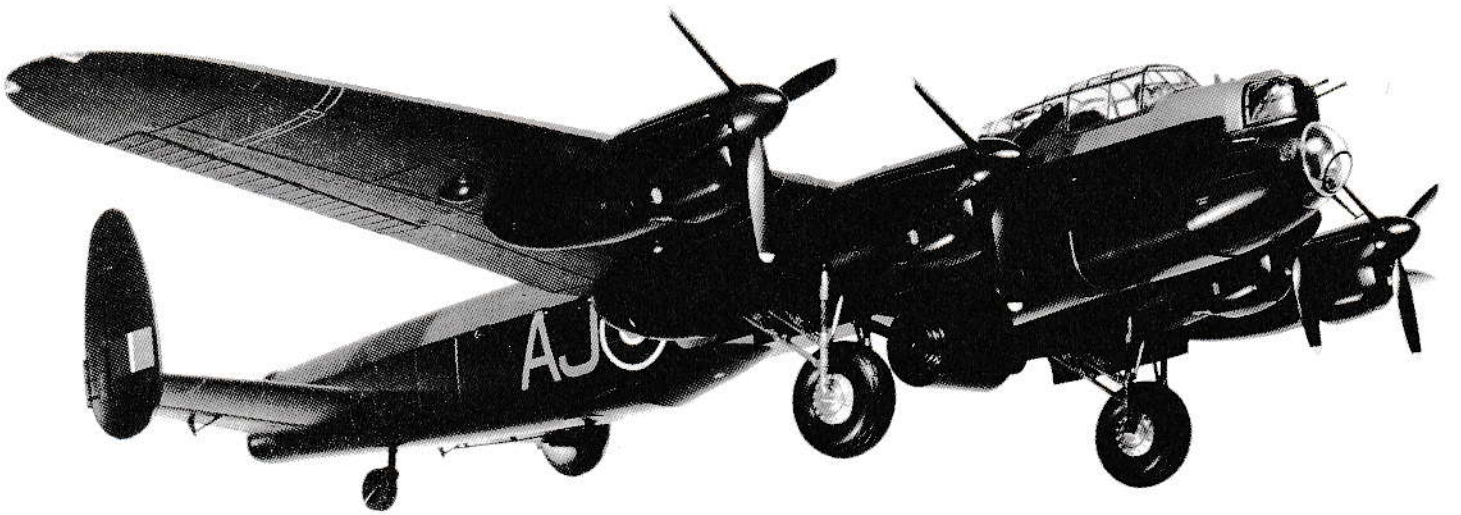
DAMBUSTER/GRAND SLAM BOMBER

LANCASTER BIII　LANCASTER BI SPECIAL 22000lb.BOMB

TAMIYA
TAMIYA PLASTIC MODEL CO.
3-7 ONDAWARA SHIZUOKA-CITY, JAPAN



Story by Chris Ellis

LANCASTER B1 (SPECIAL) and 'DAMBUSTER' LANCASTER

While the Lancaster in its standard B.1/B.III form won justified fame for its immense contribution to Britain's bomber offensive against Germany in the 1942/45 period, the aircraft earned an extra place in aviation history for its dramatic use in a number of hazardous special operations for which it required considerable modification. And the crews who flew the modified Lancasters on the special missions required, in turn, a special brand of courage and efficiency.

The selection of the Lancaster bomber for the special missions was conditioned by the fact that it was the only bomber in service in 1942-43 which had a big enough bomb-bay and big enough lifting capability to carry the heavy bombs that were being developed at the time in order to boost the overall bombing effort against Germany. The rugged character of the Lancaster, its viceless flying performance and tough airframe all helped the machine to be successful in its new "special" role.

While there was already a massive and growing bombing offensive against the industrial Rhur, heartland of Germany's war output, using conventional high explosive and fire bombs, with nightly raids (weather permitting) and a build-up to the vast 'thousand bomber raids', the British Air Staff was looking for even, more formidable ways of raining destruction upon German industry. The man who came up with the most effective answer to the problem was to become a legend in his own lifetime - Dr. Barnes Wallis, a designer who worked for the Vickers Aircraft Company. Barnes Wallis already had a distinguished career behind him when World War II started; he had designed the famous R.100 Airship in the 1920s and the Vickers Wellesley and Wellington bombers in the 1930s, and in the early part of World War II he was designing the Vickers Warwick, the Wellington's intended successor (though in the event this aircraft saw little service, being eclipsed by four-engined bomber types like the Lancaster.)

Due to his life-long connection with aircraft design, Barnes Wallis knew of the limitations of the bombs available to the Royal Air Force in the early part of Worl War II. They were mostly small, for small bombs best suited the RAF's pre-war tactical requirments, and due to Defence Budget restrictions of the inter-war years, little work had been done on improving the explosive content of the bombs. Barnes Wallis realised from the early days of the war that existing small bombs could not be dropped in sufficient quantities on German industrial plants - which were dispersed all over Germany - to make a decisive effect on war production. What he did appreciate, however, was that if the power sources could be destroyed then the factories could not function. The western part of Germany, and the industrial Ruhr Valley in particular, was very heavily dependent on hydro-electricity for power, and Barnes Wallis considered that if the dams which enabled the water to be stored could be breached, then large areas of the country would be deprived of power, with a material effect on war output. In addition to providing a water source for power generation, some of the dams also controlled water levels in canals and rivers where there was much barge traffic, and any breaching of these dams would have many side effects, too, such as flooding large areas of land, ruining farmland, towns and factories, and disrupting public utilities. Major dams were the Moehne, Sorpe and Eder, but others included the Ennepe, Schwelme and Lister. These dams were huge - the Moehne, for instance was 112 ft. wide at the bottom, 25 ft. wide at the top and 130 ft. high. All the dams were either of concrete or had concrete cores and the impact or pressure needed to destroy them would be enormous.

Barnes Wallis worked out that the best way to destroy huge concrete structures was by pressure waves from what he called an 'earthquake bomb' designed to explode deep in the water alongside the structure, since a conventional bomb would simply bounce off the dam and the explosion on the concrete would have a negligible effect. At the time Wallis worked out his theory, in 1940, there was no bomber in RAF service capable of carrying a bomb of the weight which Barnes Wallis thought necessary to do the job. And Britain was in a grave position, more concerned with fighter defence against the Luftwaffe rather than theoretical ways of causing the destruction of remote dams deep in Germany. So, progress in interesting the Air Ministry in the idea was slow. Meanwhile, Barnes Wallis pressed on with experiments, using models and a ship testing tank to prove that his theories would work. In early 1942 the idea had been nearly perfected and Wallis was asked to make some half-size prototypes of his new 'earthquake bombs' and to convert a Wellington bomber to carry and deliver them.

The problem with the bomb was quite complex. To ensure accurancey - it had to be delivered with great precision - the bomb had to be dropped very low. It then had to come to rest alongside the dam so that the immense pressure wave set up as the bomb exploded under water would buckle the reinforced concrete of the dam. Wallis worked out that the bomb would need to hit the water spinning on its axis so that it would skim or bounce over the water surface until it came up to the dam wall and sank. The principle was not unlike the effect which can be achieved by 'skimming' a light pebble or clam shell over the water at the seaside, an age-old childhood amusement. To spin the bomb it was first proposed to suspend the weapon on supports below the aircraft and get it rotating by chain drive from a Ford V-8 automobile engine. This would have meant an unacceptable increase in payload for the aircraft however, and in the end it was discovered that power could be taken from the aircraft's hydraulic system, in particular since bomb doors were not needed and the mid-upper turret had to be removed to reduce the aircraft's weight. This freed some of the aircraft's hydraulic requirments; in its finalised form there was belt drive to the bomb which spun it at 500 revolutions per minute prior to release.

Tests by delivering the bomb by Wellington bomber were carried out at Chesil Beach on the English South Coast, where a huge natural bank of shingle made a good simulated target with a water approach. All was successful by the middle of December, 1942, and in February 1943, after some last minute indecision, Wallis was asked to make some full-size bombs for the Lancaster to carry.

Air Marshall Sir Arthur Harris, C-in-C of RAF Bomber Command, was less keen on the idea than some, since he was busy building up his conventional bomber force for the continuing offensive. However, he agreed to the involvement provided that no existing Squadron was taken out of service to train for the special mission. Thus was born an entirely new Squadron, No. 617, in March, 1943. At the same time the whole operation to breach the dams was given the code name 'Downwood' and Roy Chadwick, the Lancaster's Designer, took charge of the work involved in converting a batch of Lancasters to carry the special 7 ft. circumfrence bombs, which were of cylindrical shape like a garden roller. The bomb doors were removed and replaced by fairings, pylons were fitted to hold the bomb, the hydraulic system was modified, the mid-upper turret removed and the aperture panelled in, the bomb-aimer's clear nose fairing was slightly changed, and a Vickers K gun was fitted to fire from a ball-mount in the floor of the aircraft. The prototype aircraft was ED765/G ('G' indicating 'Guard' while on the ground due to the special secret equipment fitted). All the work was carried out with the strictest secrecy while the crews of 617 Squadron started training for their low level mission on standard Lancasters.

Chosen to command 617 Sqn. was Wing Commander Guy Gibson, DSO and Bar, DFC, already a 'veteran' of great experience at the age of 25. He had 173 missions completed and was a much respected pilot. The raid was scheduled for May, which was the time the water level at the dams would be at its maximum after winter rain and snow, so the training was to proceed with all despatch. Photo reconnaissance of the dams was carried out by Mosquito Aircraft, and training for the run-in was done over reservoirs in England which had dams of similar size and aspect. The task was formidable. The dams were defended quite heavily with AA guns, and the Lancasters would have to make a long, low run-in across a great expanse of water, maintaining a height of only 60 ft. at a speed of 220 mph. to ensure accuracy at the moment of release of the bomb, or 'mine', as it had been designated by this time. No. 617 Squadron was based at the famous RAF field at Scampton, Lincolnshire, and Gibson chose his own Lancaster crews from the best in Bomber Command, several from his old Squadron.

The problem of height keeping proved the most difficult to overcome, but it was finally achieved by fitting spotlights under the nose and tail of the aircraft so they converged to form a figure '8' on the water surface when the machine was at the correct height.

The raid was fixed for the night of May 16th, 1943, the targets for the Main Force being the Moehne and Eder Dams, with Sorpe Dam as the next target for any aircraft which did not expend its mines on the first two targets.

There was one wave of nine aircraft led by Gibson and two others of five each. Gibson's wave formed the main spearhead of the attack, while the first wave of five aircraft was sent straight to the Sorpe Dam and the third wave attacked the Ennepe and Lister Dams, though with only limited success. The results of this epic raid are well-known. It was, perhaps the most famous bombing raid of World War II. The Moehne and Eder Dams were breached, and floods extended over 40 miles distant. Several books and a well-known film, "The Dam Busters", record the story in detail. Guy Gibson was awarded the Victoria Cross for his leadership,and many other crewmen were decorated,though 56 of the gallant 133 men who made up the crews for the raid were missing, in shot-down aircraft. From this day on, No. 617 Sqn. has been known as "The Dam Busters".

Subsequently, 617 Sqn. found itself cast for a special role, taking on the destruction of the toughest and most important targets. In the meantime, Barnes Wallis was working on a new 'earthquake bomb' designed for use on land, and weighing ten tons, plus a scaled-down 12,000 pound version to meet official reservations about the ability of even a Lancaster to deliver the huge 10 ton (22,000 pound) bomb. The idea of the 'earthquake bomb' was for it to penetrate deep into the earth and then detonate, rather than detonate on impact like a conventional H.E. bomb. The 12,000 pound bomb, known as the 'Tallboy', was the first ready. On trials it penetrated 90 feet into the ground before detonating with its 'eathquake' effect, and craters 80 ft. deep and 100 ft. in diameter were recorded. Led by another famous pilot, Wing Commander Leonard Cheshire VC, No. 617 Sqn. carried out some more spectacular raids, including the destruction of the harbour at Le Havre and German "V" weapon sites in France in 1944. Later, they helped sink the mighty Battleship 'Tirpitz'.

The success of the 12,000 pound 'Tallboy' led to revived interest in the 22,000 pound version, which was given the name 'Grand Slam'. It was first delivered in February, 1945 and first used in action a month later in a tremendous raid on the huge Bielefeld railway viaduct. The 'Grand Slam' was an immense bomb, 35 ft. 5 ins. long, 3 ft. 10 ins. in diameter, and with a tail section alone 13½ft. long. It had between 6 and 7 tons of explosive and pierced about 100 ft. into the ground before detonating with a vast 'earthquake' effect.

On March 14th, 1945 the 'Grand Slam' proved its worth when the Bielefeld Viaduct collapsed. On March 19th the Arnsberg Bridge, near the Moehne Dam, was similarly destroyed, then the Arbegan Bridge, near Bremen. By the time the War ended in May, 1945, 617 Sqn. had dropped 41 'Grand Slam' bombs on German targets. To carry such a vast, heavy load as the 'Grand Slam' the Lancaster had to be specially modified and lightened, and in this form it was designated the Lancaster MK 1 (Special). Some 33 aircraft were converted, PB592, PB995-998, and PD112-139, and the changes included removal of the nose and mid-upper turrets, removal of other unnecessary equipment, and cutting away of the bomb bay to allow the huge bomb to fit in the belly of the aircraft. The bomb bay doors were deleted in this version.

Most Lancaster MK 1 (Special) had an empty weight of 35,457 pounds and a loaded weight of 72,000 pounds, and so could carry its own weight in bombs and fuel. It had a range of 1,550 miles at 200 m.p.h, with a ceiling of 20,000 ft. It carried 1,675 gallons of fuel, a necessary reduction in order for it to carry the huge 'Grand Slam' bomb. The later more powerful Rolls-Royce Merlin 24 engines were fitted in place of the Merlin 20 or 22 units found on earlier production aircraft. The 'Dambuster' Lancasters used in the 1943 raids were actually MK IIIs with Packard-built Merlin engines.

LANCASTER

〈Read before You Start Assembly〉

★This kit may be assembled into either a Dambuster or a Grand Slam Bomber. Decide which to build. G PARTS are for constructing a Dambuster, while H PARTS for a Grand Slam Bomber. Other parts can be used to either of them in common.

★You will need a sharp knife, a pair of teezers, a file, and a pair of pliers.

★Do not break parts away from sprue, but cut off carefully with a pair of pliers.

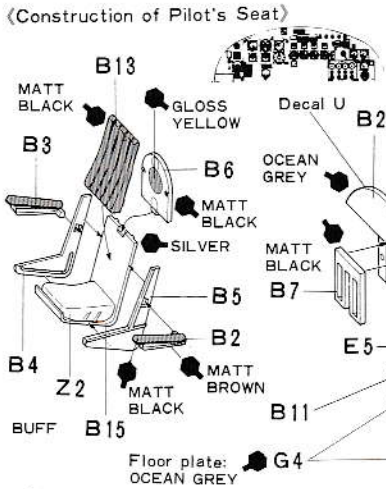
★For overall painting, see the painting illustrations at page 6 and 7. For painting of parts, see the instructions given in the assembly drawings. The interior, landing gears and engines should be painted during the assembly work. Transparent parts should be either fixed after the overall painting or masked during it.

1 〈Construction and Painting of Figures〉

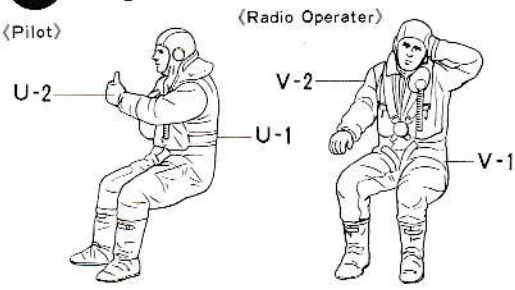
Locate Fugures in cockpit till the step 6. They should be completely painted before being put in the model plane.

3 〈Construction of Cockpit〉

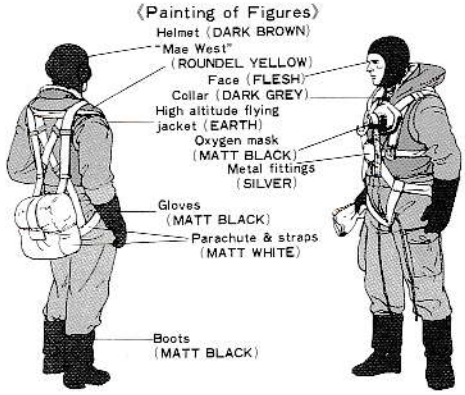
〈Construction of Pilot's Seat〉



1 Construction and Painting of Figures

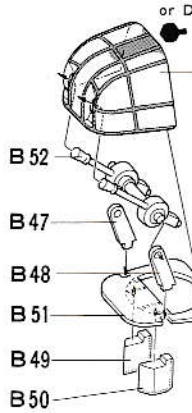


〈Painting of Figures〉



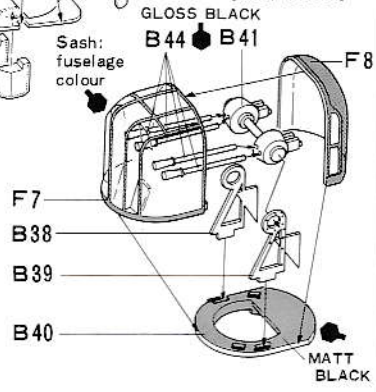
2 Construction of Machine Gun Turrets

〈Front Turret〉



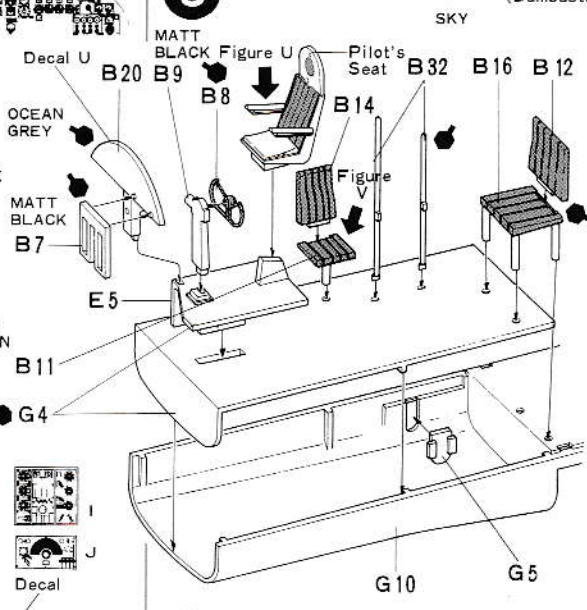
★Front Turret is used only to a Dambuster. Do not fix this to Grand Slam Bombers.
★If you put Figure S inside, do not fix B49 and B50.

〈Rear Turret〉

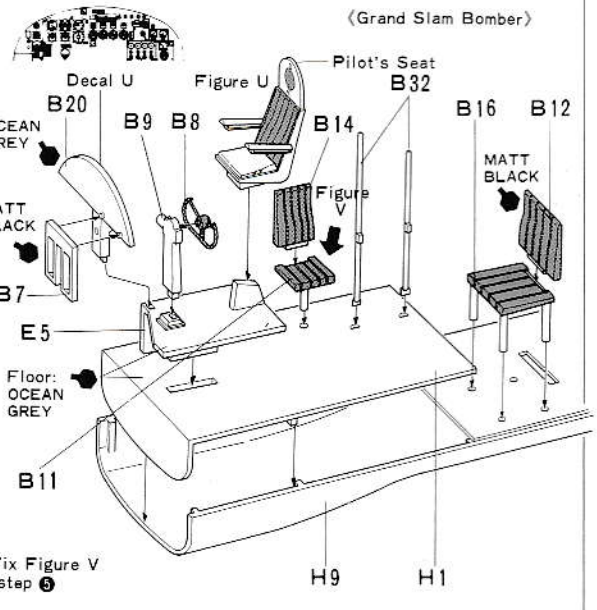


3 Construction of Cockpit

〈Dambuster〉



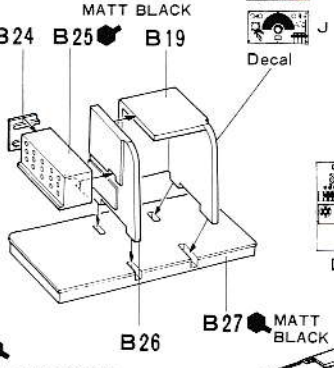
〈Grand Slam Bomber〉



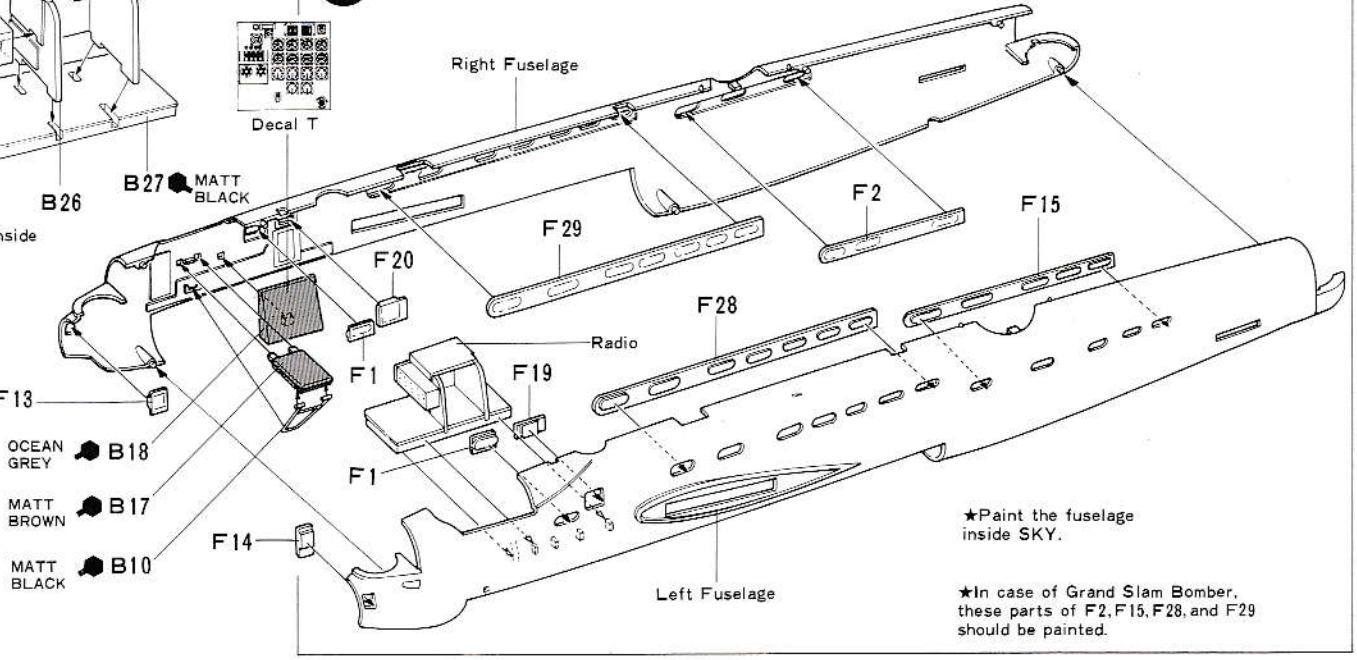
★Fix Figure V at step 5

4 〈Construction of Fuselage〉

〈Construction of Radio〉



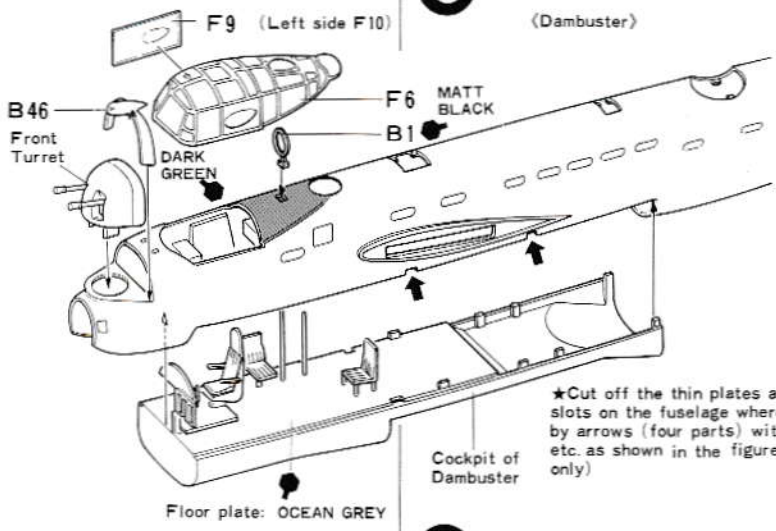
4 Construction of Fuselage



★Paint the fuselage inside SKY.

★In case of Grand Slam Bomber, these parts of F2, F15, F28, and F29 should be painted.

5 〈Fixing of Cockpit〉

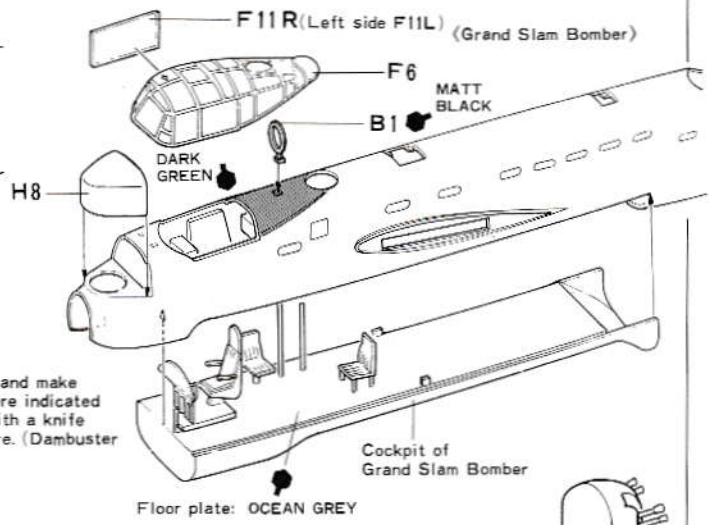


5 Fixing of Cockpit

〈Dambuster〉

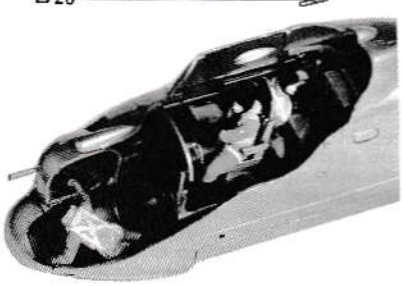
★Cut off the thin plates and make slots on the fuselage where indicated by arrows (four parts) with a knife etc. as shown in the figure. (Dambuster only)

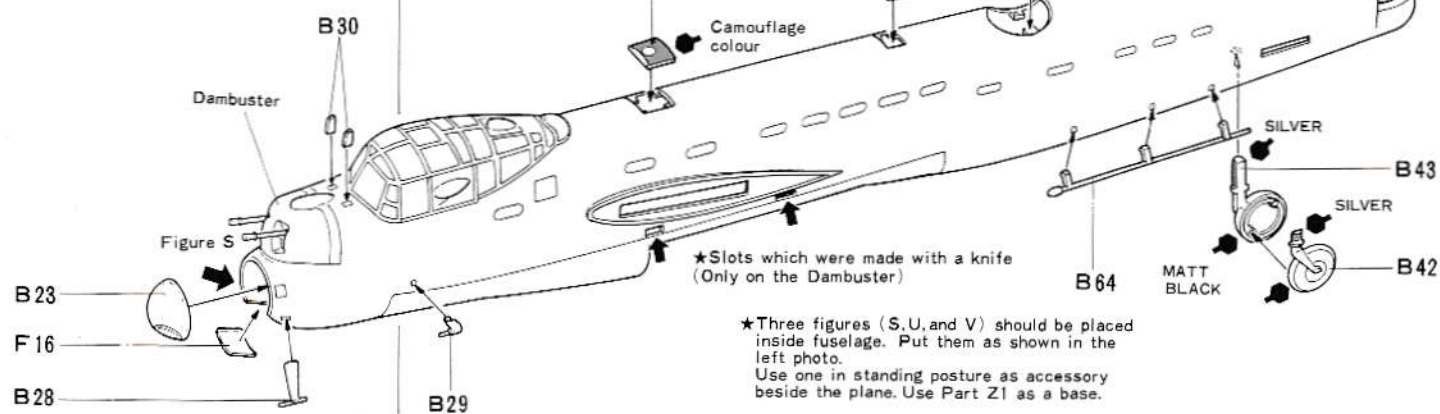
★If you place Figure V, locate this before fixing Canopy.



6 〈Fixing of Fuselage Parts〉

Fix Figures as shown in the photo below.





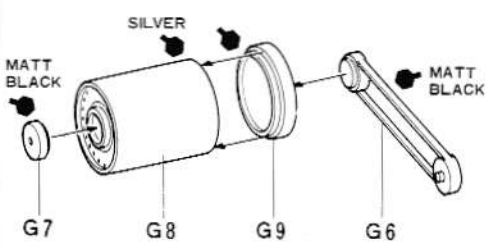
★Slots which were made with a knife (Only on the Dambuster)

★Three figures (S, U, and V) should be placed inside fuselage. Put them as shown in the left photo.
Use one in standing posture as accessory beside the plane. Use Part Z1 as a base.

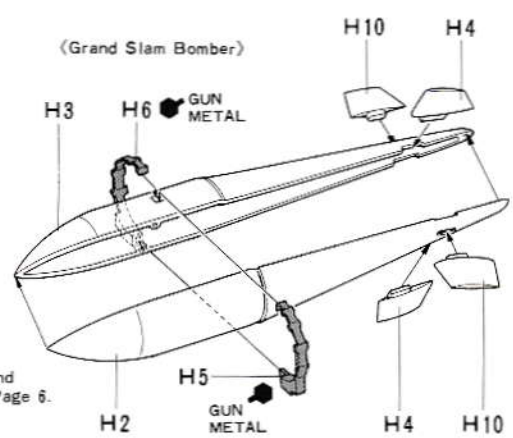
6 Fixing of Fuselage Parts

7 Construction of Bomb

〈Dambuster〉



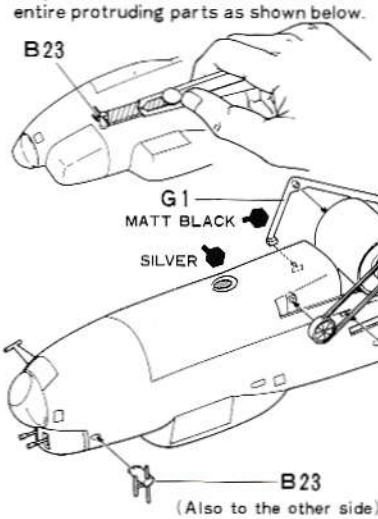
〈Grand Slam Bomber〉



★In painting Grand Slam Bomb, see Page 6.

8 〈Fixing of Bomb〉

B23 is used only to fulfill the unnecessary holes. Cement them and cut off entire protruding parts as shown below.

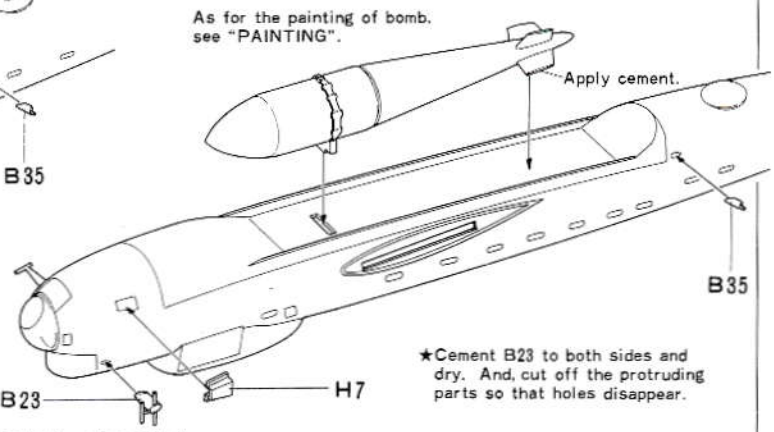


8 Fixing of Bomb

〈Dambuster〉

〈Grand Slam Bomber〉

As for the painting of bomb, see "PAINTING".



★Cement B23 to both sides and dry. And, cut off the protruding parts so that holes disappear.

9 〈Construction of Main Wings〉

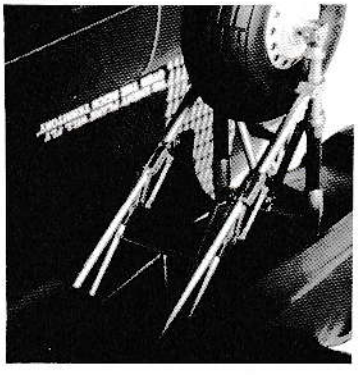
These are large surfaces which must be cemented together. Firmly cement wing parts and hold them together for some time with adhesive tape etc.

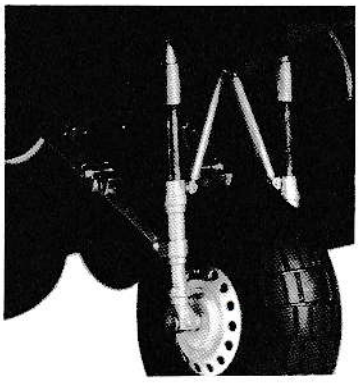
10 〈Construction of Landing Gears〉

Two Landing Gears, Right and Left, are to be constructed. Since their parts are thin and easy to break, they should be assembled very carefully. The Landing Gears are important components which support the plane. Make sure they are firmly fixed by using sufficient cement. Main wheels are intended to rotate. A8 and A18 should just be put in.

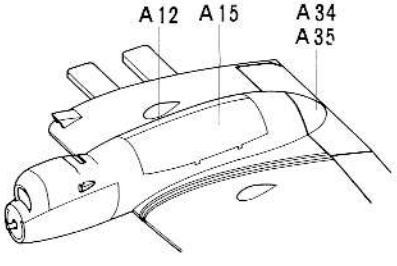
11 〈Fixing of Landing Gears and Engine Cowlings〉

Properly cement Landing Gears to already constructed Main Wings. If your model plane is to be in a flying attitude, Landing Gears should not be fixed.





★Fix each Engine Cowling with the Landing Gear contained in it. If you make the flying state model, construct these parts as shown below.



12 〈Construction of Engines〉

The kit contains only two Engines. They may be fixed to either Right or Left Wing.

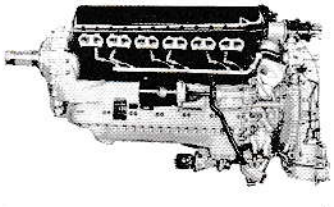
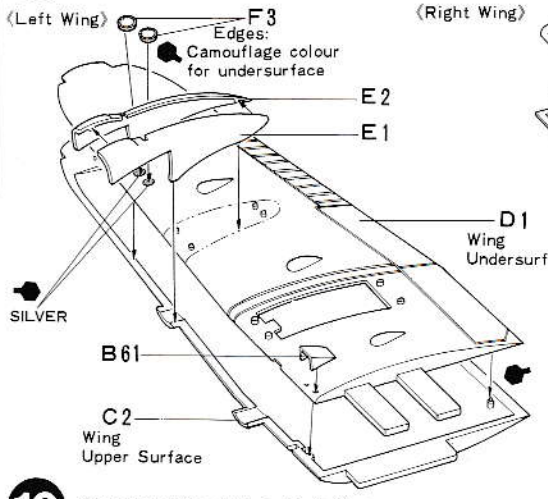
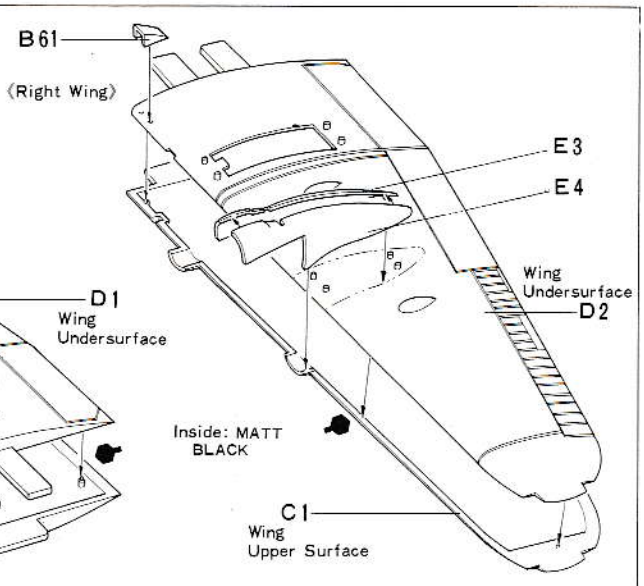


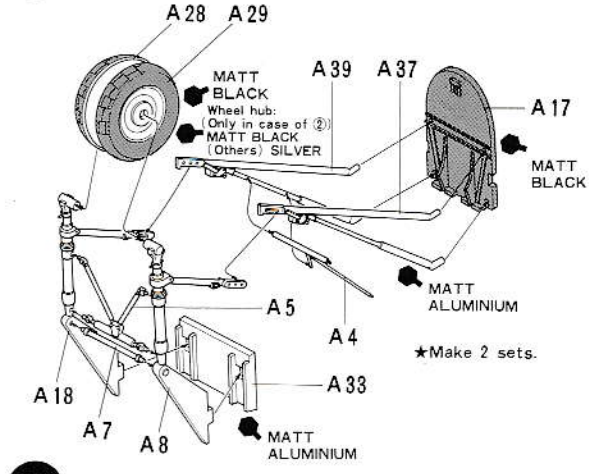
Photo of actual Rolls-Royce Merlin engine

9 Construction of Main Wing

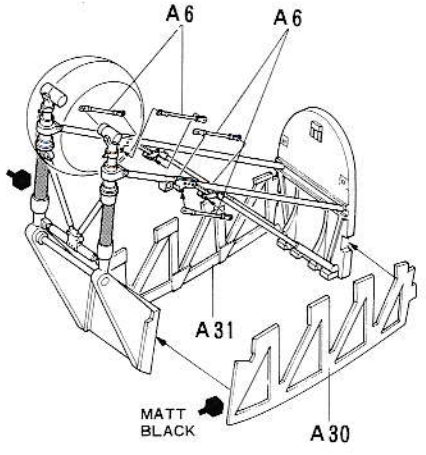




10 Construction of Landing Gears

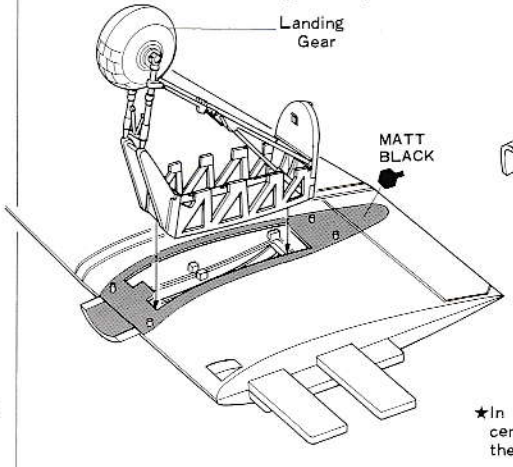


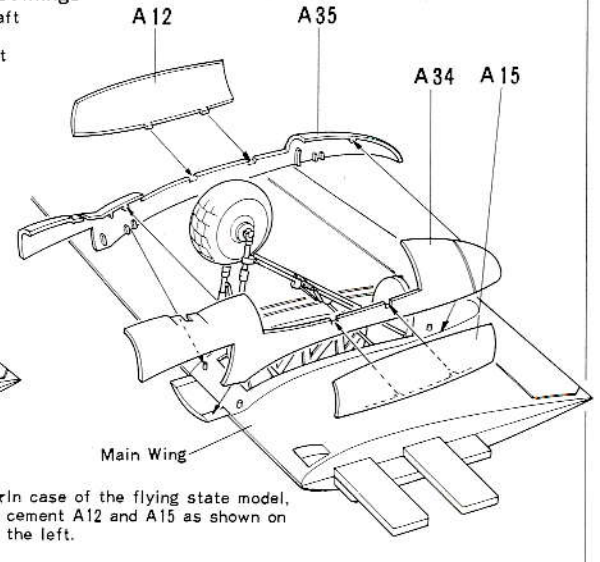
★Make 2 sets.



11 Fixing of Landing Gears and Engine Cowlings

★Fix Landing Gears only when aircraft is to be displayed on the ground.
★When you fix Landing Gears, cement them to Wing securely.

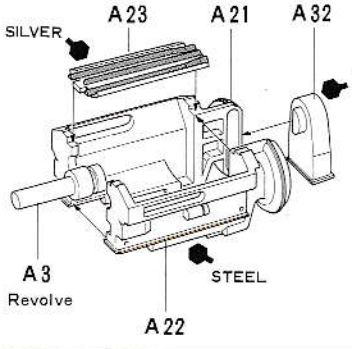


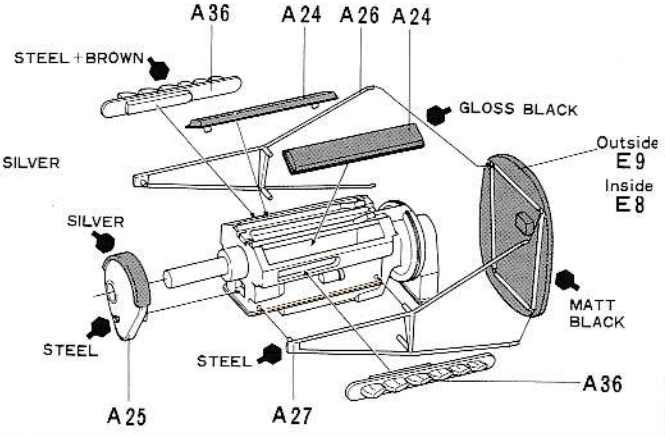


★In case of the flying state model, cement A12 and A15 as shown on the left.

12 Construction of Engines

★Engine is optional. (2 sets in all.) Fix them to either Wing.



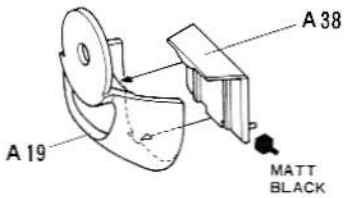


13 〈Fixing of Engines〉

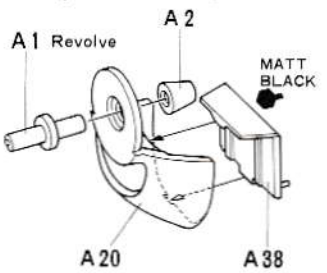
If you fix engines, use Radiator A. If you don't, use Radiator B.

〈Construction of Radiators〉

Radiator A
〈When you fix Engines.〉



Radiator B
〈When you do not fix Engines.〉

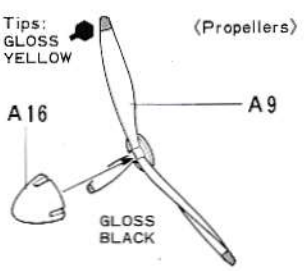


14 〈Construction of Tail Units〉

Be careful not to mistake the right for the left.

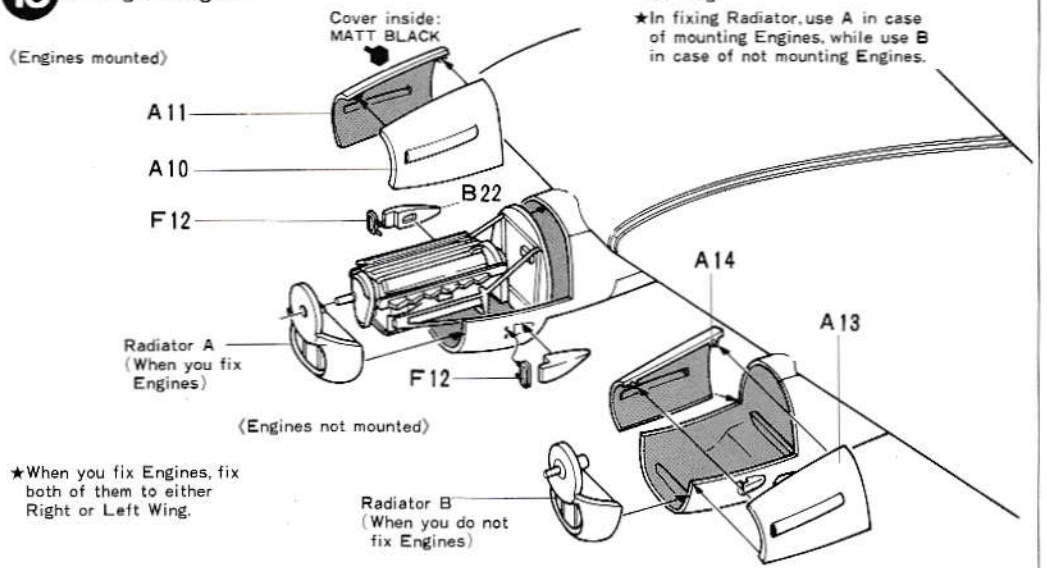
15 〈Fixing of Wings and Tails〉

Fix Main Wings, Tail Units and Propellers in your model plane. Propellers are intended to rotate. Apply cement to the end of pin projecting out from each Engine Cowling and fix each Propeller to it.

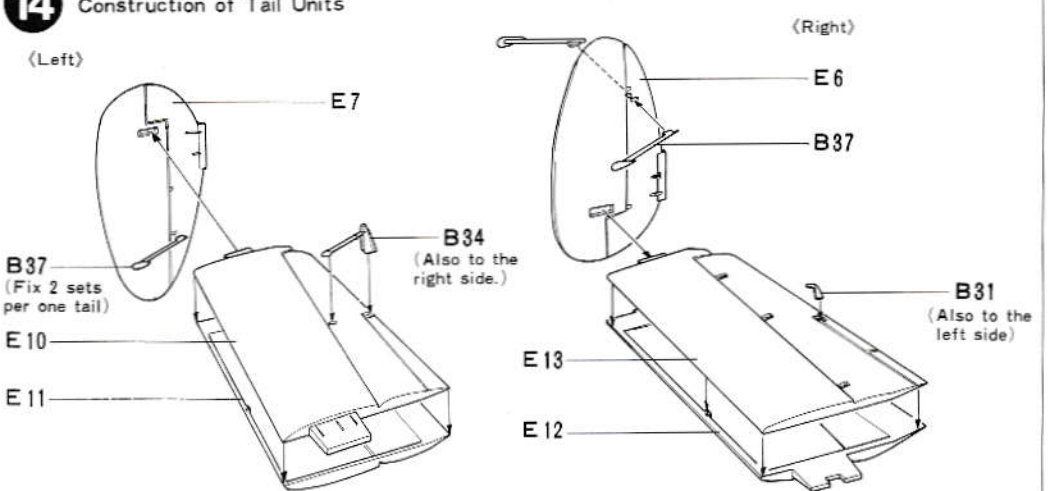


13 Fixing of Engines

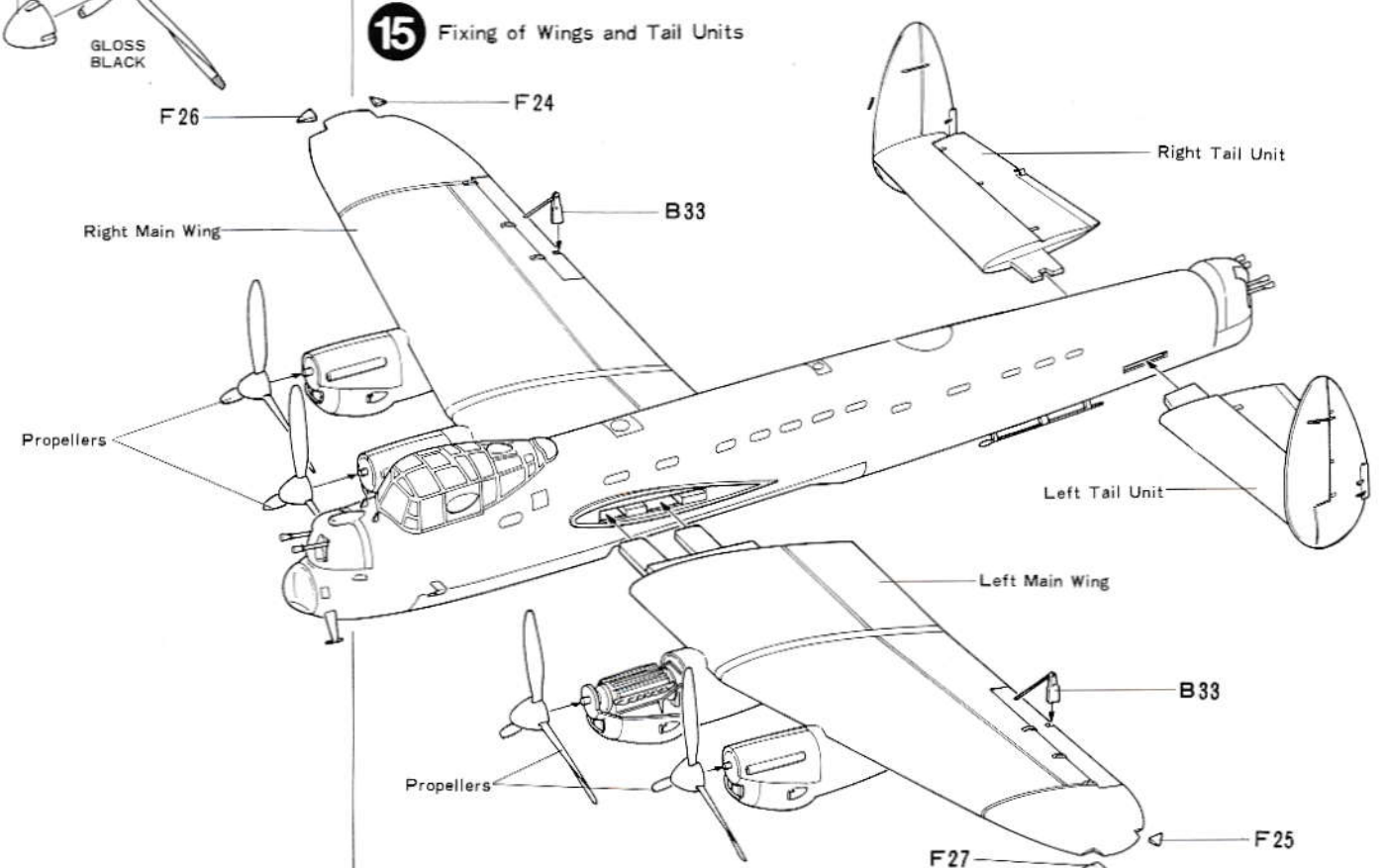
★Fix B22 and F12 to every Engine Cowling.
★In fixing Radiator, use A in case of mounting Engines, while use B in case of not mounting Engines.



14 Construction of Tail Units

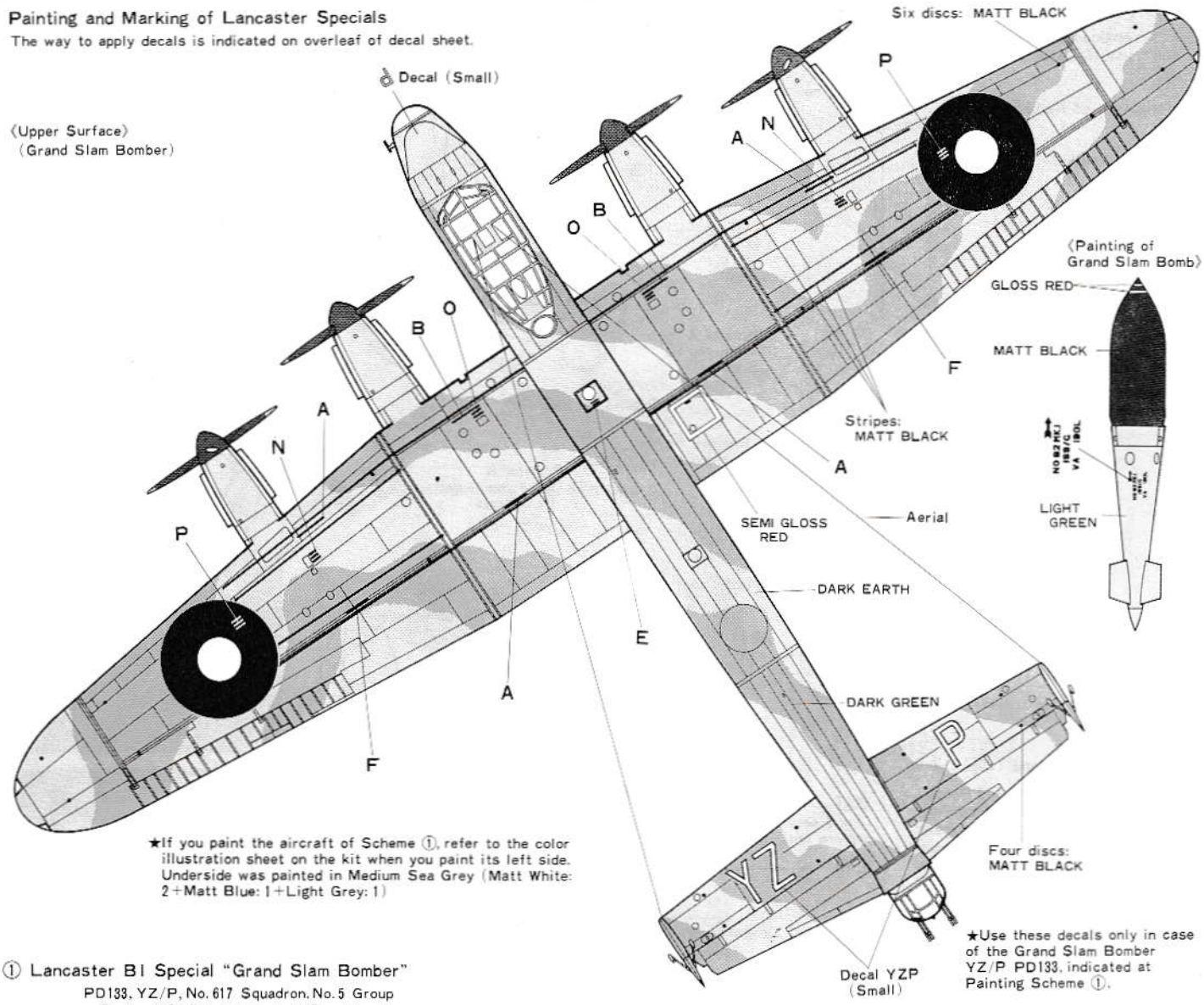


15 Fixing of Wings and Tail Units



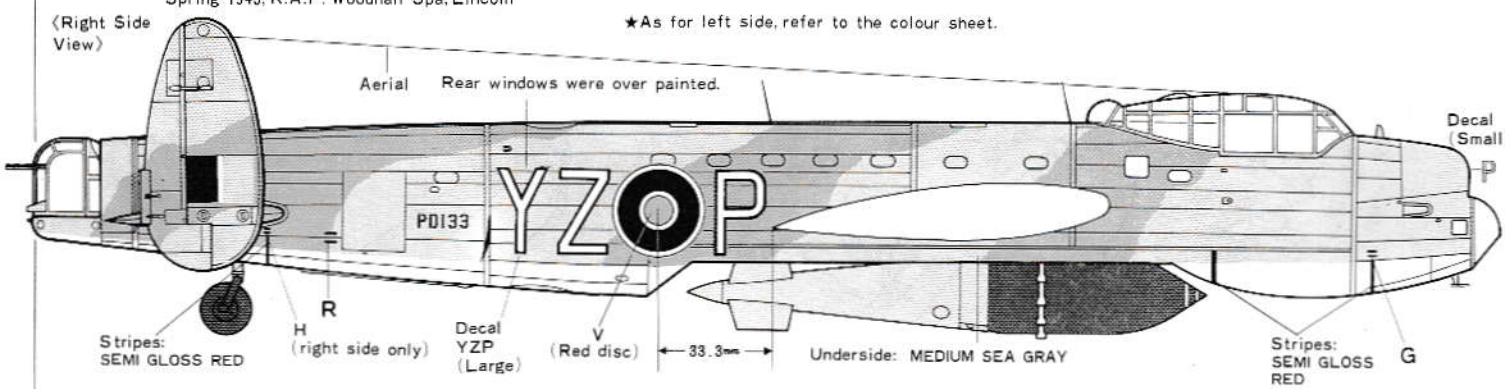
Painting and Marking of Lancaster Specials

The way to apply decals is indicated on overleaf of decal sheet.



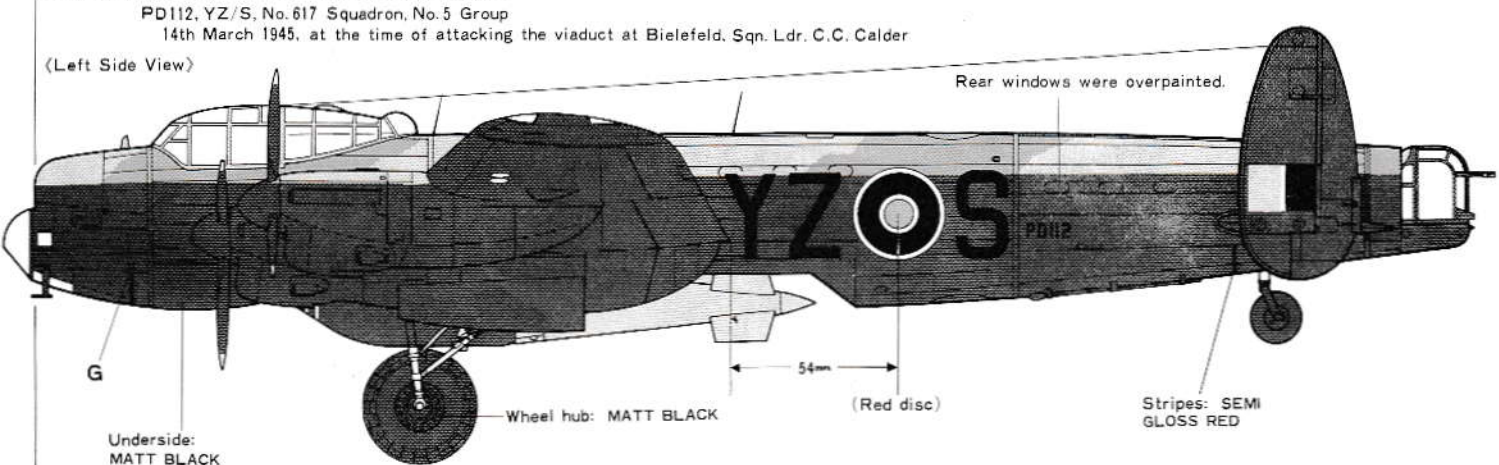
① Lancaster BI Special "Grand Slam Bomber"

PD133, YZ/P, No. 617 Squadron, No. 5 Group
Spring 1945, R.A.F. Woodhall Spa, Lincoln



② Lancaster BI Special "Grand Slam Bomber"

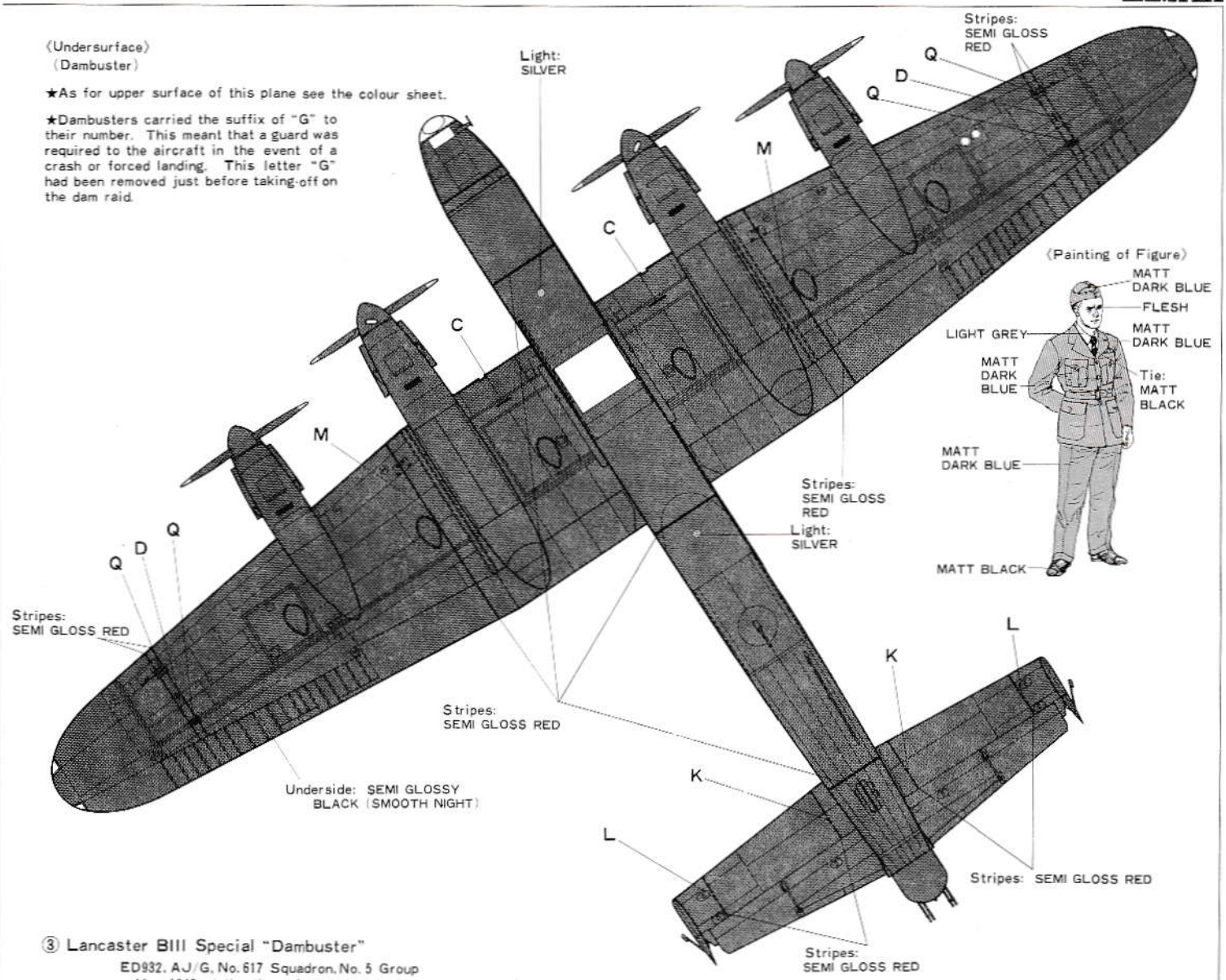
PD112, YZ/S, No. 617 Squadron, No. 5 Group
14th March 1945, at the time of attacking the viaduct at Bielefeld, Sqn. Ldr. C.C. Calder



〈Undersurface〉
〈Dambuster〉

★As for upper surface of this plane see the colour sheet.

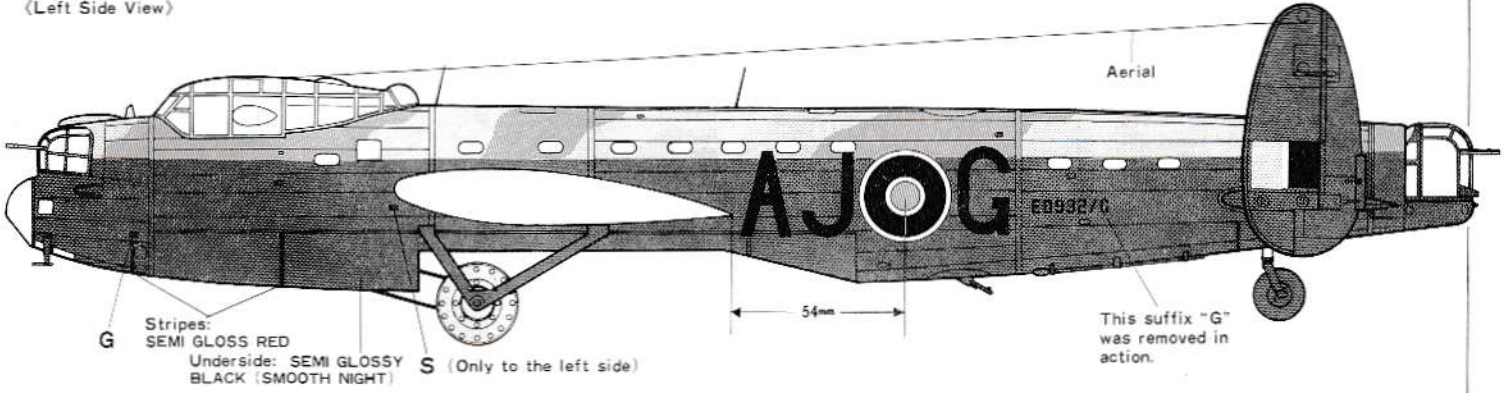
★Dambusters carried the suffix of "G" to their number. This meant that a guard was required to the aircraft in the event of a crash or forced landing. This letter "G" had been removed just before taking-off on the dam raid.



③ Lancaster BIII Special "Dambuster"

ED932, AJ/G, No. 617 Squadron, No. 5 Group
May 1943, at the time of breaking the Ruhr dams. Wg. Cdr. Guy Gibson

〈Left Side View〉



〈About Painting〉

It is recommended to use a flat paint brush 10–20 mm wide for painting large surfaces and a slender one for painting small parts and surfaces. In spray painting where paint is sprayed on the model plane by means of a device such as spray gun, those parts to which you do not intend to apply paint should be covered during the work with masking tape or the like. In either case, it is essential that you do the work in a well ventilated area, away from naked flame. If the model plane is stained with oil, sweat, etc., paint will not spread well. Remove such marks from the model plane with tepid water containing neutral cleaning agent and rinse the cleaning agent away. Then, completely remove moisture from the model plane and start painting in a place free from dust. Be sure to use paint designed for use with plastic models. Adjust the thickness of paint with solvent. After painting, remove paint from the brushes by washing them in solvent.

〈Painting of Lancaster〉

〈Basic Painting〉

From July, 1942 onward, bombers were painted in two different ways according to whether they were intended for use in night bombing or day bombing. The Lancaster was painted as a night bomber. The top of the fuselage, main wings and tail planes were camouflaged with dark green and dark earth. The other parts and the tail fins were painted in smooth night (half-glossy) black. The "code letter" representing the Unit to which the bomber belonged and the serial number were written usually in dull red on the sides of the fuselage.

★The code letters, serial numbers, and pilots' names of 19 Dambusters are listed below. Use this table as your information in applying marking.

First Wave		
ED932	AJ/G	Wg. Cdr. Guy Gibson
★ED925	AJ/M	Flt. Lt. J. V. Hopgood
ED909	AJ/P	Flt. Lt. H. B. Martin
★ED887	AJ/A	Sqn. Ldr. H. M. Young
★ED864	AJ/B	Flt. Lt. W. Astell
ED906	AJ/J	Flt. Lt. D. J. H. Maltby
★ED937	AJ/Z	Sqn. Ldr. H. E. Maudsley
ED912	AJ/N	Plt. Off. L. G. Knight
ED929	AJ/L	Flt. Lt. D. J. Shannon
Second Wave		
ED923	AJ/T	Flt. Lt. J. C. McCarthy
★ED934	AJ/K	Sgt. V. A. Byers
★ED927	AJ/E	Flt. Lt. R. N. G. Barlow
☆ED936	AJ/H	Plt. Off. G. Rice
☆ED921	AJ/W	Flt. Lt. K. L. Munro
Third Wave		
ED886	AJ/O	Flt. Sgt. W. C. Townsend
ED918	AJ/F	Flt. Sgt. K. W. Brown
ED924	AJ/Y	Flt. Sgt. L. T. Anderson
★ED910	AJ/C	Plt. Off. W. H. T. Ottley
★ED865	AJ/S	Plt. Off. L. J. Burpee

Among all 19 planes, ones marked "★" did not return, and ones marked "☆" gave up mission and returned, and ones without any mark accomplished mission and returned.

PARTS

A PARTS (Two same part-sheets are included)

1. Propeller Shaft A
2. Propeller Shaft Stopper
3. Propeller Shaft B
4. Landing Gear Support A
5. Landing Gear Support B
6. Landing Gear Supports C
7. Landing Gear Support D
8. Landing Gear Strut A
9. Propellers
10. Inside Engine Cover A
11. Inside Engine Cover B
12. Landing Gear Cover (Left)
13. Outside Engine Cover A
14. Outside Engine Cover B
15. Landing Gear Cover (Right)
16. Propeller Spinners
17. Landing Gear Fixing Plate A
18. Landing Gear Strut B
19. Engine Top A
20. Engine Top B
21. Engine A
22. Engine B
23. Engine C
24. Engines D
25. Engine E
26. Engine Rack (Right)
27. Engine Rack (Left)
28. Main Tyre A
29. Main Tyre B
30. Frame (Left)
31. Frame (Right)
32. Coolant Radiator
33. Landing Gear Fixing Plate B
34. Inside Engine Cowling A
35. Inside Engine Cowling B
36. Exhaust Pipe
37. Landing Gear Strut E
38. Radiators
39. Landing Gear Strut F

B PARTS

1. D.F. Loop
2. Arm Rest (Left)
3. Arm Rest (Right)
4. Pilot's Seat (Right)
5. Pilot's Seat (Left)
6. Bullet Proof Plate
7. Foot Pedal
8. Steering Wheel
9. Control Stick
10. Seat Support
11. Navigator's Seat A
12. Radio Operator's Seat B
13. Pilot's Seat Pad
14. Navigator's Seat B
15. Pilot's Seat
16. Radio Operator's Seat A
17. 2nd Pilot's Seat
18. Fuselage Instrument Panel
19. Radio A
20. Main Instrument Panel
21. Fuselage Right Air Intake
22. Carburetter Air Intakes
23. Antennas
24. Radio B
25. Radio C
26. Radio D
27. Table
28. Pitot Tube A
29. Pitot Tube B
30. Window Sprays
31. Balance Weights
32. Support
33. Arms A
34. Arms B
35. Flare Bomb Discharger A
36. Flare Bomb Discharger B
37. Balance Weight B
38. Rear MG Mount (Right)
39. Rear MG Mount (Left)
40. Rear Turret Floor
41. MG Base
42. Tail Wheel (Left)
43. Tail Wheel (Right)
44. 7.7mm MG Barrels
45. Front Turret Bulkhead
46. Front Turret Holder
47. Front MG Mount (Right)
48. Front MG Mount (Left)
49. Ammunition Magazine (Right)
50. Ammunition Magazine (Left)
51. Front MG Floor Plate
52. Front MG
53. Unnecessary
54. Unnecessary
55. Unnecessary
56. Unnecessary
57. Unnecessary
58. Unnecessary
59. Unnecessary
60. Rear Turret Cover
61. Wing Undersurface Air Inlet
62. Unnecessary
63. Unnecessary
64. Pole Aerial

E PARTS

1. Left Wing Outside Engine Cowling A
2. Left Wing Outside Engine Cowling B
3. Right Wing Outside Engine Cowling A
4. Right Wing Outside Engine Cowling B
5. Cockpit Floor
6. Right Tail Fin
7. Left Tail Fin
8. Inside Engine Fixing Plate
9. Outside Engine Fixing Plate
10. Left Stabilizer Undersurface
11. Right Stabilizer Upper Surface
12. Right Stabilizer Undersurface
13. Left Stabilizer Upper Surface

F PARTS (Transparent)

1. Fuselage Windows A
2. Fuselage Windows B
3. Landing Lights
4. Emergency Exit (Rear)
5. Emergency Exit (Front)
6. Cockpit Canopy
7. Rear Turret Canopy A
8. Rear Turret Canopy B
9. Cockpit Canopy Side Window A (Right)
10. Cockpit Canopy Side Window A (Left)
11-L Cockpit Canopy Side Window B (Right)
11-R Cockpit Canopy Side Window B (Left)
12. Carburetter Air Intake Ice Guard
13. Fuselage Window C (Right)
14. Fuselage Window C (Left)
15. Fuselage Window D
16. Emergency Exit
17. Front Turret Canopy
18. Unnecessary
19. Fuselage Window E (Left)
20. Fuselage Window E (Right)
21. Unnecessary
22. Unnecessary
23. Fore Canopy
24. Right Wing Nav. Light (Rear)
25. Left Wing Nav. Light (Rear)
26. Right Wing Nav. Light (Front)
27. Left Wing Nav. Light (Front)
28. Fuselage Window F (Left)
29. Fuselage Window F (Right)

G PARTS (Dambuster)

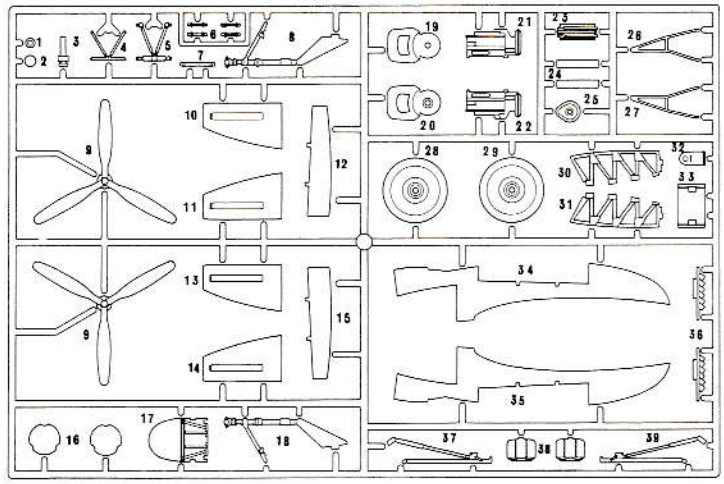
1. Bomb Rack (Left)
2. Bomb Rack (Right)
3. Fuselage Underside MG
4. Floor Plate
5. Belt Fixing Parts
6. Belt
7. Center Spacer
8. Dam Busting Bomb Body
9. Bomb Lid
10. Bomb Stowage Cover

H PARTS (Grand Slam Bomber)

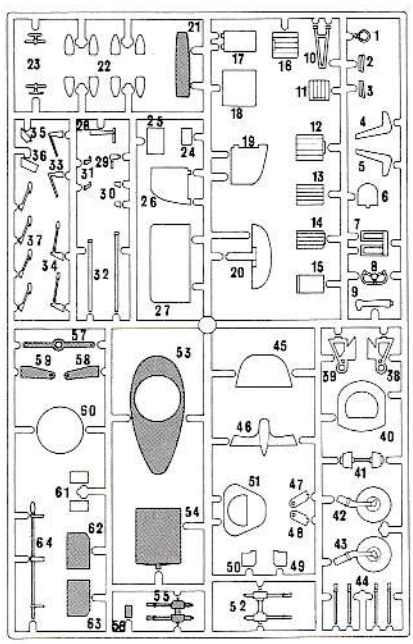
1. Floor Plate
2. Grand Slam Bomb A
3. Grand Slam Bomb B
4. Tail Fins of Bomb A
5. Bomb Fixing Rack A
6. Bomb Fixing Rack B
7. Shutter
8. Turret Cover
9. Bomb Stowage Cover
10. Tail Fins of Bomb B

A PARTS

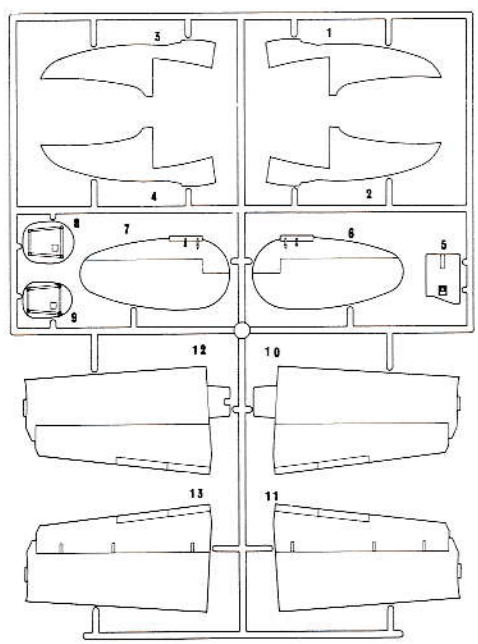
(Two sheets are included.)



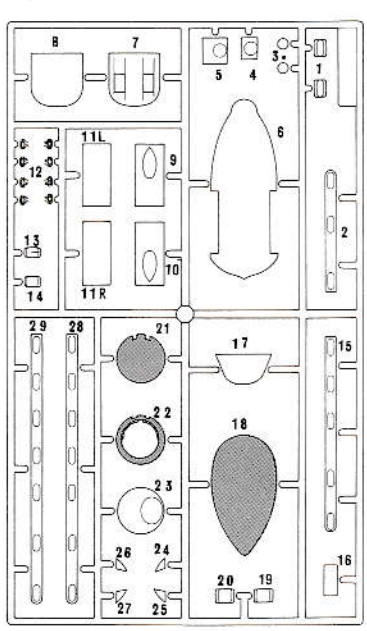
B PARTS



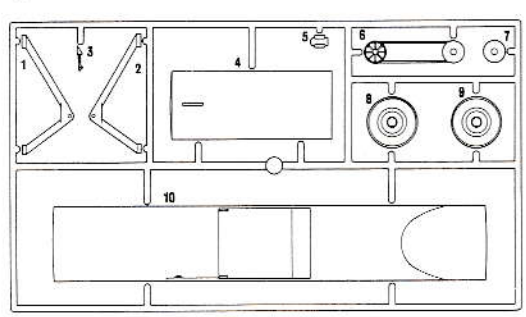
E PARTS



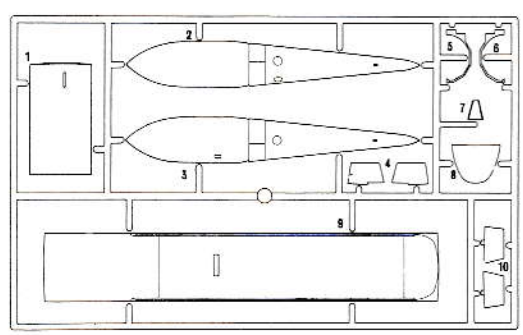
F PARTS (Transparent)



G PARTS (Dambuster)



H PARTS (Grand Slam Bomber)



C PARTS

1. Wing (Right Upper Surface)
2. Wing (Left Upper Surface)

D PARTS

1. Wing (Left Undersurface)
2. Wing (Right Undersurface)

TAMIYA
TAMIYA PLASTIC MODEL CO.
3-7, ONDAWARA, SHIZUOKA-CITY, JAPAN.