

INTERGALACTIC

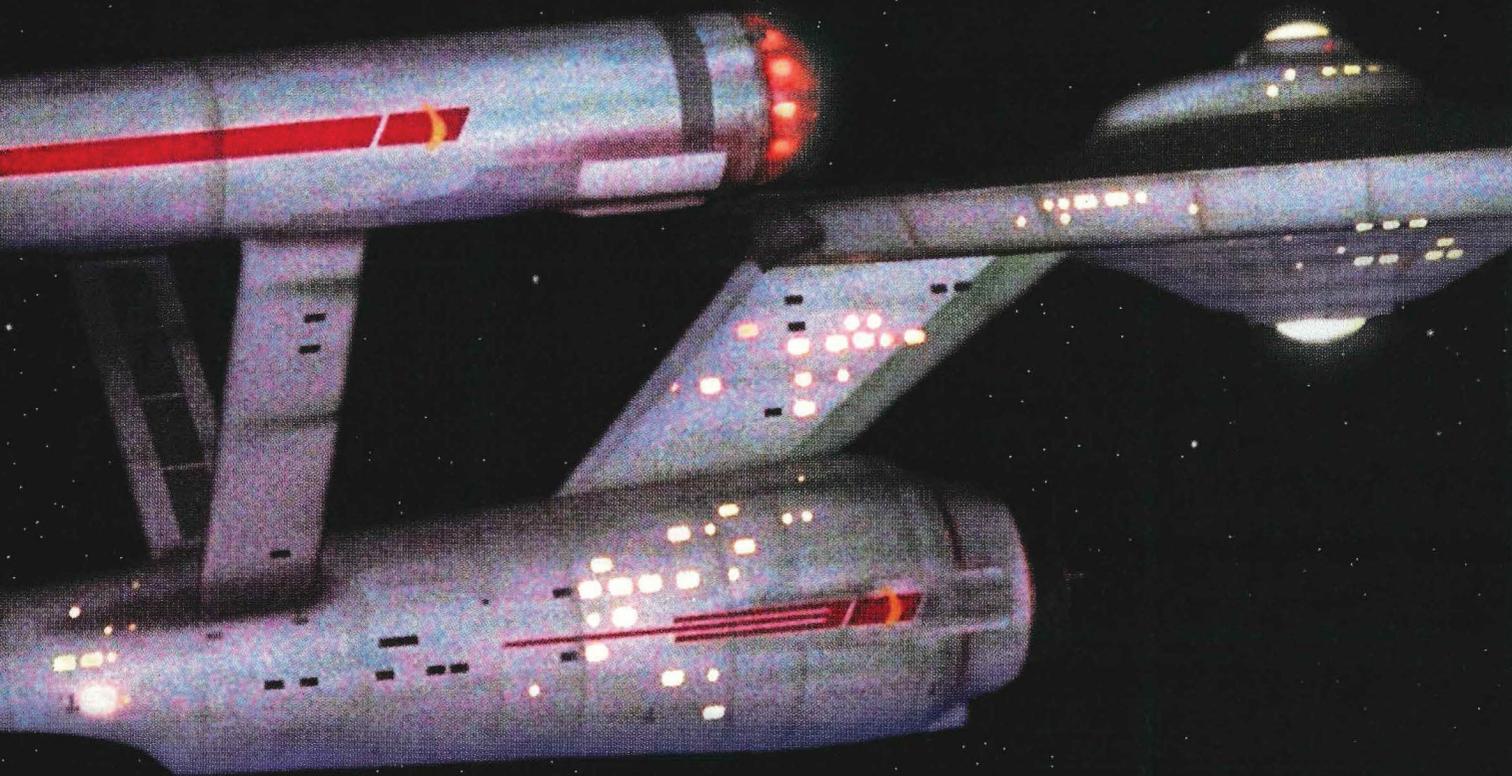
**Color &  
Camouflage**

S P E C I A L

By Charles Adams

Illustrations by the author

# THE STARSHIP ENTERPRISE



**Enterprise sails close to home. The fully restored 11' 2" model is a part of television history, and holds a place in the Smithsonian Institution. Charles Adams illustration.**

**FineScale  
Modeler**  
MAGAZINE

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1996 marked the 30th anniversary of both the acclaimed series "Star Trek" and the maiden voyage of the United Space Ship *Enterprise*.

**P**erhaps no other vessel in cinematic history is as famous as the starship USS *Enterprise*. It is the most-modeled "spaceship" of all time; the first in a line of popular AMT (Ertl) "Star Trek" kits which collectively are the most successful plastic kit license in history.

Not bad for a vehicle that was never more than a handcrafted miniature. Because of this, questions on composition, color, and scale have been hard to answer. Despite the tremendous amount of "Star Trek" reference material available, getting accurate information about Paramount's original *Enterprise* is not easy. Despite numerous articles about the model over the last three decades, there has never been a definitive reference on the subject.

**A starship is born.** When Gene Roddenberry set out to make "Star Trek" in the early 1960s, his primary concern was believability – every facet of the show had to be plausible. This was particularly important in the design of the starship which would be at the center of the drama.

With "Star Trek" still in its infancy, Roddenberry called on technical experts to ensure his *Enterprise* concept would be scientifically valid. But the task of designing

the ship would go to Art Director Pato Guzman and his assistant, Matt Jeffries.

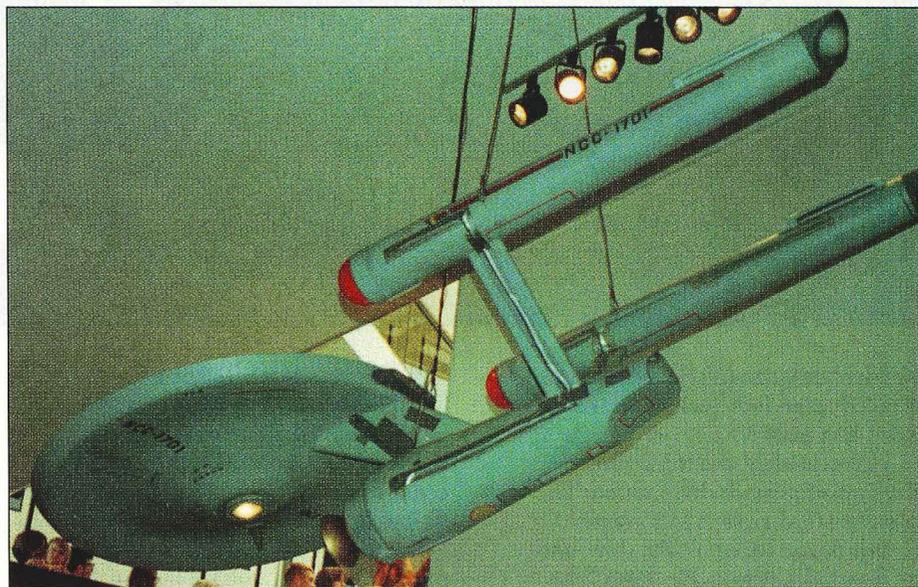
Starting with space exploration information from NASA and major aerospace companies, the two quickly realized they would have to think far ahead of the most advanced scientific concepts then available.

The USS *Enterprise* would be a heavy cruiser designed for deep space exploration and limited military duties. The second in a series of 13 *Constitution*-class vessels, it would bear the now-famous "Naval Construction Contract" number 1701.

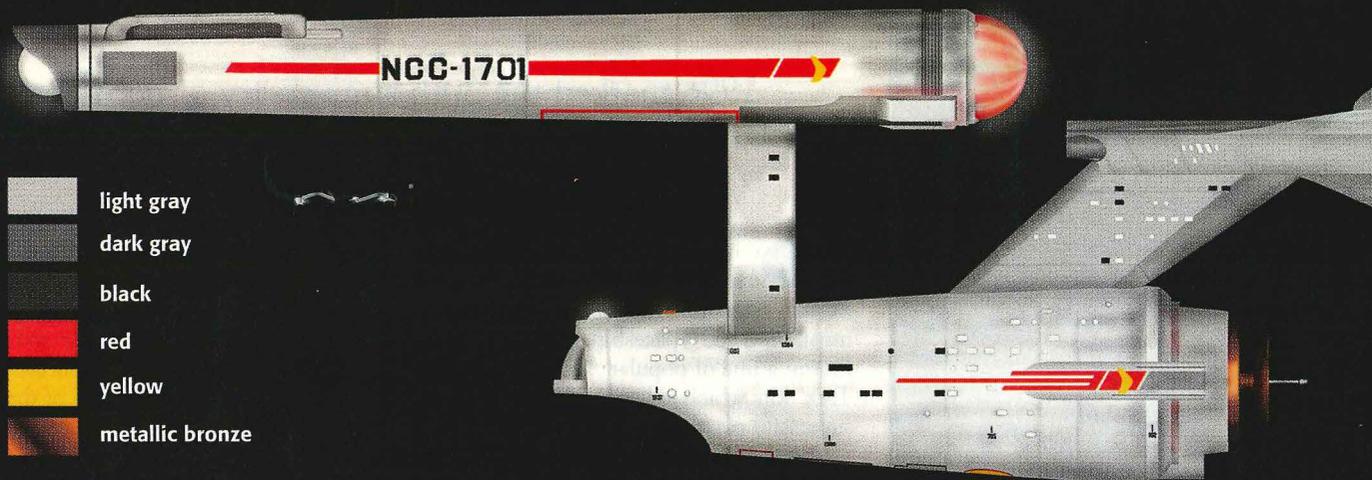
Such ships would be the largest in the Star Fleet, measuring 947' long. Their saucer-shaped primary hulls would be 417' in diameter, and the cigar-shaped secondary hulls 112' wide and 340' long. Each ship's two main engine nacelles would be 504' long and 56.8' in diameter. With these figures in mind, *Enterprise's* complement was estimated to be 203 (this figure was later increased to 430).

**First flight.** Starship models constructed for the first episode of "Star Trek" began to take shape in 1964. Working from blueprints drawn by Jeffries, a small study model was built from cardboard and wood.

After approving this mockup,

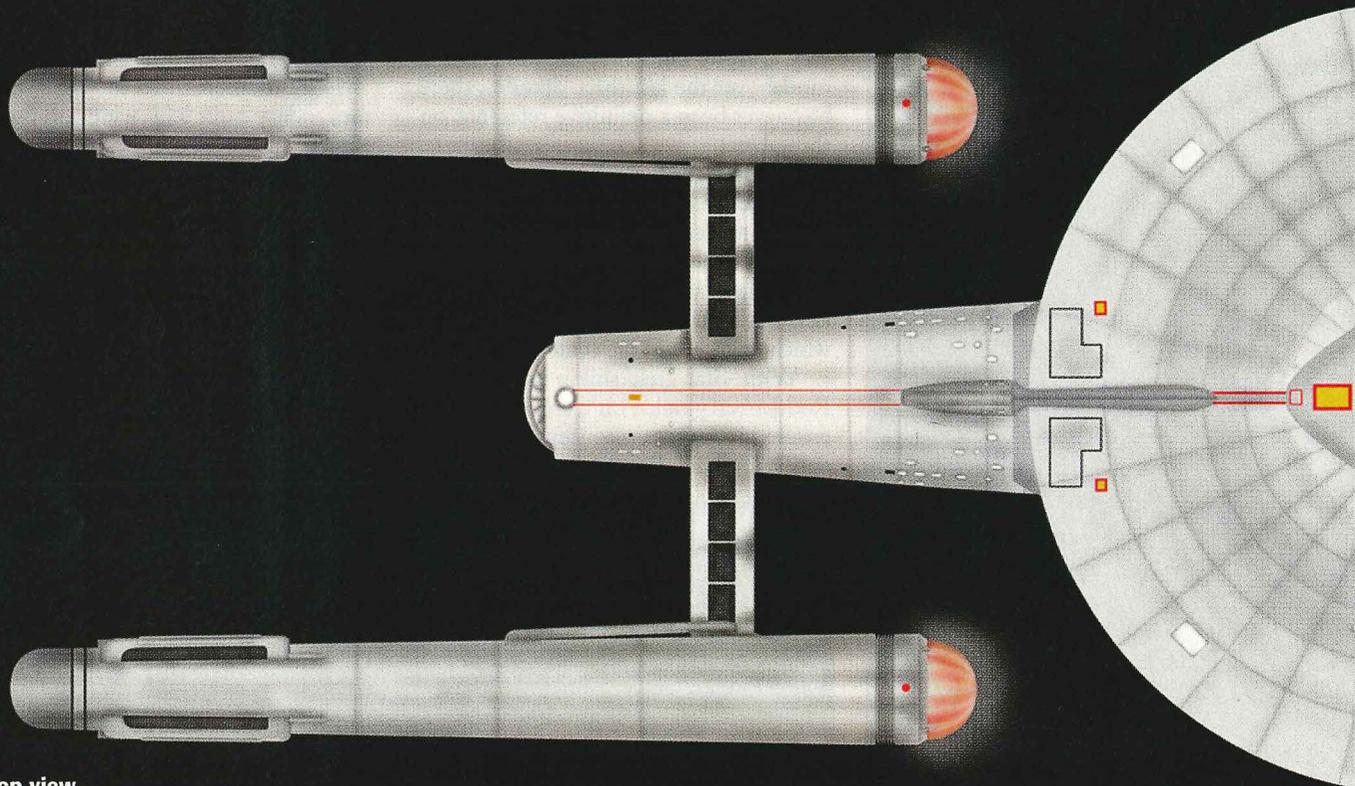


**The large TV *Enterprise* hanging from the ceiling at the Smithsonian. Wiring for the lights was covered with duct tape after its 1974 restoration. Also note the lack of detail on the left side of the model. William S. McCullars photo.**



-  light gray
-  dark gray
-  black
-  red
-  yellow
-  metallic bronze

**U.S.S. Enterprise NCC-1701**  
Right view



**Top view**

Roddenberry commissioned a more-detailed three-foot version created from wood and plastic.

Unfortunately, the three-foot *Enterprise* has since disappeared. The popular 1/635 scale AMT plastic *Enterprise* kit, based on the three-foot studio model, debuted in 1966. The dimensions and decals, however, were not accurate. Nonetheless, AMT models were used in the making of later "Star Trek" episodes, including "The Doomsday Machine," "The Ultimate Computer," and

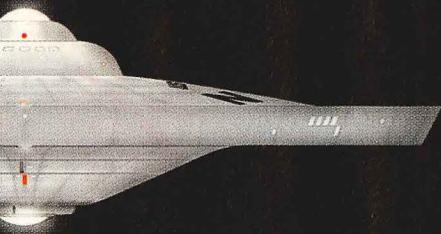
"The Trouble With Tribbles."

Though a yard-long miniature would be adequate for filming using today's motion-control cameras, the original could be used only for long shots and fast fly-bys in the series. To make the starship look realistic in close-ups, a more detailed miniature was required. Thus, an 11' 2"-long *Enterprise* was constructed of vacuum-formed plastic, wood, and sheet metal. Weighing nearly 300 pounds, this miniature was supported by a metal pipe at the bottom of the secondary hull dur-

ing filming. It was spray painted with light gray automotive paint and had numerous custom-made decals.

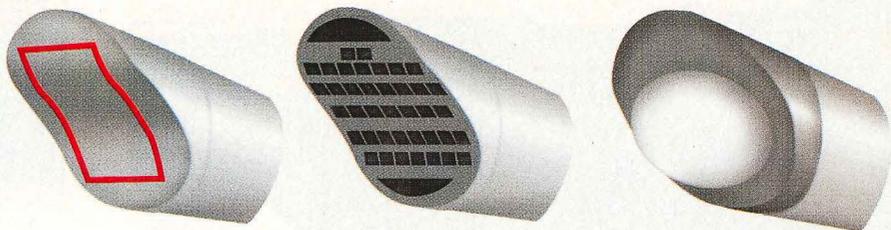
With these miniatures completed, production of the pilot episode could begin. In this historic first voyage ("The Cage," starring Jeffrey Hunter as Capt. Christopher Pike), the *Enterprise* was to make its television debut. Both models were used, but some details were difficult to spot since the ship appeared only briefly in the opening and closing scenes of the episode.

On screen, the *Enterprise* appeared to

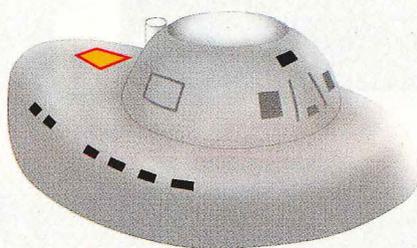


be white and most of its now-familiar markings were present. The fronts of the two engine nacelles, traditionally depicted as crimson, were actually metallic bronze. Each had a clear plastic dome with paint applied to the inner surface. They were intended to match the metallic finish of the antenna-like deflector dish on the secondary hull – all three had matching silver spires.

The aft ends of the engine nacelles were smooth with painted markings to match the cove on the aft end of the sec-



Aft ends of the engine nacelles in "The Cage" (1) differed from the second pilot (2) and the regular series episodes (3)



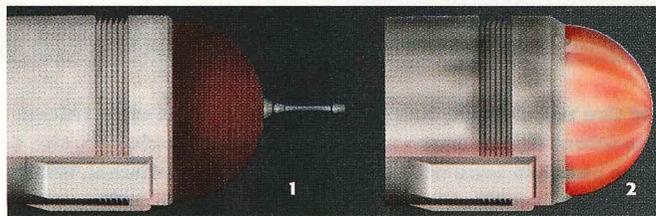
1) Bridge dome as seen in "The Cage"



2) Bridge dome as seen in "Where No Man Has Gone Before"

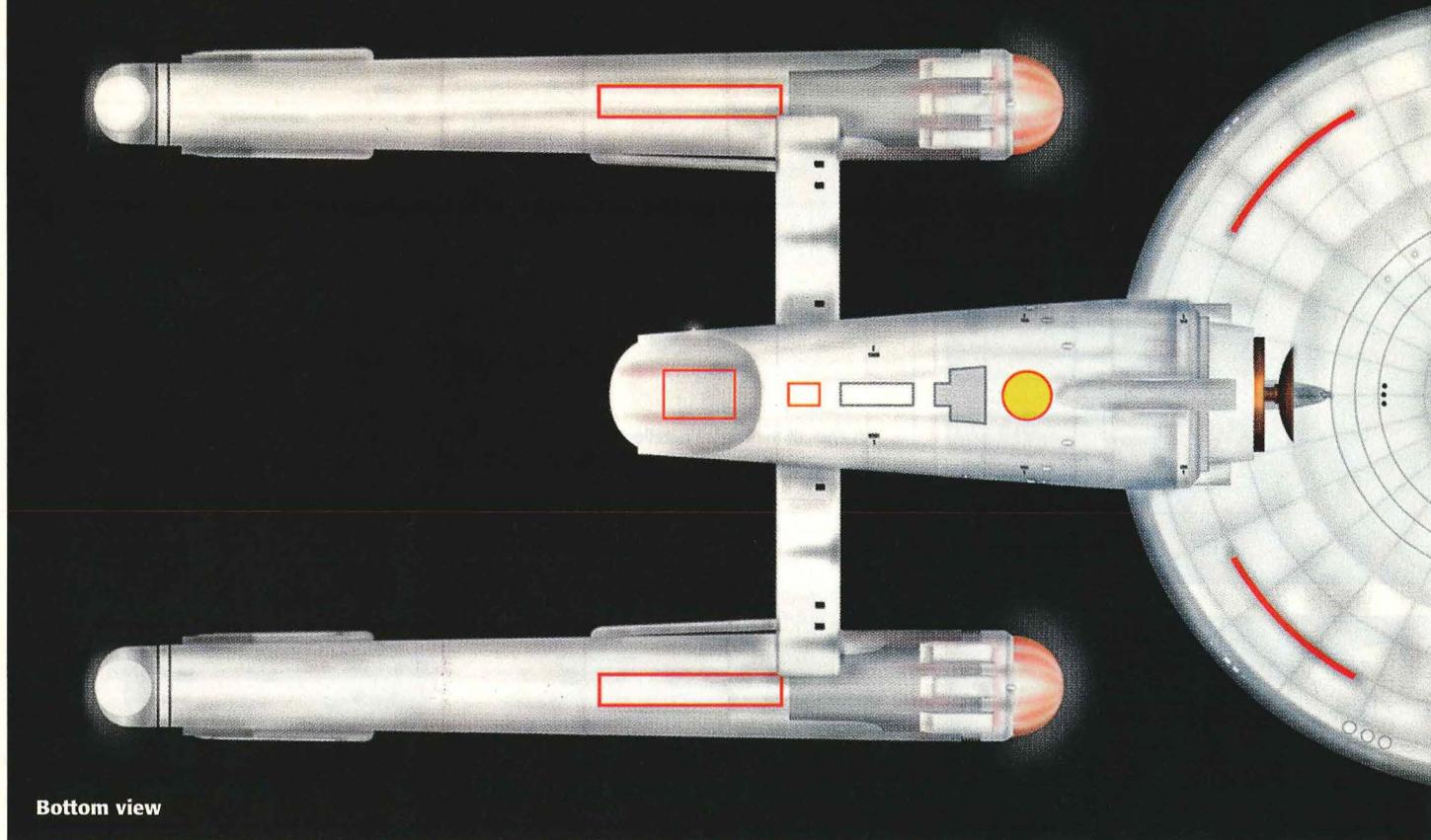


3) Bridge dome as seen in the regular series episodes. The large bridge dome shown in both pilots (1-2) gave way to a smaller unit at the beginning of the first season (3)



Spired nacelle domes and matching deflector (1) were replaced prior to the regular season episodes (2)





Bottom view



Photos of the top of the model are hard to find. This shot was taken after the 1984 restoration. Apart from the lighted bridge dome, the top surface of the saucer section was still in its original condition. William S. McCullars photo.

ondary hull. Up front, an oversize bridge dome sat atop the primary hull. No lighting effects were visible anywhere on the ship, further distinguishing this *Enterprise* from later versions.

**Second chance.** Network executives found "The Cage" "too cerebral" and it was not broadcast. The series concept, however, showed so much promise that, for the first time in television history, a second pilot was produced. This episode, "Where No Man Has Gone Before," marked the debut of Capt. James

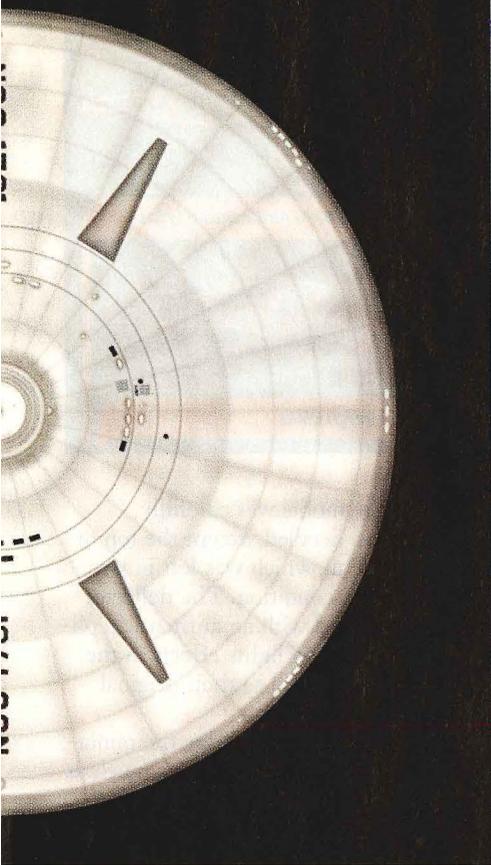
T. Kirk, played by William Shatner.

For this crucial second chance, many facets of the show received a new look, including the *Enterprise*. While the color scheme remained the same, both miniatures were remodeled to incorporate additional exterior details, and the big *Enterprise* was equipped with internal lighting. A pattern of vents was added to dress up the aft ends of the main engine nacelles, while eight simulated exhaust ports were painted over the two impulse engine vents on the back of the primary

hull. The large bridge dome lost some of its painted detail, but gained a lighted top and a forward-looking view port.

**Go for launch.** The success of the second pilot led to production of the regular series in 1966. This time the *Enterprise* received a more extensive overhaul. The basic color of the ship remained light gray, but many details were added, including a series of vents on the inboard side of the nacelle struts. The large bridge dome was replaced with a shorter assembly, the impulse engines were restored to the twin-port configuration used in "The Cage," and the secondary hull featured a smaller, more detailed deflector dish.

On the big model, the entire lighting scheme changed as well. Most notably, the



the big *Enterprise* at several points.

Now the model could be filmed only from its right side; therefore, many details were simply omitted from the left side of the ship. If a scene called for the *Enterprise* to be viewed from the left, the shots were either flopped photographically or filmed using the three-foot model.

In at least one instance, decals on the right engine nacelle of the large miniature were put on backward so the film footage would appear correct when reversed. Later in the first season, the starboard "NCC-1701" marking on the underside of the primary hull was permanently rotated 180 degrees to make it readable when the model was photographed from the front.

**USS Chameleon.** Though the studio model remained virtually unchanged throughout the show's three seasons, certain details appeared to vary from one episode to the next. The show's producers mixed stock footage from the two pilots with scenes in the regular-series episodes. As a result, the *Enterprise*, like a chameleon, appeared to change

from one moment to the next.

The optical process used to film the model often caused inconsistencies in color and detail as well. Unlike conventional photos, film footage had to be filtered and copied many times while being composited into a final shot. This reduced the quality of the finished scenes, obscuring small details and causing the *Enterprise* to appear white in some episodes while in others it was seen as light gray or even light blue!

**Making history.** In 1969, after the airing of 79 episodes, "Star Trek" was canceled. But this would be only the beginning for the landmark series. In the early 1970s the show's popularity exploded through syndication. At about the same time, studio executives agreed to donate the big model to the Smithsonian, where it would be displayed as a piece of television history.

When it arrived at the museum Feb. 28, 1974, the model was in fair condition. It was missing the frosted nacelle domes that housed the "spinning lights" effect, as



spires on the fronts of the main engines gave way to the trademark "spinning lights" effect. In turn, the grids on the aft ends of the nacelles were replaced with small lighted domes. This version of the *Enterprise* became most familiar to viewers.

Because of the new lighting scheme, the interior of the big starship was now a maze of wires. During the second pilot, there were no lights in the engine nacelles, and power for the rest of the model was routed through the support stand at the front of the secondary hull. But when the effects team added the new engine lighting effects, wires had to be run on the outside of the model because the nacelle struts were made from solid wood. As a result, power cables pierced the left side of

**The Enterprise as it appears today. The 1991 restoration included a new paint job and the return of the "spinning" lights inside the engine-nacelle domes. William S. McCullars photo.**

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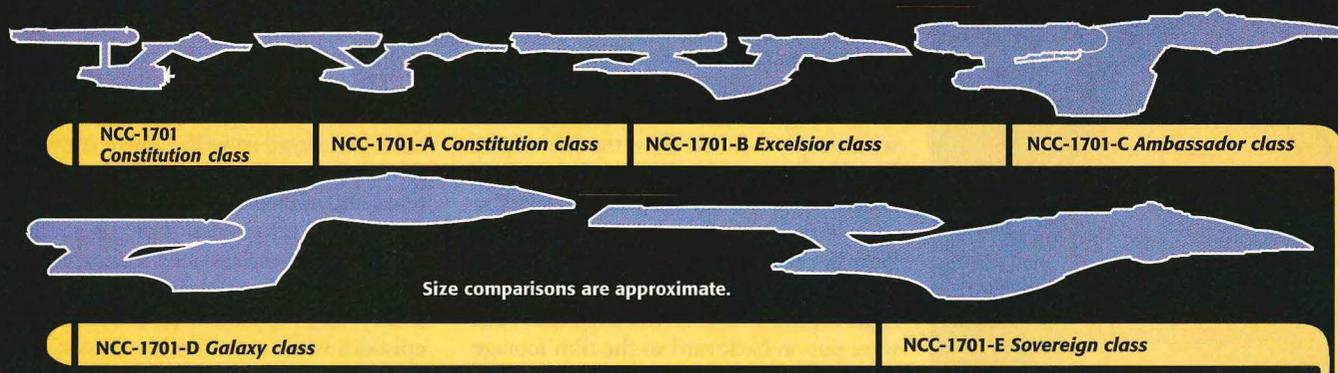
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# AN EVOLVING ENTERPRISE



well as the antenna-shaped deflector dish. The job of restoring the model was given to Rogay, Inc., which completed the project in about three months.

The model's paint job was touched up, missing "windows" were replaced, and protruding wiring was secured to the left side of the hull with duct tape. Although the ship's lighting was intact, the trademark lighting effects in the engine nacelles were lost, replaced with blinking lights. In addition, the restorers mistakenly painted the nacelle domes red (the originals were translucent plastic) and fabricated an inaccurate replica of the deflector dish that lacked the detail of the original.

**Restoring a classic.** Over the years, the starship remained one of the

most popular items on display in the museum. By 1984, the *Enterprise* was in need of further restoration. The duct tape covering the external cabling was removed while the wiring was restored and encased in tubing. Many of the internal lights were repaired or replaced. Sequentially blinking lights were added to the main engines to simulate the original "spinning lights" effect, though the domes themselves remained red. The model's paint again was retouched and several decals were replaced.

In 1992, the National Air and Space Museum hosted a "Star Trek" 25th-anniversary exhibit. As the centerpiece of the event, the *Enterprise* received an overhaul by S.F.M.A. Modelers, a special-effects company.

The entire model was carefully repainted and detailed, except the top of the primary hull, which was left in virtually its original condition. The deflector dish was replaced with an authentic replica and the spinning lights effects in the nacelles were restored to their original appearance.

**Boldly going.** Today the miniature Hollywood starship appears much as it did during the filming of "Star Trek" more than 30 years ago. It remains the most famous spaceship in science-fiction history. **FSM**

*Thanks to William S. McCullars for his help in obtaining many of the photographs included in this article.*

## ENTERPRISE MODELS

### Original TV Enterprise

- "Star Trek" USS *Enterprise* (No. S951, 6676EO). This first AMT *Enterprise* kit dates back to 1967. Original *Constitution*-class ship.

- USS *Enterprise* Command Bridge (1975 No. S950, 6007EO); a 12"-diameter model of the ship's bridge

- 30th-anniversary USS *Enterprise* cutaway (1996 No. 8790DO). This new kit is a larger, more detailed offering of the original starship.

### Movie Enterprise

- "Star Trek: The Wrath of Khan" USS *Enterprise* (1984 No. 6675DO). This is a detailed model of the starship from the feature films (rebuilt NCC-1701 and NCC-1701-A).

- "Star Trek III" USS *Enterprise* (1985 No. 6675DO)

- "Star Trek IV: The Voyage Home" USS *Enterprise* (1987 No. 6693DO); same as above

- "Star Trek V: The Final Frontier" USS *Enterprise* (1990 No. 6876DO);

same as above

- "Star Trek VI: The Undiscovered Country" USS *Enterprise* (1992 No. 8617DO); same as above

- Special-edition electronic USS *Enterprise* (1991 No. 6957DO); same as above with lights and sound effects

### Enterprise B

- "Generations" USS *Enterprise* B (1995 No. 8762DO). This is the *Excelsior*-class NCC-1701-B from the feature film "Star Trek: Generations."

### Enterprise C

- USS *Enterprise* NCC-1701-C (1998 No. 8001DO). New kit of the seldom-seen *Ambassador*-class *Enterprise* C.

### Enterprise D

- "Star Trek: The Next Generation" USS *Enterprise* (1988 No. 6619DO, 8400DO). This is the *Galaxy*-class NCC-1701-D from the "Star Trek: The Next Generation" television series.

- Fiber-optic USS *Enterprise* (1994 No. 8772DO). Same as 6619DO with fiber-optic lighting effects.

- "Generations" USS *Enterprise* NCC-1701-D (1995 No. 8793DO); same as

6619DO

### Enterprise E

- USS *Enterprise* NCC-1701-E (1997 No. 6326DO). This is the *Sovereign*-class *Enterprise* from "Star Trek: First Contact."

### Sets

- Spaceship set (1975 S953, 6677EO) includes a 7<sup>1</sup>/<sub>8</sub>"-long TV *Enterprise*, along with a Klingon Battle Cruiser and a Romulan Bird of Prey.

- USS *Enterprise* 3 Generations (1988 No. 6618DO) includes small versions of the original TV *Enterprise*, the feature-film version, and the "Next Generation" *Enterprise* D.

- Special chrome edition USS *Enterprise* 3 Generations (1991 No. 6005DO); same as 6618DO but all chrome plated

- USS *Enterprise* flight display (1995 No. 8787DO); same as 6618DO but with clear "in-flight" display stand

- SnapFast USS *Enterprise* three-piece set (1998 No. 8002DO). Includes small versions of *Enterprises* B, C, and E.