



M728

Combat Engineer Vehicle

Early version



****Special thank to:**

**Brent Sauer, Chris Hughes, Desmond Koh, Jerri Neo,
Jerry Crowley, Ossie Orsourn, 徐群倫, 符永瀚**

The purpose of a combat engineering vehicle (CEV) is to support armored combat units in the removal of obstacles, pioneering routes, construction of barricades, and vehicle recovery. The earliest use of a vehicle designed and used for such operations occurred during the Allied landings at the Port of Diep, France. A Canadian engineer designed and installed a device on the Churchill tank enabling it to lay logs on the soft sand of the Diep beaches. Despite the operation being a failure, the value combat engineering vehicles was fully demonstrated. Hence, such vehicle was widely adopted for use during the invasion of Normandy two years later.

After WWII there was a continual development of CEV's in every country. In the 1960s, the United States modified the M60A1 medium tank to accommodate a bulldozer blade or a mine plow on the front of the chassis. An "A" shaped crane with a hydraulic-powered reel was installed for vehicle recovery and heavy lifting. The M68 105mm main cannon was replaced by a license-built M135 165mm demolition mortar. The M135 cannon fired low velocity high explosive plastic (HEP) rounds which could effectively clear obstacles and demolish buildings. The original armor of the M60A1 tank provided the crew with sufficient protection.

The modified M60A1 was officially designated the M728 in 1963. The M728 entered production in 1965 and was subsequently deployed to Vietnam. Production ended in 1987. Between M728's and the later M728A1 (based on the M60A3 chassis) total production was 291 vehicles.

In addition to the US Army, many allied countries used the M728 including the armies of Saudi Arabia and Singapore.

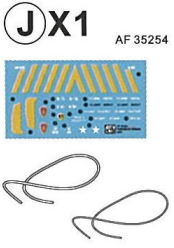
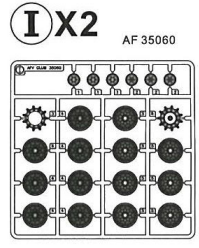
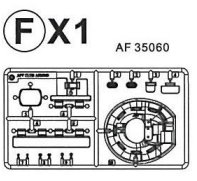
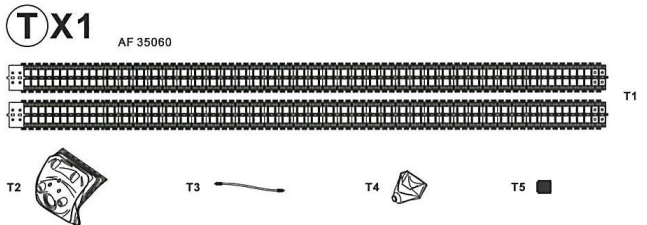
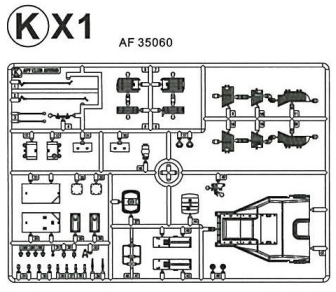
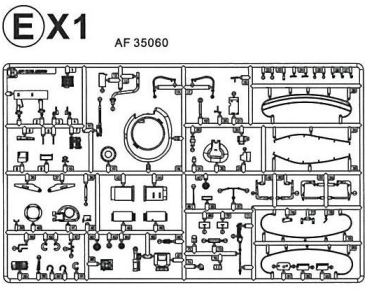
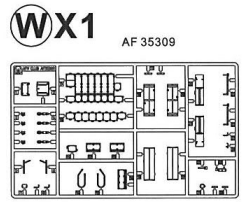
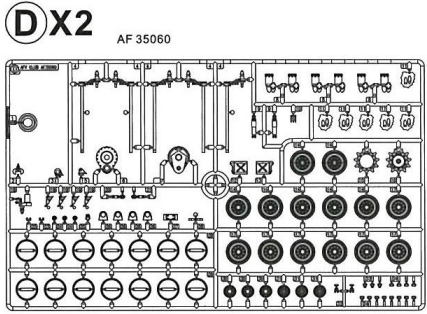
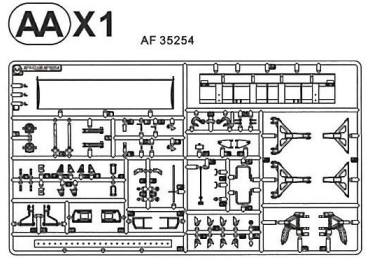
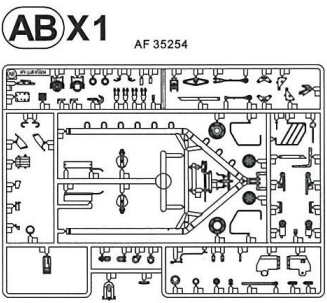
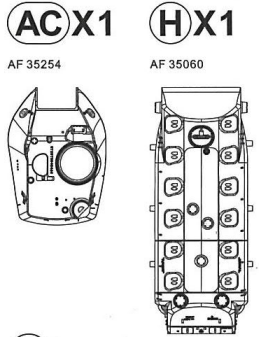
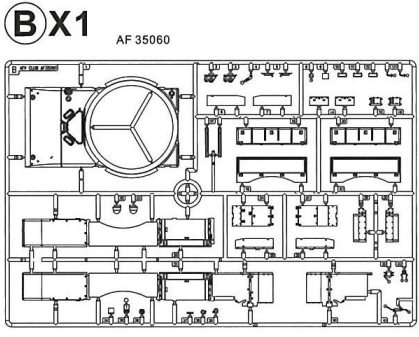
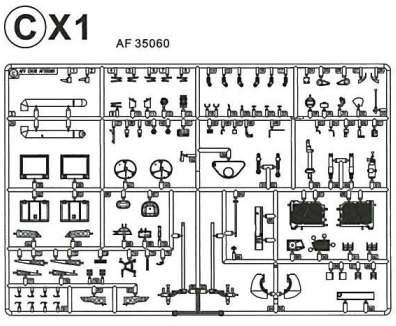
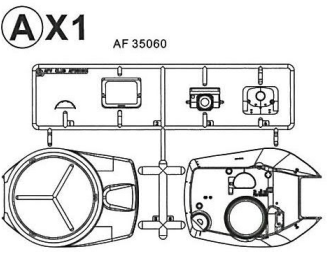
The M728 saw combat in the 1990 Persian Gulf War but due to its traditional power train was unable to keep up with the M1 Abrams. In 2000, the M728 was transferred to reserve units, while some vehicles were sent to the National Guard, FBI, and ATF where the type continues in service to this day.

戦闘工兵車両の役割は戦闘部隊の行動に随伴し、障害物の除去、ルート確保、バリケード建設、故障車両の復旧などを行ない、戦闘部隊のサポートをする事である。連合軍がこの類の車両を初めて作戦に投入したのは1942年、フランス北部のディエップへの上陸作戦であった。戦車がディエップの軟弱な砂地と防波堤を無事通過するために、カナダのエンジニアはチャーチル戦車にカーペット状の通路を敷く装置を取りつけた。上陸作戦は失敗に終わったが、戦闘工兵車両の価値は十分に証明され、2年後のノルマンディー上陸作戦では広く採用されたのだった。

第二次世界大戦後も、各国が戦闘工兵車両の開発を続けていた。1960年代、米国はM60A1中戦車をベースに、車体前面にドーザーブレードまたは地雷除去用レーキを追加装備した車両を開発した。故障車両の救助や重量物を吊るすため、「A」字型フレームクレーンと油圧ウインチが砲塔に追加された。もともと砲塔にあったM68 105mm主砲は取り外され、イギリス製のM135 165mm破砕砲に置き換えられた。この大口径かつ低速の主砲から発射される粘着榴弾は、様々な建物や障害物を効果的に取り除くことができた。そしてM60戦車の装甲は乗組員を保護するのに十分なものであった。改修されたM60は、1963年に正式型番M728を与えられ、1965年に量産が始まり、早速ベトナム戦に投入された。1987年まで生産は続き、総生産数は後期のM60A1の車体をベースに作られたM728A1を含め体をベースに作られたM728A1を含めて291両にのぼり、米軍に加えてサウジアラビアやシンガポールの陸軍にも配備された。

1991年の湾岸戦争にもM728は投入されたが、動力系統の制限により、M1エイブラムスの進撃速度に随行することができなかった。2000年にM728は予備隊に移され、一部の車両は州兵・FBI・ATFによって現在も使用されている。

PARTS LIST 零件表



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.

AGV CLUB **AF 35254**
Parts Replacement Form

<input type="checkbox"/> AF 35060-A	<input type="checkbox"/> AF 35060-E	<input type="checkbox"/> AF 35254-J
<input type="checkbox"/> AF 35254-AA	<input type="checkbox"/> AF 35060-F	<input type="checkbox"/> AF 35060-K
<input type="checkbox"/> AF 35254-AB	<input type="checkbox"/> AF 35060-GA	<input type="checkbox"/> AF 35254-M
<input type="checkbox"/> AF 35254-AC	<input type="checkbox"/> AF 35254-GB	<input type="checkbox"/> AF 35060-RA
<input type="checkbox"/> AF 35060-B	<input type="checkbox"/> AF 35060-H	<input type="checkbox"/> AF 35060-T
<input type="checkbox"/> AF 35060-C	<input type="checkbox"/> AF 35060-I	<input type="checkbox"/> AF 35060-W
<input type="checkbox"/> AF 35060-D		

Reason for replacement: Missing Broken

Signature: _____

限臺灣地區使用 For Taiwanese use only!

AGV CLUB **AF 35254**
零件補充申請表

申請人姓名 _____ 地址 _____ 電話 _____

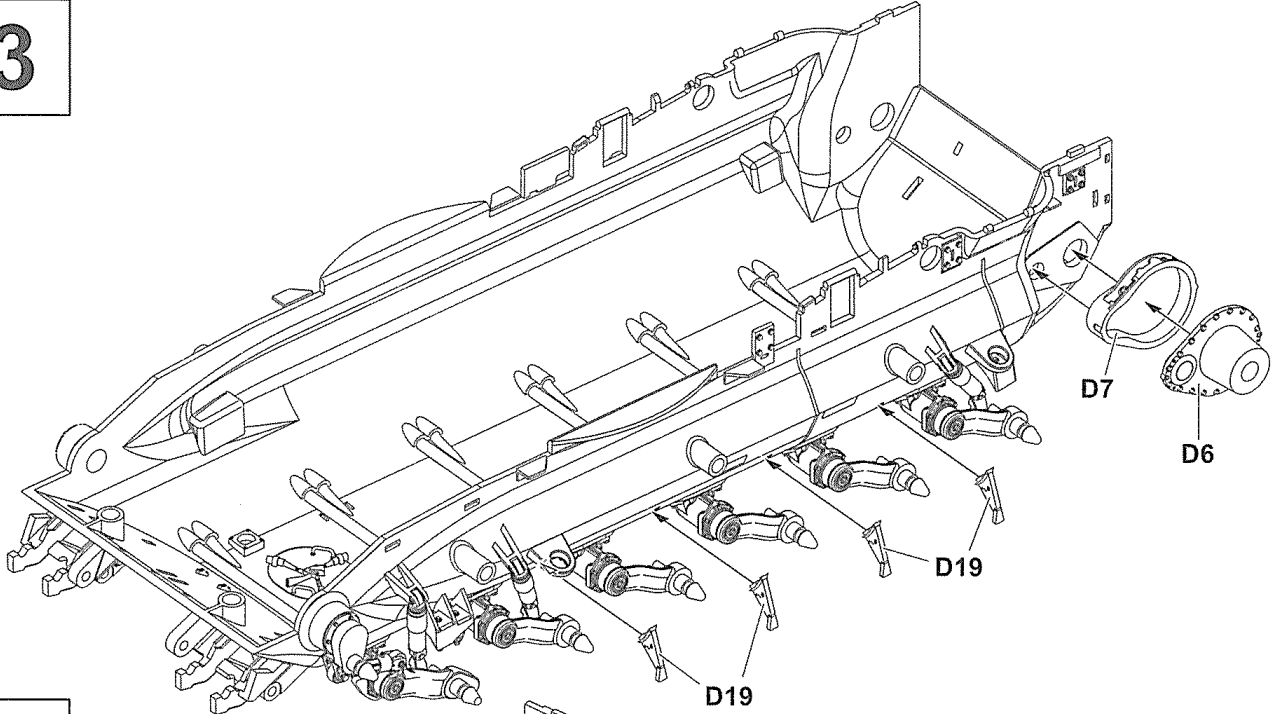
<input type="checkbox"/> AF 35060-A	NT\$ 150
<input type="checkbox"/> AF 35254-AA	NT\$ 250
<input type="checkbox"/> AF 35254-AB	NT\$ 250
<input type="checkbox"/> AF 35254-AC	NT\$ 180
<input type="checkbox"/> AF 35060-B	NT\$ 250
<input type="checkbox"/> AF 35060-C	NT\$ 250
<input type="checkbox"/> AF 35060-D	NT\$ 300
<input type="checkbox"/> AF 35060-E	NT\$ 180
<input type="checkbox"/> AF 35060-F	NT\$ 150
<input type="checkbox"/> AF 35060-GA	NT\$ 120
<input type="checkbox"/> AF 35254-GB	NT\$ 180
<input type="checkbox"/> AF 35060-H	NT\$ 160
<input type="checkbox"/> AF 35060-I	NT\$ 180
<input type="checkbox"/> AF 35254-J	NT\$ 160
<input type="checkbox"/> AF 35060-K	NT\$ 180
<input type="checkbox"/> AF 35254-M	NT\$ 380
<input type="checkbox"/> AF 35060-RA	NT\$ 120
<input type="checkbox"/> AF 35060-T	NT\$ 480
<input type="checkbox"/> AF 35309-W	NT\$ 170

+郵寄費 NT\$ 80
(請填)總計NT\$ _____

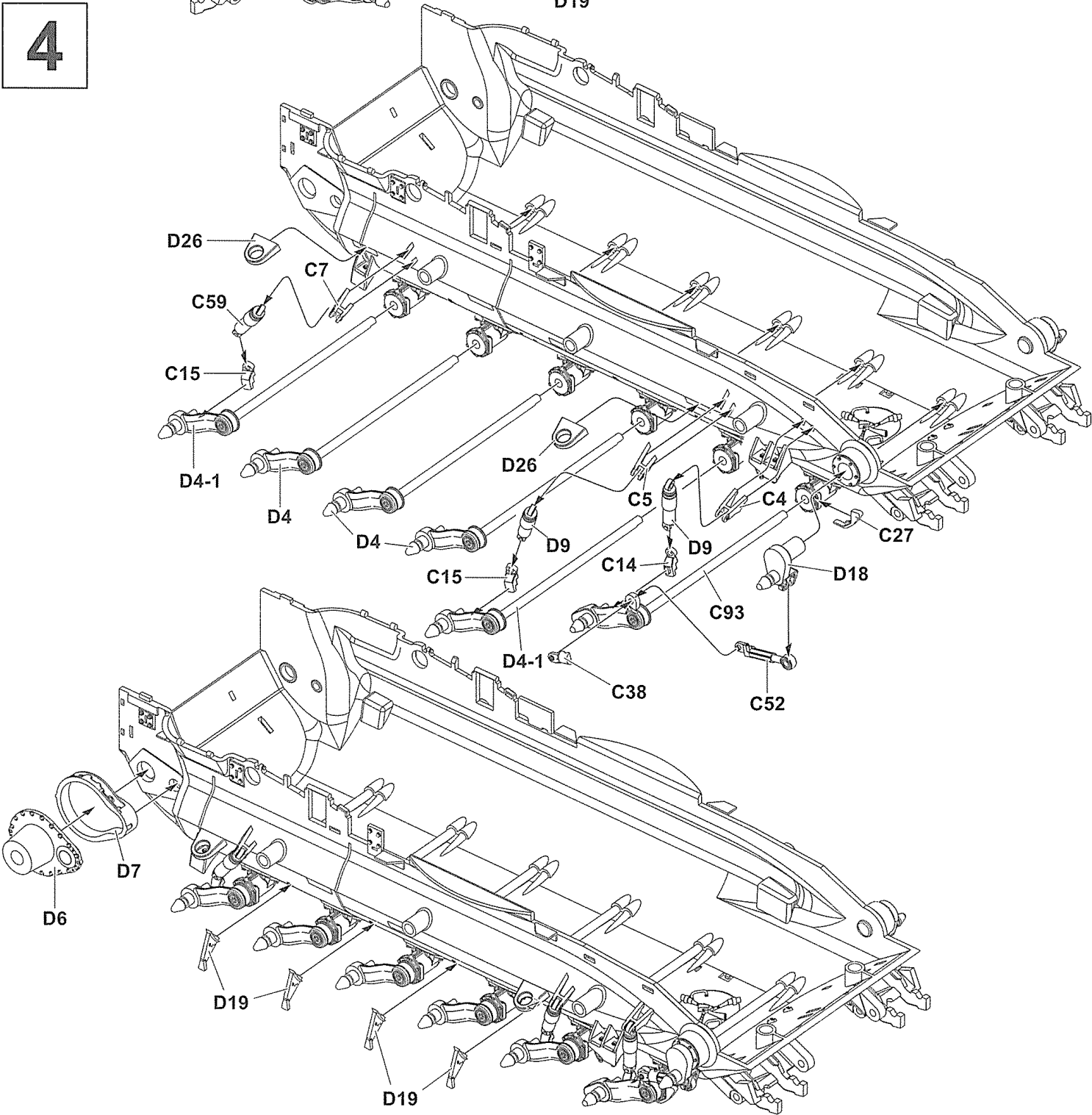
零件補充原因:(請於 打)
原包裝即 遺失或 毀損,
製作途中 遺失或 毀損,
其他原因 _____

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。

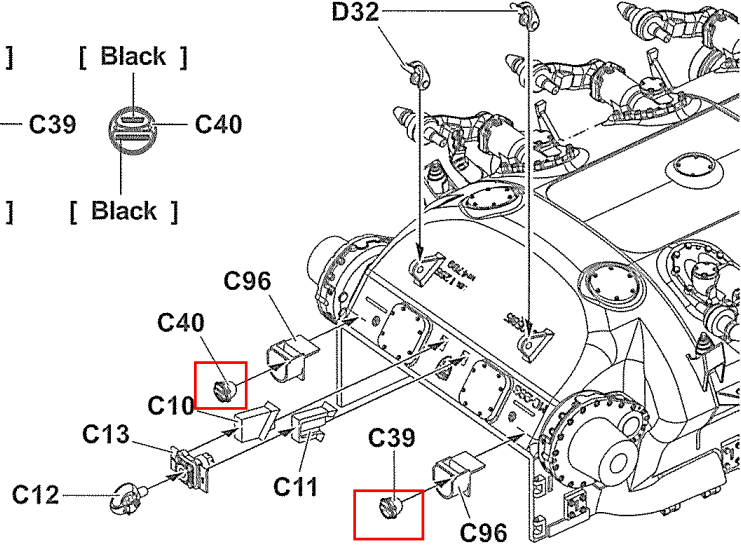
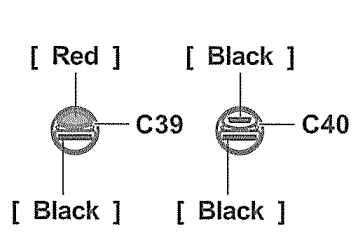
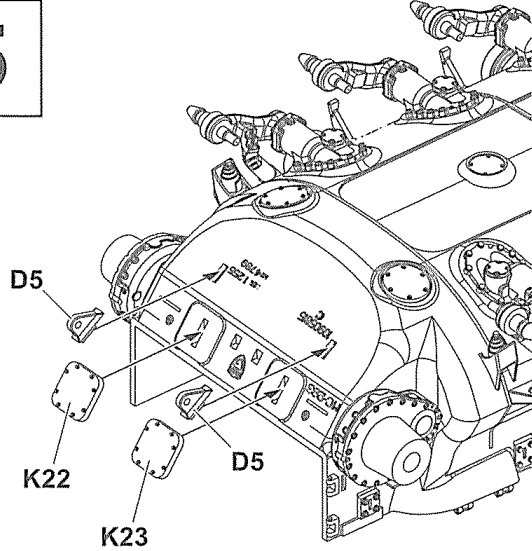
3



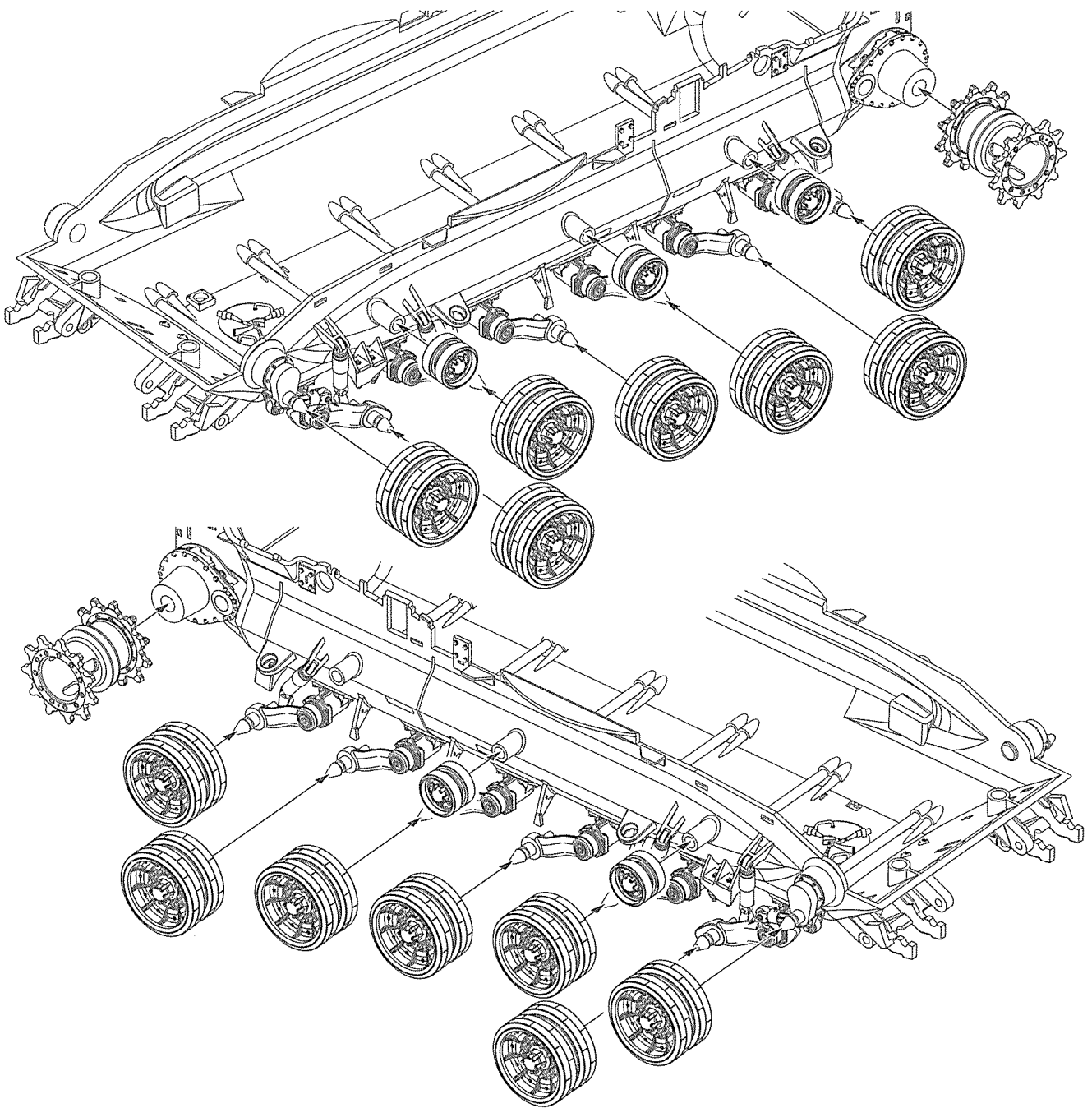
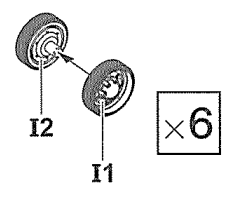
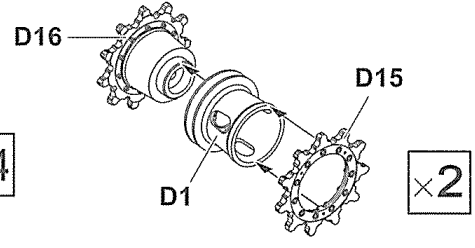
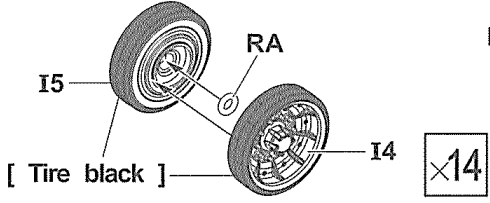
4



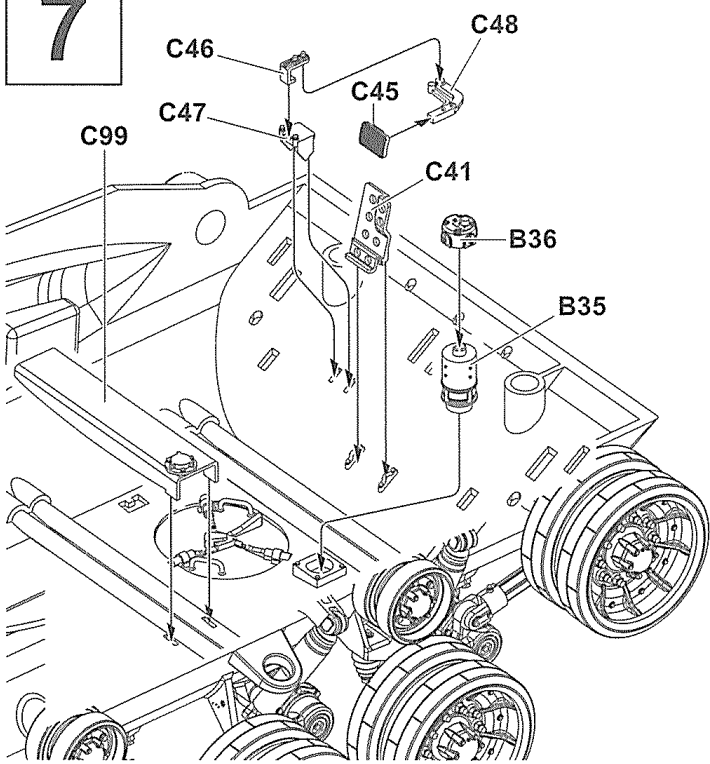
5



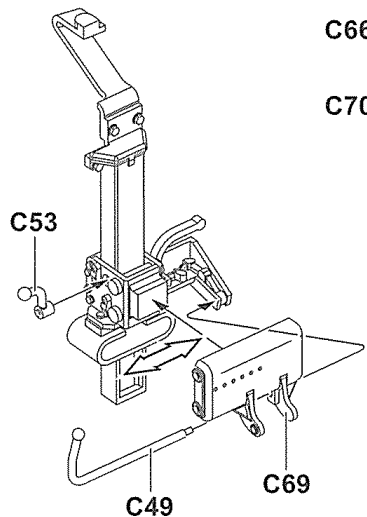
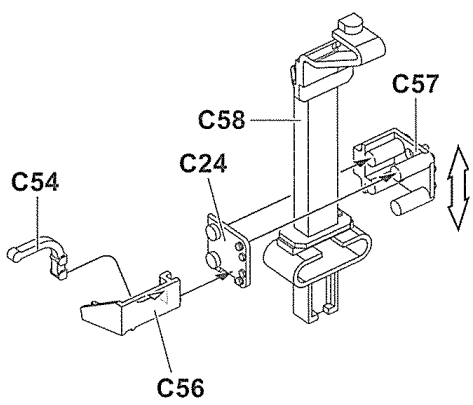
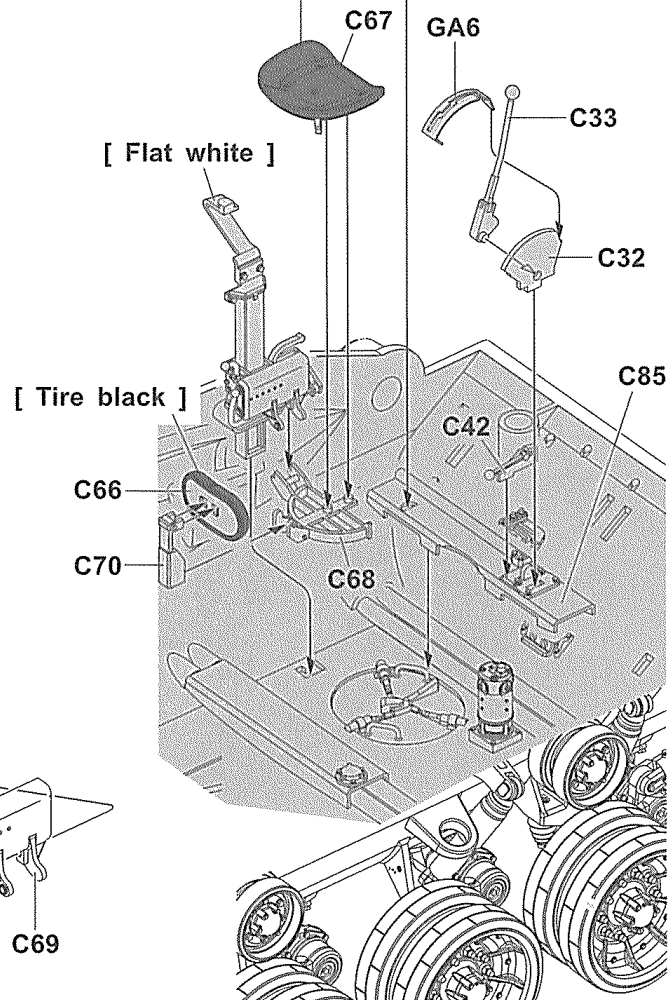
6



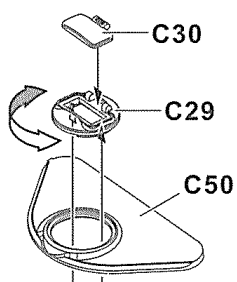
7



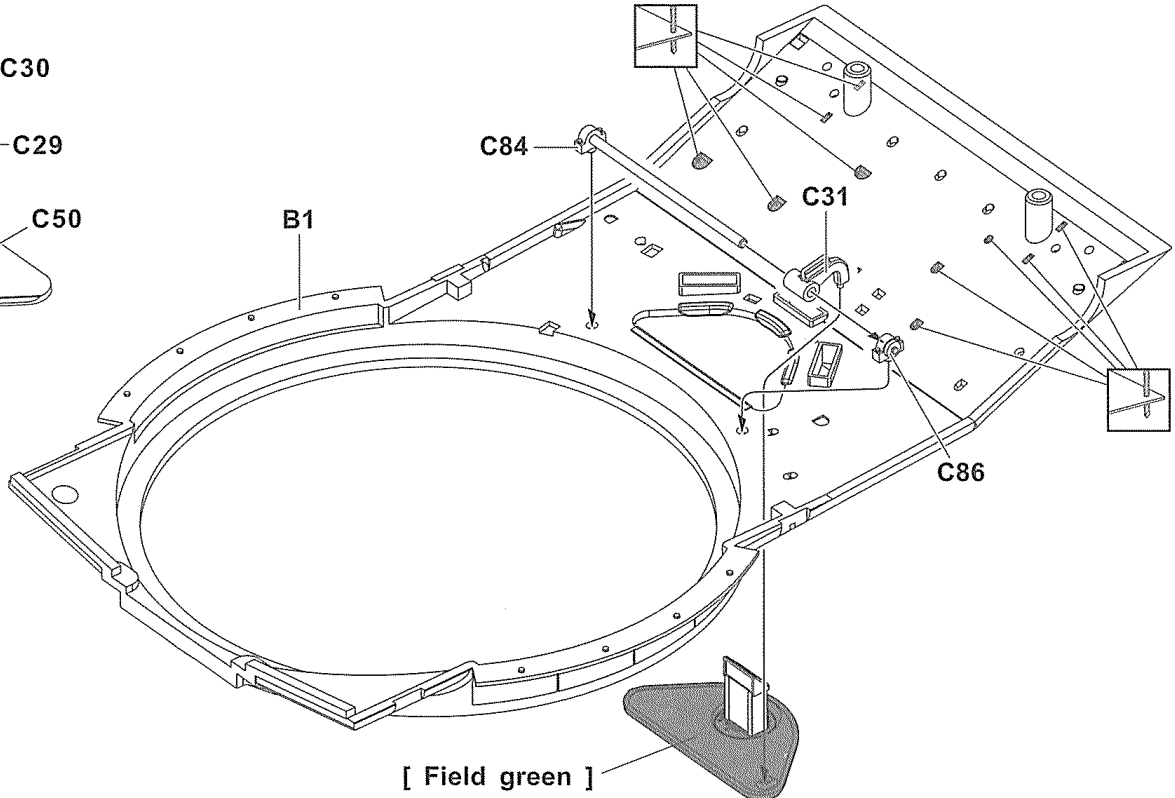
- [Brass] C61
- [Red]
- [Flat white]
- [Tire black]
- [Silver]



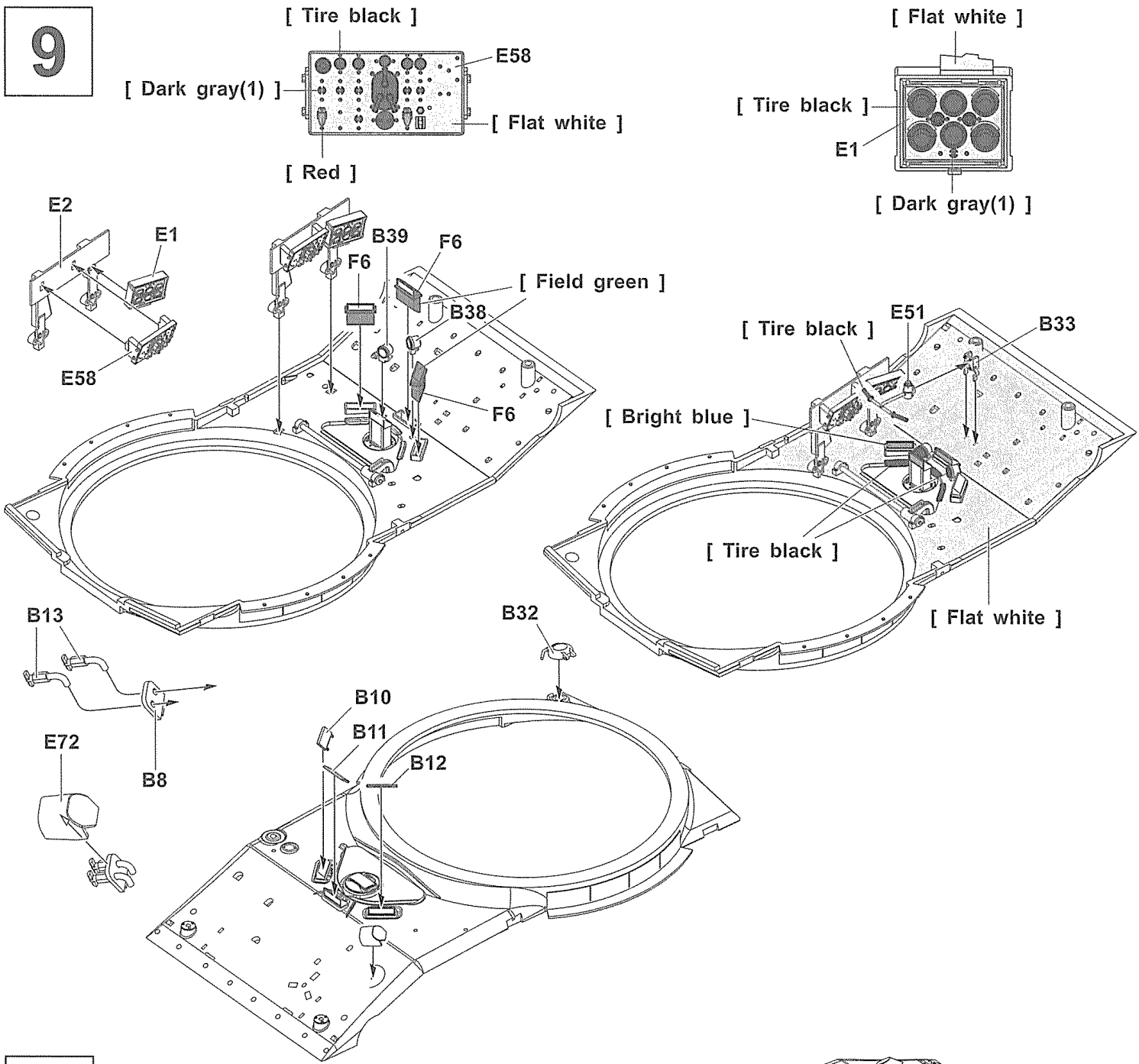
8



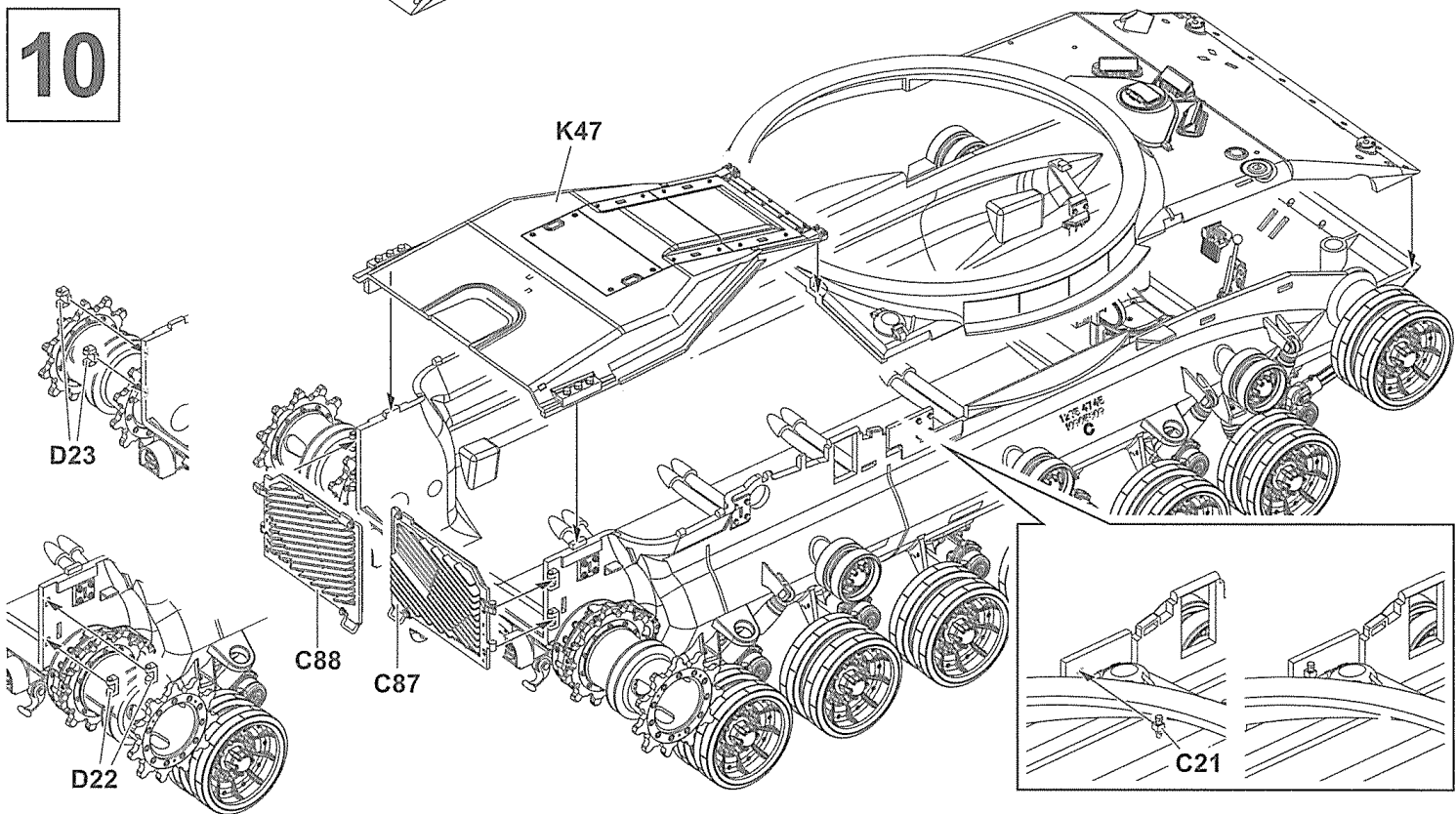
- [Bright blue]
- F1
- [Field green]



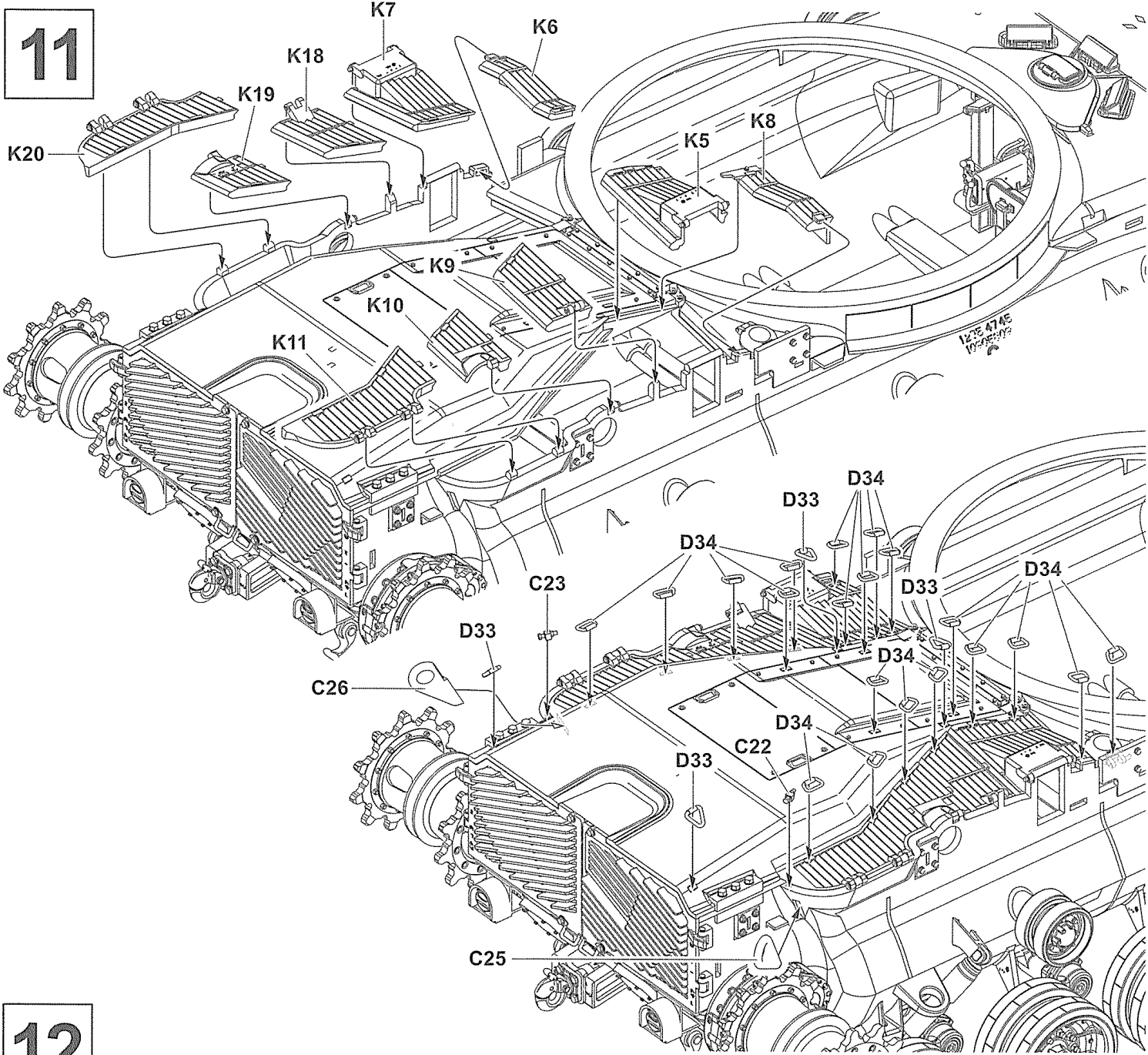
9



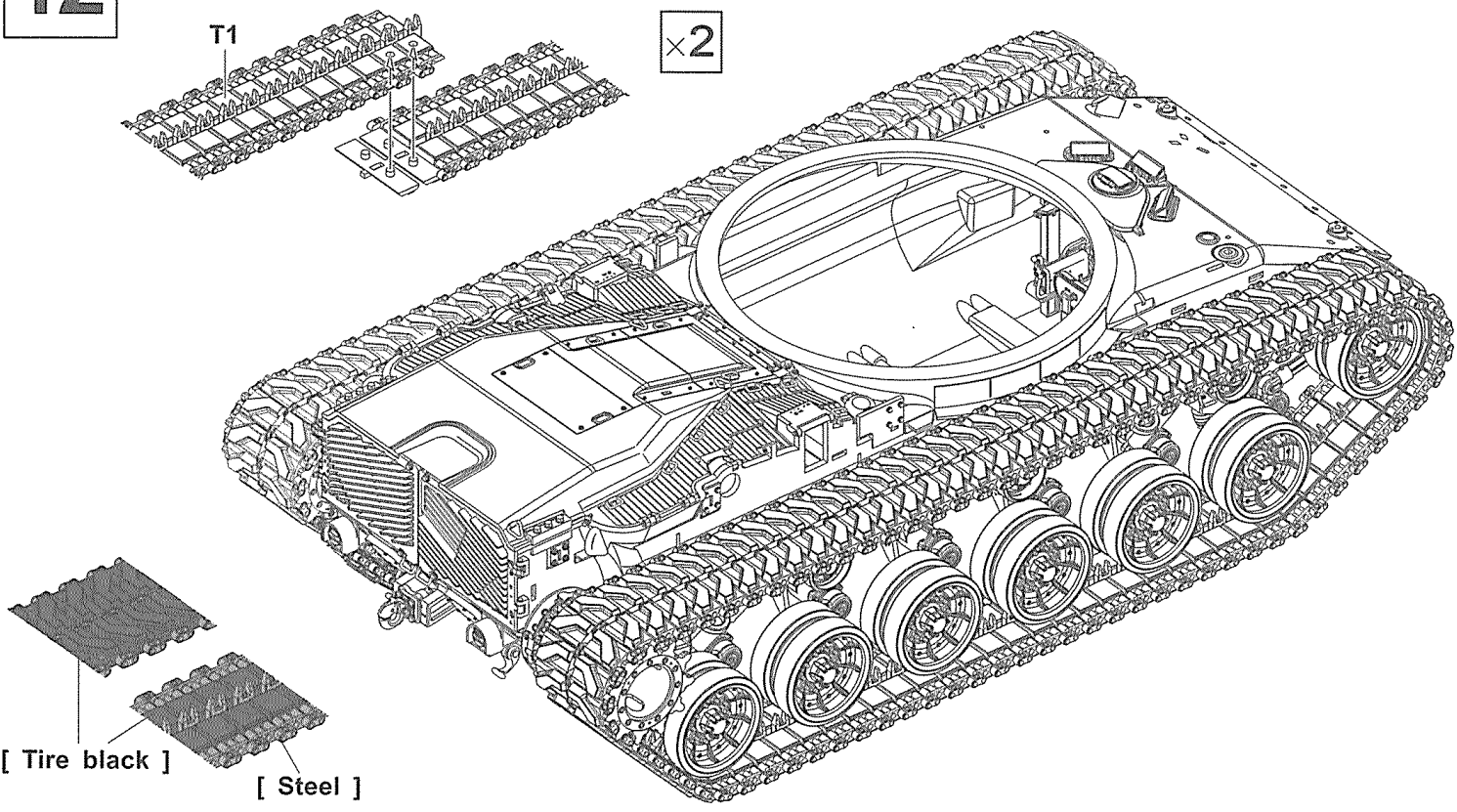
10



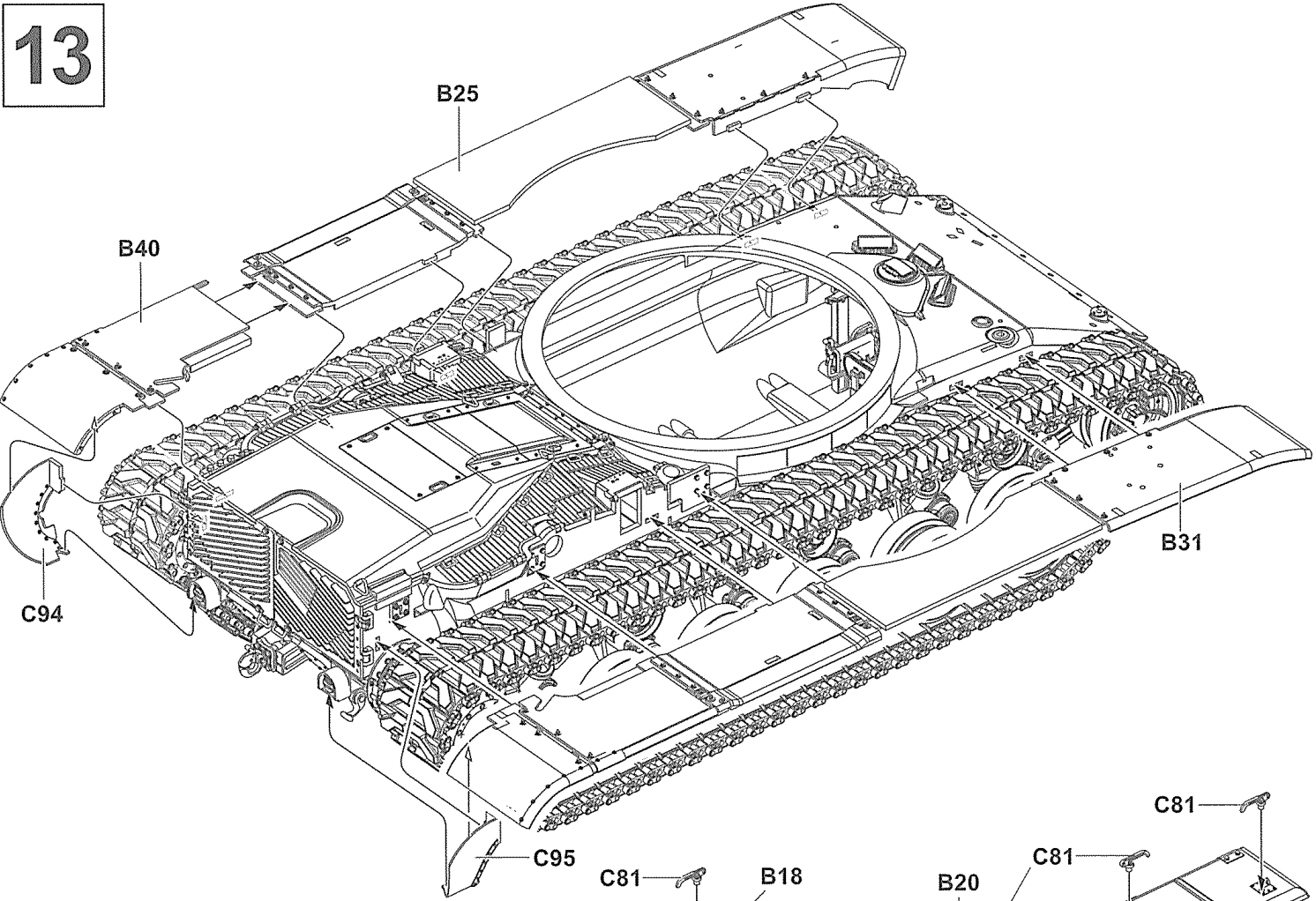
11



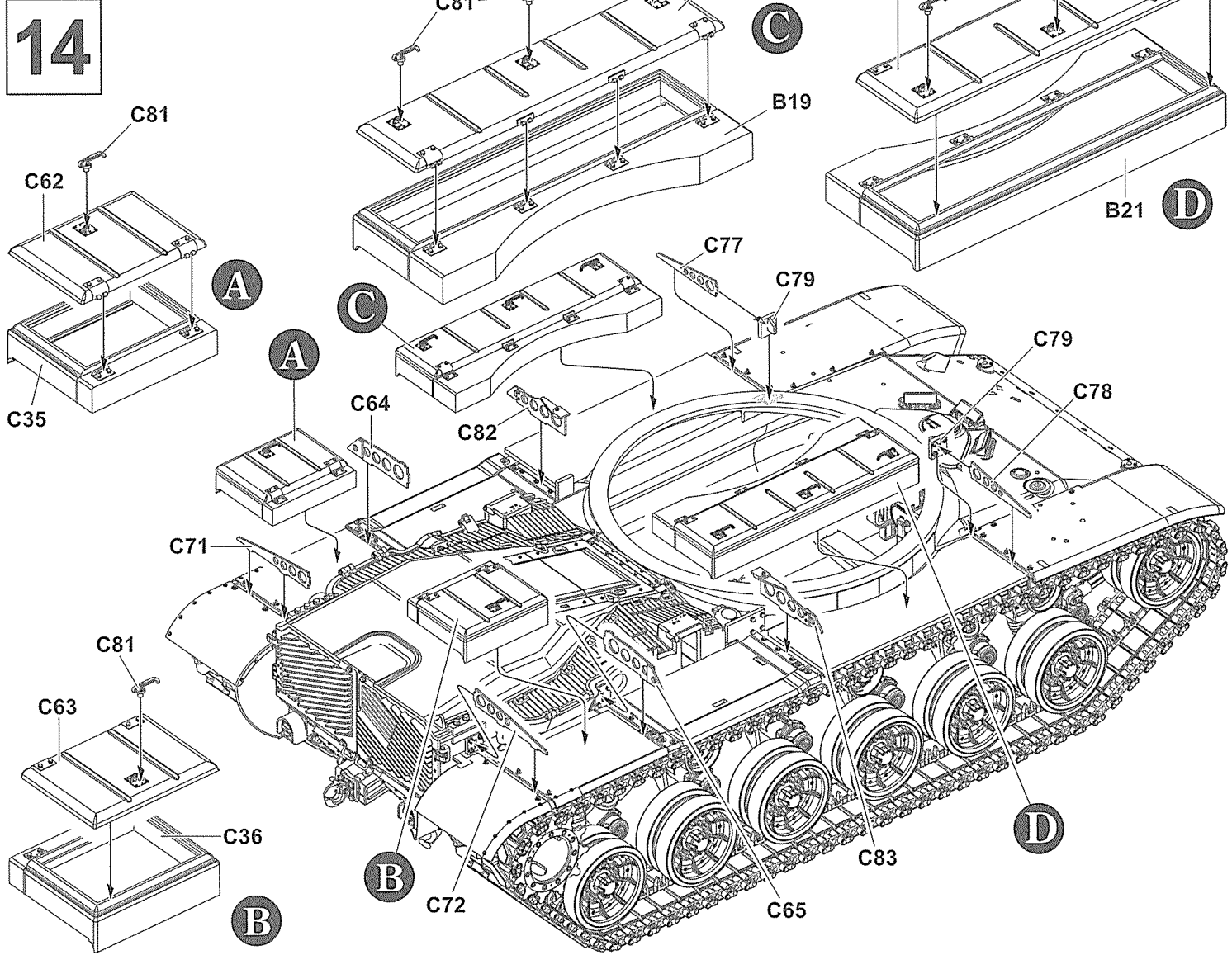
12



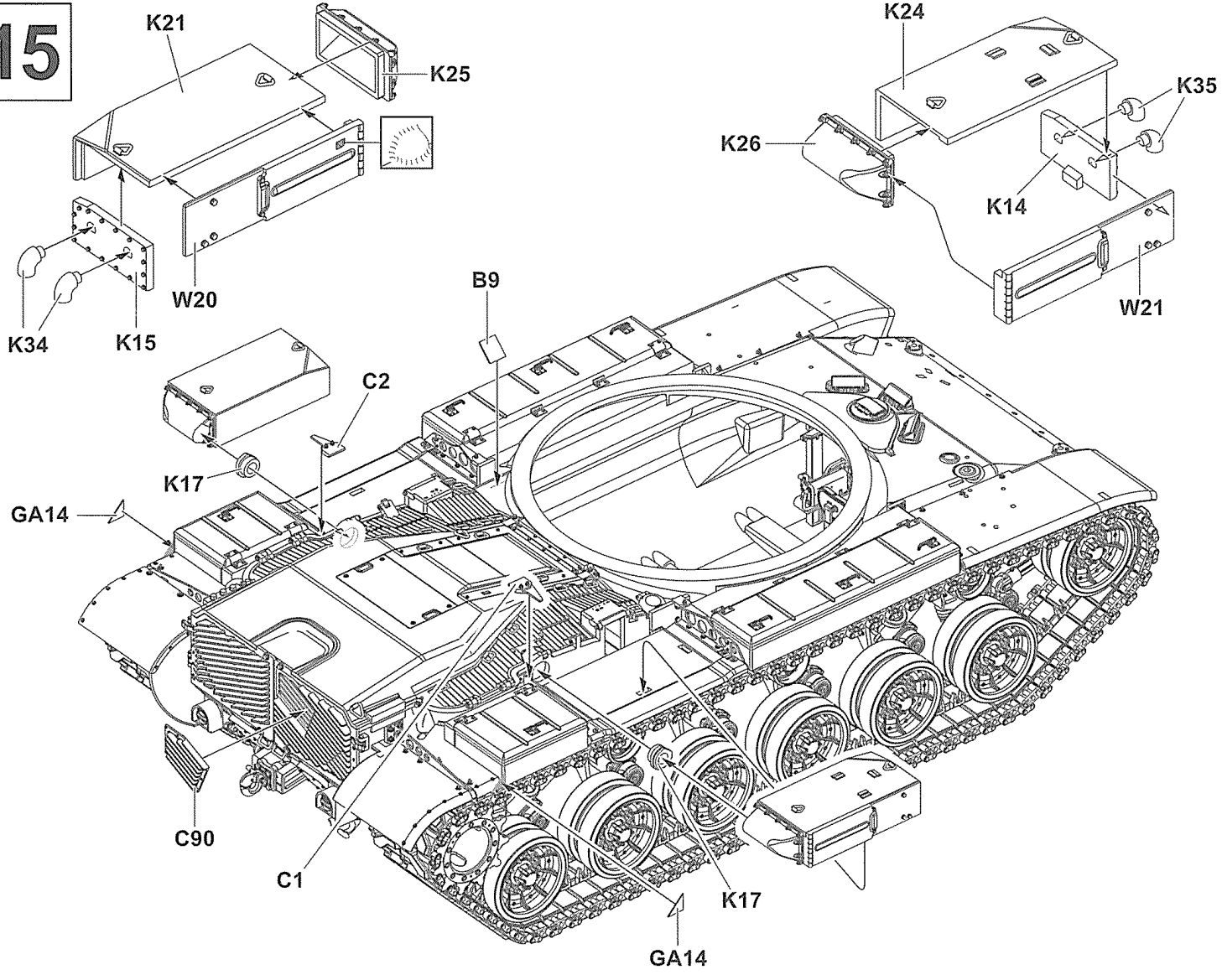
13



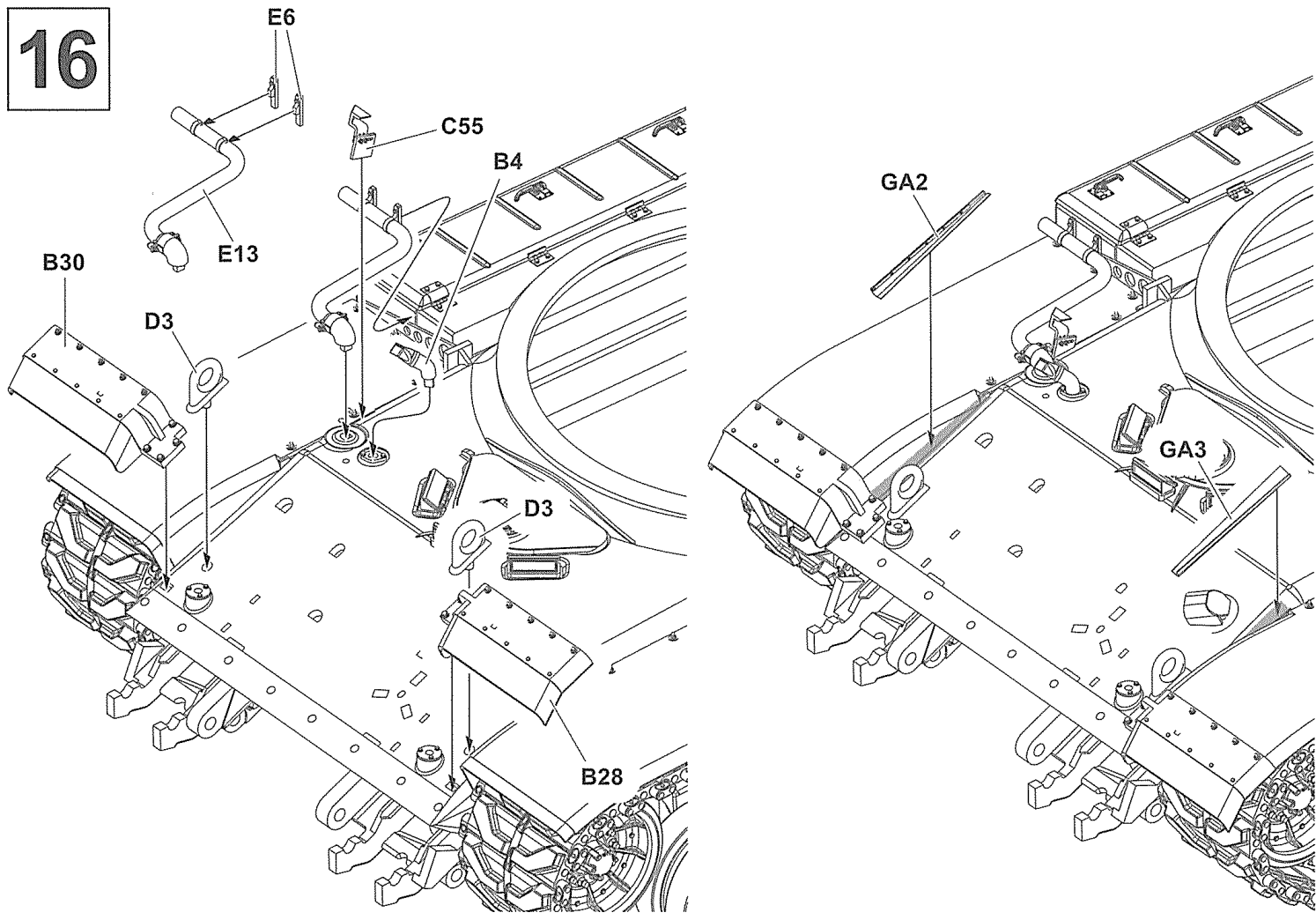
14



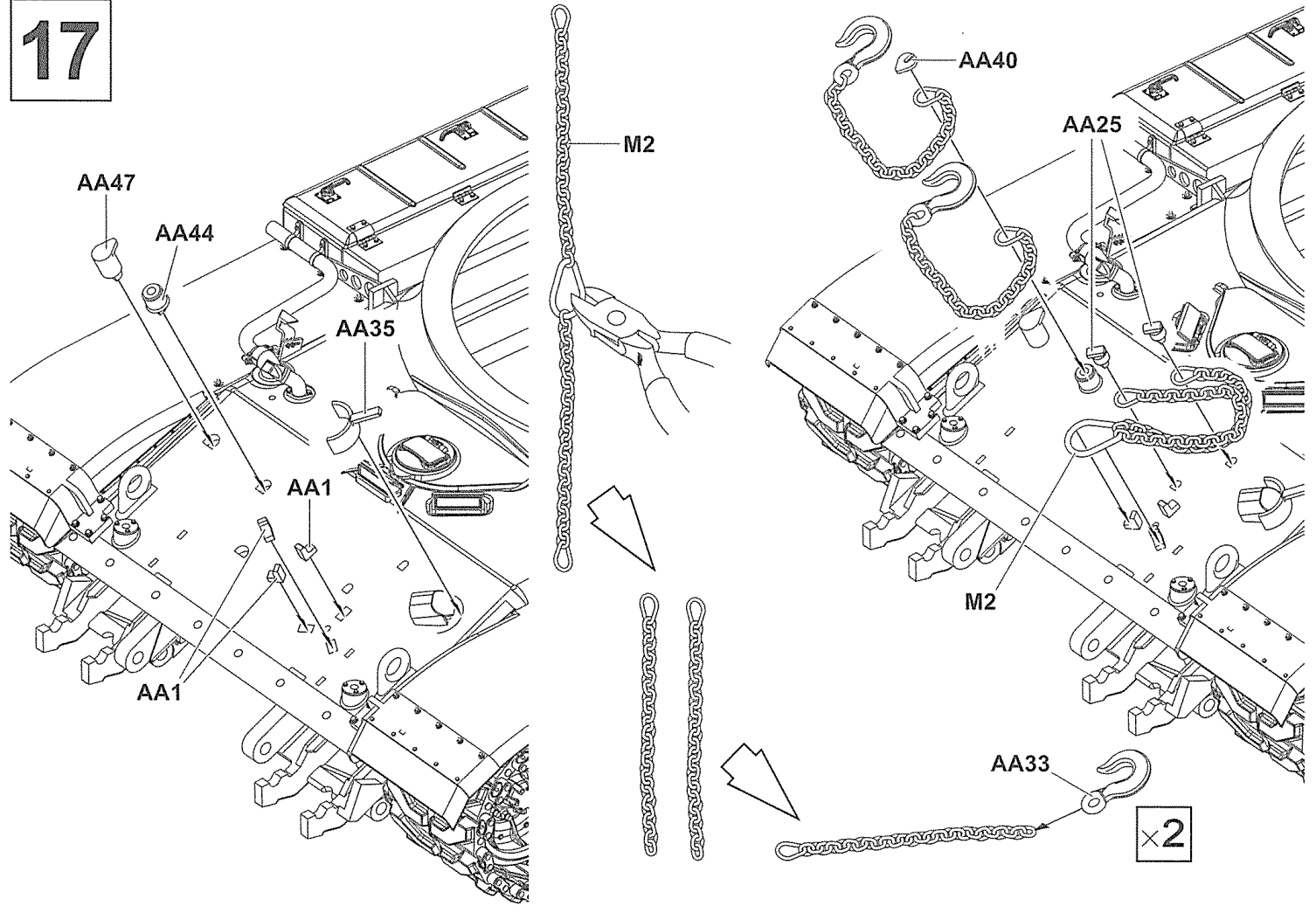
15



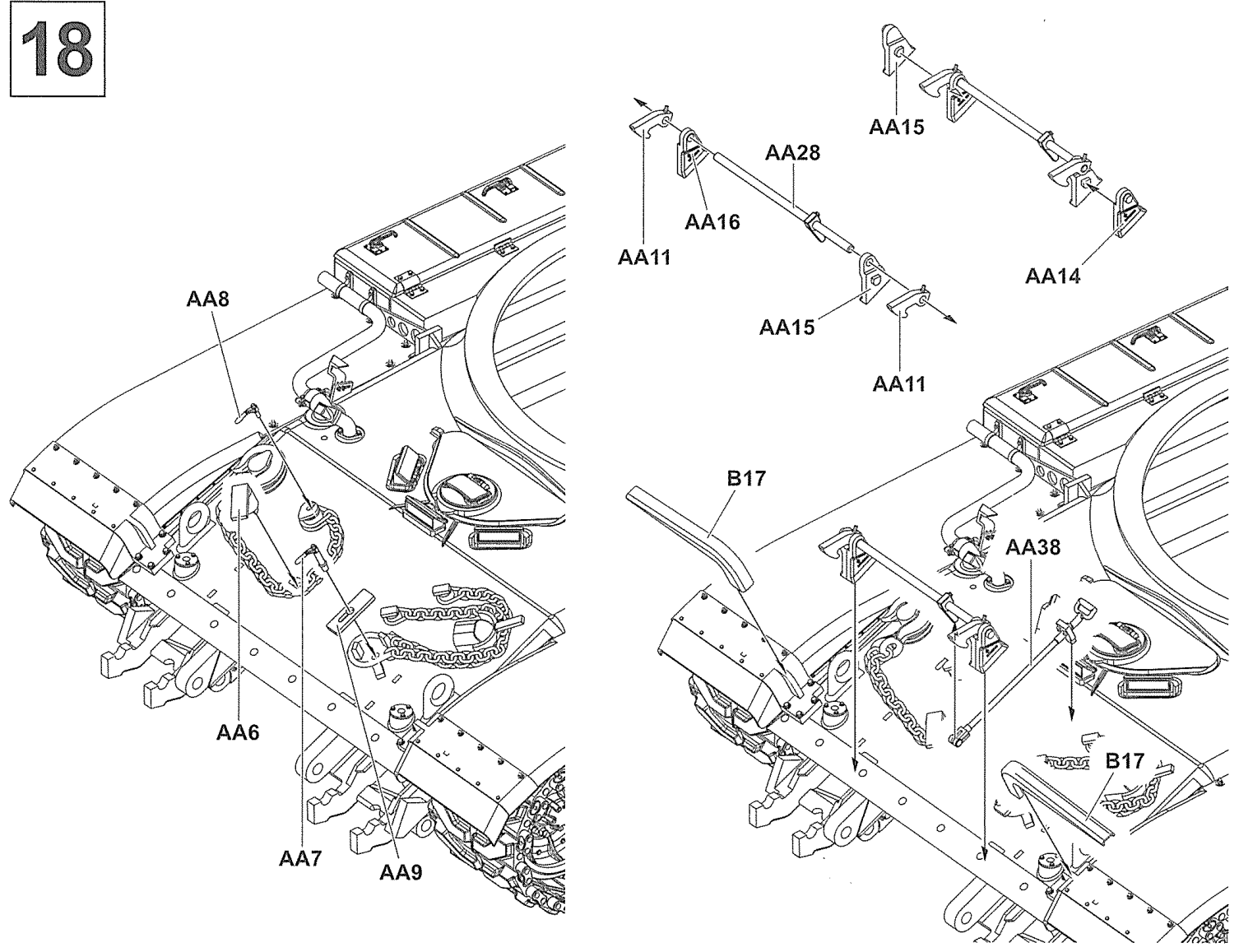
16



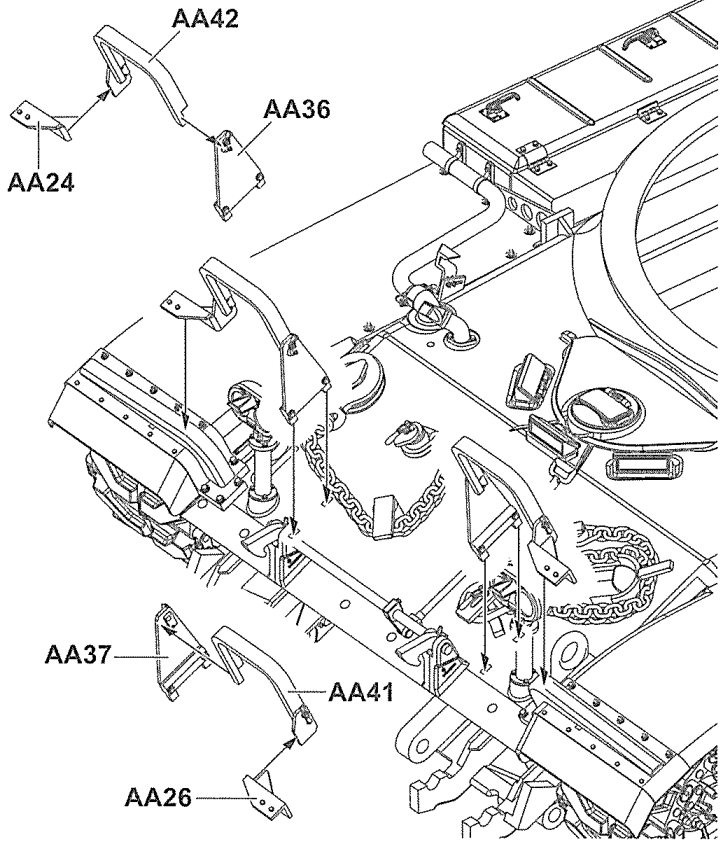
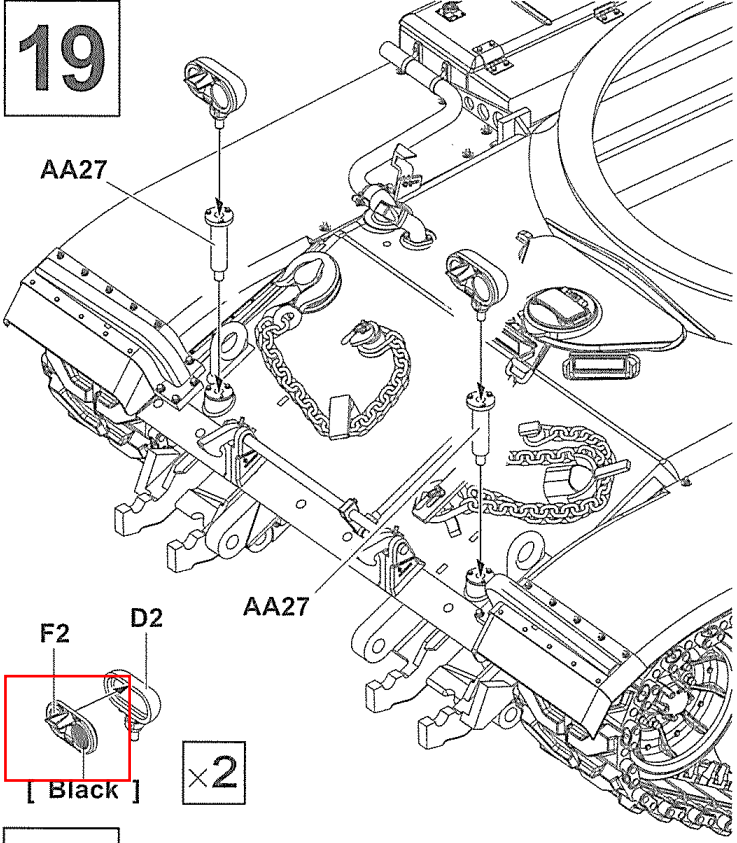
17



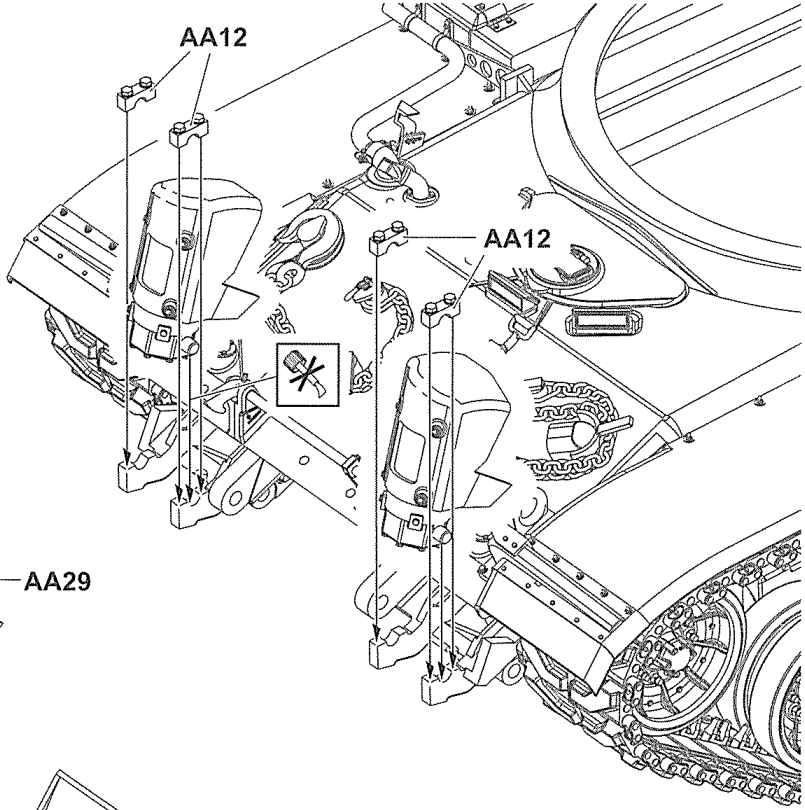
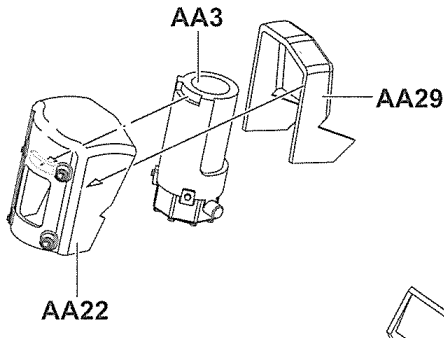
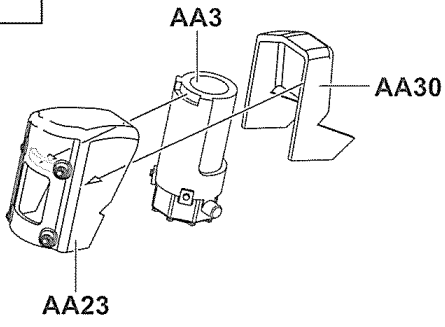
18



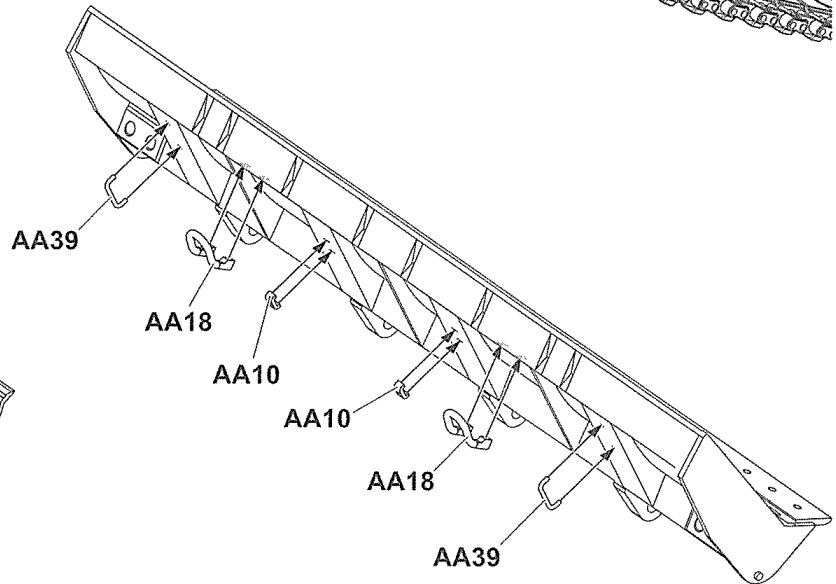
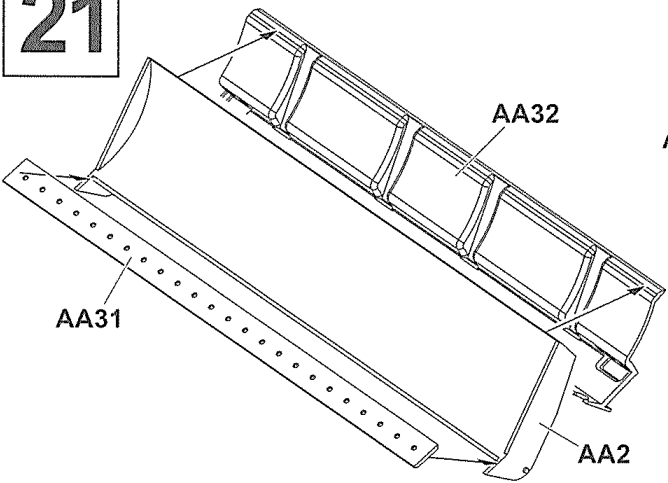
19



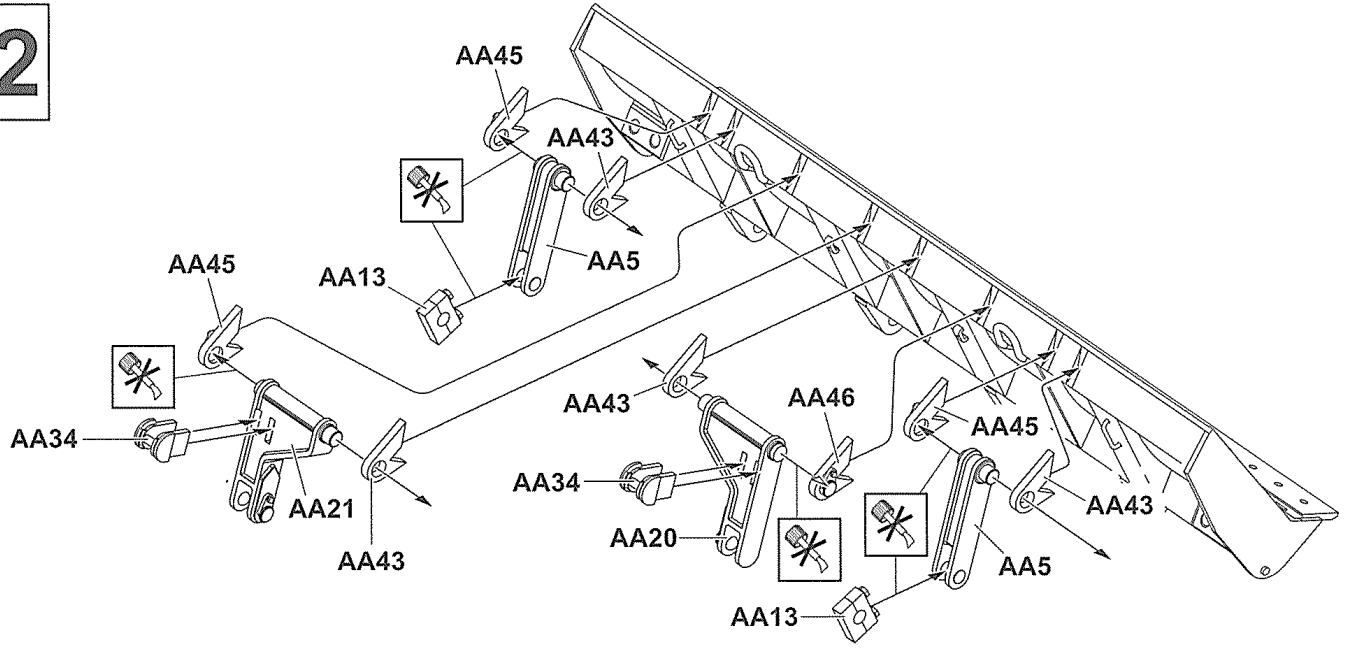
20



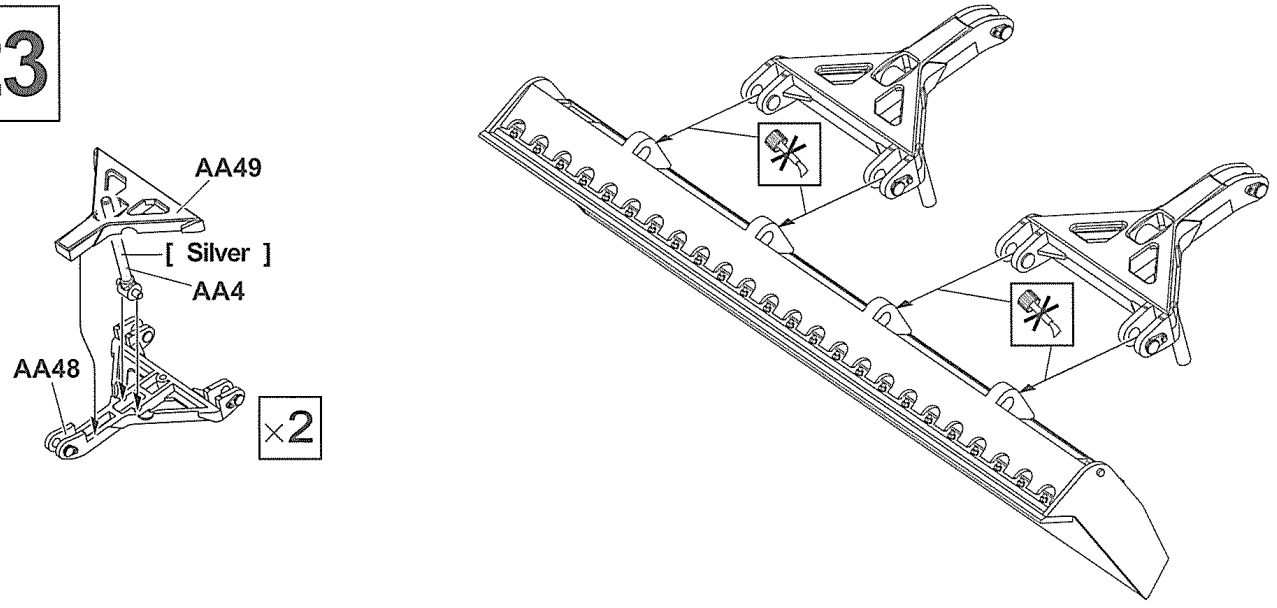
21



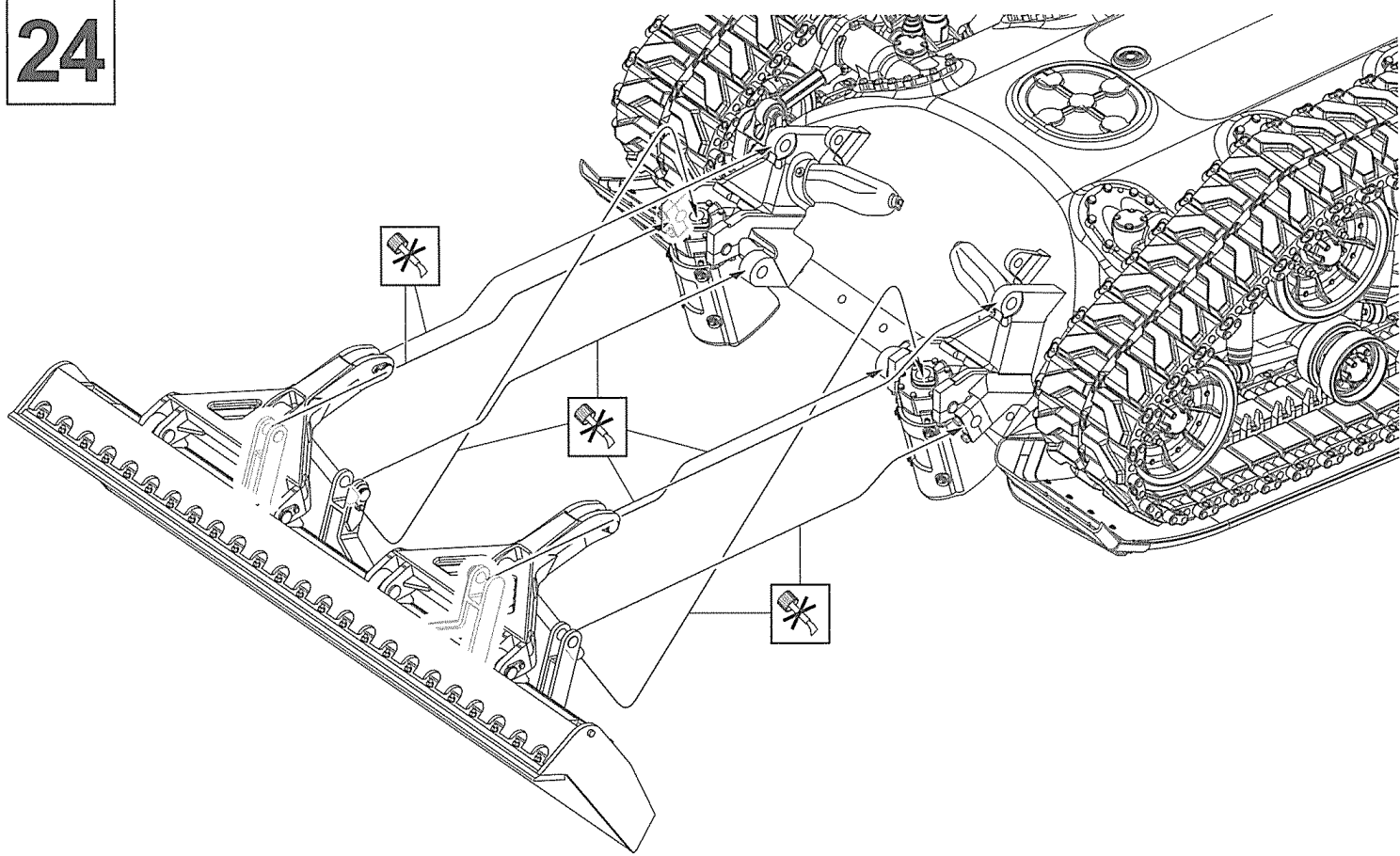
22



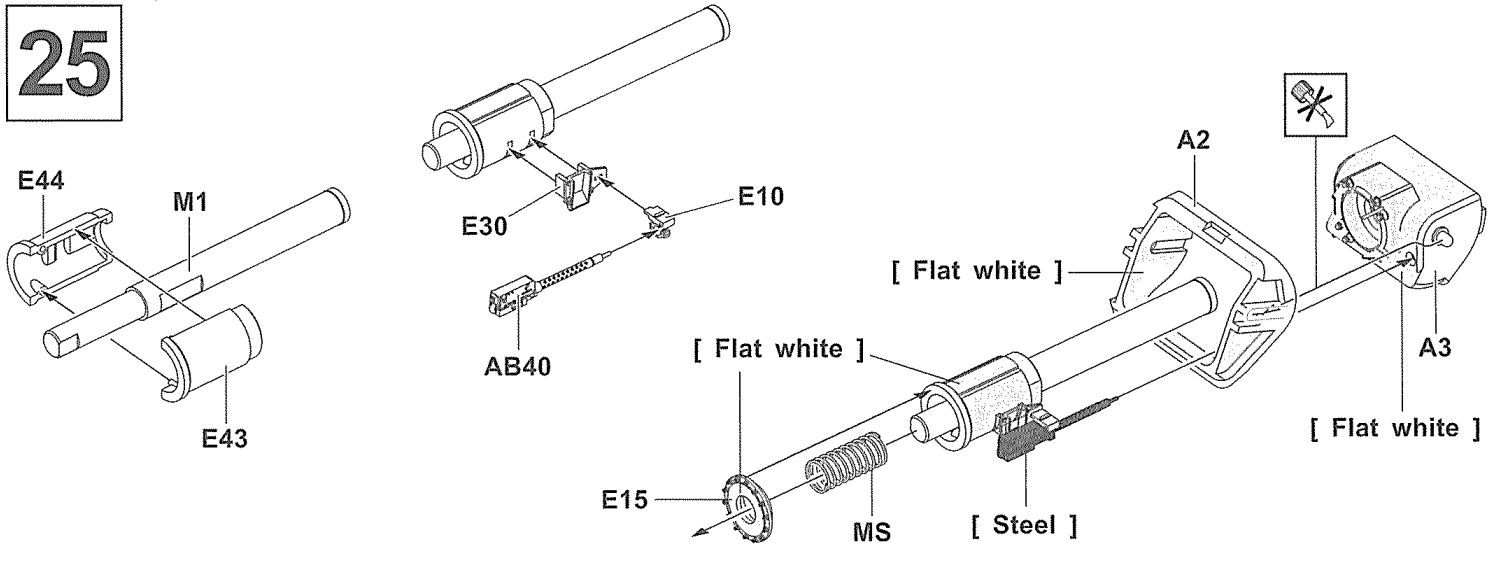
23



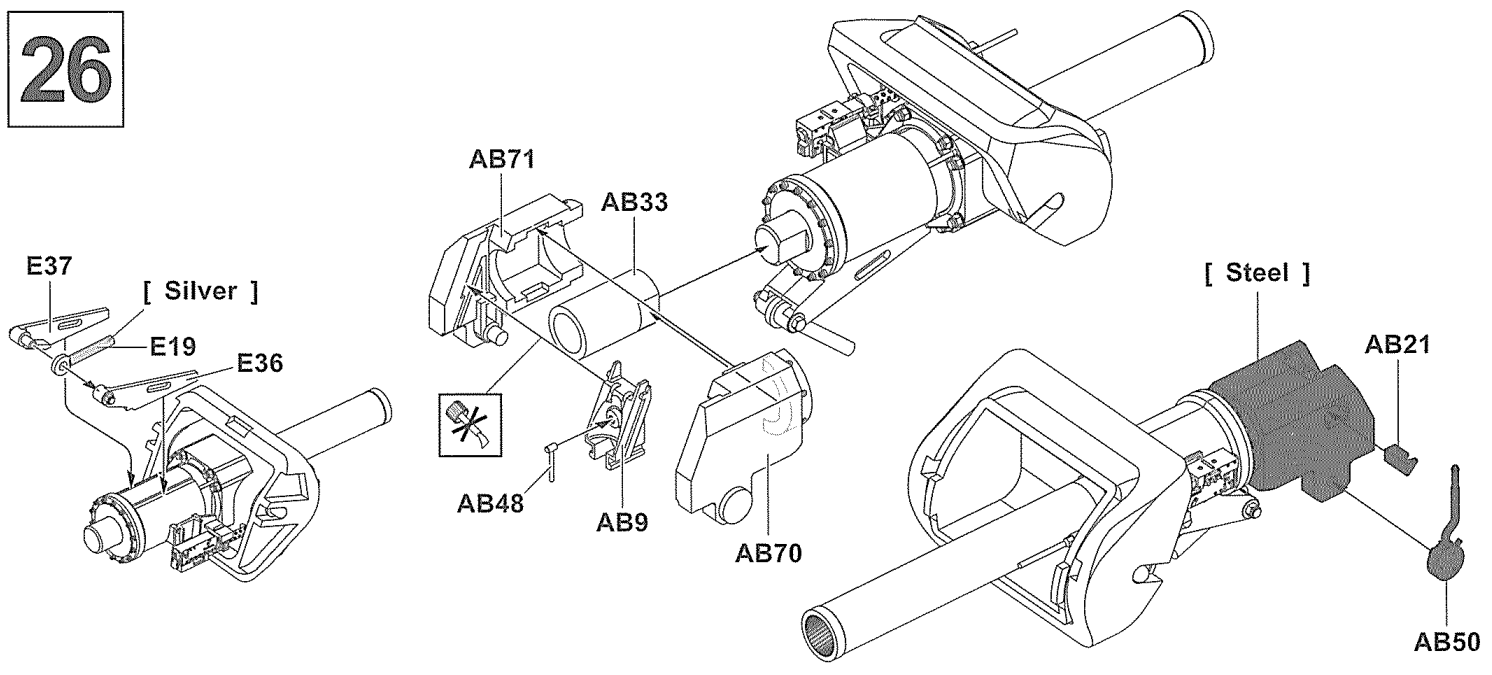
24



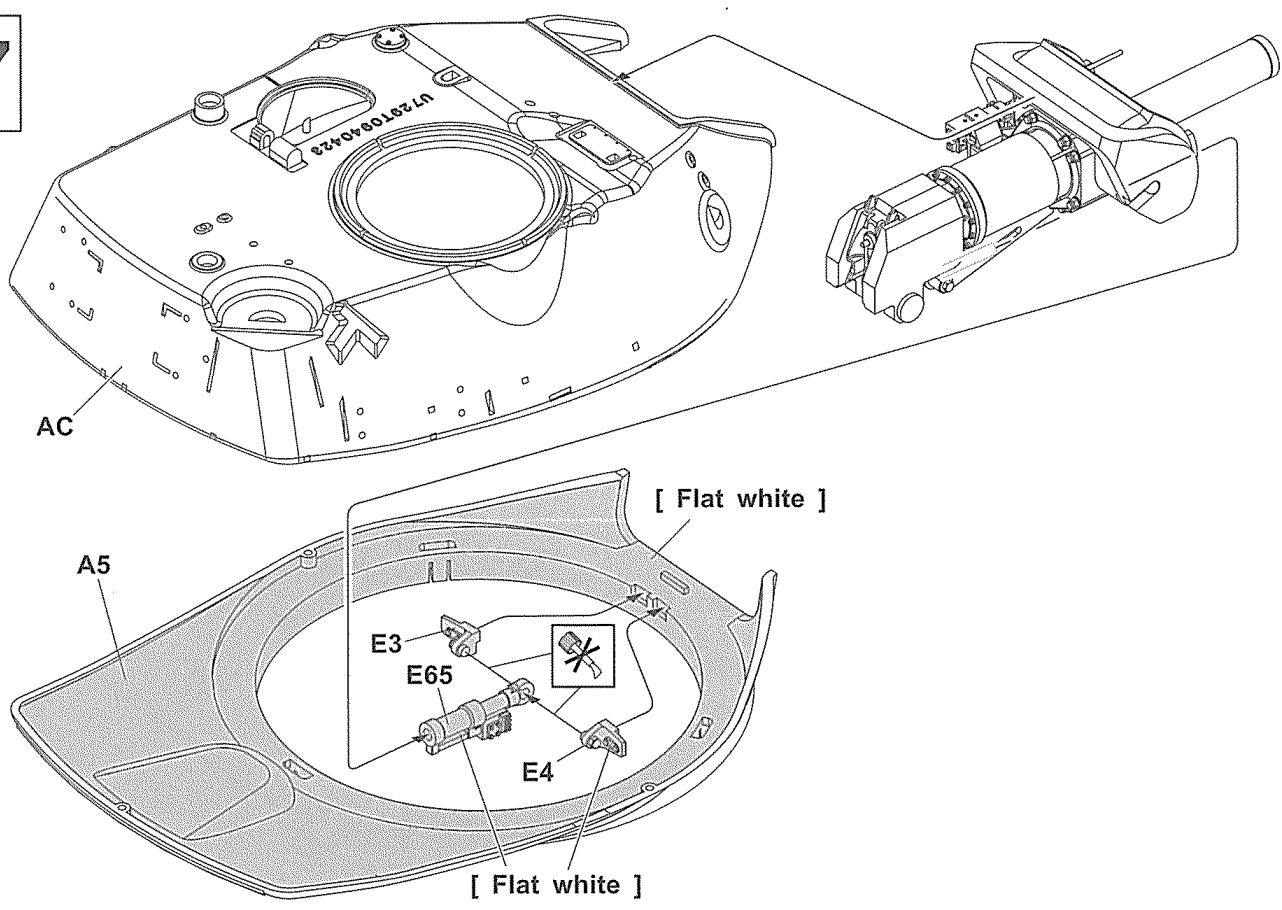
25



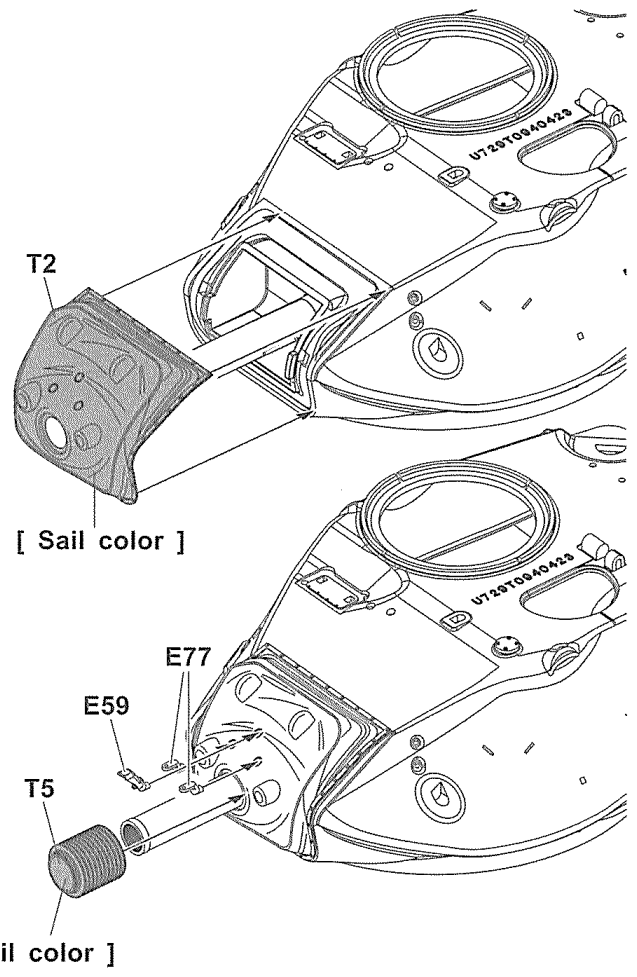
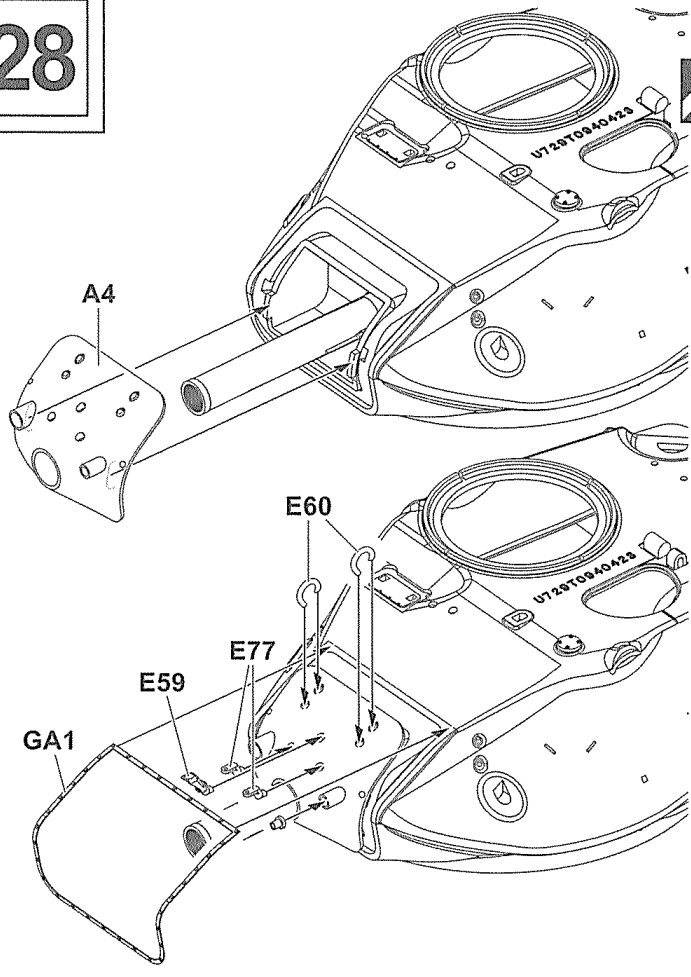
26



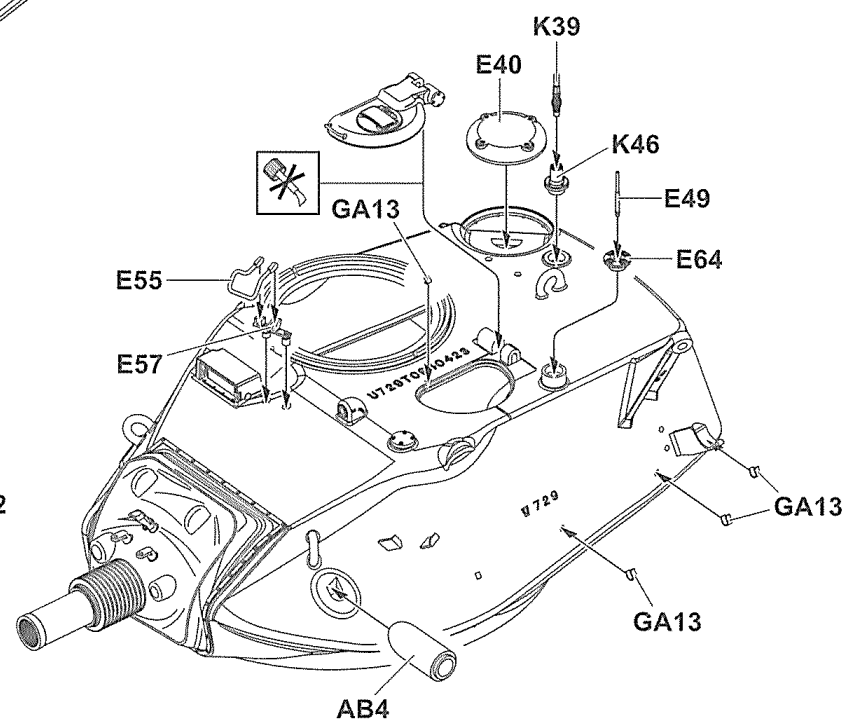
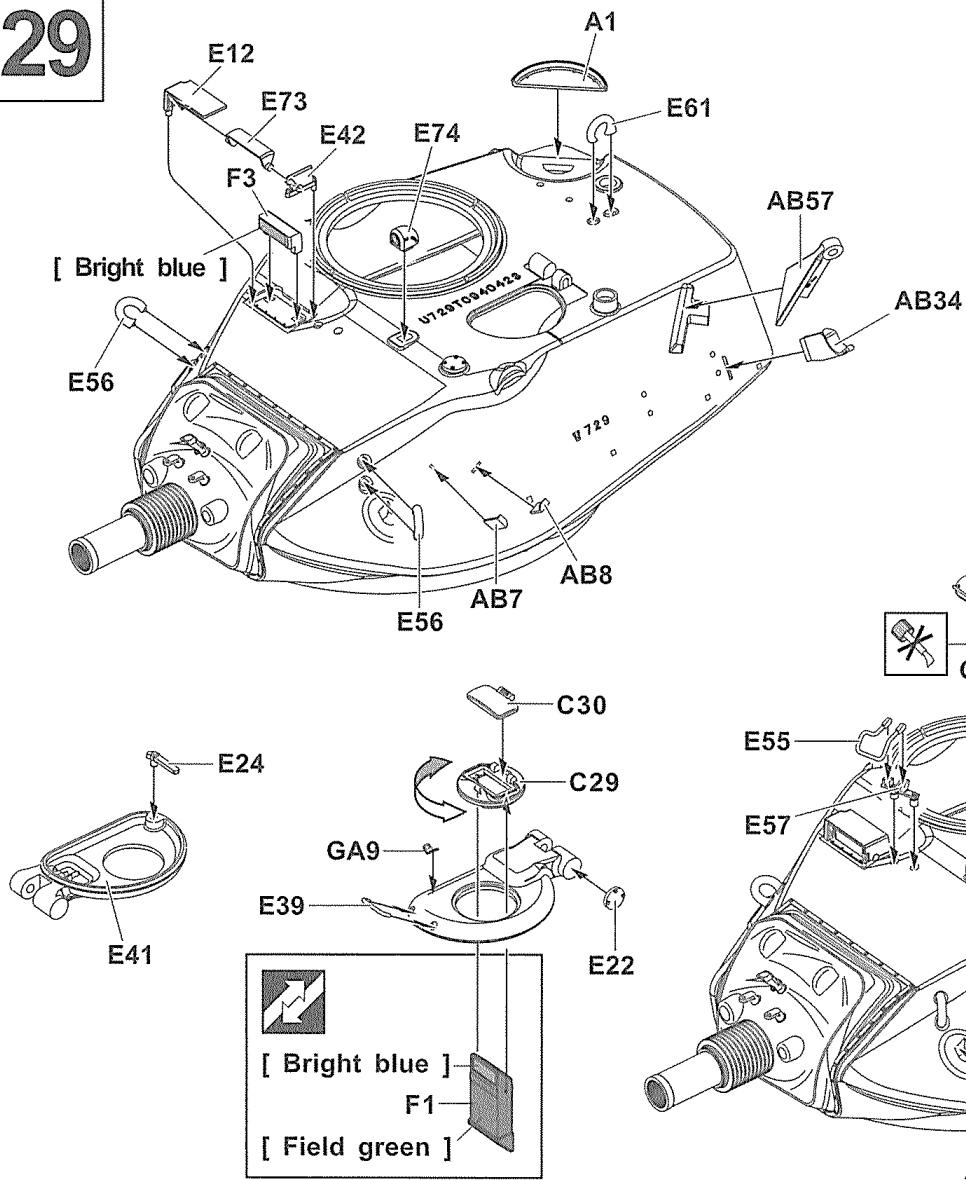
27



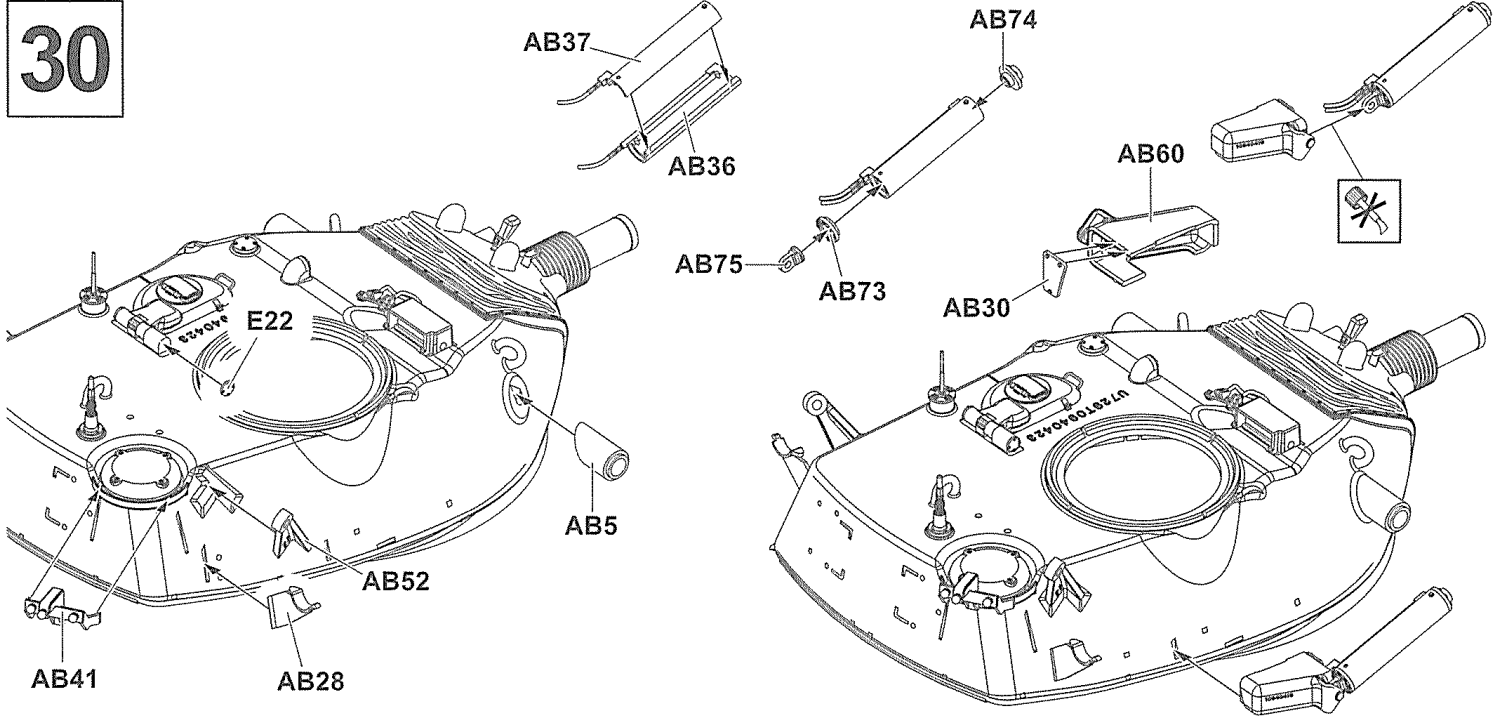
28



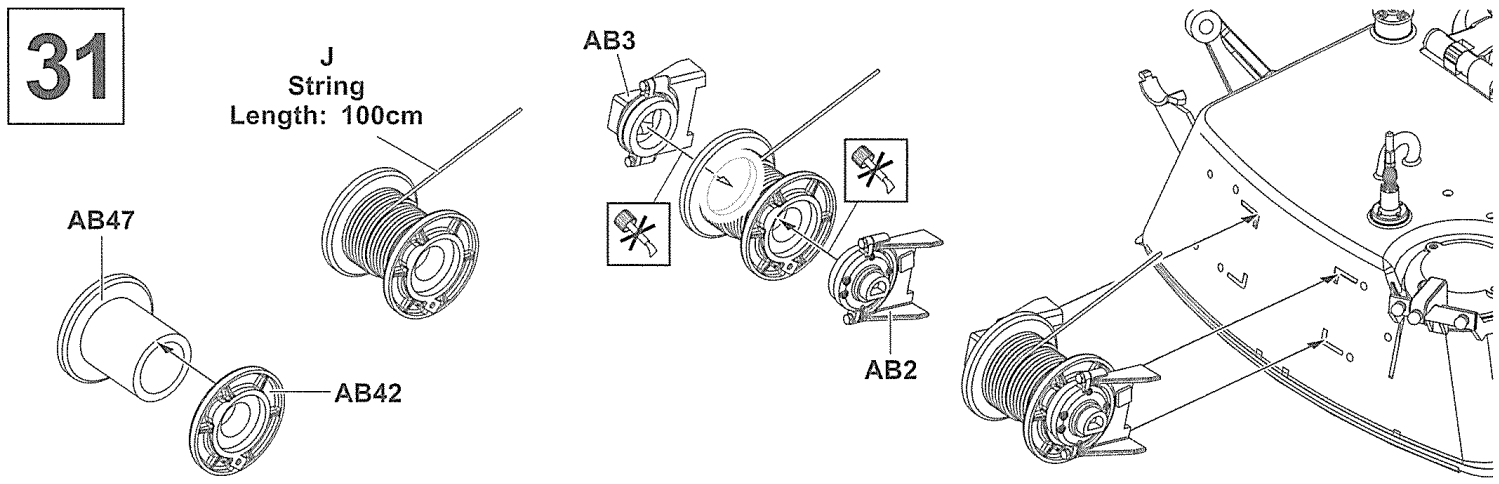
29



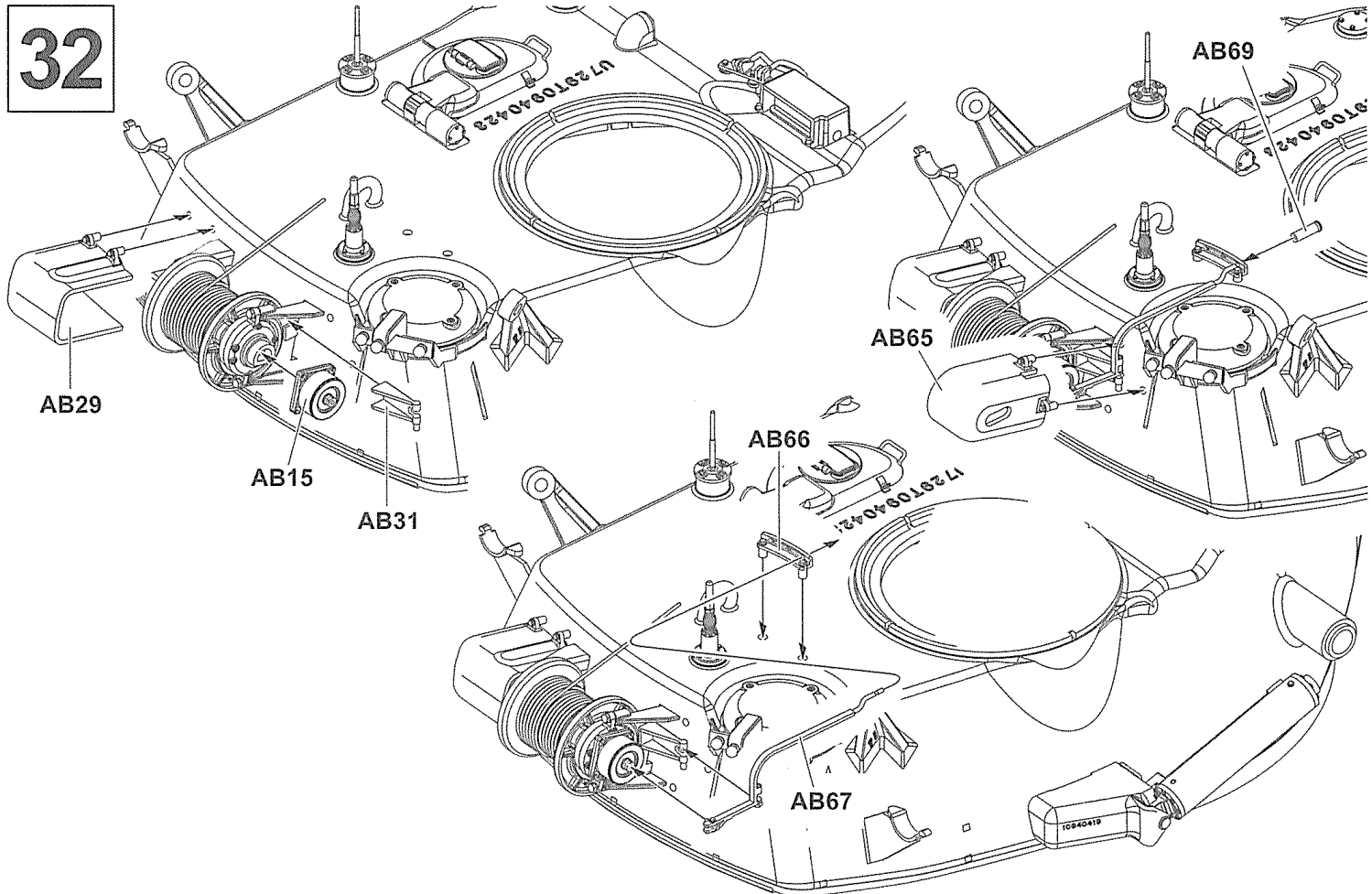
30



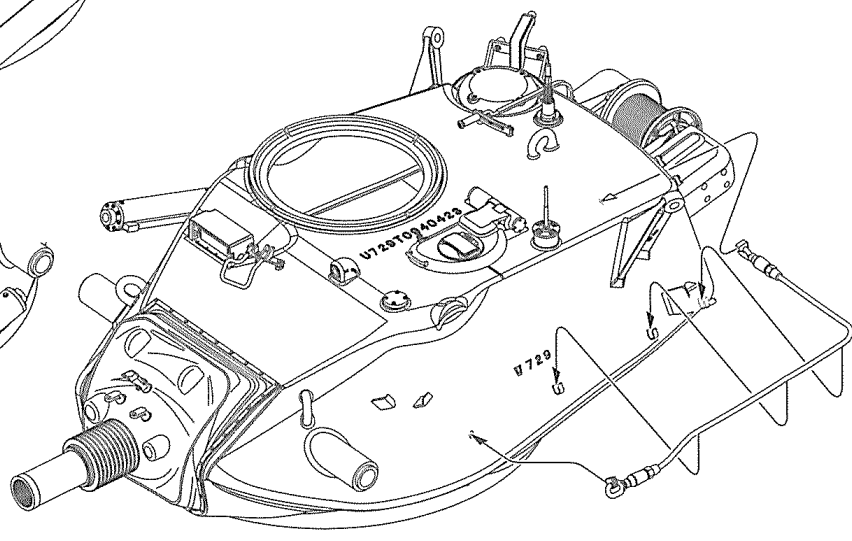
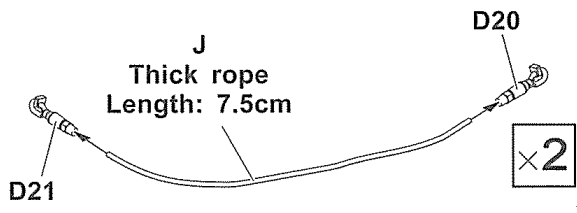
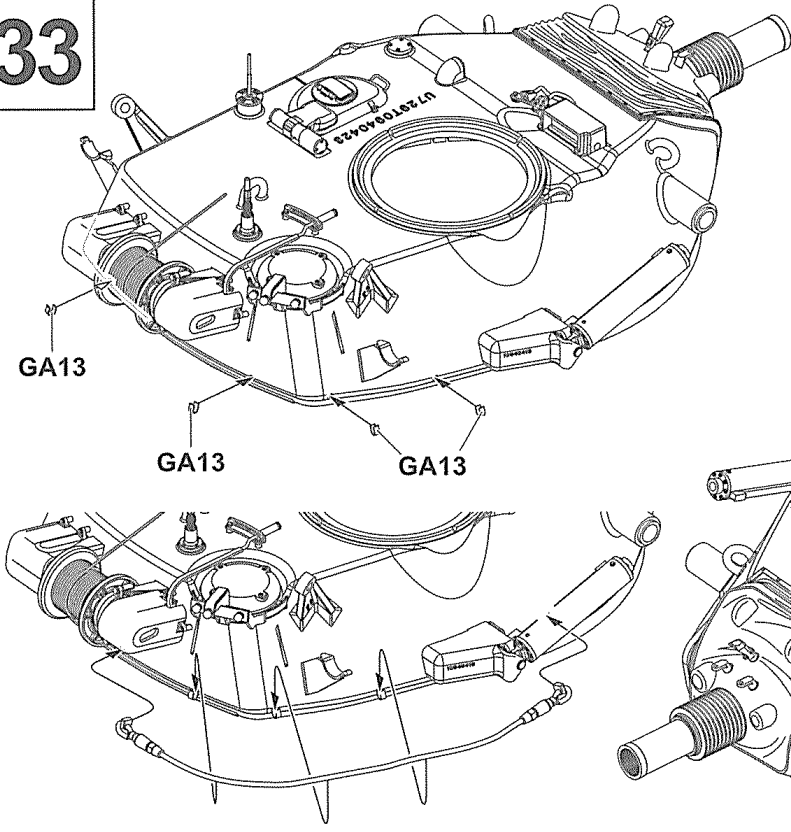
31



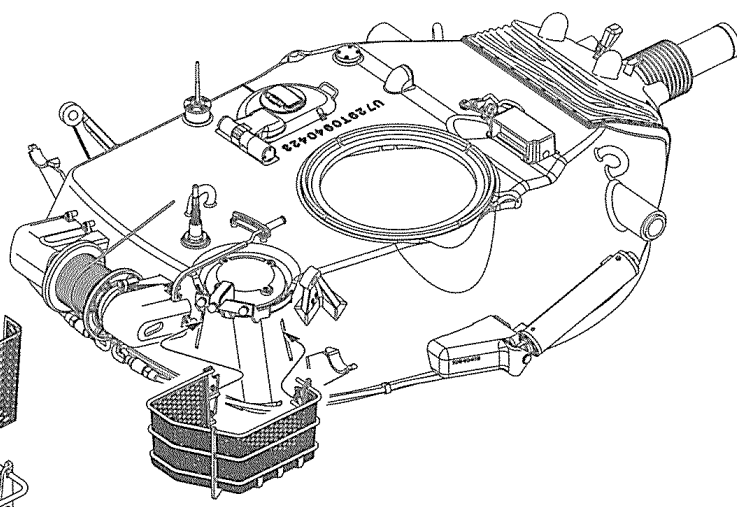
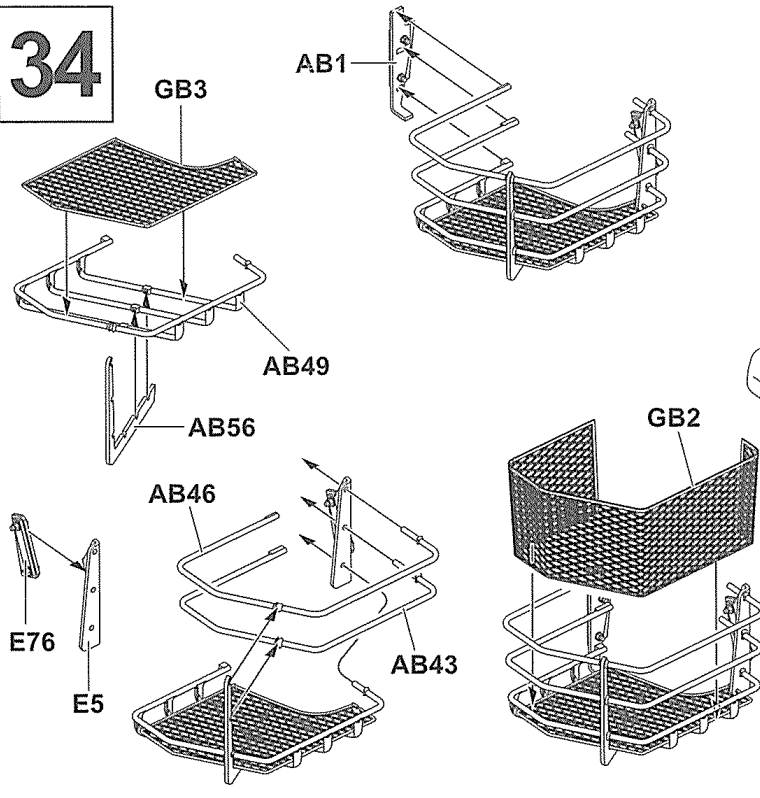
32



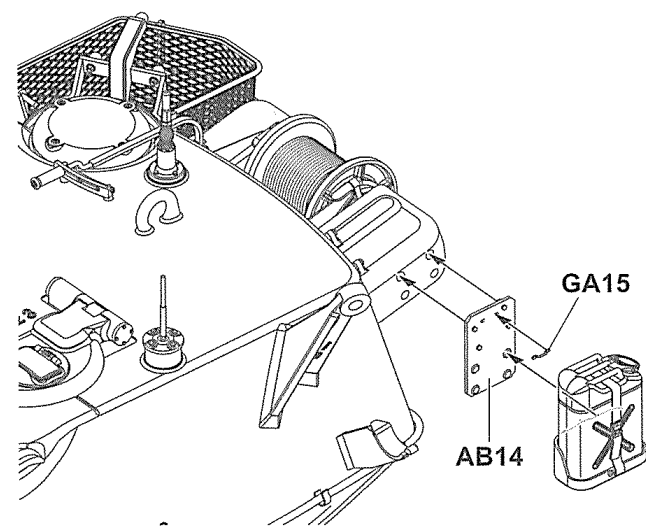
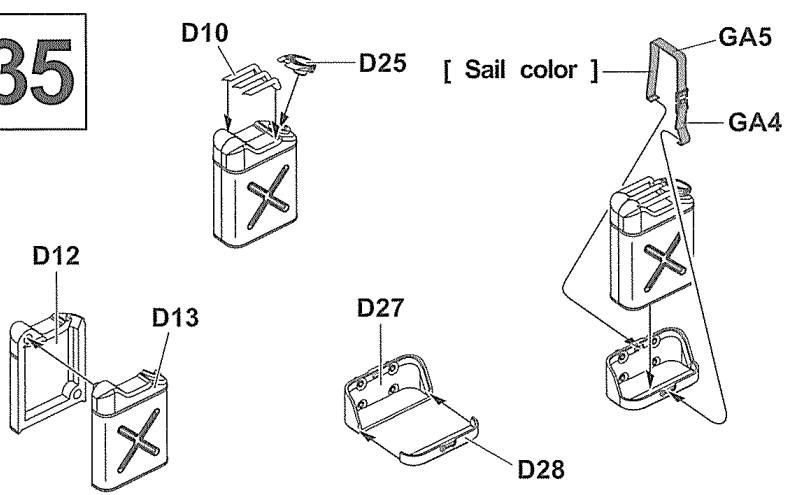
33



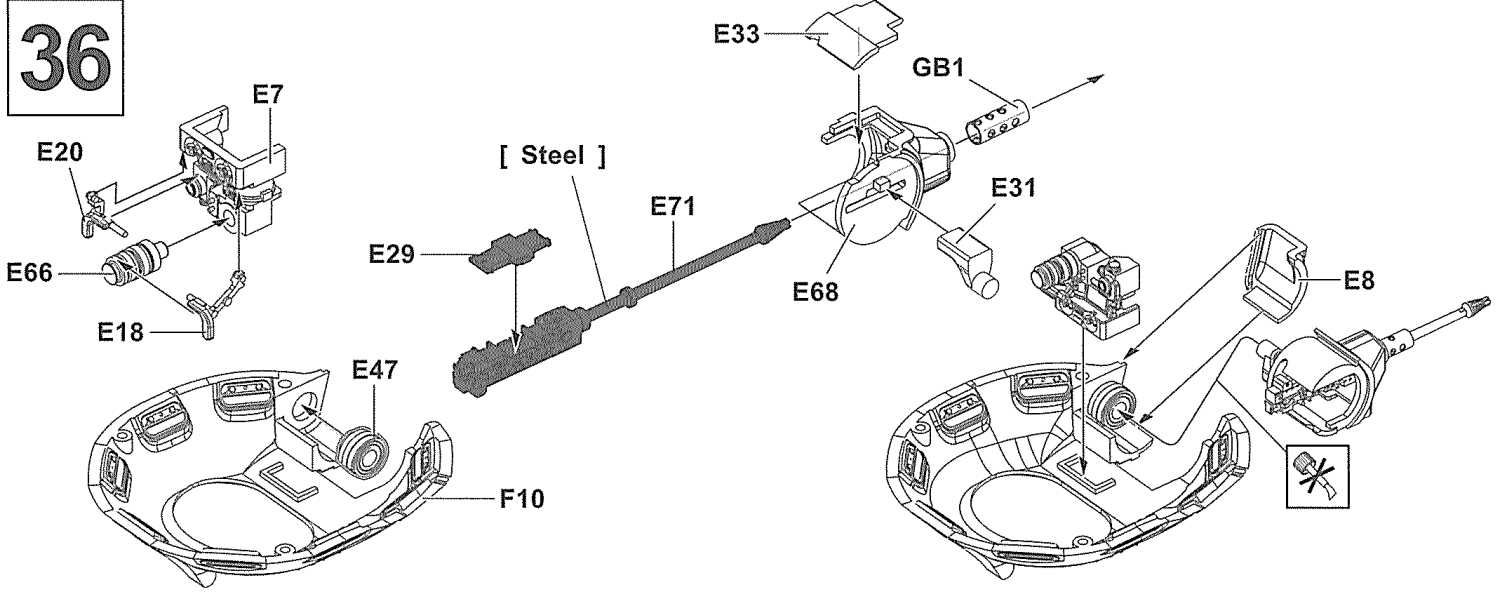
34



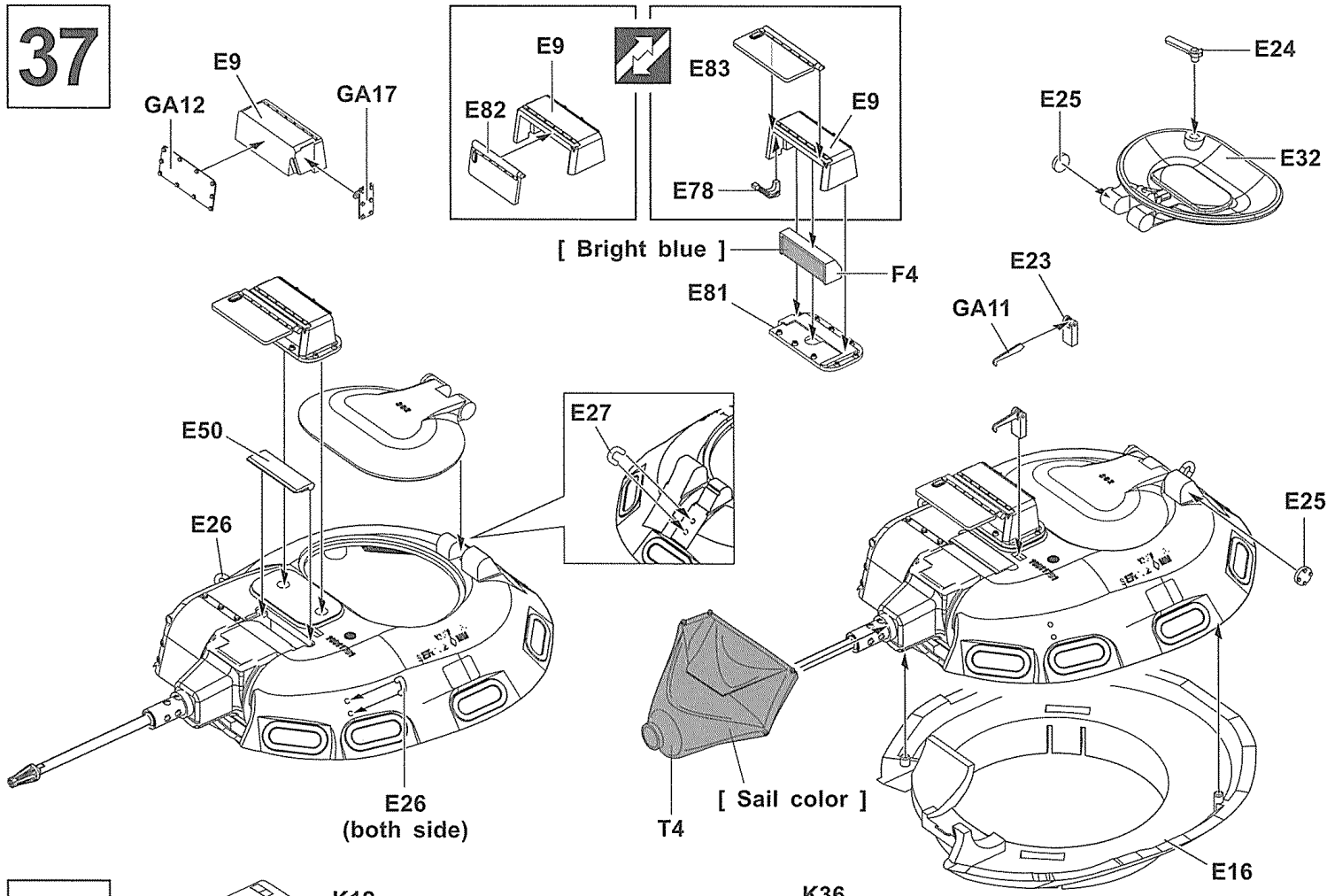
35



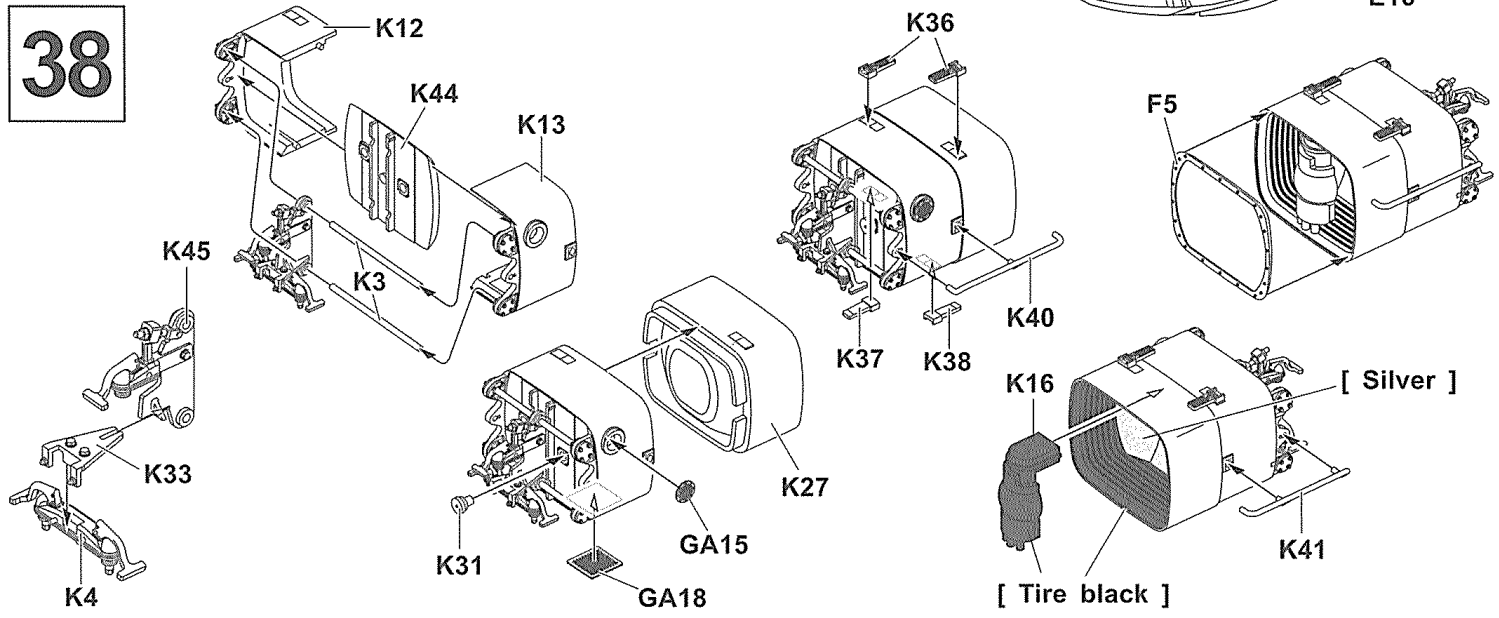
36



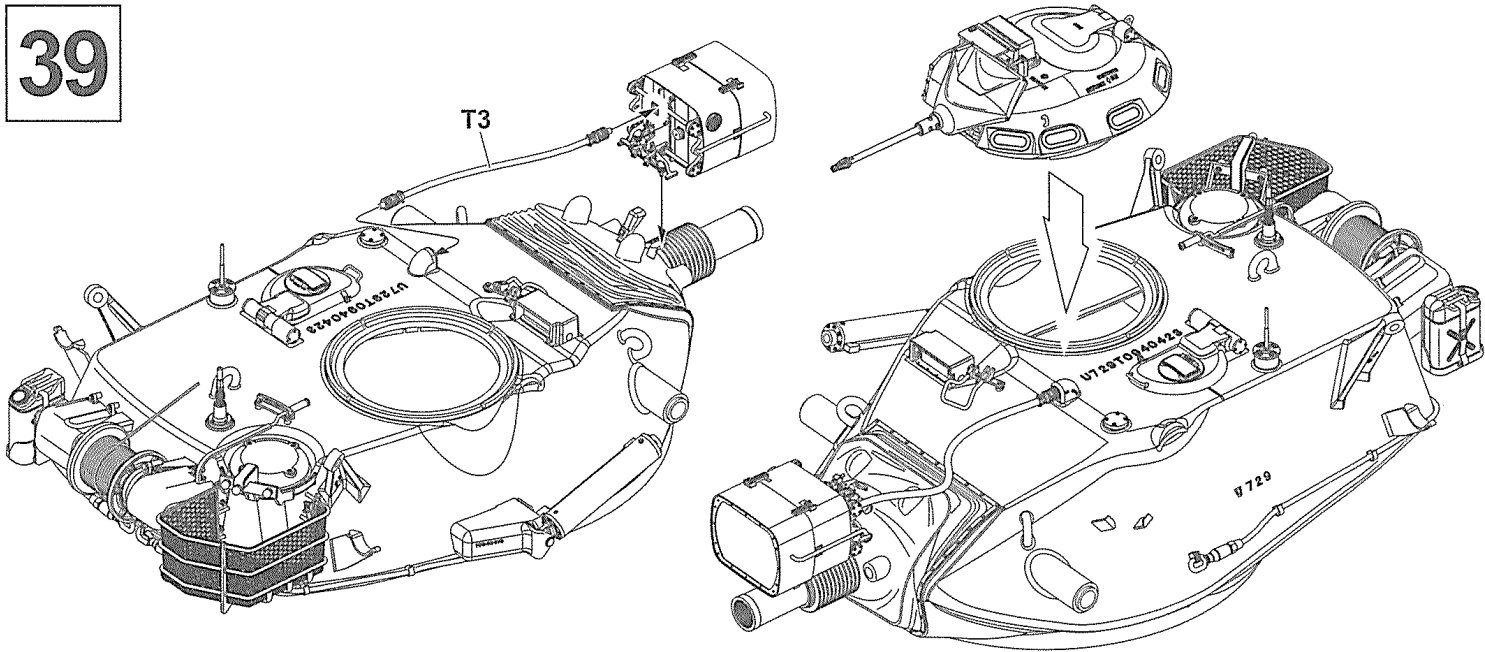
37



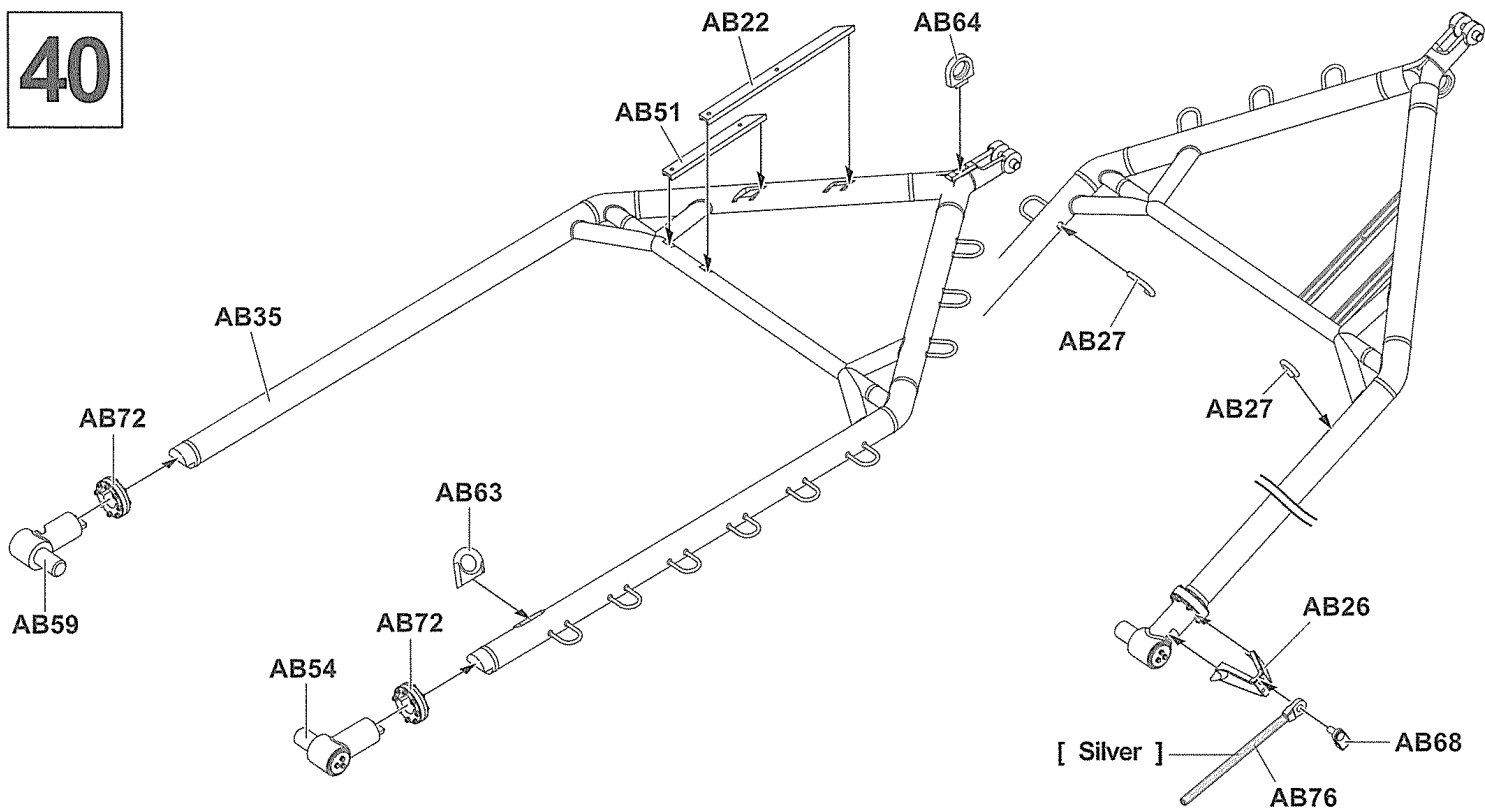
38



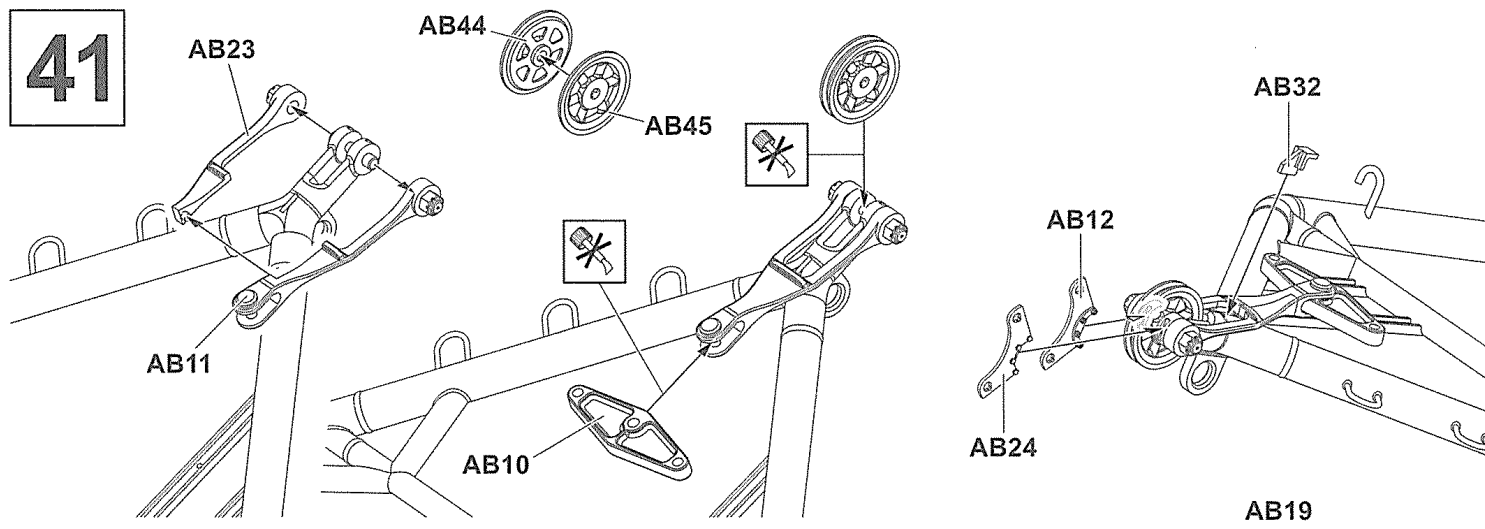
39



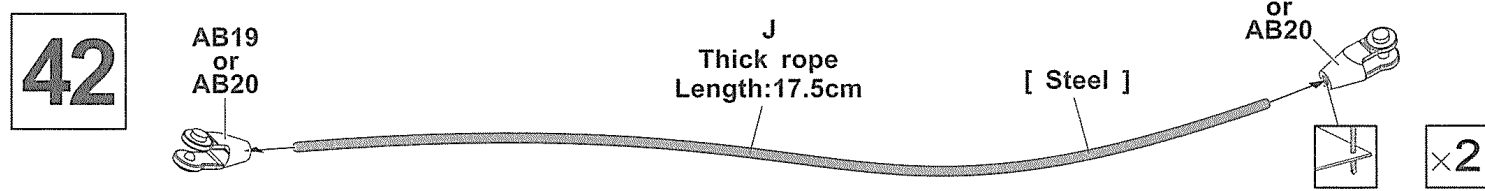
40



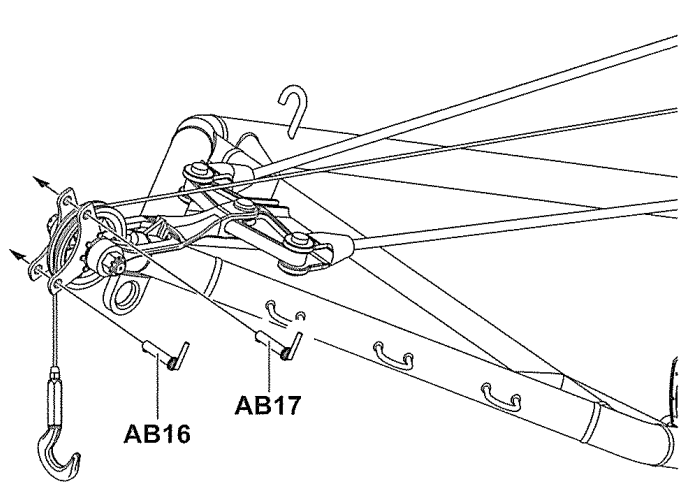
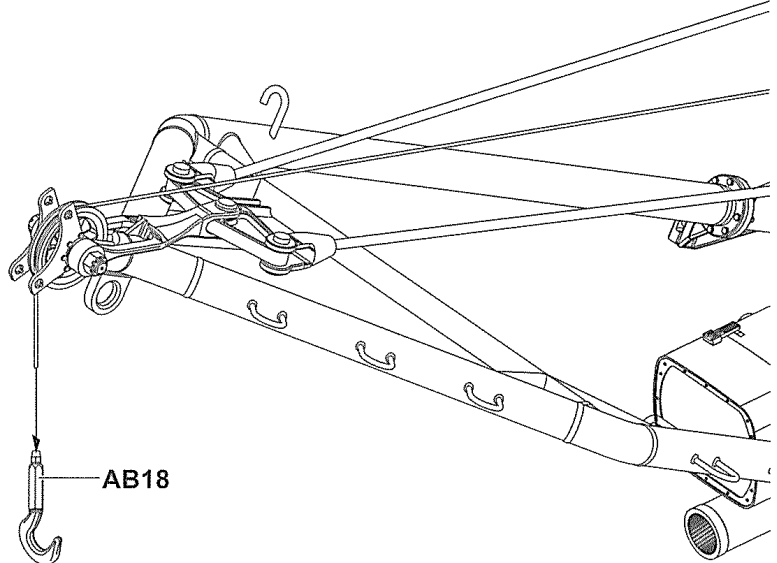
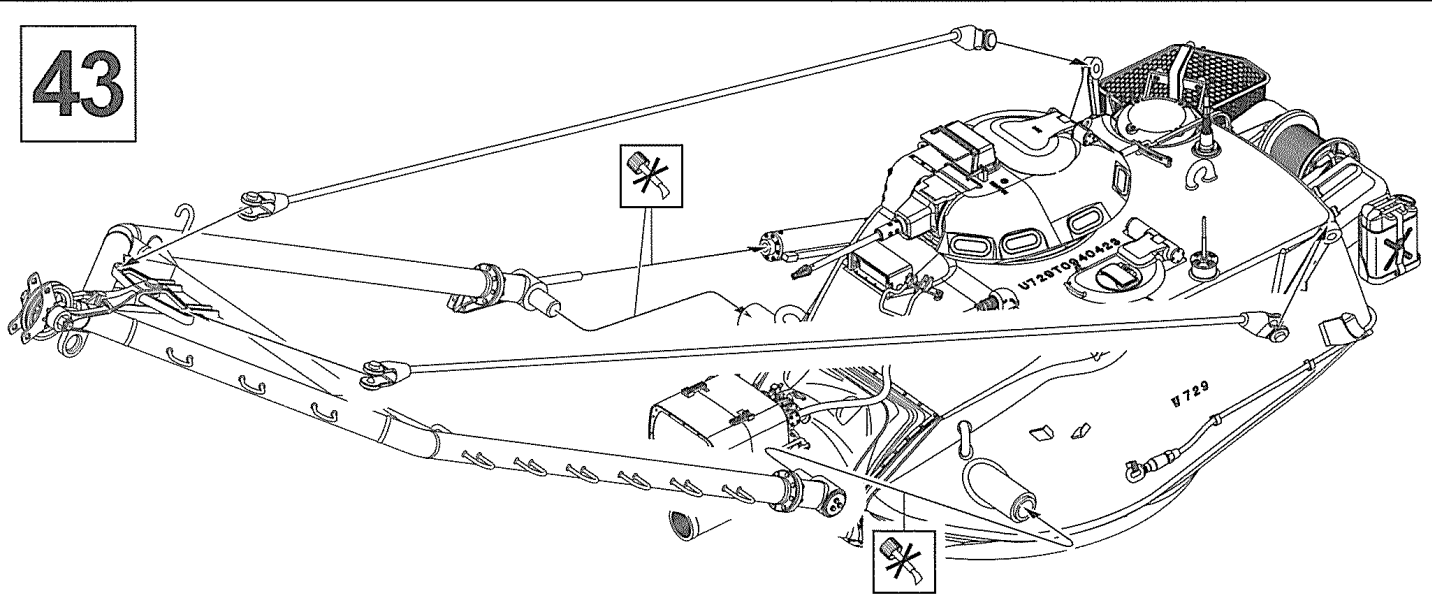
41



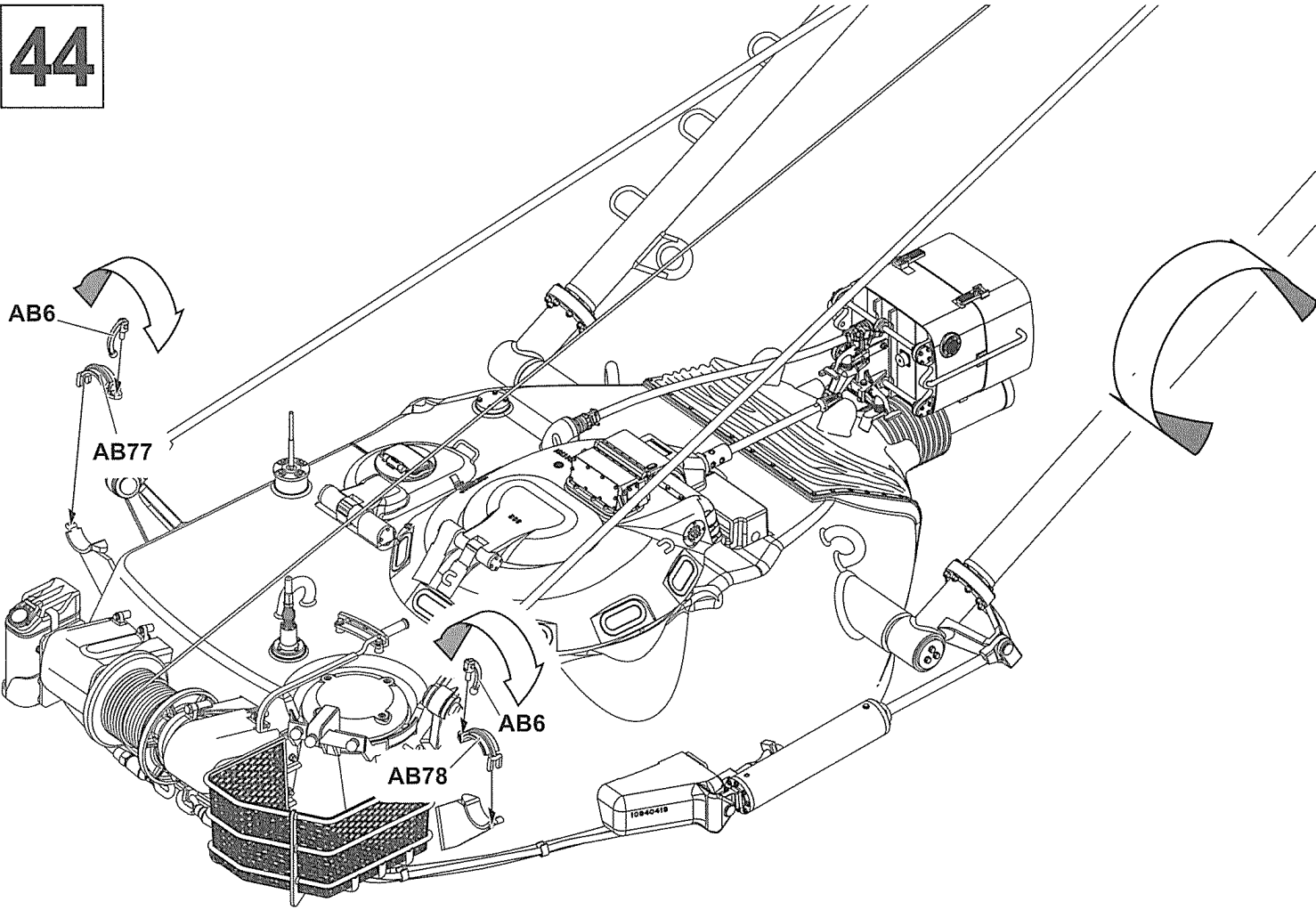
42



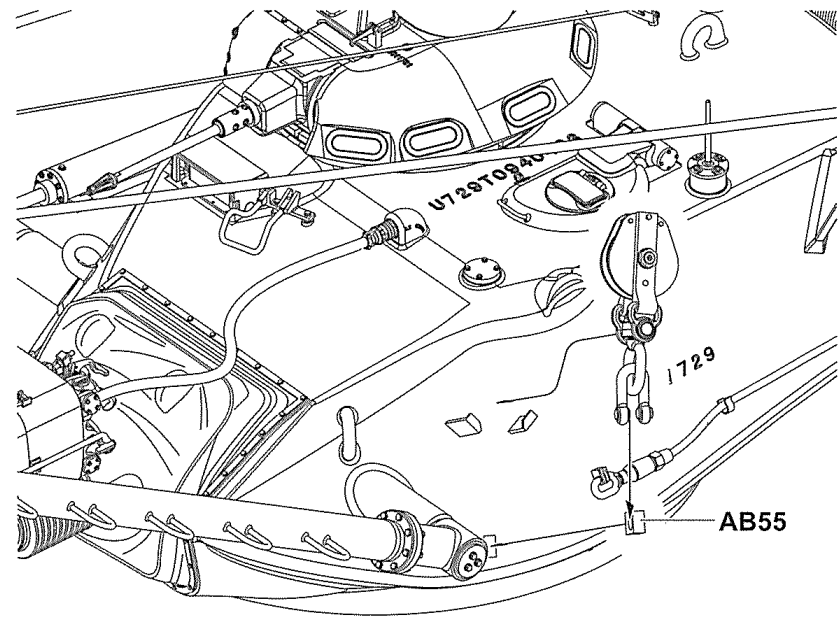
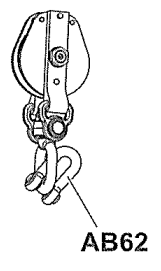
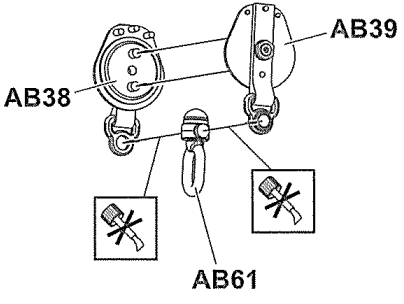
43



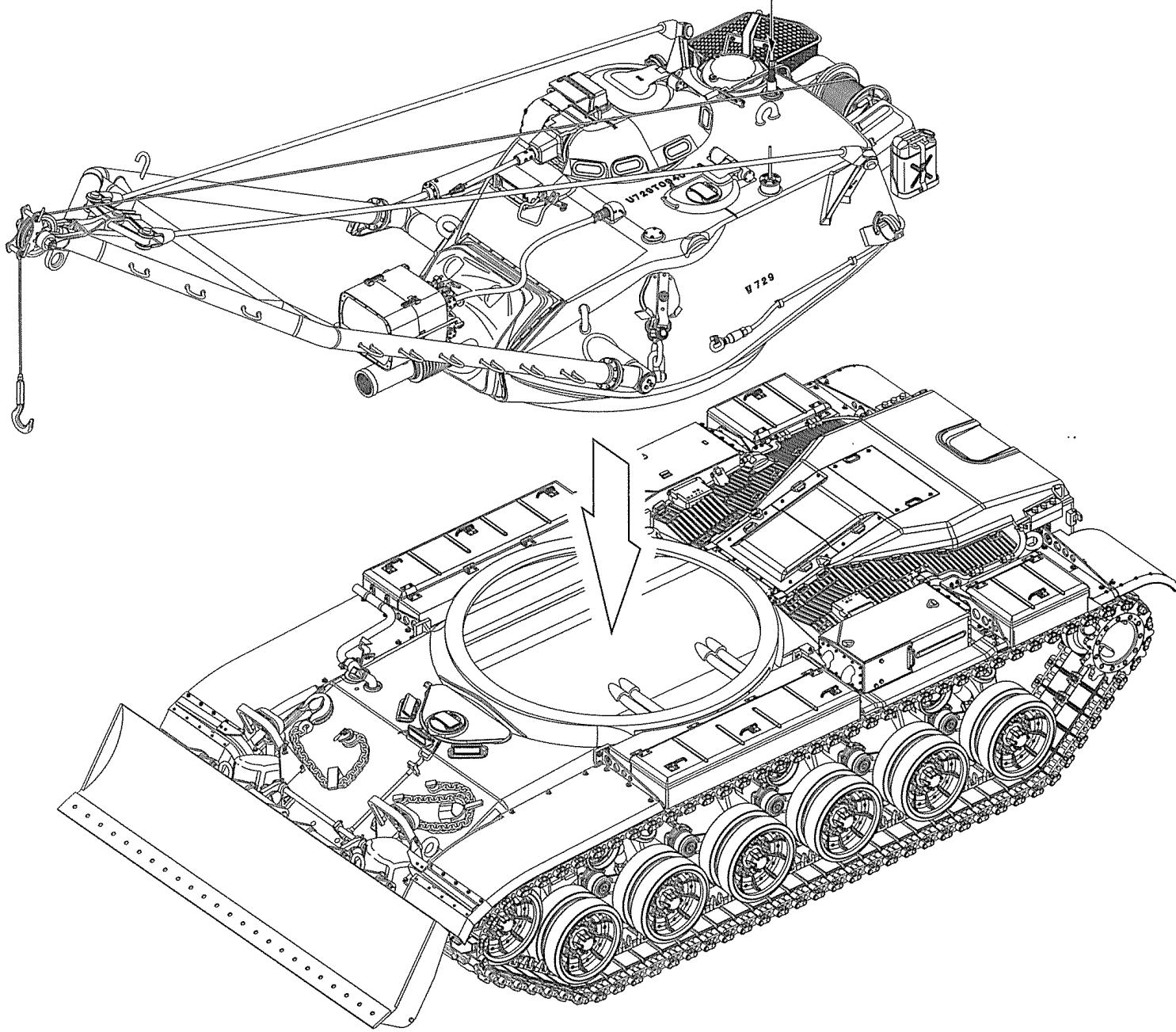
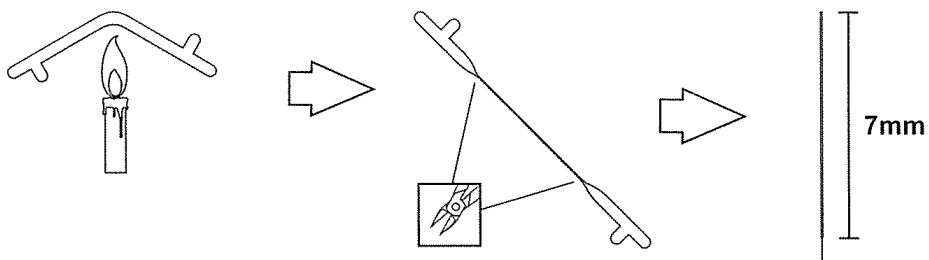
44



45

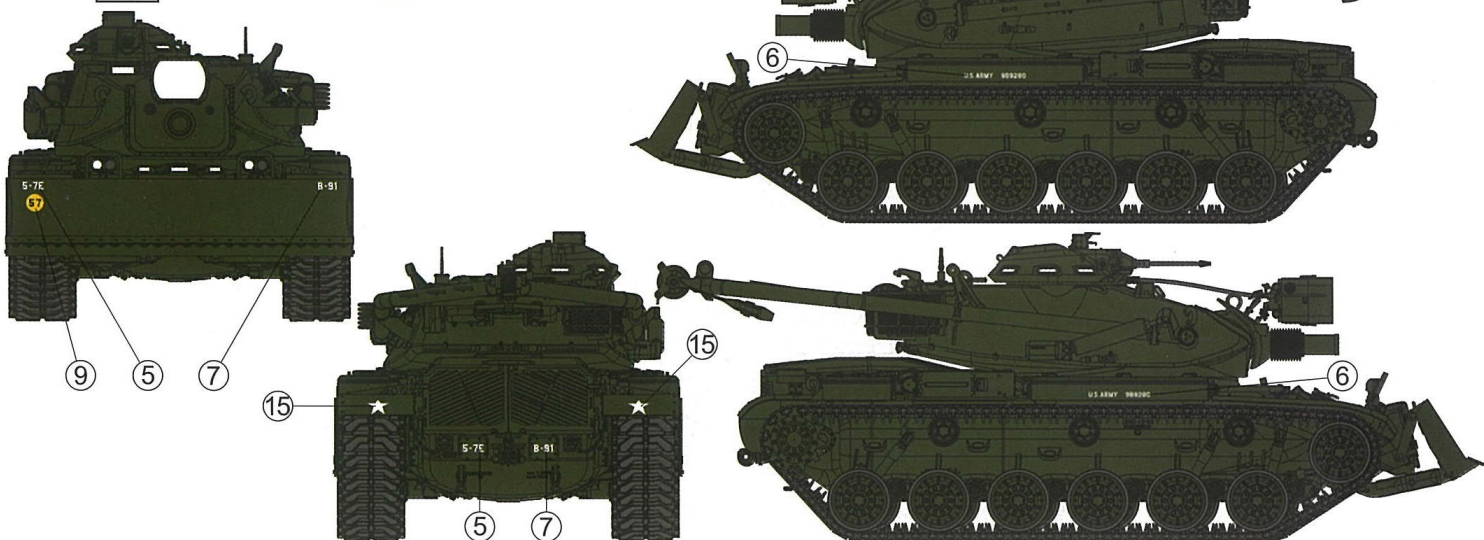


46



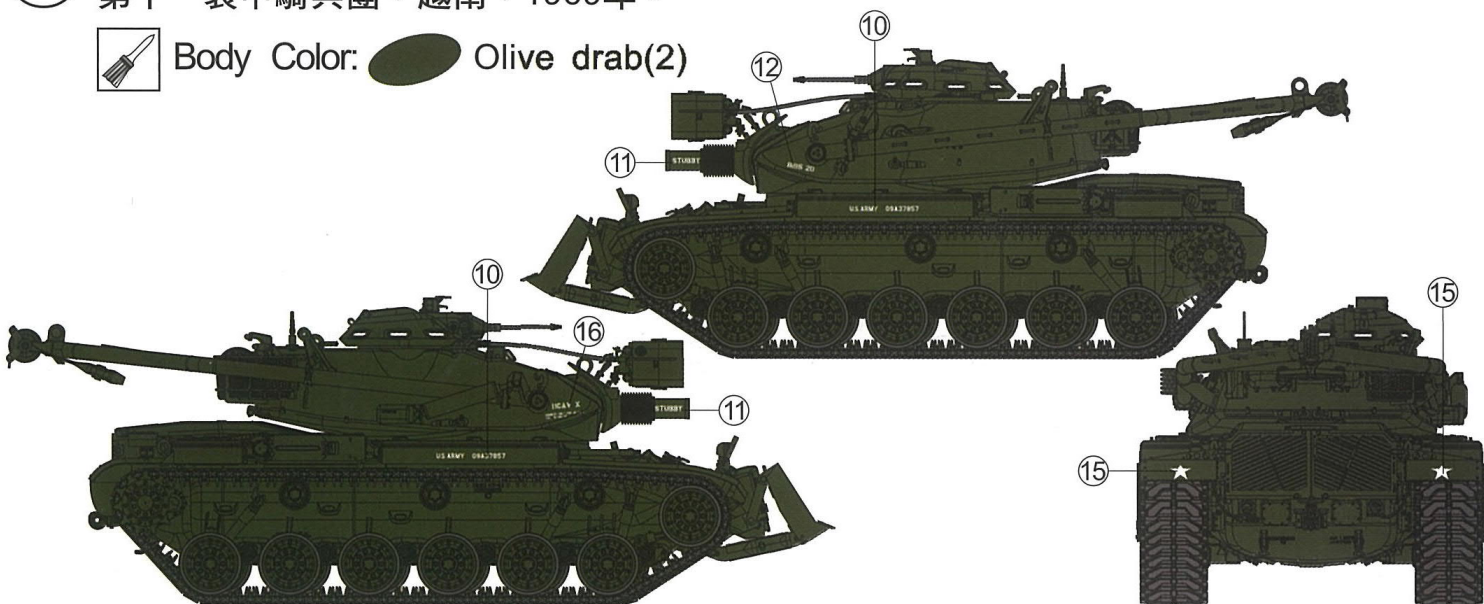
A 7th Engineer Battalion, Fort Carson, Colorado, April 1967.
第七工兵營，科羅拉多州，卡森堡，1967年4月。

Body Color:  Olive drab(2)



B 11th Armored Cavalry Regiment, Vietnam, 1969.
第十一裝甲騎兵團，越南，1969年。

Body Color:  Olive drab(2)

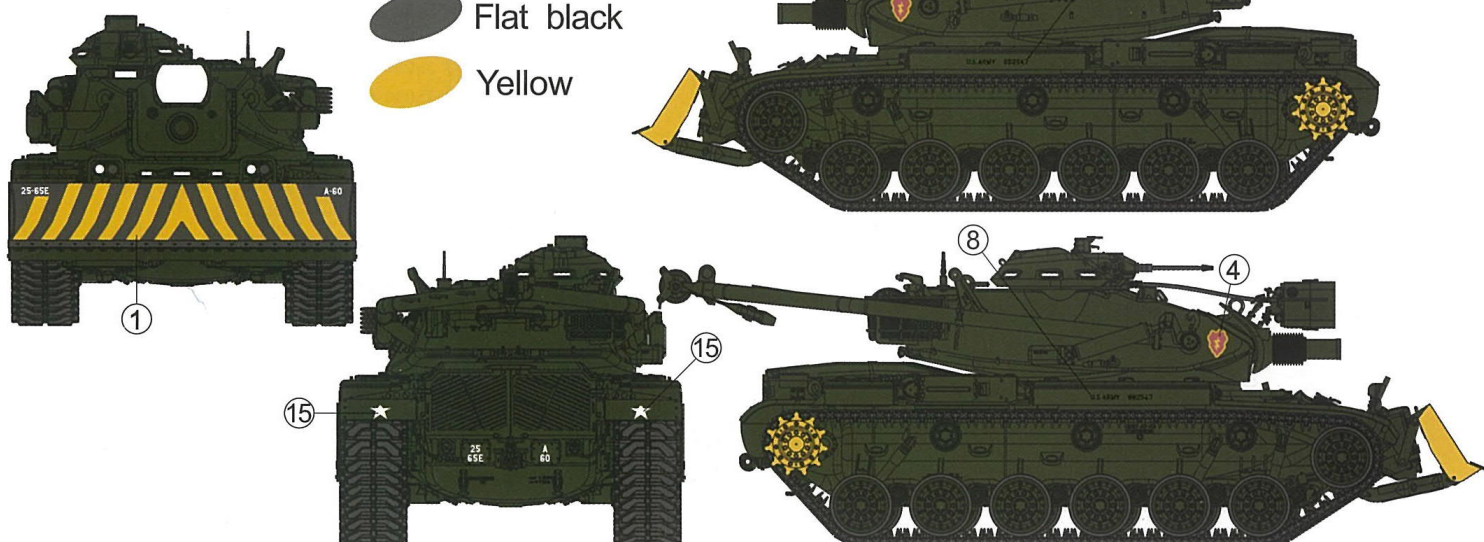


C 65th Brigade Engineer Battalion, 25th Infantry Division, Hawaii.
第二十五步兵師，六十五旅工兵營，夏威夷。

Body Color:  Olive drab(2)

 Flat black

 Yellow



裝甲戰鬥工程車的作用是伴隨戰鬥部隊行動，為部隊提供清除敵方工事、超越障礙，並為己方構築掩體以及車輛搶救。最早投入作戰是在1942年，盟軍在法國北部海港迪耶普的登陸作戰。為了讓戰車能夠順利通過迪耶普鬆軟的粗石灘與海堤，加拿大工程師為邱吉爾步兵戰車安裝上能夠敷設枕木的器械。登陸作戰雖然以失敗告終，但已充份體現出戰鬥工程車的价值，於是兩年後的諾曼地登陸更有了大規模的運用。

二次世界大戰後，世界各國對於裝甲工程車輛的發展依然沒有停下腳步。1960年代美國以M60A1中戰車為基礎，在車體前加裝推土鏟或是除雷犁。砲塔上增設了A字型吊架與液壓絞盤，用來搶救故障車輛或吊放重物。並移除砲塔上原本的M68 105mm主砲，換裝上由英國授權生產的M135 165mm破壞工事砲。這種大口徑低初速的火砲所發射的黏著榴彈能有效的清除各種建築、掩體與路障。而原本M60的裝甲也能提供乘員在作業時足夠的保護。1963年正式賦與這款戰鬥工程車M728的型號，1965年進入量產並開始布署於越南，生產期至1987年。包含後期使用M60A3車體的M728A1共計生產數量為291輛，除美軍之外尚供應沙烏地阿拉伯與新加坡等國陸軍。

1991的波灣戰爭期間M728依然投入作戰，但受到動力系統的限制，在速度上已無法再伴隨以M1艾布蘭戰車所構成的攻擊矛頭。最終在2000年M728轉為美軍備役，部分車輛仍然由國民警衛隊、聯邦調查局與菸酒槍砲及爆裂物管理局使用當中。

Illustration:圖示說明

	Agglutinate 用膠黏合		No Agglutinate 不用黏合
	Make 2 Sets 二組製作		Cut Off 切除
	Optional 選擇使用		Remove 將其磨去
	File Hole 把孔填平		Instnt Glue 使用瞬間膠
	Be Careful 注意		Open Hole 鑽孔

Method For Applying Decals:

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.

水貼紙使用說明:

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

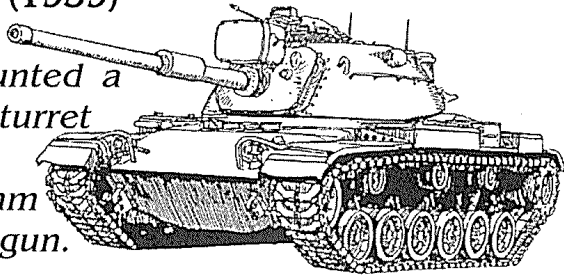
Color list: 塗料表

Color	Brand	GSI Creos			Humbrol	Revell	Lifecolor
		Hobby Color	Mr.Color	Mr.Color Spray			
Brass	黃銅		C219		54	92	LC75
Bright blue	寶藍	H15	C65	J65	14	51	LC60
Dark gray(1)	深灰	H82	C31	J31	87		LC19
Field green	原野綠	H340	C340		105	361	UF02
Flat white	消光白	H11	C62	J62	34	05	LC01
Olive drab(2)	橄欖褐	H78	C38	J38	66	46	UA106
Red	紅	H3	C3	J3	19	31	LC56
Sail color	帆布	H85	C45		28		UA099
Silver	銀	H8	C8	J8	11	90	LC74
Steel	黑鐵	H18	C28	J28	53	91	LC76
Tire black	輪胎黑	H77	C137		85	302	LC02

M60 "Patton" Main Battle Tank

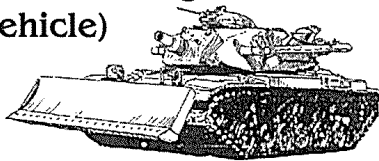
M60 (1959)

Mounted a M48 turret with 105mm tank gun.



M728 CEV

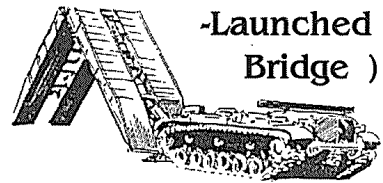
(Combat Engineer Vehicle)



M60 AVLB

(Armored Vehicle

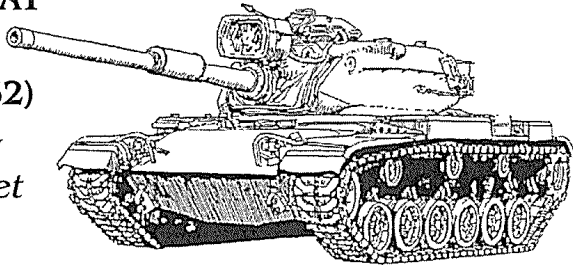
-Launched Bridge)



M60A1

(1962)

New turret

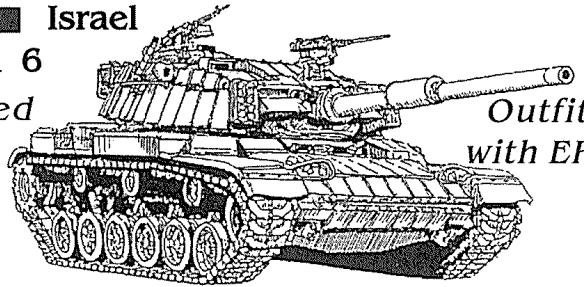


■ Israel

Magach 6

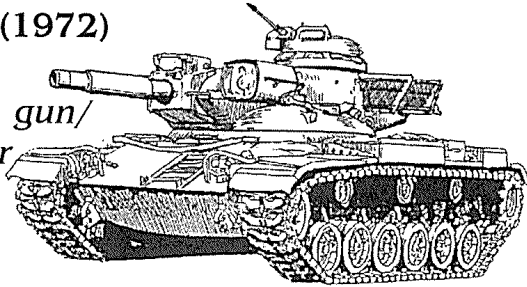
Modified M60A1

Outfitted with ERA



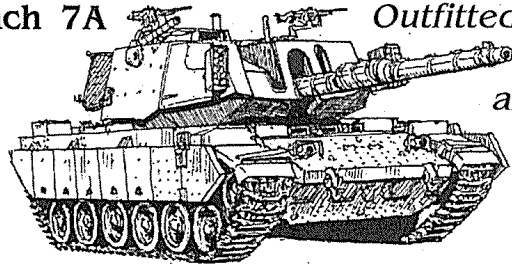
M60A2 (1972)

152mm gun/launcher



Magach 7A

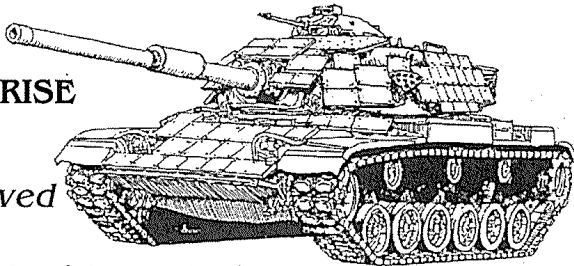
Outfitted with armor module and side skirt.



New single-pin tracks.

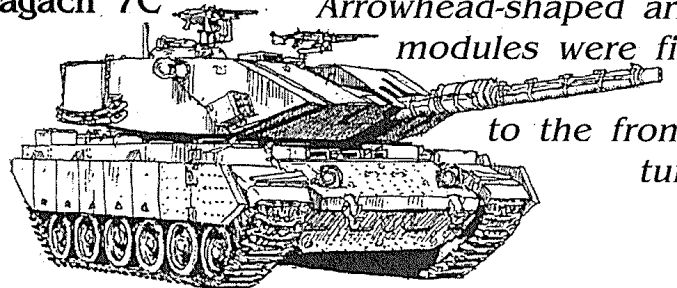
M60A1 RISE (1971)

Improved M60A1
Outfitted with explosive reactive armor during the First Gulf War.



Magach 7C

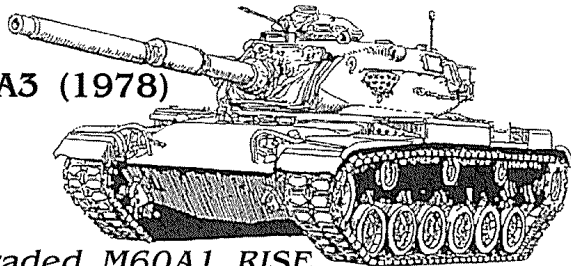
Arrowhead-shaped armor modules were fitted



to the front of turret.

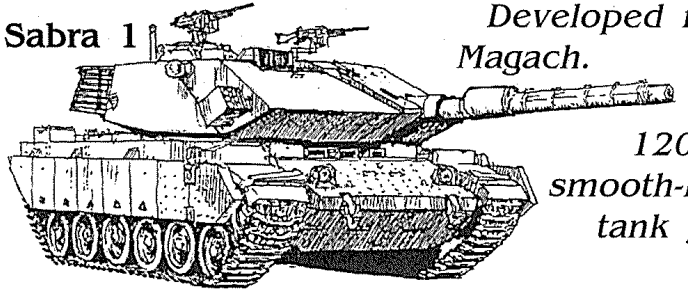
M60A3 (1978)

Upgraded M60A1 RISE.



Sabra 1

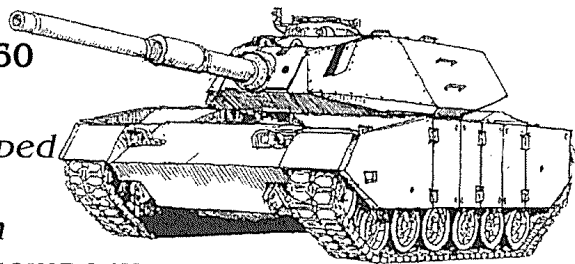
Developed from Magach.



120mm smooth-bore tank gun.

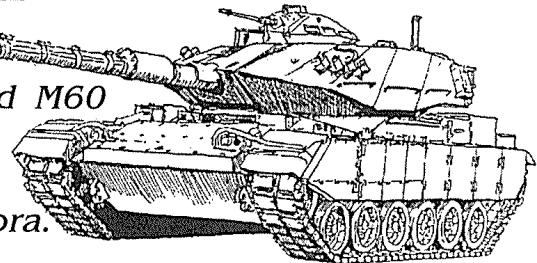
Super M60 (1981)

Developed by an American civilian company.



■ Turkey

Modernized M60
Equipped with main gun of Sabra.

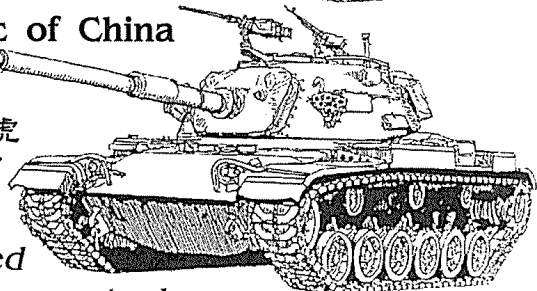


■ Republic of China (Taiwan)

M48H/CM-11 勇虎

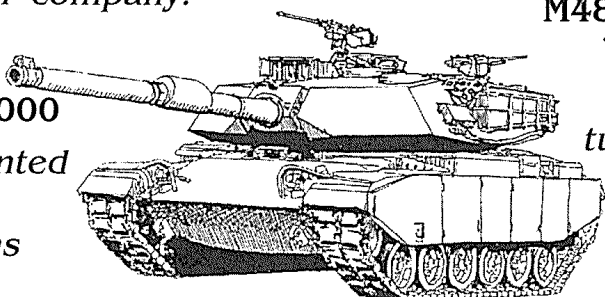
"Brave Tiger"

A M48A3 turret equipped with a 105 mm tank gun on M60A3 hull.



M60-2000

Mounted a M1 Abrams turret.



Shin. Ueda

上田 信