U.S.S. ENTERPRISE™
NCC-1701

CLASS: CONSTITUTION
LENGTH: 289 METERS
LAUNCHED: 2245
CREW: 430 (2264)
Contents

04: U.S.S. ENTERPRISE NCC-1701
10: DESIGNING THE ENTERPRISE
16: FILMING THE ENTERPRISE
18: ON SCREEN

Stand assembly:

U.S.S. ENTERPRISE SPECIFICATION

REGISTRY: NCC-1701
CLASS: CONSTITUTION
LAUNCHED: 2245
LENGTH: 289 METERS
DECKS: 23
CREW: 203 (2254), 430 (2264)
WEAPONRY: PHASERS, PHOTON TORPEDOES
CAPTAINS: APRIL, PIKE, KIRK (PRIOR TO 2269)

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April, Pike, Kirk (prior to 2269)
The U.S.S. Enterprise was a multi-purpose vessel that was designed for space exploration, colony support, and military defense. Its crew included everything from soldiers to botanists.

**U.S.S. ENTERPRISE**

The Constitution-class Enterprise spent nearly 30 years exploring the final frontier and defending the Federation.

**MISSION PARAMETERS**

The ship was designed primarily for deep space exploration with a view to making first contact with alien species, but was also tasked with supplying Federation colonists, delivering medical supplies, transporting diplomats and patrolling space.

During its forty years of service, the Constitution-class U.S.S. Enterprise NCC-1701 became one of the most celebrated ships in the history of Starfleet. Three captains were responsible for this auspicious record - Robert April, Christopher Pike, and most significantly James T. Kirk, whose five year mission helped earn the ship its place in history.

The ship was constructed in Earth’s San Francisco’s shipyards in the early 2240s and launched in 2245 under the command of Captain Robert April. Measuring 289 meters in length, the Enterprise had 23 decks and was fitted with state of the art technology rivaling that of any starbase. It boasted an extremely powerful duotronic computer system, which was designed by Doctor Richard Daystrom. As was typical of Starfleet vessels, the ship was designed to have three distinct areas: a saucer section where the main bridge was located together with the crew quarters and impulse engines, an engineering hull containing the warp drive systems, a shuttlecraft hangar and the main navigational deflector, and twin nacelles that generated the warp field.

**SHIP PROFILE**

Many of the Enterprise’s missions took it to planets such as Sigma Iotia II that Earth had contacted in the past but because of the difficulties of early warp travel had never visited again. The crew often found themselves trying to correct the mistakes of the past, and to establish new and productive relationships.
The Enterprise did plan to visit the surface of planets and even other stars, a practice that was standard procedure in the Starfleet. Transporters were commonplace and it was common for the crew to use them to travel from one part of the ship to another. By the 2260s, the ship’s systems were monitored and adjusted from a computer room in main engineering on Deck 19 in the secondary hull along with life support, power distribution and other systems. The Enterprise was powered by both warp and impulse engines. The warp reactor was situated in the saucer section. Consoles around the top of the saucer formed the basis of the ship’s weapons. The ship initially carried a compliment of 203 crew members but over time that number was increased to 430. The majority of the crew areas were located in the saucer section, while the VIP and senior officers quarters were housed on Decks 4, 5 and 6. As it was normal for crews to bring their personal effects with them, the ship was equipped with extensive storage facilities. In 2267, when the matter-antimatter reactors were moved to the center of the room and a gantry was added that allowed access to the upper level, the Enterprise completed many historic missions. One of the most notable was taking the first ship to survive crossing the barrier that surrounds the galaxy.

The Enterprise’s main engineering room was given a major refit in 2267, when the matter-antimatter reactors were moved to the center of the room and a gantry was added that allowed access to the upper level. The Enterprise was commanded from the Main Bridge, which was located in Deck 1 on the top of the saucer section. Consoles around the edge of the room provided access to all of the ship’s systems.

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**WARP SPEEDS**
The Enterprise was fitted with state of the art warp engines, that were upgraded several times during its decades of service. By the time Kirk was in command in the late 2260s, she had a regular cruising speed of warp 6 but could maintain warp 8 and above for extended periods of time. There were several occasions on which the Enterprise achieved speeds in excess of warp 10 on the old warp scale that was used until the 24th century. On the revised scale these speeds fell in the upper warp 9.9 range. These speeds were only possible due to modifications made by extremely advanced beings including the Cheronians and the Kalandans.

**DATA FEED**
The Enterprise remained in service after 2269 when it returned to Earth at the end of Kirk’s first five-year mission. However, it underwent a massive 18-month refit that made it almost unrecognizable. All the ship’s major systems were replaced and even the exterior hull was upgraded. The ship was finally destroyed in 2285 in orbit around the Genesis Planet.

During Kirk’s first five-year mission the Enterprise was on the front line of the conflict with the Klingons. She was nearly involved with the beginning of a war during the encounter at Organia, and was involved with diplomatic incidents near Sherman’s planet, Corell IV and Neural.

In 2268 the Kelvans modified the Enterprise’s engines so it could reach warp 11, a speed that would eventually allow them to reach their own galaxy.

Namrod increased the efficiency of the Enterprise’s engines by adjusting the matter/anti-matter injectors and the energy release valves. After the modifications the ship could reach warp 11.

In 2269 the Enterprise was the first Starfleet vessel to discover how to travel through time, when Spock and Mr Scott initiated a cold start of the warp engines. The ship later made several trips to the past.

The Enterprise’s mission took her close to the Romulan Neutral Zone and she pursued and destroyed a Romulan marauder that crossed it in 2266.
It was a typical Gene Roddenberry request: he wanted something no-one had ever seen before, and typically for Roddenberry, he couldn’t tell you much more than that. Remarkably, Matt Jefferies, the first man to design an Enterprise, took that brief and created an iconic shape that would be used as a blueprint for almost every Starfleet vessel that followed. For a man who’d never even been a fan of science fiction it was a huge challenge. “To be honest, I didn’t know quite where to start,” admitted Jefferies when we met at his home in 1999. “I knew the Enterprise was going to be on the cutting edge of the future and that essentially Roddenberry had given me that job of deciding what shape that future was going to take, but it was hard to work out what exactly that was going to be.”

Although Roddenbery couldn’t give Jefferies an idea of what the ship would look like, he could provide some information to work with. He had a fairly detailed idea of how he believed the ship would function - that it would carry a 100-150 man crew, operate for the most part in outer space, and have the ability to travel at unheard of speeds. Roddenberry was also clear about what he didn’t want and he told Jefferies that in no way would his ship bear even the slightest resemblance to the 1950s type of rocket ship much beloved of movie makers and TV shows alike. “I recall Gene emphasising that there would be no fins, no wings, no smoke trails, no flames and most importantly of all no rocket,” said Jefferies. “That led to a lot of floundering around on my part because with all that off the table I didn’t know where the hell we were going to even start to come up something that instantly said spaceship. So after some thought I decided the best thing to do was to come up with an envelope to work inside based on the snippets of information I did have.” One of those snippets was Roddenberry’s determination that the ship would be capable of unearthly speeds. “To show the fantastic speeds Gene wanted I knew we were going to need flash cuts; you can’t sell speed by holding a vehicle, automobile, plane whatever and moving the background. It just doesn’t work; it’s going to have to come from infinity to you or the other way. So I wanted to keep it very simple, but immediately identifiable – a shape that you could instantly pick out.”

With that as a starting point, Jefferies produced countless sketches of different ships in an attempt to find a look like, he could provide some information to work with. He had a fairly detailed idea of how he believed the ship would function - that it would carry a 100-150 man crew, operate for the most part in outer space, and have the ability to travel at unheard of speeds. Roddenberry was also clear about what he didn’t want and he told Jefferies that in no way would his ship bear even the slightest resemblance to the 1950s type of rocket ship much beloved of movie makers and TV shows alike. “I recall Gene emphasising that there would be no fins, no wings, no smoke trails, no flames and most importantly of all no rocket,” said Jefferies. “That led to a lot of floundering around on my part because with all that off the table I didn’t know where the hell we were going to even start to come up something that instantly said spaceship. So after some thought I decided the best thing to do was to come up with an envelope to work inside based on the snippets of information I did have.” One of those snippets was Roddenberry’s determination that the ship would be capable of unearthly speeds. “To show the fantastic speeds Gene wanted I knew we were going to need flash cuts; you can’t sell speed by holding a vehicle, automobile, plane whatever and moving the background. It just doesn’t work; it’s going to have to come from infinity to you or the other way. So I wanted to keep it very simple, but immediately identifiable – a shape that you could instantly pick out.”
general direction. Being a member of the Aviation Space Writers’ Association and active as a consultant with the Air Force Museum in Dayton helped as it gave him a source for a lot of design ideas. However many of his earliest attempts were rejected outright by Roddenberry as being too conventional, but pieces of some designs did offer promise. Jefferies then set about collecting these pieces and applying them to new designs.

“It went on like that for over three weeks,” says Jefferies. “And I remember getting more and more frustrated but I struggled on and finally I came up with something I thought had possibilities. My thinking was that because of the ship’s speed there had to be terrifically powerful engines. Their size would make them dangerous to be around, so maybe we’d better put them out of the way, which in aviation circles would make them QCU – quick change units – where you could easily take one off and put another on.”

Jefferies decided that the safest place for the engines was underneath what would be the hull area. But despite that breakthrough, he struggled with a basic shape for the hull or the living area of the ship, initially rejecting the idea of a saucer.

“I didn’t like the idea of the flying saucer,” he explains. “It was too much like the rocket ships that Roddenberry was so set against. I also thought that the best pressure vessel is a ball so I started playing that as a basic shape. But the bulk got in the way and the ball just didn’t work. I flattened it out and I guess we wound up with a saucer.”

Jefferies produced a colour sketch of the ship against a black matte board.

The bridge or command module wasn’t always on top of the ship. This version can be seen in several different iterations of the ship. In it, Jefferies suggested that the bridge would actually be on the underside, which would have put it in a protected position.

The concepts explored details, such as how shuttles would get onboard and leave the ship.

Since Roddenberry had originally told Jefferies to avoid “flying saucers” it took a long time for him to arrive at the idea of using the saucer section. When Jefferies first established the basic layout, he planned to use a dome, which he figured was a logical shape for a ship that operated in the vacuum of space. However, he found working with a sphere to be awkward, and eventually decided to flatten it out, so it became a saucer.
When the basic direction for the design was finally approved, Jeffries produced a color artwork on a black background that was shown to Roddenberry and the studio executives. The design would still be refined, notably with the introduction of what would become the deflector dish, but all the important elements were in place.

"When Gene and the NBC people came to take a look, they immediately gravitated to the color sketch," recalled Jeffries. "Then I told them that if they liked that they would definitely like this and held up the model. Gene took hold of it by the string and it immediately flopped over because the birch dowels were so heavy. I had an awful time trying to ‘unsell’ that look and it wasn’t much of a surprise that when the first show hit the air and TV guide came out, they ran a picture of the ship on the front cover upside down."

Once that misunderstanding was sorted out Jeffries found himself facing another one, this time involving the hull. Jeffries theorised that since space was after all a very dangerous place, starship engineers would naturally avoid placing any important machinery on the outside of their vessel. This meant that logically, the hull would be smooth. This didn’t go down well with the powers that be, who pushed Jeffries to add details. However Jeffries stuck to his guns.

"An advantage of the smooth hull was that it would reflect light, and at this point it wasn’t a foregone conclusion that the ship would be white. I thought the atmosphere or lack of it out there in space might produce different colours and this gave us a chance to be able to play light and to throw colour on it."

With the design and look of the ship locked only one thing remained - to pick out a registry number. "Rumor had it that I just used the number on my airplane but the truth was I wanted a very simple number that could be spotted quickly. So I eliminated 3, 6, 8, and 9. I also thought of the ship as being the 17th starship design and that it was the first in the series."

Jeffries was left with the numbers 1701, which, incidentally, and coincidentally, just happened to be very close to the license number on his airplane. NC-17740 and a legend was born.
It took three attempts to get *STAR TREK* on air, and every new launch resulted in subtle changes to the model of the *Enterprise*.

Gene Roddenberry always knew that *STAR TREK* would stand or fall on the model of his Starship *Enterprise*. If the audience didn’t believe in it, they wouldn’t believe in the series at all. So getting it right was a major priority. Effects for the series were handled by the Howard Anderson Company. They brought in a specialist modemaker, Richard Datin, who started work on a 33” prototype in November 1964. The original plan didn’t call for this model, known as the three-footer, to be used for filming but in the end it was used for several shots. Datin built it from pattern pine with a Plexiglas dome for the bridge and brass strips for the deflector dish.

This version was used as the template for the full-scale filming model, which was four times the size. Datin’s own model shop was too small to make a model of this scale so he took the work to Production Models Shop, a company that specialized in making models for patent applications, and occasionally picked up work in the movie industry. This larger, 11-foot model was made of a combination of wood, metal and vacuformed plastic, which was used for the saucer section. All the details, including the registry, were painted on rather than being decals.

When NBC commissioned the second pilot Roddenberry took the opportunity to ask for some revisions. Datin added running lights to the saucer and Roddenberry was so impressed that he asked him to add more lighting to the bridge module and to show windows around the ship. The design of the rear of the nacelles was altered too: the original shape showed a series of flat rectangles, and this was replaced with a grille pattern.

When *STAR TREK* went to series, Roddenberry asked for another set of revisions. The spray-masked ship’s registry was replaced with a version made using decals made from artwork supplied by Jefferies and the registries on the underside of the saucer were switched so they faced the other way. More lights were added. At the same time, the painted wooden nacelle caps were removed and replaced with illuminated versions. The new caps had spinning units inside and lacked the antennae that had been on their predecessors. The plan was originally to do something similar for the rear of the nacelles but the budget meant that although the design was altered, with the grille pattern being replaced with spheres, they would never light up. The design of the intercoolers on the rear of the nacelles was revised. Datin added detail to the fantail doors for the shuttlebay, and reduced the size of the deflector dish. Finally, the bridge was lowered and more detail was added to the nacelle support struts.

The three-footer has been lost, but the eleven foot version now has a permanent home in the Smithsonian Museum, where it is being carefully restored in honor of the series’ 50th anniversary.
First Appearance: THE MAN TRAP (TOS)
Last Appearance: TURNABOUT INTRUDER (TOS)
Designed by: MATT JEFFERIES

**STARK TREK**

**‘Where No Man Has Gone Before’**

The U.S.S. Enterprise is approaching the edge of the Galaxy, when the crew pick up a disaster recorder from the S.S. Valiant, a ship that destroyed itself after crossing the barrier that surrounds the galaxy. Despite the danger, the Enterprise enters the barrier. Although the sensor can’t detect anything, some kind of energy field burns out most of the ship’s systems, leaving her crippled. The barrier also affects the helmsman Gary Mitchell, leaving him with growing psychic powers and no conscience. The ship’s only chance is to make it to Delta Vega when they can salvage supplies.

**STARK TREK**

**‘The Ultimate Computer’**

Kirk is summoned to a space station where Commodore Wesley tells him that the Enterprise is going to be used to test an advanced computer called the M-5. The M-5’s creator Dr Richard Daystrom installs the machine, which he tells Kirk will make starship captains unnecessary, since it can run a ship with a crew of less than 20. Kirk is uncomfortable but can’t be sure whether his doubts about the M-5 are based on his own insecurities or something more serious. The M-5 takes control of the Enterprise and performs brilliantly, but before long it and Daystrom start to behave erratically.

**KEY APPEARANCES**

**STARK TREK**

**‘Where No Man Has Gone Before’**

The first episode that the Enterprise appears in is ‘The Man Trap’, but only because it was broadcast first. The second pilot, ‘Where No Man Has Gone before’ was broadcast weeks later and is clearly set earlier in time.

**STARK TREK**

**‘The Ultimate Computer’**

The Enterprise’s first captain, Robert April, only appeared in the Animated Series. The name April is taken from Roddenberry’s early notes for the series. Those same notes suggest that the Enterprise might have been called the Yorktown, or as can be seen on the front of some of Matt Jefferies’ concept drawings, the Independence.

**TRIVIA**

Changes were made to the model of the U.S.S. Enterprise after both the pilots, but because of the huge costs involved, the team couldn’t afford to reshoot all of the visual effects they had created. As a result the design of the Enterprise actually changes during the opening titles. It is particularly noticeable when you look at the back of the nacelles with the design changing between the version with the grilles and the version with the spheres. Another way of identifying the different models is the addition of a serif to the 1 in the ship’s registry.

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- In-depth profile of the ships the Hirogen used to hunt their prey in the Delta Quadrant
- A look at illustrator Rick Sternbach’s original design concepts
- Sternbach’s other Hirogen designs, including some of his experiments with CG designs

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