Building a 1/48th Scale Endo-Exo Transatmospheric Interstellar Space Cargo Vehicle (ISSCV)

The ISSCV was one of the spacecraft featured in the TV show Space: Above and Beyond. It was used for Cargo, troop movement, and on rescue/recovery missions. The center modules are removable depending on the type of mission it was tasked for.

This model is designed for beginning and intermediate modelers using cardstock. More experienced modelers might want to use other media. It can be built in different configurations with optional parts supplied where needed. Each piece is a model in its own, so it is up to the modeler which configuration they prefer.

Patterns should be printed on either white or grey cardstock. This can be purchased at office supply stores or at craft centers. I found printing on an inkjet printer produced the best results.

Tools needed for construction: White glue or similar glue (I use Elmer's), Scissors, Straight edge for scoring seams, broad head tweezers, hole punch, sharp knife or single-edge razor blade, black magic marker, and a scribing tool for scoring seams. If you don't have a scribing tool, one can be made by inserting a large sewing needle into a dowel point first about halfway, then gluing it in place.

General Hints

The biggest thing is don't rush, take your time. Paper is an unforgiving media. Study the sheet patterns and instructions and be patient. Dry fit the parts before gluing.

Score the seams before cutting any patterns from the sheet. You'll find it will be much easier to work with the smaller parts by doing this. Use the tweezers to bend the smaller parts and glue tabs. Fingers will get in the way when gluing up the detail pieces. If you have glue marks (finger smudges, don't worry it only adds to the overall appearance).

Let parts either setup or dry before proceeding with the different assemblies. My experience with Elmer's glue is it sets fairly quickly, so take your time gluing the parts.

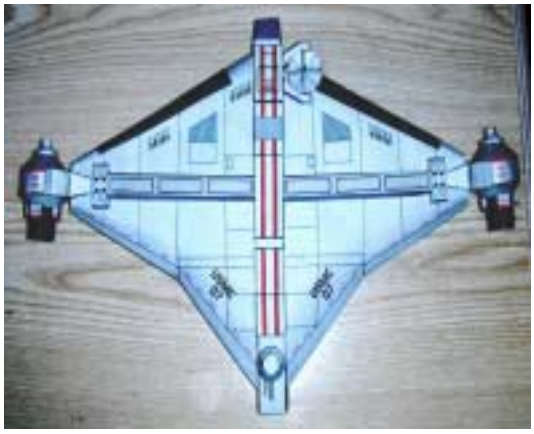
Wing and Engine Structure

Wings Structure: two layers of cardstock are needed, glue back to back.

- Cut out all pieces.
- Place formers and rib 2 into position on pattern sheets.
- Align center former and rib 2 at right angles and tape into position
- Place remaining ribs through 10 into slots and glue, once set, glue on rib 11.
- Glue front and rear pieces into position and set aside
- Using scrap cut several pieces 1/2" wide the length of the wings
- Use one piece to place atop inside edge of rib 1, one down the middle, and one across rear rib 5. Let dry. Once dry, draw a center line on center piece and piece covering rib 5
- Remove from paper pattern and repeat for other side.
- On side of rib 1 write left and right for appropriate wing

Covering:

- Cut and score the rear sections for each wing.
- Start with the large rear piece. Align interior seam with center line on rib 5, glue, repeat for lower rear section butting interior seam to first part. Set aside. Repeat for other wing.
- Once glue has setup, fold and glue.
- Roll front covering around center to get bend in paper. Glue front, aligning 2nd line with seam on rib 5. ***Only do one side at a time***. Let dry
- Once dry, carefully glue. Hold until set.
- Attach bottom seam strip to bottom center seam.
- Set wings aside to dry. Once dry, trim covering at rib 1 and 11.



Wing Mounted Engines: try to keep all seams aligned

- Score and cut out all parts. **DO NOT** Score the end tabs on parts A, B, C, D, E, and F.
- Glue A, B, and C together. A1, C1 goes to inside. Carefully align A and C with part B.
- Assembly part D with dark side D1 facing up. Carefully wrap and glue D2 around inside.
- Assemble part E. Wrap E1 around Bic pen tube and carefully push through part E. Remove pen tube and glue part E to part D inside.
- Glue this assembly to top part A.
- Glue F1 dark side out to the inside of F aligning edge of part F1 with the tab seam on part F. **Do Not** glue the last 1/4" of part F1 to part F, this will become apparent later. Set aside to dry. Once dry, blacken edge with magic marker. Insert tab, put glue on both sides of tab and insert between part F and F1. Let dry.
- Insert F2 dark side toward inside into large end, put glue on tabs, then bend inward, press F2 into tabs.
- Glue to bottom Part C
- Carefully assemble 4 parts G.
- Attach to part F centering it under the "Keep Clear" logo on part B pressing it up against part C. Hold until set.

Engine Mounts and Wing Details: Score, then cut, and glue

Engine Mounts and attaching to wing:

- Starting at center, glue engine mount pieces toward the end. Let Dry
- Attach to engine by aligning center of mount over seam on engine part B. Hold until set.
- Center engine on wing rib 11 either in the horizontal position for flight or vertical for landing. Test fit before gluing, then glue. Set assembly aside to dry.

Wing details

- Start with part 1, then part 2. Center part 1 against engine mount. Part 2 butted against end of part 1 and centered over seam on wing.
- Set part 3 aside until wing is attached to Wing Spine

Attaching Wing

- Score and cut wing spine part 1 and 2 from sheet. Glue together at tab.
- Glue wings to part 1 and let dry completely, once dry glue tabs at front and rear of spine.
- .Glue wing spine part 3 on module assembly spine to section 6 centered above the outrigger.
- Glue wing spine part 4 butting against part 3 rear

Adding spine details

- Score, cut and glue the pieces.
- Align front of part 1 with first panel line from front of wing.
- Glue in order moving to the rear parts 2, 3, 4 and gun turret.
- Glue in order moving forward 1a, and 1b
- Take wing detail part 3 from above and center on upper wing seam and glue.
- **Glue completed wing assembly to forward side of wing spine part 3.**

Rear Engines

- Score, cut, and assemble Engine mount and front and rear sections.
- Glue engine mount to front section in large rectangle ensuring triangular area on engine mount faces forward, pieces are interchangeable so it doesn't matter which side it is attached.
- Glue rear portion to front portion.
- Test fit part 2, then glue.
- Carefully fold and glue 8 parts 3 and 3a, set aside to dry.

Nozzles

- Glue A1 dark side out to the inside of A aligning edge of part A1 with the tab seam on part A. **Do Not** glue the last 1/4" of part A1 to part F, this will become apparent later. Set aside to dry. Once dry, blacken edge with magic marker. Insert tab, put glue on both sides of tab and insert between part A and A1. Let dry.
- Glue part A2 so black side is inside nozzle.
- Attach to rear section.

Attaching part 3 and Engines to module spine

- Glue 3a to back of part 3 to rectangle at rear of part 3. Opening on 3a goes toward 3.
- Glue part 3 assembly, so rear of 3a aligns with back edge of rear section.
- Center and glue engine mount against rear of wing spine part

Congratulations, You have completed the ISSCV