



LVT-4
LATE TYPE
Water Buffalo

****SPECIAL THANKS:** Mr. Ossie Orsbourn-UK Vis
Bovington Tank Museum, Dorset-UK
Patton museum of cavalry armor, Fort Knox-USA
Saumur tank Museum, Saumur- France

The LVT (Landing Vehicle Tracked) was firstly developed in 1935, known as 'Alligator', originally from a civilian rescue vehicle. The Alligator was intended to operate in southern Florida where hurricanes often caused disasters. The Alligator could be used in the areas that inaccessible to both traditional cars and boats.

After WWI, USMC has been studying amphibious warfare and considered landing on Pacific islands would be likely. Yet general use personnel landing vehicle (LCVP) was not suitable for amphibious warfare in rocky coral reef islands. A special platform will be needed. The Christie amphibian tank was put in test in 1924 firstly, followed by numerous modifications, yet it was never able to satisfy USMC due to poor performance in seaworthiness. At the same time, USMC was attracted by a report on Life Magazine on Donald Roebling's Alligator and Mr. Roebling was persuaded to work on a military version, with enhanced vehicle and tracks, as a private venture.

As the war in Europe and Asia getting worse, the Congress approved funds on this project. After numerous modifications, the project was accepted as LVT-1 and started to mass-produce in July 1941. At the same time, a further modified model, LVT-2, was under development. It has front drive sprockets, torsion bar suspension and larger compartments to accommodate personnel. LVT-2 was nicknamed as Water Buffalo.

Because the engine was located to the rear, personnel and material had to load / unload on sides. A new version, LVT-4 came with modifications - the engine was moved forward and a large ramp door was added to the rear, allowing troops to exit from the rear of the vehicle. Small vehicles and cannons can be loaded / unloaded through ramp. The LVT-4 was the most produced model among LVT family. It took part in the Battle of Saipan, and saw actions in all following battles in the Pacific, as well as river crossing operations in Europe, such as Operation Plunder, crossing the Rhine River.

Numerous modifications were added onto LVT-4 during production. Later version came with .30 machine gun to the front, windows for the driver and armor kits on sides and rear. Those new vehicles saw actions in Pacific battles as well as other operations.

LVT (Landing Vehicle Tracked/装軌式上陸用車両)の最初の開発は、1935年の「アリゲーター」の名称を持つ民間の救助車両にさかのぼる。南フロリダ地方を襲うハリケーンによる被災地で車両はおろか、ボートによる救助ですら困難な状況での使用を目的としたものであった。

第一次世界大戦終結後、敵地への上陸作戦について研究をはじめたUSMC(米海兵隊)は、太平洋の島々における上陸戦闘を想定した。しかし、通常の兵員輸送艇(LCVP)は、硬い珊瑚礁の海岸への上陸戦闘には不向きであったので、特殊な「プラットフォーム」が必要であった。1924年、戦車設計で名を馳せるクリスティーによる水陸両用戦車のテストが開始されたが、幾度もの改造にもかかわらず、耐航性の低さのために米海兵隊を満足させることはできなかった。1937年、米海兵隊は雑誌ライフ誌上で紹介された「ドナルド・レーブリング氏のアリゲーター」に注目した。軍用タイプの開発を説き伏せられたレーブリング氏は限られた予算の下で、車体や履帯の強化型の試作を自費で行ったのだった。

ヨーロッパ、アジアの情勢が悪化すると、議会はLVT開発計画に理解を示すようになる。多くの変更を経て、LVT-1として採用が決まり、1941年7月に量産が開始された。それと並行して、改良型であるLVT-2の開発が進められた。LVT-2は、前部に起動輪を持ち、トーションビーム式サスペンションを装備、兵員を多数搭載するための大きな戦闘室を持っていた。LVT-2は、「水牛(WaterBuffalo)」の愛称で呼ばれることとなる。

エンジンが後部に位置していたため、兵員や物資は、側壁を乗り越えての乗降を強いられた。新型のLVT-4では、エンジンが前部に移動し、兵員が車輛の後部から下車できるよう、後部に大きな乗降扉が設置された。この扉によって、小型の車輛や火炮も乗降が可能であった。LVT-4は、LVTシリーズの中で最も多く生産された。サイパン上陸戦から戦闘に投入され、以降の太平洋でのすべての戦闘に参加した。また、ヨーロッパでの戦闘においても、ライン河を渡るブランダー作戦のような渡河作戦に投入されたのだった。

LVT-4の製産過程で、多くの改良が施されていった。後期の生産型では、30口径機関銃が前部に装備され、操縦手のための視窓追加や、側面、後部の増加装甲キットなどが用意された。これらの車輛は太平洋戦争の終結前に登場し、上陸作戦に投入されたのであった。

履帶型的兩棲登陸車輛最早出現於1935年，這種供民間所使用的車輛被命名為「鱷魚」。開發這種兩棲登陸車輛最初是為了飽受颶風肆虐的佛羅里達州南部，在船隻、車輛難以到達的地區進行救災的工作。

美國海軍陸戰隊在一次大戰結束後設想未來在太平洋島嶼間可能進行的戰爭型態，評估一般的人員運輸艇(LCVP)在礁石嶙峋的珊瑚礁地形中將無法接岸，若要在島嶼進行登陸作戰，需倚賴特殊載具方能落實。1924年時以克里斯蒂的水陸坦克進行測試，其後經過數度的改進，但它在海面航行時的表現始終無法令陸戰隊滿意。此時的「鱷魚」在經過兩年的測試與改良後，「生活」雜誌對「鱷魚」做了一次專題報導，這篇報導引來了海軍陸戰隊的興趣，在預算短缺的情況下，說服了「鱷魚」的設計者羅布林，以自費的方式將原本的車體與履帶強化，試製成軍用型。

隨著亞洲與歐洲局勢的惡化，國會此刻同意撥款挹注測試車的發展，在進行了多項改善措施之後，測試尚稱滿意，於是在1941年7月開始進行量產，軍方賦予的型號為LVT-1。後繼型號LVT-2在LVT-1量產的同時展開設計，驅動輪改為前置，垂直懸吊也改為扭力彈簧，並將車體放大以容納更多的兵員，外型上與LVT-1有了不小的改變，也得到了「水牛」這個暱稱。

因為引擎後置的影響，LVT-1/2在兵員、物資的乘降卸載時都必需翻越車身兩側方能進行。為了增加運用時的效率，修改LVT-2的設計將引擎改為前置，車身後方增設跳板，如此便能夠輕易地裝載小型車輛與火炮，經過改良後的型號為LVT-4，也是LVT家族中生產數量最為龐大的一支，在1944年的塞班島戰役中LVT-4初次登場，並歷經了其後的太平洋各個島嶼登陸的戰火洗禮，乃至歐洲戰場中盟軍橫渡萊茵河都能看見LVT-4的身影。

在生產過程中，LVT-4也逐步的進行修改，後期的LVT-4增設了車前方的.30機槍，為駕駛室增加了避彈性能較好的視窗，並強化了側面與後方的裝甲厚度，在太平洋戰爭落幕之前登場，並繼續的活躍於其他的戰役之中。

Illustration: 圖示說明



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 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. 將貼紙剪下泡入清水中約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	Gunze Sangyo			Humbrol	Revell	Lifecolor
		Hobby Color	Mr. Color	Mr. Color Spray			
Olive drab(2)	橄欖綠	H78	C38	J38	66	46	UA106
Steel	黑鐵	H18	C28	J28	53	91	LC76
Silver	銀	H8	C8	J8	11	90	LC74
Brass	黃銅	H9	C9	J9	54	92	LC75
Red	紅	H3	C3	J3	19	31	LC56
Tire black	輪胎黑	H77	C33+C62		85	302	LC02
Tan	黃褐	H27	C44				LC65
Orange	橘	H14	C59		18	30	LC55
Steel red	赤鐵	H38			160	383	LC01
Bright blue	寶藍	H13			73		LC06
Red brown	紅褐	H47	C41	J41	160	383	
Flat white	消光白	H11	C62	J62	34	05	LC01
Dark gray(1)	深灰	H82	C31	J31	87		LC19
Sand FS30277	沙黃				187		UA19
Earth brown FS30099	土褐						UA87
Green FS34079	綠	H309	C309		195		UA52

LVT family in WWII

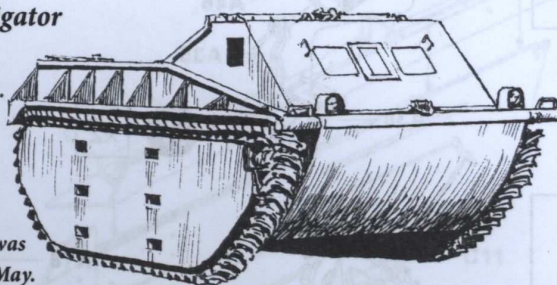
Roebling's Alligator 1937

The Alligator amphibian tractor, which originally intended to be a hurricane rescue device, was invited in 1937 by Donald Roebling. It was adopted by USMC as the prototype for LVT. The "Alligator" was dubbed due to its amphibian capability.

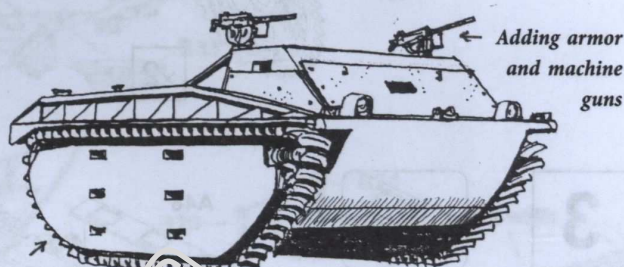


LVT-1 Alligator

Delivered in January 1941. A Marine Corps Amphibian Tractor Detachment was activated in May. At first it was developed for material transportation. It saw services in Guadalcanal and Solomon Islands from 1942.



LVT-2 Water buffalo Mass production started in June 1942, yet only saw service in the Battle of Tarawa due to delayed employment. Developed based on LVT-1, the infantry can jump from the vehicle to join combat.



← Adding armor and machine guns

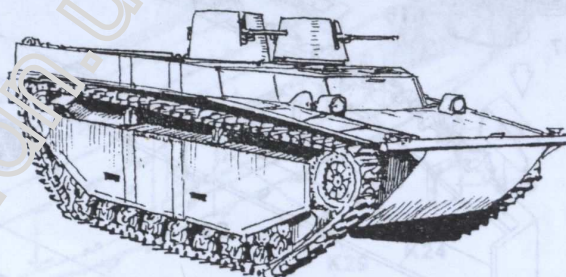
LVT-1 in the beginning of Battle of Guadalcanal, November 1943.

LVT-3 Bushmaster First used in Okinawa in April 1945, the LVT-3 was developed along with LVT-4.

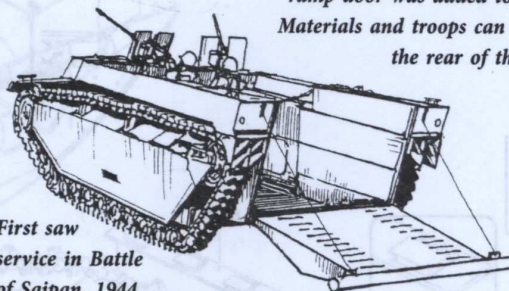
Too late to see WWII, the LVT-3 still saw service long after WWII, up to the Korean War.



The LVT-3 comes with a ramp installed in the rear and ample compartment space.



LVT-4 The engine was moved forward and a large ramp door was added to the rear. Materials and troops can exit from the rear of the vehicle.



First saw service in Battle of Saipan, 1944.

It was by far the most numerous version of the LVT

■ Amtank LVT(A)-1 1944

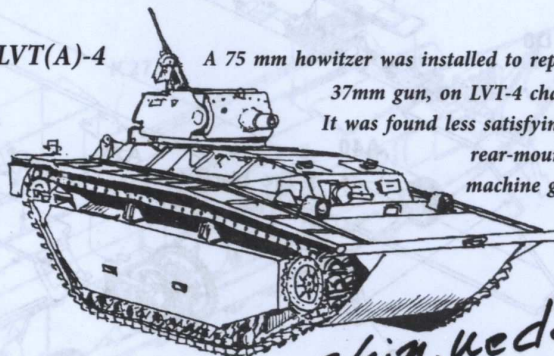
It was fitted with a turret with a 37 mm gun, also carried two rear-mounted machine guns.



Fire support vehicle used by Out Rap, converted from LVT-2

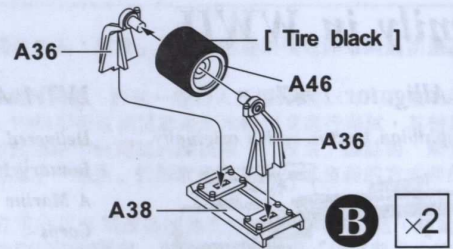
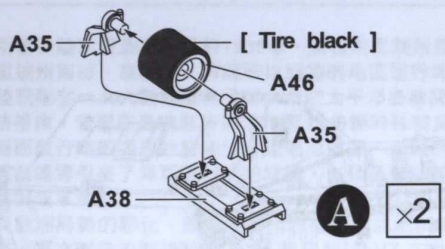
LVT(A)-4

A 75 mm howitzer was installed to replace 37mm gun, on LVT-4 chassis. It was found less satisfying to rear-mounted machine guns.

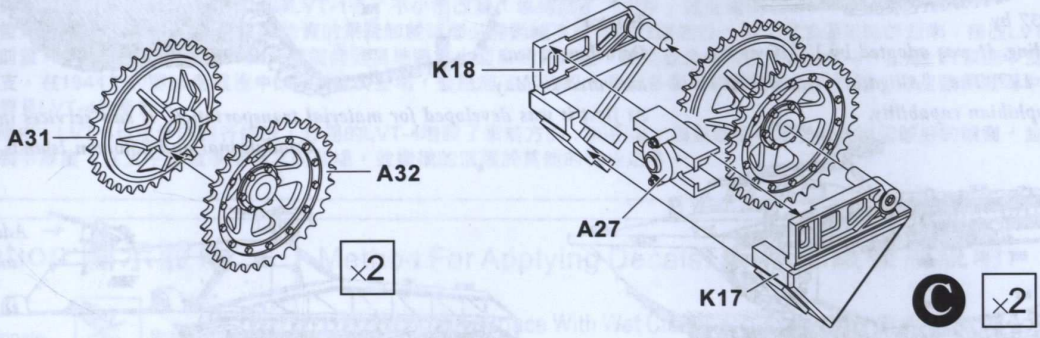


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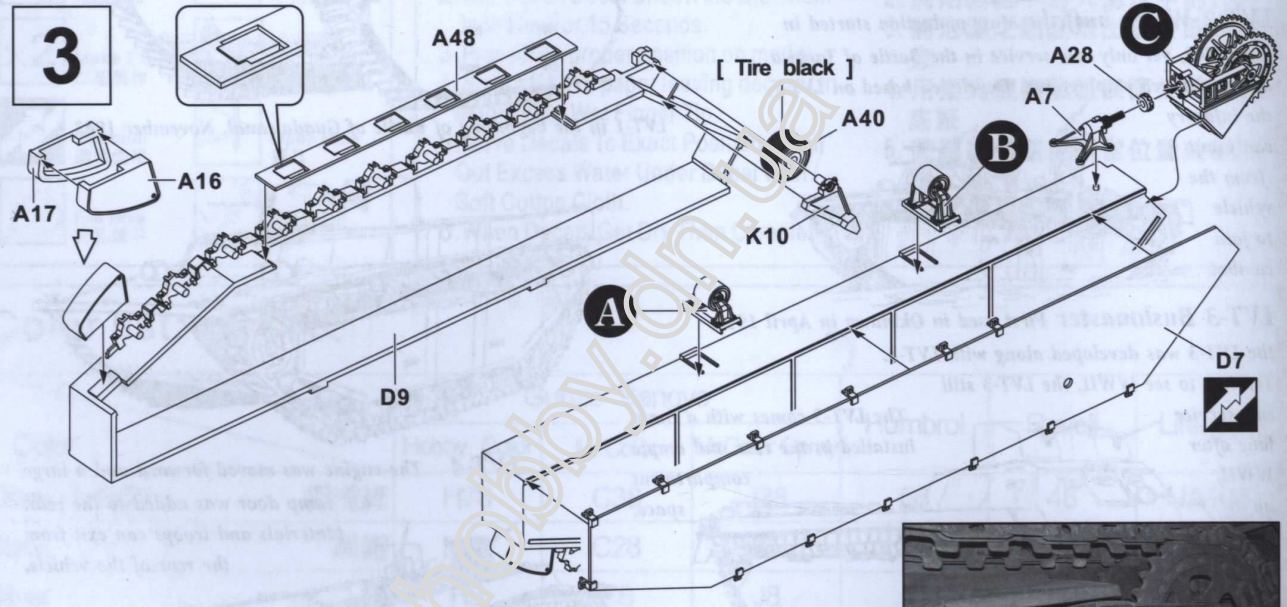
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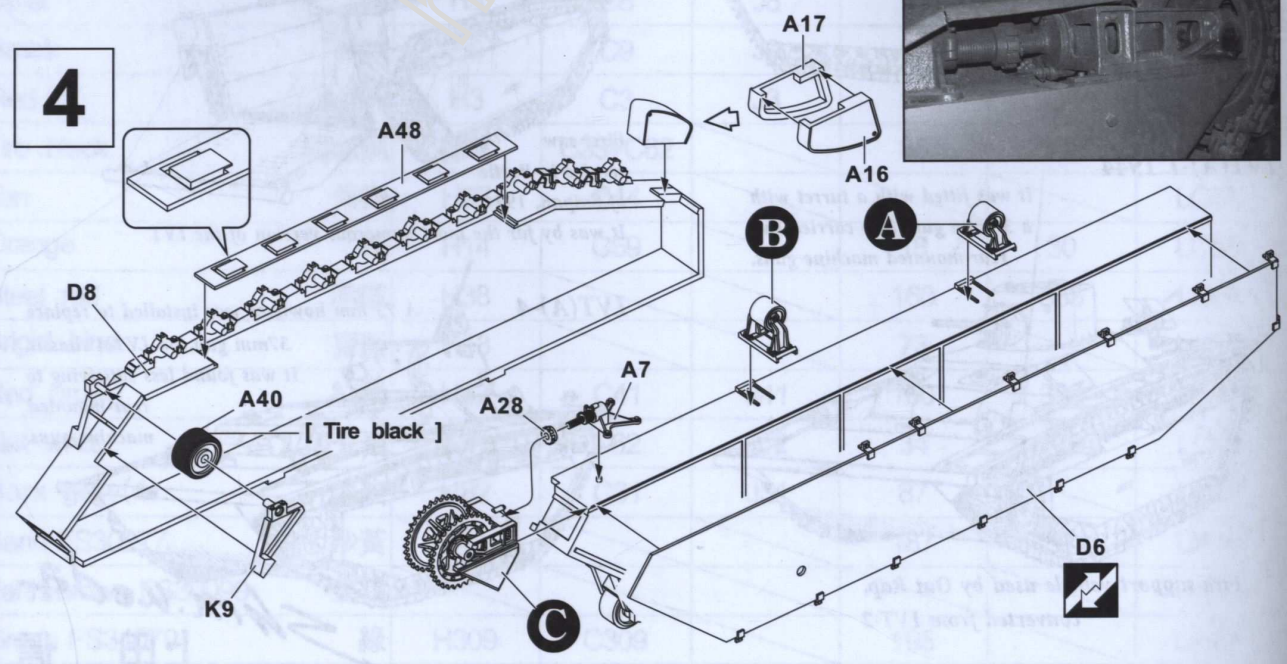
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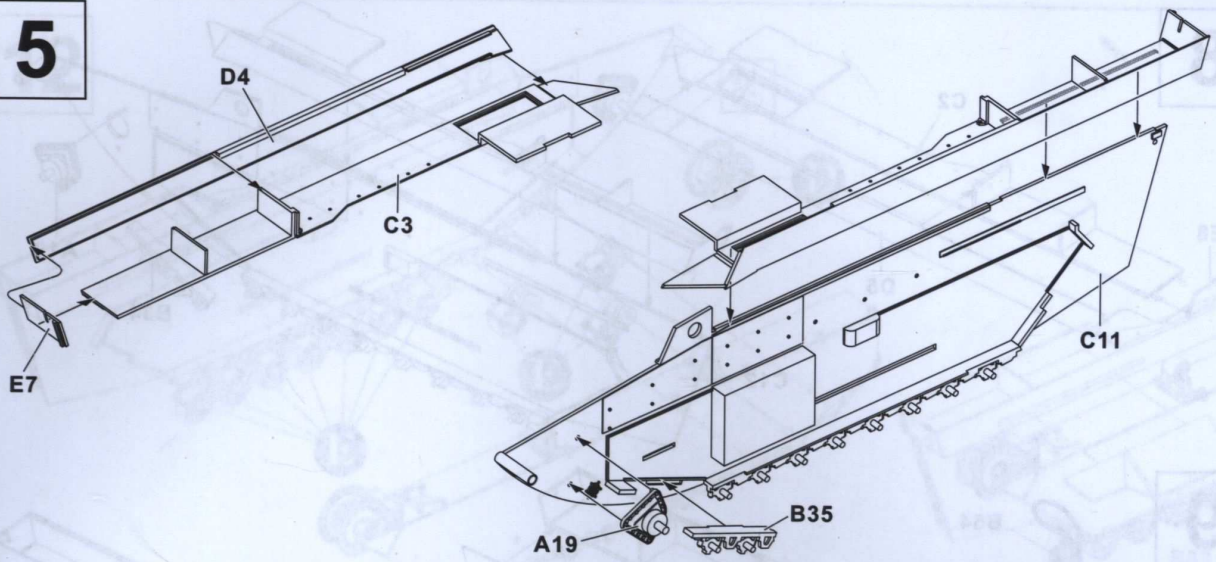
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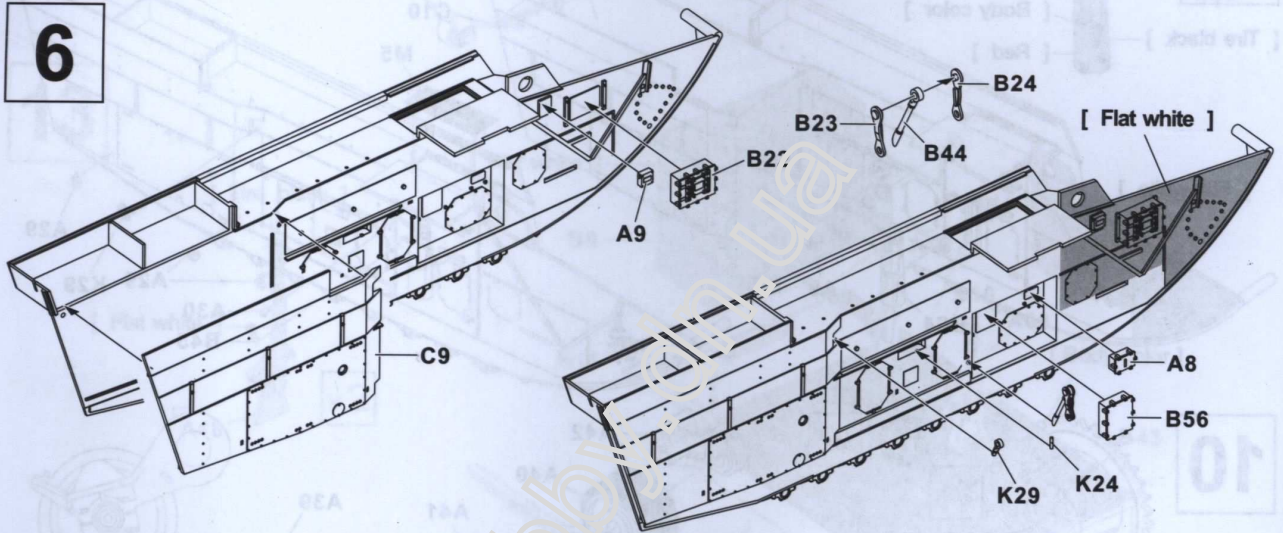
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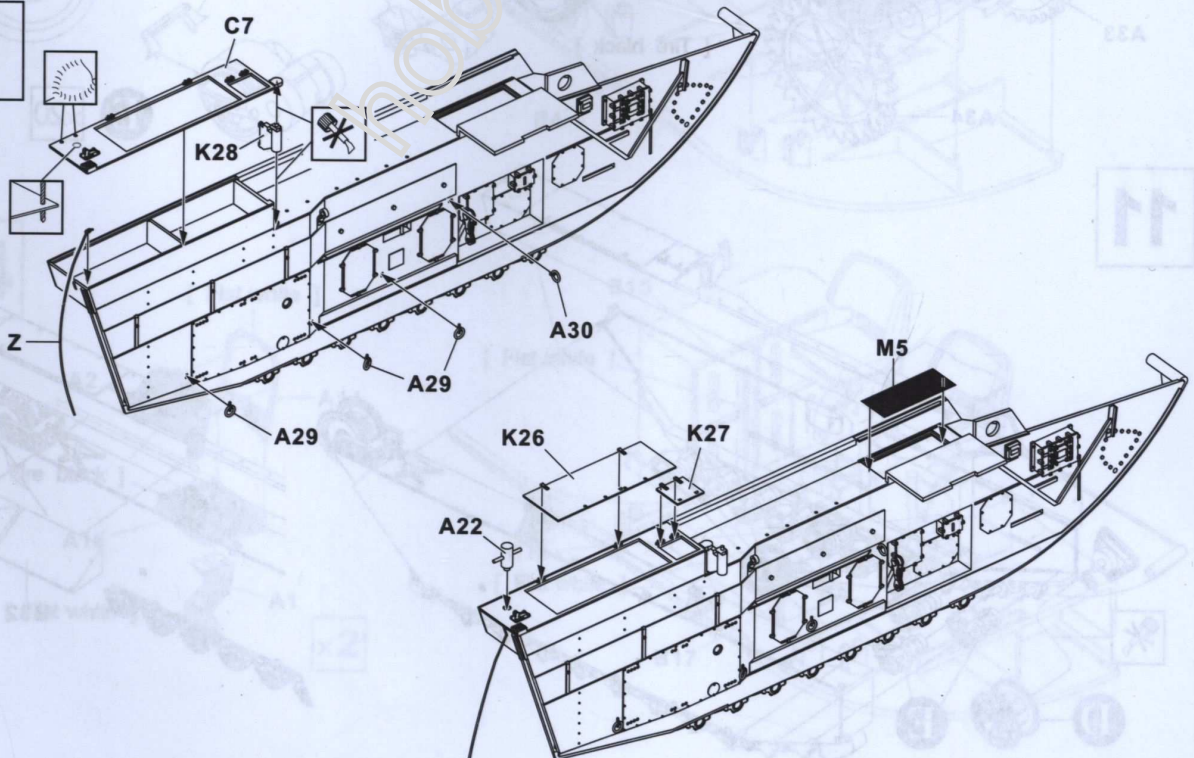
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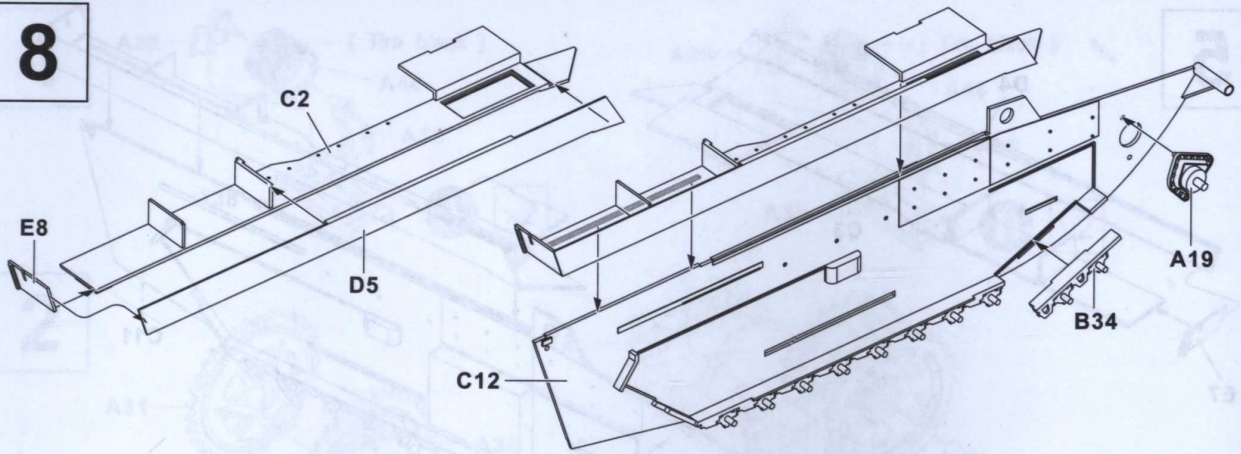
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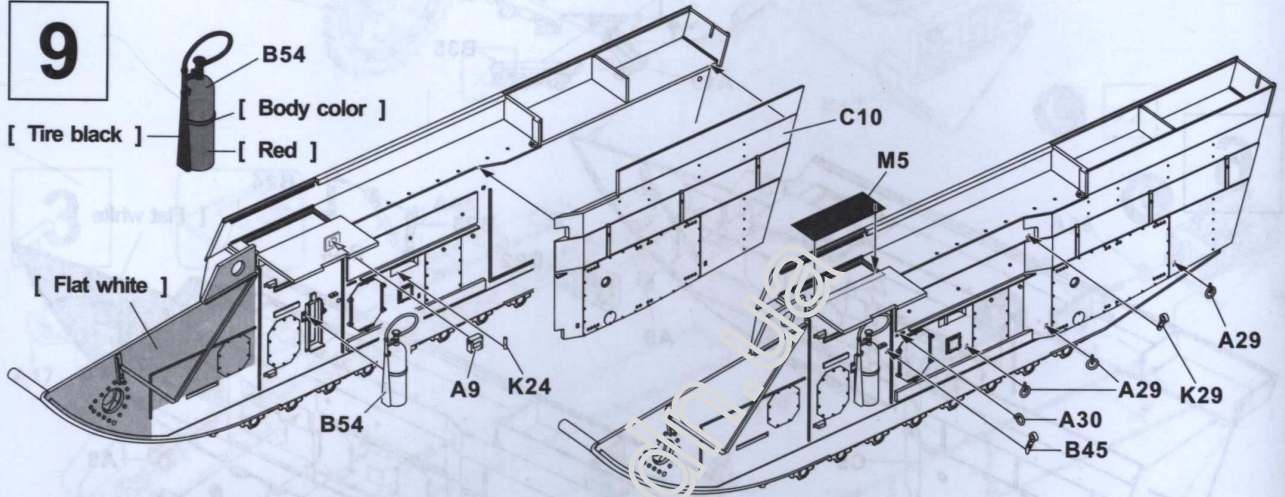
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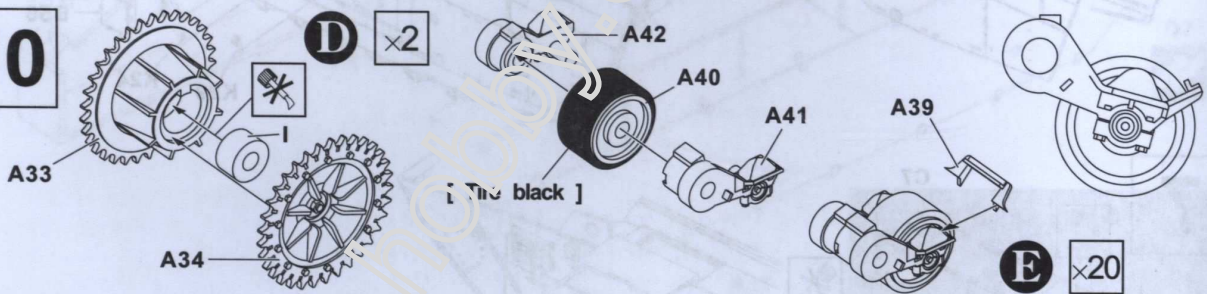
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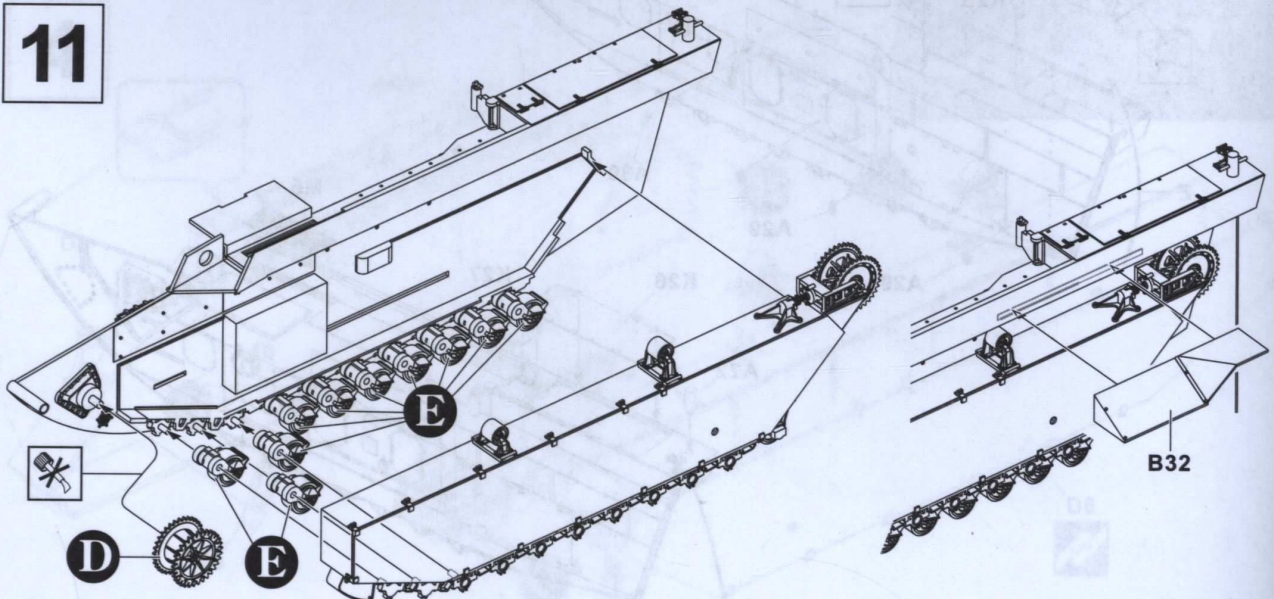
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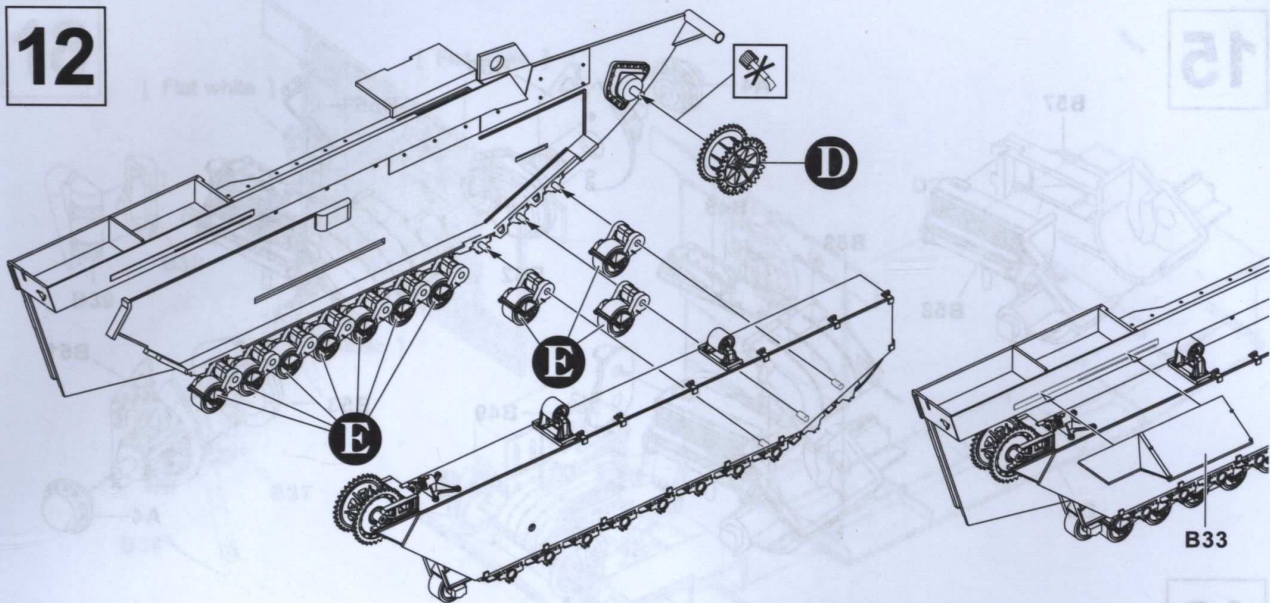
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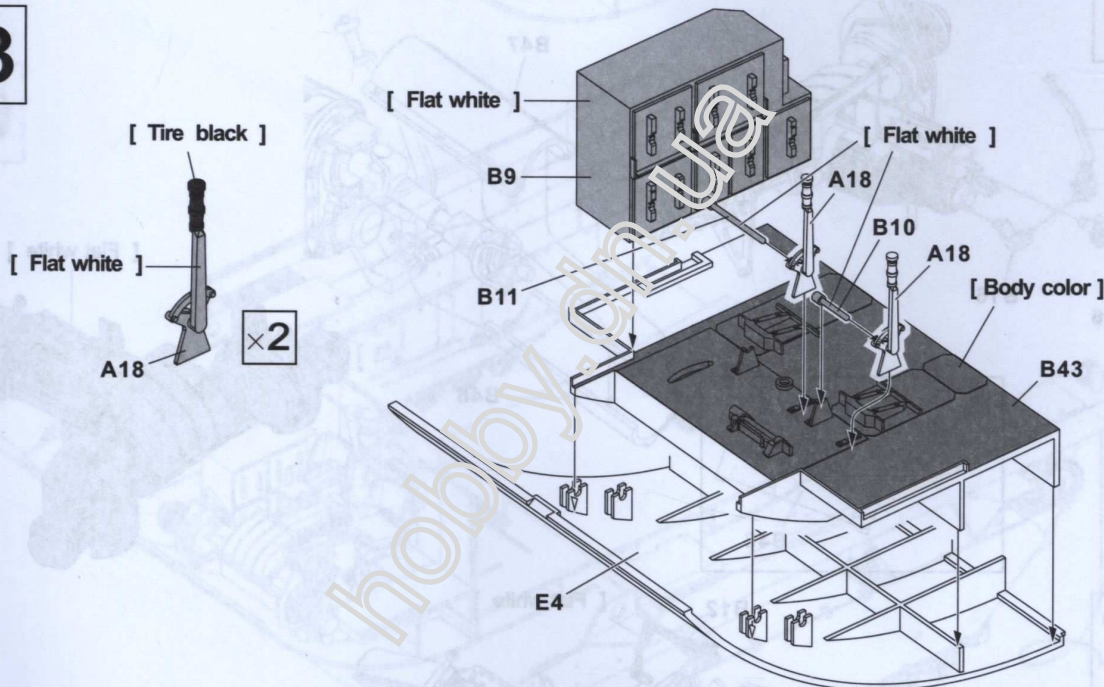
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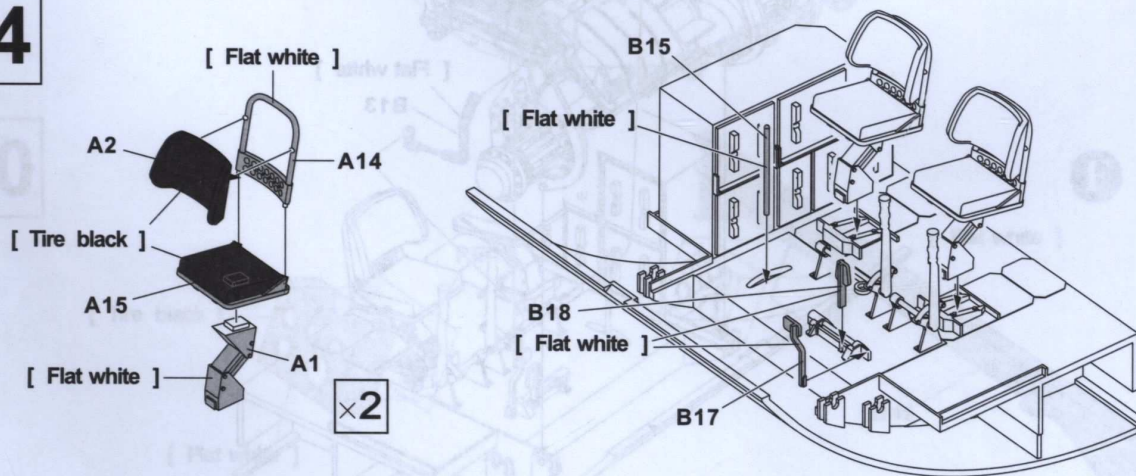
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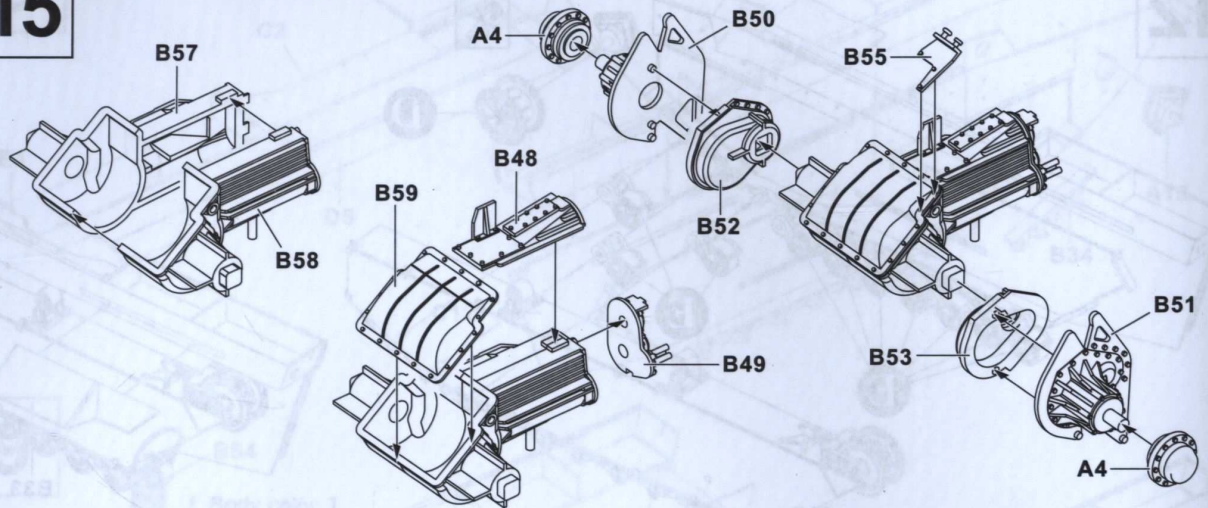
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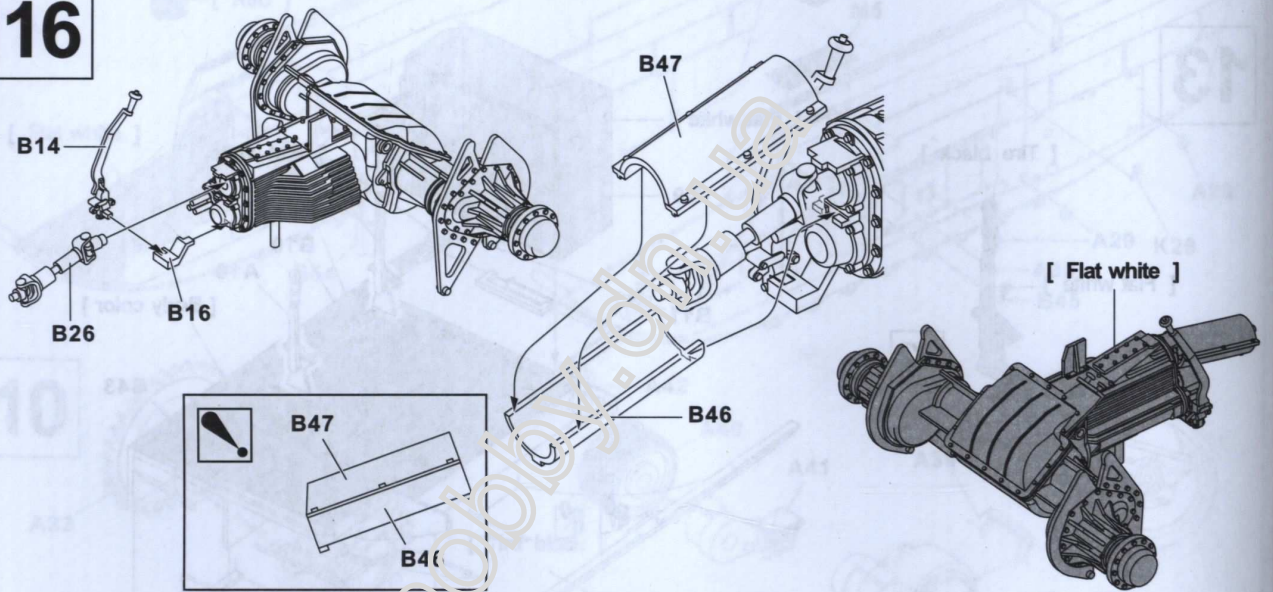
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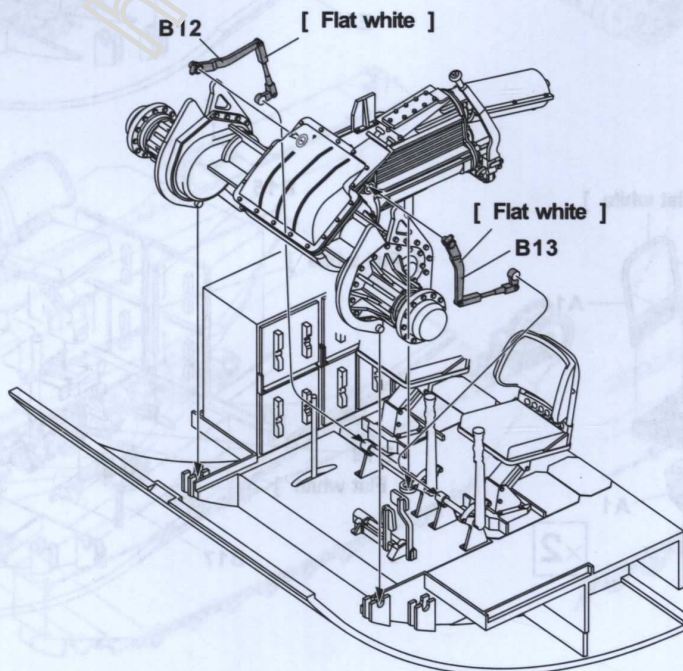
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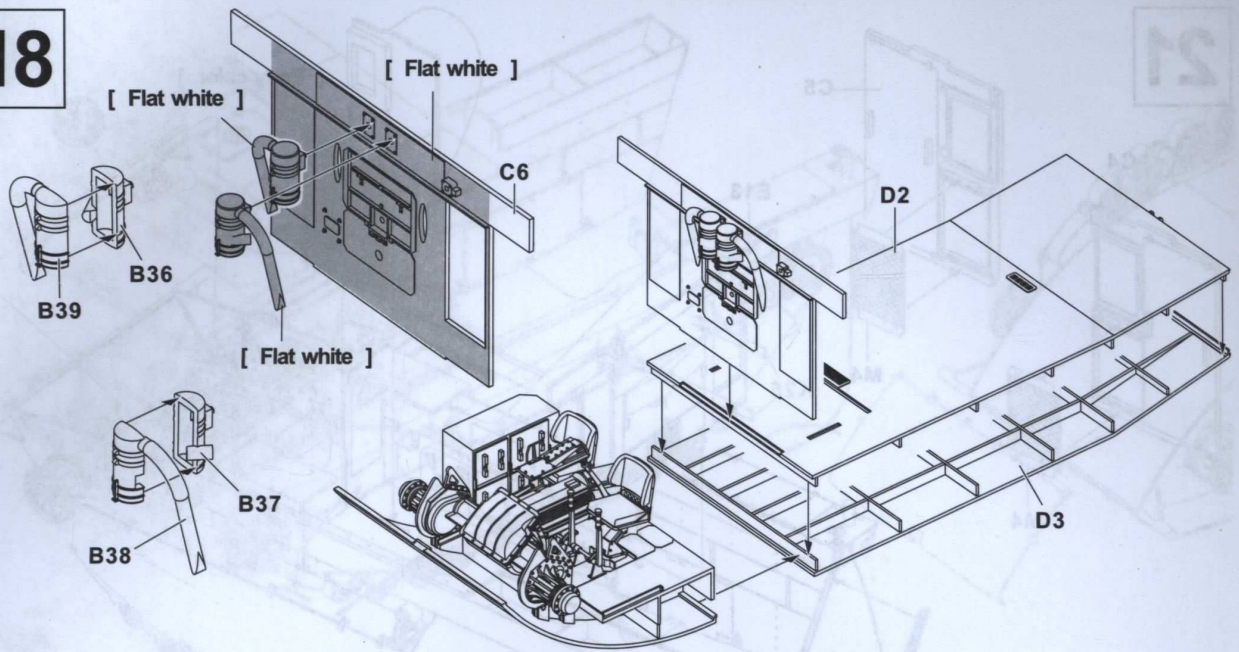
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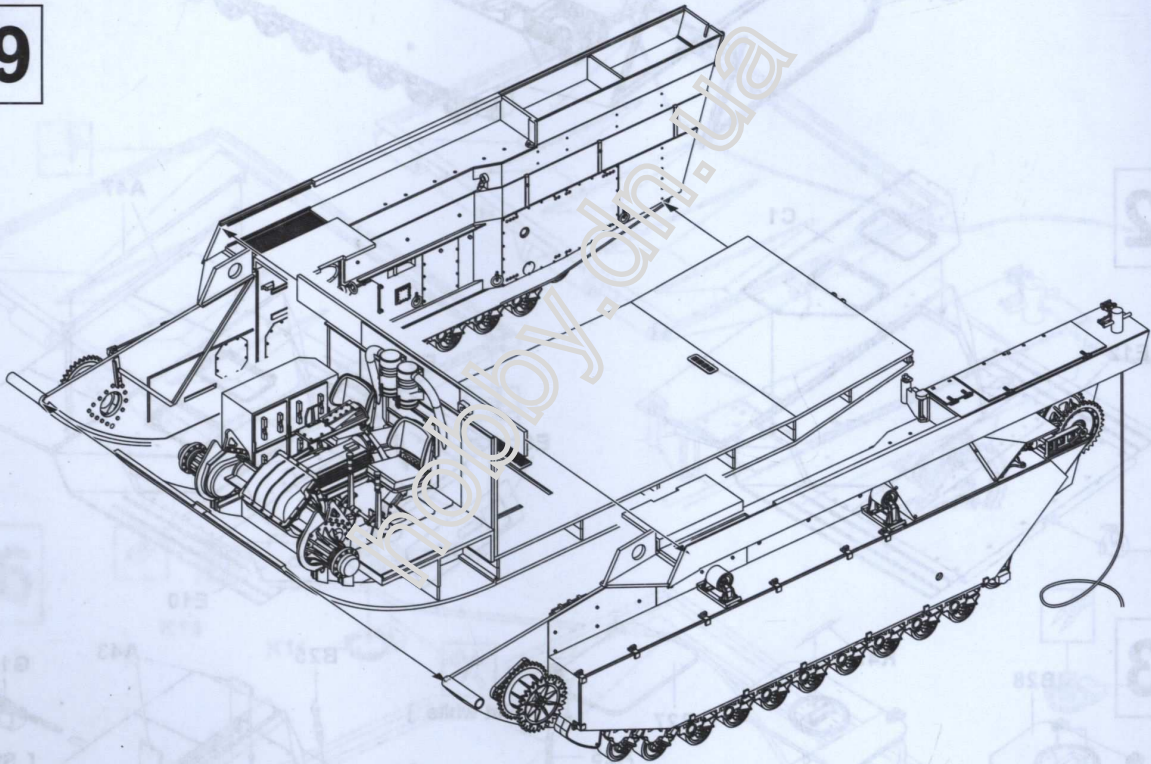
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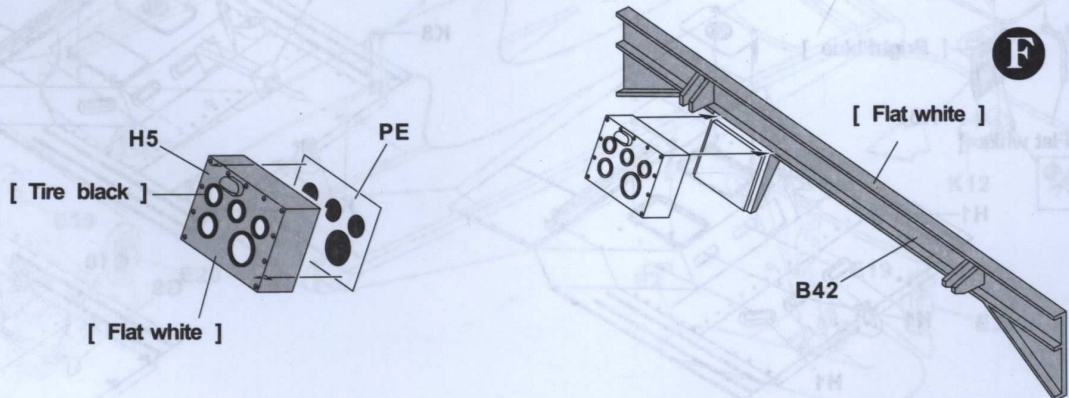
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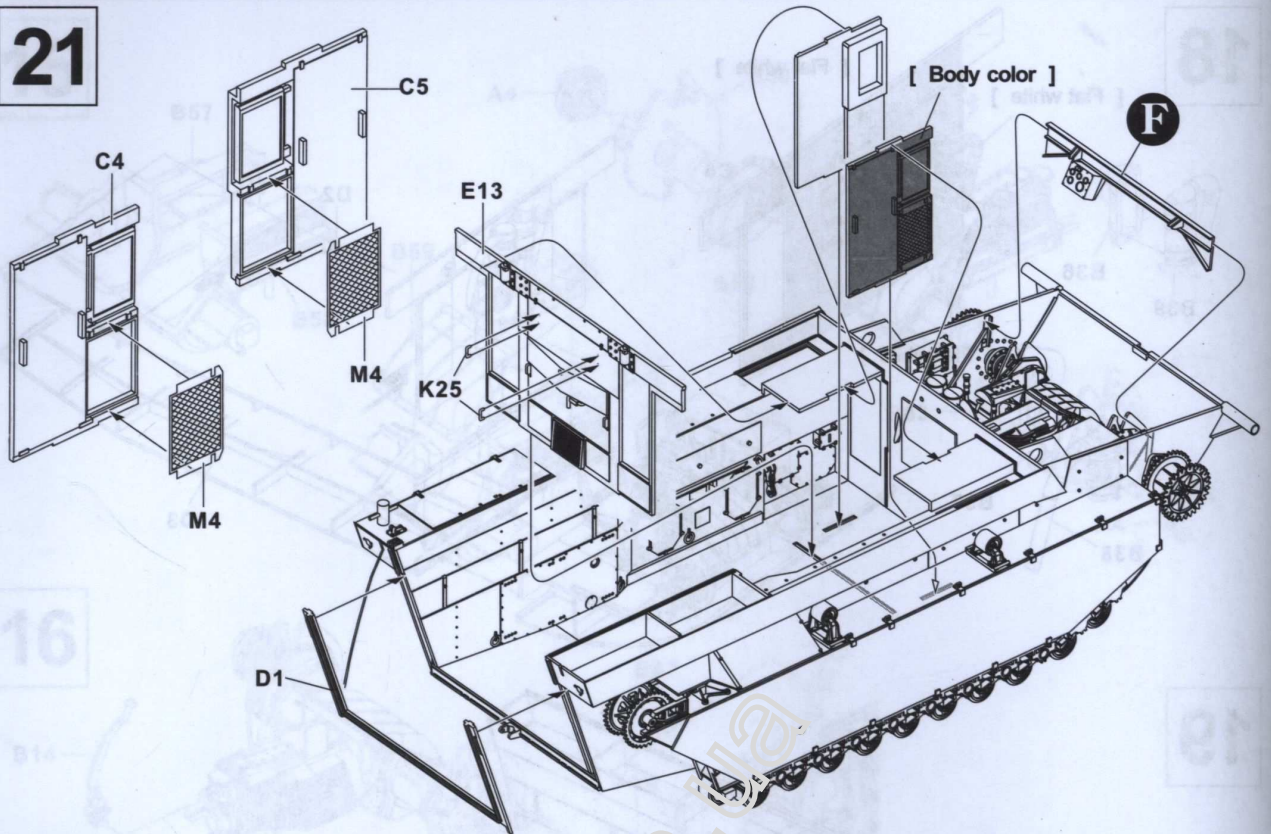
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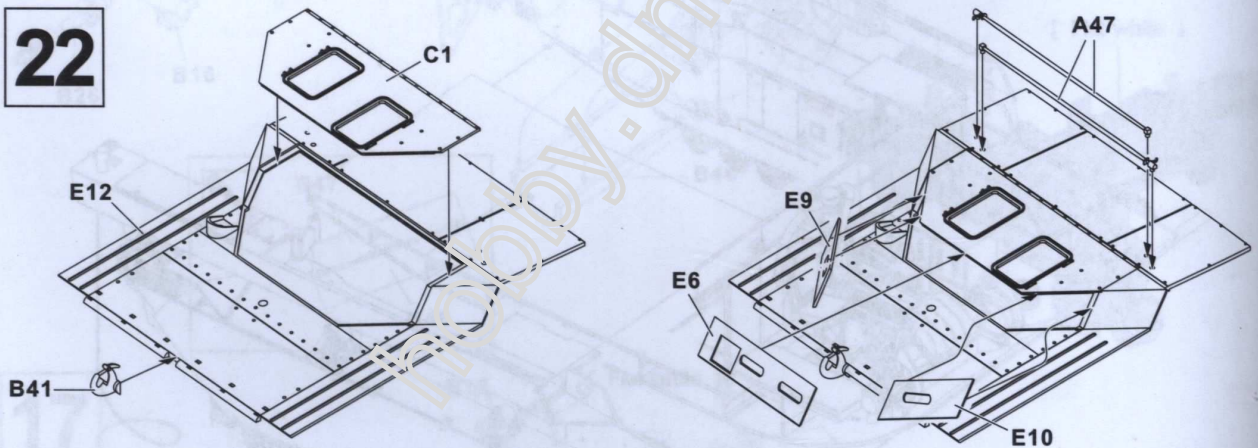
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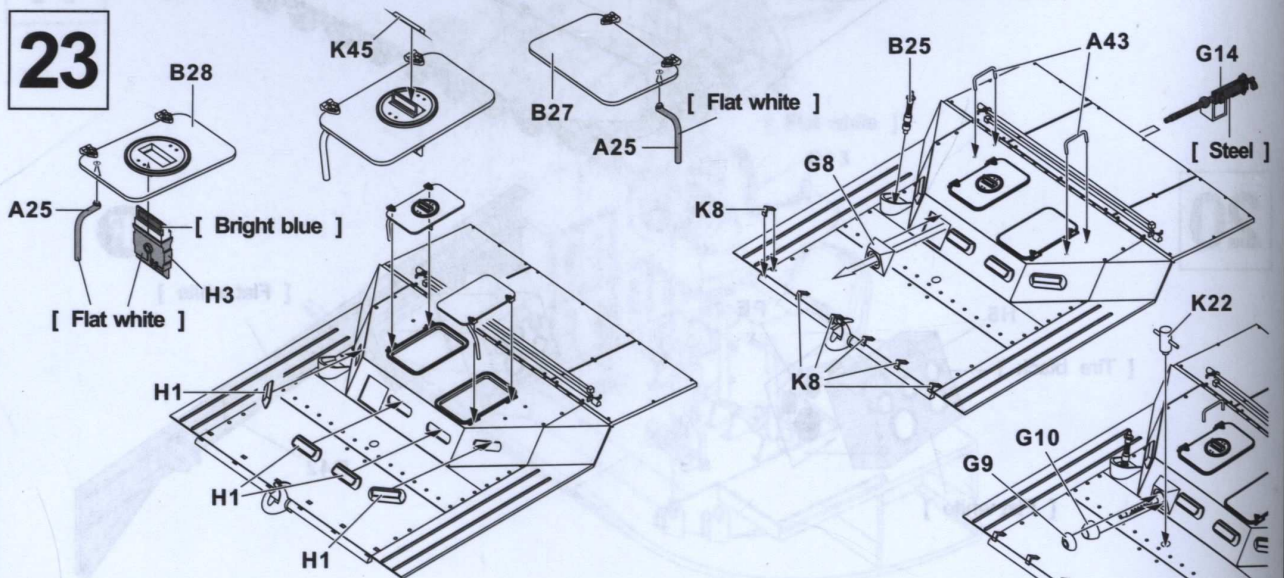
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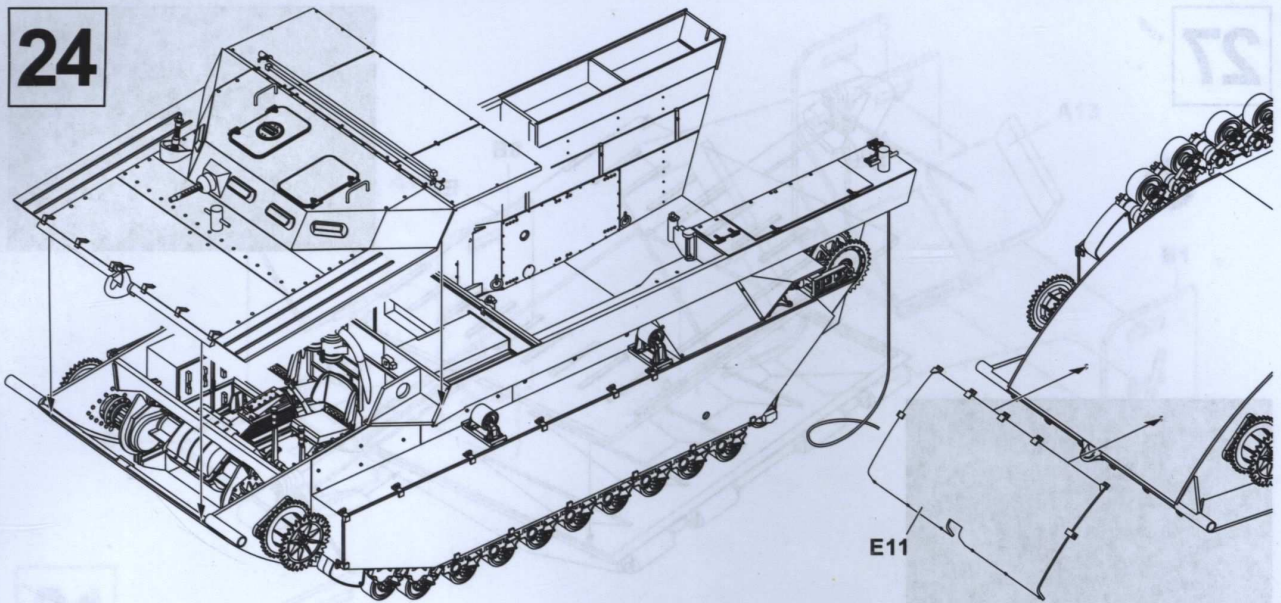
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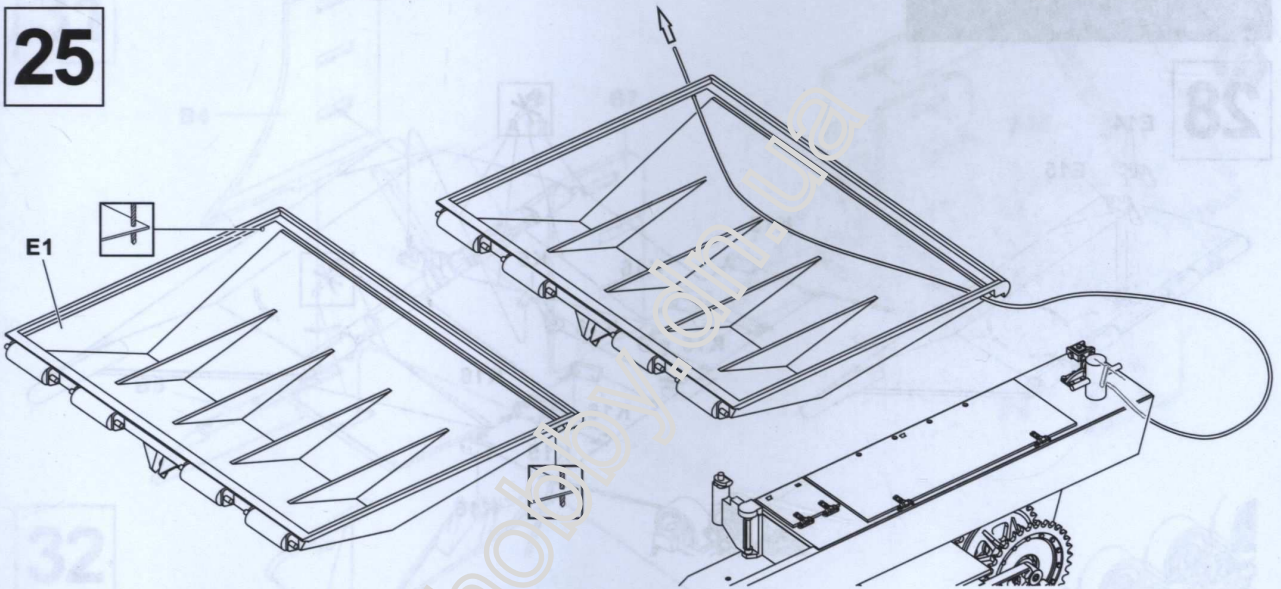
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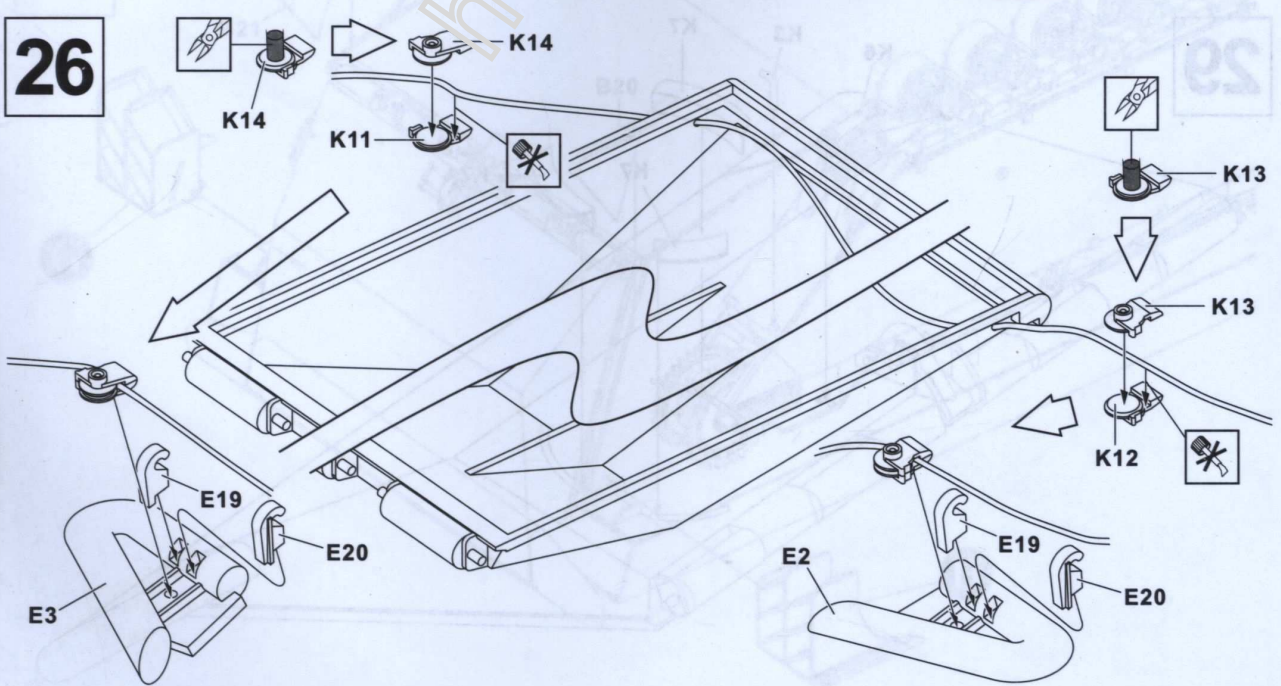
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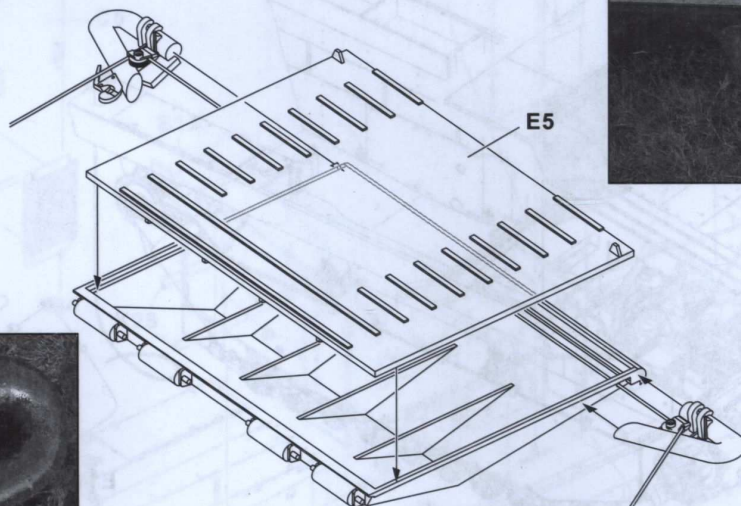
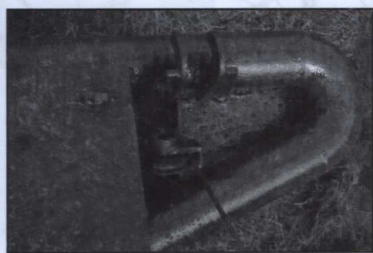
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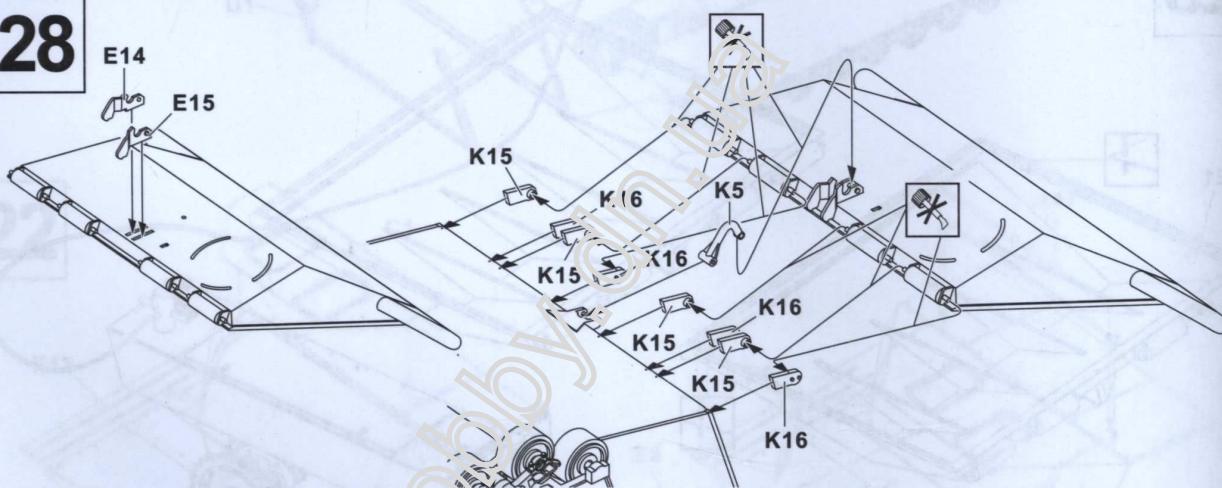
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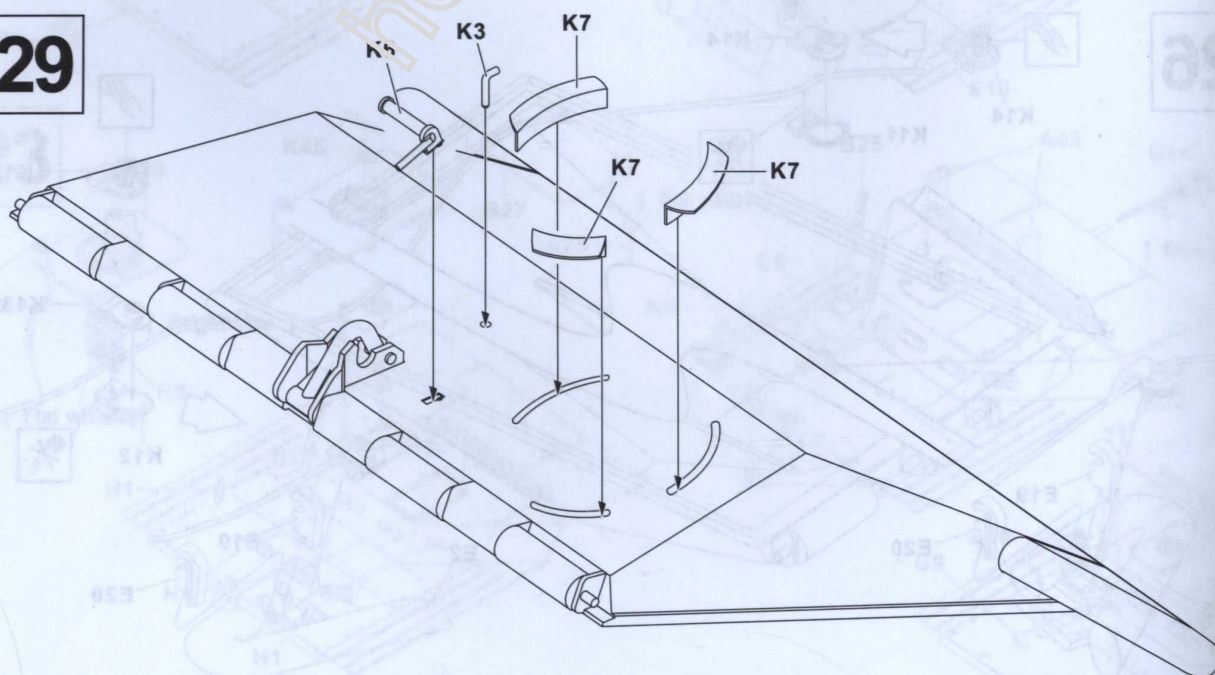
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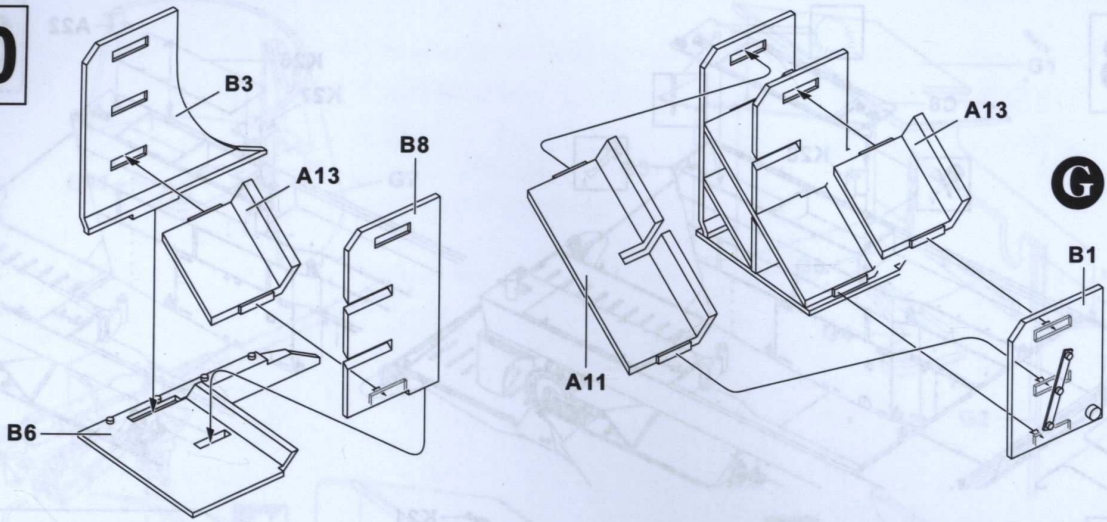
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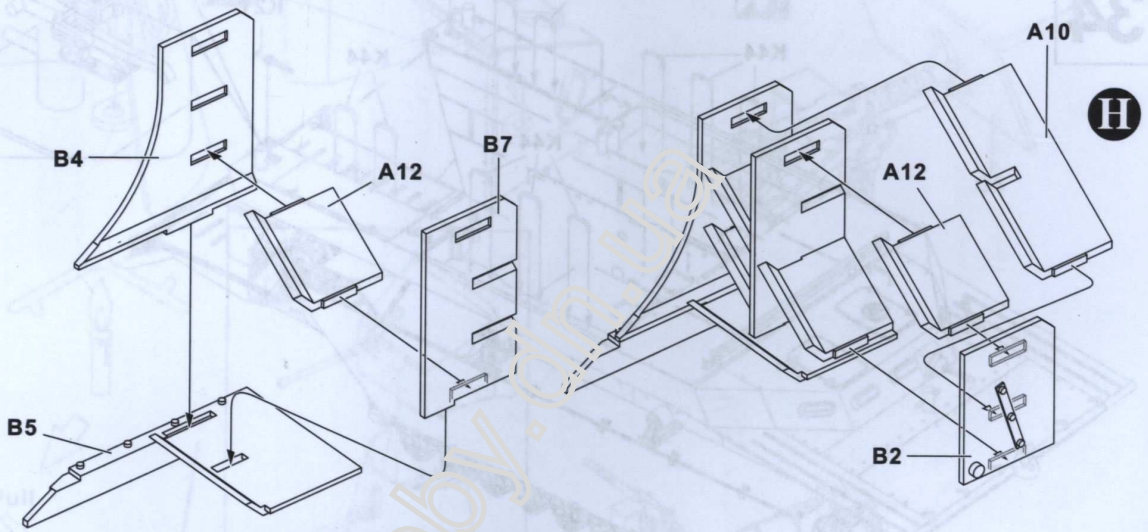
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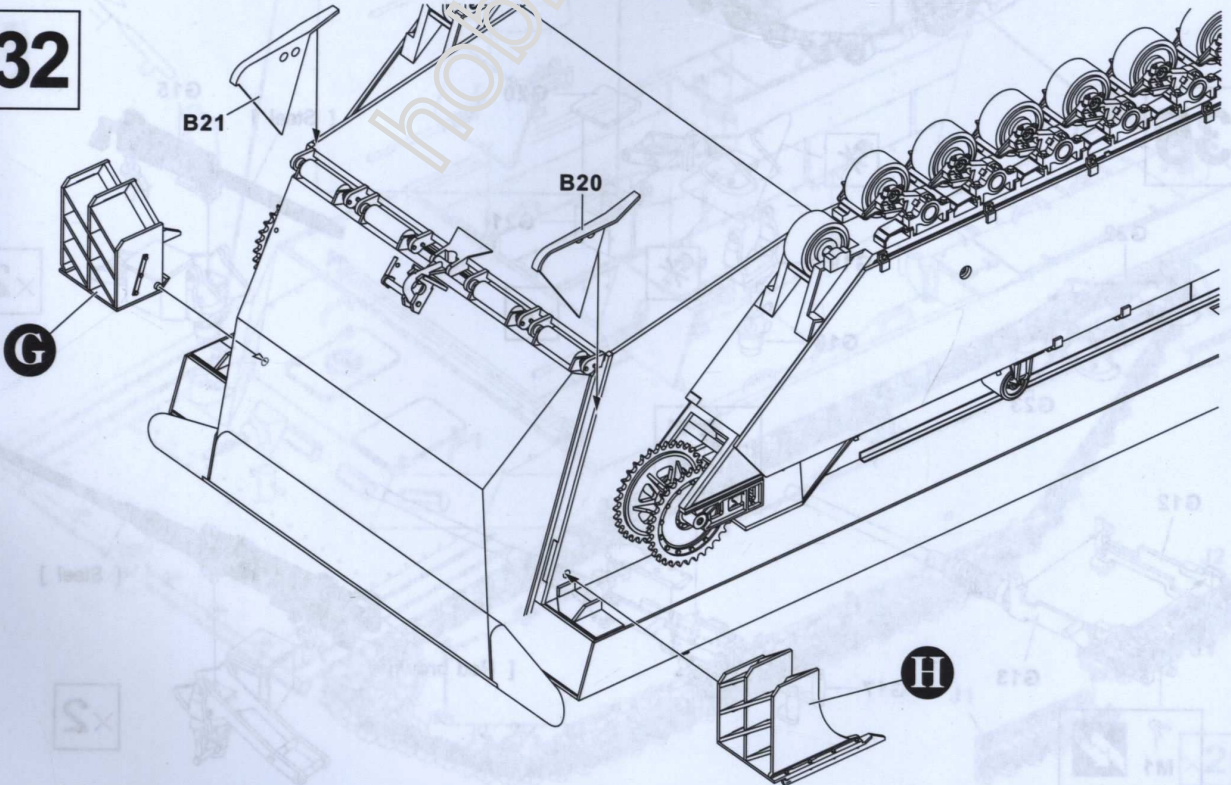
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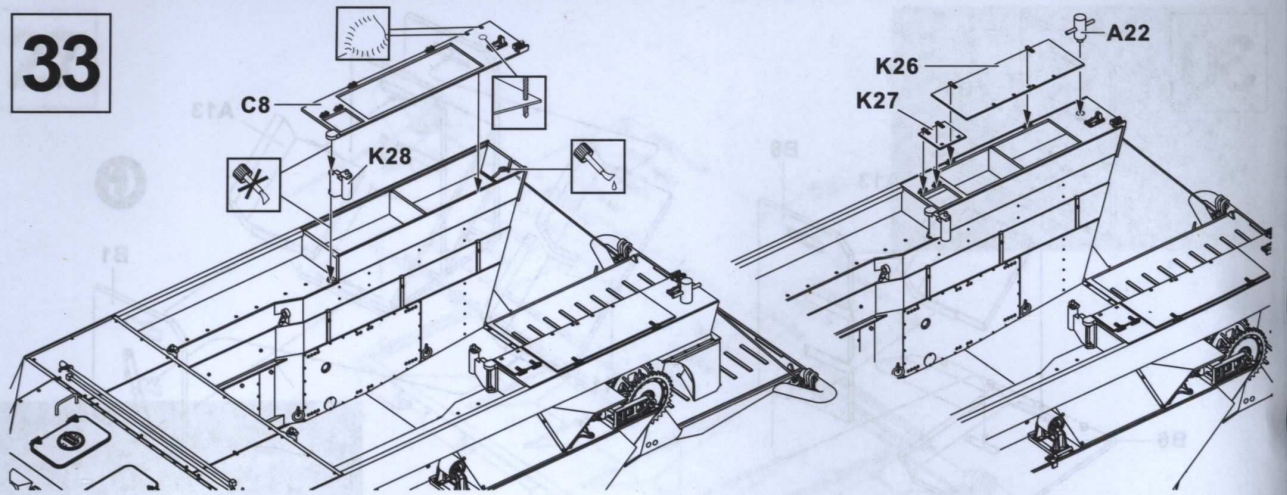
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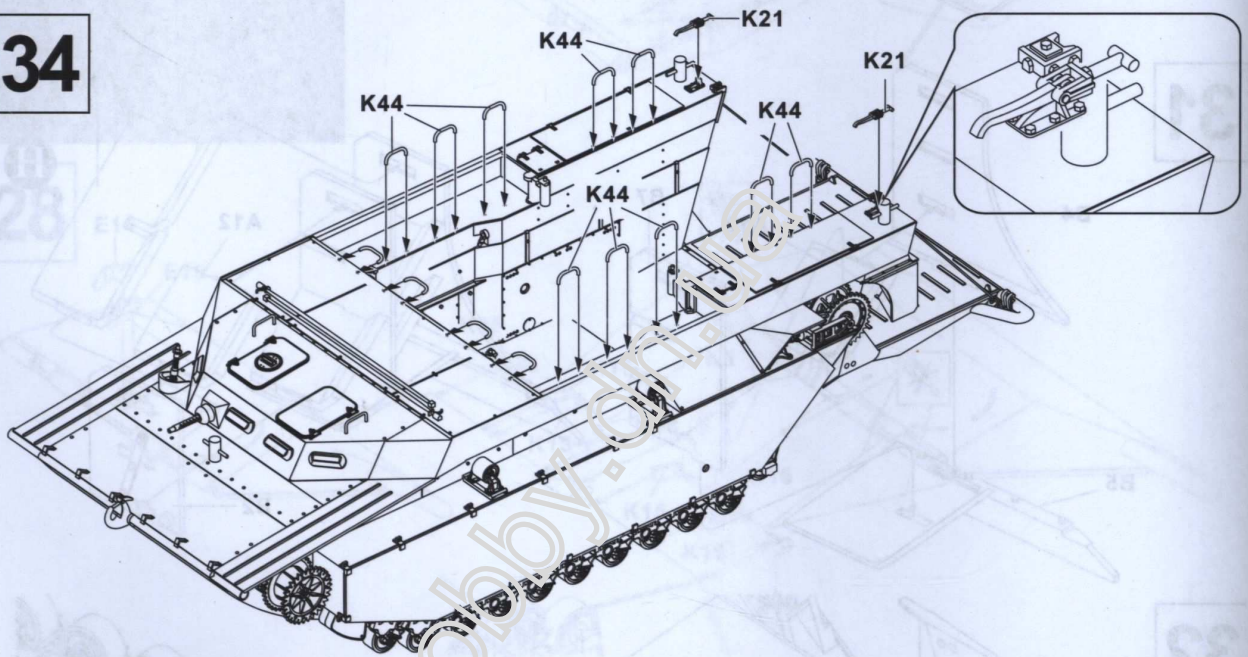
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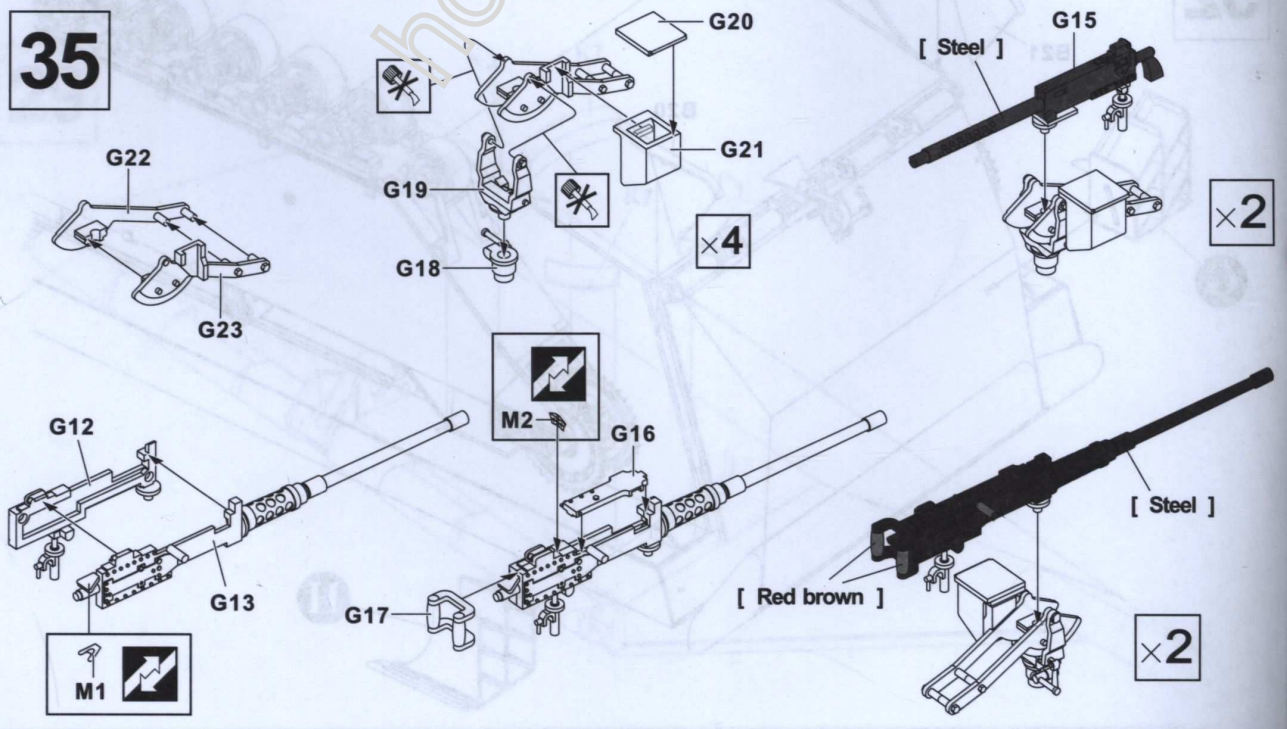
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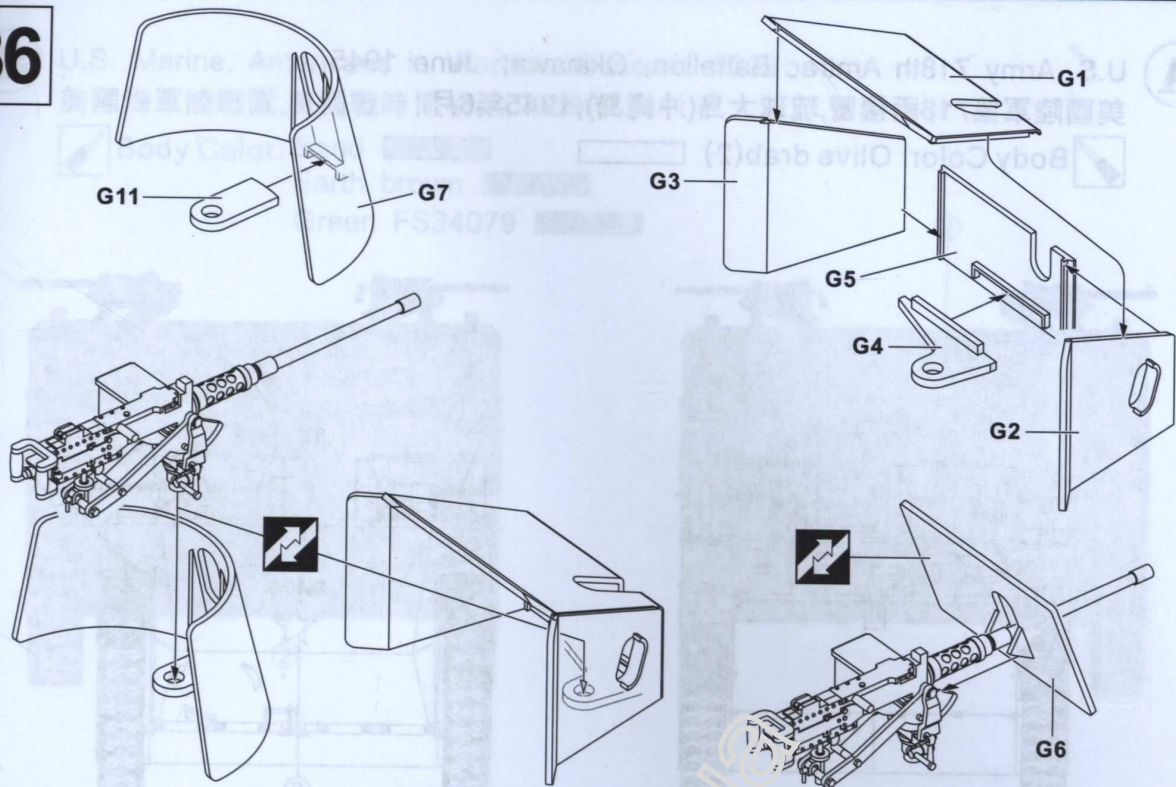
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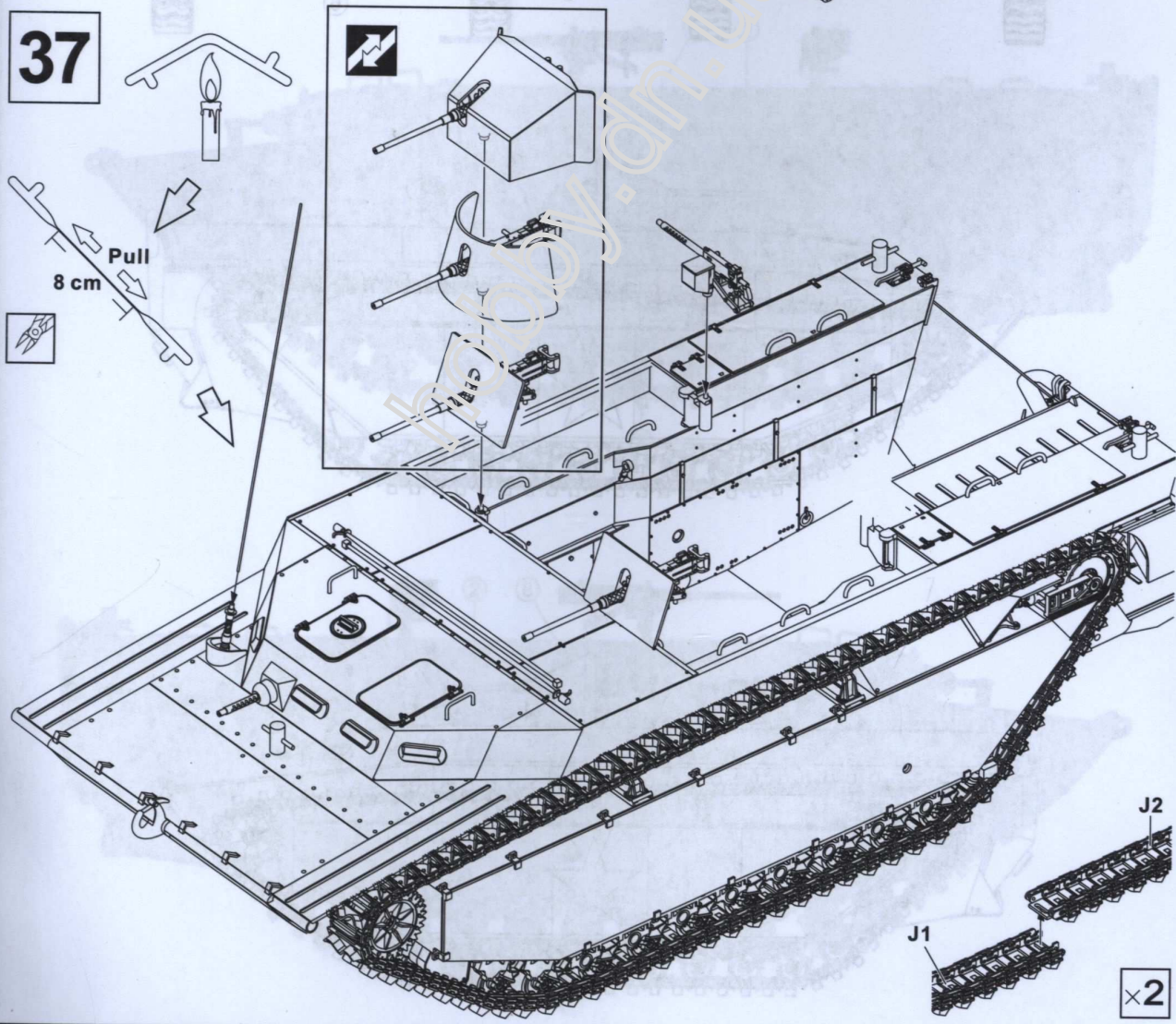
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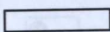


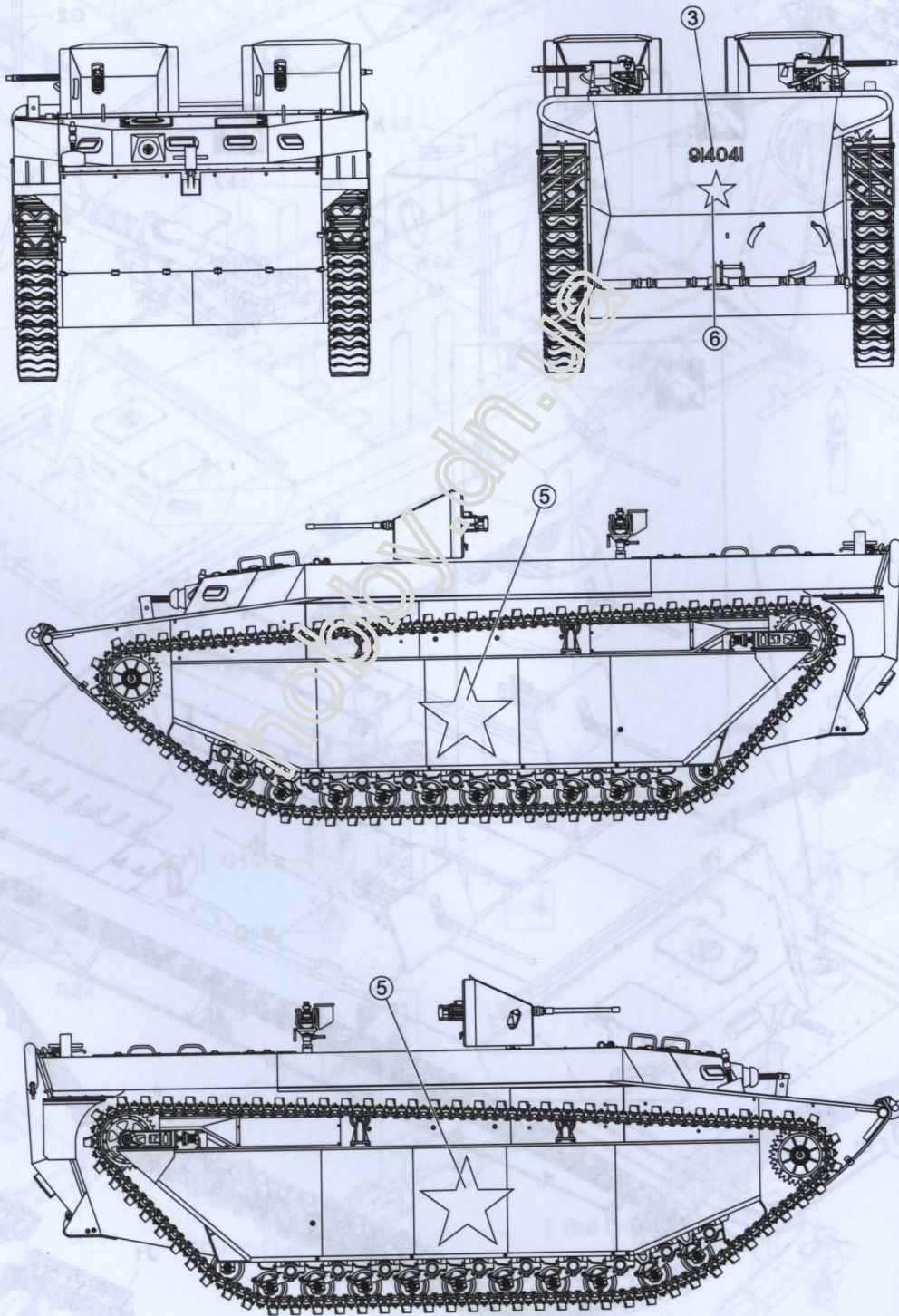
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A

U.S. Army 718th Amtrac Battalion, Okinawa, June 1945
美國陸軍第718兩棲營,琉球大島(沖繩島),1945年6月

 Body Color: Olive drab(2) 



B

U.S. Marine, Americans in Wartime Museum, 2009

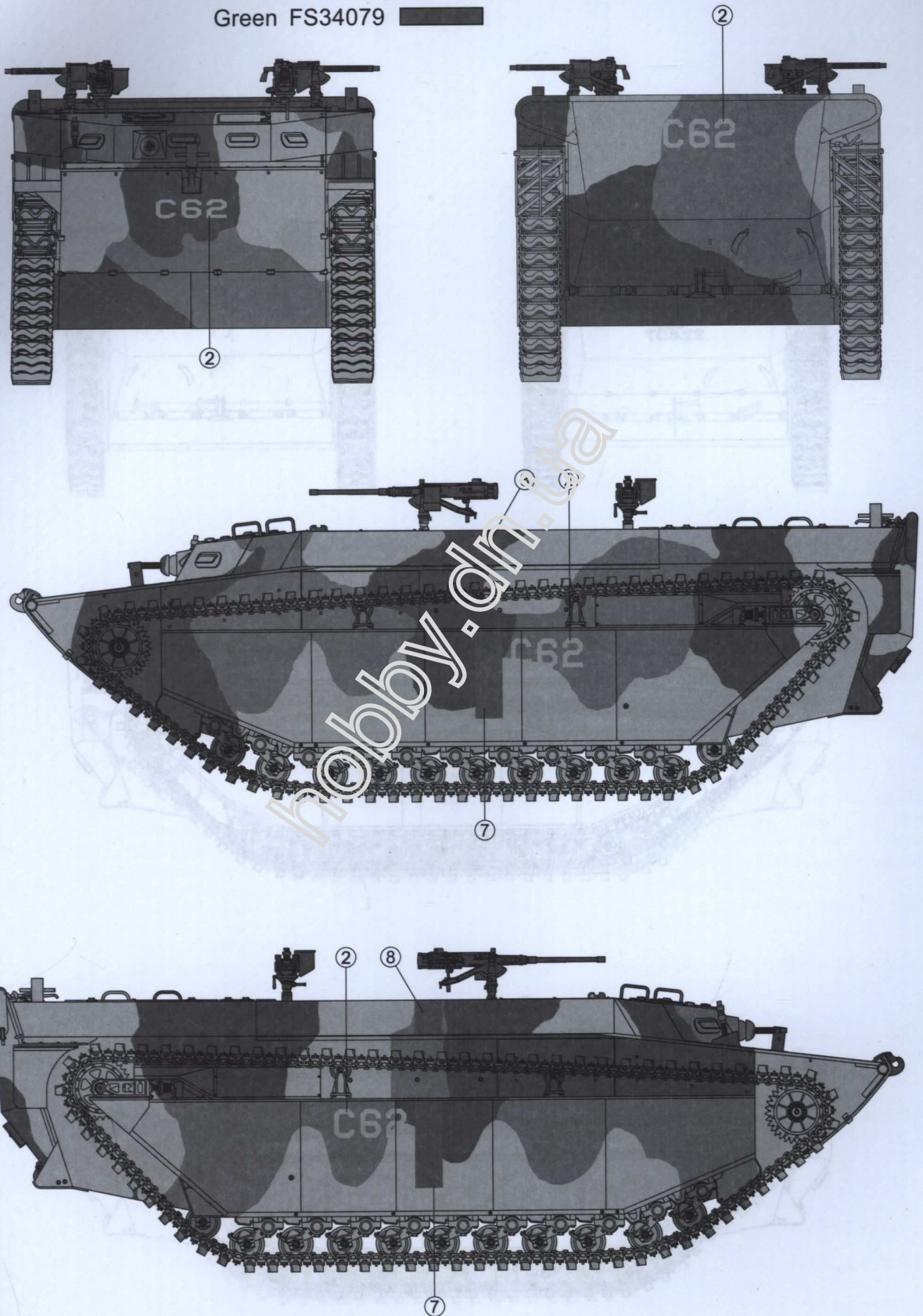
美國海軍陸戰隊,美國戰時博物館,2009年



Body Color: Sand

Earth brown

Green FS34079

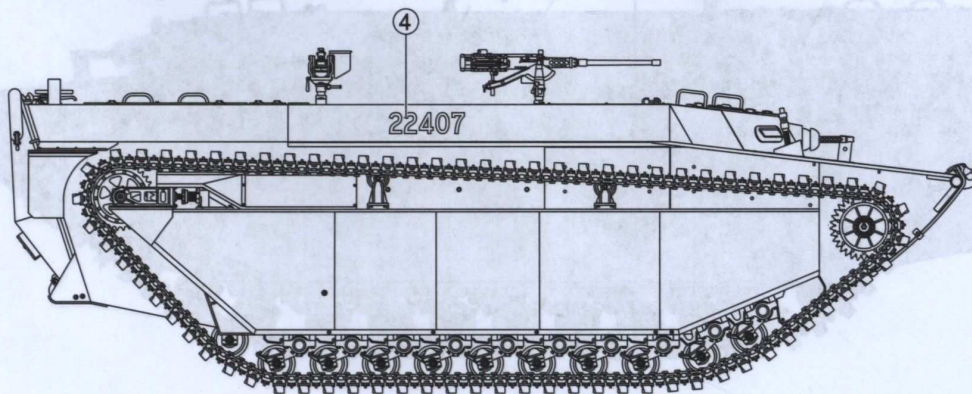
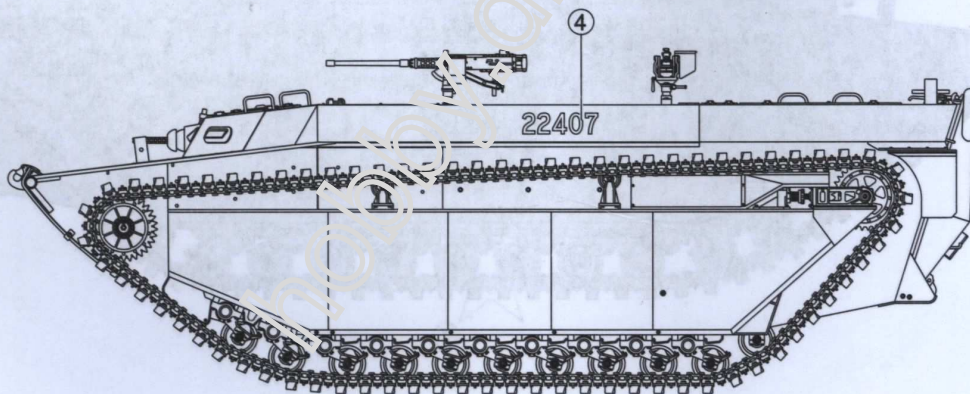
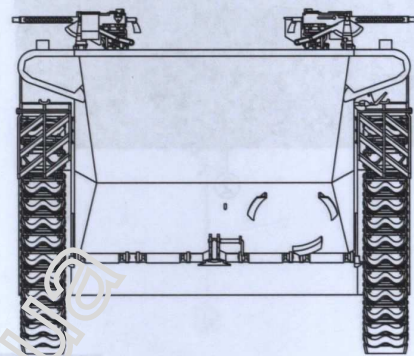
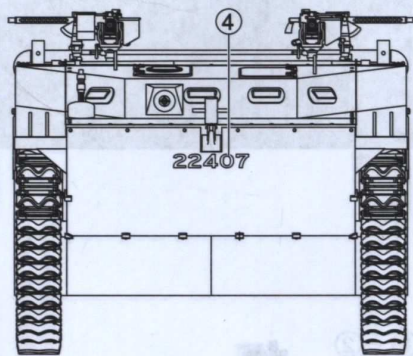
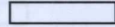


C

R.O.C, Army, Armored brigade, Taiwan, 1949
中華民國陸軍, 裝甲兵旅登陸戰車大隊, 臺灣, 1949年




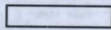
Body Color: RLM80 Olive green

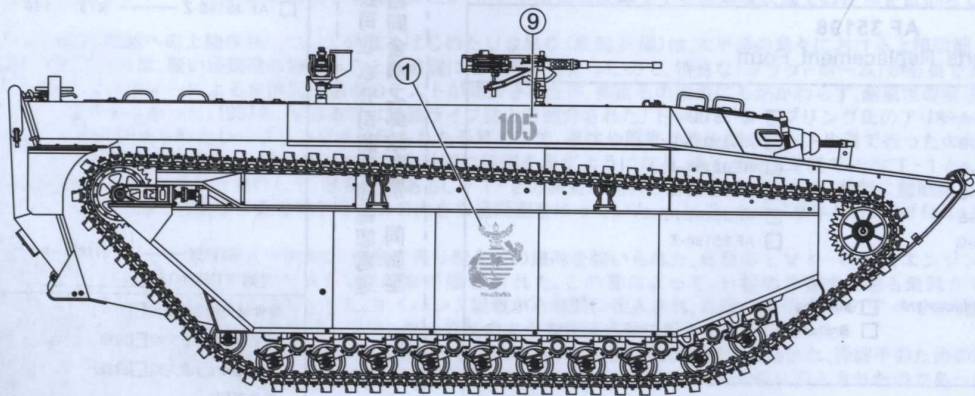
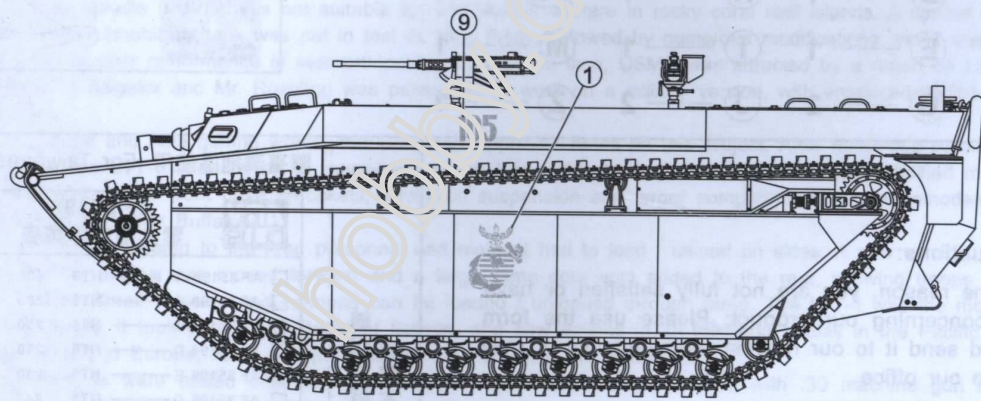
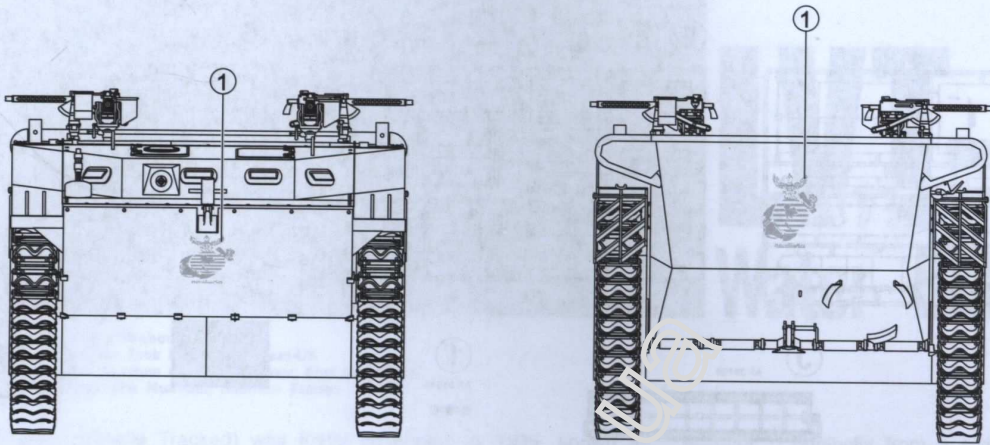


D

Royal Thai Marine Corps

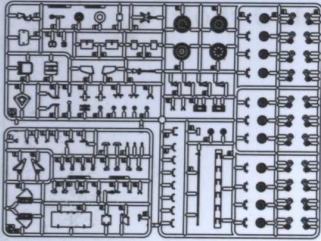
泰國皇家海軍陸戰隊

 Body Color: Green FS34079 

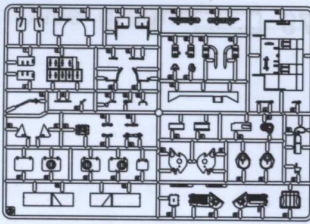


PARTS LIST 零件表

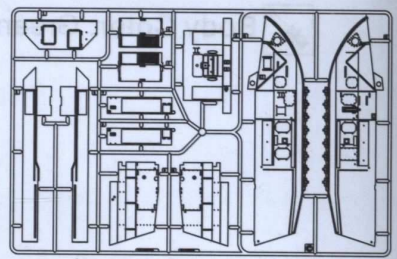
(A K) AF 35198



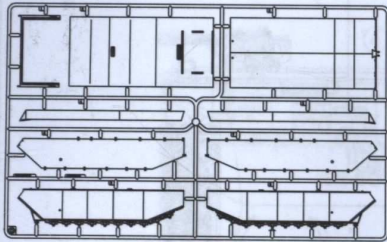
(B) AF 35198



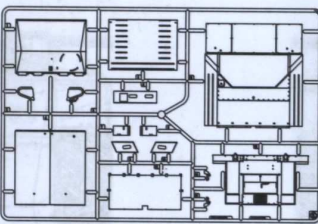
(C) AF 35198



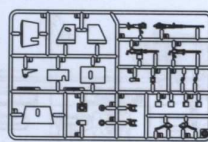
(D) AF 35198



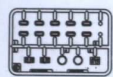
(E) AF 35198



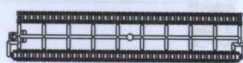
(G) AF 35198



(H) AF 35198



(J) AF 35198



(I) AF 35S15



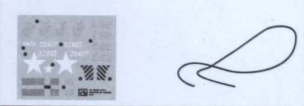
(M) AF 35205



(PE) AF 35205



(Z) AF 35198



- (A K)** — 2 **(D)** — 1 **(H)** — 1 **(PE)** — 1
(B) — 1 **(E)** — 1 **(I)** — 1 **(M)** — 1
(C) — 1 **(G)** — 2 **(J)** — 2 **(Z)** — 1



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.



AF 35198 Parts Replacement Form

- | | |
|---------------------------------------|--------------------------------------|
| <input type="checkbox"/> AF 35198-A-K | <input type="checkbox"/> AF 35198-H |
| <input type="checkbox"/> AF 35198-B | <input type="checkbox"/> AF 35S15-I |
| <input type="checkbox"/> AF 35198-C | <input type="checkbox"/> AF 35198-J |
| <input type="checkbox"/> AF 35198-D | <input type="checkbox"/> AF 35205-M |
| <input type="checkbox"/> AF 35198-E | <input type="checkbox"/> AF 35205-PE |
| <input type="checkbox"/> AF 35198-G | <input type="checkbox"/> AF 35198-Z |

Reason for replacement: Missing Broken

Signature: _____

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AF 35198 零件補充申請表

申請人姓名 地址 電話

- | | |
|---------------------------------------|----------|
| <input type="checkbox"/> AF 35198-A-K | NT\$ 400 |
| <input type="checkbox"/> AF 35198-B | NT\$ 200 |
| <input type="checkbox"/> AF 35198-C | NT\$ 250 |
| <input type="checkbox"/> AF 35198-D | NT\$ 250 |
| <input type="checkbox"/> AF 35198-E | NT\$ 250 |
| <input type="checkbox"/> AF 35198-G | NT\$ 240 |
| <input type="checkbox"/> AF 35198-H | NT\$ 120 |
| <input type="checkbox"/> AF 35S15-I | NT\$ 20 |
| <input type="checkbox"/> AF 35198-J | NT\$ 280 |
| <input type="checkbox"/> AF 35205-M | NT\$ 180 |
| <input type="checkbox"/> AF 35205-PE | NT\$ 60 |
| <input type="checkbox"/> AF 35198-Z | 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 _____

總代理: 戰鷹企業有限公司 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。