

JOINT



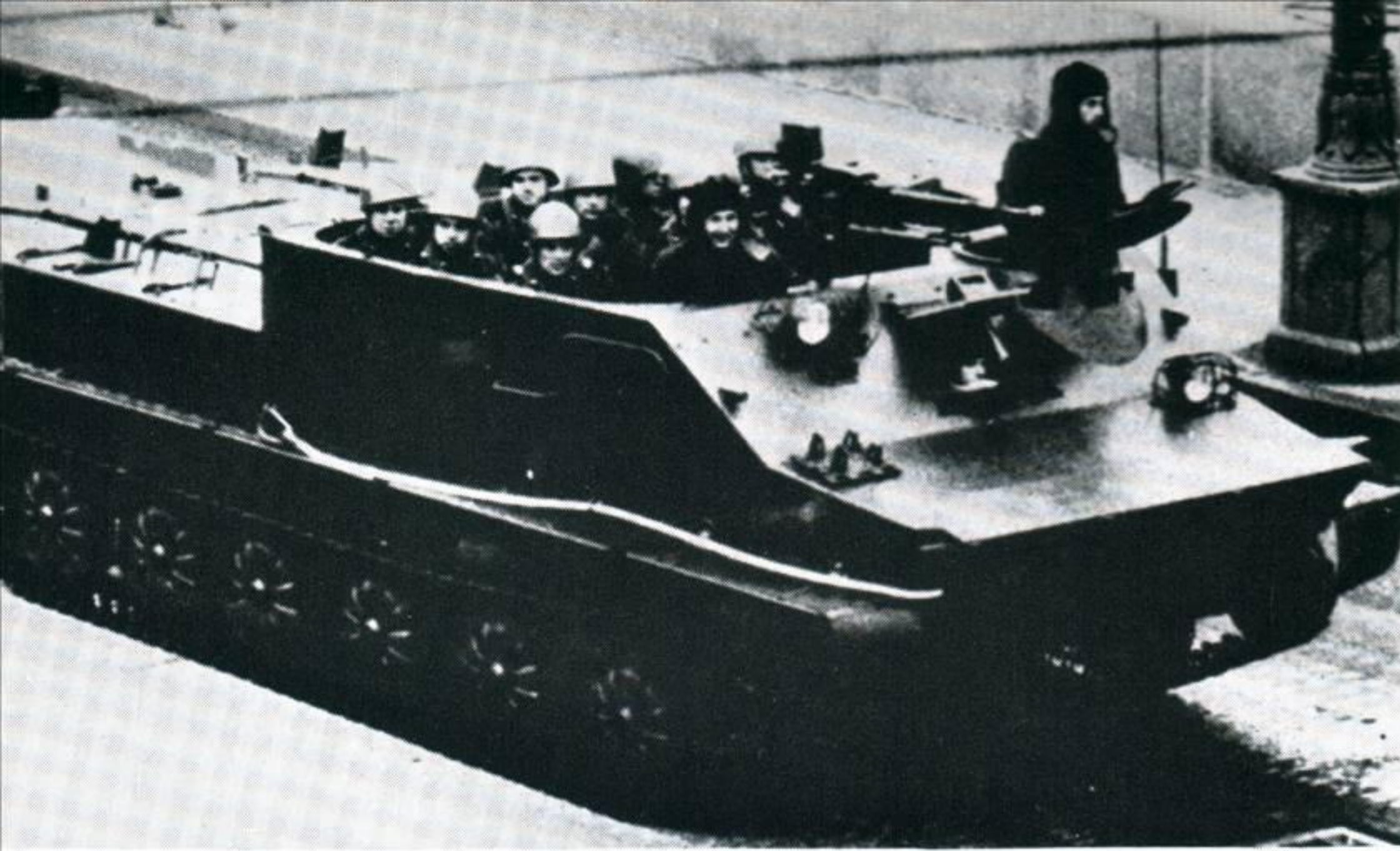
SERVICES

# RECOGNITION

*Journal*



Vol. 24 AUGUST 1969 No. 8



## BTR-50P

Armoured  
Personnel Carrier



BTR-50P, the Soviet Army's first tracked armoured personnel carrier, continues to be used in spite of the appearance of more modern carriers, such as the wheeled BTR-60P and the tracked 1967 model. Since its introduction in the mid-fifties it has been provided with overhead protection and modified in detail.



The oldest Soviet armoured personnel carrier, the BTR-152, is still widely used by the forces of the Soviet bloc and of several Arab countries. Like

## BTR-152

the BTR-50P, it has been modified several times and its later versions have overhead armour. Nevertheless it maintains its main characteristics.



## ASU-57

The ASU-57 is a light, self-propelled 57-mm. anti-tank gun designed especially for Soviet airborne forces but now largely replaced by the heavier ASU-85 armed with an 85-mm. gun. However, it remains a subject for recognition training.



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RECOGNITION JOURNAL

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\* *Identification Lessons*



# T-10

The T-10 is a successor to the IS-3 (Stalin) heavy gun tank. Larger and heavier than its predecessor but armed with a gun of the same 122-mm. calibre. Still used by Soviet and Satellite forces. It has a low silhouette with turret set well forward.



# BTR-40

The BTR-40 is an old but widely used light, wheeled scout car. However, during the past ten years it has been partly replaced by its amphibious developments, such as the BRDM, but remains a vehicle to be reckoned with.

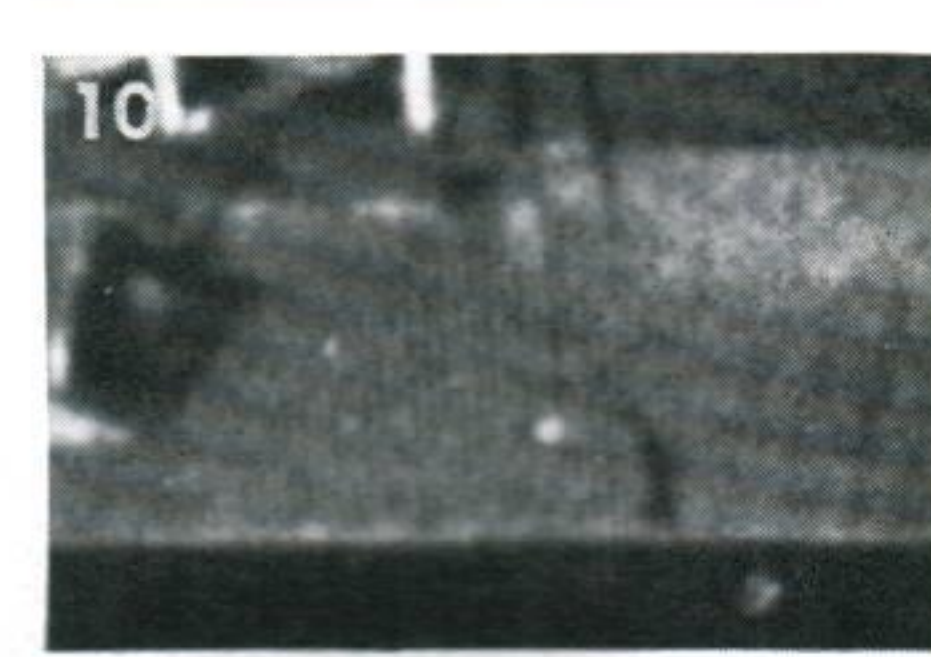
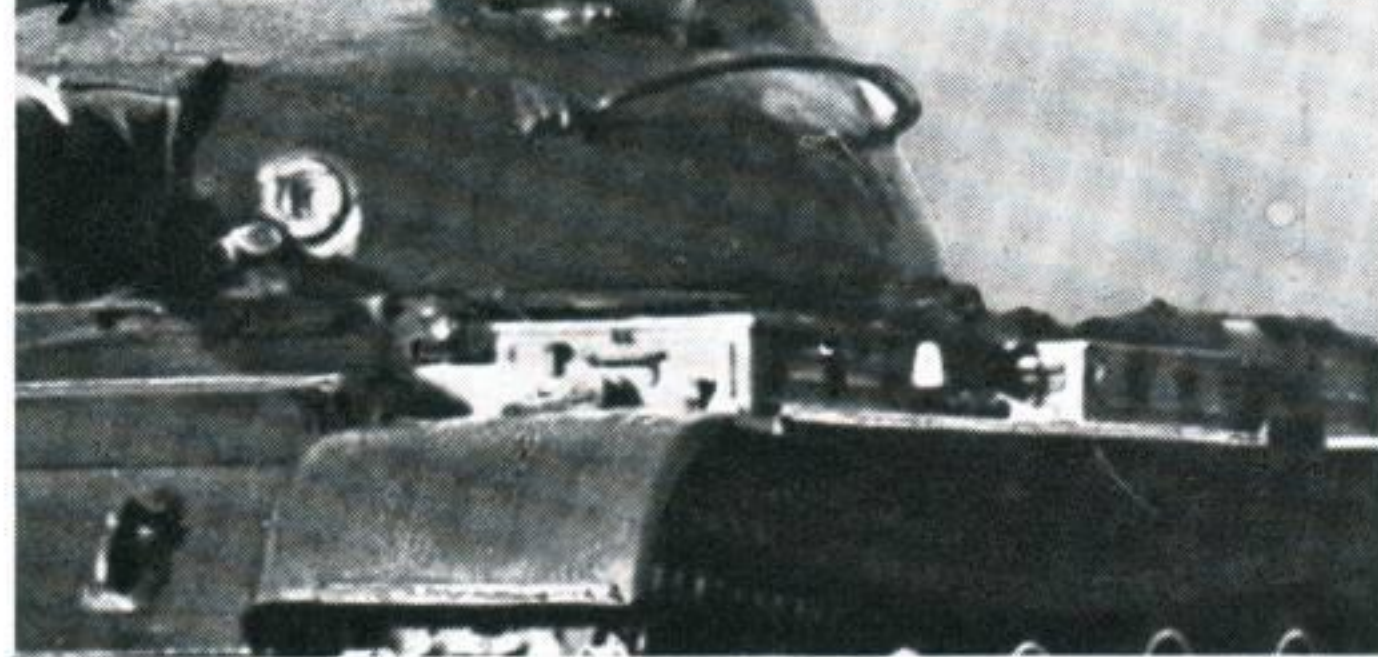
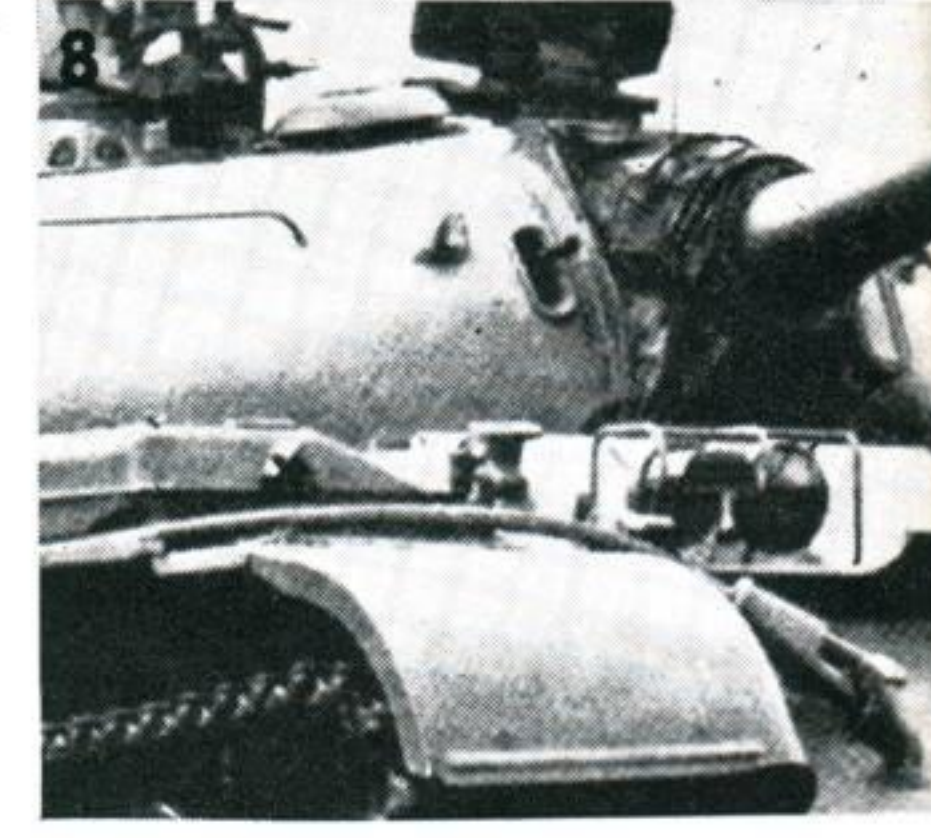
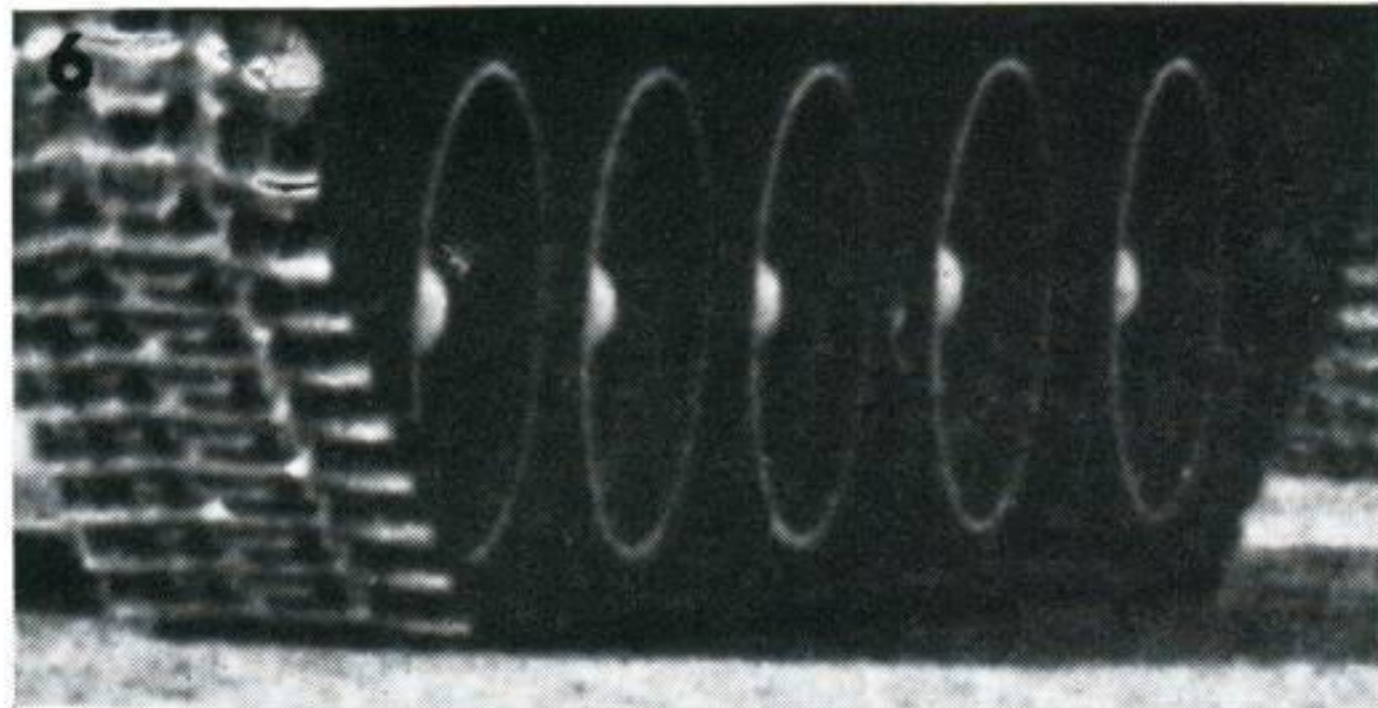
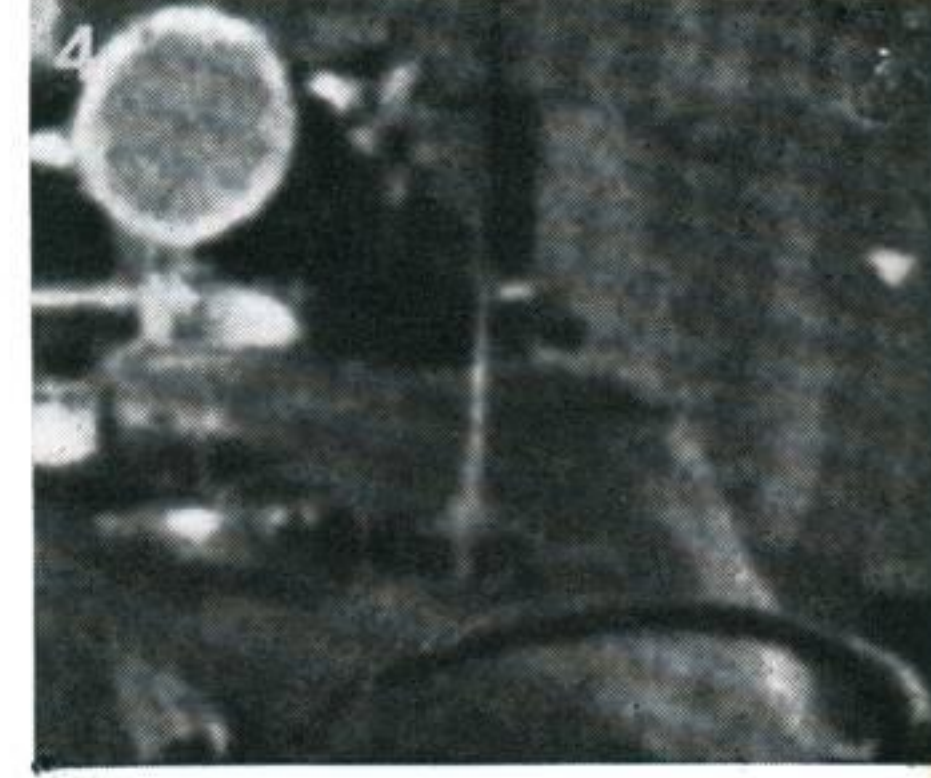
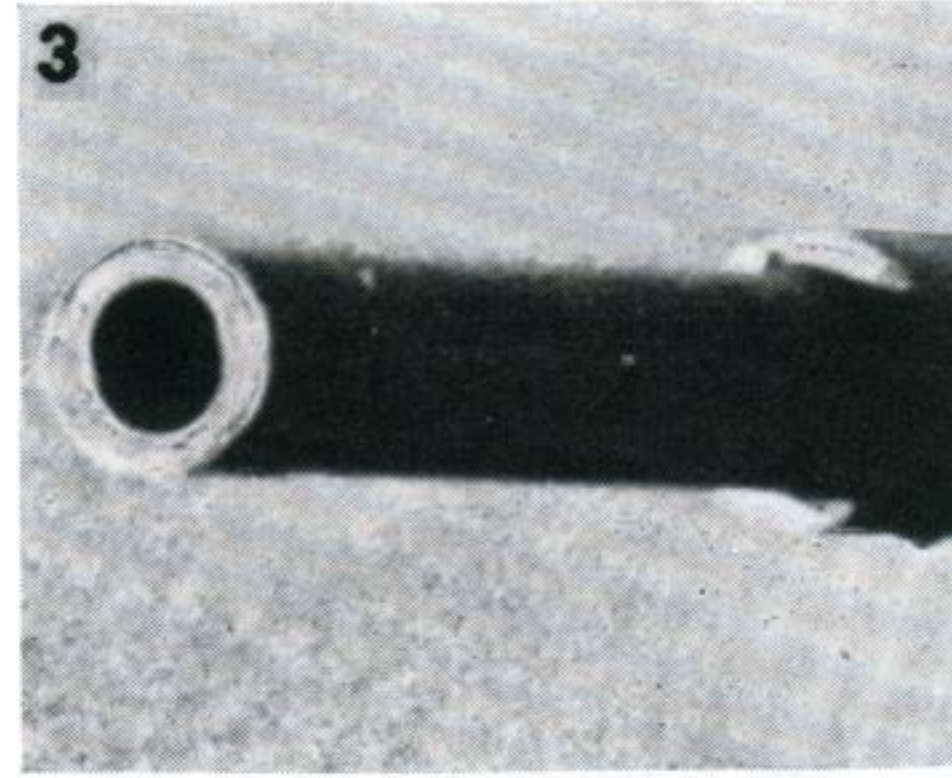
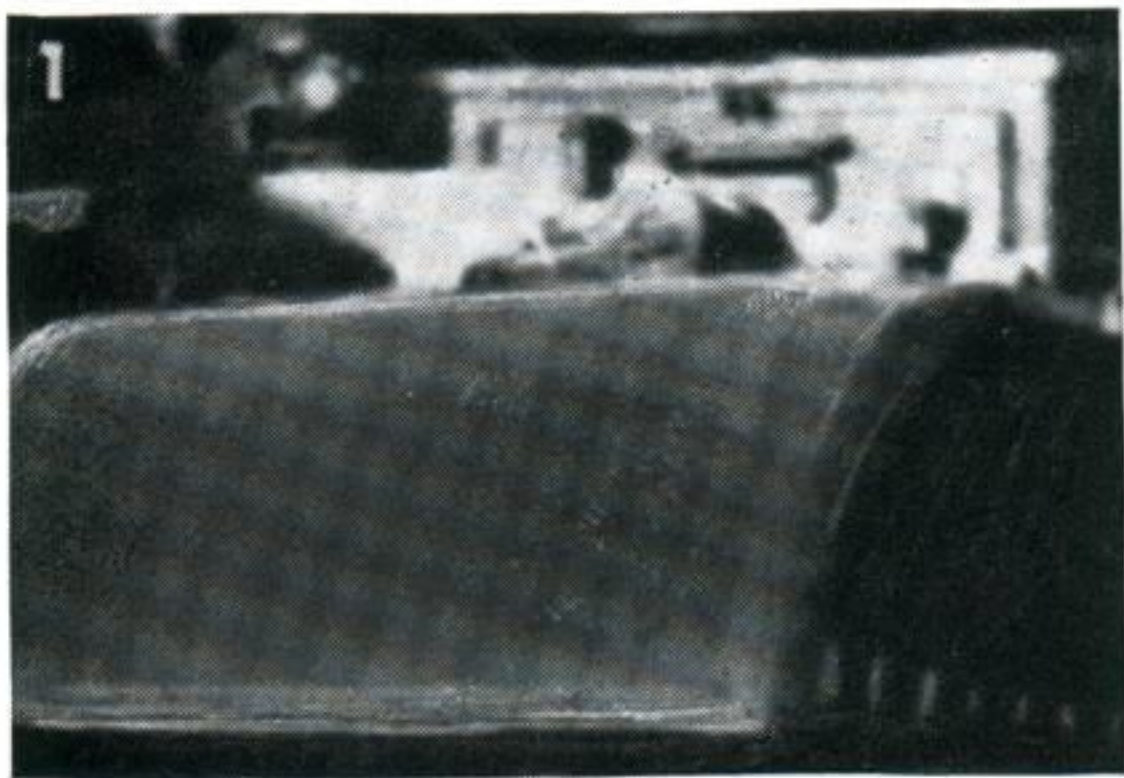


# T-62

## BATTLE TANK

Since its introduction some six years ago, the T-62 has been slowly replacing earlier tanks in the Soviet armoured formations and in time it might well occupy the position held in recent years by the T-54 medium tank.

The most important difference between the T-62 and its predecessors is its high-velocity 115-mm. gun with a characteristic fume extractor half-way up the barrel. Other recognition features include a turret in the shape of a flattened dome, a very low commander's cupola and a track assembly with no return rollers and a large gap between the last three of its five unevenly spaced wheels.



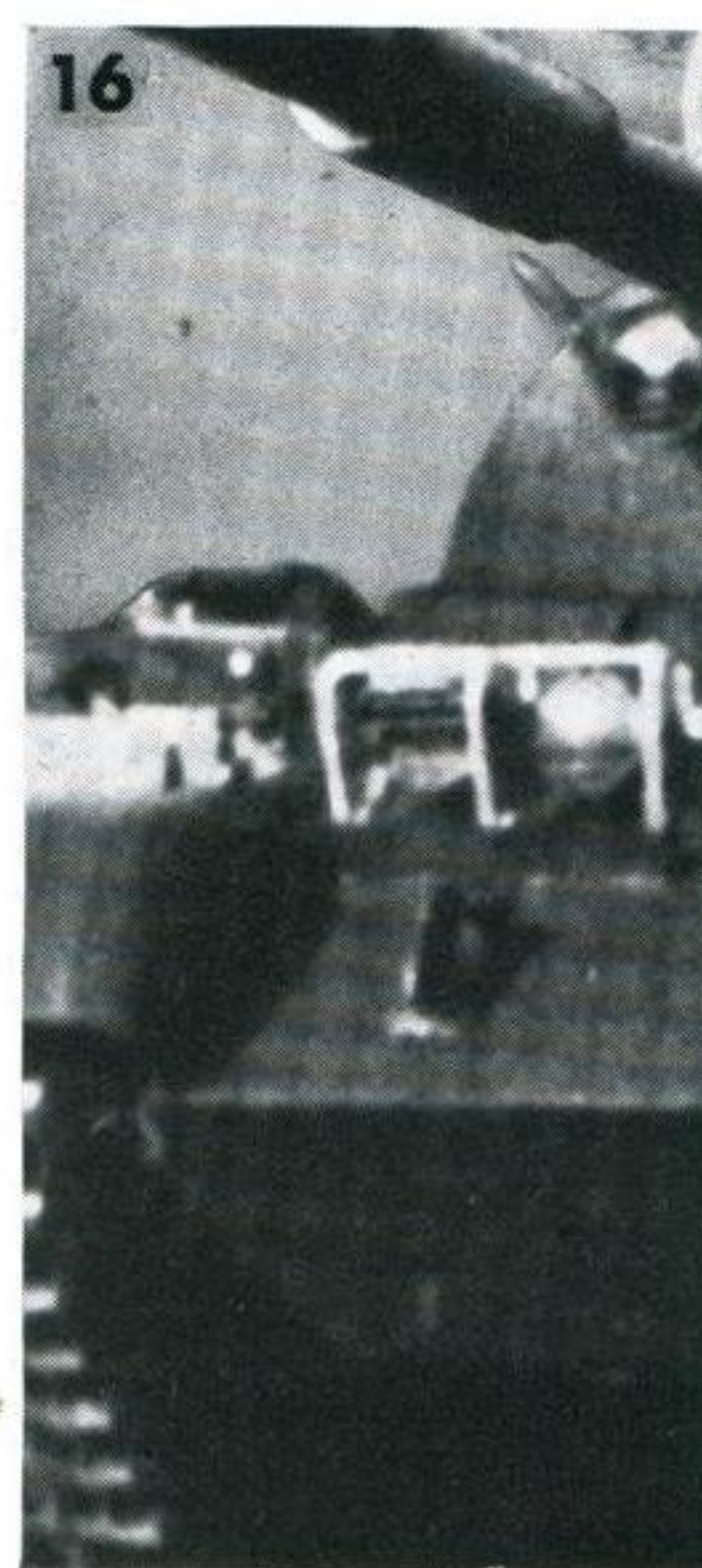
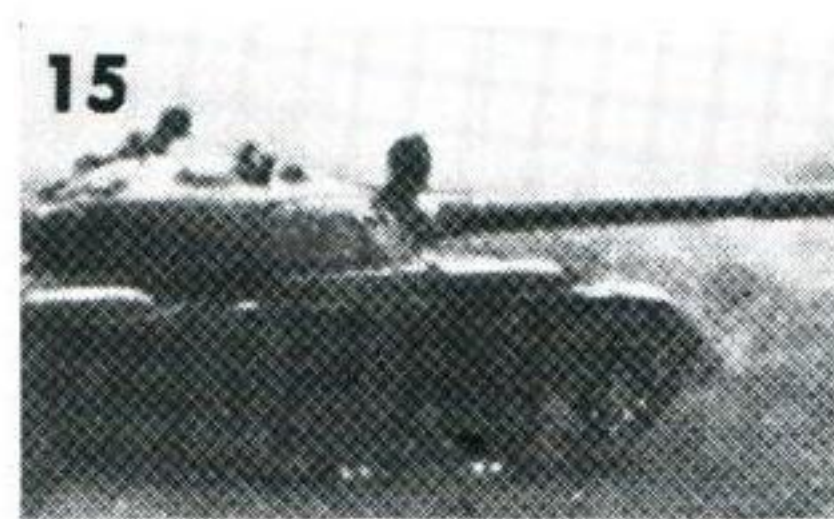
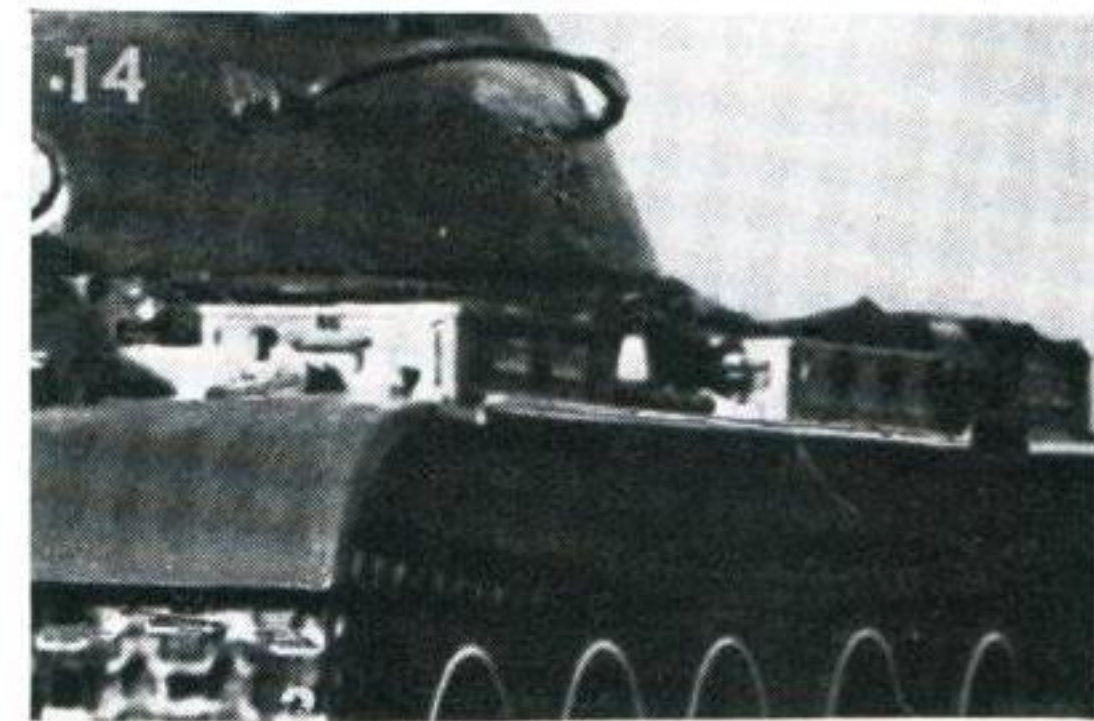
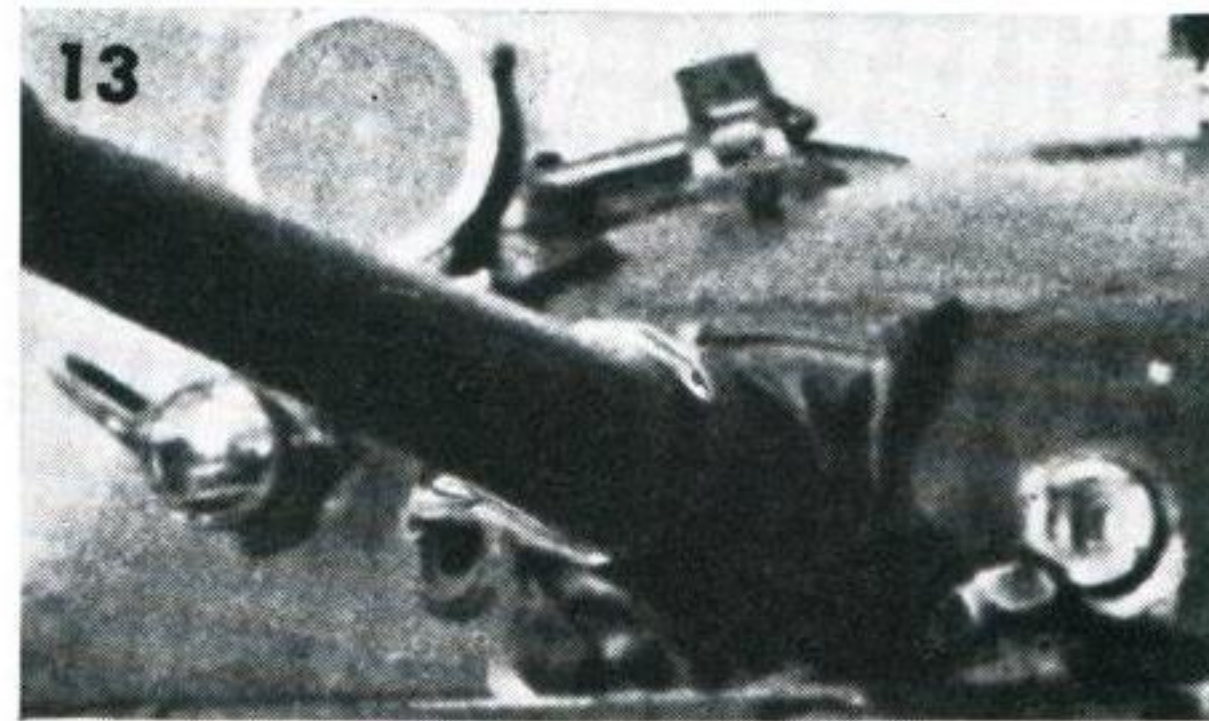
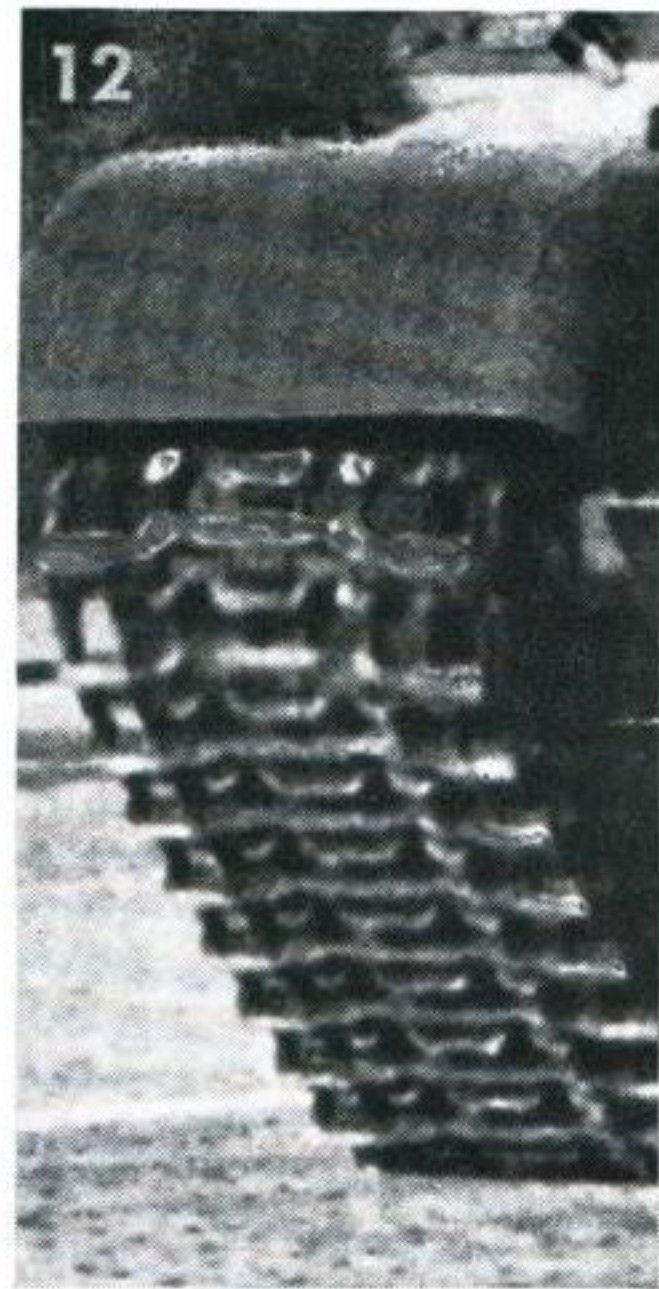


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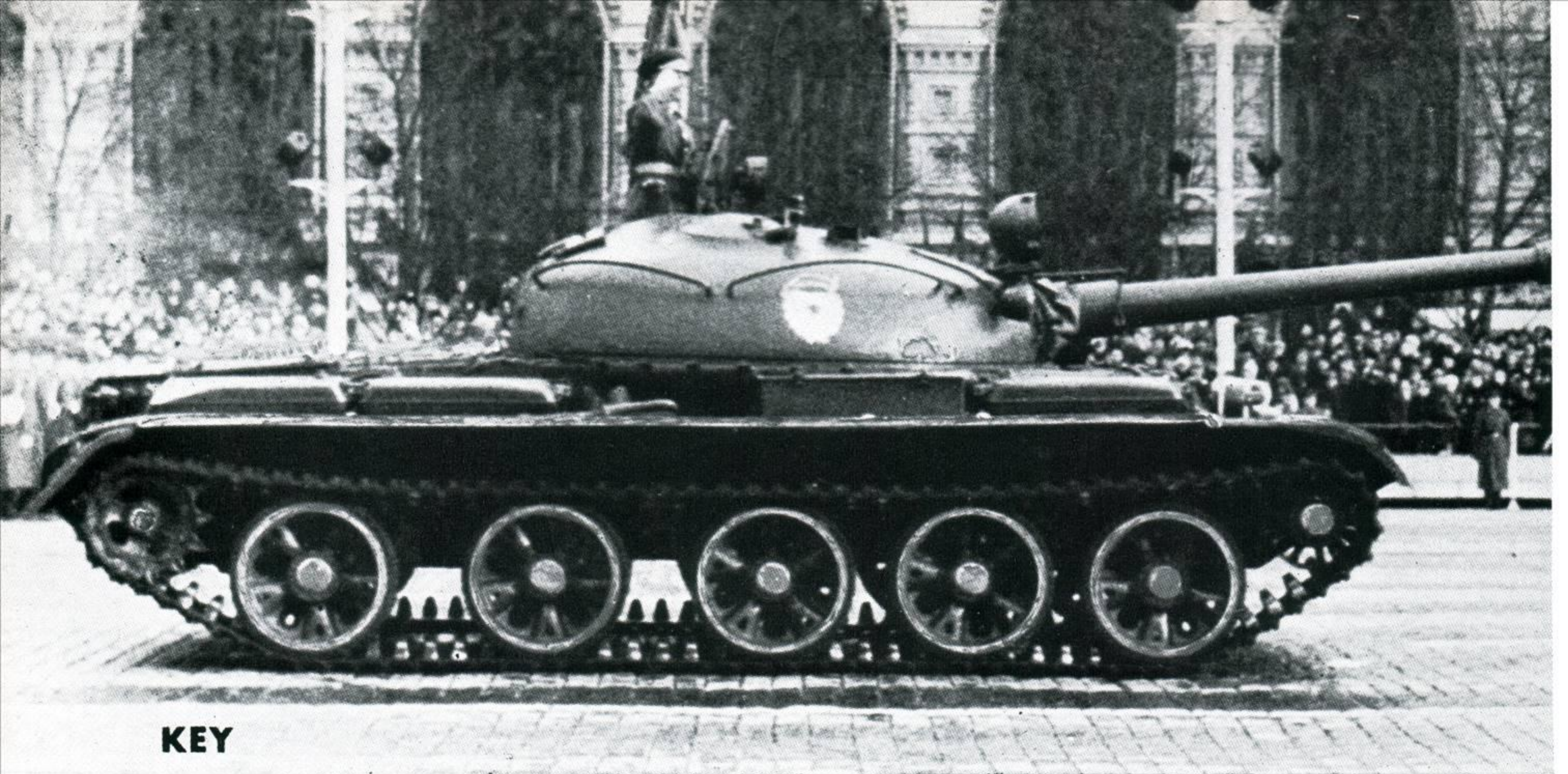




*Lesson instructions and solutions are on the back cover*



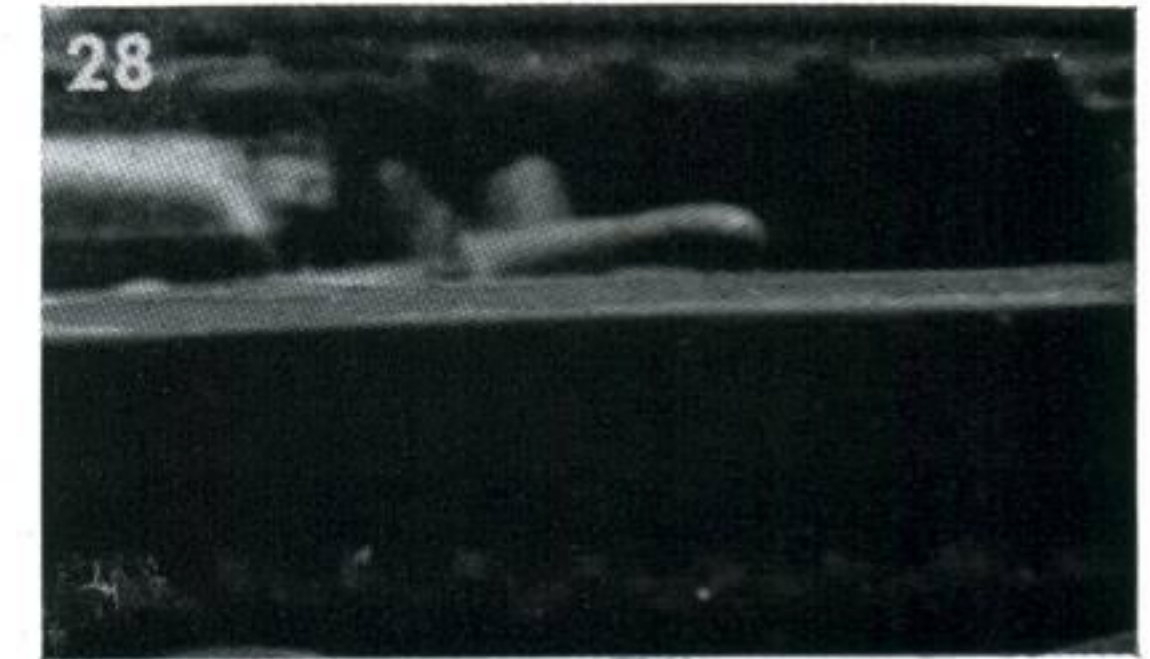
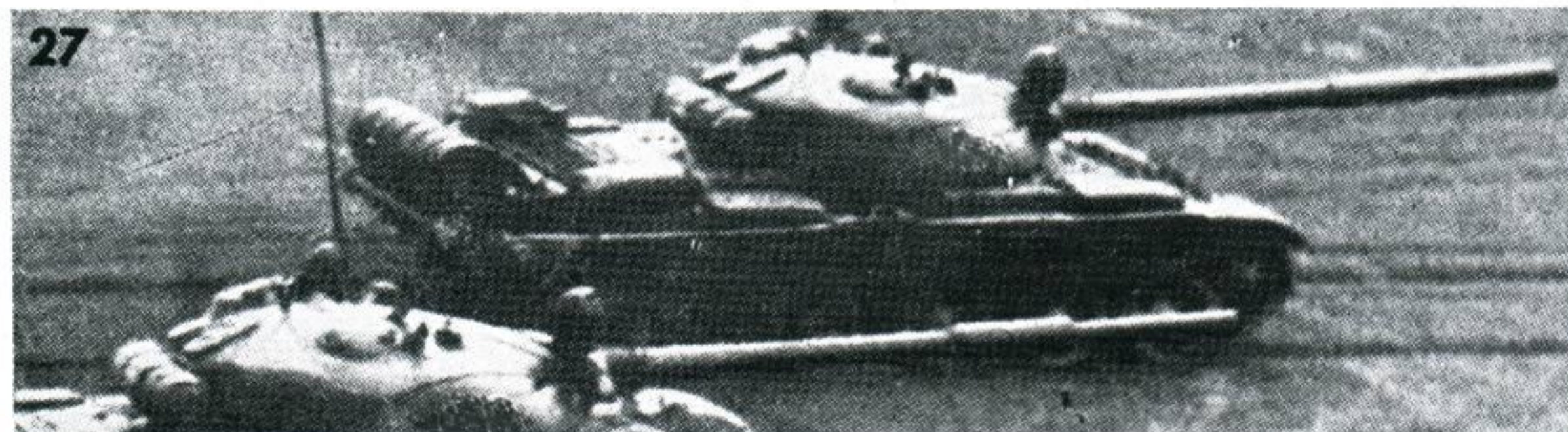
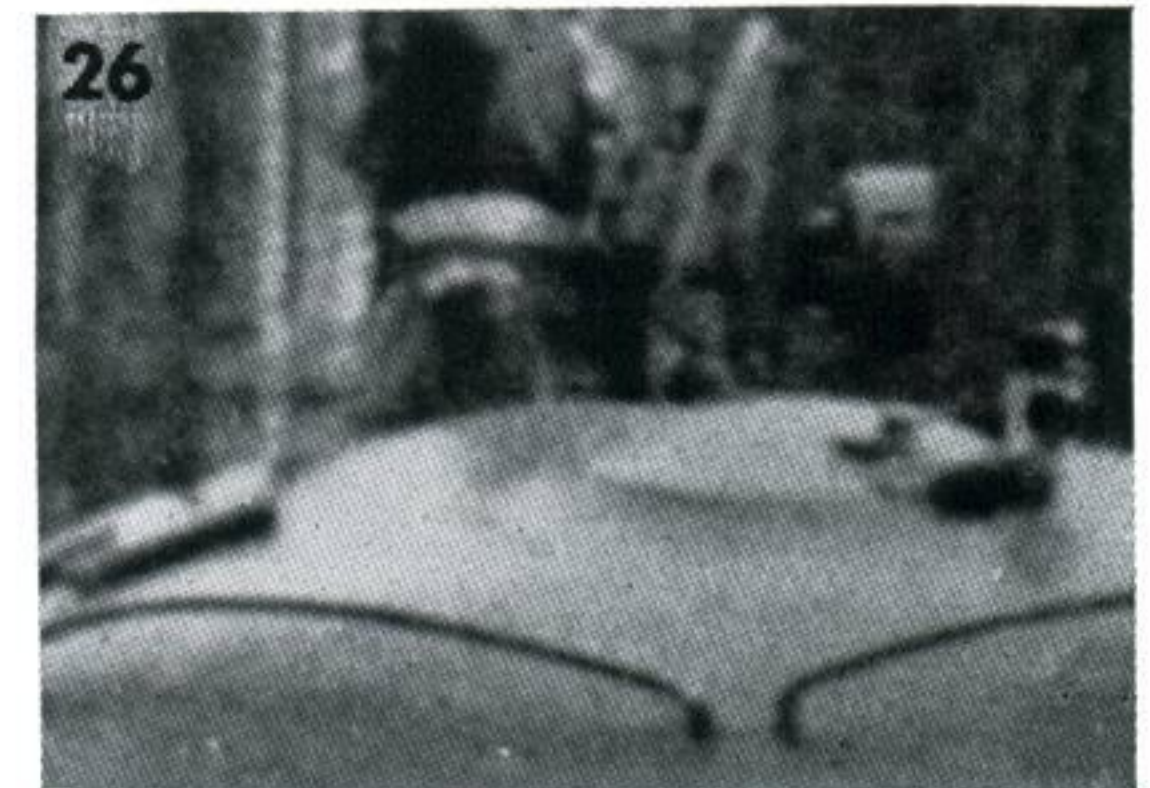
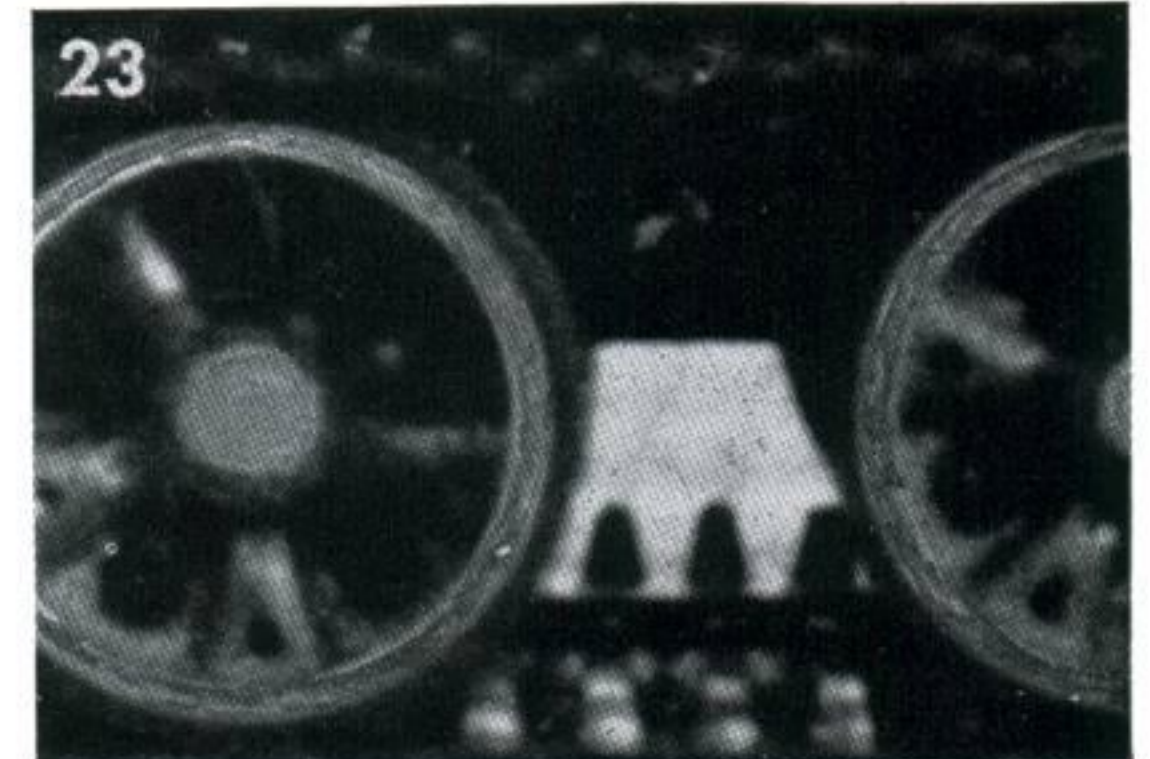
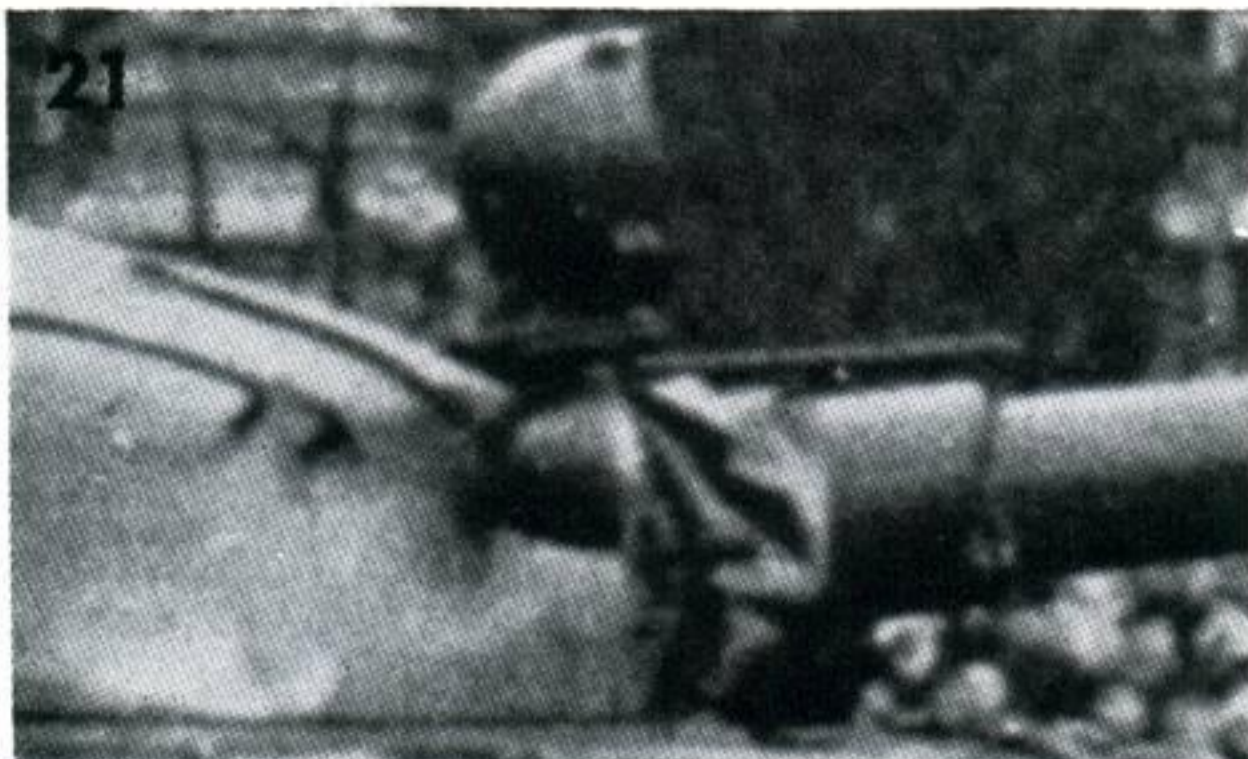
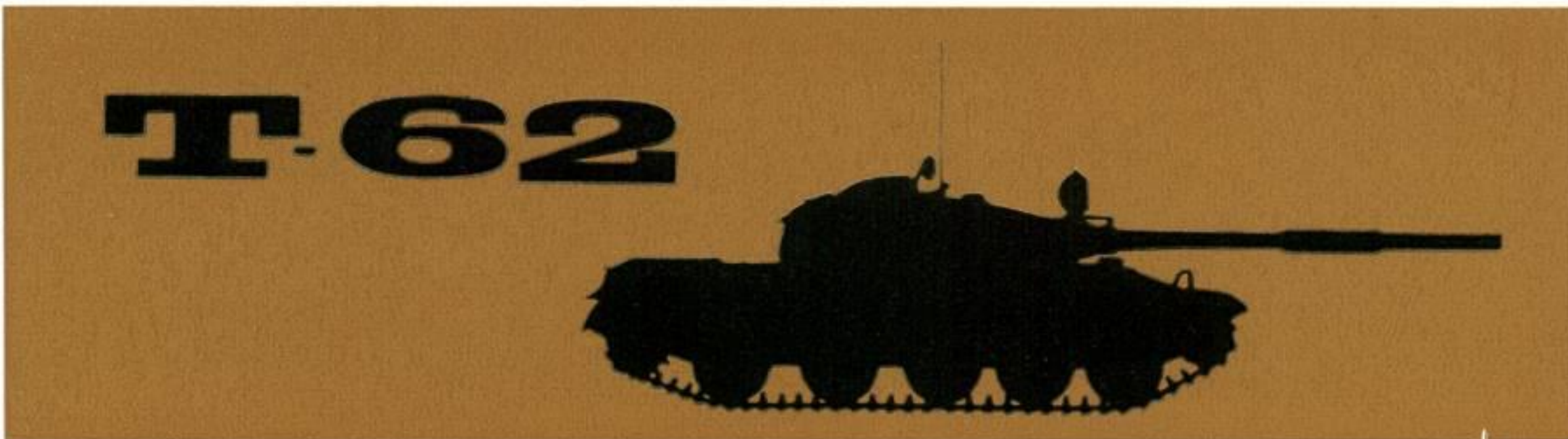
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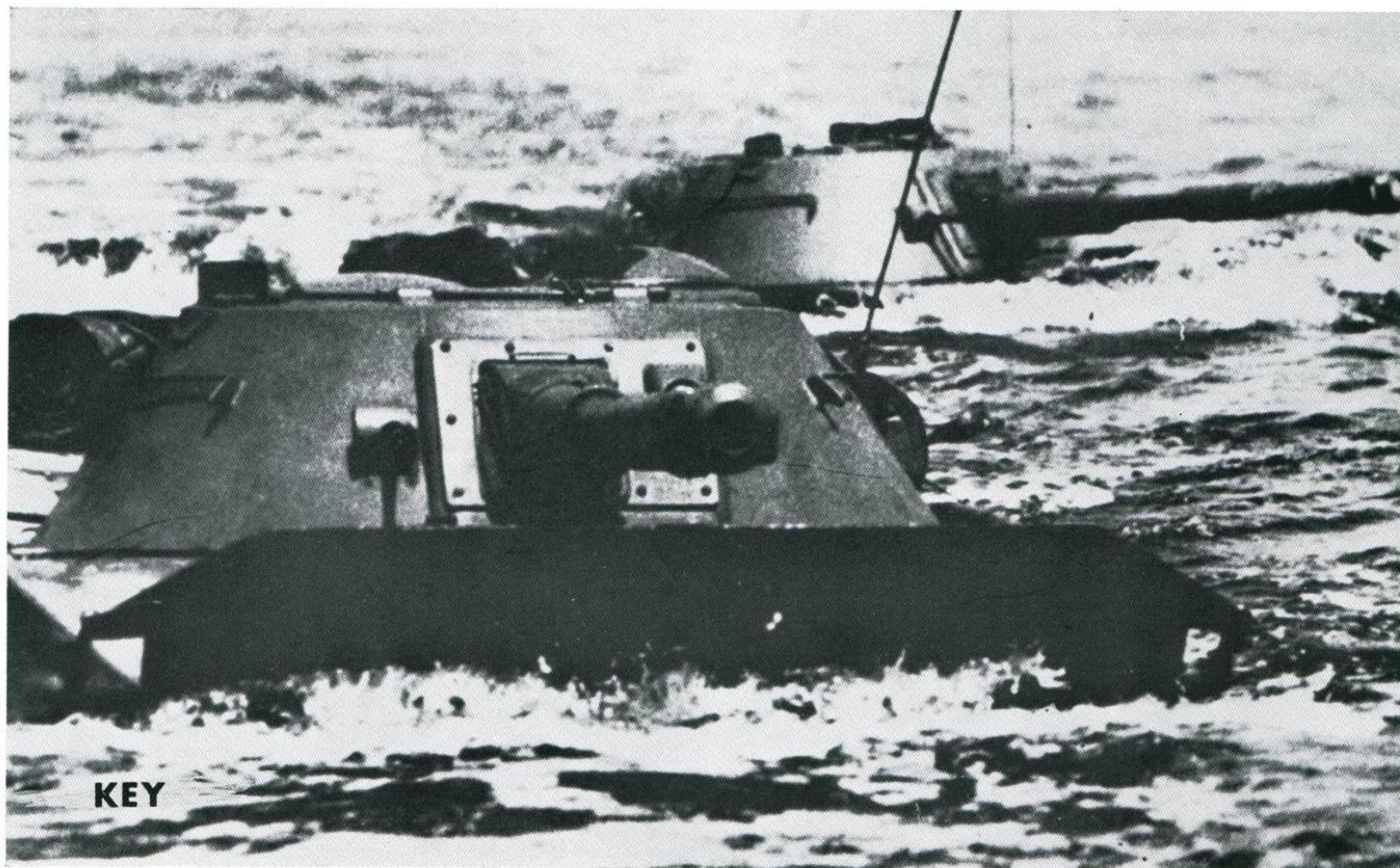
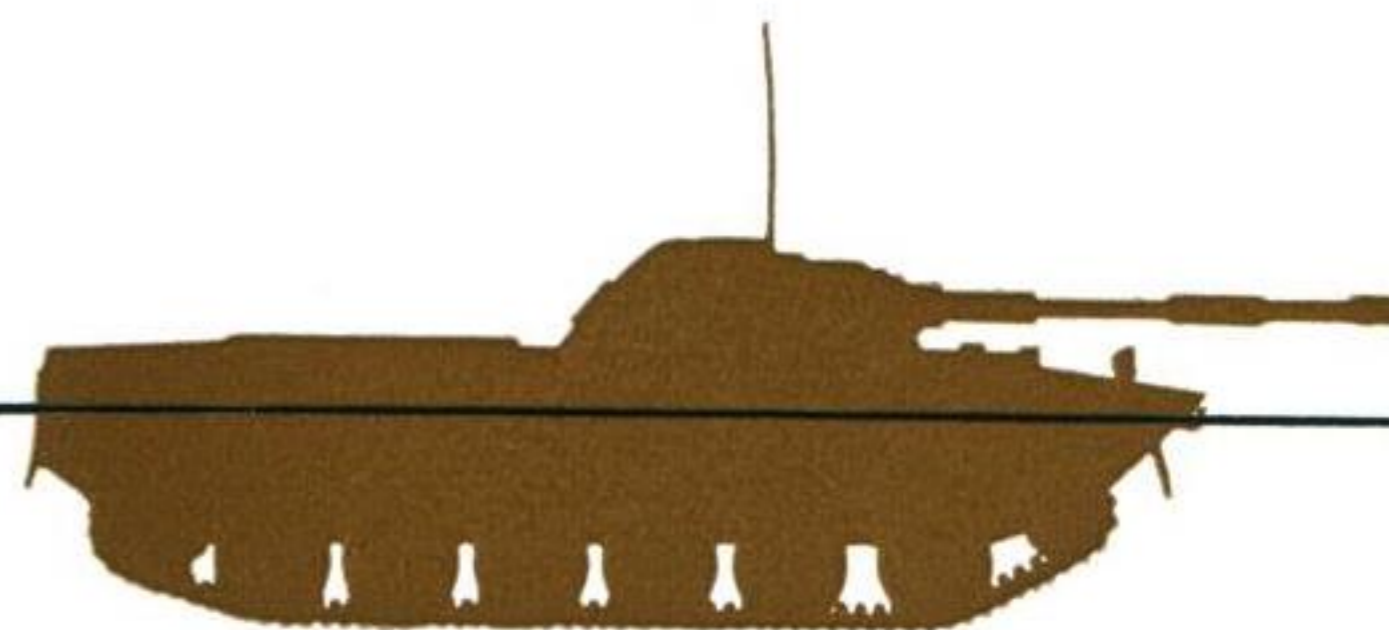
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# **RUSSIAN PT-76**

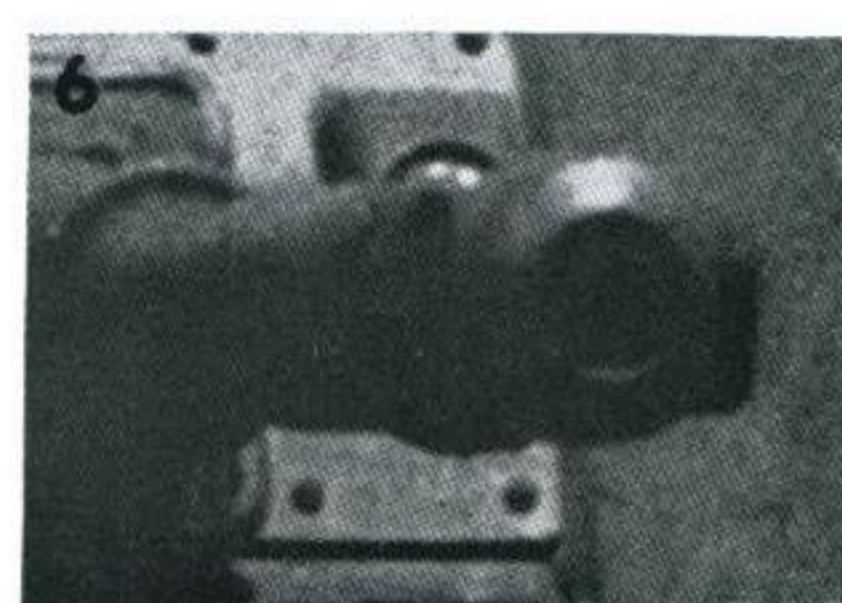
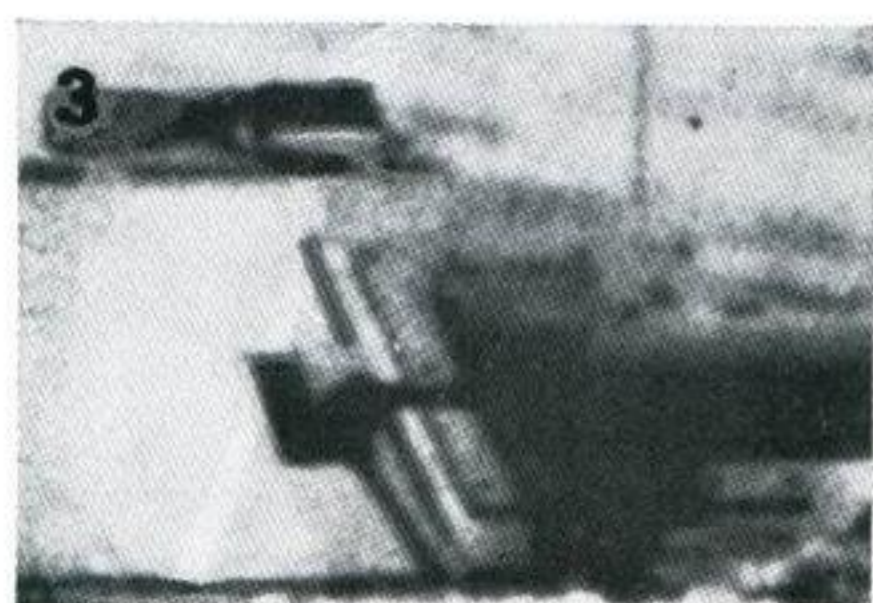
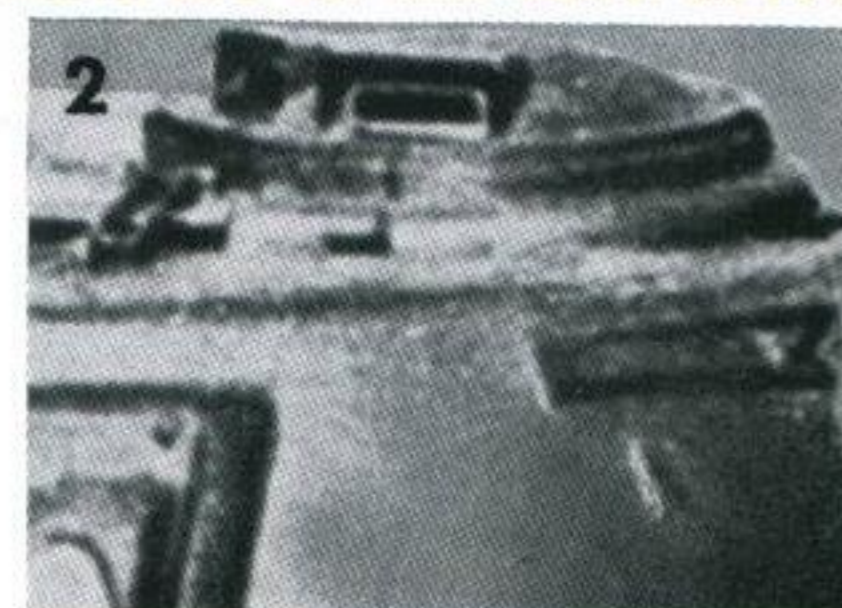
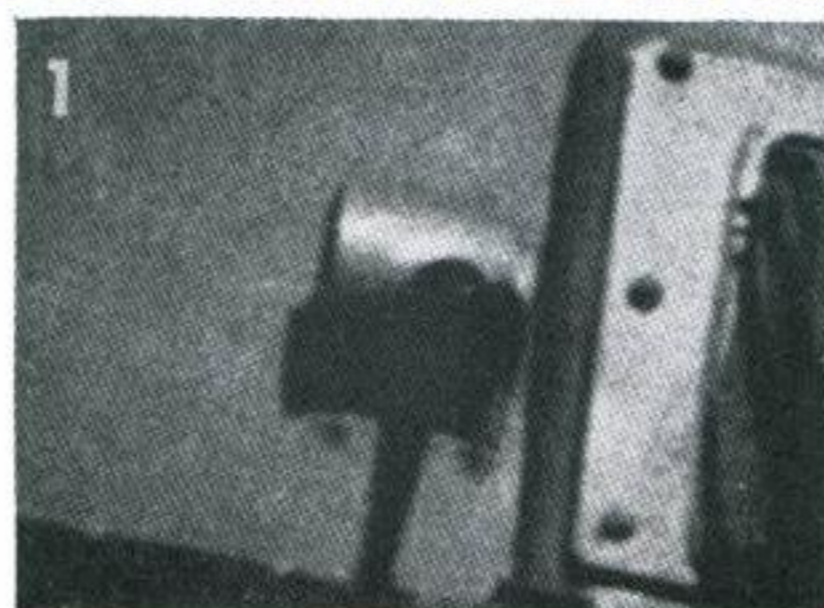
## ***Amphibious Reconnaissance Tank***



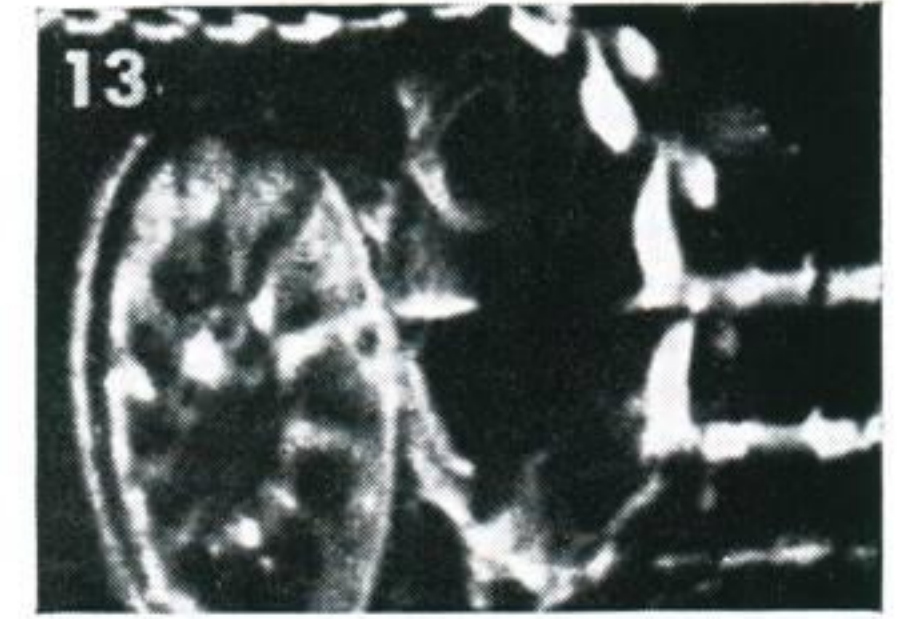
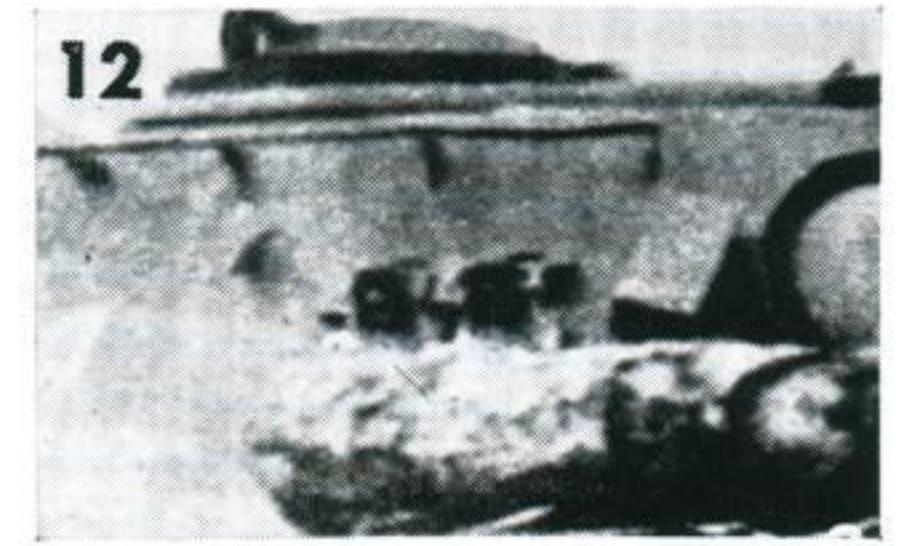
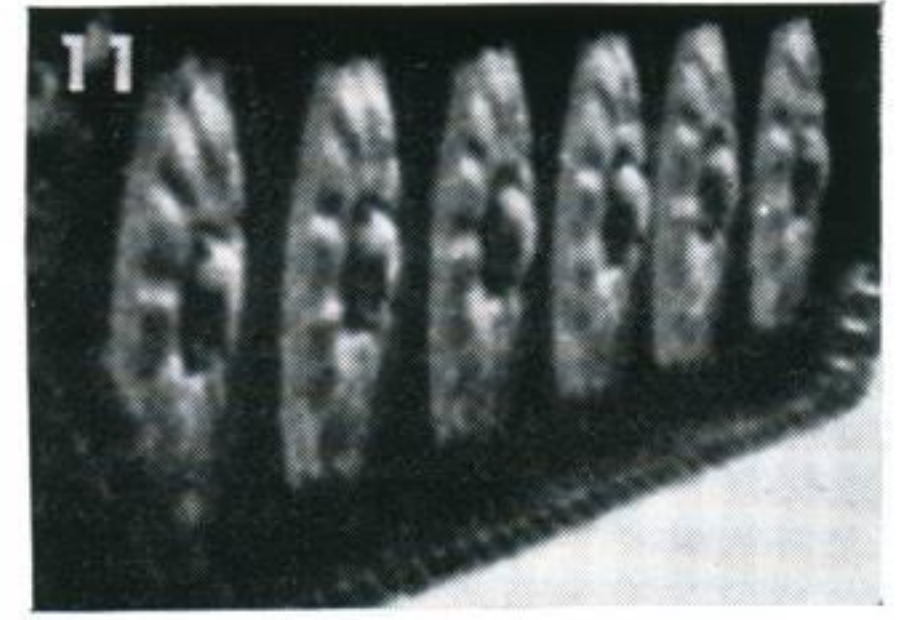
*Lesson instructions and solutions are on the back cover*

The PT-76 amphibious light tank has been the mainstay of the Soviet reconnaissance units since the mid-fifties. It has also been widely used by the Satellite forces and others, from Finland in the north to Egypt in the south and from East Germany and Poland in the west to the North Vietnamese forces in the east.

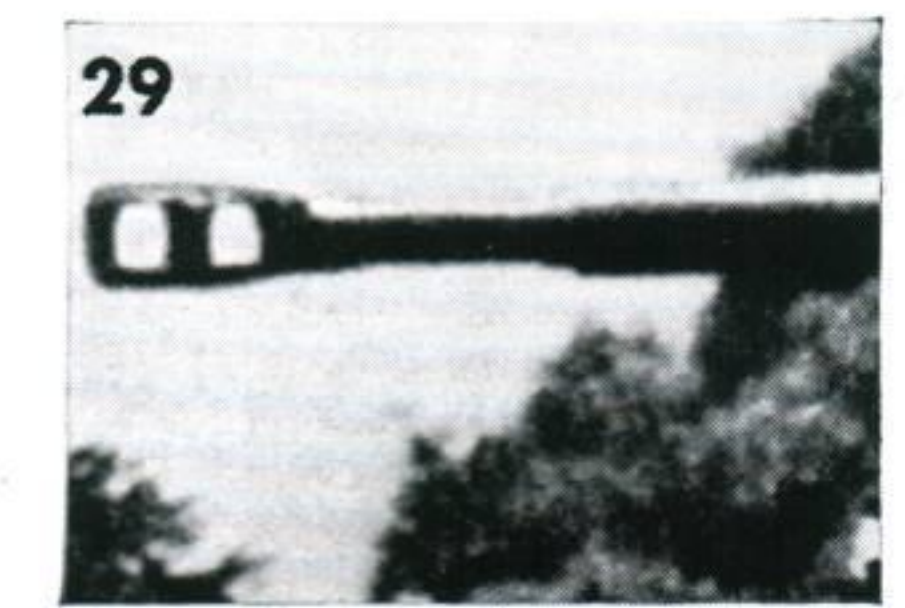
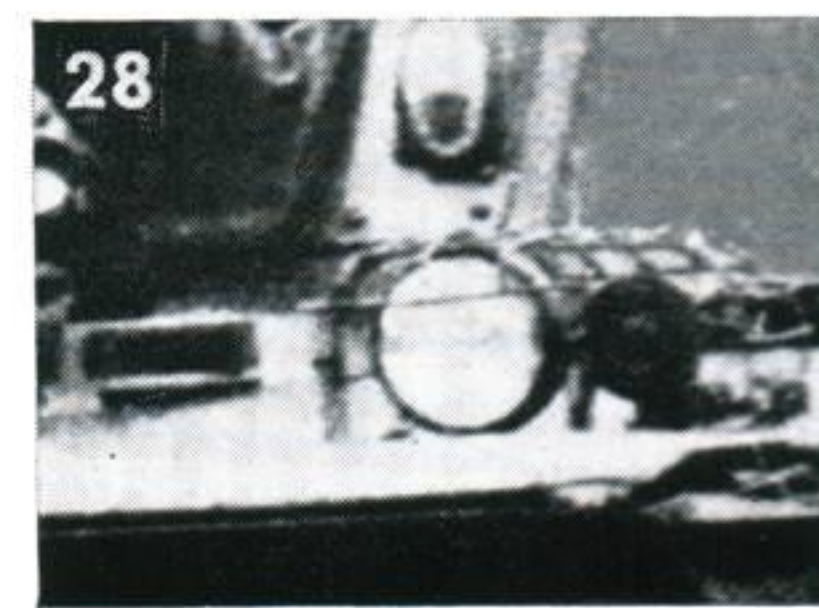
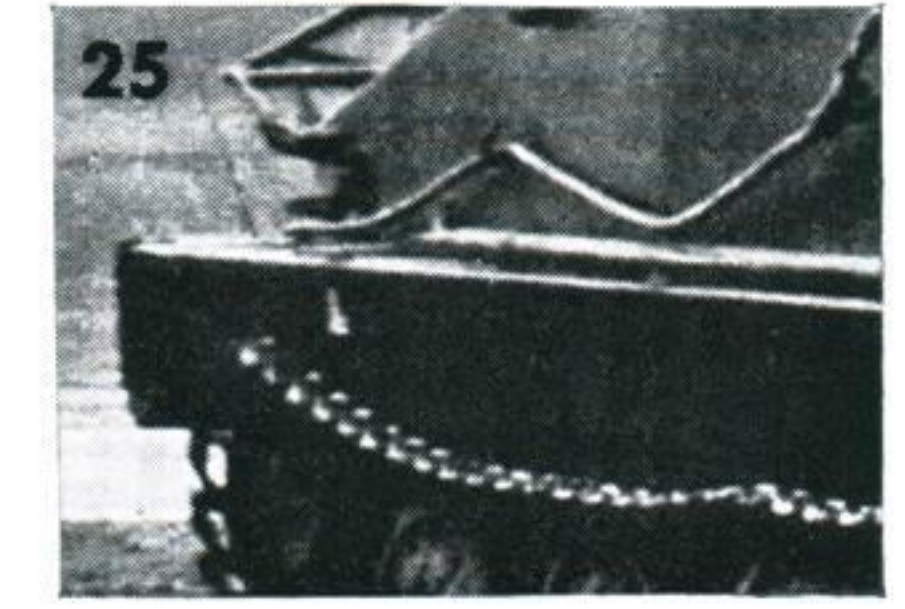
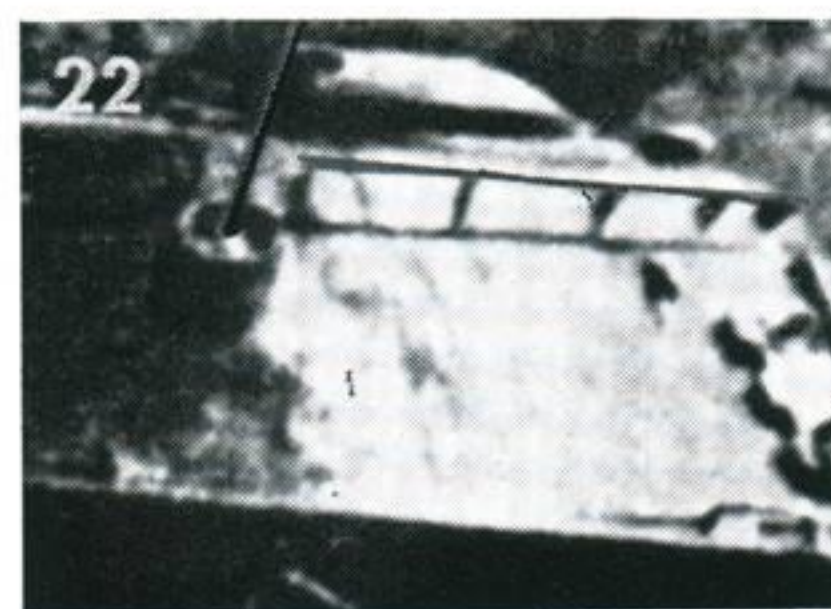
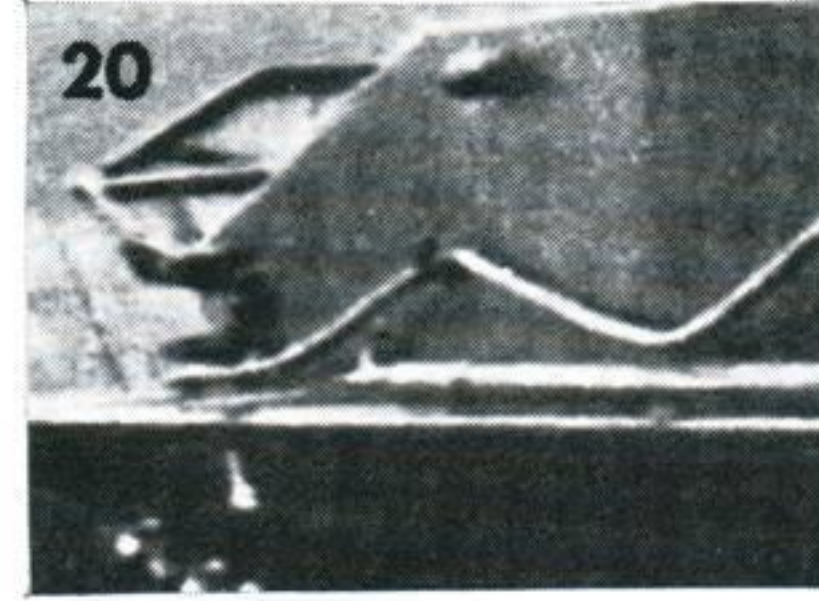
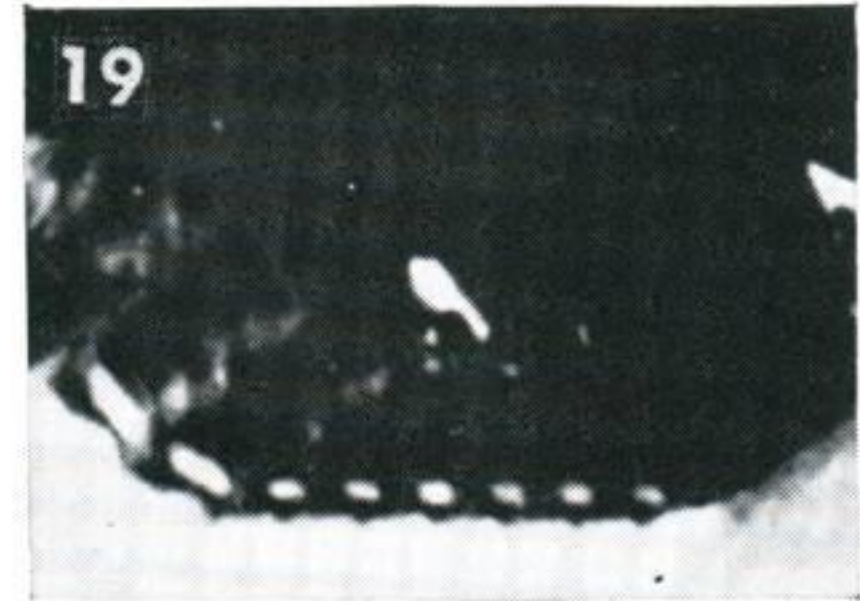
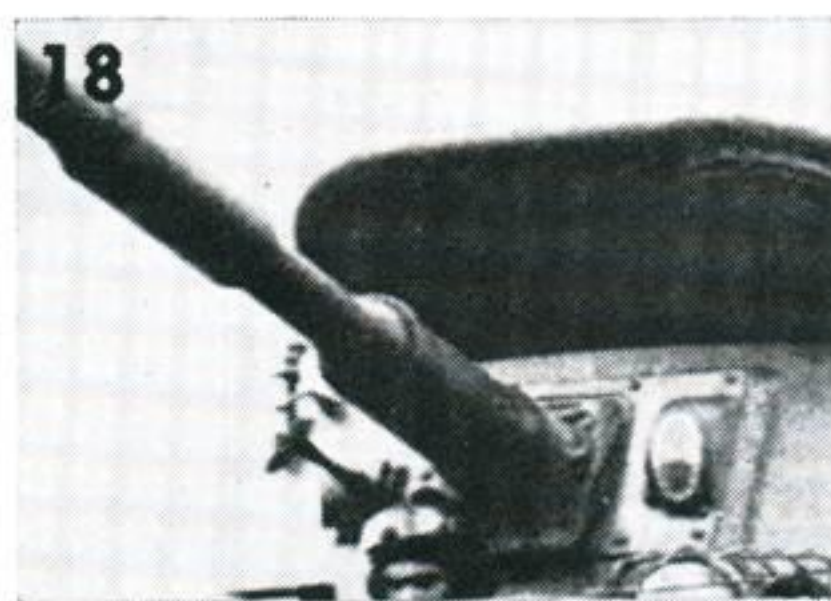
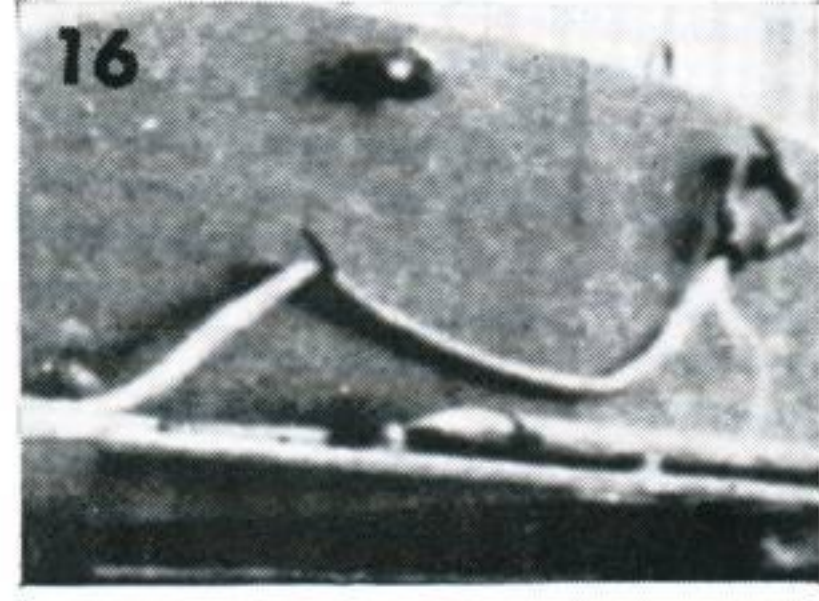
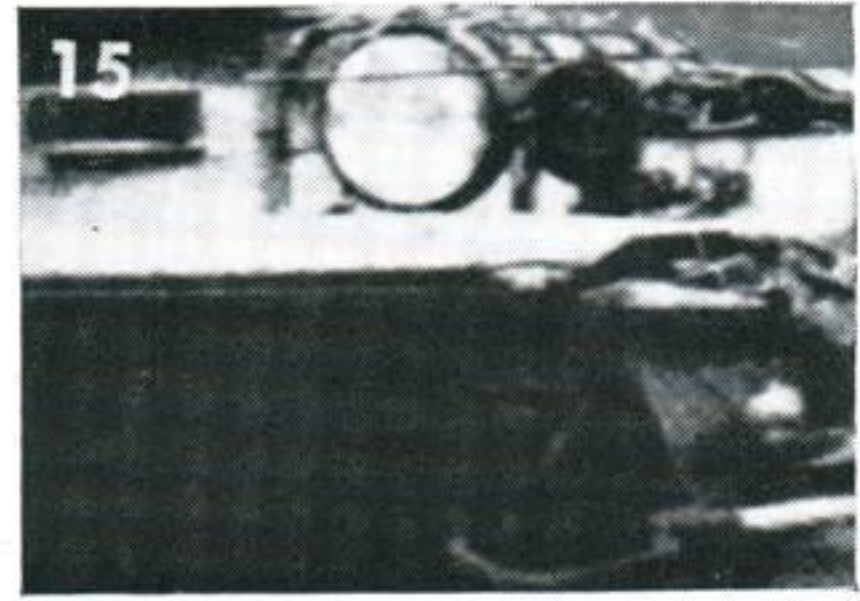
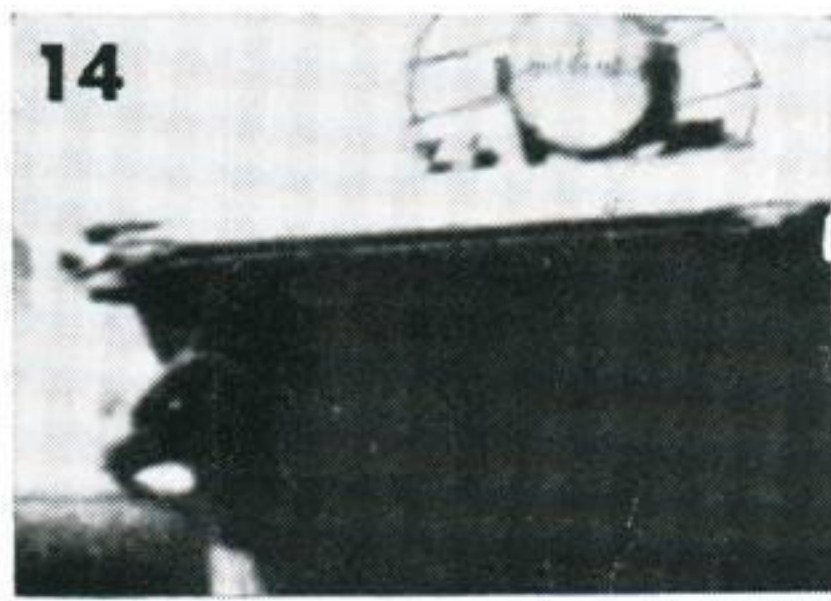
Although the PT-76 only weighs about 15 tons fully laden it is relatively large, due to the need to have

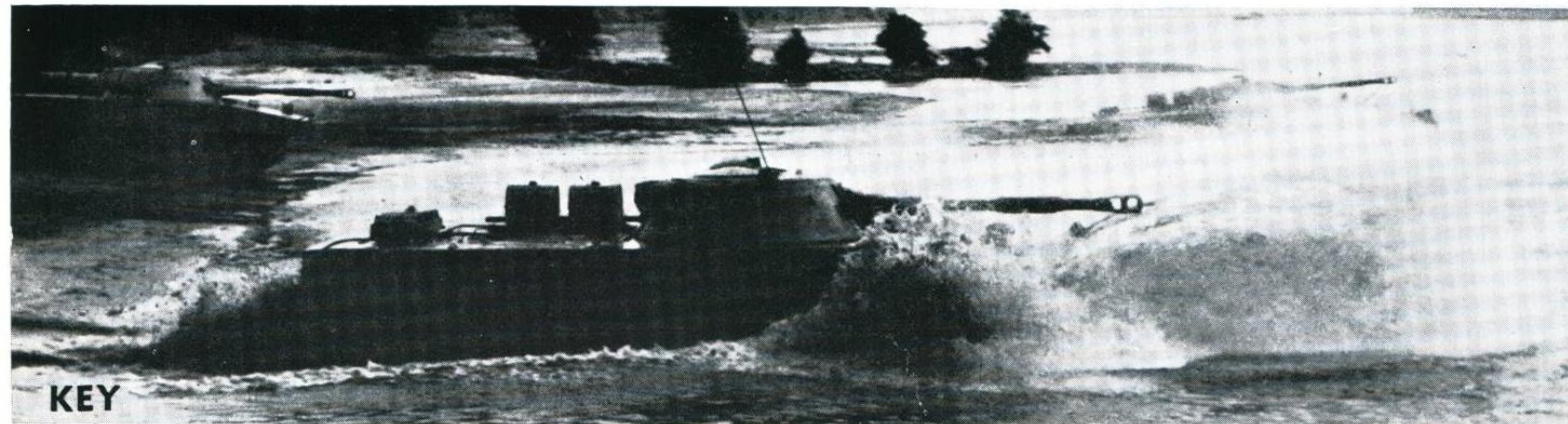


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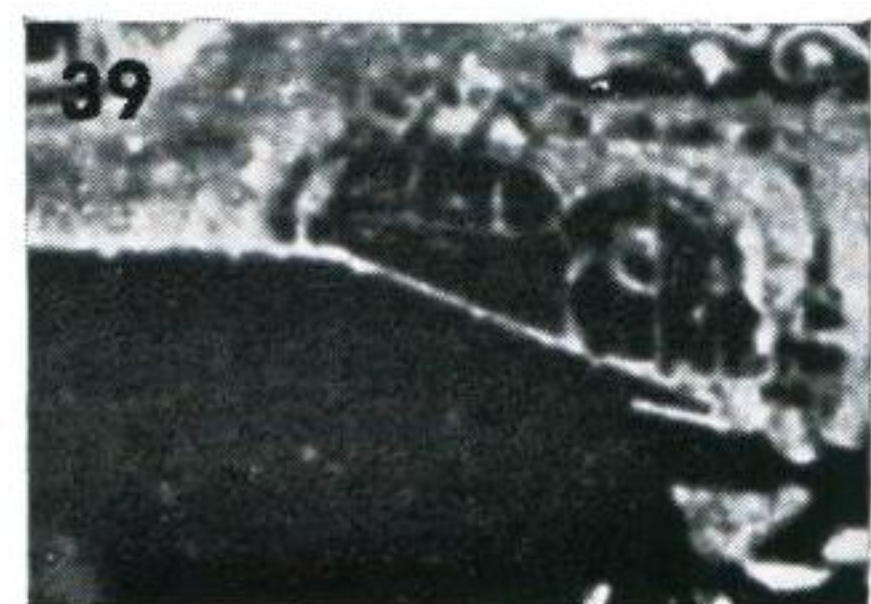
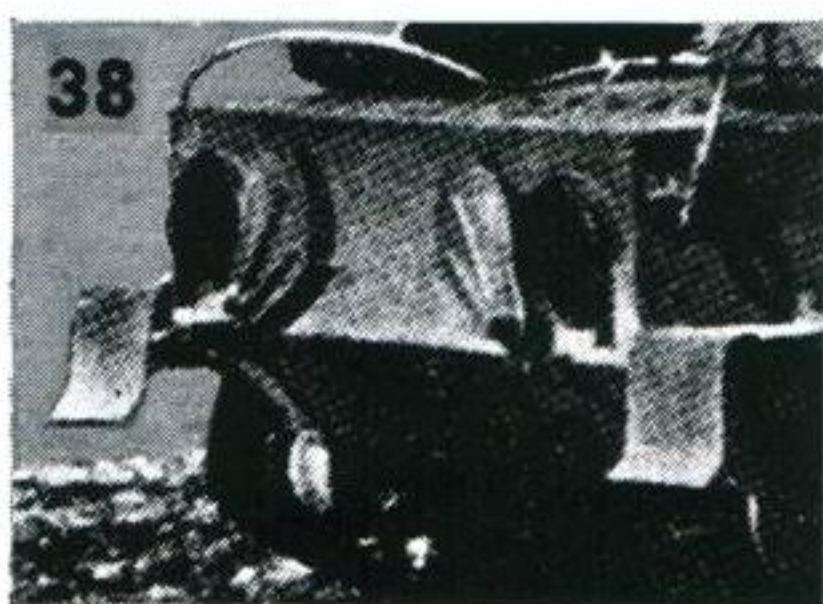
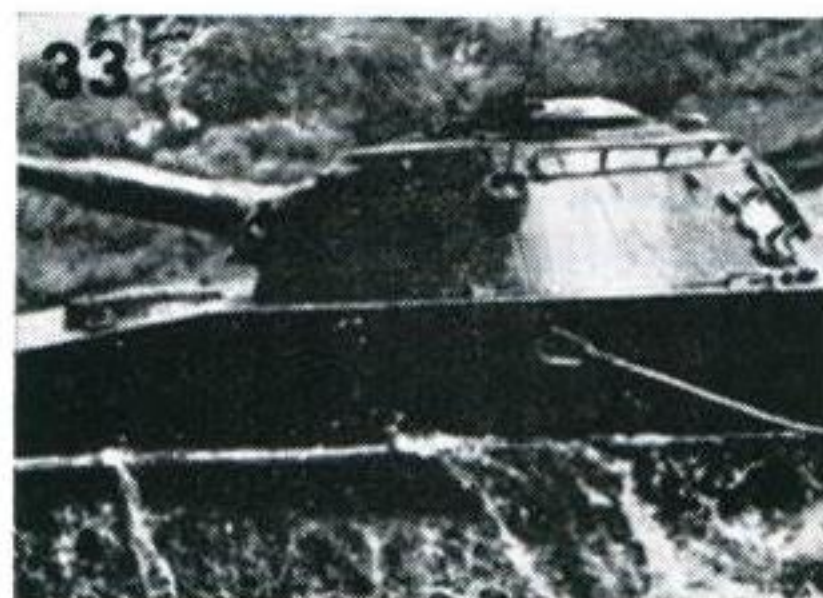
**PT-76** *Amphibious Reconnaissance Tank continued*

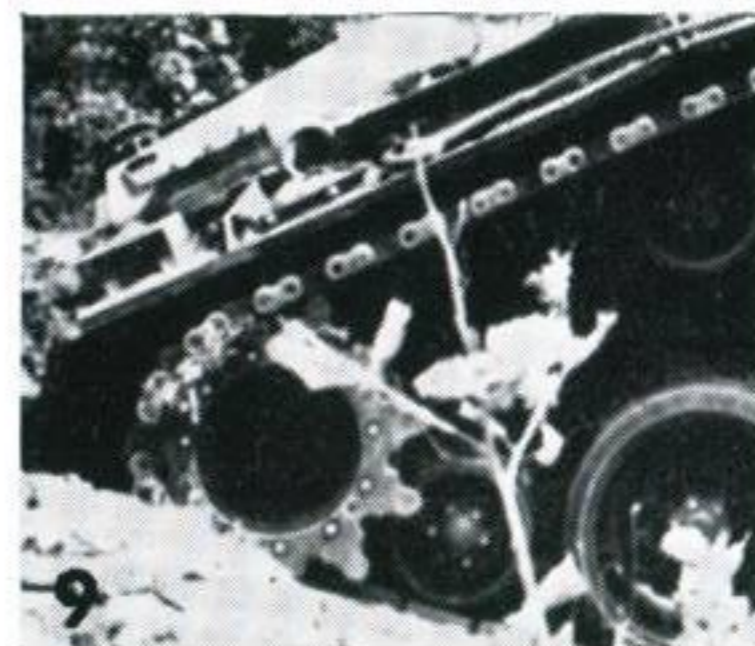
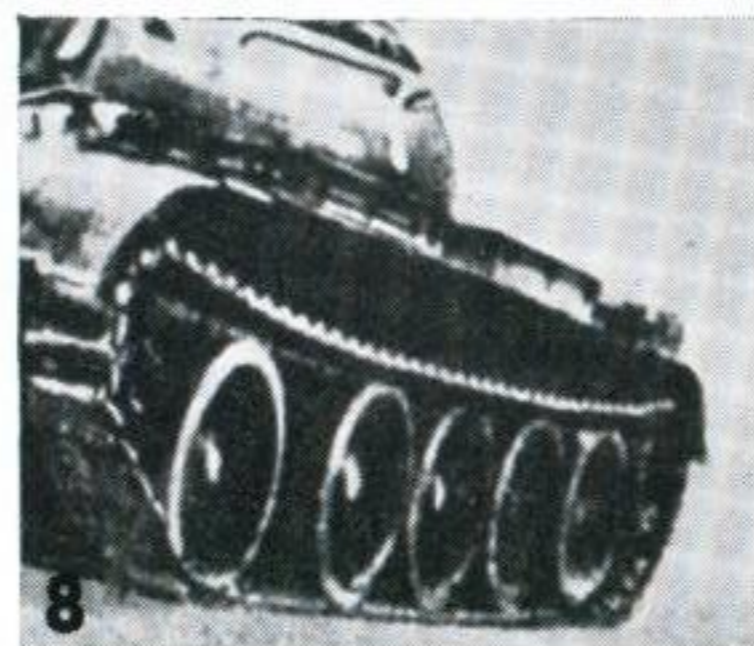
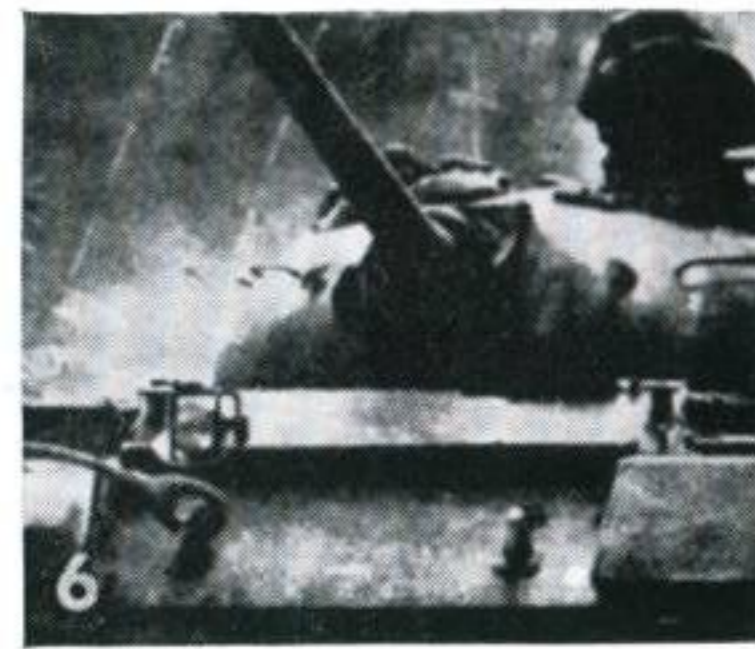
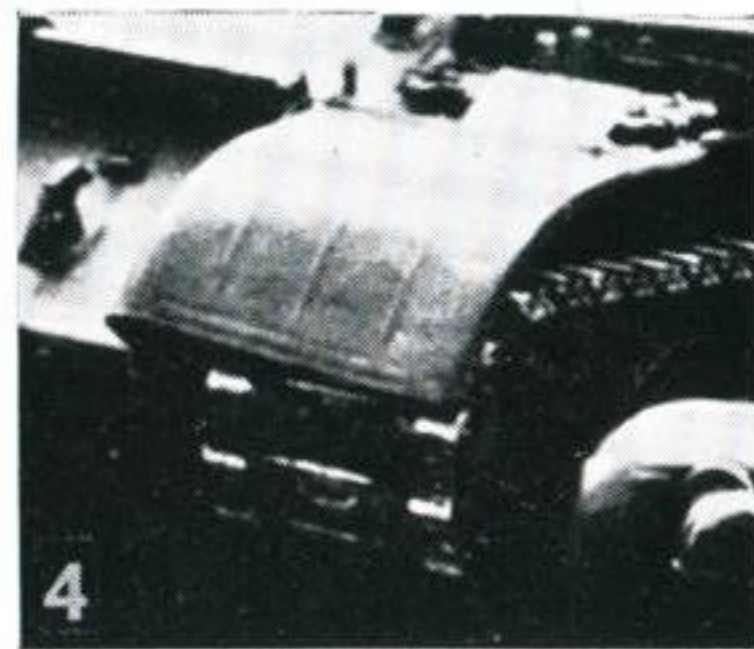
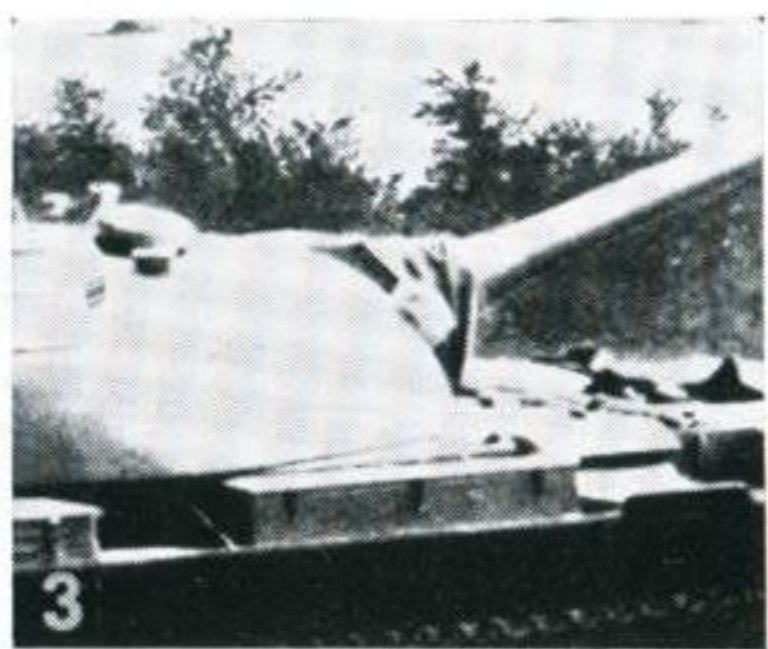
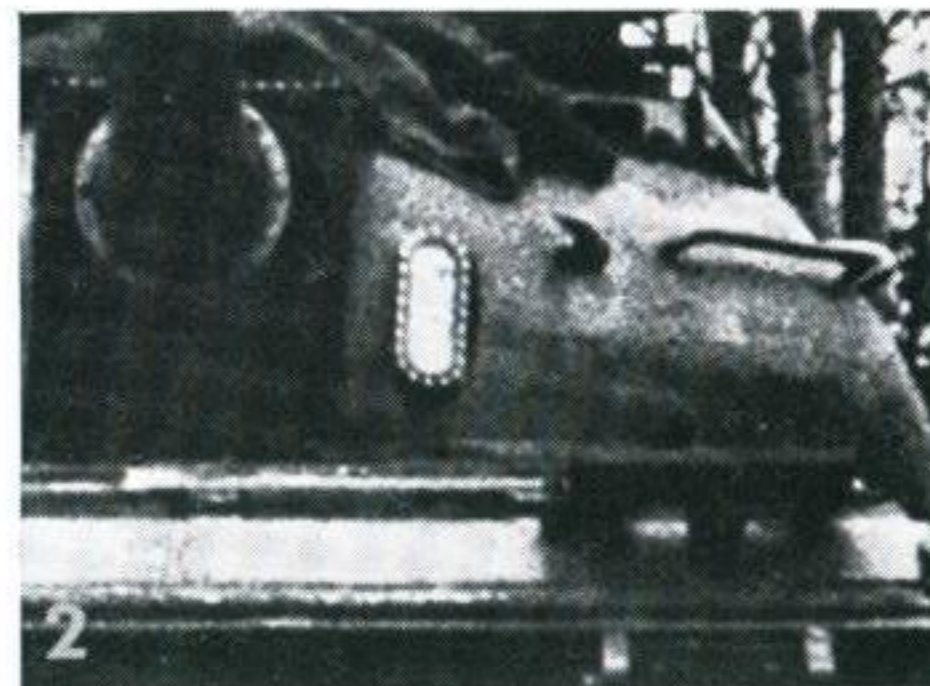
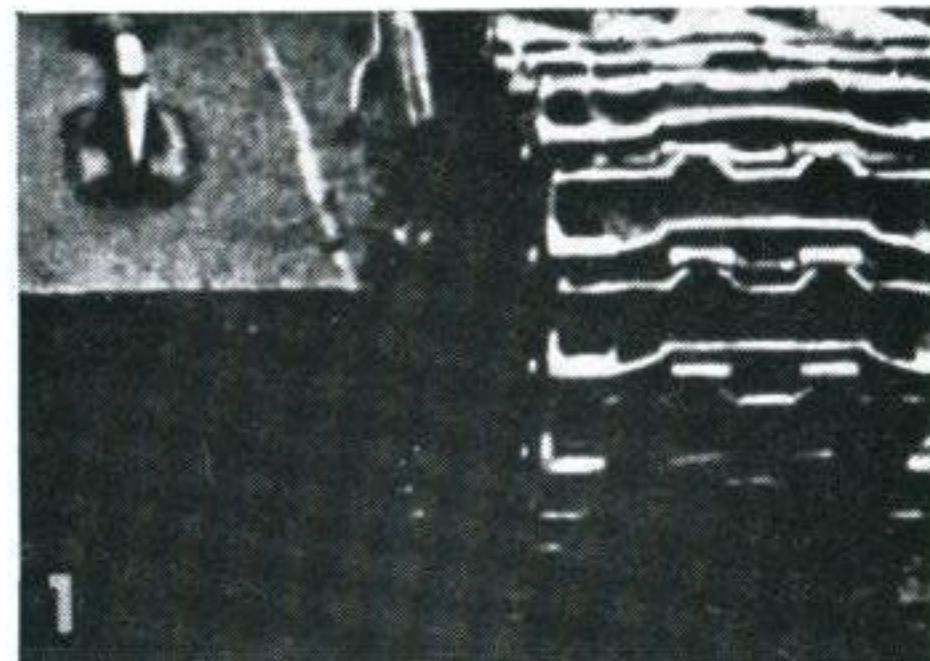




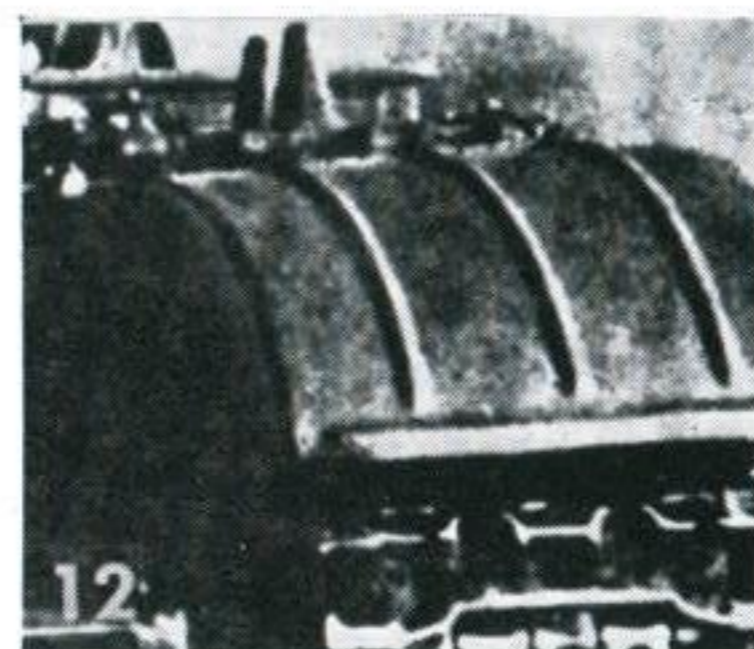
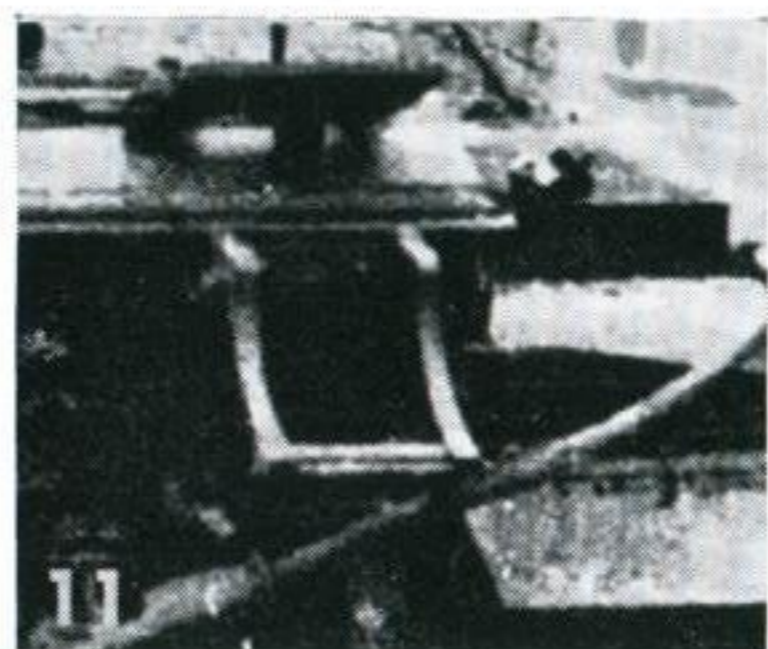
sufficient buoyancy to float to cross water obstacles without preparation. Amphibious requirements have also dictated the shape of its characteristic, boat-like hull and the installation of a water-jet propulsion unit whose twin outlets can be seen in the rear hull plate. Another characteristic of the PT-76 is its plain, conical turret which mounts a 76-mm. gun and is occupied by two of its three-man crew.

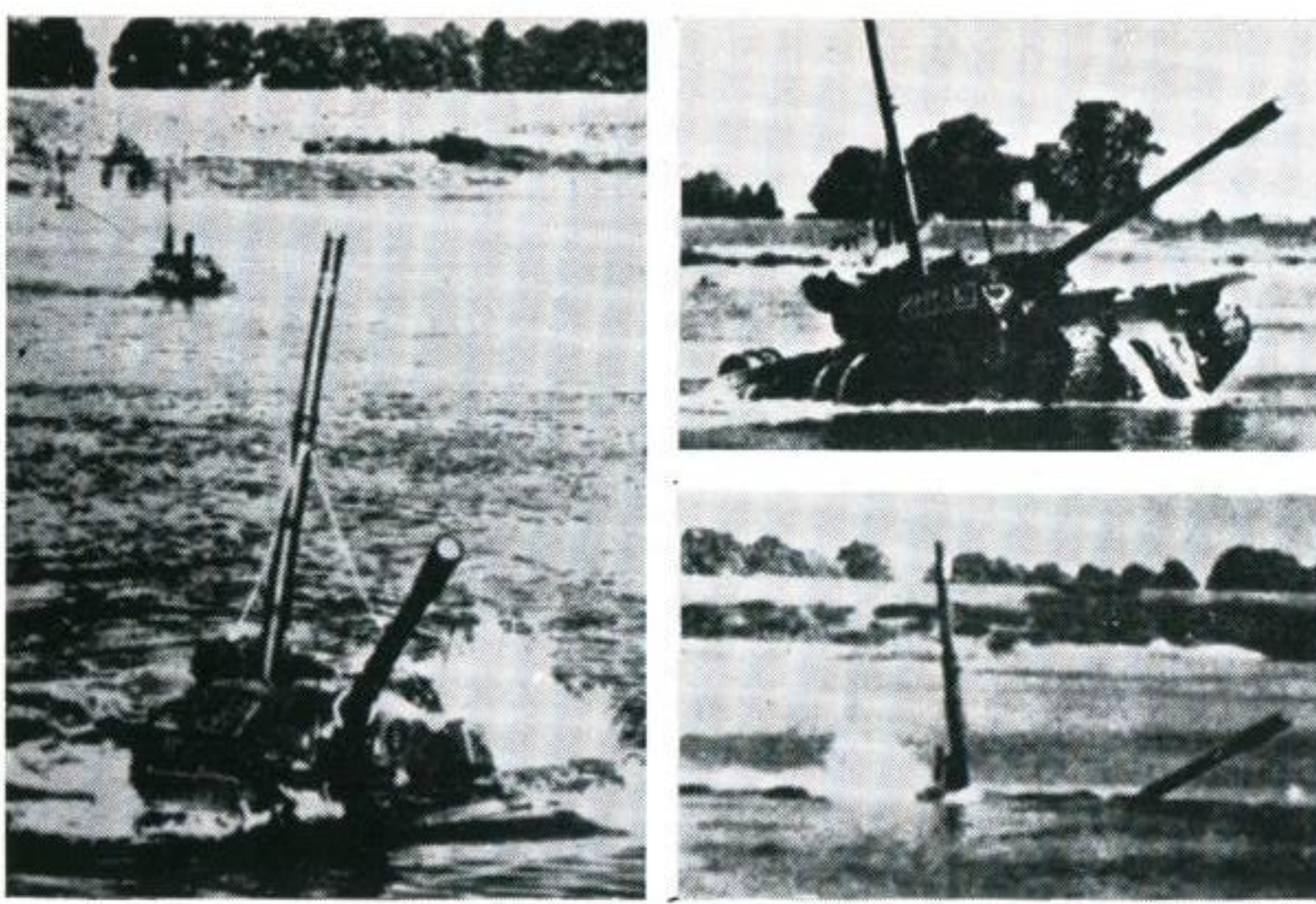
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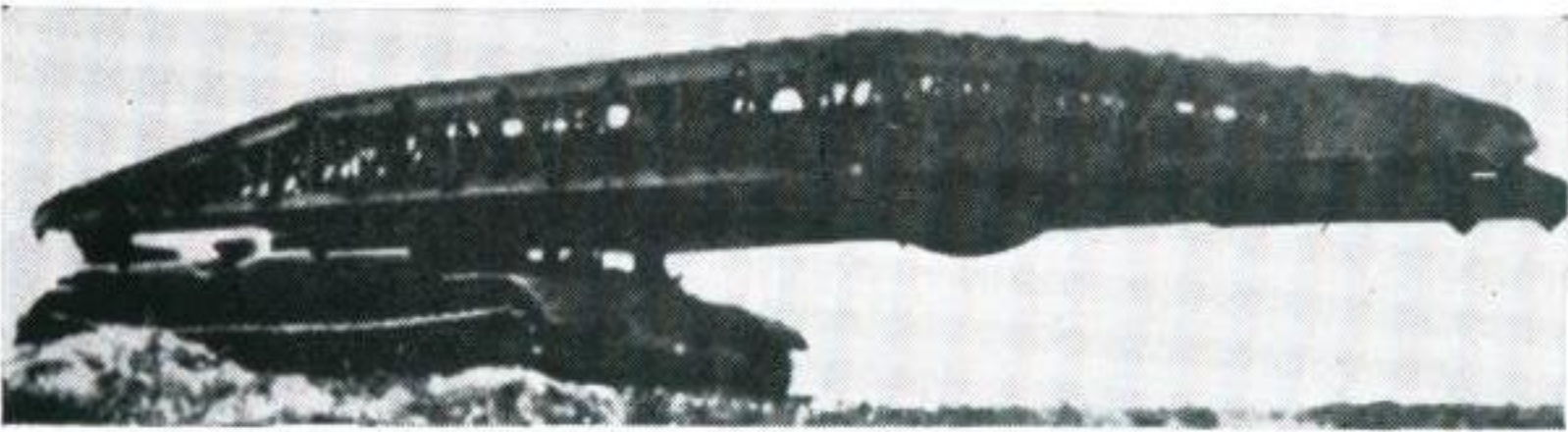
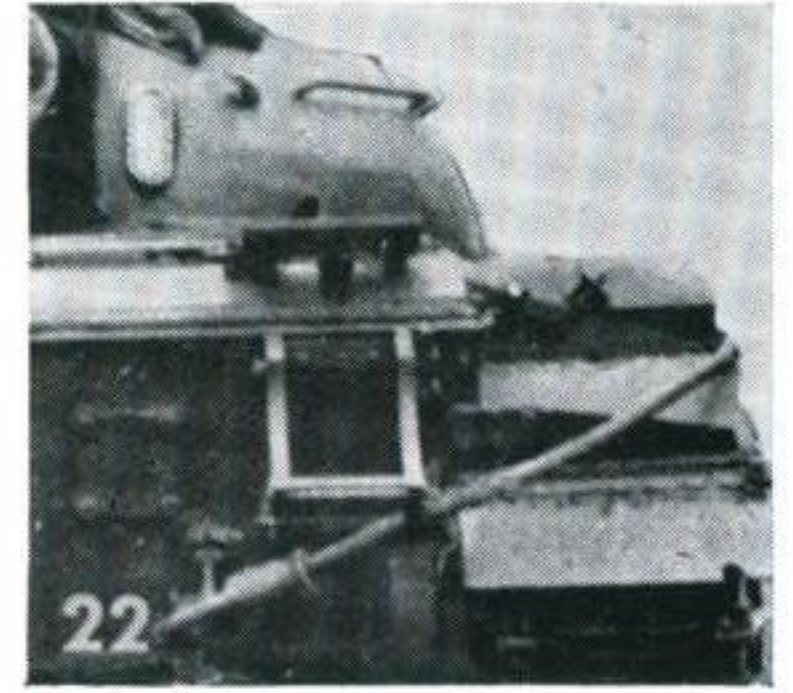
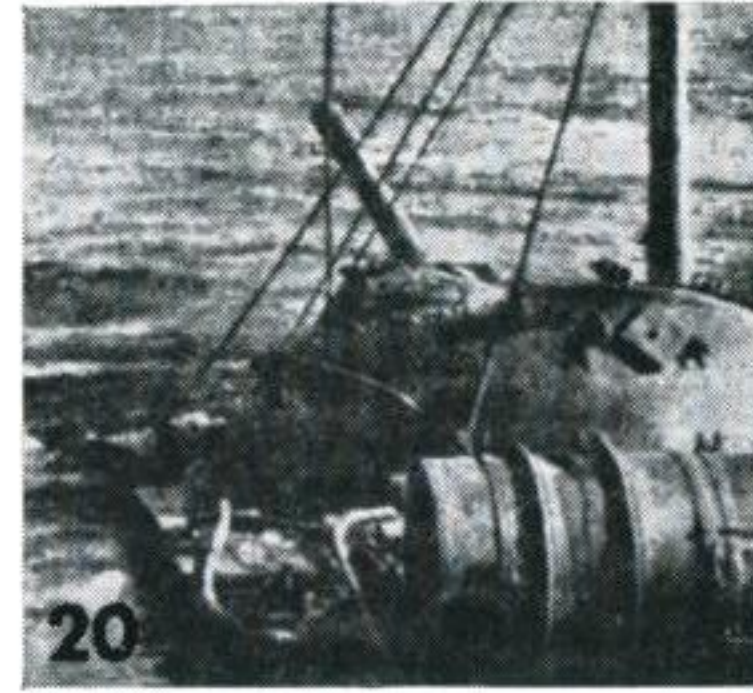
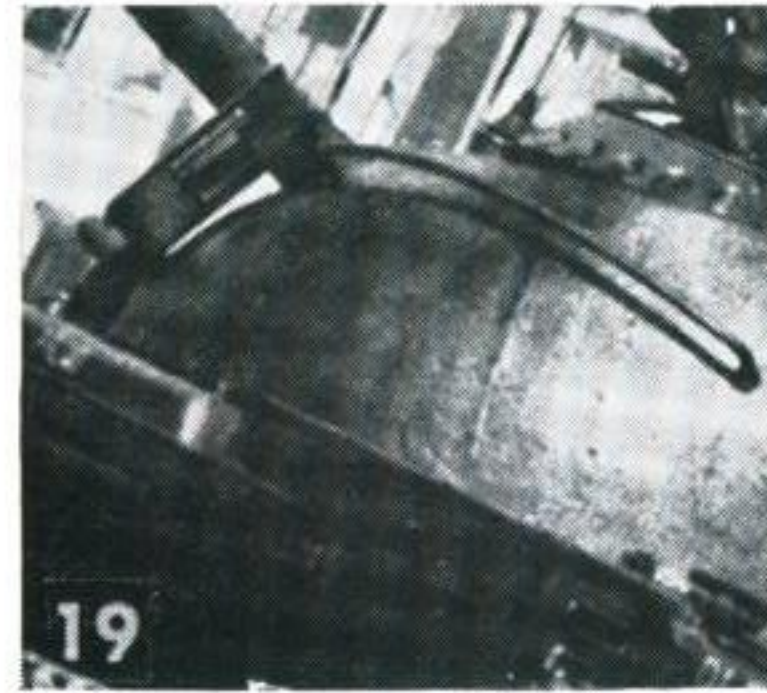
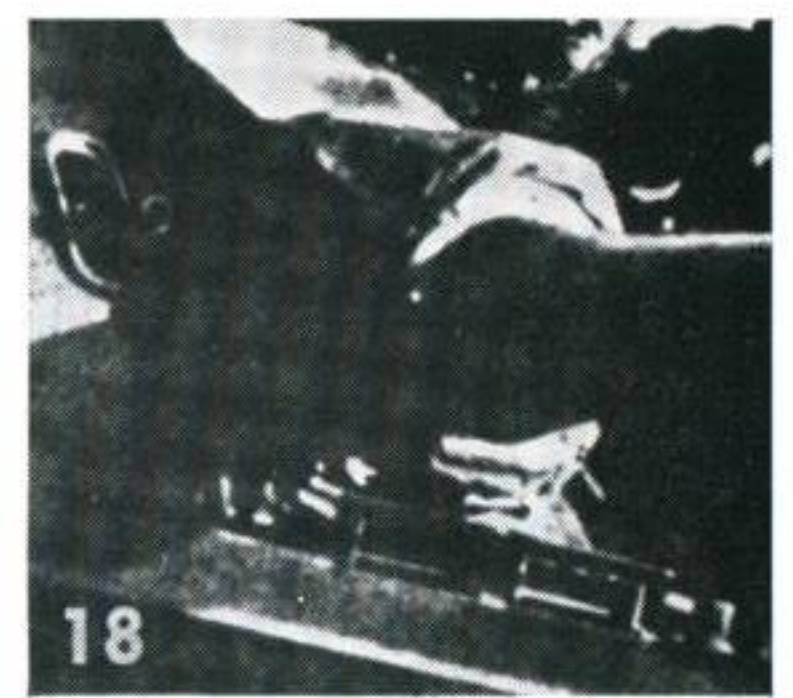
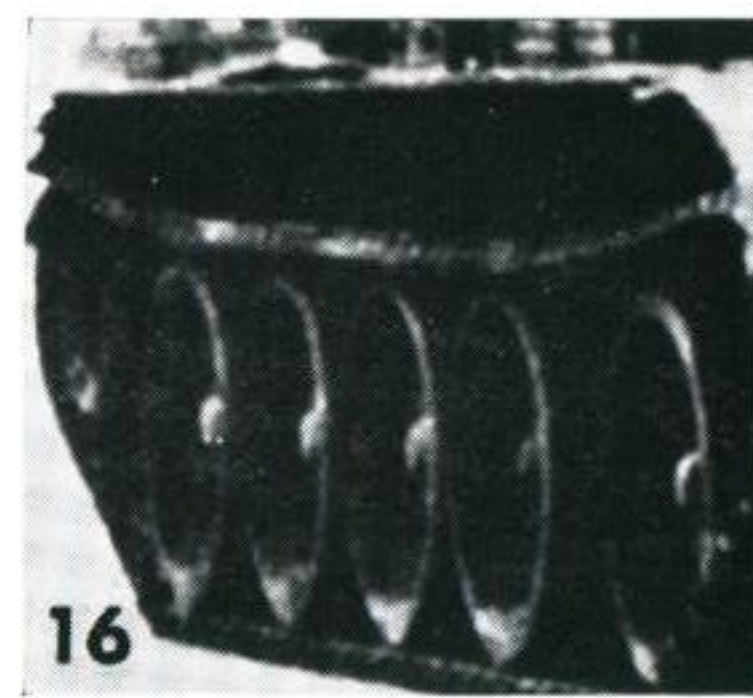
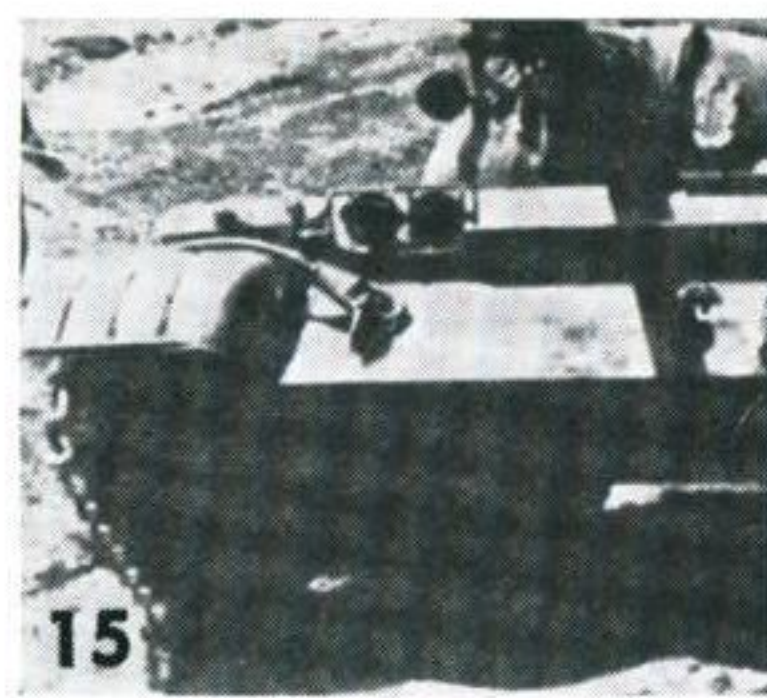


T54 Mine Exploder

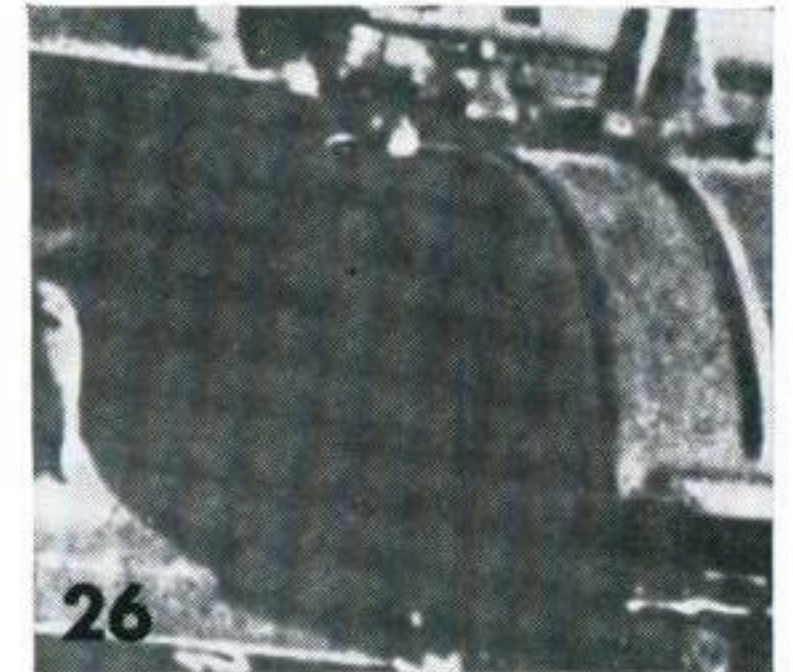
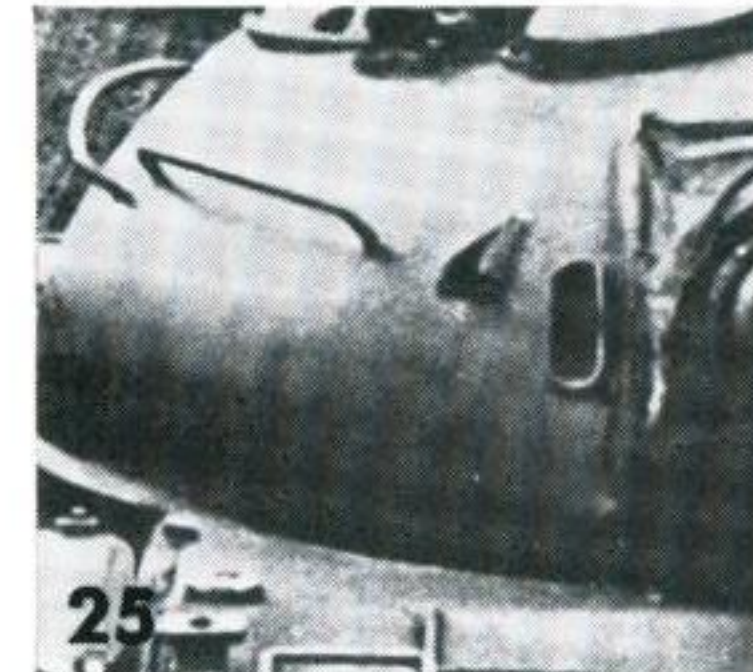
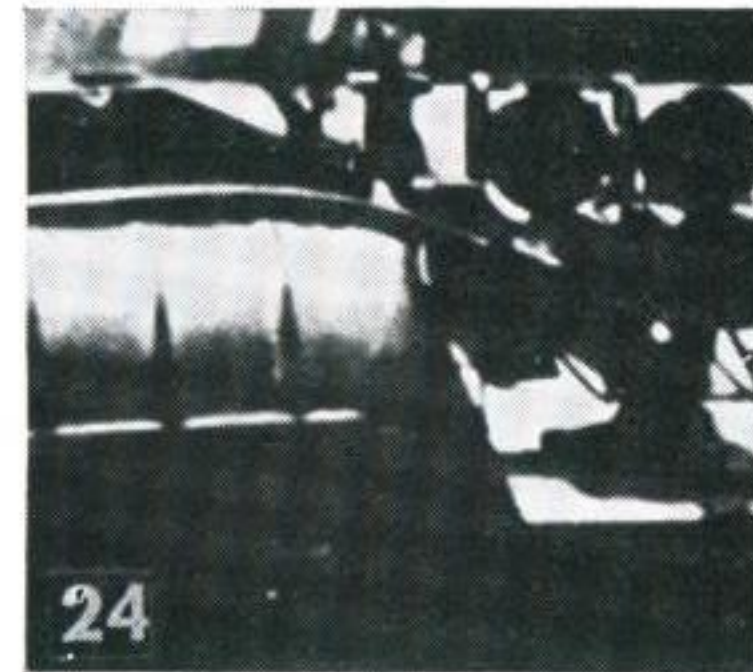
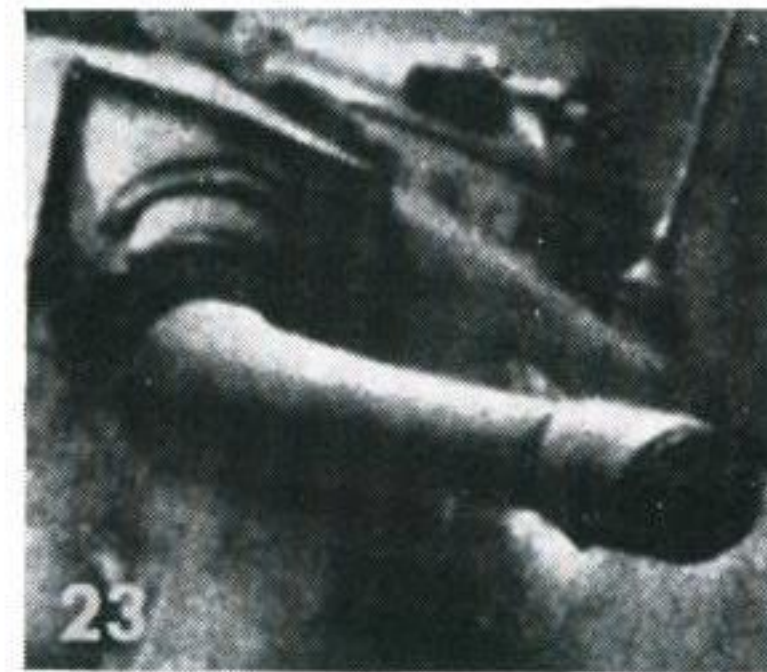




**T54 with air tubes for submerged forging**  
 mantlet and of a prominent commander's cupola —which, in contrast to Western tanks, is *on the left of the turret*. There are no track return rollers and the road wheels are unevenly spaced. Variants of the T-54 are equipped with mine-exploding rollers or a bulldozer blade.



**T54 Bridge Layer**



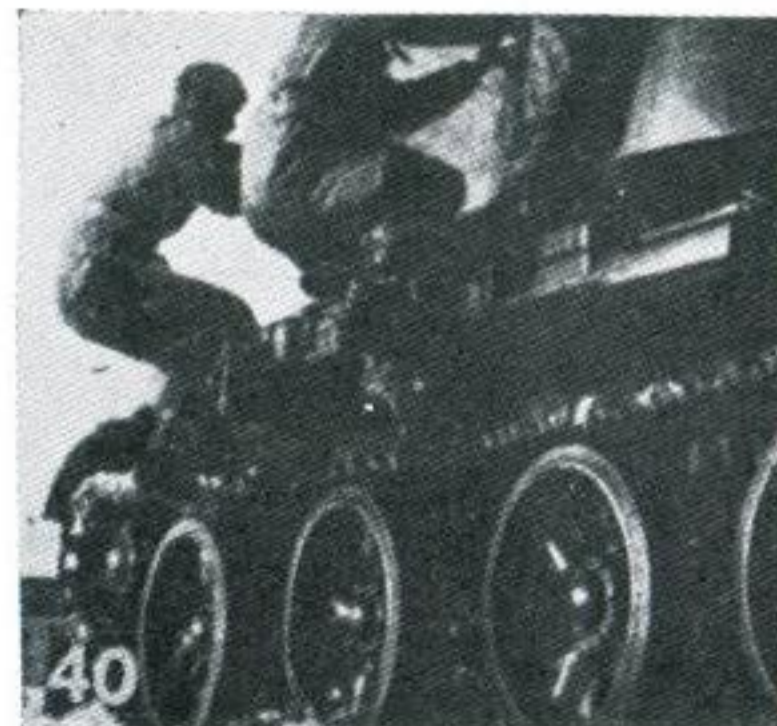
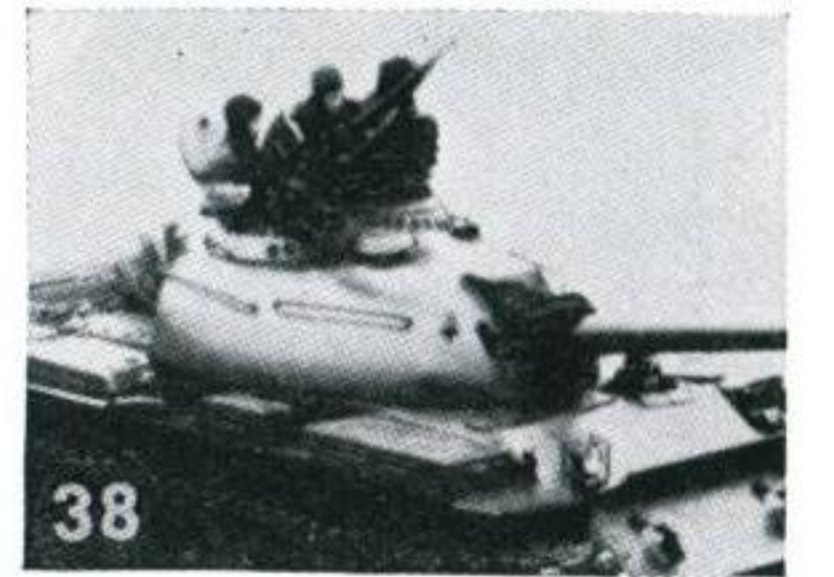
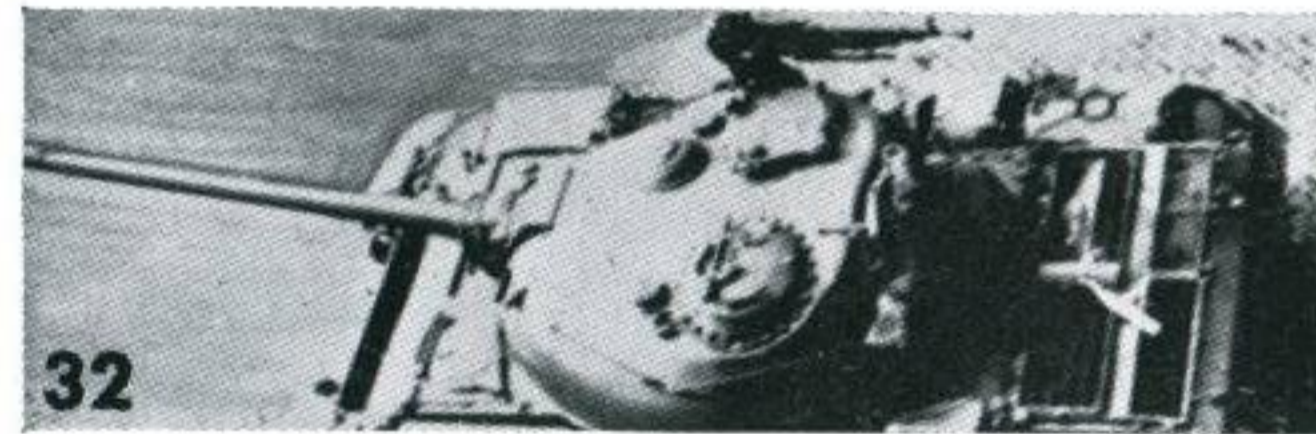
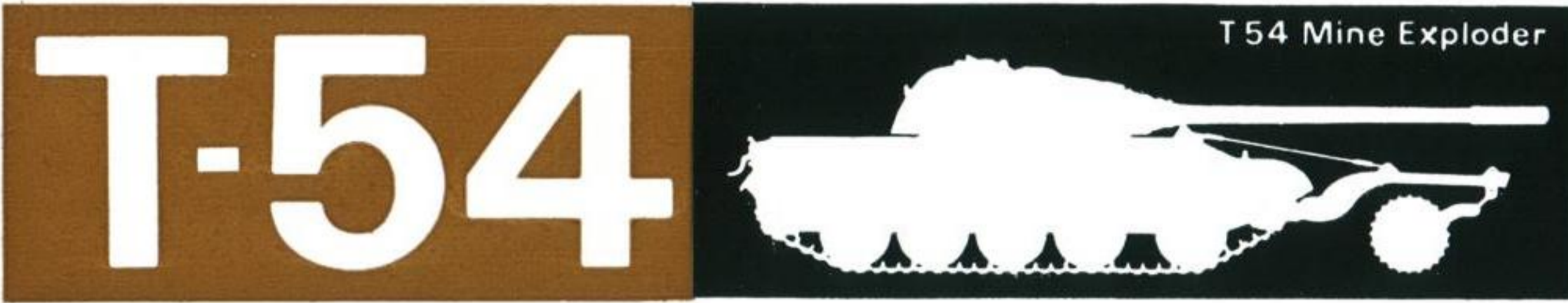
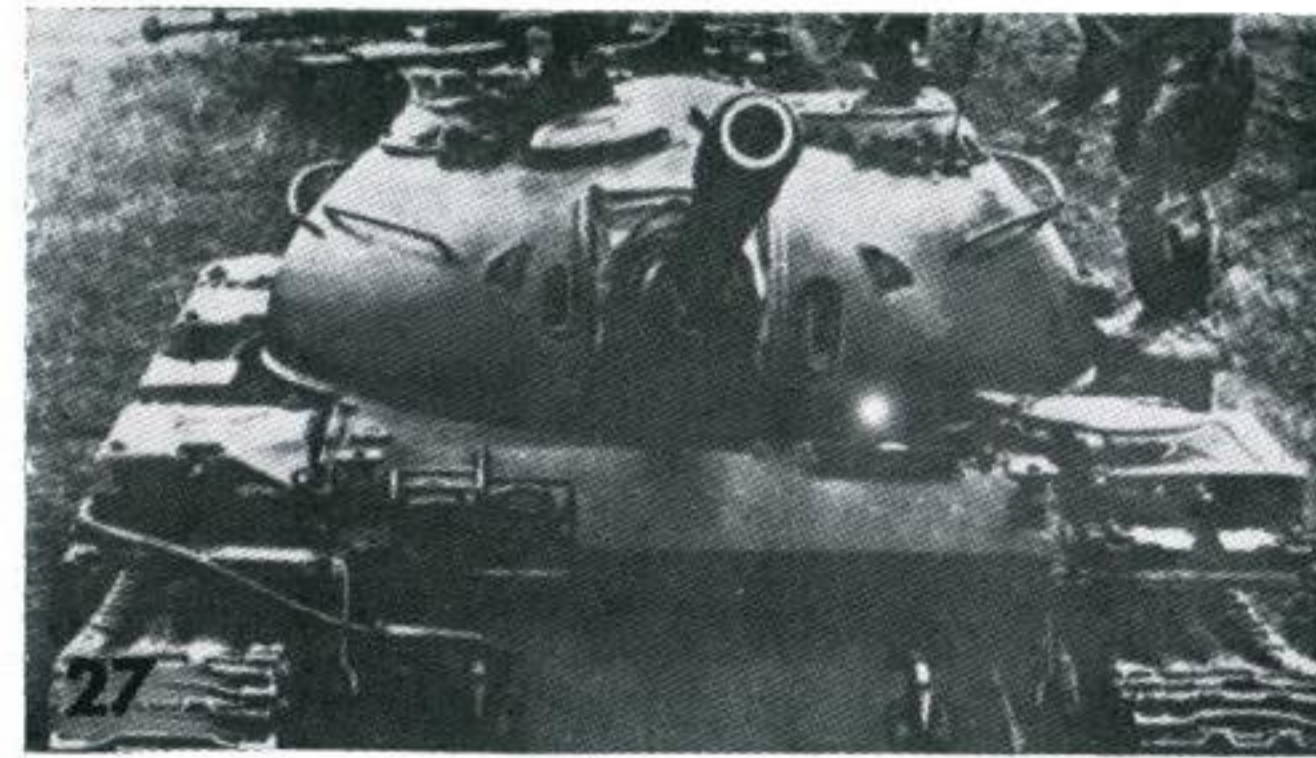
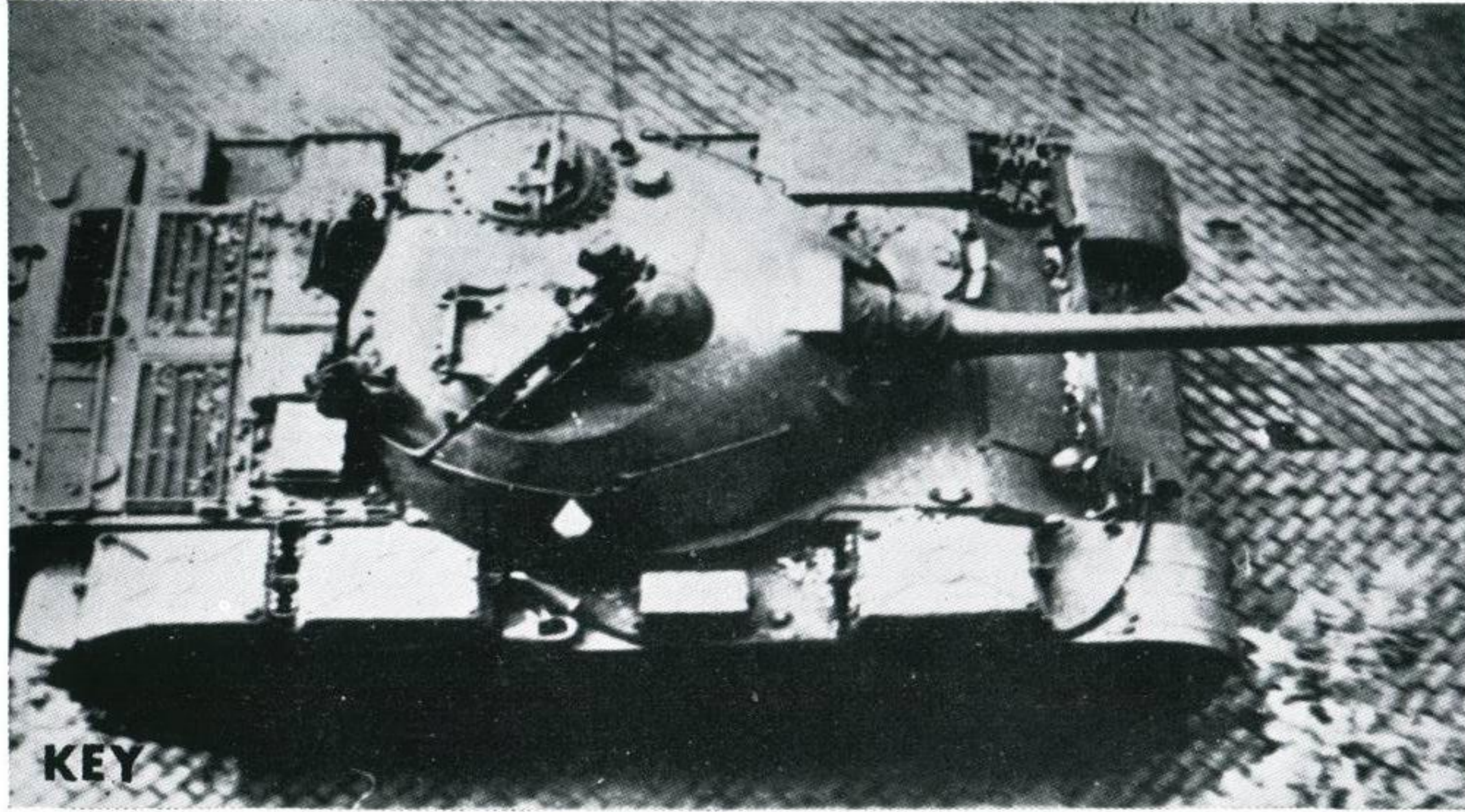
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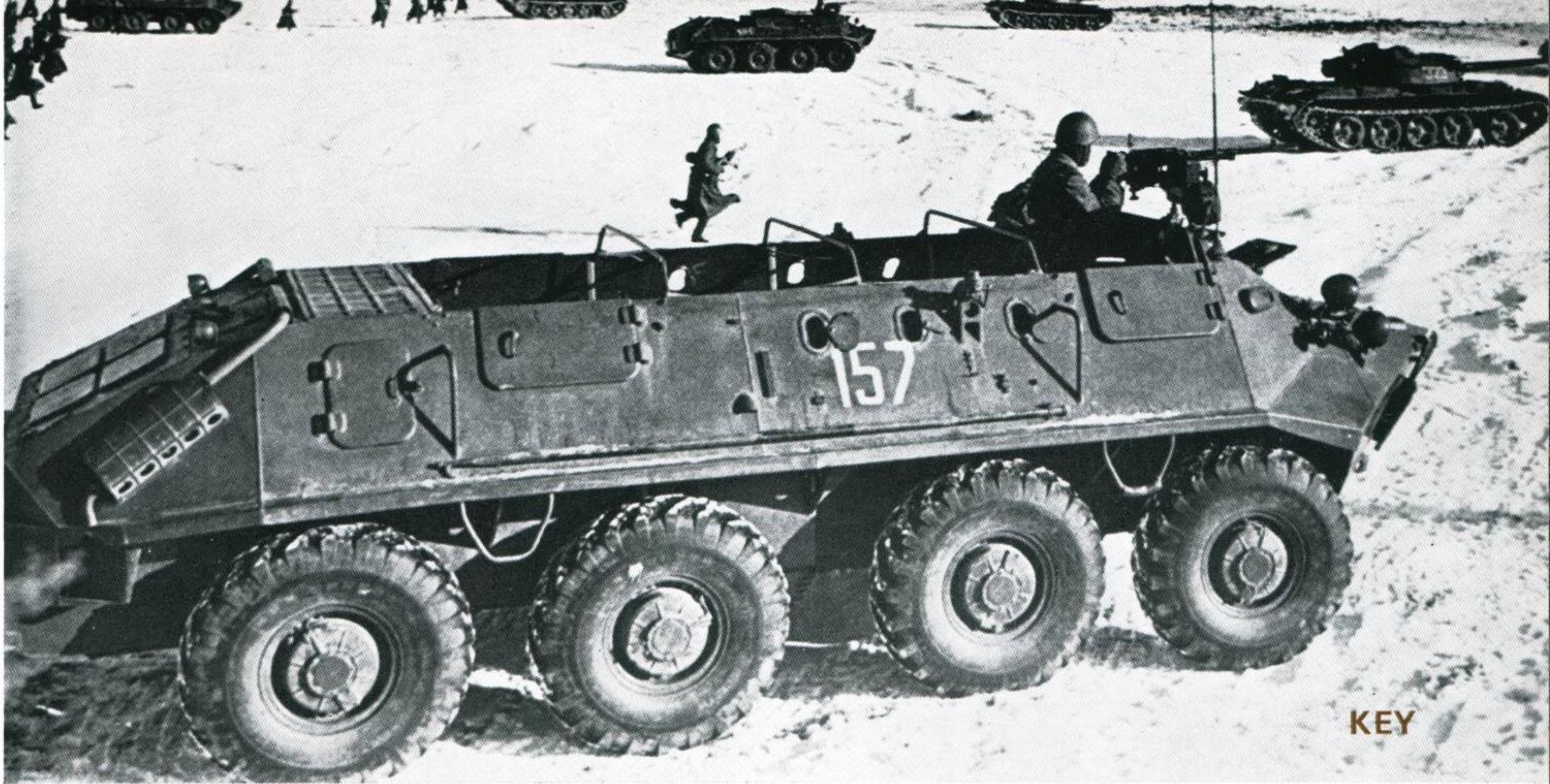


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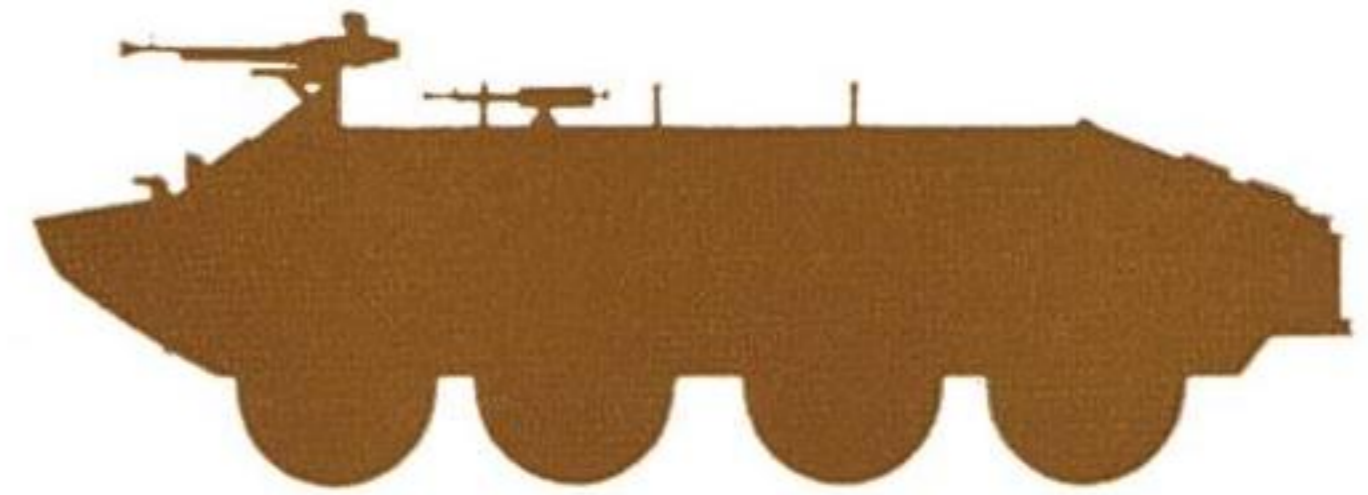




KEY

# BTR-60 P

## ARMoured PERSONNEL CARRIER

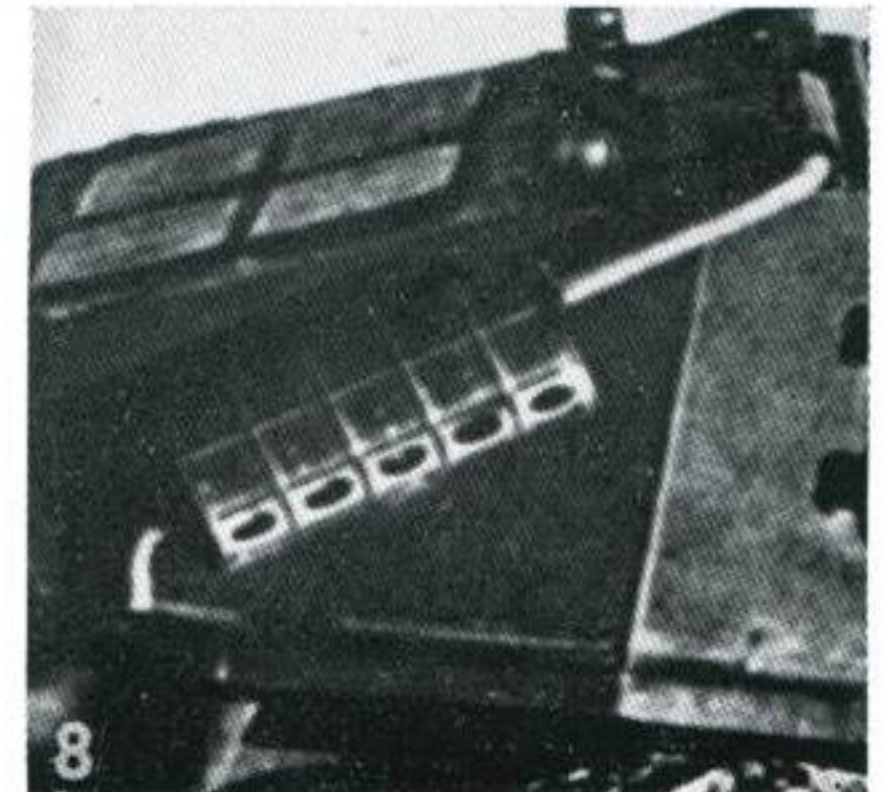
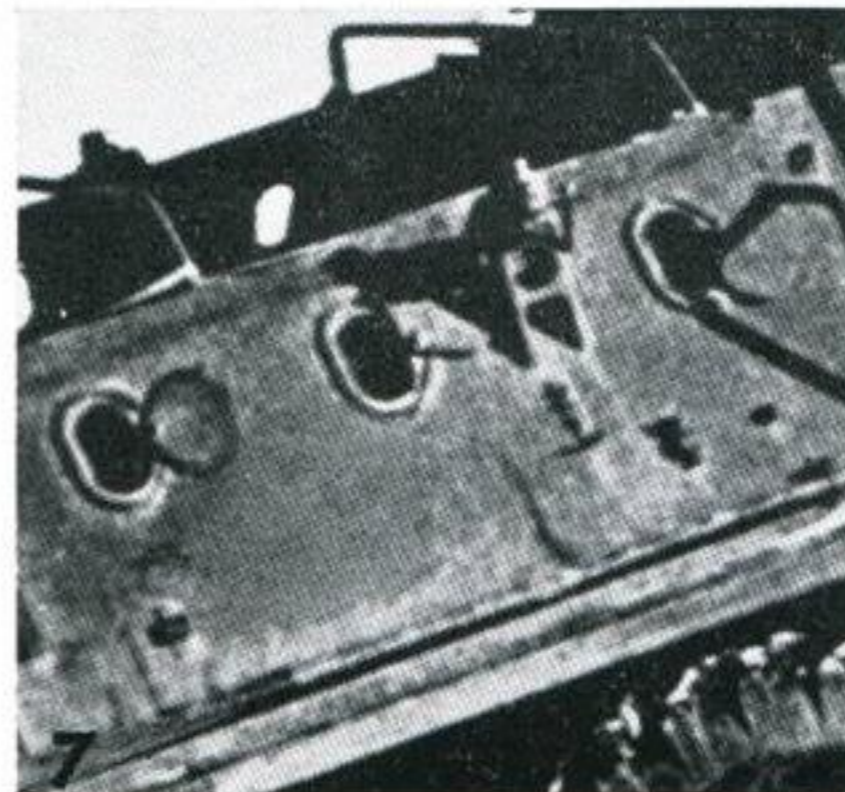
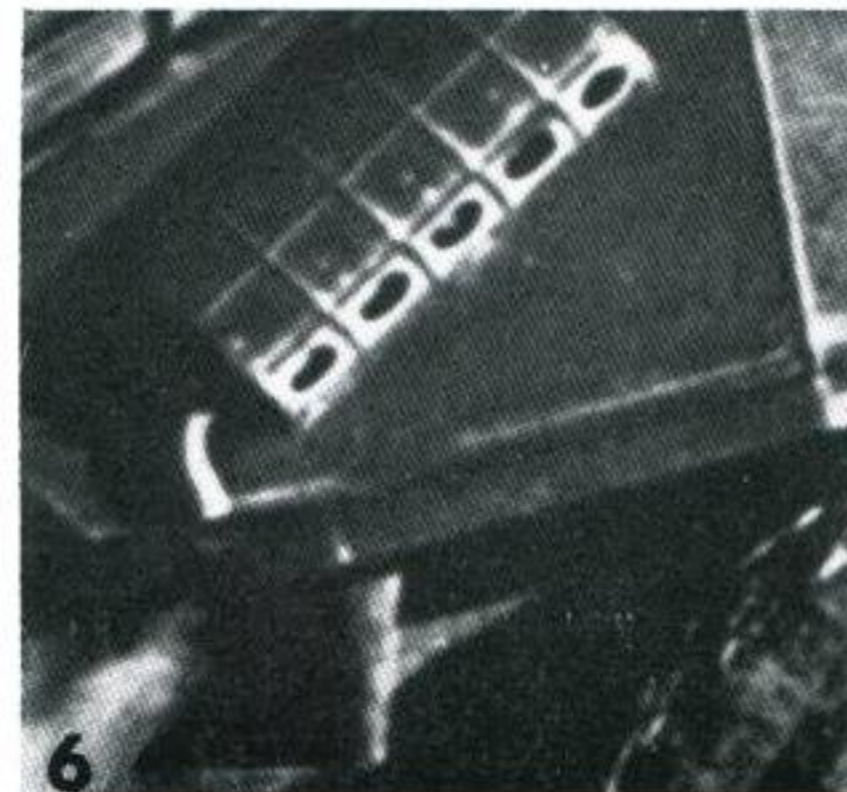
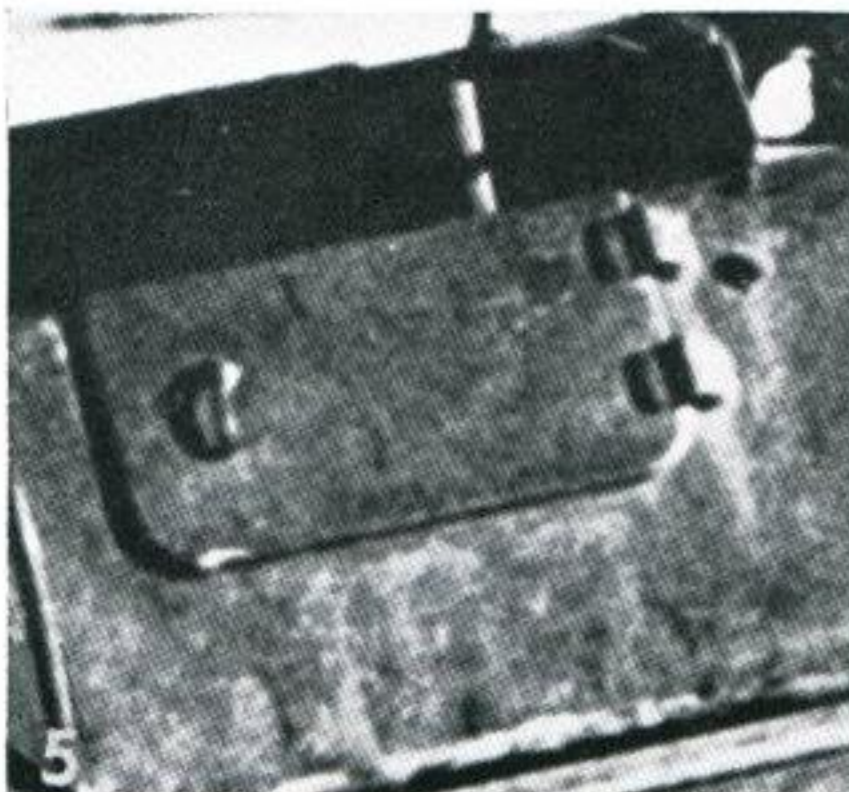
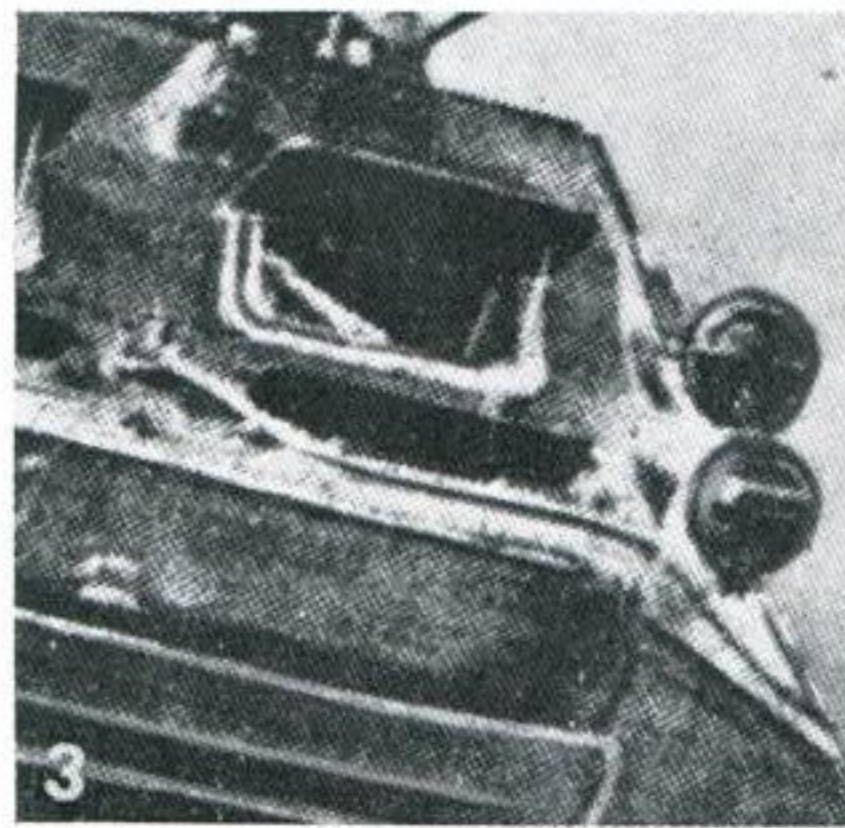
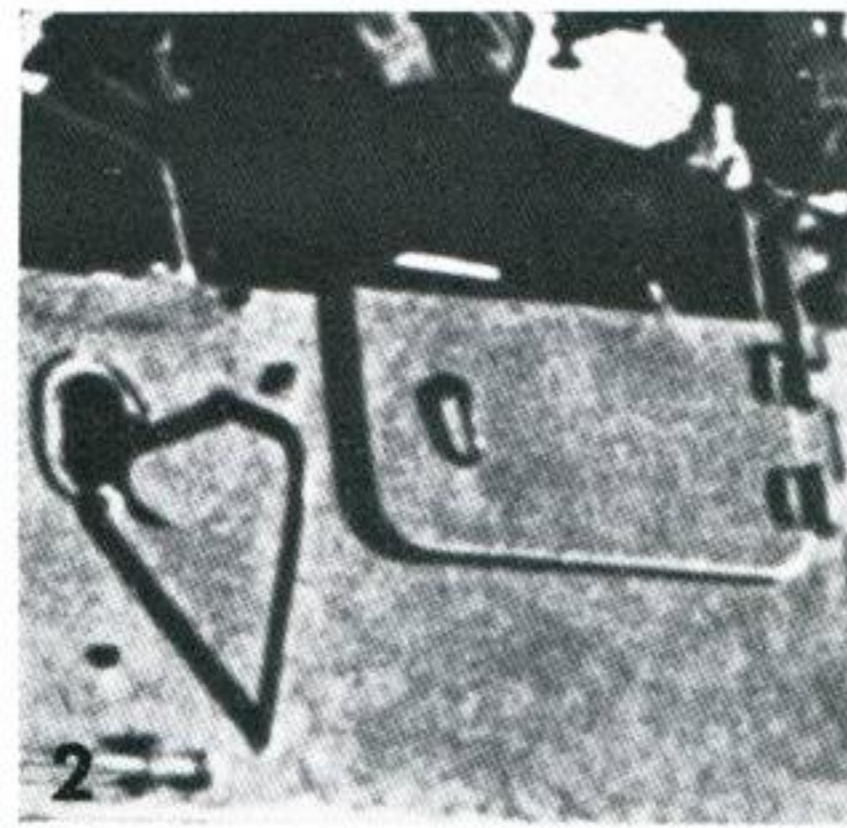


The BTR-60P has become one of the most widely used Soviet armoured vehicles. In the Soviet formations it has already largely replaced the earlier BTR-152 six-wheeled armoured personnel carrier to which it is greatly superior by virtue of its eight-wheel drive and its ability to swim across rivers. Its good off-the-road performance and amphibious capabilities have also made it possible for the BTR-60P partly to replace the tracked BTR-50P amphibious carrier and to be used

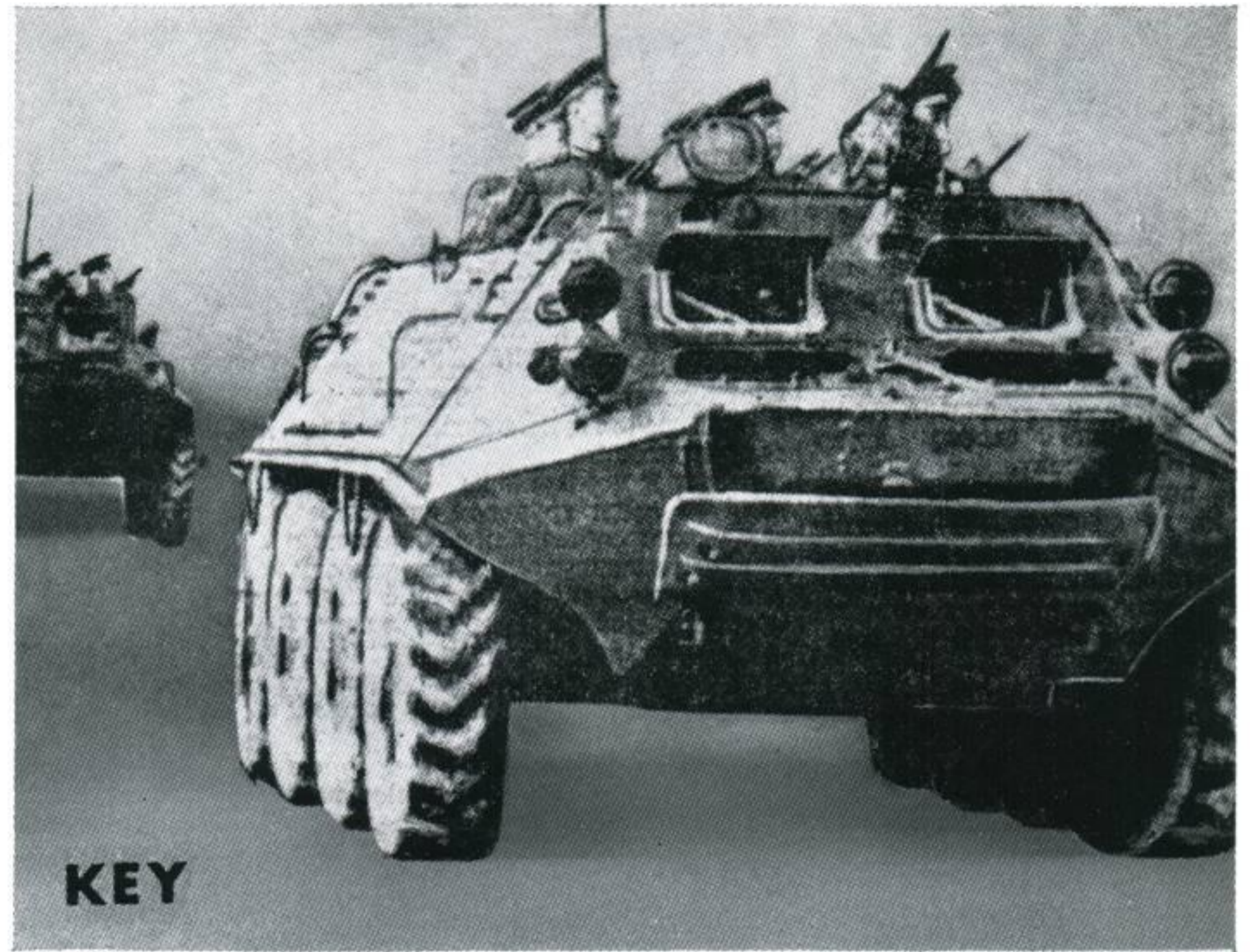
for close cooperation with tanks.

Since the original model of the BTR-60P was introduced some eight years ago, two other much improved versions have appeared. One of these has been fitted with overhead protection for the crew compartment. The other and most recent model not only has overhead protection but also a conical turret mounting a 14.5-mm. heavy machine gun as well as a 7.62-mm. machine gun.

*Lesson instructions and solutions are on the back cover*



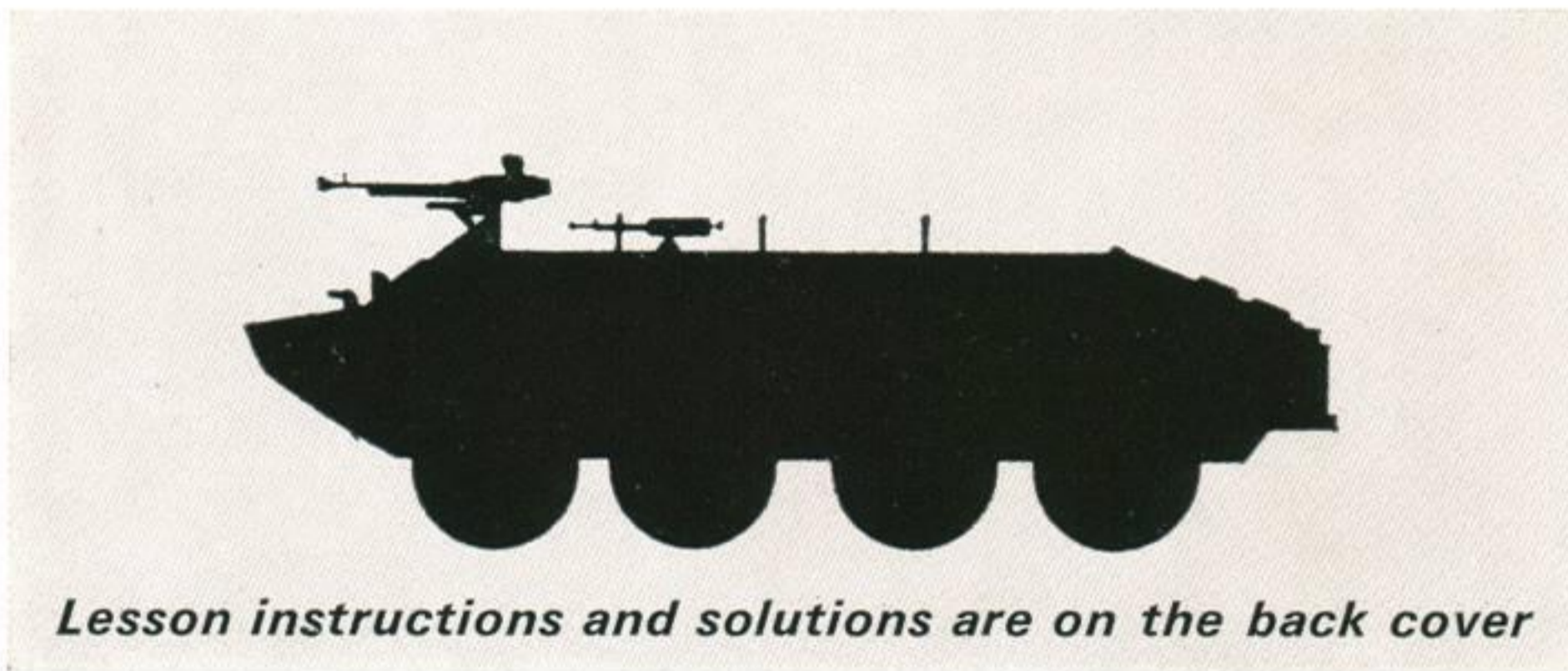
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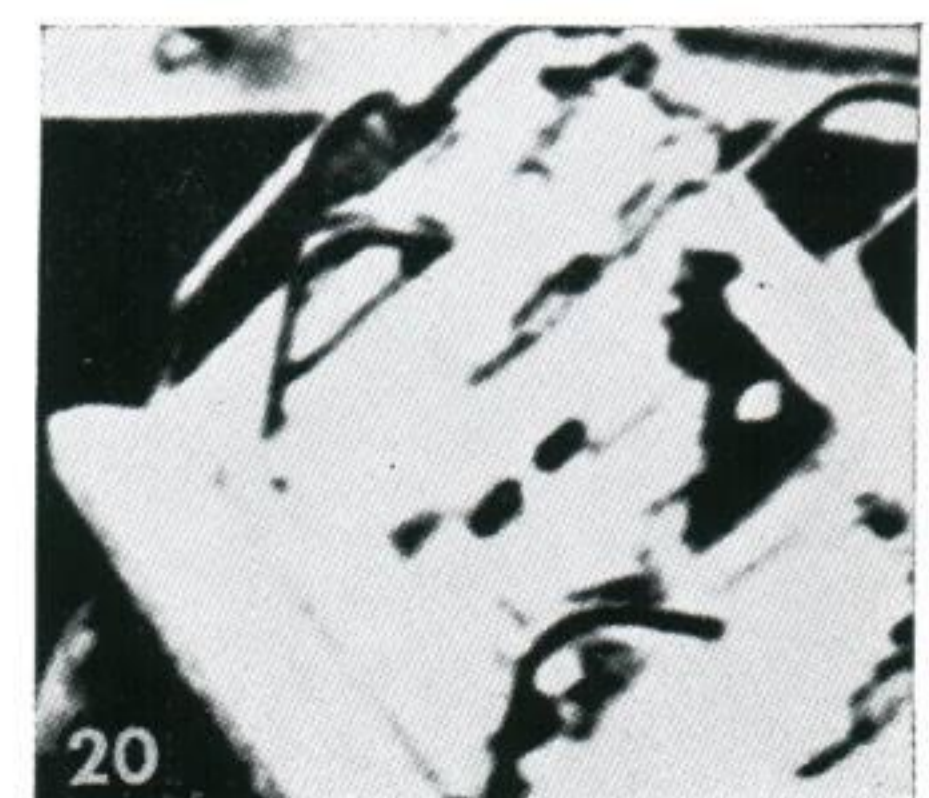
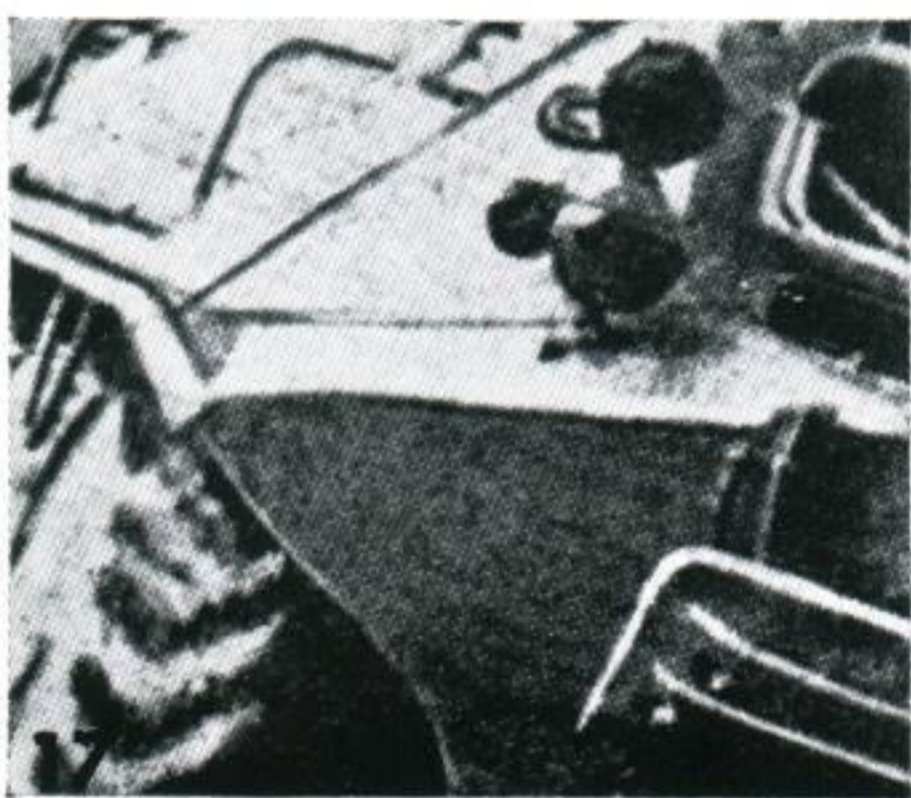
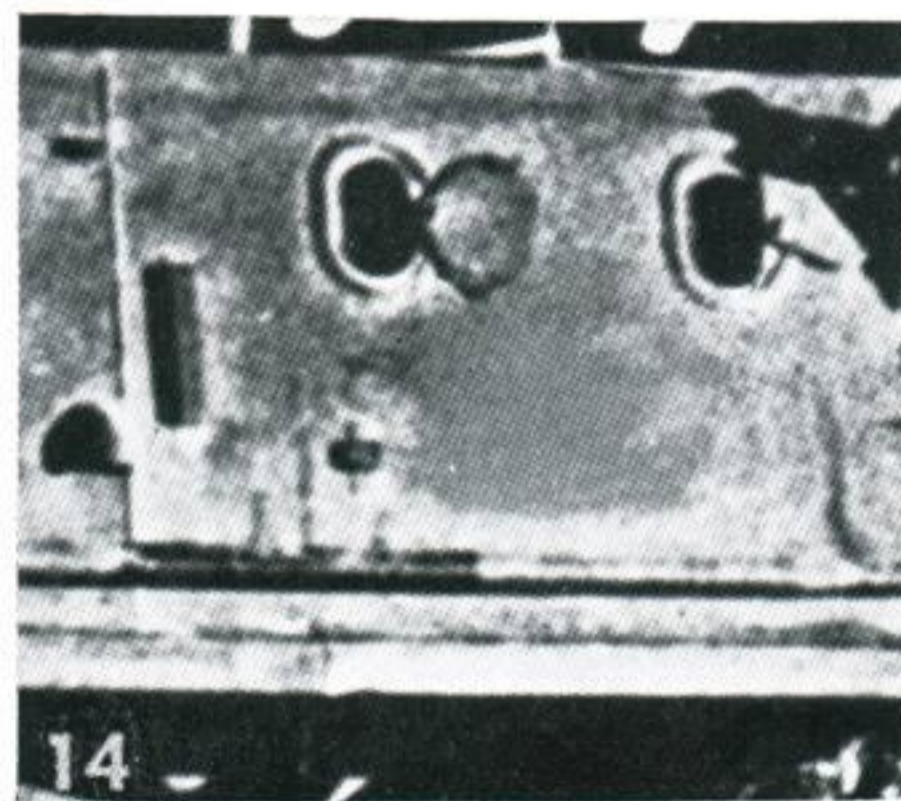
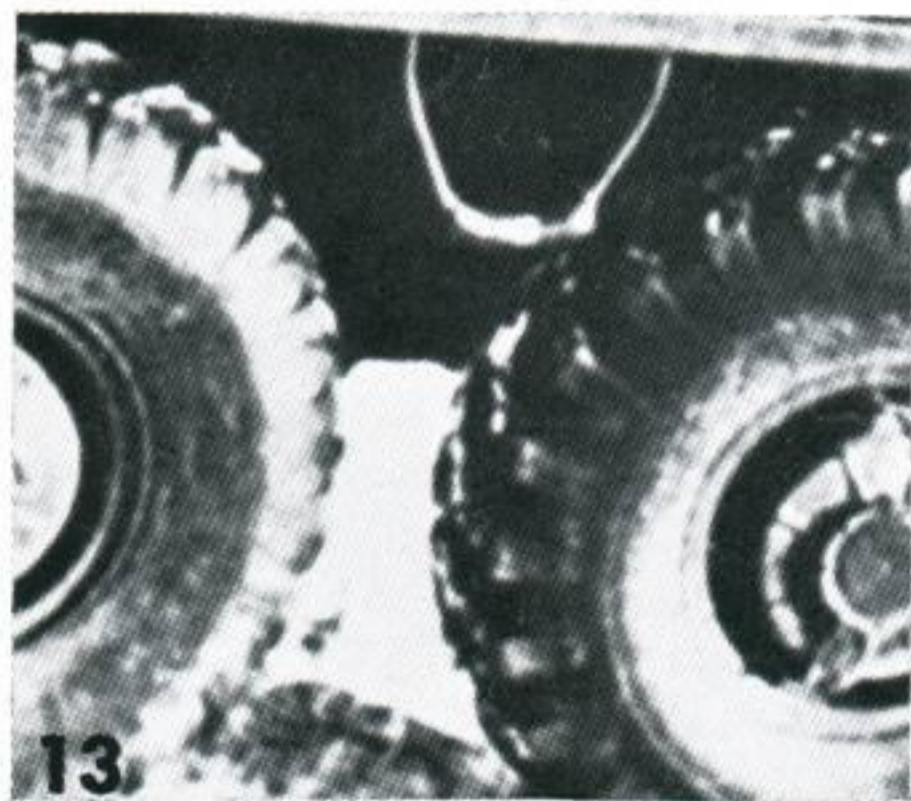
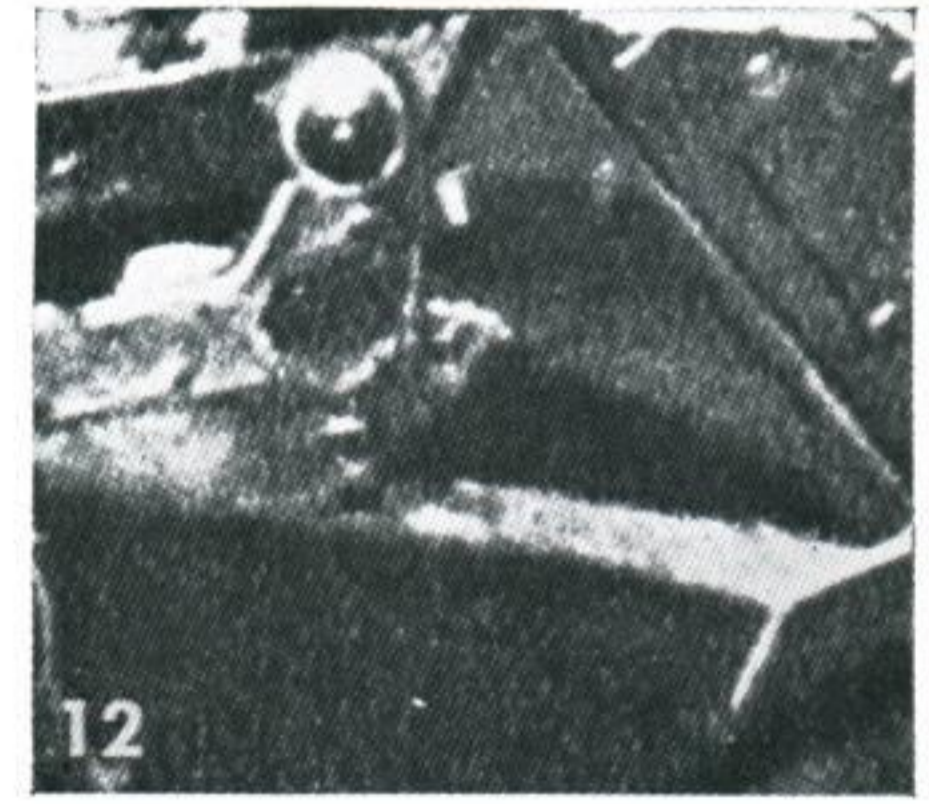
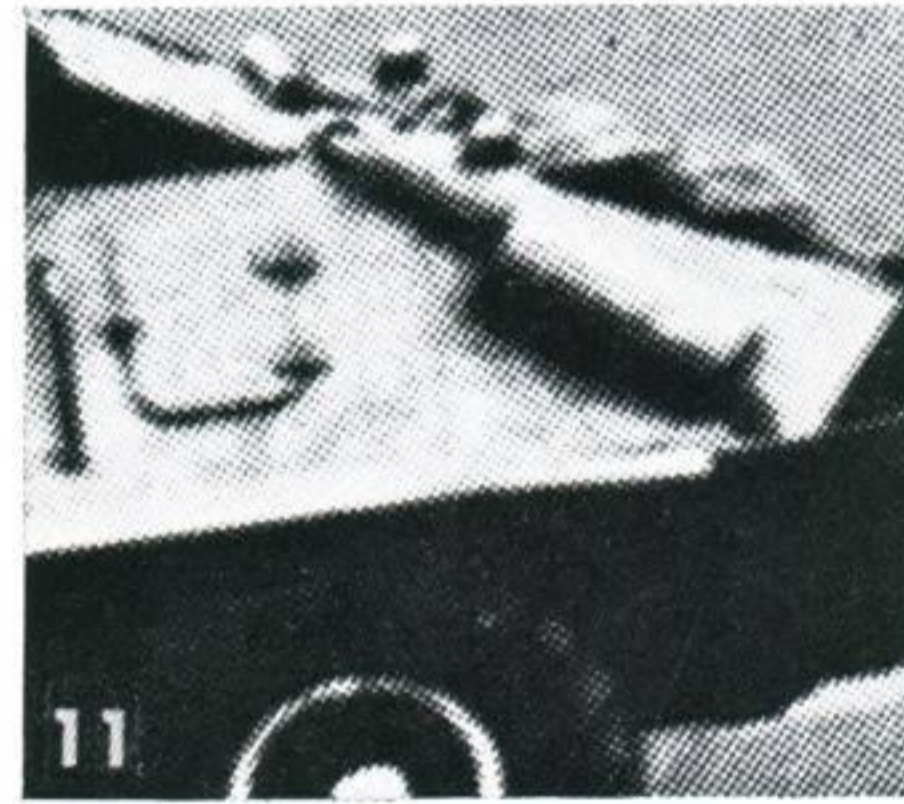
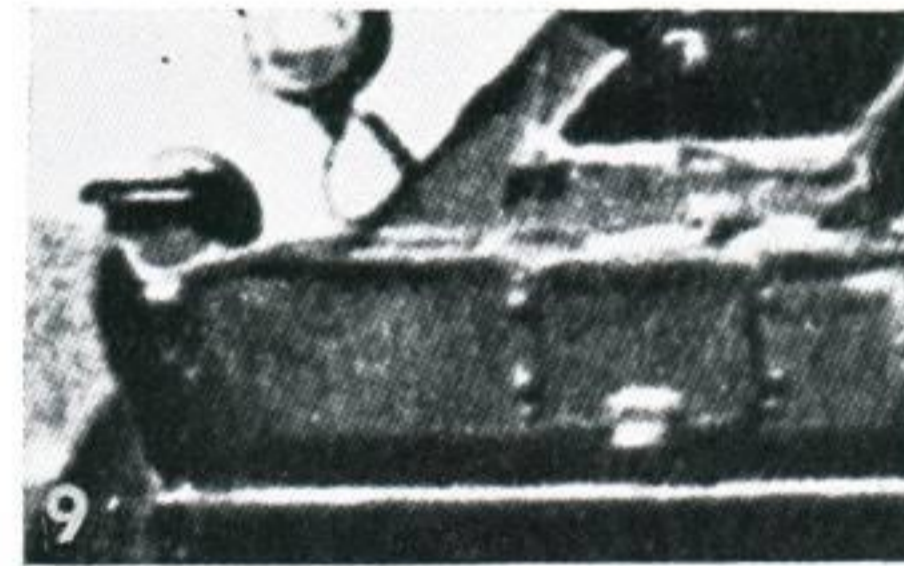
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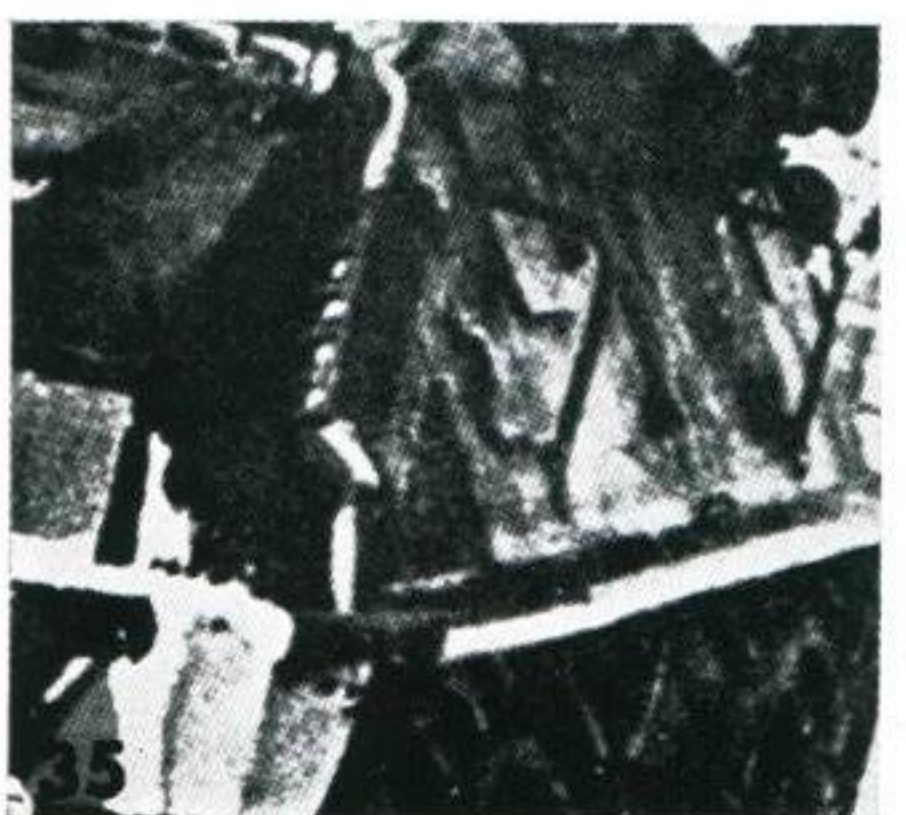
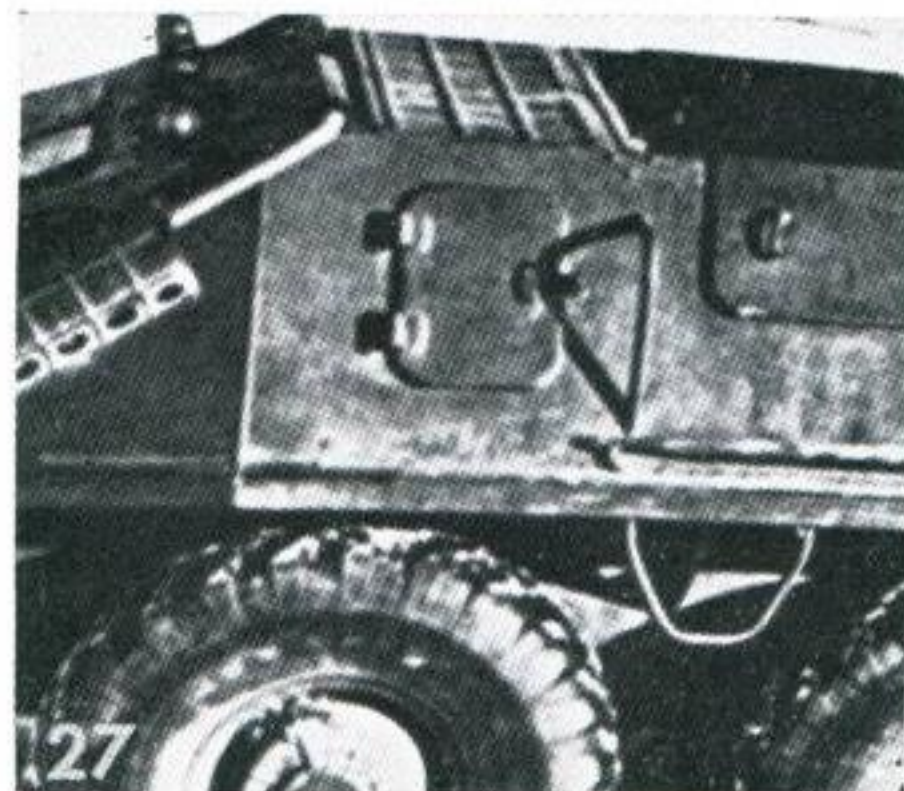
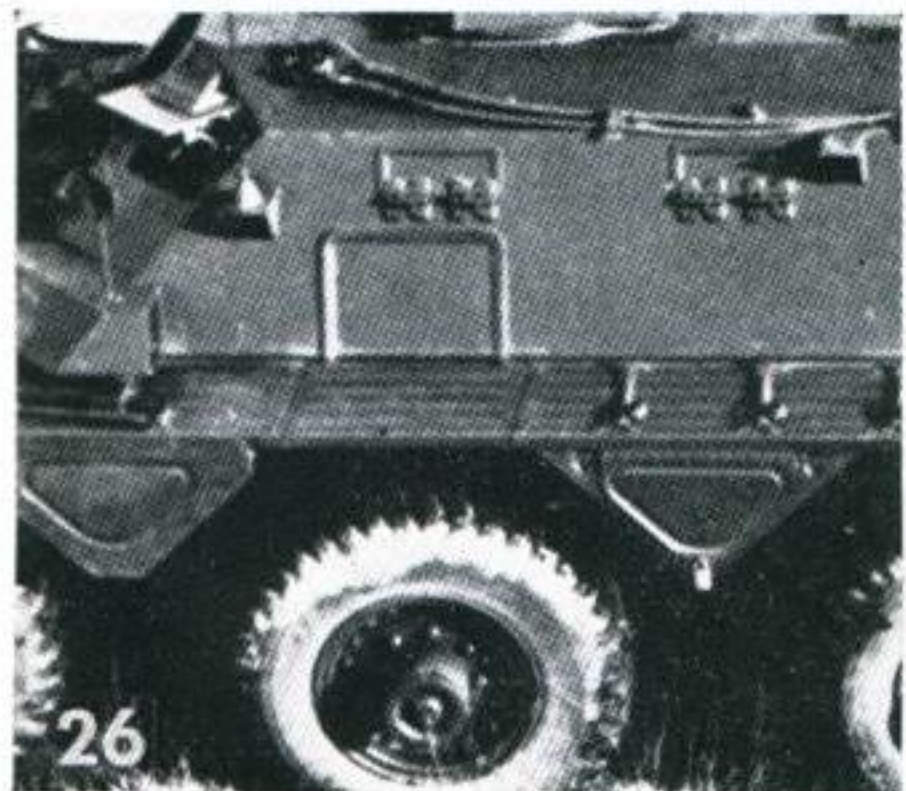
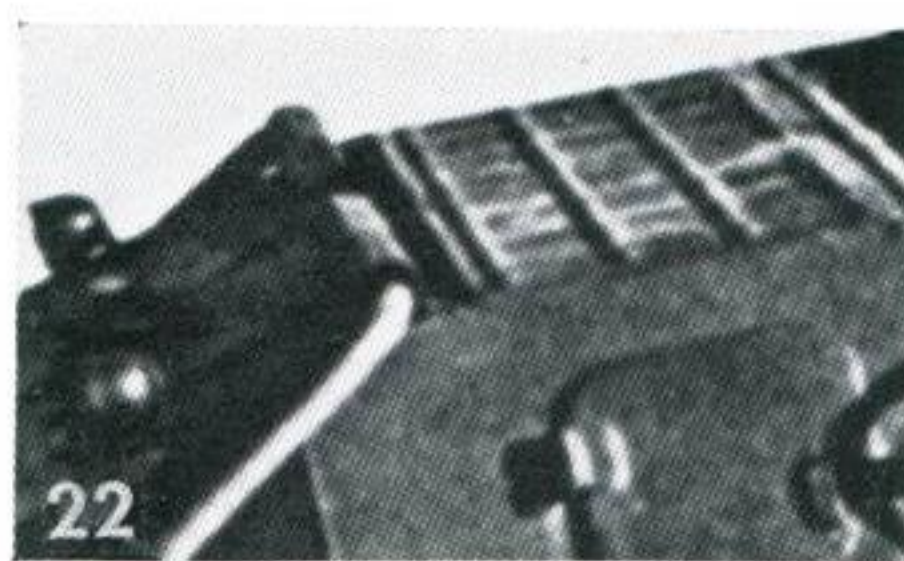
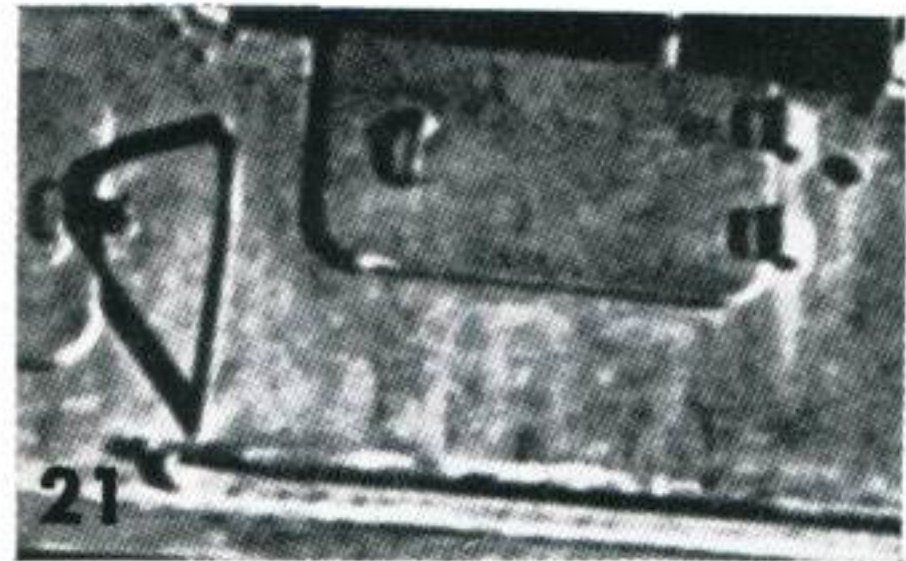
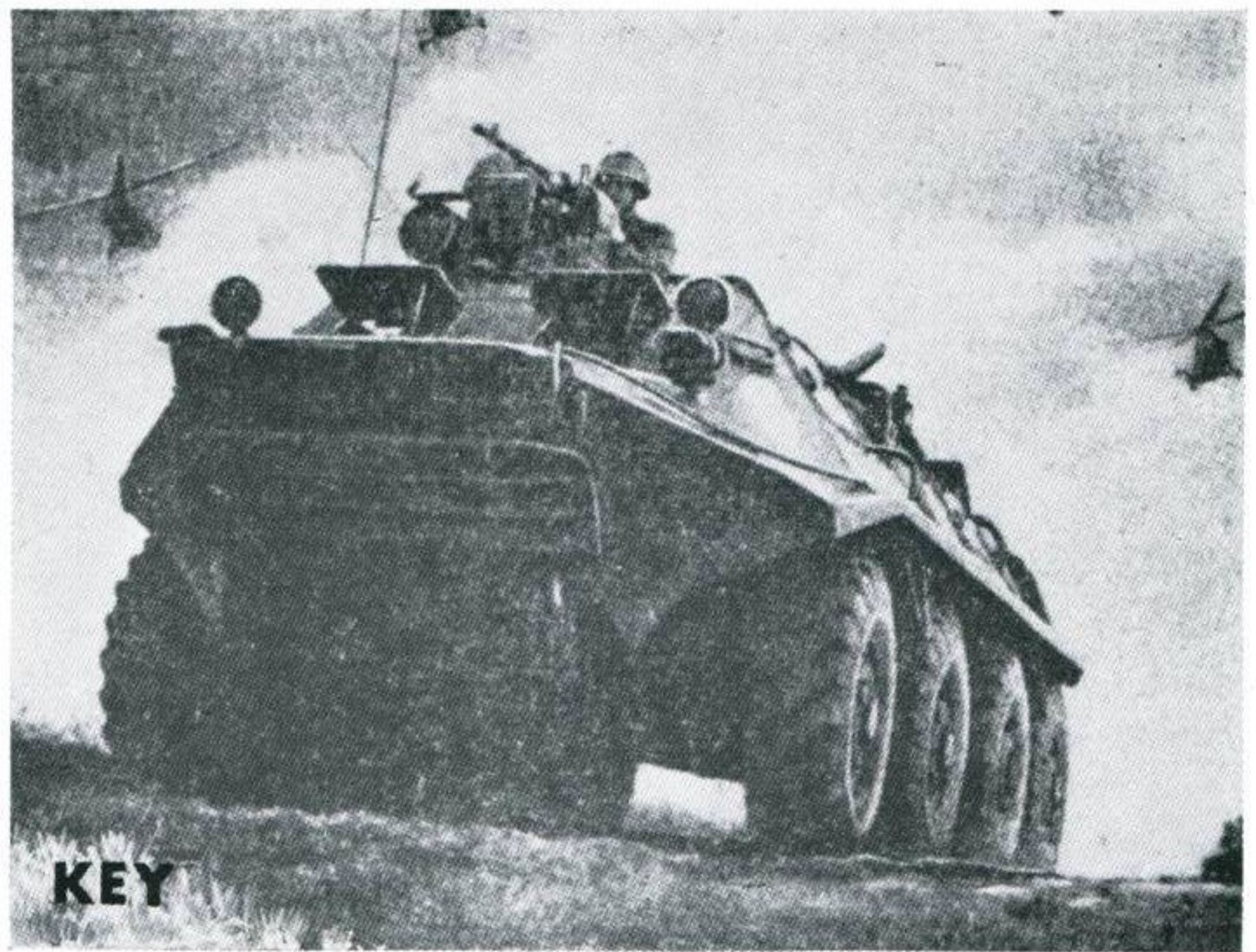
# BTR-60 P

## ARMoured PERSONNEL CARRIER



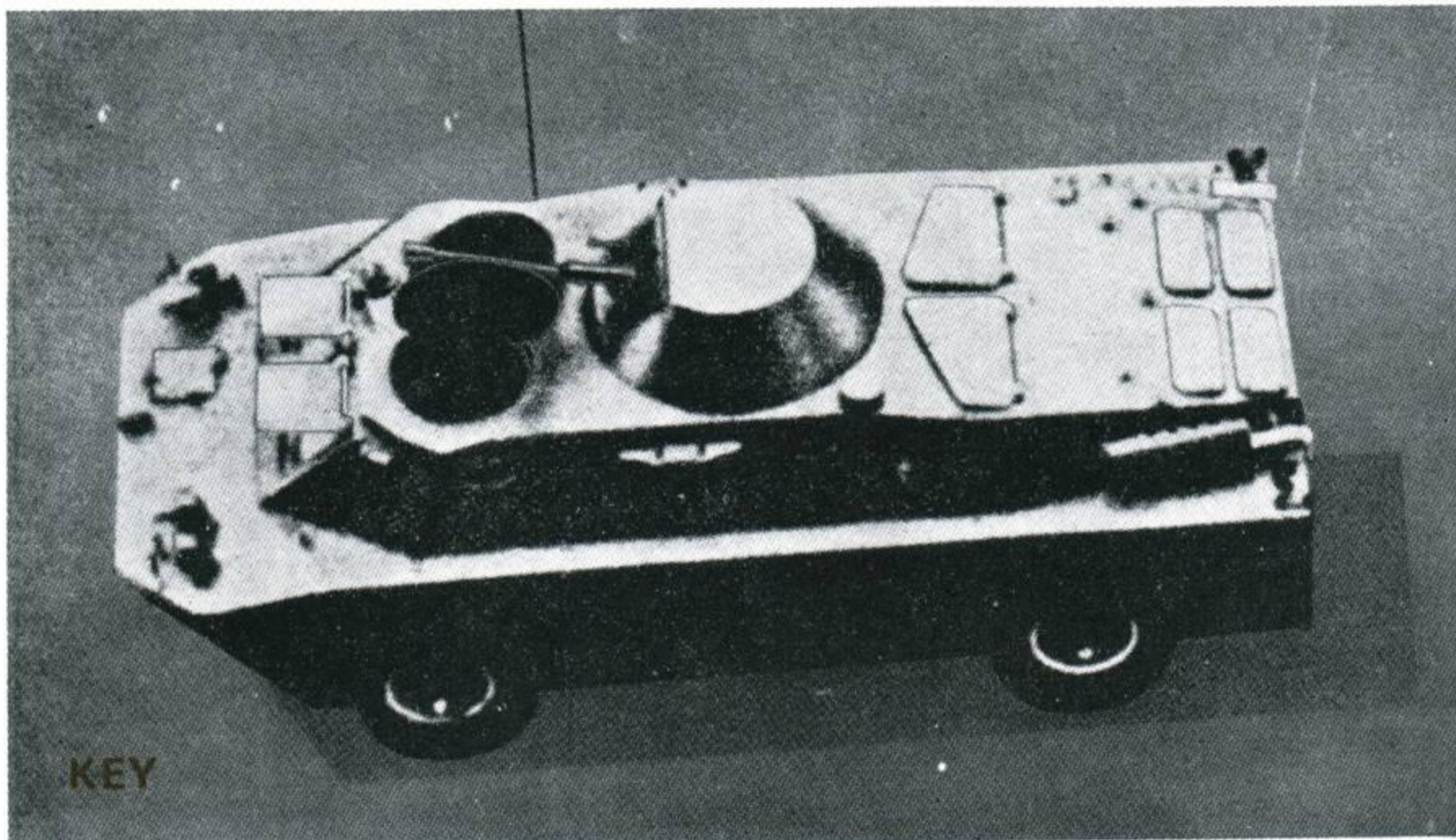
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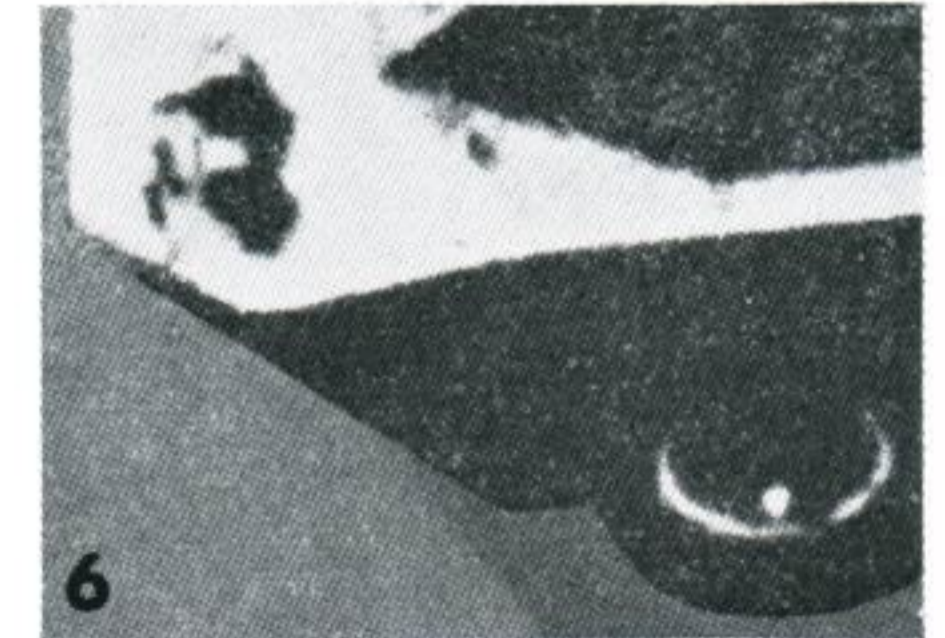
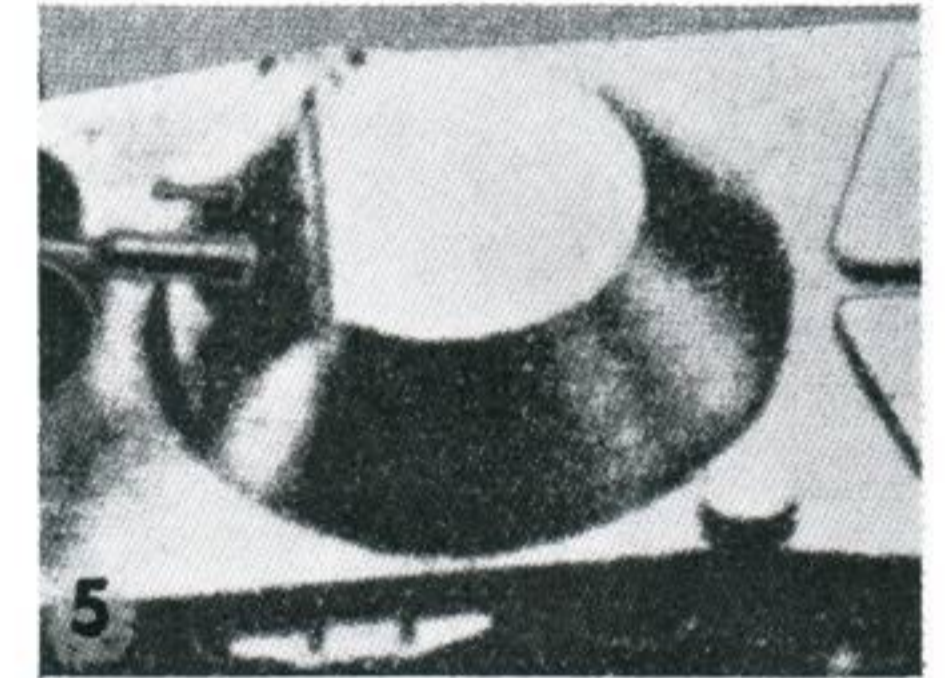
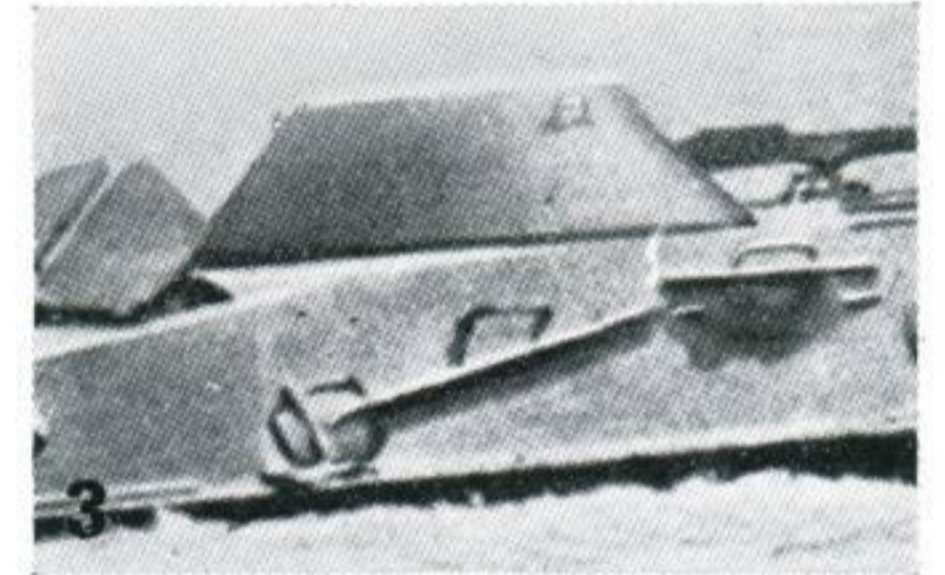
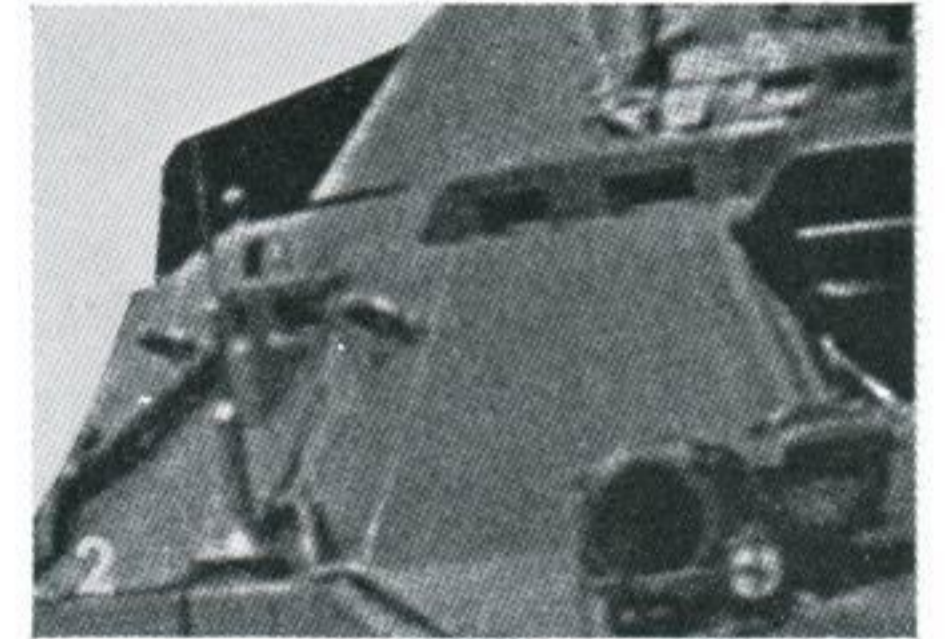
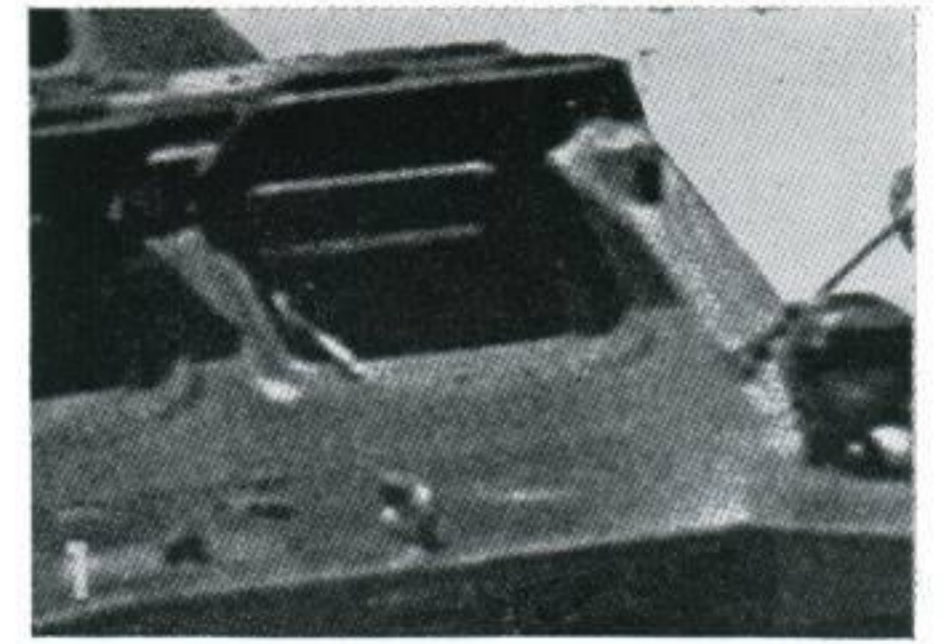
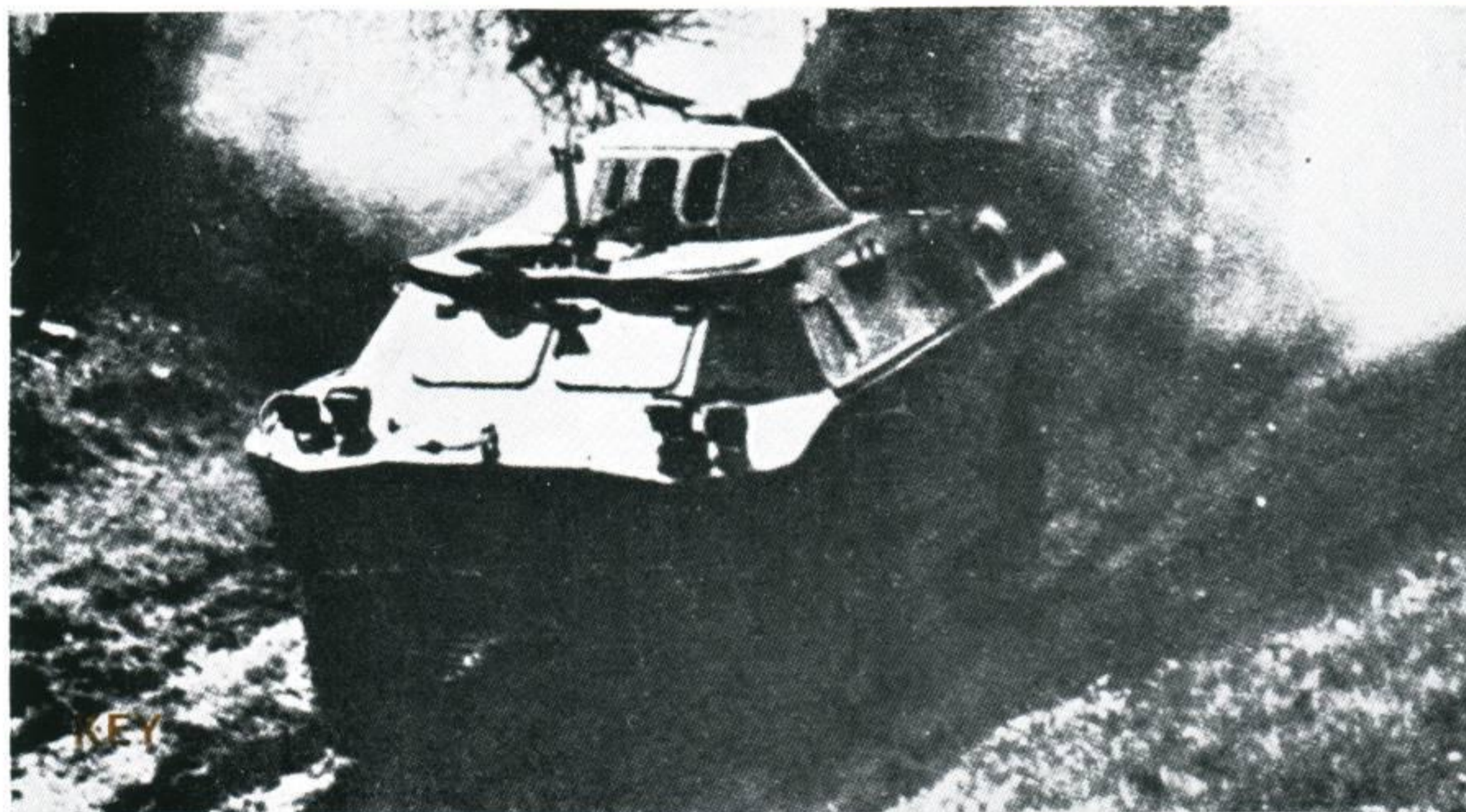




**RUSSIAN**  
**BTR-40 PB** Amphibious Reconnaissance Car



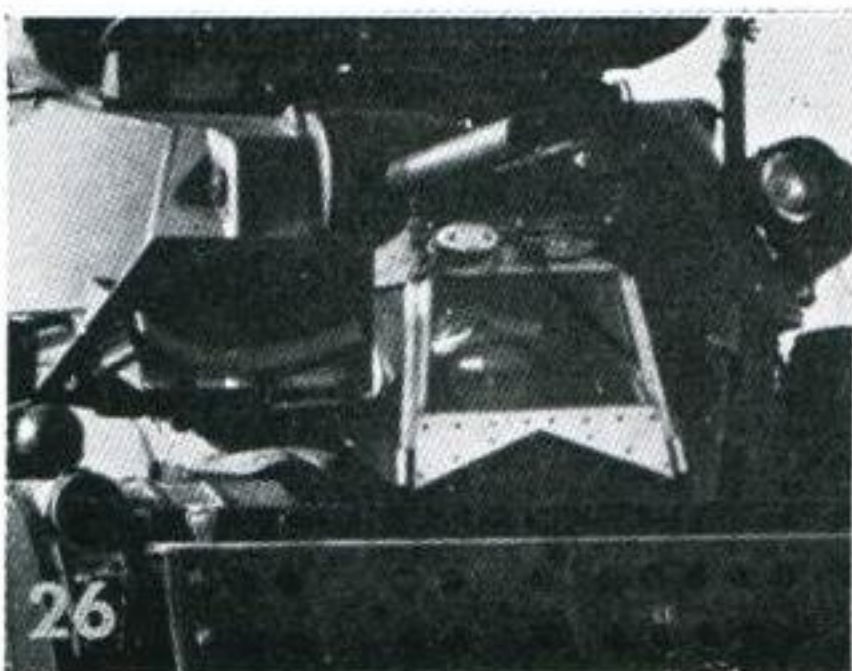
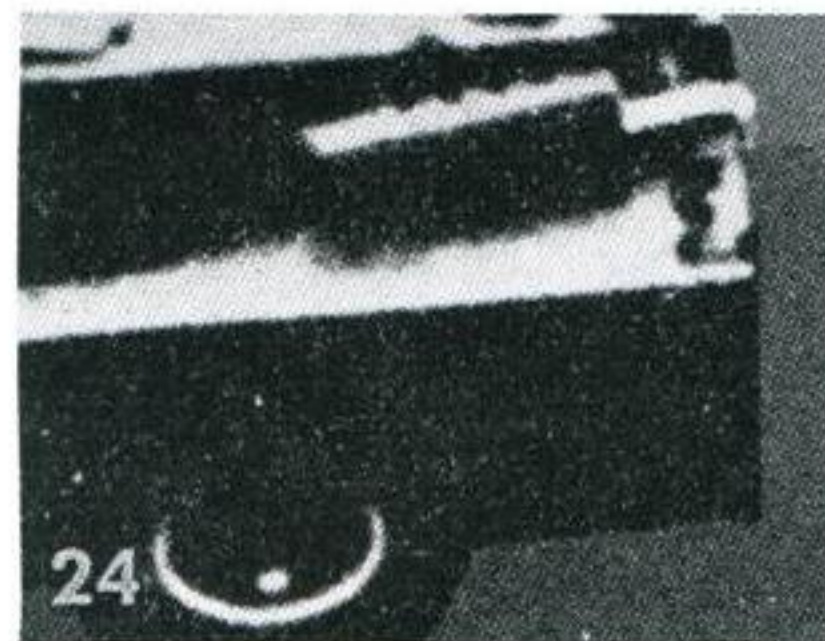
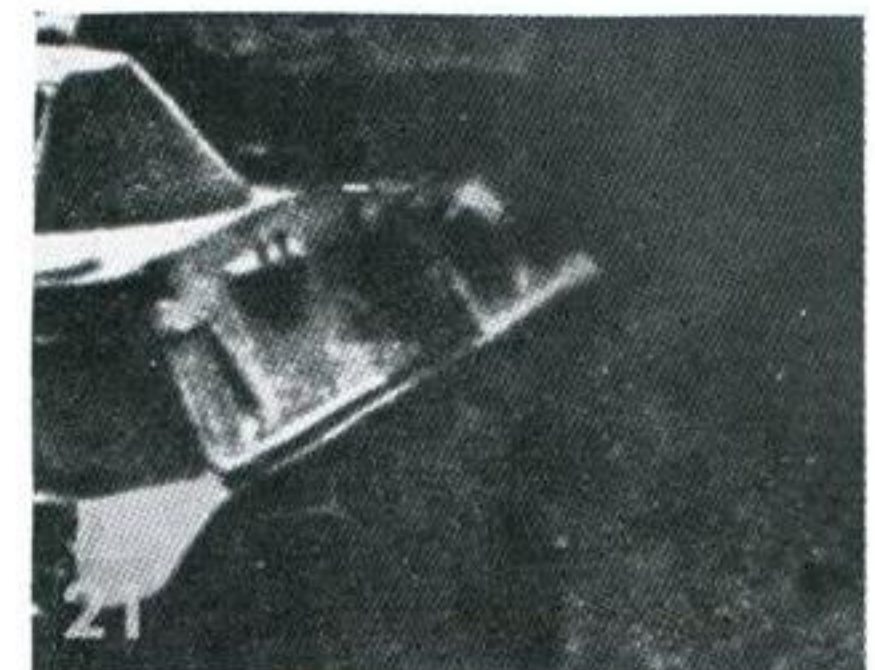
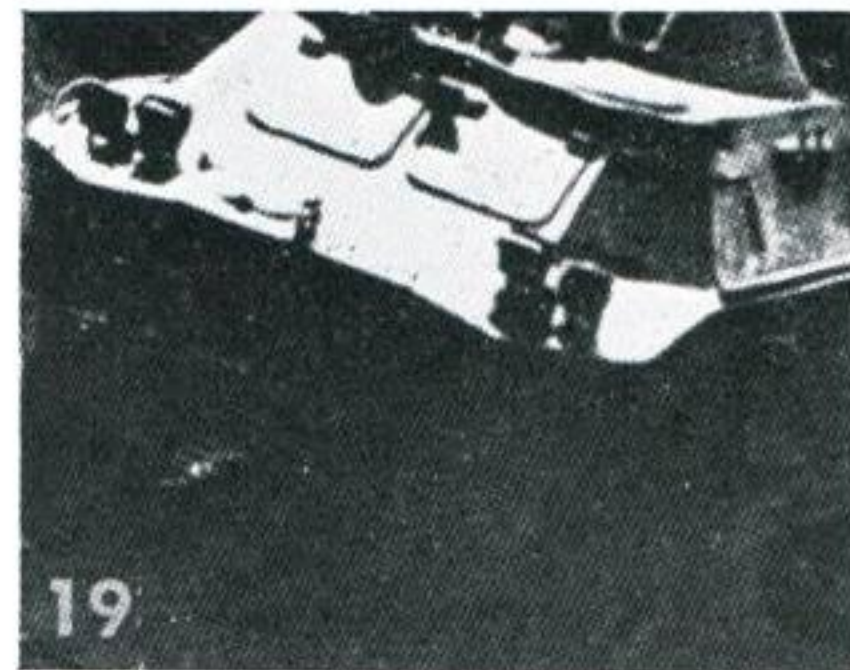
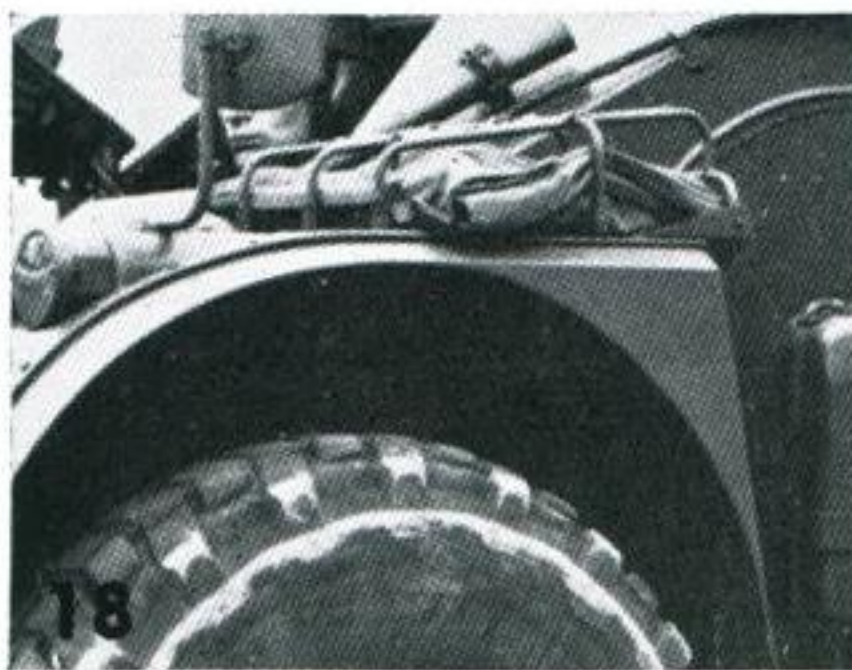
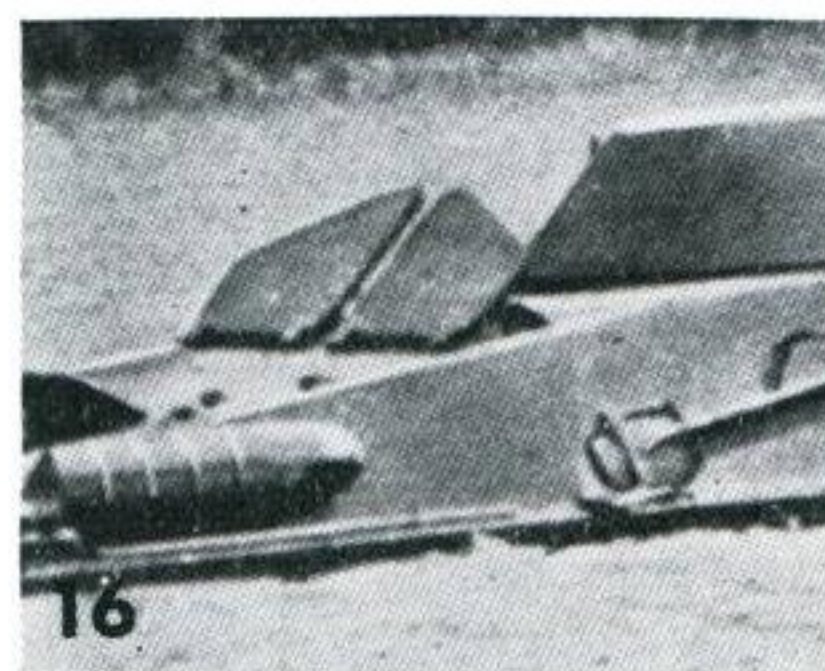
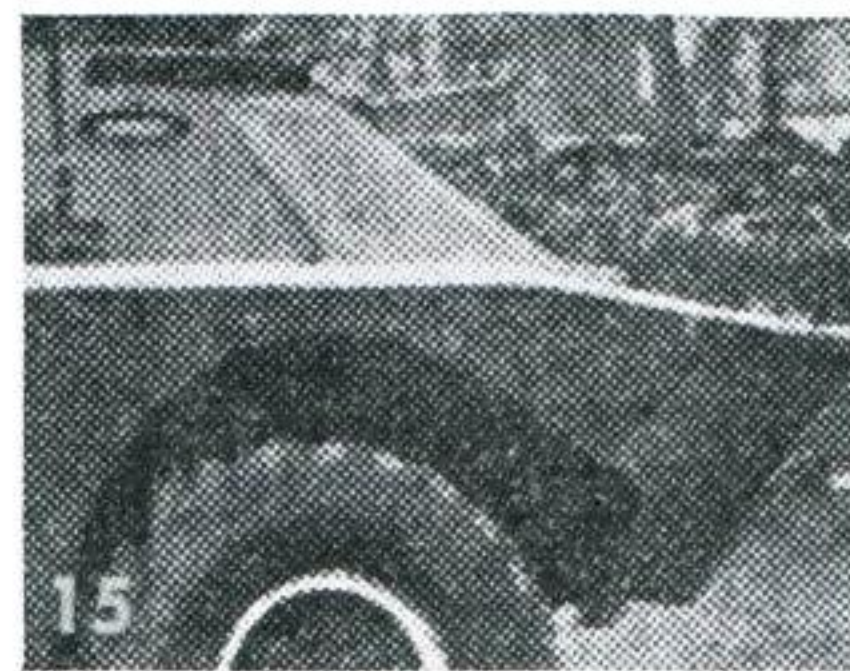
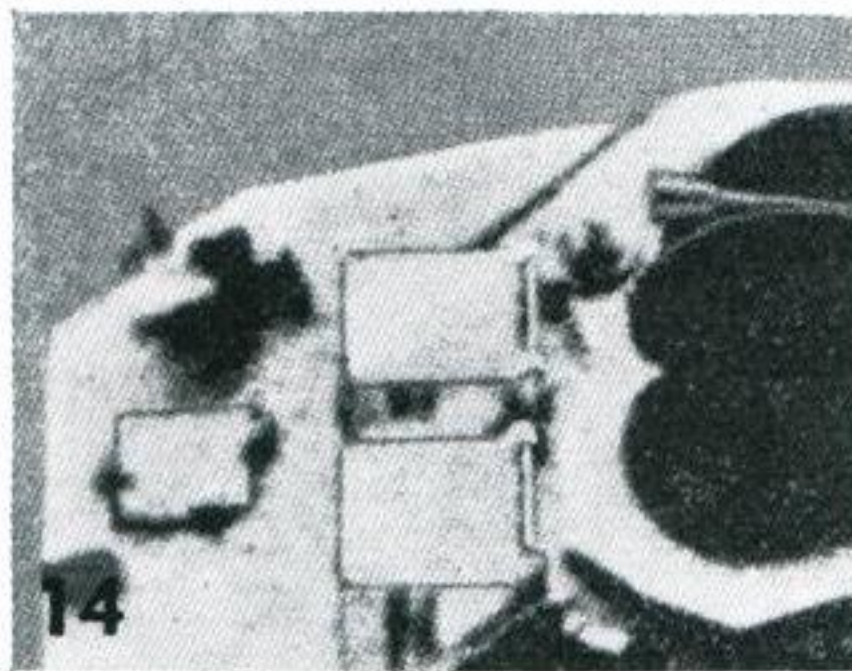
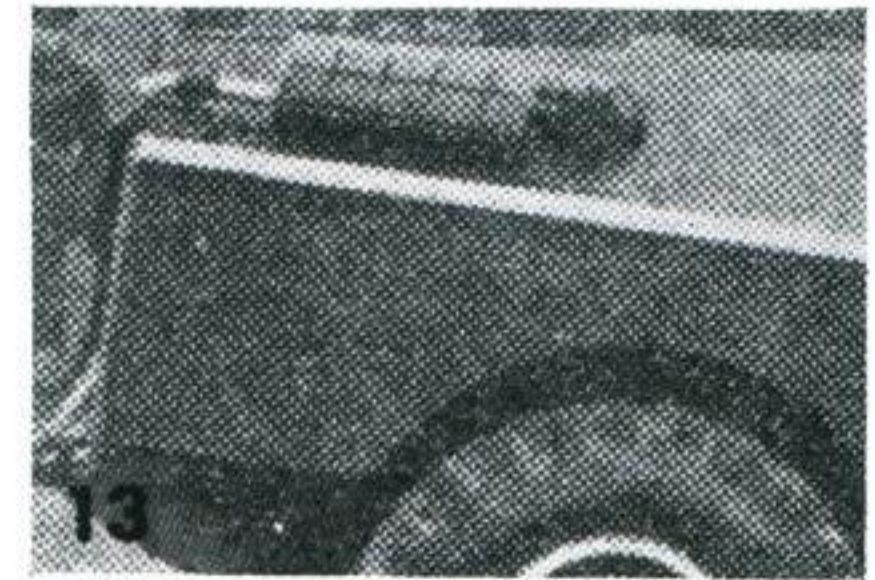
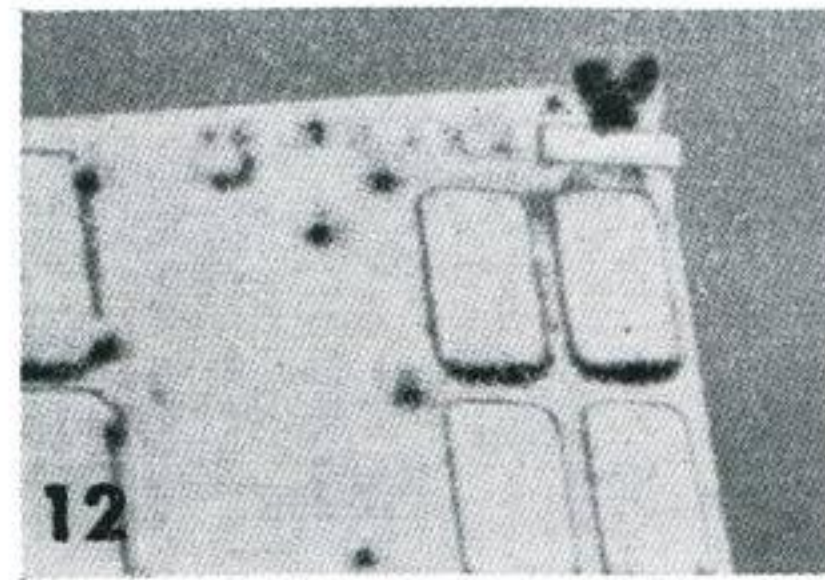
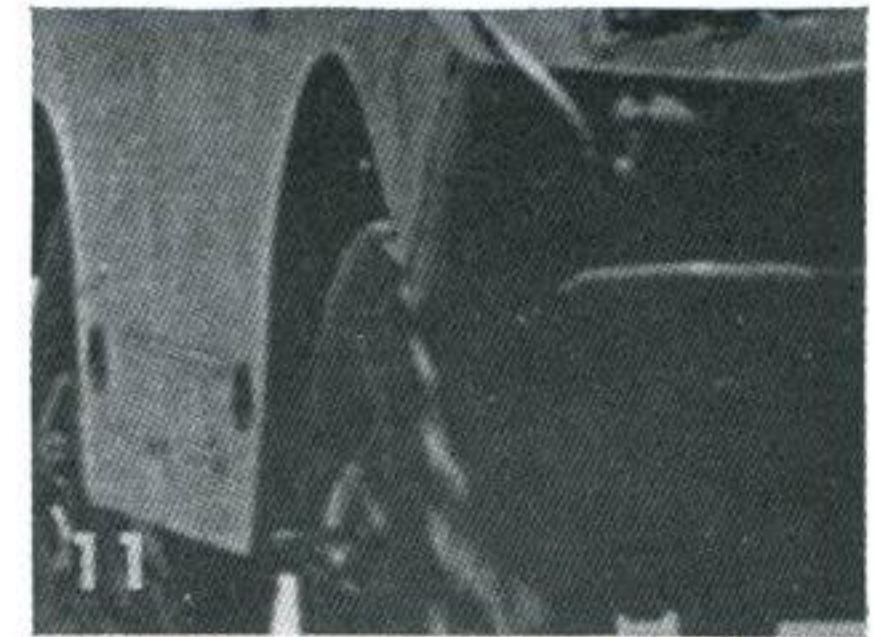
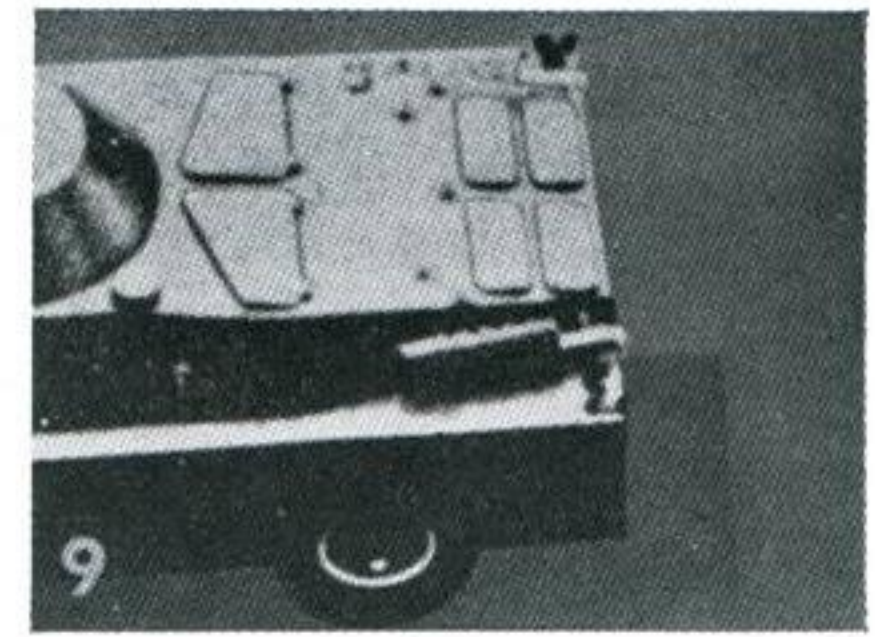
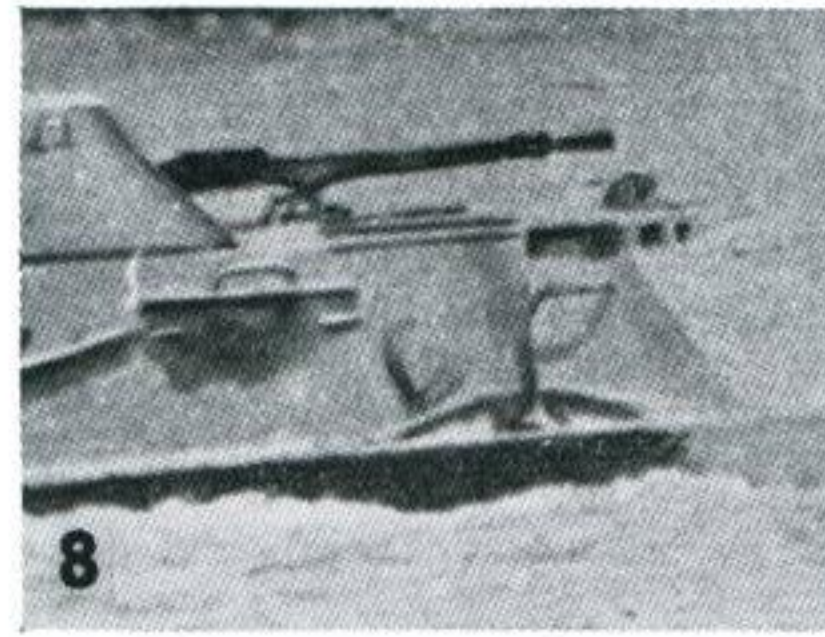
*Lesson instructions and solutions are on the back cover*



BTR-40PB amphibious reconnaissance car is a development of the BTR-40P, or BRDM, amphibious scout car (the subject of a lesson in the December 1965 and June 1964 *Journals*) so it bears some resemblance to the earlier vehicle. The most obvious external difference between the BTR-40PB and its predecessor is that it has a small turret, in the shape of a truncated cone, which mounts two machine guns: a long-barrelled 14.5 mm. and a 7.62 mm.

Another major difference is that the BTR-40PB has its engine at the rear. As a result, its superstructure extends farther forward and it does not have the long, upturned engine "bonnet" which gave the earlier BTR-40P its "old boot" silhouette. Otherwise the BTR-40PB has the same general characteristics as the BTR-40P, or BRDM. In particular, it has four large wheels and an additional pair of smaller, retractable auxiliary wheels on each side, between the main wheels: the auxiliary wheels are only intended to be used for the crossing of difficult obstacles.

Large in relation to its weight, the BTR-40PB has sufficient buoyancy to cross water obstacles without preparation, propelling itself by means of a water-jet propulsion unit. Its amphibious characteristics and turret-mounted armament make the BTR-40PB an effective reconnaissance vehicle and it has been used as such by the Soviet forces since about 1966.



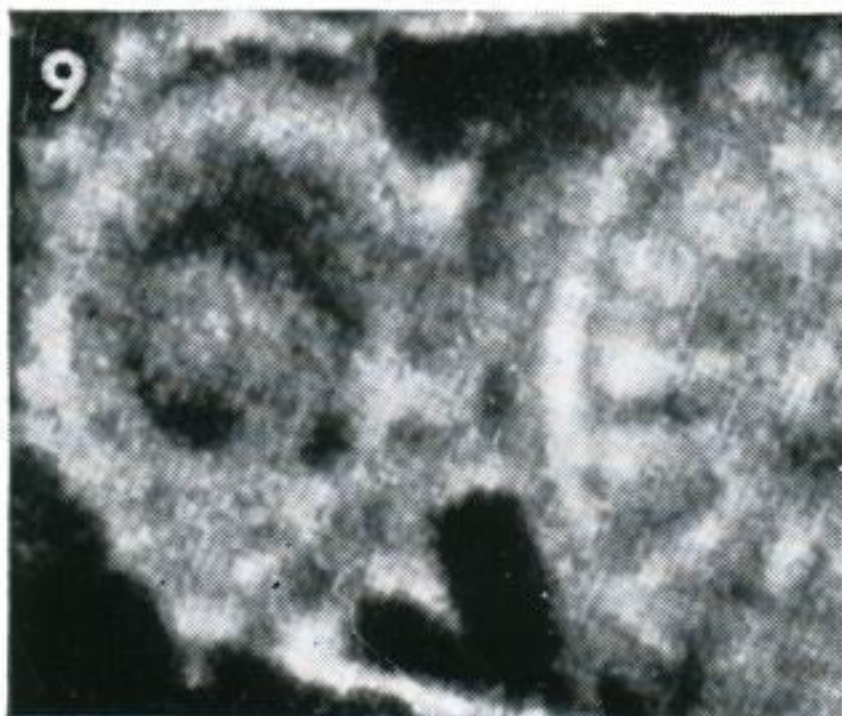
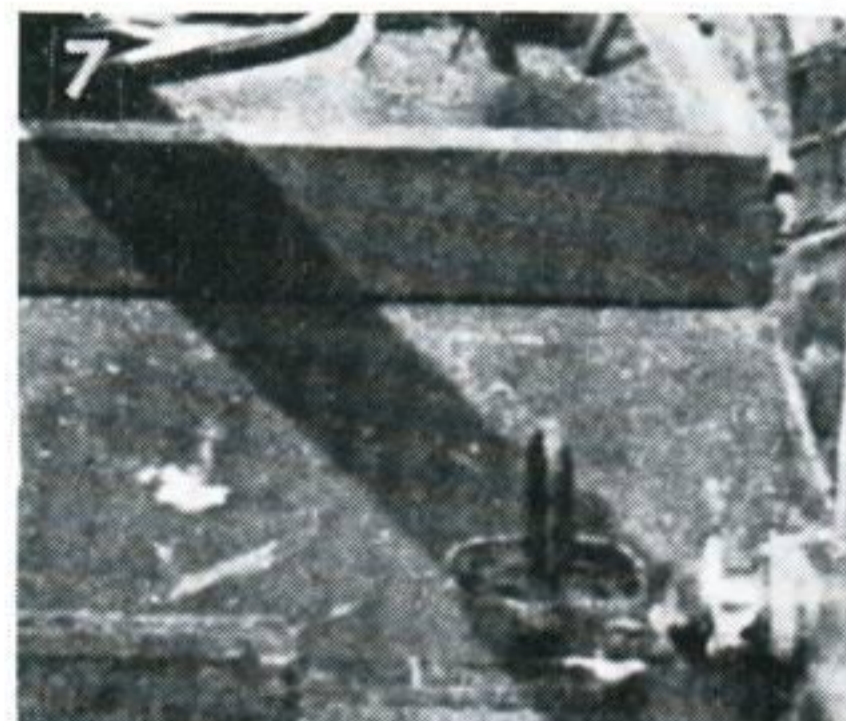
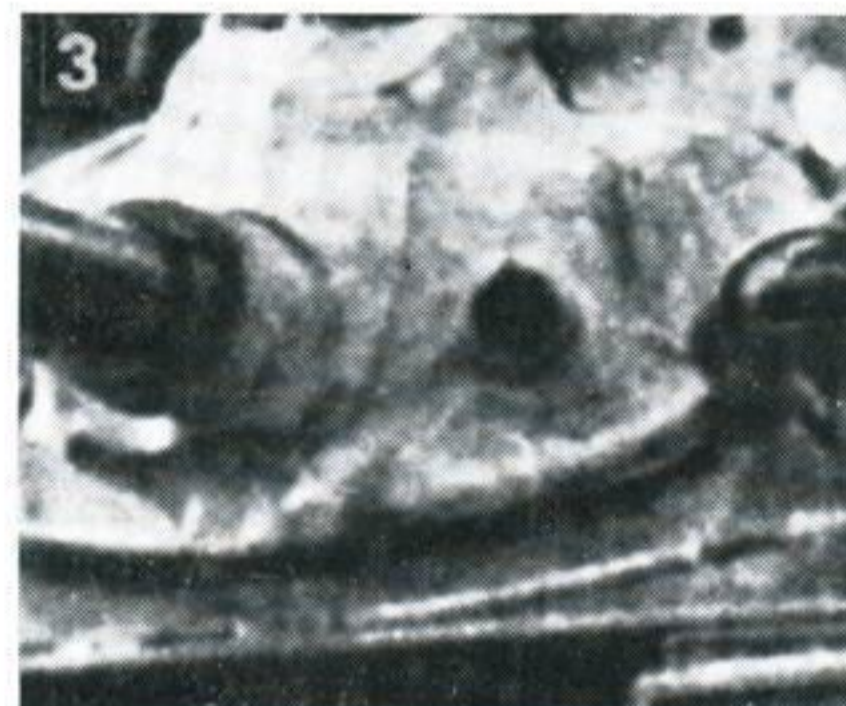
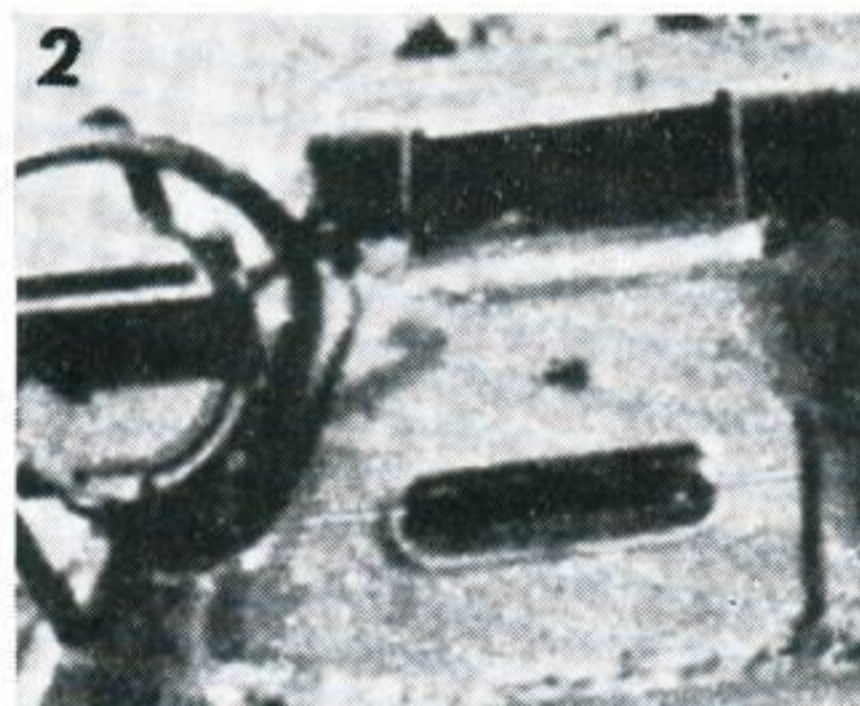
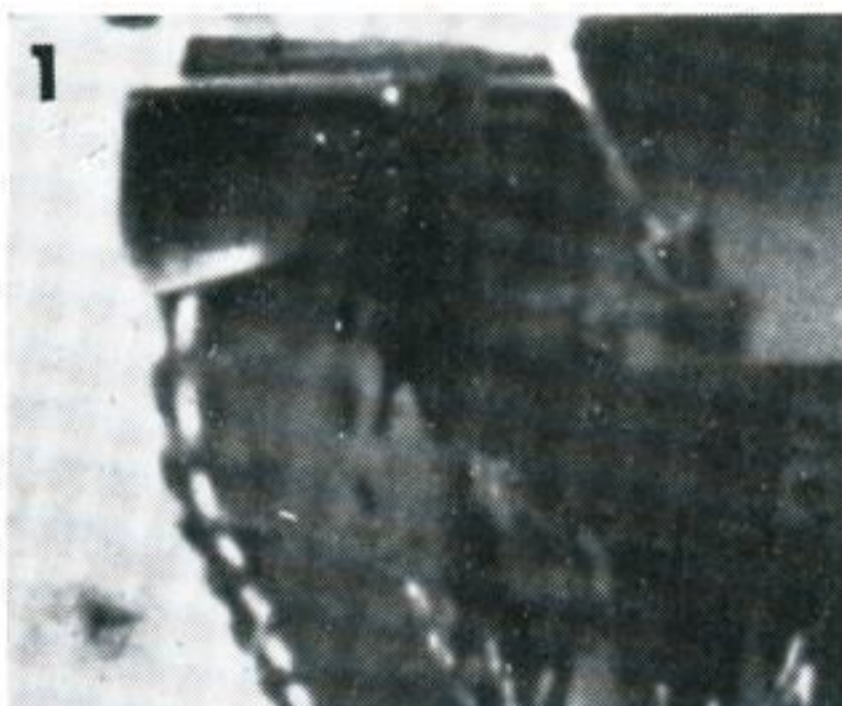


KEY

# ASU-85



The ASU-85 is the only recent example of the once popular category of turretless assault guns to be used in number by the Soviet Army. More specifically it is used by the Soviet airborne formations for which it was specifically designed. Its chassis, like that of the BTR-50P carrier, is based on that of the PT-76 light tank. But, unlike the other two, it is not amphibious. However, it has the same type of running gear with six road wheels per side and no return rollers. Its main armament consists of an 85-mm. gun with a characteristic double-baffle muzzle brake and a fume extractor approximately half-way up the barrel.



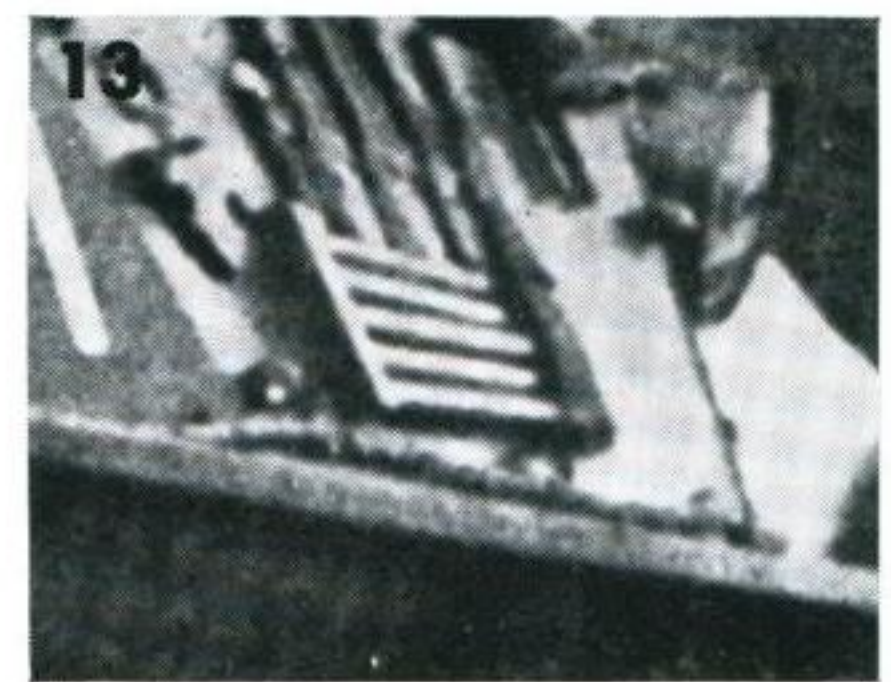


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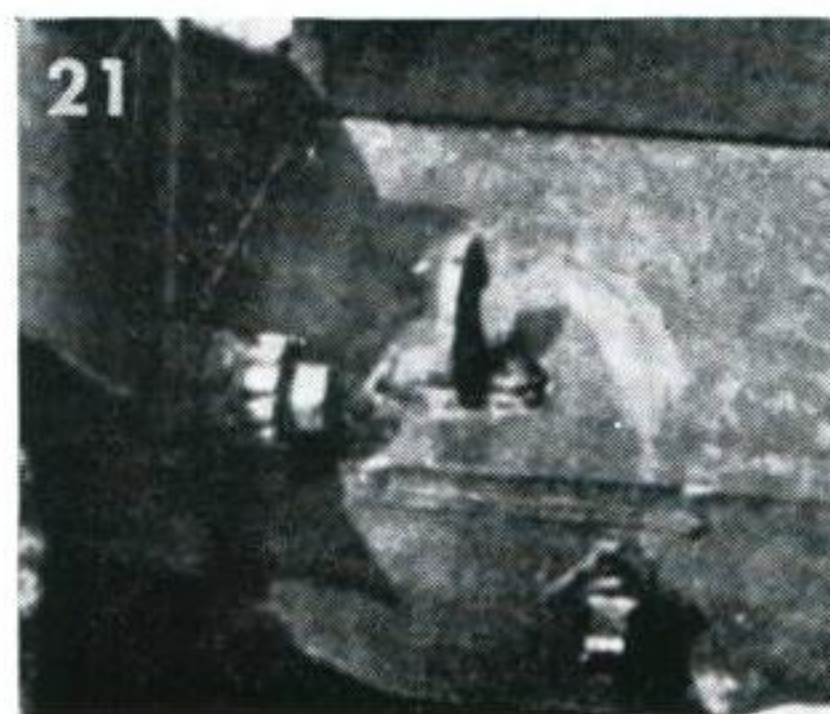
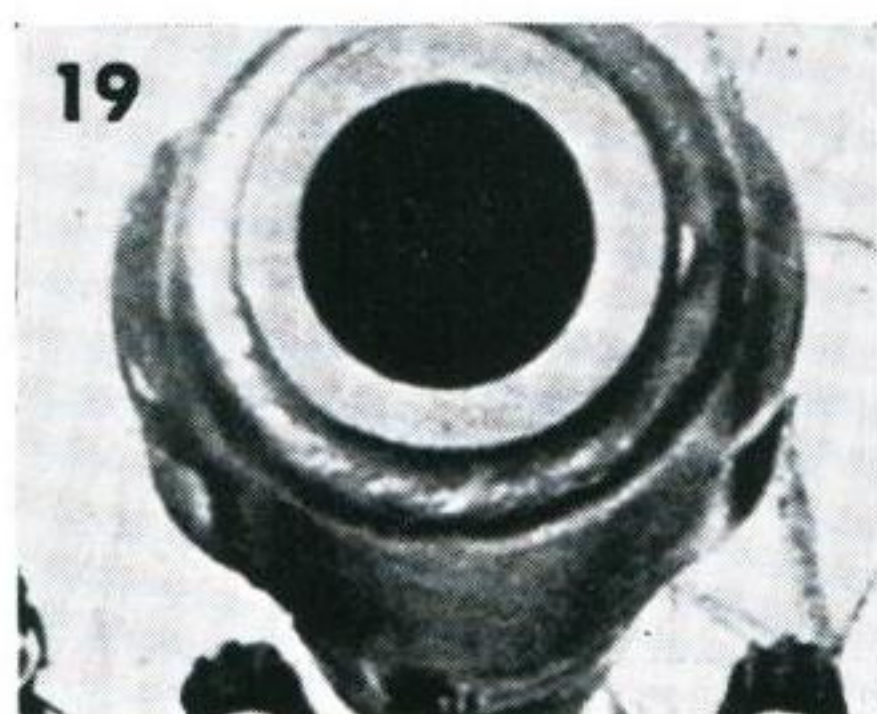
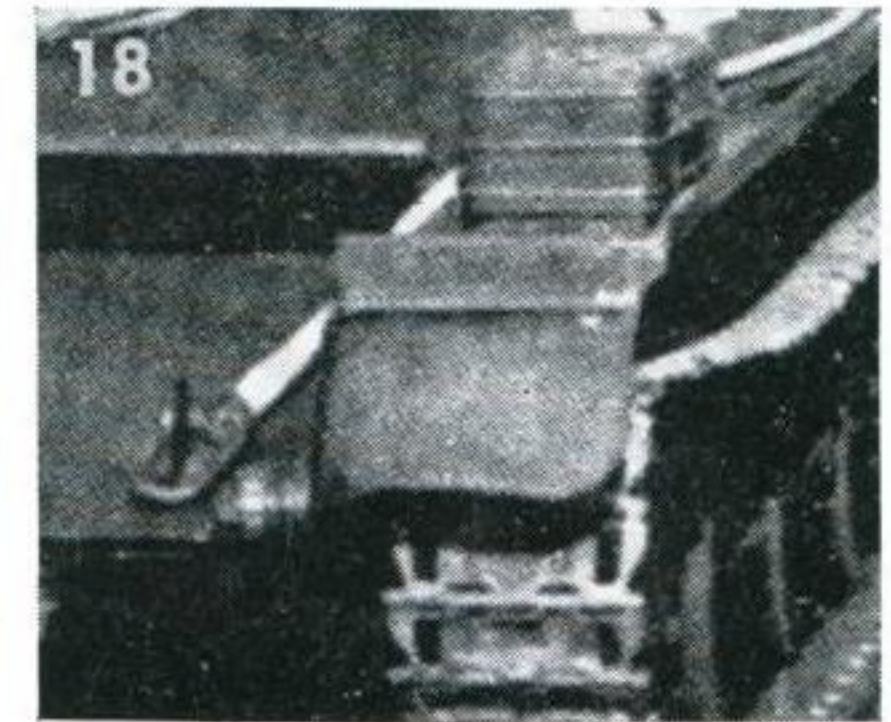
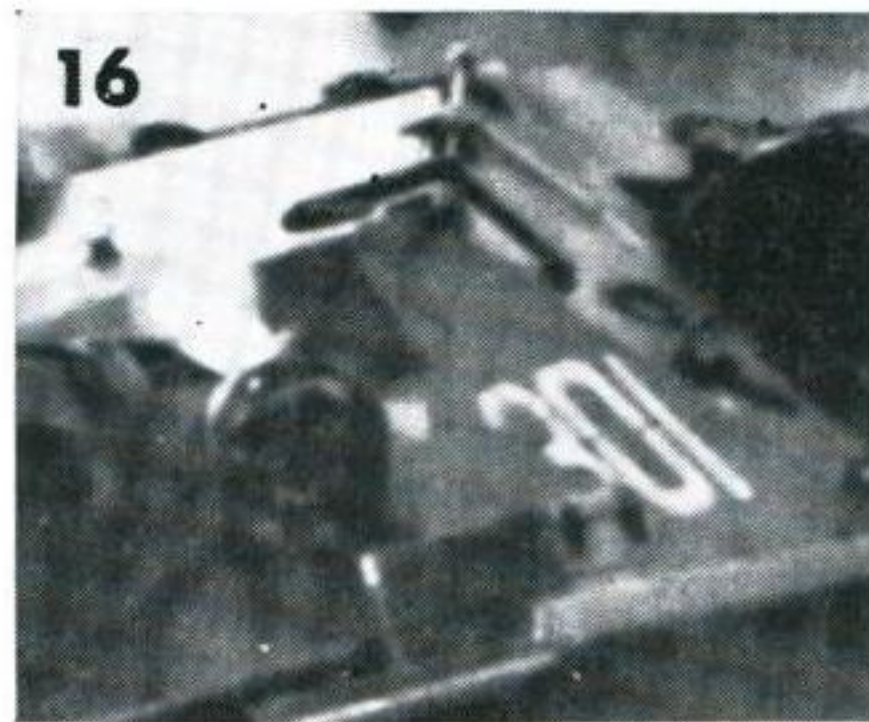
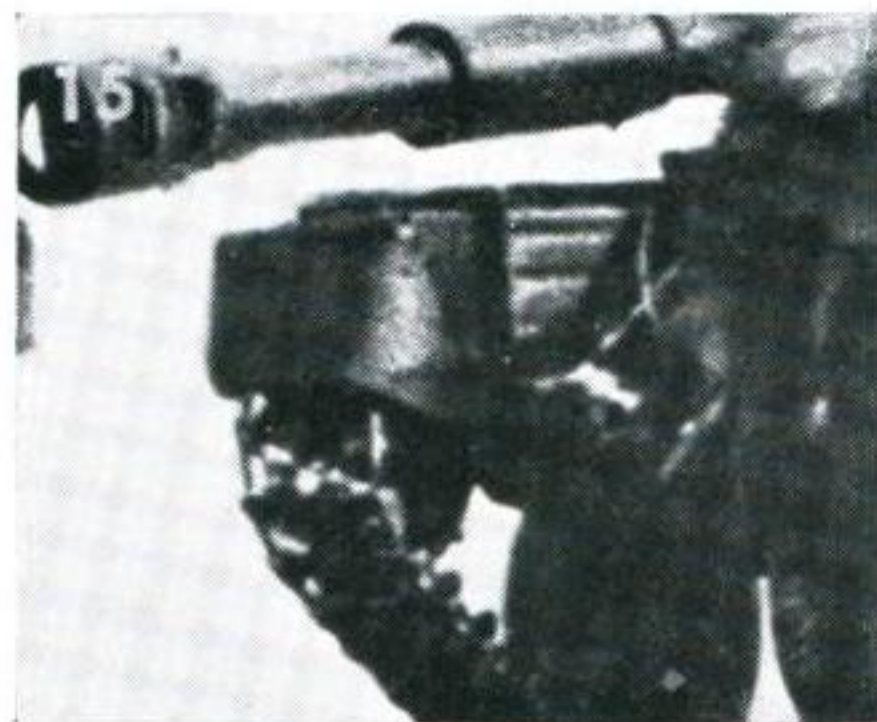




**SOVIET AIR-TRANSPORTABLE S.P. ANTI-TANK GUN**



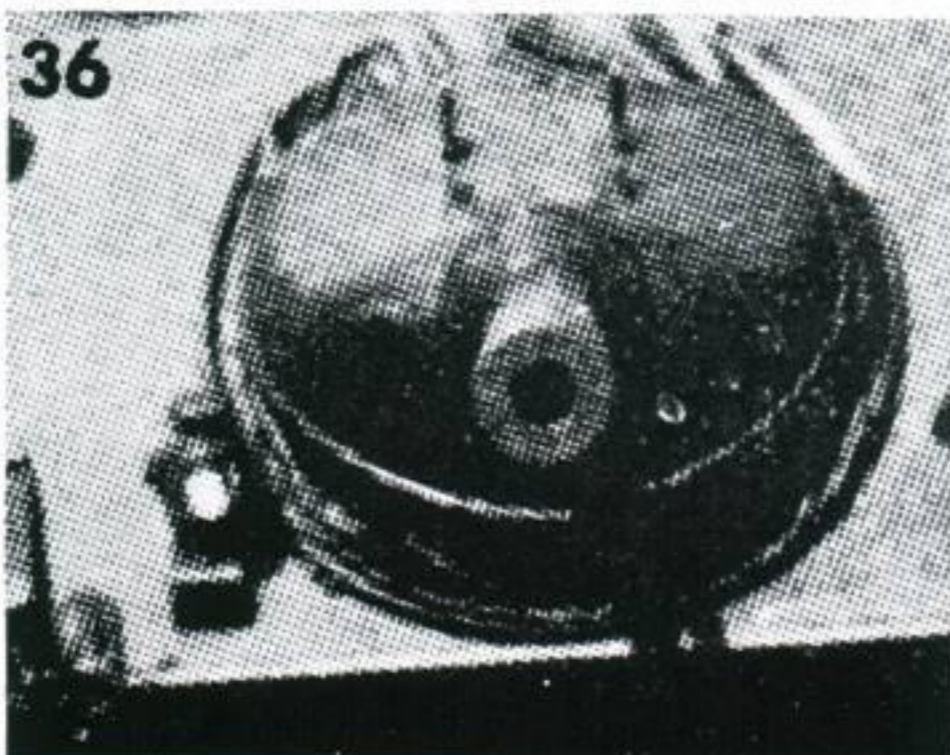
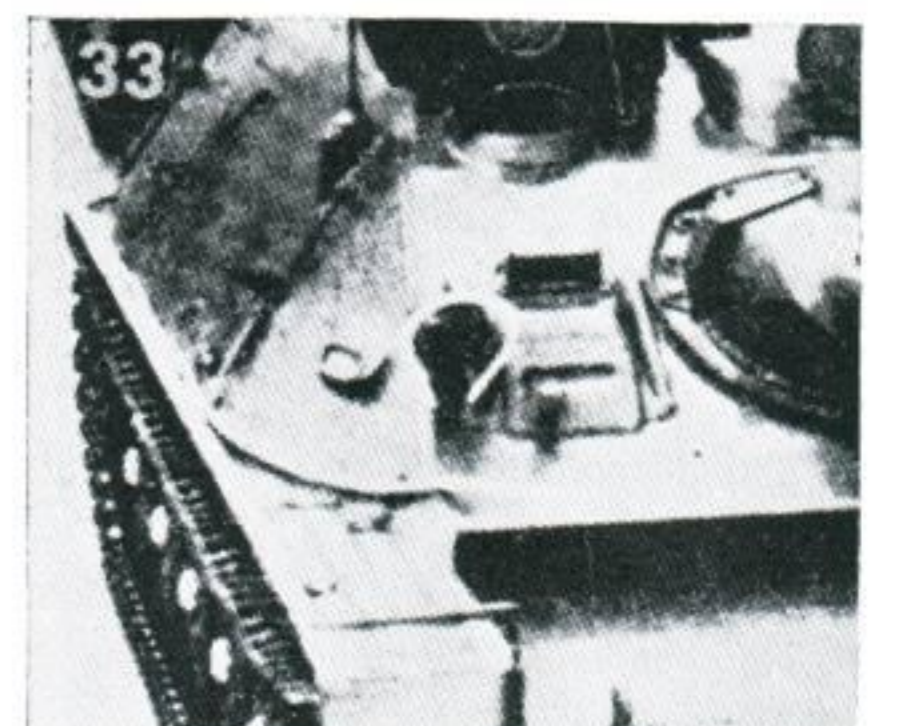
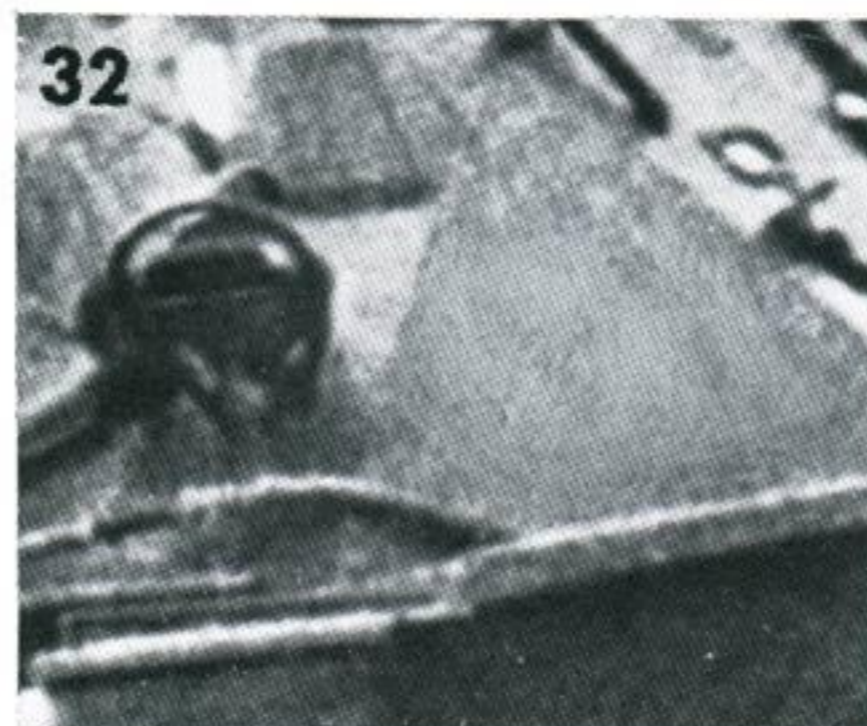
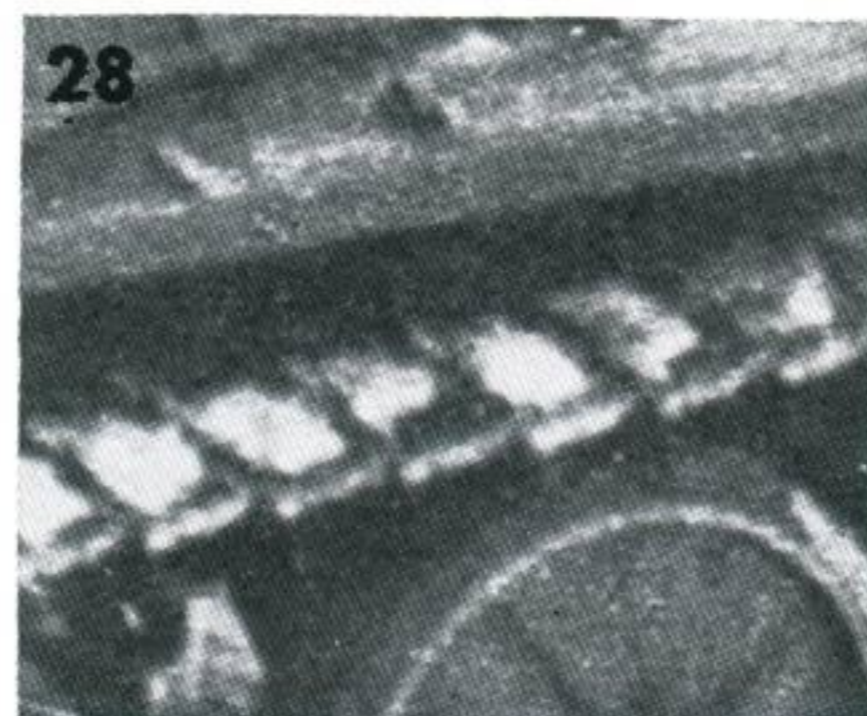
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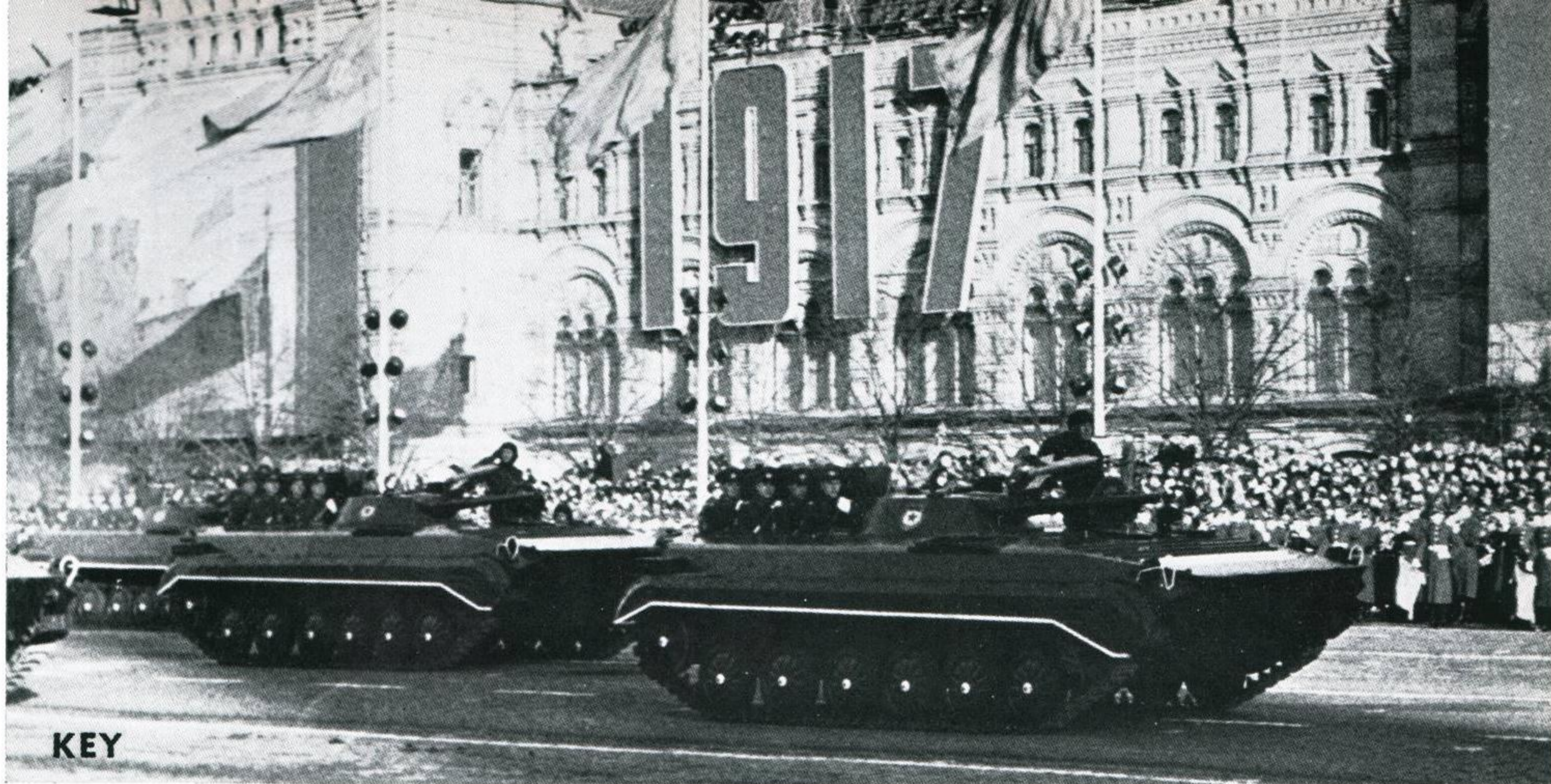


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# ASU-85 continued

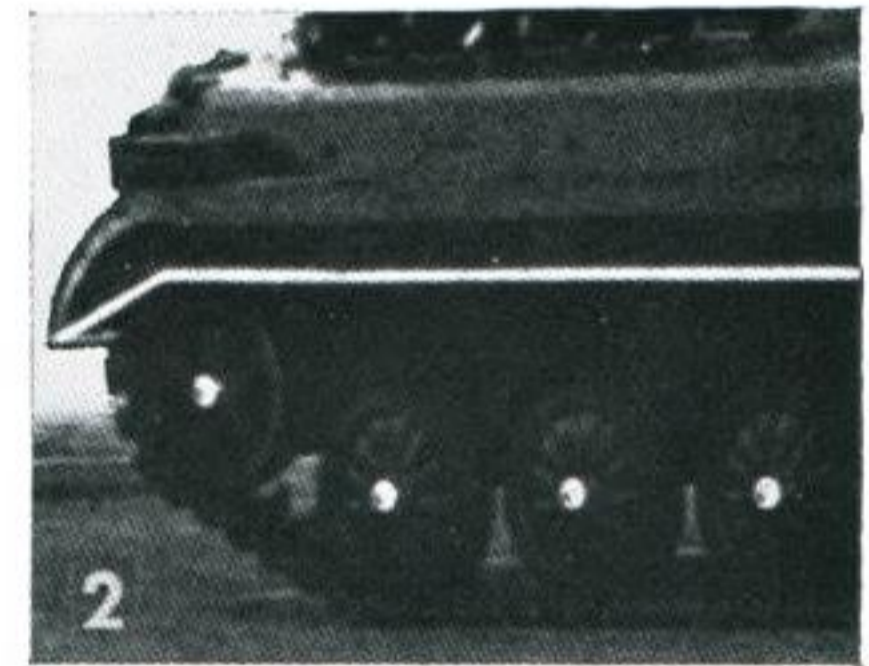
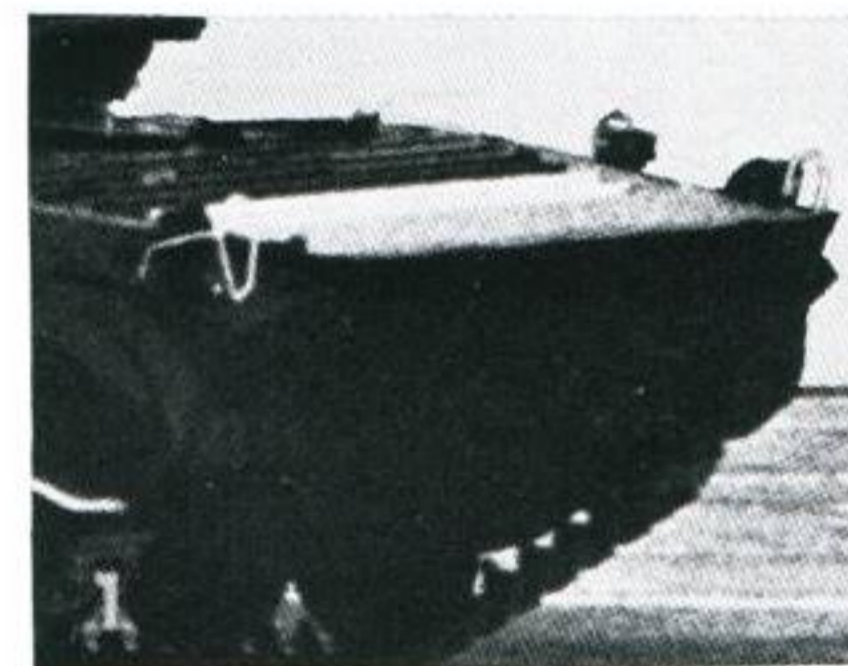
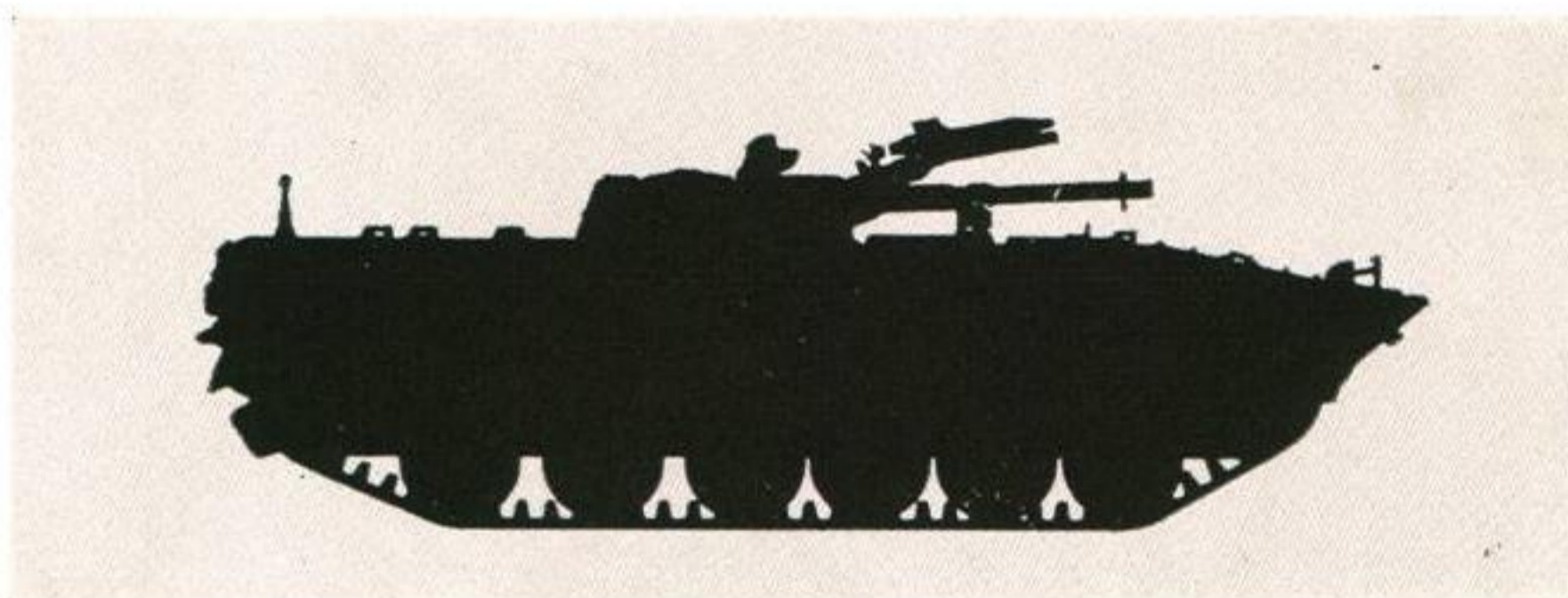




*Lesson instructions and solutions are on the back cover*

## **RUSSIAN Armoured Personnel Carrier 1967 model**

One of the latest Soviet armoured vehicles is an amphibious personnel carrier which made its first public appearance at one of the Moscow parades in 1967 and is commonly referred to as "Model 1967". It is also called an Infantry Combat Vehicle, or ICV, because it differs from many of the earlier armoured personnel carriers. In particular, it is a vehicle from which the infantry can fight on the move and not merely a carrier for transporting infantrymen to fight on foot.



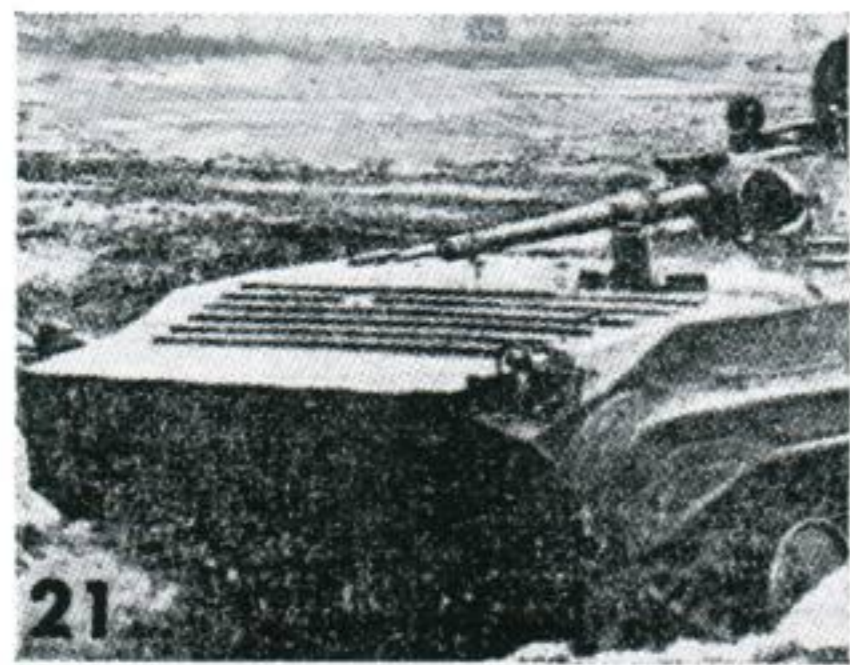
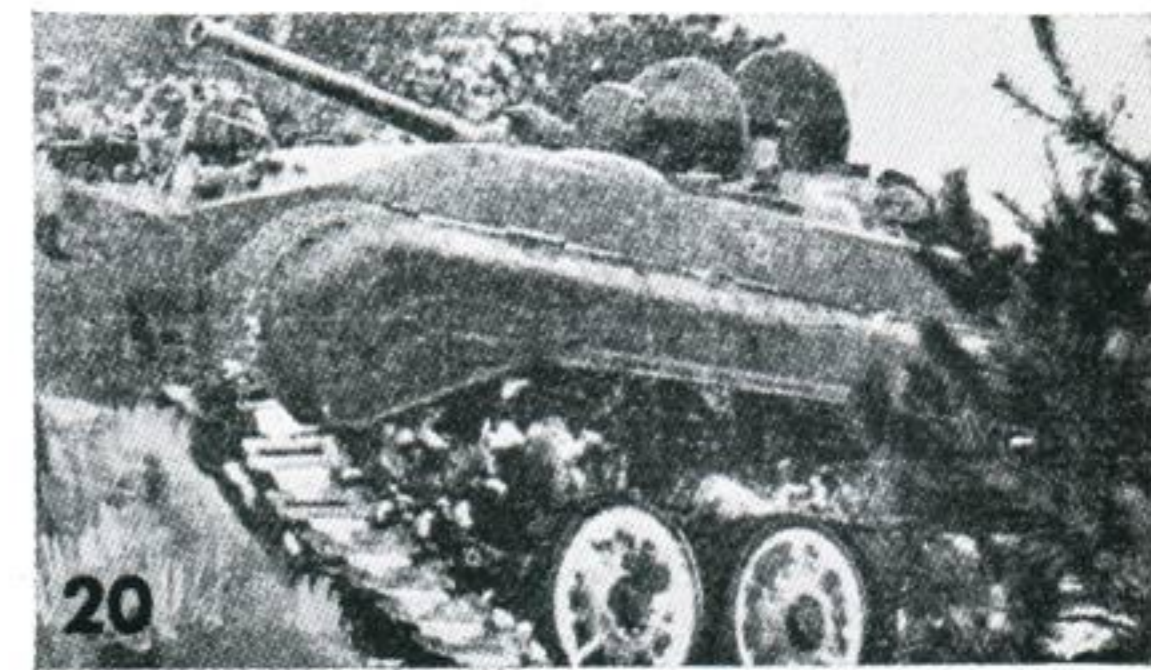
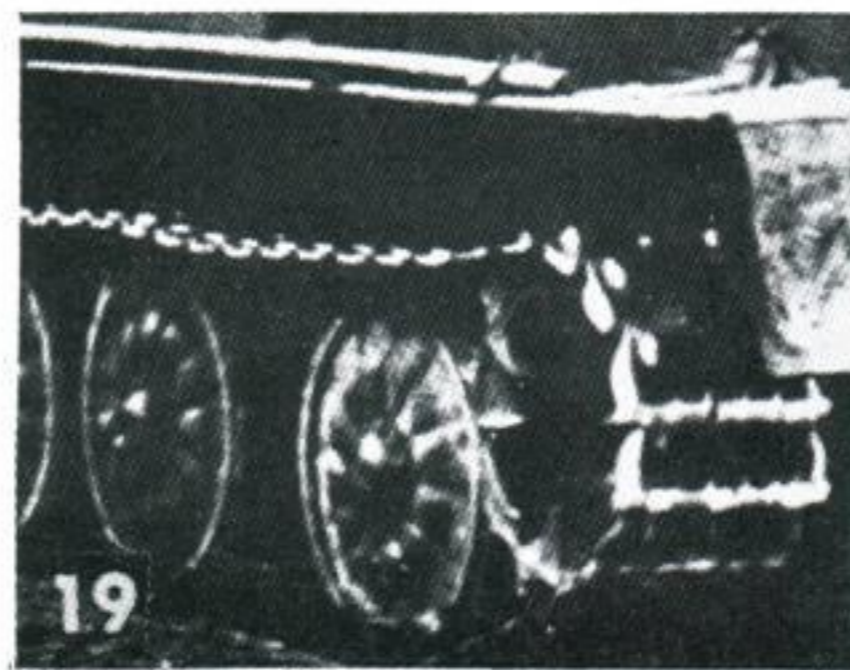
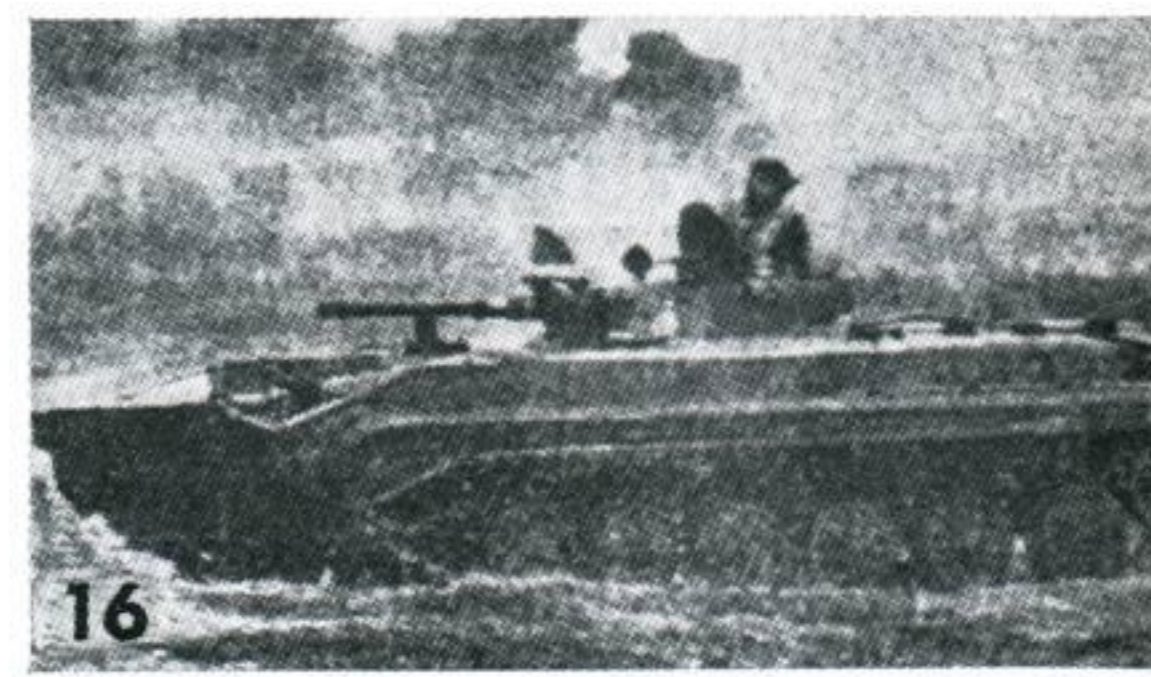
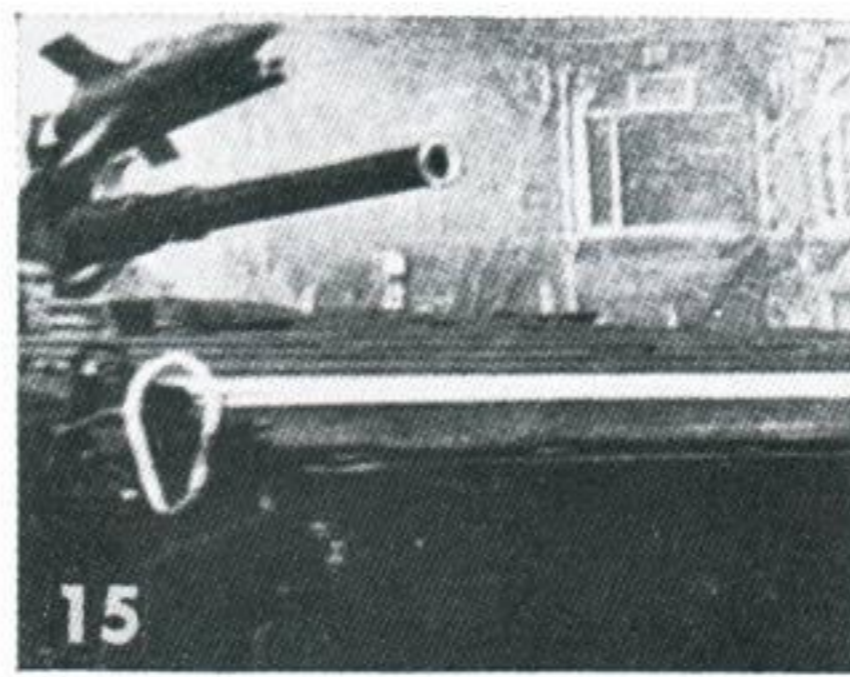
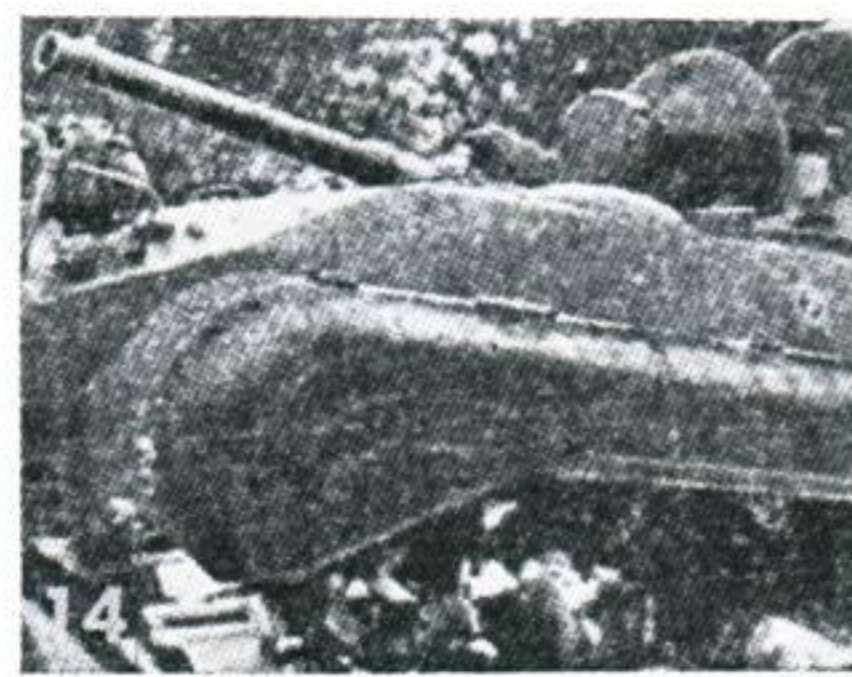
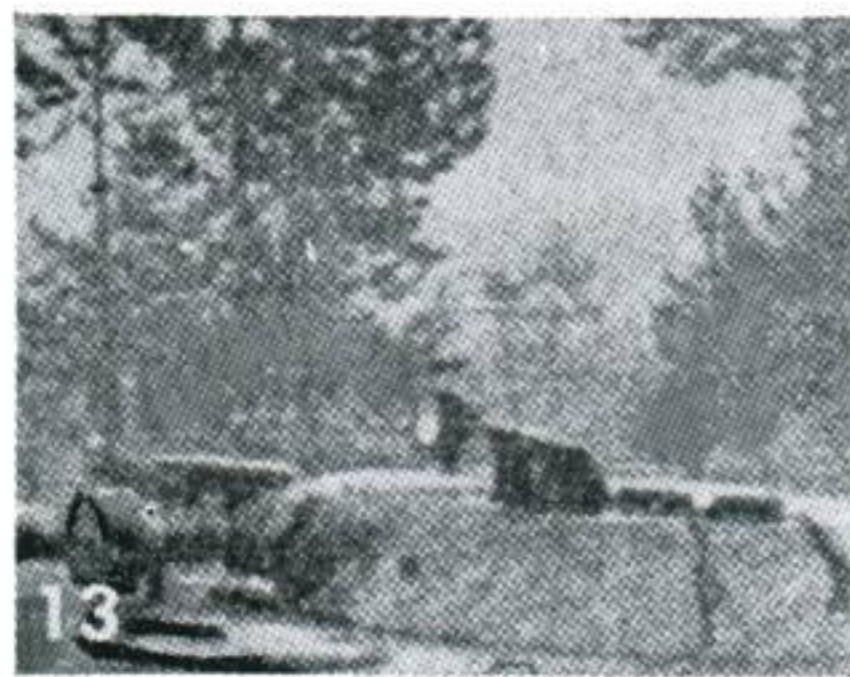
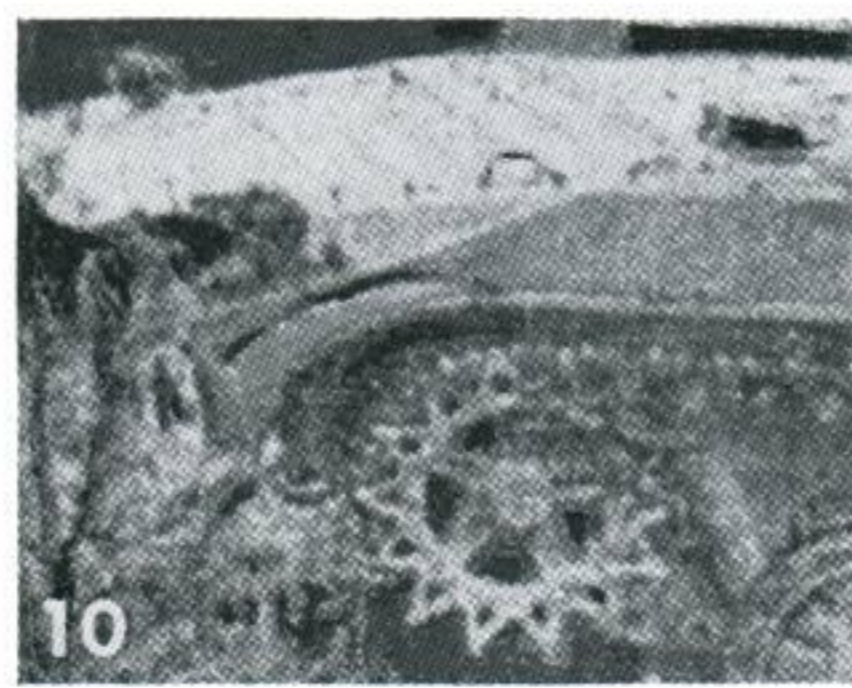
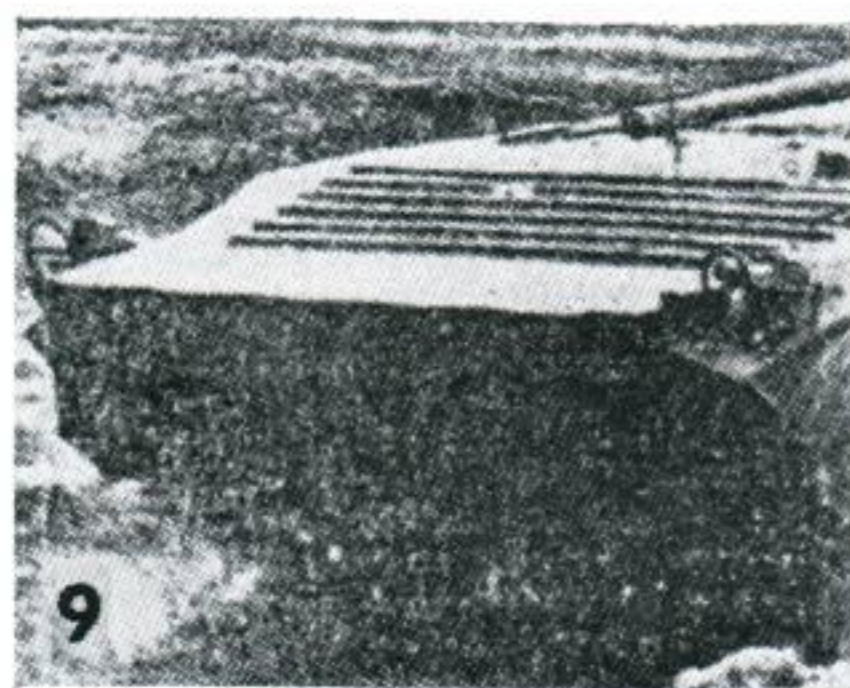
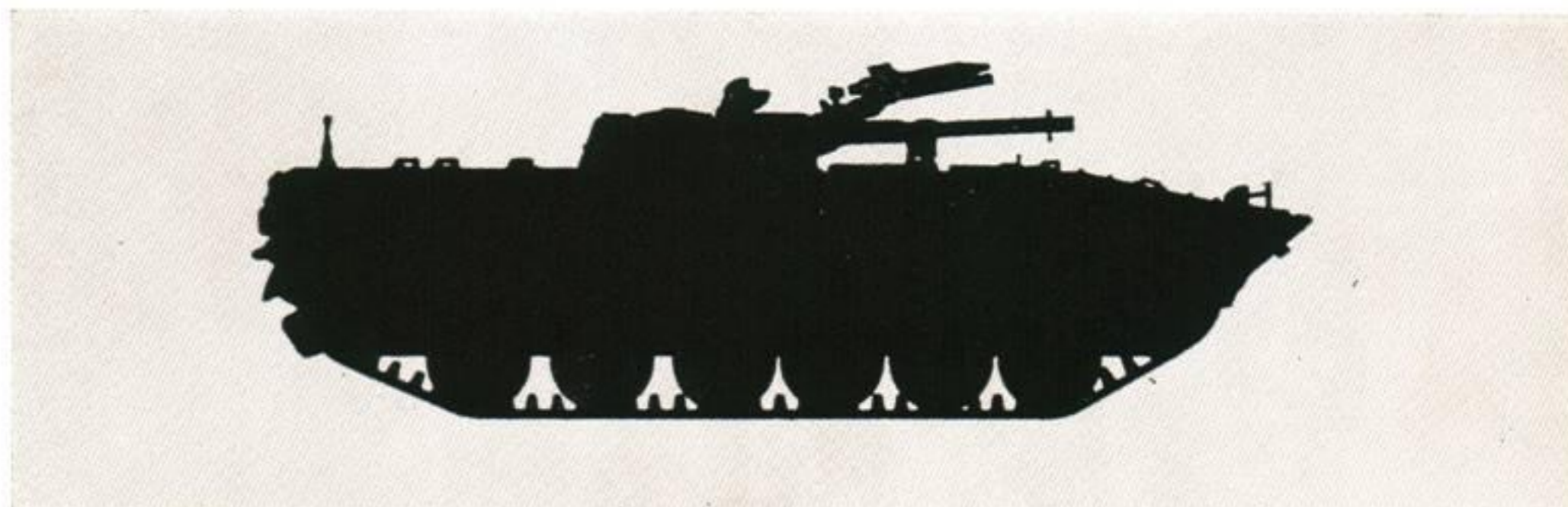
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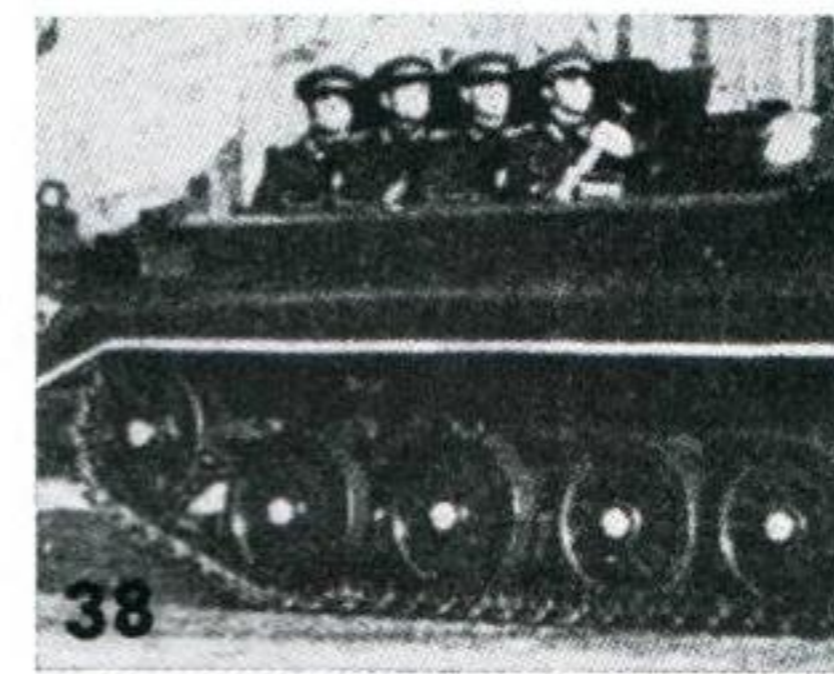
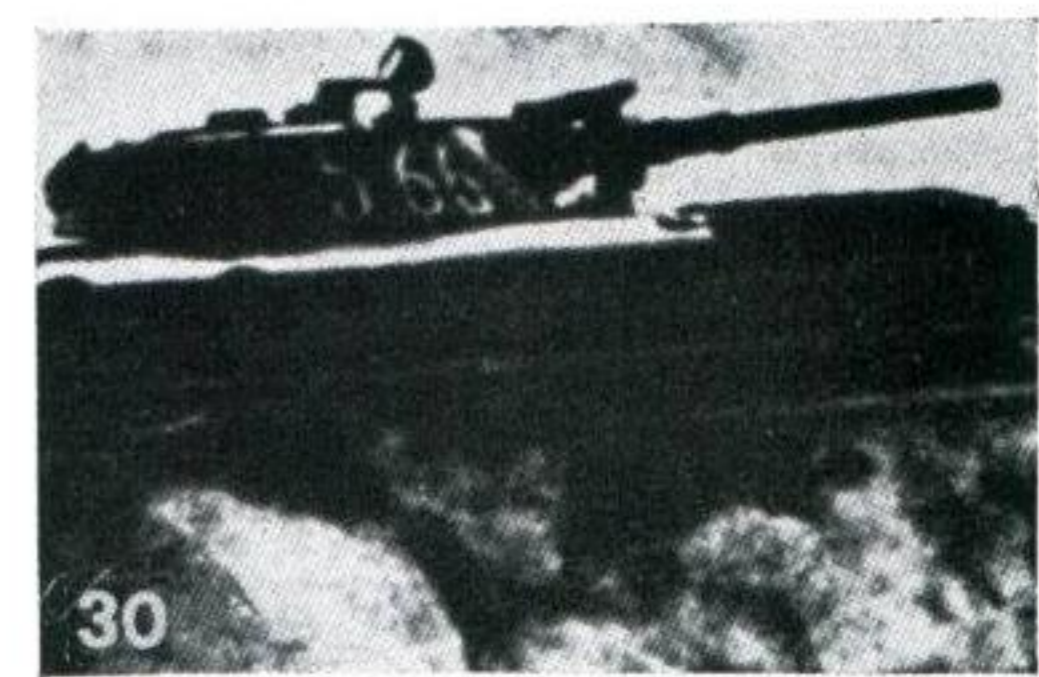
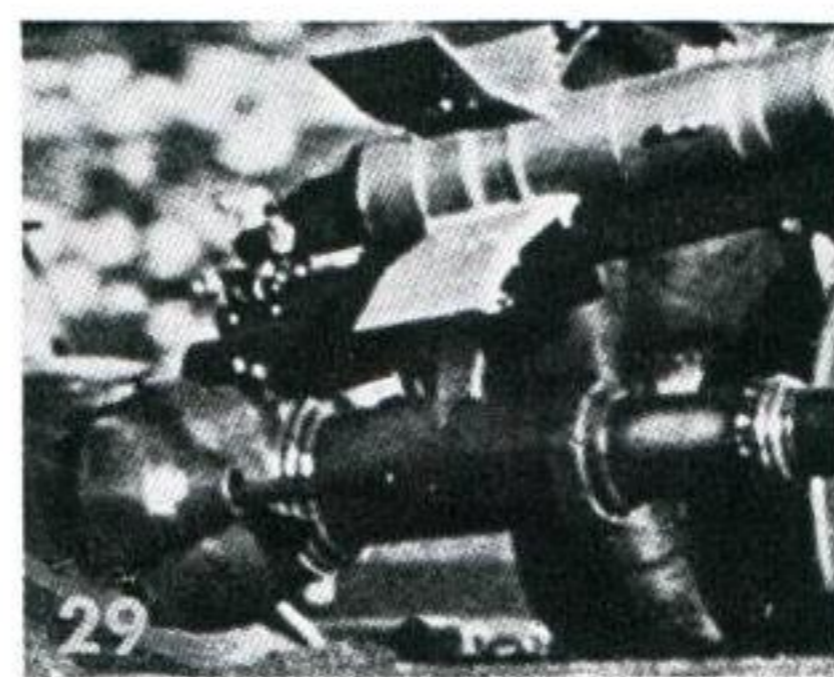
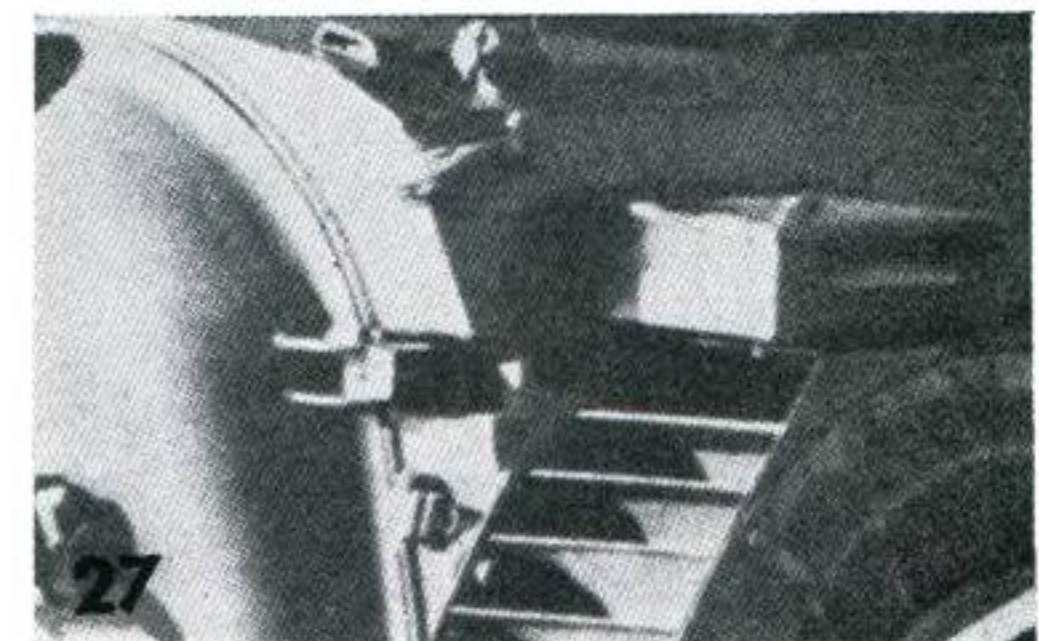
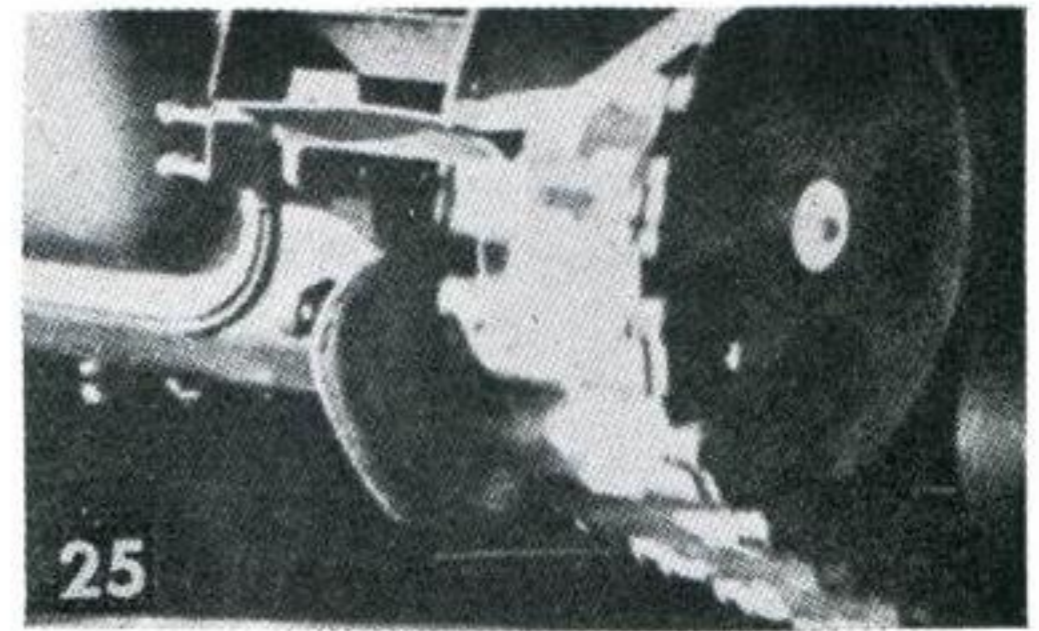
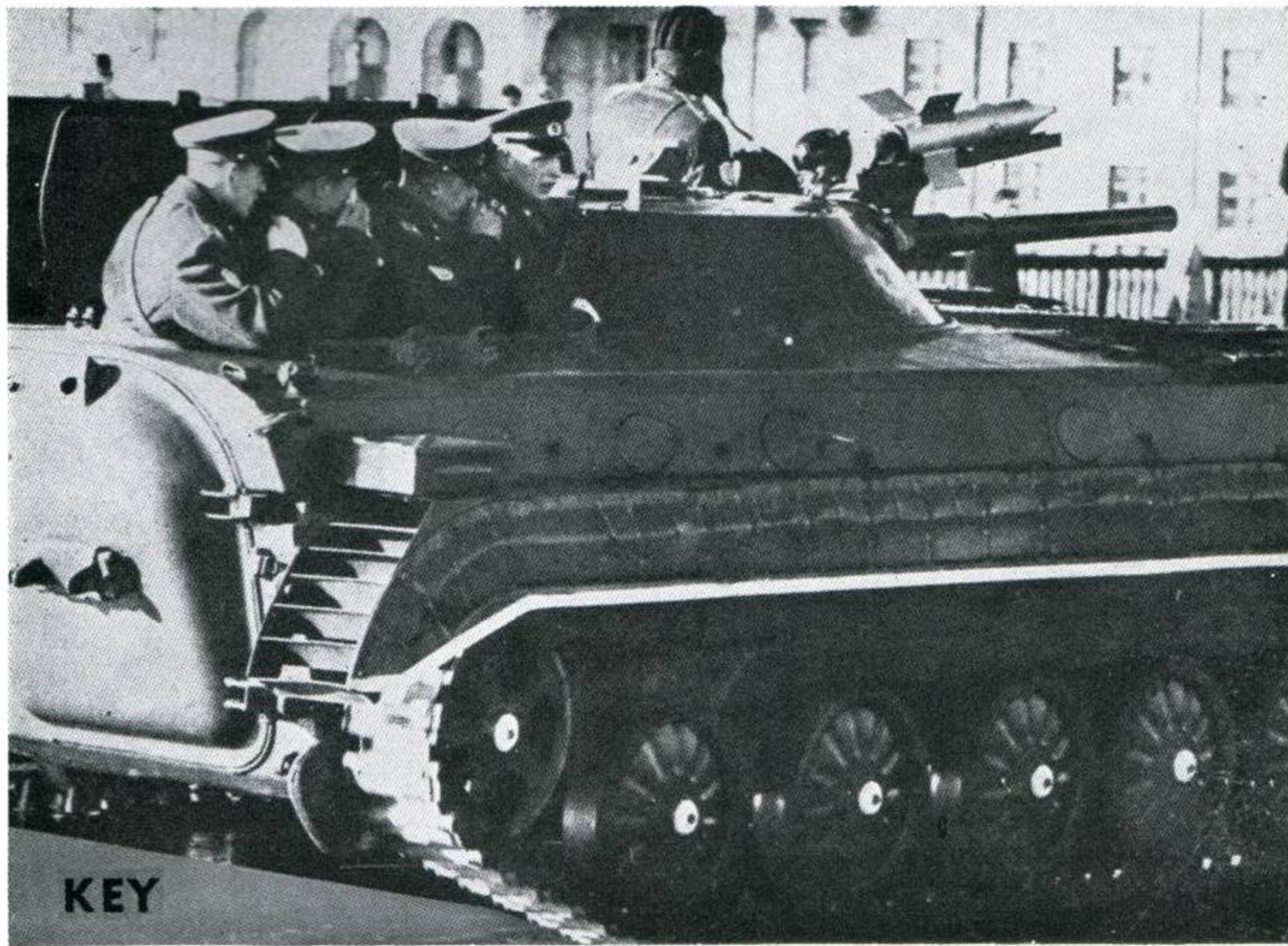
## Armoured Personnel Carrier *continued*

To enable it to fight, the new, 1967 model Soviet carrier has been provided with a turret with a low-velocity, medium-calibre gun and a 7.62-mm. machine gun. On the gun there is also a mount for a Sagger anti-tank guided missile. In addition, the eight riflemen who are carried in a compartment at the rear of the vehicle are each provided with a periscope for observation and a firing port, so that they can use their automatic rifles while they remain fully protected within the vehicle.

In addition to the riflemen and the turret gunner, there is also the carrier commander who sits behind the driver on the left side of the vehicle and ahead of the turret. The turret is in the centre of the vehicle and has the form of a very low, truncated cone. Superficially the running gear resembles that of the PT-76 tank but the track is, in fact, quite different and there are three return rollers per side. The track is also used to propel the carrier in water instead of the water-jet propulsion unit of the PT-76.

*Lesson instructions and solutions are on the back cover*





# ZSU-23-4

Self-propelled anti-aircraft gun

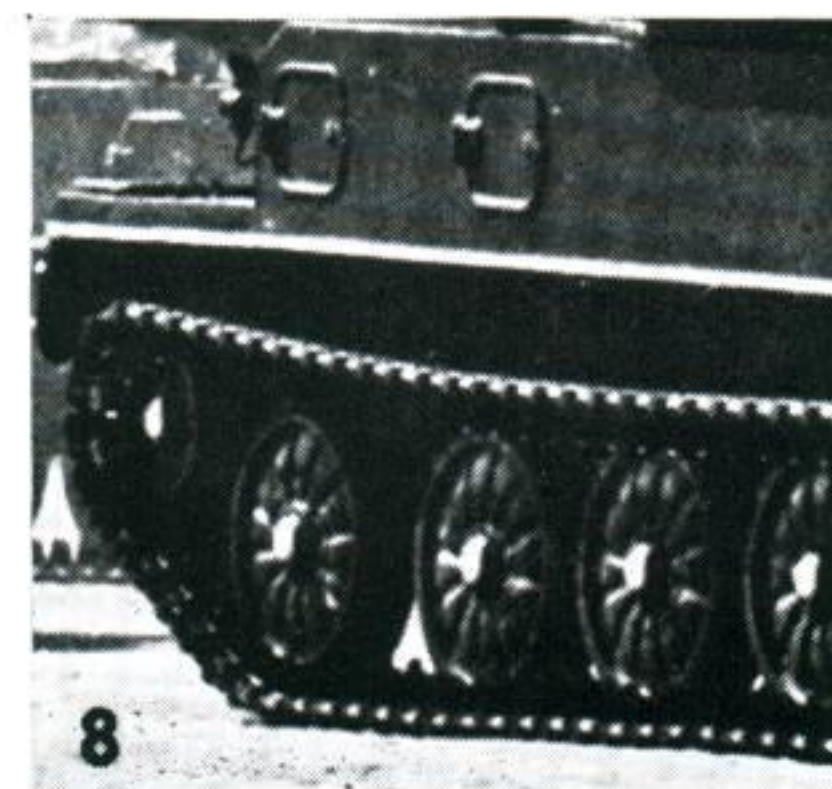
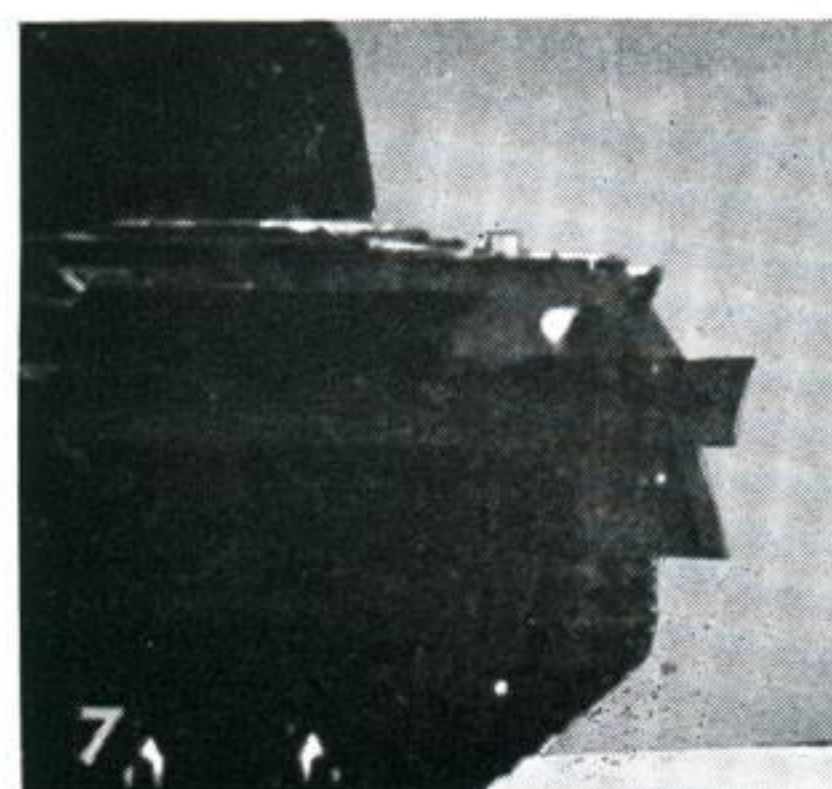
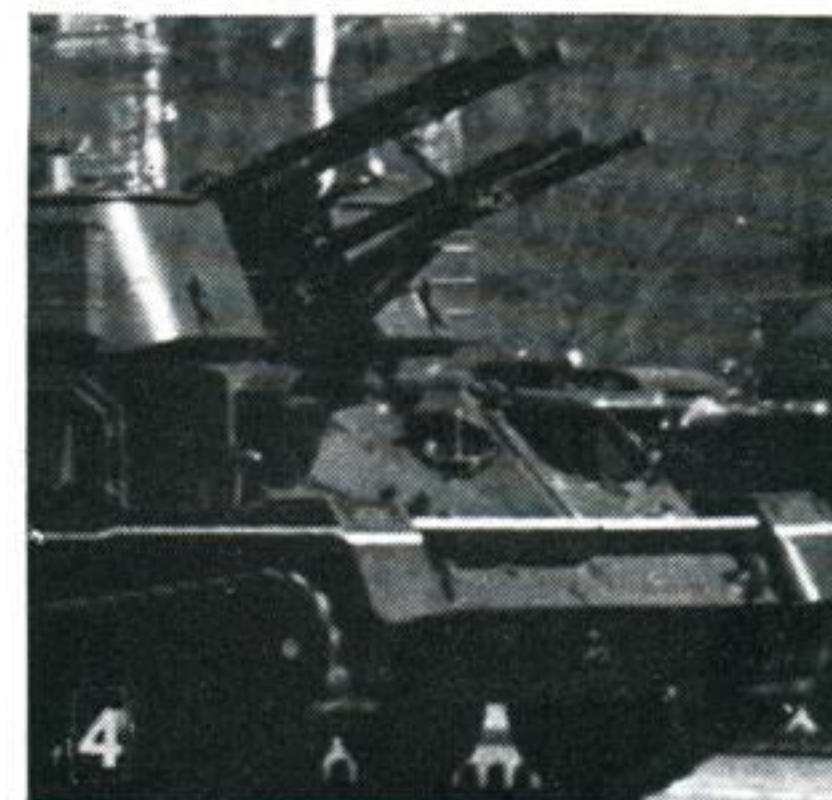
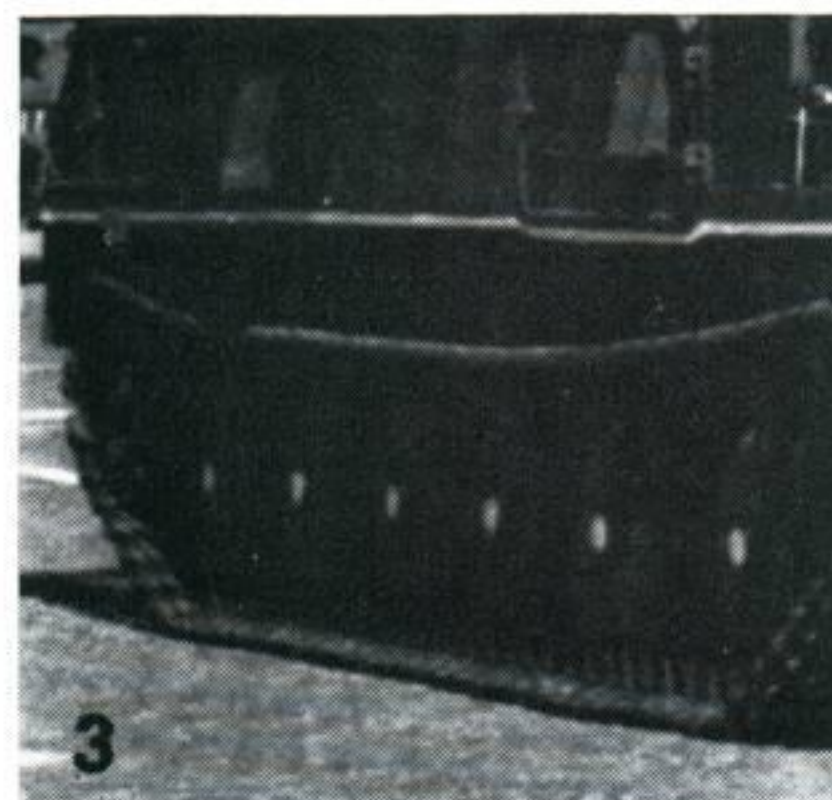
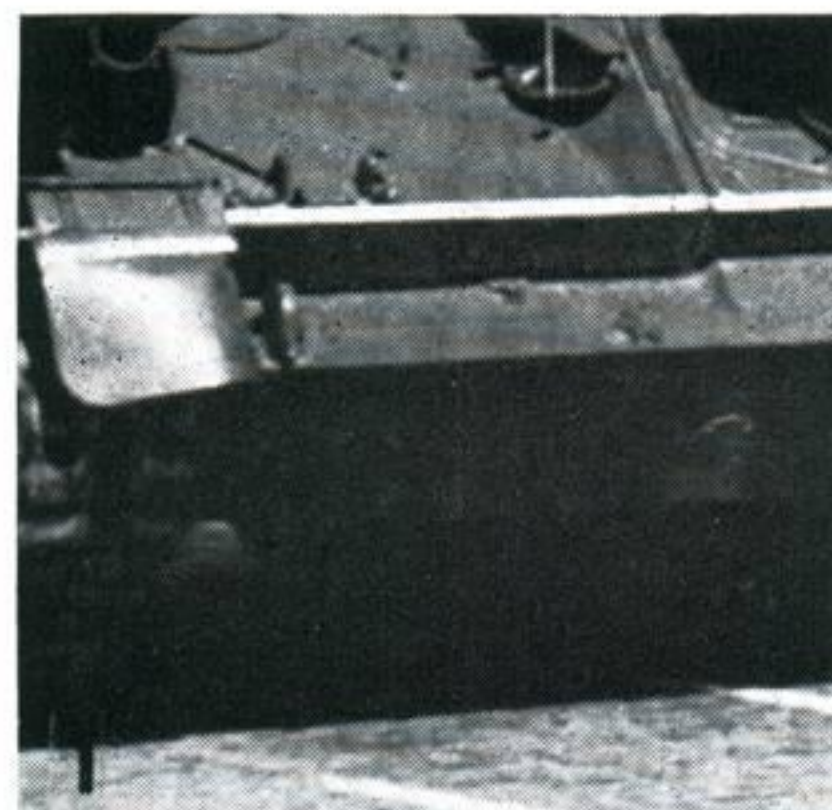


## KEY

Unlike Western armies, the Soviet Army has consistently included self-propelled anti-aircraft guns in its armoured formations and has continued to develop them. The latest outcome of this is the ZSU-23-4 which, as its name implies, mounts four 23-mm. guns. The guns are automatic and capable of a high rate of fire and their fire control system is radar-based. The ZSU-23-4 represents, therefore, an up-to-date weapon against low flying aircraft.

The four 23-mm. guns are mounted in a large box-shaped turret which is one of the recognition features of the ZSU-23-4. Even more characteristic is the radar dish of the gun fire control system, which is mounted above the rear of the turret.

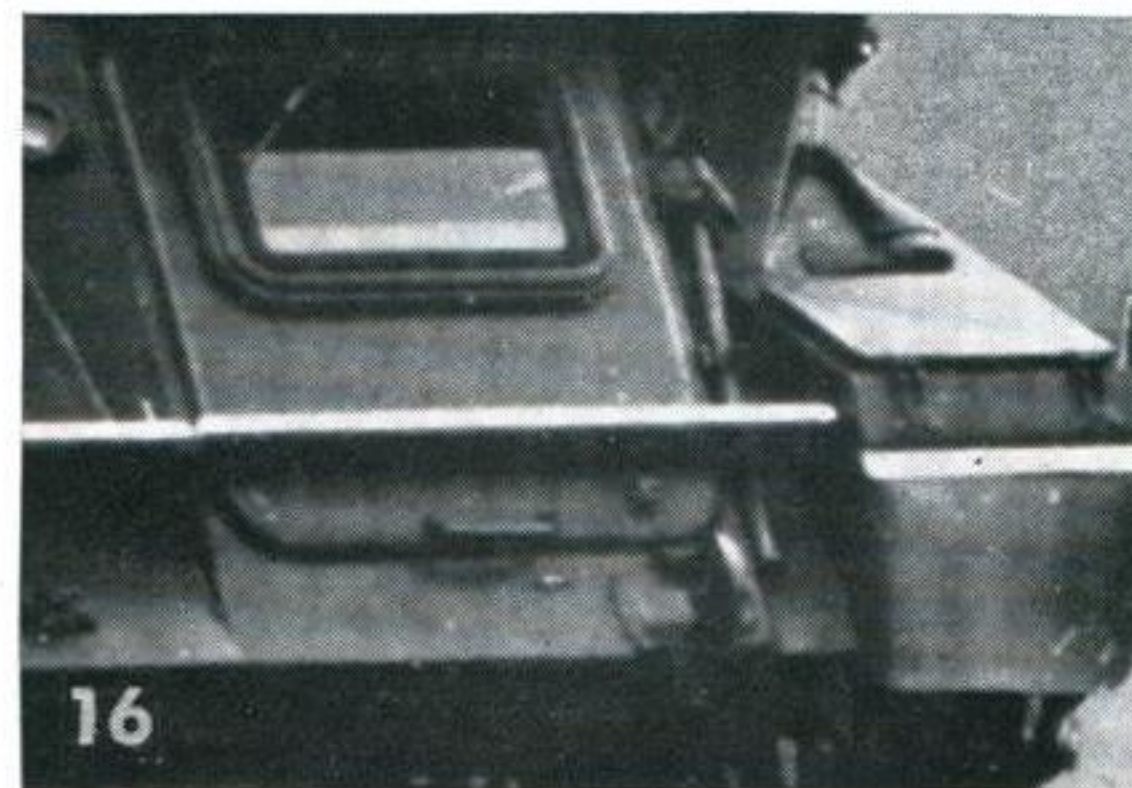
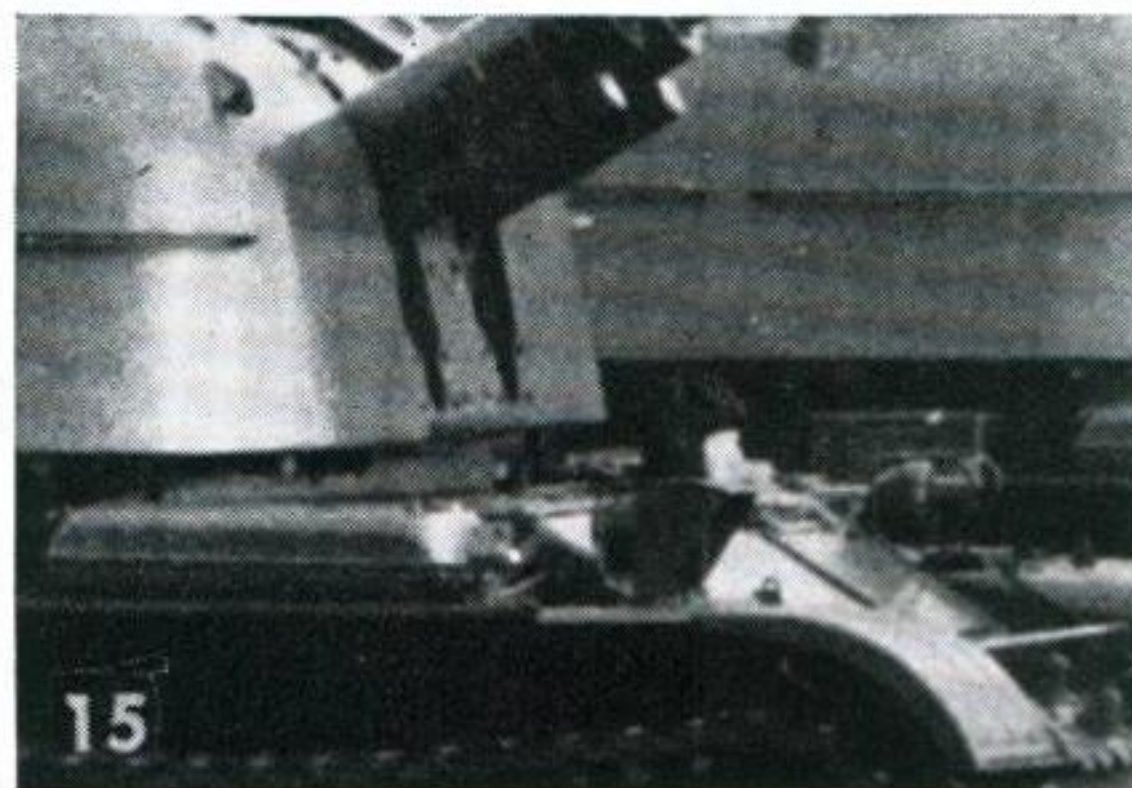
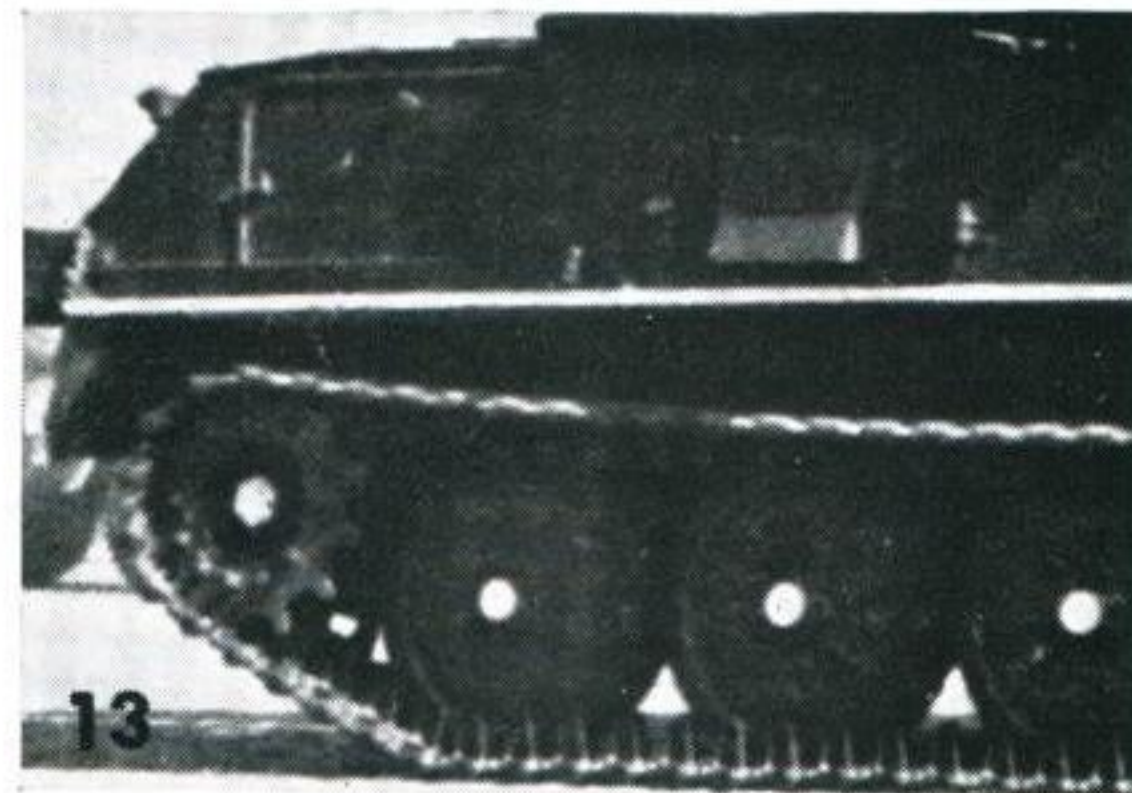
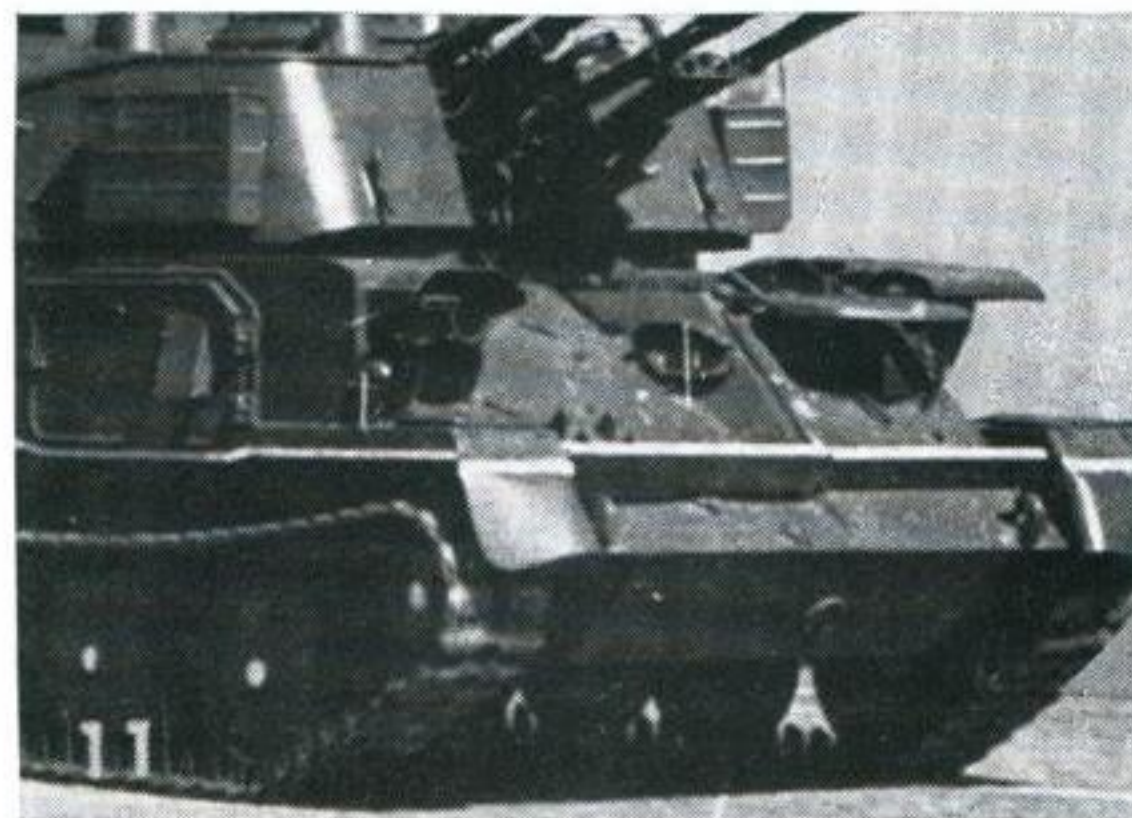
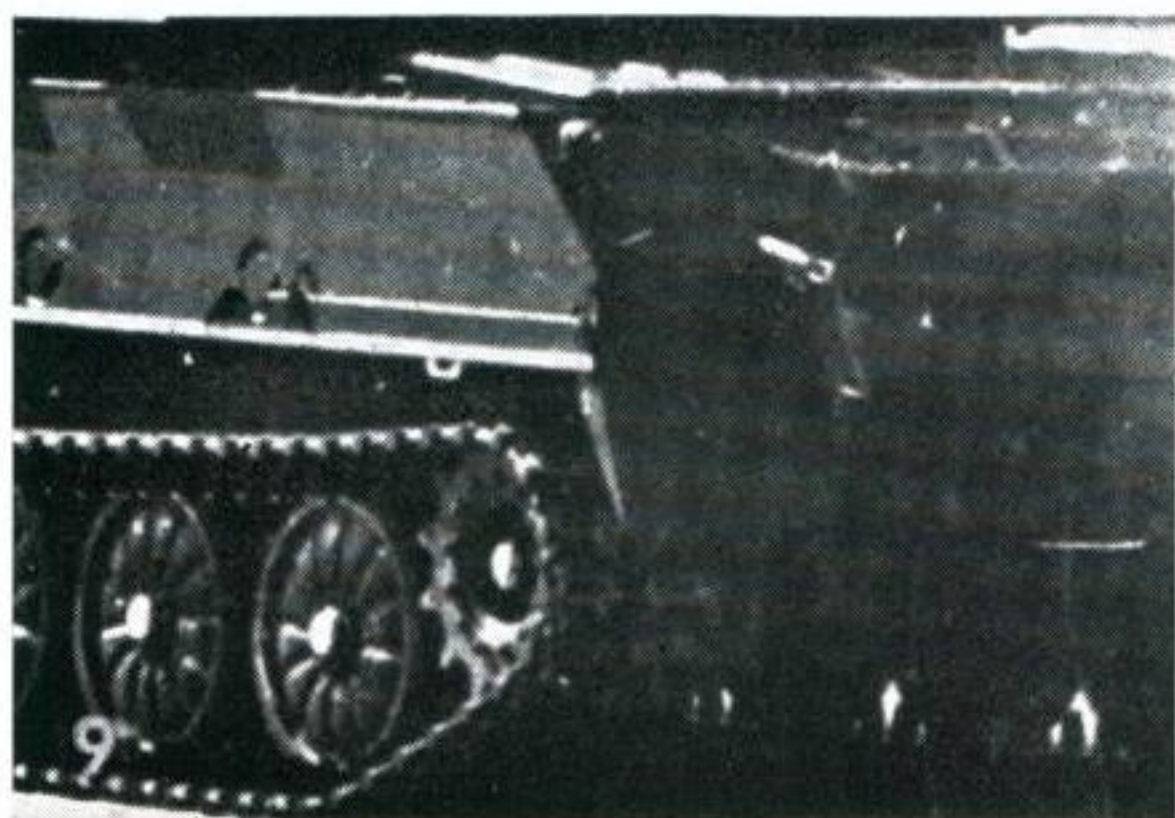
The chassis of the ZSU-23-4 is based on that of the PT-76 light tank. Its hull is, however, higher and has a steeply rising front due to the location of the driver well forward. On the other hand the track assembly is very similar to that of the PT-76 with six medium-size road wheels per side and no return rollers.





KEY

*Lesson instructions and solutions are on the back cover*

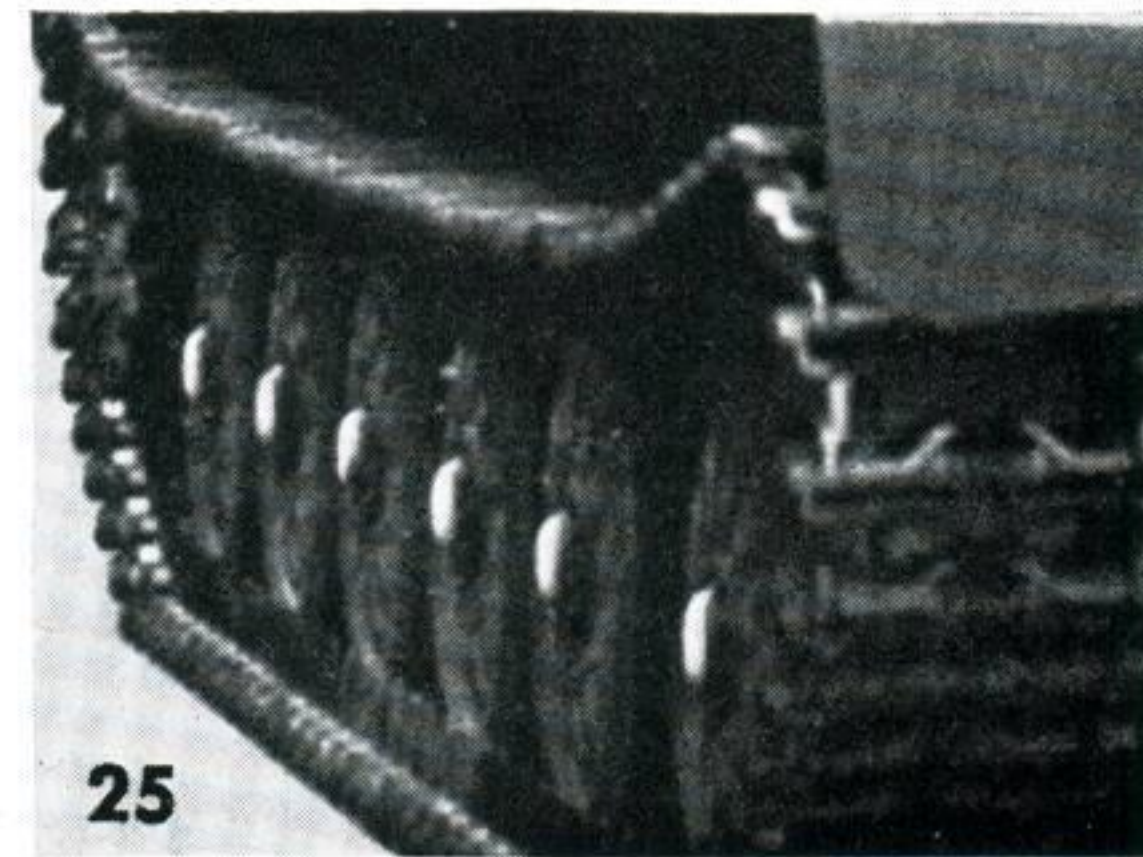
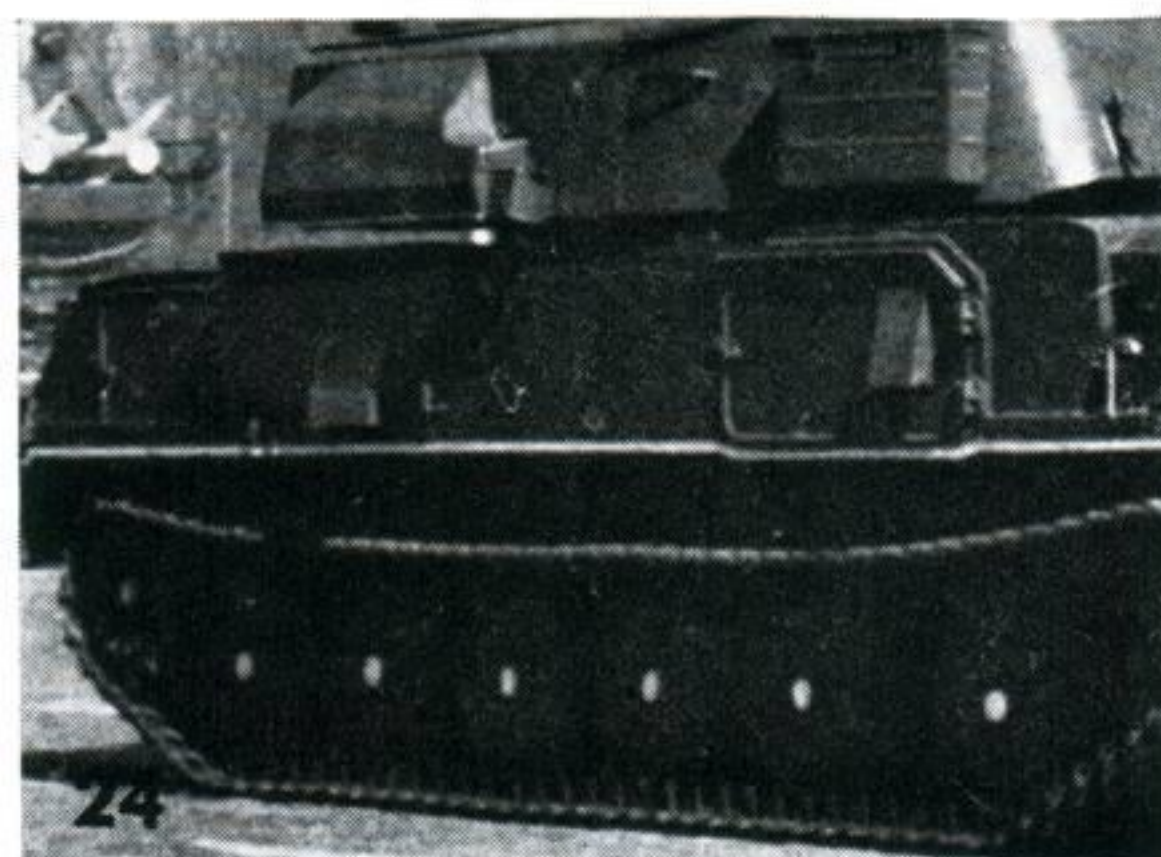
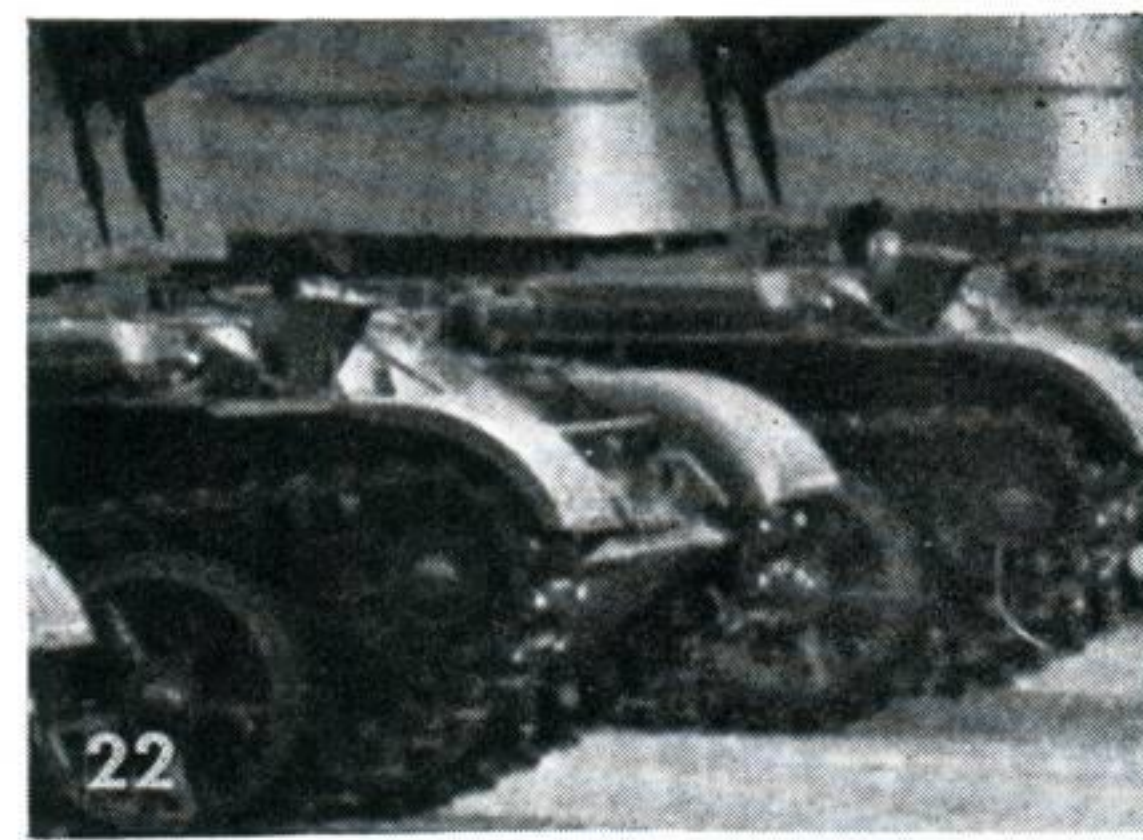
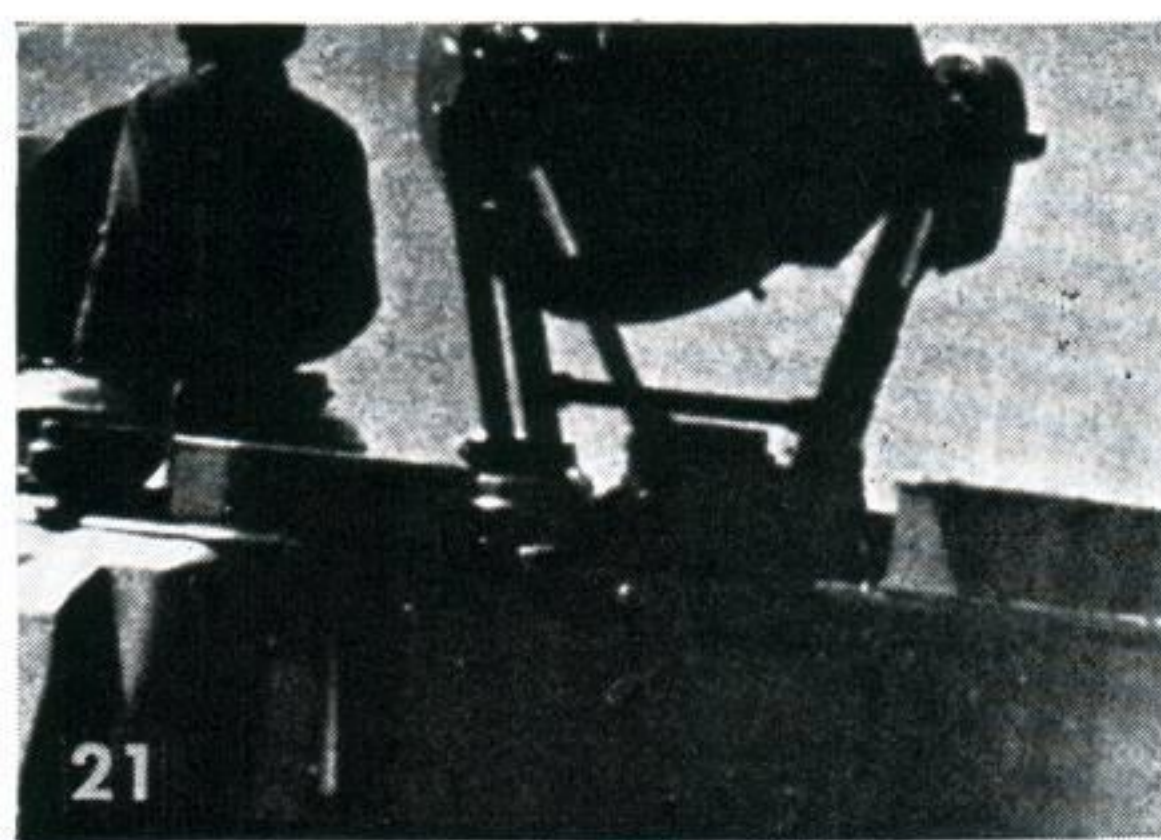
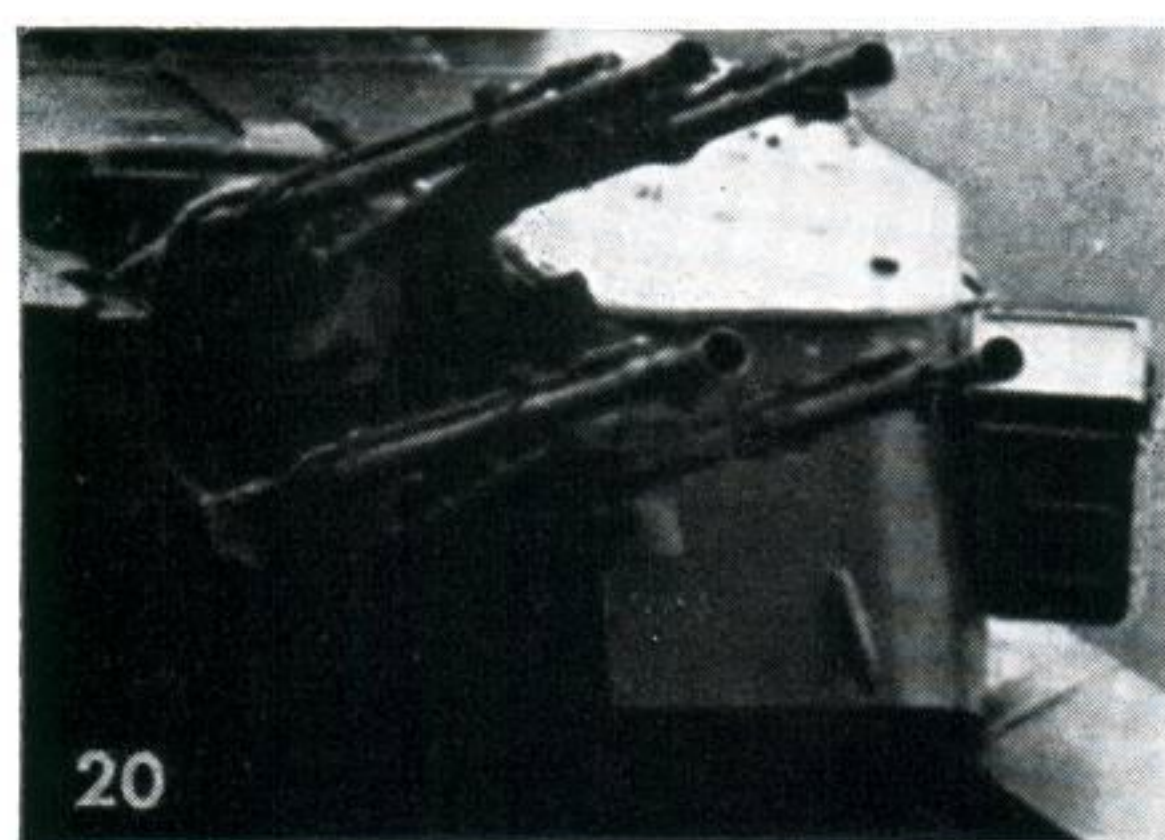
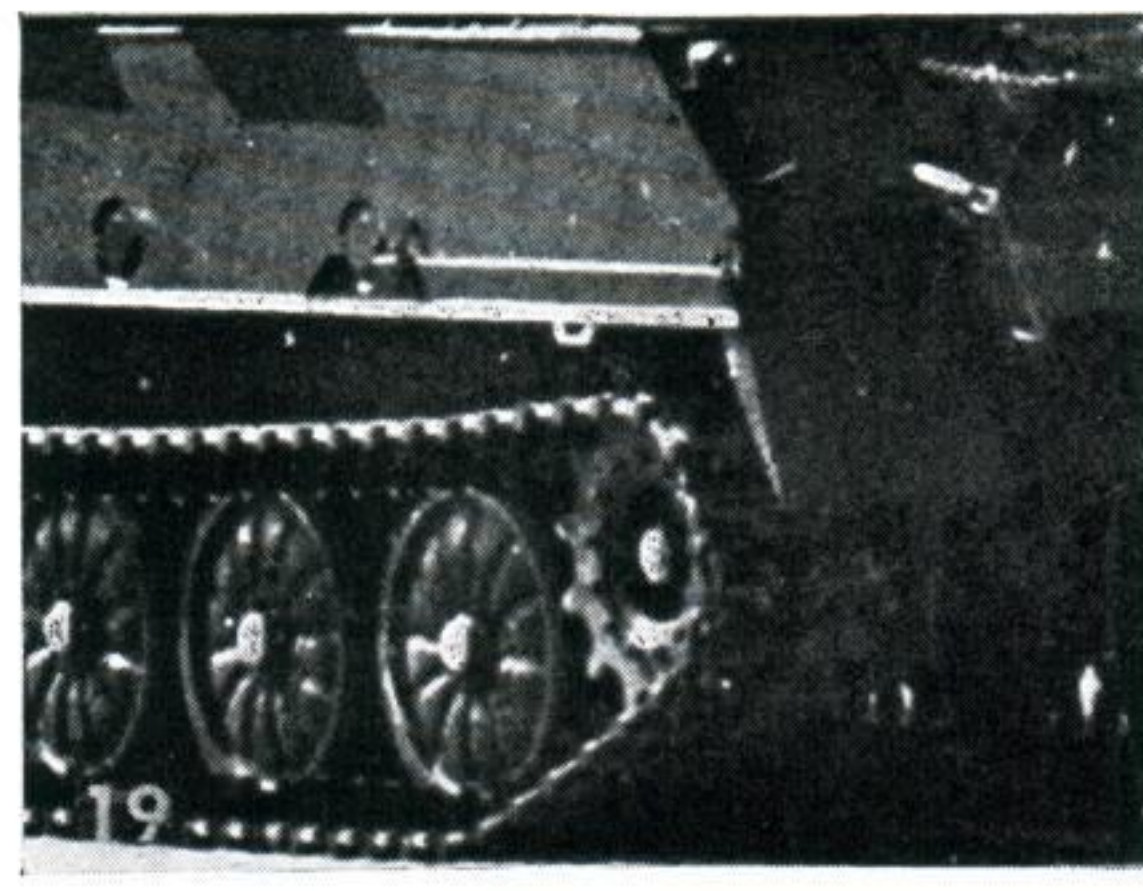
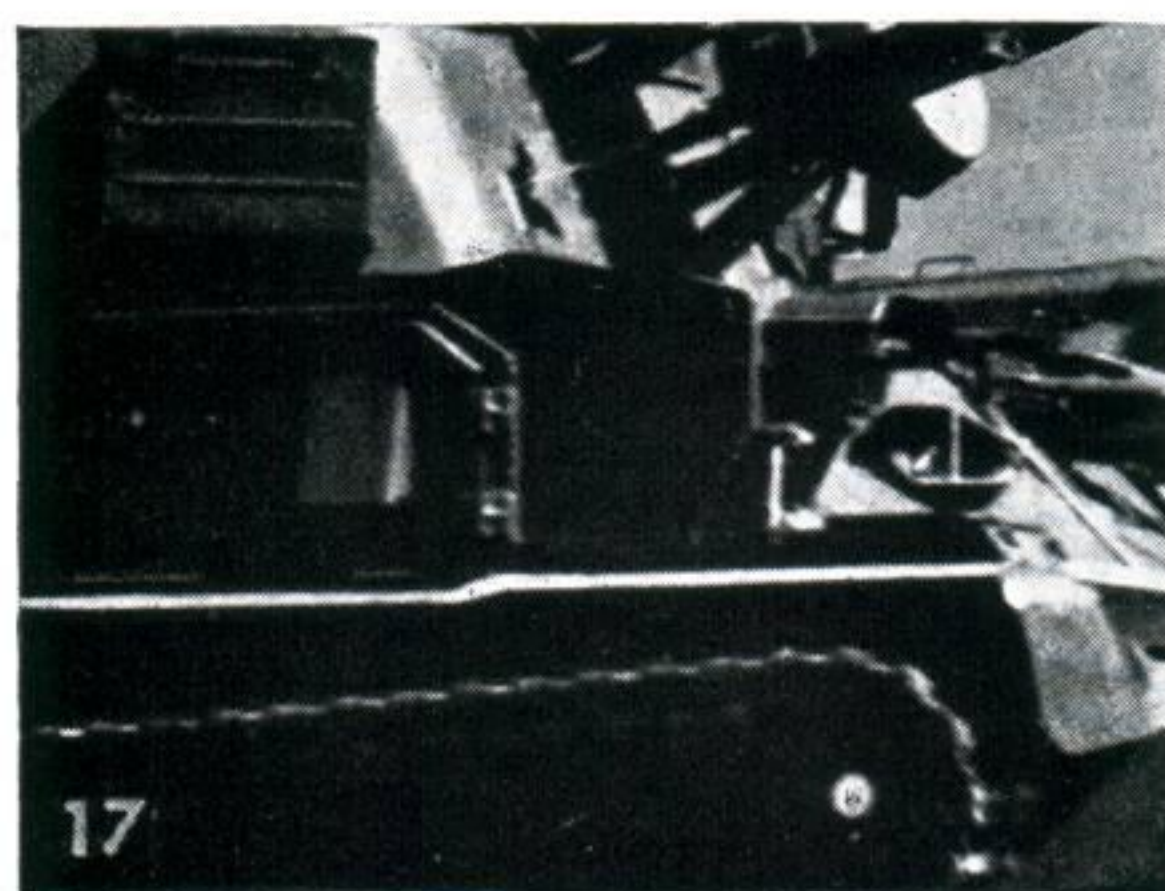


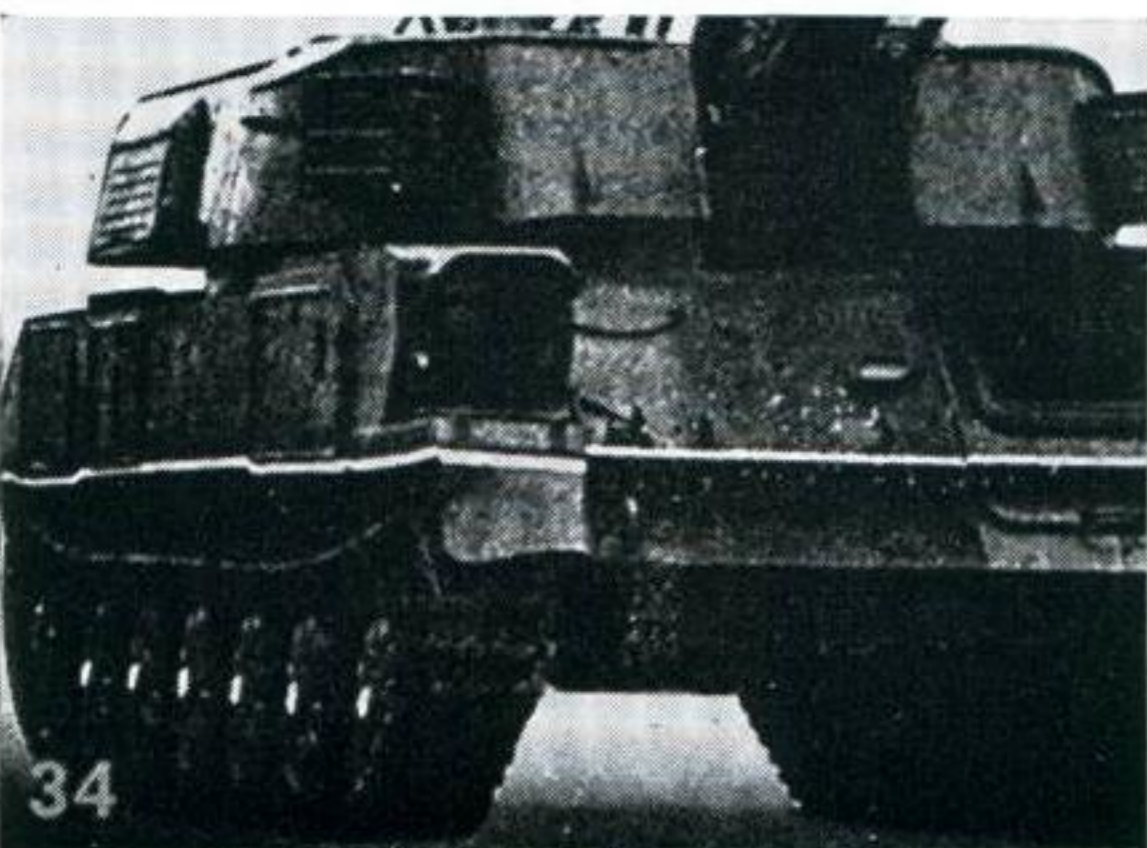
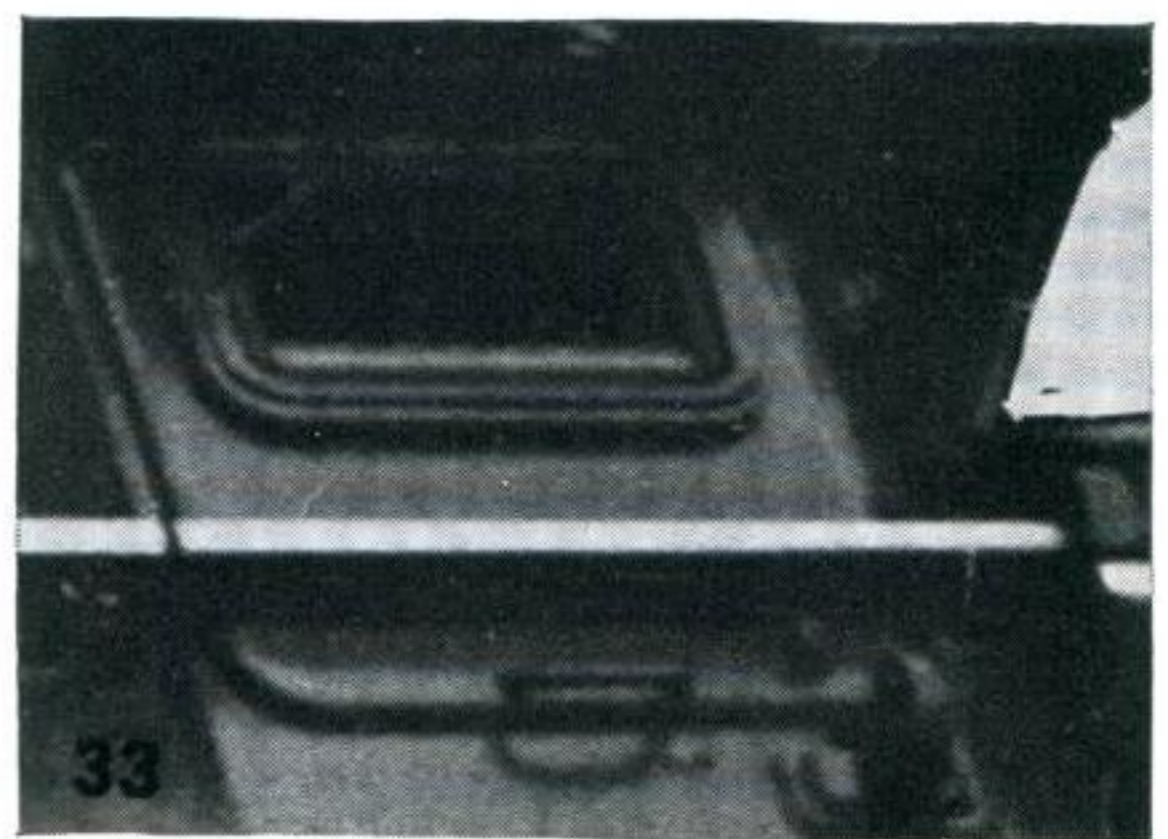
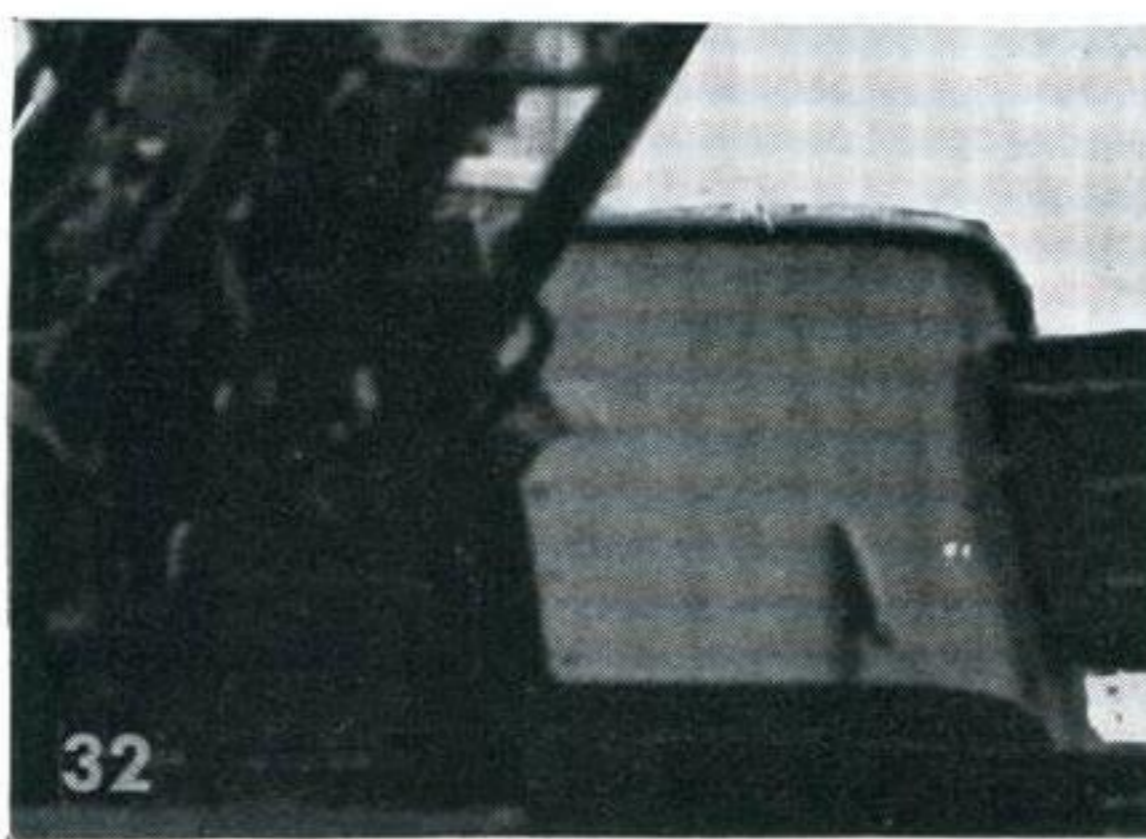
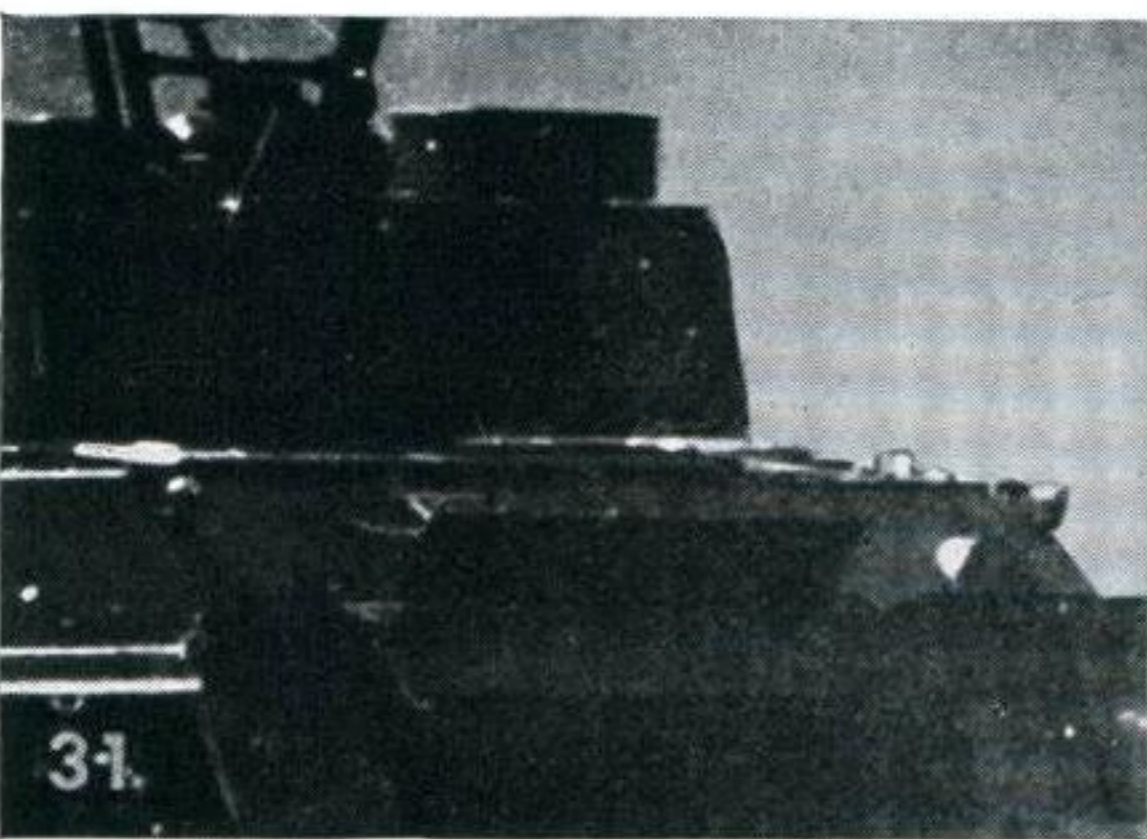
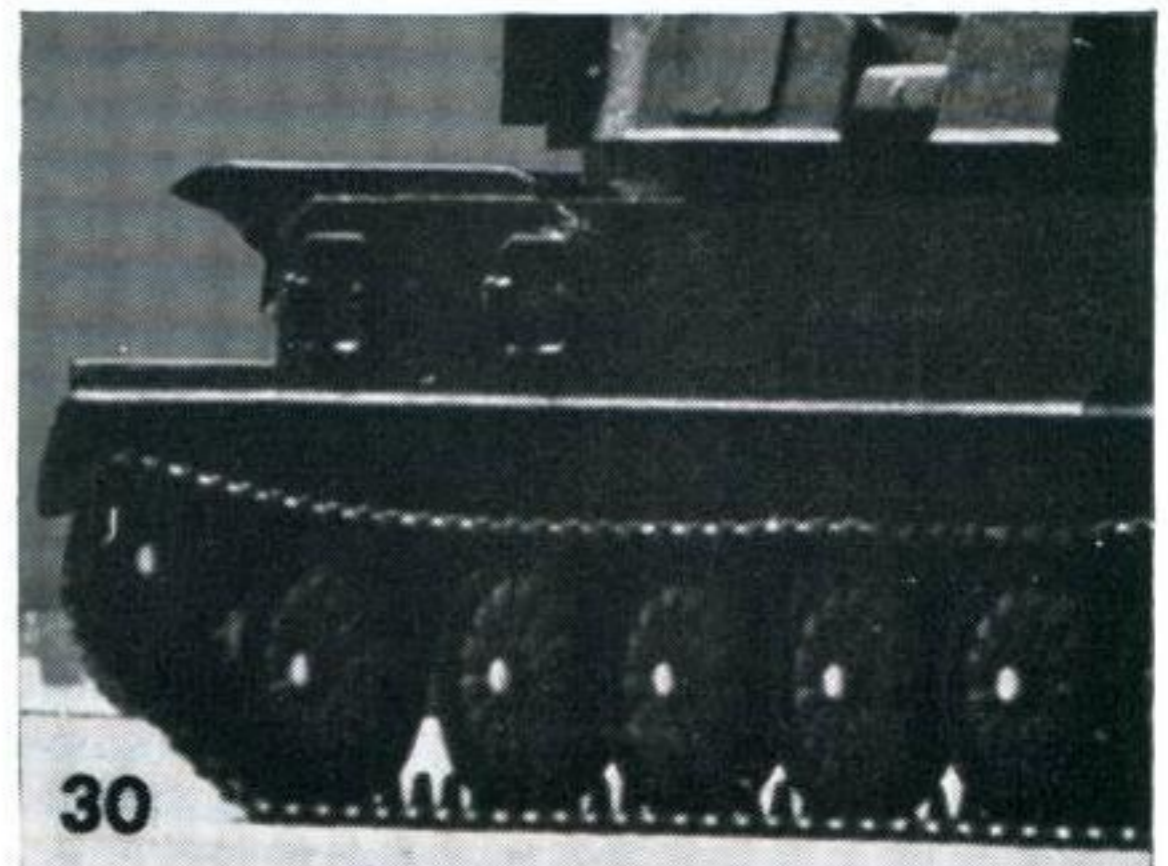
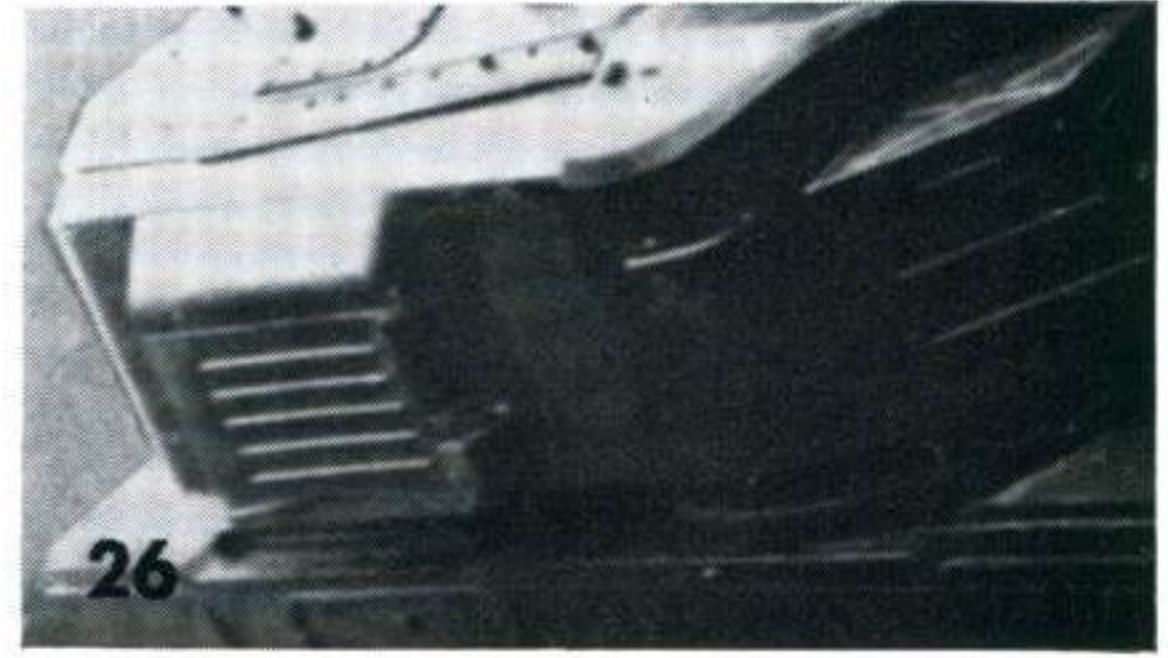
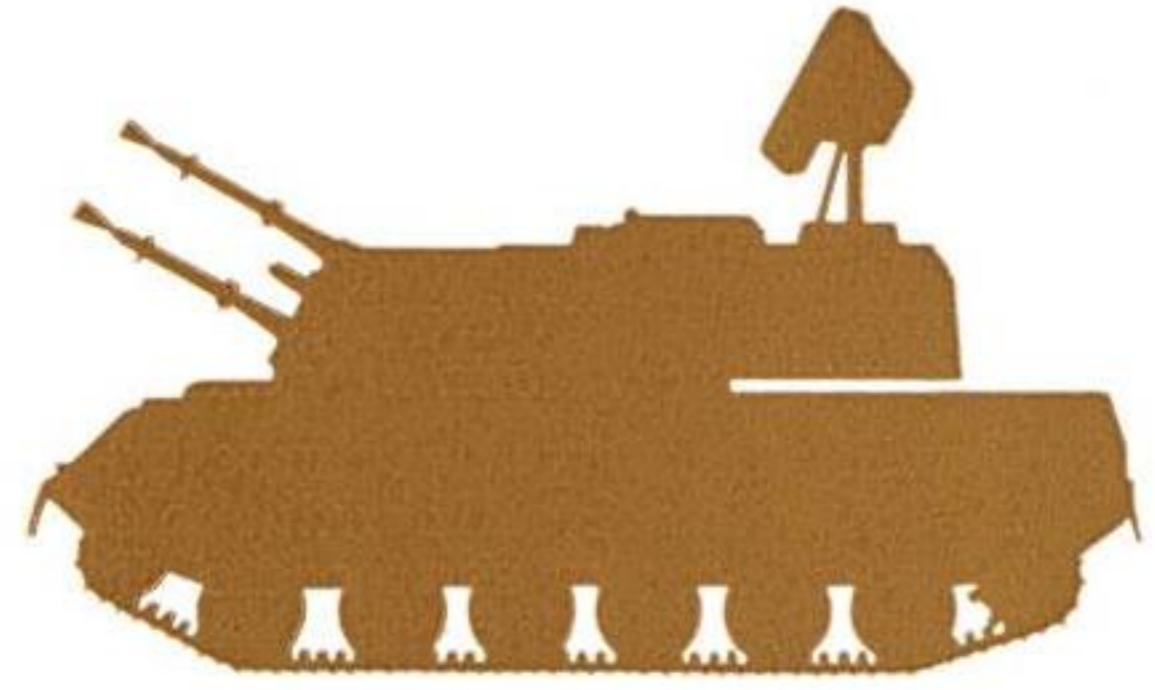
*continued overleaf*

# ZSU-23-4 *continued*



*Lesson instructions and solutions are on the back cover*





**Lesson Instructions** Identity training is a matter of "doing", rather than of gathering information. Submit to the instructions given in every edition of the *Journal* and your ability will become automatic.

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. Read the text associated with the lesson.</li> <li>2. Prepare a list of target numbers so as to be able to tackle the targets in any order.</li> <li>3. Identify the target pictures by comparing them with the key views: start with the easy ones so as to gain experience: also use targets already identified to solve the more difficult ones.</li> <li>4. When certain of the identity of a target write down its name <b>IMMEDIATELY</b> against the appropriate number on your list. <b>THIS IS IMPORTANT.</b></li> <li>5. Lessons should not be hurried or given a time limit. So far as beginners are concerned, it is more important to identify accurately than quickly.</li> <li>6. Do not attempt conscious memorising of details, shapes, or names. The procedure will take care of that. Do not attempt to do the lesson without the key too soon, wait until your ability to do so is self-evident.</li> </ol> | <ol style="list-style-type: none"> <li>1. Lire le texte correspondant à la leçon.</li> <li>2. Préparer une liste de numéros de cible, de façon à pouvoir prendre les cibles dans n'importe quel ordre.</li> <li>3. Identifier les photos de la cible en les comparant avec les vues-clé: commencer par les plus faciles de manière à gagner de l'expérience: se servir aussi de cibles déjà identifiées pour trouver les plus difficiles.</li> <li>4. Quand vous serez certain de l'identité d'une cible, notez son nom immédiatement en face du numéro correspondant sur votre liste. <b>CECI EST IMPORTANT.</b></li> <li>5. Les leçons ne devront pas être précipitées ou d'une durée limitée à l'avance. En ce qui concerne les débutants, il est plus important d'identifier avec précision que rapidement.</li> <li>6. Ne pas s'efforcer d'apprendre par cœur les détails, les formes ou les noms.</li> </ol> |
|---|--|

### PREVIOUS RUSSIAN AFV LESSONS

Lessons on Russian Armoured Fighting Vehicles which have appeared in previous editions of the *Joint Services Recognition Journal* are given below. The list goes back to 1961.

ASU-57	June 1968	BRDM	June 1964
ASU-85	August 1968	T-54	April 1962
BTR-50P	January 1968	BTR-40	December 1961

BTR-60	May 1967	BTR-152	October 1961
PT-76	December 1967	JSU-122	November 1961
T-54	January 1967	JSU-152	June 1961
T-62	August 1967	PT-76	August 1961
BRDM	December 1965	T-54	January 1961
T-10	June 1965	T-54	March 1961
T-54	December 1965	ZSU-57-2	April 1961

### Book Review

**Taschenbuch der Panzer 1969.** By F. M. von Senger und Etterlin, Lehmanns Verlag, Munich, 1969, 652 pages, illustrated.

Any book intended to present an up-to-date record of the development of armoured fighting vehicles needs to be revised periodically because of the continuous appearance of new models. The present volume is, therefore, a logical sequel to Dr. von Senger's three earlier *Taschenbuch der Panzer* and his three other, more recent books on armoured fighting vehicles. These are the 1961 *Die Panzergrenadiere*, which dealt with armoured personnel carriers, the 1964 *Das kleine Panzerbuch*, which could be regarded as a supplement to the third edition of the *Taschenbuch*, and the 1966 *Die Kampfpanzer von 1916-1966*, which covered the development of battle tanks from the very beginning to 1966.

The previous, third edition of the *Taschenbuch* appeared in 1960 and was subsequently published in English as *The World's Armoured Fighting Vehicles*. The new, 1969 edition retains the same format but is much more than a revision of the earlier volume. It is, in fact, a new book which is not only up to date but which has twice the number of pages of the 1960 edition.

The increased number of pages reflects the thoroughness with which Dr. von Senger has covered the subject, describing and illustrating practically all the vehicles in service at present and many recently built experimental types as well. As a result his book is a very valuable source of current information and includes a very comprehensive set of illustrations of Soviet as well as British, United States and other armoured vehicles.

The text is in German but the book consists predominantly of photographs and scale drawings which can be very profitably studied by themselves.

R. M. O.

**Cover Photo:** T-62 battle tank of the Soviet Army which is slowly replacing the earlier T-54 and T-55 tanks. Its principal feature is the long-barrelled, high-velocity 115-mm. gun which represents an important advance on the 100-mm. gun of its predecessors. In many other respects it is very similar to the earlier models.

### SOLUTIONS TO TESTS AND EXERCISES

- |   |   |
|---|---|
| Page 200  | <b>T-62</b>   |
| All targets are T-62 except Nos. 8 and 18 which are jokers.   |   |
| Page 203  | <b>PT-76</b>  |
| All targets are PT-76 except No. 17 which is a joker.   |   |
| Page 206  | <b>T-54</b>   |
| All targets are T-54 except Nos. 9, 33, and 40 which are jokers.  |   |
| Page 209  | <b>BTR-60P ARMoured PERSONNEL CARRIER</b>             |
| All targets are BTR-60P except No. 26.  |   |
| Page 212  | <b>BTR-40PB AMPHIBIOUS RECONNAISSANCE CAR</b>         |
| All targets are BTR-40PB except Nos. 10, 18, 23 and 26 which are jokers.  |   |
| Page 214  | <b>ASU-85</b>   |
| All targets are ASU-85 except Nos. 23 and 36.   |   |
| Page 217  | <b>RUSSIAN ARMoured PERSONNEL CARRIER, 1967 MODEL</b> |
| All targets are Russian Armoured Personnel Carrier, 1967 Model except Nos. 7, 12, 19, 22 and 26 which are jokers. |   |
| Page 220  | <b>ZSU-23-4 SELF-PROPELLED ANTI-AIRCRAFT GUN</b>      |
| All targets are of ZSU-23-4 except Nos. 15, 22 and 29 which are jokers.   |   |