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HO Scale F-7A Locomotive (Phase I)

Over 7,600 EMD (Electro-Motive Division of General Motors) F Unit diesels were delivered to more than 60 railroads from the production of the first FTs in 1939 to the last of the F-9s built during 1960. This included both A and B units, and several "phases" of these popular locomotives.

F-7 Phase I production began in February of 1949, and extended through early 1952. Some of the distinguishing features of these locomotives were the two portholes with four horizontal air intake louvers, four low 36-inch diameter fans, and a roof overhang. For those units with dynamic brakes, the dynamic brake panel was equipped with a 36-inch cooling fan.

Many variations and customer options were available. A few of these were nose door with or without a second headlight housing, "freight" pilot or "passenger" pilot, dynamic or non-dynamic brakes, steam generator, and various types and numbers of horns.

The InterMountain F-7A Phase I kit provides nearly unlimited modeling possibilities for both as-built and as-modified locomotives. Many of the necessary alternative parts are provided in the kit, while others are available from other manufacturers or will be available at a later date from InterMountain.

<u>Recommended Tools</u>		
Pin Vise	Small File or Emery Board	X-acto Knife
#72 Drill (.025")		Tweezers
#65 Drill (.030")	Testor's Plastic Cement	Fine Sprue Cutter
1/8" Drill		Tenax-7R Adhesive
5/32" Drill	Clippers	Self Healing Mat

NOTE: if you find that a part is missing or defective, or if you should lose or break a part, please contact us for a replacement.

GENERAL INSTRUCTIONS:

The F-7A Phase I model is comprised of over 150 parts, including the etched metal grilles and the winterization duct grate. Also included are several spare and optional parts; therefore, the total number of parts used on a particular model will be less than 150.

If you are assembling the undecorated version, the following information is very important:

1. Thoroughly research the prototype locomotive you are going to replicate, keeping in mind that this model is designed as an early F-7A, Phase I unit, as built. If you are attempting to model a prototype locomotive that was modified, you may need to acquire additional detail parts.
2. Carefully analyze your prototype paint scheme to determine the best time during assembly to paint and decal the various parts.

If you are assembling a decorated model, you will find separate instructions that identify the parts configuration for that prototype.

Please note that several of the grab irons have small "protrusions" which, when the grab irons are glued in place, form mounting brackets. Do not trim these off when preparing the grab irons for assembly.

READ THE INSTRUCTIONS CAREFULLY, REFER TO THE PARTS LIST, AND STUDY THE DRAWINGS THOROUGHLY BEFORE STARTING ASSEMBLY. Some of the detail parts are very fine and delicate. The best way to remove them from the sprue is with fine clippers, a single-edged razor blade, or a sharp X-acto knife. BE SURE TO TEST FIT ALL PARTS BEFORE GLUING!! When attaching small parts, use tweezers to help hold them in position. Very small amounts of glue are needed to affix styrene plastic, and many of the parts can be glued from inside the shell, keeping excess glue from the surface of the model. In the Assembly Instructions that follow, the first reference to a part will be capitalized and will be followed by the part number.

ASSEMBLY INSTRUCTIONS:

1. a. If your model includes steam generation, refer to the drawing of the inside of the Body (1) (Figure 3). Drill location A using a 5/32" drill, location B using a 1/8" drill, and location C (two holes) using a #65 drill. Install the Steam Generator Air Intake (10) in hole A from the top of the roof. Be sure that the air intake is installed vertically so that the outside edge of the cap sits off the roof about 1/8". The base of the Steam Generator Smoke Jack (11) is designed to fit the contour of the roof and can now be installed in hole B. The Steam Generator Piping (12) is installed from inside the body, using holes C. The two pipes barely protrude through the roof when the horizontal piece connecting the pipes is flush against the inside of the body.

b. Determine which horn assembly you are going to use on your model. If you are going to use two large single horns, drill out location D (4 holes) using a #65 drill. If your model calls for any other horn configuration, it will be necessary to determine the correct location of the

F-7A, Phase I

Parts List

#	Name	Area	Qty.	#	Name	Area	Qty.
1.	Body		1	41.	Left Front Small Panel	Side	1
<i>Brake Hatch Sprue</i>				42.	Right Front Small Panel	Side	1
2.	Dynamic Brake Hatch	Roof	1	43.	Left Rear Small Panel	Side	1
3.	Non-Dynamic Brake Hatch	Roof	1	44.	Right Rear Small Panel	Side	1
<i>Roof Detail Sprue</i>				<i>Rear Detail Sprue</i>			
4.	Fan Housing	Roof	1	45.	Rear Door w/Round Window	Rear	1
5.	Fan Blade	Roof	5	46.	Rear Door w/Square Window	Rear	1
6.	Fan Blade Retainer	Roof	5	47.	End Post Assembly	Rear	1
7.	Exhaust Stack	Roof	2	48.	Rear Door Grab	Rear	2
8.	Small Eye Bolt	Roof	8	49.	Door Safety Gate	Rear	1
9.	Large Eye Bolt	Roof	6	50.	Rear Uncoupling Rod	Rear	1
10.	Steam Generator Air Intake	Roof	1	51.	Rear Grab	Rear	3
11.	Steam Generator Smoke Jack	Roof	1	52.	Coupler Centering Device	Rear	1
12.	Steam Generator Piping	Roof	1	<i>Front Detail Sprue</i>			
13.	Single Bell Horn	Roof	2	53.	Nose Door w/o Headlight	Nose	1
14.	3-Bell Horn Mount	Roof	1	54.	Nose Door w/Headlight	Nose	1
15.	5-Bell Horn Mount	Roof	1	55.	Left Number Board Housing	Nose	1
16.	Small Bell	Roof	1	56.	Right Number Board Housing	Nose	1
17.	Medium Small Bell	Roof	1	57.	Nose Door Grab Iron	Nose	2
18.	Medium Bell	Roof	1	58.	Windshield Wiper	Nose	3
19.	Medium Large Bell	Roof	1	59.	Pilot Anti-Climber Grab Iron	Nose	3
20.	Large Bell	Roof	1	60.	Buffer	Nose	1
21.	Bell Caps	Roof	7	61.	Nose Uncoupling Rod	Nose	1
22.	Winterization Duct	Roof	1	62.	Number Plate w/3 Numbers	Nose	1
<i>Etched Metal</i>				63.	Number Plate w/4 Numbers	Nose	1
23.	Winterization Duct Grate	Roof	1	<i>Pilot Sprue</i>			
24.	Etched Metal Grille	Side	2	64.	Pilot	Nose	1
<i>Side Detail Sprue</i>				<i>Clear Plastic Sprue</i>			
25.	Sand Hatch Knob	Side	6	65.	Left Windshield	Nose	1
26.	Door Handle	Side	10	66.	Right Windshield	Nose	1
27.	Large Side Door Step	Side	2	67.	Left Side Window, Closed	Side	1
28.	Small Side Door Step	Side	2	68.	Left Side Window, Open	Side	1
29.	Center Side Sill Step	Side	6	69.	Right Side Window, Closed	Side	1
30.	Left Rear Side Sill Step	Side	2	70.	Right Side Window, Open	Side	1
31.	Right Rear Side Sill Step	Side	2	71.	Side Door Window	Side	2
32.	Left Long Grab Iron	Side	2	72.	Headlight Glass	Nose	1
33.	Right Long Grab Iron	Side	2	73.	Front Door Headlight Glass	Nose	1
34.	Left Medium Grab Iron	Side	2	74.	Porthole Glass	Side	4
35.	Right Medium Grab Iron	Side	2	75.	Round Rear Door Window	Rear	1
36.	Short Grab Iron	Side	4	76.	Square Rear Door Window	Rear	1
37.	Left Skirt	Side	1	77.	Class Light	Nose	2
38.	Right Skirt	Side	1	<i>Number Board Sprue</i>			
39.	Left Large Panel	Side	1	78.	Left Number Board	Nose	1
40.	Right Large Panel	Side	1	79.	Right Number Board	Nose	1

holes from prototype information. Drill the necessary holes using a #65 drill. (See Figure 4 for alternate horn assembly options.) When installing the two large **Single Bell Horns** (13), refer to prototype data to determine their orientation. In some cases both **face forward**, while in others both **face forward** and one towards the rear of the locomotive.

2. Remove the Pilot (64) from its runner, and install the pilot **Buffer** (60) in the two locator holes in the top center of the front of the pilot. Mount the pilot assembly **on the body** as shown in Figure 1. Be sure to test fit before gluing.

3. Assemble the Fan Housing (4) by installing the Fan Blades (5) and Fan Blade Retainers in the fan housing. One side of the fan blade hub extends out from **the blades**. This is the side that is inserted into the fan housing. Turn the fan housing upside down **and insert** the fan blades. Place the fan blade retainers over the fan blades and glue in place. **Remove any existing flash** from the edges of the fan housing opening on the body, test fit the fan housing **assembly**, and glue in place.

4. Determine whether you are going to use dynamic or non-**dynamic** brakes on your model. Remove the appropriate hatch (Dynamic Brake Hatch (2) or Non-**dynamic** Brake Hatch (3)) from the sprue. If your model has dynamic brakes, install the fan blade **and fan blade retainer** using the method described in step 3. Test fit the brake hatch and glue in **place**.

5. The openings behind the etched metal grilles are partially **covered** whether the unit has dynamic or non-dynamic brakes:

a. Non-dynamic brakes - Install the two Large Panels (39 and 40) in the center of the forward side openings of the body, referring to Figure 1. Align the grooves **on the backs** of the panels with the reinforcing ribs in the openings on the body.

b. Dynamic brakes - Install Small Panels (41 through 44) in **the forward** side openings of the body. Please note that the smooth-backed panels are installed in **the front** of each side opening and the small panels with the cutouts to match the reinforcing ribs **behind** the panels are installed to the rear on each side.

6. Install Left Skirt (37) and Right Skirt (38) on the body, using **the locating** notches on the low inside of the body. The long wheel cutout on each skirt is to the **rear of the body** and the short cutout is to the front. (The wedge shaped protrusions at the two **ends of** the skirts are designed to mount the locomotive on a Stewart/Kato drive. If you are going **to use** an Athearn drive, these wedges must be removed. The body then mounts on an Athearn **drive** using the center slots in the skirts.)

7. Determine which Nose Door (53 or 54) is used on the **prototype** you are modeling, and install in the door opening in the nose. (See Figure 1).

8. Determine whether the Rear Door (45 or 46) on your **prototype** has a round window or square window, and install the appropriate door in the door opening **in the rear** of the body. Install the End Post Assembly (47) around the rear door using the six locator **holes in the rear** of the body. (Typically, rear doors with square windows were used until October, 1950. After this, rear doors with round windows were usually used.)

9. Install two Exhaust Stacks (7) in the locator holes in the fan housing, one between the first and second fans, and the other between the third and fourth fans.

10. Install side sill steps (or "stirrups") in the six locator notches on the inside lower edge of the body. Note that four of the Center Side Sill Steps (29) are to be installed in the two front and two center positions. Position the Left Rear Side Sill Step (30) and the Right Rear Side Sill Step (31) so that the notches face to the rear of the locomotive.

11. Determine if the prototype you are modeling has a Winterization Duct (22). If so, install the Winterization Duct Grate (23) inside the winterization duct and then install the winterization duct assembly over the rear fan.

12. Install the Rear Door Grab (48) using the two locators to the right side of the rear door. Install Door Safety Gate (49) using locator hole on left side of rear door. Door safety gate may be installed in vertical (open) or horizontal (closed) orientation. It's your choice. Install two Rear Grabs (51) using the two locator holes on either side of the rear of the unit.

13. Install the two horizontal Pilot Anti-Climber Grab Irons (59) using the two locator holes on either side of the top of the pilot. (Please note that the pilot anti-climber grab irons are curved to follow the contour of the pilot.) Install the two vertical Nose Door Grab Irons (57) using the two locator holes on either side of the nose door. The locators during installation of the nose door grab irons should be exactly horizontal. Be careful, it is possible to install these grab irons upside down. If your prototype has a front Number Plate (62 or 63), install appropriate number plate in correct location.

14. Install appropriate Horns (Parts 13 through 21) using locator holes drilled in Step 1.b.

15. Install six Small Eye Bolts (8) using two locator holes in the brake housing and four locator holes in steam generator panel. Install four Large Eye Bolts (9) using locator holes in fan housing.

16. Install two Small Side Door Steps (28), one beneath each rear side door (or "side access door.") Install two Large Side Door Steps (27), one beneath each front side door (or "cab door.")

17. Install a Left Long Grab Iron (32) and a Right Long Grab Iron (33) on the correct side of the two cab doors. The upper mounting brackets for each of these grab irons point out slightly at an angle away from the door. The lower mounting brackets are "square". Install a Left Medium Grab Iron (34) and a Right Medium Grab Iron (35) on the correct side of the two side access doors. The upper mounting brackets for each of these grab irons point out slightly at an angle away from the door. Install two Short Grab Irons (36) in the locator holes above the rear stirrup on each side of the locomotive body.

18. Install six Door Handles (26), one each in the nose door, rear door, and four side doors. Install two door handles, one each in the doors on the skirts. When installed, the handles on the skirts should be pointing to the rear of the body.

19. Install four Sand Hatch Knobs (25), one in each of the four sand hatches, two on each side of the body.

NOTE: It is recommended that painting of the partially assembled body be completed at this time, before installation of the remainder of the parts. The remaining parts should be painted individually prior to installation.

NOTE: When removing clear plastic parts from their sprues, cut the gate as far from the part as possible and remove the remaining gate material very carefully with a small file in order to minimize damage to these parts. Also, when gluing them in place, use only small quantities of an appropriate adhesive, as some adhesives cause "crazing" of clear plastic. It is recommended that these parts be installed by applying a small amount of Testor's liquid cement to the perimeter of the opening and then putting the clear part in place.

20. Identify Left Number Board (78) and Left Number Board Housing (55) on their parts sprue from the parts drawings. These parts are identified by an "L" on the tabs attached to the runner adjacent to the part. Remove these two parts from their sprues and install the number board in the housing. Mount the left number board assembly in the opening provided on the left side of the nose of your locomotive. (The "thick" end of the housing and the number board are to be installed towards the center of the nose.) Follow this same procedure with the Right Number Board (79) and Right Number Board Housing (56).

21. Remove the Rear Uncoupling Rod (50) from the parts sprue and install it using the locator holes provided on the back of the body. Using the same procedure, install the Nose Uncoupling Rod (61) on the nose of the locomotive. (Part 61 is not used on units with a "passenger pilot.")

22. After carefully removing the clear plastic parts (Parts 65-77) from their parts sprue as described above, install them in their appropriate locations as shown in Figure 1.

23. Install the two Windshield Wipers (58) using the locator holes just above the windshields.

24. Carefully remove the excess metal from the Etched Metal Grilles (24), being sure to leave the eight "tabs" in place. These tabs are used to mount the grille to the locomotive body. Inspect the grille to determine which side has "shiny" vertical supports. This side faces inward when installed. The outside vertical supports have been etched to produce a more realistic look. Bend the eight "tabs" to ninety degrees, and place them in the locator holes. The grilles are symmetrical and therefore can be installed on either side of the locomotive in either direction. Bend the tabs down from the inside of the body to hold the grilles in place. The grilles were not painted on the prototype locomotives, therefore should be left in their natural state.

25. The use of the Coupler Centering Device (52) depends on the drive unit you use with your locomotive. It may have to be modified with some drive units, or, if used, may require that the rear coupler be installed after the locomotive body is placed on the drive unit.

CONGRATULATIONS!! You have completed the assembly of your F-7A, Phase I locomotive. It is now ready to put into service on your model railroad. We at InterMountain sincerely hope you will regard it as one of the most valuable models in your stable of model railroad equipment.

F-7A Phase I Assembly Figures



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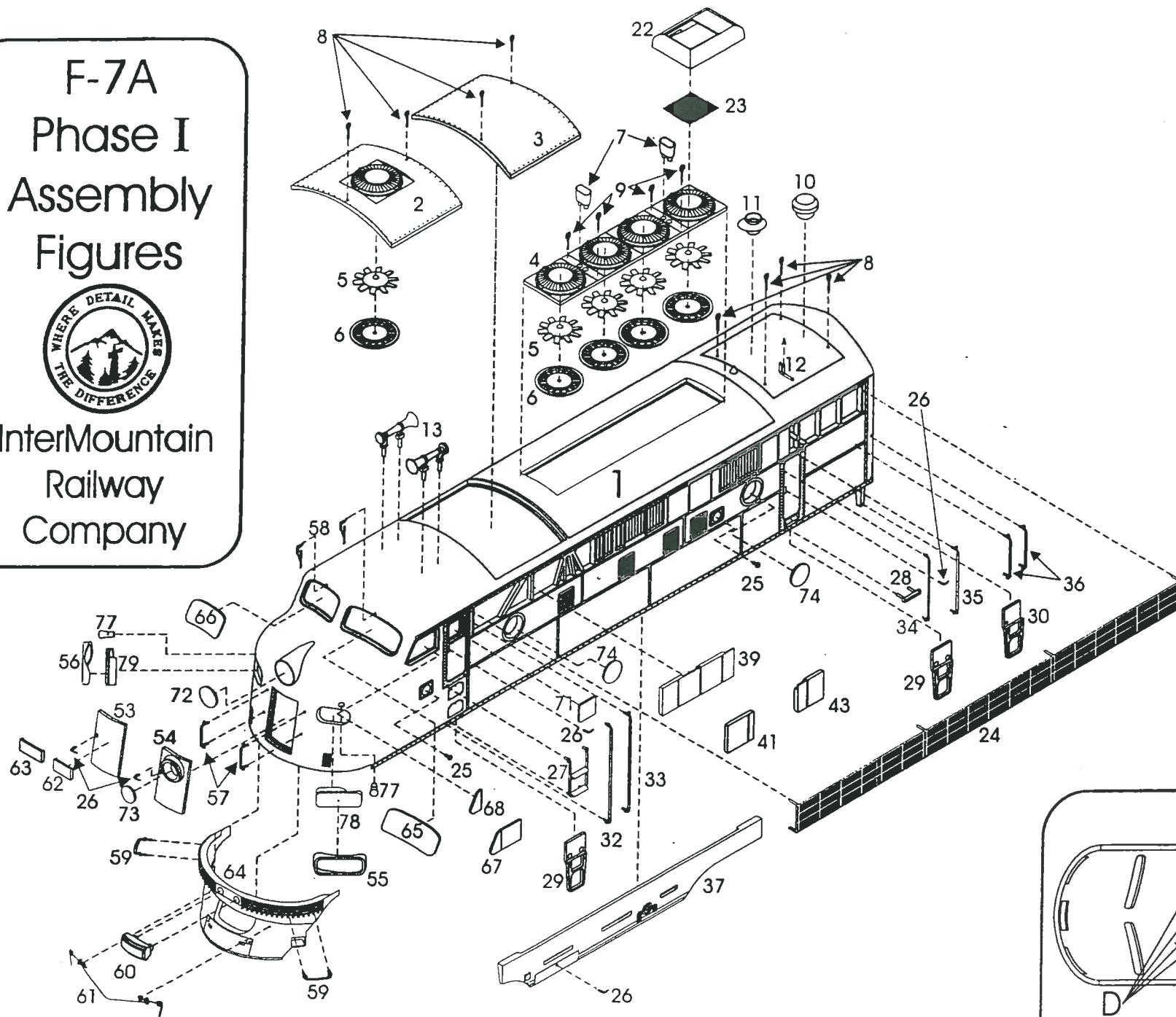


Fig. 1: Exploded View

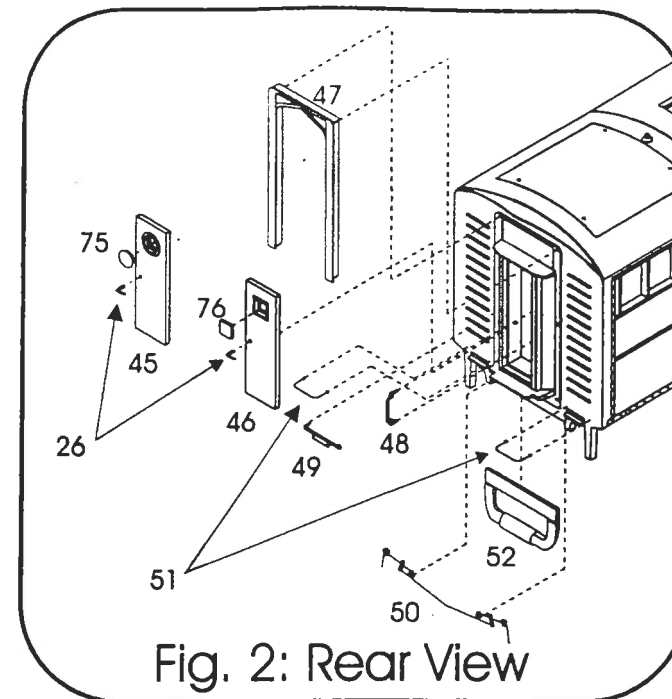


Fig. 2: Rear View

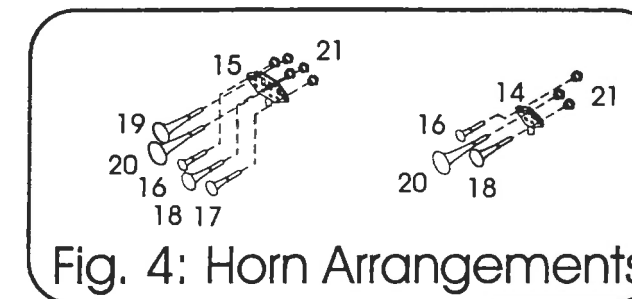


Fig. 4: Horn Arrangements

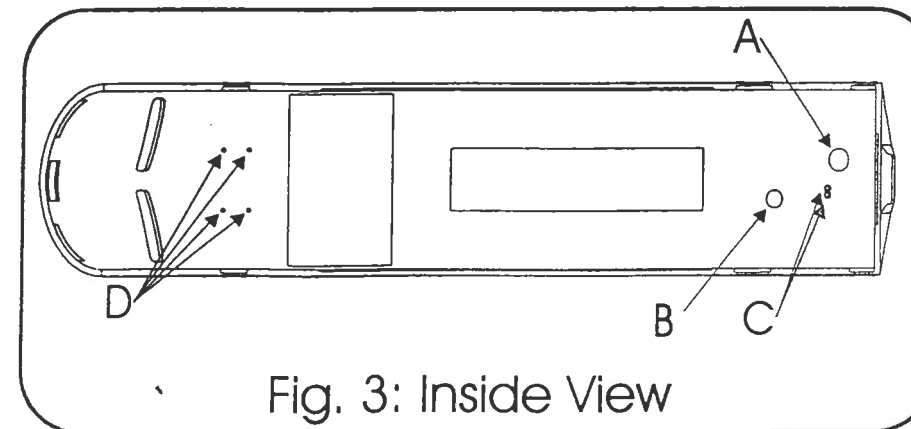
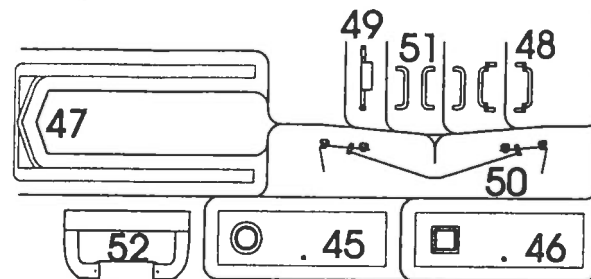


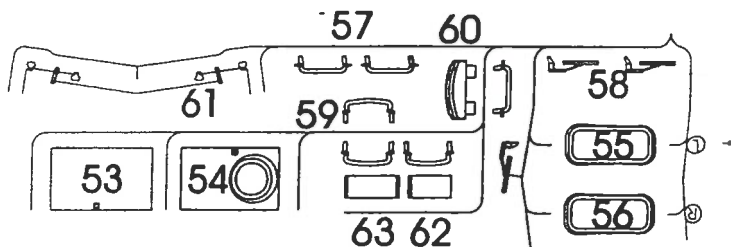
Fig. 3: Inside View



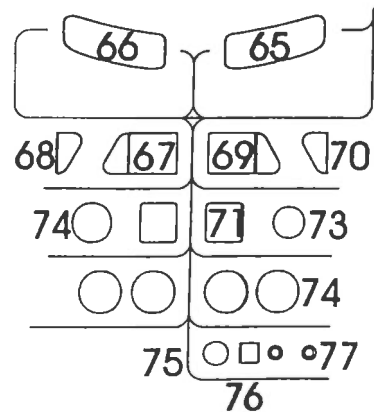
24
Etched Metal Parts



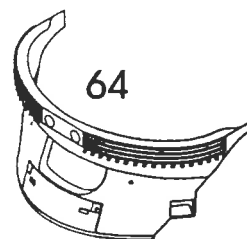
Rear Detail Sprue



Front Detail Sprue



Clear Plastic Sprue



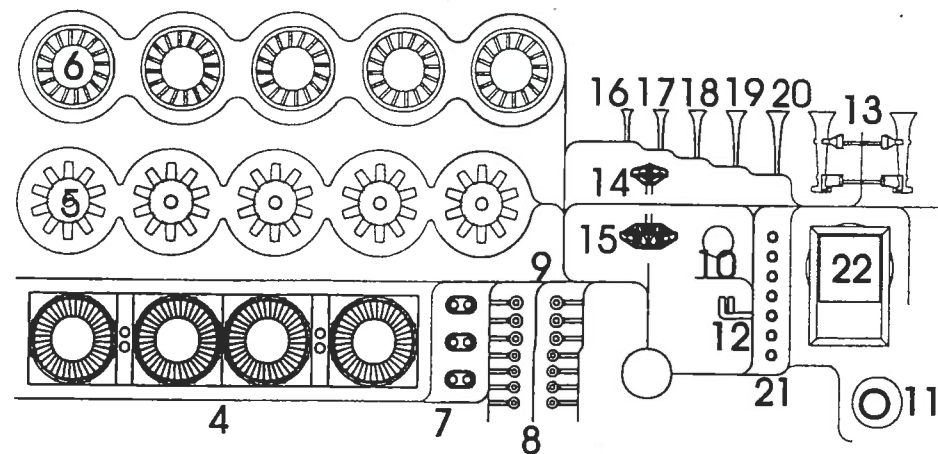
Pilot Sprue



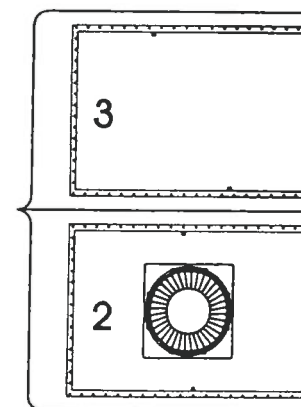
Number Board Sprue



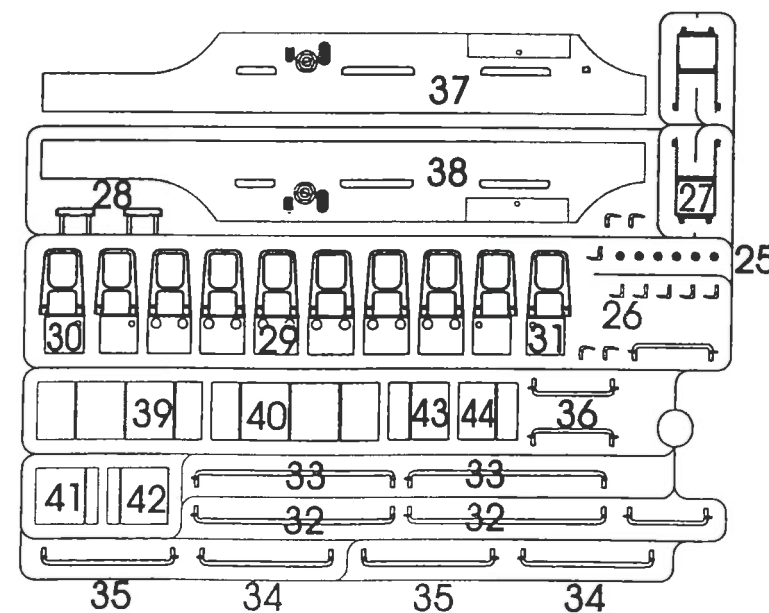
F-7A Phase I Detail Sprues



Roof Detail Sprue



Brake Housing Sprue



Side Detail Sprue