

THE FANTASY WORLDS™
OF IRWIN ALLEN

presents the famous

FLYING SUB™

FROM THE CLASSIC TV PRODUCTION OF

VOYAGE
TO THE
BOTTOM
OF THE SEA



1/32 SCALE PLASTIC MODEL KIT • PART NUMBER 817

voyage of the amazing flying sub

When *Voyage to the Bottom of the Sea* returned for its second season in the fall of 1965 viewers were treated to full color episodes, a redesigned Seaview submarine and an important new cast member first glimpsed apparently hovering over the ocean in the end credits. The mysterious vehicle, painted and eye-catching and utilitarian lemon yellow, was not formally introduced to viewers until the following week, when the "Flying Sub" was unveiled in an elaborate launch sequence that would quickly become a familiar and exciting elements of the TV series.

Press materials for the show's second season had referred to a vehicle called the "Flying Fish," but the nomenclature had been slightly altered by the time the "FS-1" was being written into episodes. The Flying Sub was a small, nuclear powered minisub with an aerodynamic profile reminiscent of a stingray or manta ray. Berthed just underneath the flared nose of the Seaview and protected by sliding, corrugated sea doors, the Flying Sub could carry two or more Seaview crewmen outside the submarine either for further underwater exploration or in supersonic flight through the air. The vehicle launched by descending from beneath the Seaview's nose, powering to the surface and accelerating over the ocean waves until it attained flight velocity. Its method of returning to the Seaview was even more spectacular: the ship would descend from the skies at an angle, plummeting directly into the ocean with a spectacular crash that somehow left its occupants unscathed as the sub dove into the ocean depths to rendezvous with the Seaview and float back upward into its berth in the submarine's nose.

The Flying Sub was well equipped to support the Seaview in its dangerous underwater missions, with twin headlights, dual amphibious turbine engines that drew water or air from intakes in the front of the craft and channeled it through the craft's stubby wings into the engine compartment at the rear, a rear airlock, upper and lower egress hatches encircled by ballast tank inlets, and laser weaponry. A large, retractable set of manipulator arms could extend from beneath the Flying Sub's nose and the vessel was also equipped with tricycle landing gear, which could be used as conventional landing gear, or on the sea floor.

It's not really a stretch to describe the Flying Sub as an additional cast member of *Voyage to the Bottom of the Sea*: week after week the vehicle was treated with the presentation and showmanship that would normally be granted to high profile character and it became apparent to the show's creator, Irwin Allen, the bright yellow vehicle was one of the program's most popular elements. Once the Flying Sub was introduced it was thereafter seen in operation in almost every episode of the series as well as the show's opening title sequence. It had been introduced as a way of quickly moving the show's characters off the limiting confines of the Seaview into action in exotic locales across the world. But the Flying Sub quickly became and end unto itself and the show's writers were encouraged to include the vehicle in their scripts.

Art director William Creber worked with Irwin Allen to design the Flying Sub as well as the modifications necessary to make the Seaview capable of housing and launching the new companion vehicle. Early designs for the vehicle were solid yellow, but blue trim for the Flying Sub's twin vertical stabilizers and strakes as well as the circular upper hatch housing were added in a paint scheme that closely resembled that of one of Jacques Cousteau's minisubs — a touch that added an element of verisimilitude to the fanciful vehicle.

Fiberglass miniatures of the crafted were constructed by the 20th Century Fox special effects department under the direction of L.B. Abbott in several scales. 9" (1/48) versions were designed to interact with the 8.5

foot Seaview miniature used to film most of the show's underwater special effects sequences. Flying Sub launch sequences used a larger, 18" miniature (around 1/24 scale) that was constructed to descend from the nose of the 17-foot miniature that had previously been used mostly for shots of the Seaview running on the surface. For the launch sequences the 17-foot miniature would be fixed motionless on the surface of the 20th Century Fox special effects water tank. The Seaview's Flying Sub bay doors would be operated by a technician out of camera at the rear of the sub, and wires would guide the 18" Flying Sub miniature down from the Seaview's illuminated Flying Sub berth. This launch sequence was filmed once and its footage recycled for every subsequent scene of the Flying Sub leaving the Seaview — this led to at least one evident breach of continuity in the episode "Deadly Waters" when the Seaview launches the vehicle while trapped at the bottom of the ocean — but the launch footage clearly shows surface waves lapping at the Seaview's hull.

For shots of the Flying Sub operating independently of the Seaview, 18" models performed much of the sub's underwater action, guided by wires, or even pushed into the frame by technicians in scuba gear. The largest Flying Sub miniatures were constructed at around 1/12 scale and were three feet across. These models were built of high impact fiberglass and were designed to be filmed on the surface of the tank at the Fox Ranch in Malibu, where their larger scale and greater weight interacted more convincingly with water, particularly when filmed at high speed. Most of the Flying Sub miniatures featured interior lighting and illuminated floodlights on their forward bulkheads. Some 36-inch models were built to spew smoke and flame from the twin-engine nozzles on the ship's rear bulkhead. Models were "flown" through the air via a Lydecker rig, a system of wires designed by sfx masters Howard and Theodore Lydecker.

One "flying" model was modified for the scene in which it dives into the ocean. To better withstand the impact of striking the water, the model had a solid forward bulkhead and the forward windows were replaced with mirrors to reflect the surface of the water as it rushed toward the plummeting craft.

A special, heavily engineered 36" version of the Flying Sub was built with tricycle landing gear and extending manipulator arms. The manipulator arms were featured in a couple of episodes late in the series run; in the close-up shots of the robotic arms deploying viewers can catch a glimpse of the extending landing gear, indicating that these two operating features had been constructed to function at the same time. The Flying Sub's landing gear was never shown in operation in the series even though at least one episode has the vehicle landing on a carrier deck.

Over the course of the show's second, third and fourth season the Flying Sub was seen in almost every episode, attacking and being attacked by various sea monsters, docking with underwater research stations and downed submersibles, crashing to the ocean bottom and rocketing through the air. The vehicle was destroyed in several episodes and apparently replaced, although it was always referred to as "FS-1" or just the Flying Sub.

In 1968 Aurora Plastics released a popular model kit of the vehicle with a detailed interior which captured the sub's basic outline but missed its subtle contours, as did subsequent "garage kit" attempts to duplicate the vehicle. The Moebius 1/32 scale model was created from studio plans and 3-D scans of a casting of the 36" Flying Sub miniature, straight from the original molds. The Moebius kit represents the most authentic model kit rendition of the famed science fiction vehicle to date.

assembly instructions

tools and materials

- Hobby knife
- Sprue cutters
- Rubber bands
- Spring-type clothes pins
- Plastic cement or cyanoacrylate glue
- Paints and brushes suitable for use with styrene plastic

assembly tips

Before starting assembly of your Flying Sub kit, take time to read through the instruction sheet and review the diagrams. Some time spent studying the instructions and planning the best way to proceed will make your model building experience more efficient and enjoyable.

Cut parts off the sprue with sprue cutters or a sharp hobby knife — do not break the parts off the sprue. Take extra care with clear parts because clear styrene is brittle and easy to damage.

Take time to test fit parts before gluing them in place. Note that there are a number of extra small parts on the trees; these are provided for use in the event that you lose one or two of these small parts during assembly of your kit.

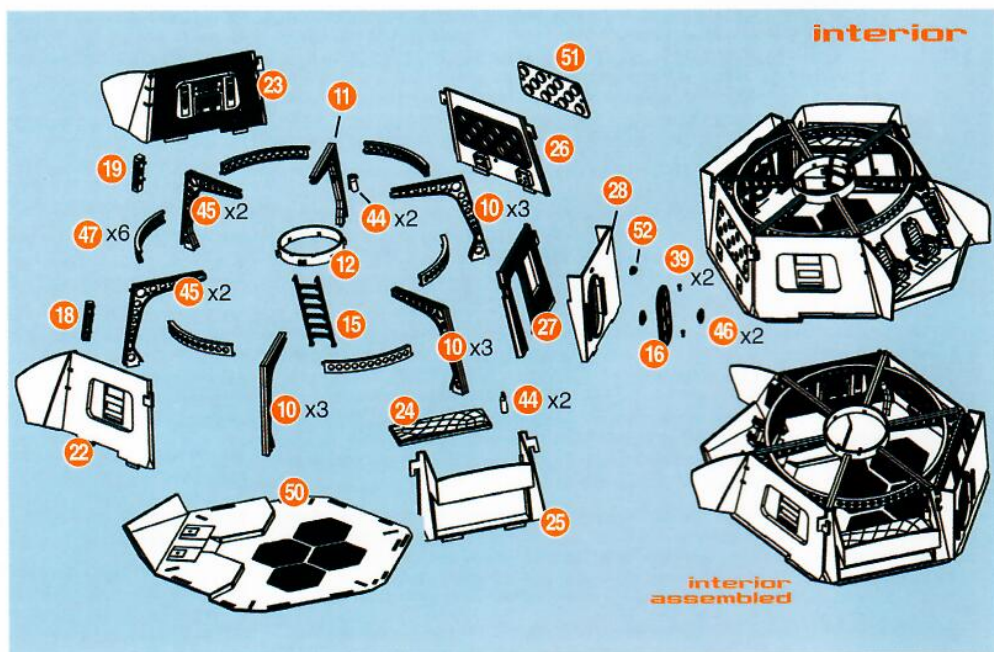
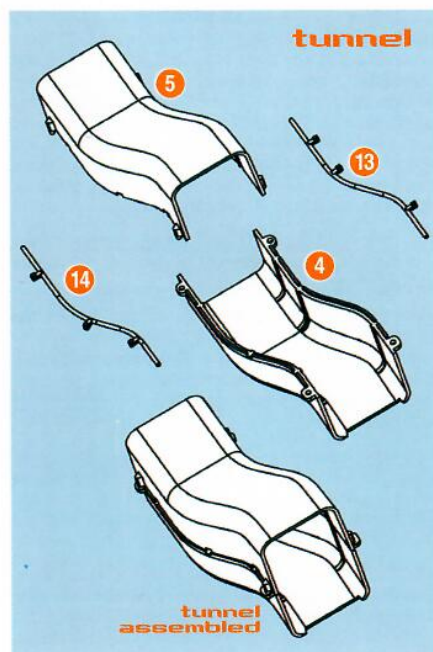
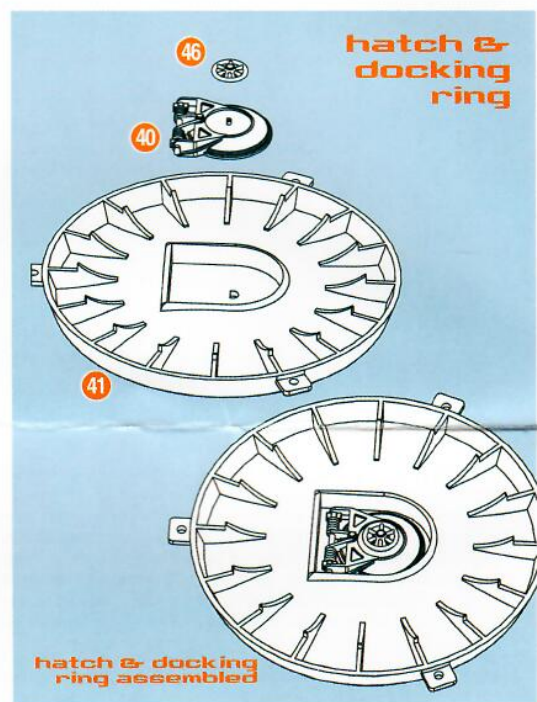
Please also note options for use of the display base or the option of a removable upper docking ring to allow better view of the interior.

painting tips

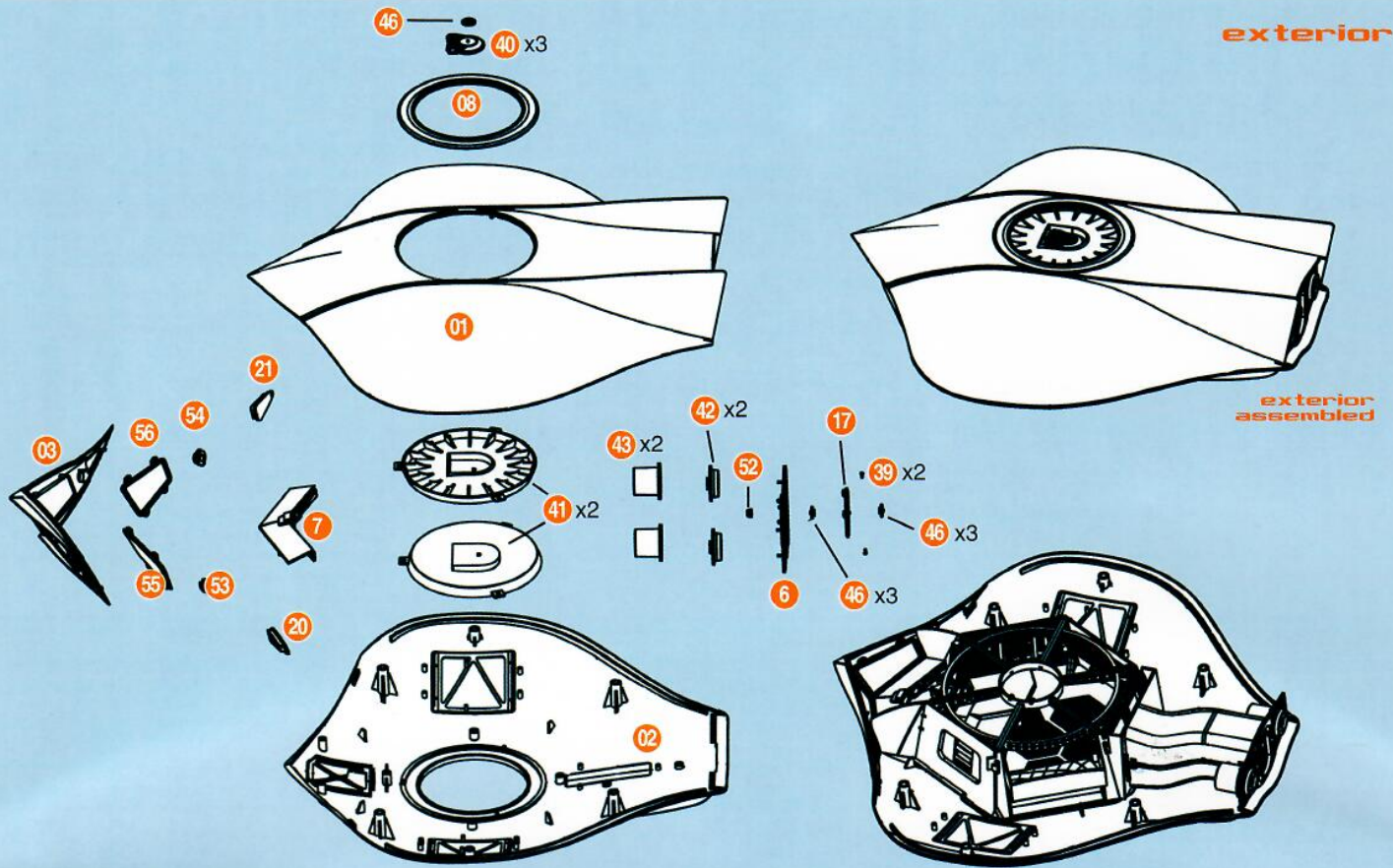
First, we suggest washing parts that you will be painting with warm water and detergent to remove any mold release agent from the parts.

It is best to begin by painting parts and subassemblies before you cement them in place.

Take time to familiarize yourself with the paint color chart, which specifies common Testors paints, and determine which parts you will need to paint before you begin assembly of your model.



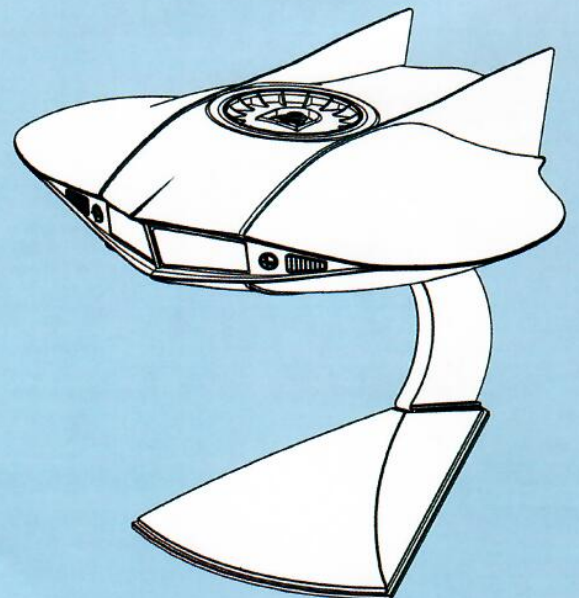
exterior



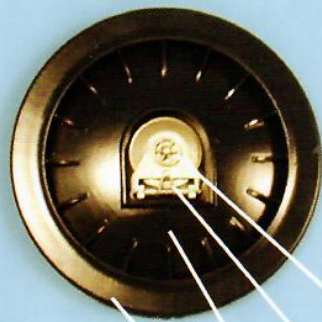
exploded view



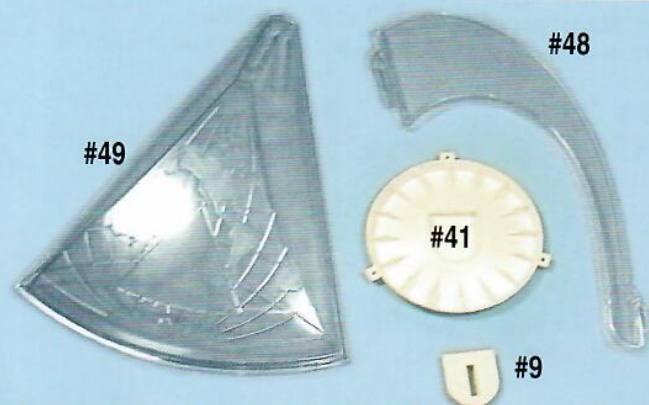
final



Upper Docking Ring as a removable assembly.
Part #8 cemented to #41.



#46 Hatch Wheel
#40 Hatch
#41 Docking Collar Insert
#8 Docking Ring



To display Flying Sub on stand, Cement Part #9 into Lower Docking Ring Insert (Part #41) and cement #41 into the Lower Hull (Part #2) This will provide an attachment point for the Display Stand.

#8 Docking Ring



Removable Upper Docking Ring Assembly:
two rear locator tabs of part #41 have been removed and front tab cut off to serve as locator for the Docking Ring Assembly to be inserted into opening of hull from above.

#32 Seat Back Cushion

#30 Seat Bottom Cushion

#36 Right Arm Rest

#35 Left Arm Rest

Captain Crane

Admiral Nelson

#31 Chair Back

#34 Rocket Pack

#29 Chair Bottom

#33 Chair Base

#22

#23

#51

#24

#27

#28

#26

#25

#52 Tunnel Light

#46 Hatch Wheel

#16 Door



#14 Hand Rail
#13 Hand Rail

#46 Hatch Wheel
2 x #39 Hinge Pins

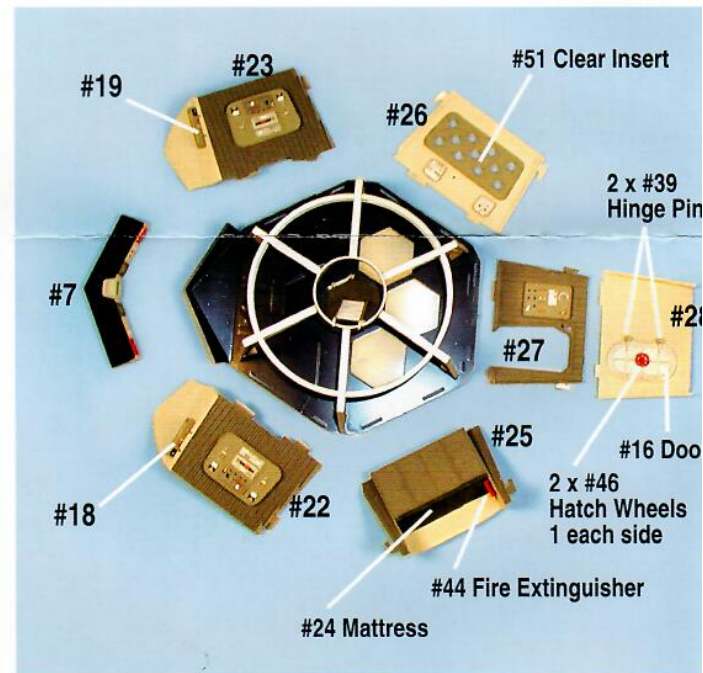
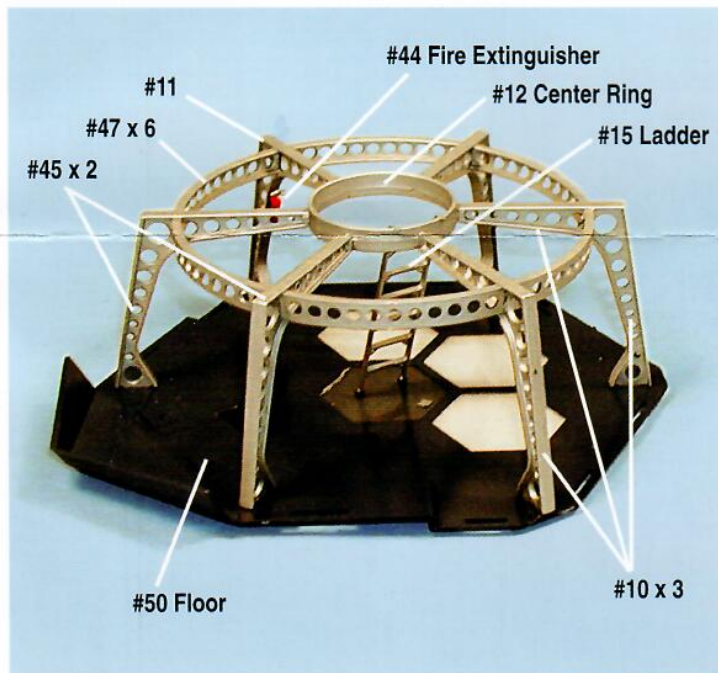
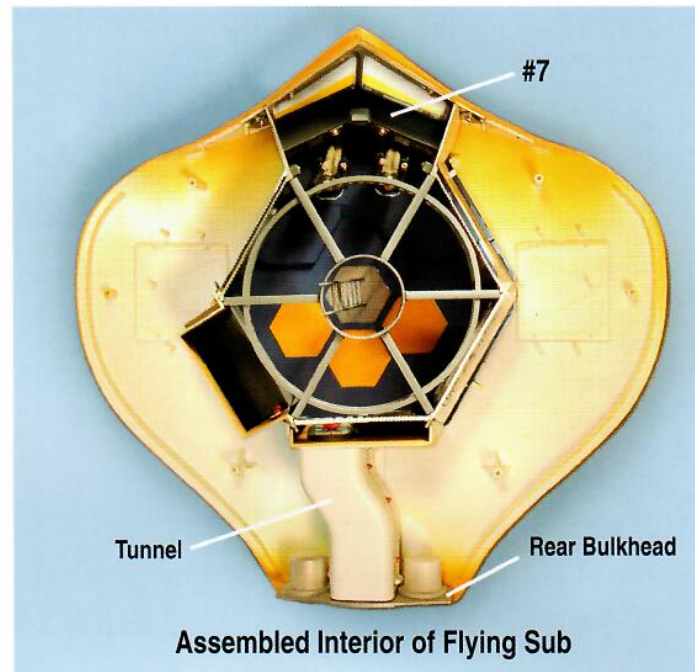
#17 Rear Door

#6 Rear Bulkhead

#52 Tunnel Light

2 x #43 Jet Engine Exhaust Tubes

2 x #42 Jet Engine Exhaust Nozzles



painting and color suggestions

Please note that these are only suggested colors, based on our interpretation of screen grab images from "Voyage to the Bottom of the Sea" and commonly available paint. Please feel free to use other colors that you feel are more appropriate or more correct while building your model. Please note that we see the light color on the walls as two possible colors — beige or light gray — and have included suggestions for both colors here.

color	painting directions — see photos for details	testors enamels	testors model master enamels	testors acryl
Chrome Yellow	Exterior of Hull and Lower Docking Collar; Assorted Interior Lights and Control Switches	1114	1707	4683
Dark Blue	Exterior Trim and Floor (#50)	1111	1772	4687
We suggest that the four hexagons that are engraved on the floor should be masked before the top surface of the floor is painted. Then the colors for those hexagons should be applied to the bottom of the floor after the paint on top has dried. The three hexagons that were lit on the set are either off-white or tan, and the single hexagon that covers the lower hatch is dark gray and was not lit on the set used to shoot the TV series.				
Aluminum	Top and Bottom Hatches; Front and Rear Bulkheads	1181	1781	4677
Steel	Interior Girders (#10, #11, #12, #45, #47); Inner Door (#16); Inner Face of Rear Door (#17) Ladder (#15); Electrical Circuit Boxes on Wall (#26)	1180	1780	4678
Gunship Gray	Interior Walls (#22, #23, #25, #27); Hatch Cover in Floor (applied from bottom); Inner Frames of Windows (#55, #56)	N/A	1723	4752
Dark Gull Gray	Control Panels on Walls; Small Control Boxes (#18, #19)	N/A	1740	4755
Sand	Interior Walls (#22, #23, #25, #27); Hatch Cover in Floor (applied from bottom); Inner Frames of Windows (#55, #56)	N/A	1706	4720
Flat Gull Gray	Light color on Walls (Substitute for Sand if you prefer Gray better than Beige for Walls)	N/A	1730	4763
Flat Sea Blue	Bunk Mattress (#24)	1172	1718	4742
Gloss Red	Fire Extinguishers (#44); Assorted Lights and Control Knobs; Door Wheels (#46) on both sides of Inner Door and Inside of Rear Door; Handrails (#13, #14)	1103	2718	4632
Flat Black	Inside Jet Pipes (#43); Top of Instrument Panel (#7); Assorted Switches and Knobs on Control Panels; Rubber Feet on Ladder Bottom; Chair Parts (#30, #32, #35, #36, #37); Rubber Parts of Fire Extinguishers; Seat Belts on Figures	1149	1749	4768
Chrome Silver	Fire Extinguisher Tops (#44); Seat Belt Hardware on Figures; Assorted Switches	1146	1790	4678
Radome Tan	Underside of Clear Floor Panels (See photos and note above) Nelson and Crane — Shirt	N/A	1709	4722
Gloss White	Assorted Instrument Faces, Lights, Knobs, Buttons	1145	1745	4696
Ice Blue Pearl	Chair Parts (#29, #31, #33, #34)	N/A	52718	N/A
Orange	Panels on Instrument Panel	1127	2022	4682
Pale Green	Radar and TV Screens on Instrument Panel (#7)	N/A	1716	4739
Bright Green	Assorted Lights on Control Panels	1124	2028	4669
Skin Tone Tint Base Light	Nelson and Crane — Skin	1170	2001	4601
Light Brown	Nelson — Hair	N/A	1742	4709
Dark Brown	Crane — Hair; Nelson and Crane — Leather Jacket	1140	2107	4797
Gold	Nelson — Shoulder Boards	1244	1744	4671
Khaki	Nelson and Crane — Pants	N/A	2136	4812
Gloss Black	Nelson and Crane — Shoes	1247	1747	4695



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Flying Sub history by Jeff Bond.

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