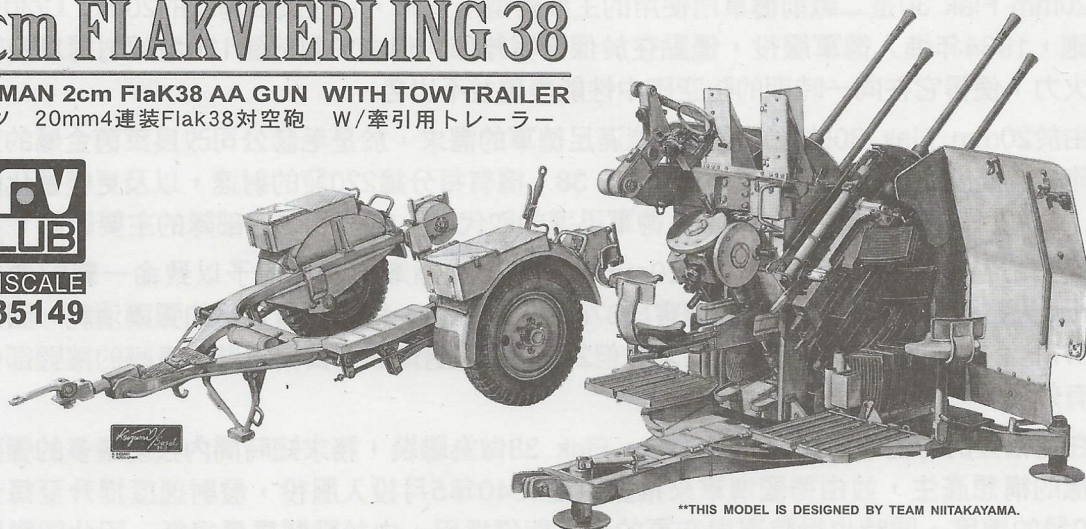


# 2cm FLAKVIERLING 38

GERMAN 2cm FlaK38 AA GUN WITH TOW TRAILER  
ドイツ 20mm4連装Flak38対空砲 W/牽引用トレーラー



1/35 SCALE  
AF35149



\*\*THIS MODEL IS DESIGNED BY TEAM NIITAKAYAMA.

The Flak 30 (Fliegerabwehrkanone 30) 20 mm anti-aircraft gun was widely used by various German forces throughout the Second World War.

It was the primary German light anti-aircraft gun, developed from Kriesmarine shipborne 20mm C/30, entered service in 1934. Its low rate of fire, 120 rounds per minute, became the main disadvantage and shadowed by other contemporary AA guns, despite easy of set-up and maintenance.

Rheinmetall responded with the 20 mm FlaK 38, with an increased 220 rounds per minute rate of fire and lighter design. It was accepted as the standard weapon in 1939, and replaced FlaK 30.

In the meantime, 20mm rounds was outclassed by ever-increasing speeds enemy aircrafts. A 37mm gun could projectile 8 times of the volume, comparing to a 20mm one. Therefore the Germany Army started to introduce 37mm AA guns. Yet, the 20mm gun was still a very efficient weapon for anti-personnel and light armour vehicles. As a result, Rheinmetall introduced the 2 cm Flakvierling 38, a quad-mounted 20mm Flak 38 AA guns.

With rounds per minute rate of fire, the 2 cm Flakvierling 38 was firstly adopted by the Kriesmarine on May 1940, other services followed. It saw services in half-tracks, tank bodies, U-boats, ships and fixed installations.

20mm対空砲Flak30は、第二次大戦中ドイツの各軍によって広く用いられた。それは、1934年に海軍に採用された20mmC/30機関砲をベースに開発された、ドイツ軍初期の軽対空砲であった。設置が容易で整備性も良好だったものの、1分間120発という低い発射速度は、同時代の他の対空砲に比べて見劣りすることは否めなかった。

ラインメタル社は、発射速度を1分間220発に向上させ、軽量化を図った20mm対空砲Flak38を開発、1939年にFlak30に代わって標準火器として採用されたのだった。

その間にも航空機の性能は日々向上し、その速度に対して20mmという口径は、対応出来なくなりつつあった。37mm口径の対空砲は20mm対空砲に比べて8倍の発射弾量があったため、ドイツ軍は37mm対空砲の採用を開始していた。とはいえ、20mm対空砲は、歩兵や軽車両に対しては依然として非常に効果的な武器であることから、ラインメタル社は、砲架に4門のFlak38を装備したタイプを開発した。発射速度の向上によって、1940年5月まず海軍によって採用され、他の各軍にも続いて採用された。4連装Flak38は、ハーフトラックや戦車、Uボートや各種艦艇に搭載され、また基地施設の対空火器としても広く設置されたのだった。

20mm Flak 30是二戰前德軍所使用的主要輕型防空砲，它改良自海軍的20mm C/30型防空砲，1934年進入德軍服役，優點在於保養與維修，但由於每分鐘120發的射速以及貧弱的火力，使得它在同一時期的防空砲中性能表現並不出色。

由於20mm Flak 30的性能逐漸不能滿足德軍的需求，於是毛瑟公司改良萊茵金屬的空用機砲做為防空砲，而完成了20mm Flak 38，擁有每分鐘220發的射速，以及更輕量化的設計，讓20mm Flak 38在1939年進入德軍迅速的取代Flak 30成為防空部隊的主要裝備。

面對日益高速的飛行機性能，20mm的防空火砲漸漸不能負荷予以致命一擊的要求，20mm火砲對於飛行機所造成的傷害與37mm火砲相較，約需高達八倍的彈藥消耗，因此引進37mm的空砲成為當前迫切的需求，但20mm火砲對地面人員與輕裝甲車輛的摧毀卻仍相當有效。

在此權宜的考量下，集合四門20mm Flak 38做為聯裝，務求短時間內投射最多的彈藥至目標的構想產生，並由德國海軍來推動，至1940年5月投入服役，發射速度提升至每分鐘800發的速度，同時也受陸軍與空軍的青睞而獲採用，由於戰鬥重量很低，因此四聯裝的20mm Flak 38被大量搭載配屬於各型艦艇、列車、固定陣地與輪履型車輛之上。

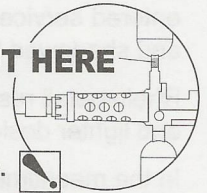
### Illustration:圖示說明



因產品中有極精細的部件，請由標示處切除以避免損害零件。

Note: Cut off at here first to avoid damage.

**CUT HERE**



### Method for applying decals:

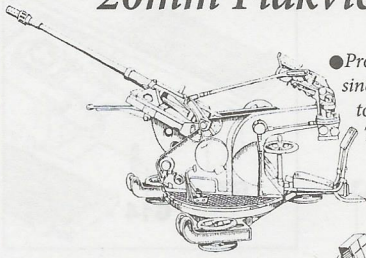
### 水貼紙使用說明:

1. Clean model surface with wet cloth.
  2. Cut out of decal sheet and dip them in warm water for 15 seconds.
  3. Place it on proper position on model.
  4. Slide off base paper leaving decals on model with wet finger tip.
  5. Move decals to exact position, push out excess water under decal with soft cotton cloth.
  6. When decals get dry then complete.
1. 將模型表面擦乾淨
  2. 將貼紙剪下泡入溫水中浸泡約15秒
  3. 將泡濕之貼紙取出置於欲貼處旁
  4. 用指尖輕推貼紙表面使其滑出底紙
  5. 將貼紙調整至適當位置並輕擦拭水份
  6. 待其自然乾燥後即完成

### Color List : 塗料表

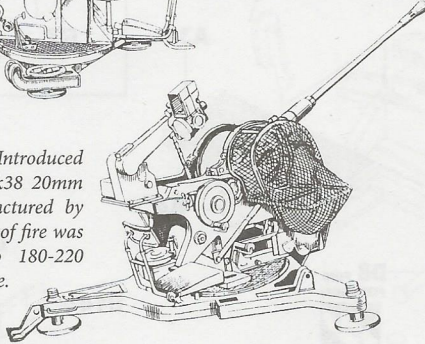
Color	Brand	GSI Creos ( Gunze Sangyo )			Humbrol	Revell	Life Color
		Hobby Color	Mr. Color	Mr. Color Spray			
German gray	德國灰	H-32	C-40	J-40	92	79	UA073
Dark yellow	深黃	H-79	C-39	J-39	83	16	UA081
Steel	黑鐵	H-18	C-28	J-28	53	91	LC76
Tire black	輪胎黑	H-77	C-137		85	302	LC02
Red brown	紅褐	H-47	C-41	J-44	160	383	CU082
Wood brown	木棕	H-37	C-43	J-43	34	05	UA085/ UA123

# 20mm Flakviering38

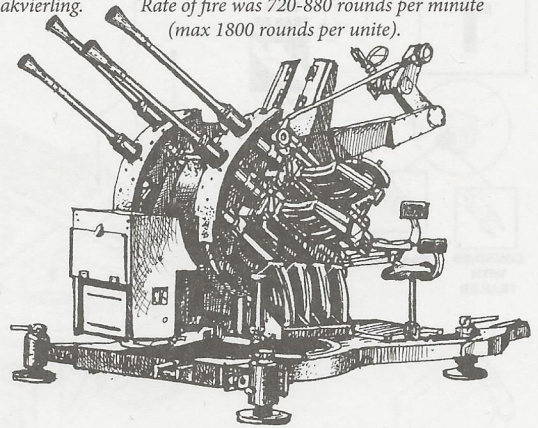


●Produced by the Rheinmetall since 1935. Rate of fire is up to 120 rounds per minute. The net is to collect shells.

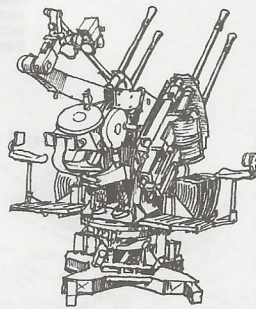
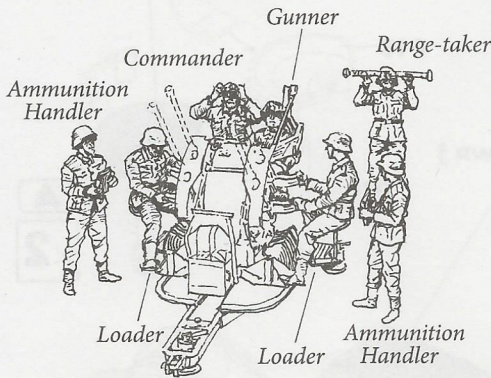
●Flak.30 20mm Introduced in 1938, the Flak38 20mm gun was manufactured by the Mauser. Rate of fire was improved up to 180-220 rounds per minute.



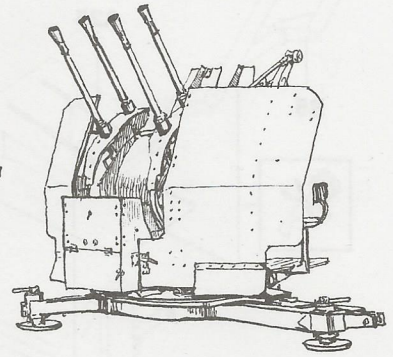
●Introduced in 1940, the Flak. 38 quad-mounted gun is known as Flakvierling. Rate of fire was 720-880 rounds per minute (max 1800 rounds per unite).



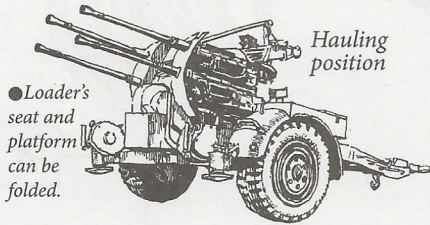
●Such a high rate of fire is deadly to Allied fighter-bombers.



●Originally this version was developed for the Navy, however it was also adopted by the Air Force and Army.

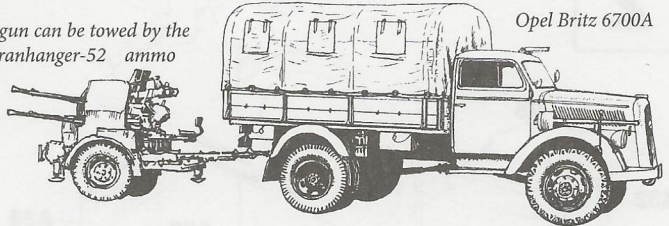


●Used as a ground support weapon, the 20mm anti-aircraft had the shield utilized.

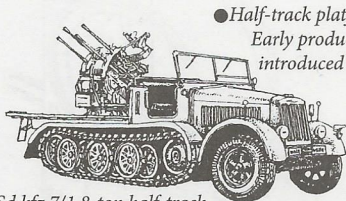


●Loader's seat and platform can be folded.

●The gun can be towed by the Sonderanhänger-52 ammo truck.

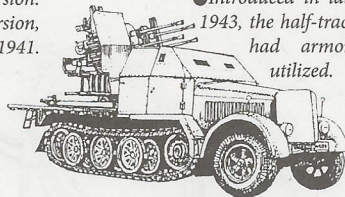


Opel Blitz 6700A



●Half-track platform version. Early production version, introduced in mid-1941.

Sd.kfz.7/1 8-ton half-track



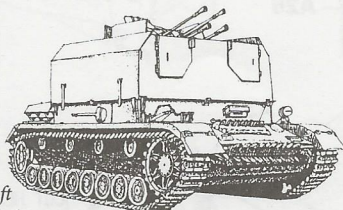
●Introduced in late 1943, the half-track had armors utilized.



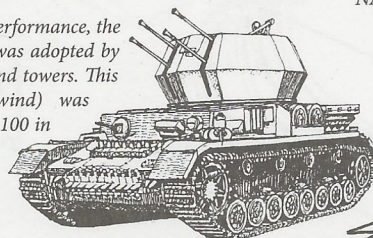
Mounted on truck

●Introduced in late 1944, mounted on NAG Busshong 4500A.

●Trial version of quad-mounted 20mm anti-aircraft self-propelled gun.

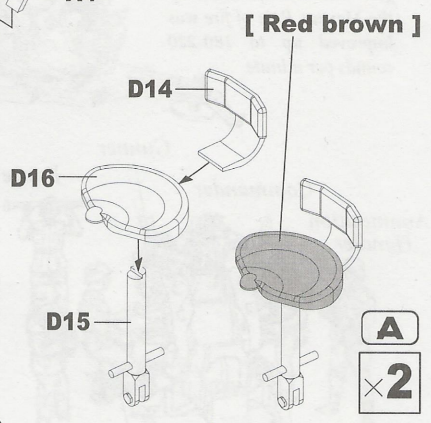
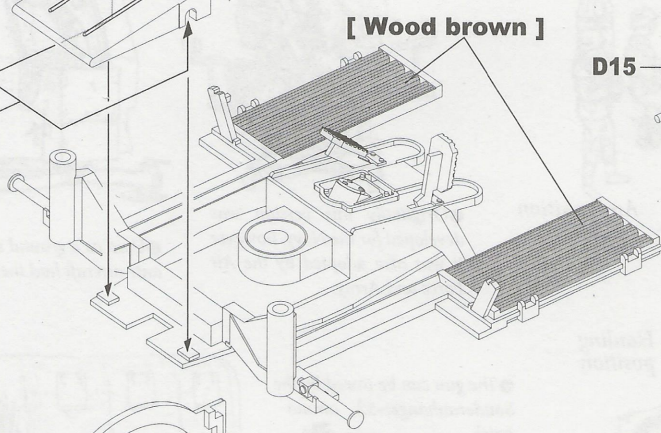
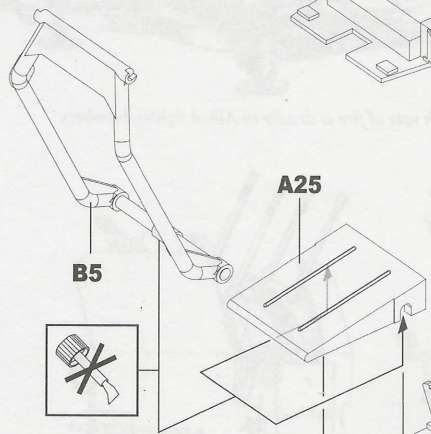
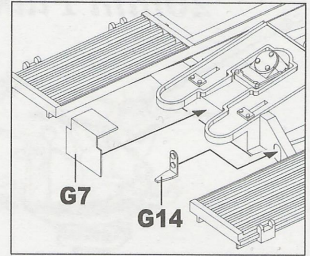
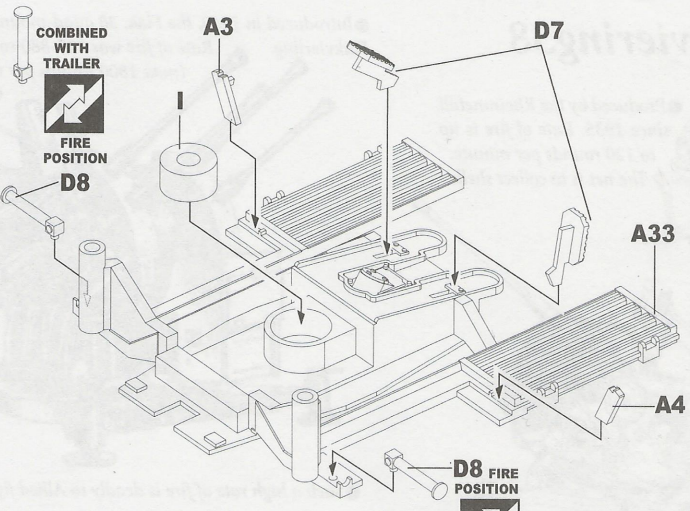
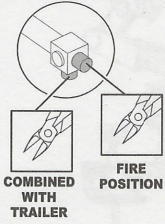


●Due to its deadly performance, the quad-mounted gun was adopted by anti-aircraft trains and towers. This Whirlwind (Wirbelwind) was produced more than 100 in total.

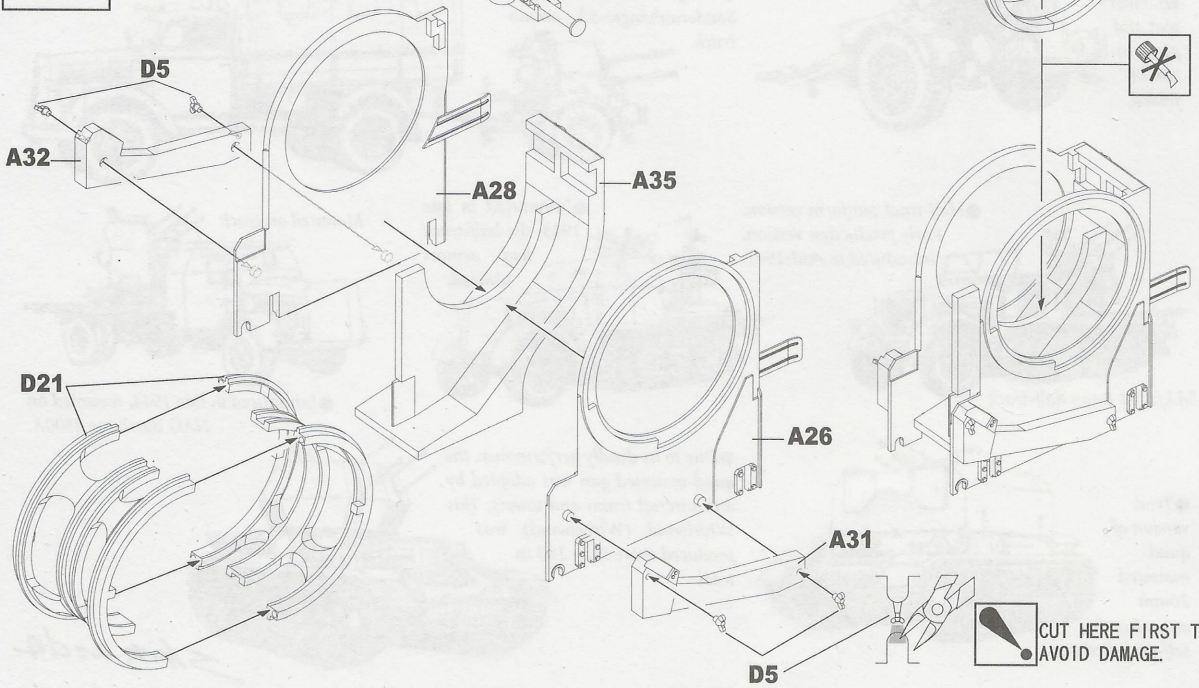


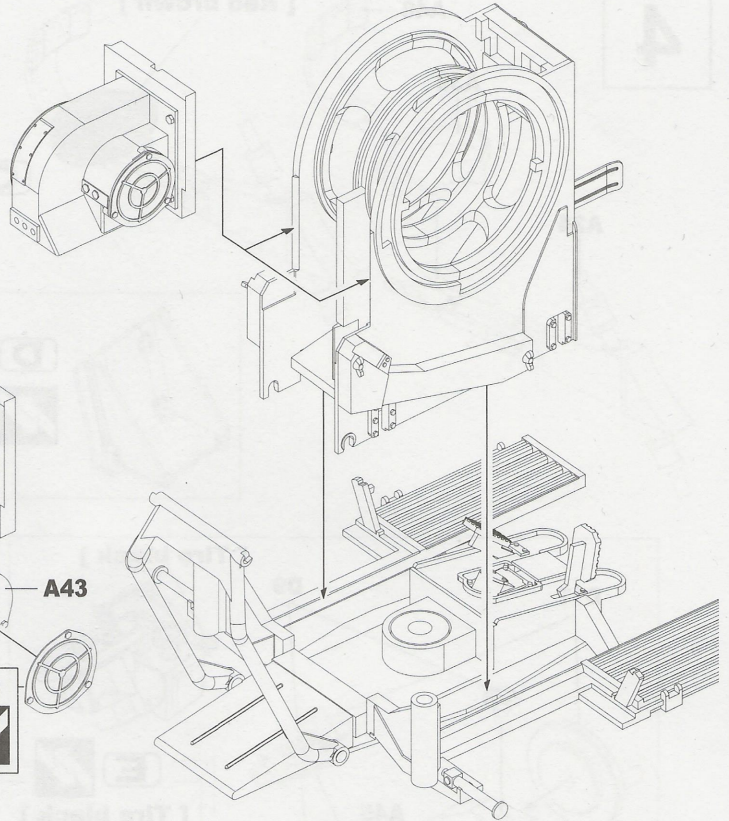
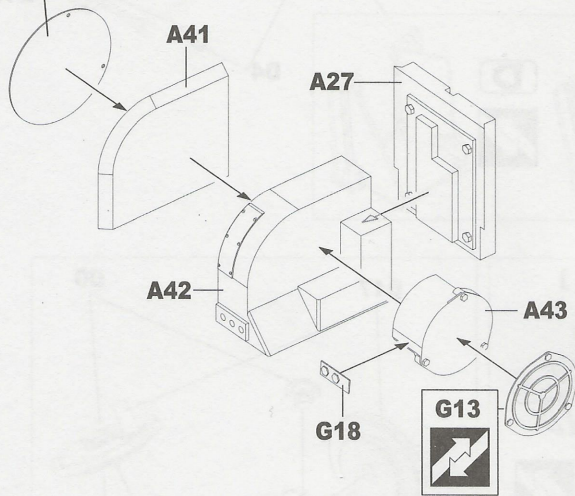
*Shin.ueda*

1

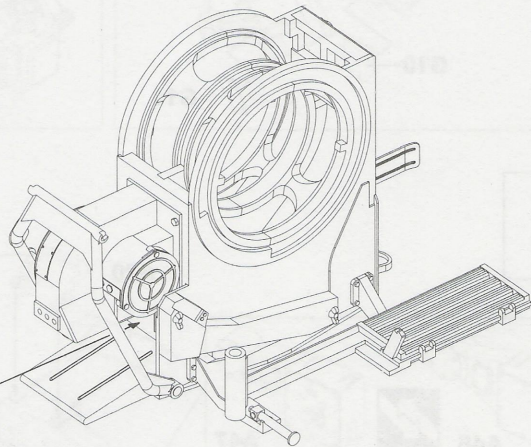
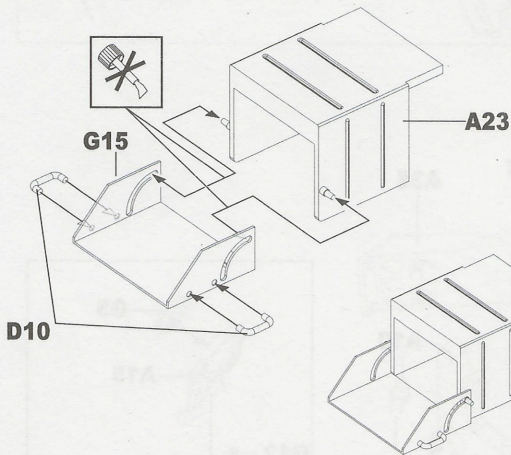


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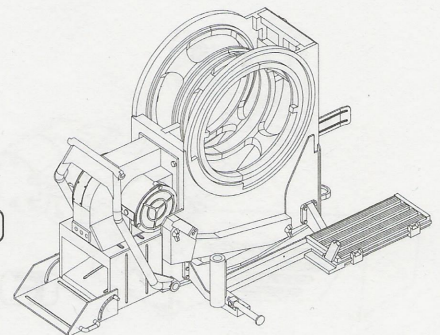




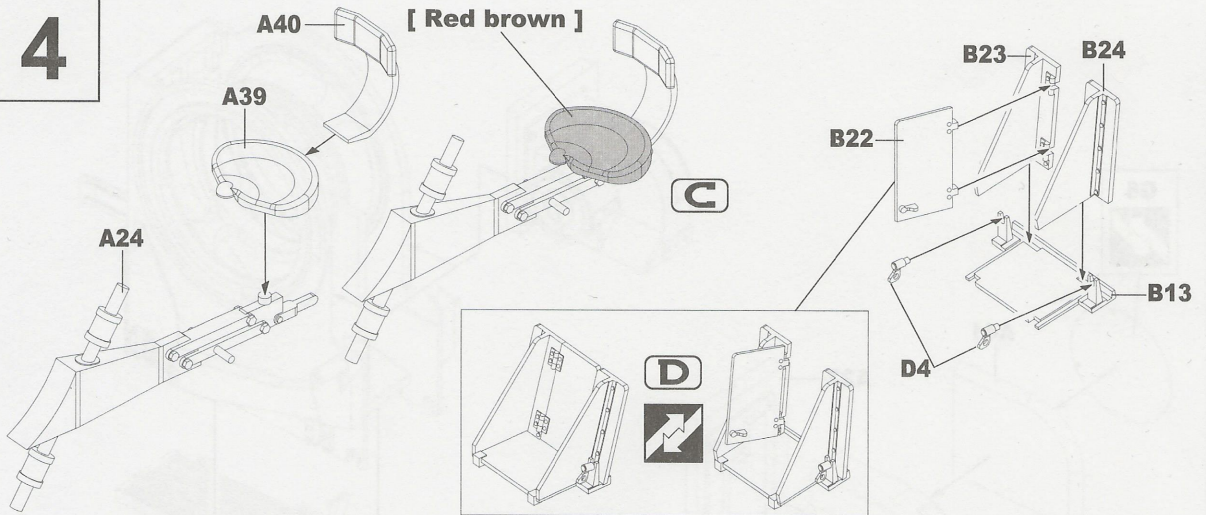
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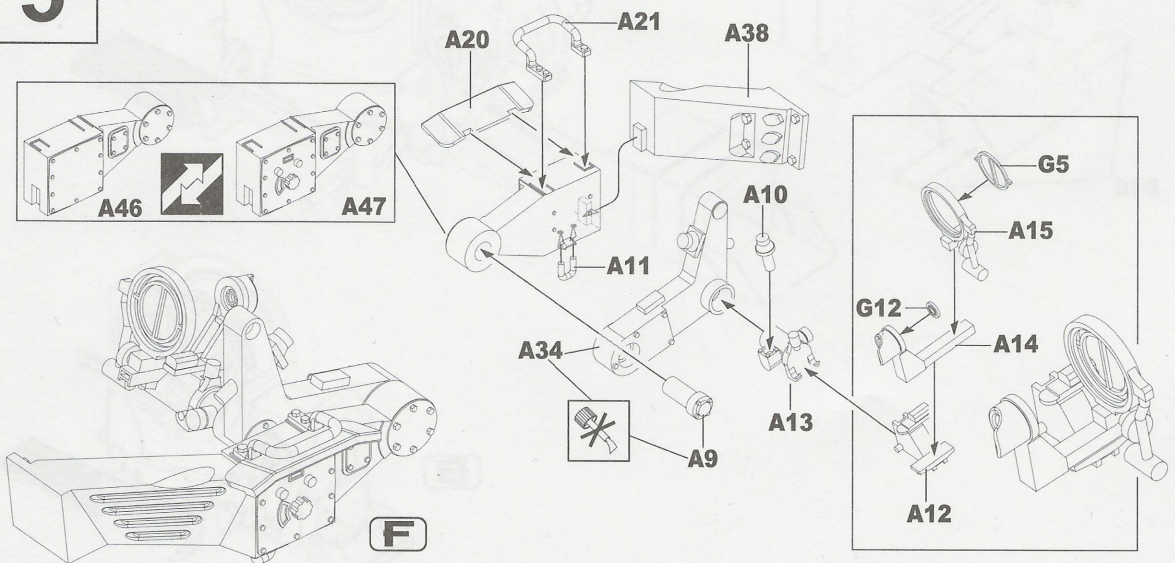
**B**



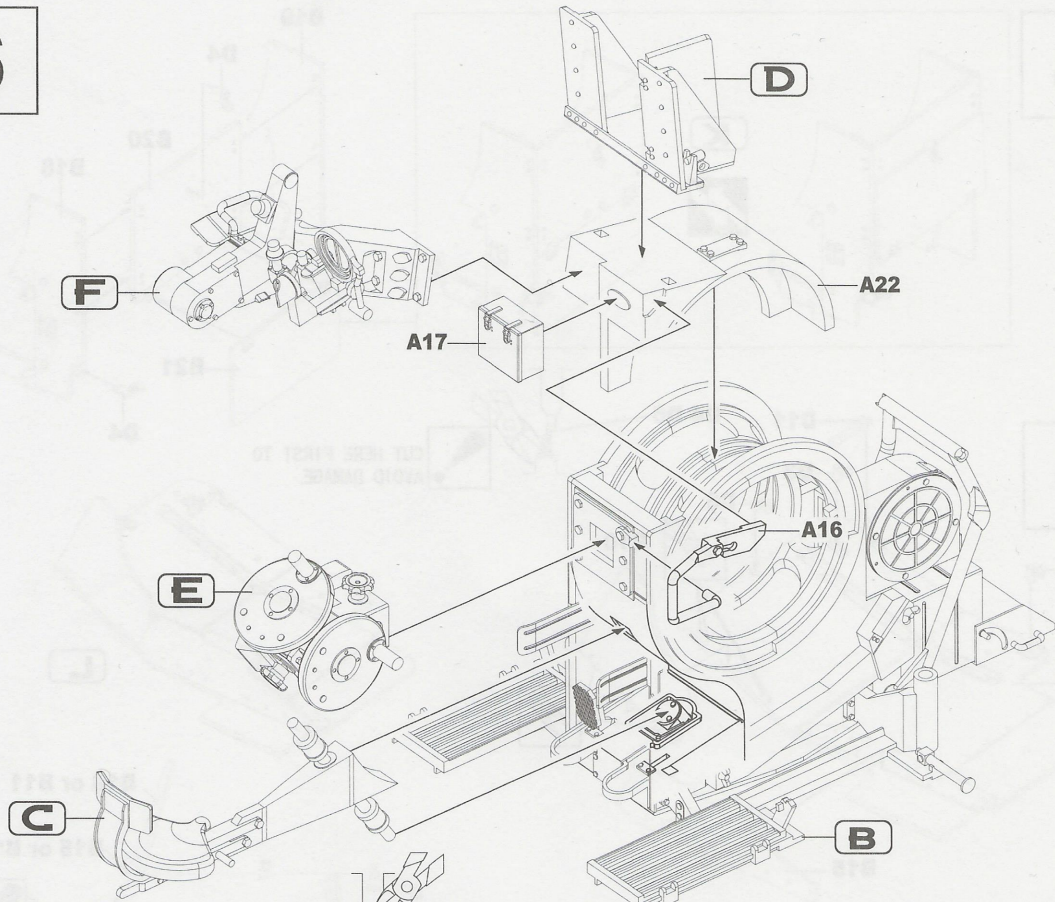
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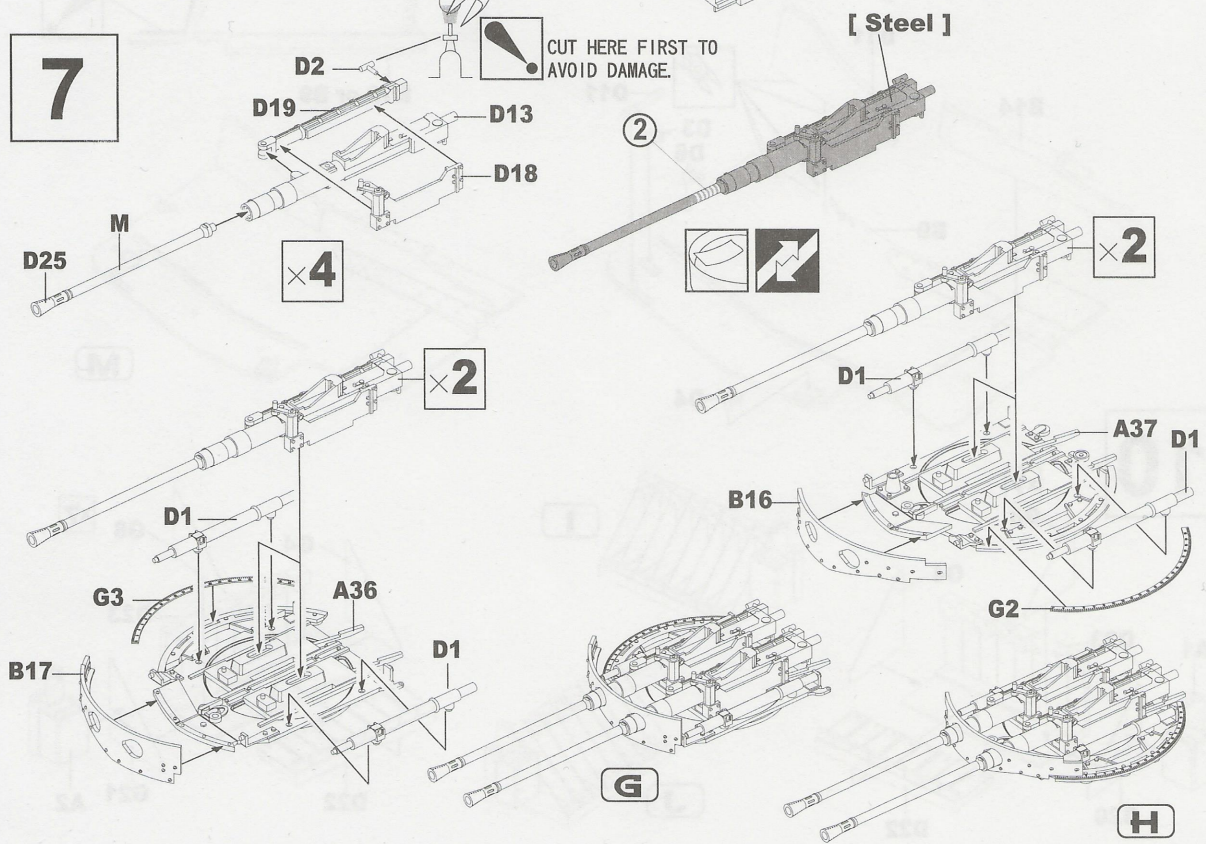
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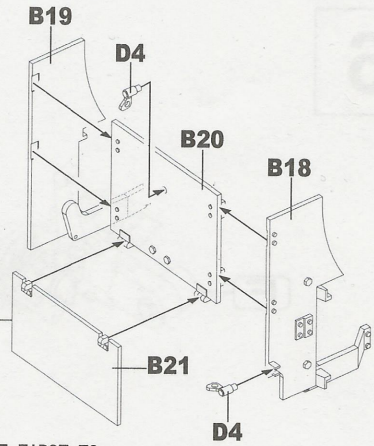
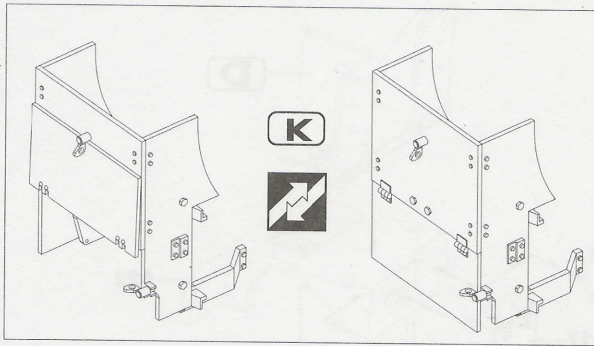
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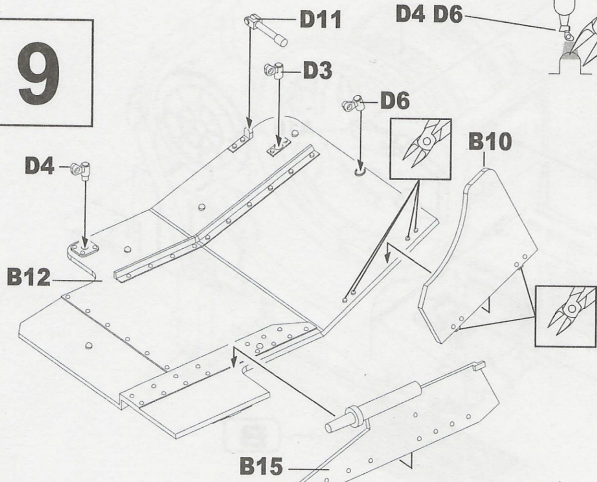
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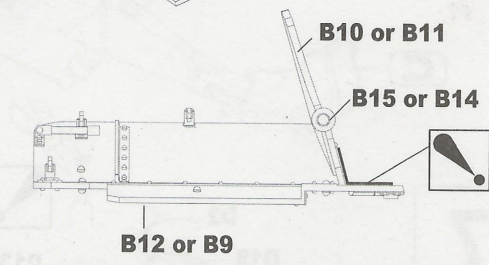
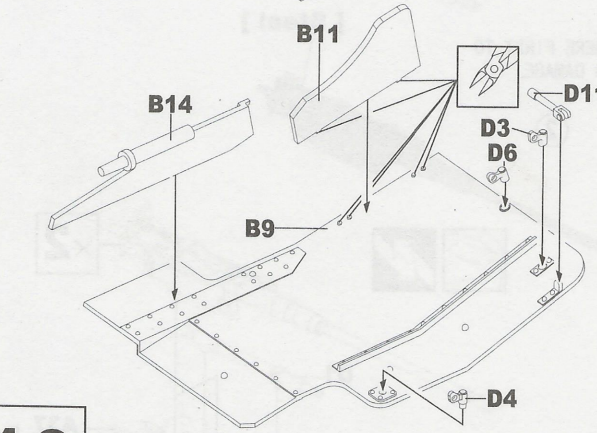
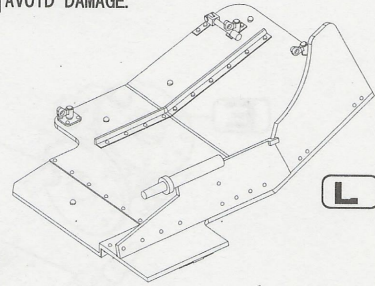
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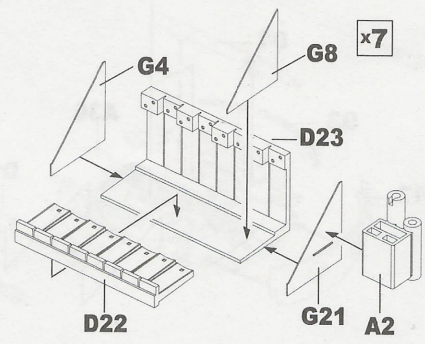
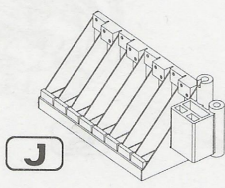
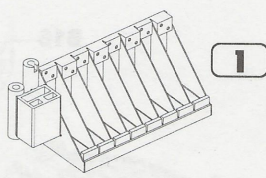
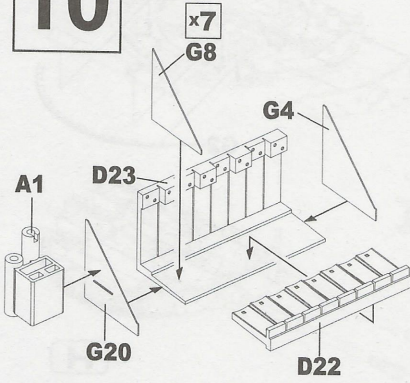
9



CUT HERE FIRST TO AVOID DAMAGE.



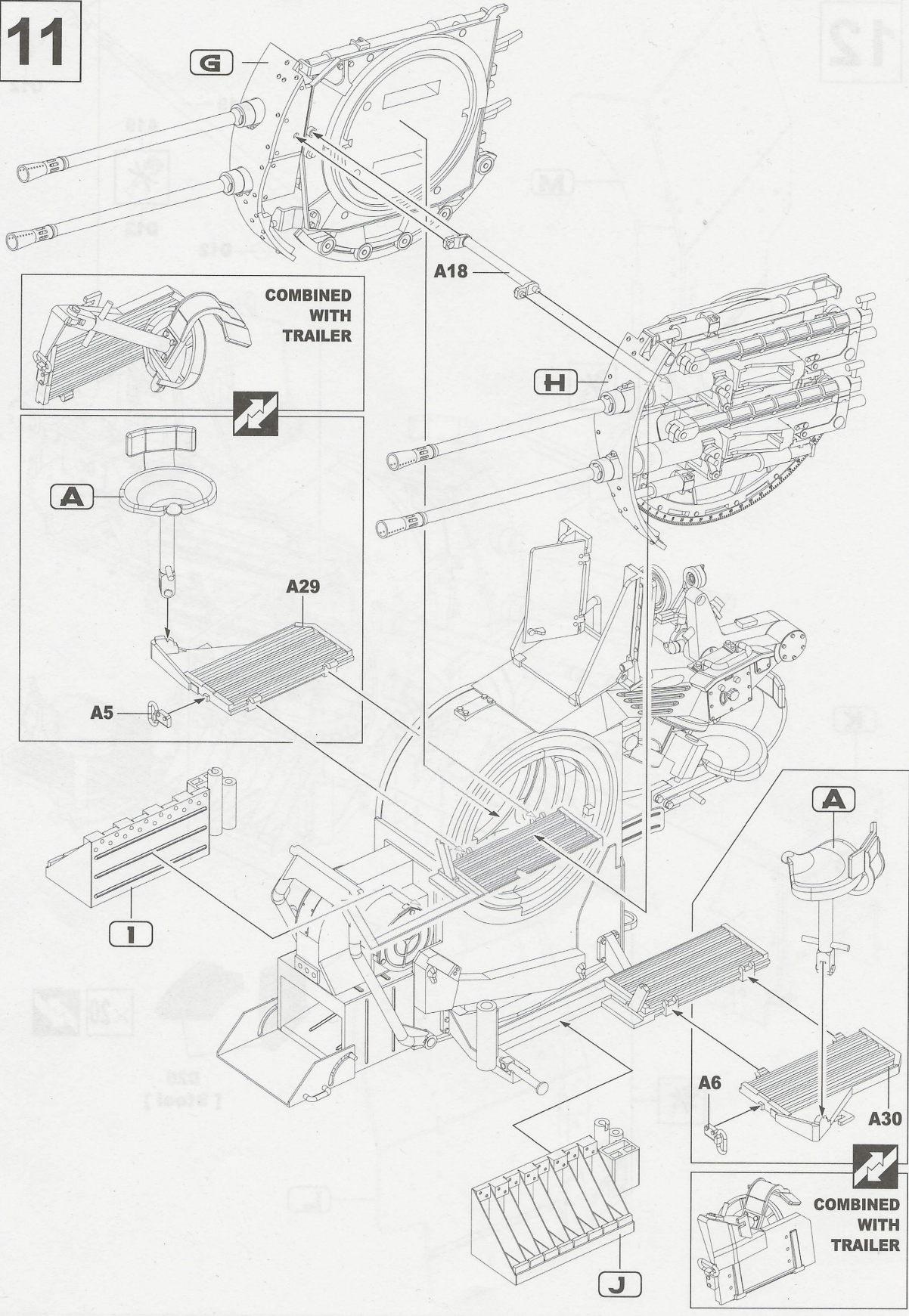
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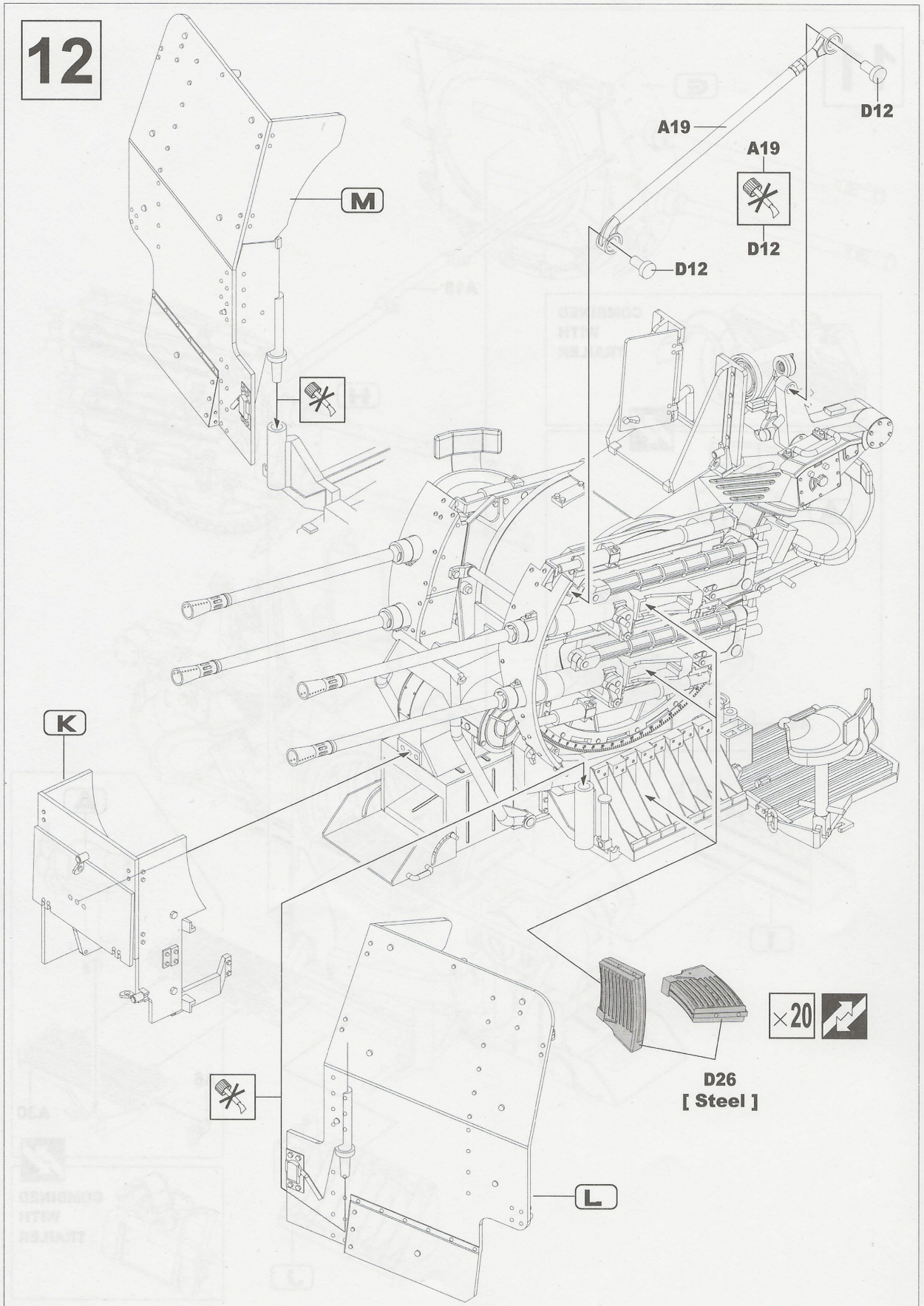


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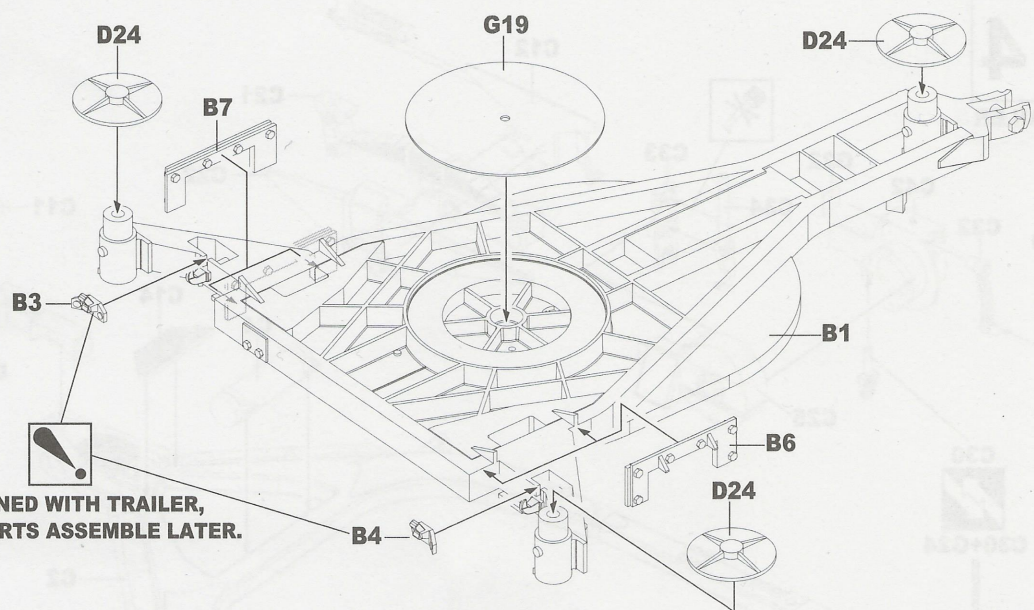
S1



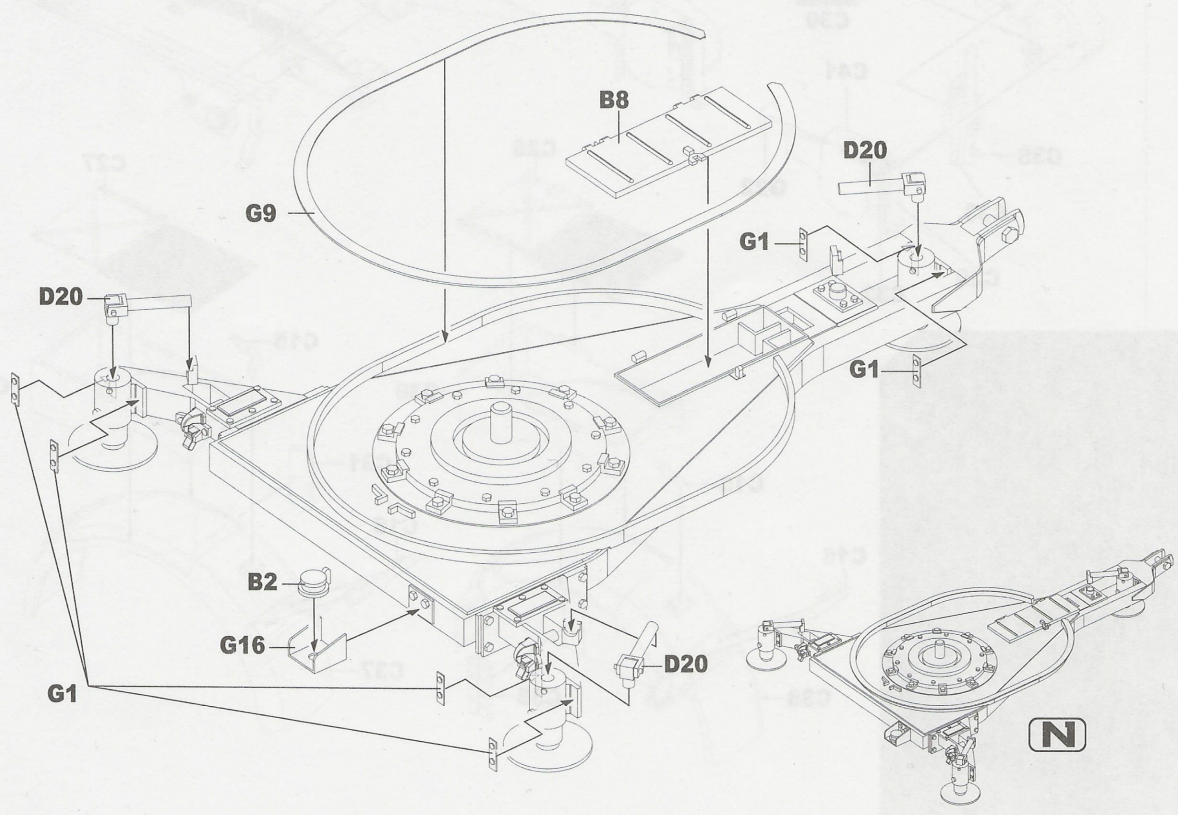
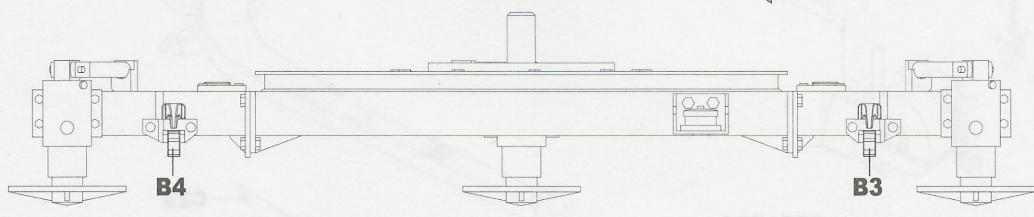
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# 13

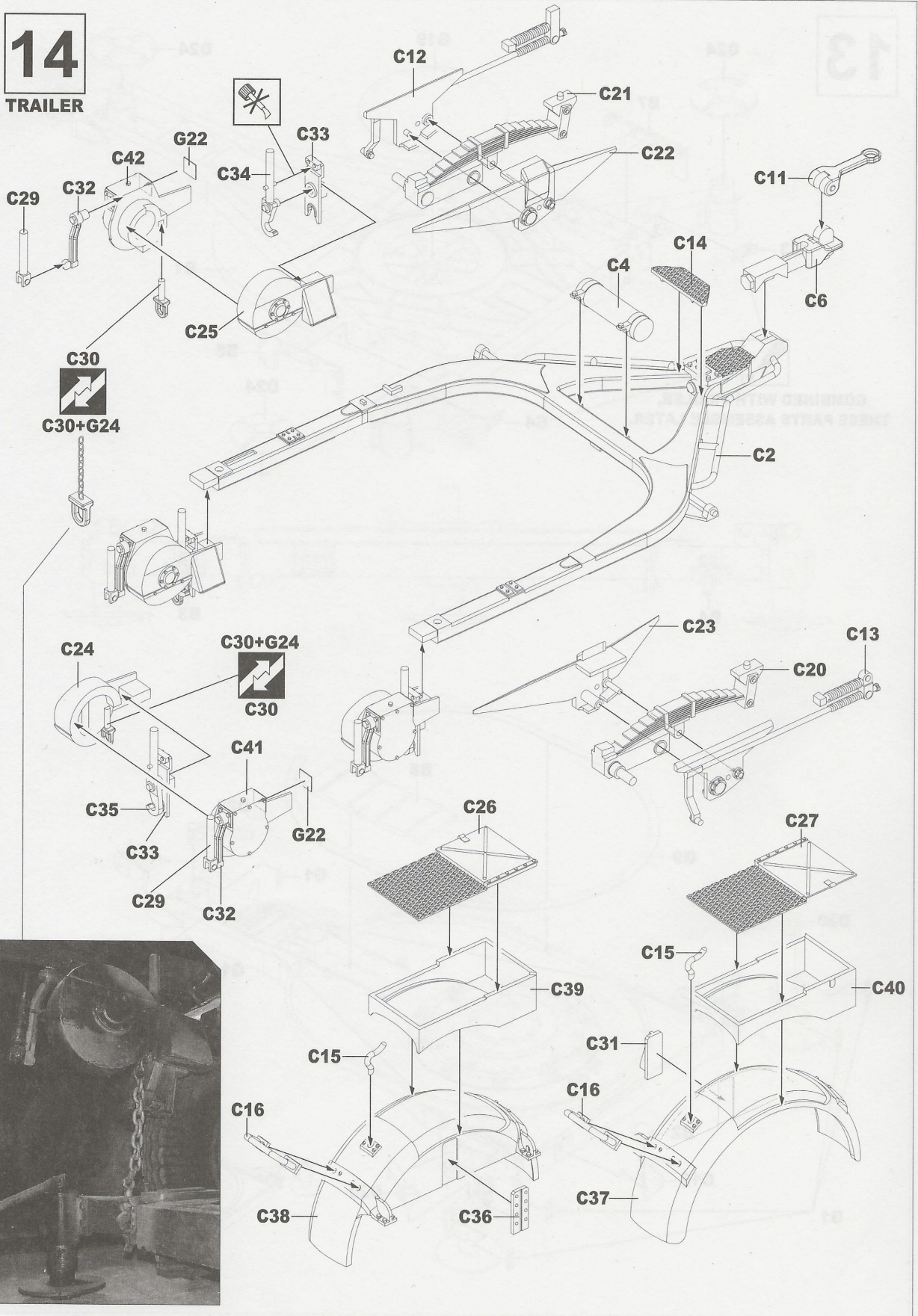


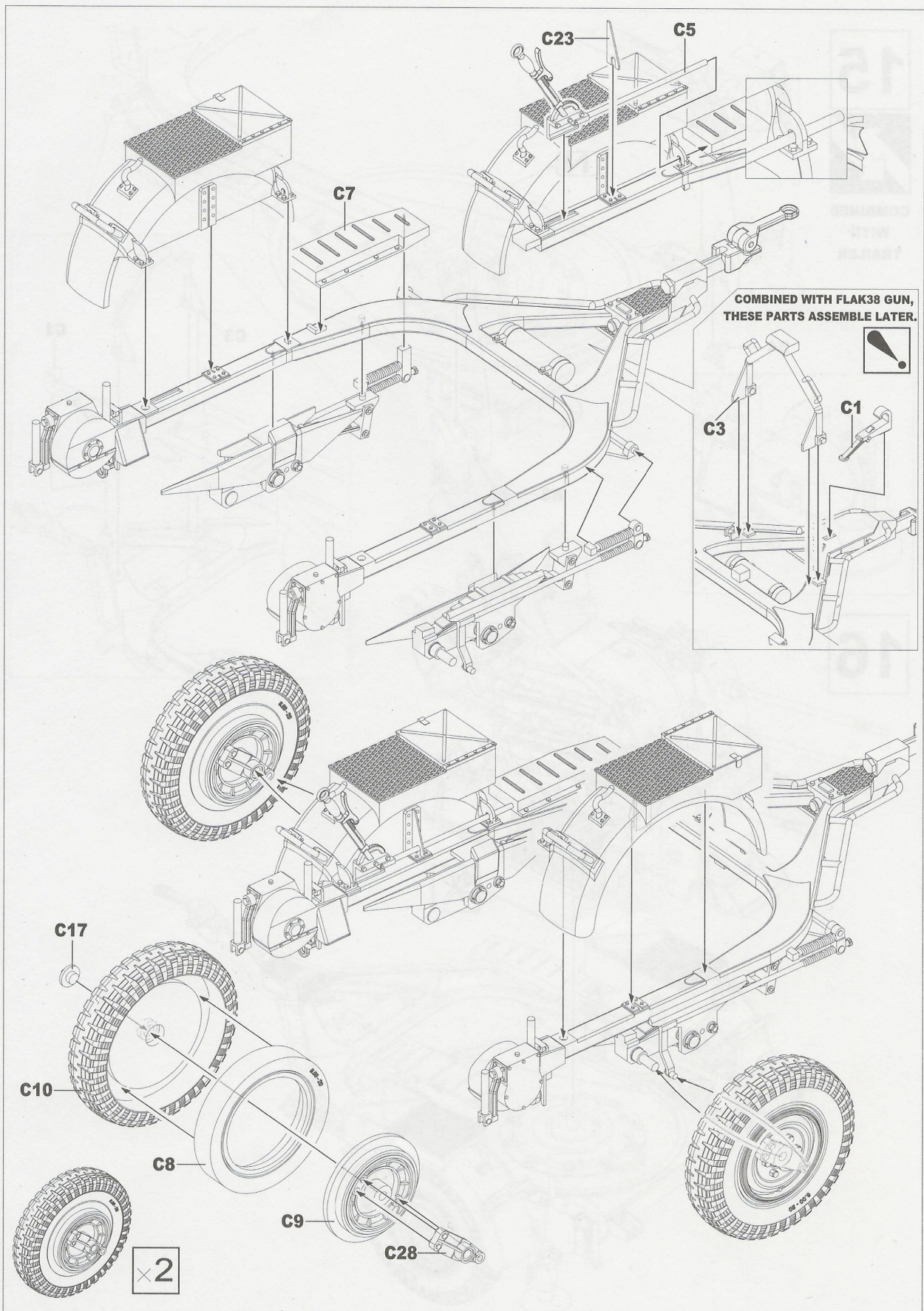
COMBINED WITH TRAILER,  
THESE PARTS ASSEMBLE LATER.



# 14

## TRAILER

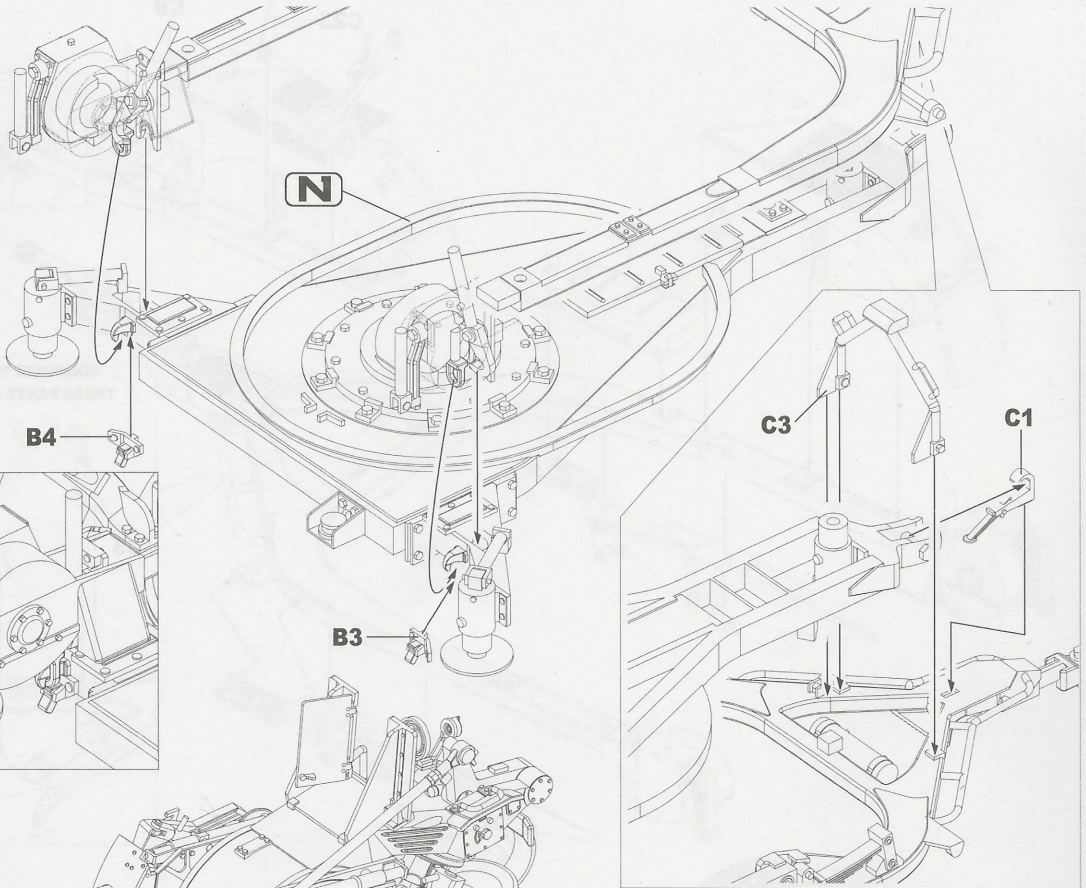




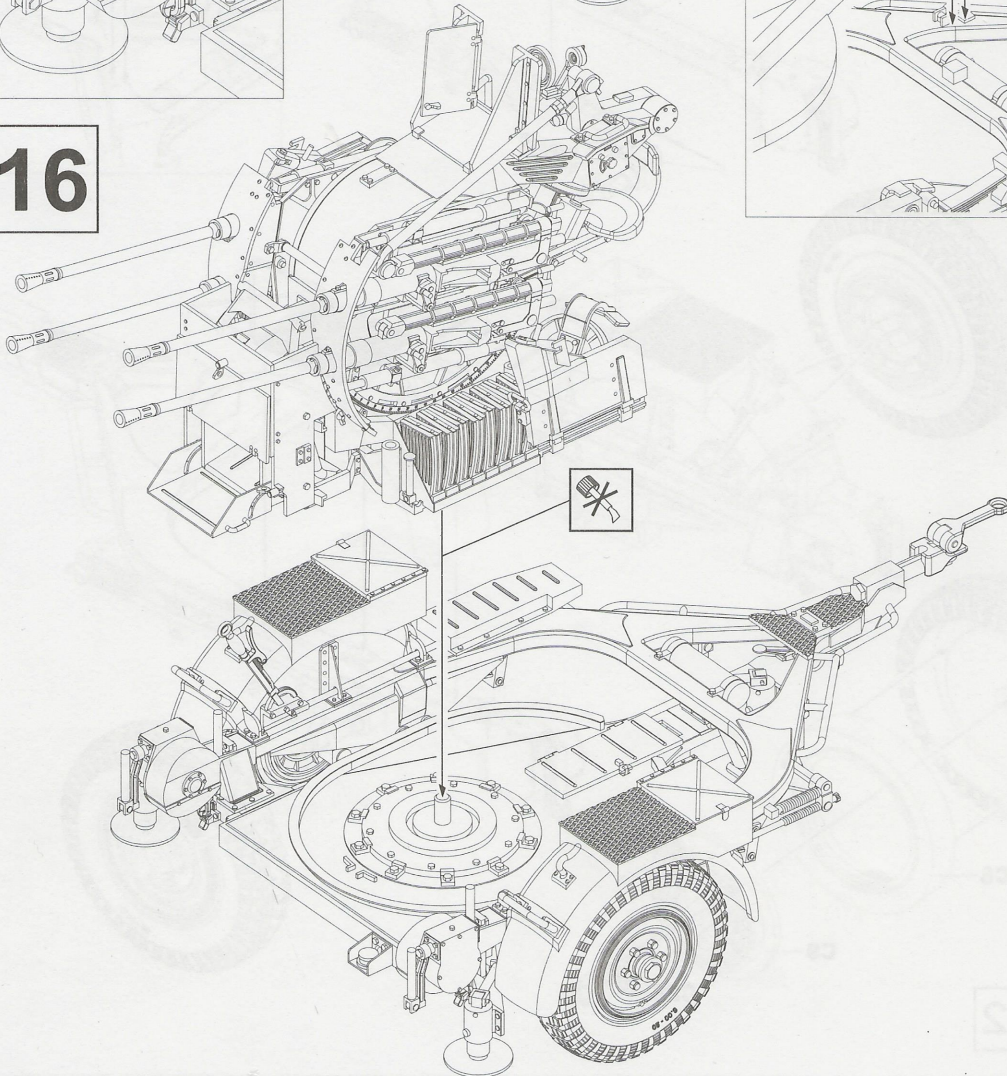
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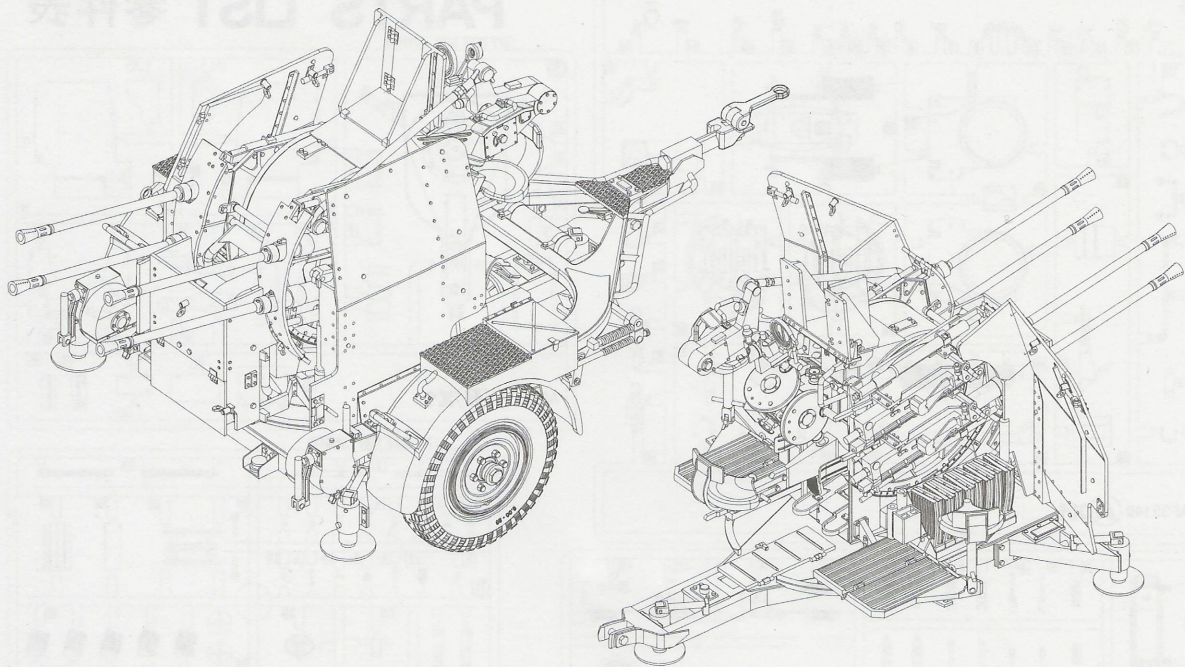


COMBINED  
WITH  
TRAILER




16

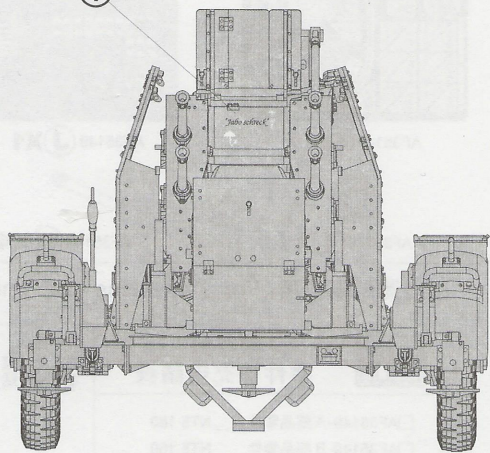





## Marking & Painting

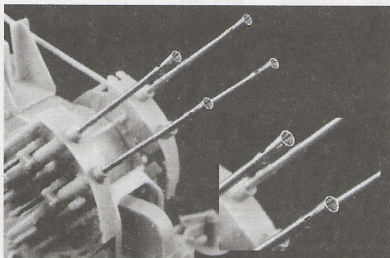
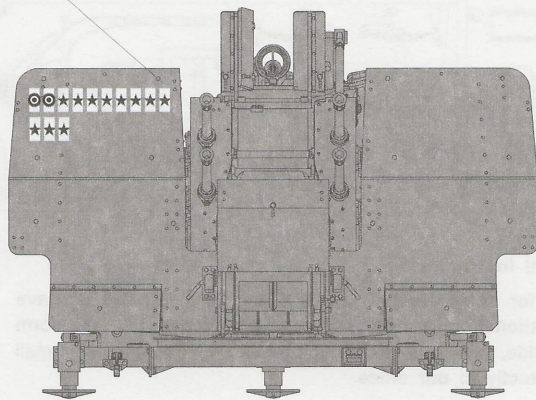
 **Body Color:**  
Dark Yellow

①



 **Body Color:**  
German Gray

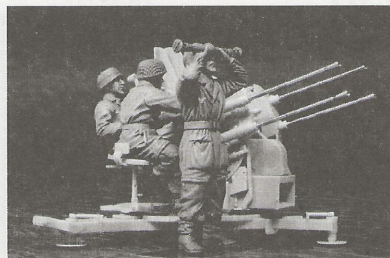
③



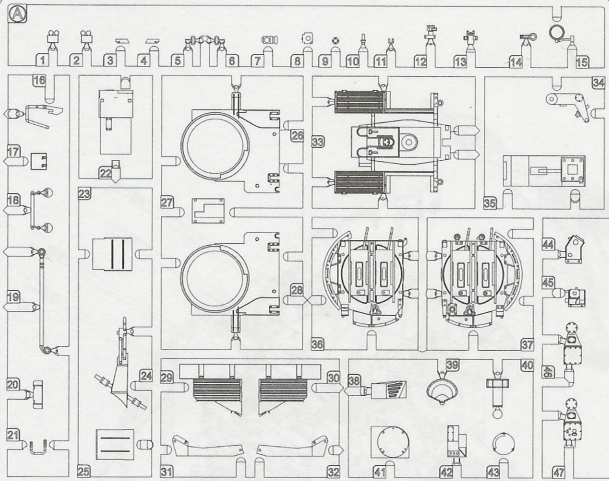
AG35028  
2cm FLAK38 BARREL (2 METAL BARRELS/PACK)  
二戰德軍2cm38式對空機砲金屬砲管(兩支裝)



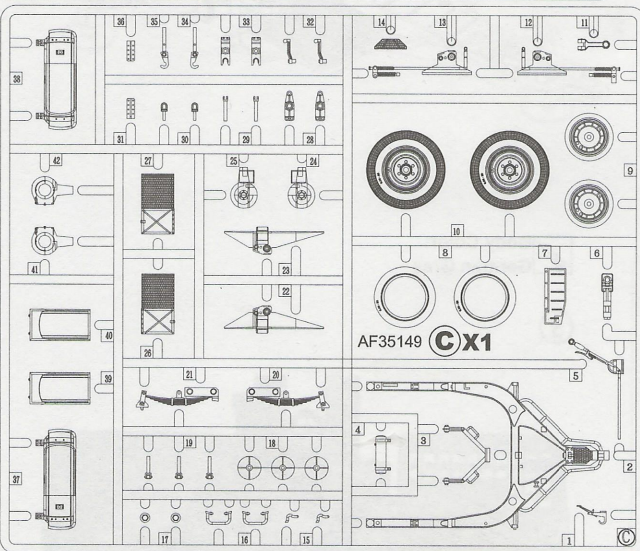
AG35029  
GERMAN 2cm FLAK30/38 FLASH SUPPRESSOR (METAL)  
二戰德軍2cm 30型/38型對空機砲 金屬火帽



HF700  
GERMAN PARACHUTERS OPERATING FLAK38 - 4 FIGURES  
德軍傘兵 操作Flak38防空機砲 4人組

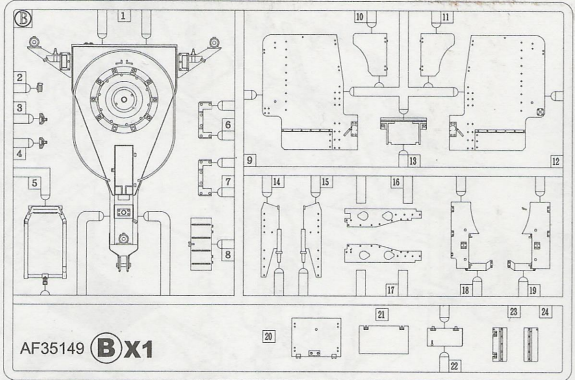


AF35149 **A**X1

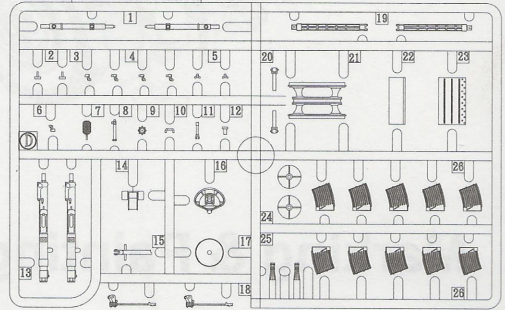


AF35149 **C**X1

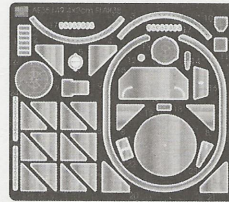
# PARTS LIST 零件表



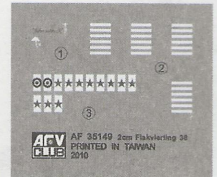
AF35149 **B**X1



AF35149 **D**X2



AF35149 **G**X1



AF35149 **J**X1



AF35149 **I**X1



AF35149 **M**X4



### Instructions:

If for some reason, you are not fully satisfied or have questions concerning our product; Please use the form provide, and send it to our nearest representative or mail it directly to our office.

We will deal with that A.S.A.P.



### AF35149 Parts Replacement Form

- |                                  |                                  |
|----------------------------------|----------------------------------|
| <input type="checkbox"/> A parts | <input type="checkbox"/> I parts |
| <input type="checkbox"/> B parts | <input type="checkbox"/> J parts |
| <input type="checkbox"/> C parts | <input type="checkbox"/> M parts |
| <input type="checkbox"/> D parts |                                  |
| <input type="checkbox"/> G parts |                                  |

Reason for replacement:  Missing  Broken

Signature: \_\_\_\_\_

總代理: 戰鷹企業 客服部 收本公司將儘速為您處理。  
請將本表與該部品相同金額之郵政匯票一同寄至。

限臺灣地區使用 For Taiwanese use only!



### AF35149 零件補充申請表

申請人  
姓名 地址 電話

- AF35149-A 部品零件 \_\_\_\_\_ NT\$ 180
- AF35149-B 部品零件 \_\_\_\_\_ NT\$ 160
- AF35149-C 部品零件 \_\_\_\_\_ NT\$ 320
- AF35149-D 部品零件 \_\_\_\_\_ NT\$ 280
- AF35149-G 部品零件 \_\_\_\_\_ NT\$ 250
- AF35149-I 部品零件 \_\_\_\_\_ NT\$ 20
- AF35149-J 部品零件 \_\_\_\_\_ NT\$ 120
- AF35149-M 部品零件 \_\_\_\_\_ NT\$ 160

+郵寄費 \_\_\_\_\_ NT\$ 80

(請填) 總計 NT\$ \_\_\_\_\_

零件補充原因: (請於  打 )

原包裝即  遺失或  毀損,  
製作途中  遺失或  毀損,  
其他原因 \_\_\_\_\_

