



★You will require a pair of tweezers, a file and a sharp hobby knife to build your kit.
★As this kit is composed of many fine parts, take good care when removing parts from the plastic sprues.
★Always use glue very sparingly. Too much glue will spoil your finished model.

There were two types of 88mm Gun: FLAK 36 and FLAK 37
From the contents of this kit you may build either.
FLAK 36 : used as an anti-tank gun.
FLAK 37 : used as an anti-aircraft gun.
Before starting to build your kit, you must decide which you are to build. Almost all of parts supplied in this kit are common to the two types, but obviously some parts differ. These different parts are shown in the diagrams by indication of the corresponding numbers, 36 and 37. Take good care to assemble the correct parts for the type you choose beforehand.

FLAK 36

36 : This number shows parts to be used for FLAK 36 Anti-tank Gun.

FLAK 37

37 : This number shows parts to be used for FLAK 37 Anti-aircraft Gun.

 This mark shows in which colour to be painted.

1 Assembly of Zündapp Motorcycle

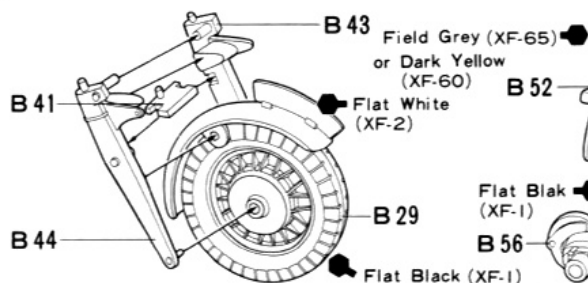
88mm gun is composed of many detailed fine parts. Assemble Zündapp Motorcycle first, and then you will get hands of assembling fine parts.



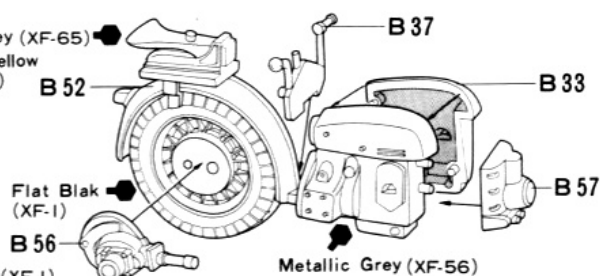
Tamiya Acrylic Paints
Need precise colour matching?
Try the new Tamiya acrylic paints. Engineered by modelers for modeler's use. The final cover for the finest models. Insist on Tamiya for perfect results.

1 Assembly of Zündapp Motorcycle

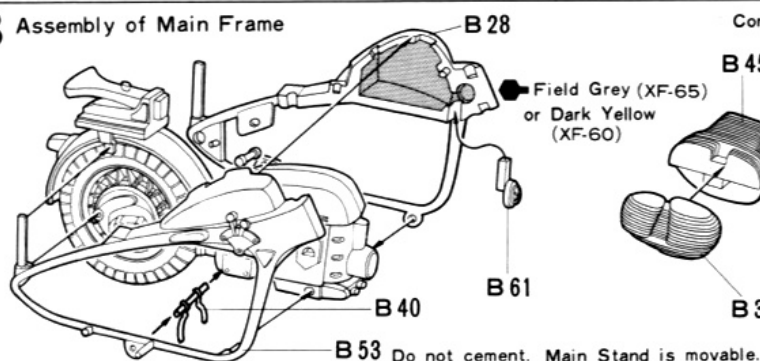
1 Assembly of Front Fork



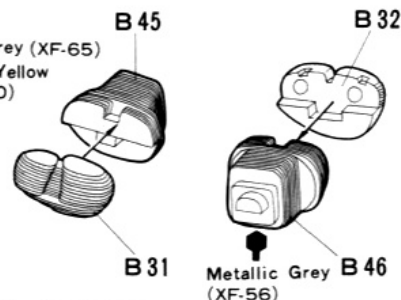
2 Assembly of Body



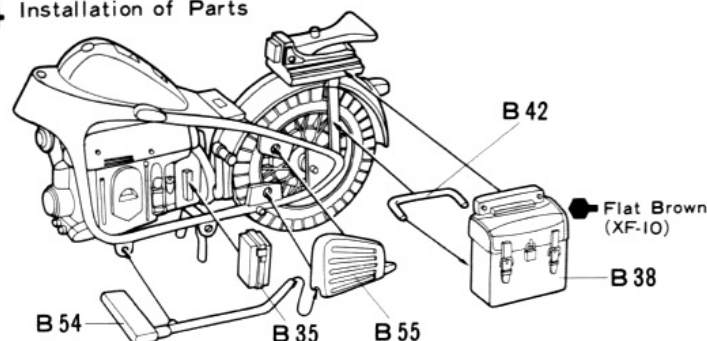
3 Assembly of Main Frame



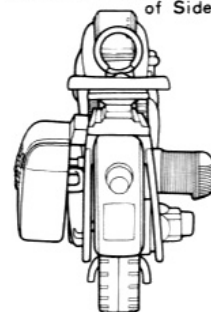
Construction of Cylinder



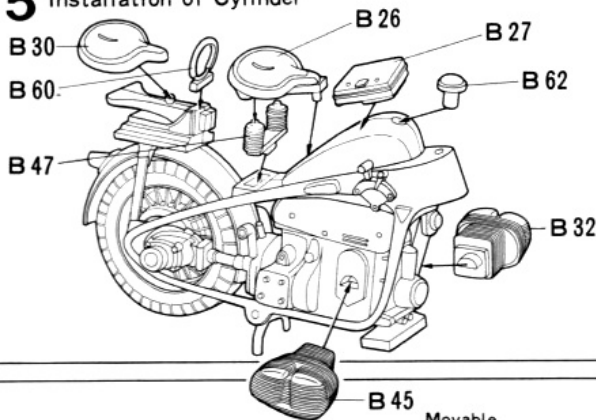
4 Installation of Parts



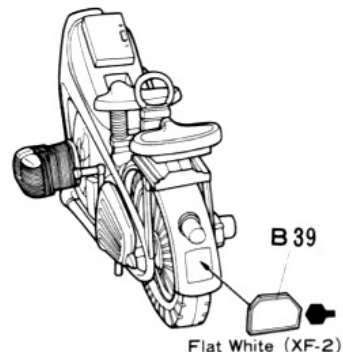
Reference Figure of Fixing of Side Bag



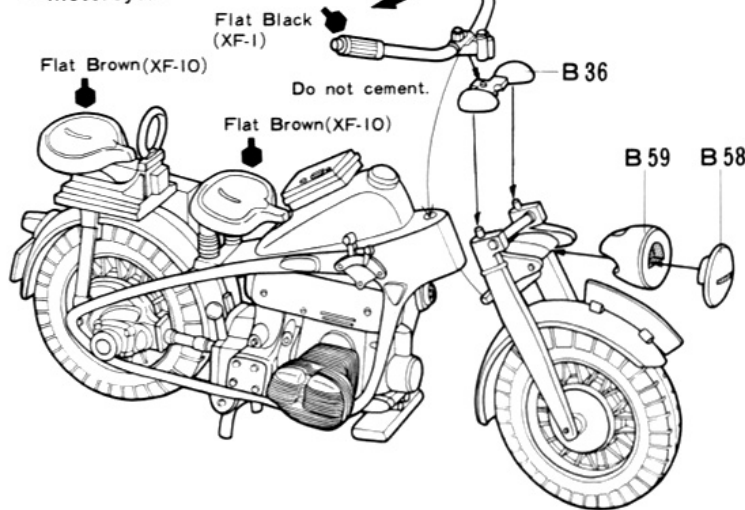
5 Installation of Cylinder



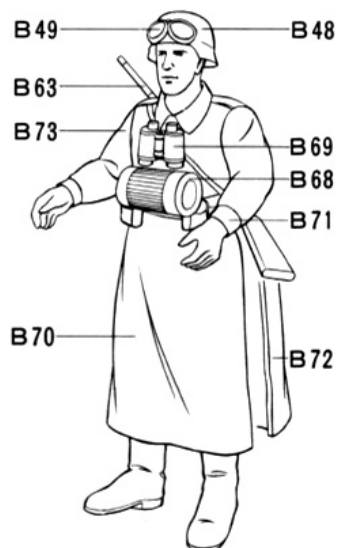
Fixing of Number Plate



6 Construction of Zündapp Motorcycle



Construction of Motorcycle Soldier



2 Assembly of Outriggers

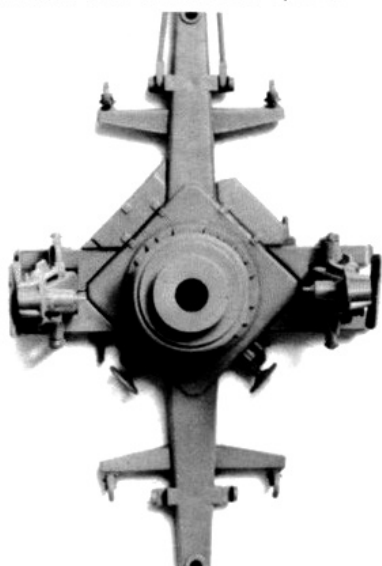
Right and left outriggers may be folded. Do not cement movable parts.

Refer to the diagram and temporarily assemble parts in blocks without applying cement. Next, see and check parts fit together well and cement them together.



3 Installation of Outrigger Parts

Front and rear outriggers may not be folded, but are to have joining parts for a carrier. Cement these parts in correct position after checking the shape of the parts in the diagram.



2 Assembly of Outriggers

Before attaching B-5, look at step 1 on page 9.

B 4

B 10

B 5

B 17

B 1

Do not cement.

B 20

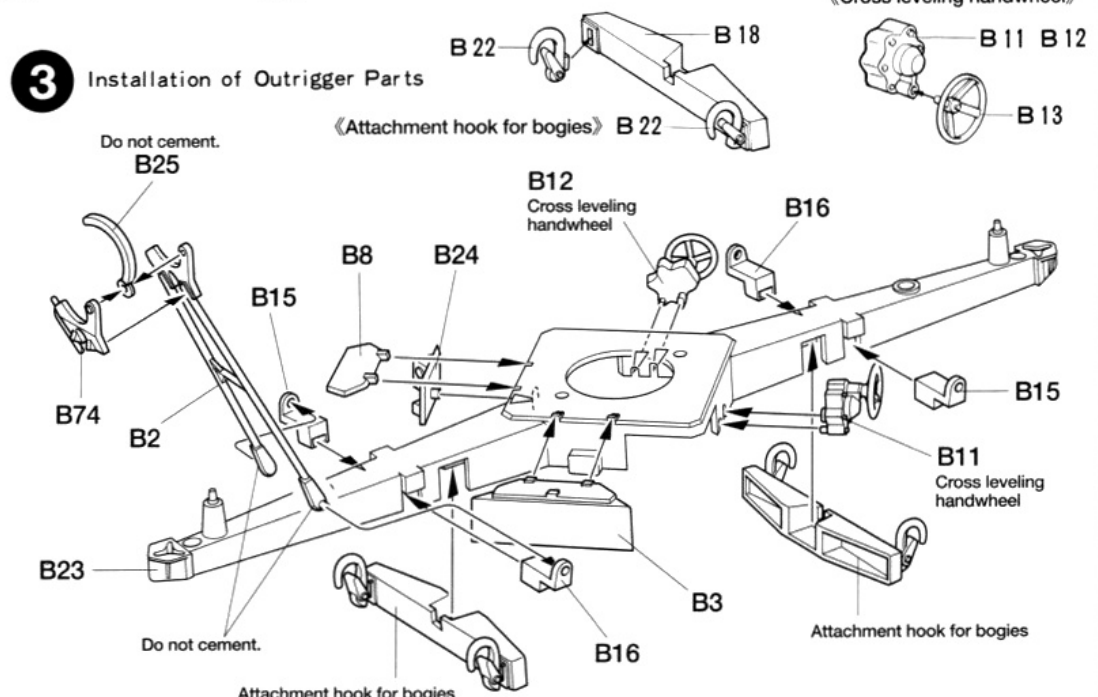
B 19

B 6

B 7

B 14

Assemble two Outriggers.



4 Completing of Gun Base Carriage

Fix part B21 last.

This diagram illustrates the final assembly step of the Gun Base Carriage. It shows the main carriage body with various components being attached. Key parts labeled include:

- A 75**: A large, cylindrical component with a flange, positioned centrally above the carriage body.
- A 69**: A smaller, cylindrical component located directly beneath A 75.
- B 14**: Two long, horizontal support arms, one on the left and one on the right, each equipped with a pin and a bracket.
- B 21**: A large, L-shaped base plate at the bottom, which is the final component to be fixed.

Arrows indicate the direction of assembly for each part.

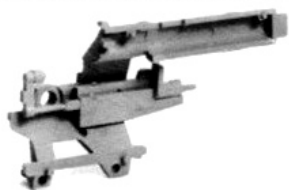
Fix part B21 last.

5 Assembly of Gun Base Parts

Refer to the diagram and assemble various parts beforehand. Take good care to assemble the correct parts for one of the two types, FLAK 36 or 37, which you are to make.

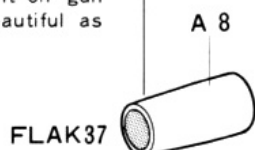


Parts A-19 and A-48 are each of different length. When gun is set at high angle, use longer part A-19. On the other hand, when gun is set at zero angle, use shorter part A-48. These parts are interchangeable according to your imaginative "combat scenes" and then do not cement either of them.



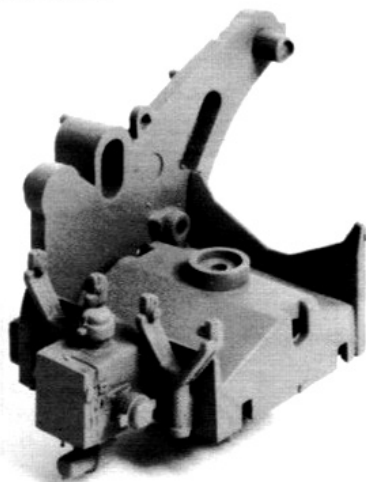
6 Assembly of Gun Barrel

Cement halves of gun barrel together. After cement has dried, scrape off surplus cement on gun barrel to make it as beautiful as possible.



7 Assembly of Top Carriage

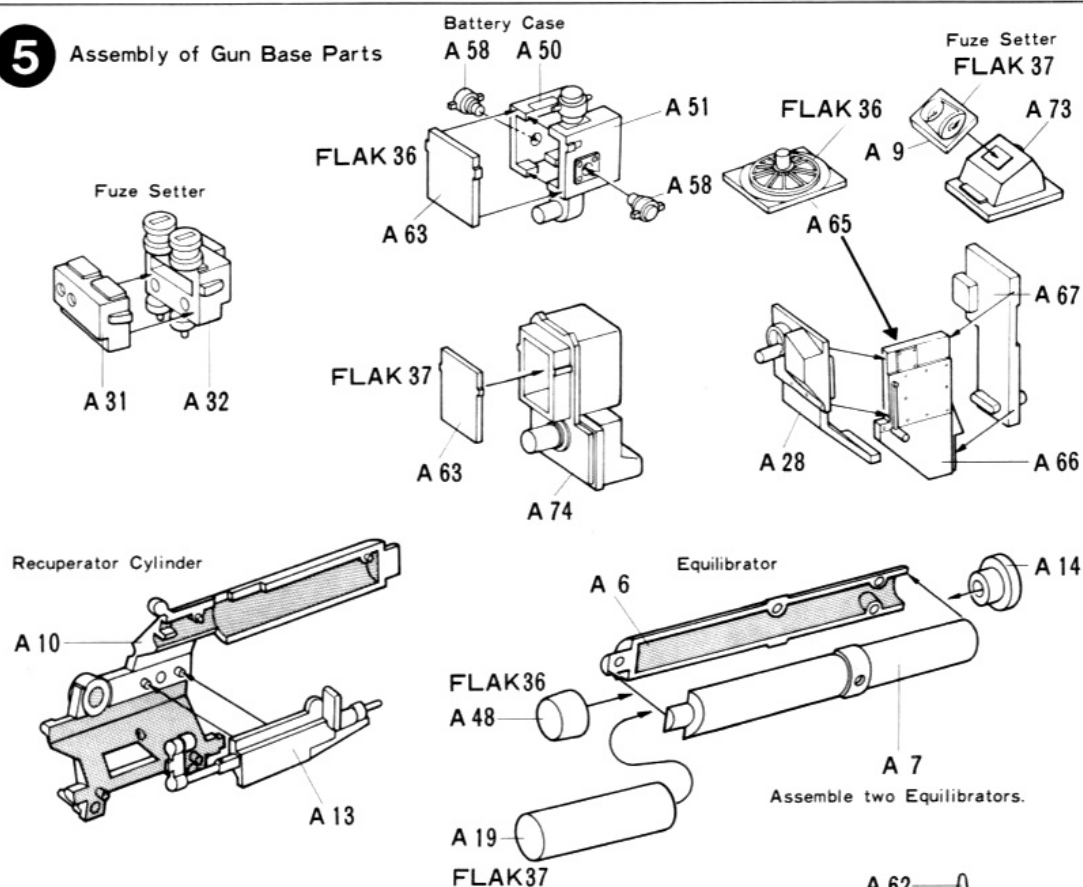
Install various parts onto right and left side plates. Cement only right side plate to main box after fixing recuperator holder and battery case to main box.



TAMIYA COLOR CATALOGUE

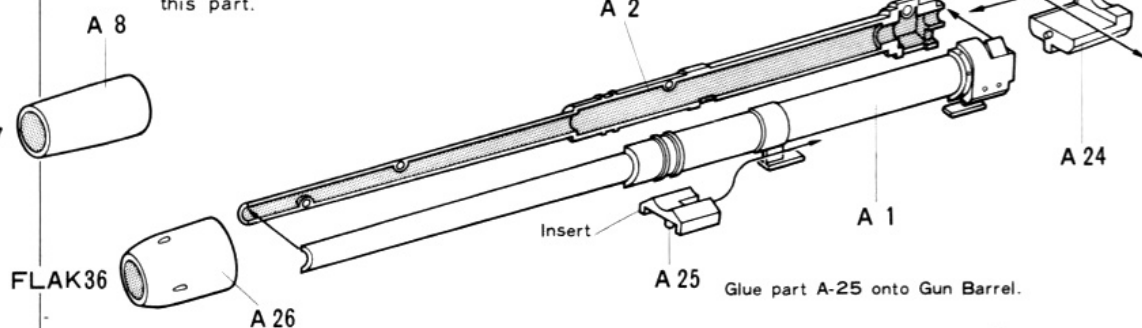
The latest in cars, boats, tanks and ships. Motorized, radio controlled and museum quality models are all shown in full color in Tamiya's latest catalogue. At your nearest hobby supply house.

5 Assembly of Gun Base Parts

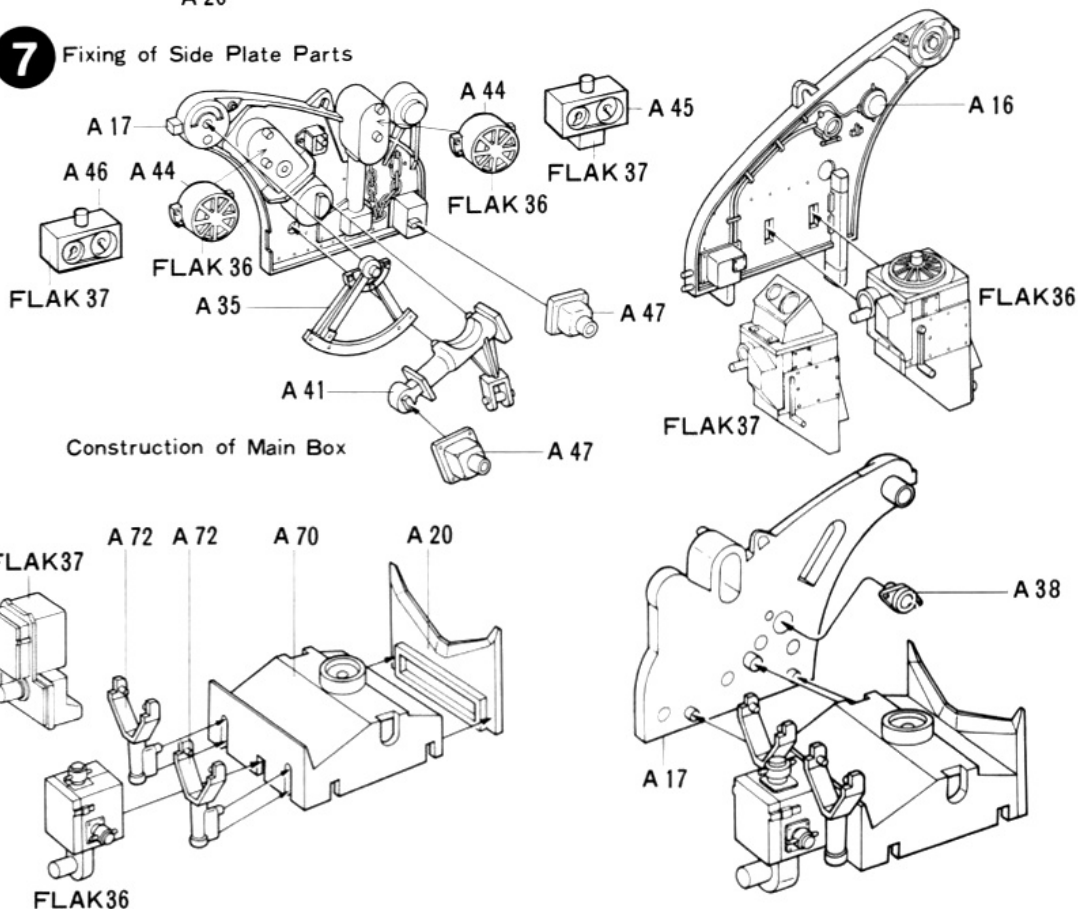


6 Assembly of Gun Barrel

Part A-23 must be set open when loading shells, so do not cement this part.



7 Fixing of Side Plate Parts



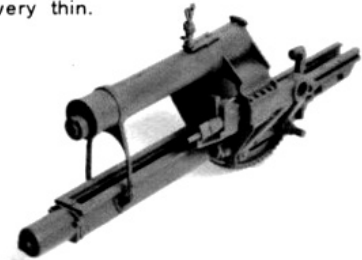
8 Assembly of Gun Cradle

When fixing part A-22, check well which end is front and rear. Cement it in correct position after checking the shape of this part in the diagram.



9 Assembly of Recuperator

Temporarily assemble part A-34 without cementing at this stage. This part should be cemented at stage 13 diagram together with part A-37. Insert legs of part A-15 into holes of angle setter by opening very carefully the two legs slightly outward with fingers. Do not open these legs too strongly as they are very thin.

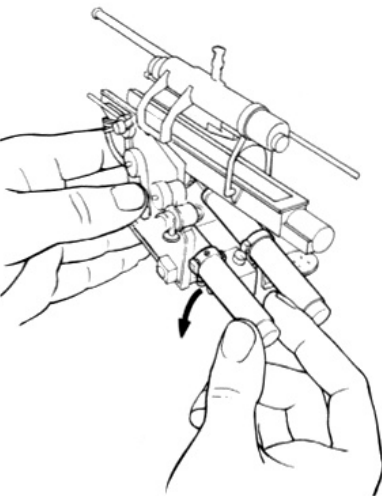


10 Assembly of Automatic Rammer

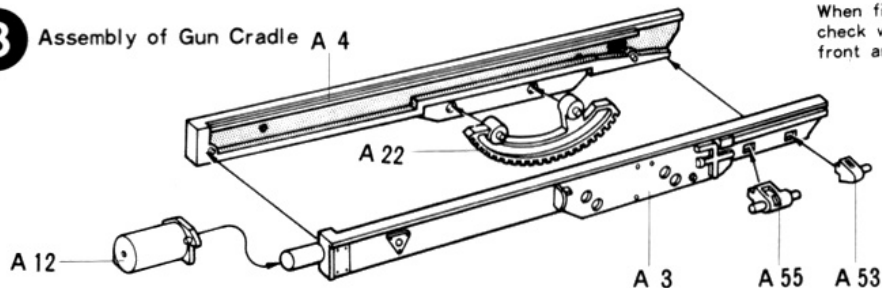
Fix automatic rammer after checking carefully where to cement.

11 Completing of Top Carriage

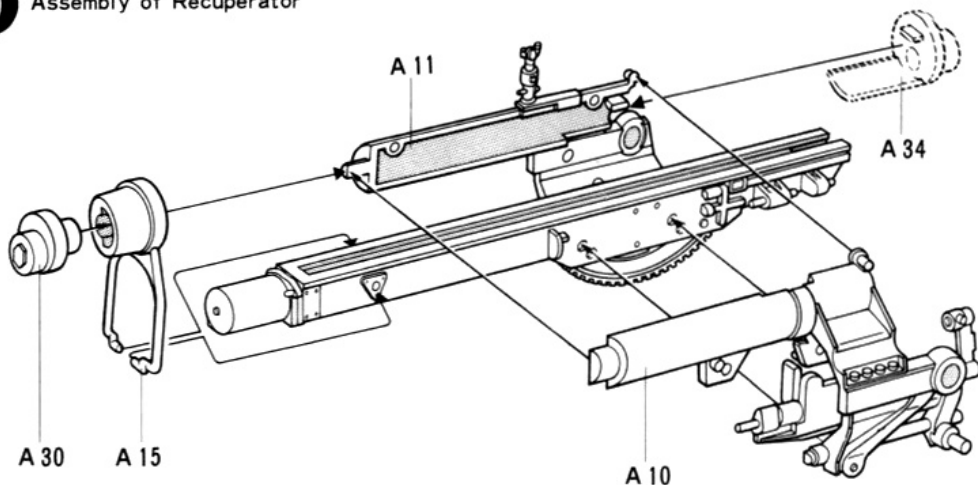
Fix left side plate to main box, and fix Recuperator to Top Carriage. All these parts are movable. Do not cement axis holders. Insert protrusion of recuperator holder through hole of one end of right and left recuperators, and then fix this part as if it is screwed in. Do not cement these parts.



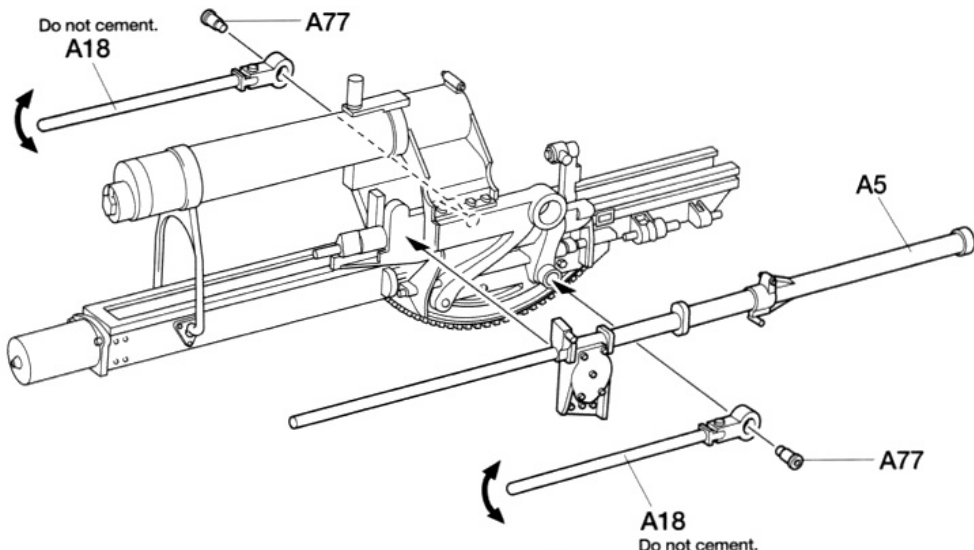
8 Assembly of Gun Cradle A 4



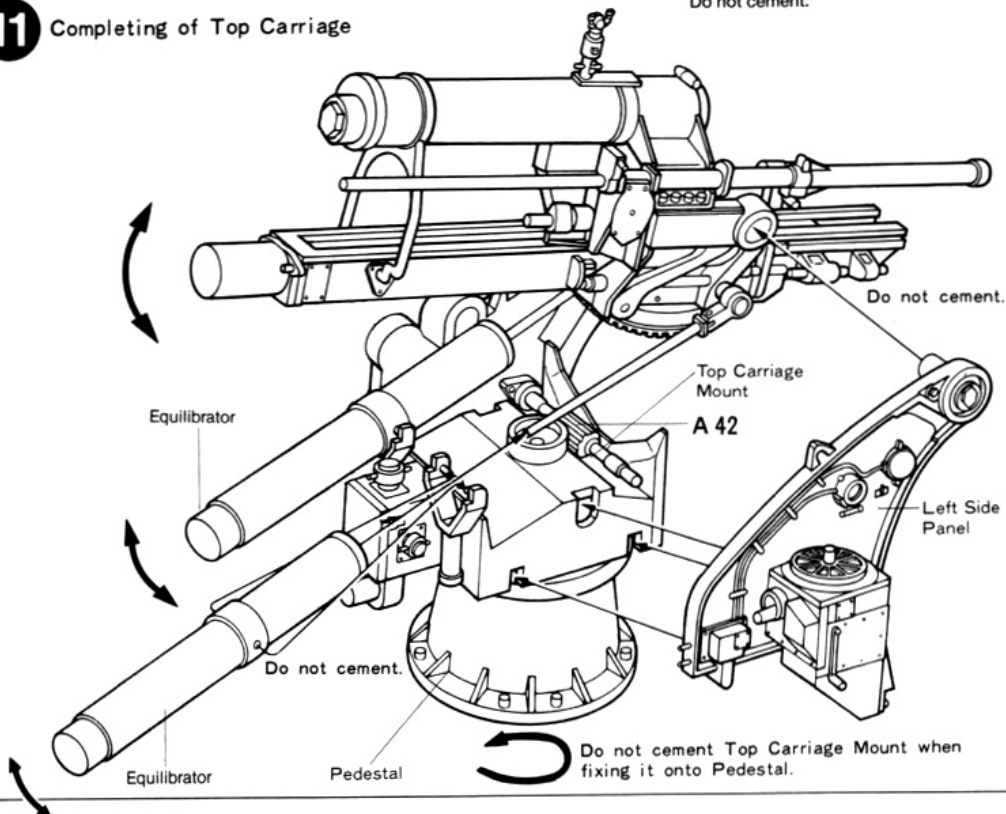
9 Assembly of Recuperator



10 Assembly of Automatic Rammer



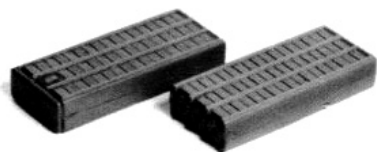
11 Completing of Top Carriage



12 Installation of Right Sided Parts
Install Telescopic sight A-56, and at the same time, fix the Gunner figure. The gunner's chair is folded when in travel. If you prefer to have gunner in firing position, he may be cemented to the seat.



Assemble three Round Containers.

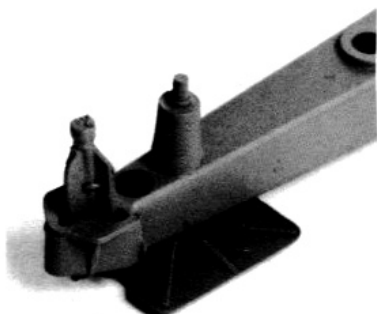


13 Installation of Left Sided Parts
Part A-71 is removed while actual firing is done. Insert this part from the underside of your model.
Do not cement Gun Shield (A-76) as this should be easily removable.

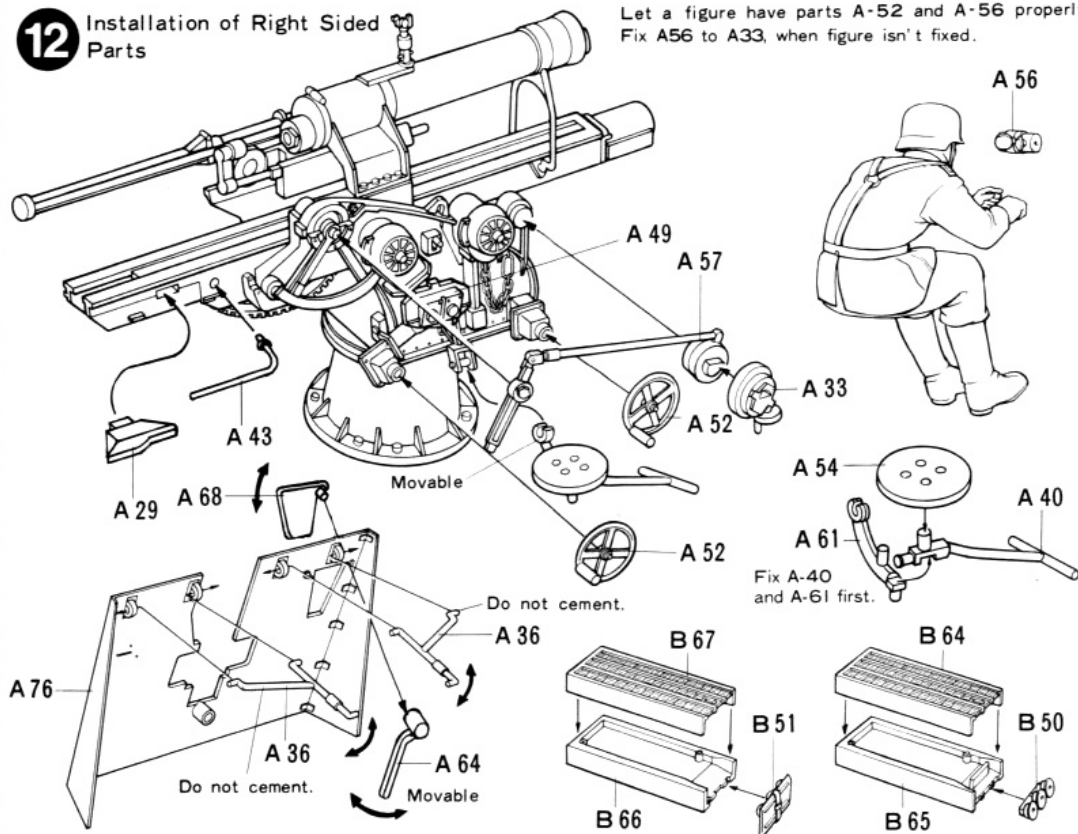


14 Completion of Gun

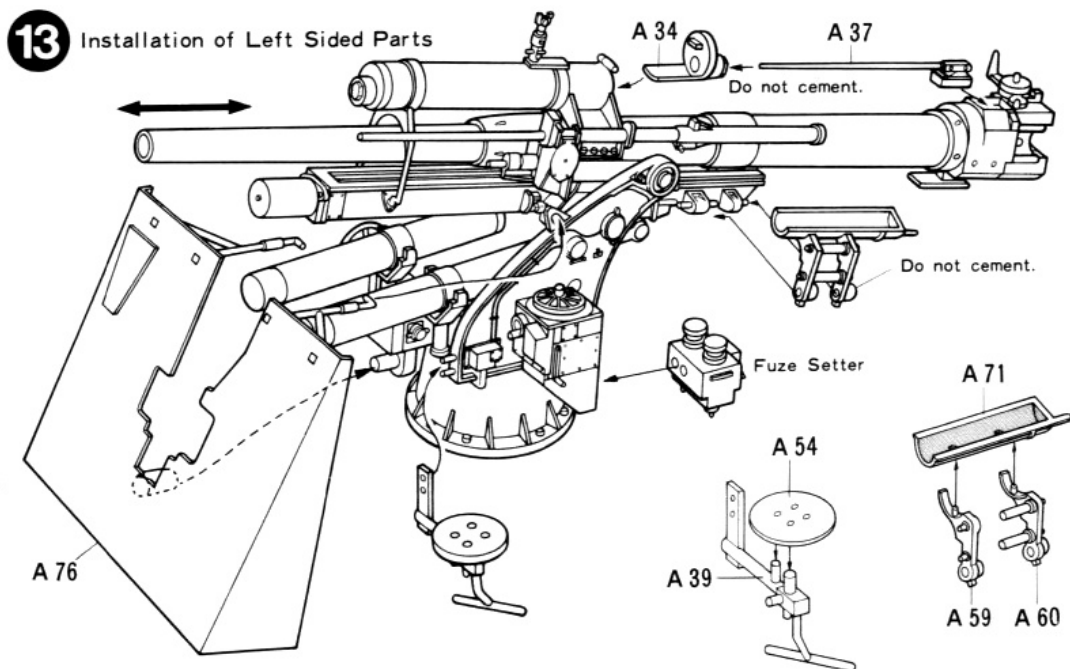
The sketch in the diagram shows that the gun is ready to fire against tanks or aircraft. If you are to use your completed model in a diorama setting, cut off lower half of part B-5, and put it into right position of Outrigger as shown in the diagram.



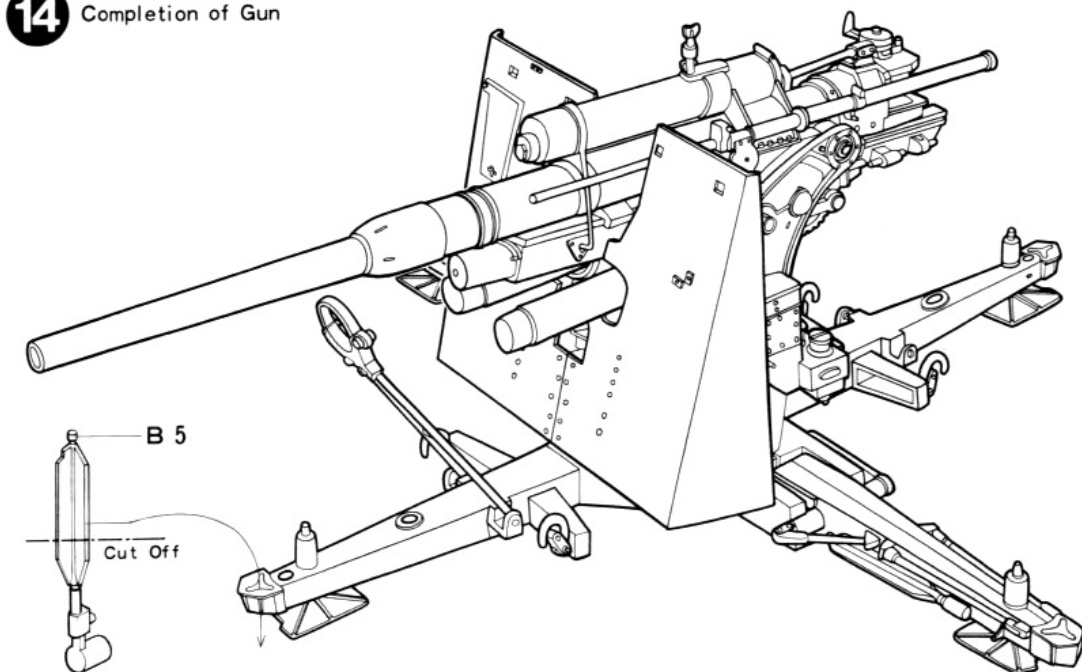
12 Installation of Right Sided Parts



13 Installation of Left Sided Parts



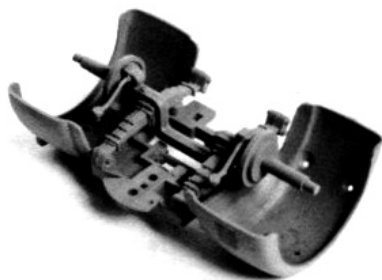
14 Completion of Gun



15 Assembly of Bogies

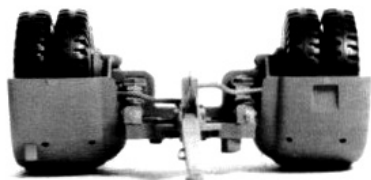
When the gun is built in travelling position the same front and rear bogies were used. In this booklet, assembly instructions are given for only one bogie of the two, but of course two bogies must be assembled.

Firstly, assemble steering section but be sure that cement is properly dried before proceeding further.



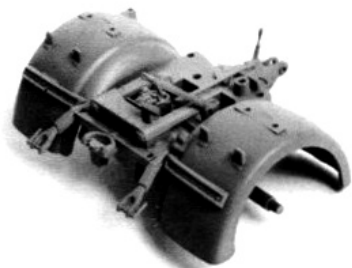
16 Installation of Steering Arm

Before installing parts C-28, C-29, pay careful attention to identify which part is right and left, upper and lower.



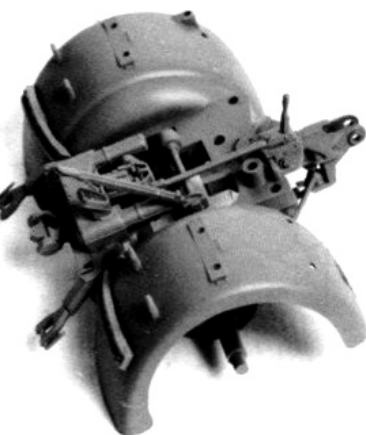
17 Installation of Upper Parts of Bogies

Upper parts of bogies are composed of fine parts. Assemble these parts in correct order of the diagram.

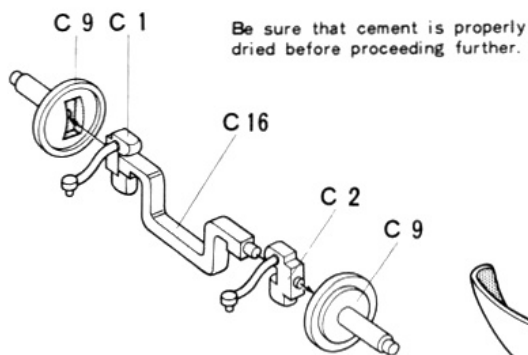


18 Installation of Cylinder

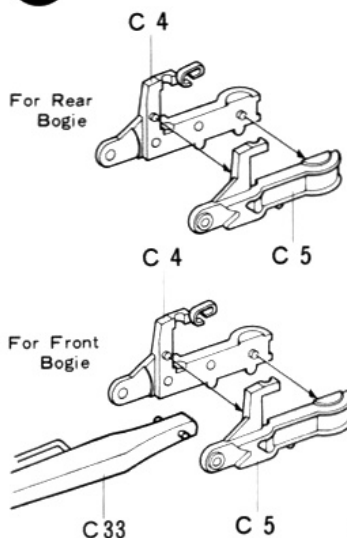
Fit nut to connect bogie and bottom carriage into hexagonal hole of part.



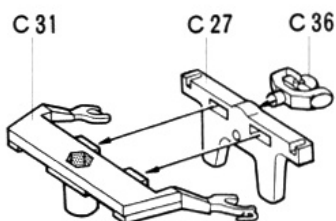
15 Assembly of Bogies



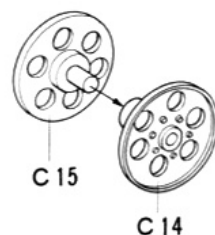
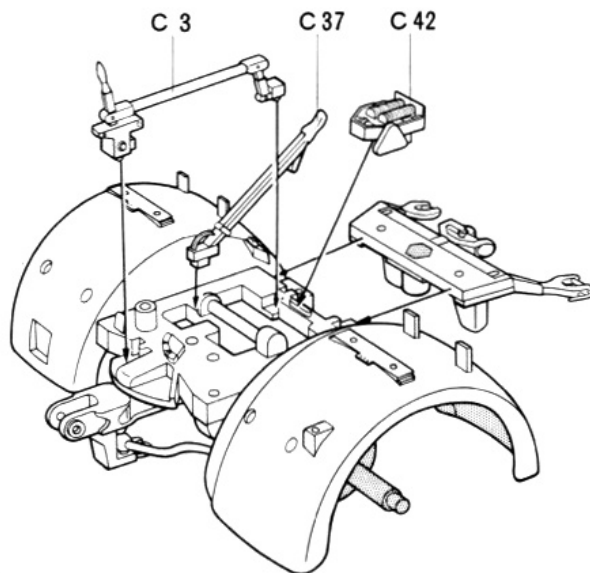
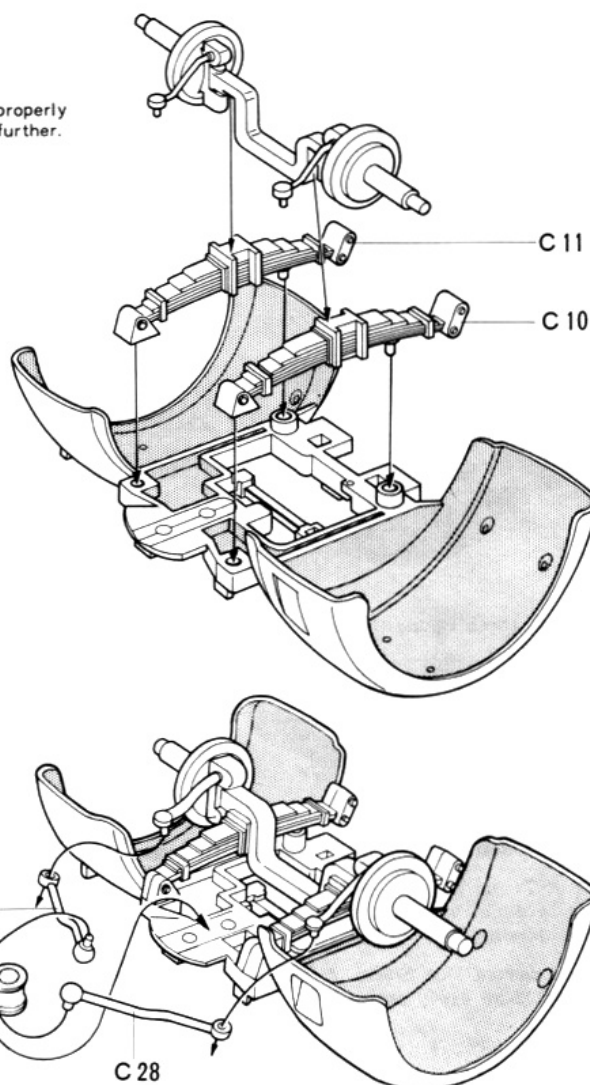
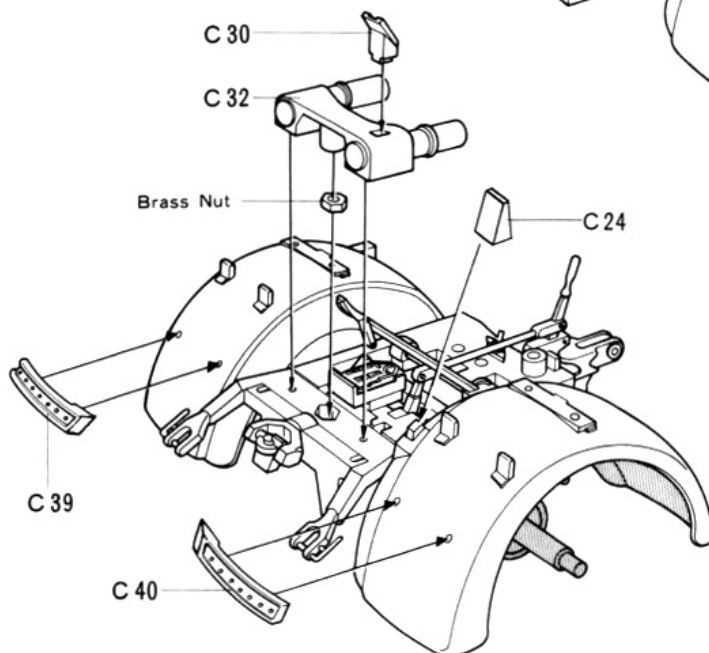
16 Installation of Steering Arm



17 Installation of Upper Parts of Bogies



18 Installation of Cylinder



Assemble two pairs of front and rear Reels.

19 Installation of Upper Parts

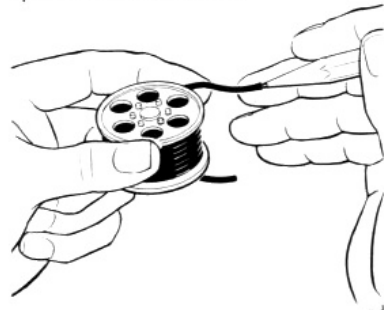
Wind 1 meter of vinyl cord around Communication reel. The sketch in diagram shows that vinyl cord is cemented, but you may leave vinyl cord suspended as it looks more as if it has been used this way.

Winding of Cord

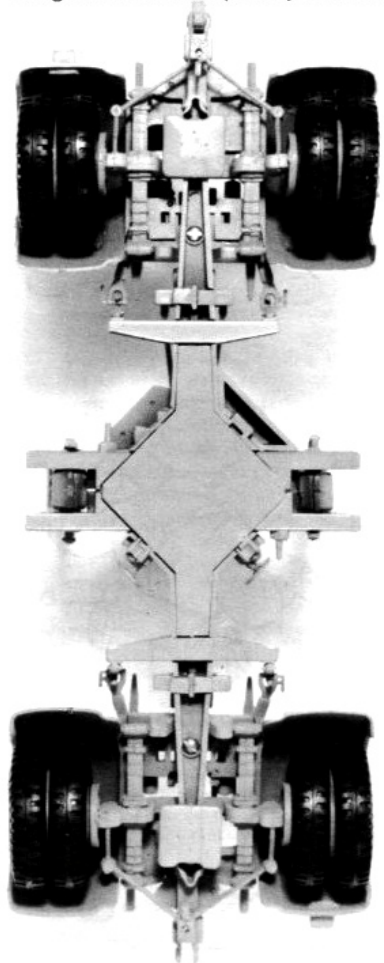
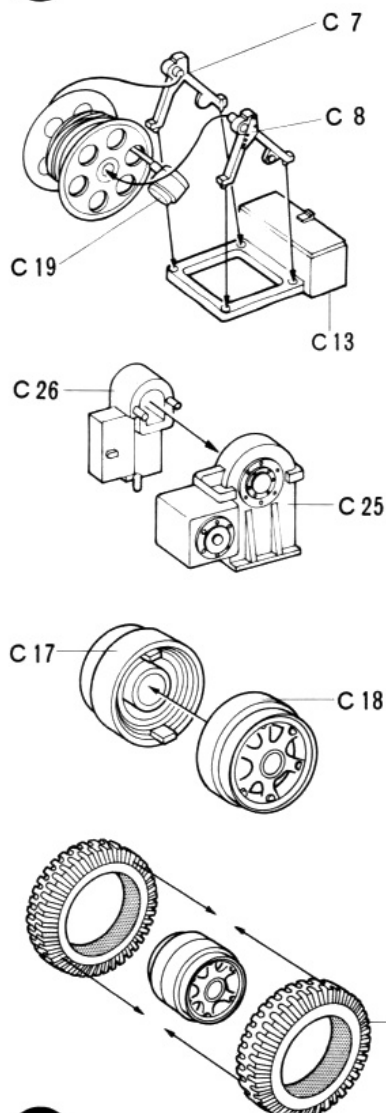
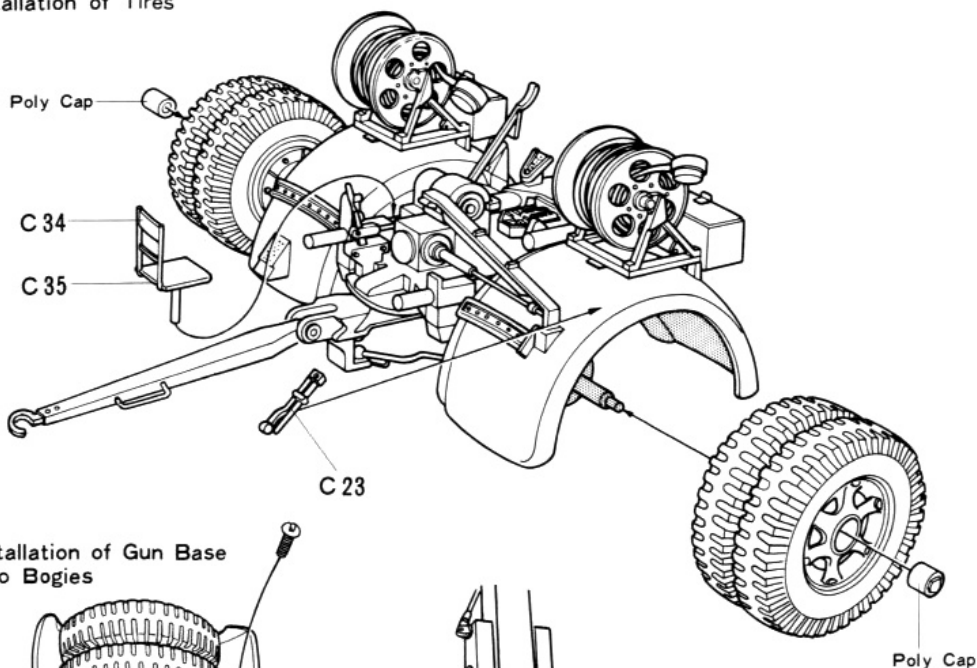
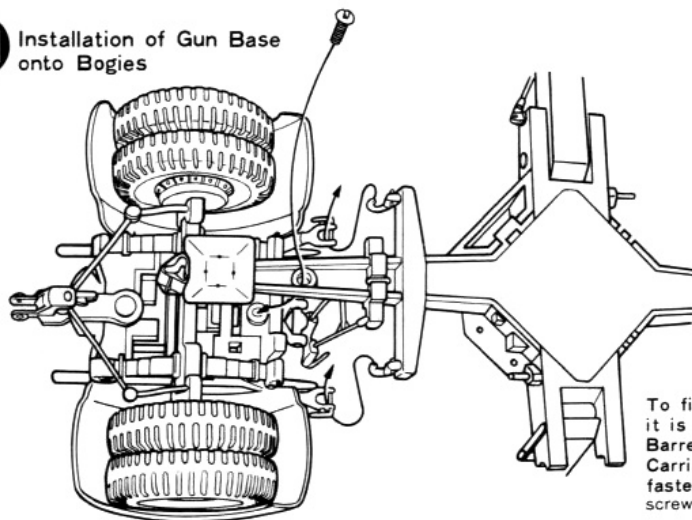
After assembling reel, wind vinyl cord neatly around reel. After vinyl cord was wound, put end of cord through one of reel holes and fix part C-19 to end of cord.



Widen hole of cord end putting pencil tip or some similar tool.

**21** Installation of Gun Base onto Bogies

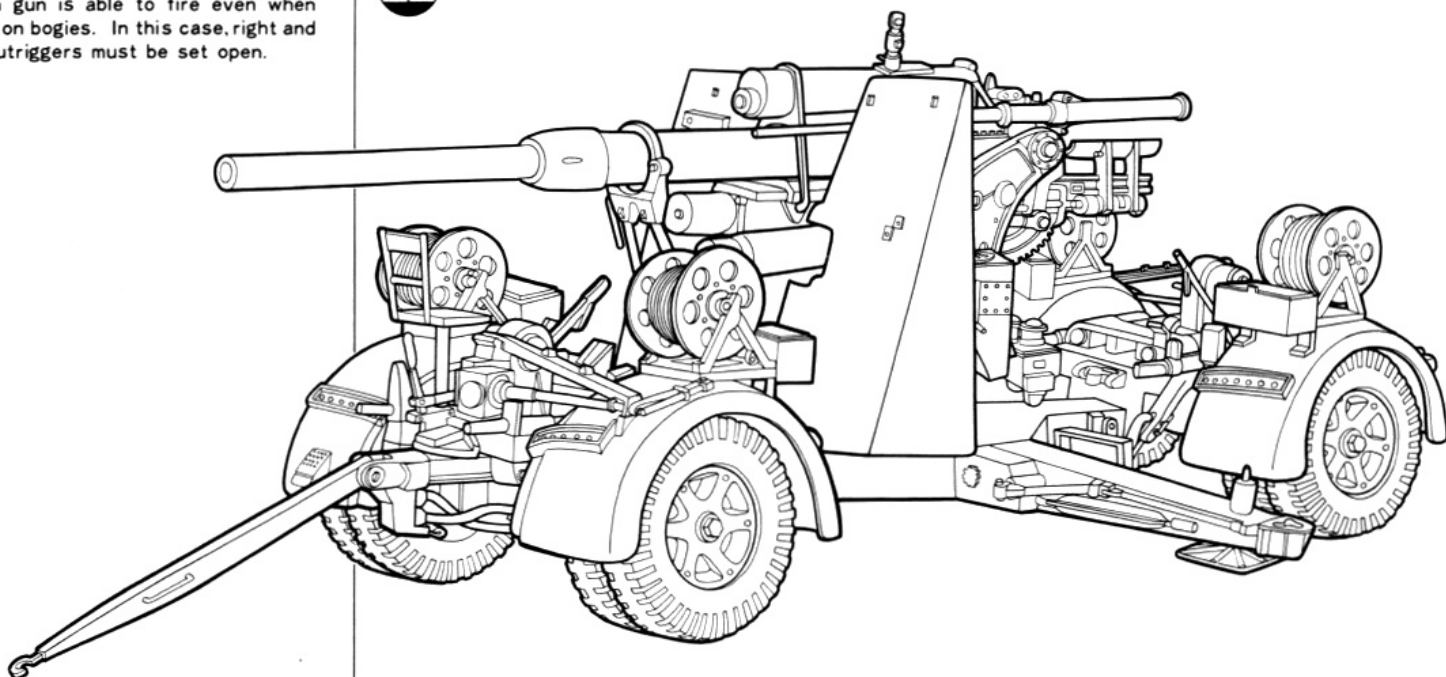
Fit gun base onto bogies with 3 mm screw as shown in the diagram. The below photo shows how bogies are fitted to gun base from which gun barrel and gun shield are temporarily removed.

**19** Installation of Upper Parts**20** Installation of Tires**21** Installation of Gun Base onto Bogies

To fit Bottom Carriage onto Bogie, it is necessary first to remove Gun Barrel. First insert Hooks of Bottom Carriage into holes of an Bogie and then fasten Bottom Carriage on Bogie with screw.

22 Completion of 88 mm Gun

88 mm gun is able to fire even when fitted on bogies. In this case, right and left outriggers must be set open.

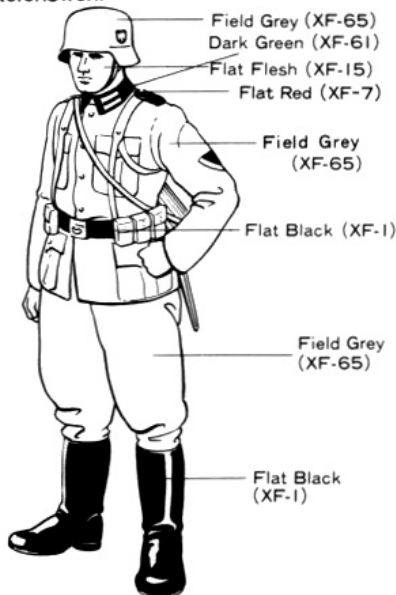


22 Completion of 88mm Gun

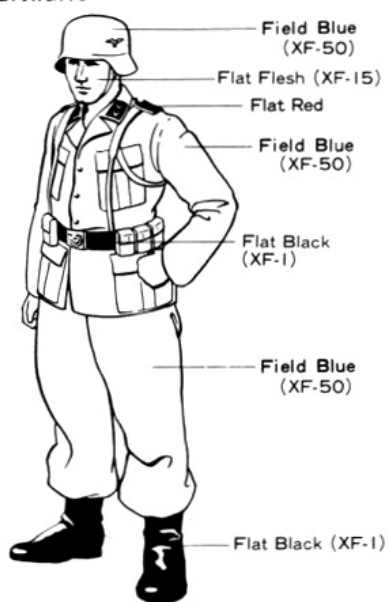
23 Assembly of Figure

Refer to the sketch well, and assemble various soldier figures. Correctly paint soldier figure in either one you prefer of the German Air Force or National Defense Army as shown below.

Reichswehr

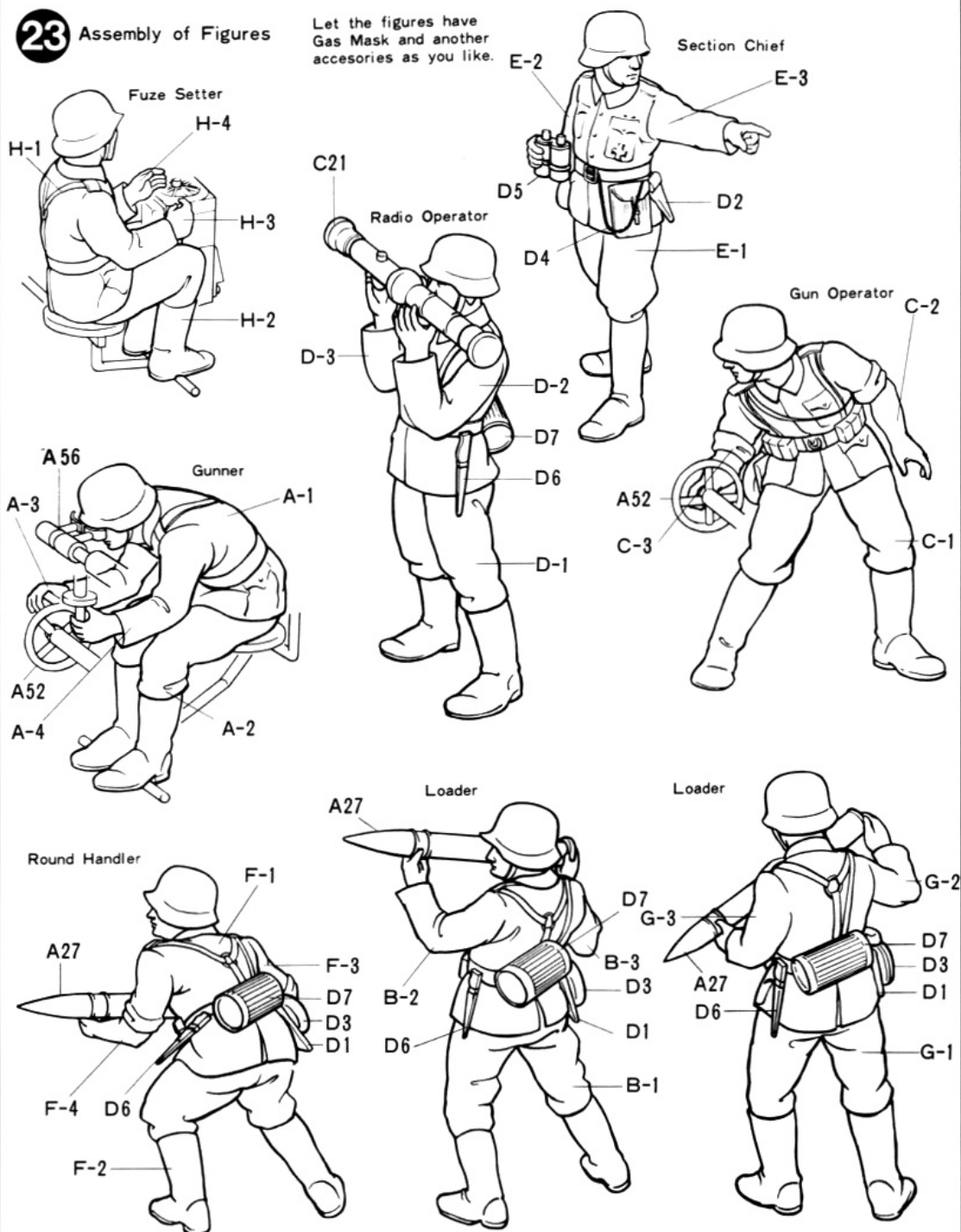


Luftwaffe



23 Assembly of Figures

Let the figures have Gas Mask and another accessories as you like.



PAINTING

《Colour of German Fire Weapons》

From 1935 to February 1943, the colour that German fire weapon had to use was uniform grey with the exception of the combination of yellow and brown and the combination of grey and green which were used in Africa. Of course, they were all sober and mat. In 1942, the two combinations for use in Africa were replaced by brown. On the Eastern front where the Germans fought against the Russians, winter white (greyish white) was sprayed over the basic colour. The winter white was of water-paint type which could be wiped off without staining the basic colour. On 18th February 1943, all colours used till then were replaced with dark yellow by order of the authorities. We may safely say, therefore, that the basic colour of German fire weapons after the order (18th February) was dark yellow. Other colours seen thereafter were those painted over the basic colour by units in the field for camouflage matching with the battle area. Olive drab (colour used by the American forces), red brown (dark brown with a red tint) and dark yellow (formal colour). The three colours may be freely painted in large rough spots or lines or spray-painted. The colour continued until the last stage of the war.

In spring of 1945, appeared fire weapon painted in one colour, dark grey. This colour was seen also on heavy fire weapons including 88 mm guns allocated at the main points on the streets of Berlin to take defense against the Allied Forces' attack. The directive issued on February 18 in 1943 for change of basic colour applied to all vehicles and weapons that were delivered from works on and later than this date. All of the force on expedition did not change colour ever painted into this colour on and later than this date.

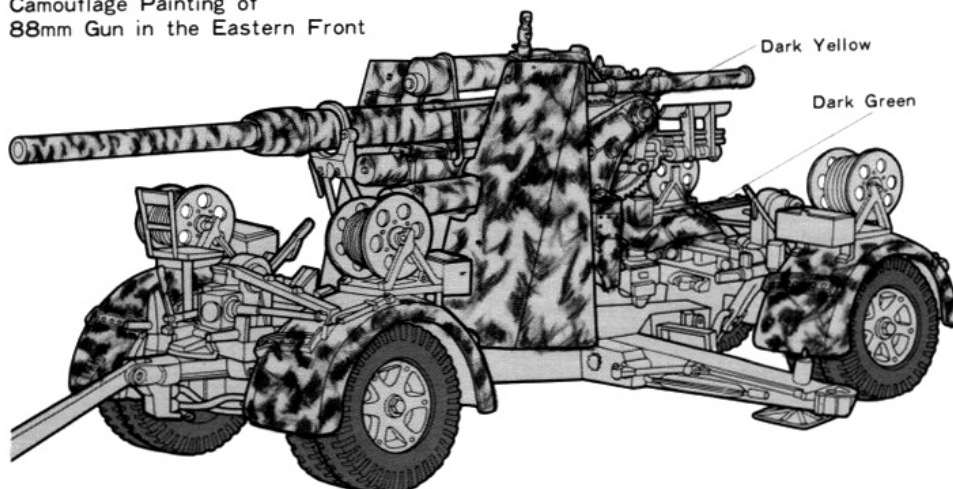
The camouflage shown in the right is only a few of patterns actually used. These few patterns did not applied to all the cases. The basic meaning of camouflage is how to conceal it from enemy. Then, its method should be a free choice. As one example, camouflage might have been done by spray painting with compressor even at the battle field if time permitted. On the other hand, camouflage might have been done only by brush or some other simple tool if at its urgent need due to its urgent mobilization. At some times, dirty body with mud after passing through muddy swamps had more camouflage effect than colour painting. This camouflage has the same meaning as insects such as ants and butterflies actually do by utilizing tree twigs, leaves, colours or shapes of plants to conceal themselves from enemies. Especially the German Forces had really advanced sense in study of camouflage effect. This applied not only to vehicles and fire weapons but also to camouflage cloths at its climax. The various camouflage cloths still now under study or development (use) in many countries originally stem all from the thought by the German Forces during World War II.

Beside camouflage painting, it was also one of the effective methods to conceal the object covering the whole with tree twigs or grass. This method was often adopted also to heavy fire weapons like 88 mm guns. But there are humorous episodes in records written by the then gunners that all twigs and grass they laid on the gun taking much time for camouflage were blown out by firing shock.

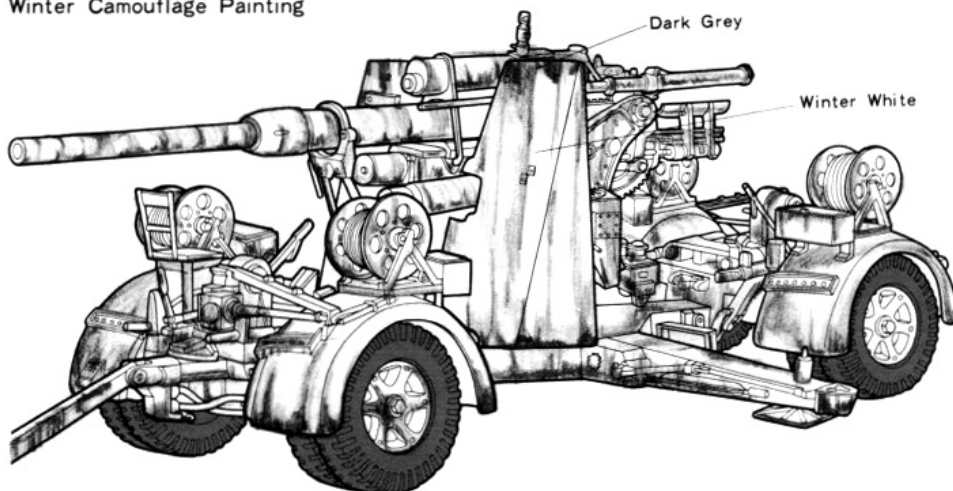
The painting method of using sand came into birth not on the Africa front first but on the Eastern front (Russia). leaves of the trees and grass begin to wither in September and it starts to make the lay of the land look in the same colour as that of withered leaves and grass.

Thus, this painting method was inevitably put into effect to conceal objects from enemy even in such a topography. Also on the Africa front, all the combats were battled not only in topography of desert. But the camouflage colour combination of Redbrown and Darkgreen was required in such topographies as Halfaya Pass or a mountain pass covered with steep sloped rocks or rocky walls.

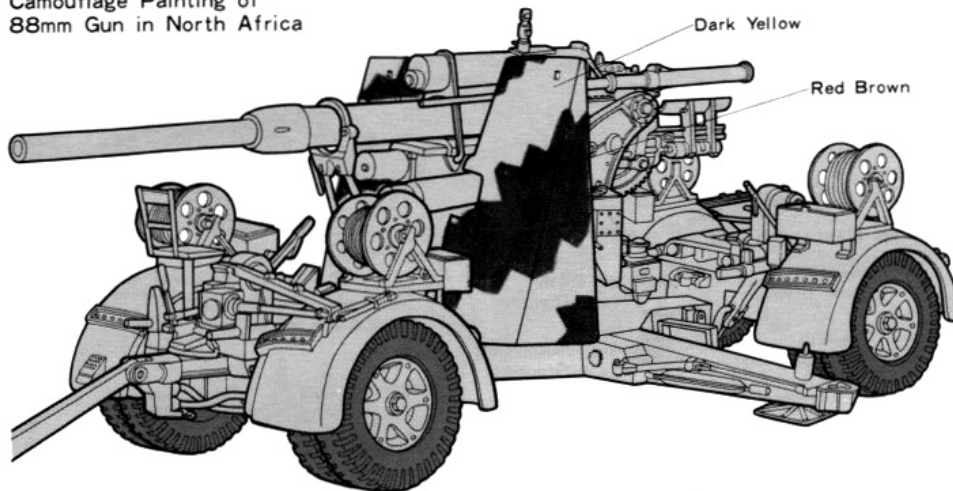
Camouflage Painting of
88mm Gun in the Eastern Front



Winter Camouflage Painting



Camouflage Painting of
88mm Gun in North Africa



APPLYING DECALS

The National Defense Army and Hitler's Life Guard both had armoured unit having 1 artillery battalion.

In case of the National Defense Army's armoured unit, 1 battalion was composed of 2 squadrons. 1 squadron usually had 4 artillery guns.

On the other hand, the Hitler's Life Guard was composed of 3 squadrons and had 12 artillery guns, 4 more guns than the National Defense Army in total. This is due to the reason that priority was given to the Hitler's Life Guard in allocation of weapons.

The standard formation of regular Infantry Unit did not have 88 mm artillery guns. The irregular unit having 2 regiments only had 12 88 mm artillery guns to compensate for its irregularity. For travel of this 88mm gun, 8 ton Semi Track (SdKfz 7) was used which was especially produced by Krauss-Maffei. 1 squadron had 5 trucks including 1 reserve truck.

<Marking of 88mm Gun>

Killmark:

Whether to mark killmark quite depended on each battery. Some batteries did this and some others not. This seemed to be up to artillery soldiers' choice. Among the German Forces, there were no strict restrictions against such custom. Killmark was used in two ways. One is to show the numbers of planes they destroyed or shot down. The other is to show the numbers of planes they will destroy or shoot down to encourage themselves at the first stage of allocation to the battery. In this case, enemy's nationality mark seemed to be marked on part of the white strip of killmark when they destroyed enemy's vehicle or fighter plane.

<Symbol Mark>

A symbol mark of some battery (It is up to you whether to put this mark on your model).

The shape of this mark is a cat but it is not clear what meaning this mark had.

Divisional Marks

In the Eastern Front

 the 4th Tank Division

 the 5th Tank Division

 the 24th Tank Division
 the Großdeutschland Tank Grenadier Division

In the Italian Front

the Luftwaffe
the Hermann Göring Air-borne Panzer Division

In the Normandy

In the North Africa

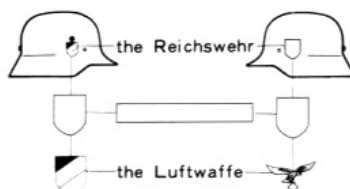
 the 15th Tank Division

 the 21st Tank Division

 Symbol of the Afrika Korps
The 15th and the 21st Tank Division under the command of General Rommel fought in North Africa.

Uniforms and Marks of Artillerymen

The Luftwaffe artilleryman



The Reichswehr artilleryman

Motorcycle Soldier



Marks of 88mm Gun

Kill Mark



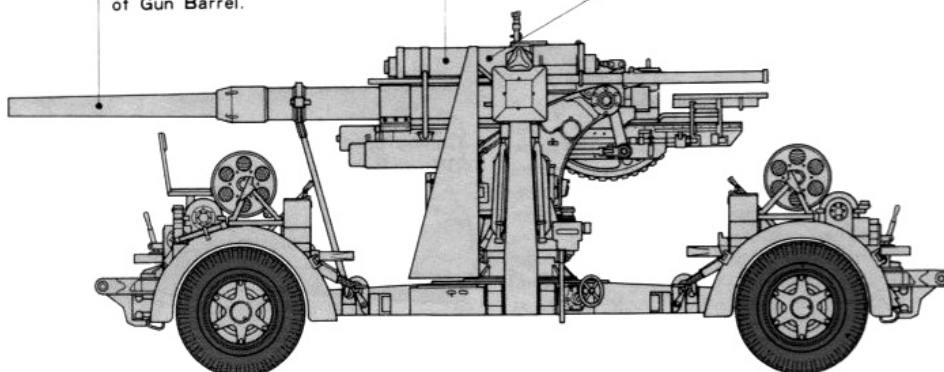
In case of Flak 37, cut Decal in length of Gun Barrel.

Mark of shooting position

A · B · C · D

Choose one mark and apply it.

Symbol Mark



Mark of the Afrika Korps

In rear, the marking position is the same.

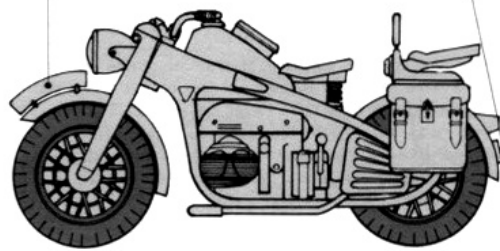
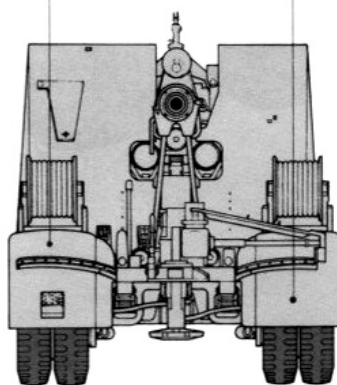
Divisional Mark

Vehicle Number

WH-99120

Vehicle Number

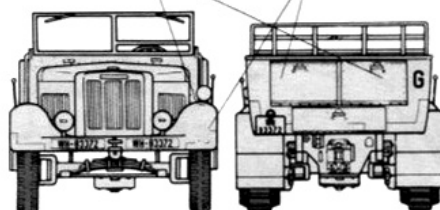
WH 99120



Marks of 8 ton Semi Track

<Divisional Mark>

<Tactical Mark>



<Tactical mark>

The 8 ton semi track to pull 88 mm gun obviously had the same marks as those on 88 mm gun. This truck had the below tactical mark when pulling 88 mm gun. This mark shows artillery battalion.



This mark was used in and after 1943 in place of the mark at left.
Company Number

PARTS

A PARTS

1. Gun Barrel (Left)
2. Gun Barrel (Right)
3. Cradle (Left)
4. Cradle (Right)
5. Automatic Rammer (A)
6. Equilibrator (A)
7. Equilibrator (B)
8. Locking Collar - Flak 37
9. Fuze Setter Part A - Flak 37
10. Recuperator Cylinder (Left)
11. Recuperator Cylinder (Right)
12. Recoil Cylinder Head
13. Automatic Rammer (B)
14. Equilibrator Part (A)
15. Recuperator Cylinder Holder
16. Top Carriage (Left)
17. Top Carriage (Right)
18. Equilibrator Arm
19. Equilibrator Part (B)
20. Main Box Plate
21. Cartridge Case
22. Elevation Gear
23. Breechblock
24. Breech
25. Cum
26. Locking Collar - Flak 36
27. Round
28. Fuze Setter Part (B)
29. Cradle Part (A)
30. Recuperator Cylinder Head
31. Fuze Setter Part (C)
32. Fuze Setter Part (D)
33. Elevation Operating Handle
34. Recuperator Cylinder Bottom
35. Direct Sight Bracket
36. Shield Stay
37. Recuperator Cylinder Piston
38. Elevation Gear Part
39. Stay (A)
40. Stay (B)
41. Seat Stay Part (A)
42. Elevation Gear (B)
43. Cradle Part (B)
44. Indicator
45. Meter Box (A) - Flak 37
46. Meter Box (B) - Flak 37
47. Handwheel Holder
48. Equilibrator Part (C)
49. Meter Panel
50. Battery Case (A) - Flak 36
51. Battery Case (B) - Flak 36
52. Handwheel
53. Loading Tray Hinge (A)
54. Seat
55. Loading Tray Hinge (B)
56. Telescopic Sight
57. Elevation Indicator
58. Battery Case (C) - Flak 36
59. Loading Tray Part (A)
60. Loading Tray Part (B)
61. Seat Stay Part (B)
62. Breechblock Lever
63. Battery Case (D) - Flak 36
64. Shield Slit Lever
65. Fuze Setter Part (E)
66. Fuze Setter Part (F)
67. Fuze Setter Part (G)
68. Slit Shutter
69. Pedestal
70. Top Carriage Mount
71. Loading Tray
72. Equilibrator Stay
73. Fuze Setter - Flak 37
74. Battery Case - Flak 37
75. Pedestal Bottom
76. Shield

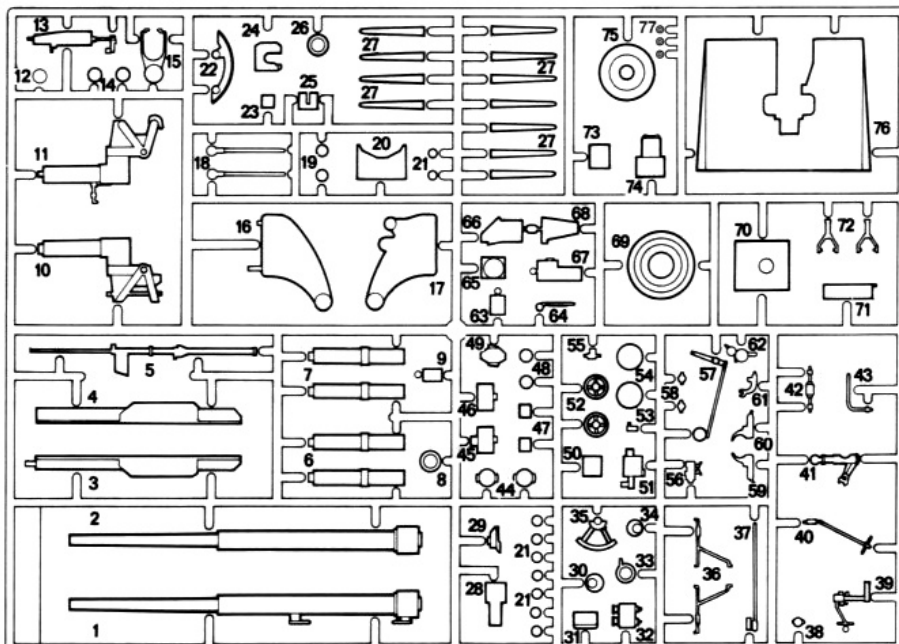
B PARTS

1. Leveling Jack
2. Gun Travel Lock
3. Tool Box
4. Stake Guid
5. Stake
6. Outrigger Locking Arm
7. Outrigger Locking Pin
8. Meter Box Cover
9. Outrigger (A)
10. Outrigger (B)
11. Pedestal Leveling (A)
12. Pedestal Leveling (B)
13. Pedestal Leveling Handwheel
14. Jack Pad
15. Gun Travel Lock Support (Left)
16. Gun Travel Lock Support (Right)
17. Locking Bar
18. Outrigger Part
19. Outrigger Holder (A)
20. Outrigger Holder (B)
21. Bottom Plate
22. Connecting Hook
23. Bottom Carriage
24. Meter Panel
25. Gun Travel Lock (B)
26. Driver Seat
27. Box
28. Frame
29. Front Tire
30. Rear Seat
31. Cylinder (Right - A)
32. Cylinder (Left - A)
33. Engine (Left)
34. Handle Bar
35. Battery
36. Fork Top Bridge
37. Kick Pedal
38. Side Bag
39. Number Plate
40. Stand
41. Fork Bridge
42. Side Bag Holder
43. Front Fork (Left)
44. Front Fork (Right)
45. Cylinder (Right - B)
46. Cylinder (Left - B)
47. Spring
48. Helmet
49. Goggle
50. Cartridge Case Bottom
51. Round Container Cover
52. Engine (Right)
53. Frame
54. Exhaust Pipe
55. Muffler
56. Drive Shaft
57. Engine Front Part
58. Headlight
59. Headlight
60. Rear Grip
61. Horn
62. Fuel Tank Cap
63. Rifle KAR 98K
64. Round Container (A - Upper)
65. Round Container (A - Lower)
66. Round Container (B - Lower)
67. Round Container (B - Upper)
68. Gas Mask Case
69. Binoculars

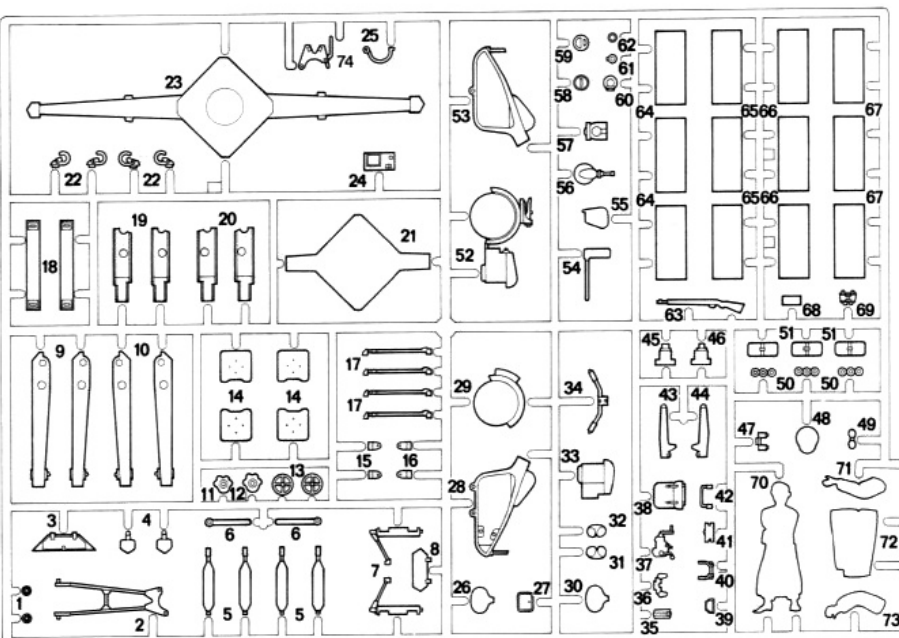
C PARTS

1. Upright (Left)
2. Upright (Right)
3. Lever
4. Connecting Rod Receptacle (Left)
5. Connecting Rod Receptacle (Right)
6. Winch Shaft
7. Reel Support (Left)
8. Reel Support (Right)
9. Wheel Shaft
10. Spring (Right)
11. Spring (Left)
12. Hammer
13. Tool Box
14. Reel (A)
15. Reel (B)
16. Track Rod
17. Wheel (Inner)
18. Wheel (Outer)
19. Cable Parts
20. Shovel
21. Range Finder
22. Step (A)
23. Winch Lever
24. Step (B)
25. Winch Motor (A)
26. Winch Motor (B)
27. Bottom Carriage Receptacle
28. Steering Arm (Right)
29. Steering Arm (Left)
30. Step (C)
31. Connecting Hook Part
32. Cylinder
33. Connecting Rod
34. Seat Back
35. Seat
36. Hook
37. Hand Brake Lever
38. Fender Support Arm (A)
39. Fender Support Arm (B)
40. Fender Support Arm (C)
41. Fender Support Arm (D)
42. Bumper
43. Bogie Stopper (A)
44. Bogie Stopper (B)

A



B



C

