire ship. I built them upwards and downwards from my starting point, Deck 6 and 7. However, this makes the Bridge too high, and Deck 11 too low. The dark grey horizontal lines show the adjusted deck locations. The location of the "Separation Plane" was determined by the location of Warp Engineering. To evacuate, crew have to climb only one level prior to separation. I wanted enough room for the Engineering High Bay on the starboard side and for the Emergency Manual Monitor on the port side.