

RANDY COOPER'S M.I.E.V.-5 PHOTOETCH SET

**PARA
GRAFIX™**
PGX196

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INTRODUCTION

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Materials

In addition to the photoetch, you will also need scissors or a knife* to remove individual pieces from the main fret, a file to remove material left from cutting, and super glue (aka CA or cyanoacrylate). Additionally, to fold some pieces, you will need a pair of razor blades** or a specialty tool such as PhotoFold from ParaGrafix.

* We prefer a #17 Xacto chisel blade.

** Extreme care must be taken when using razor blades. Risk of serious injury.

Raised Detail

Where applicable, these instructions note an area where the raised kit detail must be removed. The symbol at left will show you where this needs to happen. This may be done in whatever way you are most comfortable: sanding, filing, chiseling. Note that in most cases the surface does not need to be perfectly smooth as the photoetched part will replace the "lost" kit detail.

Lighting Options

Unless otherwise noted, you can prep areas for lighting by removing plastic from areas where there are through holes in the photoetch. You can then backlight the photoetch. For best results, we suggest using Micro Kristal Klear from Microscale Industries (www.microscale.com) to fill the through holes.

Installation Parts Order

The installation steps are not in any particular order. You can complete them as you see fit to complement your kit construction order.

Key

Kit part (plastic): **1**

Photoetched part: **1**

Backlight film: **A**

Control Panels

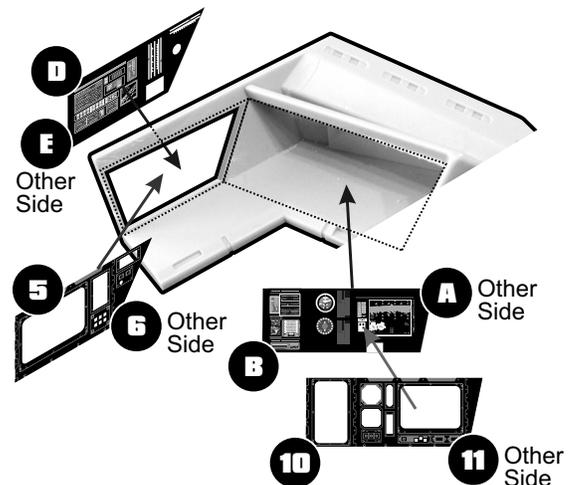
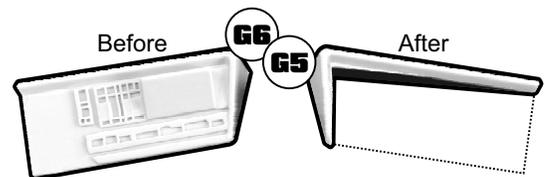
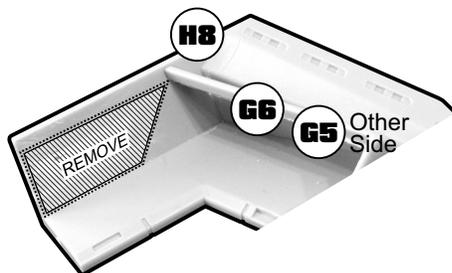
Main Controls

Cut off the front face of main control panels G5 and G6 as shown at right. Leave a small lip on the two removed sides to give the photoetch something to attach to.

Using the supplied template as a guide (see the final page of these instructions) remove the area from kit part H8 to allow for the backlight films to be applied.

NOTE: If lighting these panels, you will also need to remove a similar area from parts H7 and H9. See page 6 of the kit instructions for how these parts go together. Do this before attaching the photoetch and backlight films.

Attach etch parts 5, 6, 10, and 11, and film parts A, B, D, and E as shown. Note that the films go behind the photoetched parts and that you will want to paint the photoetch before installing.



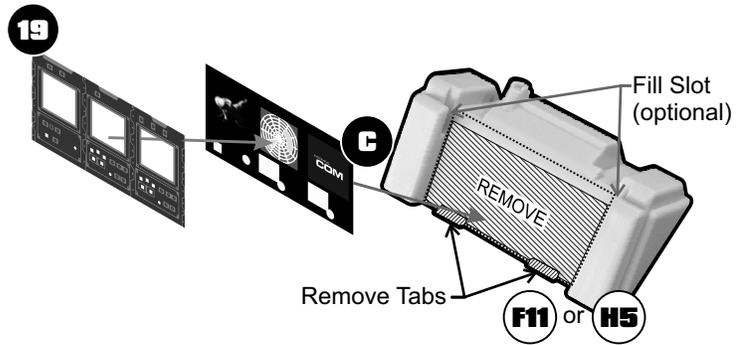
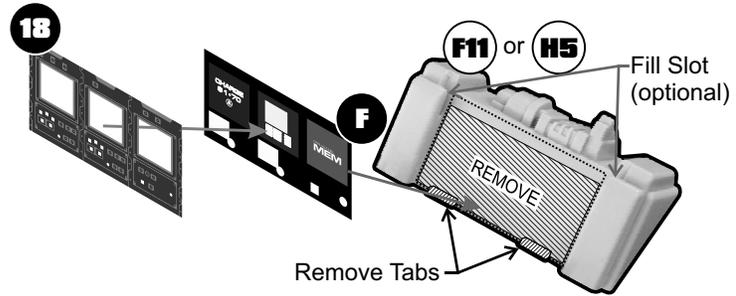
Control Panels

Upper Controls

Remove the tabs from kit parts F11 and H5, then use the templates provided as guides to cut holes for lighting.

Attach etch parts 18 and 19 and films C and F as shown. (It makes no difference which kit part they attach to.)

TIP: You may find it easier to mount and paint the photoetch before attaching the backlight films from behind.



Heads Up Displays

Repeat 2 Times

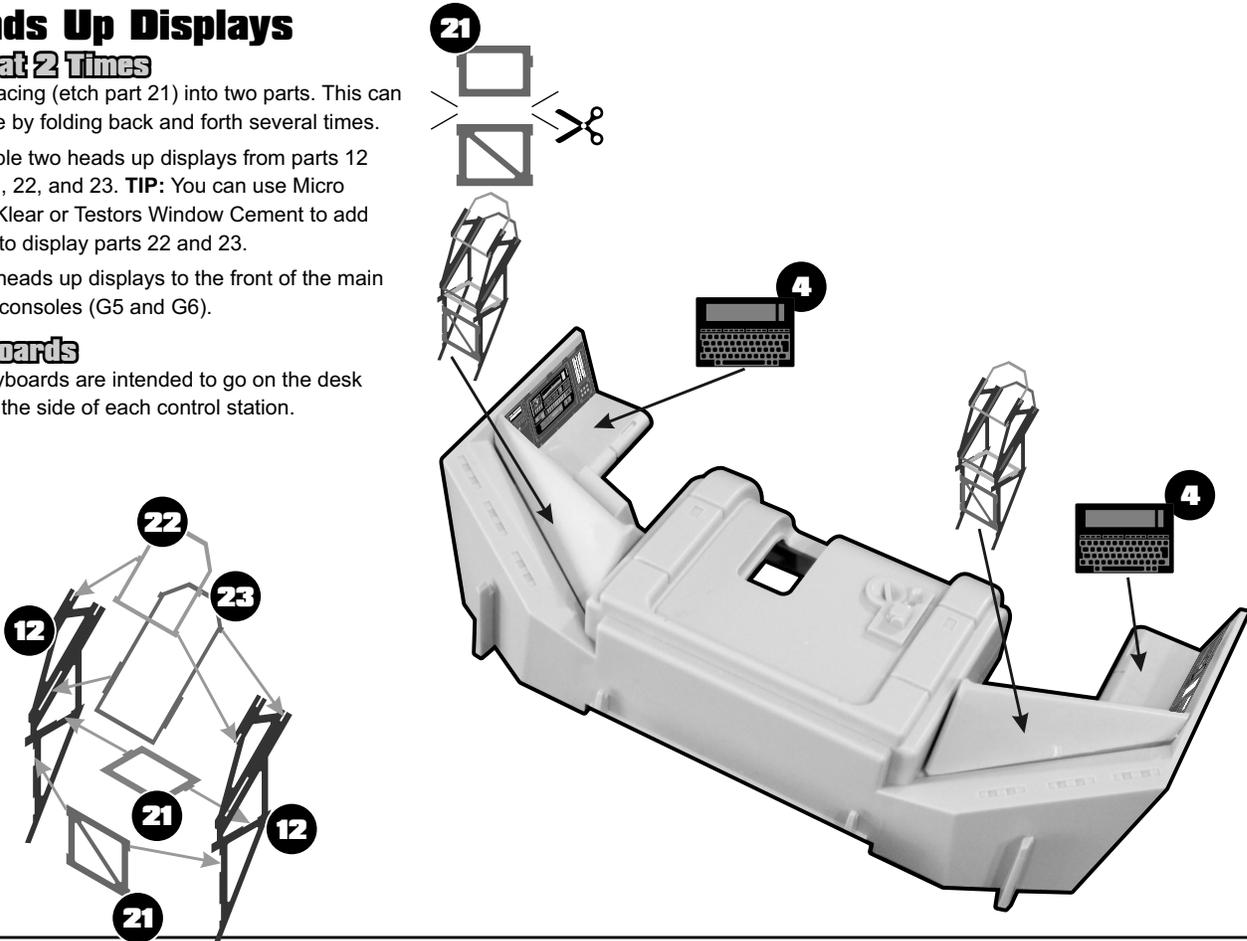
Split bracing (etch part 21) into two parts. This can be done by folding back and forth several times.

Assemble two heads up displays from parts 12 (x2), 21, 22, and 23. **TIP:** You can use Micro Kristal Klear or Testors Window Cement to add "glass" to display parts 22 and 23.

Attach heads up displays to the front of the main control consoles (G5 and G6).

Keyboards

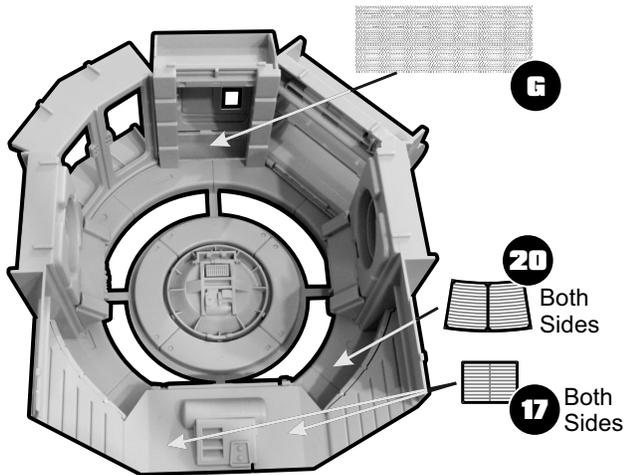
The keyboards are intended to go on the desk area to the side of each control station.



Miscellaneous Interior Pieces

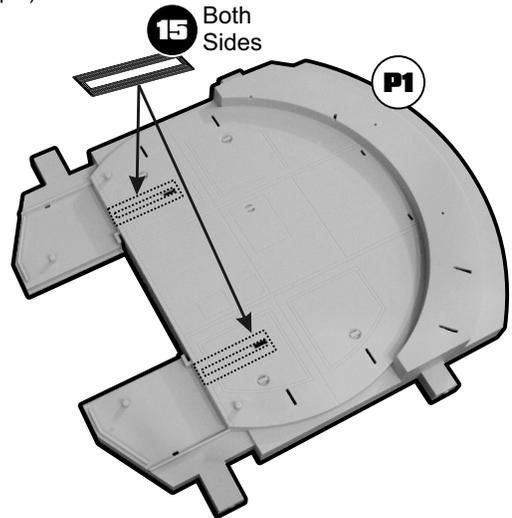
Air Vents and Light Panel

Attach air vents 17 and 20 (two each) to the soffits where shown. Light panel diffuser goes over the rear airlock's clear panel – the crop marks show where to cut if installing in the recessed area.



Chair Rails

Mount each chair rail (15) on the floor so that the back end lines up with the hole for the chair assembly (kit assembly step 5).



Boarding Ladders

Jig

Fold the jig so that it looks like a channel. The jig holds the ladder rungs square.

Lower Ladder

Place the eight ladder rungs (etch parts 14) in the slots and attach the handrails (etch parts 1). NOTE the direction of the steps – the recessed center section of each step goes up, which is toward the shorter horizontal part (which is vertical during assembly).

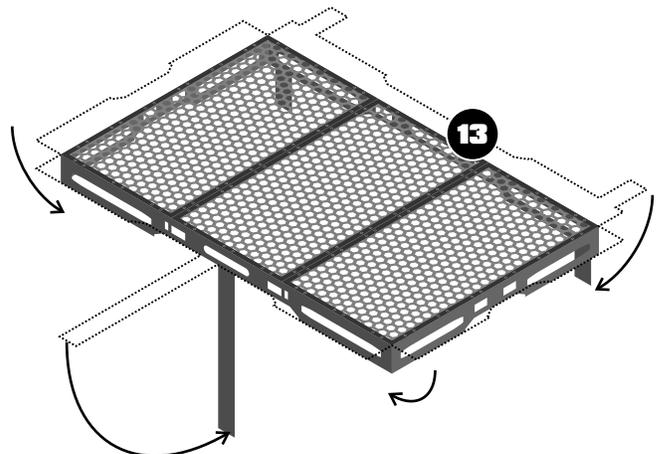
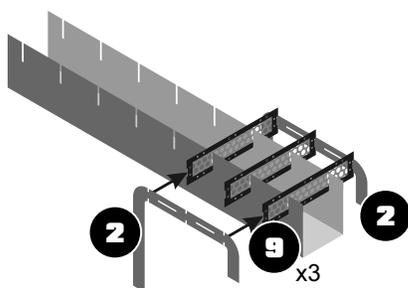
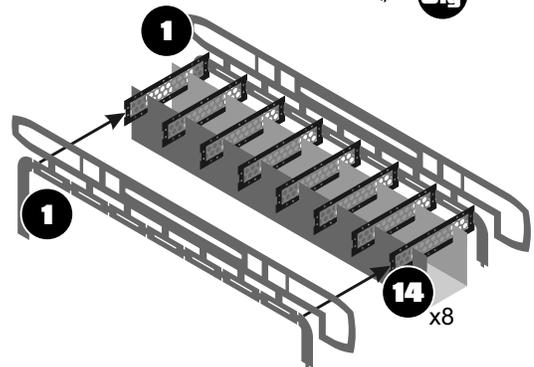
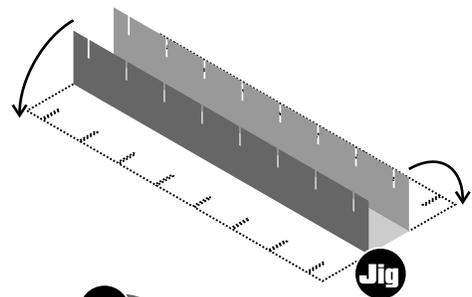
TIP: Place identically sized spacers at the two ends of the jig on one side and use this to align the handrails so they remain square to the rungs.

Upper Ladder

Place the eight ladder rungs (etch parts 14) in the slots and attach the handrails (etch parts 1). NOTE the direction of the steps – the recessed center section of each step goes up, which is toward the shorter horizontal part (which is vertical during assembly).

"Front Porch"

Fold the front porch (etch part 13) as shown.

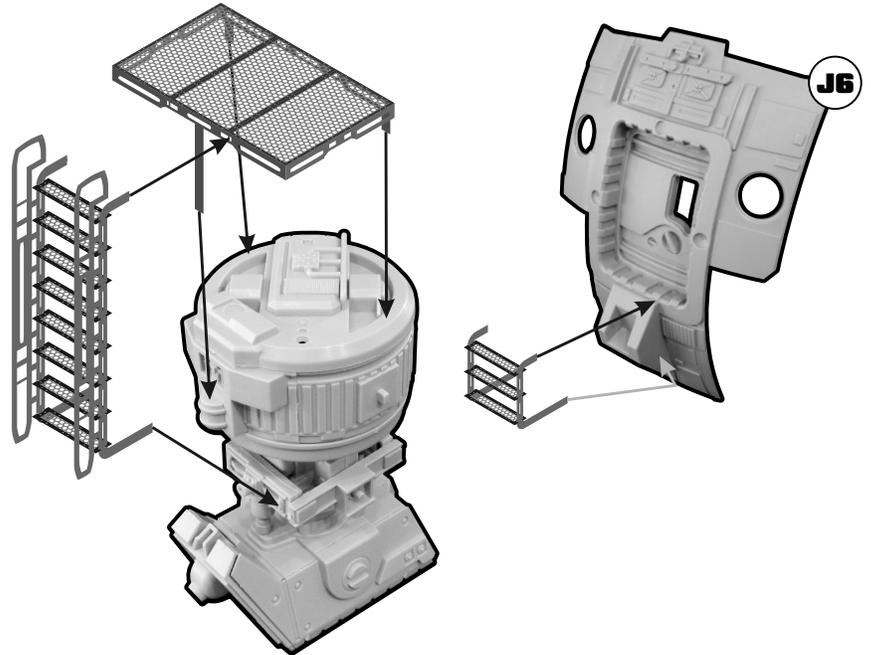


Mount Ladders

Attach the ladder to the front porch using the small slots on the front face of 13 then mount this assembly to the front landing gear so that the attachment tabs are placed as shown.

Mount the upper ladder to the top and sides of the protrusion just below the front airlock.

TIP: The ladders are fragile. To avoid damaging them, wait to install them until your M.L.E.V.-5 is almost complete.



Rocket Nozzle “Turbines”

Main Thruster

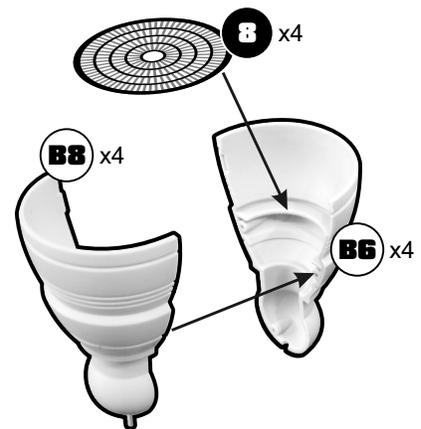
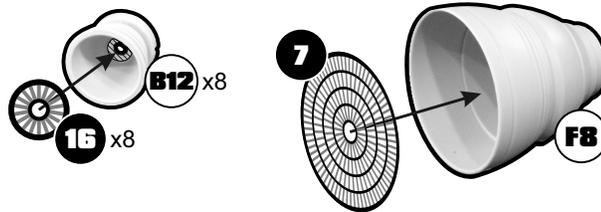
Mount etch part 7 so that it attaches to the thruster (F8) on the thin lip about half-way in.

Control Thrusters

TIP: If lighting, open up the hole at the base of thrusters B12 before attaching turbines, etch parts 16.

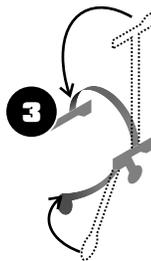
Gimbaled Engines

Attach etched turbine 8 to the lip about half-way down the throat of kit parts B6 and B8. Note that you will not be able to do this after the engines have been assembled.



Bonus: Headsets

Simply round the head strap and microphone as shown. These headsets will fit both the interior “shirt sleeve” astronaut and the one wearing the space suit (though you may have to fiddle a bit to get the helmet to close properly).



Templates

Feel free to copy these templates for use with this phototech set. A printable copy is also available at www.paragrafix.biz.



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Special thanks to Randy Cooper for his aid in designing this phototech set and Scott Willis of Pegasus Hobbies for providing copies of the decal artwork to use for the backlight films.