



the impulse engines located in the rear of the saucer-shaped hull section. Impulse power is supplemented by a powerful tractor-deflector beam system. Starflight capability is provided by the two matter/anti-matter propulsion units which allow the ship to 'warp' normal space and exceed the speed of light. Navigational deflector beams sweep out far ahead of

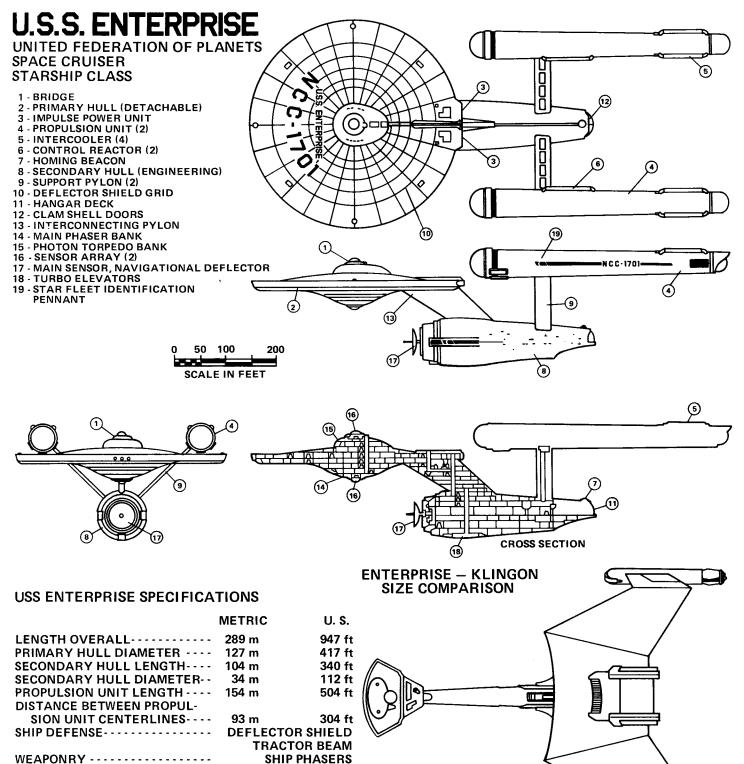
© 1975 Paramount Pictures Corporation

removed for display.

SKILL LEVEL 4 - THIS KIT IS SUG-**GESTED FOR ADVANCED MODELERS**



ESTES INDUSTRIES



ACKNOWLEDGEMENT

CREW ------

Special thanks is given to the following for their consultation and technical assistance:

MAXIMUM GROSS WEIGHT ---- 172,365 METRIC TONS

PHOTON TORPEDOS

190,000 U.S. TONS

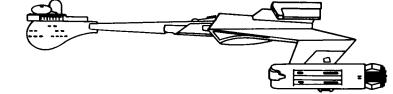
430

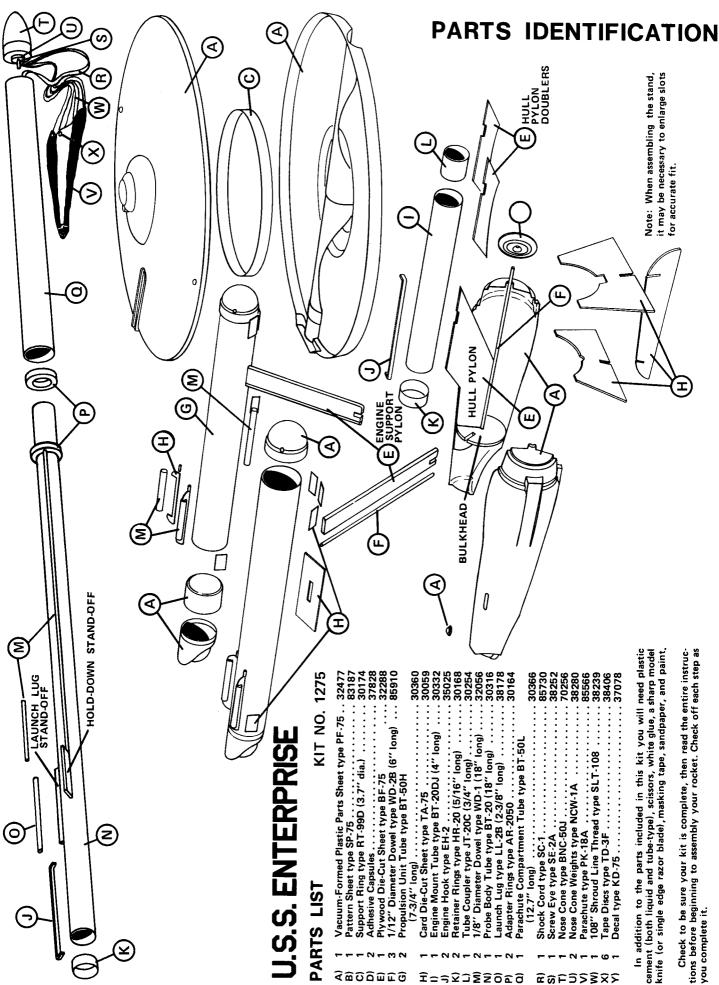
100

SCALE IN FEET

200

National Air and Space Museum, Smithsonian Institution Franz Joseph Schnaubelt, Franz Joseph Designs
The R.G. Van Treuren Collection - a comprehensive STAR TREK study



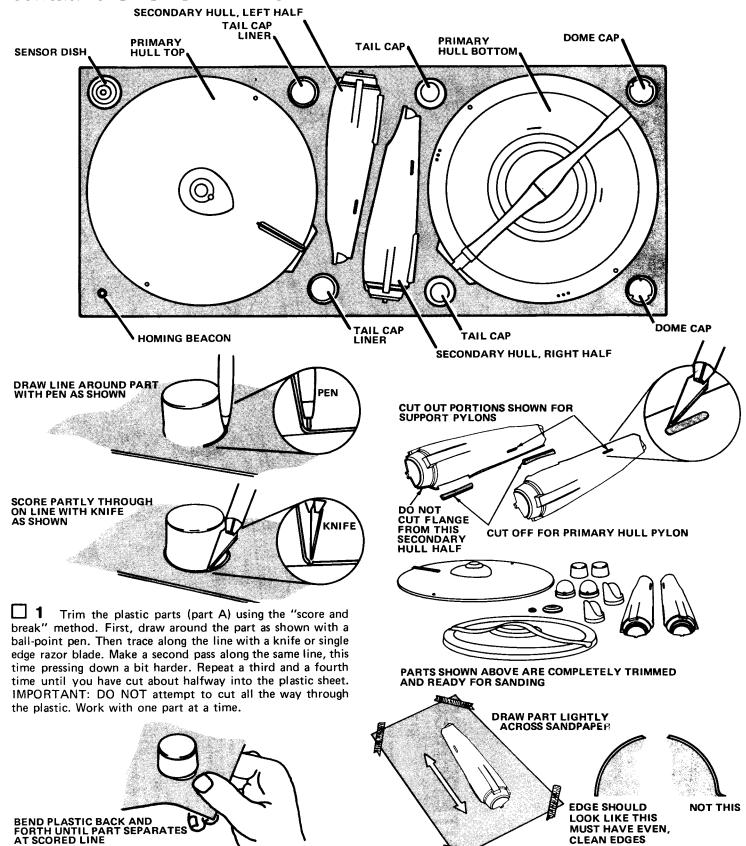


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Check to be sure your kit is complete, then read the entire instructions before beginning to assembly your rocket. Check off each step as you complete it.

TRIMMING & SANDING



Starting at any point along the edge, bend the excess plastic back and forth until it separates along the score line. Work carefully around the entire part. If the plastic does not break easily, score lightly and bend again. Should an accidental break occur, simply apply liquid plastic cement to the damaged area and allow to dry. Then separate the plastic part properly.

Tape a sheet of fine sandpaper to a table top or other flat surface. Draw the trimmed edge of each part lightly back and forth across the sheet several times to remove any burrs or rough edges. Sand only until you can see that you have an even, clean edge on each part. Final sanding on the primary hull and secondary hull pieces will be done after gluing.

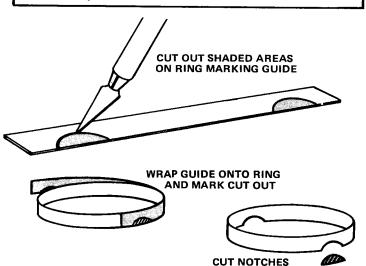
MUST HAVE EVEN, **CLEAN EDGES**

ASSEMBLY INSTRUCTIONS

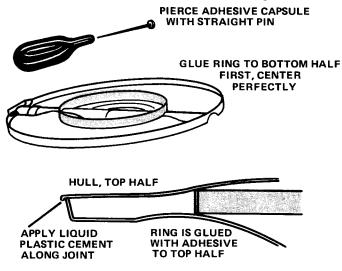
IMPORTANT:

Read all instructions before beginning work on your Enterprise. When you are thoroughly familiar with the construction sequence, begin construction. Check off each step as you complete it. Use white glue unless instructed to use liquid plastic cement. To insure a good joint, wash and rinse plastic parts before assembling. Also, be sure plastic parts are completely dry prior to assembly.

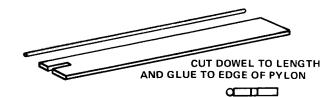
NOTE: In each step as you assemble this model, test-fit the parts together before applying any glue. If some part doesn't fit properly, sand lightly or build up as appropriate for precision assembly.



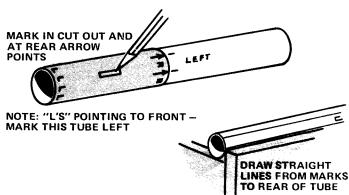
Quit out the ring marking guide from the pattern sheet (part B). Position it on the support ring (part C) and mark the cut-out areas. Cut the two notches in the rings as marked.



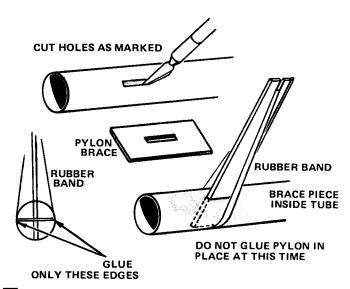
Apply contact adhesive (part D) lightly to the notched edge of the support ring. Press the ring in place on the inside of the bottom half of the primary hull so it is centered. Test fit the upper half of the primary hull. If necessary, sand the edge of the lower half until the two pieces fit neatly together. Apply contact adhesive lightly to the upper edge of the support ring and join the upper and lower primary hull halves. Apply liquid plastic cement to the joint between upper and lower halves all around. After the cement has dried, sand away all excess material on the seams.



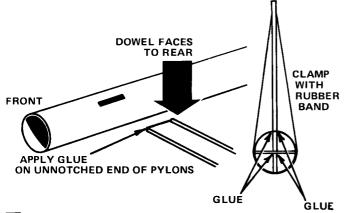
Use a sharp knife to free the two engine support pylons from the plywood sheet (part E). Cut two pieces of the small dowel (part F) to the same length as the pylons. Glue a dowel to one edge of each pylon piece. When the glue is dry, sand the sides and the front and rear edges of the pylon assemblies until smooth.



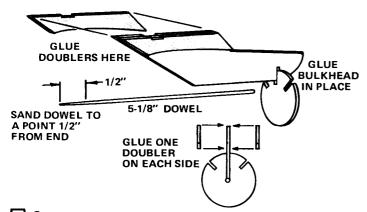
Gut out the propulsion unit marking guide from the pattern sheet (part B). Wrap the guide around a propulsion unit tube (part G) so edge "L" is even with the end and mark the tube at each arrow point on the other end of the guide and around the edges of the cut out area. Write "left" on this tube. Wrap the guide around the other propulsion unit tube so edge "R" is even with one end and mark the same way. Write "right" on this tube. Extend a straight line to the far end (rear) of the tube from each mark. (A door jamb or the notched edge of a drawer front makes an excellent guide.) Extend the line nearest the pylon cut out area the entire length of the tube. Mark each line 7/32" from the rear of the tube.



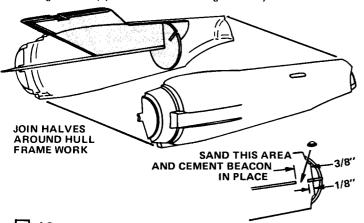
7 Use a sharp knife or a single edge razor blade to make the pylon cut-outs in the propulsion unit tubes. Make repeated light cuts on the cut-out lines until the blade passes through the tube. Position the pylon braces from the die-cut card sheet. (part H) inside the tubes and check their positioning by inserting the pylons with the dowel edge toward the rear. Use rubber bands to hold the pylons in place. With the pylons in place, apply glue to the joints between the braces and the tubes only. (The end of a dowel makes an excellent applicator.)



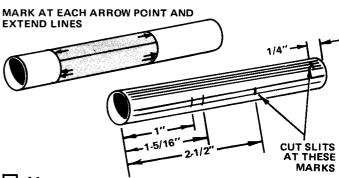
When the glue has set, remove the pylons. Apply glue to the unnotched ends of the pylons and carefully replace them through the slots in tubes and braces, clamping with a rubber band as before. Apply glue around the joint between pylon and tube at the slot on each unit---on the inside of the tube only. Also, glue the pylons to the braces.



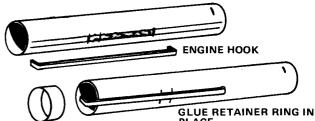
Carefully remove the hull pylon, bulkhead, and pylon doublers from the die-cut plywood sheet. Glue the doublers to the hull pylon, one on each side, as shown. Glue the bulkhead to the hull pylon. Cut a 5-1/8" long piece of the smaller diameter dowel (part F). Glue the dowel to the bottom of the hull pylon against the bulkhead as illustrated. Sand the last 1/2" of the projecting end of the dowel to a point. Round leading and trailing ends of pylon doublers when glue is dry.



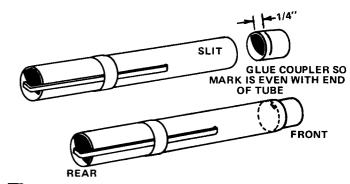
10 Test fit the secondary hull halves together on the hull framework assembled in step 9. Sand parts as necessary until the parts fit together precisely. Use liquid plastic cement to join the two halves around the framework. After the cement has dried, sand away any excess material on the seam. Carefully sand away the entire flange on the top of the secondary hull between points 1/8" and 3/8" from the rear. Do not sand into the hull itself. Cement the homing beacon in place in this area.



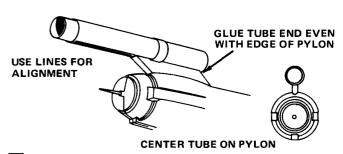
Light 11 Cut out the engine mount marking guide from the pattern sheet. Wrap it around the engine mount tube (part I) and mark at each arrow point. Extend a straight pencil line the length of the tube through each matching front and rear mark. Mark the double line 1", 1-5/16", and 2-1/2" from one end. Mark the center pair of the four parallel lines 1/4" from the other end. Cut a 1/8" slit in the tube at the 2-1/2" and 1/4" marks.



12 Apply a line of glue to the engine mount tube between the double lines from the 1" to the 2-1/2" mark. Insert one end of an engine hook (part J) into the slit on the double lines and lay it flat against the glue between the lines. Apply a line of glue around the tube between the 1" and 1-5/16" marks. Slide a retainer ring (part K) over the tube and hook until it is centered on the glue between the marks.

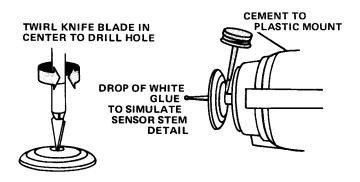


Apply a line of glue around the inside of the engine mount tube extending in 1/4" at the end opposite the engine hook. Insert the marked end of the tube coupler so 1/4" is glued inside the tube and 1/2" projects from the tube.

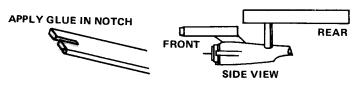


L 14 Using the group of 4 parallel lines on the engine mount tube as a guide, glue the tube to the hull pylon. The tube must point straight ahead. Sight down the rear of the tube to be sure

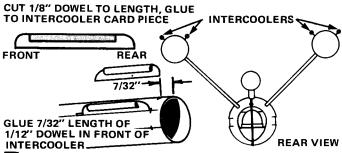
the center line of the pylon is aimed at the centerline of the tube.



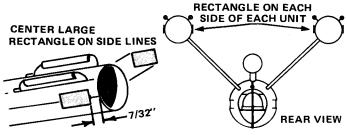
15 Drill a hole in the center of the sensor dish. The hole should be just large enough to fit on the dowel projecting from the secondary hull. Use plastic cement to glue the dish in place on the dowel against the projecting mount on the hull.



16 Check the fit of the engine support pylons in the cutouts in the secondary hull. Enlarge the holes if necessary. Apply glue to the inside surface of the notch in each engine support pylon. Insert the pylons into the secondary hull until they seat fully in the corresponding notches in the bulkhead. Make sure the left tube is on the left as you look at the model from the rear.

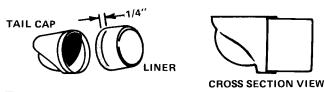


17 Carefully remove the intercooler pieces from the diecut card sheet (part H). Set aside one of the large dowels (part M) to use later in constructing the recovery probe. Cut four pieces of the remaining large dowel to fit into the intercoolers exactly. Glue the dowels to the card pieces. Glue the intercoolers to the two upper lines on each propulsion unit tube with the rear of each intercooler on the mark, 7/32" from the rear of the tube. Cut four 7/32" long pieces of the small diameter dowel (part F) and glue one on the line in front of each intercooler.

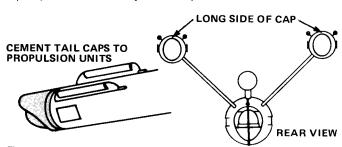


18 Remove four of the large rectangles from the die-cut card sheet. Glue one on each side of the propulsion unit tubes,

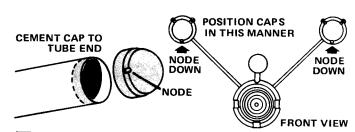
centered on the side lines. The rear of each piece should be on the mark, 7/32" from the rear of the tube.



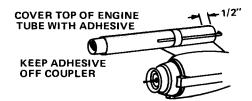
19 Check the fit of the liners inside the tail caps. If necessary, sand the liners until they fit 1/4" into the tail caps. Use liquid plastic cement to join tail caps and liners.



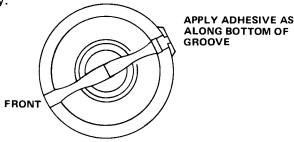
20 Test fit the tail cap assemblies in the tubes. Remove and smear tube-type plastic cement around the inside of the rear of the propulsion unit tubes. Let dry and apply a second layer of tube-type plastic cement. Immediately insert the tail cap assemblies, making sure the long side is to the top as shown.



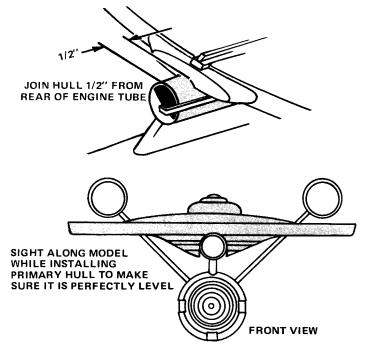
21 Check the fit of the dome caps on the fronts of the propulsion unit tubes. Smear tube-type plastic cement around the front 3/16" of the outside of each propulsion unit tube. Let dry. Apply tube-type plastic cement to the mating surface on the inside of the dome caps and install them so one of the small nodes points straight down on each.



LJ 22 Apply a thin, smooth coat of contact adhesive to the top of the engine mount tube, starting 1/2" from the rear and extending all the way forward over an area 3/16" to each side of the single line. Do not get adhesive on the tube coupler. Let dry.

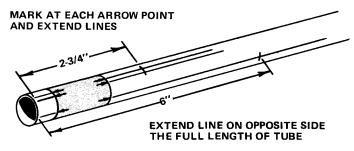


Apply a heavy line of contact adhesive to the center of the groove in the bottom of the primary hull. The adhesive should run from the rear to the step just behind the center. Join

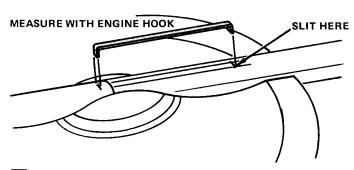


primary hull to engine mount, being careful to align the hull so it is perfectly flat on the model. Make sure the retaining ring is centered in its recess. Hold in position, pressing firmly in place, for 2 or 3 minutes until the adhesive starts to set. Avoid putting any strain on the joint for at least 2 hours.

RECOVERY PROBE ASSEMBLY

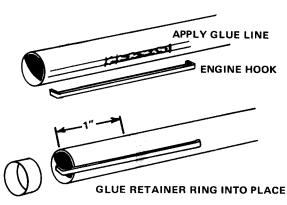


23 Cut out the probe body marking guide from the pattern sheet. Wrap it around the probe body (part N) near one end. Mark at each arrow point. Draw straight lines connecting each matching front and rear mark. Extend the single line closest the double line to 6" from the end of the tube. Extend the line on the side opposite the double line for the entire length of the tube.

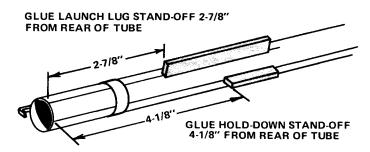


24 Temporarily slide the probe body onto the tube coupler on the engine mount. Position it so the double lines are aligned with the forward slit in the engine mount. Insert one

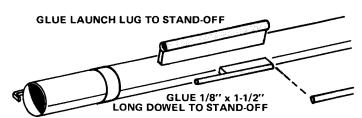
end of the remaining engine hook (part J) in the slit and mark the probe body between the lines at the other end of the hook. Cut a 1/8" slit at the mark and seat the hook ends in both slits to check the fit. Remove hook and probe tube.



25 Apply a drop of glue to the slit in the probe tube and a line of glue between the lines from the slit to 1" from the tube end. Insert the end of the hook into the slit, pressing the shaft of the hook into the glue and centering it between the lines. Apply a line of glue around the tube and over the hook 1" from the end of the tube and slide the remaining retainer ring (part K) over hook and tube onto the glue. The end of the ring should be 1" from the end of the tube.

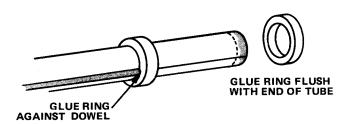


26 Mark the short line 2-7/8" from the rear of the probe body. Mark the long line 4-1/8" from the rear. Carefully separate the launch lug stand-off and the hold-down stand-off from the die-cut plywood sheet. Glue the launch lug stand-off (the longer piece) to the short line with its rear on the mark. Glue the hold-down stand-off to the long line with its rear on the mark, 4-1/8" from the rear of the tube.

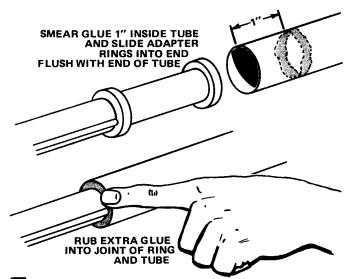


GLUE 11-3/8" LONG 1/8" DOWEL TO TUBE WITH END AGAINST STAND-OFF

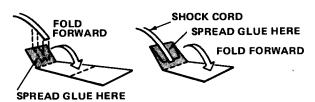
LJ 27 From the 1/8" diameter dowel (part M) which you set aside earlier, cut one piece 11-3/8" long and one piece 1-1/2" long. Glue the long dowel piece to the recovery probe body on the line with its end glued against the hold-down. Hold the dowel securely in place with masking tape until the glue dries. Glue the short dowel to the hold-down stand-off so the front of the dowel is even with the front of the stand-off as shown. Glue the launch lug (part O) to the launch lug stand-off.



28 Check the fit of the adapter rings (part P) on the front of the probe body. Sand their inside surfaces if necessary for a smooth fit. Apply a line of glue around the tube at the front, 3/8" ahead of the end of the dowel. Slide a ring onto the tube, onto the glue, and back against the dowel. Glue the other ring to the tube so the front edges of ring and tube are even.



29 Smear glue around the inside of the parachute compartment tube (part Q) approximately 1" from one end. Slide this end onto the adapter rings on the probe body until the rear of the 'chute tube is even with the back of the rear ring. Rub glue onto the joint between the 'chute tube and the ring at the back.



D Cut out the shock cord mount from the pattern sheet. Pre-fold it on the dotted lines. Apply glue to section 1 and lay the shock cord (part R) into the glue. Fold over and apply glue to the back of the first section and the exposed part of section 2. Lay the shock cord as shown and fold over again. Clamp the unit together with your fingers until the glue sets.

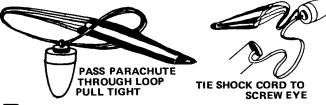


31 Apply glue to the inside of the parachute compartment tube at the front over an area about 1" to 2" from the end. The glued area should be the same size as the shock cord mount. Press the mount into the glue as shown and hold it until the glue sets.

INSERT SCREW EYE,
SQUIRT GLUE INTO HOLE, AND REINSERT
SCREW EYE AND WEIGHTS

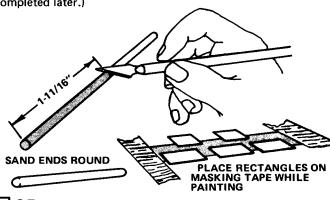
32 Insert the screw eye (part S) into the base of the nose cone (part T). Remove screw eye and squirt glue into the hole. Install the two nose cone weights (part U) on the screw eye and re-insert the screw eye into the hole in the nose cone.





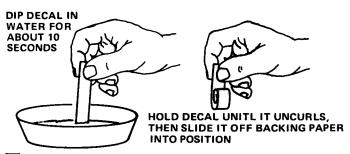
33 Cut out the parachute (part V) on its edge lines. Cut three 36" lengths of shroud line (part W). Attach line ends to top of parachute with tape discs (part X) as shown. Pass shroud line loops through screw eye. Pass parachute through loop ends and draw lines tight against screw eye. Set knot with a drop of glue. Tie free end of shock cord to screw eye.

Sand all exposed wood surfaces lightly with extra fine sandpaper. Apply at least two coats of sanding sealer, sanding lightly between coats. When the pores in the wood are filled and the surfaces look and feel smooth, install the recovery probe on the model and use it as a handle while you give the starship itself a clean, white base coat of spray enamel. When the base coat is dry, apply an overall final color coat of Pactra Camouflage Gray. Let the paint on the model dry at least overnight before continuing. (Use the recovery probe both to support the model while painting and to protect the tube coupler from being painted. The paint job on the probe itself can be completed later.)

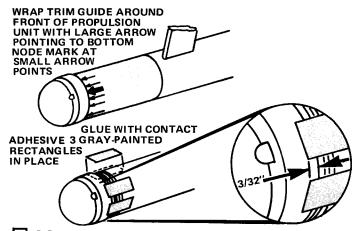


35 Cut two 1-11/16" long pieces from the 1/8" diameter dowel (part M). Round the end of these pieces slightly with fine sandpaper. Give these pieces a camouflage gray finish. Also, with camouflage gray, paint one side and the edges of the two small rectangles and the six large rectangles from the die-cut card.

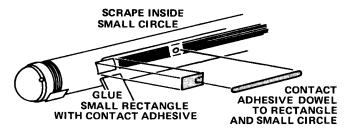
36 Apply trim paint colors as shown in the decor illustration. If using spray paint, use masking tape to outline the area to be painted. Protect the rest of the model from overspray: A plastic bag taped over the model makes an excellent cover.



□ 37 Apply the decals (part Y) as shown in the decor illustration. To apply water-transfer decals, cut out an individual section of the decal and dip in lukewarm water for 10 seconds. Hold the decal until it uncurls, then gently slide it off the backing sheet onto the model in the correct position. Blot away excess water. Dry overnight and apply a coat of clear spray to protect the decals.

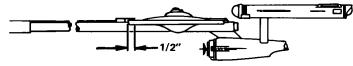


38 Cut out the trim positioning guide from the pattern sheet. Place it against a propulsion unit dome cap and mark at each of the small arrows. Mark the other cap in the same way. Use contact adhesive to glue to six large, gray-painted rectangles from the die-cut card to the propulsion units. The pieces should be centered between marks and extend 3/32" onto the dome.



39 Use contact adhesives to glue one of the small, gray-painted rectangles to the inner side of each propulsion unit directly over the rectangle outline on the decal. Glue one of the dowels prepared in step 35 to each propulsion unit; carefully scrape through the decal in the small circle on the decal, then use contact adhesive to glue each dowel to the circle at one end and the rectangle at the other as shown.

BALANCE FINISHED MODEL NO MORE THAN 1/2" BEHIND PRIMARY HULL FRONT WITH C6-3 ENGINE INSTALLED



40 Install the recovery probe and check the balance point of your finsihed model with a (C6-3) engine, wadding, and parachute in place. The model must balance no further back than 1/2" behind the front of the primary hull disc.

COUNTDOWN CHECKLIST

15 Pack four squares of crumpled recovery wadding loosely into parachute compartment.



14 Fold the parachute into a triangular shape. Roll 'chute tightly as shown and wrap shroud lines around it. If 'chute is too large, unroll and repack until it slides easily into parachute compartment. A very tight fit may prevent parachute from ejecting properly.

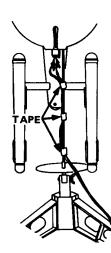
NOTE: DO NOT pack parachute until you are actually ready to launch. For maximum parachute reliability, lightly dust the 'chute with ordinary talcum powder before each flight, especially in cold weather.

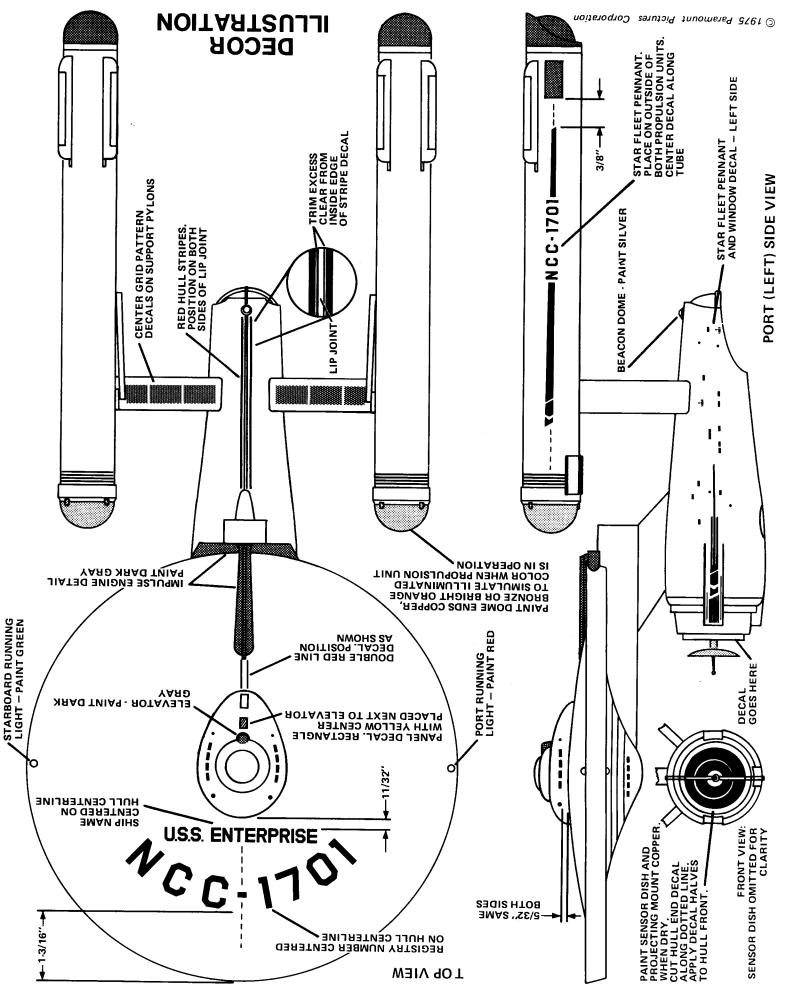
- 13 Pack shock cord neatly into parachute compartment. Slide nose cone into place. Nose cone should separate easily from 'chute compartment tube, but should not be extremely loose. If it is too tight, sand inside of tube end and shoulder of nose cone with extra fine sandpaper. If nose cone is too loose, add a wrapping of transparent tape or masking tape to the shoulder of the nose cone.
- 12 Slide recovery probe into place on model, making sure hold-down dowel is over top surface of primary hull. Clip hook into slit in engine mount tube.
- 11 Select an engine and install an igniter as directed in the engine instructions. Engines recommended for use with this rocket are B6-2 and C6-3.
- 10 Insert engine into engine mount. Engine hook must latch securely over end of engine.
- Disarm the launch panel--remove safety key.
- Place rocket on launch pad making sure rocket slides freely on launch rod. (A piece of masking tape may be wrapped around the launch rod to support the launch lug [and the model] off the blast deflector.) Clean the micro-clips and attach them to the igniter. Arrange clips and leads so they cannot catch on propulsion unit support pylons as the model lifts off. A suggested method is to tape the leads to the launch rod after attaching the clips, starting just below the clips.
- **7** Clear the launch area, alert recovery crew and trackers. Check for low flying aircraft and unauthorized persons in the recovery area.
- **6** Arm the launch panel--insert safety key.

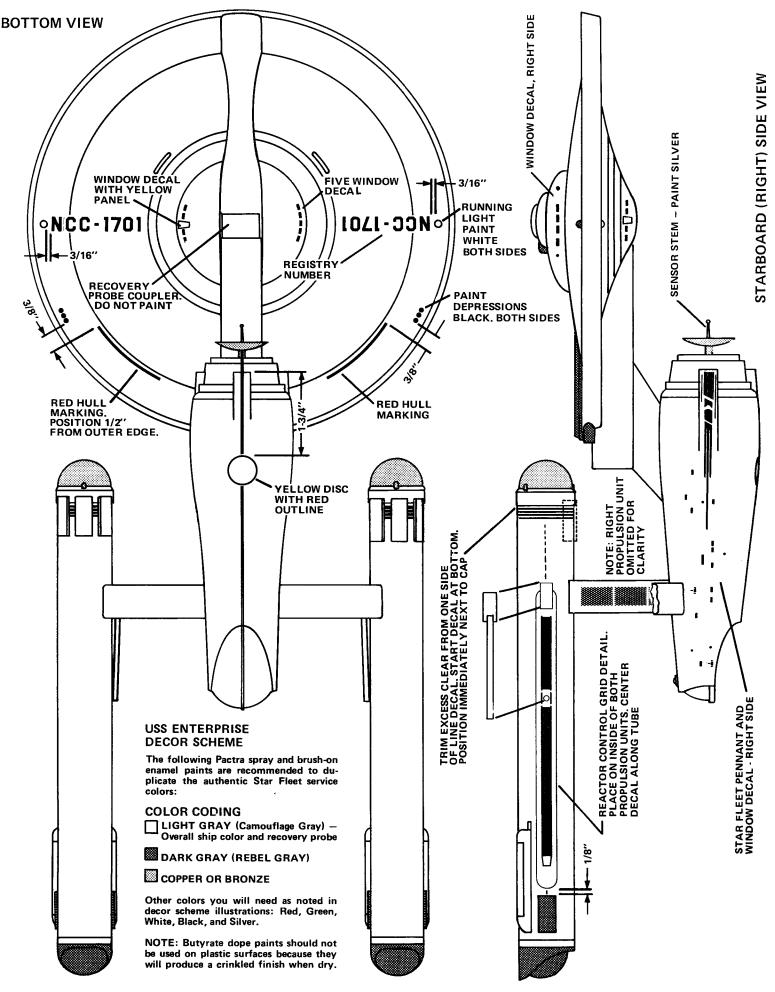
5-4-3-2-1 LAUNCH!!

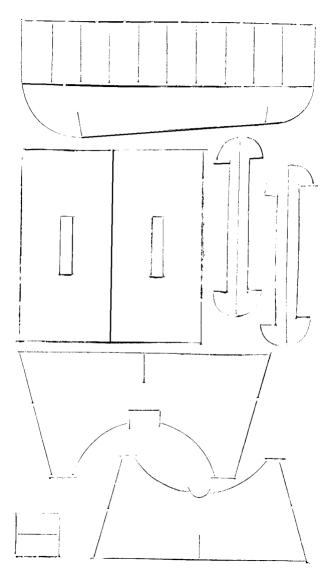
MISFIRE PROCEDURE

Occasionally the igniter will heat and burn in two without igniting the engine. This is almost always caused by a failure to install it correctly. Disarm the launch panel, remove the model, clean the igniter residue from the nozzle and install a new igniter. Follow the launching procedure again.

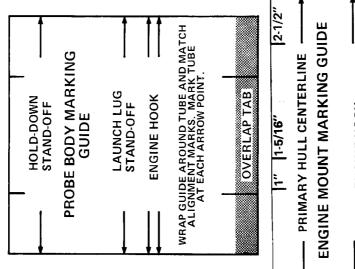


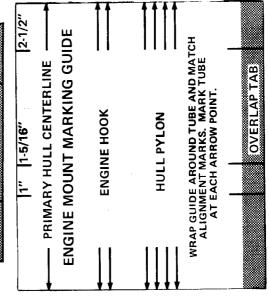


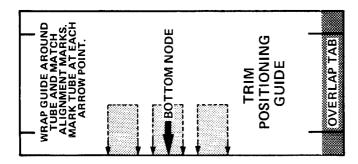


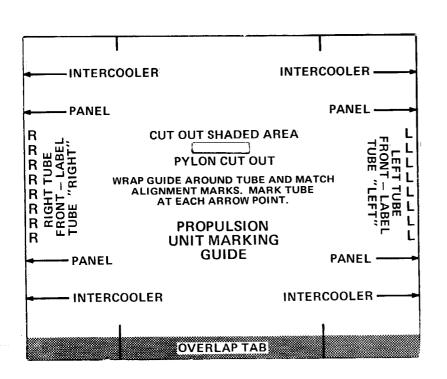


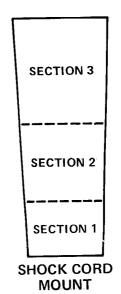


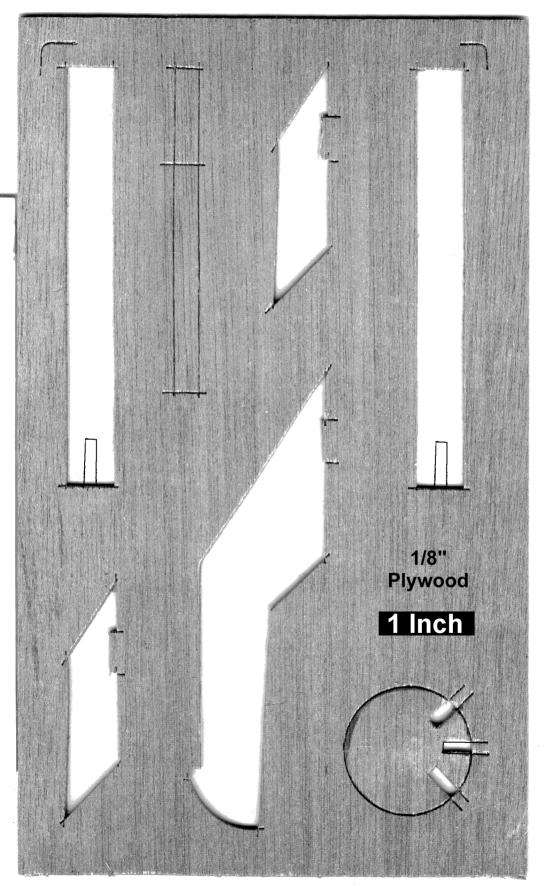


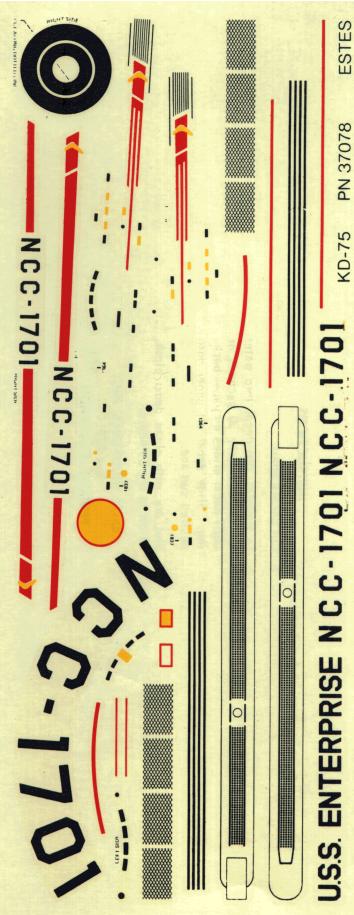












STAR TREK FLYING MODEL ROCKET

STARSHIP ***
ENTERPRISE

3-Craftsman

ECIFICATIONS

ght Configuration Length inship Display Length covery Probe Length mary Hull Dis.

Parachute Recovery

Recommended Engines 86-2 (First fight) C6-3

43.30

(110 cm) (43.2 cm) (77.2 cm)

ESTES.