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JOINT

SERVICES

# RECOGNITION

*Journal*

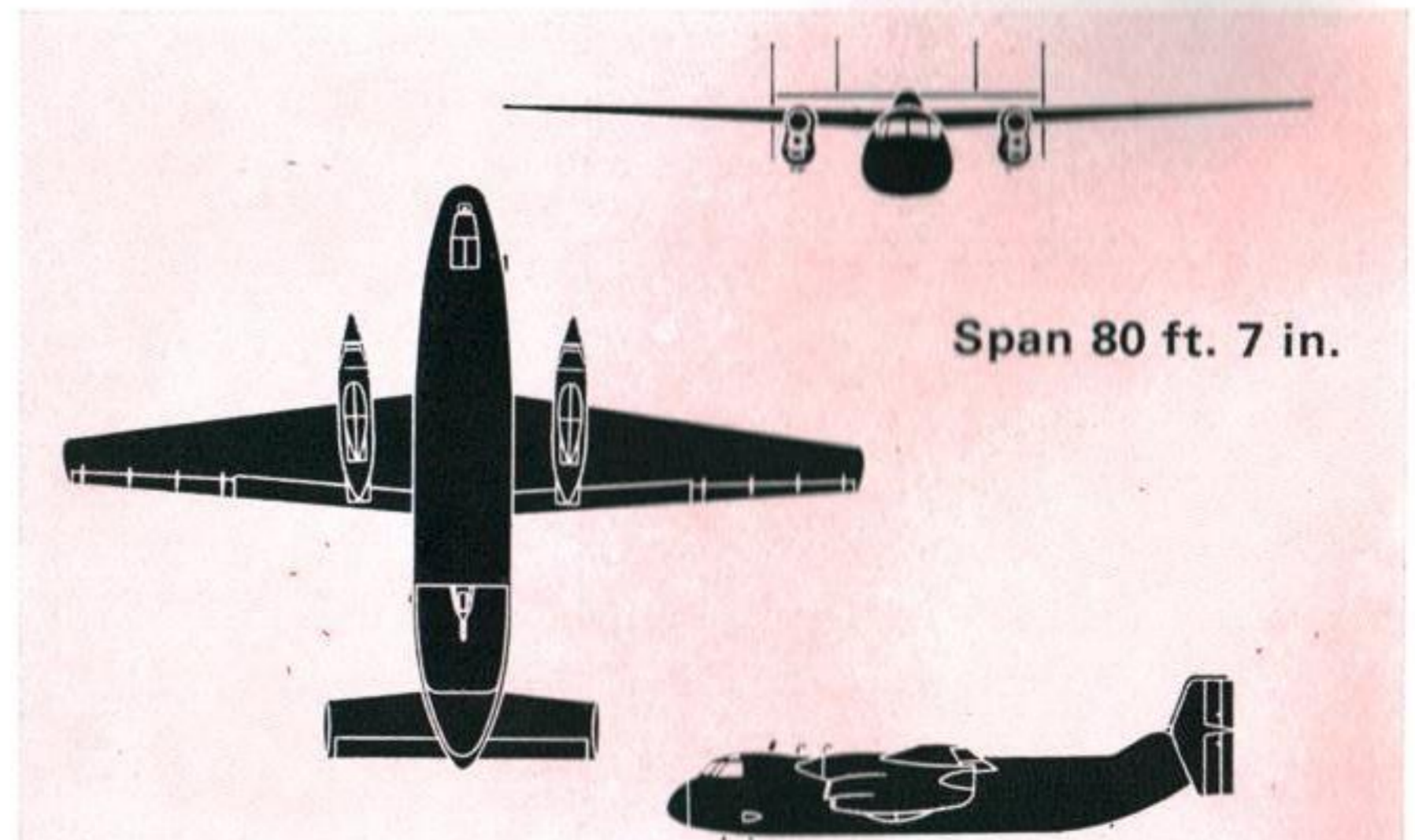
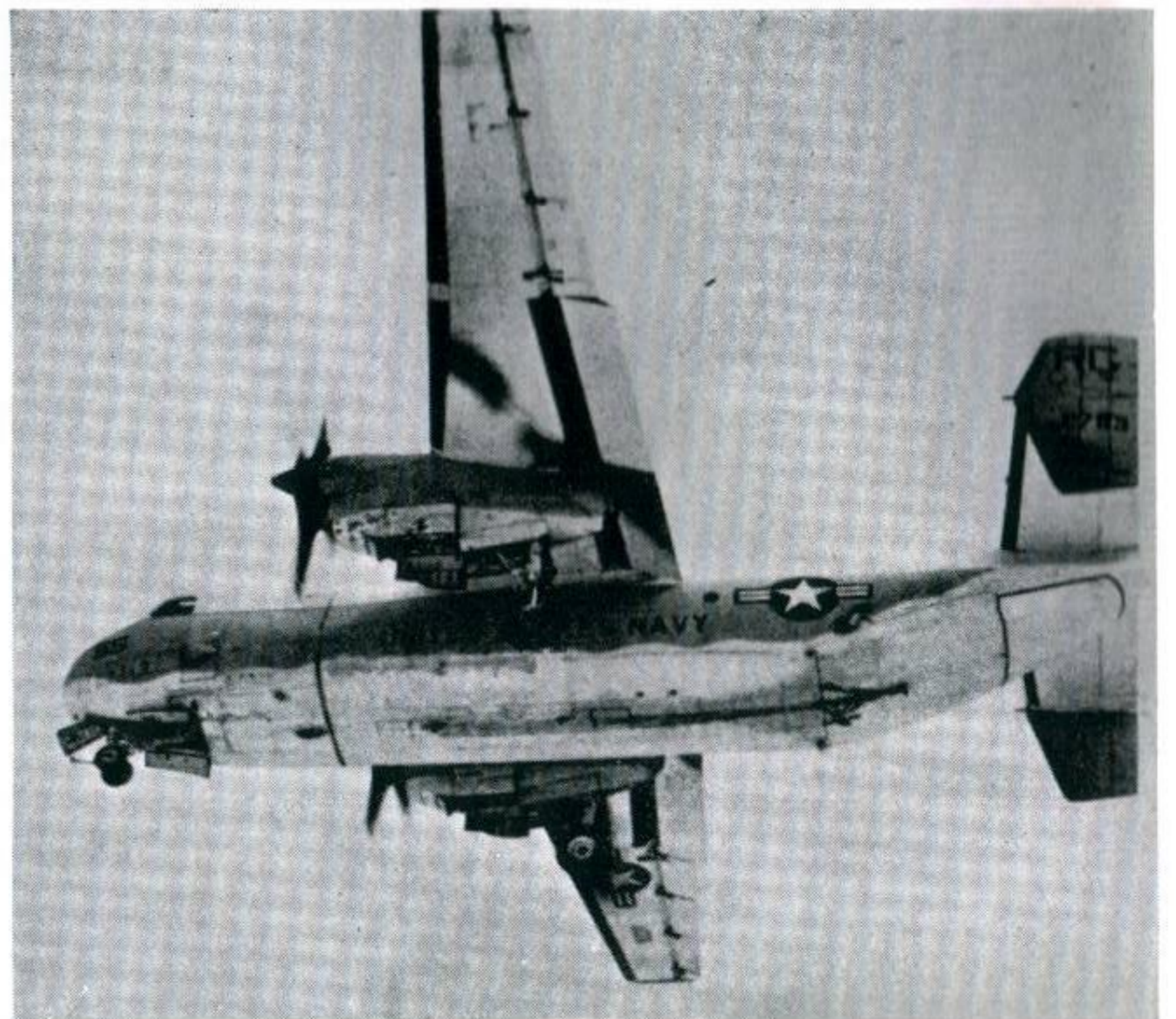


Vol. 23 DECEMBER 1968 No. 12

# GREYHOUND

Developed by Grumman from the E-2A Hawkeye ship-board early warning surface surveillance and strike control aircraft, the C-2A Greyhound is a turboprop-powered Carrier On-board Delivery (COD) transport with the role of transporting freight and personnel between land bases and carriers at sea; 17 aircraft have been supplied to the U.S. Navy and production has now ceased.

Greyhound employs a near-identical wing to that of Hawkeye, and similar main undercarriage members, cockpit, power plant and tail surfaces and for this reason it needs to be learned carefully. In a subsequent issue of the *Journal* we intend to include a lesson on Greyhound, but for the time being much can be learned from a close study of these pictures and the silhouette.





JOINT SERVICES

## RECOGNITION JOURNAL

The *Joint Services Recognition Journal* is a monthly publication produced by the Directorate of Flying Training (R.A.F.), Ministry of Defence, and prepared in collaboration with the Admiralty Board, the Army Department and the Ministry of Technology. Applications for copies can only be accepted from the Services or other official bodies, and must be submitted through the normal official publications supply channels—not to the Editorial Office or direct to the Ministry of Defence.

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Feature	Page
Westland Sea King ( <i>cover</i> ) ... ..	309
Greyhound ... ..	310
Drawing the Line ( <i>editorial</i> ) ... ..	311
The Test of Time—3 ... ..	312
Test Paper: Iroquois—Lesson Instructions ...	313
* Panhard AML with H90 Gun Turret ... ..	314
* Hoplite ... ..	320
* Jaguar ... ..	322
* Jetstream ... ..	326
* Swiss PZ-61 ... ..	328
Solutions to Tests and Exercises ... ..	334
Index to Volume Twenty-Three ... ..	335

\* Identification Lessons

## DRAWING THE LINE

We are not certain who it was who discovered the obvious fact that a straight line was the shortest distance between two points. Indeed, what with moon-shots, the fivepenny post, plastic straw hats, STD and the many and various technical changes and advances going on in the world today we expect someone will soon announce that even that is not true. Incidentally we know about the great circle.

However, in spite of the difficulties we do wish to try to draw a reasonably straight line between two kinds of learning: one, that of gathering knowledge, and the other, of learning a skill—physical or perceptual.

Most mechanical engineers can, no doubt, ride bicycles and if they cannot they can certainly explain how they work and how they are constructed and why. But no amount of engineering knowledge or of bicycles will serve to teach the skill of riding one. Do we make the point?

To be more explicit, knowledge, technical or historical of any kind cannot teach a skill. To ride a bicycle one gets on—and falls off—and one continues to do so until the skill is not only acquired but becomes automatic and is applied without thought.

Identifying is a skill—a perceptual skill. As with learning to ride a bicycle its training consists of “doing”. Knowledge, technical, historical or otherwise cannot teach it. The way to train to identify is exemplified in every *Journal*, briefly, what it does is to provide lessons and procedure, which, as with a physical skill, provide the vital experience.

But there is a snag. Many have a need to know the technical, operational, and/or intelligence significance of what they

identify: that is, they must have knowledge. This is understood. But we must make it clear that the acquisition of such knowledge can never be a part of identity training without being wasteful and inefficient. For one thing it overloads the pupil so far as his learning capacity is concerned. It is as absurd to insist on knowledge as it is to insist on a learner driver being able to recite the car maintenance manual as a prerequisite to driving.

The high cost of identity training in past years is, in some cases, undoubtedly, due to the confusion between the two kinds of learning. There may be good reasons for this: identity training was not a subject for training until 1940 and it grew out of Intelligence. Moreover, the time-honoured custom of appointing the already skilled to train the others, whilst good for some skills, fails in identification (see Dr. Allan's article, paragraph five, in the August *Journal* 1967). So a line between the two kinds of learning must be drawn if efficiency is to be achieved. There is no doubt that the high cost of identity training in the past was partly due to the notion that identity training was a subject for memorising techniques and various expensive gimmicks were tried to inculcate interest and to titillate the senses of trainees in the hope of inducing self-training. But the human mind is, fortunately, well equipped to learn to identify quickly and unconsciously provided the correct material is placed before it. The material required today is not nearly so costly as that used in the traditional training system. It is, moreover, more efficient, less tiring for pupils, takes effect instantly and has a lasting impact. Moreover, the ease of learning induces an interest in the objects concerned which the pupil can set about acquiring for himself. But we must repeat, the horse must precede the cart; learn to identify first and the rest will follow more easily.

# THE TEST OF TIME—3

Solutions on page 334

The R.A.F.'s Fiftieth Anniversary Year is a fitting time to round out current training with a glimpse of the machines on which the R.A.F.'s reputation is founded. They should not go unrecognised.



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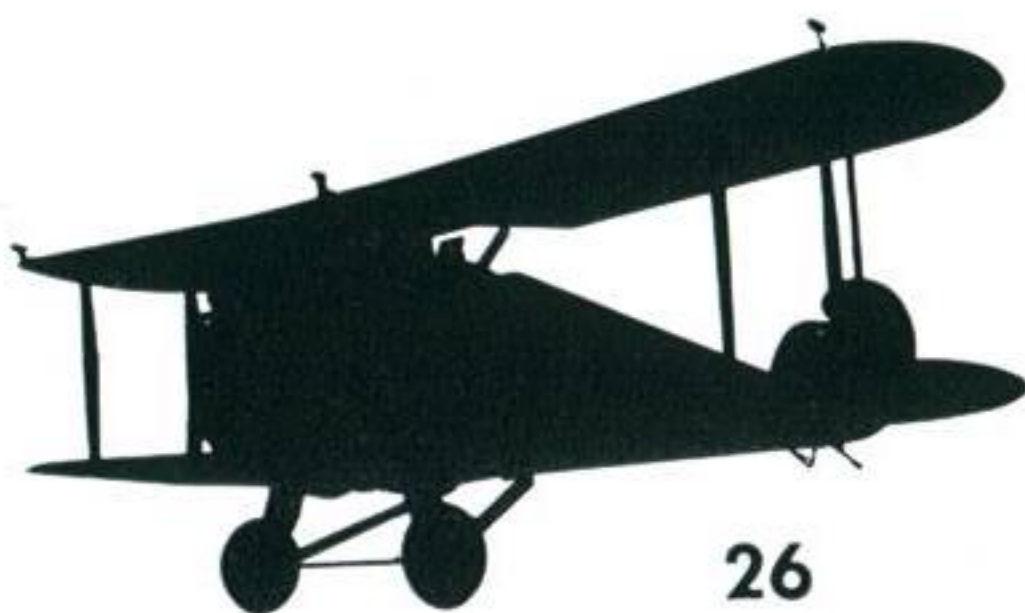
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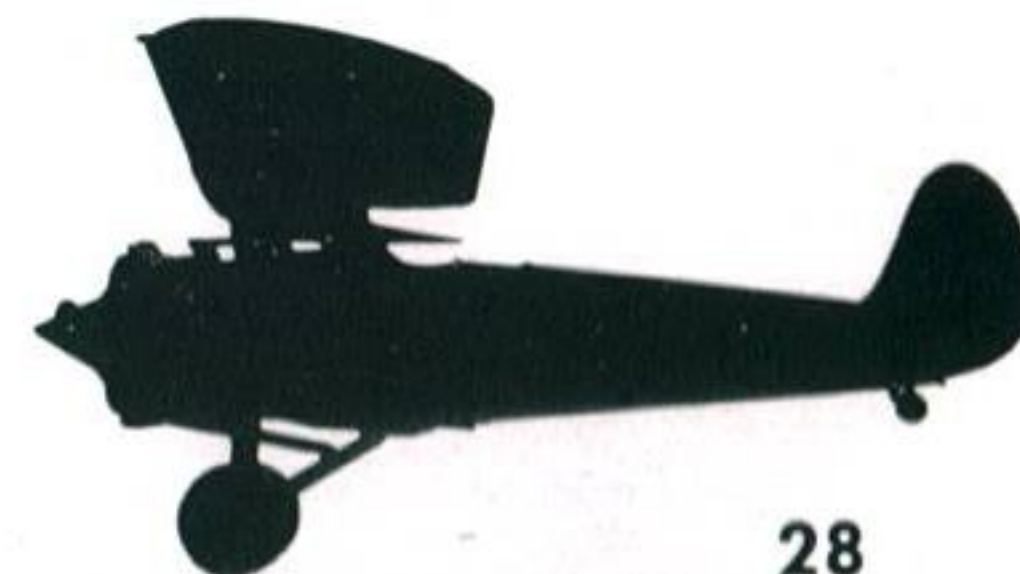
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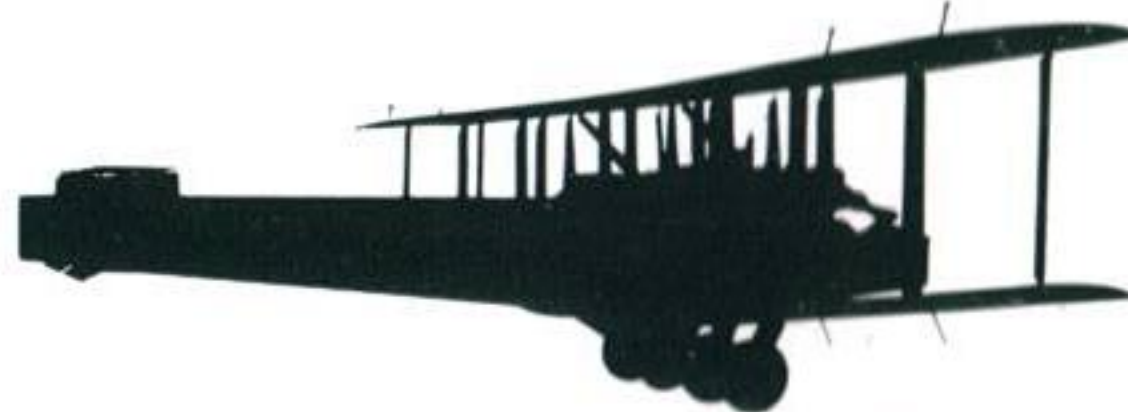
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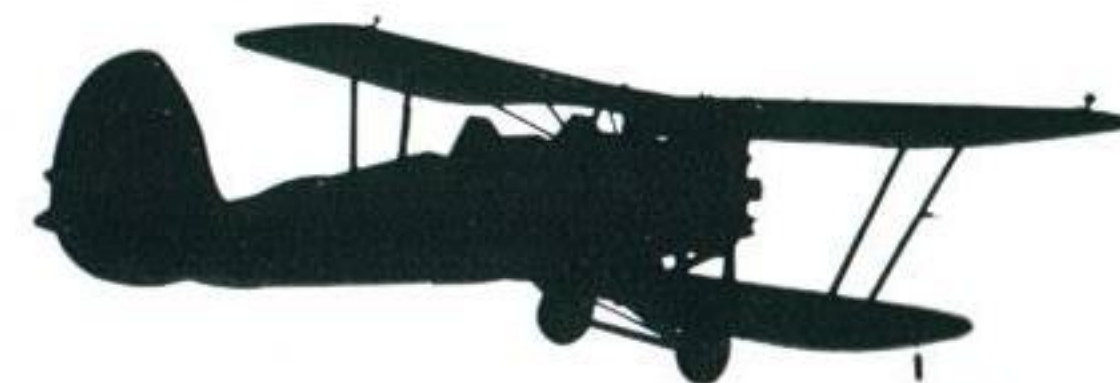
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39



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**LESSON INSTRUCTIONS**

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

- 1 Read the text associated with the lesson.
- 2 Prepare a list of target numbers so as to be able to tackle the targets in any order.
- 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.
- 4 When certain of the identity of a target write down its name *IMMEDIATELY* against the appropriate number on your list. **THIS IS IMPORTANT**
- 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.
- 6 Do not attempt conscious memorising of details, shapes, or names. The procedure will take care of that. Do not attempt to do a lesson without the key too soon, wait until your ability to do so is self-evident.

**CONDUITE DES LEÇONS**

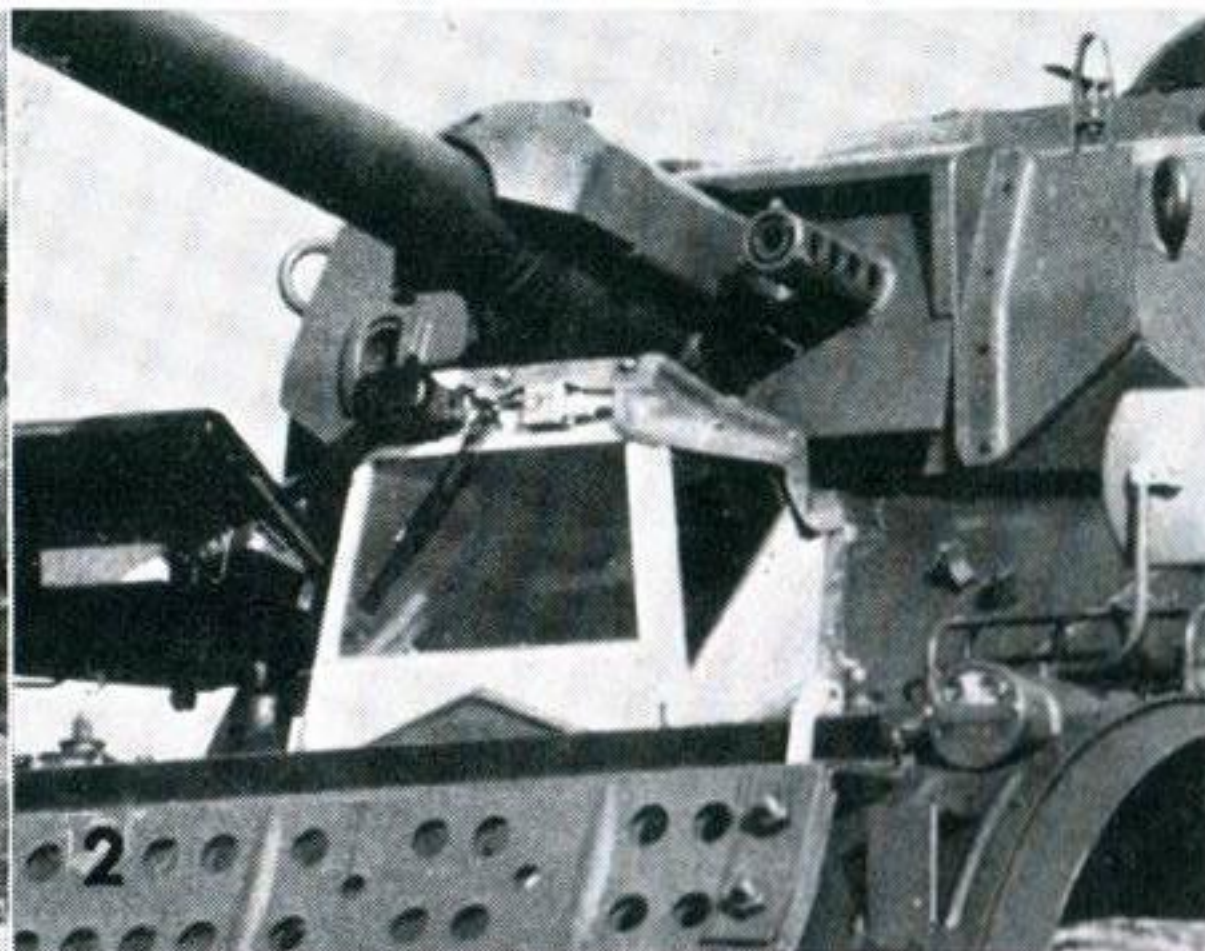
- 1 Lire le texte correspondant à la leçon.
- 2 Préparer une liste de numéros de cible, de façon à pouvoir prendre les cibles dans n'importe quel ordre.
- 3 Identifier les photos de la cible en les comparant avec les vues-clé: commencer par les plus faciles de manière à gagner de l'expérience: se servir aussi de cibles déjà identifiées pour trouver les plus difficiles.
- 4 Quand vous serez certain de l'identité d'une cible, notez son nom immédiatement en face du numéro correspondant sur votre liste. **CECI EST IMPORTANT.**
- 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.
- 6 Ne pas s'efforcer d'apprendre par cœur les détails, les formes ou les noms.



KEY



1



2



3



4



5



6

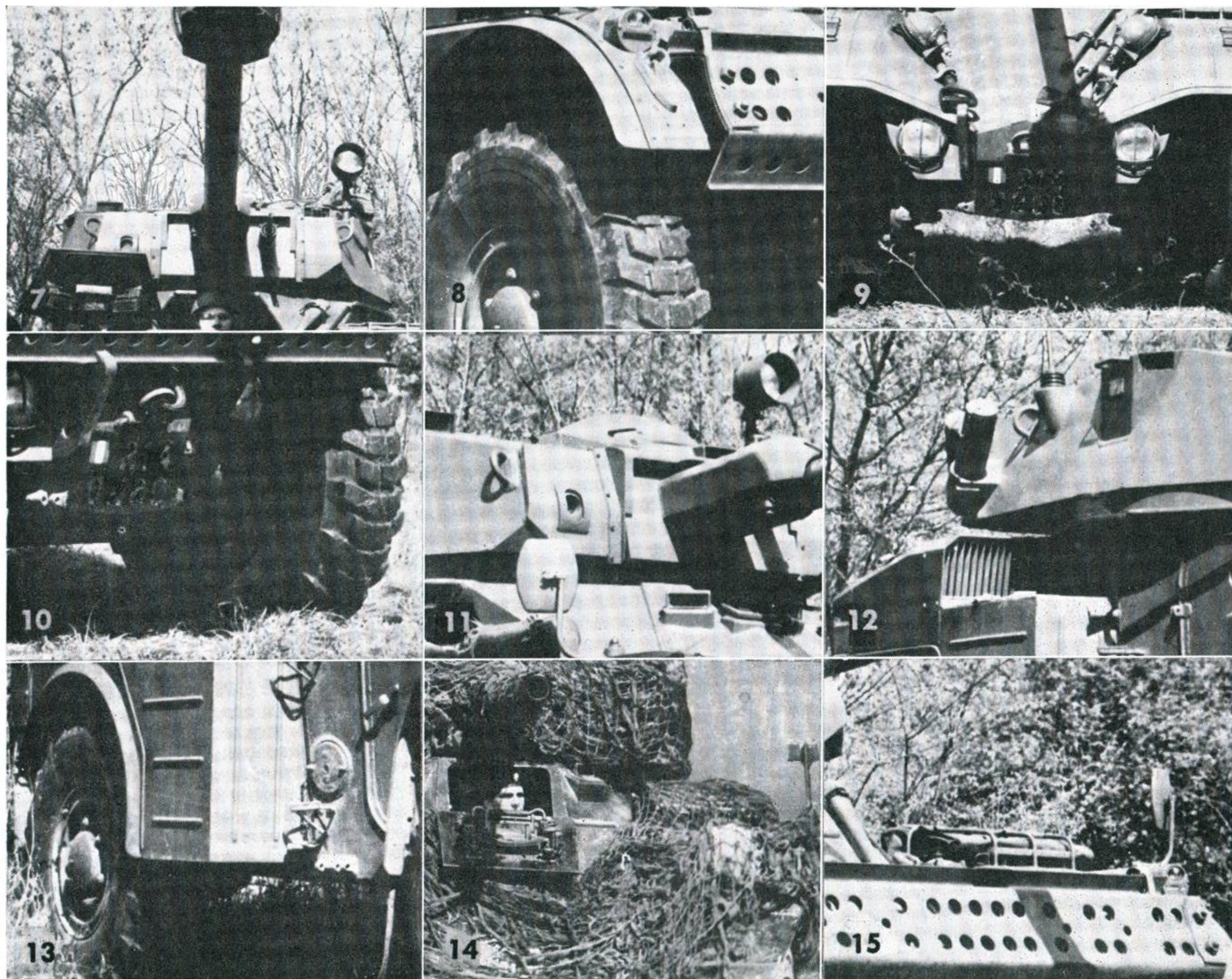
# PANHARD AML with H90 gun turret

The H.90 gun-turret model of the Panhard AML is the second version of this highly successful French light armoured car which has been featured already in the *Journal*. In fact, the first lesson on the AML appeared in the July 1965 issue. Since then, however, more vehicles of this type have been produced and it is now in service in no less than fifteen different countries, including France. It has also seen action, in the ranks of the Israeli Defence Forces during the Six-Day War of 1967, and in Nigeria.

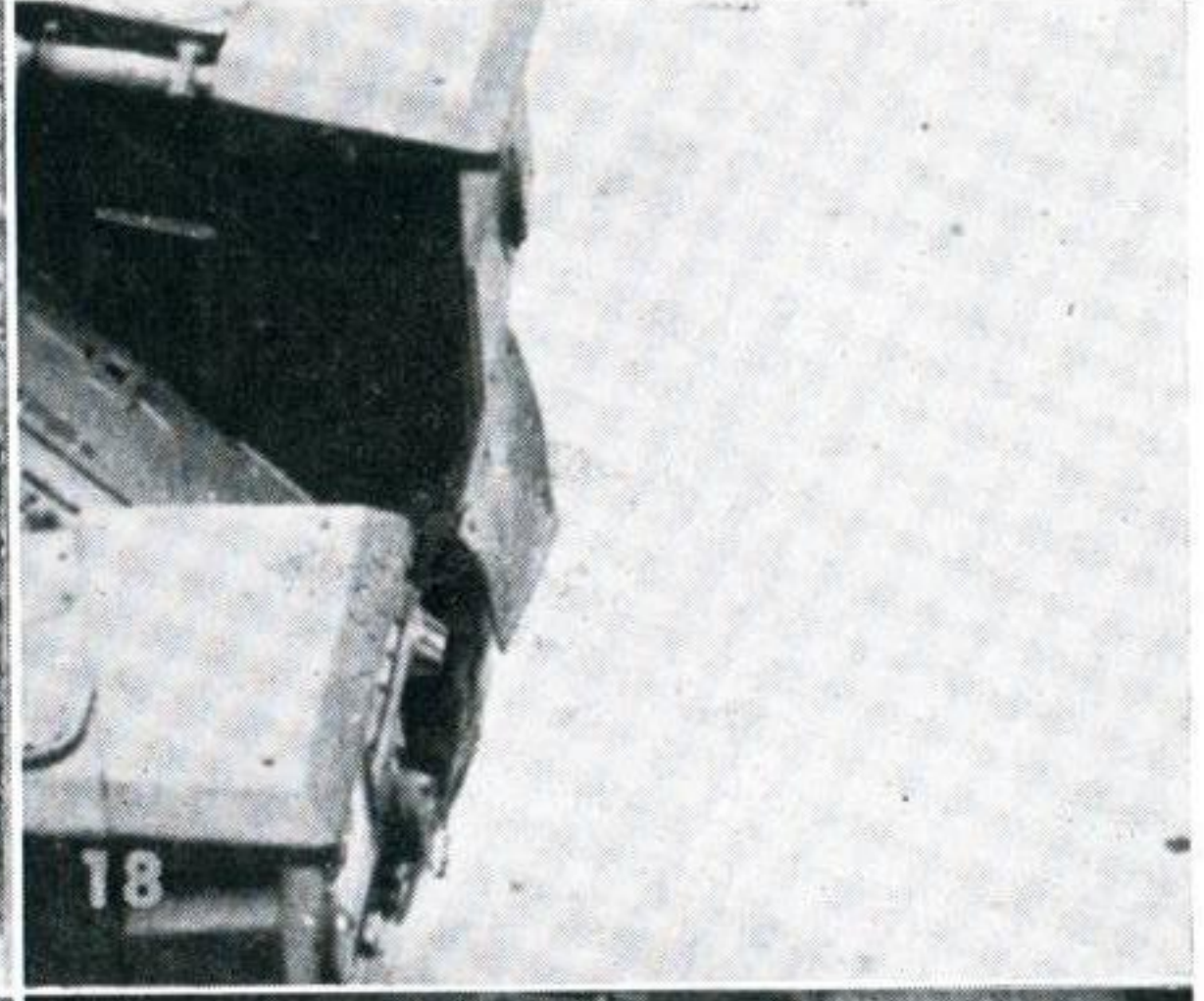
The principal difference between the second version and the original model is in the main armament. Thus, the second model is armed with a 90-mm. smooth-bore gun mounted in the larger H.90 turret. In contrast, the original model is armed with a 60-mm. breech-loaded mortar mounted in the smaller H.E.60 turret.



*Lesson instructions are on page 313 Solutions on page 334*

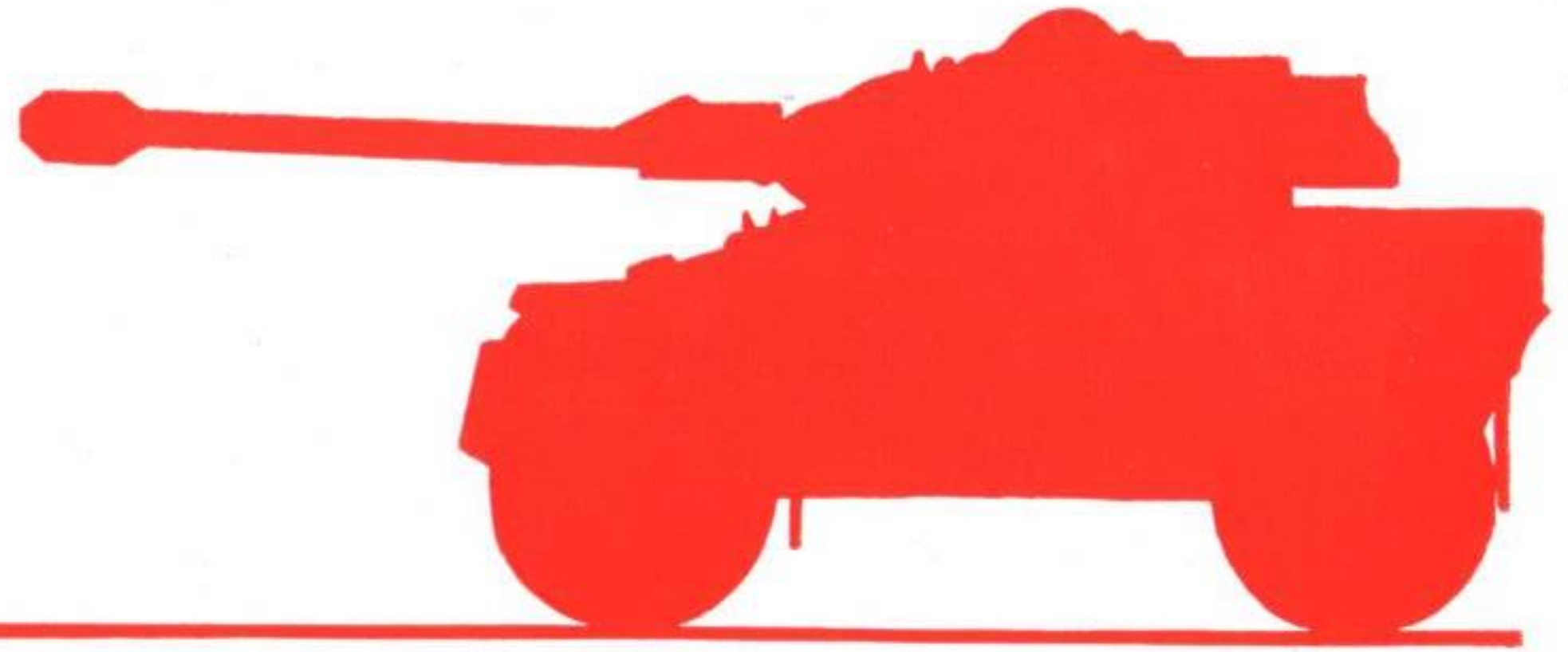


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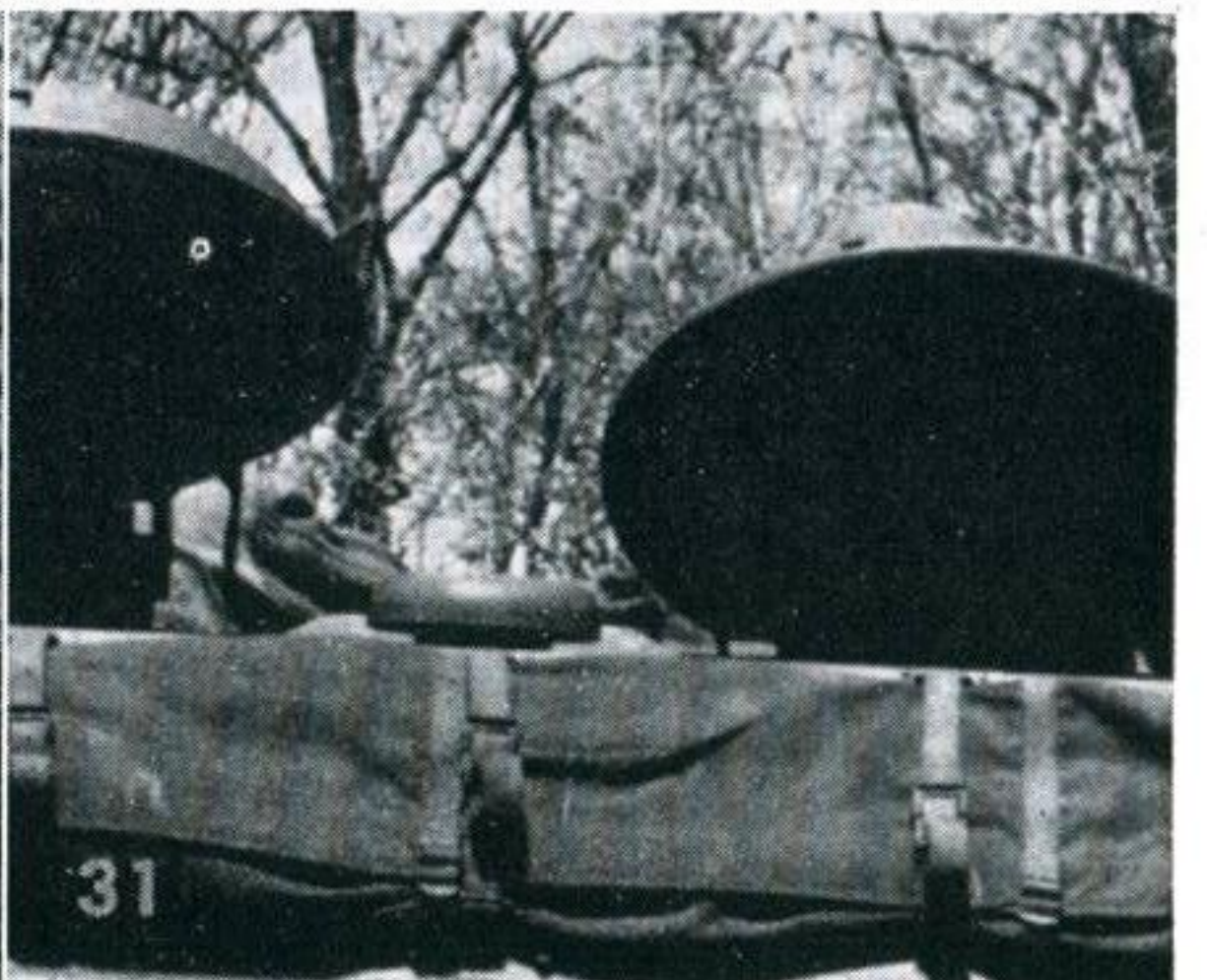
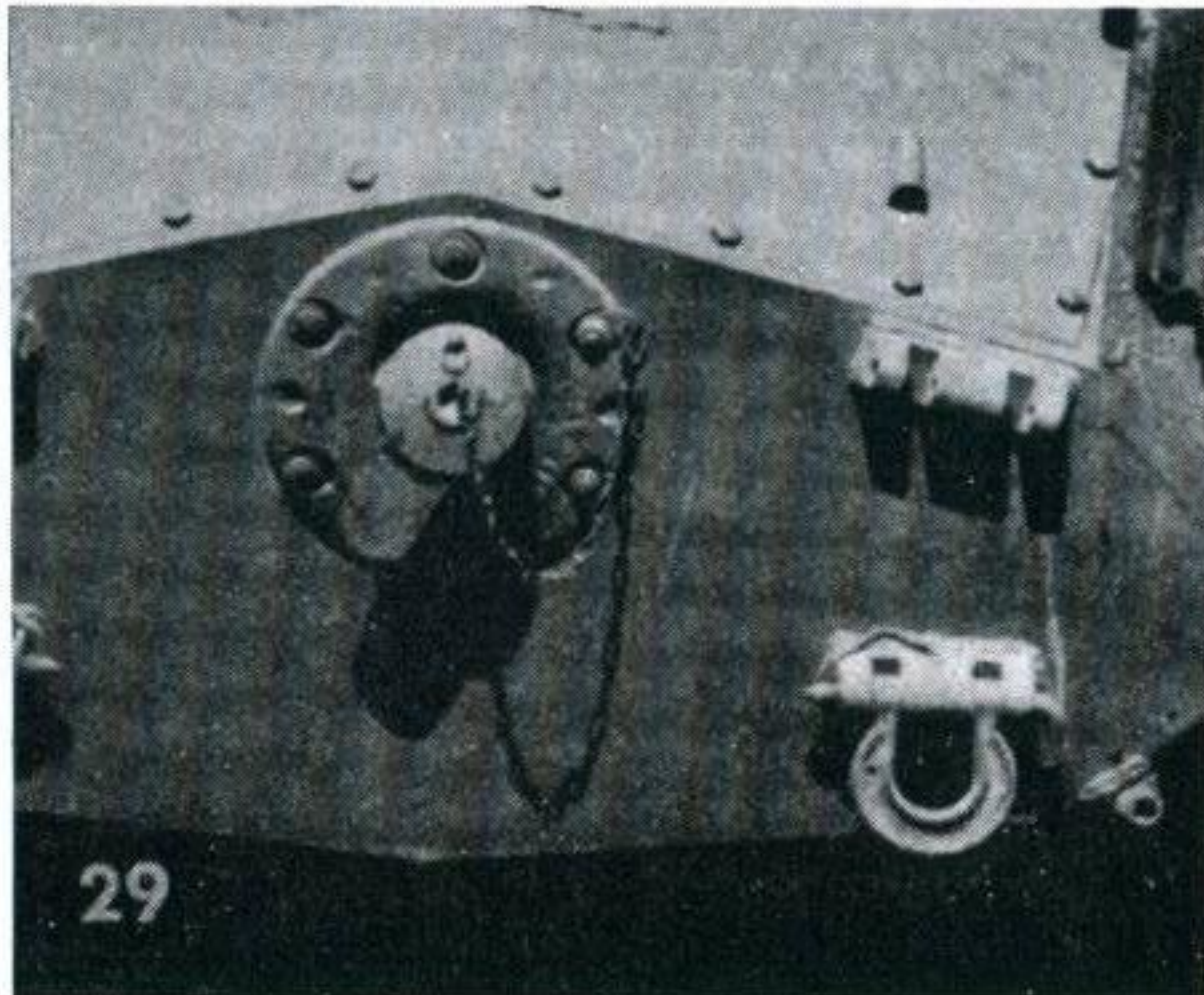
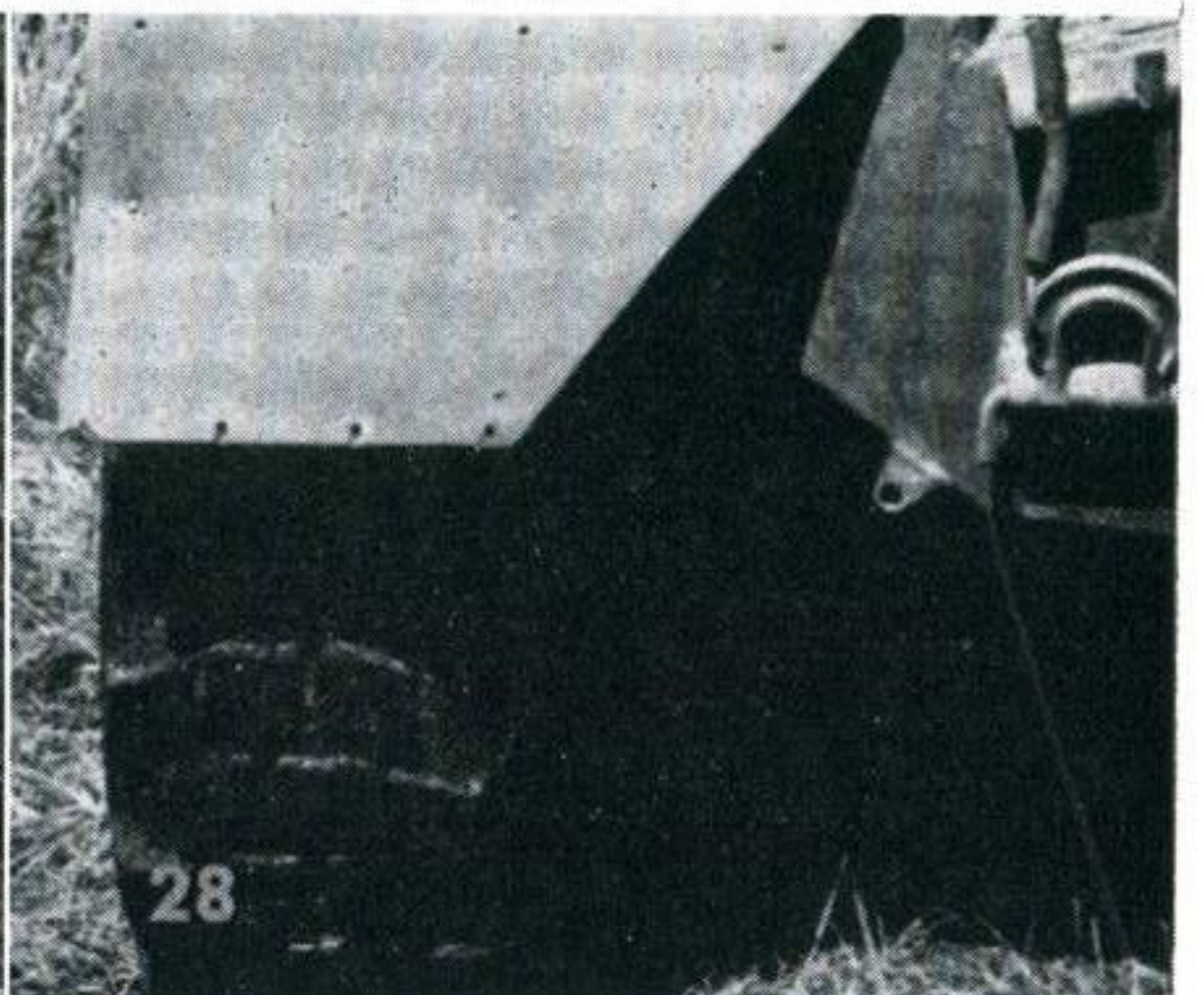
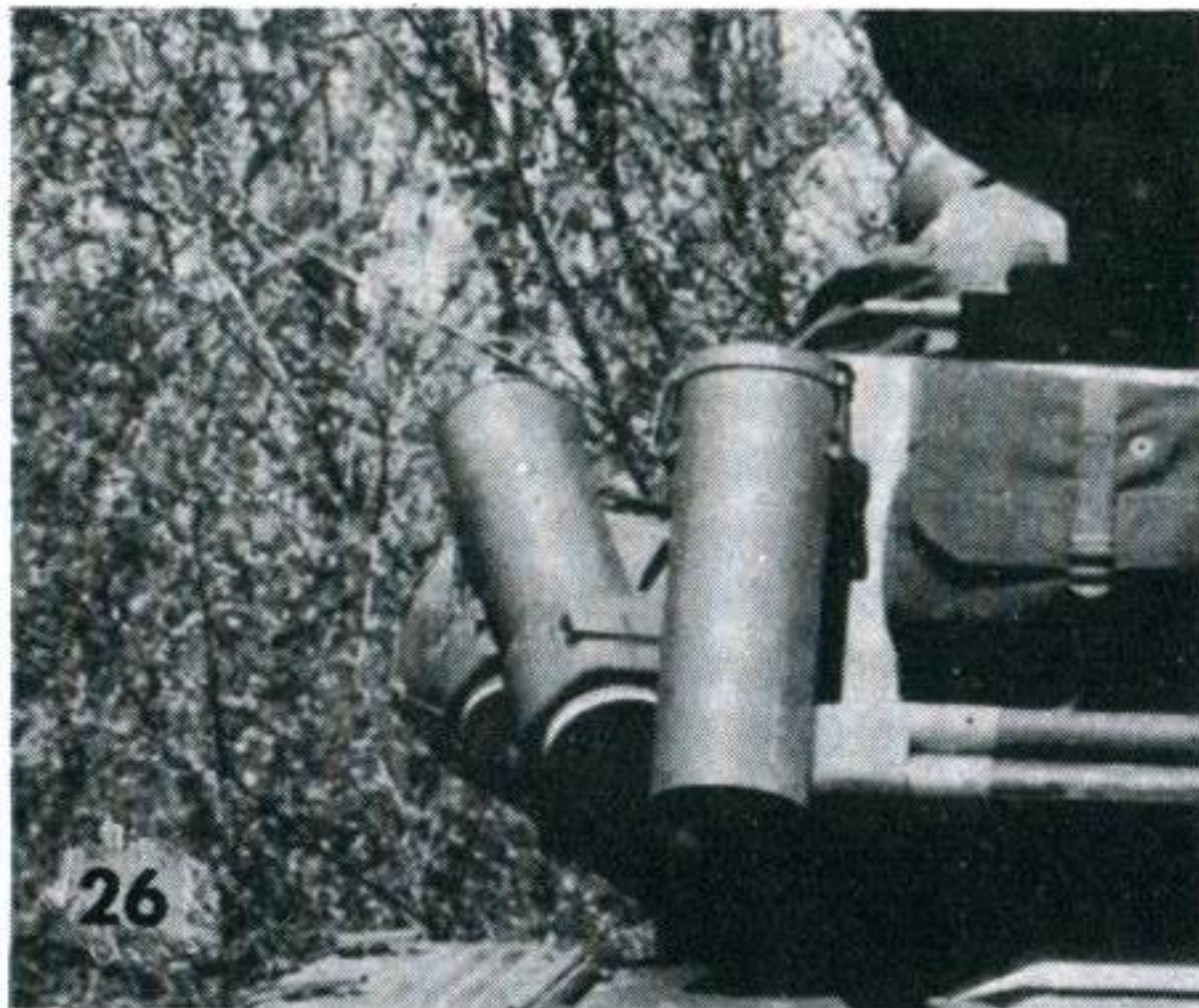
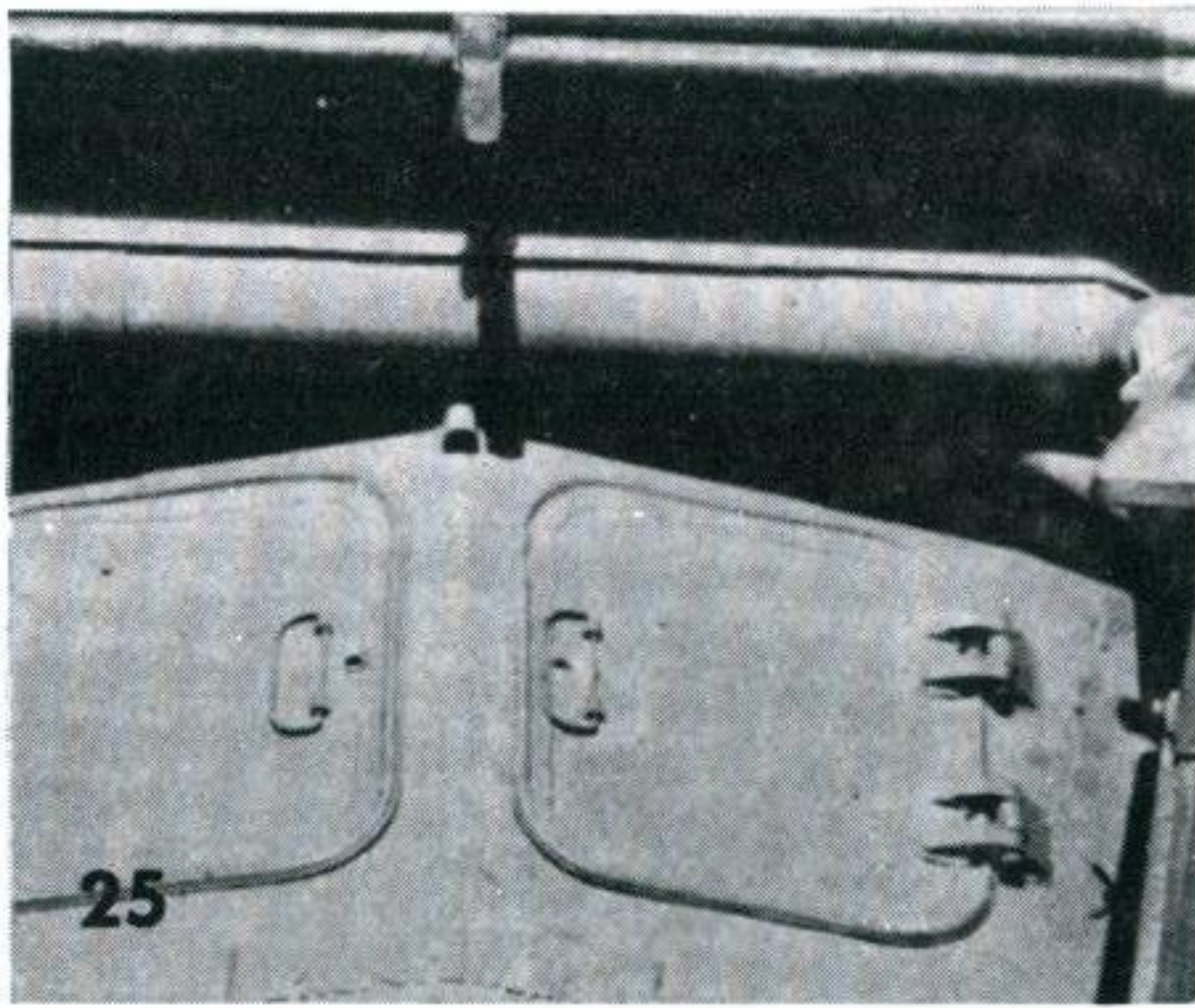


*Lesson instructions are on page 313*

# PANHARD AML with H90 turret



Apart from their size, the two turrets differ in the H.90 being welded from relatively small flat plates, which gives it an angular appearance, whereas the H.E.60 turret appears more rounded, because of the use of bent armour plates in its construction, and it has no rear overhang. Another distinguishing feature is that the 90-mm. gun has a much longer barrel than the 60-mm.



Solutions on page 334

continued overleaf



# PANHARD AML - H90 turret

mortar and a prominent, double baffle muzzle brake.

Turrets and main armament apart, the two versions are very similar. Both present a unique close-coupled appearance which is accentuated by the location of the engine air intake boxes over the rear wheels. The engine itself is, of course, located at the rear of the hull.



*Lesson instructions are on page 313*



Solutions on page 334

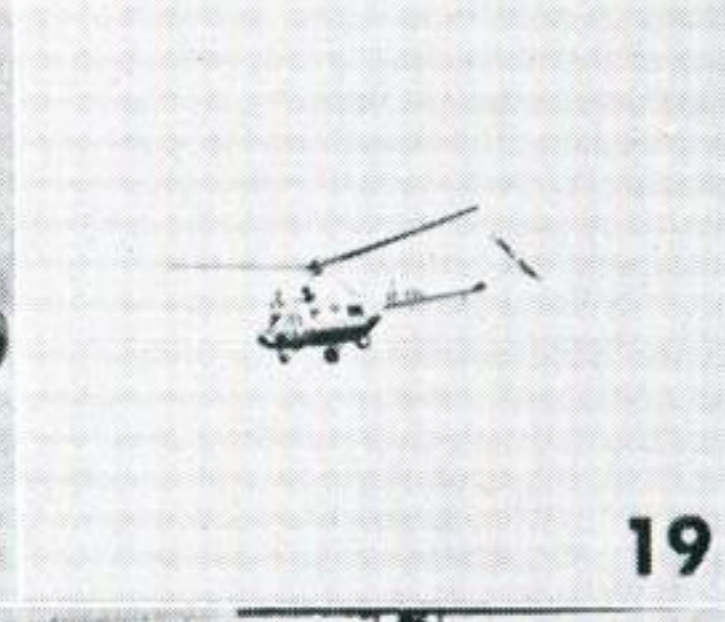
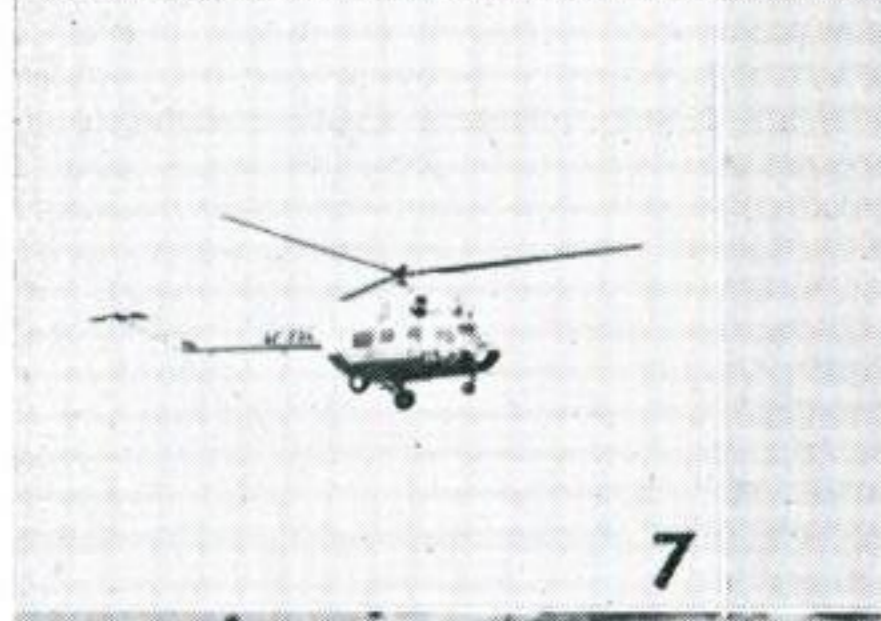
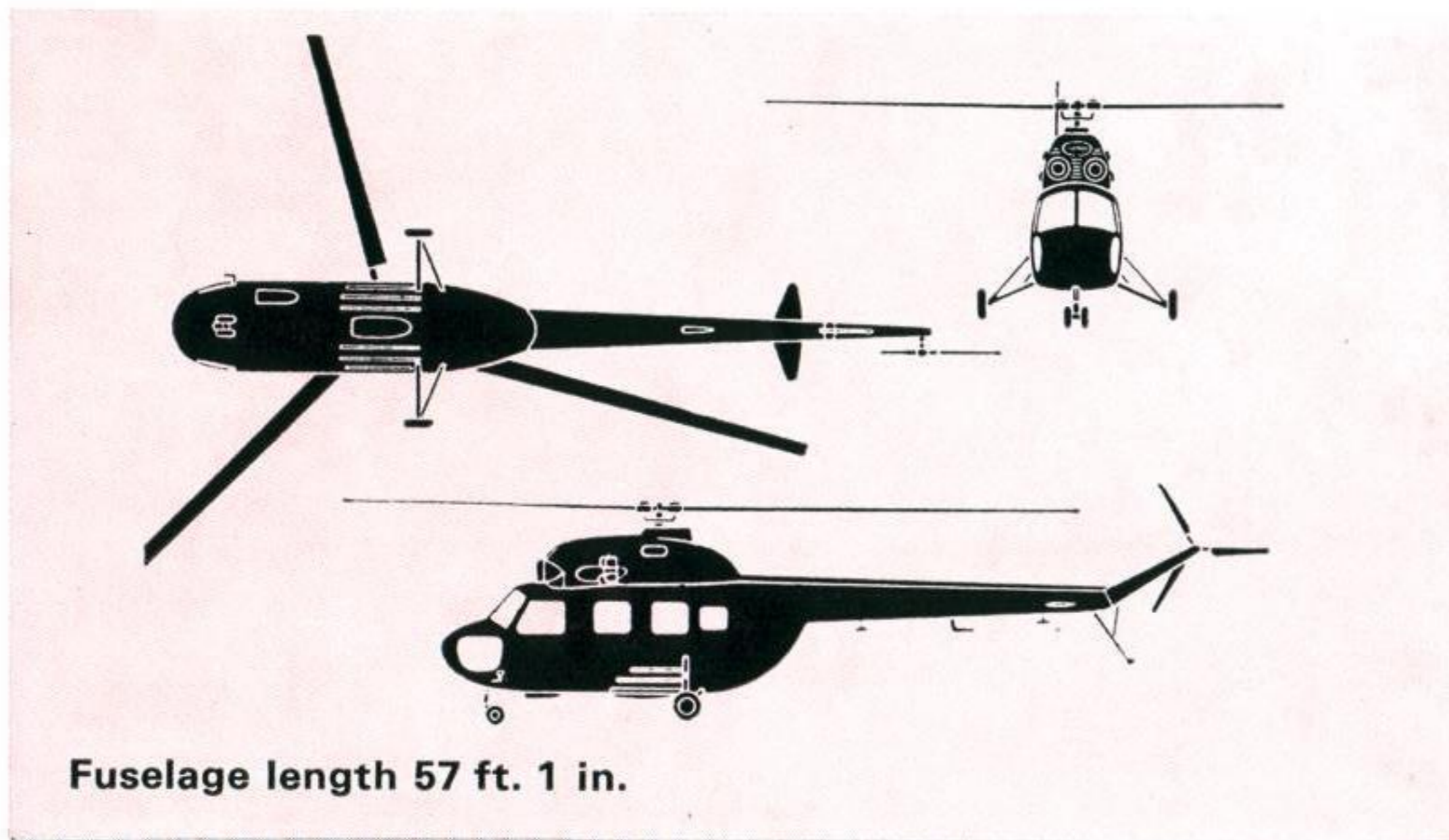


## HOPLITE

Russia's Mil Mi-2 is a light utility helicopter powered by two turboshaft engines and it first flew in 1963. It has established two F.A.I.-recognised speed records for helicopters in its class—the latest, established in June 1965, being 167.2 m.p.h.—and is currently in large scale production both in Russia and Poland. As Hoplite is very similar in shape to many other helicopters it must be learned carefully as per the instructions on page 313.

*Solutions on page 334*





*Jaguar*



Two views of the Jaguar, variants of which are being manufactured jointly by B.A.C. and Breguet Aviation for advanced training and tactical support. Jaguar has been built to the requirements of the French and British air forces and will enter service in 1971. Lesson commences overleaf.



# Jaguar

KEY



The Jaguar is powered by two Rolls-Royce/Turbomeca RB172/T.260 Adour turbofans, and prototypes (first test September 1968) will comprise two single-seat Jaguar A strike and two two-seat Jaguar E trainers for France, and one each Jaguar B trainer and S strike aircraft for the U.K. The seventh prototype, Jaguar M, will be a shipboard version for France's *Aeronavale*. Initial production is 200 aircraft for each country with first deliveries for France in 1971. A reconnaissance version has been proposed. Span of Jaguar is 28 feet and length 51 feet (single-seater) or 54 feet (two-seater). Estimated maximum speed is Mach 1.7.

Jaguar is very similar in appearance to the Phantom from some angles so to learn it properly follow the instructions on page 313 and report all targets as Jaguar—or jokers.

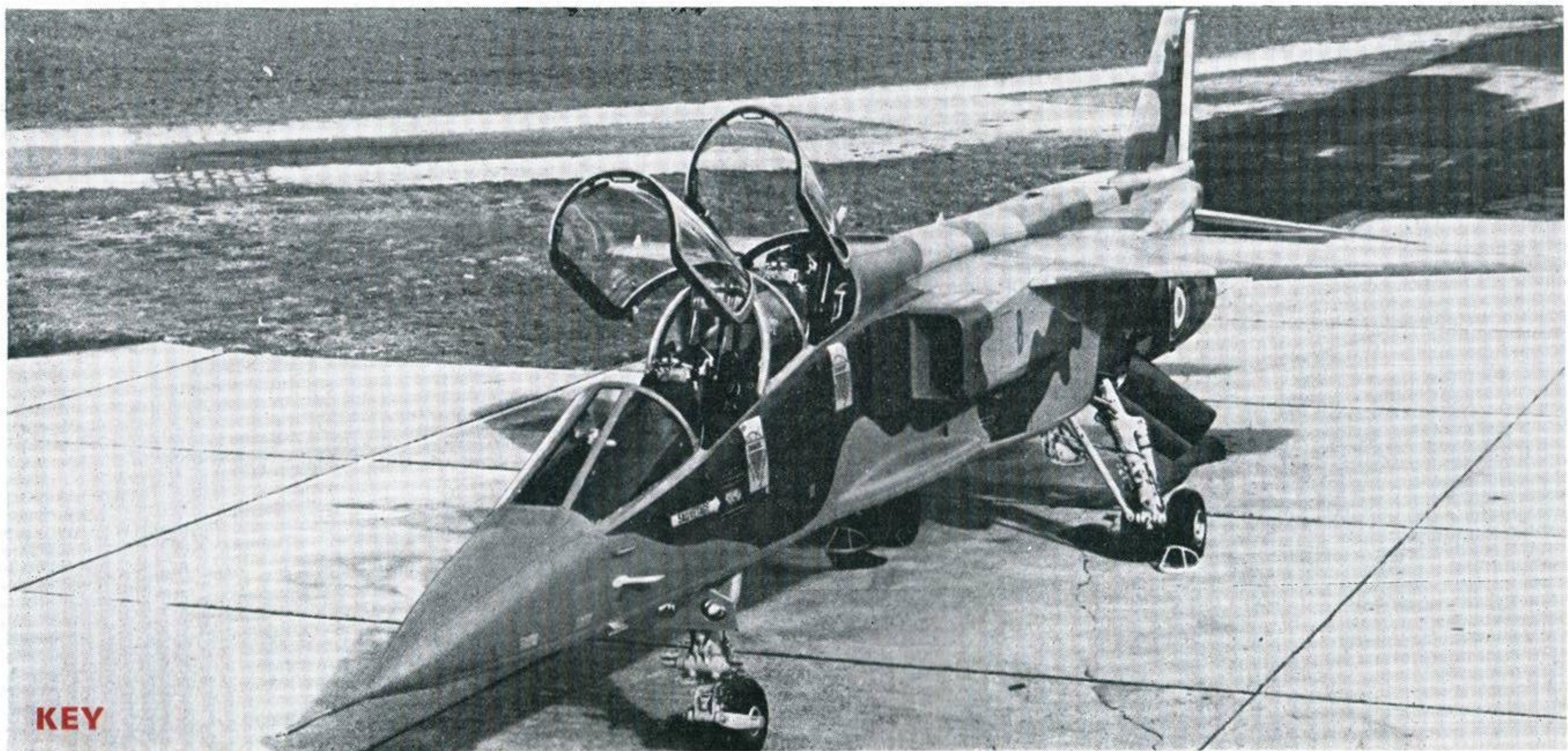


KEY





*Solutions on page 334*



**KEY**



## JETSTREAM

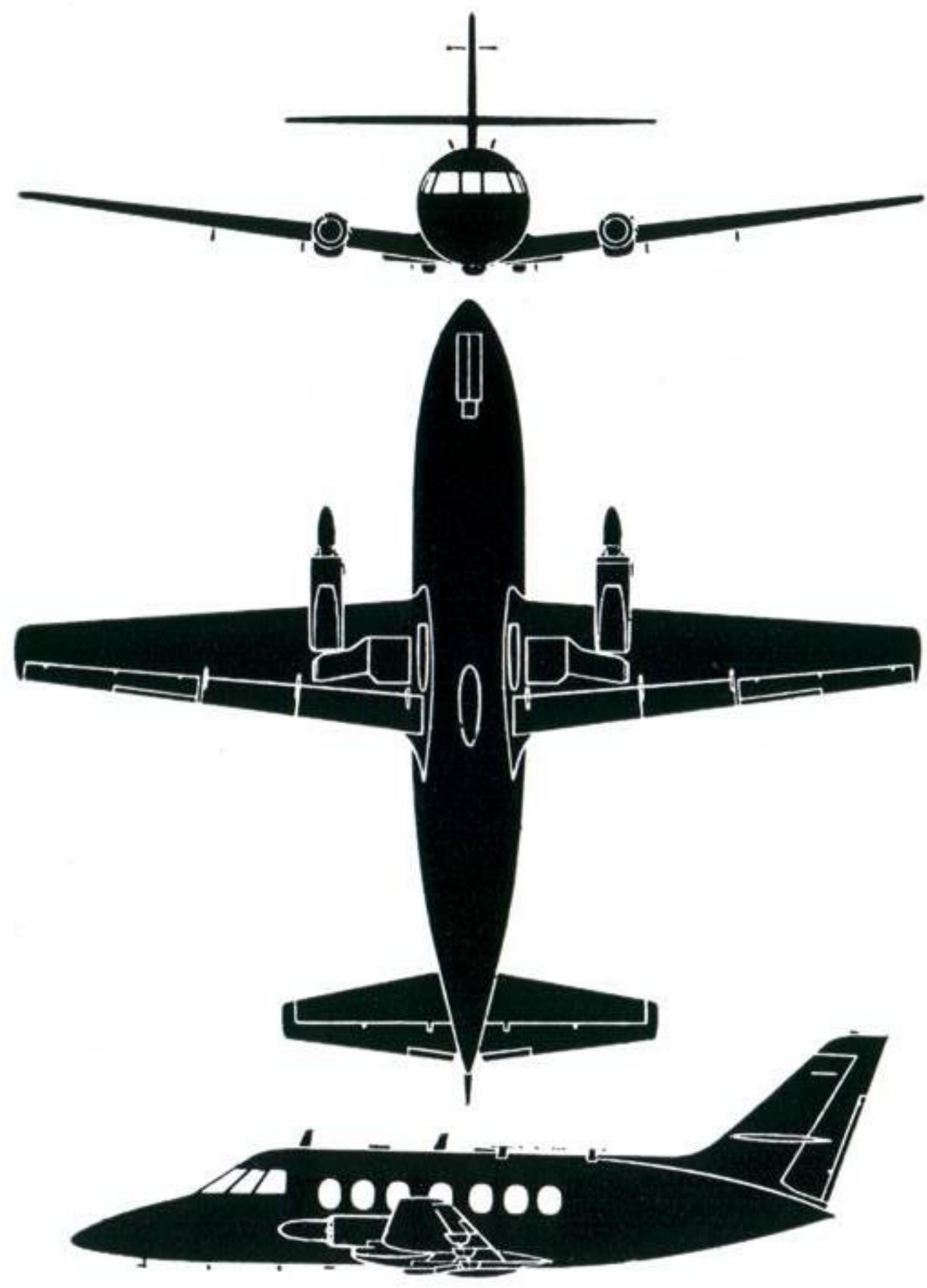
Britain's newest twin turboprop, the Handley Page Jetstream, first flew in prototype form in August 1967 and has three basic versions: executive, local-service airliner (seating up to 18 passengers), and military close-support. This last version, the 3M, is designed to carry either passengers or cargo and, in addition, has aeromedical and crew-training capabilities.

With a range of up to 2,000 miles, the Jetstream flies at more than 300 m.p.h. and is pressurised for cruising

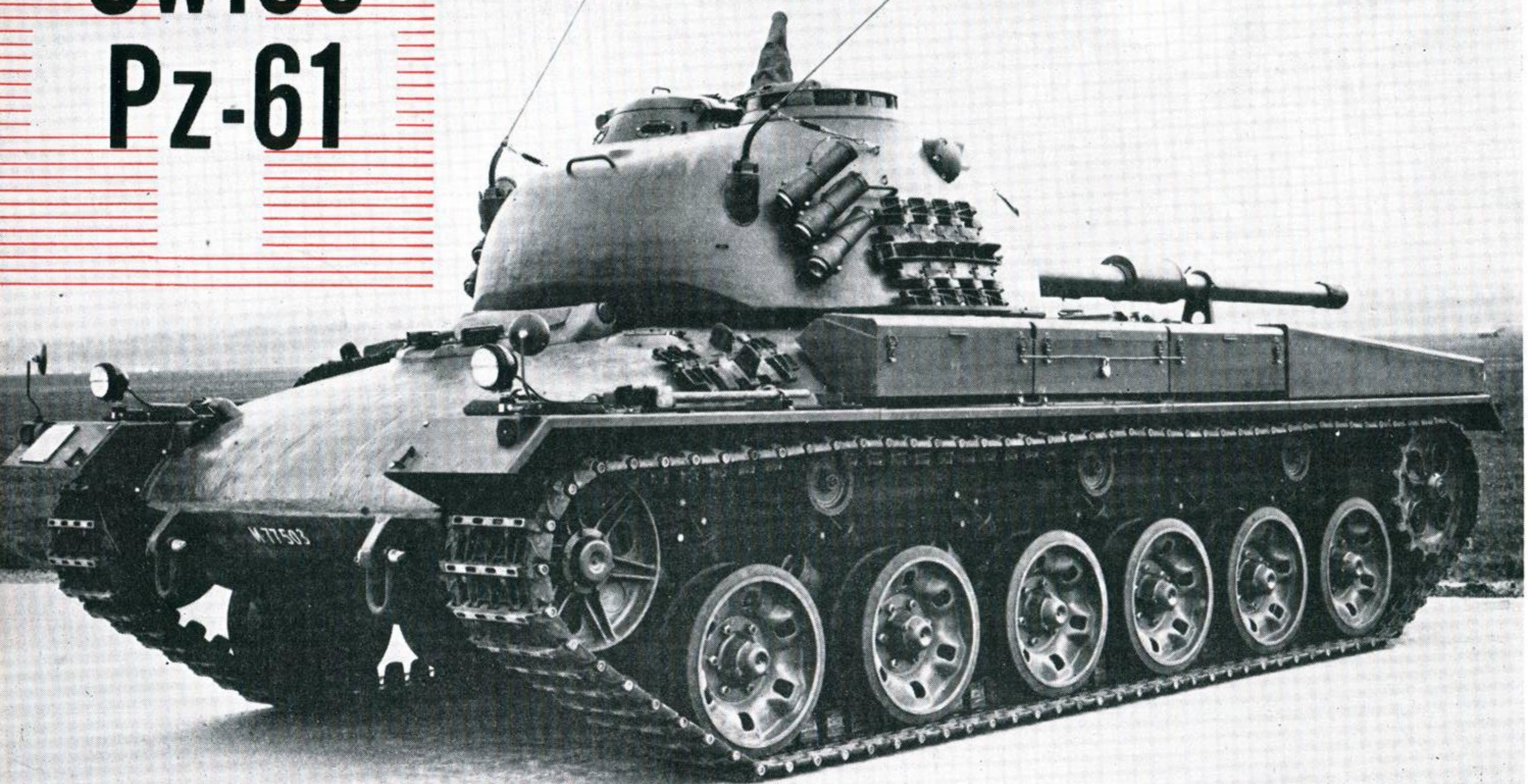
at altitudes up to 30,000 feet. It is powered by two Turboméca Astazou XIVC turboprops, has an all-up weight of 12,500 lb, and a wing span of 52 feet. Orders for 176 aircraft for North America (including the U.S.A.F.), Europe, Africa and elsewhere have already been received and production is being geared up to 15 a month; deliveries have begun.

Work to the lesson instructions on page 313. Solutions are on page 334.



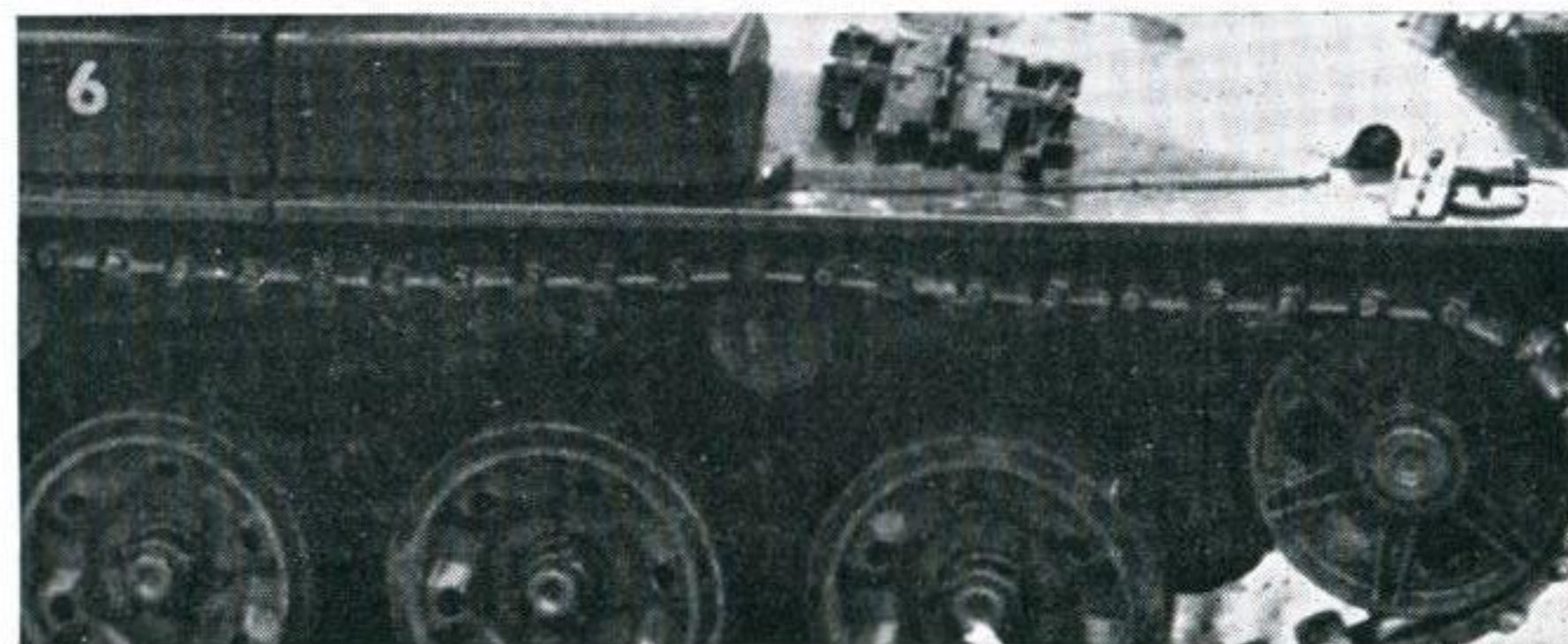
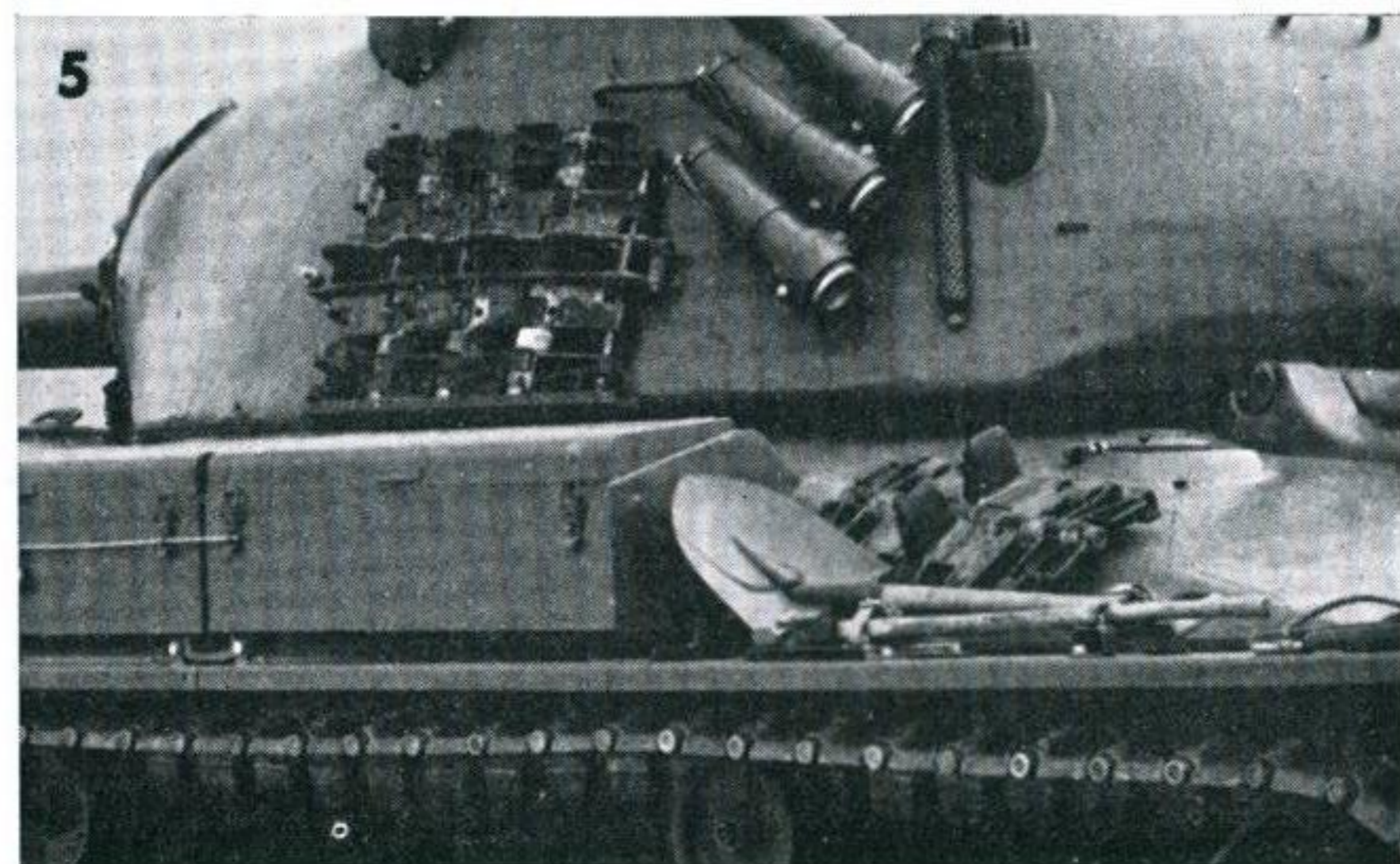
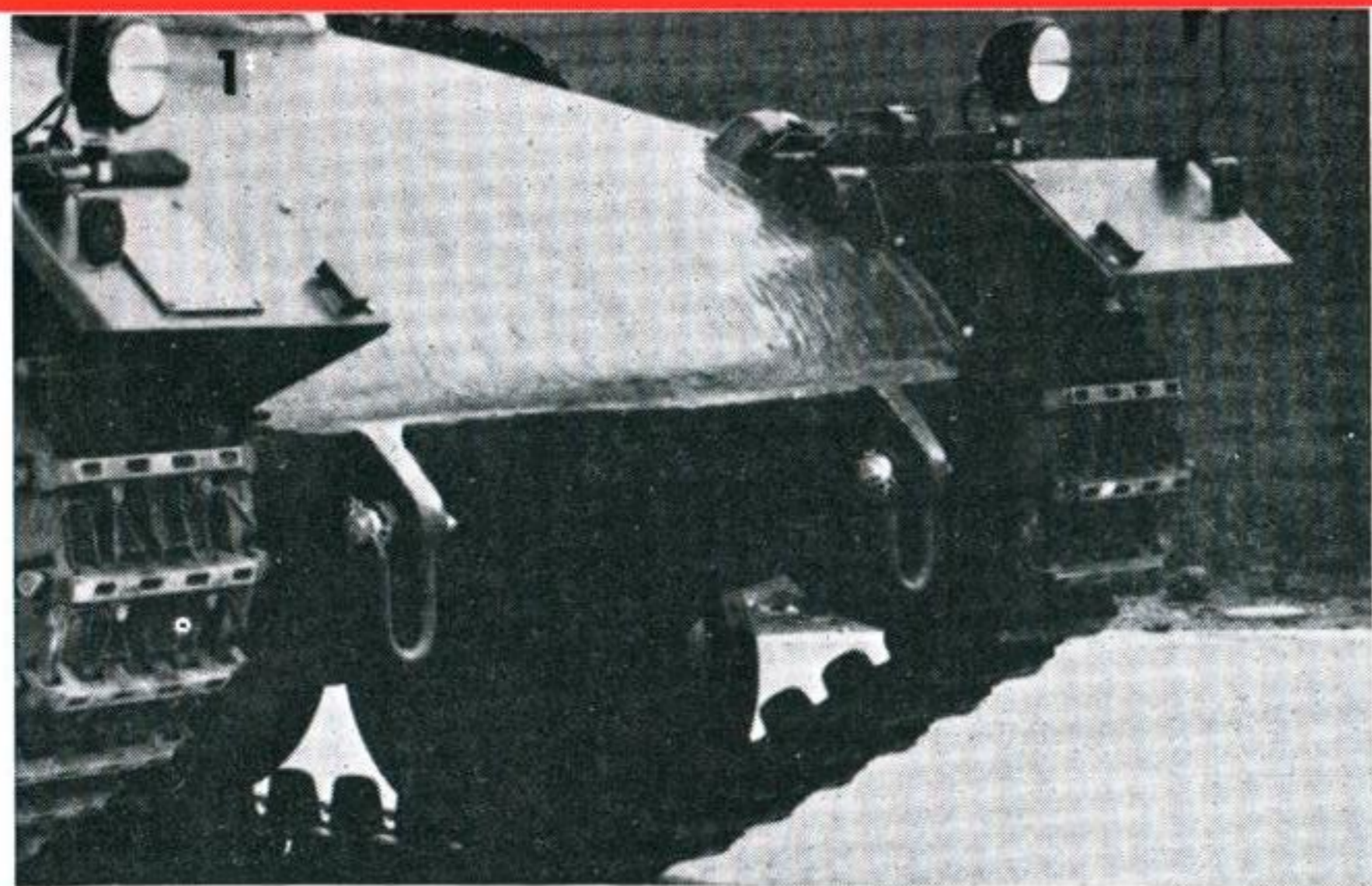


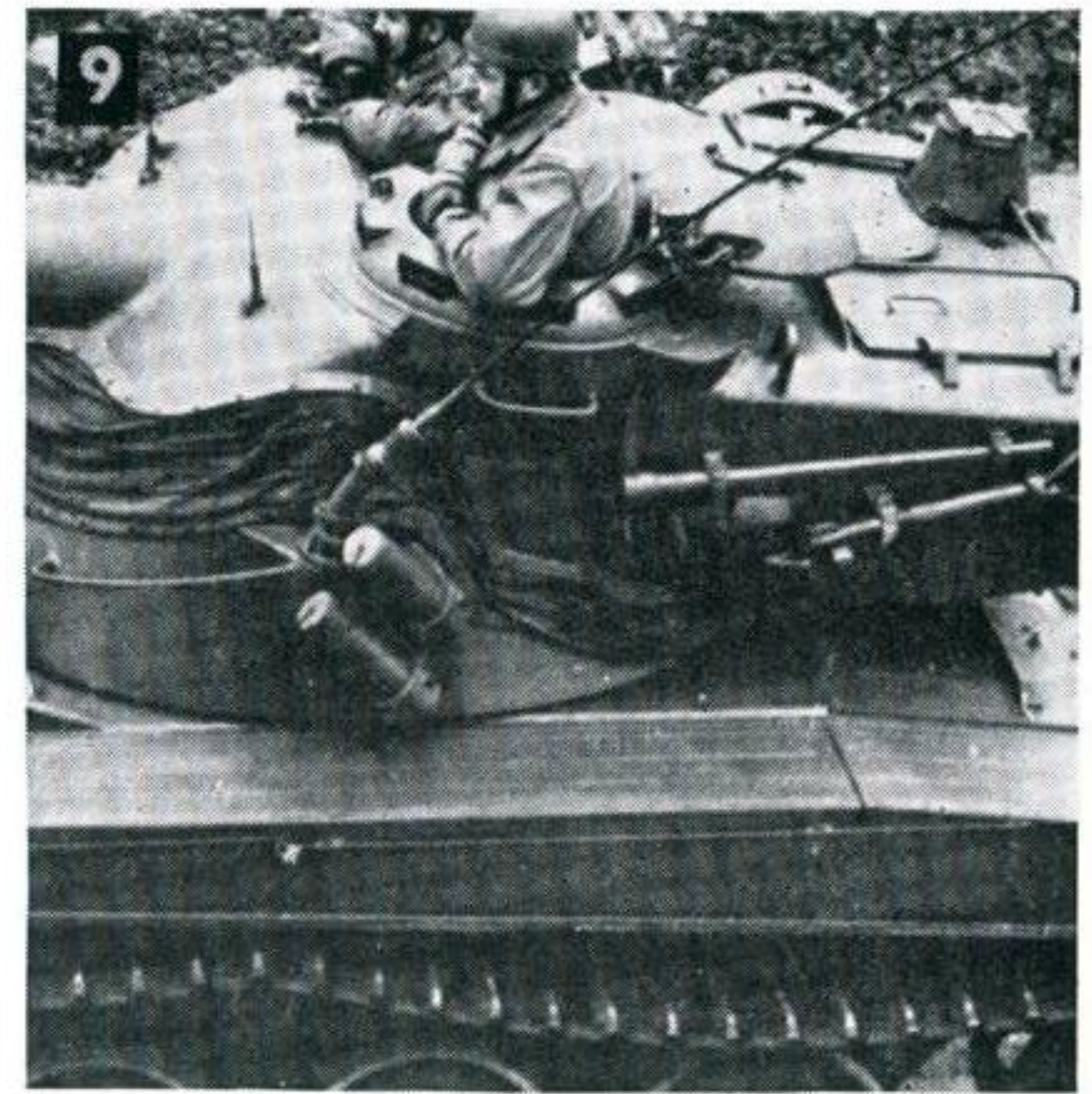
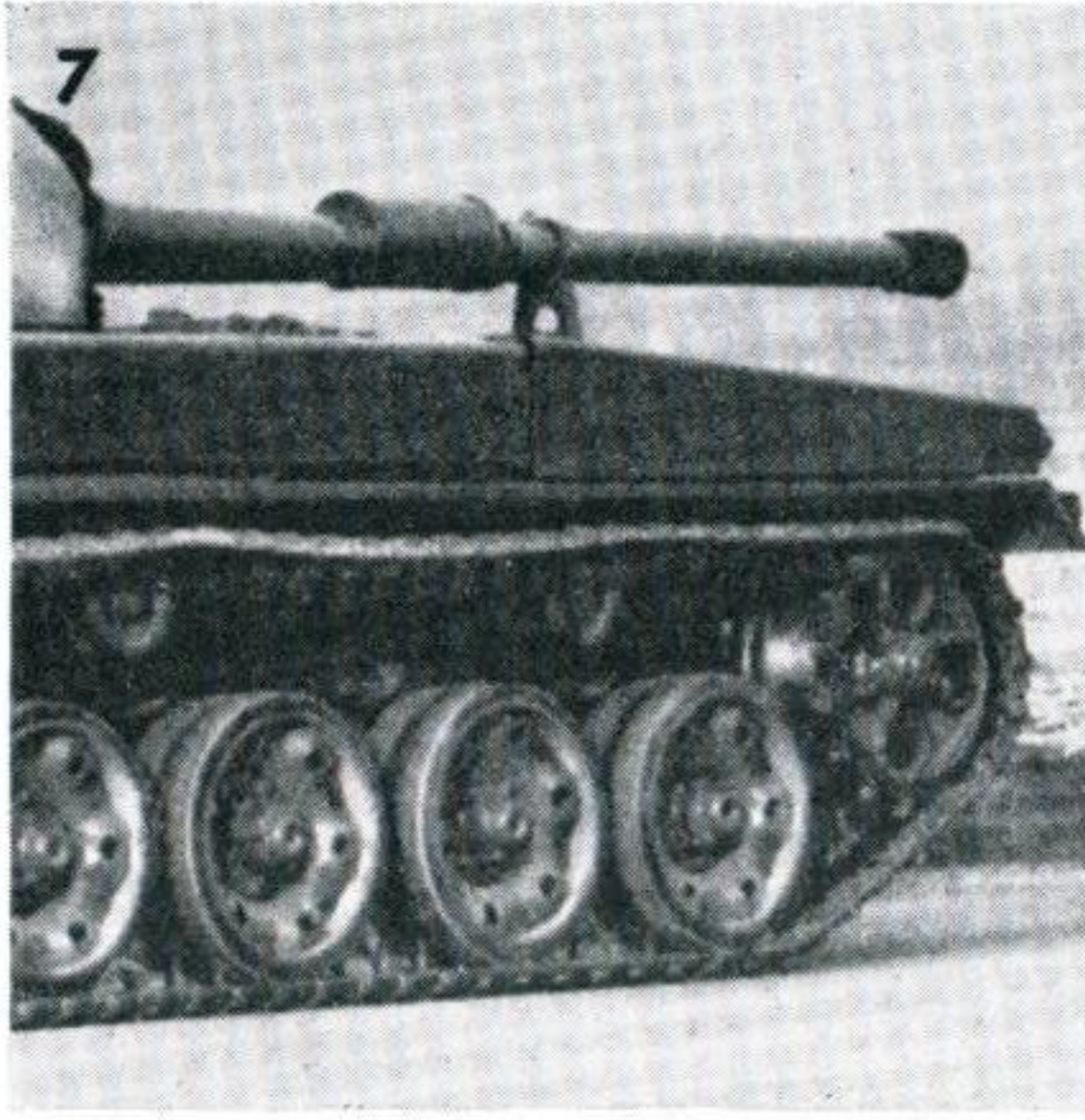
# Swiss Pz-61



KEY

*Lesson instructions are on page 313*





*Solutions on page 334*

*continued overleaf*



**KEY**

M-0871

## SWISS PZ.61 BATTLE TANK *continued*

The Pz-61 battle tank is in several ways a very interesting vehicle. First, it is the first tank produced in Switzerland. Second, not only has it been designed in Switzerland but almost all of its components are Swiss-made. This includes the 105-mm. gun which is of British design but which is produced, under licence, in Switzerland. The only major component not of Swiss manufacture is the Daimler-Benz engine which is imported from Germany. The engine is a water-cooled, 630 b.h.p., V-8 diesel which is very similar to the engine of the German Leopard battle tank, except for having two cylinders fewer.

The Pz-61 also possesses several advanced technical features. For instance, its hull as well as its turret, is a one-piece steel casting, which previously has only been

used on the U.S. M48 and M60 tanks. Each of its twelve road wheels is independently sprung by means of a stack of Belleville washers, or conical springs, and it has a sophisticated hydro-mechanical steering mechanism.

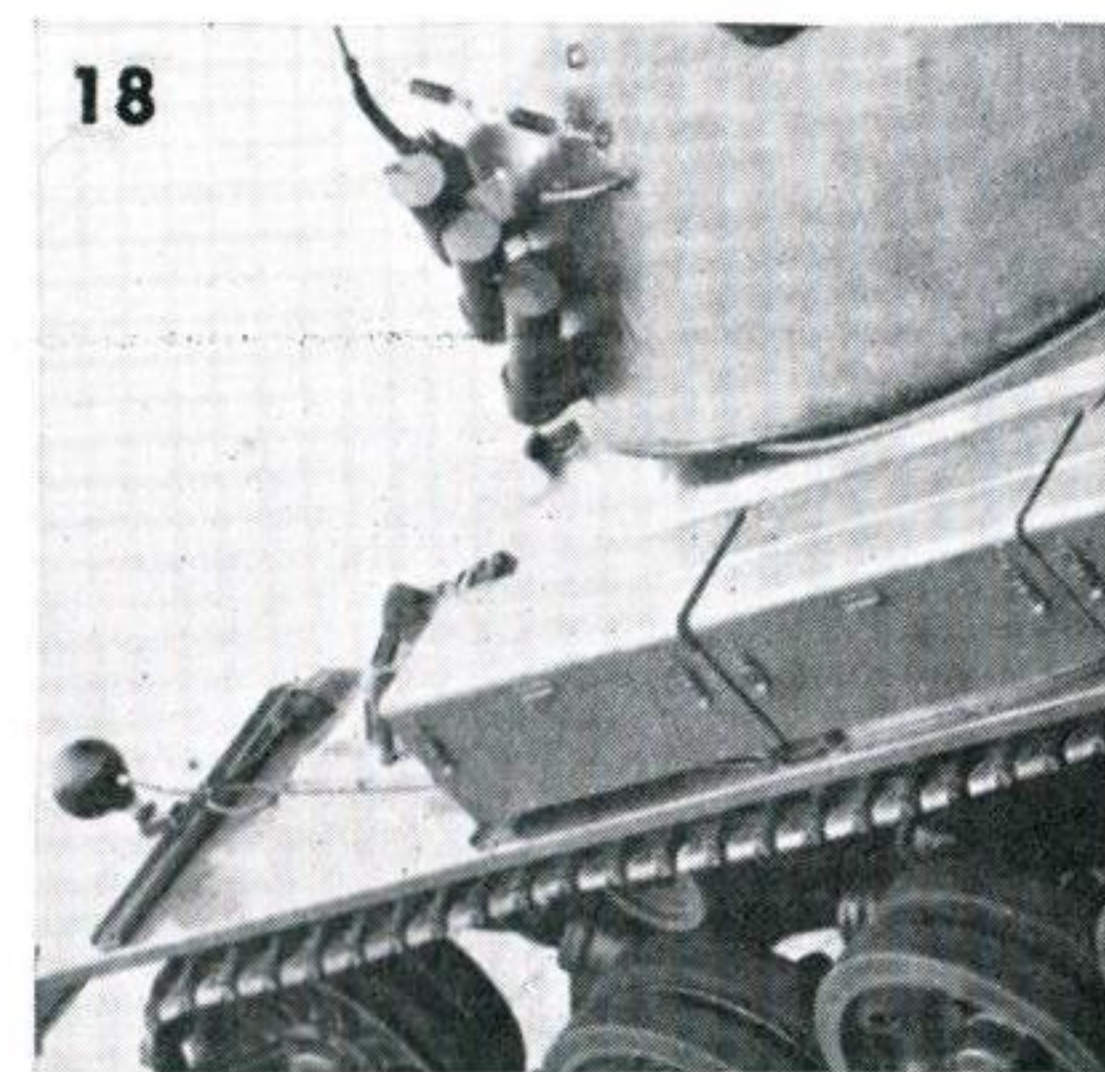
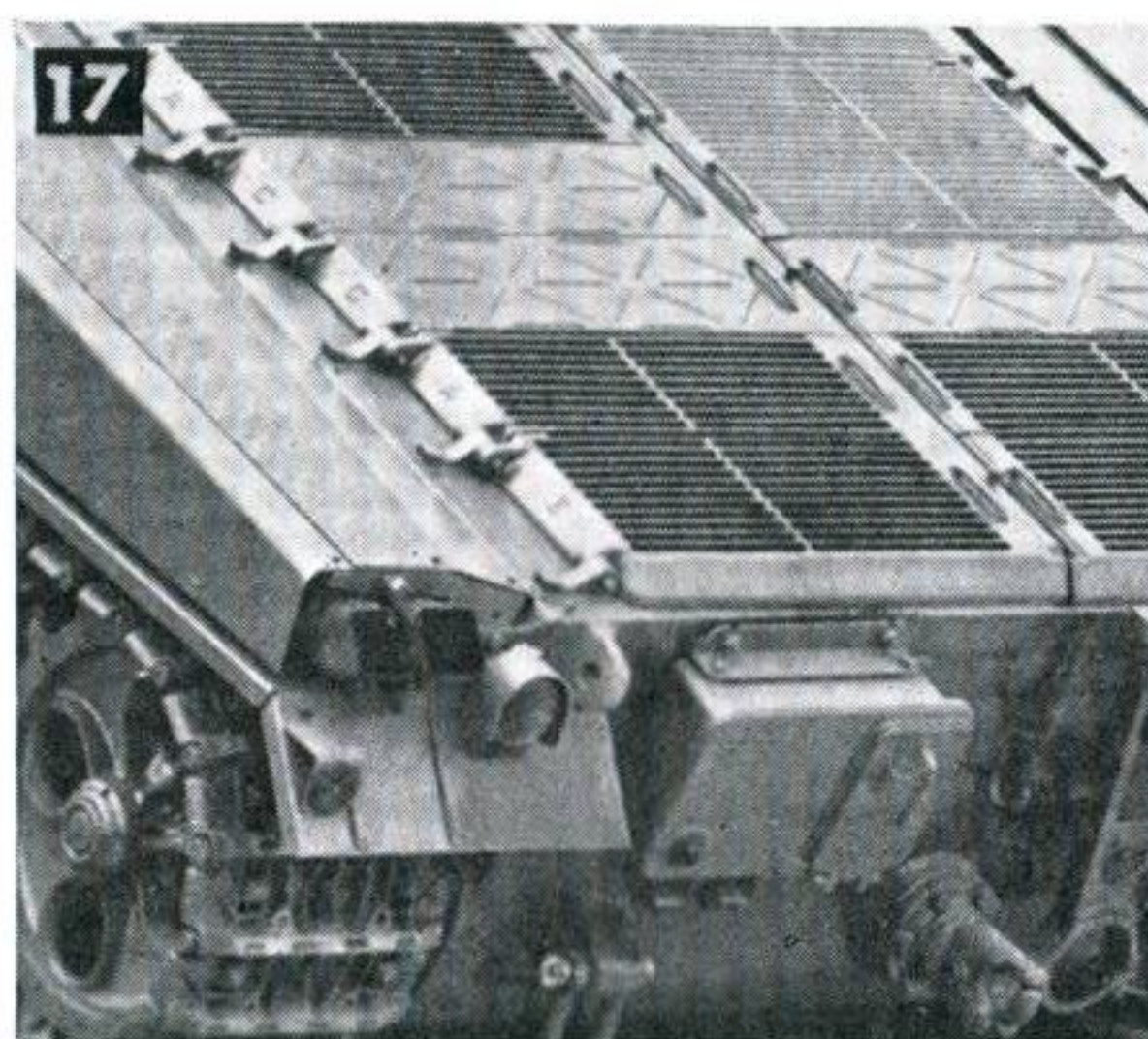
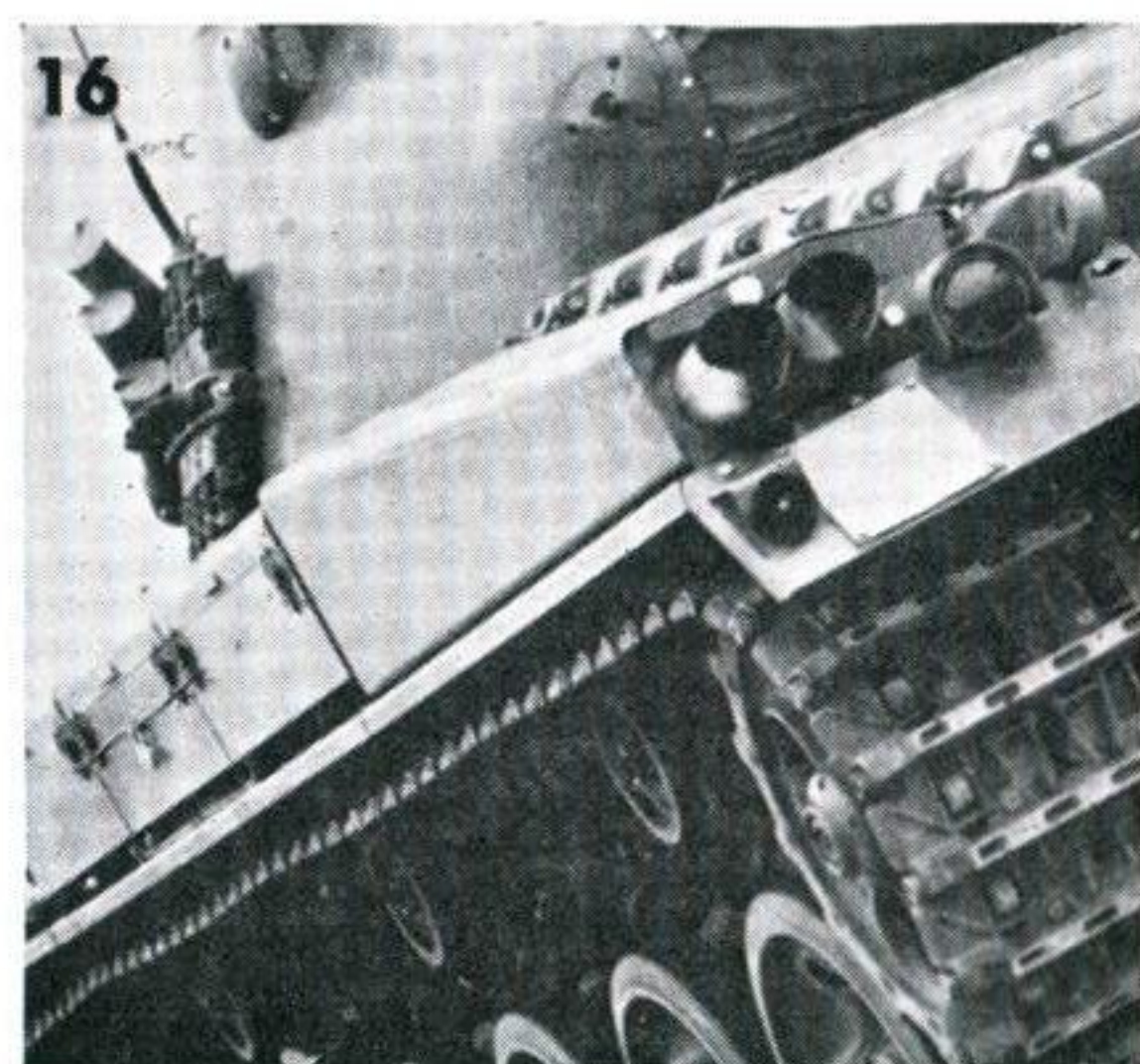
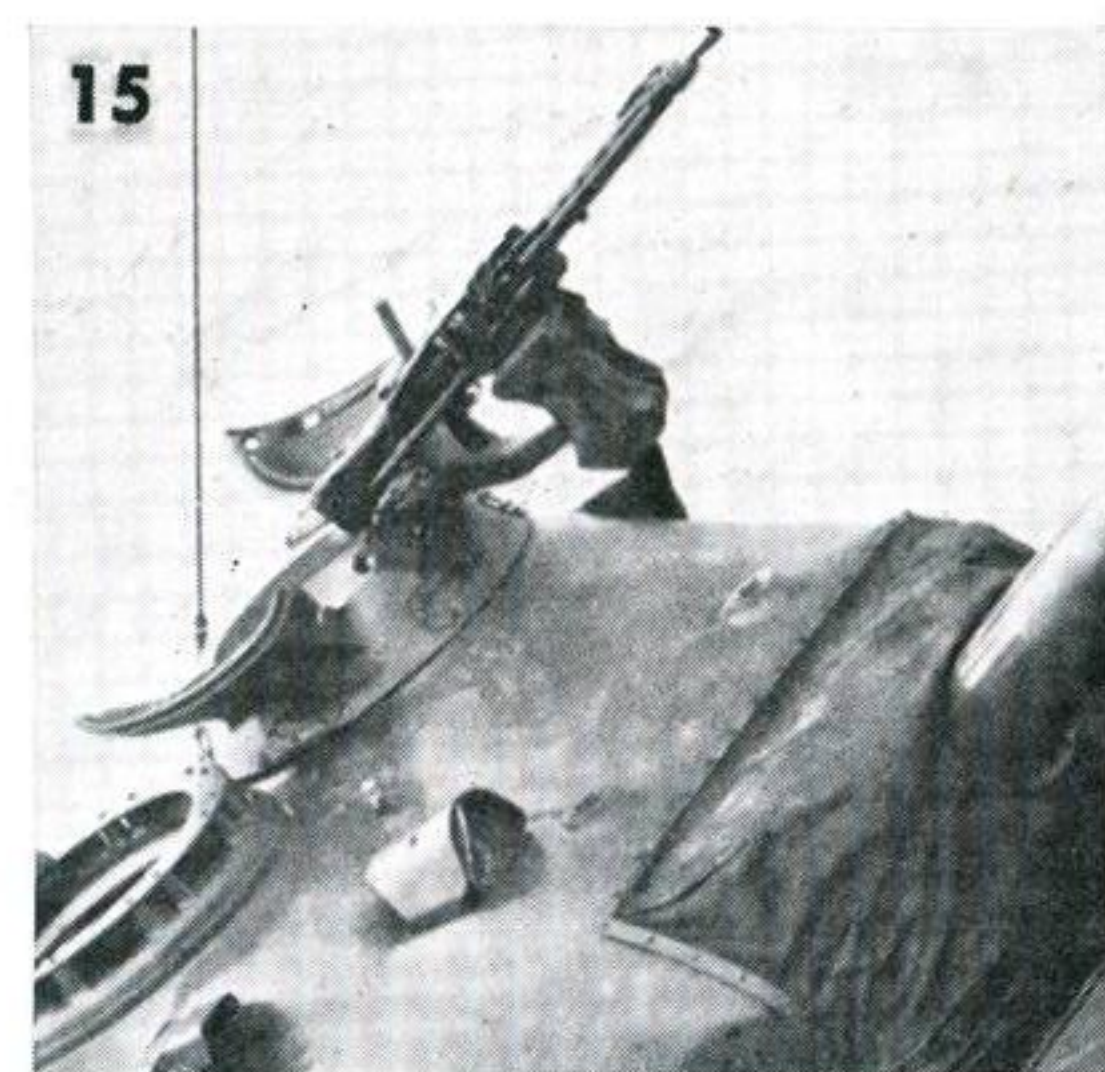
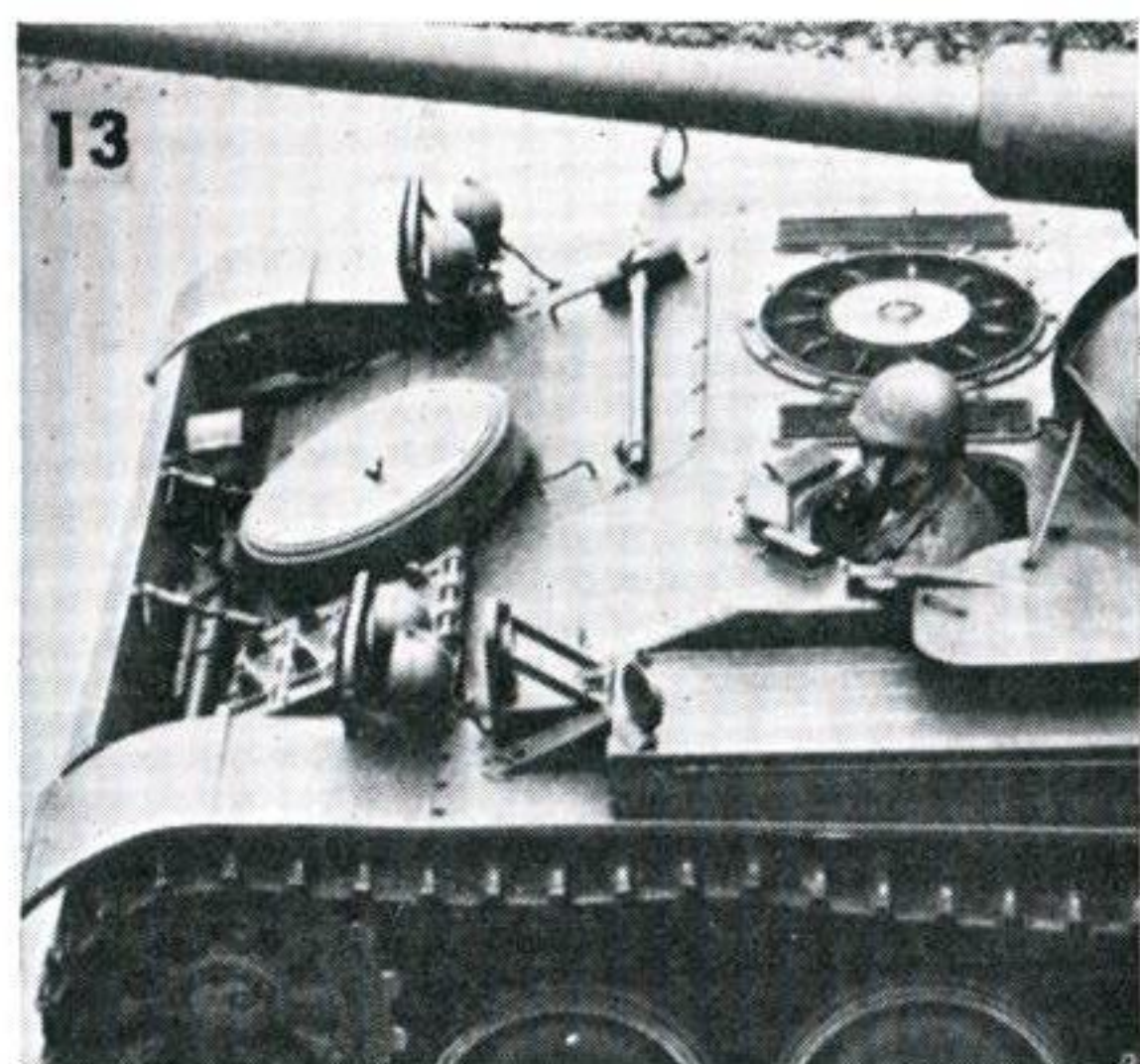
Instead of the usual rifle-calibre coaxial machine gun, the Pz-61 has a 20-mm. Oerlikon automatic cannon. A machine gun is mounted externally but instead of being operated by the tank commander it is fired by the loader. However, like several other contemporary battle tanks, the Pz-61 has an optical range finder.

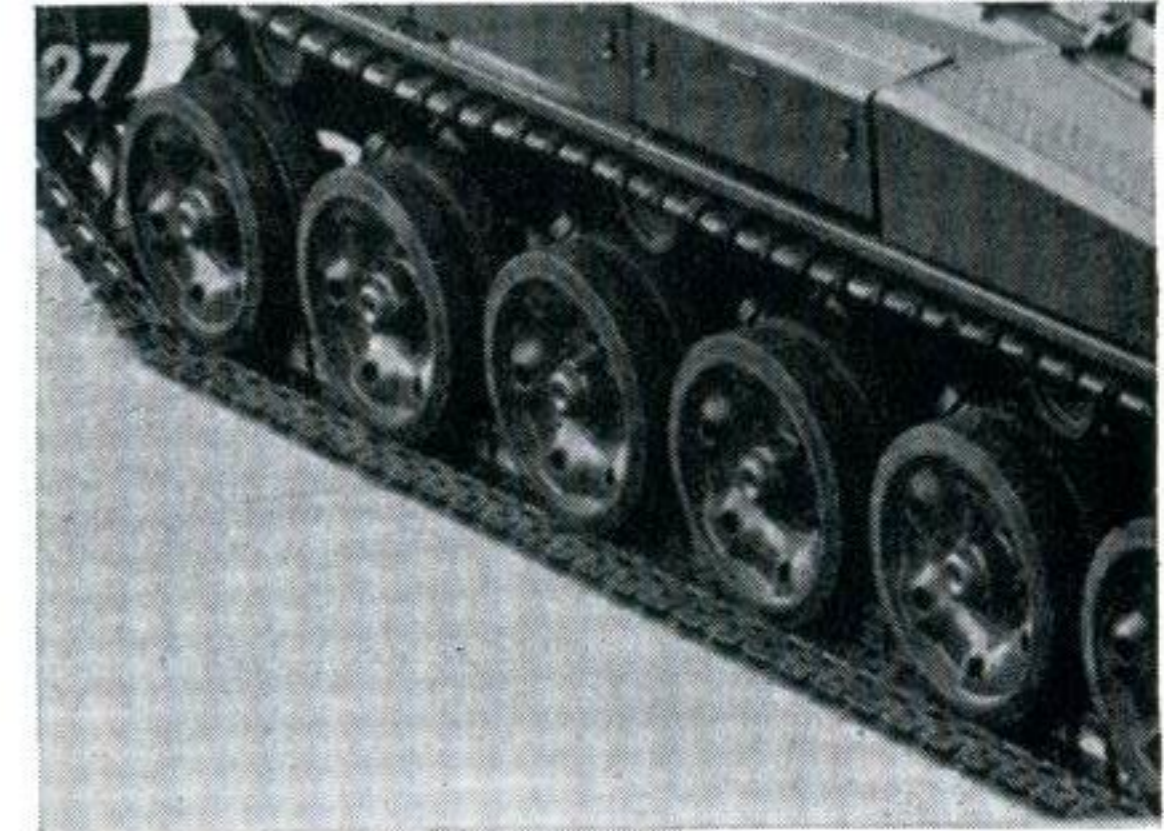
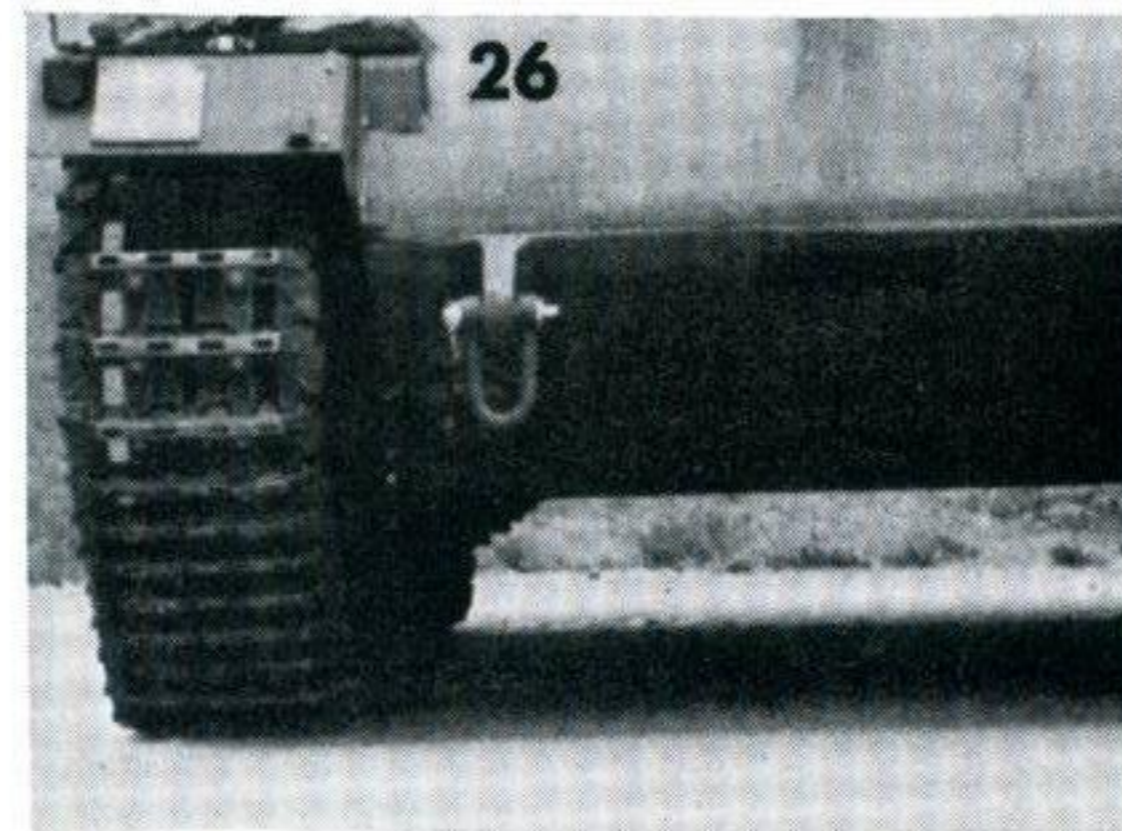
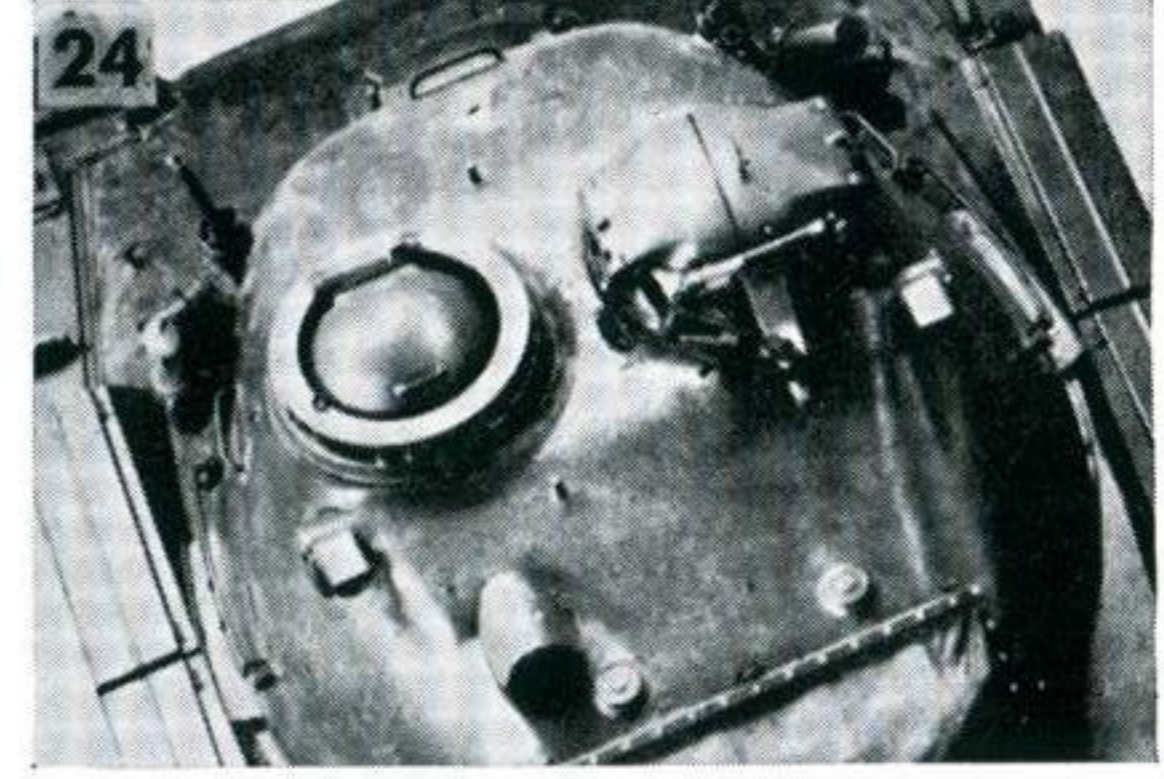
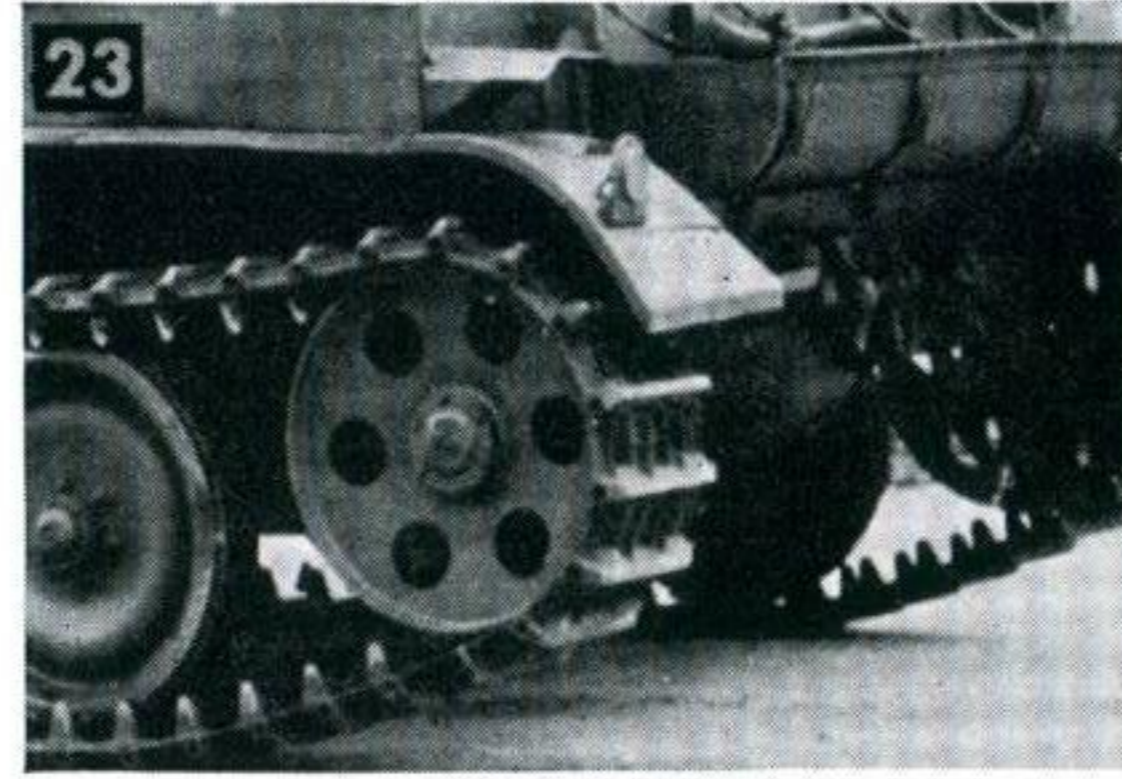
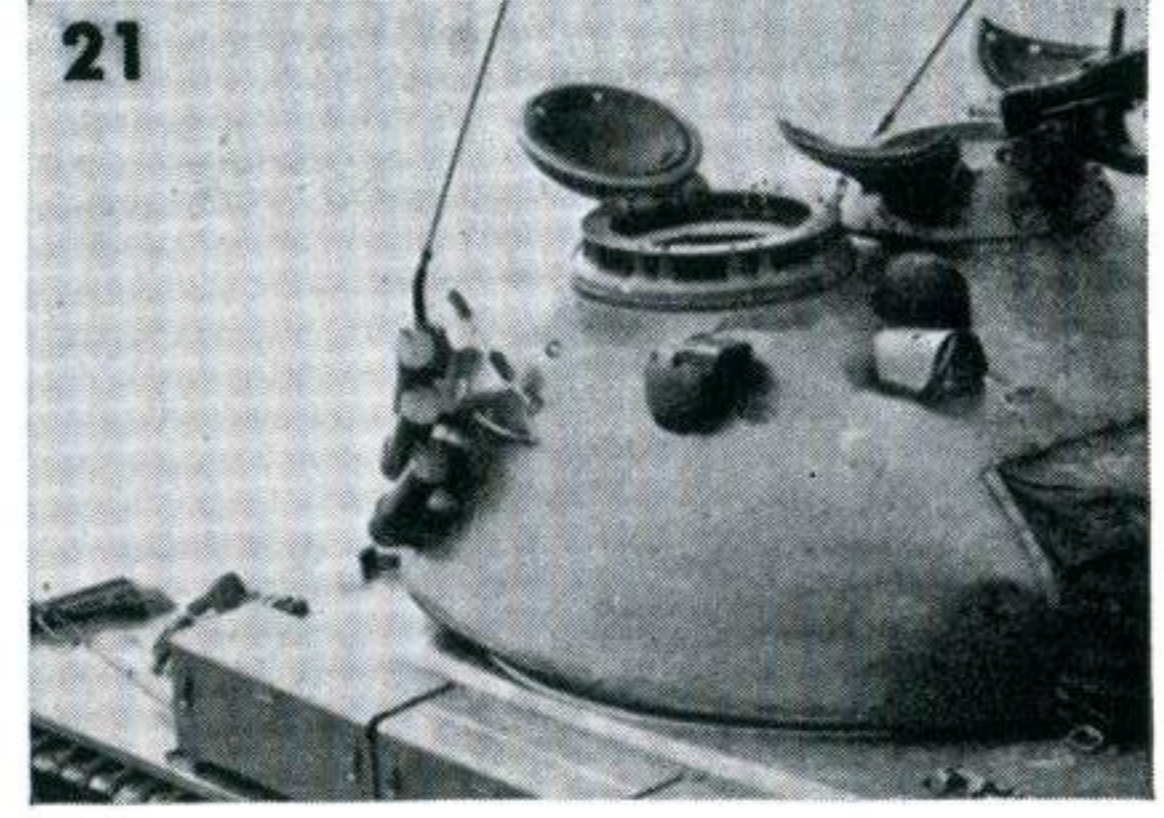
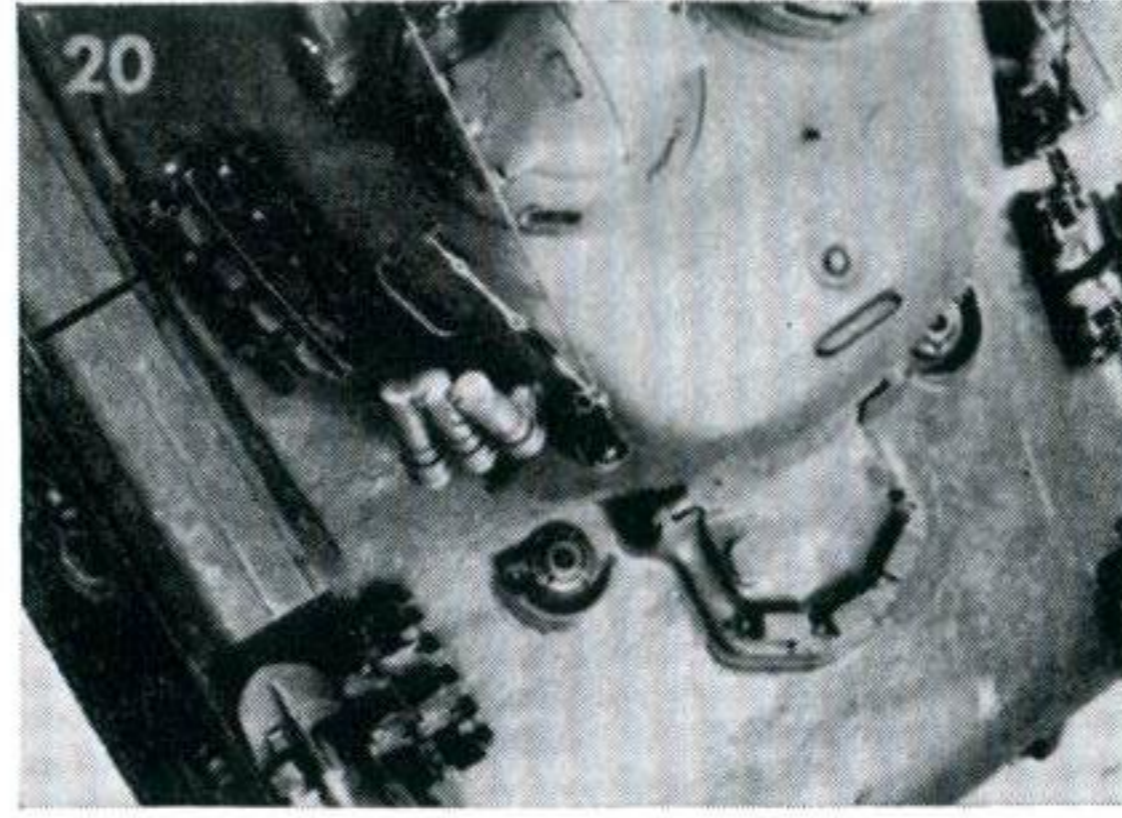
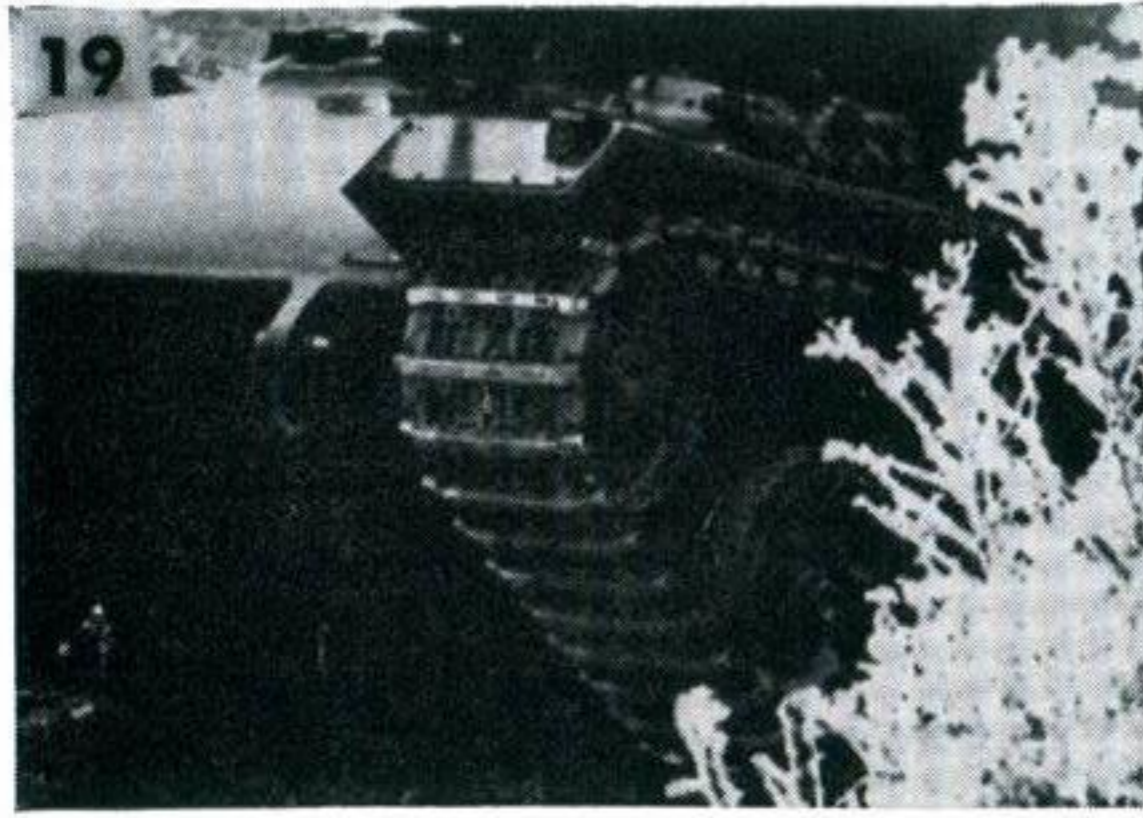
The Pz-61 is also commendably light, as it only weighs 36.5 tons, which puts it among the lightest of the current generation of battle tanks.

Its cast hull and six medium size road wheels per side give the Pz-61 a fairly characteristic appearance but its principal recognition feature is its relatively small turret which has no rear overhang and is placed well forward.



# Pz-61



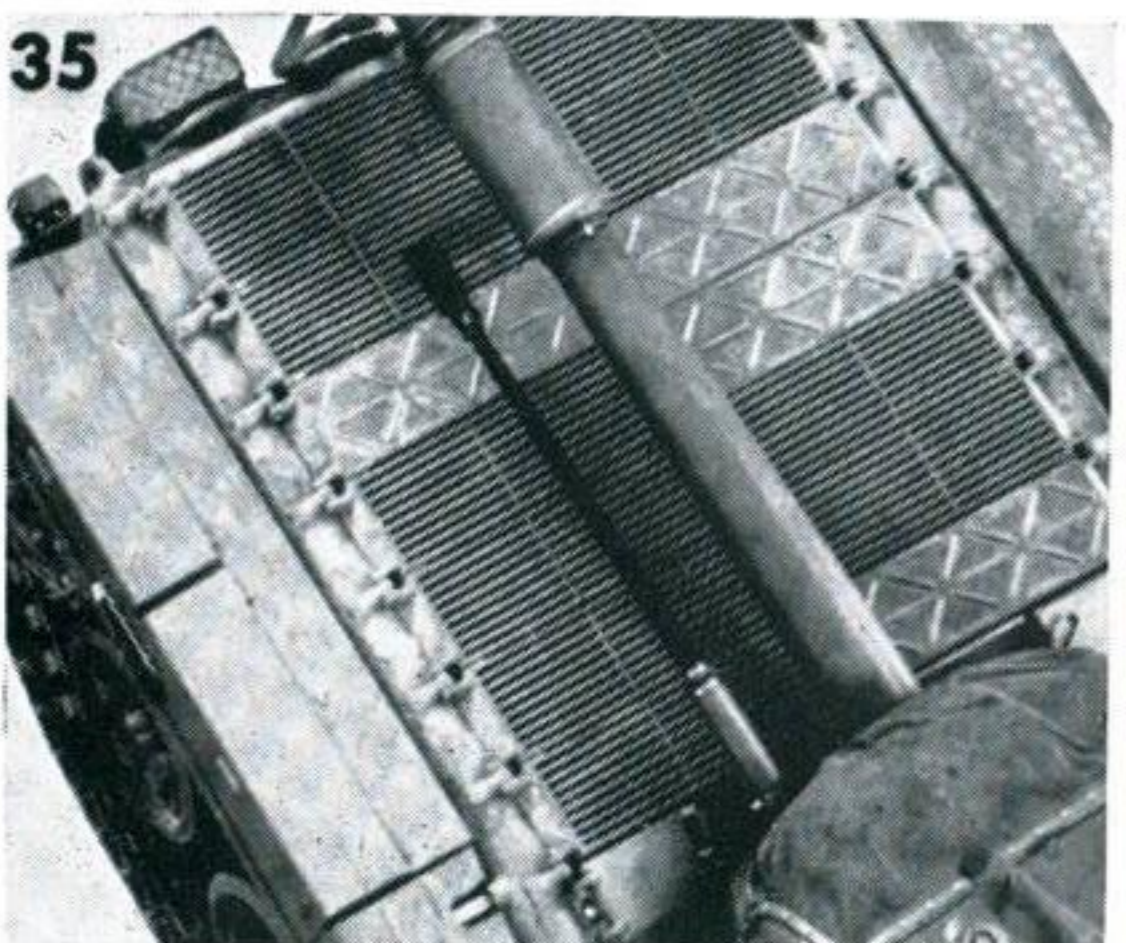
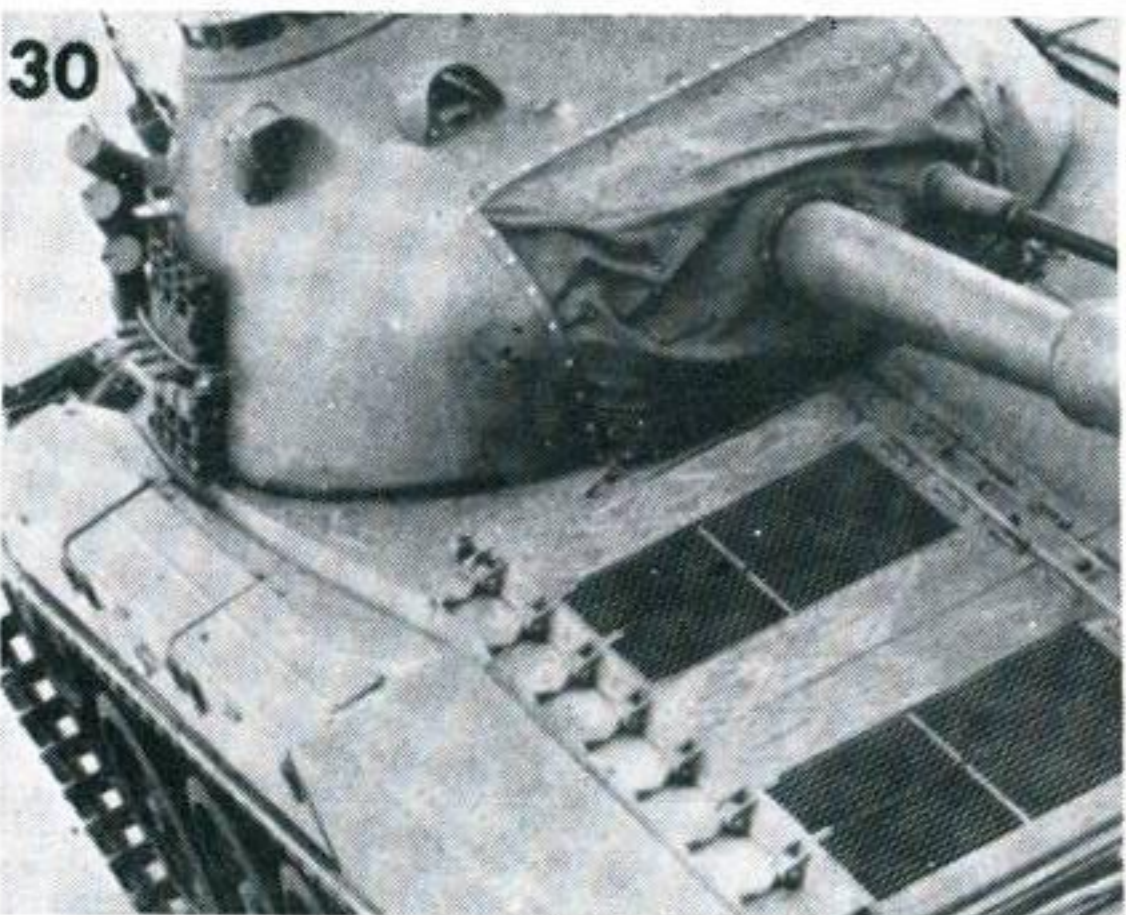
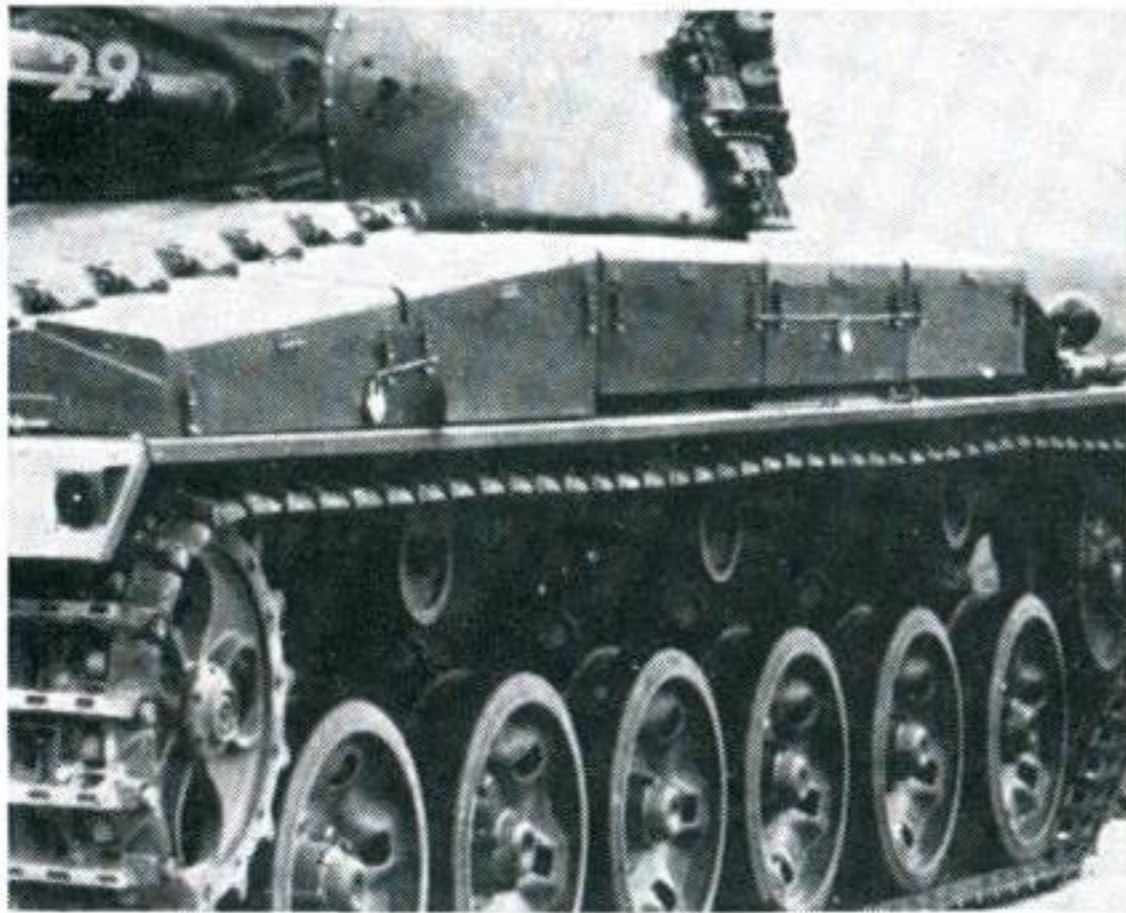
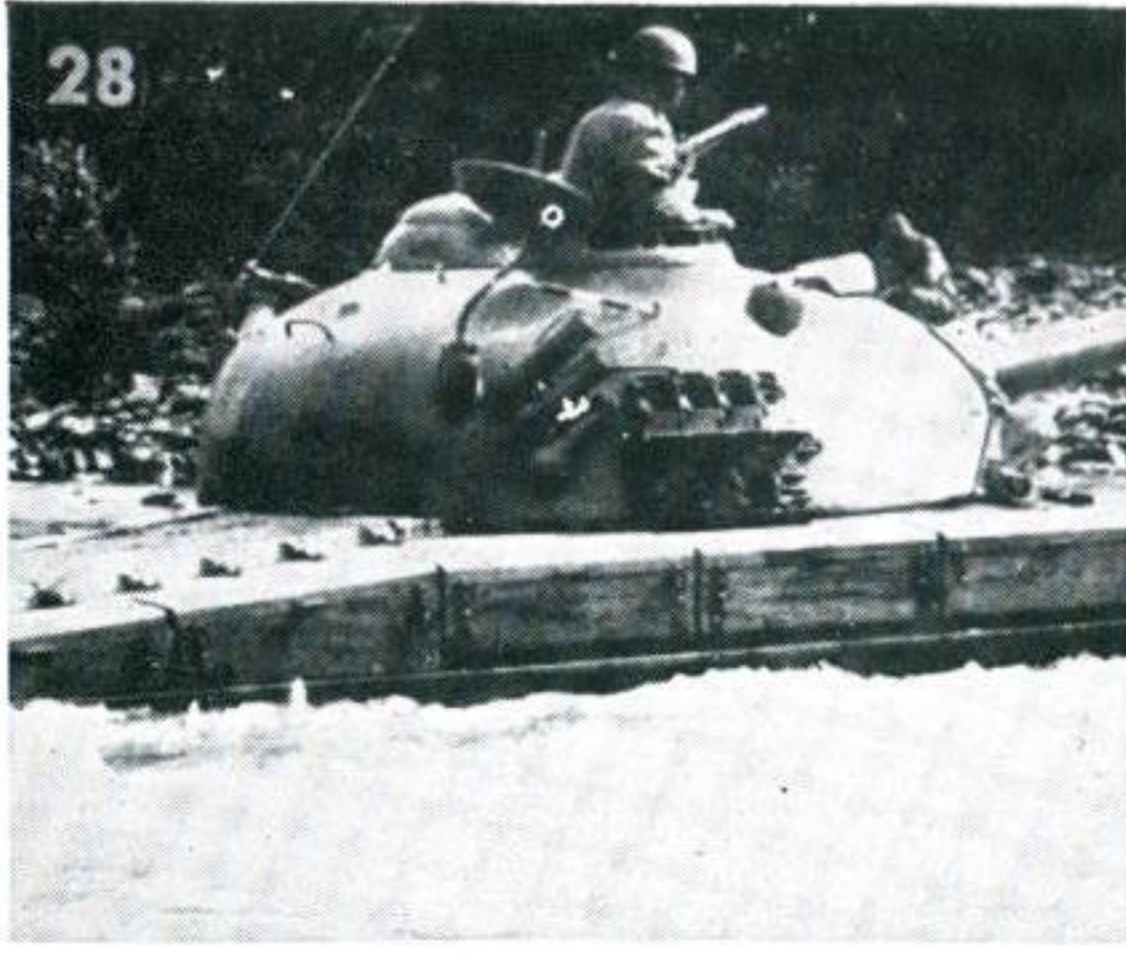


*Lesson instructions are on page 313*

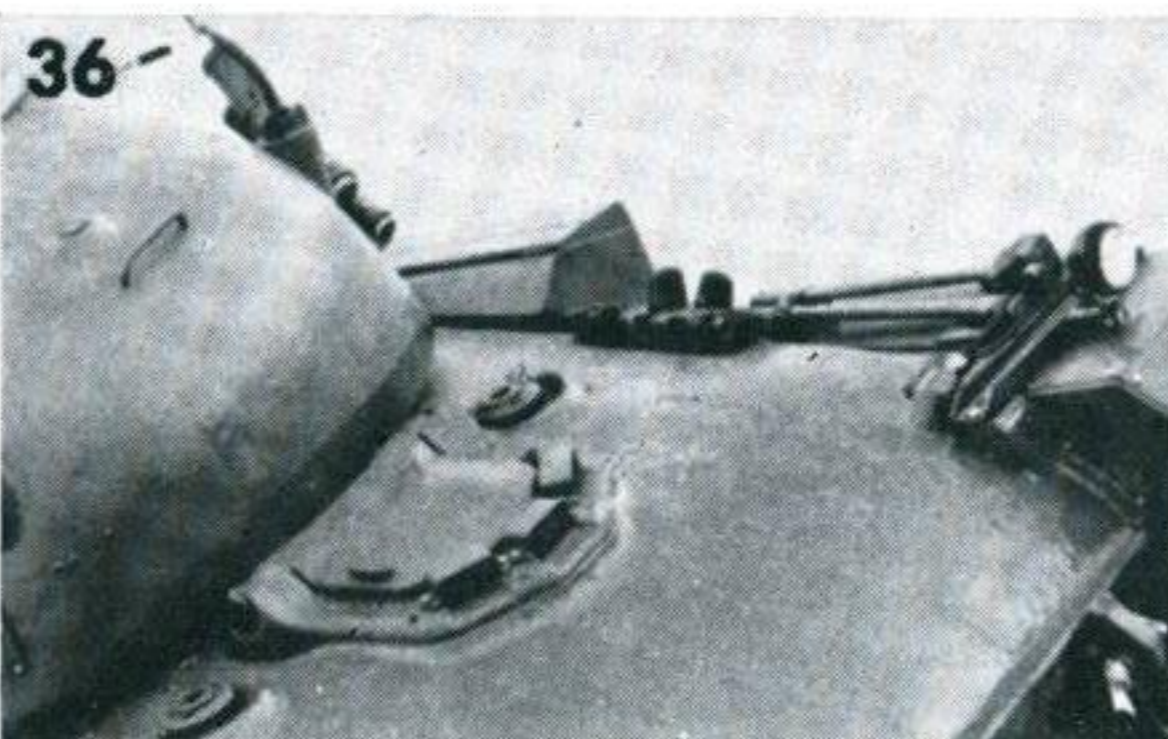
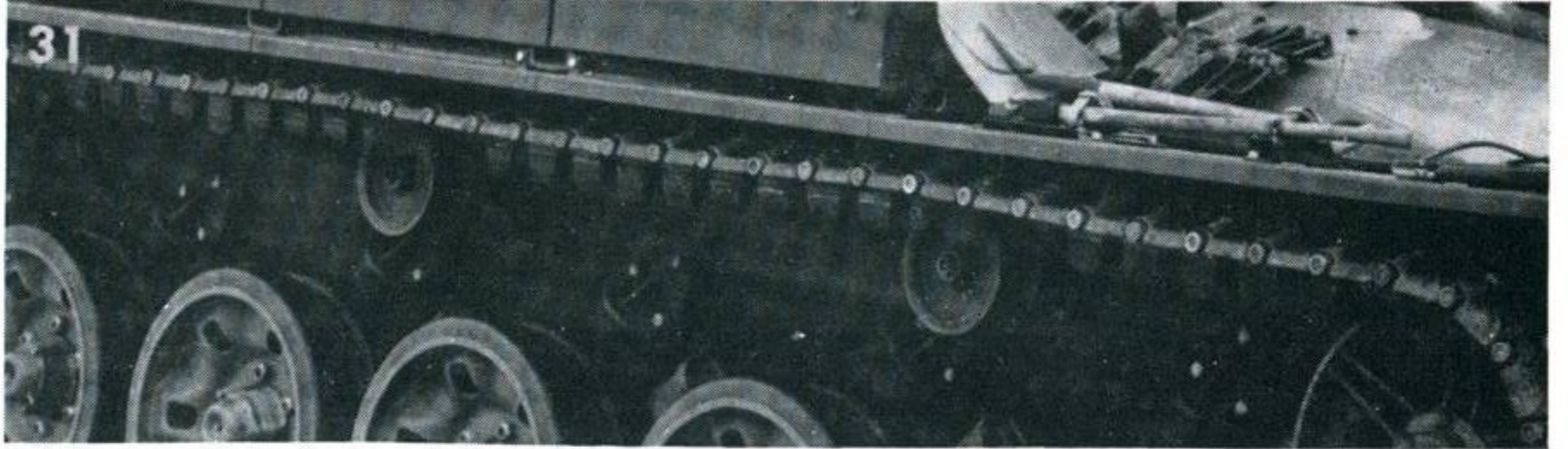
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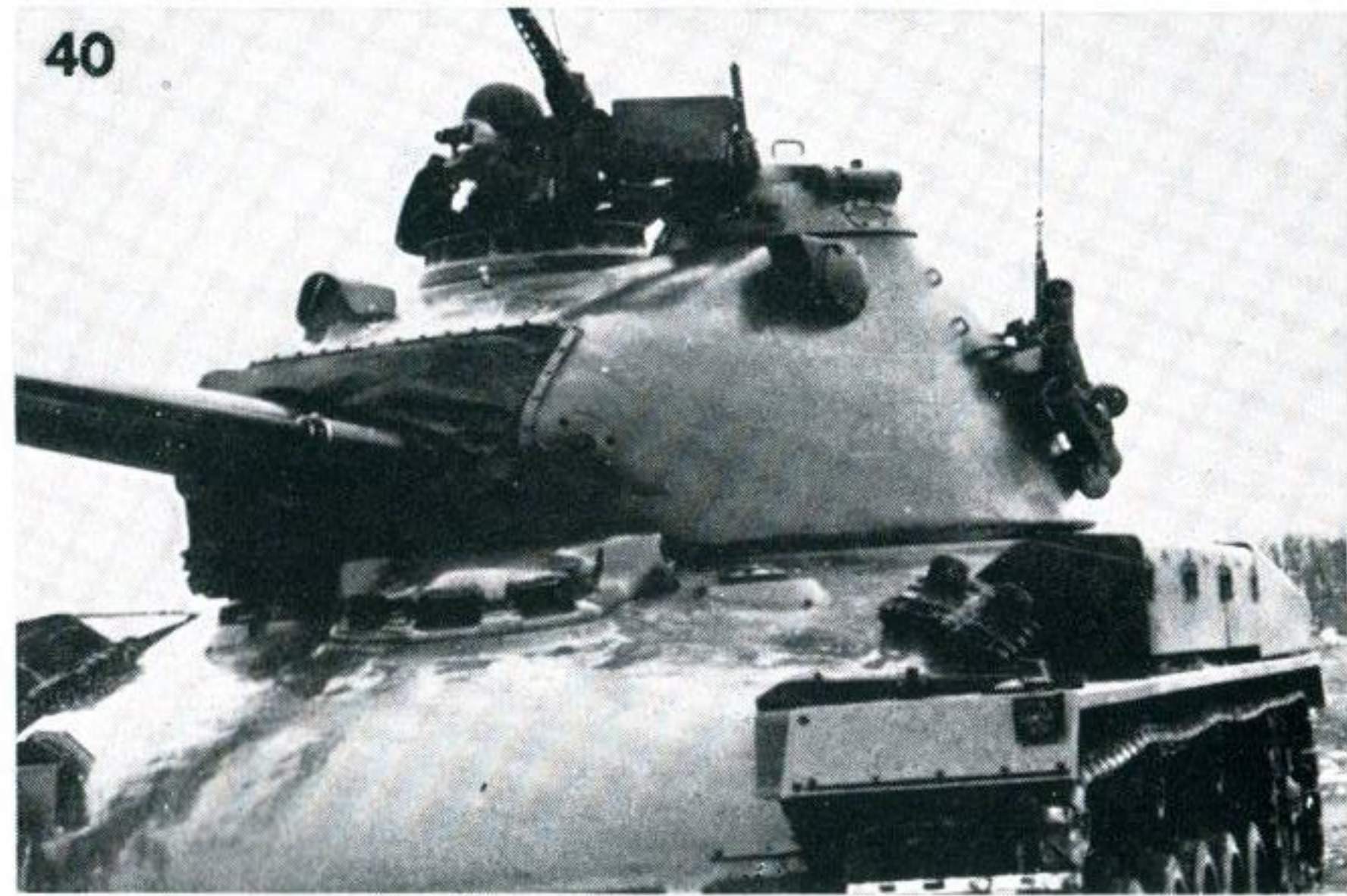
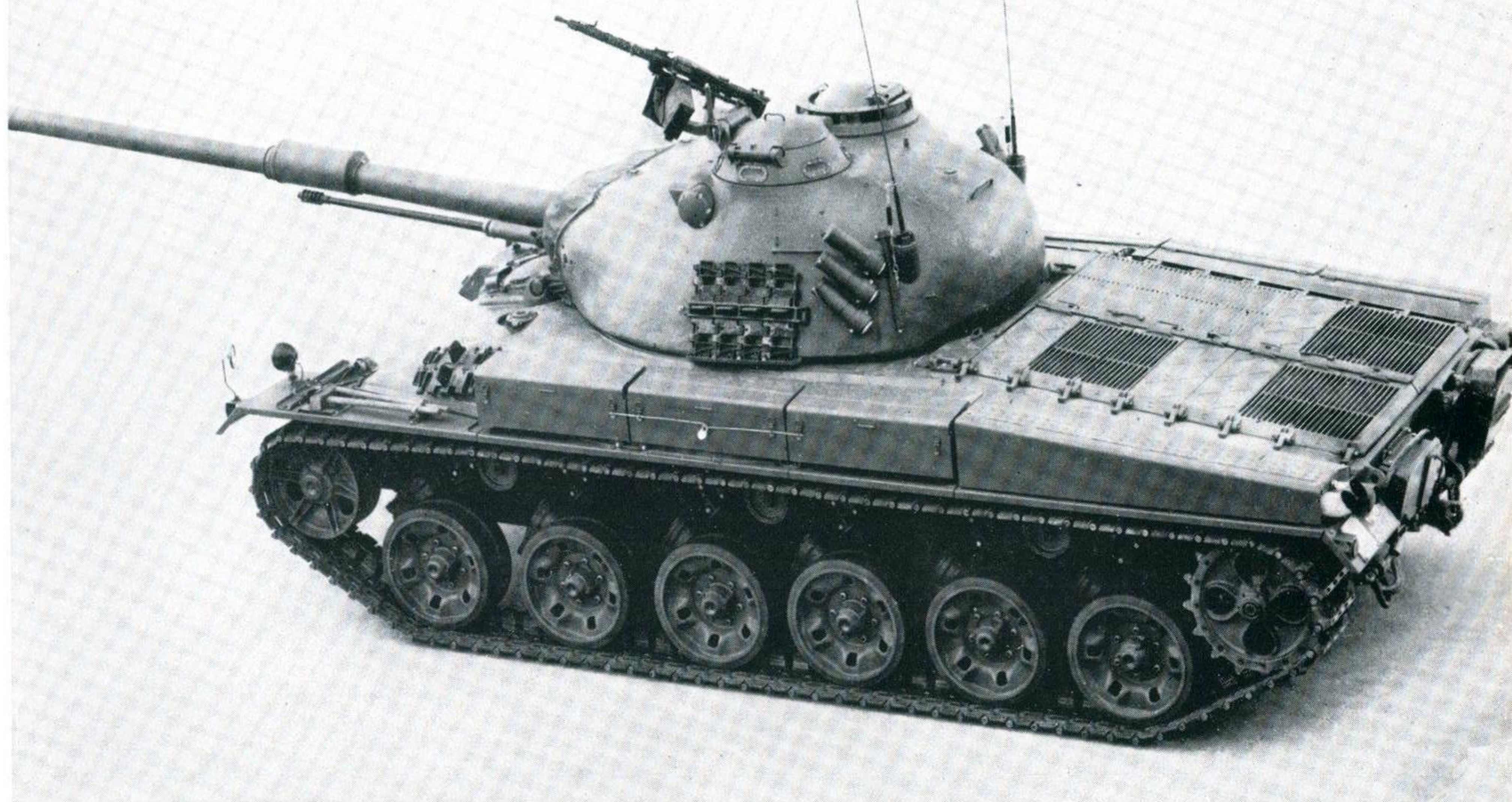
*Solutions on page 334*



**Pz-61**  
*continued*



KEY



*Lesson instructions are on page 313*

*Solutions on page 334*



**Cover Picture:** The Westland Sea King helicopter powered by two Rolls-Royce Gnome gas turbine engines is intended for operation with the Royal Navy in anti-submarine search and strike roles.



## SOLUTIONS TO TESTS AND EXERCISES IN THIS EDITION

Page 312

### THE TEST OF TIME—3

21 Hendon	31 Hind
22 Bristol Fighter F2B Mk. 1	32 R.23
23 SE 5A	33 Horsley I
24 Vernon	34 Fury
25 R.27	35 Gordon
26 Woodcock II	36 V/1500
27 Whitley (Tiger engines)	37 Bulldog T.M.
28 Bulldog II	38 Avro 504N
29 S.S.Z	39 R.26
30 Horsley I	40 Gamecock

Page 313

### TEST PAPER

**Iroquois:** Joker is first line 2nd picture.

Page 314 **PANHARD AML WITH H.90 GUN TURRET**

All targets are **Panhard AML** with H.90 turret except Nos. 6, 14, 24, 30, 34 and 38 which are jokers.

Page 320

### HOPLITE

All targets are **Hoplite** except Nos. 12 (**Hare**) and 21 (**Hip**).

December 1968

### CORRECTION — CHIEFTAIN

On page 193 of the July 1968 edition the text on the **Chieftain** mentions "distinguishing fitments". This should have read "disguising fitments", to which features the text makes reference.

### CORRECTION FOR JULY 1968 EDITION

Page 181

### HOUND LESSON

Target No. 34 is a **Hare** and not **Whirlwind** as shown on the solutions page.

Page 322

### JAGUAR

All targets are **Jaguar** except Nos. 9 and 13 which are **Northrop F-5**.

Page 326

### JETSTREAM

All targets are **Jetstream** except Nos. 14 (**King Air**) and 17 (**Gulfstream**).

Page 328

### Swiss PZ-61

All targets are **PZ-61** except Nos. 9, 13, 23 and 33 which are jokers.

334

# INDEX TO VOLUME 23

The following key will facilitate the tracing of references in the Index.

<i>Pages</i>	<i>Month</i>	<i>Pages</i>	<i>Month</i>	<i>Pages</i>	<i>Month</i>	<i>Pages</i>	<i>Month</i>
1-28	JANUARY	85-112	APRIL	169-196	JULY	253-280	OCTOBER
29-56	FEBRUARY	113-140	MAY	197-224	AUGUST	281-308	NOVEMBER
57-84	MARCH	141-168	JUNE	225-252	SEPTEMBER	309-336	DECEMBER

## AIRCRAFT

**A**ldershot, *Illus.* 101  
 AN-22, *Illus.* 74, 75, 76, 77, *Silh.* 75, 77  
 Andover, *Illus.* 94, 108  
 Argosy, *Illus.* 94  
 Audax, *Illus.* 103  
 Avro 504N, *Illus.* 101

**B**assett, *Illus.* 108  
 Battle, *Illus.* 104  
 Bear, *Illus.* 30, 40, 41, *Silh.* 41  
 Beaufighter, *Illus.* 91  
 Beechcraft U-21A, *Illus.* 168  
 Belfast, *Illus.* 93, 230, 231, 232, 233, *Silh.* 231, 233  
 Belvedere, *Illus.* 95  
 Beverley, *Illus.* 107  
 Bison, *Illus.* 113  
 Blenheim, *Illus.* 90, 105  
 Boeing C-135, *Illus.* 42, 43, *Silh.* 43  
 Bristol Fighter, *Illus.* 100, 101  
 Britannia, *Illus.* 107  
 Bronco, *Illus.* 242, 243, *Silh.* 242  
 Buccaneer, *Illus.* 29  
 Buffalo, *Illus.* 116  
 Bulldog, *Illus.* 102, 103, 226, 227, *Silh.* 226

**C**anberra, *Illus.* 106, 107  
 Cayuse, *Illus.* 228, *Silh.* 228  
 Cessna O-1, *Illus.* 142  
 Cessna O-2A, *Illus.* 142  
 Cessna O-2B, *Illus.* 142  
 Cessna U-3, *Illus.* 142  
 Cessna U-17A, *Illus.* 142  
 Cessna A-37A, *Illus.* 142  
 Cessna 411, *Illus.* 172, *Silh.* 172  
 CH-53A, *Illus.* 169, 225  
 Chinook, *Illus.* 254  
 Chipmunk, *Illus.* 96  
 Cock, *Illus.* 74, 75, 76, 77, *Silh.* 75, 77  
 Codling, *Illus.* 58, *Silh.* 58  
 Comet, *Illus.* 94, 107  
 Corsair II, *Illus.* 146, 147, 148, 149, *Silh.* 147, 149

**D**C-8, *Illus.* 4, 5, 6, 7, 140, *Silh.* 4, 5, 6, 7  
 DC-10, *Illus.* 84  
 Defiant, *Illus.* 99  
 Demon, *Illus.* 103  
 D.H. 9A, *Illus.* 101  
 D.H. 10A, *Illus.* 100

Dominie, *Illus.* 96  
 Dragonfly, *Illus.* 106  
  
**F**-111, *Illus.* 55  
 Fairey 111F, *Illus.* 102  
 Fairey Fox, *Illus.* 102  
 Fairey Long Range Monoplane Mk. II, *Illus.* 89  
 Felixstowe F.2A, *Illus.* 100  
 Felixstowe F.5, *Illus.* 100  
 Fellowship, *Illus.* 272, *Silh.* 272  
 Frescoe, *Illus.* 30  
 Fury, *Illus.* 103

**G**amecock, *Illus.* 101  
 Gauntlet, *Illus.* 104  
 Gladiator, *Illus.* 98, 104  
 Gnat, *Illus.* 96, 238, 239, 240, 241, *Silh.* 239, 241  
 Gordon, *Illus.* 103  
 Grebe, *Illus.* 101  
 Greyhound, *Illus.* 310, *Silh.* 310

**H**alifax, *Illus.* 91  
 Hampden, *Illus.* 90, 105  
 Handley Page O/400, *Illus.* 100  
 Handley Page V/1500, *Illus.* 101  
 Harrier, *Illus.* 44, 45, 46, 93, 108, 117, *Silh.* 45, 46  
 Harrow, *Illus.* 104  
 Hart, *Illus.* 102  
 Hastings, *Illus.* 106  
 Hawkeye, *Illus.* 55  
 Heinkel 111, *Illus.* 99  
 Hendon, *Illus.* 104  
 Hercules, *Illus.* 56, 108  
 Heron, *Illus.* 108  
 Heyford, *Illus.* 103, 104  
 HFB320 Hansa, *Illus.* 48, 49, 117, *Silh.* 49  
 Hinaidi, *Illus.* 102  
 Hind, *Illus.* 104  
 Hoplite, *Illus.* 320, 321, *Silh.* 321  
 Horsley, *Illus.* 102, 103  
 Hound, *Illus.* 178, 179, 180, 181, *Silh.* 179, 181  
 HueyCobra, *Illus.* 258, 259  
 Hunter, *Illus.* 106  
 Hurricane, *Illus.* 90, 98, 99  
 Hyderabad, *Illus.* 101

**I**ntruder, *Illus.* 150, 151, 152, 153, *Silh.* 151, 153  
 Iroquois, *Illus.* 174, 175, 176, 177, 313, *Silh.* 175, 177

**J**aguar, *Illus.* 322, 323, 324, 325, *Silh.* 324  
 Javelin, *Illus.* 107  
 Jet Provost, *Illus.* 96  
 Jetstream, *Illus.* 326, 327, *Silh.* 327

**L**ancaster, *Illus.* 91  
 Lear Jet, *Illus.* 8, 9, 10, 11, 116, *Silh.* 9, 10  
 Lightning, *Illus.* 92, 107, 108, 109, 113  
 Lincoln, *Illus.* 105  
 London, *Illus.* 104

**M**eteor, *Illus.* 92, 105, 106  
 Mitsubishi MU-2, *Illus.* 24, 25, 26, 27, 117, *Silh.* 25, 27  
 Mosquito, *Illus.* 92

**N**eptune, *Illus.* 118, 119, 229, *Silh.* 118  
 Nimrod, *Illus.* 1, 93, 108, 266, 267, *Silh.* 266  
 Northrop F-5A, *Illus.* 186, 187, 188, 189, *Silh.* 187, 189

**O**H-6A Cayuse, *Illus.* 228

**P**D.808, *Illus.* 264, 265, *Silh.* 265  
 Pembroke, *Illus.* 106  
 Phantom, *Illus.* 268, 269, 270, 271, *Silh.* 269, 270, 271  
 Provost, *Illus.* 106

**R**9 Airship, *Illus.* 184  
 R23 Airship, *Illus.* 184  
 R24 Airship, *Illus.* 184  
 R25 Airship, *Illus.* 185  
 R26 Airship, *Illus.* 185  
 R27 Airship, *Illus.* 185  
 R29 Airship, *Illus.* 185  
 R31 Airship, *Illus.* 185  
 R33 Airship, *Illus.* 185  
 R34 Airship, *Illus.* 184  
 RB-57F, *Illus.* 70, 71, 72, 73, 229, *Silh.* 71, 73  
 R.E.8, *Illus.* 100

**S**.E.5a, *Illus.* 100  
 Sea King, *Illus.* 309  
 Sea Stallion, *Illus.* 169, 225  
 Shackleton, *Illus.* 94  
 Sikorsky S-6E, *Illus.* 57  
 Singapore, *Illus.* 104  
 Siskin, *Illus.* 86  
 Skycrane, *Illus.* 57  
 Slingsby Sedburgh, *Illus.* 106  
 Snipe, *Illus.* 85, 100  
 Spitfire, *Illus.* 90, 98, 105, 110, 111, 112  
 SS Airship, *Illus.* 185  
 SSZ Airship, *Illus.* 185  
 Stirling, *Illus.* 91  
 Sunderland, *Illus.* 91  
 Supermarine S.5, *Illus.* 89, 102  
 Supermarine S.6A, *Illus.* 102  
 Supermarine S.6B, *Illus.* 89  
 Sycamore, *Illus.* 107

**T**hunderchief, *Illus.* 260, 261, 262, 263, *Silh.* 261, 263  
 Tomtit, *Illus.* 102  
 Twin Pioneer, *Illus.* 95  
 Typhoon, *Illus.* 92, 105

**V**alentia, *Illus.* 103  
 Valetta, *Illus.* 96  
 Valiant, *Illus.* 106  
 Vampire, *Illus.* 92, 105, *Silh.* 28  
 Varsity, *Illus.* 95  
 VC-10, *Illus.* 93, 108  
 Vernon, *Illus.* 101  
 Victor, *Illus.* 66, 67, 68, 69, 94, 107, 252, *Silh.* 67, 68, 69  
 Victoria, *Illus.* 103  
 Vigen, *Illus.* 61  
 Vildebeest, *Illus.* 103  
 Vimy, *Illus.* 100  
 Vulcan, *Illus.* 93, 107

**W**apiti, *Illus.* 102  
 Wellesley, *Illus.* 89, 104  
 Wellington, *Illus.* 89, 106  
 Wessex, *Illus.* 55, 95  
 Whirlwind, *Illus.* 95  
 Whitley, *Illus.* 90, 105  
 Woodcock, *Illus.* 101

**Y**ak-40, *Illus.* 58, *Silh.* 58  
 York, *Illus.* 105  
 YS-11, *Illus.* 234, 235, 236, 237, *Silh.* 235, 237

# SHIPS

## Warships

HMS Abdiel, *Illus.* 20, 21, 22, 23, 60, *Silh.* 21, 22, 23  
Daring Class of the R.A.N., *Illus.* 248, 249, 250, 251, *Silh.* 249, 251  
HMS Devonshire, *Illus.* 253  
HMS Dreadnought, *Illus.* 160, 161, 162, 163, 173, 284, *Silh.* 161, 162  
HMS Endurance, *Illus.* 308  
HMS Engadine, *Illus.* 141, 302, 303, 304, 305, *Silh.* 304  
"G" Class Submarines, *Illus.* 173  
HMS Hermes, *Illus.* 253

HMAS Hobart, *Illus.* 114, 115  
Kashin Class, *Illus.* 298, 299, 300, 301, *Silh.* 299, 301  
USS Kitty Hawk, *Illus.* 60  
Kresta Class, *Illus.* 306, 307, *Silh.* 306  
Kynda Class, *Illus.* 286, 287, 288, 289, *Silh.* 286  
Leopard Class, *Illus.* 62, 63, 64, 65, 145, *Silh.* 63, 65  
USS Long Beach, *Illus.* 60  
RFA Lyness, *Illus.* 253  
Oberon Class Submarines, *Illus.* 294, 295, 296, 297, *Silh.* 297  
RFA Olwen, *Illus.* 253

Osa Class, *Illus.* 281, 282  
HMAS Perth, *Illus.* 114  
HMS Resolution, *Illus.* 52, 53, 54, 145, *Silh.* 52, 53, 54  
Tribal Class Frigates, *Illus.* 132, 133, 134, 135, 145, *Silh.* 133, 135  
HMS Valiant, *Illus.* 182  
HMS Zulu, *Illus.* 132, 133, 134, 135

Liberty Class, *Illus.* 244, 245, 246, 247, 284, *Silh.* 244, 247  
Russian Stern Trawlers, *Illus.* 284  
Stern Trawlers of the USSR, *Illus.* 126, 127, 128, 129, 130, 131, *Silh.* 127, 130, 131  
Tankers—Ships of the Desert, 12, 13  
Victory Type Standard Ships, *Illus.* 290, 291, 292, 293, *Silh.* 290, 292, 293  
What Ship Is That?, 50

## Merchant Ships

Granat, *Illus.* 127  
Krishyans Voldemars, *Illus.* 126

## Hovercraft

Mountbatten Class, *Illus.* 170  
SRN4, *Illus.* 170

## A.F.Vs.

Abbot, *Illus.* 210, *Silh.* 210  
AMX-13, *Illus.* 2, 224  
AMX-13-SS11, *Illus.* 210, *Silh.* 210  
AMX-30, *Illus.* 212, *Silh.* 212  
AMX-105 mm, *Illus.* 210, *Silh.* 210  
AMX-VC1, *Illus.* 209, *Silh.* 209  
ASU-57, *Illus.* 164, 165, 166, 167, 200, *Silh.* 164, 166  
ASU-85, *Illus.* 214, 215, 216, 217, 218, *Silh.* 215  
BRDM, *Illus.* 208, *Silh.* 208  
BTR-50P, *Illus.* 15, 16, 17, 18, 19, 61, 209, *Silh.* 16, 17, 209  
BTR-60P, *Illus.* 208, *Silh.* 208  
Centurion, *Illus.* 199, 212, 213, *Silh.* 212

Chieftain, *Illus.* 190, 191, 192, 193, 194, 195, 197, 211, 224, 280, 334, *Silh.* 190, 211  
Ferret Mk. 4, *Illus.* 274, 275, 276, 277, 278, 279, *Silh.* 275  
F.V. 432, *Illus.* 209, *Silh.* 209  
HS-30, *Illus.* 209, *Silh.* 209  
Jagdpanzer Rakete, *Illus.* 209, *Silh.* 209  
Leopard, *Illus.* 2, 198, 212, *Silh.* 212  
M41, *Illus.* 202, 203, 204, 205, 206, 207, *Silh.* 205  
M41 SP 105-mm. Howitzer, *Illus.* 210, *Silh.* 210  
M41 SP 155-mm. Howitzer, *Illus.* 210, *Silh.* 210

M41 US Light Tank, *Illus.* 257  
M47, *Illus.* 211, *Silh.* 211  
M48A2, *Illus.* 218, 219, 220, 221, 222, 223, 257, *Silh.* 220  
M60A1, *Illus.* 211, *Silh.* 211  
M60A1E1, *Illus.* 136, 137, 138, 139, 200, *Silh.* 138  
MBT-70, *Illus.* 33  
M103, *Illus.* 211, *Silh.* 211  
M107, *Illus.* 120, 121, 122, 123, 124, 125, 200, *Silh.* 121, 122, 125  
M109, *Illus.* 34, 35, 36, 37, 38, 39, 144, *Silh.* 35, 36  
M113, *Illus.* 209, *Silh.* 209  
M114, *Illus.* 210, *Silh.* 210

M551, *Illus.* 78, 79, 80, 81, 82, 83, 144, *Silh.* 81  
Panhard AML, *Illus.* 208, 314, 315, 316, 317, 318, 319, *Silh.* 208, 317  
PT-76, *Illus.* 28, 210, 224, *Silh.* 210  
Pz-61, *Illus.* 328, 329, 330, 331, 332, 333, *Silh.* 329, 330, 333  
Sheridan, *Illus.* 78, 79, 80, 81, 82, 83, *Silh.* 81  
Swedish S Tank, *Illus.* 211, 273, *Silh.* 211  
T-10, *Illus.* 212, *Silh.* 212  
T-54, *Illus.* 212, *Silh.* 212  
T-62, *Illus.* 212, *Silh.* 212  
Vickers 37-ton Tank, *Illus.* 211, *Silh.* 211  
YP-408, *Illus.* 154, 155, 156, 157, 158, 159, 200, *Silh.* 157

## ARTICLES AND LESSONS

### Articles

A Fifty Year Flypast, 100  
A Lesson today from the RAF of the past, 227  
Design and Development of AFVs—Book Review, 213  
Drawing the Line, 311  
Fast Patrol Boats of the Communist Bloc Countries, 283  
Fifty Years On, 87  
For Official Use Only, 3  
Getting the Priorities right on AFV Identity Training, 199  
Helescalator, 254  
New Merchantmen, 171  
No More Recognition Training, 31  
Spitfire—Words and Memories, 110  
The Few, 98  
The Royal Air Force—An Anniversary Year Survey, 88  
Twenty-five Years, 59  
"Watch the dickie bird!", 143

### Lessons—Aircraft

AN-22, 74, 75, 76, 77  
Bear, 40, 41

Belfast, 230, 231, 232, 233  
Boeing C-135, 42, 43  
Bronco, 242, 243  
Bulldog, 226, 227  
Cock, 74, 75, 76, 77  
Corsair II, 146, 147, 148, 149  
DC-8, 4, 5, 6, 7  
Gnat, 238, 239, 240, 241  
Harrier, 44, 45, 46  
HFB. 320 Hansa, 48, 49  
Hoplite, 320, 321  
Hound, 178, 179, 180, 181  
HueyCobra, 258, 259  
Intruder, 150, 151, 152, 153  
Iroquois, 174, 175, 176, 177  
Jaguar, 322, 323, 324, 325  
Jetstream, 326, 327  
Lear Jet, 8, 9, 10, 11  
Mitsubishi MU-2, 24, 25, 26, 27  
Neptune, 118, 119  
Nimrod, 266, 267  
Northrop F-5A, 186, 187, 188, 189  
PD 808, 264, 265  
Phantom, 268, 269, 270, 271  
RB-57F, 70, 71, 72, 73  
Thunderchief, 260, 261, 262, 263  
Victor, 66, 67, 68, 69

YS-11, 234, 235, 236, 237

### Lessons—Merchant Ships

Liberty Ships Class, 244, 245, 246, 247  
Stern Trawlers of the USSR, 126, 127, 128, 129, 130, 131  
Tankers—Ships of the Desert, 12, 13  
Victory type Standard Ships, 290, 291, 292, 293  
What ship is that?, 50

### Lessons—Warships

HMS Abdiel, 20, 21, 22, 23  
Daring Class of the R.A.N., 248, 249, 250, 251  
HMS Dreadnought, 160, 161, 162, 163  
HMS Engadine, 302, 303, 304, 305  
Kashin Class, 298, 299, 300, 301  
Kresta Class, 306, 307  
Kynda Class, 286, 287, 288, 289  
Leopard Class, 62, 63, 64, 65

Oberon Class Submarines, 294, 295, 296, 297  
HMS Resolution, 52, 53, 54  
Tribal Class Frigates, 132, 133, 134, 135

### Lessons—A.F.Vs.

ASU-57, 164, 165, 166, 167  
ASU-85, 214, 215, 216, 217, 218  
BTR-50P, 15, 16, 17, 18, 19  
Chieftain, 190, 191, 192, 193, 194, 195  
Ferret Mk. IV, 274, 275, 276, 277, 278, 279  
Ferret Mk. IV, 274, 275, 276, 277, 278, 279  
M41, 202, 203, 204, 205, 206, 207  
M48A2, 218, 219, 220, 221, 222, 223  
M60 A1E1, 136, 137, 138, 139  
M107, 120, 121, 122, 123, 124, 125  
M109, 34, 35, 36, 37, 38, 39  
M551, 78, 79, 80, 81, 82, 83  
Panhard AML, 314, 315, 316, 317, 318, 319  
Pz-61, 328, 329, 330, 331, 332, 333  
Sheridan, 79, 80, 81, 82, 83  
YP-408, 154, 155, 156, 157, 158, 159

## FEATURES AND TEST PAPERS

### Testing Time

47, 196

### The Test of Time

No. 1, 109  
No. 2, 256  
No. 3, 312

### Features

AFV Summary, 208  
Airships, 184, 185  
Codling YAK-40, 58  
Fellowship, 272  
Greyhound, 310

HMAS Hobart, 114, 115  
MBT-70, 33  
Swedish S Tank, 273  
What Ship is that?, 50, 51

### Test Papers

Abdiel Class Minelayers, 60  
AMX-13, 2, 224  
ASU-57, 200  
BTR-50, 61  
Buffalo, 116  
Chieftain, 280  
DC-8, 140  
Dreadnought, 173, 284

F-111, 55  
G Class Submarine, 173  
Hansa HFB 320, 117  
Harrier, 117  
Hawkeye, 55  
Hercules, 56  
Iroquois, 313  
Kitty Hawk, 60  
Lear Jet, 116  
Leopard, 2  
Leopard Class, 145  
Liberty Type, 284  
Long Beach, 60  
MU-2, 117  
M41 US Light Tank, 257

M48A2 Medium Tank, 257  
M60 A1E1, 200  
M107, 200  
M109, 144  
M551, 144  
Neptune, 229  
PT-76, 28, 224  
RB-57, 229  
Resolution, 145  
Russian Stern Trawlers, 284  
Tribals, 145  
Viggen, 61  
Victor, 252  
Wessex, 55  
YP-408, 200