SO YOU WANT TO DO THE "BETTY BOP"?

by Ned Avejic

Part II: Doin' a G4M2

About a decade ago, Lindberg Models came out with their G4M2 version of the Betty bomber. At first glance, it seems like a decent kit, and it is(sort of) except for a few faults. For example, the fuselage between the cockpit and the tail is too small diameterwise; the engine air intakes and the exhaust tubes are just all wrong; and the rivet detail & panel lines are both too large and too raised. On the plus side, the clear parts are good.

So, if you want to build a G4M2 from this kit, you will have to do quite a bit of work; or you can get the Hasegawa G4M1 and do some converting. As modeling should be pleasant, I decided my approach would be the latter. So, here we go:

The first thing to do is to get the clear parts from either the Lindberg G4M2 or vac-u-form yourself some. I was fortunate enough to find a Lindberg G4M2 kit, so, for me this part was very easy.

Since the rivets are too large(you can also do this when making a G6M1/G4M1), sand them all off and rescribe the main panel lines. Be carefuk to take into consideration that this is a 1/72nd scale kit and make these rescribed lines very fine(and/or petite).

The next stage involves some major work; you'll have to cut out the following: 1)Remove enough of the forward fuselage so as to be able to fit the Lindberg clear nose(or your vac-formed one). 2)If you wish to make a G4M2E(the Ohka carrier) you'll have to remove the bomb bay doors, otherwiseskip this step(more on it later!).

3)This is the hard part....cut the port & starboard windows:they are 1/2 inch wide by 9/16th inch high(fan fun here). The port window is located 3/8th inch behind thetrailing edge of the main wing. This means that you're going to have to fill in the original gun blisters on the kit. Lastly, add the "+" framing in the window. The starboard window was located much further aft than the port one: 1 1/2 inches from the trailing edge of the main wing. Cut it out(it has the same dimensions as the port one) and add the "+" framing.

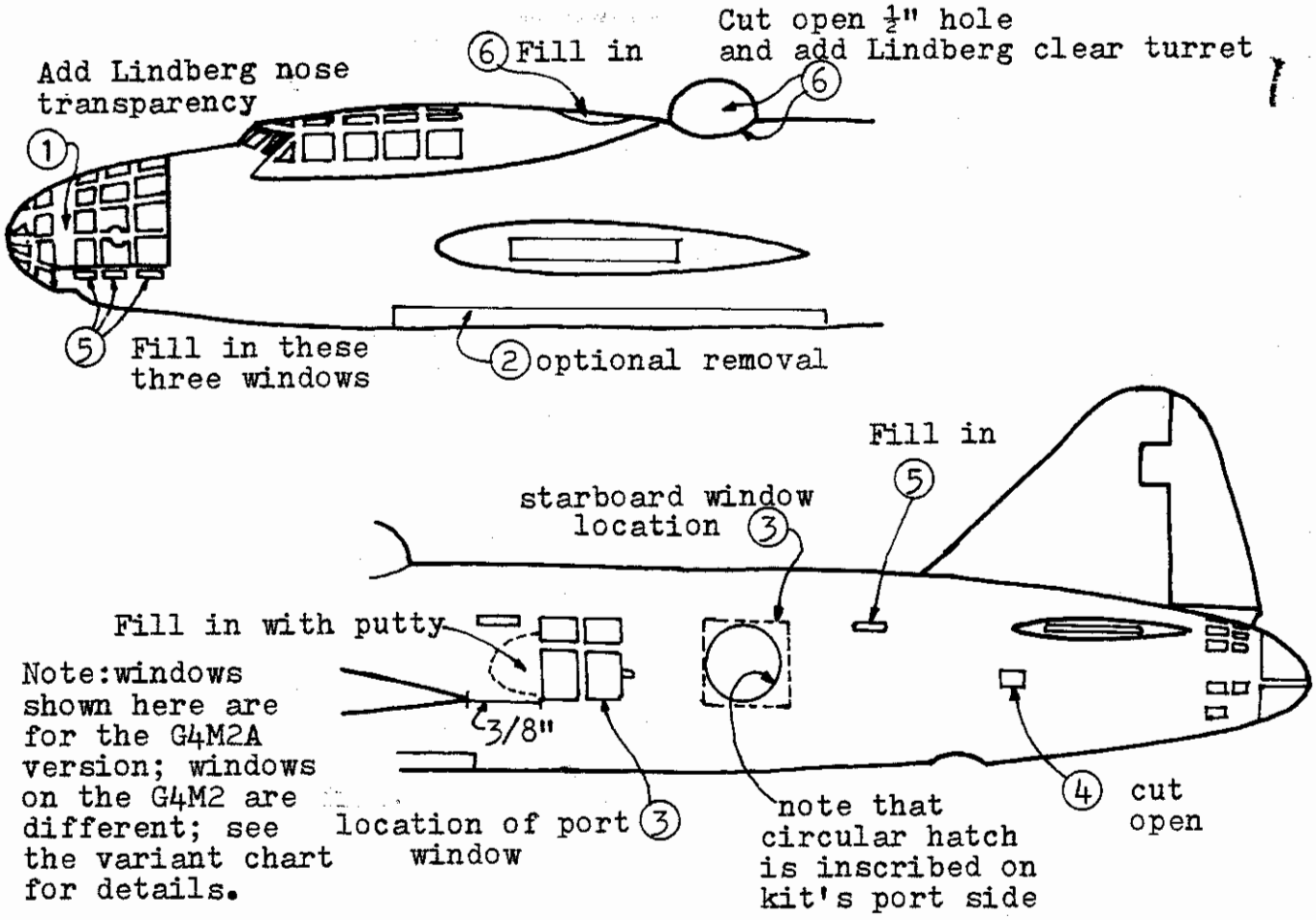
4)Cut open the small rectangular windows under the leading edges of the horizontal tailplanes; there's one window per side.

5)Fill in these rectangular windows on the kit fuselage.

6)Cut open an 1/2 inch circular opening in the top of the fuselage for the addition of the turret; you will first have to fill in the hole for the dorsal blister that was originally there. Use the Lindberg clear turret here(or one that you vac-formed). See Fig. 1

FIG. 1

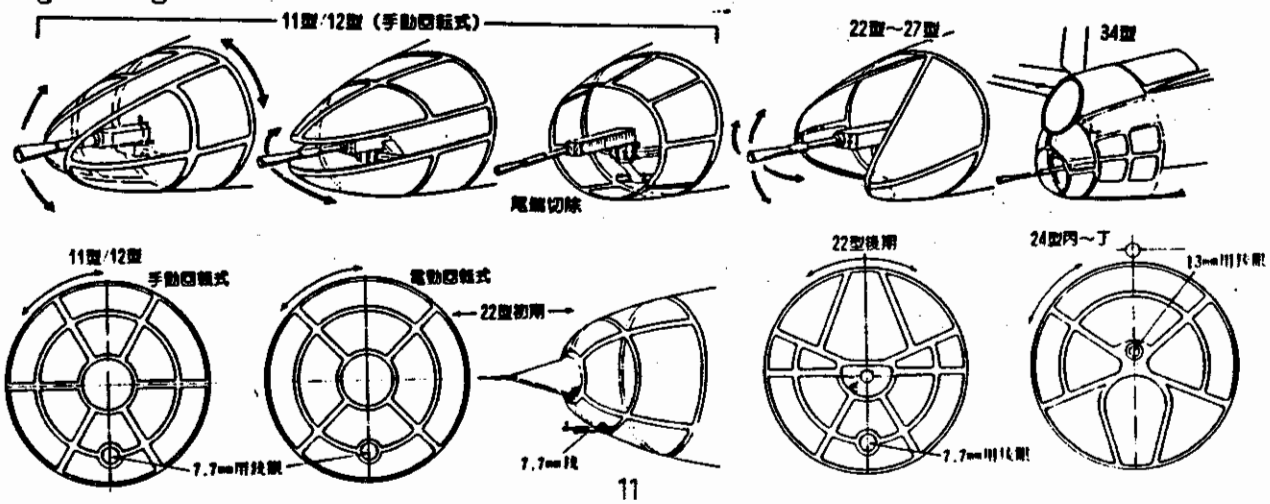
CORRECTIONS TO HASEGAWA FUSELAGE

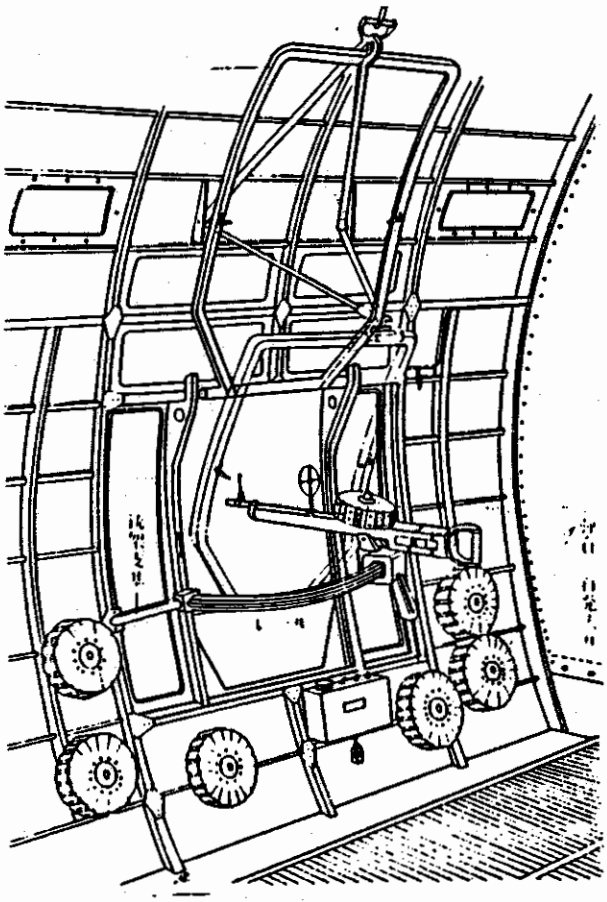


It's now time to tackle the interior. As with the G6M1 and the G4M1, you'll have to scrounge around for some photos. I've included here a number of illustrations that will hopefully provide you with some info if your sources aren't that good; the drawings cover the turret, waist gun positions, and a variety of different versions dor the tail cones(Figs. 2-6).

FIG. 2

Shows the variety of rear gun installations & the diff. window glazings





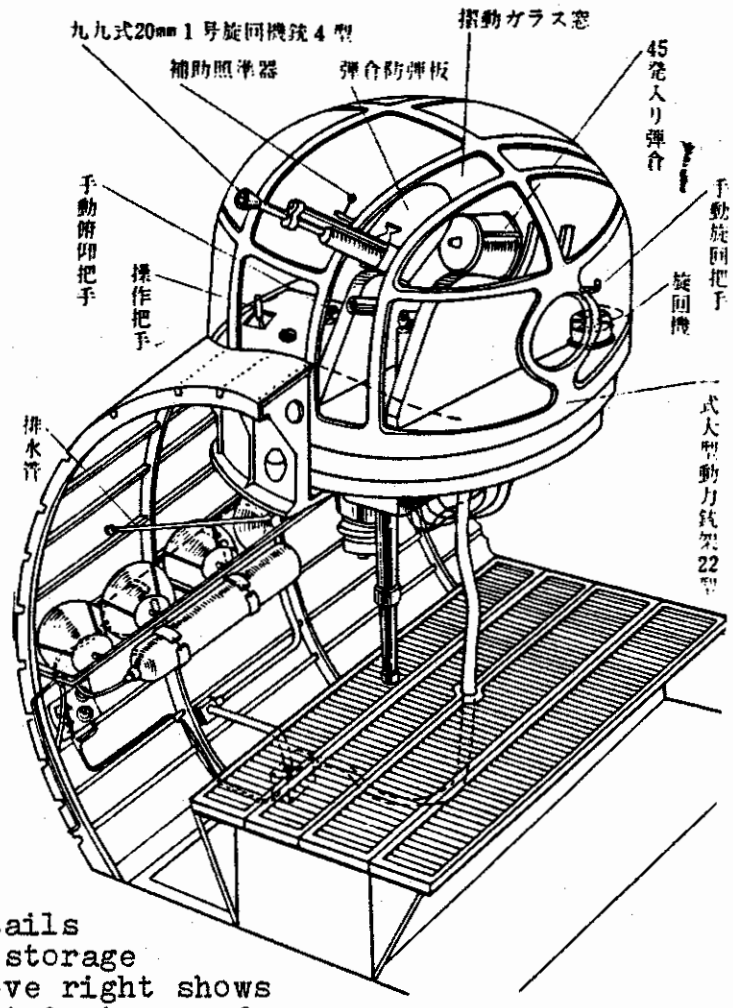
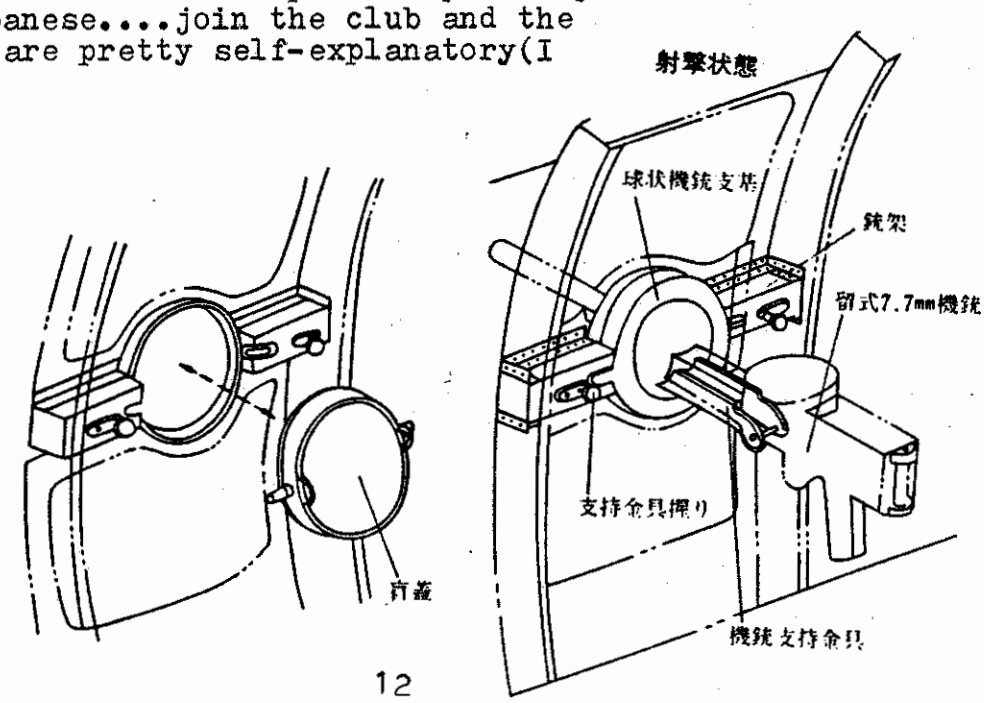


Fig. 3(above left) shows the details for the side gun installation & storage of spare ammo drums. Fig. 4(above right shows the details for the dorsal turret & storage for the spare ammo containers. Figure 5(below) shows thw details for another side gun implacement.

If you can read Japanese, then the inscriptions in Figs. 4 and 5 will be self-explanatory. If you can't read Japanese....join the club and the illustrations are pretty self-explanatory(I hope).



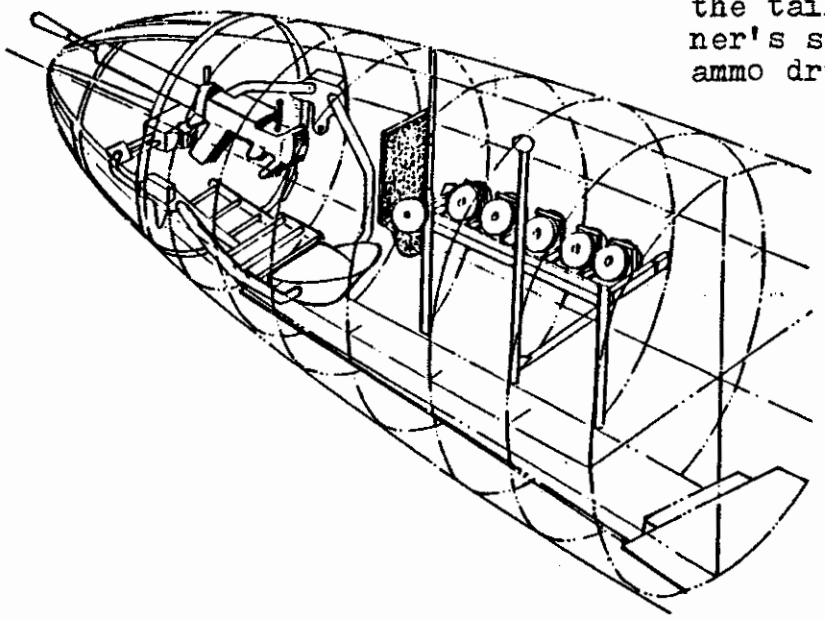


Fig. 6(left) shows details for the tail gun installation, gunner's seat, and storage of extra ammo drums.

When you're done with any and/or all the interior fuselage work, it's time to glue the fuselage halves together and leave them for a bit.

Before going on with the details, I'm going to mention something that I should have done at the beginning of this article, and that is about the accuracy of the Lindberg in further detail. If it weren't for the fact that the Lindberg fuselage was so bad, the kit would be a goody. The wingtip shapes, horizontal stabilizer tips, and tail tips are all correct in their outlines. The engine nacelles and intake scoops are almost right, and as mentioned before, the clear parts are pretty good. However, the correction the fuselage would require MAJOR work and rebuliding. There are two ways to build a G4M2 Betty and thats: 1)build the Lindberg kit as is(and live with the really bad fuselage) or 2)kit bash & combine parts from both the Lindberg kit and the Hasegawa kit. The second way is the way I'm suggesting it. It's obviously easier and less frustrating.

I also want to mention that when you build your G4M2(if you do, that is) [illegible] you have to pay attention to which version you're going to do. There are differences between the variants. That's why I've included a series of drawings showing the various differences between planes. Whichever version you build, know what it looks like!

Anyways, now back to the building. With the fuselage halves together it's time to correct and reshape the bomb bay area. The -2's had an enlarged bay and the way to duplicate that will involve some vacforming to create the front and rear fairings for the enlargement; and then use plastic strips to make the doors(see Fig. 7). If you are planning on making the G4M2E with the Ohka, you'll have to create some method of keeping the Ohka in place. If you decide on any other version, I've included some drawings that show the various bomb & torpedo laods that could be carried(see Fig. 8).

Fig. 7

Making the enlarged bomb bay fairing

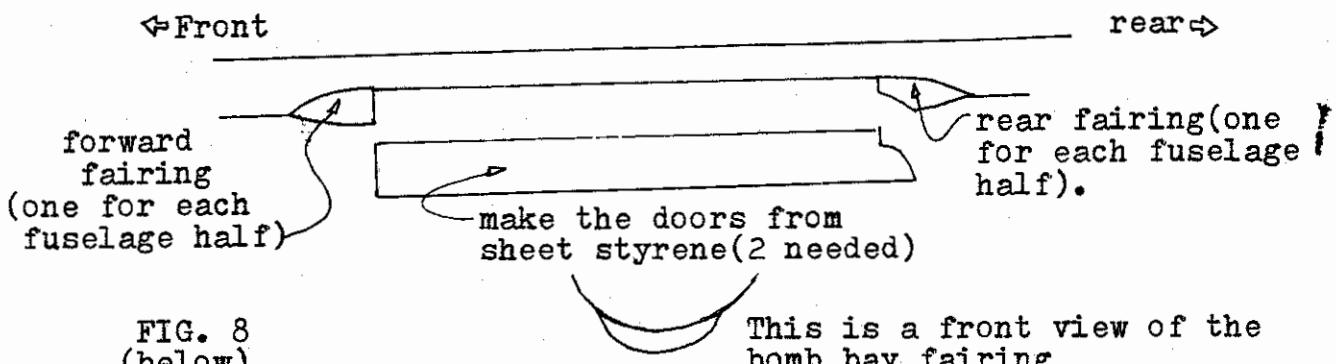
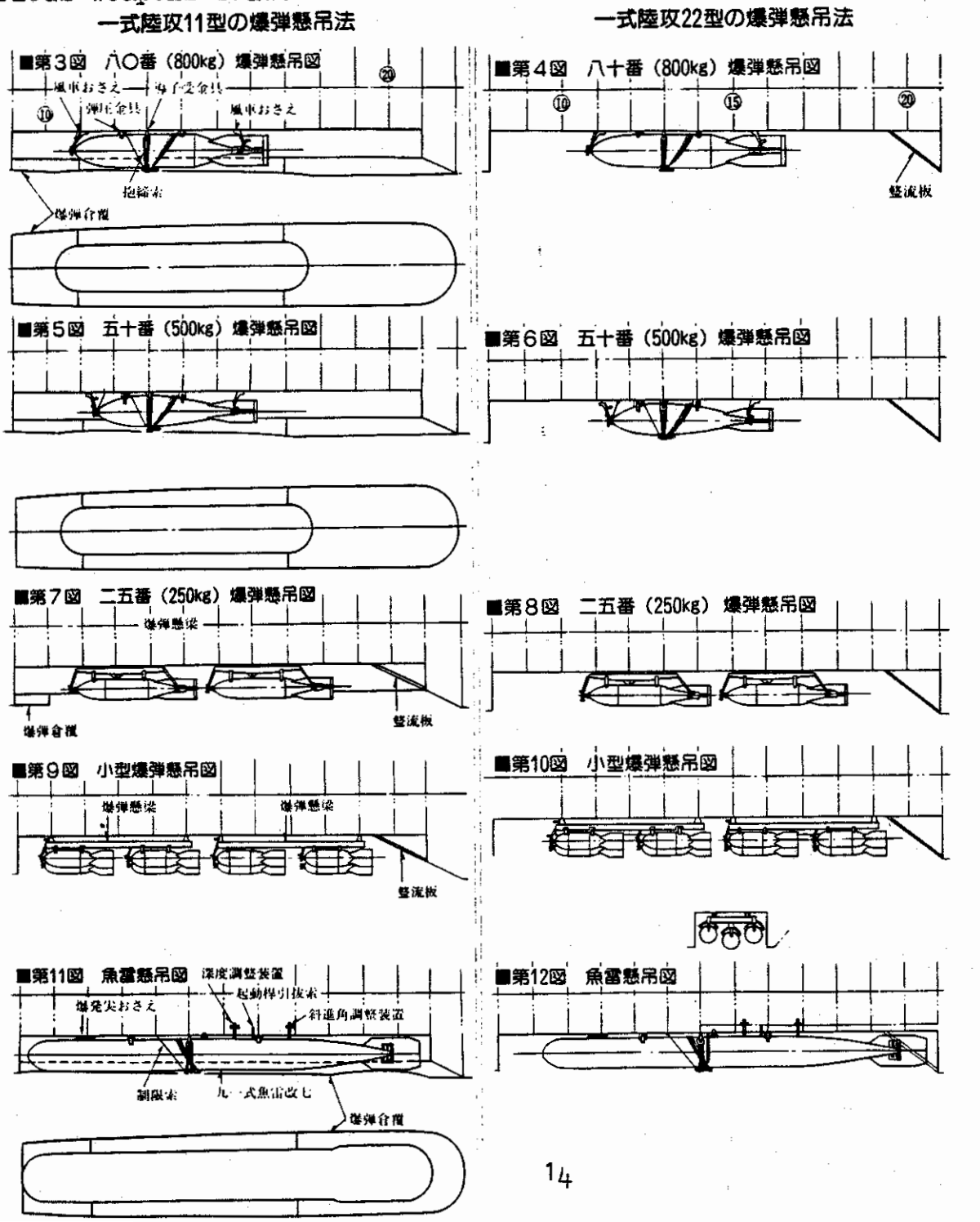


FIG. 8
(below)
various weapons loads

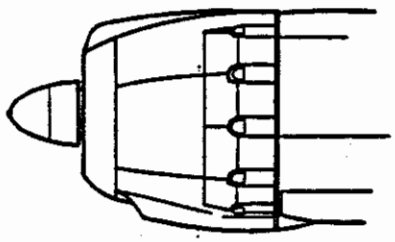


The next area to tackle is the engine nacelles. In this area you have a choice. You can use the Hasegawa nacelles(and wings) and add them to the Hasegawa fuselage, or you can use the Lindberg nacelles(and wings) and add them to the Hasegawa fuselage. If you choose this latter method, you'll have a bit of work in store for you. The Lindberg wings have large tabs that fit into openings in the fuselage; the Hasegawa wings have openings that fit on to tabs sticking out of the fuselage. How you correct that problem is up to you, but some cutting is inevitable.

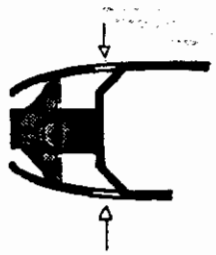
If you choose to use the Hasegawa wings and the nacelles, the following must be done: 1)cut off the existing Hasegawa circular cooling gills and replace them with scratchbuilt ones. You'll also have to fill in the gap that bridges the cowl and the nacelle top as the G4M1 gills went all the way across the tp and those for the G4M2 do not. 2)When you scratch the new gills make sure that you make the necessary notches in the gills fort the exhaust pipes that you'll also have to add. For these you can use solder wire, plastic sprue,or if you have it, this hollow core plastic tubing in various diameters. 3)No matter which version of the G4M2 you build, you'll have to add the necessary cowl intakes; some variants have only one, others have two. Consult the drawing here to see which one you should do. 4)You can use the four-bladed props and spinners from the Hasegawa 'JACK' kits. The follwing bunch of figures will diagram the above mentioned items 1-3.

If you should decide to use the Lindberg nacelles, well, they are better that the earlier Hasegawa variants....after all, the Lindberg kit is for the G4M2 and the Hasegawa kit is for the G4M1. Anyways, the Lindberg nacelles have a better taper duplicating the nacelles and they do have the intakes on the top & bottom for the G4M2A. One problem:the top intake is not long enough. You should extend it forward almost to the lip of the cowl opening. The bottom one is correct. However, as I mentioned above, you'll have to use the Lindberg wings if you choose these nacelles. I guess it's six of one and a half dozen of the other in which way to go. Either will create work and modifications.

FIG. 9



This drawing shows the G4M2A cowl & nacelle; note that the upper intake is larger. Also note where the gills stop on the upper side of the nacelle



This 1/72nd drawing from the Hasegawa instruction sheet shows where you should cut in order to remove the G4M1 cooling gills. The cutaway drawing shows the placement of the engine parts. The white areas are the location of the gills.

This drawing shows the size and shape of the G4M2 gills you'll add; notice the notches for the exhaust stubs

FIG. 10
This shows the differences in the nacelles

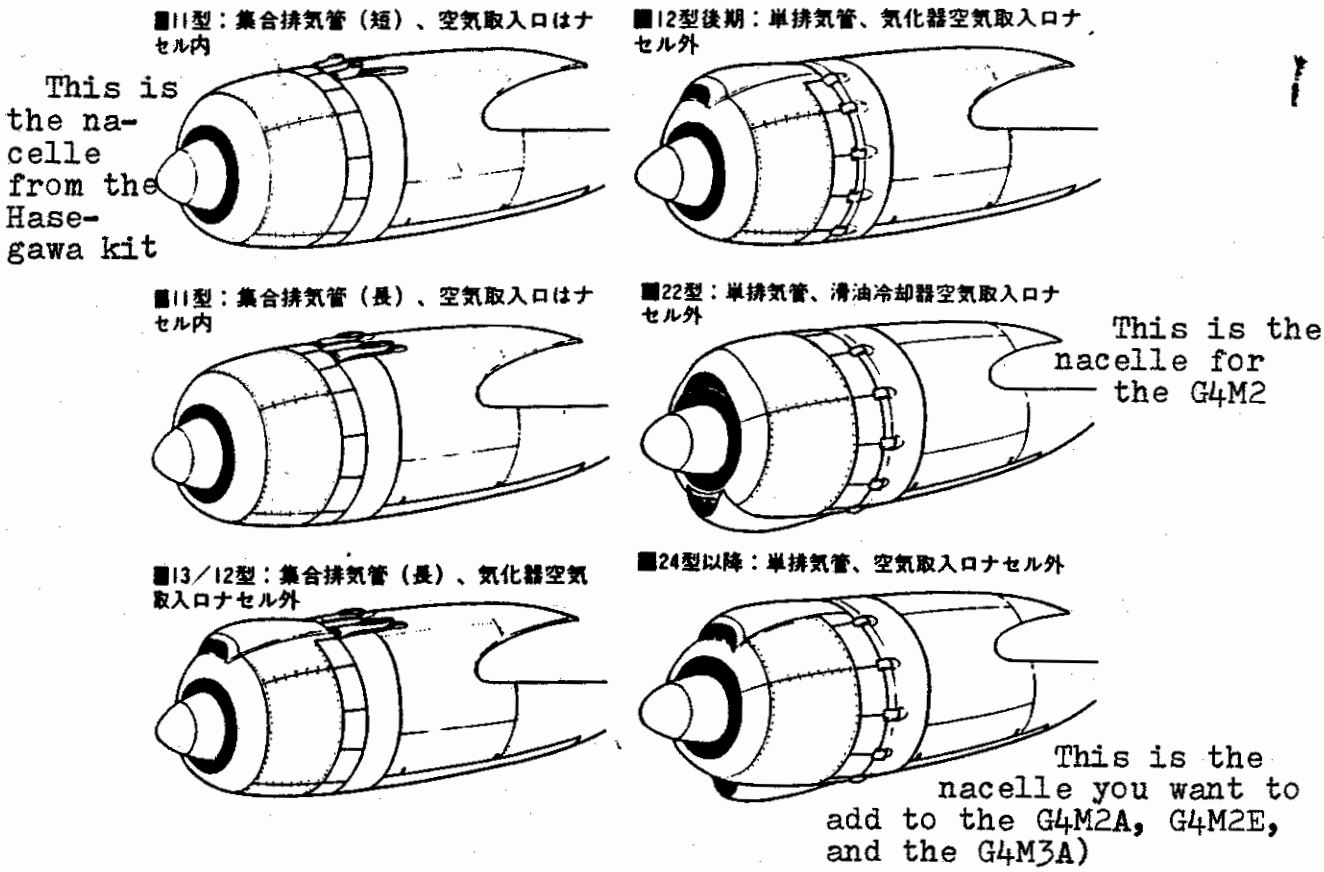
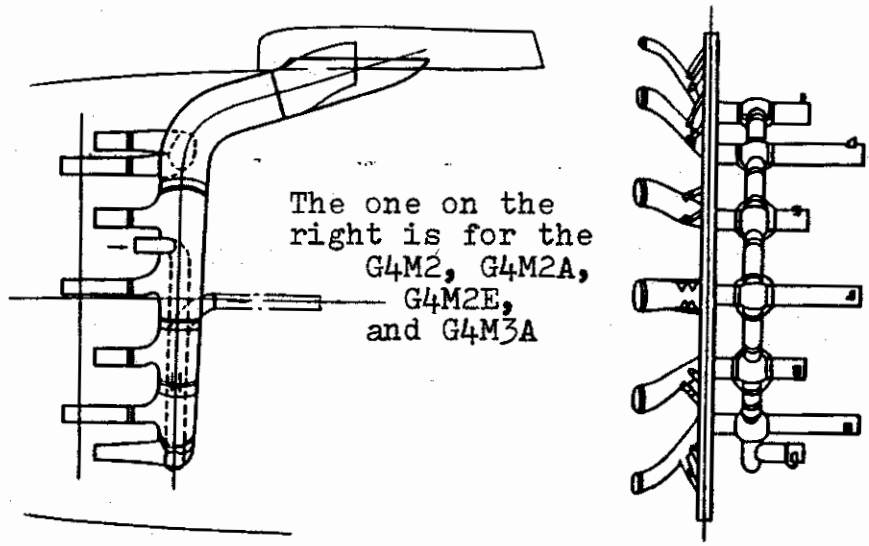


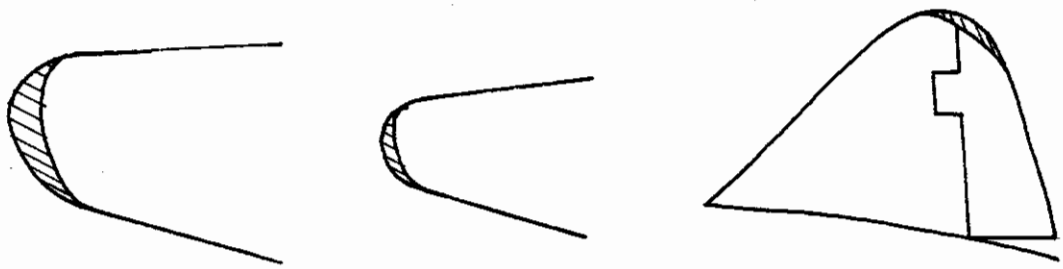
FIG. 11

These two diagrams are included to show the internal difference between to the two systems. The left one is for the G4M1 and the G6M1 and has a collector ring venting in two exhausts at the top rear edge of the cowl.



The next area is the wings and tailplanes. As mentioned, the Hasegawa kit is for the earlier variant(G4M1) and to correct it to the G4M2 standards you'll have to either build up the Hasegawa mainwing tips, Hasegawa horizontal stabilizers, and the Hasegawa tail & rudder tips. The other alternative is just to use the correctly shaped Lindberg wings, tailplanes, and tail. If you choose to use the Lindberg pieces:make sure that you get the best possible fit at the wing root for the mainwings. The Lindberg tailplanes are in one piece; it might be better to see if you can cut out the portion of the tailplane that fits in the fuselage and glue the cut stabilizers right to the exterior of the Hasegawa fuselage. As for the tail, I chose to cut off the Lindberg tail and after removing the Hasegawa tail, glue the former into place. I then puttied around the join line and sanded smooth. See Fig. 12 for adding on to the Hasegawa wings(if that's your choice).

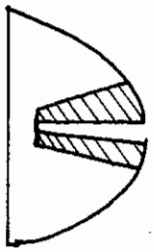
FIG. 12



From left to right:Hasegawa mainwing, tailplane, & rudder; the shaded areas indicate where each piece needs extending. The Lindberg parts are already to the correct shape.

The next step is to correct the tail gun cone on the rear of the fuselage. The figure below shows which portions of the cone you will have to remove to get it to the G4M2 configuration. Once you've cut or filed away the plastic, you can install the cone in either the "up & down" position or in the left and right position; either is acceptable as the cone could actually be turned around completely(there was mention of this in Part I in Vol. 4, No. 4).

FIG. 13



remove shaded portion from tail cone.

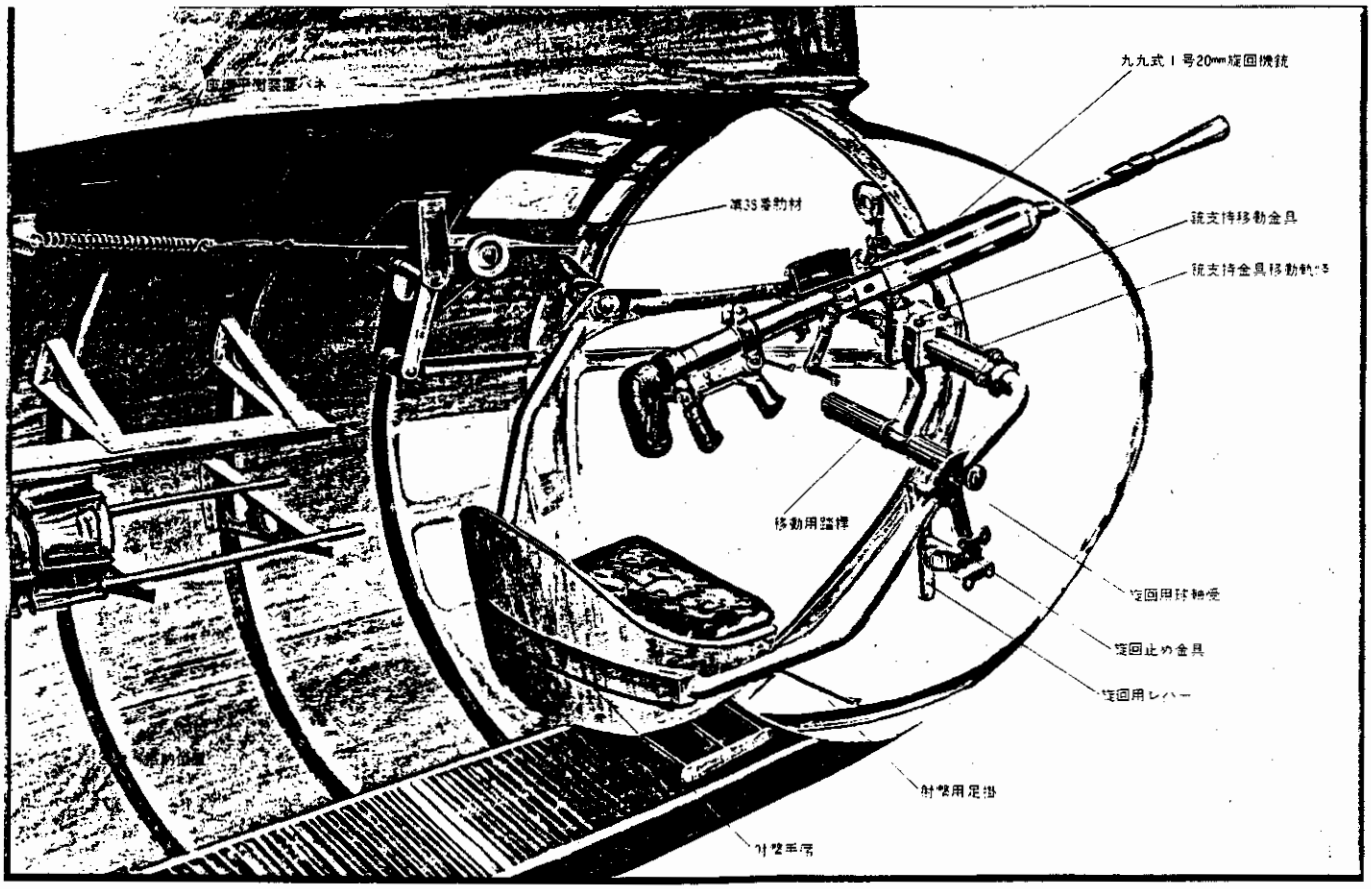
And that's it for the G4M2! Now, should you have any desire to make a G4M3 version, well, you've got quite a chore in front of you. In addition to all the corrections needed from the -2, the -3 had a completely different rear portion under the tail. You'll have to make your mold for this area, vac-form, and then attach. As I have no urge to tackle such a project, I'll leave such new territory to others.

To paint the G4M2 and the G4M3 there is really only one scheme for the both of them(unlike the earlier G4M1). The undersurfaces for the aircraft would be in the A/N 2 grey and the upper surfaces would be in the N/1 green. Maunwing leading edges would be in A/N 20 deep yellow for thw I.D. bands. If you're building the G4M2E version with Ohka, the Ohka would be in A/N 2 grey. All the anti-glare panels on the G4M2/3 were in either solid black or the blue/black that certain squadrons used.

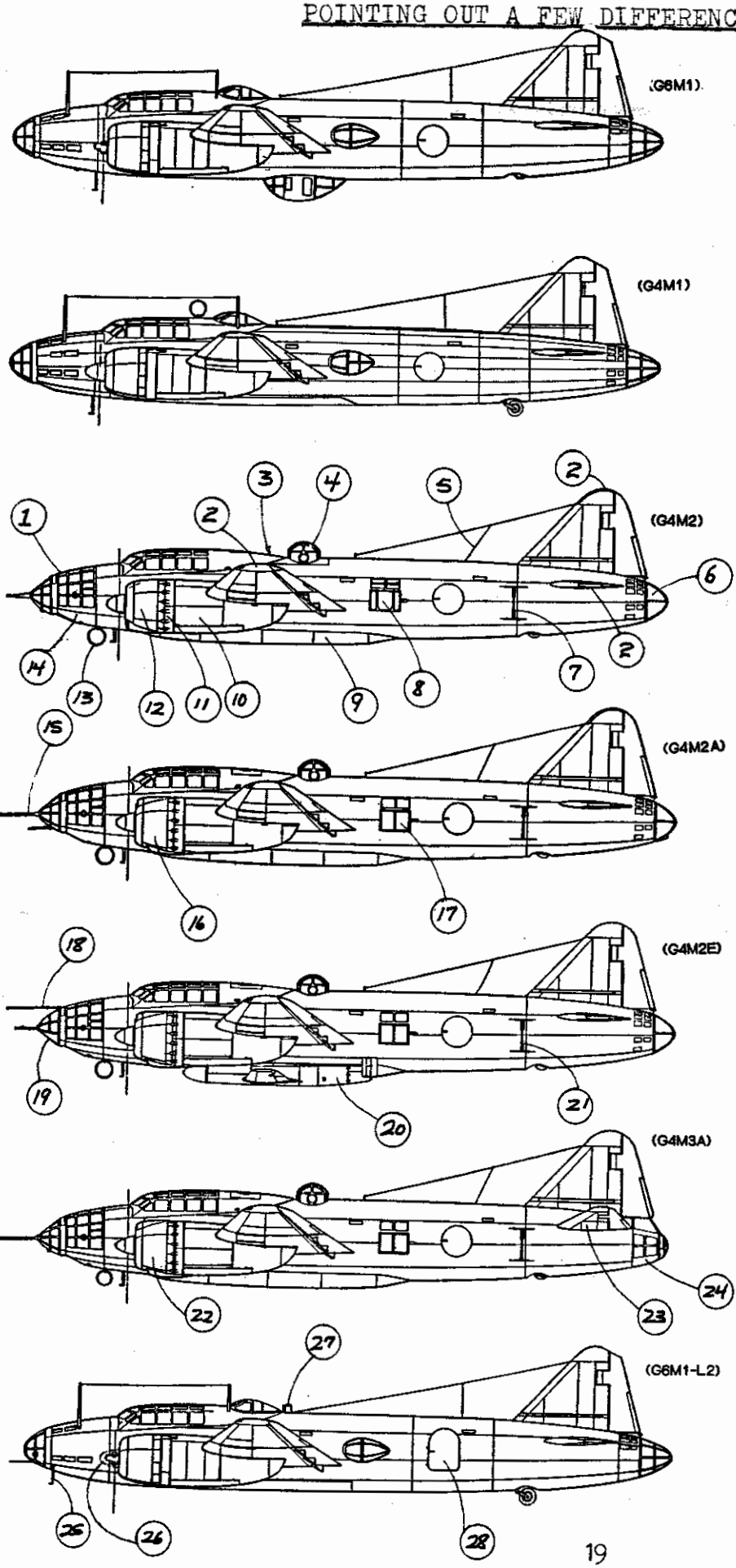
Below is a listing of references I used and then the remainder of the article will be in drawings of details, different variants, etc.

JAPANESE BOMBERS by Rene Francillon
MITSUBISHI G4M-in Profile #210
P1Y/G4M-Maru Mechanic
MODEL ART MAGAZINE(from 1971)
And there were the various back issues of the IPMS QUARTERLY, SCALE MODELER, etc.

Below is a detailed drawing showing the rear gunner's position.



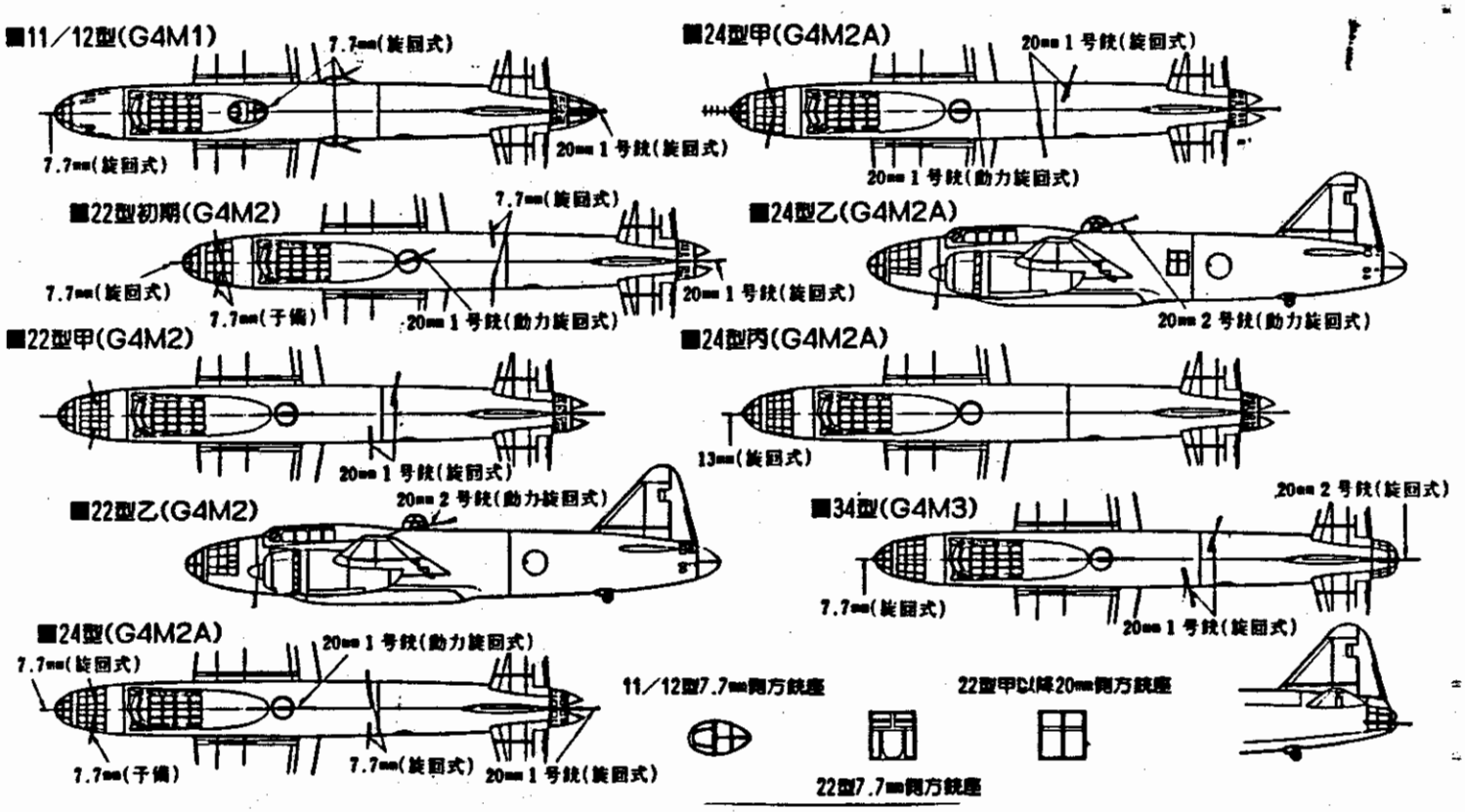
POINTING OUT A FEW DIFFERENCES



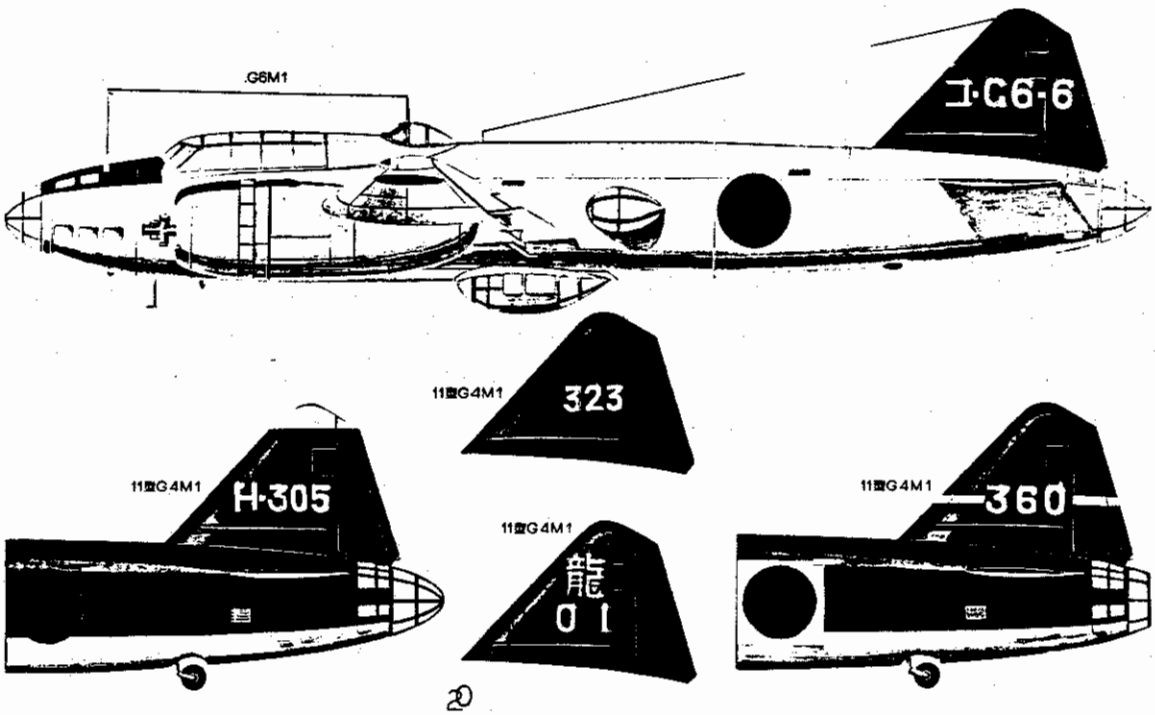
The top two a/c, the G6M1 & G4M1, were covered in Pt. 1; changes shown are differences from G4M1.

1) Different nose glazing
3) Deletion of dorsal blister
4) Addition of dorsal turret
2) Wingtips & rudder are extended
5) Different anteena ground
6) Different tail cone
7) Fuselage 'I' antenna added to some a/c
8) Side window instead of side blister
9) Enlarged Bomb bay fairing
10) Different nacelles
11) Exhaust stubs
12) Cowling has underside air intake
13) DF loop located on fuselage underside
14) Deletion of rectangular windows
15) Different probe on glazing
16) Cowls have intakes on bottom & top
17) Window framing different
18) Probe in diff. location
19) Framing on glazing is different here
20) Ohka carried in bomb bay
21) 'I' anteena definitely carried on E version
22) Uprated engines(external appearance same)
23) Stabilizers angled up
24) Different rear section, tail cone, & lower rudder
25) Ariel is further forward
26) Prop spinners on some a/c
27) Addition of this item (unknown what it is)
28) Side dorr added

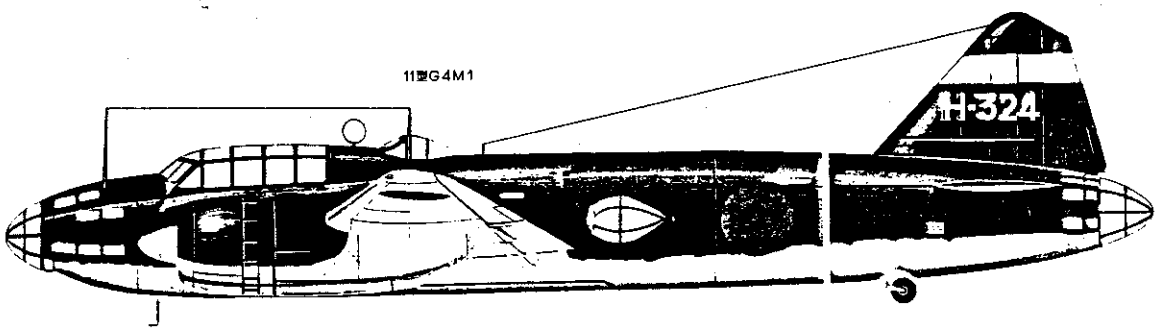
The diagrams below show the various gun arrangements on the Betty bomber.



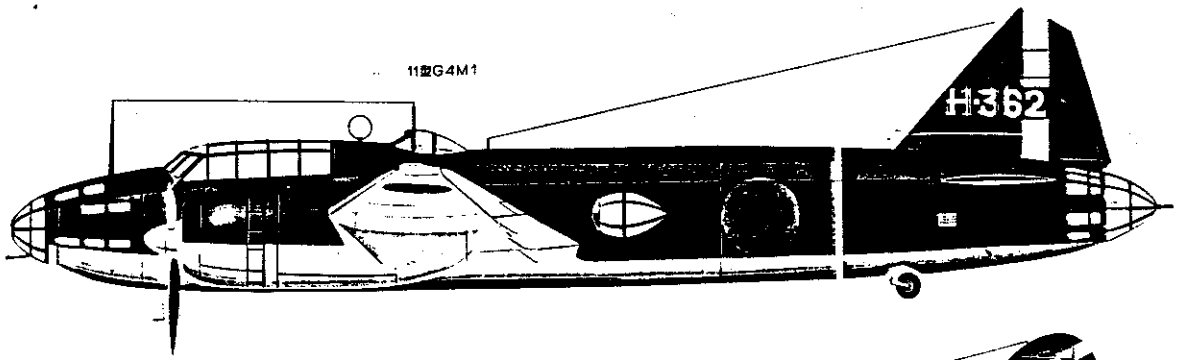
The profiles below and on the next page show some of the markings & colors for the different variants.



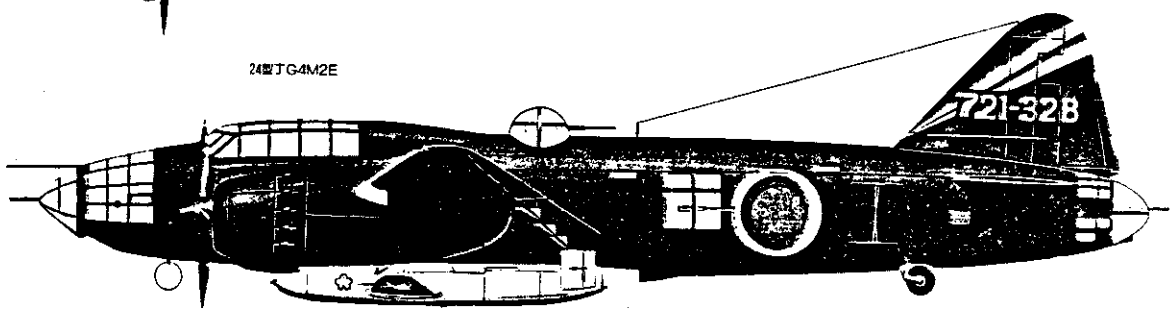
11型G4M1

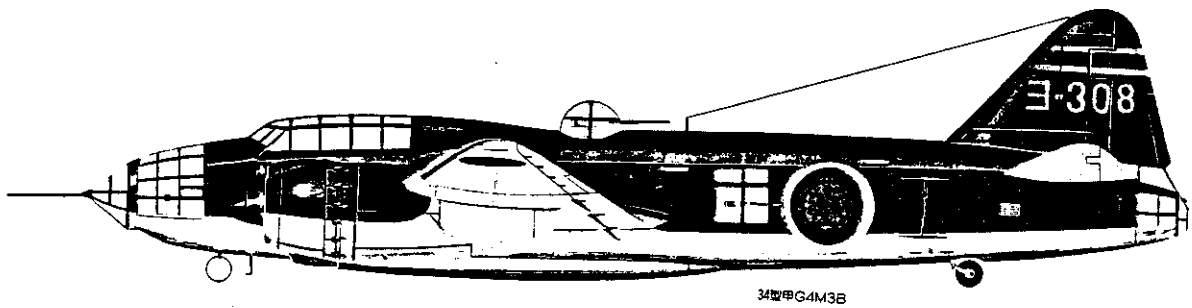


11型G4M1



24型丁G4M2E





34型甲G4M3B