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Technical Division, Office of the Assistant Chief of Staff for Intelligence

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DEPARTMENT OF THE ARMY PAMPHLET 30-115

**WEAPONS AND EQUIPMENT
RECOGNITION HANDBOOK
MIDDLE EAST**

JULY 1958

HEADQUARTERS, DEPARTMENT OF THE ARMY WASHINGTON 25, D. C.

DEPARTMENT OF THE ARMY PAMPHLET 30-115

**WEAPONS AND EQUIPMENT RECOGNITION HANDBOOK
MIDDLE EAST**

Country Coverage

**EGYPT-SYRIA (UNITED ARAB REPUBLIC)
IRAN
IRAQ
ISRAEL
JORDAN
LEBANON
SAUDI ARABIA**

**July 1958
Headquarters, Department of the Army
Washington, D. C.**

FOREWORD

The purpose of this handbook is to provide United States military personnel with a compact source of orientation and recognition data on ground force weapons and equipment existing in certain Middle East countries.

The countries concerned possess a wide variety of ground force weapons of both foreign and domestic origin. Weapons which are obsolete within the country or which exist in insignificant quantities have been omitted.

Many items listed are present in several of the countries. No attempt has been made to list the number or type of weapons that exist in each country.

Evidence of new weapons or equipment not covered herein should be reported through channels. Advice of errors or omissions should be forwarded to the preparing office.

This publication was prepared by the Technical Division, Office of the Assistant Chief of Staff for Intelligence, Headquarters, Department of the Army, Washington 25, D. C., assisted by the Corps of Engineers, Ordnance Corps, Quartermaster Corps, and the Transportation Corps.

Note: The title page and sections relating to the DA Pam 30-series are appended to this digital document.

ADDITIONAL REFERENCES

The attention of all concerned is directed to the following publications as sources of more complete information on foreign weapons and equipment:

Technical Bulletin 381-1, "Combat Equipment Technical Intelligence Bulletin (CETIB)" 1 July 1958. Unclassified. A classified Supplement, TB 381-1A is available to U. S. units of battalion and higher level. Changes to these two bulletins are published monthly.

The current Department of the Army Pamphlet 310-1 lists foreign weapon and equipment handbooks in the DA Pam 30-series that are in stock.

All publications referred to above are available in Adjutant General Depots and may be requisitioned through normal publication channels.

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WAR TROPHIES

The retention of war trophies by an individual is governed by the senior United States headquarters in the area concerned and pertinent regulations.

Items of war materiel coming into possession of the United States forces will be reported through intelligence channels. The local technical service concerned must be informed of new or unusual items in order that other friendly forces may be provided information on the item.

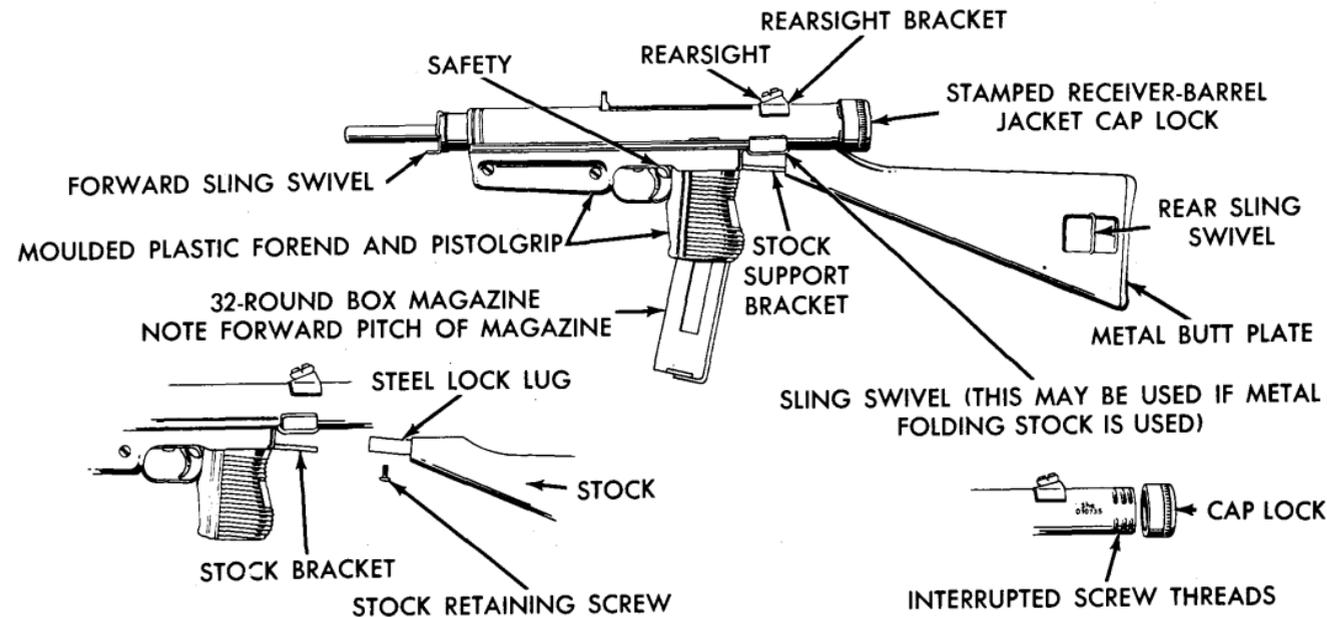
Czech 7.62-mm Submachine Gun

GENERAL DESCRIPTION AND COMMENT

This weapon, a modified version of the 9-mm A-23 Czechoslovak sub-machine gun, is chambered to fire the 7.62-mm Soviet pistol cartridge.

CHARACTERISTICS

Caliber.....	7.62-mm (cal. .30)	Effective range.....	Semi-automatic—Up to 330 yds. automatic—Up to 220 yds.
Operation.....	Blowback	Rate of fire.....	Semi-automatic—60–80 rpm. automatic—90–120 rpm
Weight.....	(total traveling)—8.4 lb	Ammunition types...	Soviet & Czech 7.62-mm M1930 pistol ball
Length.....	27 in.		
Magazine capacity..	24 and 40 rd.		
Sights:			
Front.....	Hooded blade		
Rear.....	Rotary square notch; adjustable for 100, 200, 300, and 400 mm.		



CZECH 7.62-MM SUBMACHINE GUN.



SOVIET 7.62-MM SUBMACHINE GUN KALASHNIKOV (AK).

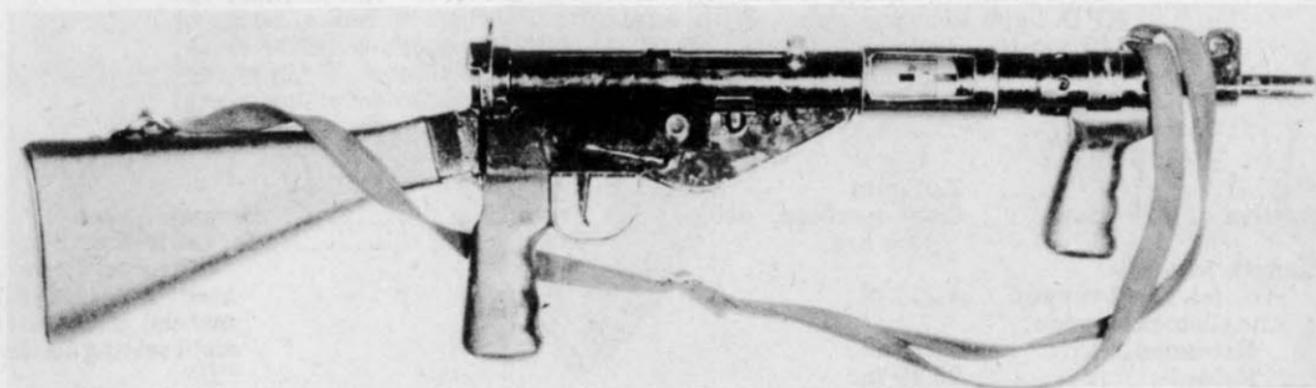
Soviet 7.62-mm Submachine Gun Kalashnikov (AK)

GENERAL DESCRIPTION AND COMMENT

The Kalashnikov is the standard submachine gun in the Soviet Army. Although described as a submachine gun this weapon is, by U. S. standards, a selective fire shoulder rifle. It fires the Soviet 7.62-mm M1943 rimless cartridge which is also fired by the SKS semi-automatic carbine, and the RPD light machine gun. With semi-automatic fire it has a range of 440 yards. There are four versions, (1) with a wooden shoulder stock, (2) a one piece machined receiver with a folding metal stock, (3) two piece receiver w/wooden stock; and (4) two piece receiver w/folding metal stock.

CHARACTERISTICS

Caliber.....	7.62-mm	Sights:	
System of operation.....	Gas operated, selective fire	Front.....	Protected post
		Rear.....	Target leaf with open "U" notch graduated 1-8 (100-800 meters) with battle sight setting marked "II".
Length over-all:			
Wooden stock version..	34.25 in.		
Metal stock version:			
Extended.....	34.25 in.		
Folded.....	25.39 in.		
Weight:		Rate of fire:	
Wooden stock version-unloaded w/magazine and accessories.	9.48 lb	Cyclic.....	600 rpm
Metal stock version-unloaded w/magazine and accessories.	9.48 lb	Effective:	
		Semi-automatic.....	40 rpm
		Automatic.....	90-100 rpm
Fire device.....	30 rd curved box magazine	Effective range:	
		Semi-automatic.....	440 yds
		Automatic.....	330 yds
		Ammunition.....	Soviet 7.62-mm M1943 cartridge



BRITISH 9-MM SUBMACHINE GUN STEN.

British 9-mm Submachine Gun Sten

GENERAL DESCRIPTION AND COMMENT

The Sten was manufactured in four models, Marks 1, 2, 3, and 5. Mk5 is shown. It was designed to use captured enemy ammunition and will fire all standard 9-mm cartridges except the short 9-mm ammunition of the Browning or Beretta type and the extra length cartridges of the 9-mm Mauser, Steyr, or Bayard types.

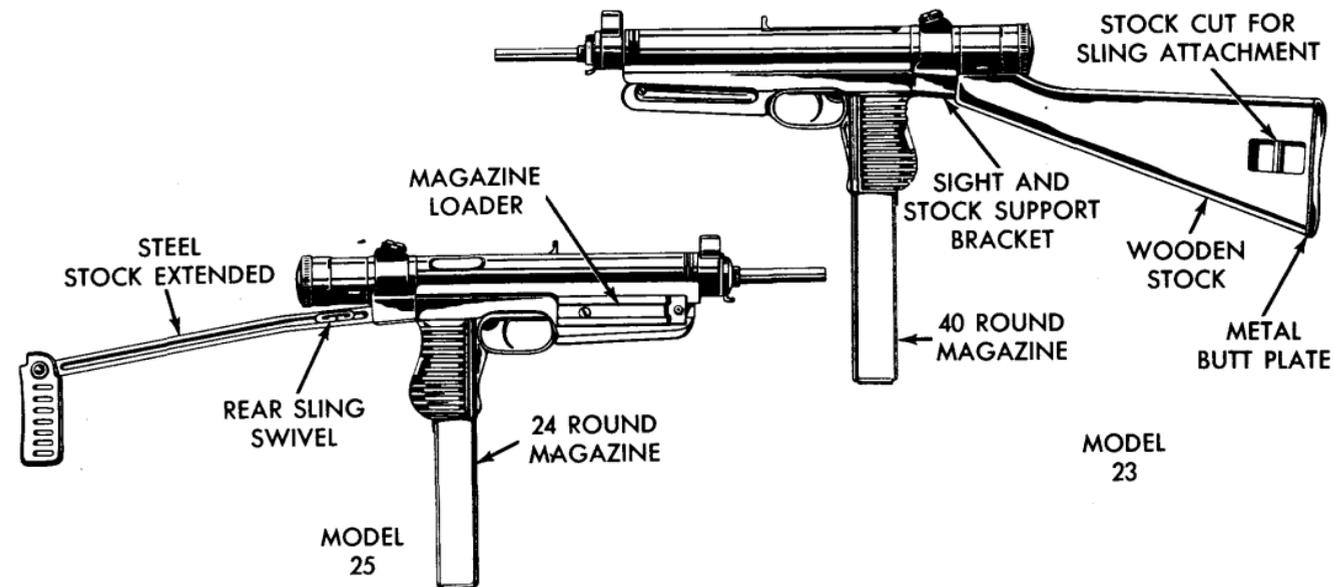
CHARACTERISTICS

Caliber.....	9-mm	Feeding device.....	30 rd box magazine
Operation.....	Blowback selective fire.	Effective range.....	200 yd
Weight (Mark 3):		Rate of fire.....	90-100 rpm
Gun w/o magazine..	7 lb	Ammunition types.....	British or other 9-mm Parabellum (Lugar) ball.
Gun w/loaded 32 rd	84 lb		
magazine.			
Length.....	30 in.		
Magazine capacity....	32 rd.		
Sights:			
Front.....	Blade		
Rear.....	Fixed aperture set for 100 yd.		

Czech 9-mm Submachine Gun M23 and M25

GENERAL DESCRIPTION AND COMMENT

The M23 is a simple, blowback-operated weapon firing the 9-mm parabolium cartridge. It is capable of selective fire. It uses either a 24-round or a 40-round staggered box magazine. The weapon is made in two versions, the A-23 with a wooden stock, and the B-25 with a metal folding stock. Both models are otherwise identical in construction. The rear sight rotates for various ranges from 100 to 400 meters.



CZECH 9-MM SUBMACHINE GUN M23 AND M25.

CHARACTERISTICS

Caliber.....	9-mm (cal. .354)	Sights:	
Operation.....	Blowback, selective fire.	Front.....	Hooded inverted V
		Rear.....	Rotary V notch adjustable for 100, 200, 300, 400 m.
Weight:		Ammunition Type.....	9-mm parabolium
With magazine, loaded, wooden stock (24 rd magazine).	8 lb	Effective Range.....	Semiautomatic—up to 220 yd Automatic—up to 110 yd
Length:		Effective rate of fire.....	Semiautomatic—60-80 rpm Automatic—90-120 rpm
Wooden stock.....	27 in.		
Metal stock extended..	27 in.		
Metal stock folded.....	17.5 in.		
Magazine capacity.....	24 and 40 rd		



ITALIAN 9-MM BERETTA M1938 SUBMACHINE GUN.

Italian 9-mm, Beretta M1938, M1938/42, M1938/44 Submachine Gun

GENERAL DESCRIPTION AND COMMENT

The 9-mm Beretta M1938 submachine gun is very heavily constructed in order to handle the powerfully loaded 9-mm parabellum cartridge. Recognition features are—the double triggers, one for single shot and one for full-automatic fire, the built-in compensator, and the perforated barrel jacket. There are two later modifications, the 38/42 and 38/44, which can be identified by their lack of barrel jacket and heavily ribbed barrels.

CHARACTERISTICS

Caliber.....	9-mm (cal. .354)	Effective range.....	300 yd
Operation.....	Straight blowback	Rate of fire.....	400-500 rpm
Weight.....	10.3 lb	Ammunition types:	
Length.....	36.2 in.	Italian 9-mm ball, Ger-	
Magazine capacity.....	10, 20, and 40 rd.	man 9-mm Parabel-	
Sights:		lum or Luger.	
Front.....	Fixed blade.		
Rear.....	Open tangent slide		
	100 to 500 meters.		



ISRAELI 9-MM SUBMACHINE GUN UZ1.

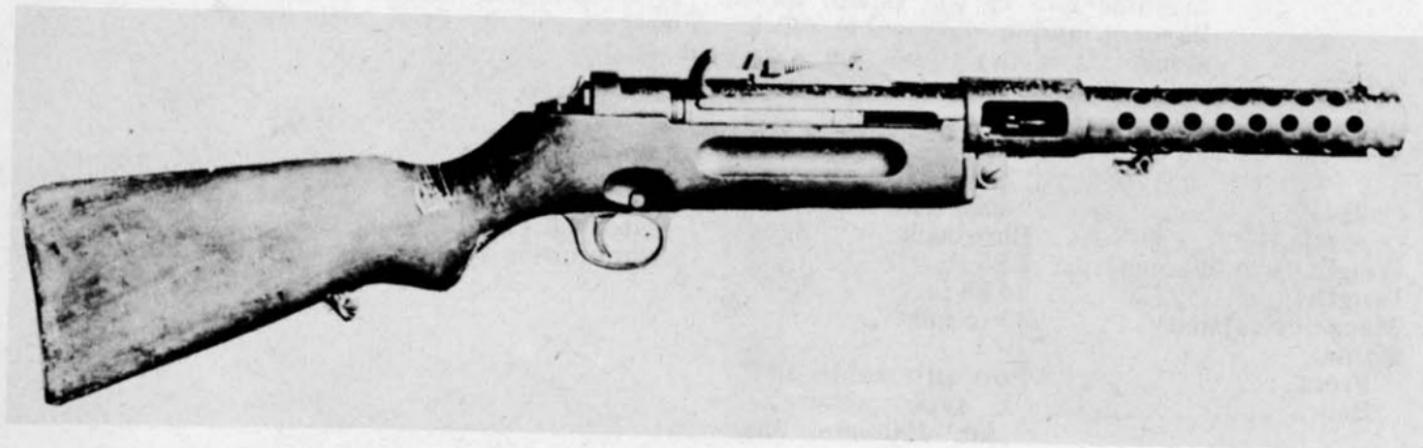
Israeli 9-mm Submachine Gun UZ1

GENERAL DESCRIPTION AND COMMENT

The UZ1 is an Israeli produced weapon, and is the standard sub-machine gun of the Israeli forces. It is equipped with a detachable bayonet and a detachable stock. The gun can be fired without the stock. It is easy to operate, safe, and reliable.

CHARACTERISTICS

Caliber.....	9-mm (cal. .354)	Effective range.....	220 yd
Operation.....	Blowback	Rate of fire.....	90-100 rpm
Weight (w/o bayonet).....	7.88 lb	Ammunition types.....	Any 9-mm Parabel- lum pistol ball.
Length.....	24.88 in.		
Magazine capacity.....	30 rounds		
Sights:			
Front.....	Post adjustable		
Rear.....	"L" type aperture set for 100 and 200 meters.		



GERMAN 9-MM SCHMEISSER SUBMACHINE GUN MP 28/II.

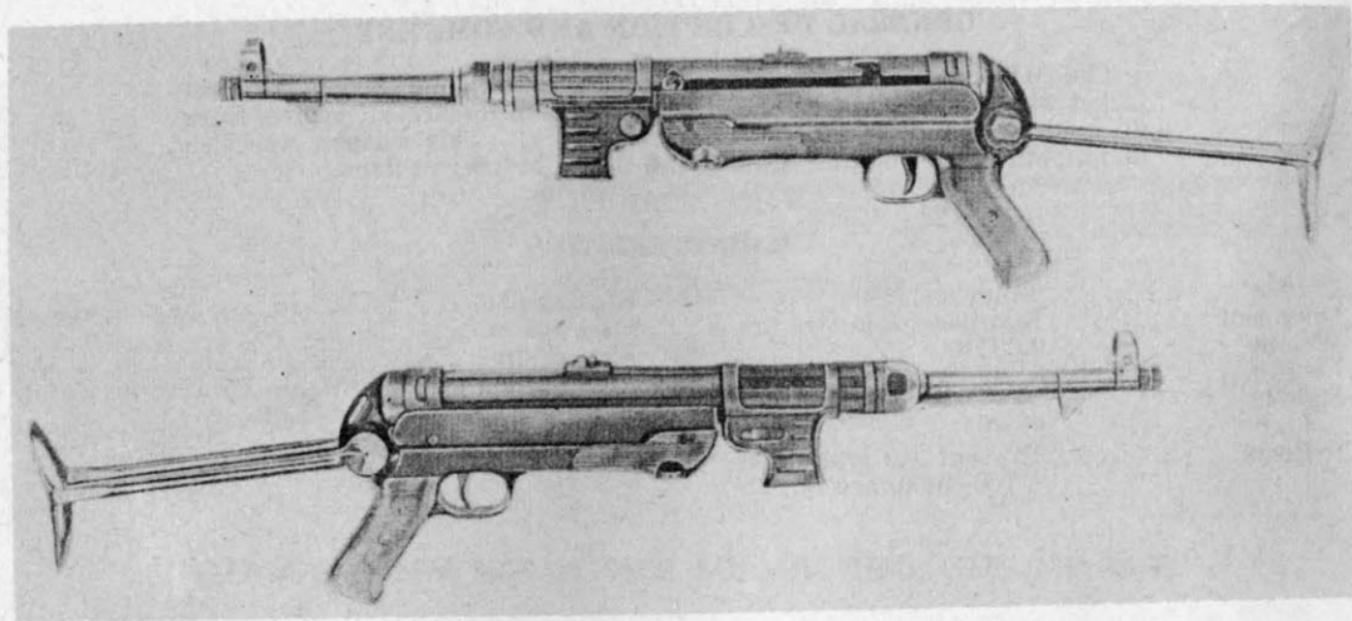
German 9-mm Schmeisser Submachine Gun MP 28/II

GENERAL DESCRIPTION AND COMMENT

The MP 28/II is fitted with a stationary barrel mounted in a barrel jacket which is hinged just ahead of the wooden forearms. It fires from an open bolt, and is capable of selective fire. This weapon was also manufactured in 7.63-mm Mauser and 9-mm Mauser calibers.

CHARACTERISTICS

Caliber.....	9-mm (cal. .354)	Feeding device.....	32-rd box magazine
Operation.....	Blowback, selective fire	Effective range.....	220 yd
Weight.....	9.02 lb	Rate of fire.....	90-100 rpm
Length.....	31.59 in.	Ammunition types...	9-mm Parabellum pistol ball
Sights:			
Front.....	fixed		
Rear.....	Tangent leaf graduated 100-1000 meters		



GERMAN 9-MM SCHMEISSER SUBMACHINE GUN MP 40.

German 9-mm Schmeisser Submachine Gun MP-40

GENERAL DESCRIPTION AND COMMENT

This German World War II weapon is an improved version of the MP-38 which was designed for use by parachute troops. It is a gun of simple construction, reliable operation, and general accuracy. It is a simple, blowback-operated weapon.

CHARACTERISTICS

Caliber.....	9-mm (cal. .354)	Feeding device.....	32 round magazine
Operation.....	Blowback, auto fire only	Effective range.....	220 yd
Weight.....	(w/o magazine) (aprx) 9 lb	Rate of fire.....	80-90 rpm short 120-180 rpm long bursts
	(with 1 loaded magazine)	Ammunition types...	9-mm Parabellum pistol ball
	10.4 lb		
Length.....	w/stock folded—25 in.		
	w/stock extended—34 in.		
Sights.....	Front—hooded blade		
	Rear—Open V. Standing leaf		



SWEDISH 9-MM SUBMACHINE GUN M/45.

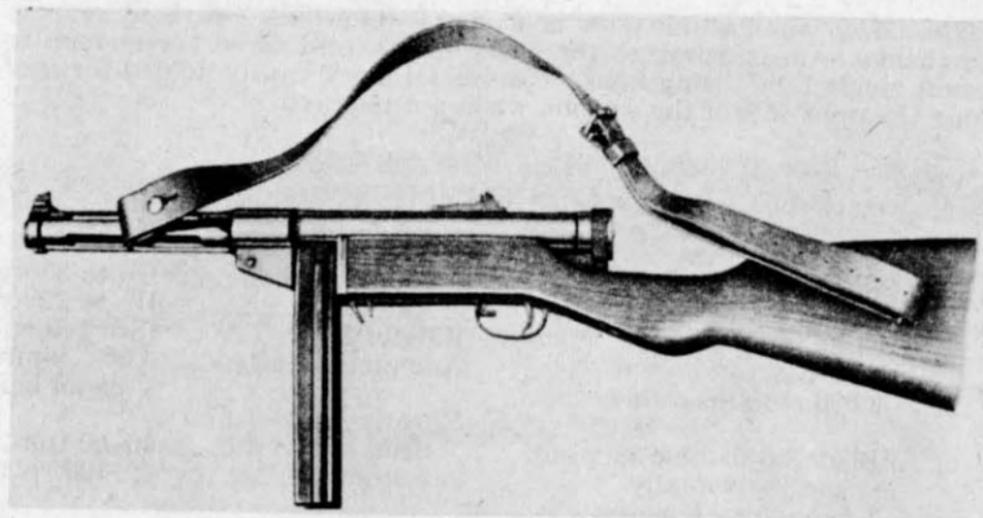
Swedish 9-mm Submachine Gun M/45

GENERAL DESCRIPTION AND COMMENT

The M/45 submachine gun is a simple blowback operated weapon. No change lever is fitted, as the cyclic rate is considered low enough to permit single shots being fired. The metal stock can be folded forward along the right side of the weapon when not required.

CHARACTERISTICS

Caliber.....	9-mm (cal. .354)	Effective range:	
Operation.....	Blowback	Semi-automatic...	Up to 330 yds
Weight.....	9.25 lb	Automatic.....	Up to 220 yds
Length.....	31.81 in.	Rate of fire.....	(See below)
Sights.....	(See below)	Ammunition types...	Any 9-mm Parabellum pistol ball.
Feeding device.....	32 rd. box magazine	Effective rate of fire:	
Sights:		Semi-automatic...	40-60 rpm
Front.....	Blade adjustable laterally and horizontally.	Automatic.....	90-100 rpm
Rear.....	3 flap. Open U notch		



SWEDISH 9-MM SUBMACHINE GUN M37/39.

Swedish 9-mm Submachine Gun M37/39

GENERAL DESCRIPTION AND COMMENT

The model 37/39 submachine gun is a Swedish copy of the Finnish Suomi. It is a blowback-operated weapon and is capable of selective fire.

CHARACTERISTICS

Caliber.....	9-mm (cal. .354)	Effective range.....	Semi-automatic—Up to 220 yd
Operation.....	Blowback, selective fire.		Automatic—Up to 110 yd
Weight.....	12.21 lb	Rate of fire.....	Semi-automatic 60-80 rpm
Length.....	30.31 in.		Automatic 90-120 rpm
Magazine capacity...	50 rd	Ammunition types...	Any 9-mm Parabellum pistol ball
Sight.....	Three flap sights, open notch, graduated 100, 200 and 300 mm.		



DANISH 9-MM MADSEN SUBMACHINE GUN M/51.

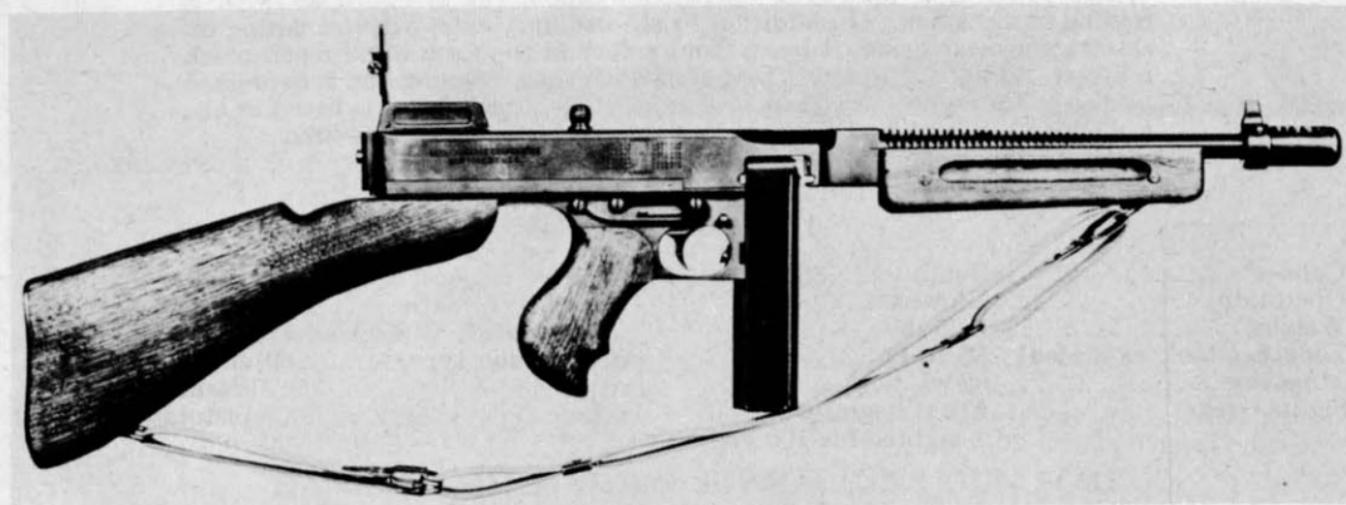
Danish 9-mm MADSEN Submachine Gun M/51

GENERAL DESCRIPTION AND COMMENT

The M/51 is a blowback operated weapon. It is equipped with a folding metal stock. In addition to the ordinary safety device acting on the trigger mechanism, it has a front safety in the form of a breech block retainer. This is situated in rear of the magazine opening and is depressed by the thumb when the weapon is fired. No change lever is fitted as the cycle rate is considered low enough to allow single shots to be fired.

CHARACTERISTICS

Caliber.....	9-mm (cal. .354)	Effective range:	
Operation.....	Blowback	Semi-Automatic.....	220 yd
Weight.....	8.25 lb	Automatic.....	110 yd
Length (stock extended).....	30.70 in.	Ammunition types.....	9-mm
Magazine.....	32 rd. box		Parabellum
Sights—rear.....	Fixed optature		pistol ball.
	sighted for 100 yds.		



UNITED STATES CAL. .45 THOMPSON SUBMACHINE GUN M1928A1.

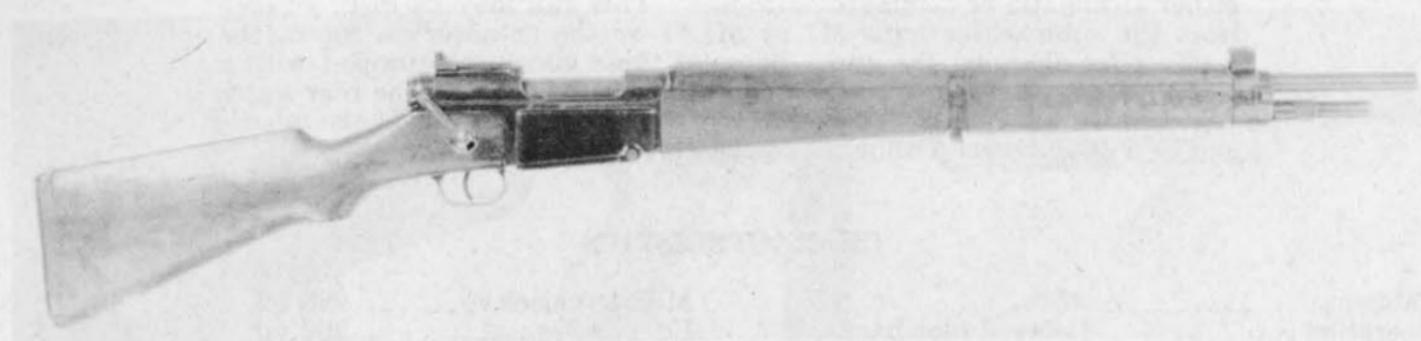
United States Cal. .45 Thompson Submachine Gun, M1928A1

GENERAL DESCRIPTION AND COMMENT

The caliber .45 Thompson submachine gun M1928A1 is an air-cooled blowback operated, magazine-fed, shoulder weapon. It is capable of either automatic or semiautomatic fire. This gun may be distinguished from the submachine guns M1 or M1A1 by the actuator on top of the receiver for charging the gun. Some of these guns are equipped with a leaf type adjustable rear sight while others have a fixed type rear sight. Likewise they may have a finned barrel with a compensator at the muzzle end or a plain barrel without compensator.

CHARACTERISTICS

Caliber.....	.45	Muzzle velocity.....	920 fps
Operation.....	Delayed blowback	Effective range.....	200 yd.
Weight.....	(w/o accessories)—11 lb	Rate of fire (cyclic).....	600-725 rds per minute.
Length.....	(overall)—2 ft. 9 ¹¹ / ₁₆ in.	Ammunition types.....	U. S. cal. .45 pistol ball
Magazine capacity.....	20 and 30 rd		



FRENCH 7.5-MM RIFLE, MAS-36.

French 7.5-mm Rifle MAS-36

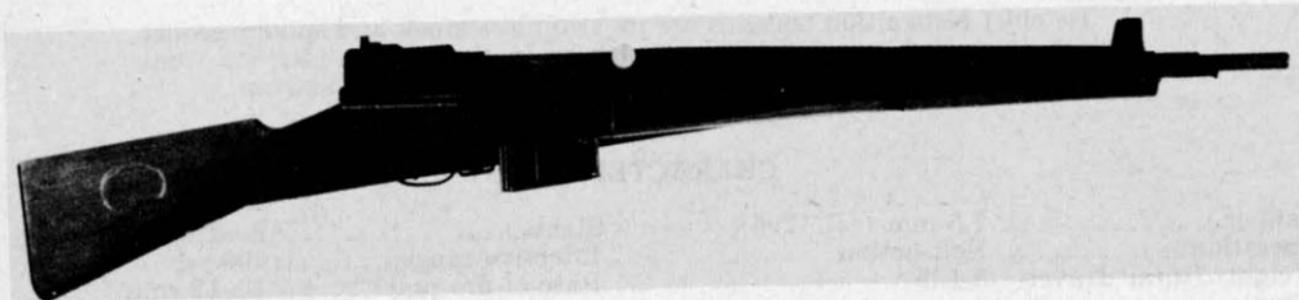
GENERAL DESCRIPTION AND COMMENT

This is a limited standard French bolt-action infantry rifle. There is a mountain/paratroop version with a folding, hollow, aluminum butt stock.

Its chief recognition features are its two piece stock and spike bayonet which is carried reversed in a metal tube in the stock under the front part of the barrel, and the bolt handle which has a forward sweep.

CHARACTERISTICS

Caliber.....	7.5-mm (cal. .295)	Sights.....	Leaf with aperture
Operation.....	Bolt-action	Effective range.....	400 yd
Weight (total traveling). ..	8.4 lb	Rate of fire pract.....	10-12 rpm
Length.....	40.2 in. (w/o bayonet)	Ammunition types.....	French 7.5-mm M1929C service types.
Magazine capacity.....	5 rds		



FRENCH 7.5-MM SEMIAUTOMATIC RIFLE MAS-49.

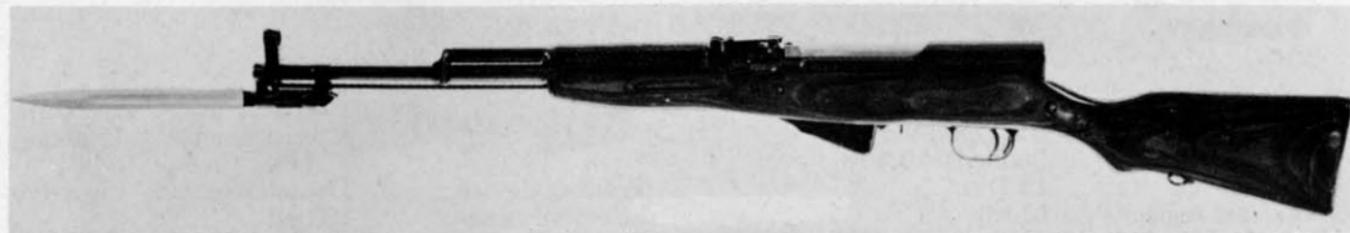
French 7.5-mm Semiautomatic Rifle MAS-49

GENERAL DESCRIPTION AND COMMENT

This is a modern semiautomatic rifle which is readily identified by the built-in grenade launcher and launcher sight positioned by the upper band and by the fact that no provision is made for attaching a bayonet.

CHARACTERISTICS

Caliber.....	7.5-mm (cal. .295)	Sights.....	Rear-Aperture on ramp, graduated 200-1200 meters.
Operation.....	Gas-operated	Feeding device.....	Detachable box magazine
Weight.....	(loaded)-10.4 lb	Effective range.....	400 yd
Length.....	42.3 in.	Rate of fire.....	35-40 rpm
Magazine capacity..	10 rds	Ammunition types..	French 7.5-mm M1929C (rimless) service types.
Method of loading...	Magazine or clips		
Muzzle velocity....	2,625 fps		



SOVIET 7.62-MM SEMIAUTOMATIC RIFLE SIMONOV (SKS).

Soviet 7.62-mm Semiautomatic Rifle Simonov (SKS)

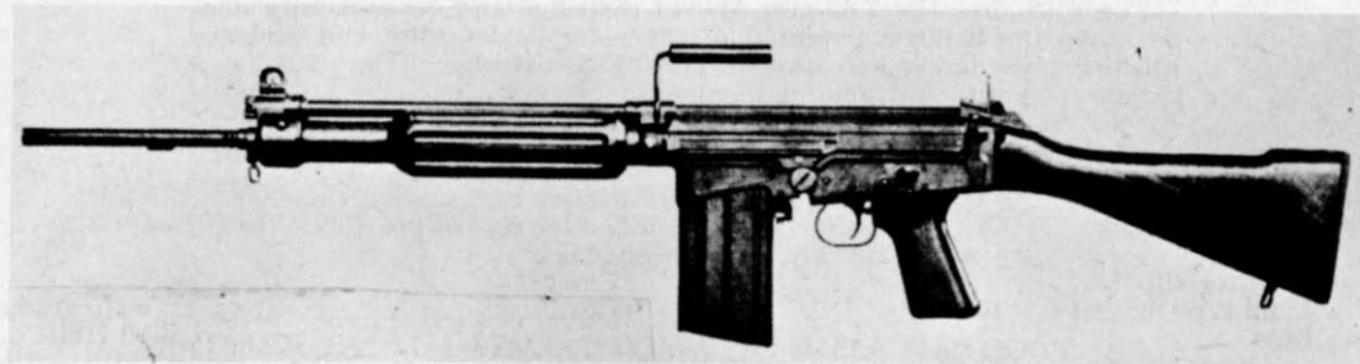
GENERAL DESCRIPTION AND COMMENT

The SKS is the standard Soviet Army shoulder weapon in the rifle class. Although the Soviets call the SKS a carbine, it should be compared with the U. S. M1 rifle rather than the U. S. M1 carbine.

The SKS fires the 7.62-mm M1943 cartridge and consequently does not have the ballistic potential of the older Soviet rifles and carbines which fire the larger and heavier M1908/30 cartridge. The SKS has a permanently attached, folding bayonet.

CHARACTERISTICS

Caliber.....	7.62-mm (cal. .30)	Effective range.....	400m (440 yds)
System of operation.....	Gas operated, semi-automatic fire only	Effective rate of fire.....	35-40 rpm
Length (over-all)		Sights:	
w/knife-type bayonet-fixed	49.6 in.	Front.....	Hood post
w/cruciform section bayonet-fixed	52.17 in.	Rear.....	Tangent leaf, graduated 1-10 (100-1000m) with battle-sight setting marked "17".
w/bayonet-unfixed.....	40.16 in.	Ammunition.....	Soviet 7.62-mm M1943 cartridges of the following types: "PS" (ball), "T-45" (tracer), "B2" (API), "Z" (incendiary tracer).
Weight			
Unloaded:			
w/knife-type bayonet	8.49 lb		
w/cruciform section bayonet	8.16 lb		
Feed device.....	10 rd integral, staggered double-row box magazine		



BELGIAN 7.62-MM FN NATO RIFLE.

Belgian 7.62-mm FN NATO Rifle

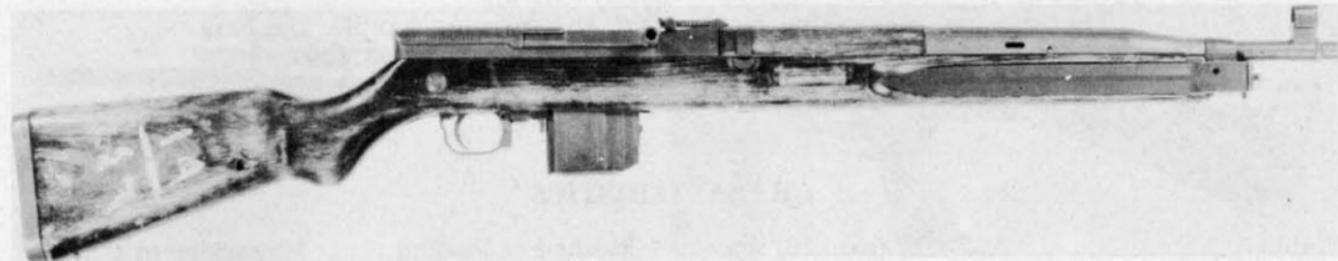
GENERAL DESCRIPTION AND COMMENT

This is a modern post World War II gas-operated semi-automatic shoulder rifle. A heavy barrel version with selective fire switch designed to replace automatic rifles or light machine guns, has also been produced. It fires the 7.62-mm NATO (US T-65E3) cartridge.

The principal recognition features are the carrying handle, the long, detachable 20-round magazine, the slanted pistol grip, and the exposed front section of the barrel forward of the gas cylinder which is positioned over the barrel.

CHARACTERISTICS

Caliber.....	7.62-mm (cal. .30)	Method of loading.....	Magazine or clip
Operation.....	Gas-operated, semi-automatic (some selective fire).	Sights.....	Front-Post Rear-Leaf
Weight (total traveling).	Approx 9 lb.	Effective range.....	600 yd.
Length.....	39 in.	Rate of fire.....	600 rpm (cyclic)
Magazine capacity.....	20 rd.	Ammunition types.....	7.62-mm NATO (U. S. T-65E3) round.



CZECH 7.62-MM SEMIAUTOMATIC RIFLE M52.

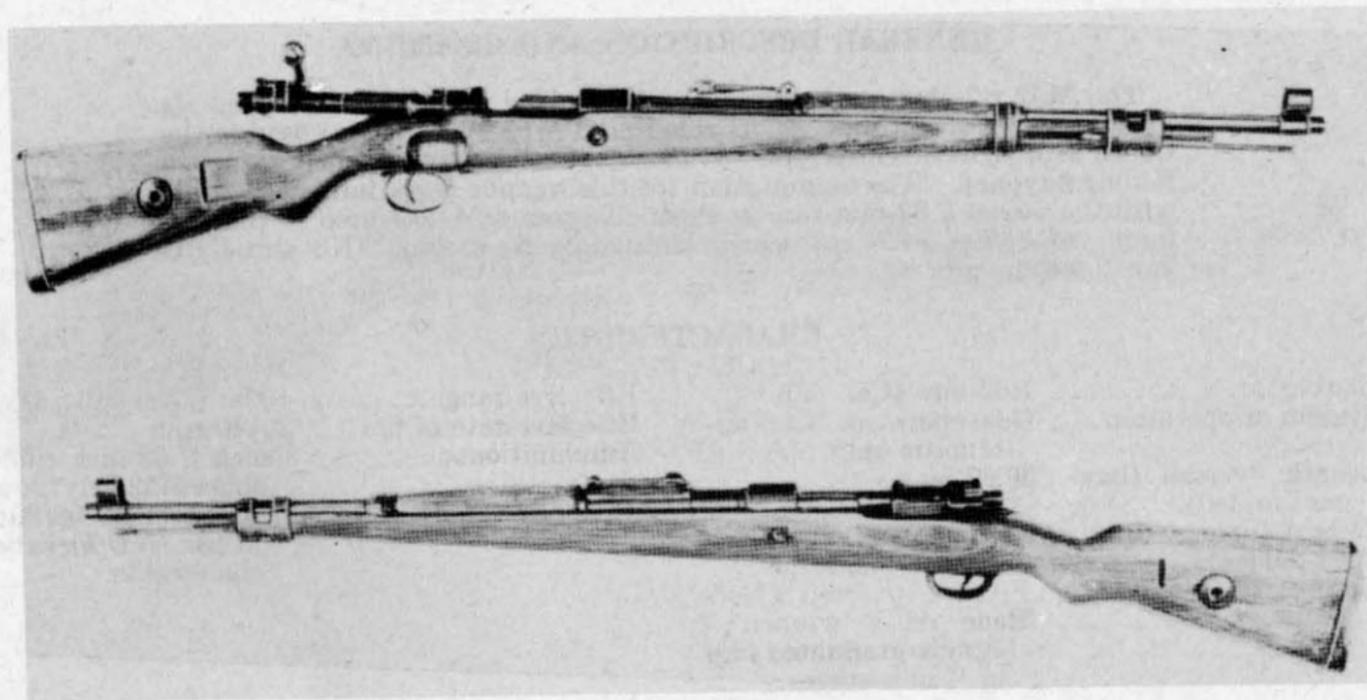
Czech 7.62-mm Semiautomatic Rifle M52

GENERAL DESCRIPTION AND COMMENT

The M52 rifle is a gas operated, magazine fed semiautomatic rifle. It fires the new Czech rimless short rifle round M52 which is also fired in the Czech M52 light machine gun. It has a knife-type permanently attached folding bayonet. The ammunition for this weapon is *not* interchangeable with the Soviet 7.62-mm rimless short rifle round M1943 fired in the new family of Soviet 7.62-mm submachine gun AK, carbine SKS and RPD light machine gun.

CHARACTERISTICS

Caliber.....	7.62-mm (Cal. .30)	Effective range.....	400m (aprx 440 yds)
System of operation...	Gas operated, semi-automatic only.	Effective rate of fire...	35-40 rpm
Length over-all (bayonet folded).	39.62 in.	Ammunition.....	Czech 7.62-mm rimless short M52 only (Soviet 7.62-mm M 08/30 or M43) <i>NOT</i> interchangeable.
Weight (unloaded)....	9.6 lbs		
Feed device.....	10 rd box magazine		
Sights:			
Front.....	Blade		
Rear.....	"U" type graduated 19½ in ½ unit stages.		



GERMAN 7.92-MM MAUSER RIFLE, KAR 98K.

German 7.92-mm Mauser Rifle Kar 98 K

GENERAL DESCRIPTION AND COMMENT

This is a World War II rifle very similar in both appearance and operation to the U. S. Army M1903 (Springfield) rifle. The M98K rifle is bolt-operated and magazine fed. It is loaded in the same manner as the U. S. M1903, a five-round clip being inserted into the opening in the top of the receiver. The safety is a thumb-operated lever mounted on the bolt plug and operates in the same manner as the M1903. Rifle is marked "mod 98" on left side of receiver.

CHARACTERISTICS

Caliber.....	7.92-mm	Feeding device.....	5 rd clip
Operation.....	Bolt, manually operated	Effective range.....	600 yd.
Weight (total traveling).	9 lb. (approx)	Rate of fire.....	10 rpm
Length.....	43.5 in.	Ammunition types.....	7.92 German or other Mauser service types
Magazine capacity.....	5 rds.		
Sights.....	Front—Inverted V blade Rear—Leaf w/open V notch on sliding ramp.		



BELGIAN 7.92-MM FN SEMIAUTOMATIC RIFLE ABL (M49).

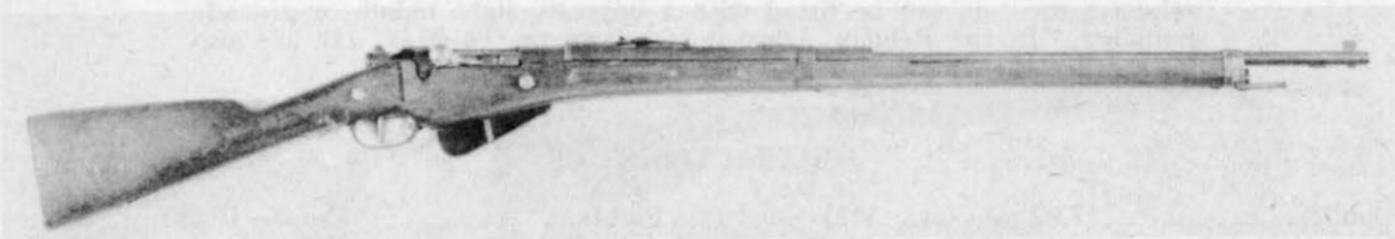
Belgian 7.92-mm FN Semiautomatic Rifle ABL (M49)

GENERAL DESCRIPTION AND COMMENT

This rifle is made in several calibers ranging from 7-mm to 7.92-mm (.30 caliber). It was supplied to Egypt in 7.92-mm caliber. This rifle fires the standard 7.92-mm Mauser rifle cartridge. It is a gas-operated semi-automatic rifle. Another version has, in addition, provision for selective fire. It can be fitted with a bayonet, light bipod, or grenade launcher. In the Belgian Army it is known as the M49. It has also been called the SAFN.

CHARACTERISTICS

Caliber.....	7.92-mm (cal. .315)	Sights.....	Front—Blade Rear—Leaf sight
Operation.....	Semiautomatic, gas-operated	Feeding device.....	Detachable box magazine
Weight.....	9.5 lb.	Effective range.....	600 yd.
Length.....	43.7 in.	Rate of fire.....	30-40 rpm
Magazine capacity...	10 rds.	Ammunition types...	Standard 7.92-mm Mauser rimless rifle
Method of loading...	5 or 10 rd. clips		



FRENCH 8-MM RIFLE M16.

French 8-mm Rifle M16

GENERAL DESCRIPTION AND COMMENT

This is an obsolete French World War I bolt-action infantry rifle. Its chief recognition features are its length, exposed box magazine, turned down bolt handle, also its long slender bayonet.

CHARACTERISTICS

Caliber.....	8-mm (cal. .315)	Sights.....	Rear-Adjustable leaf
Operation.....	Bolt-action	Effective range.....	400 yd.
Weight (w/o bayonet).....	9.23 lb	Rate of fire.....	10-20 rpm
Length (w/o bayonet).....	50.9 in.	Ammunition types.....	French 8-mm Lebel M1886 rimmed service types only
Magazine capacity.....	5 rd.		
Method of loading.....	Clip		



FRENCH 8-MM CARBINE M16.

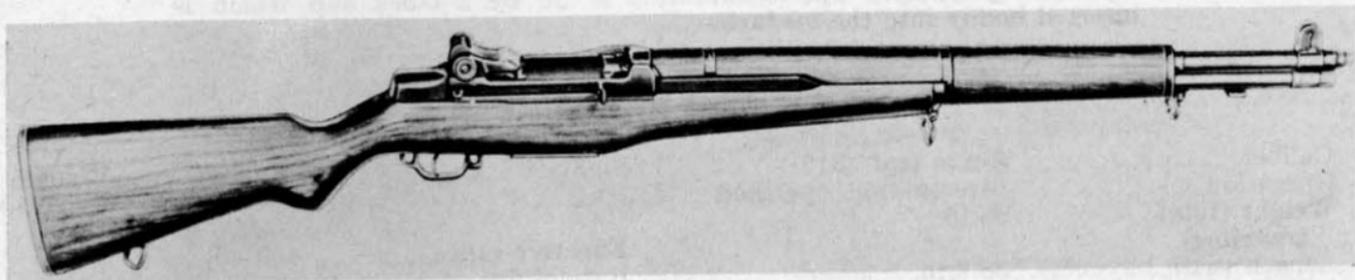
French 8-mm Carbine M16

GENERAL DESCRIPTION AND COMMENT

This weapon is a carbine version of the French M1916 rifle which is covered separately. The ammunition is fed by a block clip which is inserted bodily into the magazine.

CHARACTERISTICS

Caliber.....	8-mm (cal. .315)	Sights.....	Mauser-type V-notch and barley corn 250-2000 meters.
Operation.....	Manual-bolt operated	Effective range.....	450 yd.
Weight (total traveling)	93 lb.	Rate of fire.....	10-20 rds per min
Length (with bayonet)	36.9 in.	Ammunition types.....	8-mm, Lebel rimmed M1886 ball only
	63.5 in.		
Magazine capacity.....	5 rds.		
Method of loading.....	clip		



UNITED STATES CAL. .30 RIFLE, M1.

United States Cal. .30 Rifle M1

GENERAL DESCRIPTION AND COMMENT

The caliber .30 U. S. rifle M1 is a gas operated, semiautomatic, clipped, shoulder weapon. Eight cartridges, loaded into a clip, are inserted into the receiver and a new cartridge automatically feeds into the chamber after each round is fired. When the last round in the clip has been fired, the clip is automatically ejected from the receiver and the bolt remains in its rearmost position ready for insertion of another loaded clip. The trigger must be actuated to fire each round.

CHARACTERISTICS

Caliber.....	.30	Sights.....	Front-Post Rear-Aperture
Operation.....	Gas, semiauto	Effective range.....	600 yd.
Weight (w/o accessories).....	9 lb. 9 oz.	Rate of fire.....	40 rpm
Length (overall).....	3 ft. 7 $\frac{5}{8}$ in.	Ammunition types.....	Cal. .30 cartridges— Ball, AP, tracer.
(overall w/bayonet M1).....	4 ft. 5 in.		
Magazine capacity.....	8 rds.		
Method of loading.....	8 rd clip		



BRITISH CAL. .303 LEE-ENFIELD RIFLE, NO. 1.

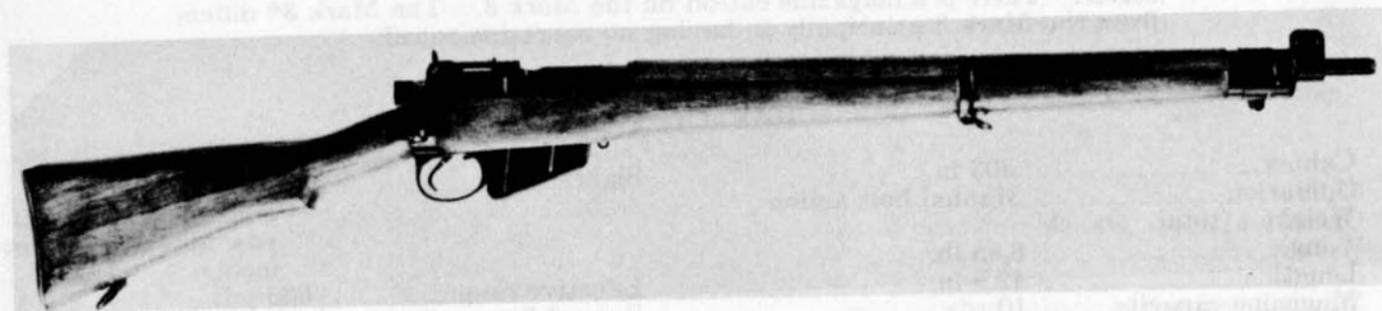
British Lee-Enfield Rifle No. 1

GENERAL DESCRIPTION AND COMMENT

The No. 1 (Mark 3) rifle is a manually-operated bolt-action weapon. The magazine, which extends through the bottom of the rifle in front of the trigger guard, is removable. It loads through the top of the receiver with two five-round clips. The safety is on the left rear end of the receiver. There is a magazine cut-off on the Mark 3. The Mark 3* differs from the Mark 3 principally in having no magazine-cut-off.

CHARACTERISTICS

Caliber.....	.303 in.	Sights.....	rear: Open V-notch graduated 200-2000 yds. in 100 yd. increments.
Operation.....	Manual bolt action	Effective range.....	600 yd.
Weight (total traveling).....	8.65 lb.	Rate of fire.....	10 rpm
Length.....	42.5 in.	Ammunition types.....	British .303 in (rimmed) service types.
Magazine capacity.....	10 rds		
Method of loading.....	five-round clips		



BRITISH CAL. .303 LEE-ENFIELD RIFLE, NO. 4.

British Cal. .303 Lee-Enfield Rifle No. 4

GENERAL DESCRIPTION AND COMMENT

The No. 4 rifle is a manually-operated bolt action weapon. Developed from the No. 1 rifle, the only radical changes in design are the change-over to an aperture rearsight, in lieu of the open V-rear-sight, and a heavier barrel which improved accuracy. The bayonet is attached directly over the muzzle end of the barrel, which protrudes approximately 3-inches beyond the fore end.

CHARACTERISTICS

Caliber.....	.303 in.	Sights.....	Rear—aperture
Operation.....	Manual, bolt action	Feeding device.....	Removable box magazine
Weight.....	(total traveling) 9 lb.	Effective range.....	600 yd.
Length.....	44.5 inches.	Rate of fire.....	10 rpm
Magazine capacity..._	10 rds.	Ammunition types..._	British .303-in (rimmed) service types.
Method of loading..._	five-round clips		



BRITISH CAL. .303 LEE-ENFIELD RIFLE, NO. 5.

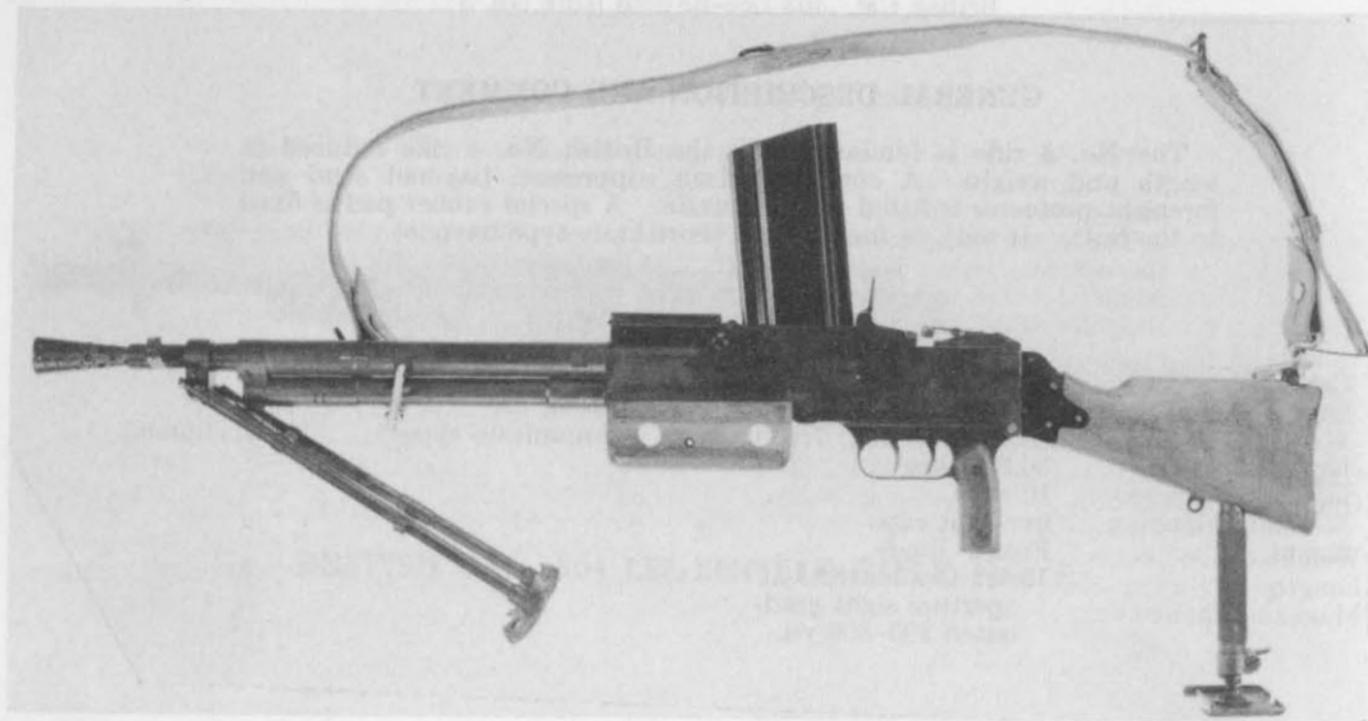
British Cal. .303 Lee-Enfield Rifle No. 5

GENERAL DESCRIPTION AND COMMENT

The No. 5 rifle is fundamentally the British No. 4 rifle reduced in length and weight. A combined flash suppresser, bayonet stud and foresight protector is fitted to the muzzle. A special rubber pad is fixed to the butt. It may be used with a short knife-type bayonet.

CHARACTERISTICS

Caliber.....	.303 in.	Effective range.....	500 yd.
Operation.....	Manual bolt action	Rate of fire.....	10 rpm
Weight.....	(total traveling) 7.13 lb.	Ammunition types...	.303-in. rimmed.
Length.....	36.3 inches		
Magazine capacity..	10 rd.		
Method of loading...	five-shot clips		
Sights.....	Front: Blade		
	Rear: Graduated leaf aperture sight graduated 200-800 yd.		



FRENCH 7.5-MM LIGHT MACHINE GUN M24/29.

French 7.5-mm Light Machine Gun M24/29

GENERAL DESCRIPTION AND COMMENT

The M24/29 is a selective fire gas-operated magazine-fed, air-cooled light automatic weapon used by the French Army and other ground forces equipped from French sources.

The chief recognition features are the top position of the magazine, the wooden hand guard, the perforated flash hider, and the two triggers. Some of these weapons may not have the monopod located under the shoulder stock.

CHARACTERISTICS

Caliber.....	7.5-mm (Cal. .295)	Sights.....	Rear—Leaf
Operation.....	Gas-operated selective fire	Effective range.....	450 yd.
Weight.....	19.65 lb	Rate of fire (practical)...	200 rpm
Length.....	43 in.	Ammunition types.....	French 7.5-mm M1929C (rimless) service types.
Magazine capacity.....	25 rds		



SOVIET 7.62-MM LIGHT MACHINE GUN RPD.

Soviet 7.62-mm Light Machine Gun RPD

GENERAL DESCRIPTION AND COMMENT

The RPD light machine gun is the base of fire for the Soviet infantry squad. It fires the M1943 short round and has, therefore, a more limited range than the Company Light Machine Gun M1946, which fires the larger and heavier M1908/30 round. Its lighter weight makes it more handy than its predecessors and its belt feed gives it a much higher rate of fire. The bore of the barrel is chromed. The metallic-link belt which is housed in a metal drum holds 100 rounds.

CHARACTERISTICS

Caliber.....	7.62-mm (cal. .30)	Sights—Continued	
System of operation....	Gas operated, automatic fire only	Rear.....	Leaf, sliding ramp, open "U" notch. Graduated 1-10 units, Vertical 0-7 units right or left, lateral.
Length over-all.....	40.83 in.	Ammunition.....	Soviet 7.62-mm M1943 rounds; "PS" (ball; "T-45" (tracer); BZ (API), "Z" incendiary tracer. U. S. cal. .30 or 7.62-mm ammunition is <i>not</i> interchangeable.
Weight w/o belt & magazine.....	14.5 lb		
Feed device.....	100-rd linked metal belt, (2 sections of 50) fed from drum magazine.		
Effective range.....	880 yds.		
Effective rate of fire....	150 rds per min		
Sights:			
Front.....	Protected post, adjustable vertically and laterally.		



SOVIET 7.62-MM COMPANY LIGHT MACHINE GUN M1946 (RP-46).

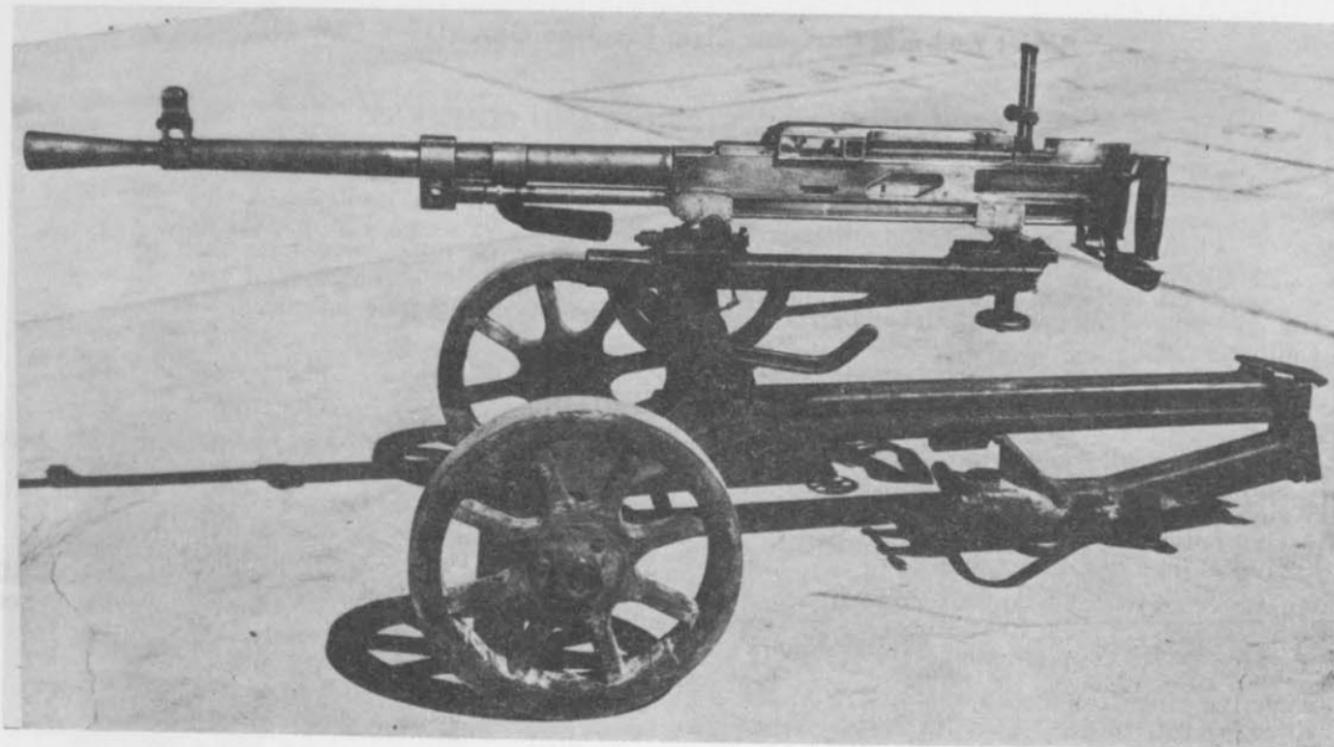
Soviet 7.62-mm Company Light Machine Gun M1946 (RP-46)

GENERAL DESCRIPTION AND COMMENT

This air-cooled, belt-fed and bipod-mounted light machine gun is a standard infantry company support weapon in the Soviet and Sino-Soviet Bloc armies. It is a redesign of the earlier Soviet DP and DPM magazine-fed light machine guns. The RP-46 resembles the DPM except for the belt-feed mechanism (if in place), the carrying handle (forward of the receiver), the thicker barrel, and the different-type charging handle.

CHARACTERISTICS

Caliber.....	7.62-mm	Feeding device.....	250-rd metallic link belt (5-50-rd sections joined)
Operation.....	Gas-operated, auto fire only	Effective range.....	880 yd
Weight.....	28.7 lb (unloaded)	Rate of fire.....	250 (practical)
Length.....	Approx 50 in.	Ammunition types...	Soviet 7.62-mm M1908/30 (rimmed) service types only.
Muzzle velocity.....	Approx 2,756 fps		
Sights.....	Rear—Leaf w/open notch, grad 0-1500 meters		



SOVIET 7.62-MM GORYUNOV HEAVY MACHINE GUN M1943 (SG-43).

Soviet 7.62-mm Goryunov Heavy Machine Gun M1943 (SG-43)

GENERAL DESCRIPTION AND COMMENT

The Goryunov is an air-cooled, gas operated heavy machine gun. It fires the M1908 and M1930 rimmed rounds. It has a simple and efficient quick change barrel feature. The wheeled mount can be converted for antiaircraft fire. It may be seen with or without a shield or AA sights.

CHARACTERISTICS

Caliber.....	7.62-mm (cal. .30)	Rear.....	Tangent leaf, open "U" notch adjustable laterally.
System of operation....	Gas-operated, air-cooled, automatic fire only.		Graduated 0-20 (0-2000m) for M1908 light ball and 0-23 (0-2300m) for M1930 heavy ball.
Length over-all—gun only.	45.28 in.		
Weight:			
Gun only.....	30.42 lbs		
Gun mount & shield.	89.07 lbs	AA Sight.....	Post rear and ring front sight both attached to feed cover of receiver.
Feed device.....	50-round metallic link belt (usually 5 lengths joined to make 250 rd belt).		
Effective range.....	1,000 m (1,100 yds)	Ammunition.....	Soviet 7.62-mm M1908 light and M1930 heavy ball. B-30 (AP), B-32 (API), and T-46 (tracer) (U. S. cal. .30 or 7.62-mm ammunition is <i>not</i> interchangeable).
Effective rate of fire...	300-350 rpm		
Sights:			
Front.....	Blade, adjustable laterally, circular guard.		



CZECH 7.62-MM LIGHT MACHINE GUN M52.

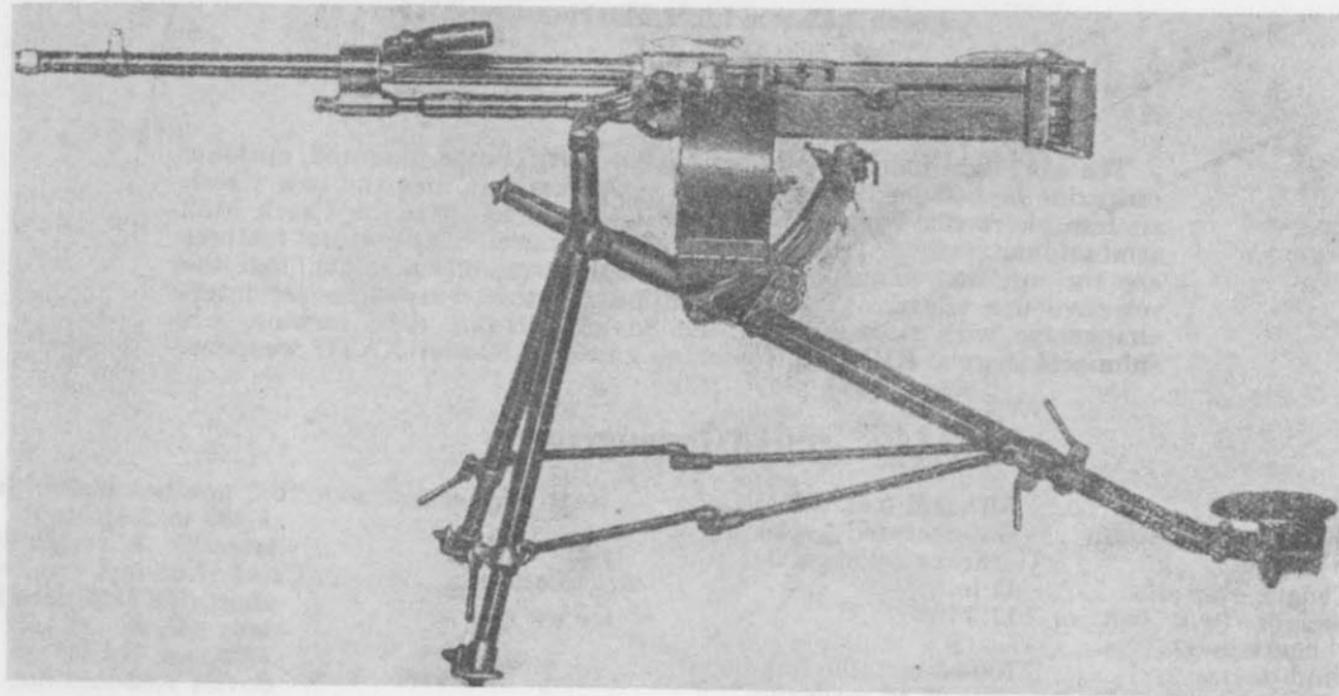
Czech 7.62-mm Light Machine Gun M52

GENERAL DESCRIPTION AND COMMENT

The M52 light machine gun is a gas-operated, bipod-mounted, optional magazine or belt-fed light automatic weapon. It fires the new Czech rimless, short rifle round M52 which is also fired from the Czech M52 semiautomatic rifle. It has a quick change barrel. Its unusual features are the optional magazine-belt-feed mechanism, offset sights, and the selective fire trigger. The ammunition for this weapon is *not* interchangeable with that fired by the Soviet 7.62-mm SKS carbine, AK submachine gun, RPD light/machine gun or 7.62-mm NATO weapons.

CHARACTERISTICS

Caliber.....	7.62-mm (cal. .30)	Rear.....	"U" graduated 200 to 1,200 m Adjustable laterally & vertically
System of operation...	Gas-operated, selective fire, air-cooled	Ammunition.....	Czech 7.62-mm rimless short rifle M52 rounds only (U. S. cal. .30 7.62-mm NATO or Soviet 7.62-mm <i>not</i> interchangeable)
Length over-all.....	41 in.		
Weight (w/o belt or magazine).....	17.6 lb		
Feed device.....	100-rd metallic link belt or 25-rd magazine		
Effective range.....	Approx 880 yds		
Effective rate of fire...	80 rpm (magazine-fed)		
Sights: Front.....	Blade-adjustable laterally		



SPANISH 7.92-MM ALFA HEAVY MACHINE GUN.

Spanish 7.92-mm Alfa Heavy Machine Gun

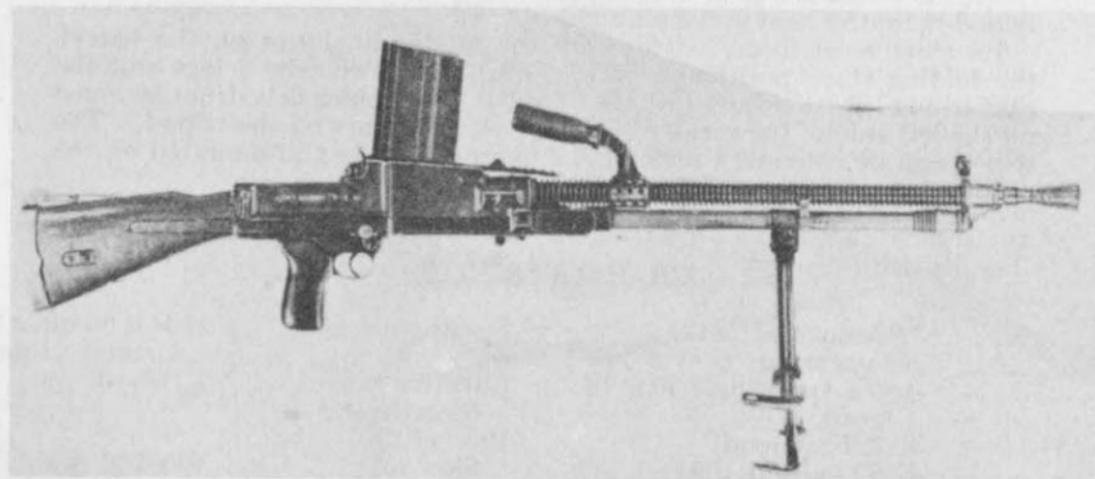
GENERAL DESCRIPTION AND COMMENT

This is a Spanish post-World War II gas-operated, air-cooled, belt-fed tripod-mounted heavy machine gun.

Its chief recognition features are the longitudinal ribs on the barrel, the folding stays positioned between the front two tripod legs and the rear tripod leg (to adjust height of tripod), its circular belt drum fastened on the left side of the receiver, and the elevating arc on the tripod. The tripod can be converted into an AA mount and the gun mounted on the pintle of the tripod.

CHARACTERISTICS

Caliber.....	7.92-mm (cal. .312)	Feeding device.....	100-rd metallic link belt in circular drum.
Operation.....	gas-operated	Effective range.....	1,100 yd. (est)
Weight.....	(total traveling) 30.9 lb. (gun). 40.2 lb. (tripod)	Rate of fire:	
Length.....	47.52 in. (gun only)	Slow rate.....	100-200 rpm
Sights.....	Front-Post Rear-leaf graduated 200-2,000 m, Fitted with AA ring sight.	Fast rate.....	300-400 rpm
		Ammunition.....	Any 7.92-mm Mauser service types.



CZECH 7.92-MM LIGHT MACHINE GUN, ZB-30.

Czech 7.92-mm Light Machine Gun, ZB-30

GENERAL DESCRIPTION AND COMMENT

This light machine gun is similar to the earlier Czechoslovak ZB-26 but has the added feature of a fitting for a butt monopod support and a light folding tripod suitable as an AA mount. This weapon has been manufactured with both heavy or standard barrels; 20, 30 or 35 round magazines; and even in differing calibers ranging from 6.5-mm to 8-mm for export. The weapon features a quick change barrel and has selective automatic or semiautomatic fire. Recognition features are the ribbed barrel, the cylindrical cocking handle on right side of the receiver, the fitting for a monopod rest on the underside of the shoulder stock, and the sliding dust cover protecting the feed opening on top of the receiver. The British Bren gun is a redesign of this weapon.

CHARACTERISTICS

Caliber.....	7.92-mm (possibly 6.5 to 8-mm)	Sights.....	Front — Blade w/cover guard
Operation.....	Gas operated, selective automatic or semiautomatic		Rear—Aperture with range drum 200-1,500 meters. (An AA ring sight is also available).
Weight.....	(total traveling) 21.7 lb (approx)	Effective range.....	875 yd
Length.....	45.8 in.	Rate of fire.....	180 rpm
Magazine capacity...	20, 30 or 35 rd types	Ammunition.....	Any 7.92-mm Mauser rim less types
Method of loading...	Detachable magazine		
Muzzle velocity.....	2,700 ft per sec		



ISRAELI 7.92-MM LIGHT MACHINE GUN "DROR"

Israeli 7.92-mm Light Machine Gun "DROR"

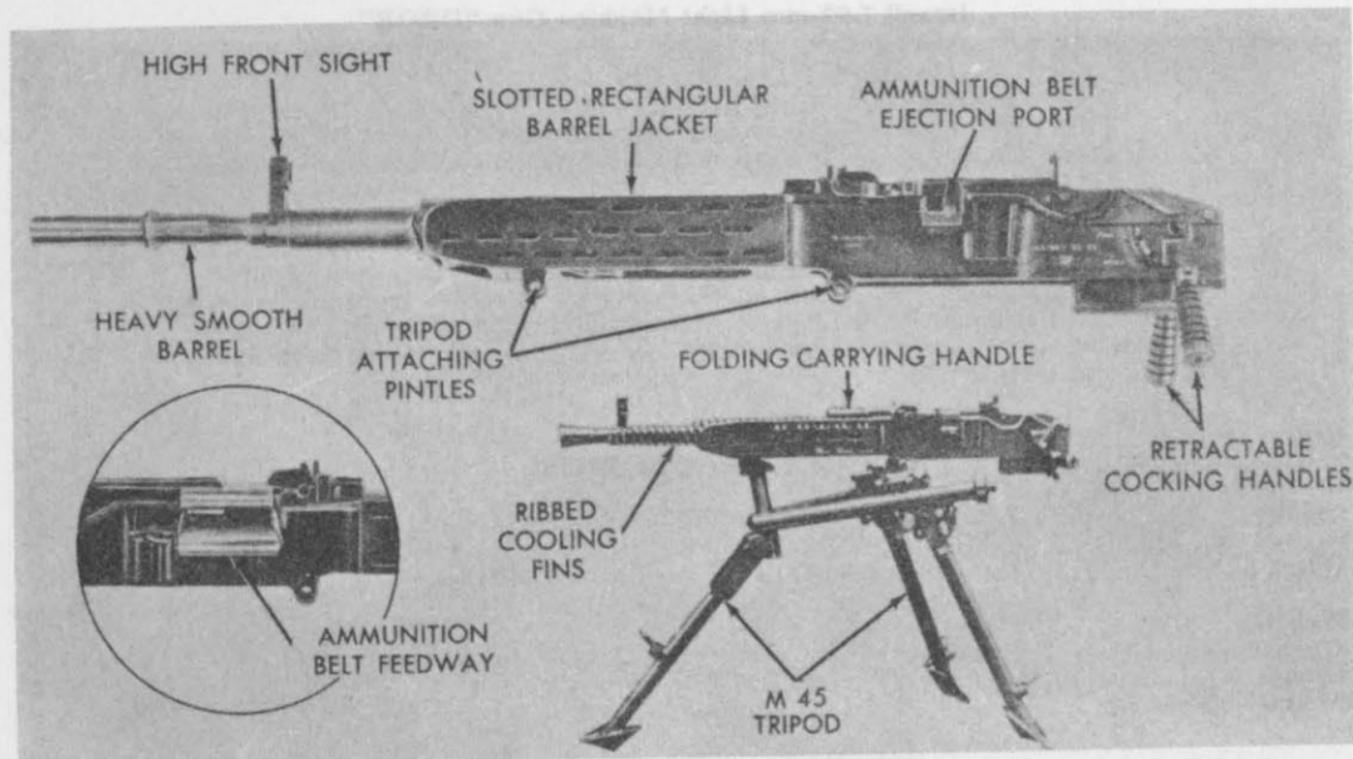
GENERAL DESCRIPTION AND COMMENT

This is an Israeli-made copy of the U. S. Johnson light machine gun M1944.

The chief recognition features are its shoulder stock which consists of two parallel metal tubes with a padded shoulder piece, the carrying handle forward of the receiver, and the detachable magazine which is inserted through the bottom of the receiver. It differs from the M1944 Johnson in having a full-length perforated barrel jacket; a bipod, positioned near the muzzle, instead of a monopod; a much lower front sight, and a carrying handle.

CHARACTERISTICS

Caliber.....	7.92-mm (cal. .312)	Sights.....	Leaf rear with peep
Operation.....	Recoil-operated	Effective range.....	600-800 yd. (est)
Weight.....	(total traveling) 15 lb. (est)	Rate of fire (practical).....	150-180 rpm (est)
Length.....	42 in. (est)	Ammunition.....	Any 7.92-mm Mauser service types
Magazine capacity.....	20-rd. (est)		



CZECH 7.92-MM HEAVY MACHINE GUN, ZB-37.

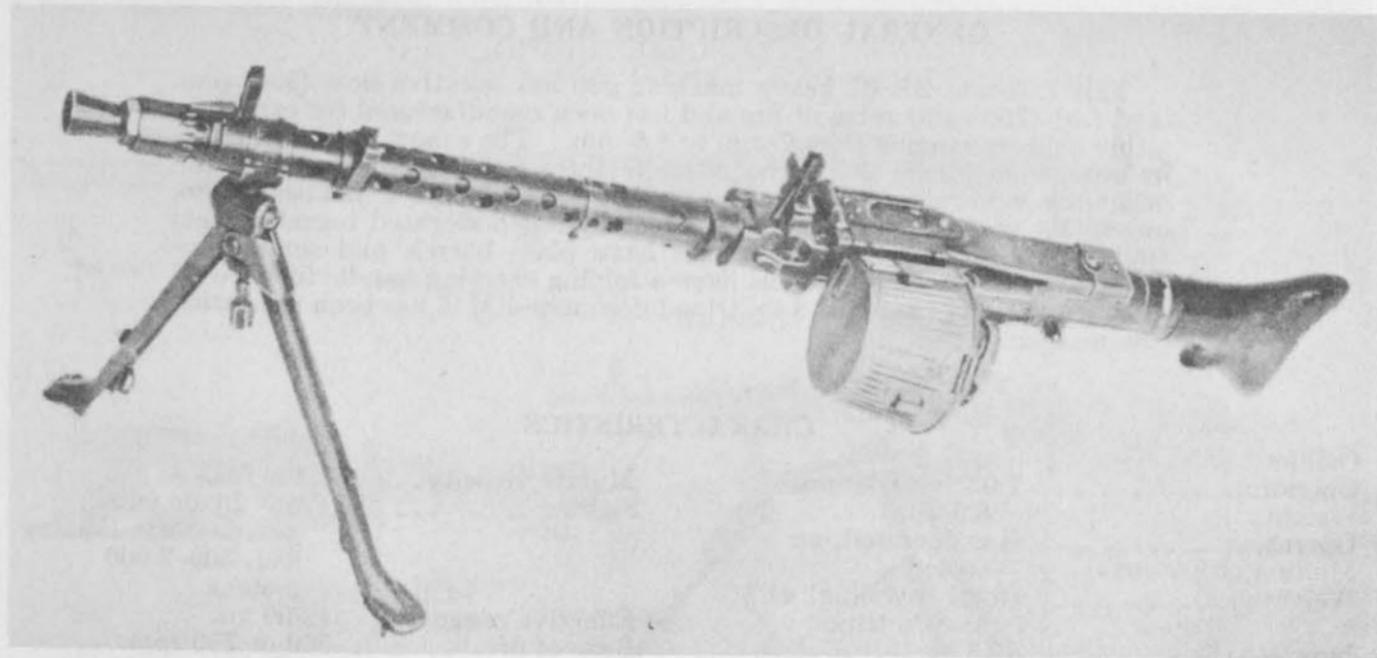
Czech 7.92-mm Heavy Machine Gun, ZB-37

GENERAL DESCRIPTION AND COMMENT

This 7.92-mm ZB-37 heavy machine gun has selective slow (500 rpm) and fast (750 rpm) rates of fire and has been manufactured for export in other calibers ranging from 7-mm to 8.5-mm. The export version is often referred to as Model 53. Recognition features are the high front and rear sights when in raised position, the two retractable cocking handles underneath the rear of the receiver, the rectangular perforated barrel jacket, and the thick barrel (some models have plain barrels and some have ribbed barrels). Some models have a folding carrying handle forward of the receiver. A heavy 85.8 lb. tripod designated M45 has been used with the weapon.

CHARACTERISTICS

Caliber.....	7.92 (also 7-mm to 8.5-mm)	Muzzle velocity.....	2,300 fps.
Operation.....	Gas operated, air cooled.	Sights.....	Front Blade with guard. Rear Folding leaf, 300-2,000 meters.
Weight.....	(total traveling) 41.8 lb. w/o tripod	Effective range.....	1,200 yd.
Length.....	43.5 in.	Rate of fire.....	500 or 750 rpm.
Method of loading.....	100 or 200 rd metallic link belt.	Ammunition.....	Any 7.92-mm Mauser rimless service types.



GERMAN 7.92-MM MACHINE GUN, MG34.

German 7.92-mm Machine Gun, MG-34

GENERAL DESCRIPTION AND COMMENT

The 7.92-mm World War II MG-34 is a multipurpose weapon. It can be used as a light machinegun, a heavy machinegun, an AA machinegun, or a tank machinegun. This air-cooled weapon can deliver either semi-automatic or automatic fire. Recognition features are the high cyclic rate of fire, the perforated air-jacket, the plastic pistol grip with double trigger, the short bulky shape of the plastic shoulder stock, and the cylindrical operating handle on right side of receiver.

CHARACTERISTICS

Caliber.....	7.92-mm	Sights.....	Front—Folding blade
Operation.....	Recoil-selective fire		Rear—Vertical folding leaf
Weight.....	26.4 lb. without tripod		graduated 200-2,000
Length.....	48.2 in.		meters
Method of loading....	Metallic link belt in 50 or 75 rd. drum, or 250 rd box.	Effective range.....	600 yd as LMG—3,800 yd as HMG
Muzzle velocity.....	2,480 fps.	Rate of fire.....	800-900 rpm
		Ammunition types....	Any 7.92-mm Mauser rimless service types.



FRENCH 8-MM HOTCHKISS HEAVY MACHINE GUN, M14.

French 8-mm Hotchkiss Heavy Machine Gun, M14

GENERAL DESCRIPTION AND COMMENT

This is an obsolete World War I gas-operated, air-cooled heavy machine gun.

The chief recognition features are the radiator fins around the receiver end of the barrel and the prominent gas-cylinder underneath the barrel. The detachable shoulder stock and flash hider seen in the photograph may not always be present.

CHARACTERISTICS

Caliber.....	8-mm (cal. .315)	Feeding device.....	30-rd feed strip or metallic link belt.
Operation.....	Gas-operated, auto fire only	Effective range.....	1,100 yd
Weight.....	50 lb (gun) 70 lb (tripod)	Rate of fire.....	200 rpm
Muzzle velocity.....	2,380 fps	Ammunition types....	French 8-mm M1886 service rimmed types
Sights.....	Front-Blade Rear-Leaf		



BRITISH CAL. .303 BREN LIGHT MACHINE GUN.

British Cal. .303 Bren Light Machine Gun

GENERAL DESCRIPTION AND COMMENT

By U. S. standards, the Bren would be called an automatic rifle. It was designed primarily for one-man operation from a bipod mount. It is used in several Middle East armies.

CHARACTERISTICS

Caliber.....	.303	Effective range.....	600 yd
Operation.....	Gas	Rate of fire.....	Automatic—110 to 115 rpm
Weight.....	(w/bipod)—22 lb		Semiautomatic—25 to 60 rpm
Length.....	45.5 in.	Ammunition.....	British .303-in service types
Magazine capacity..	30 rds		
Muzzle velocity.....	2,440 fps		
Sights.....	Metallic, graduated 200–2000 yd		



BRITISH CAL. .303 HOTCHKISS LIGHT MACHINE GUN.

British Cal. .303 Hotchkiss Light Machine Gun

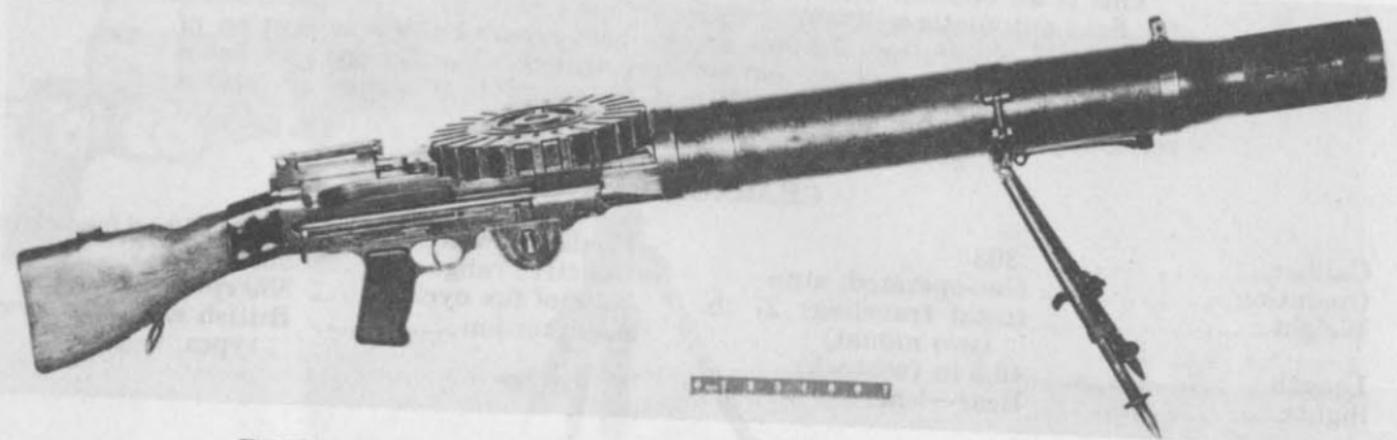
GENERAL DESCRIPTION AND COMMENT

This is an obsolete British gas-operated, air-cooled, strip-fed selective fire light automatic weapon.

Its chief recognition features are its heavy barrel the rear portion of which is finned for cooling, and the tiny tripod. Usually the gun has a wooden shoulder stock. The 30 and 50 round feed strips are also a recognition feature.

CHARACTERISTICS

Caliber.....	.303	Feeding device.....	30 and 50-rd feed strips
Operation.....	Gas-operated, auto	Effective range.....	500 yd.
Weight.....	(total traveling) 27 lb. (w/o mount)	Rate of fire cyclic.....	550 rpm
Length.....	46.5 in (w/stock)	Ammunition.....	British cal. .303 service types
Sights.....	Rear—leaf		



BRITISH CALIBER .303 LEWIS LIGHT MACHINE GUN.

British cal. .303 Lewis Light Machine Gun

GENERAL DESCRIPTION AND COMMENT

This is an obsolete World War I air-cooled, gas-operated, drum-fed, selective-fire, bipod-mounted light automatic weapon.

Its chief recognition feature is its aluminum radiator surrounding the barrel. The radiator is covered by a steel radiator casing.

CHARACTERISTICS

Caliber.....	.303	Feeding device.....	47 or 97-rd drum magazines
Operation.....	Gas-operated	Effective range.....	800 yd
Weight.....	(total traveling) 30 lb	Rate of fire (cyclic)....	500-600 rpm
Length.....	50.5 in.	Ammunition.....	British cal. .303-in service types
Magazine capacity.....	47 rd		
Sights.....	Front blade, rear leaf		



BRITISH CAL. .303 VICKERS HEAVY MACHINE GUN, MK1.

British Cal. .303 Vickers Heavy Machine Gun, Mk 1

GENERAL DESCRIPTION AND COMMENT

A water-cooled, belt-fed machine gun, it is recoil operated with gas assistance. Feed is from the right side by means of fabric belts holding 250 rounds.

CHARACTERISTICS

Caliber.....	.303	Method of loading.....	250 rd fabric belt
Operation.....	Recoil operated, water cooled, automatic only	Sights.....	Front Blade, Rear Leaf
Weight.....	(total traveling) 93 lb with tripod	Effective range.....	1,100 yd
Length.....	43 $\frac{5}{8}$ in.	Rate of fire (cyclic).....	500 rds per min
		Ammunition.....	British cal. .303 (rimmed) service types



SOVIET 12.7-MM DSHK HEAVY MACHINE GUN M1938 AND M1938/46.

Soviet 12.7-mm DShK Heavy Machine Gun M1938 & M1938/46

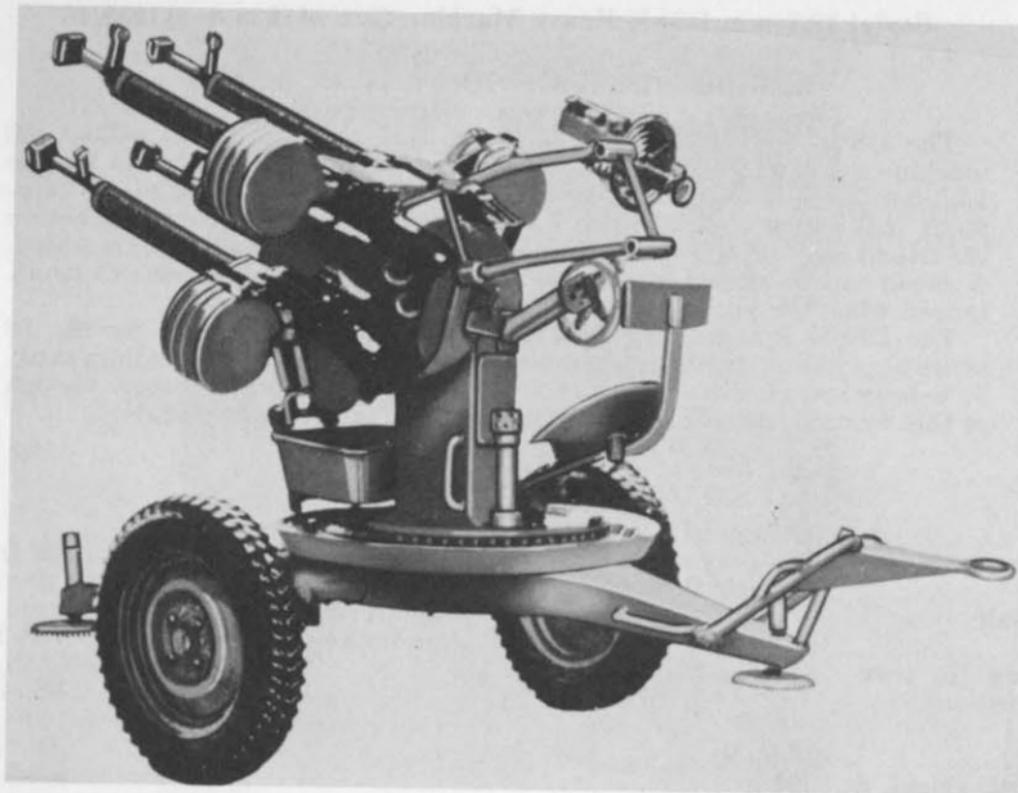
GENERAL DESCRIPTION AND COMMENT

The DShK M1938 and M1938/46 are the standard Soviet caliber .50 machine guns. It is now supplemented in the anti-aircraft role by the 14.5-mm ZPU-2 and ZPU-4 dual and quadruple mount AAMGs. Normally it is mounted on a tripod for anti-aircraft use, but for ground action the tripod legs fold together to form a trail and a two-wheeled axle is added. A shield can be affixed for ground action and a shoulder stock can be attached when the gun is used in the anti-aircraft role.

The DShK is also being used as an anti-aircraft armament for the JS series heavy tank, the heavy assault guns, and the new T-54 medium tank. It is found in all Sino-Soviet Bloc Armies. A quadruple-mount version of this weapon, produced by Czechoslovakia, is covered separately.

CHARACTERISTICS

Caliber.....	12.7-mm (cal. .50)	Effective range:	
System of operation.....	Gas-operated, auto- matic fire only	Anti-aircraft.....	4,920 ft (slant range)
Length over-all:		Ground role.....	1,640 yd
Gun only.....	62.74 in.	Effective rate of fire.....	80 rpm
Mount only (in trav- elling position).	68.5 in.	Ammunition.....	Soviet 12.7-mm, B-30 (AP), B-32 (API), BS-41 (API), BZT (APIT), (U. S. cal. .50 <i>not</i> interchange- able).
Weight:			
Gun only.....	74.96 lb		
Gun, mount, shield, & 50 rds ammunition.	393 lb		
Feeding device.....	50-rd metallic link belt		



CZECH 12.7-MM QUAD ANTI-AIRCRAFT MACHINE GUN, DSHK M1938/46.

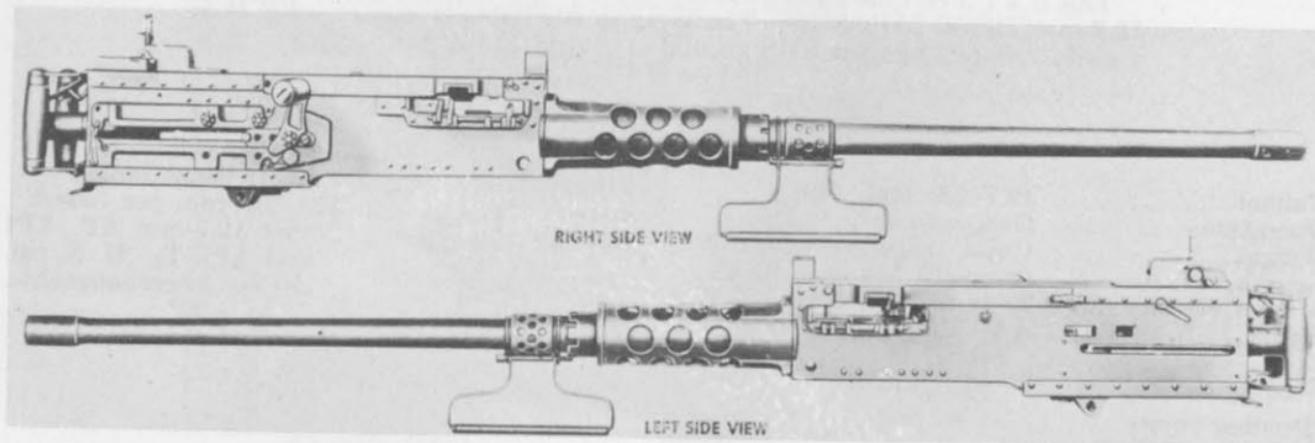
Czech 12.7-mm Quad AA Machine Gun, DShK M1938/46

GENERAL DESCRIPTION AND COMMENT

This is a towed quadruple-mount weapon. The basic gun is the Soviet 12.7-mm DShK M1938/46. The weapon is manually controlled. It is a useful weapon against both ground and aircraft targets.

CHARACTERISTICS

Caliber.....	12.7-mm (cal. .50)	Effective range.....	4,920 ft (slant range)
Operation.....	Gas, auto only	Rate of fire.....	200-300 rpm per barrel
Weight.....	(total traveling) 1,411 lb	Ammunition types...	Soviet 12.7-mm AP, API and API-T. U. S. cal. .50 <i>not</i> interchangeable.
Length.....	(over-all) 114 in	Elevation limits.....	+7° to +90°
Muzzle velocity.....	2,641 to 2,887 fps	Traverse limits.....	unlimited
Sights.....	AA—Ring Ground-Telescope.		
Feeding device.....	50-rd belt in drum per gun		



U. S. CALIBER .50 MACHINE GUN BROWNING, M2, HEAVY BARREL.

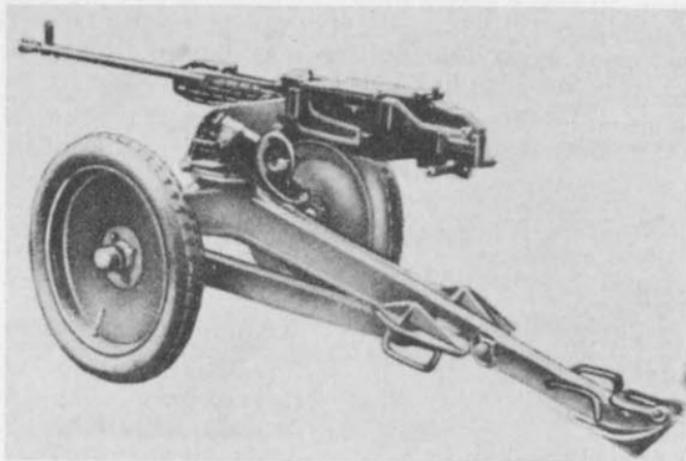
U. S. Cal. .50 Machine Gun, Browning, M2, Heavy Barrel

GENERAL DESCRIPTION AND COMMENT

The caliber .50 heavy barrel Browning machine gun M2 is an automatic, recoil operated, belt-fed, air-cooled machine gun. By repositioning some of the component parts, ammunition may be fed from either the right or left side. The metallic link belt is used in all cases.

CHARACTERISTICS

Caliber.....	.50	Cooling.....	Air
Operation.....	Short recoil	Maximum range.....	7,400 yd
Weight.....	(total traveling) 82 lb	Rate of fire (Cyclic).....	450-550 rounds per minute.
Length.....	65 in.	Ammunition types.....	U. S. Cal. .50 cartridges AP, API, M8, API-T, dummy, ball, incendiary M1, tracers M1 and M17.
Muzzle velocity.....	2,930 fps		
Sights.....	Front-hooded Post Rear-Leaf		
Feeding device.....	Link belt		
Capacity of feeding device.....	As desired		



CZECH 15-MM HEAVY MACHINE GUN, ZB-60.

Czech 15-mm Heavy Machine Gun, ZB-60

GENERAL DESCRIPTION AND COMMENT

The 15-mm ZB60 heavy machine gun is an effective and accurate weapon for infantry support and has limited effectiveness when used for AA purposes. Recognition features are the tripod mount with detachable wheels and folding front legs; the short slotted barrel jacket, the folding carrying handle mounted on top of the barrel just forward of the receiver, the folding firing handles at the rear of the receiver, and the small 40 round ammunition box mounted on the right side of the receiver.

CHARACTERISTICS

Caliber.....	15-mm	Sights.....	Metal ring sight for AA fire Optical panoramic w/clinometer.
Operation.....	Gas operated, single shot or full automatic.	Effective range.....	2,700 yd
Weight.....	(total traveling) 350 lb with tripod.	Rate of fire.....	430 rpm
Length.....	80.7 in.	Armor penetration...	3/4 in. at 500 yd
Method of loading...	40 rd metallic-link belt.	Ammunition types...	Czech 15-mm HE, AP, APHE, and tracer.
Muzzle velocity.....	2,800 fps Front Blade Rear.		



SOVIET 14.5-MM TWIN AA MACHINE GUN, ZPU-2.

Soviet 14.5-MM Twin AA Machine Gun, ZPU-2

GENERAL DESCRIPTION AND COMMENT

This is a modern Soviet light automatic weapon for low level antiaircraft defense which is also well adapted to ground support roles. It is a very simple weapon which is manually controlled. It is normally found on a two-wheel, single-axle towed carriage but a twin-mount using the same basic gun has been seen on a scarf mount on Soviet BTR-40 and BTR-152 wheeled armored personnel carriers.

CHARACTERISTICS

Caliber-----	14.5-mm (0.57 in.)	Effective range	1,100 yd
System of operation---	Recoil, air-cooled, auto fire only	(ground targets).	
Feed device-----	1 x 100-rd belt per gun	Effective (slant) range	2,200 yd (est)
Weight (traveling)-----	838 lb	vs aircraft.	
Rate of fire (practical)-	300 rds per min (150 rds per min per gun)	Sights-----	AA—Reflex Ground—Telescopic
Muzzle velocity-----	3,250 to 3,280 fps	Ammunition-----	Soviet 14.5-mm API-T and I-T
Maximum horizontal range.	17,500 yd		



SOVIET 14.5-MM QUAD AA MACHINE GUN, ZPU-4.

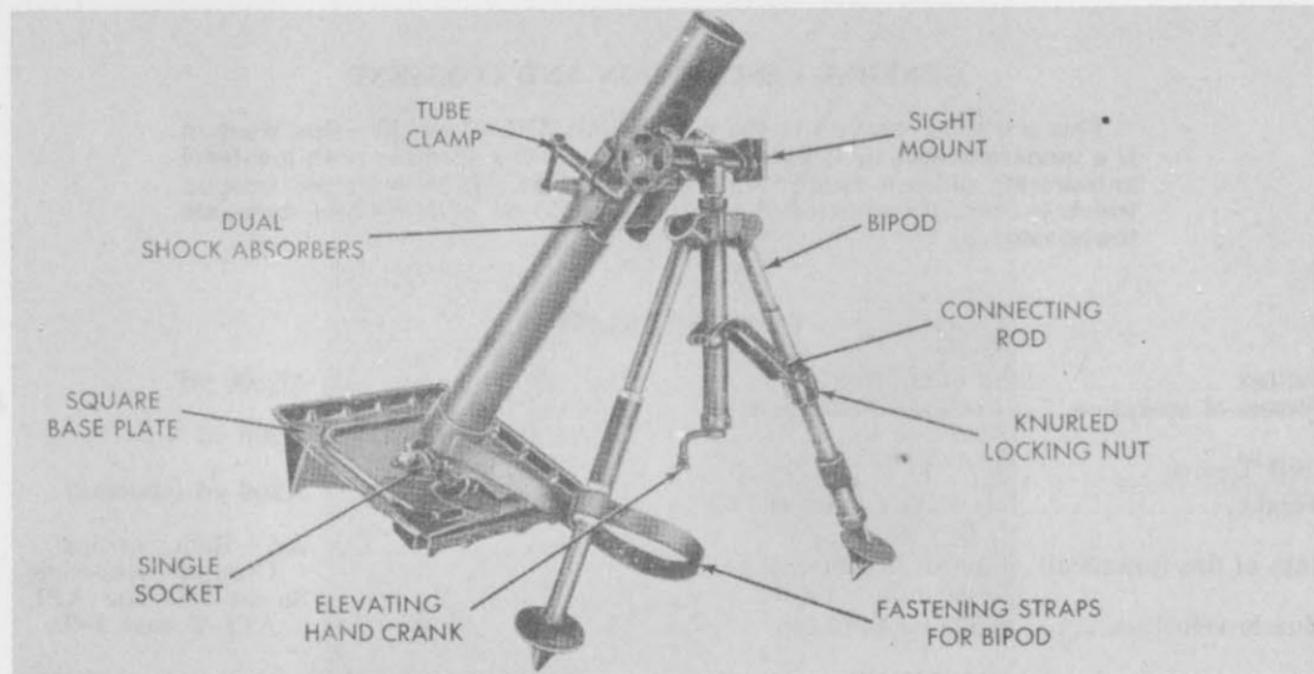
Soviet 14.5-MM Quad AA Machine Gun, ZPU-4

GENERAL DESCRIPTION AND COMMENT

This is a sister weapon to the twin-mount ZPU-2 and like that weapon is a modern Soviet light automatic weapon well suited for both low-level antiaircraft defense and ground support roles. It is a simple weapon which is manually controlled. It is mounted on a four-wheel, two-axle towed carriage.

CHARACTERISTICS

Caliber.....	14.5-mm (0.57 in.)	Maximum horizontal range	17,500 yd
System of operation...	Recoil, air-cooled, auto-fire only	Effective range (ground targets)	2,200 yd
Feed Device.....	1 x 100-rd belt per gun.	Effective (slant) range vs aircraft	2,200 yd (claimed)
Weight.....	(traveling, loaded) 4,600 lb	Sights.....	AA—Reflex optical Ground—telescopic.
Rate of fire (practical)...	600 rds per min (150 rds per min per gun).	Ammunition.....	Soviet 14.5-mm API, API-T, and I-T.
Muzzle velocities.....	3,250 to 3,280 fps		



FRENCH 60-MM BRANDT MORTAR M35.

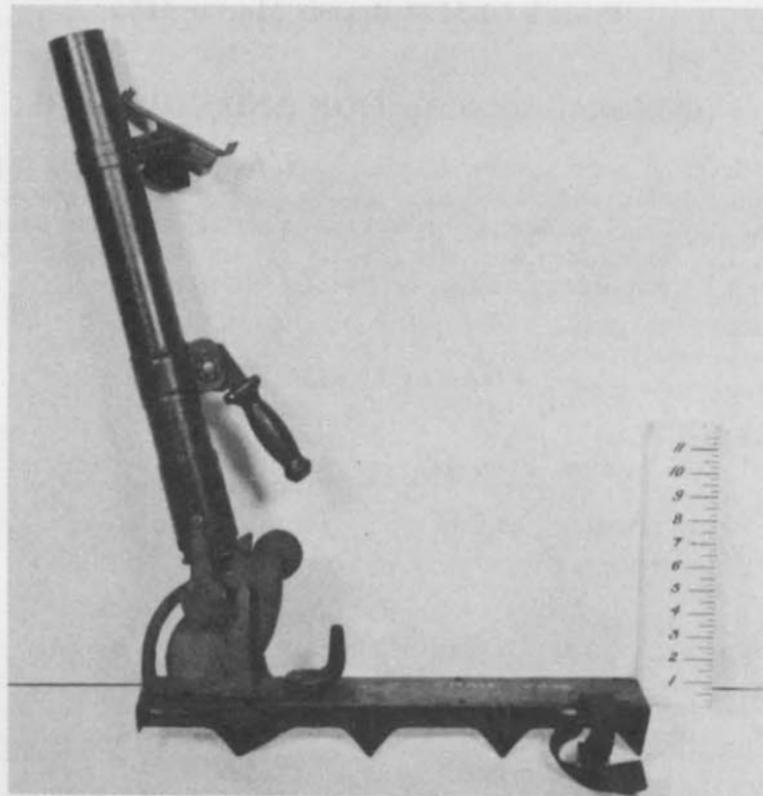
French 60-MM Brandt Mortar M35

GENERAL DESCRIPTION AND COMMENT

This mortar is very similar to the U. S. 60-mm M2 mortar. It is of the conventional muzzle-loading, smooth-bore type and uses an optical panoramic sight. The mortar breaks down into three basic components—the tube, the baseplate, and the bipod. It can be transported by one man, either by shoulder pack or by pulling on a cart.

CHARACTERISTICS

Caliber.....	60-mm (2.36 in.)	Rate of fire.....	up to 30 rpm
Operation.....	Muzzle loading, drop fire only	Ammunition weight.....	HE 3 lb
Weight.....	(Firing position) 38.5 lb	Elevation limits.....	41°-83°
Maximum range.....	1,860 yd	Traverse limits.....	90 mils



BRITISH 2-INCH MORTAR.

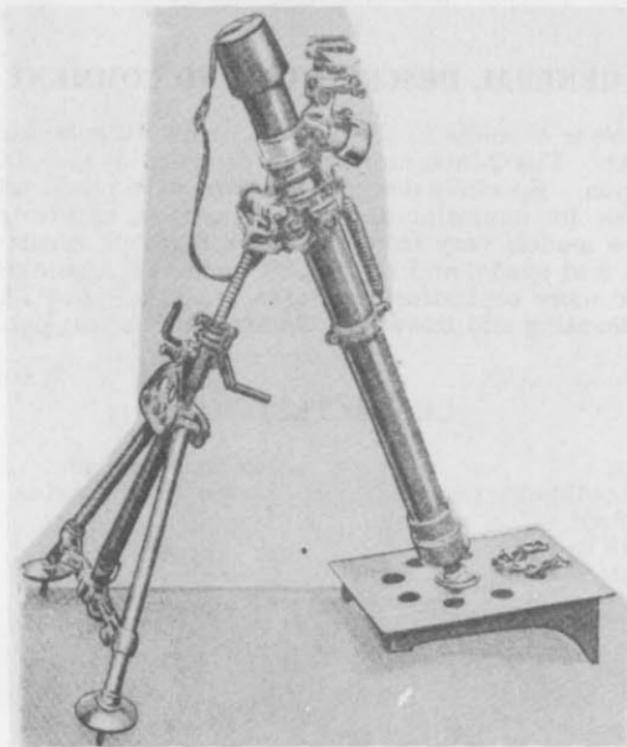
British 2-Inch Mortar

GENERAL DESCRIPTION AND COMMENT

This weapon is obsolete in the British Army. There are nine models of this mortar. The 2-inch mortar was designed as an infantry platoon support weapon. Specially designed versions were produced for use with airborne forces, for mounting on armored carriers, and for special use in India. These models vary from the Mark 8 which consists of a barrel, breech piece, and spade, and sighted by means of a painted line on the barrel, to the more sophisticated Marks 2*, 2**, 7 and 7A which have baseplates, elevating and traversing clamps, and optical sights.

CHARACTERISTICS

Caliber.....	2-in.	Maximum range.....	500 yd
Operation.....	Smoothbore, trigger fired	Ammunition weights...	HE—2.25 lb Smoke—2 lb Illuminating—1.13 lb Signal—1.13 to 1.4 lb
Weight (Mark 7).....	9.13 lb		
Sights (Mark 7).....	Optical		



BRITISH 3-INCH MORTAR MKS 4 AND 5.

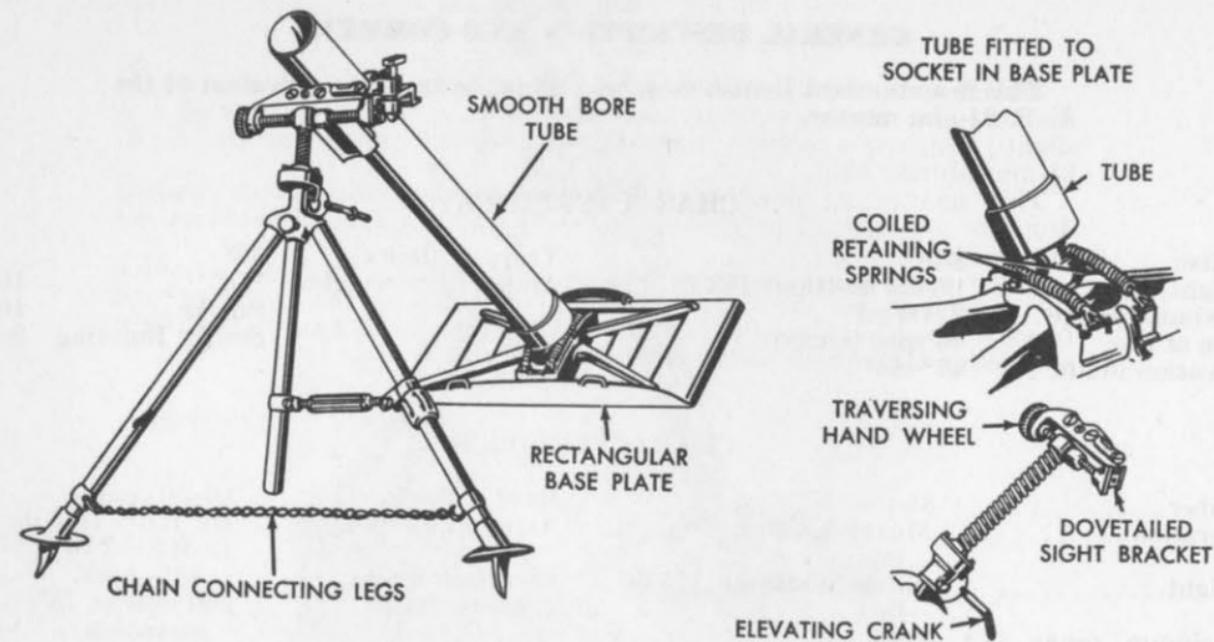
British 3-inch Mortar Mks 4 and 5

GENERAL DESCRIPTION AND COMMENT

This is a standard British weapon. It is the tactical equivalent of the U. S. 81-mm mortar.

CHARACTERISTICS

Caliber.....	3-in.	Traverse limits.....	36°
Weight.....	(firing position) 133 lb	Ammunition weights. HE.....	10 lb
Maximum range.....	2,800 yd	Smoke.....	10.6 lb
Rate of fire.....	10 rpm (aimed)	Smoke Bursting.....	9.4 lb
Elevation limits.....	45°-80°		



FRENCH 81-MM MORTAR M1927/31 (BRANDT).

French 81-mm Mortar M1927/31

GENERAL DESCRIPTION AND COMMENT

The Brandt M1927 mortar, a pre-World War II French weapon, is the basis for this class of infantry mortar in service in all armies. A slightly improved version was adopted without change as the U. S. 81-mm Mortar M1.

This mortar is smoothbore and employs the basic muzzle loading drop-fire principle of percussion, a fixed firing pin being located in the breech-piece.

The base plate is rectangular in shape and has three sockets for receiving the projection on the barrel. The bipod contains the elevating and traversing mechanisms, the sight bracket, and the locking nut. Both light and heavy HE rounds are fired from the mortar.

CHARACTERISTICS

Caliber.....	81-mm	Rate of fire.....	10-30 rpm
Operation.....	Muzzle loading, drop fire only	Ammunition weights...	Hv HE—14.3 lb Lt HE—7 lb
Weight.....	(firing position) 125.66 lb	Elevation limits.....	-40°-+90°
Maximum range (Lt HE).	3,200 yd	Traverse limits.....	200 mils at 75° elevation

GENERAL DESCRIPTION AND COMMENT

This mortar is an Israeli produced copy of the French 81-mm Brandt. The mortar is a shoulder-mounted mortar and is used for indirect fire. It is a light mortar and is easy to transport. It is used for the purpose of providing fire support to the infantry.

(SEE PHOTOGRAPH OF FRENCH 81-MM MORTAR M1927/31 (BRANDT) ON PAGE 100.)

ISRAELI 81-MM MORTAR.

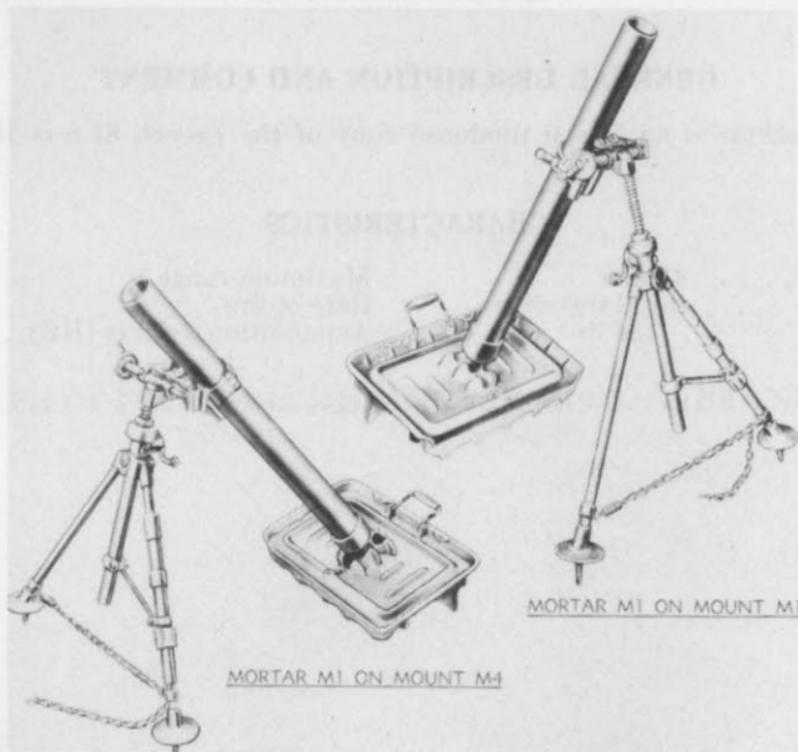
Israeli 81-MM Mortar

GENERAL DESCRIPTION AND COMMENT

This mortar is an Israeli produced copy of the French 81-mm Brandt.

CHARACTERISTICS

Caliber.....	81-mm	Maximum range.....	3,000 yd
Weight.....	(total traveling) 135 lb	Rate of fire.....	16-30 rpm
		Ammunition weights (HE)--	14.33 lb



U. S. 81-MM MORTAR M1.

U. S. 81-MM Mortar, M1

GENERAL DESCRIPTION AND COMMENT

The 81-mm mortar M1 is a conventional smoothbore, muzzle loading, high trajectory infantry weapon.

CHARACTERISTICS

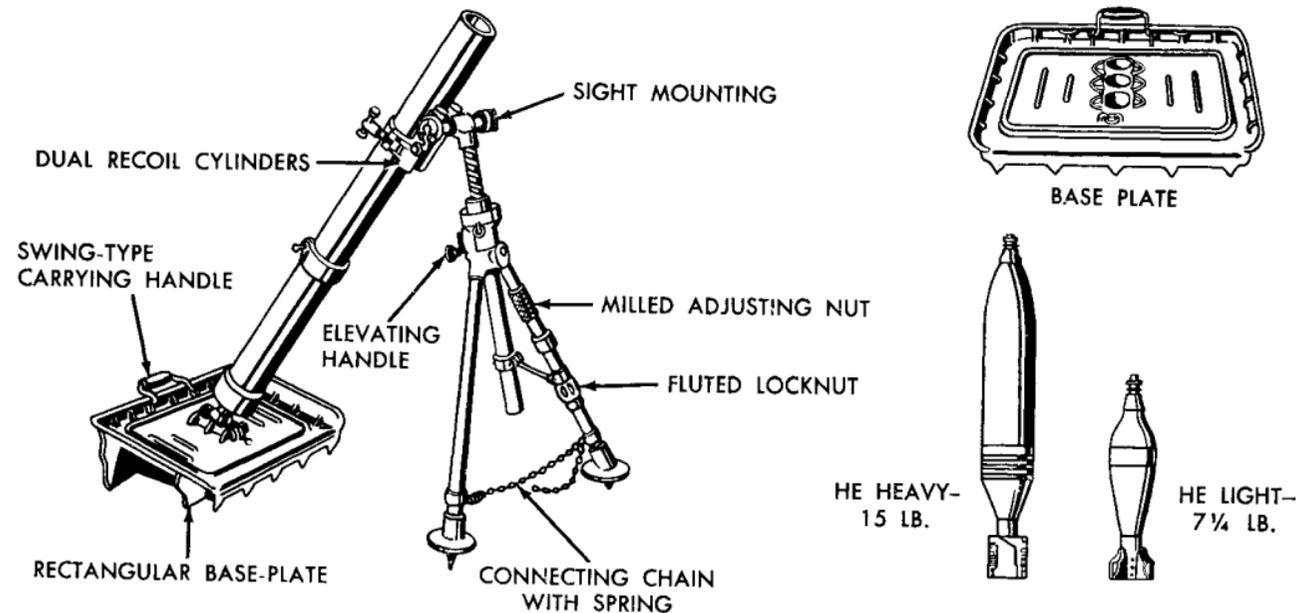
Caliber.....	81-mm	Ammunition range (max):	
Weight (of mortar & mount) ..	136 lb	HE light.....	3,290 yd
Rate of fire (Normal).....	18 rpm	HE heavy.....	2,560 yd
(Maximum).....	30 to 35 rpm	Smoke (WP).....	2,431 yd
Elevation limits.....	Aprx 40° to 85°	Smoke (FS).....	2,431 yd
Traverse limits.....	Aprx 90 mils	Illuminating.....	2,200 yd
Ammunition weights:			
HE light.....	Aprx 7.28 lb		
HE heavy.....	Aprx 11.48 lb		
Smoke (WP).....	Aprx 12 lb		
Smoke (FS).....	Aprx 13 lb		
Illuminating.....	Aprx 10.69 lb		

Italian 81-mm Mortar Model 1935

GENERAL DESCRIPTION AND COMMENT

This weapon is of the conventional muzzle loading smooth bore type, and is very similar to the U. S. and French 81-mm mortars. It is equipped with an optical panoramic sight, which is mounted on the left side of the mortar. The baseplate normally used has three sockets, however, a smaller one-socket baseplate for use on extremely rough ground is used occasionally.

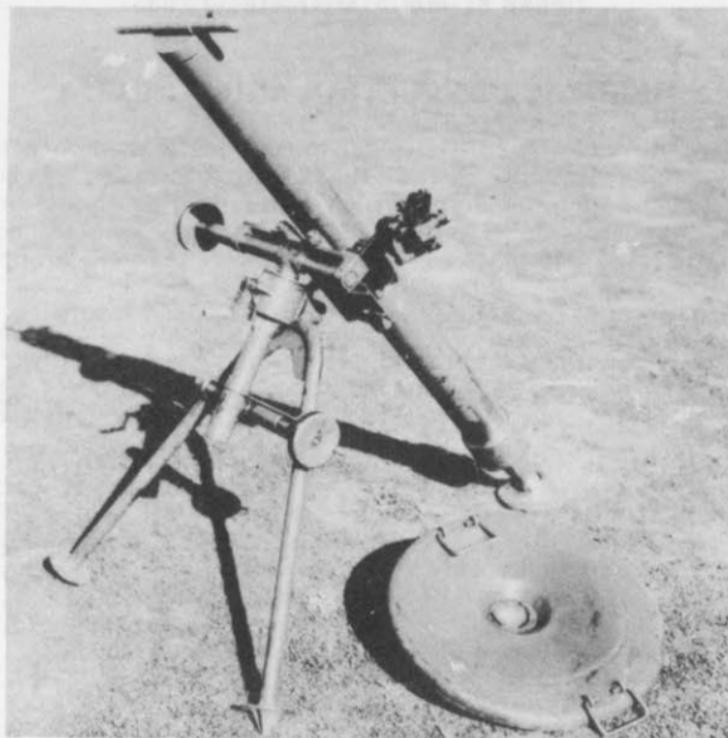
Standard German 81-mm ammunition can be fired from this mortar.



ITALIAN 81-MM MORTAR MODEL 1935.

CHARACTERISTICS

Caliber.....	81-mm	Ammunition weight:	
Weight:		Light HE.....	7.21 lb
(total traveling).....	135 lb	Heavy HE.....	15.1 lb
(in firing position).....	129 lb	Ammunition range (Max):	
Method of firing.....	Drop fire only	Light HE.....	4,429 yd
Rate of fire.....	16-36 rpm (18 practical).	Heavy HE.....	1,640 yd
Elevation limits.....	+40° to +90°	Minimum range:	
Traverse limits.....	150 mils	Light HE.....	110 yd
		Heavy HE.....	68 yd



CZECH 82-MM MORTAR M1948.

Czech 82-mm Mortar M1948

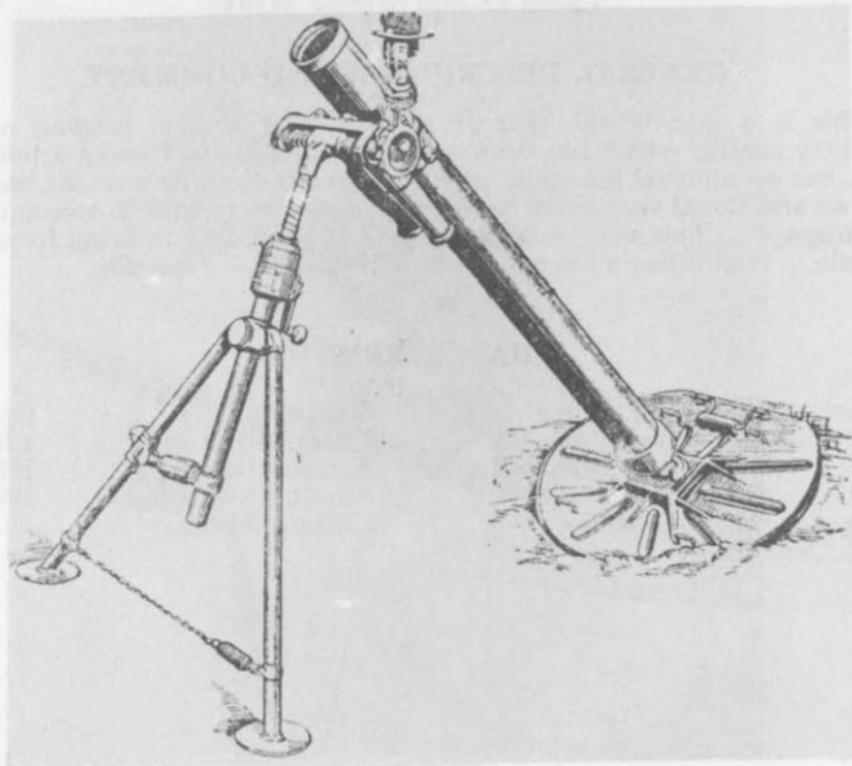
GENERAL DESCRIPTION AND COMMENT

This is a post-World War II conventional muzzle loading medium infantry mortar which has been sold commercially to foreign armies.

It has no unusual recognition features other than its circular baseplate and an additional very small baseplate, shown on mortar in accompanying photograph. This very small baseplate is used only in firing from rocky terrain. It also has a muzzle cover with a carrying handle.

CHARACTERISTICS

Caliber.....	82-mm (3.23 in.)	Sights.....	Optical
Weight.....	(total traveling) 132 lb. in 3 loads.	Effective range.....	4,048 yd
Length.....	52.76 in.	Ammunition types.....	HE
Method of loading.....	Muzzle loading	Ammunition weights.....	HE 7.31 lb
Muzzle velocity.....	728 fps	Elevation limits.....	+45 to +85°



SOVIET 82-MM BATTALION MORTAR M1937.

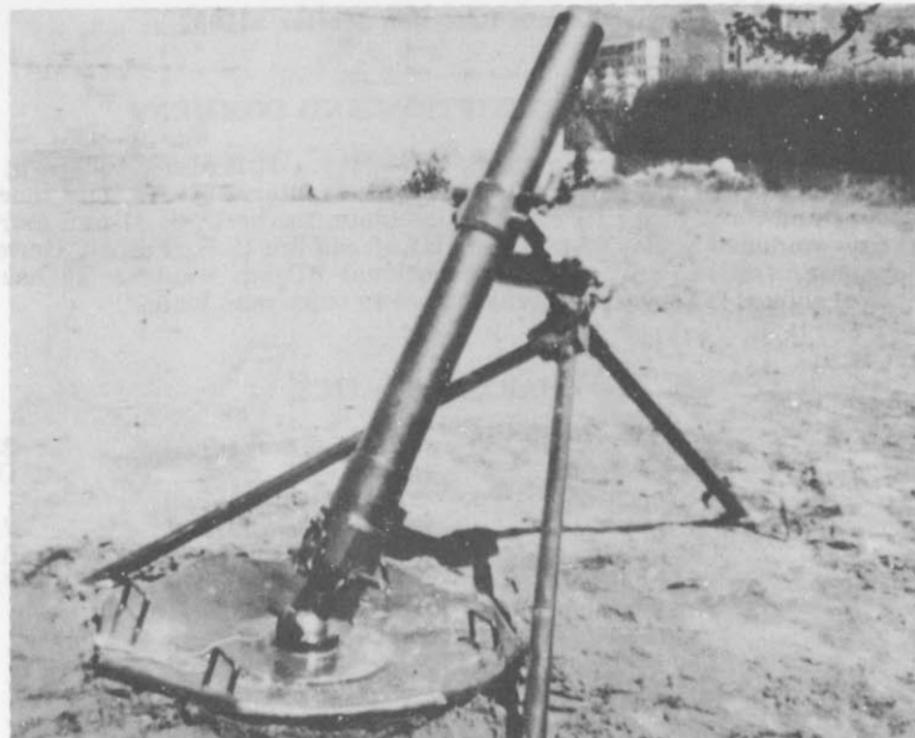
Soviet 82-mm Battalion Mortar M1937

GENERAL DESCRIPTION AND COMMENT

The M1937 is standard in the Soviet Army. It is also standard in the Bloc Forces. It is a conventional muzzle loading, smooth bore mortar, very similar, except for its circular baseplate, to the U. S. 81-mm mortar. It fires standard Soviet 82-mm rounds and can fire U. S., French, German, Japanese, Italian, and other conventional 81-mm rounds. It has an optical sight. The weapon breaks down to three man loads.

CHARACTERISTICS

Caliber.....	82-mm (3.23 in.)	Rate of fire.....	25 rpm
System of operation.....	Muzzle-loaded, drop fired	Sights.....	Optical
Weight in firing position....	123.46 lb.	Ammunition—	
Elevation limits.....	45° to 85°	HE w/M2 fuze.....	7.3 lb
Traverse limits at 45°.....	3° on traversing mechanism.	w/MP fuze.....	6.83 lb
Effective range—		Smoke.....	7.63 lb
HE Maximum.....	3,326 yd		
Minimum.....	110 yd		



SPANISH 120-MM MORTAR M51 (120/13).

Spanish 120-mm Mortar M51 (120/13)

GENERAL DESCRIPTION AND COMMENT

This is a modern heavy mortar. It is a conventional smooth bore muzzle-loading weapon and like other mortars of its weight class is transported on its own two wheels. It is towed muzzle first.

Its chief recognition feature, its tripod mount with the tube positioned between the two longest legs, is most evident when the mortar is in the firing position. In the traveling position only one tripod leg is positioned above the mortar tube.

CHARACTERISTICS

Caliber.....	120-mm (4.7 in.)	Maximum range.....	5,258 yd.
Weight.....	(total traveling) 1,042 lb	Rate of fire.....	4-10 rpm
Length of tube.....	63 in.	Ammunition types.....	HE
Method of loading.....	Muzzle loading	Ammunition weights.....	36.69 lb. (HE, Projectile only)
Muzzle velocity (max.).....	823 fps	Elevation limits.....	+45° to +80°
Sights.....	Optical	Traverse limits.....	33°



SOVIET 120-MM REGIMENTAL MORTARS M1938 AND M1943.

Soviet 120-mm Regimental Mortars M1938 and M1943

GENERAL DESCRIPTION AND COMMENTS

The M1938 and M1943 mortars are standard in the Soviet Army and the Bloc forces. They are employed in the Soviet Army in the infantry support role. The light-weight carriage makes these mortars highly mobile despite their size. They are towed by vehicles which also carry the ammunition. However, they can be manhandled for short distances.

The 120-mm M1938 and M1943 differ from each other in minor details only. Ballistic characteristics and ammunition are identical. The two models can be distinguished by the much greater length of the shock absorber cylinders in the M1943.

CHARACTERISTICS

Caliber.....	120-mm (4.7 in.)	Rate of fire.....	15 rpm
System of operation...	Muzzle loaded, selective drop or trigger fire.	Sights.....	Soviet MP-41 and MP-42 Collimating sights
Weight in firing position.	606 lb.	Ammunition:	
Elevation limits.....	45° to 80°	HE.....	35.05 lb.
Traverse limits.....	3°	Smoke.....	36.38 lb.
Effective range w/HE..	6,236 yd.	Incendiary.....	38 lb.



ISRAELI 120-MM MORTAR MK 2 M1953.

Israeli 120-mm Mortar MK 2 M1953

GENERAL DESCRIPTION AND COMMENT

This mortar is a copy of the Finnish 120-mm Mortar 1940 which is a Tampella design. It has a two wheeled carriage.

CHARACTERISTICS

Caliber.....	120-mm (4.7 in.)	Ammunition weight (HE, Projectile only).....	27.94 lb
Weight (total traveling).....	792 lb.	Elevation limits.....	36°-87°
(in firing position).....	539 lb.	Traverse limits.....	(at 45° Elevation)
Muzzle velocity.....	1,131 fps		-6°
Maximum range.....	7,439 yd		



FRENCH 120-MM MORTAR (BRANDT).

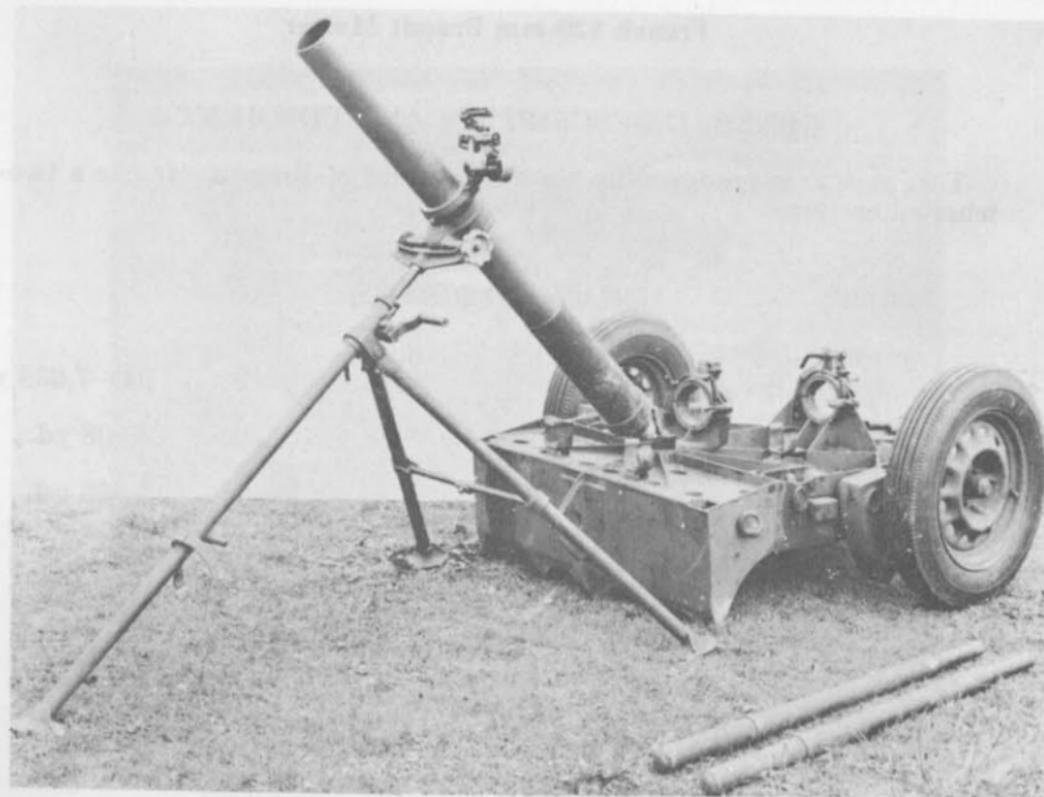
French 120-mm Brandt Mortar

GENERAL DESCRIPTION AND COMMENT

This mortar is produced by the French firm of Brandt. It has a two-wheeled carriage.

CHARACTERISTICS

Caliber.....	120-mm	Range:	
Weight.....	(total traveling) 797 lb.	With HE shell	347-7,658 yd.
Rate of Fire.....	Drop fire—8 rpm	(light).	
	Trigger—6 rpm	With HE shell	5,908 yd.
Elevation limits.....	45° to 85°	(heavy).	
Ammunition weights:		With AP shell.....	7,658 yd.
HE.....	28.3 lb.		
HE.....	38.6 lb.		
AP.....	28.3 lb.		



BRITISH 4.2 INCH MORTAR.

British 4.2Inch Mortar

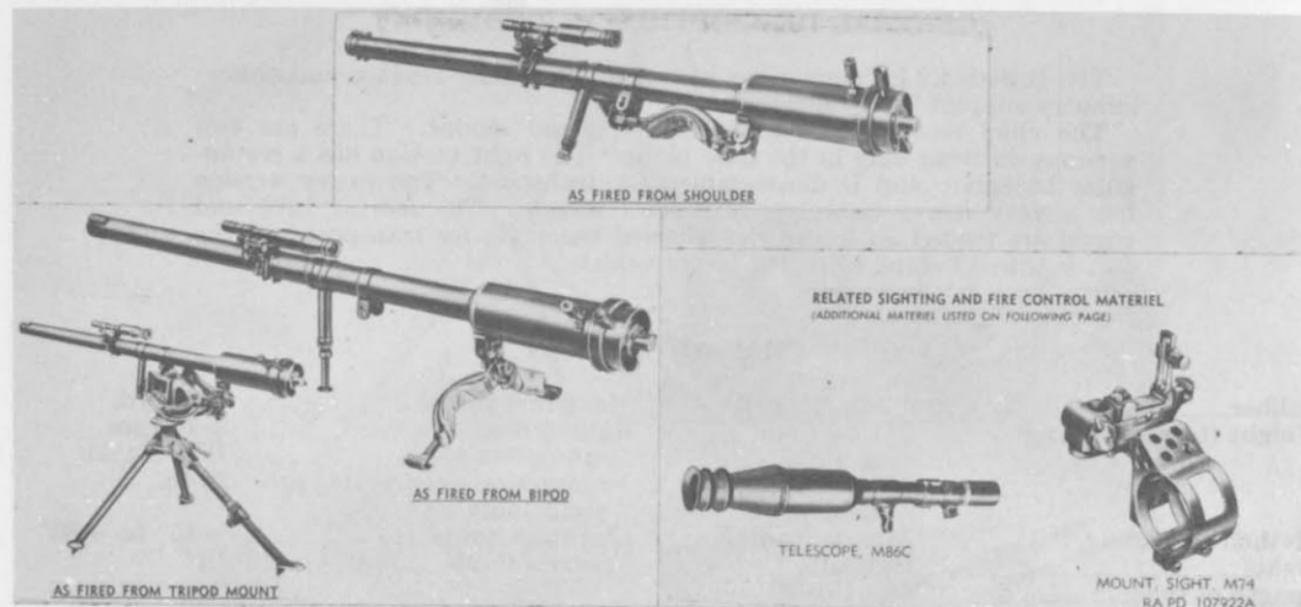
GENERAL DESCRIPTION AND COMMENT

The British 4.2 in. mortar is a conventional muzzle-loading smoothbore infantry support heavy mortar.

The chief recognition feature is the tripod mount. There are two versions differing only in the base plate. The light version has a rectangular baseplate and is disassembled for transport. The heavy version has a very heavy baseplate with two wheels. The mortar tube and tripod are loaded on top of the wheeled baseplate for transport and the unit is towed behind a jeep or larger vehicle.

CHARACTERISTICS

Caliber.....	4.2 in.	Maximum range.....	4,100 yd.
Weight (total traveling).....	271 lb. (light version) 975 lb. (heavy version)	Rate of fire.....	8-10 rpm
Method of loading.....	Muzzle loading	Ammunition types.....	HE, Smoke
Sights.....	Optical	Ammunition weight (HE, projectile only).....	20 lb.
Length of tube.....	68.1 in.	Elevation limits.....	+45° to +80°
		Traverse limits.....	10°



UNITED STATES 57-MM RECOILLESS RIFLES T-15E13 AND M18.

U. S. 57-mm Recoilless Rifles T15E13 and M18

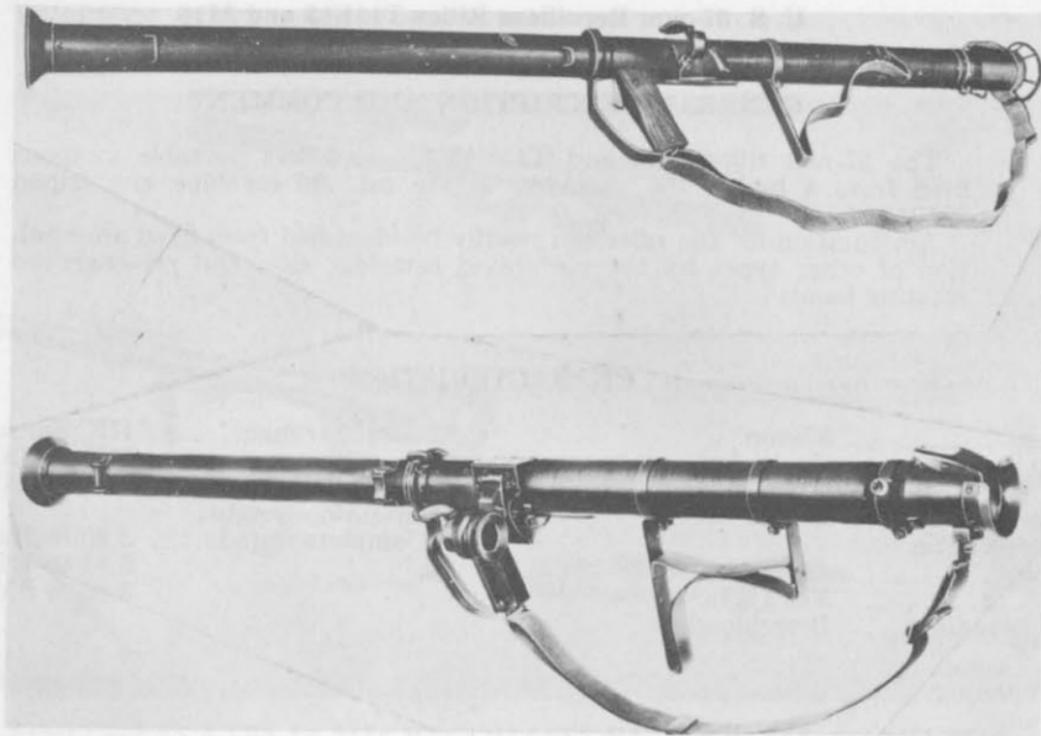
GENERAL DESCRIPTION AND COMMENT

The 57-mm rifles M18 and T15E13 are recoilless portable weapons fired from a bipod, the shoulder, or the cal. .30 machine gun tripod M1917A1.

Ammunition for the rifles can readily be identified from fixed ammunition of other types by the perforated cartridge case and pre-engraved rotating band.

CHARACTERISTICS

Caliber.....	57-mm	Maximum range.....	HE, Smoke.. 4,340 yd
Operation.....	single-shot		HE, AT..... 4,300 yd
Weight:		Ammunition types.....	HE, HEAT, Smoke
(for shoulder firing) ..	44 lb 7 oz	Ammunition weight:	
(for mounting on tripod).....	40 lb 4 oz	Complete round.....	5.30 lb HE
Length.....	5 ft 1 1/4 in.		5.64 lb HEAT
Method of loading.....	Breechloading		5.66 lb SMOKE



UNITED STATES 2.36-INCH ROCKET LAUNCHER M9, M9A1, AND M18.

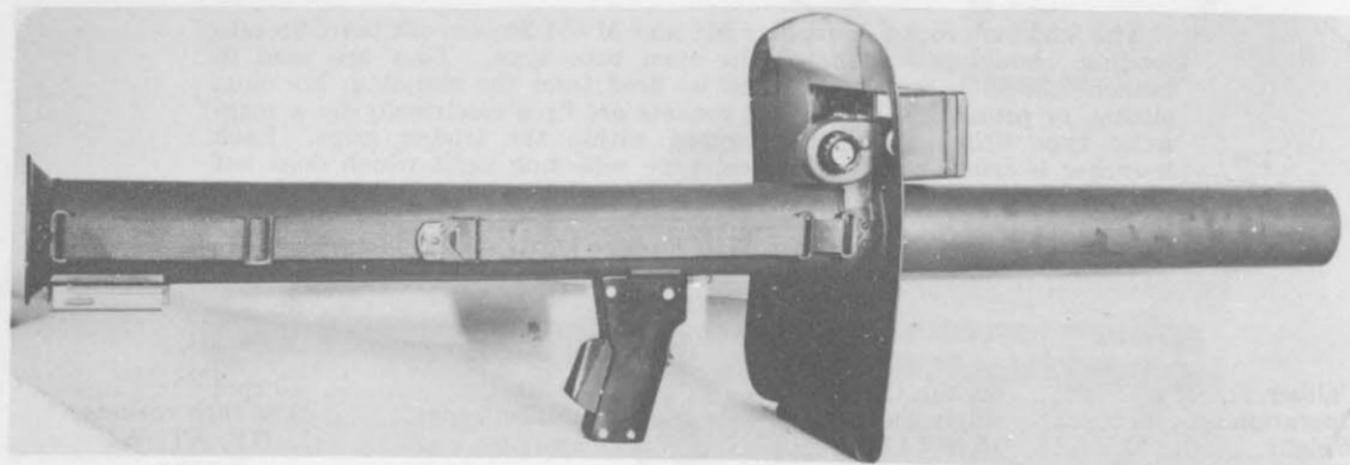
U. S. 2.36 Rocket Launchers M9, M9A1 and M18

GENERAL DESCRIPTION AND COMMENT

The 2.36 inch rocket-launchers M9 and M9A1 are smooth bore, breech-loading, shoulder weapons of the open tube type. They are used to launch 2.36 inch rockets and can be fired from the standing, kneeling, sitting, or prone positions. The rockets are fired electrically by a magnetic type firing mechanism housed within the trigger grips. Each launcher is issued with an optical type reflecting sight which does not have a rubber eyepiece. These launchers are two piece units and can be disassembled for ease in carrying. The launchers M9 and M9A1 are made of steel and the launcher M18 is made of aluminum alloy.

CHARACTERISTICS

Caliber.....	60-mm (2.36 in.)	Rate of fire.....	10 rpm
Operation.....	single-shot	Ammunition types.....	2.36 inch rockets: HE, AT, WP Smoke, HC Smoke, In- cendiary
Weight.....	15 lb 14 oz	Range.....	600 yd
Length:			
Assembled for firing....	5 ft 1 in.		
Assembled for carrying..	2 ft 7½ in.		
Method of loading.....	Breechloading		
Effective range.....	200 yd		



FRENCH 73-MM AT ROCKET LAUNCHER M1950.

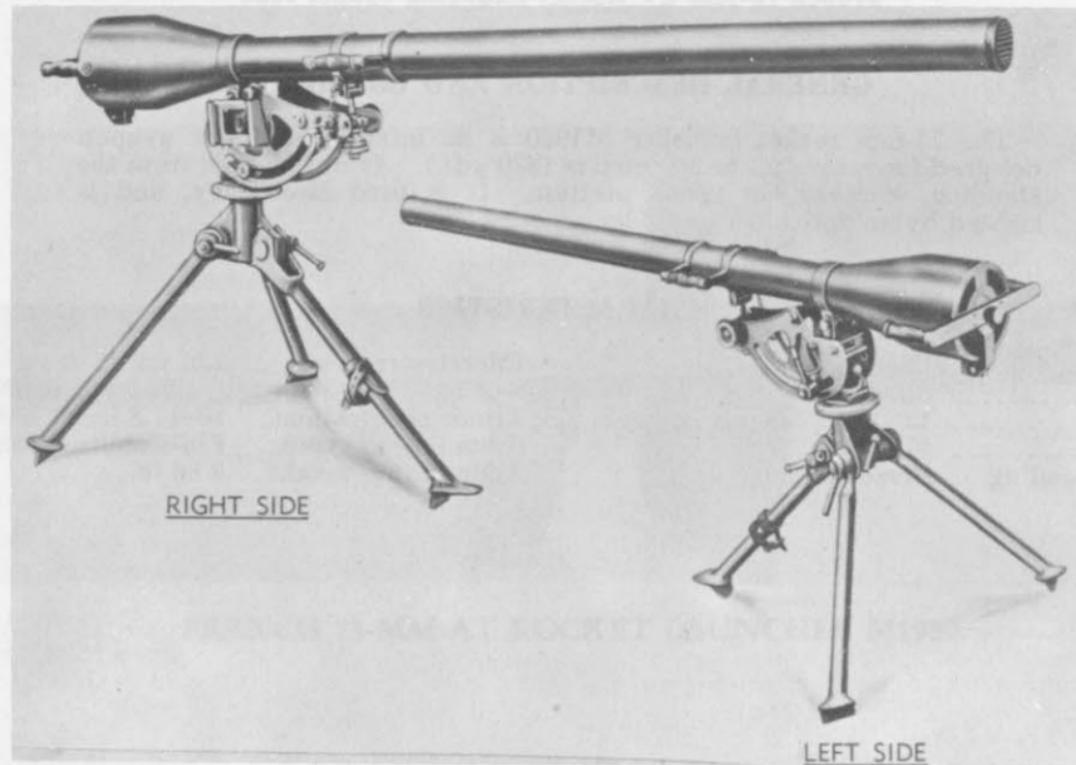
French 73-mm AT Rocket Launcher Model 1950

GENERAL DESCRIPTION AND COMMENT

The 73-mm rocket launcher M1950 is an infantry antitank weapon designed for ranges up to 300 meters (330 yds.). It can be fired from the standing, kneeling, or prone position. It is fired electrically, and is sighted by an optical range finder.

CHARACTERISTICS

Caliber.....	73-mm	Effective ranges.....	220 yd. (330 yd. at stationary target).
Operation.....	Single-shot	Armor penetration...	10-11.8 in. at normal
Weight.....	13¼ lb	Ammunition types...	Fin-stabilized rocket
Length.....	47.45 in.	Ammunition weight...	2.86 lb.
Method of loading...	Breechloading		



UNITED STATES 75-MM RECOILLESS RIFLES T21 AND M20.

U. S. 75-mm Recoilless Rifles, T21 and M20

GENERAL DESCRIPTION AND COMMENT

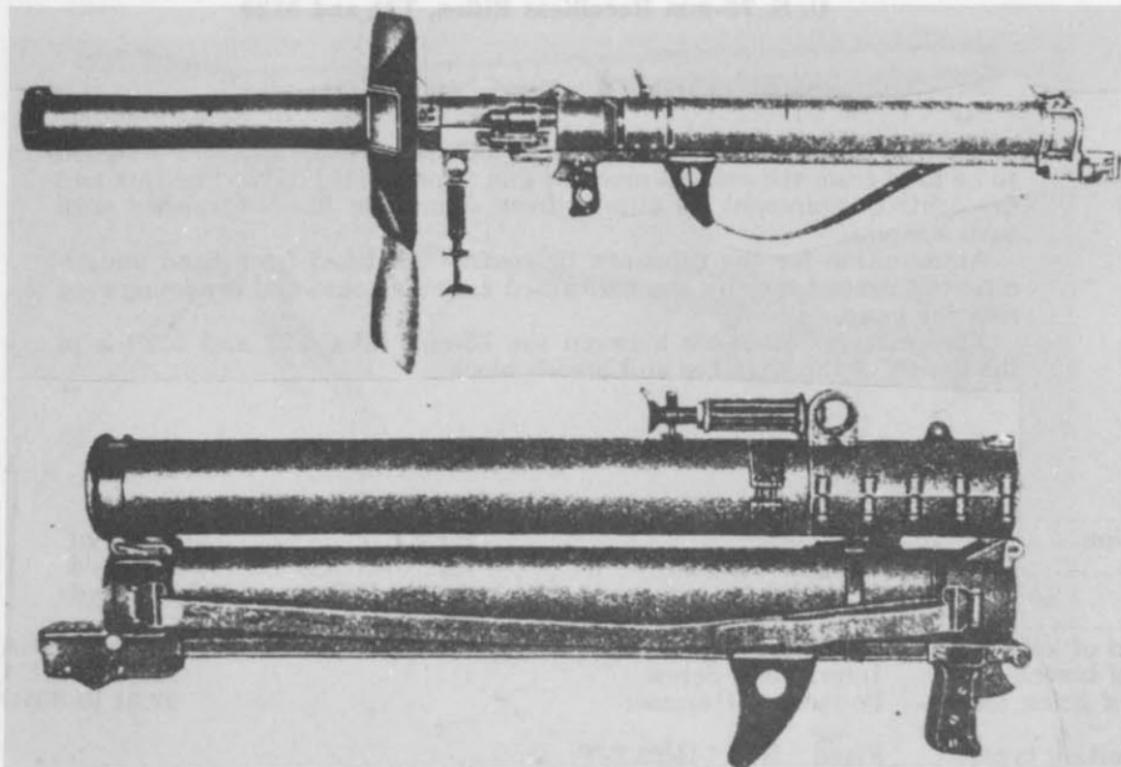
The 75-mm rifles T21 and M20 are recoilless, portable weapons designed to be fired from the cal. .30 machine gun tripod M1917A1. Sighting and fire control equipment for either direct or indirect fire is furnished with each weapon.

Ammunition for the rifles can be readily identified from fixed ammunition of other types by the perforated cartridge case and a preengraved rotating band.

The primary difference between the 75-mm rifles T21 and M20 is in the design of the chamber and breech block.

CHARACTERISTICS

Caliber.....	75-mm (2.95 in.)	Range:	
Operation.....	Single-shot	HEAT-T.....	7,000 yd
Weight.....	(w/sight bracket)	HE, SMOKE.....	6,955 yd
	114 lb, 8oz	Smoke WP.....	7,020 yd
Length.....	6 ft 10 in.	Ammunition weights:	
Method of loading.....	Breechloading	Complete round.....	20.54 lb HEAT-T
Type of breech block.....	Interrupted Screw		21.86 lb HEAT
Type of firing mechanism.....	Percussion Hammer		22.61 lb SMOKE
Ammunition types.....	Fixed HE, HEAT-T, Smoke		



BELGIAN 83-MM AT ROCKET LAUNCHER "BRANDT ENERGA BLINDICIDE M51."

Belgian 83-mm Antitank Rocket Launcher "Brandt Energa Blindicide 51"

GENERAL DESCRIPTION AND COMMENT

This is a light portable infantry antitank weapon similar to and comparable in performance to the U. S. 3.5-inch rocket launcher. Although designed primarily as an antitank weapon, it is also capable of firing anti-personnel HE rockets. It has a mechanical firing mechanism, the hammer of which is cocked by hand. A protective shield is provided as a precaution against unburnt propellant.

CHARACTERISTICS

Caliber.....	83-mm	Accuracy.....	90% zone 5 ft. dia. at 200 yds.
Operation.....	Single-shot rocket launcher.	Armor penetration.....	13.8 in. at normal 6 in at 64°.
Weight.....	(total traveling) 16 lb	Ammunition types.....	HEAT, HE
Method of loading.....	Breechloading	Rocket weight.....	3.5 lb
Muzzle velocity.....	600 fps		
Firing mechanism.....	Mechanical		

GENERAL DESCRIPTION AND COMMENT

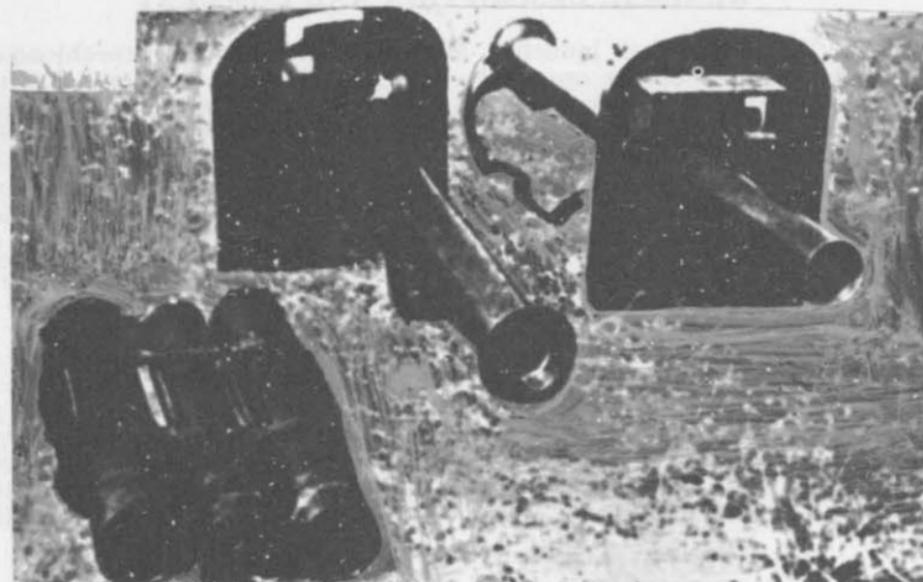
The 3.5-inch rocket launcher M20 is a smoothbore, breechloading, shoulder weapon of the open tube type. It is used to launch 3.5-inch smoke rockets and high explosive AT rockets against ground targets and can be fired from the standing, kneeling, sitting, or prone position. The rockets are fired electrically by a magneto-type firing mechanism in the trigger grip. It is equipped with an optical type reflecting sight having a bellows type rubber eyepiece. This launcher is a two piece aluminum alloy unit and can be disassembled for ease in carrying.

CHARACTERISTICS

Caliber.....	3.5 in.	Method of loading.....	Breechloading
Operation.....	Single-shot	Effective range.....	200 yd
Weight.....	15 lb	Rate of fire.....	10 rpm
Length:		Armor penetration.....	11 in. at 0°
assembled for firing... ..	5 ft. ¼ in.	Ammunition types.....	3.5-in. rockets: HE, HEAT, SMOKE.
assembled for carry- ing.	2 ft. 6 in.		



UNITED STATES 3.5-IN. ROCKET LAUNCHER M20.



ISRAELI 3.5-IN. AT ROCKET LAUNCHER "YAKA LANCE."

Israeli 3.5 inch AT Rocket-Launcher "YAKA LANCE"

GENERAL DESCRIPTION AND COMMENT

This weapon is a modified version of the U. S. 3.5 inch rocket launcher M20. The modification consists of the addition of an 18 inch x 12 inch protective shield.

CHARACTERISTICS

Caliber.....	3.5 inch	Rate of fire.....	10 rpm
Operation.....	Single-shot rocket launcher	Armor penetration.....	11 in. at 0°
Weight (w/o shield).....	15 lb	Ammunition types.....	HE, HEAT, Smoke
Method of loading.....	Breechloading	Ammunition weights.....	HEAT 8.6 lb
Muzzle velocity.....	330 fps		SMOKE (WP) 9.0 lb
Effective range.....	200 yd		



CZECH RECOILLESS ANTITANK GRENADE LAUNCHER P-27 "PANCEROVKA."

Czech Recoilless AT Grenade Launcher P-27 "Pancerovka"

GENERAL DESCRIPTION AND COMMENT

The "Pancerovka" is a smoothbore, recoilless infantry antitank weapon. It fires a shaped charge fin-stabilized projectile. It has a bipod mount.

CHARACTERISTICS

Caliber (launching tube)	45-mm	Effective range.....	Against moving armored targets 80-85 yds
System of operation...	Muzzle-loaded, electrically ignited, single-shot, recoilless.	Effective rate of fire...	4 rpm
Length over-all.....	43 in.	Ammunition.....	Fin-stabilized HEAT projectile
Weight unloaded.....	14.1 lb	Armor penetration.....	170-250-mm at 0°
Sights:			
Front.....	Folding hooded bead		
Rear.....	Folding graduated 50-150 m		



CZECH 82-MM RECOILLESS AT GUN T-21 "TARASNICE."

Czech 82-mm Recoilless AT Gun T-21 "Tarasnice"

GENERAL DESCRIPTION AND COMMENT

The "Tarasnice" is a single shot, smoothbore, recoilless infantry anti-tank weapon. It fires an 82-mm shaped charge (HEAT), fin stabilized projectile. It has a light two-wheeled carriage and a towing handle which folds back along the barrel when not in use. It can be fired from its carriage or from the shoulder.

CHARACTERISTICS

Caliber.....	82-mm (3.23 in.)	Effective range.....	Against moving targets—330 yd
System of operation...	Breech-loaded, recoilless, electrically ignited.		Against stationary targets—660 yd
Length over-all.....	58 in.	Effective rate of fire...	5-6 rpm (est)
Weight (w/telescope and wheeled mount).	44 lb	Ammunition.....	82-mm HEAT, fin-stabilized projectile in perforated cartridge case
Sights.....	Iron and Telescopic	Armor penetration.....	6.7 to 10 in. at 0°



SOVIET ANTITANK GRENADE LAUNCHER, RPG-2.

Soviet Recoilless AT Grenade Launcher, RPG-2

GENERAL DESCRIPTION AND COMMENT

The RPG-2 is a simple, muzzle-loaded, shoulder-fired smoothbore, recoilless launcher which fires a fin-stabilized HEAT round for close-in defense against armor. It is very similar to the Czechoslovak P-27 (Pancerovka) except that it has no bipod mount.

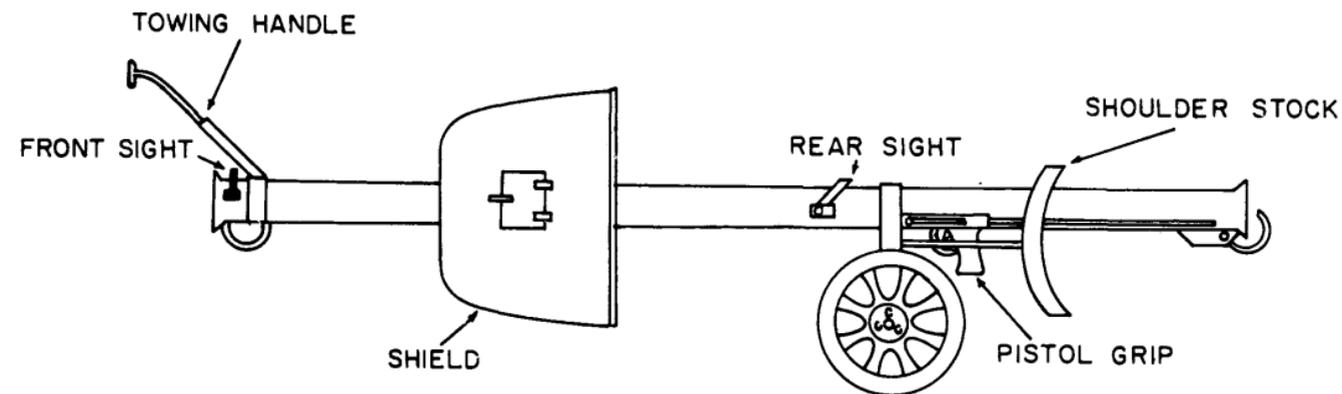
CHARACTERISTICS

Caliber:		Effective range.....	110-165 yd
(of grenade warhead) ..	80-mm	Armor penetration	7.1 in. at 0° (est.)
(of launcher tube)	40-mm		
Weight:			
(launcher)	6.1 lb		
(HEAT grenade)	3.3 lb		

Soviet 82-mm Antitank Grenade Launcher, SPG-82

GENERAL DESCRIPTION AND COMMENT

The SPG-82 is a simple infantry AT rocket launcher mounted on a light two-wheeled carriage and equipped with a folding shield. It fires both HE and HEAT rockets. It can be recognized easily by its carriage, the position of the shield, located halfway along the tube, the pistol grip firing mechanism and the sickle-shaped percussion hammer.



ARTIST'S CONCEPTION

SOVIET 82-MM ANTITANK ROCKET LAUNCHER, SPG-82.

CHARACTERISTICS

Caliber.....	82-mm (3.23 in.)	Practical rate of fire.....	2 rds per min
Weight (unloaded).....	66 lb	Effective range (w/HEAT).....	300 yd
Length over-all.....	59 in.	Armor penetration.....	7.1 in. at 0° (est)



SOVIET 82-MM RECOILLESS ANTITANK GUN.

Soviet 82-mm Recoilless AT Gun

GENERAL DESCRIPTION AND COMMENT

This weapon is, unlike the U. S. recoilless rifles, a smooth-bore weapon which fires a fin-stabilized HEAT projectile. Otherwise it is quite similar to the U. S. 75-mm rifle. It is fired from a tripod mount which folds and to which an axle with two small wheels is attached for man transport. It is hand-towed by the muzzle.

CHARACTERISTICS

Caliber.....	82-mm (3.23 in.)	Maximum range w/HE.....	4,700 yd (est)
Weight.....	187 lb	Rate of fire.....	2-4 rds per min
Effective range vs armor.....	275 yd (est)	Armor Penetration.....	9-12 in. (est)



SOVIET 107-MM RECOILLESS ANTITANK GUN, B-11.

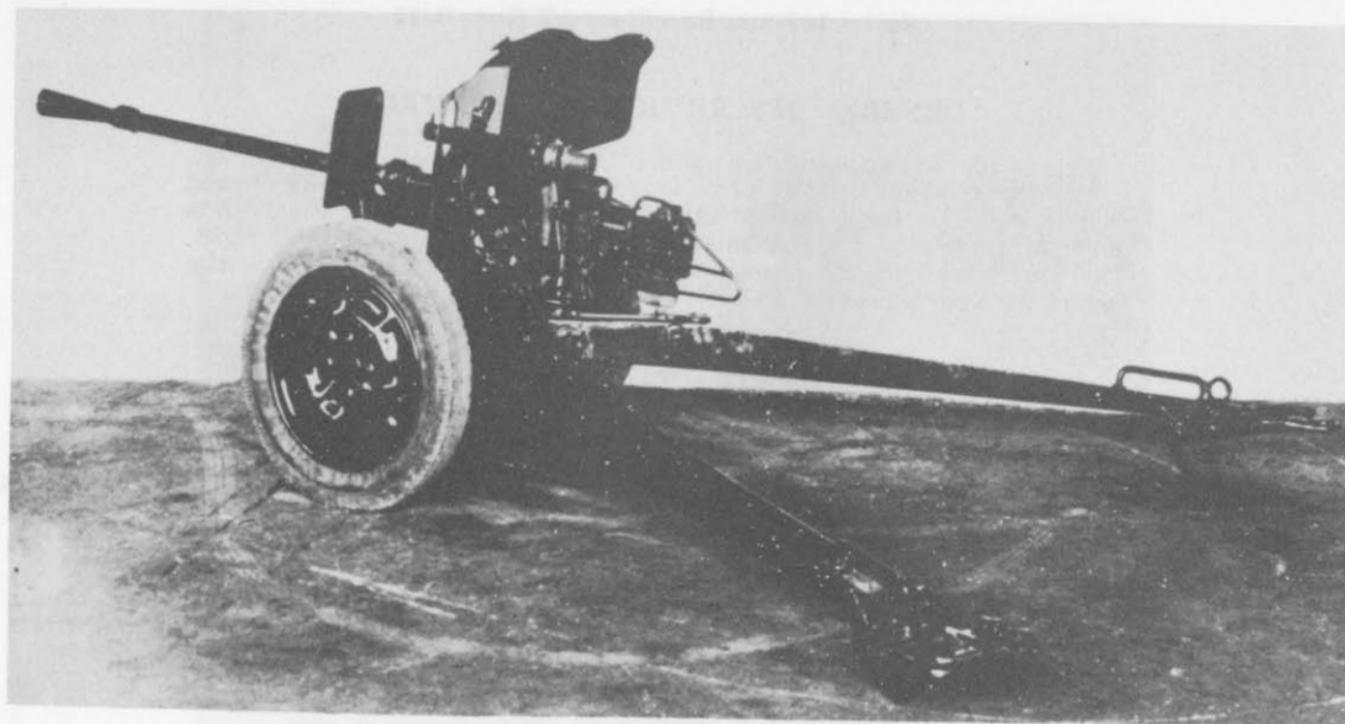
Soviet 107-mm Recoilless AT Gun, B-11

GENERAL DESCRIPTION AND COMMENT

This is the Soviet equivalent of the U. S. 106-mm recoilless rifle but, unlike that weapon, the B-11 is smooth bore. This weapon is towed muzzle foremost by a lunette attached to the muzzle. It has both a mechanical sight and a combination direct-indirect fire telescopic sight. The wheels are removed when the gun is put into firing position and the front tripod leg is lowered from its traveling position under the barrel.

CHARACTERISTICS

Caliber.....	107-mm (4.2 in.)	Maximum range (w/HEAT).....	7,000 yd
Weight.....	675 lb	Rate of fire.....	4 to 5 rds per min
Effective range (w/HEAT)	Aprx 500 yd vs. mov- ing targets	Armor penetration (w/HEAT)	13 to 15 in. at 0° (est)
	Aprx 900 yd vs. sta- tionary targets		



FRENCH 25-MM ANTITANK GUN M1937.

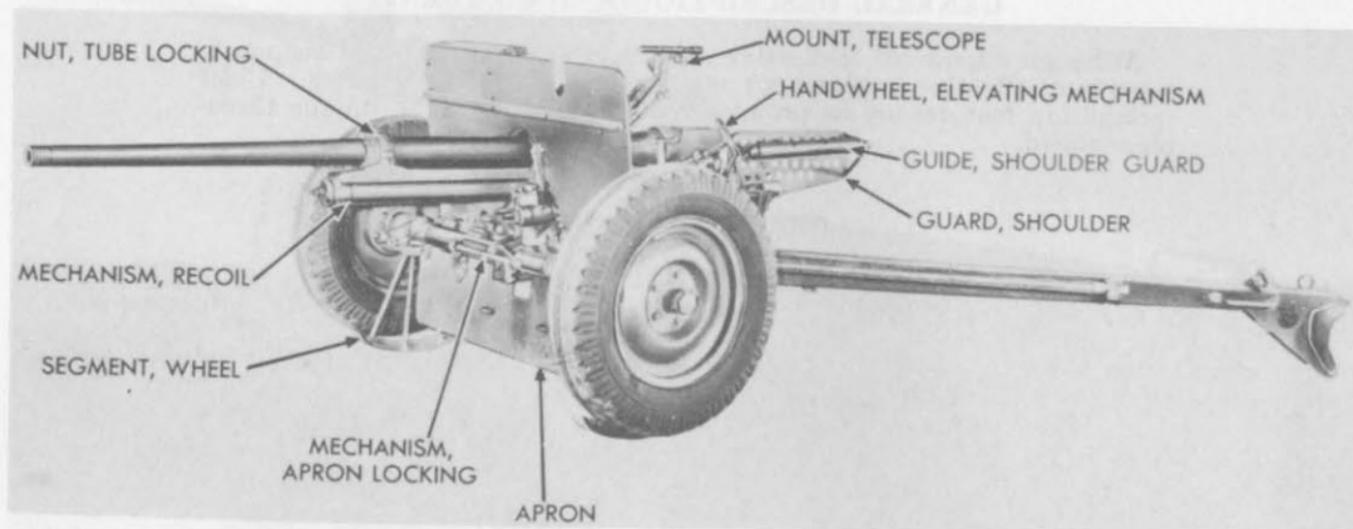
French 25-mm Antitank Gun M1937

GENERAL DESCRIPTION AND COMMENT

Although considered ineffective against modern armor, this weapon is capable of effective employment against lightly armored vehicles. Chief recognition features are its prominent flash hider and the unique three-piece shield.

CHARACTERISTICS

Caliber.....	25-mm (0.98 in.)	Rate of fire.....	20 rpm (Max)
Muzzle velocity (AP projectile)	2,953 fps	Elevation limits.....	-10° to +26°
Weight of projectile (AP)---	0.7 lb	Total traverse.....	37°
Weight (in traveling position)	683 lb	Armor penetration (at 550 yards)	0.79 in. at 30°.



UNITED STATES 37-MM ANTITANK GUN M3A1.

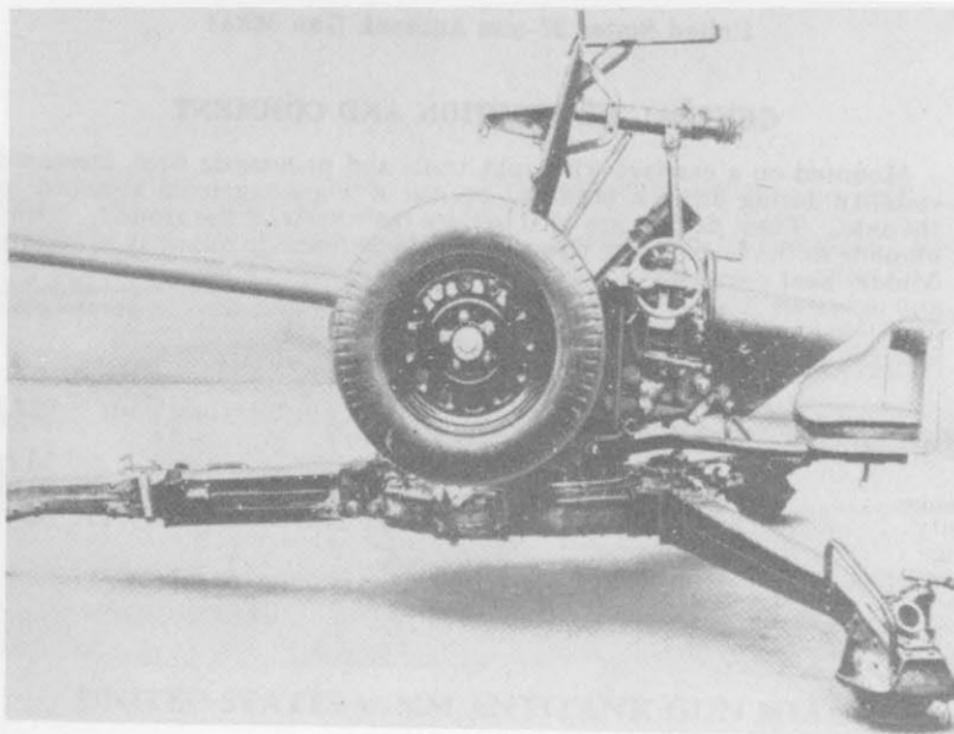
United States 37-mm Antitank Gun M3A1

GENERAL DESCRIPTION AND COMMENT

Mounted on a carriage with split trails and pneumatic tires, increased stability during firing is obtained by use of wheel segments attached to the axle. These devices are used to raise the wheels off the ground. Long obsolete in the U. S. Army, this weapon is still found in quantity in certain Middle East countries.

CHARACTERISTICS

Caliber.....	37 mm (1.46 in.)	Weight (in traveling position).....	912 lb
Muzzle Velocity (AP projectile).....	2,900 fps	Rate of fire.....	25 rpm
Maximum Range.....	12,850 yd	Elevation limits.....	-10° to +15°
		Total Traverse.....	60°



BRITISH 2-POUNDER ANTITANK GUN MK 1.

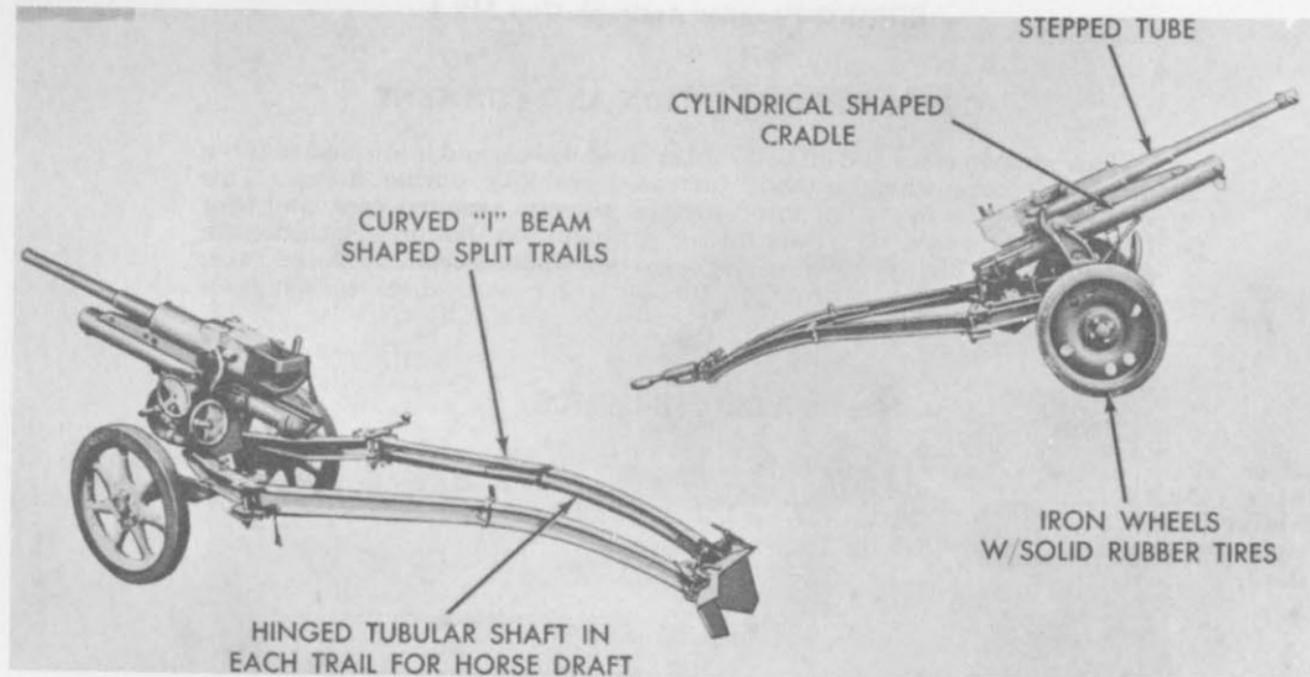
British 2-Pounder Antitank Gun Mk 1

GENERAL DESCRIPTION AND COMMENT

This weapon is carried on two rubber tired wheels and is lowered to three outrigger jacks which provide increased stability during firing. This weapon may be found mounted in tank turrets, armored cars, and in a few isolated cases on truck beds. Recognition features include the gunner's seat, high position of the telescope sight in relation to the tube, and the spidery appearance of the outrigger and wheel combination when in firing position.

CHARACTERISTICS

Caliber.....	40-mm (1.58 in.)	Rate of fire.....	22 rpm
Muzzle Velocity.....	2,616 fps	Elevation limits.....	-13° to +15°
Effective Range.....	500 yd	Total Traverse.....	360°
Weight (in traveling position).	1,848 lb		



ITALIAN 47-MM INFANTRY ANTITANK GUN M1935(47/32).

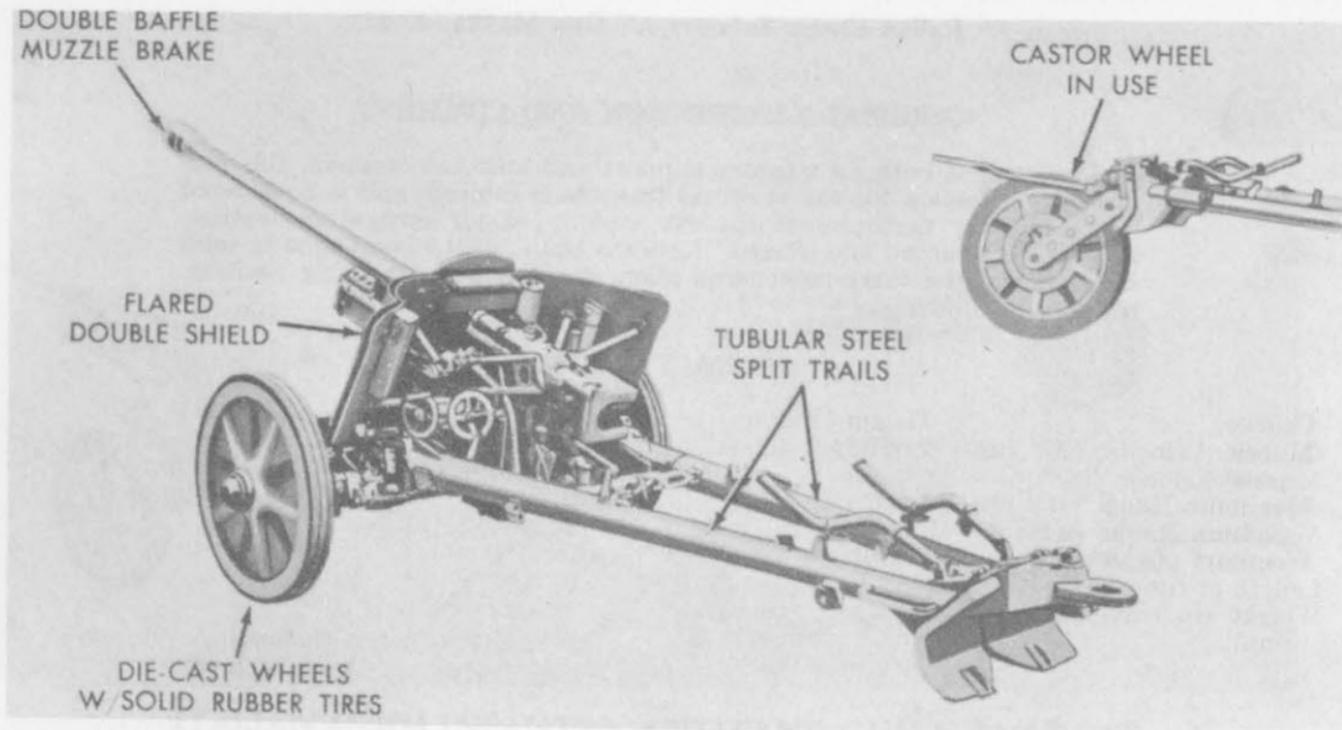
Italian 47-mm Infantry AT Gun M1935 (47/32)

GENERAL DESCRIPTION AND COMMENT

Designed as both an infantry support and antitank weapon, this gun has no protection for the crew, its traverse is limited, and is considered to have poor performance against armor. Major recognition features include: the curved and hinged "I" beam trails, steel wheels tired in solid rubber, and the three-point suspension afforded when in firing position.

CHARACTERISTICS

Caliber.....	47-mm (1.85 in.)	Weight (in traveling position).....	660 lb
Muzzle Velocity (AP projectile).....	2,067 fps	Rate of fire.....	7-8 rpm
Maximum Range (HE projectile).....	3,800 yd	Armor penetration (at 656 yards).....	1.7 in. at 0°
Weight of projectile (AP)....	5.25 lb		



GERMAN 50-MM ANTITANK GUN M38.

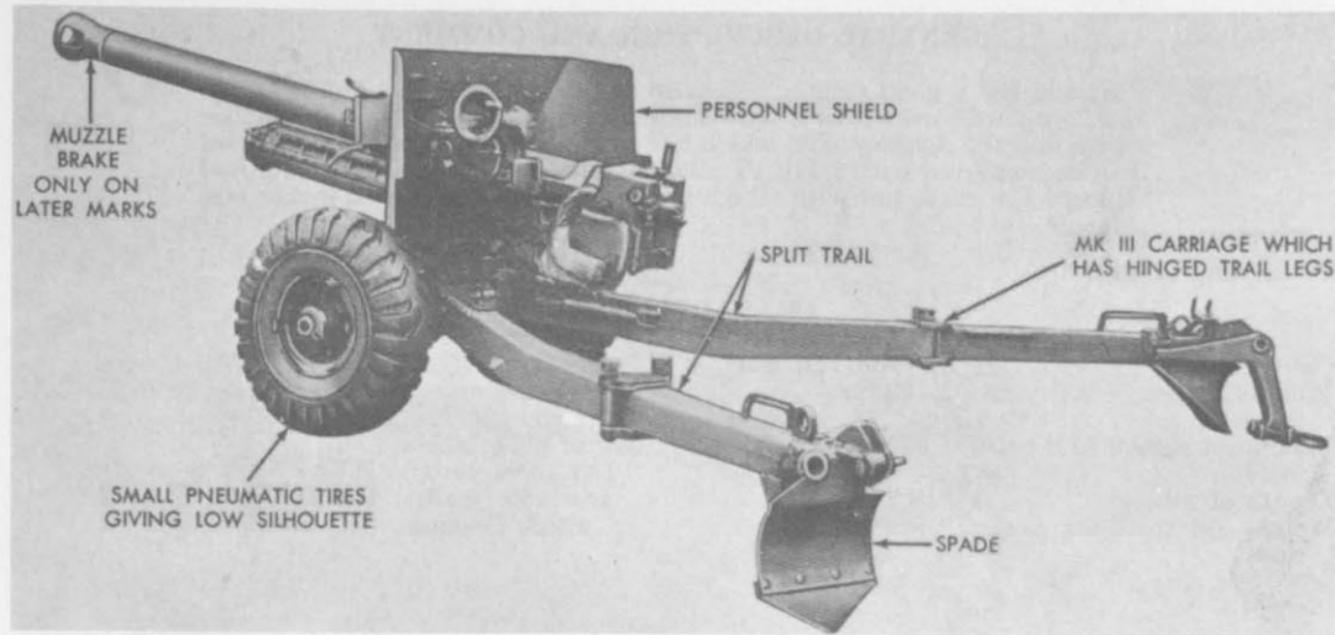
German 50-mm Antitank Gun M38

GENERAL DESCRIPTION AND COMMENT

Considered a good antitank weapon as late as 1941, this gun is recognized by its die-cast wheels with solid rubber tires, double baffle muzzle brake, and the double shield which has a pronounced flare. This weapon may be employed with a HEAT stick grenade having a limited range of 150 yards but with a high armor penetration of seven inches (see below).

CHARACTERISTICS

Caliber.....	50-mm (1.97 in.)	Rate of fire.....	12 to 15 rpm
Muzzle Velocity (AP projectile).....	2,739 fps	Elevation limits.....	-8° to +27°
Maximum Range (AP projectile).....	1,640 yd	Total traverse.....	65°
Length of tube.....	118.1 in.	Armor penetration:	
Weight (in traveling position).....	2,341 lb	(At 1,094 yards): HVAP.....	1.5 in. at 30°
		(At 150 yards): HEAT Stick Grenade.....	7.09 in. at 30°



BRITISH 6-POUNDER ANTITANK GUN.

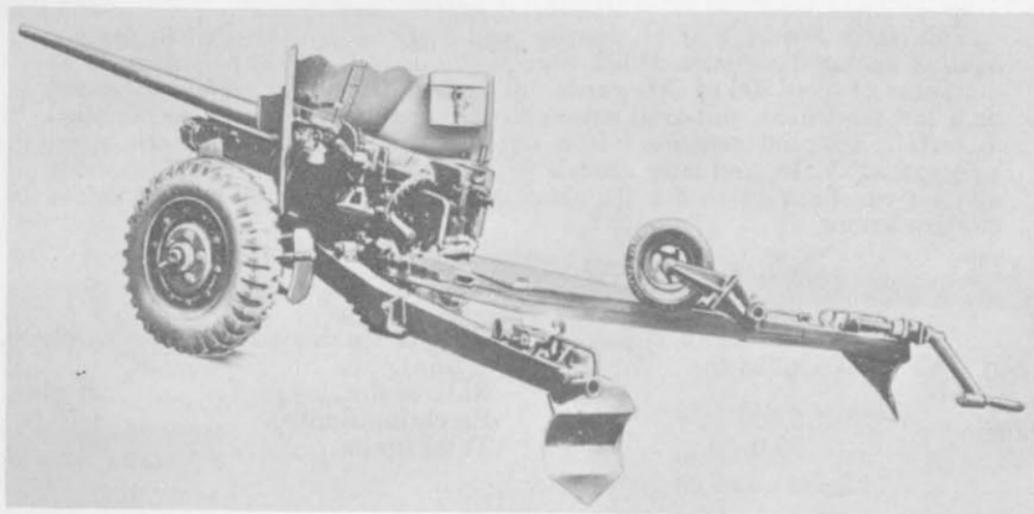
British 6-Pounder Antitank Gun

GENERAL DESCRIPTION AND COMMENT

This early World War II weapon was designed by the British for use against armored vehicles which were not vulnerable to the 2-pounder at distances of over 200 or 300 yards. The 6-pounder is normally mounted on a low 90-degree split-trail wheeled carriage, however it is also installed in certain armored vehicles. It is equipped with small pneumatic tires, a personnel shield, and later models with a muzzle brake. The 6-pounder was an excellent piece for its class, although of limited value against modern armor.

CHARACTERISTICS

Caliber.....	57 mm (2.24 in.)	Weight (in traveling position).....	2,521 lb.
Muzzle velocity (AP projectile).....	2,725 fps	Rate of fire.....	20 rpm
Maximum range.....	5,500 yd	Elevation limits.....	-5° to +15°
Length of tube.....	96 in.	Total limits.....	90°



UNITED STATES 57-MM GUN, M1.

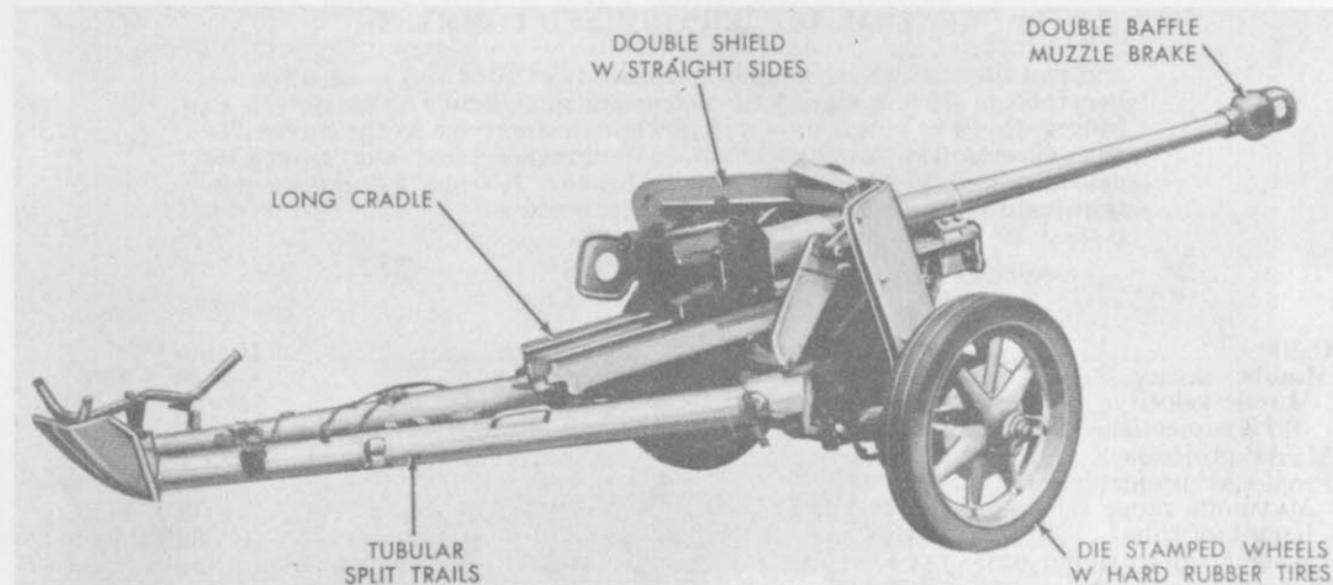
United States 57-mm Gun, M1

GENERAL DESCRIPTION AND COMMENT

This now obsolete gun is a light, mobile antitank weapon capable of penetrating World War II medium armor and is employed in direct fire. It may be traversed by handwheel action or may be freely traversed by pushing or pulling the padded traversing lever for rapid laying. The gun is mounted in a single-axle, two-wheeled, split-trail carriage which has a low center of gravity in the traveling position. This U. S. weapon is a copy of the British 6-pounder Antitank Gun.

CHARACTERISTICS

Caliber.....	57 mm (2.24 in.)	Length of tube.....	9 ft 9 in.
Muzzle velocity:		Weight.....	3,565 lb
HE projectile.....	2,720 fps	Rate of fire.....	15 rpm
AP projectile.....	2,700 fps	Elevation limits.....	-5° to +15°
Maximum range:		Total traverse.....	90°
HE.....	12,670 yd		
AP.....	13,555 yd		



GERMAN 75-MM ANTITANK GUN M40.

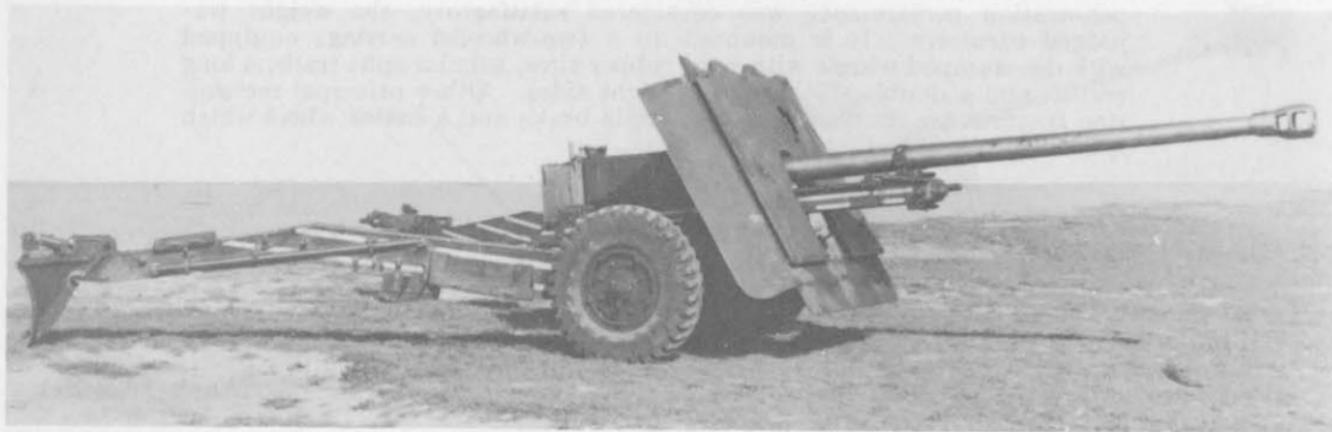
German 75-mm Antitank Gun M40

GENERAL DESCRIPTION AND COMMENT

This weapon was introduced into service in the German Army in 1941 and was adopted as their standard infantry antitank gun. Although its penetration performance was considered satisfactory, the weight was judged excessive. It is mounted on a two-wheeled carriage equipped with die-stamped wheels with hard rubber tires, tubular split trails, a long cradle, and a double shield with straight sides. Other principal recognition features are its double-baffle muzzle brake and a castor wheel which is used for manhandling purposes.

CHARACTERISTICS

Caliber.....	75-mm (2.95-in.)	Rate of fire.....	12 to 15 rpm
Muzzle velocity:		Elevation limits.....	-6° to +22°
HE projectile.....	1,804 fps	Total limits.....	65°
AP projectile.....	2,461 fps	Armor penetration (at 1,094	
HVAP projectile.....	3,051 fps	yards).....	Angle of attack
Maximum range HE.....	8,861 yd		30°:
Length of tube.....	145.4 in.	(AP).....	3.23 in.
Weight (in traveling posi-		(HVAP).....	3.43 in.
tion).....	3,307 lb.		



BRITISH 17-POUNDER ANTITANK GUN.

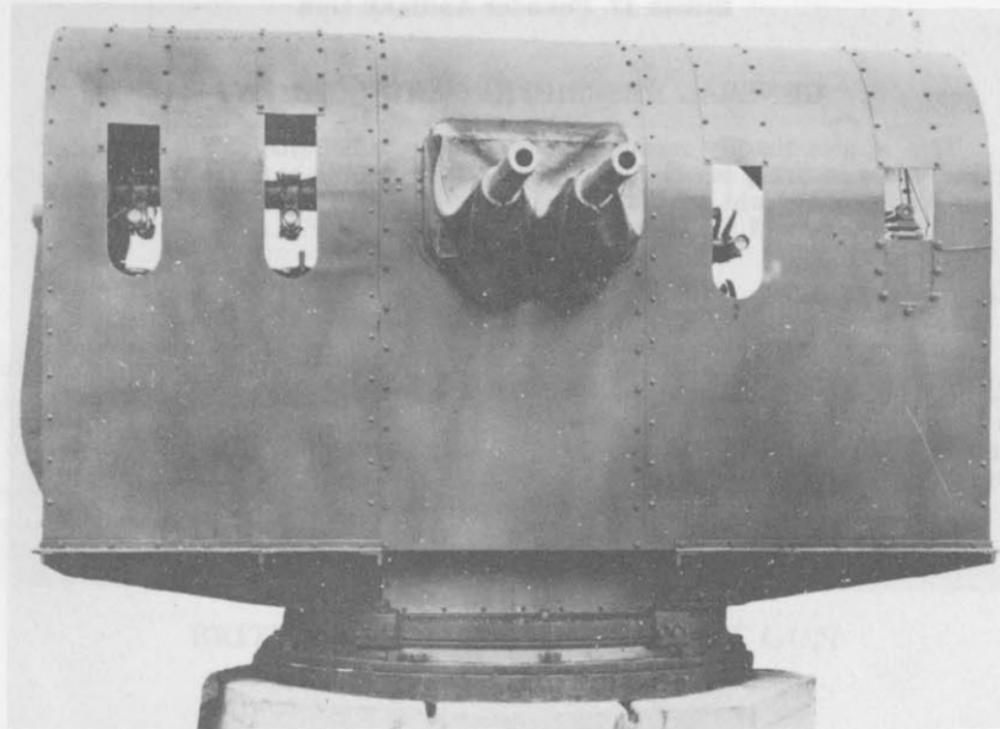
British 17 Pounder Antitank Gun

GENERAL DESCRIPTION AND COMMENT

This gun is readily recognized by its low silhouette (5'8" to top of trail when in firing position), long tube with double-baffle muzzle brake, the two-piece shield with unique scalloped edge along the top of the center section, and the sharply angled trails.

CHARACTERISTICS

Caliber.....	76-mm (3-in.)	Weight (in traveling position)	6,526 lb
Muzzle velocity (AP projectile)	2,900 fps.	Rate of fire.....	20 rpm
Maximum effective range...	3,000 yd	Elevation limits.....	-6° to +16°
Length of tube.....	180.35 in.	Total traverse.....	60°



BRITISH 6-POUNDER TWIN COAST DEFENSE GUN MK 1.

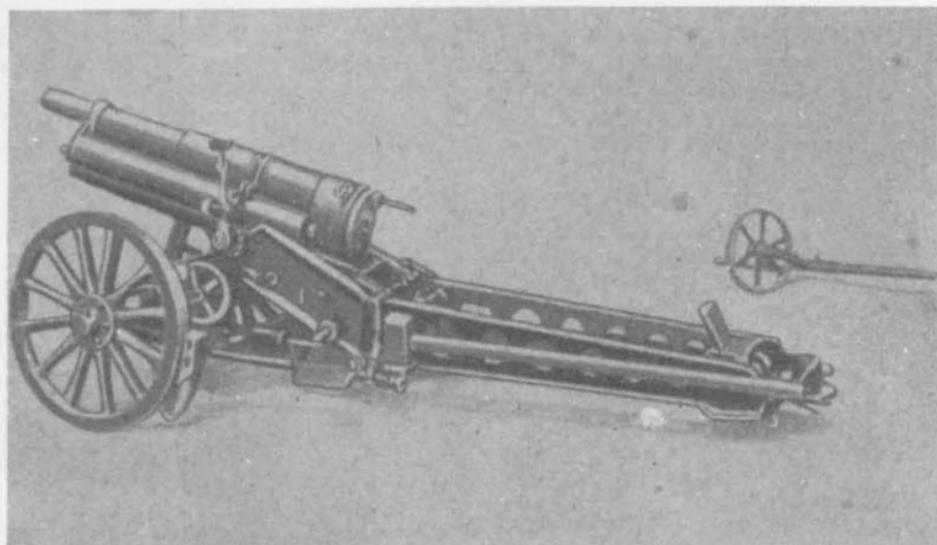
British 6-Pounder Twin Coast Defense Gun Mk I

GENERAL DESCRIPTION AND COMMENT

This is a twin 57-mm coast defense weapon which incorporates a sliding vertical semi-automatic breech block and is mounted on a static fixed-type mounting. Its sighting gear consists of an automatic sight on the left for elevation and a direction sight on the right for azimuth. This weapon is considered to be obsolete and ineffective against modern sea targets.

CHARACTERISTICS

Caliber.....	57-mm (2.24 in.)	Weight (estimated).....	1,060 lb
Muzzle velocity (full charge).....	2,360 fps	Elevation limits.....	10° to +7.5°
Maximum range (full charge).....	5,150 yd	Total traverse.....	360°
Length of tube.....	105.5 in.		



FRENCH 65-MM PACK HOWITZER M1906.

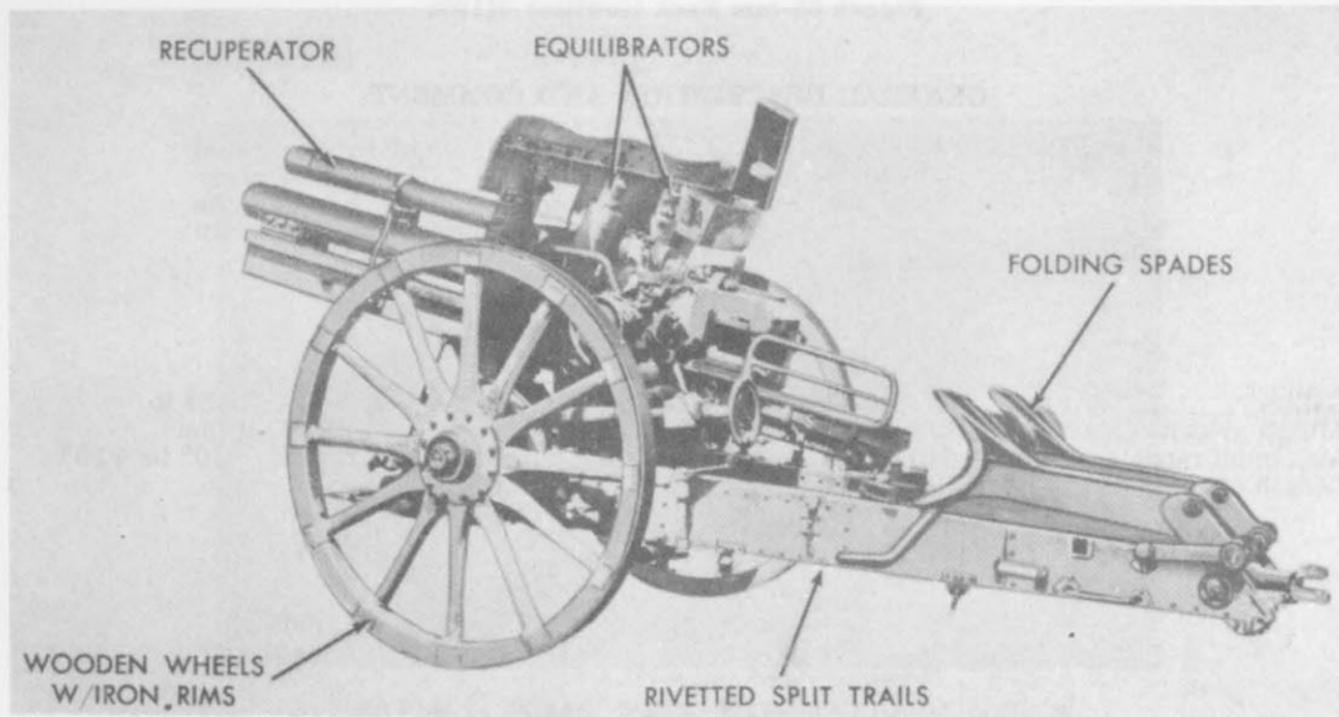
French 65-mm Pack Howitzer M1906

GENERAL DESCRIPTION AND COMMENT

Of pre-World War I vintage, this pack, or mountain, howitzer is mounted on a steel box trail with wooden steel-rimmed wheels. The trail assembly includes a detachable steel caster wheel used to assist in manhandling the weapon into and out of firing position. This weapon is found both with and without a detachable shield.

CHARACTERISTICS

Caliber.....	65 mm (2.56 in.)	Weight (in firing position) ..	1,054 lb
Muzzle velocity (maximum) ..	1,083 fps	Rate of fire.....	2 rpm
Maximum range.....	6,017 yd	Elevation limits.....	-10° to +35°
Length of tube.....	52.5 in.	Total traverse.....	6°



GERMAN 75-MM LIGHT FIELD GUN M18.

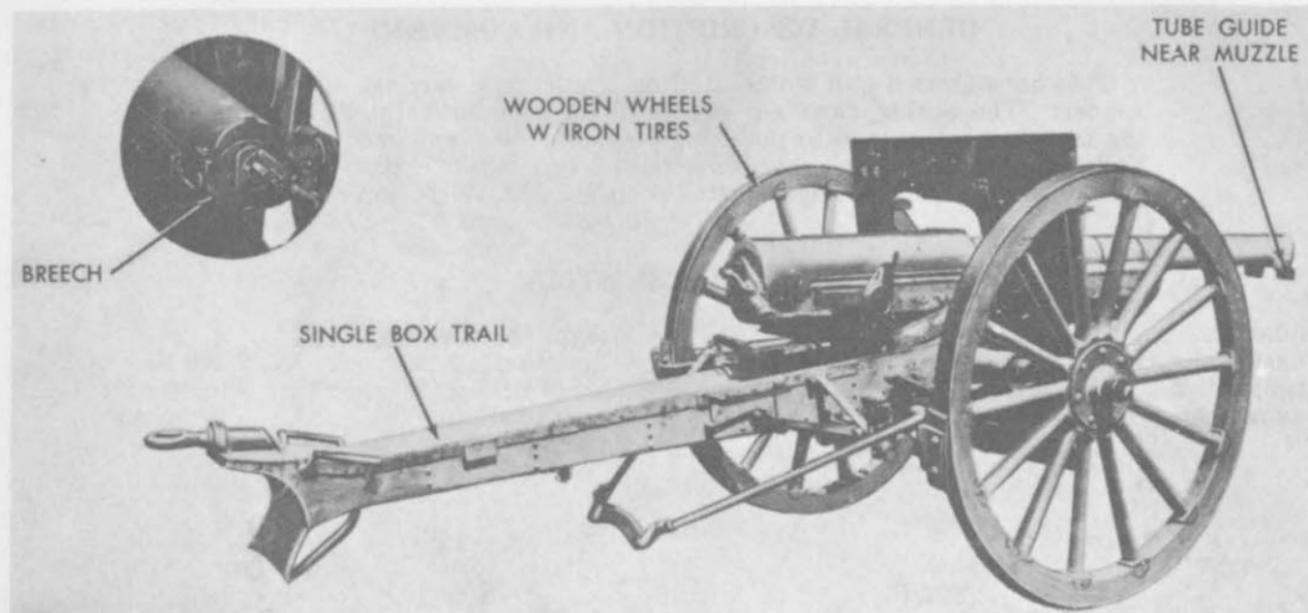
German 75-mm Light Field Gun M18

GENERAL DESCRIPTION AND COMMENT

This horse-drawn gun is mounted on a split trail carriage with folding spades. The spring carriage suspension is automatically locked when the trail legs are opened to the firing position. The gun is equipped with hydraulic recoil system, hydropneumatic-type recuperator, and spring equilibrators. The carriage is fitted with wooden, steel-rimmed wheels.

CHARACTERISTICS

Caliber.....	75 mm (2.95 in.)	Weight (in traveling position).....	2,469 lb
Muzzle velocity (HE projectile).....	1,591 fps	Rate of fire.....	8 to 10 rpm
Maximum range.....	10,311 yd	Elevation limits.....	-5° to 45°
		Total traverse.....	60°



FRENCH 75-MM FIELD GUN M1897.

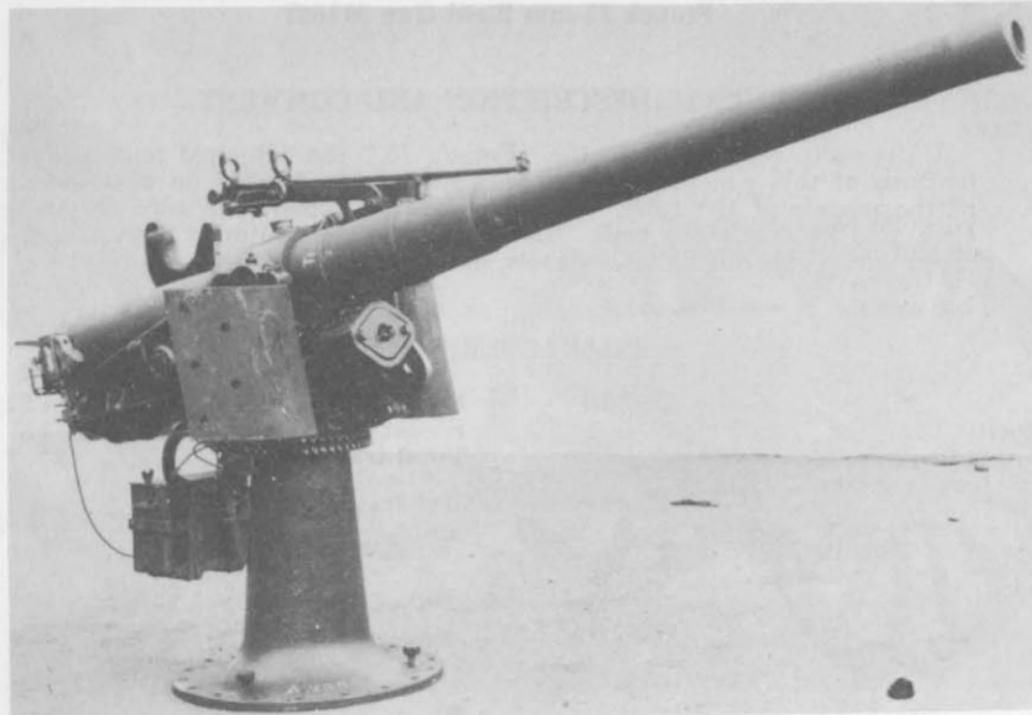
French 75-mm Field Gun M1897

GENERAL DESCRIPTION AND COMMENT

Universally referred to as the "French 75," the principal recognition features of this gun include a unique tube guide located on both sides of the muzzle of the tube, wooden wheels equipped with iron or steel tires, and its single box trail. Later versions are equipped with a high speed axle, rubber-tired steel wheels, and split trails.

CHARACTERISTICS

Caliber.....	75-mm (2.95 in.)	Rate of fire.....	3-12 rpm
Muzzle velocity.....	2,050 fps	Elevation limits.....	-11° to +18°
Maximum range.....	14,000 yd	Total traverse.....	12°
Weight (in traveling position)	2,513 lb		



BRITISH 12-POUNDER COAST DEFENSE GUN.

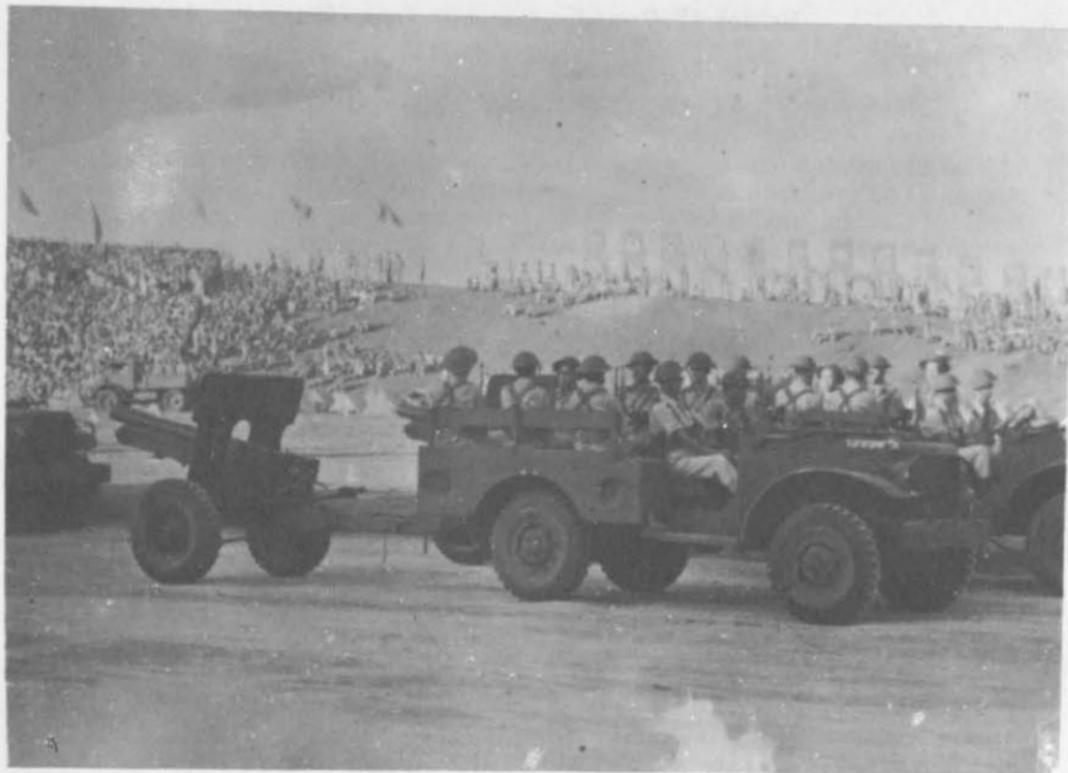
British 12-Pounder Coast Defense Gun

GENERAL DESCRIPTION AND COMMENT

The mount for this gun is of a fixed type and is erected in an emplacement. The gun recoils about 10 inches in a cradle which is fitted with a hydraulic recoil mechanism and a spring counter-recoil mechanism. The gun and cradle are elevated or depressed by a hand operated elevating gear. It is traversed by means of pressure of the shoulder against a shoulder piece. This weapon is considered ineffective against modern sea targets.

CHARACTERISTICS

Caliber.....	3 in (76.2-mm)	Length of tube.....	120 in.
Muzzle velocity.....	2,242 fps	Elevation limits.....	-15° to +20°
Maximum range.....	8,000 yd	Total traverse.....	360°



GERMAN 77-MM FIELD GUN M96.

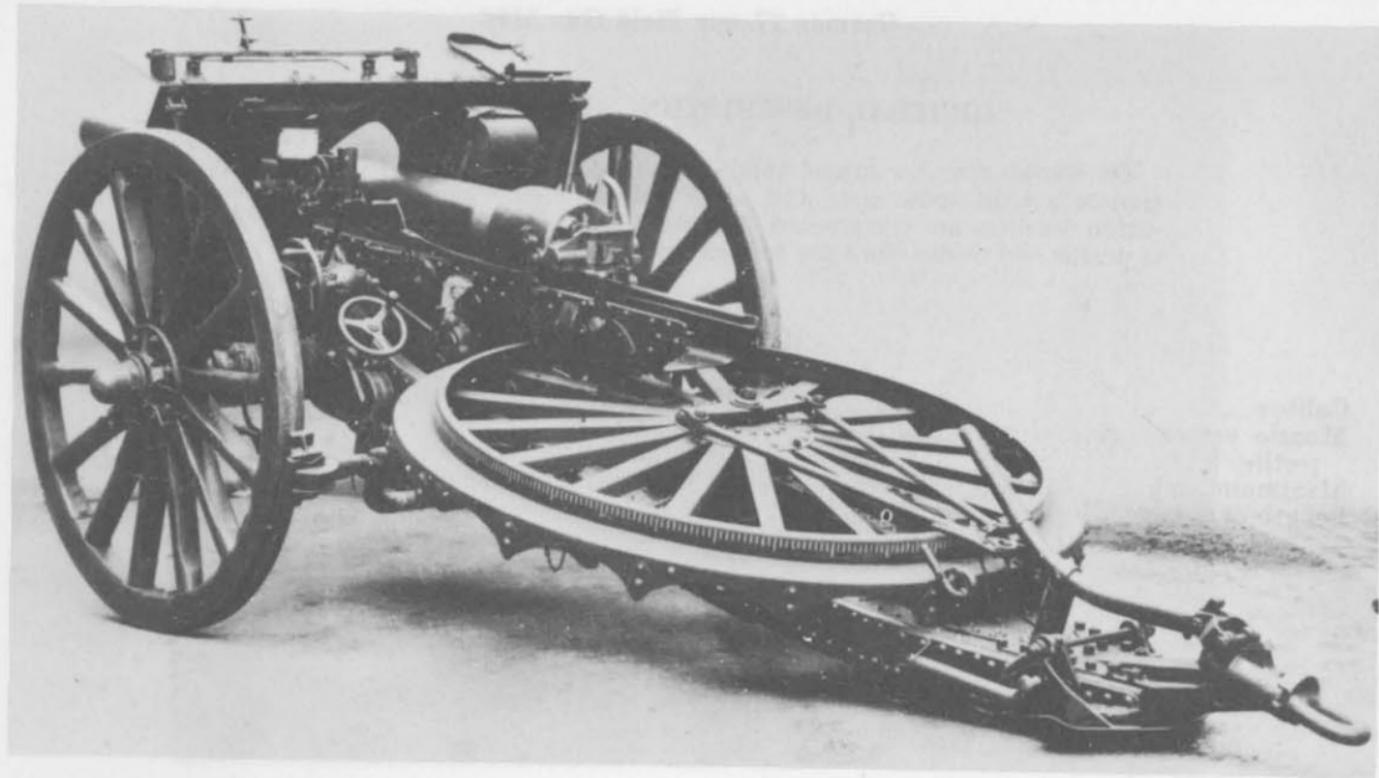
German 77-mm Field Gun M96

GENERAL DESCRIPTION AND COMMENT

Of World War I vintage, this weapon has been modified by the addition of a high speed axle and steel rubber-tired wheels. Major recognition features are the riveted box trail and the recoil mechanism which is positioned under the tube and extends almost to the muzzle.

CHARACTERISTICS

Caliber.....	77-mm (3.03 in)	Weight (in traveling position).....	1,930 lb
Muzzle velocity (HE projectile).....	1,526 fps	Elevation limits.....	-12° to +16°
Maximum range.....	9,186 yd	Total traverse.....	14°
Length of tube.....	82.68 in.		



BRITISH 18-POUNDER FIELD GUN.

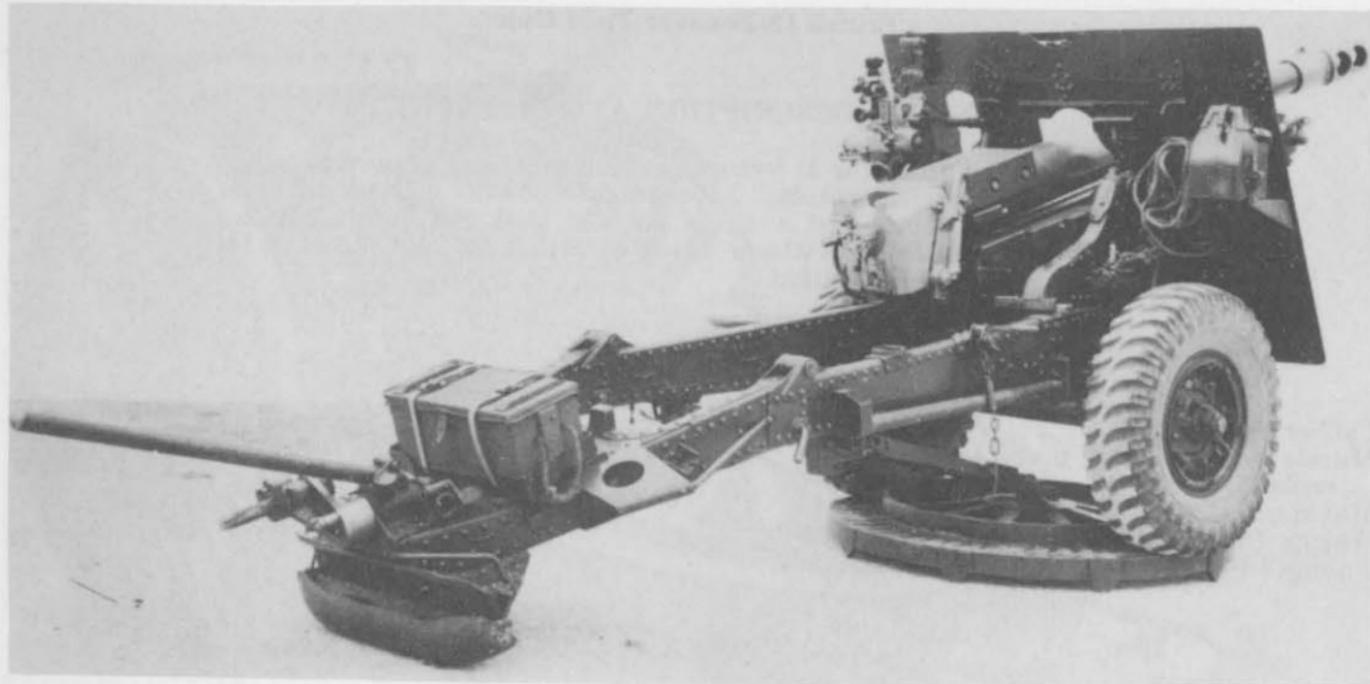
British 18-Pounder Field Gun

GENERAL DESCRIPTION AND COMMENT

The earlier (World War I) versions of this weapon, as portrayed, are equipped with wooden wheels. Later models possess high speed axles, pneumatic-tired wheels and a single tubular trail. Major recognition feature is the large firing platform which is carried on the trail when the weapon is in travelling position.

CHARACTERISTICS

Caliber.....	84 mm (3.3 in.)	Rate of fire.....	2 to 5 rpm
Muzzle velocity (HE projectile).....	1,625 fps	Elevation limits.....	-5° to +37°
Maximum range.....	11,100 yd	Total traverse.....	8° (50° on later models)
Weight (in traveling position).....	3,201 to 3,551 lb		



BRITISH 25-POUNDER GUN-HOWITZER.

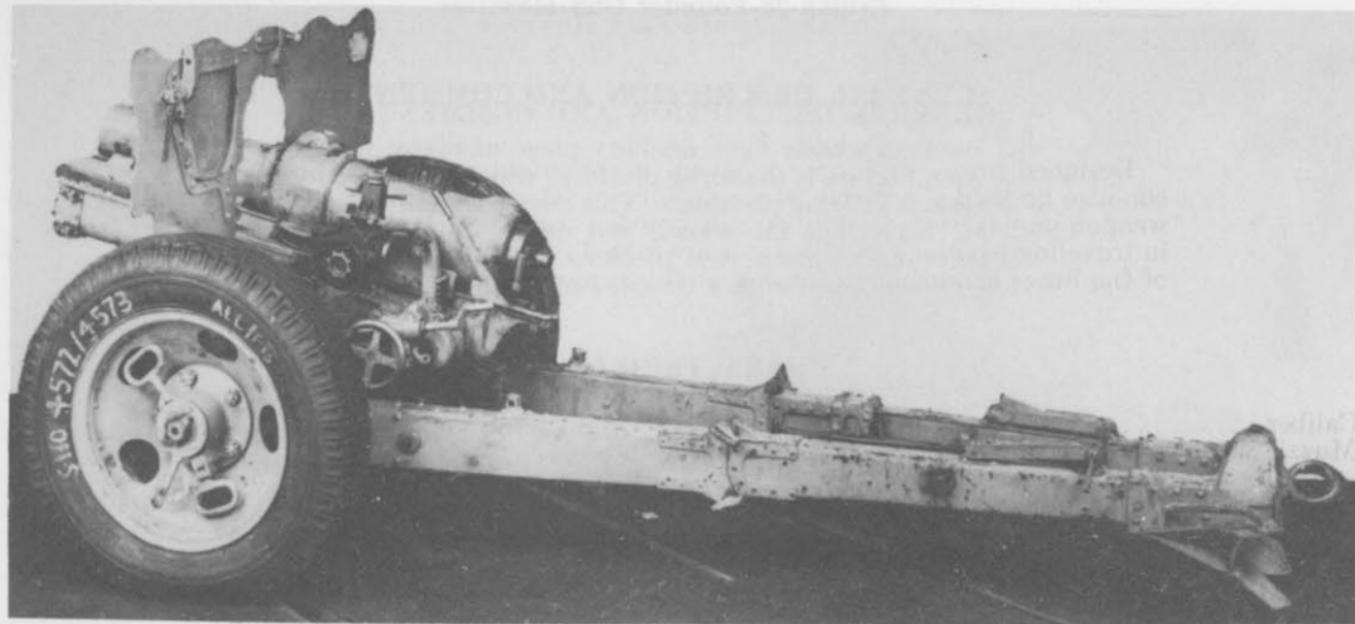
British 25-Pounder Gun-Howitzer

GENERAL DESCRIPTION AND COMMENT

This weapon is the basic light artillery piece of many foreign armies. Chief recognition feature is the firing platform which is readily identifiable when the weapon is in firing position. This device is in the form of a circular baseplate. Note that the wheels rest on this platform. When the piece is in traveling position, the platform is carried under the trails. Some models are equipped with a double-baffle muzzle brake.

CHARACTERISTICS

Caliber.....	87.6 mm (3.45 in.)	Rate of fire.....	3 to 5 rpm
Muzzle velocity (HE projectile).....	1,750 fps	Elevation limits.....	-5° to +40°
Maximum range.....	13,400 yds	Total traverse:	
Weight (in firing position).....	4,048 lb	(with platform).....	360°
		(without platform).....	8°



BRITISH 3.7-INCH PACK HOWITZER.

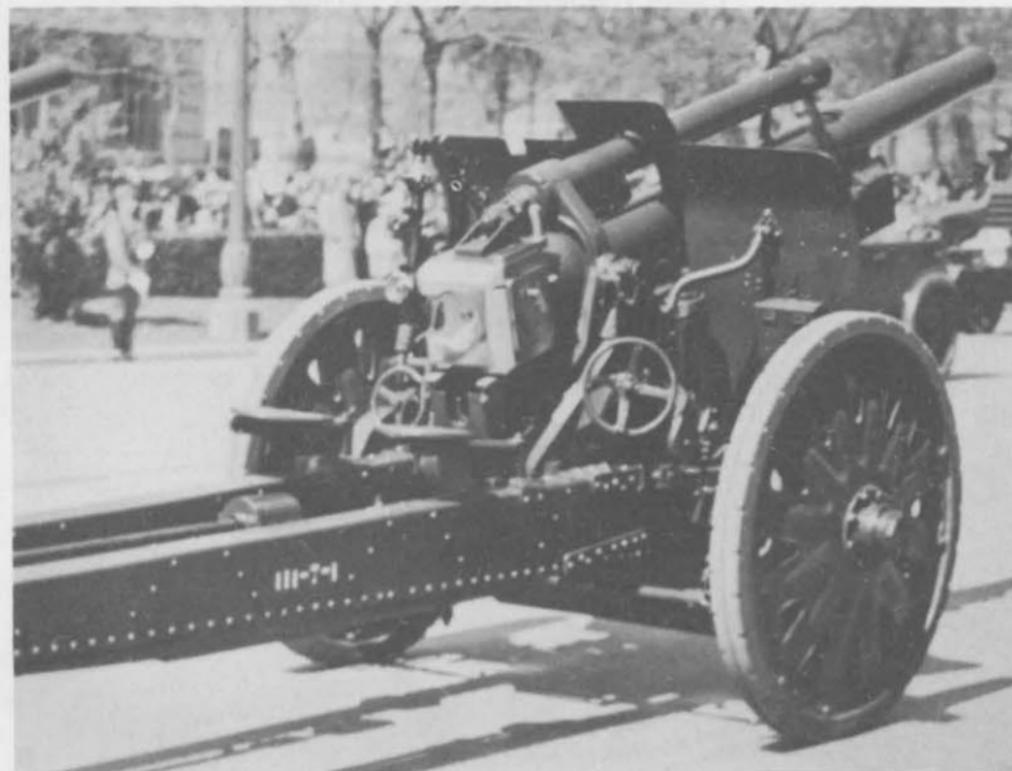
British 3.7-Inch Pack Howitzer

GENERAL DESCRIPTION AND COMMENT

Designed primarily for employment in mountainous terrain, this piece can also be used effectively in an airborne or infantry support role. This weapon may be found equipped with wooden steel-rimmed wheels. When in traveling position the split trails are folded toward the muzzle by means of the hinge arrangement located at the approximate center of each trail.

CHARACTERISTICS

Caliber.....	3.7-in. (94-mm)	Weight (in traveling position)	1,876 lb
Muzzle velocity (HE projectile).....	973 fps	Rate of fire.....	5 rpm
Weight of projectile.....	20 lb	Elevation limits.....	-5° to +40°
Maximum range.....	6,000 yd	Total traverse.....	40°



SPANISH 105-MM (REINOSA) HOWITZER M1943.

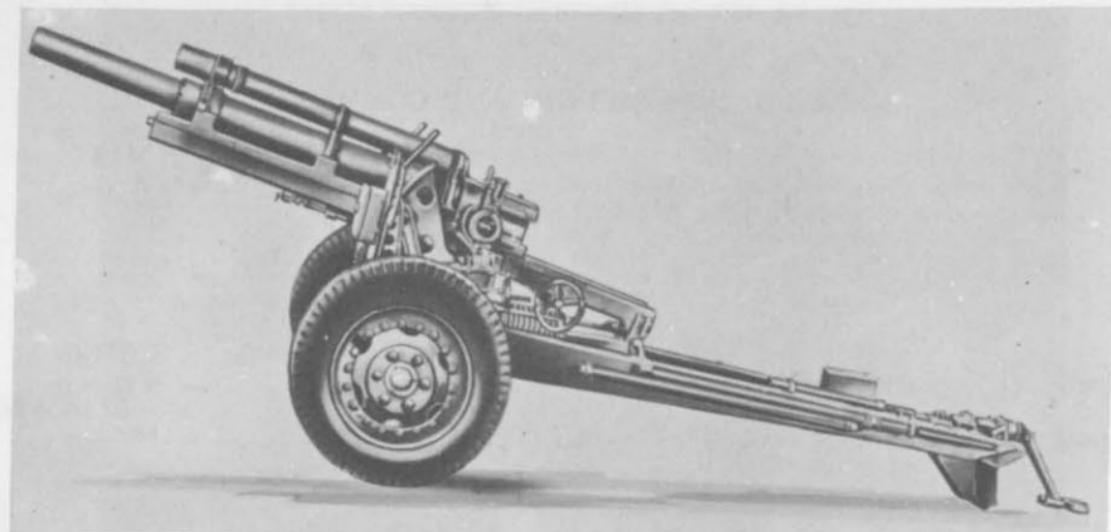
Spanish 105-mm (Reinosa) Howitzer M1943

GENERAL DESCRIPTION AND COMMENT

This weapon is a faithful copy of the German 105-mm Howitzer M18 and possesses the same recognition features. This Spanish model is equipped only with die-cast metal wheel and solid rubber tires.

CHARACTERISTICS

Caliber.....	105 mm (4.13 in.)	Weight (in firing position)...	5,071 lb
Muzzle velocity (HE projectile).....	1,617 fps	Rate of fire.....	4 rpm
Maximum range.....	12,526 yd	Elevation limits.....	-5° to +50°
		Total traverse.....	50°



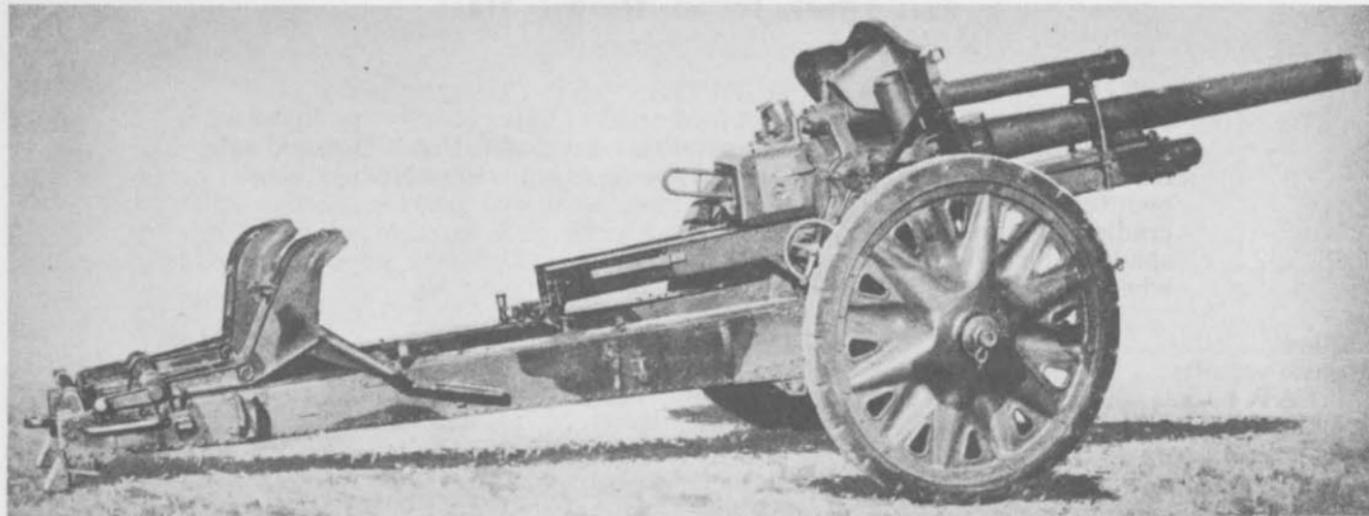
UNITED STATES 105-MM HOWITZER M2A1.

United States 105-mm Howitzer M2A1

A mobile, general purpose, light field artillery piece usually employed for close support of infantry. The howitzer is equipped with a high speed axle and can be towed over good roads at speeds of up to 35 miles per hour.

CHARACTERISTICS

Caliber.....	105 mm (4.13 in.)	HEAT.....	8,590 yd
Muzzle velocity:		SMOKE, CHEM.....	12,150 yd
HEAT.....	1,250 fps	Weight.....	6,425 lb
HE, SMOKE, CHEM....	1,550 fps	Rate of fire (sustained).....	3 rpm
Maximum range:		Elevation limits.....	-4.45 min to +66°
HE.....	12,205 yd		13 min.



GERMAN 105-MM HOWITZER M18.

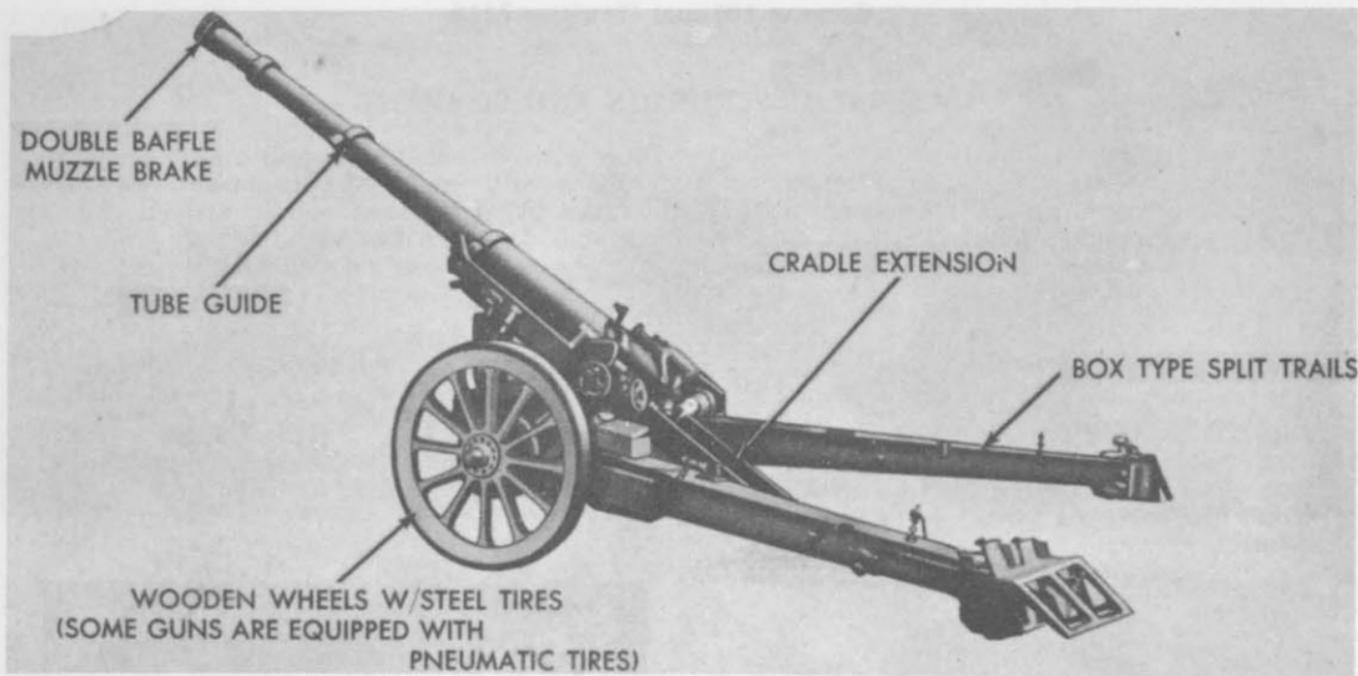
German 105-mm Howitzer M18

GENERAL DESCRIPTION AND COMMENT

This howitzer has a monobloc tube with detachable breech ring, horizontal sliding breechblock hydraulic recoil, and hydropneumatic counterrecoil mechanism with equilibrator fitted between saddle and cradle. The weapon is mounted on a split trail carriage with folding spades, and may be found equipped with die-cast alloy or wooden spoked wheels.

CHARACTERISTICS

Caliber.....	105 mm (4.13 in.)	Rate of fire.....	6 rpm
Muzzle velocity.....	1,540 fps	Elevation limits.....	-7° to +40°
Maximum range.....	11,675 yd	Total traverse.....	56°
Weight (in traveling position)	4,312 lb		



FRENCH 105-MM FIELD GUN M1936.

French 105-mm Field Gun M1936

GENERAL DESCRIPTION AND COMMENT

This gun is equipped with a split-trail carriage, a cradle extension, wooden wheels with steel tires (a few are fitted with pneumatic tires), and a tube guide. A limited number may be found equipped with a double baffle muzzle brake.

CHARACTERISTICS

Caliber.....	105 mm (4.13 in.)	Rate of fire.....	4 to 6 rpm
Muzzle velocity.....	2,379 fps	Elevation limits.....	0° to 47°
Maximum range.....	17,504 yd	Total traverse.....	49.5°
Weight (in traveling position).	8,157 lb		

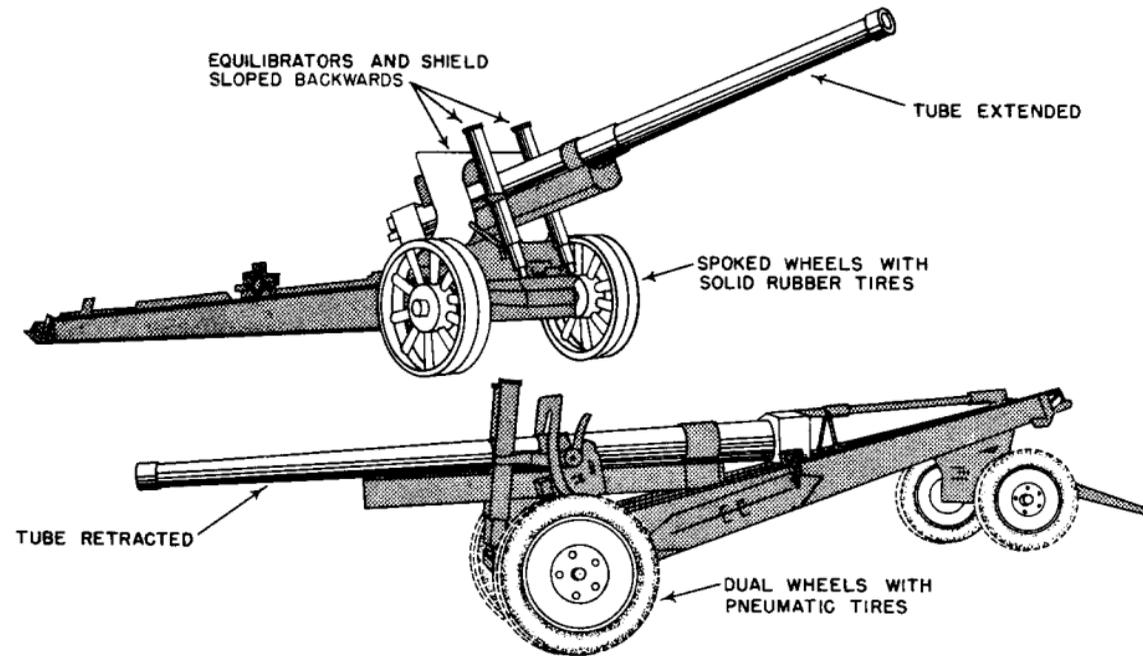
Soviet 122-mm Field Gun M1931/37

GENERAL DESCRIPTION AND COMMENT

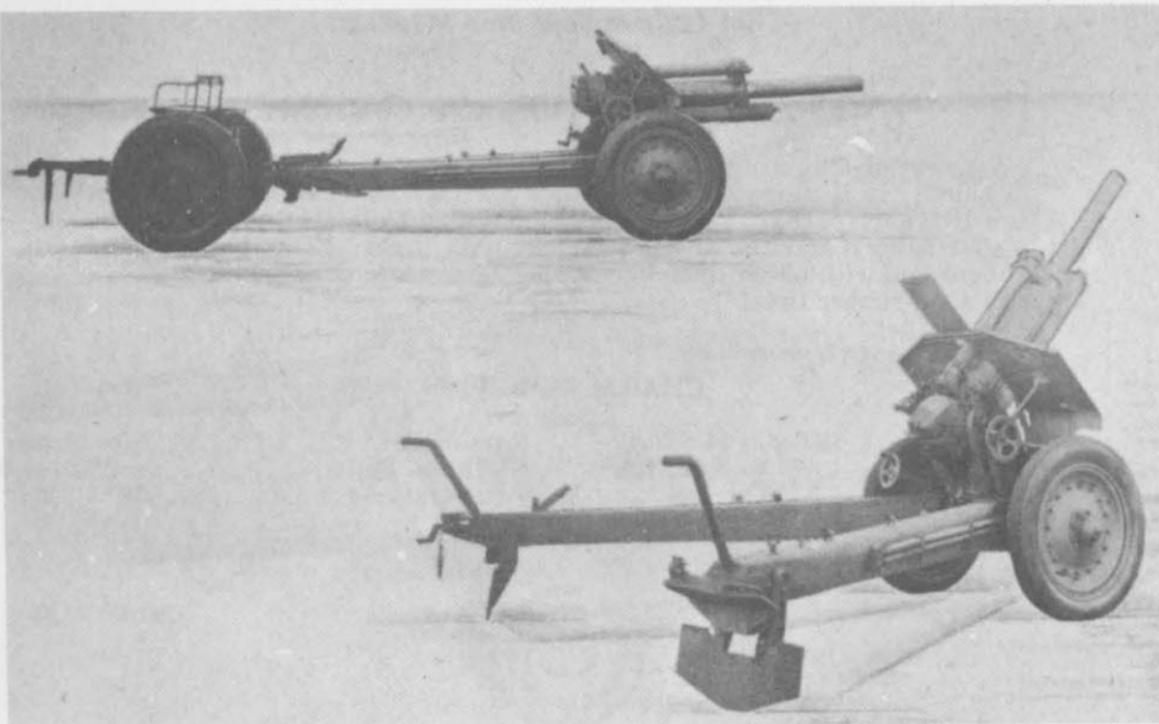
A powerful long range weapon, normally employed in Soviet artillery divisions. It is mounted on the same carriage as the Soviet 152-mm Gun-Howitzer M1937. It can be distinguished from that weapon by its smaller caliber and the absence of a muzzle brake. This gun may be encountered with either dual-wheels with pneumatic tires or single wheels with solid rubber tires.

CHARACTERISTICS

Caliber.....	122-mm (4.8 in.)	Rate of fire.....	5 to 6 rpm
Muzzle velocity (HE pro- jectile).....	1,870 to 2,625 fps	Elevation limits.....	-2° to +65°
Maximum range.....	22,747 yd	Total traverse.....	58°



SOVIET 122-MM FIELD GUN M1931/37.



SOVIET 122-MM HOWITZER M1938.

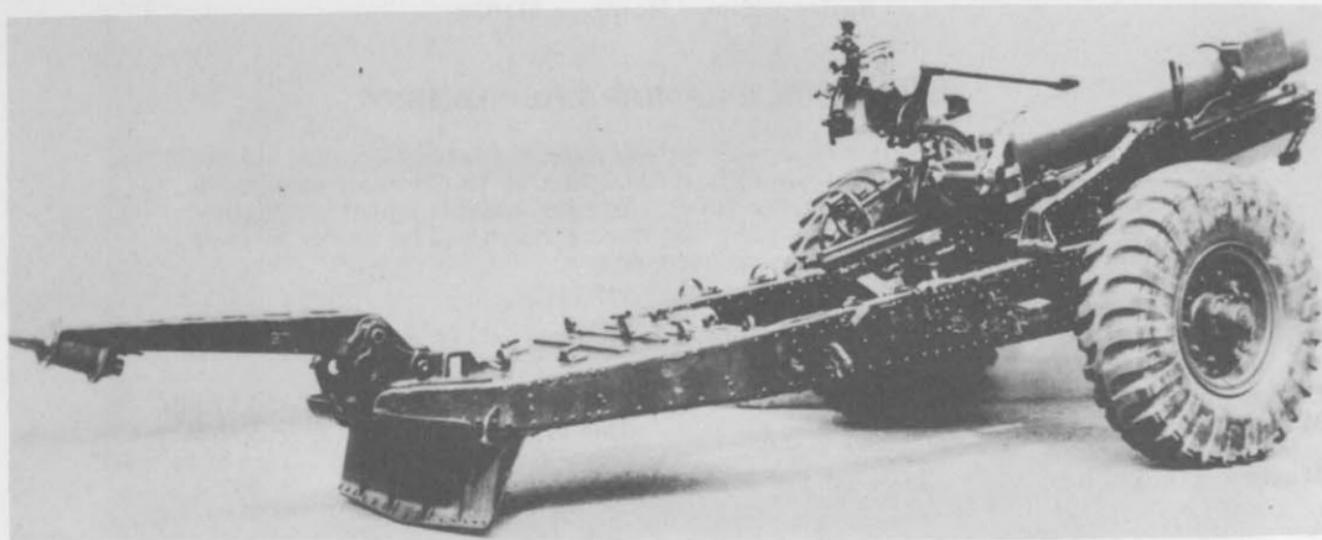
Soviet 122-mm Howitzer M1938

GENERAL DESCRIPTION AND COMMENT

Recognition features of this weapon include the large steel disc wheels, the split box-type trails, and the positioning of the recoil-counterrecoil cylinders above and below the tube. Another notable feature is the use of four rollers which carry the tube during recoil. The limber is used normally only when the piece is horse drawn.

CHARACTERISTICS

Caliber.....	122 mm (4.8 in.)	Weight (traveling position).....	6,173 lb
Muzzle velocity (HE projectile).....	1,690 fps	Rate of fire.....	5 to 6 rpm
Maximum range (H1).....	12,904 yd	Elevation limits.....	-3° to +65°
		Total traverse.....	50°



BRITISH 6-INCH HOWITZER.

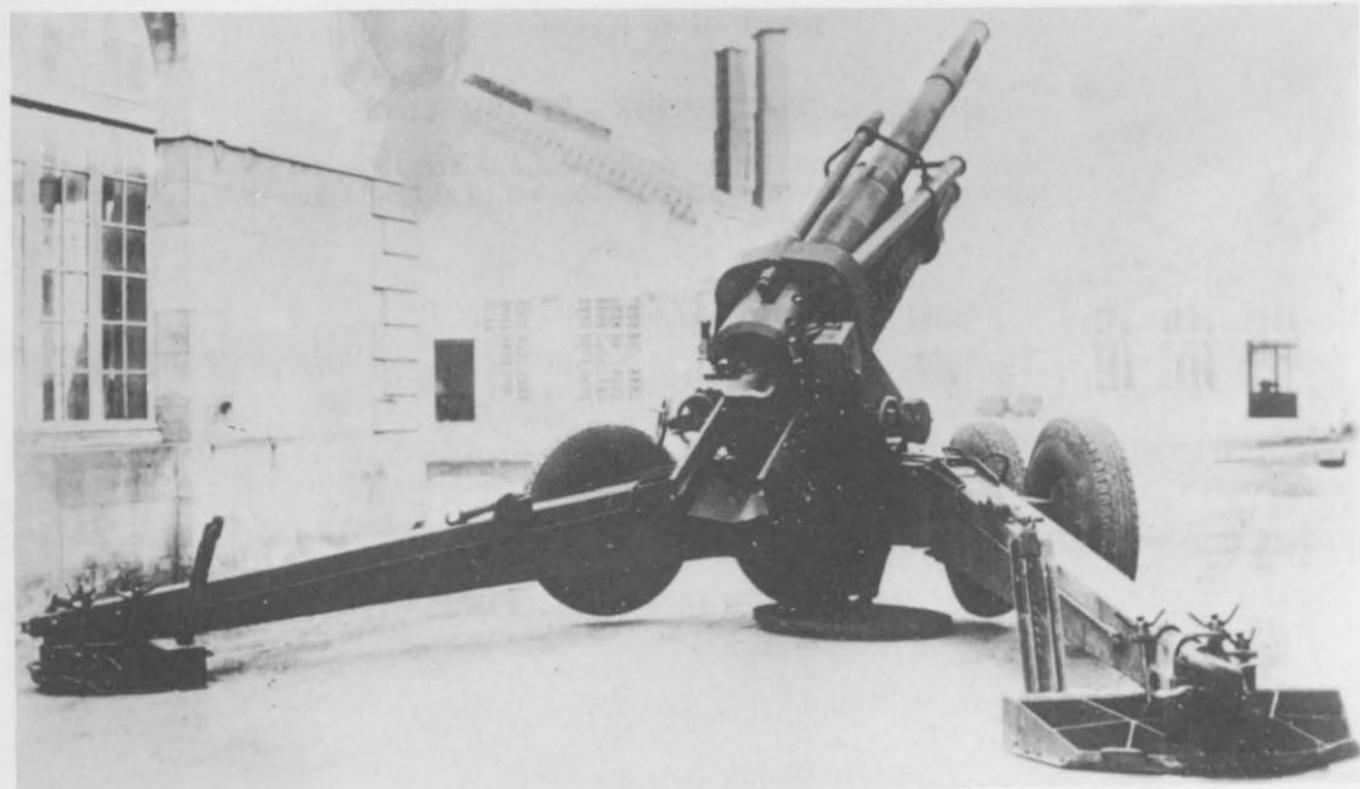
British 6-inch Howitzer

GENERAL DESCRIPTION AND COMMENT

This World War I weapon can be easily recognized by its squat appearance, box trails, and the recoil fluid tank located to the right and just in rear of the muzzle.

CHARACTERISTICS

Caliber.....	6-in. (152.4-mm)	Weight (in traveling position).....	9,318 lb
Muzzle velocity (HE projectile).....	1,235 to 1,352 fps	Rate of fire.....	2 rpm
Maximum range.....	11,400 yd	Elevation limits.....	0° to +45°
		Total traverse limits.....	8°



FRENCH 155-MM HOWITZER M1950.

French 155-mm Howitzer M1950

GENERAL DESCRIPTION AND COMMENT

This post World War II weapon is mounted on a split trail carriage. Employing a firing jack in conjunction with a pintle mount, it possesses a large traverse capability. Recognition features include the multibaffle muzzle brake, the slanted position of the equilibrators, and the extended cradle visible in rear of the breech. This weapon will fire 155-mm projectiles of U. S. manufacture.

CHARACTERISTICS

Caliber.....	155-mm (6.1 in.)	Elevation limits.....	-5° to +70°
Muzzle velocity (HE projectile).....	2,145 fps	Total traverse.....	360°
Maximum range.....	19,700 yd	(on carriage).....	82°
Weight (in traveling position).....	17,360 lb		



SOVIET 152-MM GUN-HOWITZER M1937.

Soviet 152-mm Gun-Howitzer M1937

GENERAL DESCRIPTION AND COMMENT

This well designed and versatile weapon was the principal mobile Soviet counterbattery piece and the backbone of the Soviet field artillery during World War II. It has since been furnished to nearly all the Sino-Soviet Bloc and some Middle East countries.

The piece uses the same carriage and equilibrators as the Soviet 122-mm Gun M1931/37, covered separately, and is quite similar in appearance. Apart from the difference in caliber, the 152-mm gun howitzer can be readily distinguished by its long, multibaffle muzzle brake. The French 155-mm Howitzer M1950 has a similar muzzle brake.

CHARACTERISTICS

Caliber.....	152.4-mm (6 in.)	Muzzle velocities.....	HE and CP-925 to 2,150 fps.
Weight (in traveling position).....	17,482 lb		AP-T-1,970 fps.
Maximum range.....	18,900 yd	Elevation limits.....	2° to +65°
Projectiles (types and weights).....	HE and CP-88 lb	Traverse limits.....	58°
	AP-T-108 lb	Armor penetration.....	4.8 in. at 550 yd at 0° w/AP-T.



CZECH 130-MM ROCKET LAUNCHER (32-rd) RM-130.

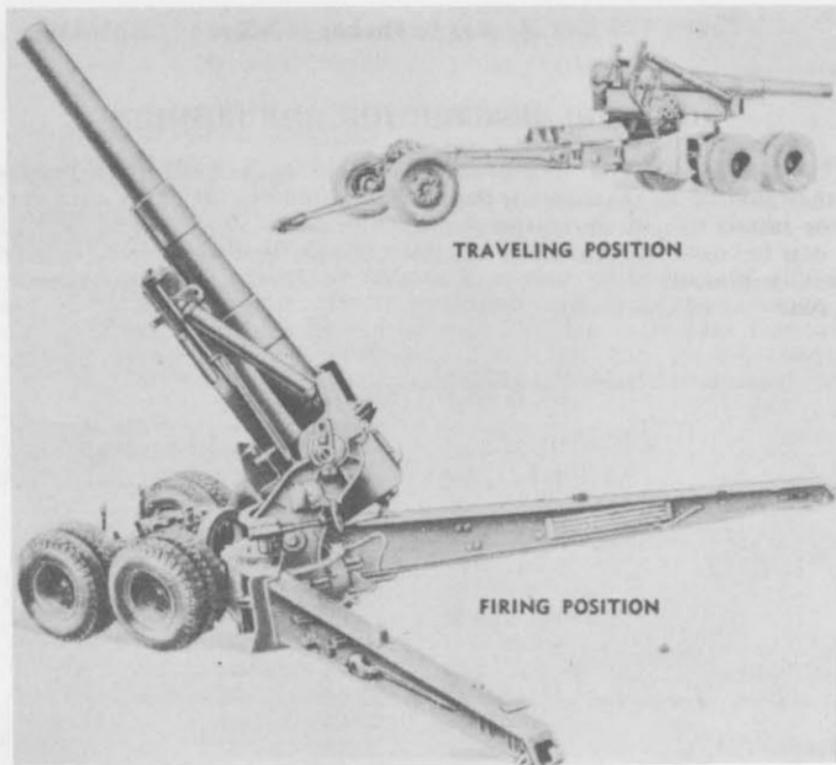
Czech 130-mm Rocket Launcher (32-Round) RM-130

GENERAL DESCRIPTION AND COMMENT

The RM-130 is a truck-mounted field rocket launcher produced in Czechoslovakia. It first appeared in Rumania in 1953 and has since been identified in Bulgaria, Czechoslovakia, Egypt, and Syria. The launcher tubes are mounted in four banks of eight each. The rockets are spin stabilized by means of angled venturis. The rockets are about 30 inches long and are fired electrically. The launcher is manually traversed and elevated. It has been seen mounted both on a special purpose Soviet ZIS-151 truck chassis and in the cargo compartment of the standard Czech PRAGA V3S.

CHARACTERISTICS

Caliber.....	130 mm (5.12 in.)	Maximum effective range.....	8,970 yd.
Weight (including V3S vehicle).....	19,400 lb.	Ammunition:	
Elevation limits.....	+15° to +50°	Type.....	HE
Total traverse.....	180°	Weight.....	53.24 lb.
Fire control device.....	Panoramic telescope	Burnout muzzle velocity.....	1,378 fps



U.S. 8-INCH HOWITZER M2.

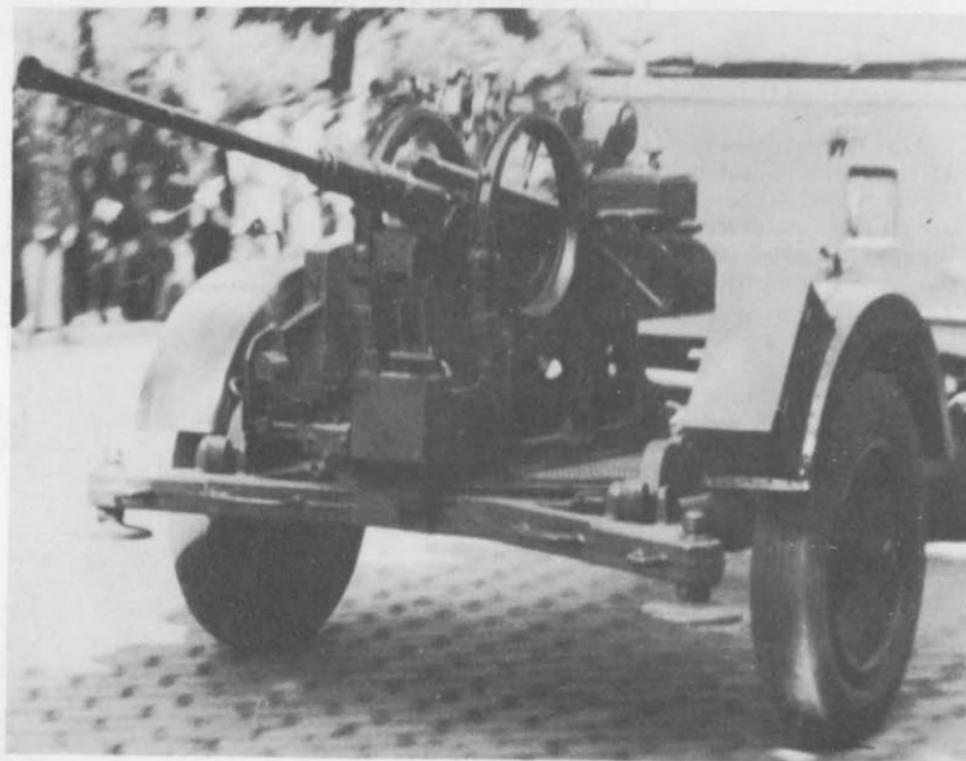
U. S. 8-inch Howitzer M2

GENERAL DESCRIPTION AND COMMENT

The 8-inch howitzer M2 is classed as a heavy field artillery weapon. At the front of the carriage, a 2-axle 8-wheeled bogie is lowered for traveling or raised to rest the carriage on the ground when emplaced. A limber can be used in traveling or the weapon can be towed semitrailed. When emplaced, removable spades are installed on the carriage and on the rear end of the trails.

CHARACTERISTICS

Caliber.....	8 in. (203.2-mm)	Muzzle velocity (max).....	1,950 fps
Maximum range.....	18,510 yd	Weight, complete.....	30,575 lb
Projectile weight.....	200 lb		



GERMAN 20-MM SINGLE ANTI-AIRCRAFT GUN M38.

German 20-mm Single Antiaircraft Gun M38

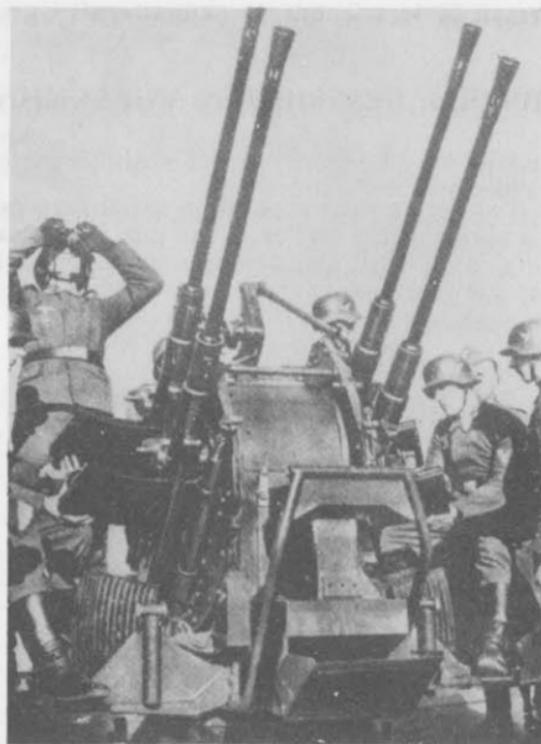
GENERAL DESCRIPTION AND COMMENT

Gun and carriage may be split into six loads (9 parts) or ten loads (15 parts) for transport over difficult country.

The weapon is normally fired from its carriage with the trailer removed. It can, however, be fired from the trailer in an emergency, when a traverse of 20° is possible. It is considered an excellent antipersonnel weapon when firing HE point detonating fuze. Major recognition feature is the large circular trunnion.

CHARACTERISTICS

Caliber.....	20-mm (.79 in.)	Cyclic rate of fire.....	420 to 480 rpm.
Muzzle velocity (HE projectile)	2,950 fps	Elevation limits.....	20° to +90°
Effective ceiling (estimate)	7,215 ft	Total traverse.....	360°



GERMAN 20-MM QUADRUPLE ANTI-AIRCRAFT GUN M38.

German 20-mm Quadruple Antiaircraft Gun M38

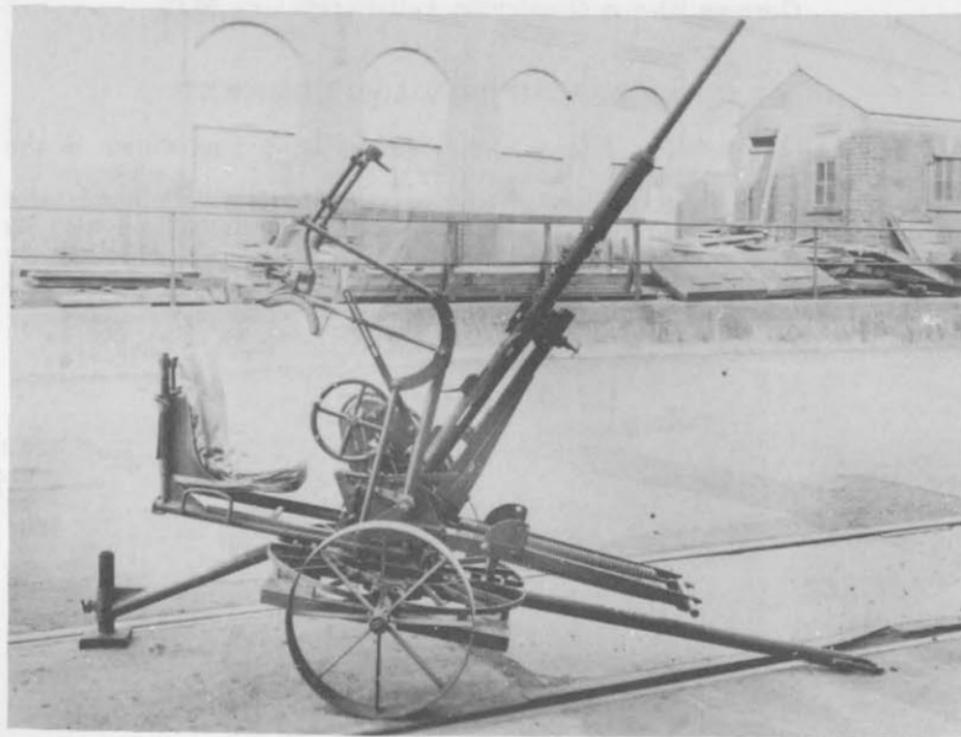
GENERAL DESCRIPTION AND COMMENT

This weapon consists of four 20-mm guns mounted as shown in the accompanying photograph.

It is employed either against ground or aerial targets. It is normally transported on a two-wheeled trailer. The gun is normally fired with its carriage on the ground with the trailer removed. It can, however, be fired from the trailer in an emergency with a limited traverse of only 10°. A shield may or may not be used.

CHARACTERISTICS

Caliber.....	20-mm (.79 in.)	Cyclic rate of fire.....	420 to 480 rpm per gun
Muzzle velocity (HE projectile).....	2,950 fps	Elevation limits.....	-10° to +100°
Effective ceiling (estimate).....	7,215 ft	Total traverse.....	360°



BRITISH 20-MM POLSTEN ANTI-AIRCRAFT GUN.

British 20-mm Polsten Antiaircraft Gun

GENERAL DESCRIPTION AND COMMENT

The Polsten is a British World War II simplification of the Swiss 20-mm Oerlikon AA Gun produced at less time and cost. It is no longer used in the British Army. The Polsten is an automatic gun with blow-back operation. No positive breech locking mechanism is incorporated. The mount shown is a mass production job and furnishes the chief recognition feature. Later versions have rubber tired wheels. The gun and mount are normally carried in a truck.

CHARACTERISTICS

Caliber.....	20 mm (0.79 in.)	Cyclic rate of fire.....	450 to 480 rpm
Magazine capacity.....	30 and 60 rounds	Elevation limits.....	-2° to +85°
Effective ceiling.....	3,000 ft	Total limits.....	360°
Length (gun only).....	7 ft		



SWISS 20-MM HISPANO-SUIZA ANTI-AIRCRAFT GUN HSS-804.

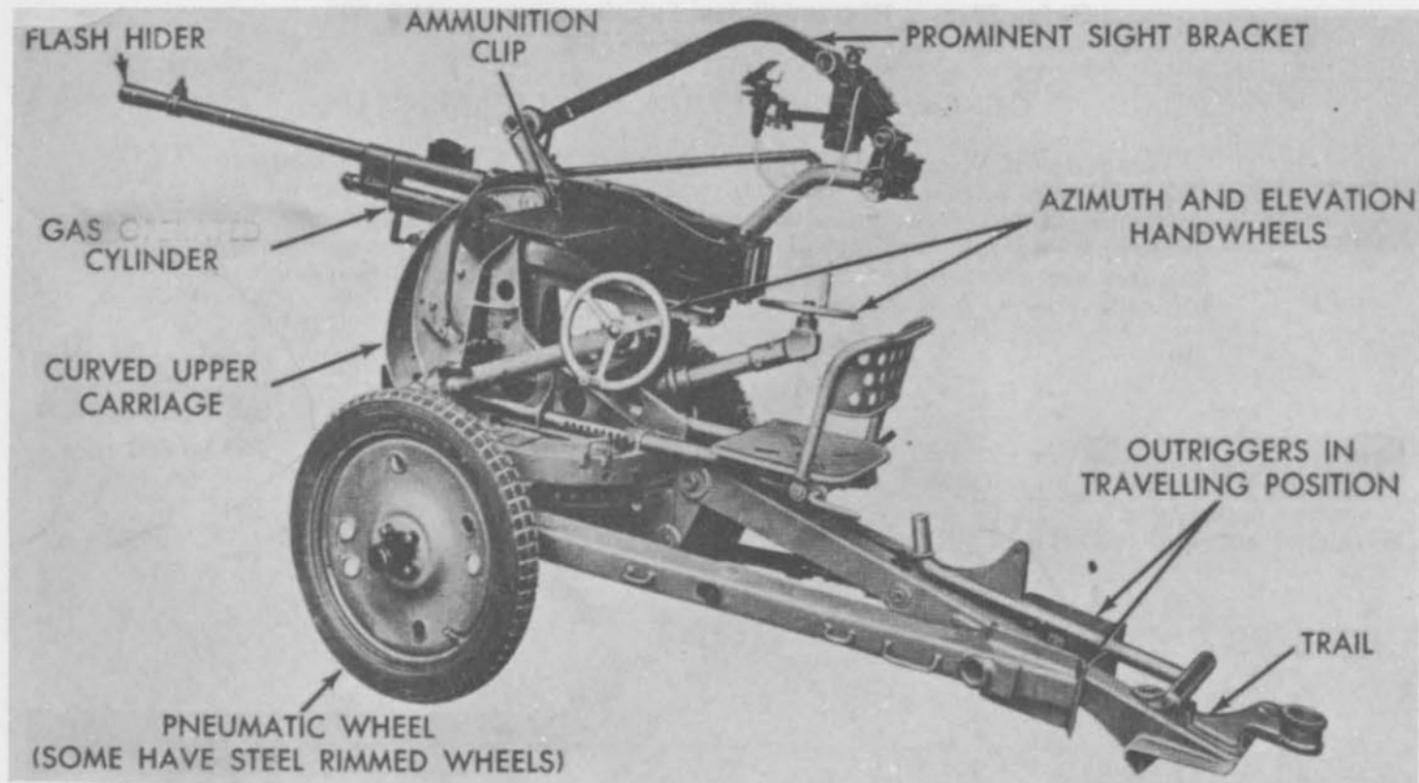
Swiss 20-mm Hispano-Suiza Antiaircraft Gun HSS-804

GENERAL DESCRIPTION AND COMMENT

This is a post World War II improvement of the World War II Hispano-Suiza 20-mm aircraft cannon. It was adapted to ground use by the provision of a lightweight carriage. There are also dual, triple, and quadruple mount versions of this weapon. The major recognition features are the long muzzle brake and the gas cylinder positioned on top of the barrel forward of the receiver.

CHARACTERISTICS

Caliber.....	20-mm (0.79 in.)	Cyclic rate of fire.....	750 to 800 rpm
Weight of HE projectile....	0.3 lb	Elevation limits.....	-5° to +83°
Magazine capacity.....	60 rounds	Total traverse.....	360°
Weight of gun and mount..	714 lbs		



ITALIAN 20-MM BREDA ANTI-AIRCRAFT GUN M1935.

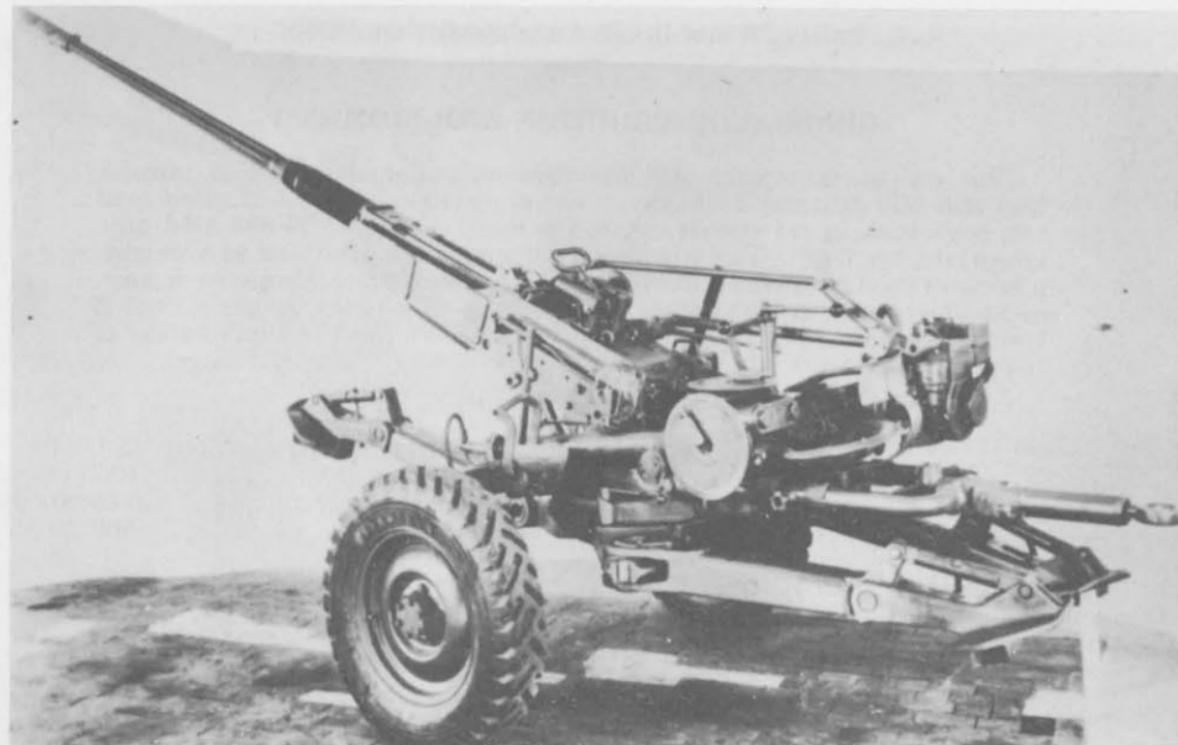
Italian 20-mm Breda Antiaircraft Gun M1935

GENERAL DESCRIPTION AND COMMENT

This gas operated gun was designed as a lightweight dual purpose (AA and AT) automatic weapon. The on-carriage course and speed sight can cope with target speeds up to 340 mph. The gun is mounted on a two-wheel carriage. The wheels are normally removed and the weapon placed on its three point mounting for all types of fire. However, it may, in an emergency, be fired from its wheels at which time it has a limited traverse of 48°. The major recognition features are the combination of the three outriggers and the gas cylinder located beneath the barrel.

CHARACTERISTICS

Caliber.....	20 mm (0.79 in.)	Practical rate of fire.....	30 to 60 rpm
Muzzle velocity (HE projectile).....	2,755 fps	Elevation limits.....	-10° to 80°
Weight of projectile (HE).....	0.29 lb	Traverse limits:	
Effective ceiling.....	1,500 to 1,800 ft	In action.....	360°
Weight (in traveling position).....	780 lbs	On wheels.....	48°



SWISS 30-MM HISPANO-SUIZA ANTIAIRCRAFT GUN HSS-831.

Swiss 30-mm Hispano-Suiza Antiaircraft Gun HSS-831

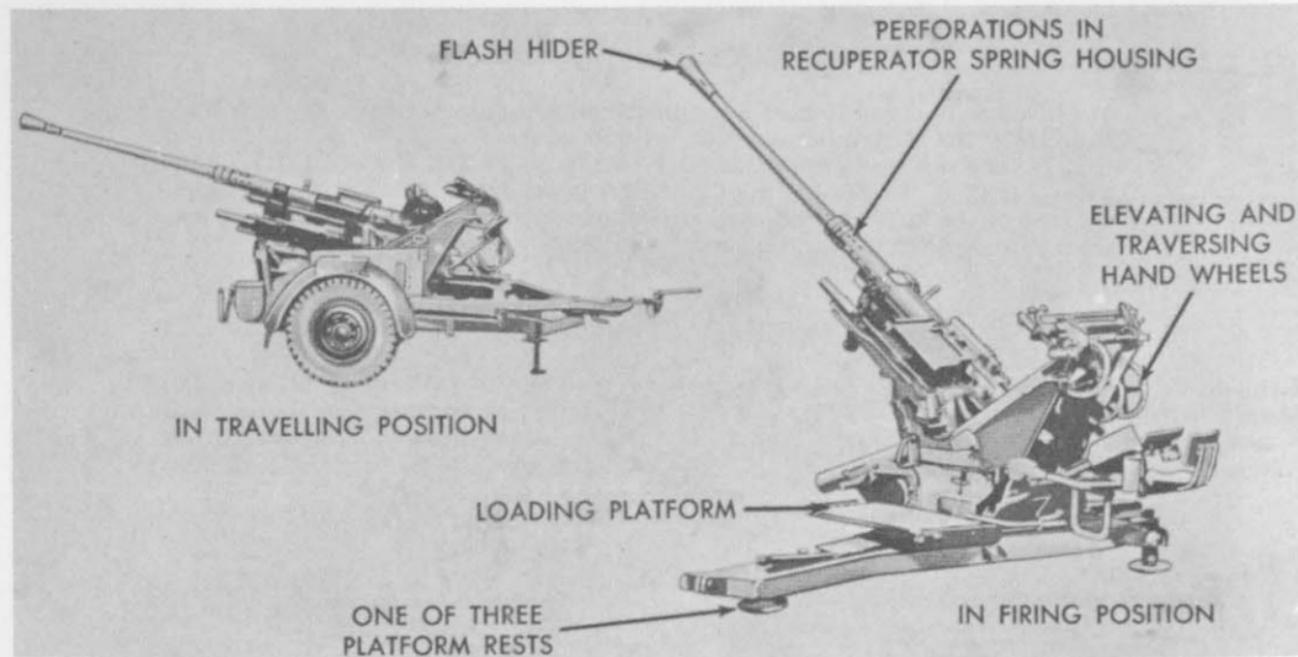
GENERAL DESCRIPTION AND COMMENT

This is a light automatic AA gun developed commercially since World War II by the Hispano-Suiza Co., a Swiss concern.

It is very similar in appearance to the Swiss 20-mm HSS-804 AAA gun except that it is 30-mm in caliber and is scaled up in size and weight because of the larger round used with this weapon. Triple mount versions are also in service in Middle East countries.

CHARACTERISTICS

Caliber.....	30-mm (1.18 in.)	Weight (in traveling position).....	2,013 lb
Muzzle velocity (HE projectile).....	3,280 fps	Cyclic rate of fire.....	650 rpm
Magazine capacity.....	30 rds	Elevation limits.....	-5° to +83°
		Total traverse.....	360°



GERMAN 37-MM ANTI-AIRCRAFT GUN M18, 36, AND 37.

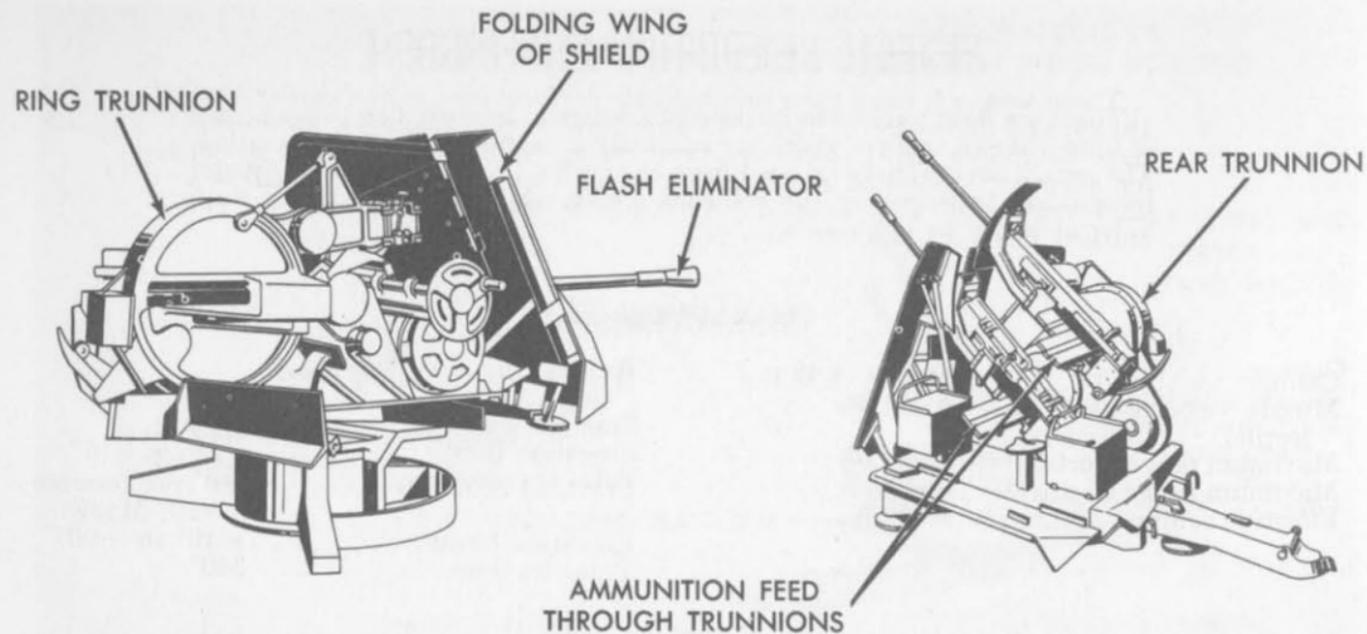
German 37-mm Antiaircraft Gun M 18, 36, and 37

GENERAL DESCRIPTION AND COMMENT

These are light automatic antiaircraft weapons mounted on two-wheeled or four-wheeled trailers which are normally detached in the firing position. The gun, however, may be fired from the trailer in an emergency. Major recognition features are the solid steel disc wheels and the flared flash hider attached to the muzzle.

CHARACTERISTICS

Caliber.....	37-mm (1.46 in.)	Weight (in traveling position).....	5,300 lb
Muzzle velocity.....	2,690 fps	Practical rate of fire.....	60 rpm
Maximum range:		Elevation limits.....	-8° to +85°
(horizontal).....	7,200 yd	Total traverse.....	360°
(vertical).....	15,750 ft		
Effective ceiling.....	6,500 ft		



GERMAN 37-MM ANTI-AIRCRAFT GUN M43 AND M43Z.

German 37-mm Antiaircraft Gun M43 and M43Z

GENERAL DESCRIPTION AND COMMENT

These weapons have the same ballistic performance as the earlier Flak 18, 36, and 37 models. The M43 guns have a ring trunnion, an on-carriage computer sight, clockwork-type spring equilibrators, and a device for affecting graduated recoil with varying elevations. The M43Z is a dual version of this weapon. The gun is readily recognized by the marked offset of the two barrels.

CHARACTERISTICS

Caliber.....	37-mm (1.46 in.)	Weight (in traveling position):	
Muzzle velocity (HE projectile).....	2,690 fps	M43.....	4,539 lb
Maximum range (horizontal).....	7,200 yd	M43Z.....	9,459 lb
Maximum range (vertical).....	15,750 ft	Practical rate of fire.....	150 rpm (double with M43Z)
Effective ceiling.....	6,500 ft	Elevation limits.....	-10° to +90°
		Total traverse.....	360°



ITALIAN 37-MM BREDA ANTI-AIRCRAFT GUN M37/54.

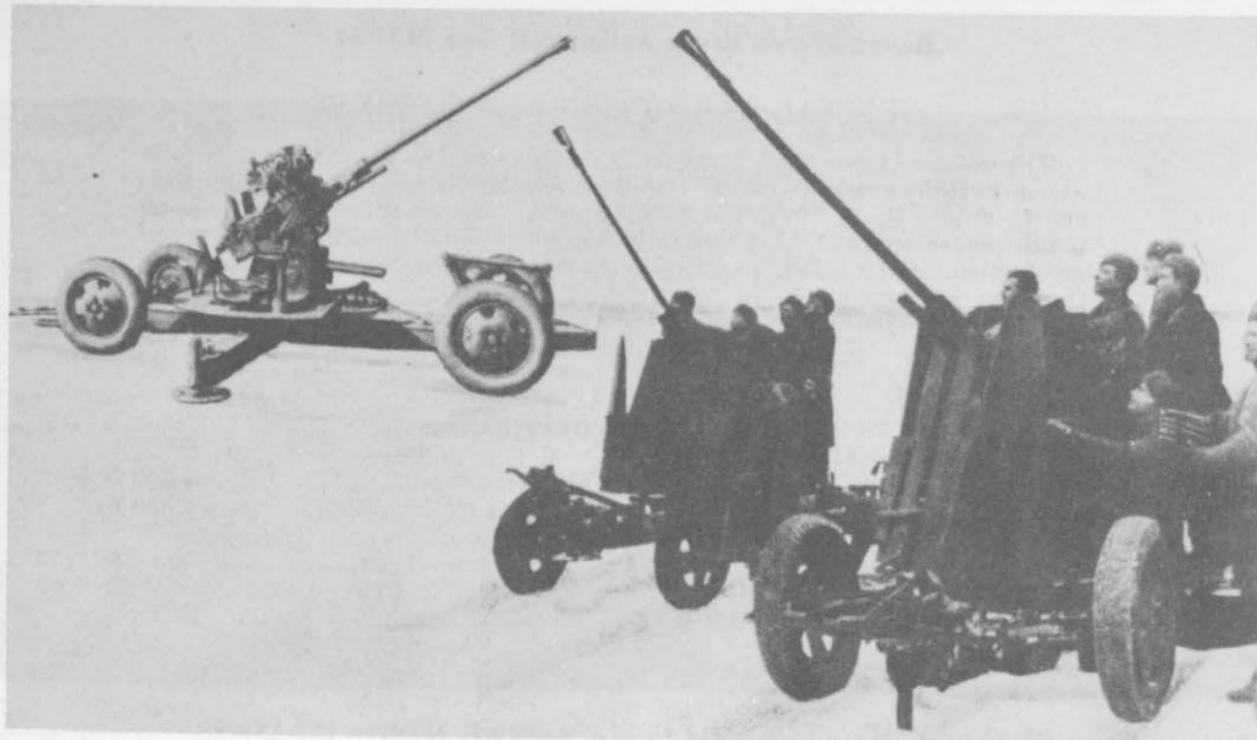
Italian 37-mm Breda Antiaircraft Gun M37/54

GENERAL DESCRIPTION AND COMMENT

This weapon exists in two versions. The mobile version is a single mount, however, a twin-mount static model was also produced. A slow rate of fire and low muzzle velocity make this weapon obsolete by present standards.

CHARACTERISTICS

Caliber.....	37-mm (1.46 in.)	Length of tube.....	54 calibers
Projectile weight (HE).....	1.76 lb	Practical rate of fire.....	70 rpm (single mount)
Muzzle velocity.....	2629 fps	Elevation limits.....	-10° to +90°
Maximum range (vertical).....	16,840 yd	Total traverse.....	360°
Effective ceiling.....	5,000 ft (est)		



SOVIET 37-MM ANTI-AIRCRAFT GUN M1939.

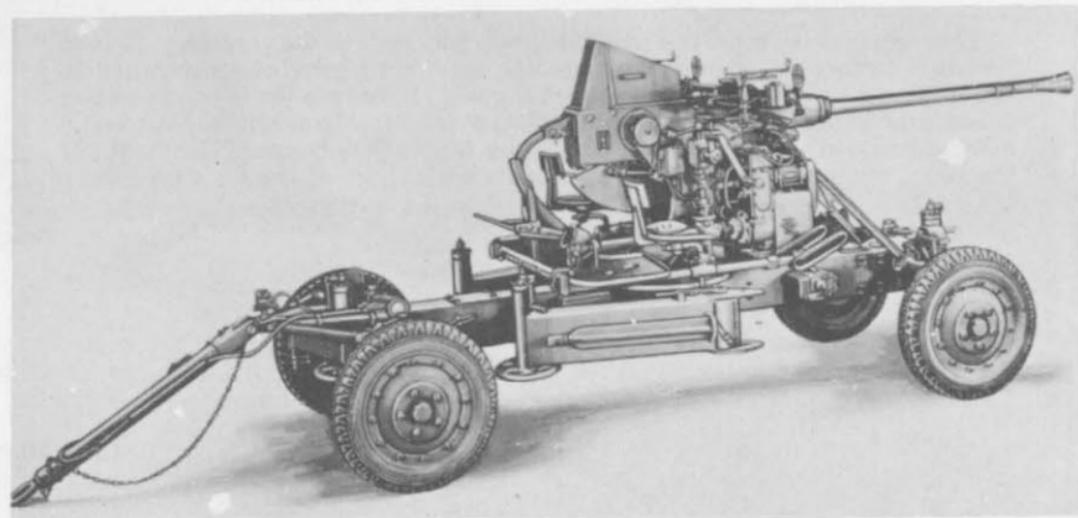
Soviet 37-mm Antiaircraft Gun M1939

GENERAL DESCRIPTION AND COMMENT

This weapon is employed against ground as well as air targets. It is of Swedish Bofors design and is therefore similar in general appearance to the U. S. and U. K. 40-mm Bofors AA gun. However the Soviet weapon is not power operated and generally has a shield. In addition, the recoil mechanism of this 37-mm gun projects a few inches beyond the jacket of the tube, whereas in the 40-mm Bofors it ends short of the forward end of the jacket. The Soviet gun is elevated and traversed by double handwheels.

CHARACTERISTICS

Caliber.....	37-mm (1.46 in)	Effective ceiling.....	4,500 ft (est)
Muzzle velocity (HE-T projectile).....	2,887 fps	Weight (in traveling position).....	4,630 lb
Weight of projectile (HE-T).....	1.61 lb	Cyclic rate of fire.....	160-180 rpm
Capacity of feed.....	5-round clips	Elevation limits.....	-5° to +83°
Types of rounds.....	HE-T and AP-T	Total traverse.....	360°



UNITED STATES 40-MM AA GUN M1 (BOFORS).

United States 40-mm AA Gun M1 (Bofors)

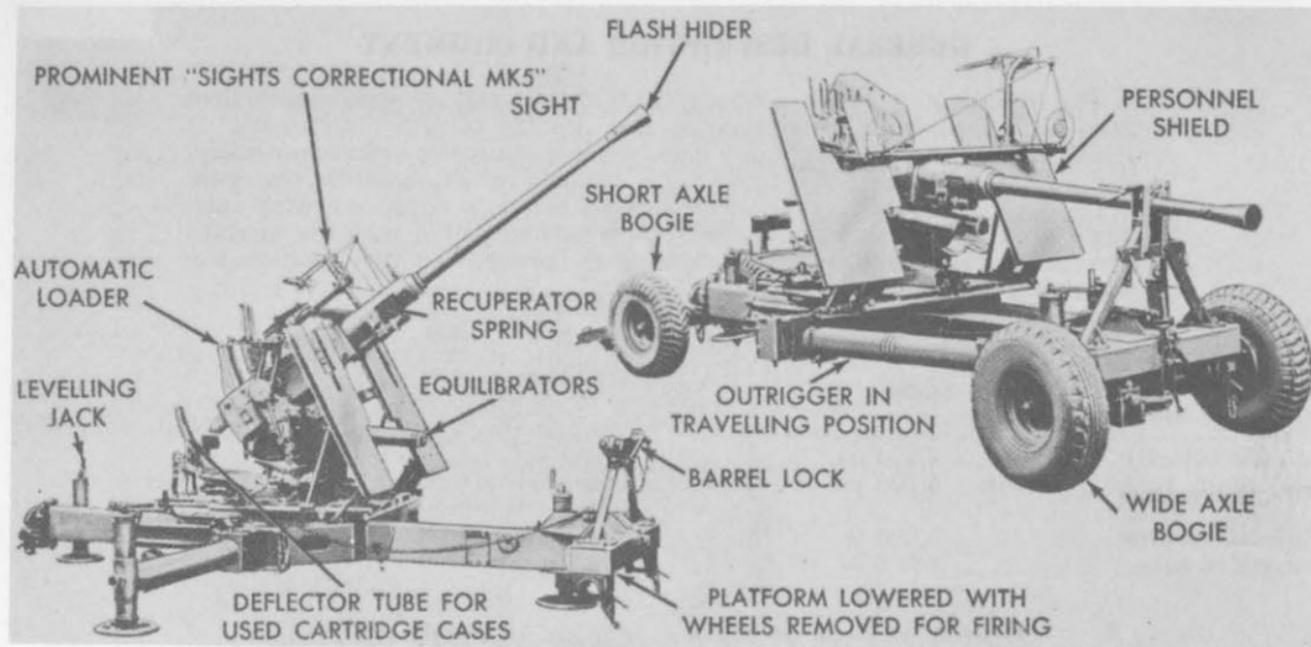
GENERAL DESCRIPTION AND COMMENT

The 40-mm gun M1 is an automatic antiaircraft weapon which fires fixed ammunition. It is air-cooled and capable of either automatic or semiautomatic fire. Firing may be controlled manually or automatically. Automatic control is by means of a director which controls one gun.

The gun is mounted on a four-wheeled carriage equipped with outriggers and leveling jacks. The weapon is normally fired with the carriage lowered to the ground and the outriggers spread. In this position the wheels are raised off the ground.

CHARACTERISTICS

Caliber.....	40-mm (1.57 in.)	Weight (in traveling position)	5,850 lb
Muzzle velocity.....	2,870 fps	Practical rate of fire.....	120 rpm
Maximum range (horizontal)	5,200 yd	Elevation limits.....	-6° to 90°
Effective ceiling.....	3,000 ft	Total limits.....	360°
Length of tube.....	8 ft 8 in.		



BRITISH 40-MM BOFORS AUTOMATIC ANTI-AIRCRAFT GUN.

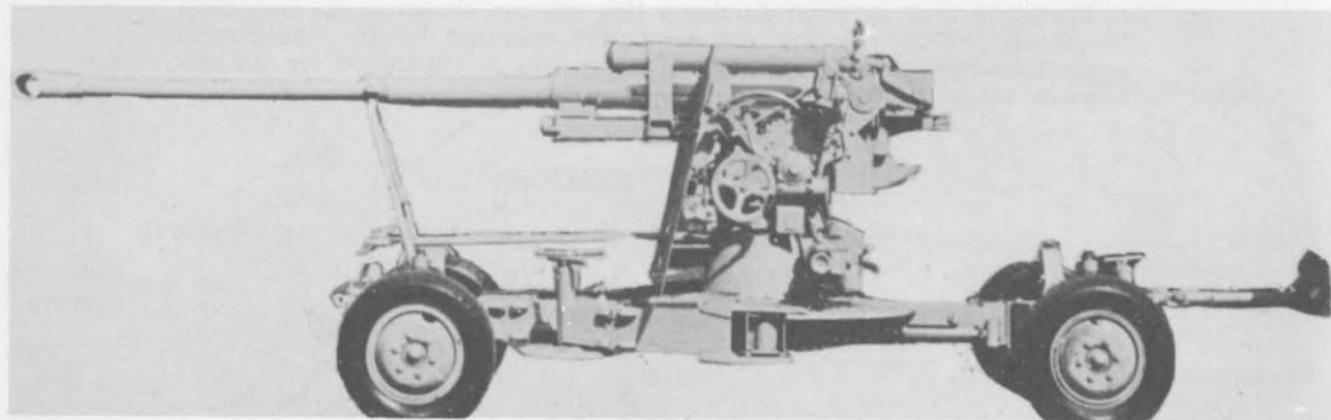
U. K. 40-mm Bofors Automatic AA Gun

GENERAL DESCRIPTION AND COMMENT

This is the World War II British version of the Swedish Bofors Gun. There are four different carriages but the one shown is the one most frequently seen. The gun can be power operated by the addition of control motors. The power-operated version is controlled by an off-carriage tracker and computer.

CHARACTERISTICS

Caliber.....	40-mm (1.57 in.)	Weight (in traveling position).....	5,040 lb
Muzzle velocity.....	2,800 fps	Rate of fire.....	120 rpm
Projectile weight:		Elevation limits.....	-6° to +90°
HE.....	1.99 lbs	Total traverse.....	360°
AP.....	1.96 lbs		
Effective ceiling.....	3,000 ft		



CZECH 85-MM ANTI-AIRCRAFT GUN MODEL.

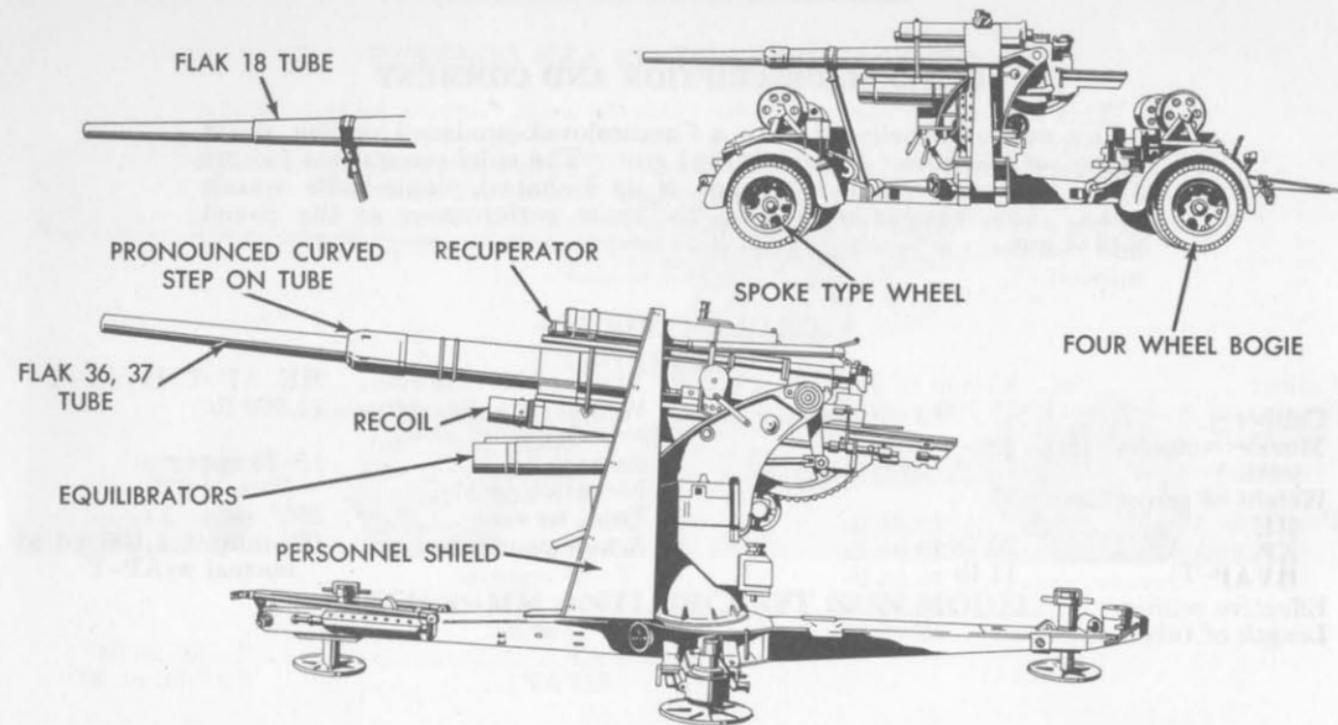
Czechoslovak 85-mm AA Gun Model

GENERAL DESCRIPTION AND COMMENT

This weapon is believed to be a Czechoslovak-produced version, if not a copy, of the Soviet 85-mm M1944 gun. The chief recognition feature of the Czechoslovak-made weapon is its T-shaped, single-baffle muzzle brake. This weapon is credited the same performance as the Soviet M1944 gun.

CHARACTERISTICS

Caliber.....	85-mm (3.35 in).	Types of ammunition..	HE, AP-T, HVAP-T
Maximum range (horizontal).	19,700 yd	Weight (in traveling position).	11,000 lb
Muzzle velocity (HE projectile).	2,953 fps	Rate of fire.....	15-20 rpm
Projectile weight:		Elevation limits.....	-3° to +82°
(HE and AP-T).....	20.28 lb	Total traverse.....	360°
(HVAP-T).....	11 lb	Armor penetration.....	102-mm at 1,100 yd at normal w/AP-T



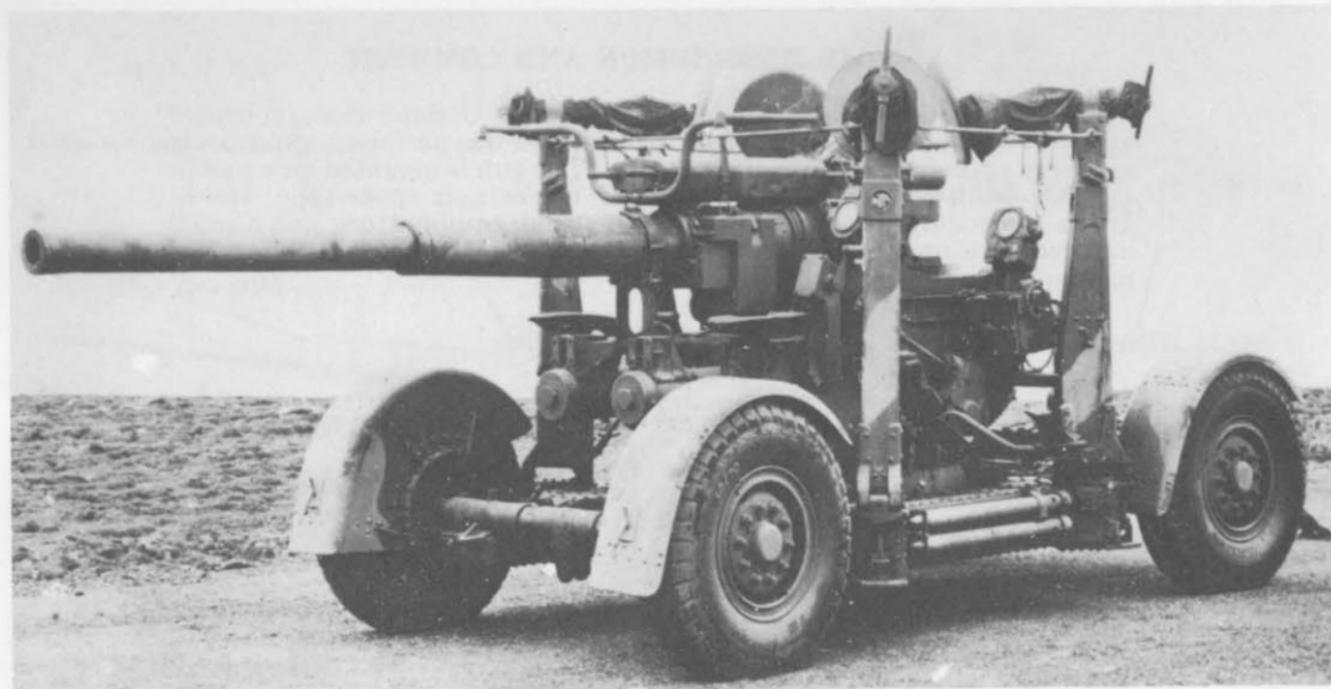
GERMAN 88-MM ANTI-AIRCRAFT GUN M18, 36, AND 37.

GENERAL DESCRIPTION AND COMMENT

This weapon, in various models, was the main German medium caliber anti-aircraft gun throughout World War II, and was also used, extensively and very effectively, in an antitank role. The gun is mounted on a mobile carriage equipped with two four-wheel bogies and spoke-type wheels. It has a cruciform platform, a personnel shield, equilibrators, and a recoil and recuperator system. It is used with a selsyn system of data transmission.

CHARACTERISTICS

Caliber.....	88-mm (3.46 in.)	Weight (in traveling position):	
Muzzle velocity (HE projectile).....	2,690 fps	M18.....	15,432 lb
Weight of projectiles:		M36 and 37.....	18,078 lb
HE.....	19.84 lb	Rate of fire.....	15 to 20 rpm
AP.....	20.94 lb	Elevation limits.....	-3° to +85°
HVAP.....	16.53 lb	Total traverse.....	360°
Effective ceiling.....	26,250 ft	Armor penetration (at 1,094 yards):	
Length of tube.....	193.8 in.	AP.....	5.4 in. at 30°
		HVAP.....	4.17 in. at 30°



BRITISH 3.7-INCH ANTI-AIRCRAFT GUN.

British 3.7-inch Antiaircraft Gun
(nomenclature)

GENERAL DESCRIPTION AND COMMENT

The gun is mounted on a mobile carriage which is brought into action by lowering the platform to the ground and removing the front and rear bogies. Off-carriage fire control equipment is normally used consisting of a director which is connected to elevation, azimuth, and fuze receivers which are mounted near the respective gear operating handwheels. This fire control equipment includes radar components for firing against unseen targets. Several models of this gun are available. Marks 1, 2, and 3 are mobile while the 3.7-inch AA Gun, Mk 6 is mounted on a static mount.

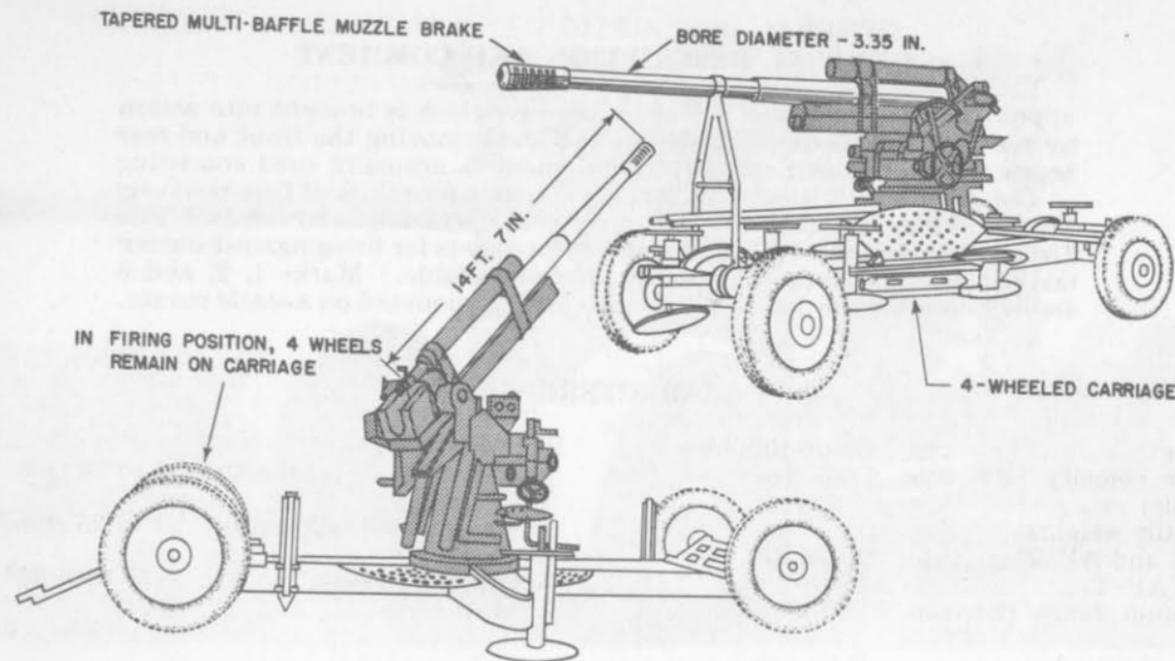
CHARACTERISTICS

Caliber.....	3.7-in. (94-mm)	Rate of fire:	
Muzzle velocity.....	2,600 fps	w/mechanical fuze setter	8 to 10 rpm
Effective ceiling.....	30,000 ft	No. 9.	
Length of tube.....	185 in.	w/mechanical fuze setter	23 to 25 rpm
Weight (in traveling position).	21,280 lb	No. 11.	
		Elevation limits.....	-5° to +80°
		Total traverse.....	360°

GENERAL DESCRIPTION AND COMMENT

The M1939 and M1944 are believed to be almost identical in external appearance except that the M1944 has a longer tube. The major recognition feature of the M1939 is the multibaffle muzzle brake. They may be encountered either with or without shields.

The weapon illustrated is the M1939 gun as no photographs of the Soviet M1944 gun are available. Covered separately is a Soviet type Czechoslovak-made 85-mm AA gun which is very similar to the Soviet M1939 gun illustrated except for a longer tube and a T-shaped single-baffle muzzle brake.



SOVIET 85-MM ANTI-AIRCRAFT GUN M1939 AND M1944.

CHARACTERISTICS

Caliber.....	85-mm (3.35 in.)	Weight (in traveling position).....	11,000 lb
Muzzle velocity (HE projectile).....	2,953 fps	Practical rate of fire.....	15-20 rpm
Projectile weights:		Elevation limits.....	-3° to +82°
(HE and AP-T).....	20.28 lb	Total traverse.....	360°
(HVAP-T).....	11 lb	Armor penetration (at 547 yards) ¹	111-mm at 0° (AP-T) 138-mm at 0° (HVAP-T).
Maximum range (horizontal).....	19,700 yd		
Types of rounds.....	HE, AP-T and HVAP-T		



UNITED STATES SCOUT CAR, WHITE M3A1.

United States Scout Car, White M3A1

GENERAL DESCRIPTION AND COMMENT

The White M3A1 scout car was developed during World War II by the United States to serve as a high speed scouting vehicle. Essentially an armored body mounted on a commercial type 4-wheel drive truck chassis, the vehicle can transport 8 men and can tow light artillery or antitank weapons. Recognition features are: the open-topped personnel and cargo compartment with a machine gun mount skate rail which encircles the compartment interior and the flat vertical armor plates which make up the armor body. The Hercules JXD 6-cylinder, water cooled, gasoline engine mounted in the front of the vehicle gives it a long-nosed appearance. The engine is protected by an armored hood with armored shutters for the radiator.

VEHICLE CHARACTERISTICS

Fighting weight..... 6 tons.
 Length (hull only)..... 18 ft 5 in.
 Width..... 6 ft 8 in.
 Maximum armor protection.. 0.25 in. at 0°.
 Cruising speed (road)..... 50 mph.
 Cruising radius..... 250 miles.

WEAPON CHARACTERISTICS

Primary armament..... Any machine gun(s).



BRITISH SCOUT CAR, FERRET MK 2.

British Scout Car, Ferret Mk 2

GENERAL DESCRIPTION AND COMMENT

The Ferret scout cars are standard equipment in the British Army and are small four-wheeled drive lightly armored vehicles. They are produced in two versions: The Mk 1 liaison scout car has an open roof and carries a crew of three while the Mk 2 reconnaissance version has a small rotating machinegun turret added above the crew compartment and carries a crew of two. Each wheel features an independently sprung suspension system. The hull is of flat-armor plate welded construction.

Recognition features are the low squat appearance, and the small angular hexagonally shaped body with pronounced overhang of the engine compartment to the rear.

VEHICLE CHARACTERISTICS

Fighting weight.....	4.75 tons
Length (hull only).....	12 ft 7 in.
Width.....	6 ft 3 in.
Maximum armor protection.....	0.62 in.
Cruising speed (road).....	50 mph
Cruising radius.....	108 miles

WEAPON CHARACTERISTICS

Primary armament.....	cal .30 MG
Rounds ammo carried.....	2,500
Traverse limits.....	360°
Elevation limits.....	+45° to -15°



BRITISH SCOUT CAR, DAIMLER MK 1.

British Scout Car, Daimler Mk 1

GENERAL DESCRIPTION AND COMMENT

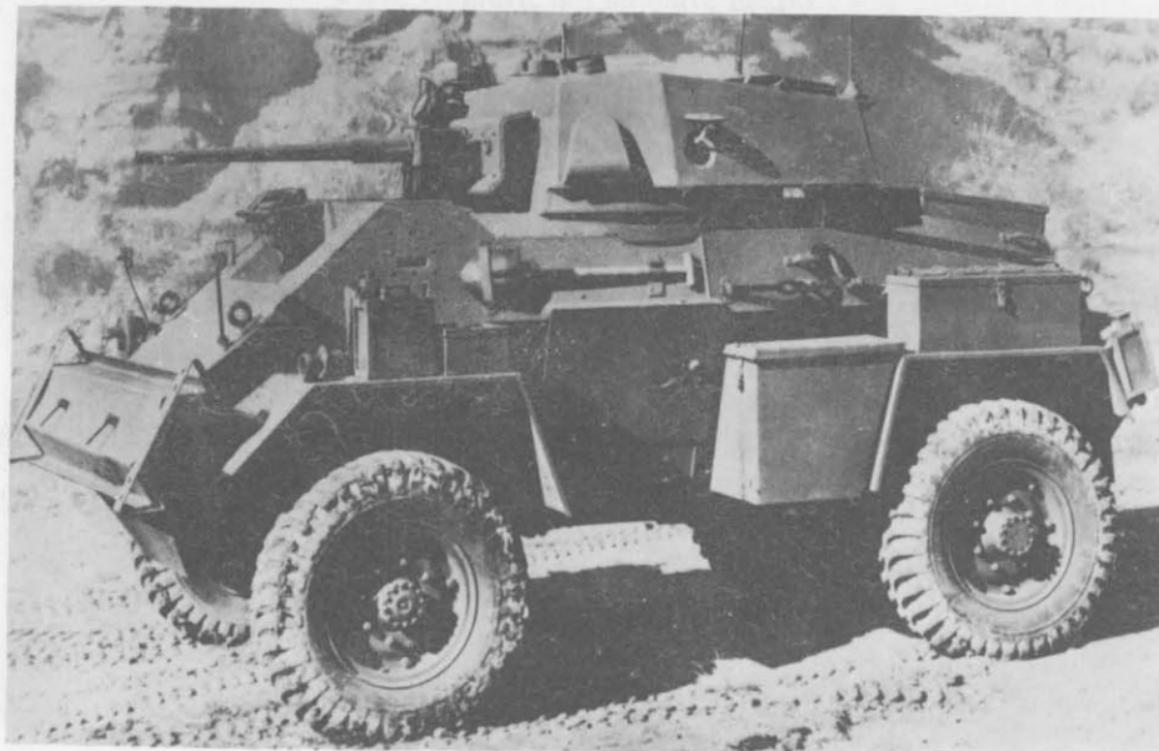
The Daimler Mk 1 scout car is a small lightly armored vehicle which carries a 2-man crew. While a wide equipment stowage box which is fastened across both front fenders and the vertical face on the front of the crew compartment give the vehicle a snub-nosed appearance from the front, the vehicles body presents an angular hexagonal shaped appearance from the rear. The engine compartment has a pronounced overhang to the rear. A hinged armored top folds to the rear when opened and rests on a special tubular bar support above the engine compartment.

VEHICLE CHARACTERISTICS

Fighting weight.....	4.3 tons
Length (hull only).....	10 ft 5 in.
Width.....	5 ft 7 in.
Maximum armor protection.....	1.18 in.
Cruising speed (road).....	50 mph
Cruising radius.....	215 miles

WEAPON CHARACTERISTICS

Primary armament.....	cal. .303 Bren light MG.
Rounds ammo carried....	750



BRITISH ARMORED CAR, HUMBER MK 4.

British Armored Car, Humber Mk 4

GENERAL DESCRIPTION AND COMMENT

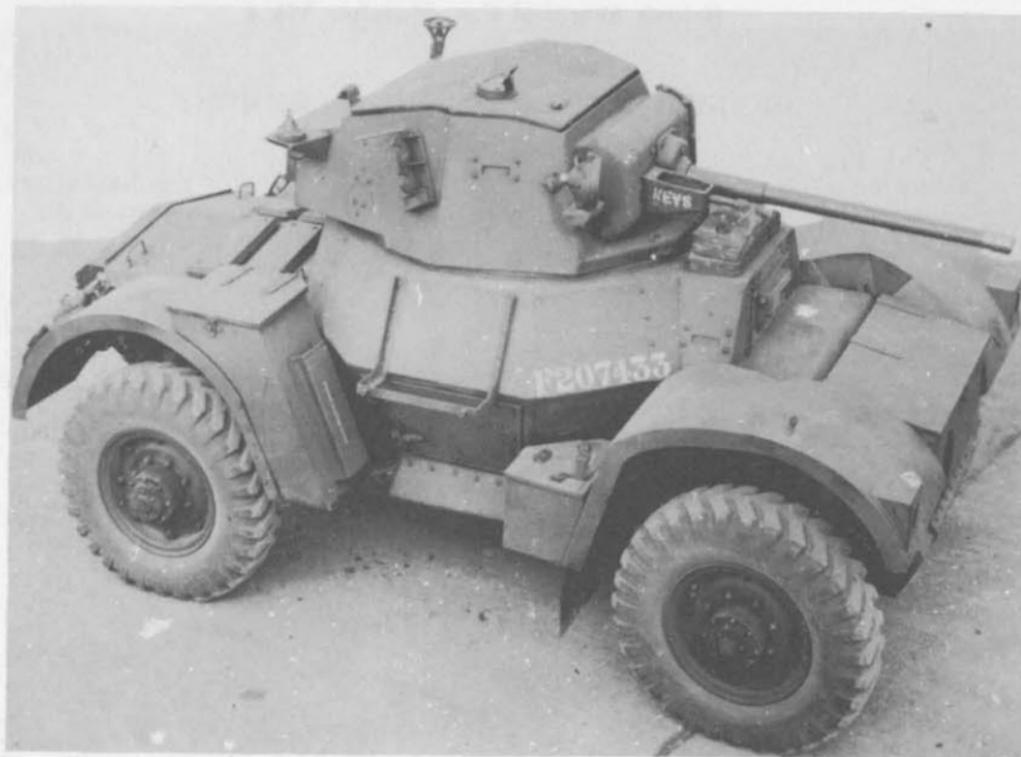
This lightly-armored car weighs 8 tons and is equipped with a turret-mounted 37-mm gun. It was designed by the British for reconnaissance roles as well as for special missions such as raids and convoy protection.

VEHICLE CHARACTERISTICS

Fighting weight.....	8 ton
Length (hull only).....	15 ft 2 in.
Width.....	7 ft 2 in.
Maximum armor protection.....	0.55-in.
Cruising speed (road).....	45 mph
Cruising radius.....	250 miles

WEAPON CHARACTERISTICS

Primary armament.....	37-mm gun
Rounds ammo carried.....	69
Traverse limits.....	360° (hand)
Elevation limits.....	+20° to -10°
Maximum armor penetration at 500 yards.....	2½ in.



BRITISH ARMORED CAR, DAIMLER MK 2.

British Armored Car, Daimler Mk 2

GENERAL DESCRIPTION AND COMMENT

This is a 4 x 4 armored car mounting a 2-pounder (40-mm) gun in the turret. Powered by a 6-cylinder gasoline engine developing 110 horsepower, the vehicle can attain a maximum speed of 50 miles per hour. For ease in rapidly reversing direction, the Daimler Mk 2 can be steered from the rear.

VEHICLE CHARACTERISTICS

Fighting weight.....	8.5 ton
Length (Hull only).....	13 ft
Width.....	8 ft 10 in.
Maximum armor protection.....	0.62-in.
Cruising speed (road).....	30 mph
Cruising radius.....	307 miles

WEAPON CHARACTERISTICS

Primary armament.....	2-pdr (40-mm) gun
Rounds ammo carried.....	52
Traverse limits.....	360°
Elevation limits.....	+25° to -12°
Maximum armor penetra- tion at 400 yards	2.1 in.



SOUTH AFRICAN ARMORED CAR, MARMON-HERRINGTON,
W/2-POUNDER GUN.

South African Armored Car Marmon-Herrington w/2-pounder gun

GENERAL DESCRIPTION AND COMMENT

This armored car was manufactured during World War II in the Union of South Africa. It combines the U. S. Marmon-Herrington chassis, South African armor plates, and a British 2-pounder (40-mm) gun, or machine guns.

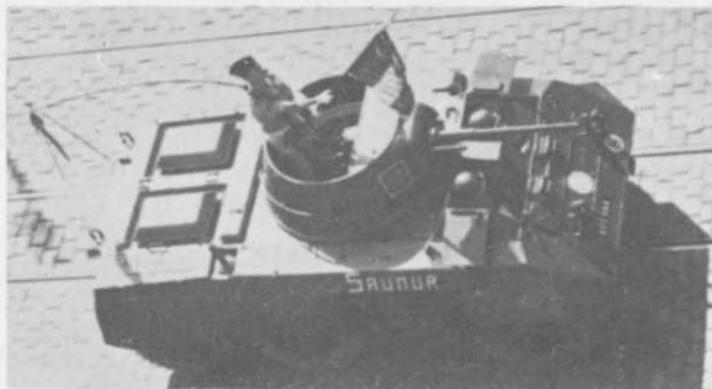
A 4 x 4 vehicle, the Marmon-Herrington armored car is powered by a Ford V-8 engine which develops 85 horsepower. A narrow ditch-crossing trough is carried on either side of the vehicle between the front and rear fenders.

VEHICLE CHARACTERISTICS

Fighting weight.....	5.5 ton
Length (hull only).....	15 ft
Width.....	6 ft
Maximum armor protection.....	0.5 in.
Cruising speed (road).....	40 mph
Cruising radius.....	200 miles

WEAPON CHARACTERISTICS

Primary armament.....	2-pdr (40-mm) gun
Rounds ammo carried.....	40
Traverse limits.....	360°
Elevation limits.....	+20° to -5°
Maximum armor penetra- tion at 400 yards.	2.1 in.



UNITED STATES ARMORED CAR, M8.

United States Armored Car, M8

GENERAL DESCRIPTION AND COMMENT

This vehicle was designed during World War II to provide high-speed mobility, defense firepower, and crew protection for reconnaissance.

The M8 consists of a turret-mounted 37-mm gun on a 6 x 6 chassis. The commander and gunner occupy positions in the open-topped turret. The driver and assistant are seated forward in the hull. In combat zones, the direct-vision slot shutters and hatch covers are closed, and vision is afforded by protectoscopes. Some M8's have been modified to mount 2-pdr (40-mm) guns. A turretless scout car version, called the M20, is used as a command and reconnaissance vehicle and usually mounts a cal. .50 machine gun on a ring mount in place of the turret.

VEHICLE CHARACTERISTICS

Fighting weight.....	7.5 ton
Length (hull only).....	16 ft
Width.....	8 ft
Maximum armor protection.....	0.75 in.
Cruising speed (road).....	55 mph
Cruising radius.....	250 miles

WEAPON CHARACTERISTICS

Primary armament.....	37-mm gun
Rounds ammo carried.....	80
Traverse limits.....	360°
Elevation limits.....	+20° to -10°
Maximum armor penetra- tion at 500 yards.	2.5 in.



UNITED STATES ARMORED CAR, STAGHOUND.

United States Armored Car, Staghound

GENERAL DESCRIPTION AND COMMENT

Widely used throughout the Middle East this vehicle has undergone many varied local modifications, usually to the turret, to suit the desires or needs of the present users. Powered by a 6-cylinder GMC, 97 hp, water cooled, gasoline engine the vehicle has a 4 x 4 wheel drive. The armored body has a flat well sloped front plate interrupted only by a flexible machine gun ball socket mount and armored windows for the driver. The armored sides of the body slope inward at the bottom. While the original models had a rounded cast turret mounting a 37-mm gun and a coaxial cal .30 machine gun, many of the modified vehicles have had the original turret replaced with a turret carrying a 2 pdr (40-mm) gun on a British Cromwell or Crusader tank turret which mounts a 75-mm gun.

VEHICLE CHARACTERISTICS

Fighting weight.....	15 ton
Length (hull only).....	18 ft
Width.....	8 ft 10 in.
Maximum armor protection.....	1 in. at 40°
Cruising speed (road).....	55 mph
Cruising radius.....	450 miles

WEAPON CHARACTERISTICS

Primary armament.....	75-mm gun
Rounds ammo carried.....	30
Traverse limits.....	360°
Elevation limits.....	+20° to -7°
Maximum armor penetra- tion at 500 yards	3 in.



FRENCH ARMORED CAR, PANHARD.

French Armored Car, Panhard

GENERAL DESCRIPTION AND COMMENT

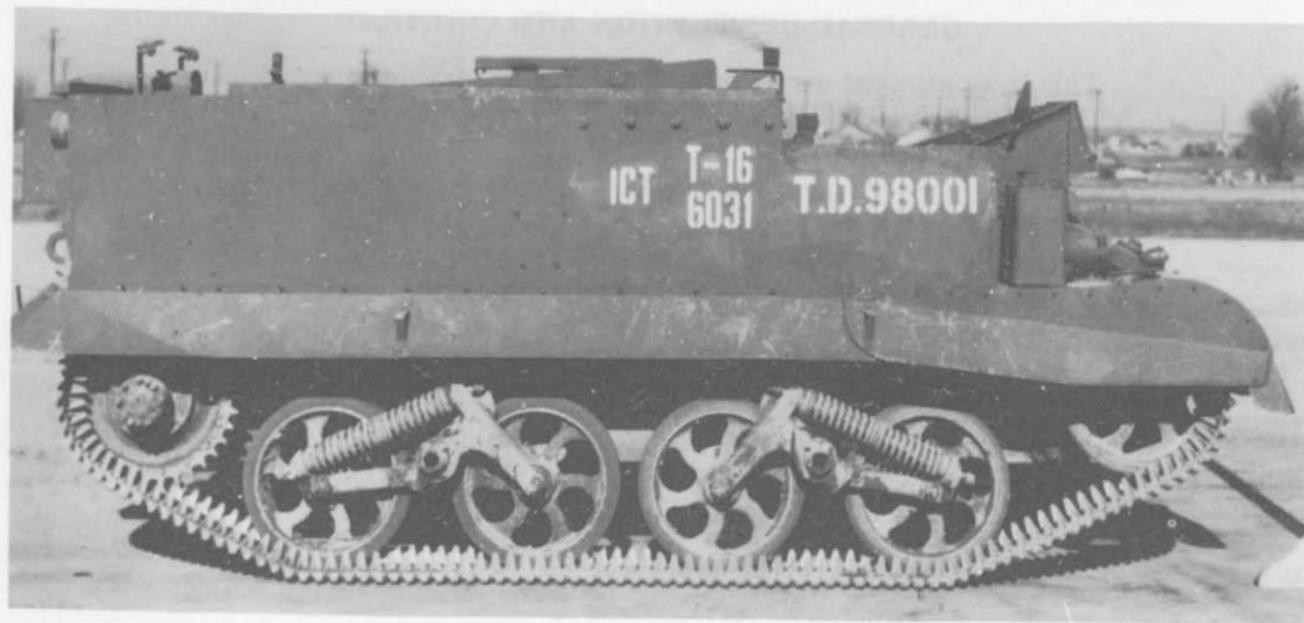
This is an armored car of recent manufacture featuring an oscillating turret housing a 75-mm gun and eight driving wheels. The two middle sets of retractable metal wheels can be lowered to provide increased traction in cross-country driving. This vehicle also has provisions for two drivers, one in front and one in the rear, a feature which enhances its reconnaissance effectiveness.

VEHICLE CHARACTERISTICS

Fighting weight.....	14 ton
Length (hull only).....	18 ft
Width.....	8 ft
Maximum armor protection..	1.6 in. (basis)
Cruising speed (road).....	60 mph
Cruising radius.....	450 miles

WEAPON CHARACTERISTICS

Primary armament.....	75-mm gun
Rounds ammo carried.....	51
Traverse limits.....	360°
Elevation limits.....	+15° to -10°
Maximum armor penetration	3 in.
	at 1,000 yards.



BRITISH UNIVERSAL CARRIER.

British Universal Carrier

GENERAL DESCRIPTION AND COMMENT

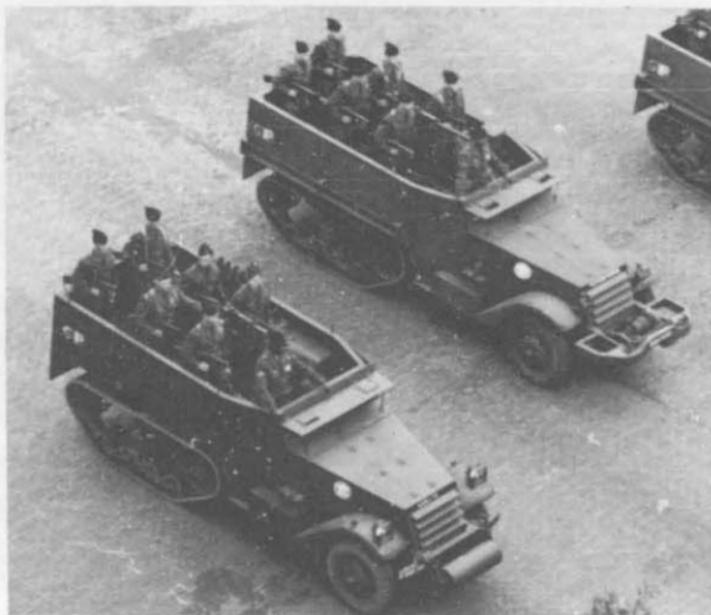
The British Universal Carrier (sometimes called the "Bren Gun Carrier") was designed as a light full-tracked vehicle to carry machine gun or light mortar weapons over fire swept ground while providing the crews protection from artillery fragments and small arms fire. It is powered by a Ford V-8 cylinder, 100 hp, water cooled, gasoline engine driving the tracks through sprockets at the rear of the carrier. The carrier has a low squat appearance with a box shaped cargo or personnel compartment.

VEHICLE CHARACTERISTICS

Fighting weight.....	5 ton
Length (hull only).....	14 ft 5 in.
Width.....	7 ft
Track width.....	9½ in.
Maximum armor protection.....	0.41 in. at 0°
Cruising speed (road).....	30 mph
Cruising radius.....	200 miles

WEAPON CHARACTERISTICS

Primary armament.....	Machine guns, 3" Mortar, or 4.2" mortar.
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UNITED STATES ARMORED PERSONNEL CARRIERS, HALF-TRACK,
M2, M3, M5, OR M9.

GENERAL DESCRIPTION AND COMMENT

The basic halftrack personnel carrier was produced in considerable quantity by the United States during World War II. Many versions exist. The vehicle is used primarily as a carrier for armored infantry and as a mount for machine guns, mortars, or light AA weapons. Similar in appearance to the M3A1 Scout car, the halftrack provided increased cross-country and rough terrain maneuverability with an endless-band, track laying drive. The rear track drive is distinguished by a single center strut which supports four small road wheels and by the rubber type band track as distinguished from metal block track on some European halftrack vehicles. The personnel on cargo compartment is considerably longer than that of the M3A1 Scout car and the halftracks are usually equipped with a roller or a winch fixed to the front bumper.

VEHICLE CHARACTERISTICS

Fighting weight.....	8 to 11 ton
Length (hull only).....	20 ft, 3½ in.
Width.....	7 ft, 3½ in.
Track width.....	12 in.
Maximum armor protection..	0.25 in. at 0°
Cruising speed (road).....	40 mph
Cruising radius.....	175 miles

WEAPON CHARACTERISTICS

Primary armament.....	Any machine guns, light mortars, light AAA weapons.
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SOVIET ARMORED PERSONNEL CARRIER, BTR-152.

Soviet Armored Personnel Carrier, BTR-152

GENERAL DESCRIPTION AND COMMENT

This 6 x 6 armored personnel carrier utilizes the chassis of the standard Soviet 5-ton truck, the ZIS-151. The vehicle is lightly armored with seam-welded plates which are placed at varying angles to afford greater protection against fragments and small arms fire.

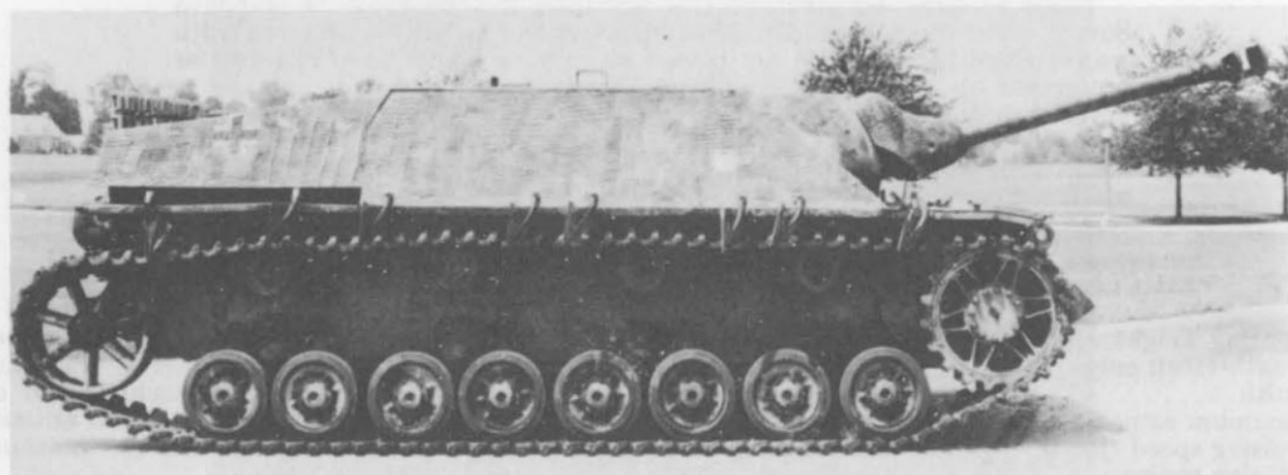
In addition to its personnel carrying role, the vehicle can be used for several purposes including prime mover for light artillery pieces, reconnaissance and security vehicle, and as a self-propelled carriage for automatic weapons.

VEHICLE CHARACTERISTICS

Fighting weight.....	9 ton
Length (Hull only).....	21 ft 6 in.
Width.....	8 ft
Maximum armor protection..	0.5 in.
Cruising speed (road).....	45 mph
Cruising radius.....	360 miles
Personnel capacity.....	14 (including a crew of 2).

WEAPON CHARACTERISTICS

Primary armament.. The vehicle mounts either a 7.62-mm or 12.7-mm heavy machine gun or a dual 14.5-mm anti-aircraft heavy machine gun.



GERMAN ASSAULT GUN, 7.5CM STU.K. 40 ON PZKW IV CHASSIS.

German Assault Gun 7.5 cm Stu. K. 40 on PzKw IV Chassis

GENERAL DESCRIPTION AND COMMENT

This is a German World War II Assault gun mounting the 75-mm Stu. K. 40 on a modified chassis of the Mark IV tank.

The primary armament is mounted in the sloping front plate of a squat superstructure and is offset slightly to the right of center. The gun mounting is of the gimbal type, and is protected externally by a heavy casting. Mechanically, this assault gun is similar to its parent vehicle, the Mark IV tank.

The vehicle can be identified by its eight small road wheels and four track support rollers per side and by the squat appearance of the superstructure.

VEHICLE CHARACTERISTICS

Fighting weight.....	27 ton
Length (hull only).....	20 ft
Width.....	10 ft
Track width.....	15 in.
Maximum armor protection	3.15 in. at 45°
Cruising speed (road).....	38 mph
Cruising radius.....	130 miles

WEAPON CHARACTERISTICS

Primary armament.....	75-mm gun
Rounds ammo carried.....	55
Traverse limits.....	10° L&R
Elevation limits.....	+15° to -5°
Maximum armor penetration at 1,000 yards	3.5 in.



SOVIET ASSAULT GUN, SU-100.

Soviet Assault Gun, SU-100

GENERAL DESCRIPTION AND COMMENT

The SU-100, consisting of the 100-mm gun M1944 (D-10S) mounted on the chassis of the T-34 medium tank, first appeared in early 1945. The high performance of the 100-mm gun, together with the mobility and armor protection of the carriage, makes the SU-100 a most significant antitank weapon. With a fighting weight of 33 tons, it is two tons lighter than the T-34 (85) medium tank.

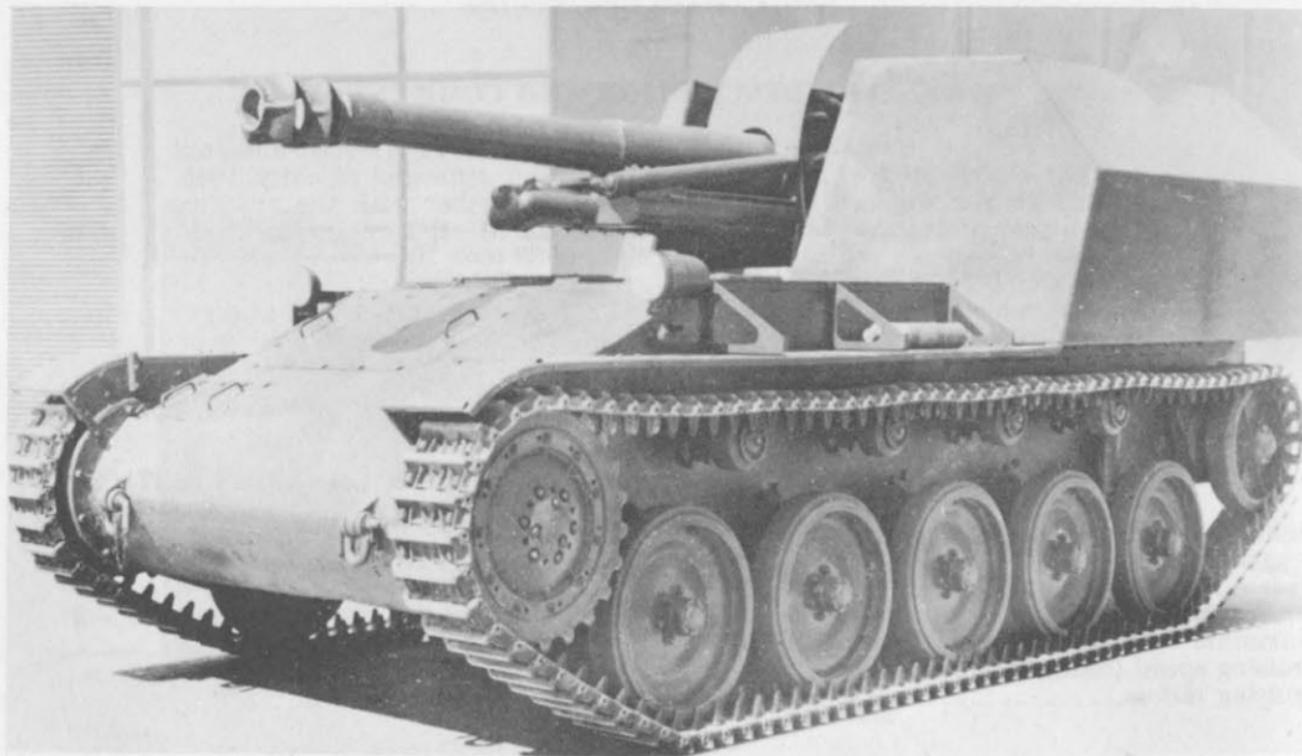
The vehicle is readily identifiable by its T-34 type suspension, a superstructure which is situated well forward on the chassis, and a commander's cupola which is faired into the right side of the superstructure. The SU-100 was also manufactured by Czechoslovakia.

VEHICLE CHARACTERISTICS

Fighting weight.....	33 ton
Length (hull only).....	20 ft
Width.....	10 ft
Track width.....	19.8 in.
Maximum armor protection.....	3 in. at 60°
Cruising speed (road).....	35 mph
Cruising radius.....	190 miles

WEAPON CHARACTERISTICS

Primary armament.....	100-mm gun
Rounds ammo carried.....	34
Traverse limits.....	16° R&L
Elevation limits.....	+17° to -2°
Maximum armor penetration at 500 yards.....	6.1 in.



FRENCH SELF-PROPELLED HOWITZER, 105-MM, ON AMX CHASSIS.

French Self-Propelled Howitzer, 105-mm, on AMX Chassis

GENERAL DESCRIPTION AND COMMENT

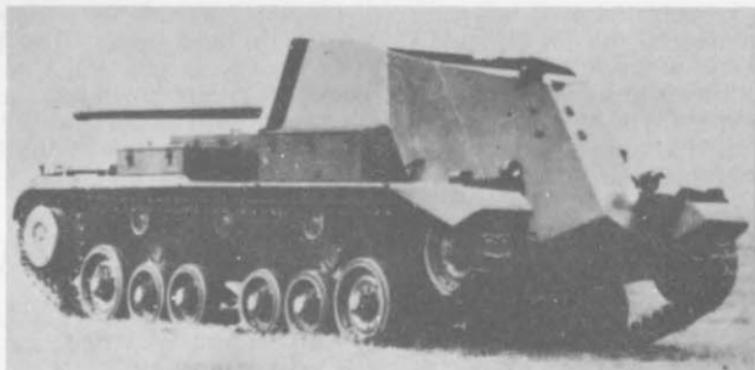
The French 105-mm howitzer self-propelled vehicle is a companion development to the French AMX 75-mm gun light tank. The 105-mm howitzer is mounted on the same basic chassis as the AMX tank. It carries thinner armor than the tank and the 105-mm howitzer is mounted in a casemate type superstructure on the rear of the chassis thus permitting only limited traverse of the main armament. The muzzle of the 105-mm howitzer features a double-baffle muzzle brake.

VEHICLE CHARACTERISTICS

Fighting weight.....	14 tons
Length (hull only).....	16 ft 5 in.
Width.....	7 ft 11 in.
Track width.....	12 in.
Maximum armor protection.....	1.2 in.
Cruising speed (road).....	30 mph
Cruising radius.....	110 miles

WEAPON CHARACTERISTICS

Primary armament.....	105-mm how
Rounds ammo carried.....	52
Traverse limits.....	20° R & L
Elevation limits.....	+67° to -3°



BRITISH SELF-PROPELLED GUN, 17 PDR ON VALENTINE CHASSIS.

British Self-Propelled Gun, 17-pdr on Valentine Chassis

GENERAL DESCRIPTION AND COMMENT

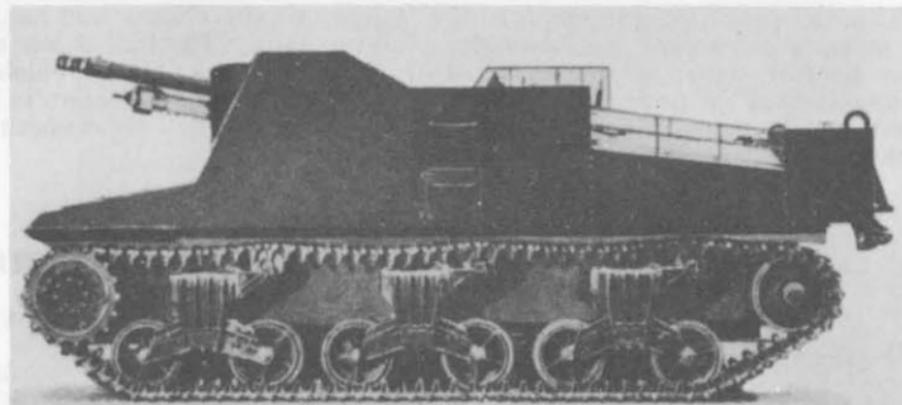
This self-propelled gun employs the Valentine tank chassis and has, as its primary armament, a 17-pounder (76-mm) gun. The hull is low and open topped, with the superstructure built up in front. The vehicle is unique in that the primary armament points to the rear rather than to the front as on most self-propelled weapons. This vehicle is sometimes nicknamed "Archer".

VEHICLE CHARACTERISTICS

Fighting weight.....	16.5 tons
Length (hull only).....	20 ft 11 in.
Width.....	8 ft 9½ in.
Track width.....	14 in.
Maximum armor protection.....	0.8 in.
Cruising speed (road).....	20 mph
Cruising radius.....	158 miles

WEAPON CHARACTERISTICS

Primary armament.....	17-pdr (76-mm) gun
Rounds ammo carried.....	39
Traverse limits.....	45°
Elevation limits.....	+16° to -5°
Maximum armor penetra- tion at 500 yards.....	9.1 in.



BRITISH SELF-PROPELLED GUN, 25 PDR, SEXTON.

British Self-Propelled Gun, 25-pdr, Sexton

GENERAL DESCRIPTION AND COMMENT

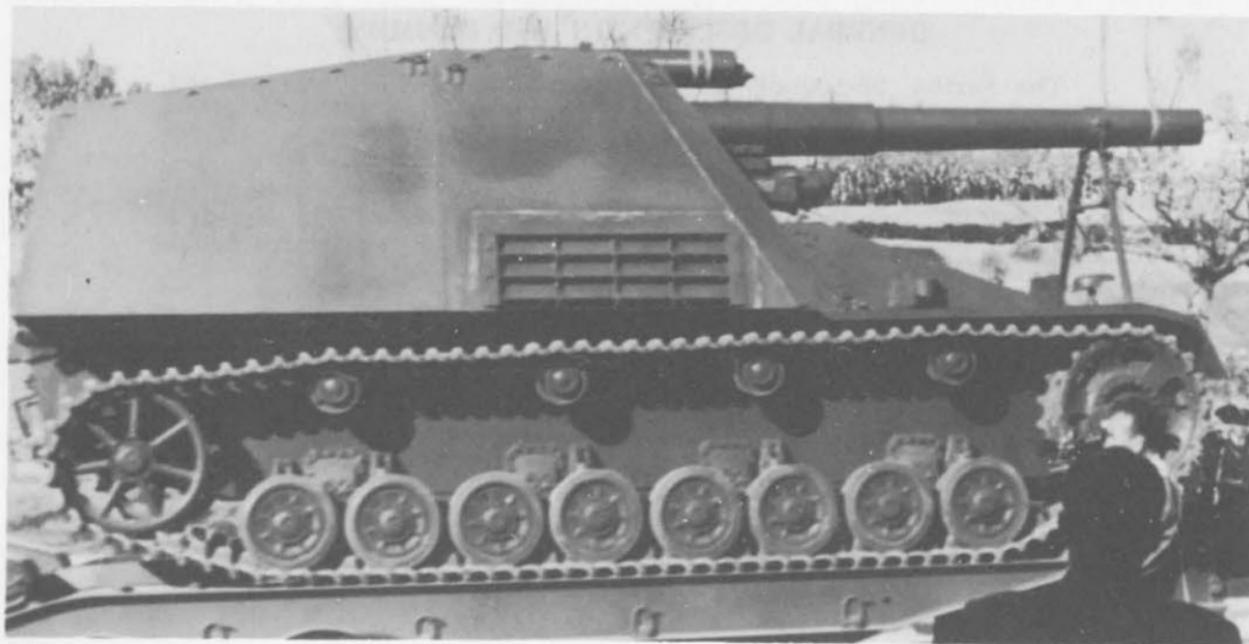
The Sexton, 25-pounder SP, is the standard British armored self-propelled artillery weapon. The vehicle is powered by a 400 hp Continental radial, air cooled, gasoline engine and drives the tracks through sprockets at the front of the vehicle. Recognition features are the long hull with vertical sides and a higher open topped superstructure at the center of the vehicle has a unique stepped appearance. The chassis is similar to that of the M4 Sherman tank with the typical three double wheeled bogie suspension units and three track support rollers.

VEHICLE CHARACTERISTICS

Fighting weight.....	32 tons
Length (hull only).....	20 ft
Width.....	9 ft
Track width.....	16.5 in.
Maximum armor protection.....	3 in.
Cruising speed (road).....	25 mph
Cruising radius.....	144 miles

WEAPON CHARACTERISTICS

Primary armament.....	25-pdr gun how.
Rounds ammo carried.....	105 rds
Traverse limits.....	25° L, 15° R
Elevation limits.....	+40° to -9°
Maximum armor penetra- tion at 500 yards.	70-mm



GERMAN SELF-PROPELLED HOWITZER, 150-MM HUMMEL, ON PZKW IV CHASSIS.

German Self-Propelled Howitzer, 150-mm Hummel, on PzKw IV Chassis

GENERAL DESCRIPTION AND COMMENT

The 150-mm German field howitzer was mounted on the basic PzKw IV hull and was known as the Hummel (Bumble-Bee). The howitzer is mounted in a sloping four-sided armored casemate positioned well back on the vehicle. The engine is forward in the hull alongside the driver. The 8-road wheel suspension from the PzKw IV is used on this carriage.

VEHICLE CHARACTERISTICS

Fighting weight.....	28 tons
Length (hull only).....	20 ft, 4 in.
Width.....	9 ft, 8 in.
Track width.....	15 in.
Maximum armor protection.....	1.2 in. at 22°
Cruising speed (road).....	25 mph
Cruising radius.....	160-mm

WEAPON CHARACTERISTICS

Primary armament.....	150-mm howitzer.
Rounds ammo carried.....	18 rds.
Traverse limits.....	16° R&L
Elevation limits.....	+39° to 0°



FRENCH LIGHT TANK, 75-MM GUN, AMX-13.

French Light Tank, 75-mm Gun, AMX-13

GENERAL DESCRIPTION AND COMMENT

The AMX-13, 75-mm, light tank is a 1950 French development that incorporates several unique tank design features. The basic AMX chassis is powered by a Mathis 8-cylinder pancake, 270 h. p., air-cooled, gasoline engine which is mounted in the forward part of the hull to the left of the driver and drives the tracks through sprockets at the front.

Hull recognition features are the low-squat appearance of the hull with the tracks running on six road wheels (the trailing road wheel also serves as a rear track idler), and the long sloping glacis plate.

The cast turret, mounted well to the rear of the hull, is the new oscillating type with a long barreled gun fitted with a double baffle muzzle brake. The turret has a pronounced overhanging bulge to the rear. An ejection hole for spent shell cases is located in the rear of the turret bulge, and a semiautomatic loading mechanism is provided for the 75-mm gun. One 7.5-mm machine gun is mounted coaxially with the main armament.

VEHICLE CHARACTERISTICS

Fighting weight.....	16 tons
Length (Hull only).....	16 ft
Width.....	8 ft 3 in.
Track width.....	13¾ in.
Maximum armor protection..	1.6 in. at 55°
Cruising speed (road).....	37 mph
Cruising radius.....	170 miles

WEAPON CHARACTERISTICS

Primary armament.....	75-mm gun
Rounds ammo carried.....	43 rd
Traverse limits.....	360°
Elevation limits.....	+14° to -4°
Maximum armor penetration at 500 yards.....	3 in.



UNITED STATES LIGHT TANK, 75-MM GUN, CHAFFEE M24.

United States Light Tank, 75-mm Gun, Chaffee M24

GENERAL DESCRIPTION AND COMMENT

The M24 light tank was adopted by the U. S. Army in 1944 and gradually replaced the older M5 light tanks. The tank is powered by twin Cadillac V8 engines and features a torsion bar type suspension with five road wheels and three support rollers. The tank is driven by a front sprocket and the engines are mounted in the rear. Recognition features include the large sloping turret with sides undercut to the base ring, a large metal stowage box overhang on the rear of the turret, and a broad flat upper front glacis plate with a hexagonal plate for access to the control differential and steering assembly. The tank has a ball socket mounted machine gun at the bow position in the hull right front.

VEHICLE CHARACTERISTICS

Fighting weight.....	20.5 tons
Length (hull only).....	16 ft, 3 in.
Width.....	9 ft, 9 in.
Track width.....	16 in.
Maximum armor protection.....	1.5 in.
Cruising speed (road).....	30 mph
Cruising radius.....	175 miles

WEAPON CHARACTERISTICS

Primary armament.....	75-mm gun
Rounds ammo carried.....	48
Traverse limits.....	360°
Elevation limits.....	+15° to -10°
Maximum armor penetration at 500 yards.....	3.26 in.



UNITED STATES LIGHT TANK, 76-MM GUN, WALKER BULLDOG M41.

United States Light Tank, 76-mm Gun, Walker Bulldog M41

GENERAL DESCRIPTION AND COMMENT

The M41 light tank was introduced in 1953 and is widely used as a reconnaissance tank. The tank features a new 76-mm high velocity gun and an air cooled, 6-cylinder, 500-horsepower gasoline engine. The suspension consists of a torsion bar system with five road wheels and three return rollers and a rear track drive sprocket. The turret is long and narrow with flat sloped sides and large bustle overhang which is further accentuated by the addition of a metal stowage box. The long thin gun barrel has a small bore evacuator container at the muzzle immediately behind the single baffle muzzle brake.

VEHICLE CHARACTERISTICS

Fighting weight.....	25 tons
Length (hull only).....	19 ft
Width.....	10 ft 6 in
Track width.....	21 in.
Maximum armor protection.....	1.25 in.
Cruising speed (road).....	35 mph
Cruising radius.....	85 miles

WEAPON CHARACTERISTICS

Primary armament.....	76-mm gun
Rounds ammo carried.....	65
Traverse limits.....	360°
Elevation limits.....	+20° to -10°
Maximum armor penetra- tion at 1,000 yards.	4.4 in.



UNITED STATES TANK DESTROYER, 76-MM GUN, HELLCAT M18.

United States Tank Destroyer, 76-mm Gun, Hellcat M18

GENERAL DESCRIPTION AND COMMENT

This fast lightly armored vehicle was designed for tank destroyer use during World War II. It mounts a 76-mm gun in an open topped turret and has a low silhouette. The suspension system consists of torsion bars and five road wheels and a front drive sprocket. Powered by an air cooled Continental radial gasoline engine, it has a torqueomatic transmission. The armor is flat and sloped and affords good ballistic protection.

VEHICLE CHARACTERISTICS

Fighting weight.....	20 tons
Length (hull only).....	17 ft 4 in.
Width.....	9 ft 2 in.
Track width.....	16 in.
Maximum armor protection.....	1 in.
Cruising speed (road).....	40 mph
Cruising radius.....	150 miles

WEAPON CHARACTERISTICS

Primary armament.....	76-mm gun
Rounds ammo carried.....	45
Traverse limits.....	360°
Elevation limits.....	+20° to -10°
Maximum armor penetra- tion at 1,000 yards.	4.4 in.



UNITED STATES MEDIUM TANK, 75-MM GUN, SHERMAN M4.

United States Medium Tank, 75-mm Gun, Sherman M4

GENERAL DESCRIPTION AND COMMENT

The basic Sherman tank chassis is powered by either a Continental 9-cylinder radial, 350 hp, air cooled, gasoline engine or a Ford V-8 cylinder, 450 hp, water cooled, gasoline engine driving through a control differential and final drives with drive sprockets in the front of the tracks.

The hull is recognized by the sharp angular side and front armor plates and the tapering rear deck line which gives the tank hull a wedge-shaped appearance. The hull sponson extends over the tracks. The track is narrow and runs on 3 pairs of double wheeled bogie suspension brackets.

The turret is of cast construction and has a rounded appearance with a partial overhang to the rear. A rounded gun mantlet protects the 75-mm main armament and coaxially mounted caliber .30 machine gun. Other secondary armament usually consists of a ball socket flexible caliber .30 machine gun mounted to the right of the driver in the hull and an AA machine gun mounted on a pedestal on top of the turret.

The M4 has often been modified to mount different weapons as main armament. Typical variations might mount a 76-mm gun, a 105-mm howitzer, or a long barrel high velocity French 75-mm gun.

VEHICLE CHARACTERISTICS

Fighting weight..... 35 tons
 Length (hull only)..... 19 ft 4 in.
 Width..... 8 ft 7 in.
 Track width..... 16½ in.
 Maximum armor protection.. 3 in. at 0°
 Cruising speed (road)..... 26 mph
 Cruising radius..... 130 miles

WEAPON CHARACTERISTICS

Primary armament..... 75-mm gun
 Rounds ammo carried..... 97 rds
 Traverse limits..... 360°
 Elevation limits..... +20° to -10°
 Maximum armor penetra- 3.26 in.
 tion at 500 yards



UNITED STATES MEDIUM TANK, 90-MM GUN, PATTON M47.

United States Medium Tank, 90-mm Gun, Patton M47

GENERAL DESCRIPTION AND COMMENT

The M47 medium tank is essentially an improved version of the earlier M46 Patton tank. It features a slightly modified M46 tank hull and a new turret assembly which includes an optical range finder as part of the gunner's fire control equipment. The cast turret has sloped sides with range finder end-windows appearing as knobs high on the right and left forward portions of the turret. A large turret bustle which overhangs to the rear is further accentuated by a pear-shaped metal stowage box. The torsion bar suspension system has six road wheels and three return rollers with a rear drive sprocket. The tank is powered by an air-cooled 12-cylinder gasoline engine which drives through an automatic cross-drive transmission. The gun tube has a bore evacuator can attached immediately behind a cylindrical muzzle counterweight or a single-baffle muzzle brake.

VEHICLE CHARACTERISTICS

Fighting weight.....	48.5 tons
Length (hull only).....	20 ft 7 in.
Width.....	11 ft 6 in.
Track width.....	23 in.
Maximum armor protection.....	4 in.
Cruising speed (road).....	30 mph
Cruising radius.....	75 miles

WEAPON CHARACTERISTICS

Primary armament.....	90-mm gun
Rounds ammo carried.....	71
Traverse limits.....	360°
Elevation limits.....	+19° to -10°
Maximum armor penetration at 1,000 yards.....	6.2 in.



UNITED STATES TANK DESTROYER, 3-INCH GUN, M10.

United States Tank Destroyer, 3-inch Gun, M10

GENERAL DESCRIPTION AND COMMENT

The M10 tank destroyer was adopted during World War II to provide a vehicle with heavier armor protection than the M18 light tank destroyer. The hexagonally shaped turret is open on the top and has flat sides which are undercut to the base ring. The hull is constructed of welded flat armor plate and has a distinctive undercut rectangular shape along the sides and across the rear. The suspension is of the vertical volute spring type with three two-wheeled bogie assemblies. The M10 is powered by twin GM Diesel engines and the M10A1 version is powered by a single 8-cylinder Ford gasoline engine.

VEHICLE CHARACTERISTICS

Fighting weight.....	33 tons
Length (hull only).....	19 ft 7 in.
Width.....	10 ft
Track width.....	16.5 in.
Maximum armor protection.....	2.5 in.
Cruising speed (road).....	25 mph
Cruising radius.....	200 miles

WEAPON CHARACTERISTICS

Primary armament.....	3-inch Gun
Rounds ammo carried.....	54
Traverse limits.....	360°
Elevation limits.....	+19° to -10°
Maximum armor penetration	4.4 in.
at 1000 yards.	



UNITED STATES TANK DESTROYER, 90-MM GUN, M36B2.

United States Tank Destroyer, 90-mm Gun, M36

GENERAL DESCRIPTION AND COMMENT

The M36 tank destroyers are modifications of the M10 tank destroyers upgunned to mount a 90-mm gun. The principal distinguishing characteristic is the vehicle's hull with its long flat welded side plates and distinctive undercut shape along the sides and across the rear. The turret is of a short cylindrical shape with a broad thick cast mantlet and angular rear turret bustle. The M36B2 version differs from the M36 principally in the additional provision of a low armored roof over the turret fighting compartment and a double baffle muzzle brake on the 90-mm gun. The M36 is powered by a Ford GAA gasoline engine while the M36B2 is powered by twin GM Diesel engines.

VEHICLE CHARACTERISTICS

Fighting weight.....	31 tons
Length (hull only).....	20 ft 2 in.
Width.....	10 ft
Track width.....	16.5 in.
Maximum armor protection.....	3.75 in.
Cruising speed (road).....	25 mph
Cruising radius.....	150 miles

WEAPON CHARACTERISTICS

Primary armament.....	90-mm Gun
Rounds ammo carried.....	47
Traverse limits.....	360°
Elevation limits.....	+20° to -10°
Maximum armor penetration.....	5.0 in. at 1,000 yards.



BRITISH MEDIUM TANK, 75-MM GUN, CHURCHILL MK VII.

British Medium Tank, 75-mm Gun, Churchill MK VII

GENERAL DESCRIPTION AND COMMENT

The basic Churchill hull is powered by a 12-cylinder, Vauxhall Twin 6, 350 hp, water-cooled, gasoline engine driving through drive sprockets in the front of the tracks.

Hull recognition features are 11 small wheels for the tracks, the protrusion of the tracks well in front of the front glacis plate, and the narrow over-all appearance of the hull slung between wide tracks.

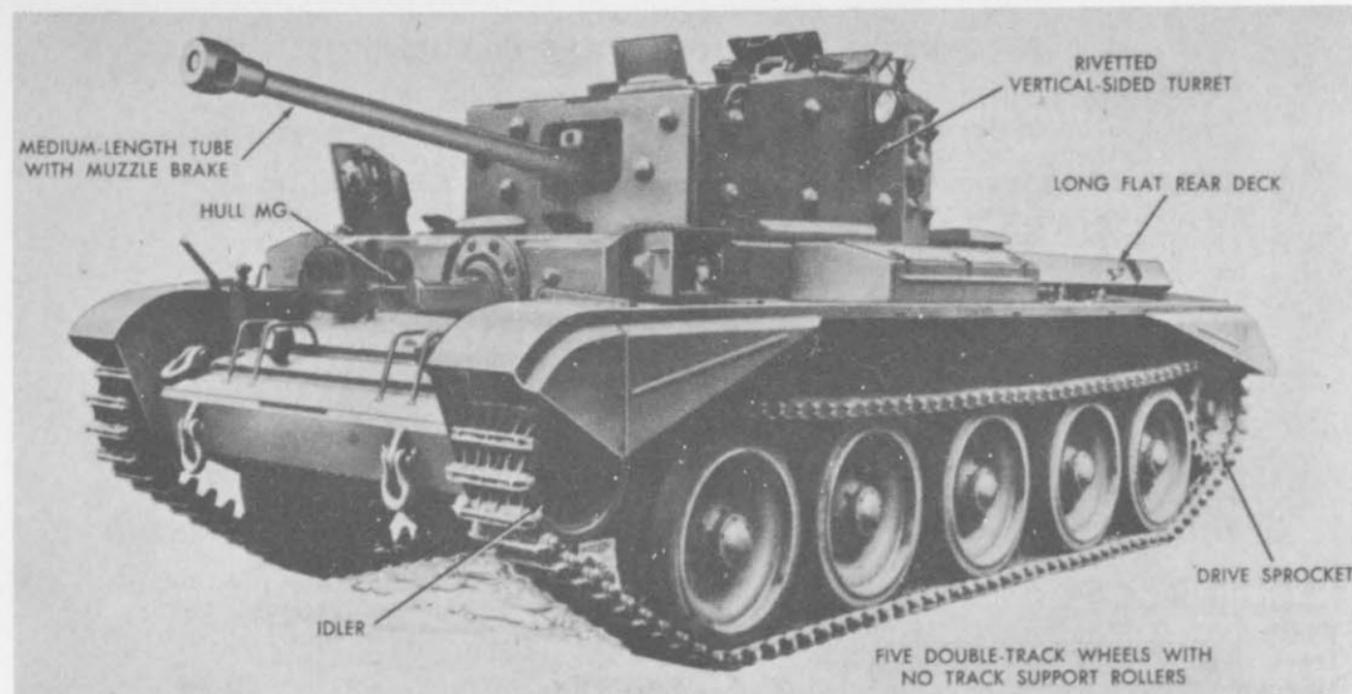
The turret placed centrally on the hull is of welded steel construction with vertical sides and face giving it a "boxy" appearance. An angular stowage bin is attached to the rear of the turret. The Churchill MK VII turret mounts a 75-mm gun which does not extend beyond the front of the tank when pointed to the front. Secondary armament consists of two 7.92 machine guns, one mounted coaxially with the 75-mm gun in the turret and one mounted in a flexible ball socket mount to the left of the driver.

VEHICLE CHARACTERISTICS

Fighting weight.....	45 tons
Length (Hull only).....	24 ft
Width.....	11 ft
Track width.....	22 in.
Maximum armor protection.....	6 in. at 0°
Cruising speed (road).....	13.5 mph
Cruising radius.....	140 miles

WEAPON CHARACTERISTICS

Primary armament (many modified armament installations have been reported).	75-mm gun
Rounds ammo carried.....	83 rds
Traverse limits.....	360°
Elevation limits.....	+20° to -12.5°
Maximum armor penetration at 500 yards.	3.26 in.



BRITISH MEDIUM TANK, 75-MM GUN, CROMWELL MK VII.

British Medium Tank, 75-mm Gun, Cromwell MK VII

GENERAL DESCRIPTION AND COMMENT

The MK VII 75-mm Gun Cromwell tank is one of the final versions of the British Cromwell "cruiser" tank series (other versions are armed with either a 6-pdr, 57-mm, gun or a 95-mm tank howitzer). The basic Cromwell hull is powered by a 12-cylinder, Rolls Royce Meteor 570 hp, water-cooled, gasoline engine driving through sprockets in the rear of the tank.

Hull recognition features are the five large road wheels of a Christie-type suspension similar to that of the Soviet T-34 medium tank, narrow tracks, and flat appearance of the hull top deck.

The turret, mounted well forward on the hull, has an angular hexagonal shape with large bolt-like bumps over the vertical face, sides, and rear. The normal turret armament is a 75-mm gun with a coaxially mounted 7.92-mm machine gun. Another 7.92-mm machine gun is mounted in a flexible ball mount to the left of the driver.

VEHICLE CHARACTERISTICS

Fighting weight.....	31 tons
Length (Hull only).....	20 ft 9 in.
Width.....	10 ft
Track width.....	15.5 in.
Maximum armor protection.....	3 in. at 0°
Cruising speed (road).....	31 mph
Cruising radius.....	165 miles

WEAPON CHARACTERISTICS

Primary armament.....	75-mm
Rounds ammo carried.....	64
Traverse limits.....	360°
Elevation limits.....	+20° to -12°
Maximum armor penetra- tion at 500 yards.	3.26 in.



GERMAN MEDIUM TANK, 75-MM GUN, PZKW IV(G).

German Medium Tank, 75-mm Gun, PzKw IV (G)

GENERAL DESCRIPTION AND COMMENT

This tank is powered by a V12-Maybach, 270 hp, water-cooled, gasoline engine which drives the tracks through sprockets at the front of the vehicle. Hull recognition features are the eight small, evenly spaced road wheels and four track-support rollers on each side. Except for the angular front glacis plate the hull presents a box-like appearance.

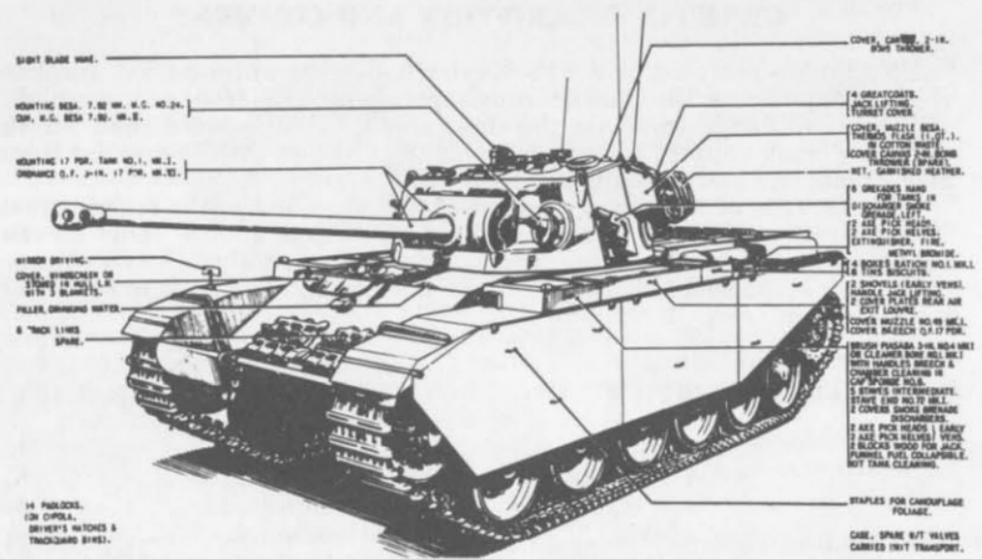
The turret is of angular welded plate construction and is rather squat in appearance. The long barrel 75-mm gun has a double baffle muzzle brake and a 7.5-mm machine gun is mounted coaxially. A second machine gun is mounted in the hull in a flexible ball socket mount to the right of the driver.

VEHICLE CHARACTERISTICS

Fighting weight.....	27 tons
Length (hull only).....	19 ft 4 in.
Width.....	9 ft 6 in.
Track width.....	15.8 in.
Maximum armor protection.....	2 in. at 12°
Cruising speed (road).....	25 mph
Cruising radius.....	125 miles

WEAPON CHARACTERISTICS

Primary armament.....	75-mm gun
Rounds ammo carried.....	87 rds
Traverse limits.....	360°
Elevation limits.....	+20° to -8°
Maximum armor penetration	3.4 in.
at 100 yards	



BRITISH MEDIUM TANK, 17-PDR GUN, CENTURION MK I.

British Medium Tank, 17-pdr Gun, Centurion MK I
 GENERAL DESCRIPTION AND COMMENT

The MK I, 17-pdr, Centurion medium tank is the original model in the British Centurion tank series (later models of the series differ primarily in the caliber of the main armament and in turret configuration). The basic Centurion chassis is powered by a 12 cylinder MK IV "Meteor" 635 hp water-cooled, gasoline engine, driving through a gear box transmission and final drives to drive sprockets in the rear of the tracks. Hull recognition features are the 6 large road wheels partially covered by armored, skirting plates; flat, raised, ribbed appearance of the engine compartment top deck; mufflers mounted on the rear of the fenders; and a sloping front glacis plate.

The turret of the MK I Centurion is of welded construction and mounts a 17-pdr gun. The secondary armament consists of one 7.62 "Besa" machine gun mounted in a ball socket flexible type mount to the left of and separate from the main armament mount. Turret recognition features are the long thin gun tube with small bulb shaped muzzle brake and the welded plate turret construction which gives the turret a "boxy" appearance. A rear turret bulge has a pronounced overhang and most of the tarpaulins, turret stowage boxes, etc., are attached to the sides and rear of this turret bulge.

VEHICLE CHARACTERISTICS

Fighting weight	51 tons
Length (Hull only)	25 ft
Width	11 ft
Track width	24 in.
Maximum armor protection	3 in. at 57°
Cruising speed (road)	23 mph
Cruising radius	90 miles

WEAPON CHARACTERISTICS

Primary armament	17-pdr (76.2 mm)
Rounds ammo carried	74 rds
Traverse limits	360°
Elevation limits	+20° to -12°
Maximum armor penetration at 500 yards.	5.3 in.



SOVIET MEDIUM TANK, 85-MM GUN, T34.

Soviet Medium Tank, 85-mm Gun, T34

GENERAL DESCRIPTION AND COMMENT

Despite its early introduction (1944), the T-34 (85) is still considered a good armored vehicle. It features heavily sloped armor, low silhouette, good cross-country performance, effective firepower, high maximum speed, and outstanding cruising range.

It can readily be recognized by its five large Christie-type road wheels and absence of track support rollers, a well-sloped front plate with a hinged driver's hatch and a ball-mounted machine gun, and a hexagonal turret housing a long-barreled primary armament without muzzle brake. The T-34 tank was also manufactured by Czechoslovakia and Poland.

VEHICLE CHARACTERISTICS

Fighting weight.....	35 tons
Length (hull only).....	20 ft
Width.....	10 ft
Track width.....	19.8 in.
Maximum armor protection.....	3 in. (rounded)
Cruising speed (road).....	35 mph
Cruising radius.....	190 miles

WEAPON CHARACTERISTICS

Primary armament.....	85-mm gun
Rounds ammo carried.....	56
Traverse limits.....	360°
Elevation limits.....	+25° to -5°
Maximum armor penetration at 500 yards.....	5.43 in.



BRITISH MEDIUM TANK, 20-PDR GUN, CENTURION MK III.

British Medium Tank, 20-pdr Gun, Centurion Mk III

GENERAL DESCRIPTION AND COMMENT

The turret of the Centurion Mk III is of cast construction with a 20-pdr tank gun as main armament and a coaxially mounted 7.62-mm Besa machine gun which fires through an aperture in the large mantlet of the main armament. The Mk III turret can be distinguished from the Mk I turret by the large overhanging stowage bins which are mounted on both sides of the turret, giving it a flat appearance; by the long barrel 20-pdr gun without muzzle brake rather than the 17-pdr gun with muzzle brake on the Mk I; and by the coaxially mounted machine gun as compared to the independently ball socket mounted machine gun in the Mk I turret.

Hull recognition features are the 6 large road wheels partially covered by armored skirting plates; the flat, raised, ribbed appearance of the engine compartment top deck; mufflers mounted on the rear of the fenders; and a sloping front glacis plate.

VEHICLE CHARACTERISTICS

Fighting weight	54 tons
Length (Hull only)	25 ft
Width	11 ft
Track width	24 in.
Maximum armor protection	3 in. at 57°
Cruising speed (road)	21.5 mph
Cruising radius	85 miles

WEAPON CHARACTERISTICS

Primary armament	20-pdr (84mm)
Rounds ammo carried	61 rds
Traverse limits	360°
Elevation limits	+20° to -10°
Maximum armor penetration at 1,000 yards.	10.8 in.



BRITISH MEDIUM TANK, 20-POUNDER GUN, CHARIOTEER.

British Medium Tank, 20-Pounder Gun, Charioteer

GENERAL DESCRIPTION AND COMMENT

The Charioteer 20-pounder medium tank is a postwar modification of the Cromwell cruiser tank series. It consists of a Cromwell tank hull with 5 large road wheels and angular mud guards front and rear. A large turret for the 20-pounder gun is mounted well forward on the hull. The large turret with its flat sloping sides has a smooth-faced flat-topped elongated-hexagon appearance. The gun mantlet is small and the gun tube seems to be exceptionally long. Multiple smoke grenade dischargers are located on both sides of the tank turret's angular face.

VEHICLE CHARACTERISTICS

Fighting weight.....	31.4 tons
Length (Hull only).....	20 ft 9 in.
Width.....	10 ft
Track width.....	15.5 in.
Maximum armor protection.....	2.25 in.
Cruising speed (road).....	30 mph
Cruising radius.....	165 miles

WEAPON CHARACTERISTICS

Primary armament.....	20 pounder (84 mm)
Rounds ammo carried.....	25
Traverse limits.....	360°
Elevation limits.....	+20° to -12°
Maximum armor penetration at 1,000 yards.	10.8 in.



SOVIET HEAVY TANK, 122-MM GUN, JS-3.

Soviet Heavy Tank, 122-mm Gun, JS-3

GENERAL DESCRIPTION AND COMMENT

The JS-3, weighing 51 tons combat loaded, is the third development in the Joseph Stalin series. Its 122-mm gun is the heaviest weapon mounted in any mass-produced tank.

The dome-shaped cast turret presents a heavily sloped surface to all quarters while the heavy plates of the hull front are brought to a point, considerably increasing the penetration problem. These two features, together with the torsion bar suspension employing six road wheels and three track support rollers per side, offer excellent recognition details.

VEHICLE CHARACTERISTICS

Fighting weight.....	51 tons
Length (Hull only).....	22 ft
Width.....	10 ft
Track width.....	25.6 in.
Maximum armor protection...	4.7 in. at 55°
Cruising speed (road).....	23 mph
Cruising radius.....	75-85 miles

WEAPON CHARACTERISTICS

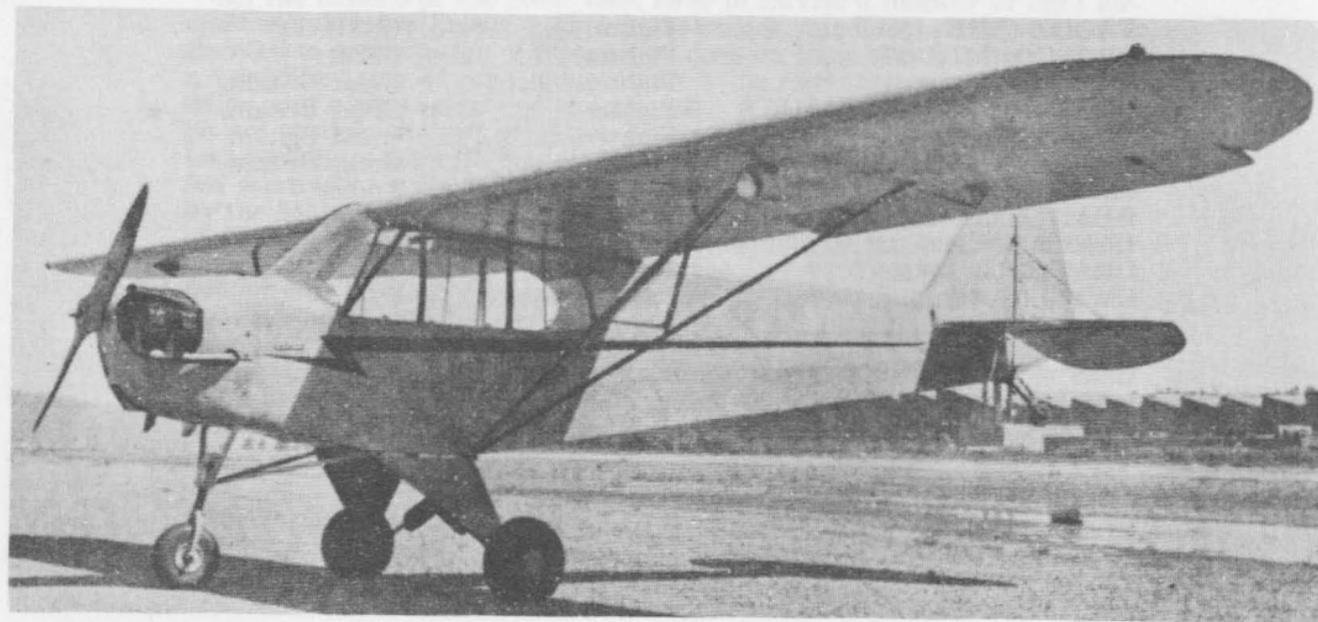
Primary armament.....	122-mm gun
Rounds ammo carried.....	28
Traverse limits.....	360°
Elevation limits.....	+20° to -3°
Maximum armor penetration	5.9 in.
	at 500 yards.

Aircraft

All the nations of the Near East have in service a number of light aircraft suitable for liaison and reconnaissance missions. This section is devoted to presentation of recognition data on these aircraft that includes a brief discussion of each model likely to be encountered, the characteristics, and a photograph of the aircraft. The Middle Eastern countries do not produce aircraft of native design and their capabilities are limited to assembly of aircraft manufactured elsewhere and the production of a few relatively simple component parts. Therefore, all the aircraft in use by the Middle Eastern countries are of foreign design, including a number of U. S. and British models. This fact cannot be stressed too strongly since aircraft markings will really be the key to recognition of aircraft (friendly or hostile). Aircraft markings are contained at the end of the section and should be studied carefully by all personnel to whom this handbook is issued.

Although combat and transport aircraft available to the Middle Eastern countries are not considered in detail, the following are the principal models likely to be encountered:

Model designation	Type	Country of origin
FAGOT (MIG-15).....	Fighter.....	USSR.
FRESCO (MIG-17).....	Fighter.....	USSR.
SPITFIRE.....	Fighter.....	Great Britain.
GLOSTER METEOR MK 8.....	Fighter.....	Great Britain.
VAMPIRE.....	Fighter.....	Great Britain.
HAWKER FURY.....	Fighter.....	Great Britain.
MYSTERE II and IV.....	Fighter.....	France.
BEAGLE (IL-28).....	Light Bomber.....	USSR.
LANCASTER.....	Medium Bomber.....	Great Britain.
CRATE (IL-14).....	Transport.....	USSR.
CW-20 (C-46).....	Transport.....	U. S.
DC-3 (C-47).....	Transport.....	U. S.



U.S. PIPER PA-22 TRI-PACER.

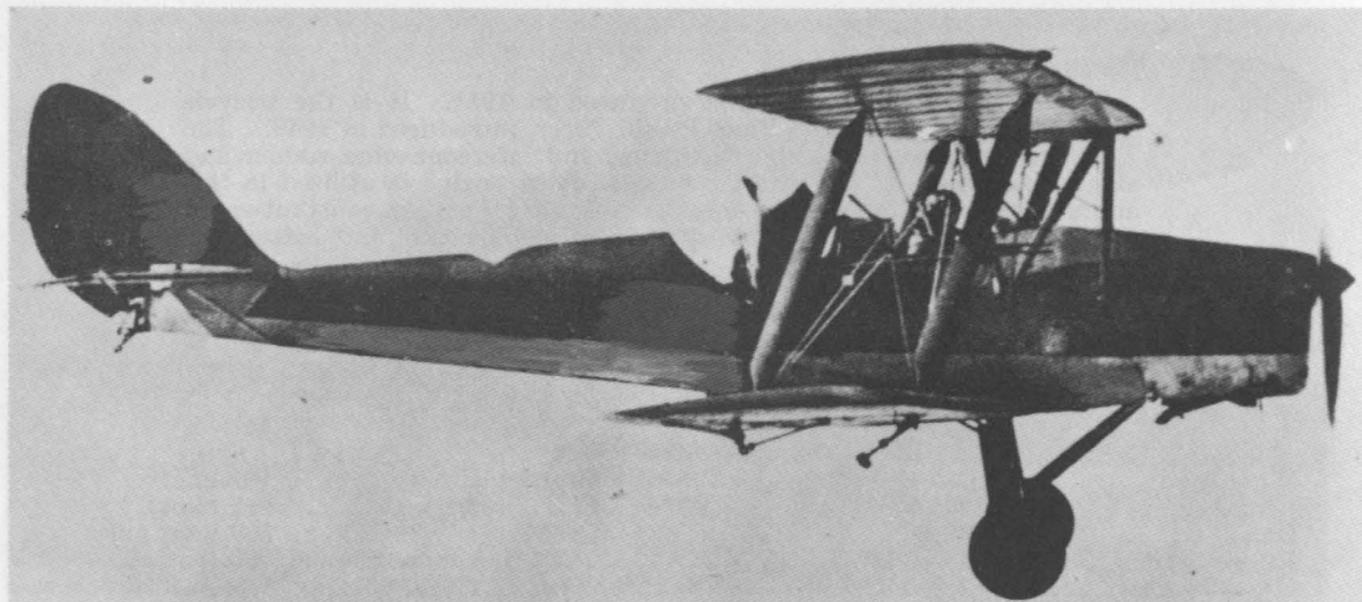
U. S. Piper PA-22 Tri-Pacer

The Piper Tri-Pacer was first produced in 1951. It is the tricycle landing gear version of the Piper PA 20 Pacer, introduced in 1949. The Tri-Pacer features a steerable nosewheel and interconnected rudder and aileron controls. A 150-horsepower, air-cooled engine is utilized in this aircraft; and the propeller is a metal, fixed-pitch type. A constant-speed prop is optional. The plane accommodates 4 persons and has a fuel capacity of 38 gallons of gas.

The Tri-Pacer was developed primarily for civilian business and pleasure, flying and can operate from small fields.

Characteristics and performance data of the Piper Tri-Pacer are as follows:

Wing span.....	29' 4"	Cruising speed.....	115 knots
Length.....	20' 4"	Maximum speed.....	119 knots
Height.....	6' 2½"	Cruising range.....	500 naut miles
Empty weight.....	1,040 lb	Takeoff distance (ground	900 ft
Gross weight.....	1,950 lb	run).	
Crew.....	1	Landing distance.....	500 ft
Capacity (passenger/ cargo).	3/510 lb (approx)	Service ceiling.....	15,000 ft



BRITISH DE HAVILLAND TIGER MOTH II.

De Havilland Tiger Moth II

The British Tiger Moth was flown for the first time in 1931. It was developed from the de Havilland Gipsy Moth which first appeared in 1925. Initial Tiger Moths were fitted with 120-horsepower engines, but later the 130-horsepower Gipsy Major became standard. Several thousand of these aircraft were produced and are still used in many parts of the world. Australia, Canada, New Zealand, and Sweden built Tiger Moths under license.

The Tiger Moth is a tandem seat biplane with open or enclosed cockpits. The wings are staggered and swept back, and the entire plane is fabric covered. It is powered by the 130-horsepower Gipsy Major, 4-cylinder inverted, in-line, air-cooled engine. Fuel capacity is 23 gallons. A fixed conventional landing gear is utilized.

Characteristics and performance data of the Tiger Moth are as follows:

Wing span.....	29' 4"	Capacity (passen-	1/160 lb
Length.....	23' 11"	ger/cargo).	
Height.....	8' 9½"	Cruising speed....	80 knots
Empty weight....	1,115 lb	Maximum speed....	95 knots
Gross weight....	1,825 lb	Cruising range....	250 naut miles (approx)
Crew.....	1	Service ceiling....	13,600 ft



U.S. BEECH BONANZA.

U. S. Beech Bonanza

Deliveries of the Bonanza began in 1947, and since then over 4,000 have been produced. This all-metal, four-place, low-wing aircraft was designed for the civilian business plane market. Its short takeoff and landing characteristics enable it to be operated from small fields.

The Bonanza is powered by a 205-horsepower, Continental air-cooled engine. A two-blade, variable-pitch propeller is used and the tricycle landing gear is retractable. The total capacity of the standard fuel tanks is 39 gallons. Wing flaps and a "butterfly" type of tail assembly are provided.

Characteristics and performance data of the Beech Bonanza are as follows:

Wing span.....	32'10"	Cruising speed.....	156 knots
Length.....	25'2"	Maximum speed.....	165 knots
Height.....	6'6½"	Cruising range.....	670 naut miles
Empty weight.....	1,697 lb	Takeoff distance (ground	590 ft
Gross weight.....	2,750 lb	run).	
Crew.....	1	Landing distance.....	227 ft
Capacity (passenger/cargo).....	3/800 lb	Service ceiling.....	18,000 ft



U.S. NORTH AMERICAN T-6G TEXAN.

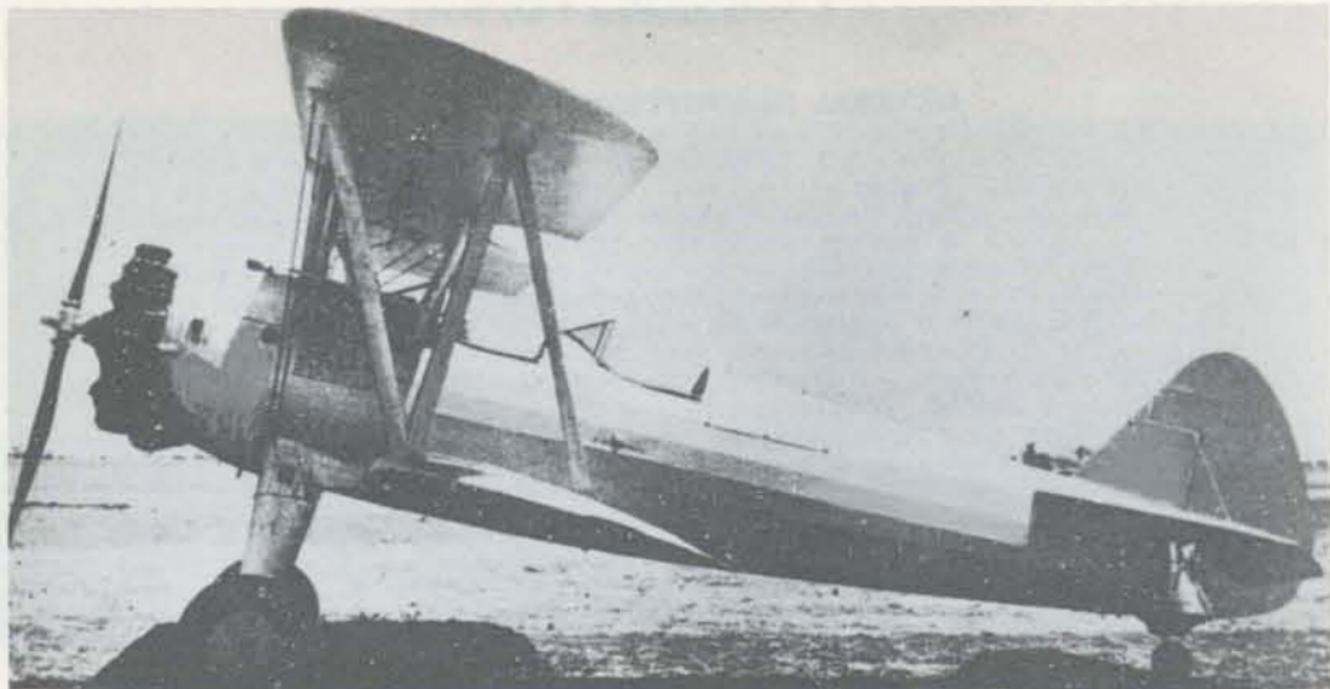
GENERAL DESCRIPTION AND COMMENT

The Texan T-6 was first produced in 1938 and is today the most widely used military trainer in the world. More than 15,000 of these trainers have been built in the U. S. and Canada. The T-6G was developed when the U. S. A. F. decided to retain the T-6 advanced trainers and convert them to primary trainers for reasons of economy. (The model T-6G retains the basic structural and flying characteristics of the T-6 but has modifications in equipment.)

The T-6G is an all metal, low-wing, 2-place trainer with a radial, air-cooled engine. A Hamilton Standard two-blade constant-speed propeller is utilized. The fuel capacity of the standard tanks is 111 gallons; however, wing tanks have also been added for additional range. The plane is fitted with a conventional retractable-type landing gear and split trailing-edge flaps are located between the ailerons.

Characteristics and performance data of the T-6G are as follows:

Wing span.....	42 ft	Capacity (passenger/cargo).....	1/170 lb
Length.....	29 ft	Cruising speed.....	127 knots
Height.....	11 ft 8½ in.	Maximum speed.....	184 knots
Empty weight.....	4,271 lb	Cruising range.....	755 nm
Gross weight.....	5,617 lb	Service ceiling.....	21,500 ft
Crew.....	1		



U.S. BOEING PT-1 KAYDET.

U. S. Boeing PT-1 Kaydet

The Kaydet was designed by the Stearman Aircraft Company prior to its incorporation in the Boeing Aircraft Company. It was first ordered by the U. S. Army in 1935. Over 10,000 Kaydets were produced during World War II for the U. S. Army Air Corps and the U. S. Navy. Production ceased in February 1945. Several versions were made; all were similar except for the engines utilized. It is estimated that over 4,000 of these planes still exist in the U. S. today. They are also used for training purposes by a number of foreign countries.

The Kaydet is an open-cockpit, 2-place biplane powered by an air-cooled, radial engine. A two-blade, variable pitch, metal propeller is utilized and the fuel capacity is 51.5 gallons. The landing gear is the fixed conventional type.

Characteristics and performance data of the PT-1 are as follows:

Wing span.....	32' 2"	Capacity (passenger/cargo).....	1/170 lb
Length.....	25' 1/4"	Cruising speed.....	92 knots
Height.....	9' 2"	Maximum speed.....	108 knots
Empty weight.....	1,936 lb	Cruising range.....	438 naut miles
Gross weight.....	2,717 lb	Service ceiling.....	11,200 ft
Crew.....	1		



CANADIAN CHIPMUNK DHC-1B-2.

Canadian Chipmunk DHC-1B-2

This aircraft was originally designed by the Canadian de Havilland Company and has been produced in both Canada and Britain. Numerous foreign countries utilize this aircraft as a trainer and it is also employed by many of the flying clubs. A total of 158 Chipmunks were built in Canada when production ceased temporarily in 1951. In 1955, 60 planes were ordered by the R. C. A. F.

The Chipmunk is a low-wing, 2-place aircraft having a 140-horsepower, in-line inverted, air-cooled engine. A two-blade, fixed-pitch wooden propeller is utilized, with a metal prop optional. Fuel capacity is 30 gallons. The landing gear is the fixed conventional type.

Characteristics and performance data of the Chipmunk are as follows:

Wing span.....	34' 4"	Cruising speed.....	98 knots
Length.....	25' 5"	Maximum speed.....	121 knots
Height.....	7 ft	Cruising range.....	384 naut miles
Empty weight.....	1,158 lb	Takeoff distance (ground	432 ft
Gross weight.....	1,900 lb	run).	
Crew.....	1	Landing distance.....	465 ft
Capacity (passenger/cargo) -	1/170 lb	Service ceiling.....	



CANADIAN DE HAVILLAND DHC-2 BEAVER.

Canadian De Havilland DHC-2 Beaver

The Beaver is an original postwar design of the Canadian de Havilland Company. The prototype flew for the first time in August 1947. By May 1955 over 800 Beavers had been built. The present rate of production is 15 per month with a large backlog of orders. The plane is now employed in many countries; the U. S. Army utilizes the aircraft for utility and light transport purposes.

The Beaver is an all-metal, high-wing, cabin plane powered by a 9-cylinder, radial, air-cooled engine driving a 2-blade, variable-pitch propeller. Fuel capacity is 95 gallons with provision for wingtip tanks holding 43 gallons. The plane is fitted with hydraulic flaps and a fixed conventional landing gear. Skis or pontoons may be substituted for wheels.

Characteristics and performance data of the Beaver are as follows:

Wing span.....	48 ft	Cruising speed.....	124 knots
Length.....	30'3"	Maximum speed.....	141 knots
Height.....	9 ft	Cruising range.....	395 naut miles
Empty weight.....	2,827 lb	Takeoff distance (ground	680 ft
Gross weight.....	5,100 lb	run).	
Crew.....	1	Landing distance.....	500 ft
Capacity (passenger/cargo).....	8/1,350 lb	Service ceiling.....	18,000 ft



BRITISH AUSTER J5B AUTO CAR.

British Auster J5B Autocar

The British Auster J5B was developed from the Auster J1 Autocrat with a redesigned fuselage and more powerful engine. It was first flown in August 1949.

The J5B is a high-wing, fabric-covered, four-place, cabin plane. It is powered by a 130-horsepower, D. H. Gipsy Major I, 4-cylinder, in-line inverted, air-cooled engine fitted with a metal Fairey-Reed propeller. Fuel capacity is 38 gallons. The aircraft has a fixed conventional-type landing gear, and flaps are provided.

Characteristics and performance data of the J5B are as follows:

Wing span.....	36 ft	Cruising speed.....	87 knots
Length.....	23' 2"	Maximum speed.....	101 knots
Height.....	7' 6"	Cruising range.....	435 naut miles
Empty weight.....	1,413 lb	Takeoff distance (ground	630 ft
Gross weight.....	2,400 lb	run).	
Crew.....	1	Landing distance.....	489 ft
Capacity (passenger/cargo).....	3/510 lb	Service ceiling.....	11,000 ft



BRITISH AIRSPEED A. S. 65 CONSUL.

British Airspeed A. S. 65 Consul

The British Consul is the civilian version of the Oxford trainer of which some 9,000 were delivered during the war. Following the war a large number of Consuls were produced for British use and export. The Consul is normally used as a light passenger transport, but ambulance and cargo transport versions were also produced.

The Consul is a low-wing, light transport powered by two, radial, air-cooled engines rated at 395 horsepower each. Two-blade, fixed-pitch metal propellers are used. Fuel capacity is 187 gallons. Split trailing-edge flaps of Duralumin extending under the fuselage are provided. The landing gear is the conventional type and is retractable.

Characteristics and performance data of the Consul are as follows:

Wing span.....	53' 4"	Cruising speed.....	135 knots
Length.....	35' 4"	Maximum speed.....	Unknown
Height.....	10' 1½"	Cruising range.....	780 naut miles
Empty weight.....	6,047 lb	Takeoff distance (ground	721 ft.
Gross weight.....	8,250 lb	run).	
Crew.....	2	Landing distance.....	825 ft
Capacity (passenger/ cargo).	6/946 lb (approx)		



BRITISH AUSTER J/4.

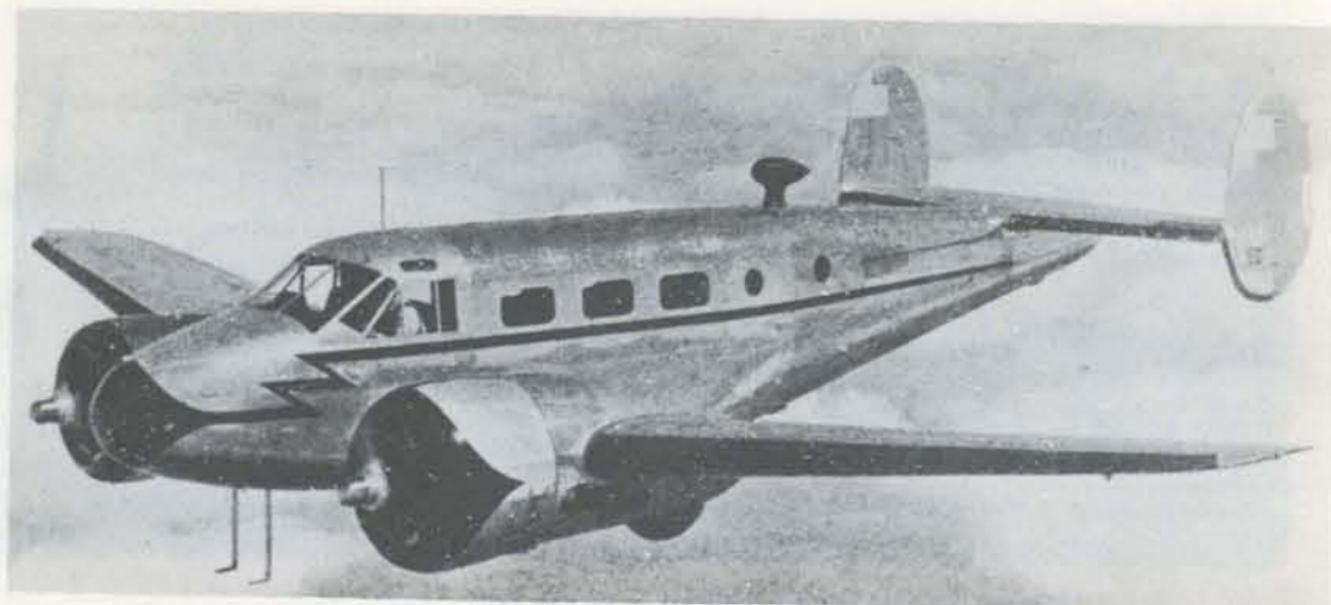
BRITISH AUSTER J/4

The British Auster J/4 is similar to the Auster J/2, except that the J/4 is fitted with a 90-horsepower, Cirrus Minor I engine. It was produced subsequent to World War II primarily for operation in the United Kingdom by flying clubs and private owners.

The J/4 is a high-wing, fabric-covered plane seating two, side-by-side. A fixed conventional-type landing gear is utilized.

Characteristics and performance data of the Auster J/4 are as follows:

Wing span.....	36 ft	Cruising speed.....	80 knots
Length.....	22' 5 $\frac{1}{4}$ "	Maximum speed.....	94 knots
Height.....	6' 6"	Cruising range.....	275 naut miles
Empty weight.....	955 lb	Takeoff distance (ground	450 ft
Gross weight.....	1,600 lb	run).	
Crew.....	1	Landing distance.....	240 ft
Capacity (passenger/cargo).....	1/170 lb	Service ceiling.....	12,500 ft



U. S. BEEHCRAFT D-18 S.

U. S. Beechcraft D-18 S

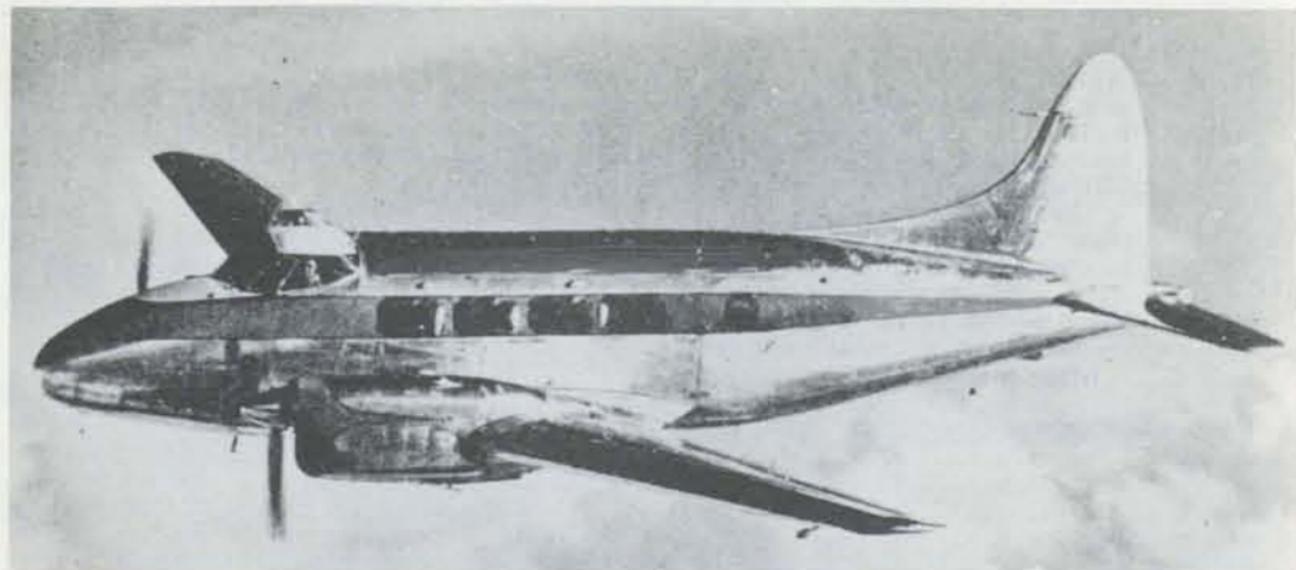
GENERAL DESCRIPTION AND COMMENT

The Beech Aircraft Corporation developed this series of aircraft before World War II as a light, eight-seat, commercial transport. The first model was flown on 15 January 1937. The Model 18 Beechcraft has been built in exceptionally large numbers. 5,204 military models were produced during World War II, in addition to prewar civil and postwar military and civil models.

The D-18 S is a low-wing, all-metal, twin-engine light transport. It has twin fins and rudders, a retractable tail-wheel-type landing gear, and accommodations for pilot, co-pilot, and 5 to 7 passengers. The powerplant consists of two radial, air-cooled engines—having constant-speed propellers 8 feet 3 inches in diameter. Normal fuel capacity is 206 gallons. An additional 80-gallon tank can be installed in the nose of the fuselage in place of the baggage compartment.

Characteristics and performance data of the D-18 S are as follows:

Wing span.....	47'7"	Cruising speed.....	183 knots
Length.....	33 ft 11½ in.	Maximum speed.....	200 knots
Height.....	9 ft 2½ in.	Cruising range.....	975 naut miles
Empty weight.....	5,770 lb	Takeoff distance (ground run).....	885 ft
Gross weight.....	8,750 lb	Landing distance.....	738 ft
Crew.....	2	Service ceiling.....	20,500 ft
Capacity (passenger/cargo).....	5-7/1,225 lb		



BRITISH DE HAVILLAND D. H. 104 DOVE.

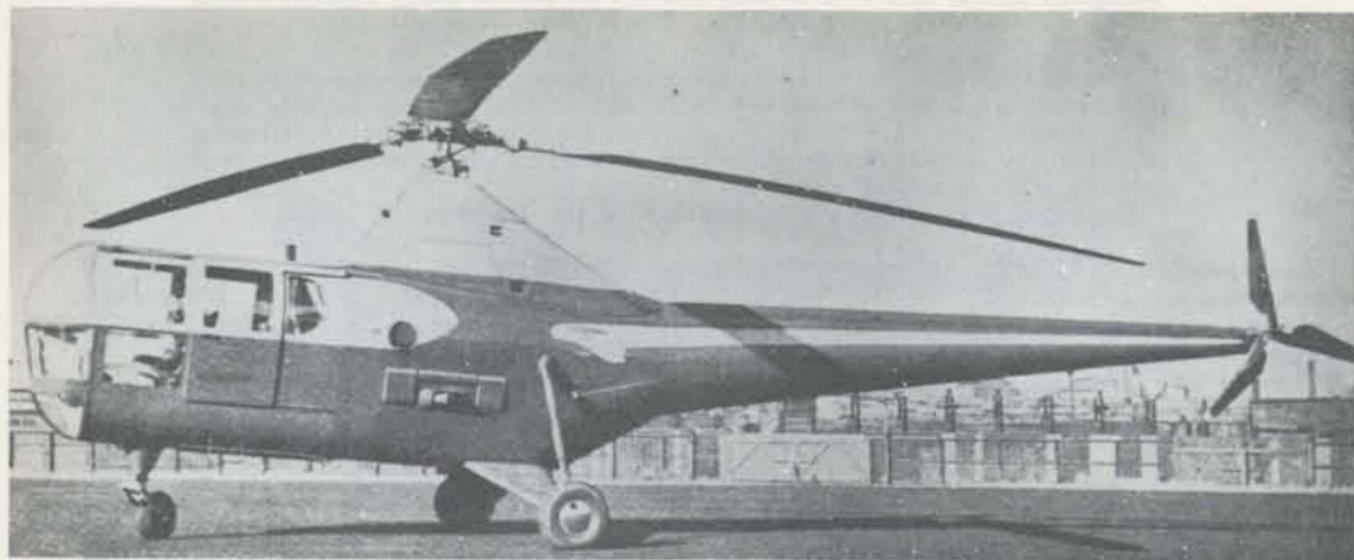
British De Havilland D. H. 104 Dove

The Dove was the first postwar product of the British de Havilland Company and is now in civil and military service in many countries as a utility and light transport aircraft. The military version is known as the Devon.

The all-metal, low-wing Dove has 2 in-line inverted, air-cooled engines rated at 380 takeoff horsepower each. The propellers are 3-blade constant-speed types with diameters of 7 feet 6 inches. This aircraft has a fuel capacity of 183 gallons. The tricycle landing gear is retractable, and the wings are equipped with flaps.

Characteristics and performance data of the Dove are as follows:

Wing span.....	57 ft	Cruising speed.....	155 knots
Length.....	39' 3"	Maximum speed.....	175 knots
Height.....	13' 4"	Cruising range.....	435 naut. miles
Empty weight.....	5,725 lb	Take-off distance (ground run).....	1,200 ft
Gross weight.....	8,800 lb	Landing distance.....	960 ft
Crew.....	2	Service ceiling.....	20,000 ft
Capacity (passenger/cargo).....	8/1,816 lb		



U. S. SIKORSKY S-51.

U. S. Sikorsky S-51

The S-51 went into production in 1946. In addition to its many civil applications, the plane is also employed by the military services of the United States for general utility duties. Production of this helicopter ended in 1951 in the United States after more than 300 had been constructed. The British version of this helicopter is known as the Dragonfly.

The S-51 has a 450-horsepower, 9-cylinder, radial, air-cooled engine. A 3-blade main rotor and a 2-blade anti-torque tail rotor are utilized. The landing gear is the fixed 3-wheel type and the fuel capacity is 100 gallons.

Characteristics and performance data of the S-51 are as follows:

Rotor diameter.....	48 ft	Cruising speed.....	74 knots
Length (fuselage).....	41' 1 $\frac{3}{4}$ "	Maximum speed.....	90 knots
Overall height.....	12' 11"	Cruising range.....	260 naut. miles
Empty weight.....	3,795 lb	Hovering ceiling out of ground effect.....	3,500 ft
Gross weight.....	5,300 lb	Service ceiling.....	13,000 ft
Crew.....	1		
Capacity (passenger/cargo).....	3/500-700 lb		



SOVIET UTILITY HELICOPTER "HARE" (MI-1).

Soviet Utility Helicopter "HARE" (MI-1)

GENERAL DESCRIPTION AND COMMENT

The Soviet utility helicopter "HARE" has been used extensively since 1951 for liaison, reconnaissance, and light cargo missions. This aircraft can accommodate up to 3 passengers or about 400 pounds of cargo. The engine can be started by a compressed air system or manually.

CHARACTERISTICS

Maximum speed.....	110 knots	Over-all length (without rotor).....	40 ft
Cruising speed.....	75 knots	Main Rotor Diameter.....	47 ft
Cruising range.....	190 n. m.	Empty weight.....	3,940 lb
Maximum rate of climb.....	1300 f. p. m.	Gross weight, normal.....	4,960 lb
Hover ceiling (out of ground effect).....	10,800 ft	Troops/payload.....	3/400 lb
Service ceiling.....	15,000 ft	Crew.....	1
Engine.....	reciprocating	Fuel capacity.....	380 lb
Engine rating (continuous/maximum).....	520/575 h. p.		



SOVIET LIGHT CARGO HELICOPTER "HOUND" (MI-4).

Soviet Light Cargo Helicopter "HOUND" (MI-4)

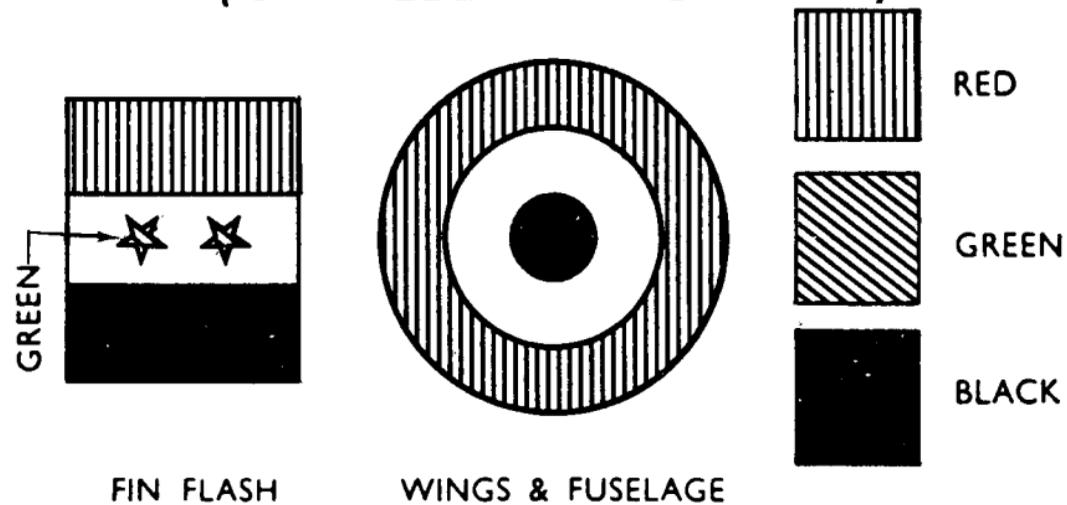
GENERAL DESCRIPTION AND COMMENT

The "HOUND" is a light cargo helicopter used for transporting personnel and/or cargo up to ranges of 200 nautical miles. The payload capacity of this aircraft is 16 troops or 3,500 pounds of cargo. One of the significant features of the HOUND is a set of clam shell doors in the rear of the fuselage. A two track ramp drops to the ground for loading vehicles and other heavy items. The HOUND will lift the Soviet 57-mm AT, 76-mm field/AT, the 14.5-mm ZPU-2 dual AA machine gun, or the family of infantry recoilless AT weapons and mortars.

CHARACTERISTICS

Maximum speed.....	101 knots	Over-all length	
Cruising speed.....	86 knots	(without rotor)...	82 ft
Cruising range.....	200 n. m.	Cargo compart-	
Maximum rate of		ment dimen-	
climb.....	1,700 f. p. m.	sions.....	13 x 6.5 x 6.5 ft
Hover ceiling (out		Main Rotor Diam-	
of ground effect)...	5,500 ft	eter.....	69 ft
Service ceiling.....	11,800 ft	Empty Weight.....	9,500 lb
Engine.....	14 cylinder, reciprocating	Normal Gross	
Engine rating (con-		weight.....	15,840 lb
tinuous/maxi-		Troops/payload...	16/3527 lb
mum).....	1410/1675 h. p.	Crew.....	2
		Fuel capacity.....	1,900 lb

UNITED ARAB REPUBLIC (SYRIA & EGYPT)



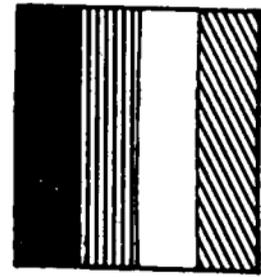
THE UAR AIR FORCE

IRAN



THE IMPERIAL IRANIAN AIR FORCE

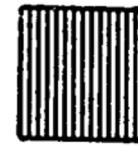
IRAQ



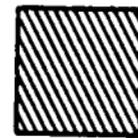
FIN FLASH



WINGS & FUSELAGE



RED



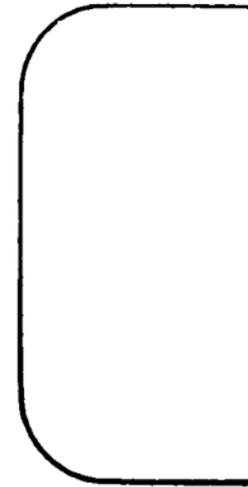
GREEN



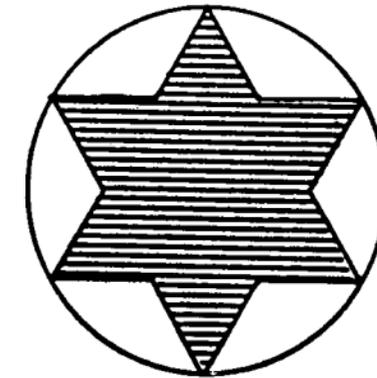
BLACK

THE ROYAL IRAQI AIR FORCE

ISRAEL



RUDDER



WINGS & FUSELAGE



BLUE

THE ISRAEL AIR FORCE

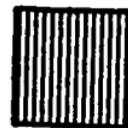
JORDAN



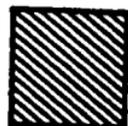
FIN FLASH



WINGS & FUSELAGE



RED



GREEN



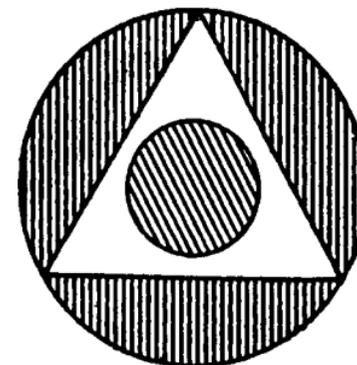
BLACK

THE ROYAL JORDANIAN AIR FORCE

LEBANON



RUDDER



WINGS & FUSELAGE



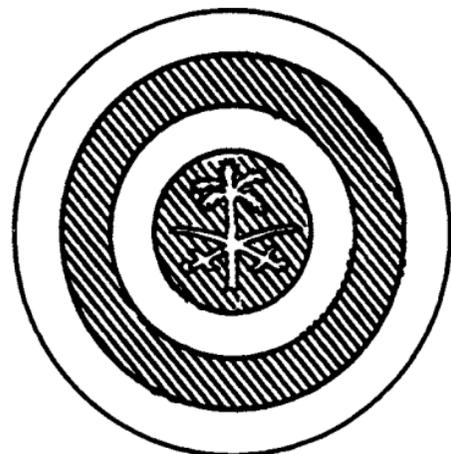
RED



GREEN

THE LEBANESE AIR FORCE

SAUDI ARABIA



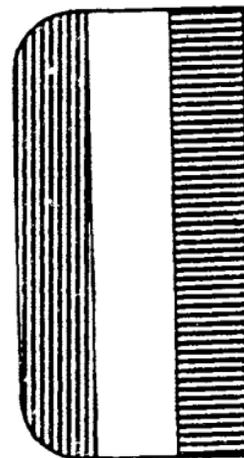
WINGS & FUSELAGE



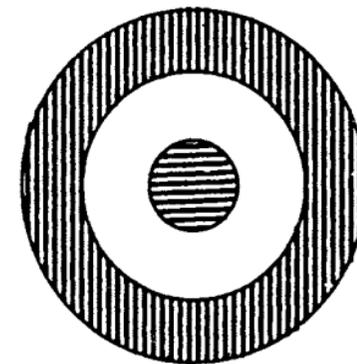
GREEN

THE SAUDI ARABIAN AIR FORCE

FRANCE



RUDDER



WINGS & FUSELAGE



RED

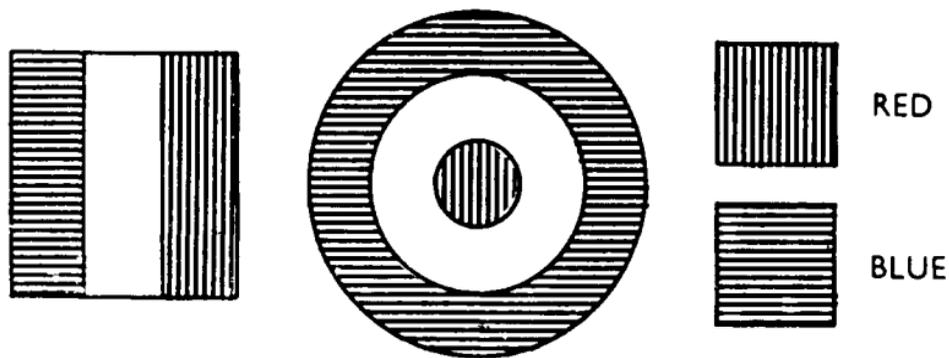


BLUE

(Naval Aircraft have Black Anchor superimposed)

THE FRENCH AIR FORCE AND NAVAL AVIATION

GREAT BRITAIN

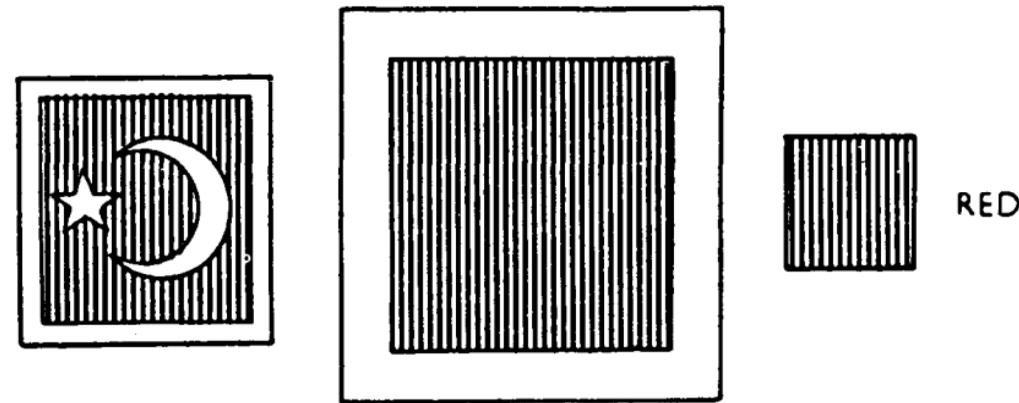


FIN FLASH
(Not on Naval
Aircraft)

WINGS & FUSELAGE

THE ROYAL AIR FORCE
AND FLEET AIR ARM

TURKEY

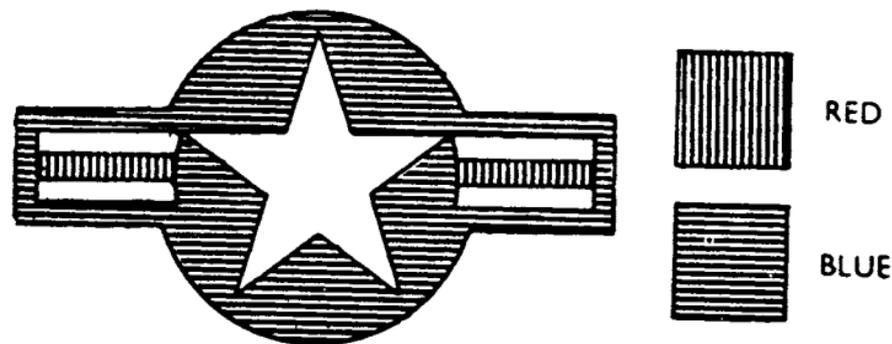


FIN FLASH

WINGS & FUSELAGE

THE TURKISH AIR FORCE

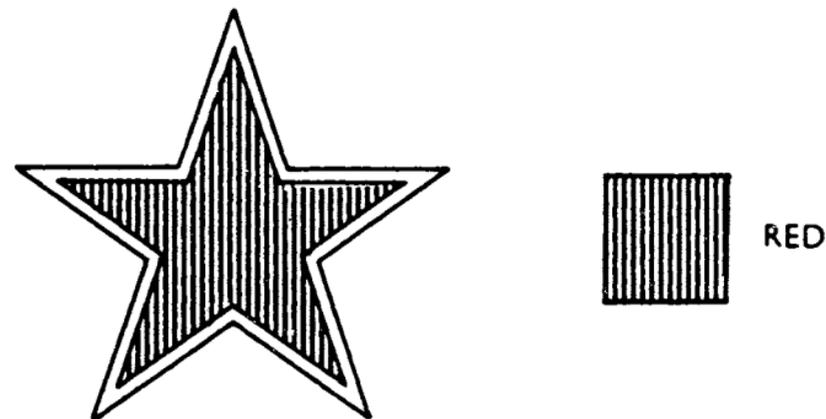
UNITED STATES OF AMERICA



WINGS & FUSELAGE

THE UNITED STATES AIR FORCE
AND ARMY AND NAVAL AVIATION

SOVIET UNION

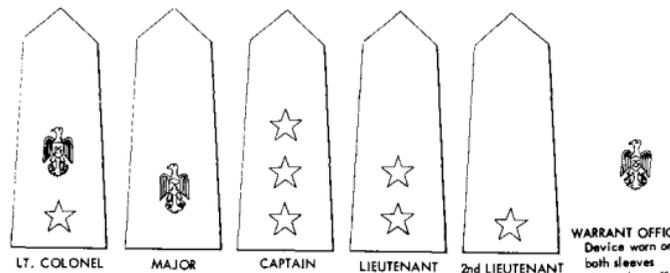
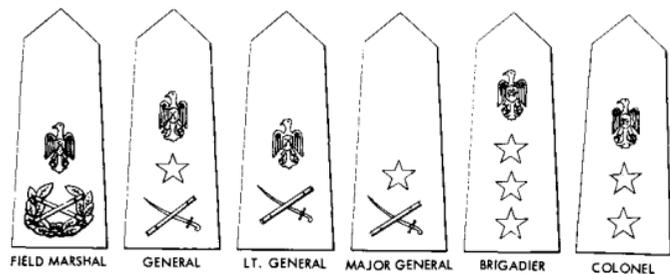
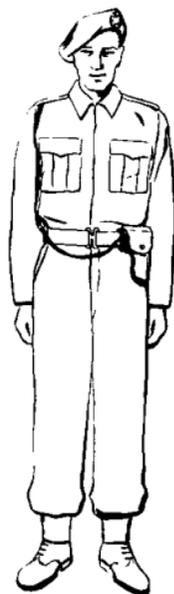


WINGS, FUSELAGE & RUDDER

THE RUSSIAN AIR FORCE

EGYPT

OFFICER'S WINTER FIELD UNIFORM & INSIGNIA OF GRADE



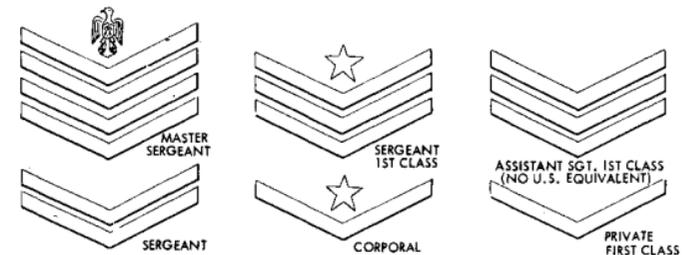
WARRANT OFFICER
Device worn on both sleeves above the cuff.

EGYPT

SWEATER MAY BE WORN WITH THIS UNIFORM, OR BRITISH-TYPE BATTLE DRESS MAY BE SUBSTITUTED



ENLISTED MEN'S WINTER FIELD UNIFORM & INSIGNIA OF GRADE



DEVICES WORN BY OFFICERS ONLY

INFANTRY	ARTILLERY	CAVALRY	ENGINEER CORPS	SIGNAL CORPS	ORDNANCE	PARATROOP
BLUE	BLACK	GREEN	KHAKI	KHAKI	KHAKI	MAUVE

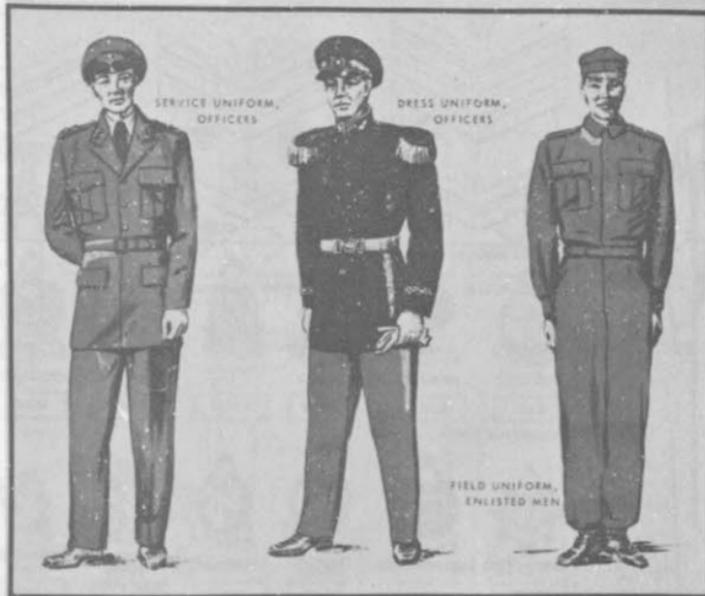
COLORS FOR BERETS

SUPPLY CORPS	MAINTENANCE	MEDICAL SERVICE	VETERINARY	PRESIDENTIAL GUARD	FRONTIER CORPS	MILITARY POLICE
KHAKI	KHAKI	KHAKI	KHAKI	BLUE WITH RED PIPING	KHAKI	RED

INSIGNIA AND COLOR IDENTIFICATION OF ARMS AND SERVICES

IRAN

ARMY UNIFORMS



IRAN, U.S.S.R.

IRAN

GRADE INSIGNIA

OFFICERS' INSIGNIA OF GRADE			

IRAN

INSIGNIA OF BRANCH OF SERVICE



Administrative
Quartermaster
Finance



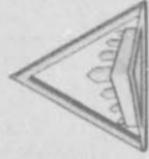
Artillery



Armored



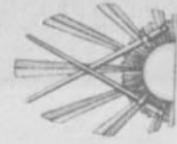
Cavalry



Engineer



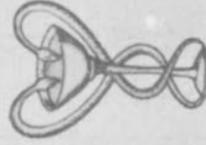
Transportation



GS



Infantry



Medical



Band



Signal



Technical

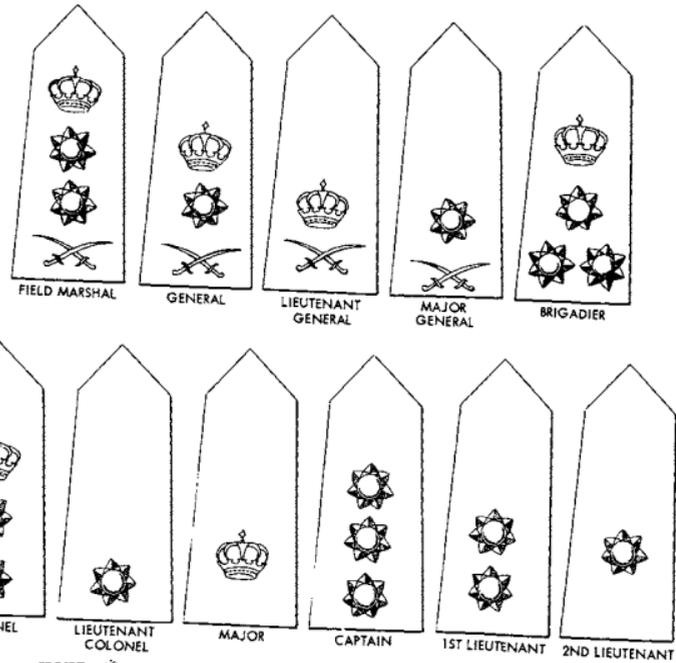


Veterinary

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IRAQ

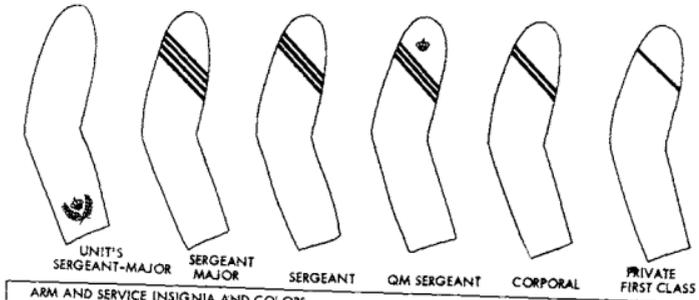
OFFICER'S WINTER FIELD UNIFORM & INSIGNIA OF GRADE



MAKE PIGAS

IRAQ

ENLISTED MEN'S WINTER FIELD UNIFORM & INSIGNIA OF GRADE



ARM AND SERVICE INSIGNIA AND COLORS

 INFANTRY DARK GREEN	 ARTILLERY DEEP BLUE	 CAVALRY GRAY	 TANKS (UNKNOWN IF ANY)	 SIGNALS LIGHT BLUE
 ENGINEERING LIGHT BLUE	 ORDNANCE LIGHT GREEN	 MEDICAL AND VETERINARY MAROON	 PHARMACY BLACK	 MECHANICAL TRANSPORT BROWN

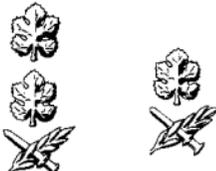
ISRAEL

OFFICER'S WINTER FIELD UNIFORM & INSIGNIA OF GRADE



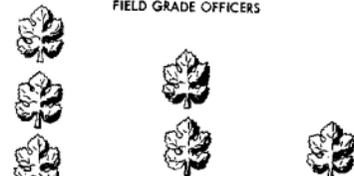
WORN ON THE SHOULDERLOOPS

GENERAL OFFICERS



MAJOR GENERAL BRIGADIER GENERAL

FIELD GRADE OFFICERS



COLONEL LIEUTENANT COLONEL MAJOR

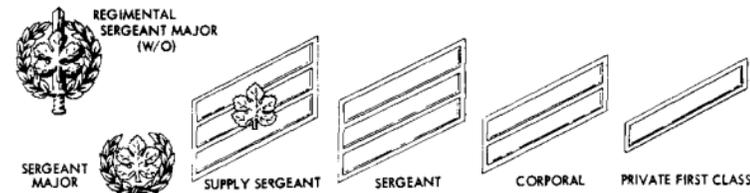
COMPANY GRADE OFFICERS



CAPTAIN 1ST LIEUTENANT 2D LIEUTENANT

ISRAEL

ENLISTED MEN'S WINTER FIELD UNIFORM & INSIGNIA OF GRADE



ISRAELI ARM AND SERVICE INSIGNIA (WORN ON THE HEADGEAR)



PARATROOPERS WEAR RED BERETS AND JUMP BOOTS. ARMORED PERSONNEL WEAR BLACK BERETS AND CRASH HELMETS. ARTILLERY PERSONNEL WEAR BLACK BERETS. OTHERS WEAR OD BERETS; ALL TROOPS MAY WEAR HELMETS.

JORDAN

ENLISTED MEN'S WINTER FIELD UNIFORM & INSIGNIA OF GRADE

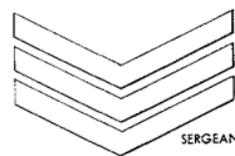
INSIGNIA OF GRADE FOR ENLISTED MEN WORN ON BOTH SLEEVES BETWEEN SHOULDER AND ELBOW



RED AND WHITE CHECKED
HEADRESS, CASQUETTE,
BRITISH-TYPE HELMET,
OR BERET MAY BE WORN



STAFF SERGEANT



SERGEANT



CORPORAL



PRIVATE
FIRST CLASS

ARM AND SERVICE INSIGNIA
(INDICATED BY COLORED CLOTH PATCHES WORN ON LEFT SLEEVE BETWEEN ELBOW AND SHOULDER)



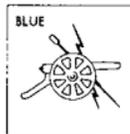
INFANTRY*



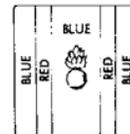
ARMORED CORPS



SIGNAL*



ARTILLERY



FIELD ENGINEERS



SUPPLY & TRANSPORT*

*DEVICE,
IF ANY,
UNKNOWN

JORDAN

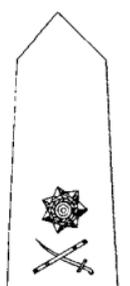
OFFICER'S WINTER FIELD UNIFORM & INSIGNIA OF GRADE



GARRISON CAPS
MAY BE WORN



COMMANDER IN CHIEF



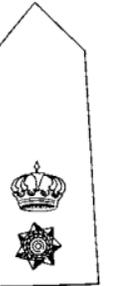
MAJOR GENERAL



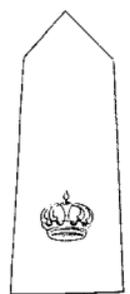
BRIGADIER
GENERAL



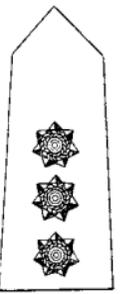
COLONEL



LIEUTENANT
COLONEL



MAJOR



CAPTAIN



FIRST LIEUTENANT



SECOND LIEUTENANT



WARRANT OFFICER

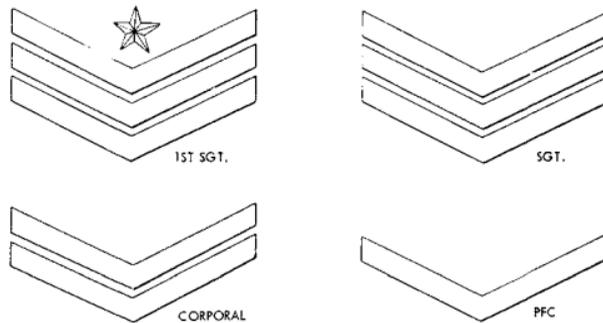
*Relative size of devices uncertain. Exact design of warrant officer's wreath not known.

LEBANON

ENLISTED MEN'S WINTER FIELD UNIFORM & INSIGNIA OF GRADE



ENLISTED MEN'S GRADE INSIGNIA
WORN ON BOTH SLEEVES BETWEEN SHOULDER AND ELBOW

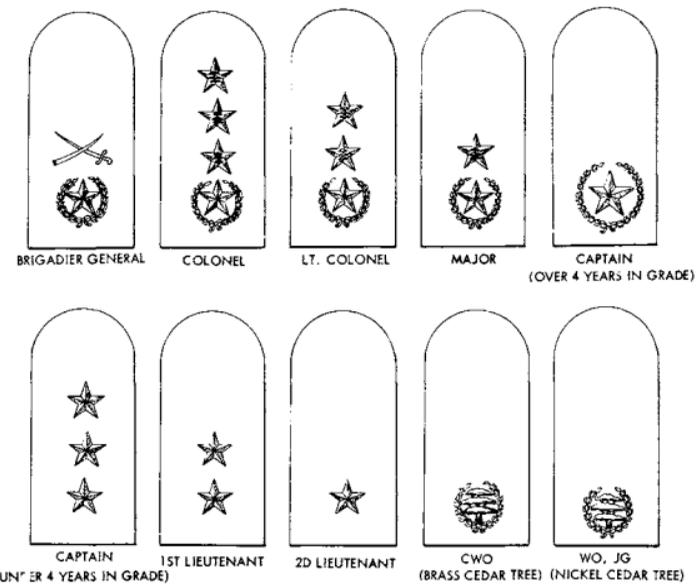


DISTINCTIVE COLORS OF ARM AND SERVICE. (COLORED TABS WORN ON COLLAR NORMALLY IDENTIFY BRANCH. METALLIC DEVICES INFREQUENTLY WORN)

DARK BLUE INFANTRY AND HQ. PERSONNEL	RED ARTILLERY	LIGHT GRAY CAVALARY	BLACK ENGINEERS AND SERVICES
MAROON MEDICAL		GREEN TRANSPORT	

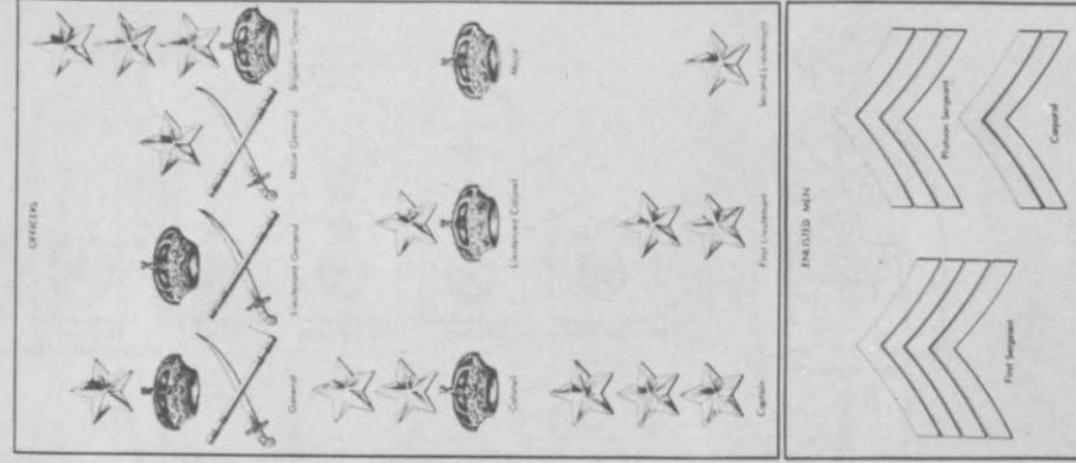
LEBANON

OFFICER'S WINTER FIELD UNIFORM & INSIGNIA OF GRADE



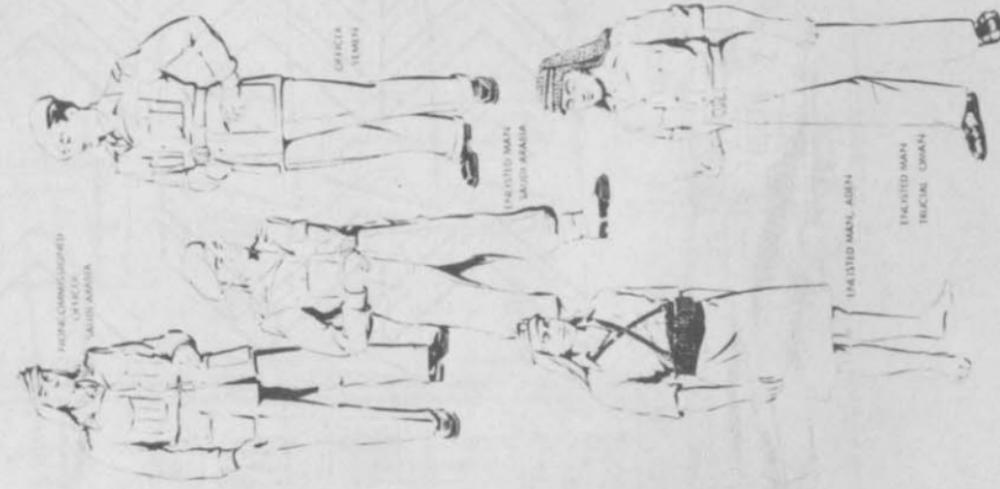
SAUDI ARABIA

INSIGNIA OF RANK



ARABIAN PENINSULA

ARMY FIELD UNIFORMS

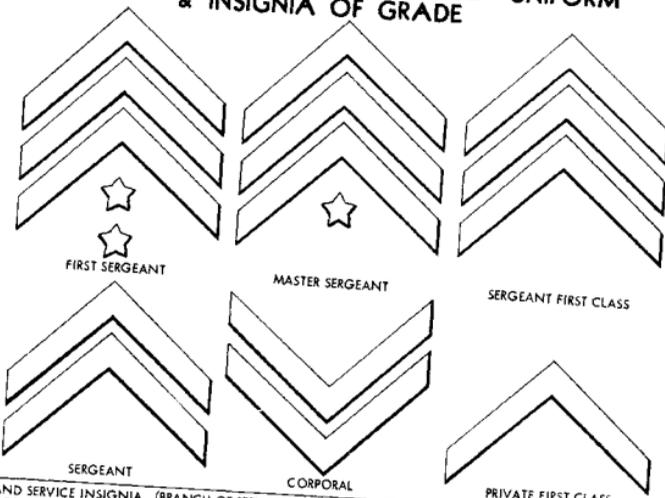


SYRIA

BERETS, GARRISON OR FIELD
CAPS MAY BE WORN



ENLISTED MEN'S WINTER FIELD UNIFORM & INSIGNIA OF GRADE

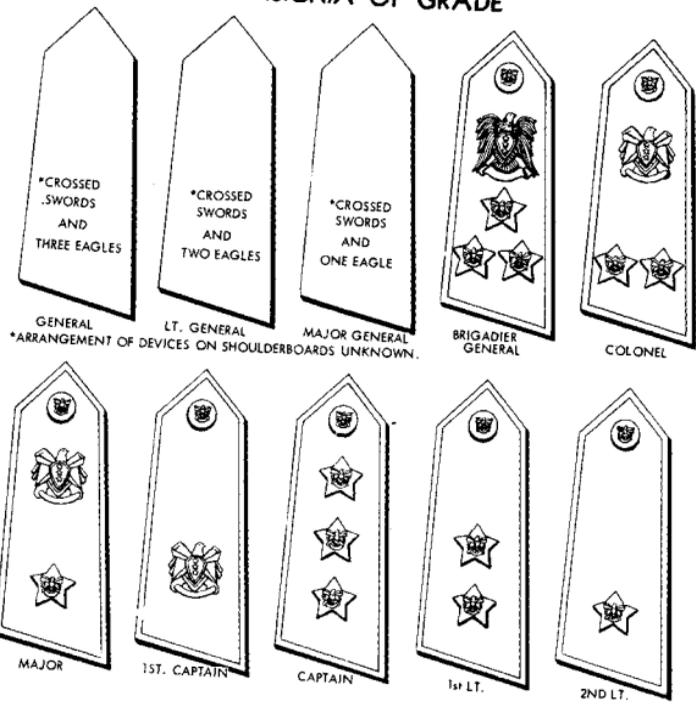


ARM AND SERVICE INSIGNIA (BRANCH OF SERVICE IS INDICATED ON OFFICER'S UNIFORM BY COLOR OF SHOULDERBOARD; ON ENLISTED MEN'S UNIFORM BY BACKGROUND COLOR PATCH ON WHICH CHEVRONS ARE SEWED)

GENERAL STAFF RED	INFANTRY DARK GREEN	ARMORED GRAY	ARTILLERY BLUE	ENGINEER LIGHT BROWN	SIGNAL DARK BROWN	MEDICAL MAROON (VELVET)
PHARMACY AND ADMINISTRATION GREEN (VELVET)	VETERINARY LIGHT VIOLET	JUDGE ADVOCATE GENERAL BLACK (VELVET)	GENDARMERIE BLACK	MILITARY POLICE RED WITH BLACK PIPING	RESERVE OFFICERS' SCHOOL DARK VIOLET	DESERT GUARD YELLOW

SYRIA

OFFICER'S WINTER FIELD UNIFORM & INSIGNIA OF GRADE



Mine Warfare Equipment

The mines and fuzes discussed in this handbook are World War II models that were employed in the Middle East desert regions. Some of these mines still exist in minefields laid during the war; others may have been lifted and put into service by countries of the area. Also, certain of these countries have copied some of these mines and fuzes or used them as the basic pattern for other locally produced items. All the *models* described in the following pages may not be found in the area today, and some models *not* described may be encountered; however, all mines discussed here represent *types* of mines that may be found in the area.

No attempt should be made by a non-expert to disarm any foreign mine. The disarming procedures given herein are for use in extreme emergency and should not be taken as an authority for disarming or as fool-proof methods. Firing chains may have been altered, antidisturbance fuzes used, or the item may have become super sensitive for various reasons.

If a mine is discovered, its location should be marked to prevent others from actuating it, and the location should be reported. If experienced personnel are not available and a mine must be neutralized, the safest method is its destruction in place by explosives.

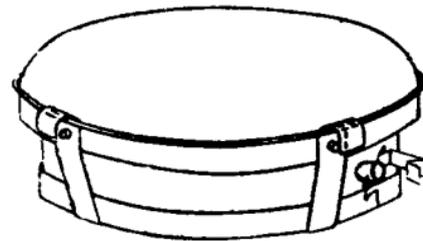
The next safest way is removal of the mine from its emplacement, from a safe distance or cover, by a suitable length of rope, and then destruction of the mine with explosive. (The pulling of the mine from its emplacement may result in its destruction if it has been boobytrapped.)

The least safe method of neutralizing is lifting and disarming by hand. As stated previously, this is to be practiced only in extreme emergency. When disarming is absolutely necessary, the following general rules apply:

1. Never pull a slack trip wire.
2. Never cut a taut trip wire and always examine *both* ends of it for mines or boobytraps.
3. When cutting electric leads, cut them one at a time to prevent closing the circuit with the cutters.
4. Never use force in placing a safety or removing a part of a mine or fuze.
5. Be extremely careful with items that show corrosion, rust, or other signs of deterioration.
6. Always inspect for boobytraps before lifting a mine.
7. Do not try to remove detonators or percussion caps from fuzes. (Some initiating explosives become very sensitive after a time and only a small amount of friction is required to detonate them.)
8. Have only one man work on a mine at one time.

British Antitank Mine, Mk 2, E. P.*

This is a metal-cased mine having a solid domed pressure plate of greater diameter than the case. In the center of the top surface of the case is a shearpin-retained wooden plunger. A tube leading in from the side of the case terminates under the bottom of the plunger. This tube accepts the detonator. There are no secondary fuze wells in this mine.



BRITISH ANTITANK MINE, MK 2, E. P. (EGYPTIAN PATTERN)

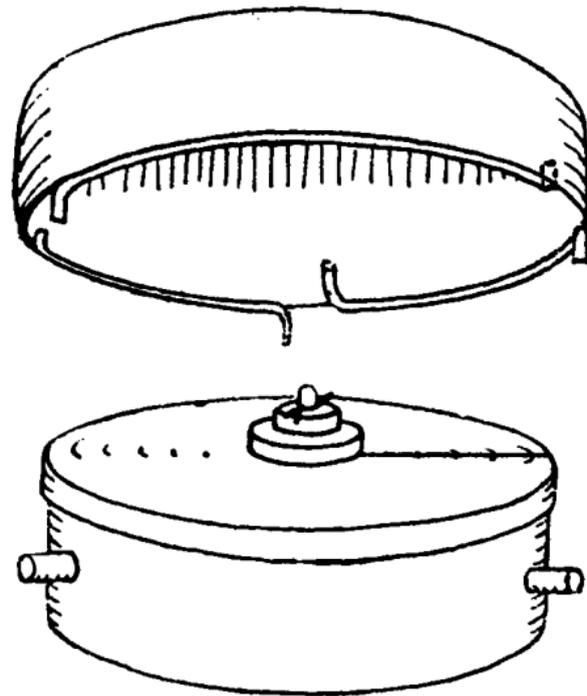
Characteristics:

Dimensions.....	Dia. 10.0''; ht, 4.0''
Explosive.....	Ammonal, 4.3 lb.
Overall weight.....	7.0 lb.

Disarming:

No attempt should be made to disarm this mine.

*E. P. denotes Egyptian Pattern.



BRITISH ANTITANK MINE, MK 3, E. P.

British Antitank Mine, Mk 3, E. P.

This mine is cylindrical in shape. It has a solid pressure plate that is fitted to the case with a slot-and-lug arrangement. The mine uses a mechanical fuze (No. 2, Mk 1) with a shearpin-retained striker. There are no supplementary fuze wells.

Characteristics:

Dimensions.....	Dia, 9.0''; ht, 4.0''
Explosive.....	TNT, 6.5 lb
Overall weight.....	9.5 lb

Disarming:

No attempt should be made to disarm this mine.



BRITISH ANTITANK MINE, MK 5, E. P.

British Antitank Mine, Mk 5, E. P.

This mine has a cylindrical steel case and a solid pressure plate. The pressure plate is supported in position by four lugs that pass through metallic straps fastened to the case. The mine employs the E. P. fuze No. 2. (This fuze may also be employed by itself as an antipersonnel mine.) The mine has no secondary fuze wells.

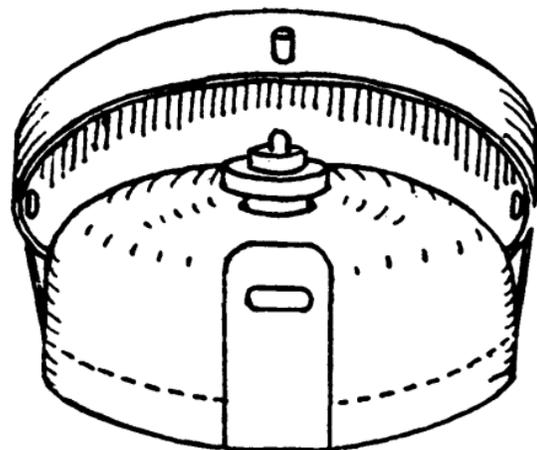
Characteristics:

Dimensions.....	Dia, 10.0''; ht, 4.0''
Explosive.....	TNT, 4.5 lb
Overall weight.....	8.0 lb

Disarming:

1. Search for and remove any boobytraps.
2. Remove pressure plate.
3. Remove fuze.
4. Using the tape ends, pull the detonator out of the fuze. *Do not* use force—if the detonator does not come out easily, destroy the fuze.

British Antitank Mine, Mk 6, E. P.



BRITISH ANTITANK MINE, MK 6, E. P.

This mine is similar to the Mk 5 mine; however, it uses a mechanical (No. 3, Mk 1) rather than a chemical fuze. The mine has no supplementary fuze wells.

Characteristics:

Dimensions.....	Dia, 10.0''; ht, 4.5''
Explosive.....	TNT, 6.5 lb
Overall weight.....	9.5 lb

Disarming:

1. Search for and remove any boobytraps.
2. Remove the pressure plate.
3. Remove the fuze.



BRITISH ANTITANK MINE, MK 2, G. S. (GENERAL SERVICE)

British Antitank Mine, Mk 2, G. S.*

This mine has a cylindrical metal case and a solid pressure plate. The pressure plate is equipped with four lugs that engage slots in straps attached to the case. A mechanical fuze (No. 1, Mk 1) is inserted into the mine through a well in the bottom of the case. There are no supplementary fuze wells.

Characteristics:

Dimensions..... Dia, 7.5"; ht, 3.3"
Explosive..... TNT or Baratol, 4.0 lb
Overall weight..... 8.3 lb

Disarming:

1. Search for and remove any boobytraps.
2. Remove the fuze from bottom of the mine.

* G. S. denotes General Service.



BRITISH ANTITANK MINE, MK 4, G. S.

British Antitank Mine, Mk 4, G. S.

This mine is similar in construction to the Mk 2, G. S. antitank mine but is heavier and the location of the main fuze well is different. The fuze (No. 3, Mk 1) is put into place from the top of the mine after removing the pressure plate.

Characteristics:

Dimensions.....	Dia, 8.0''; ht, 4.7''
Explosive.....	TNT, 8.3 lb
Overall weight.....	12.5 lb

Disarming:

1. Search for and remove any boobytraps.
2. Remove pressure plate.
3. Unscrew the fuze.



BRITISH ANTITANK MINE, MK 5, G. S.

British Antitank Mine, Mk 5, G. S.

This mine employs a spider rather than a pressure plate. Two types of spider may be used; one consists of cross arms and the other, cross arms and a perimeter band. The main fuze well is located in the center of the top surface of the case. There are no supplementary fuze wells. The main fuze used is the No. 3, Mk 1.

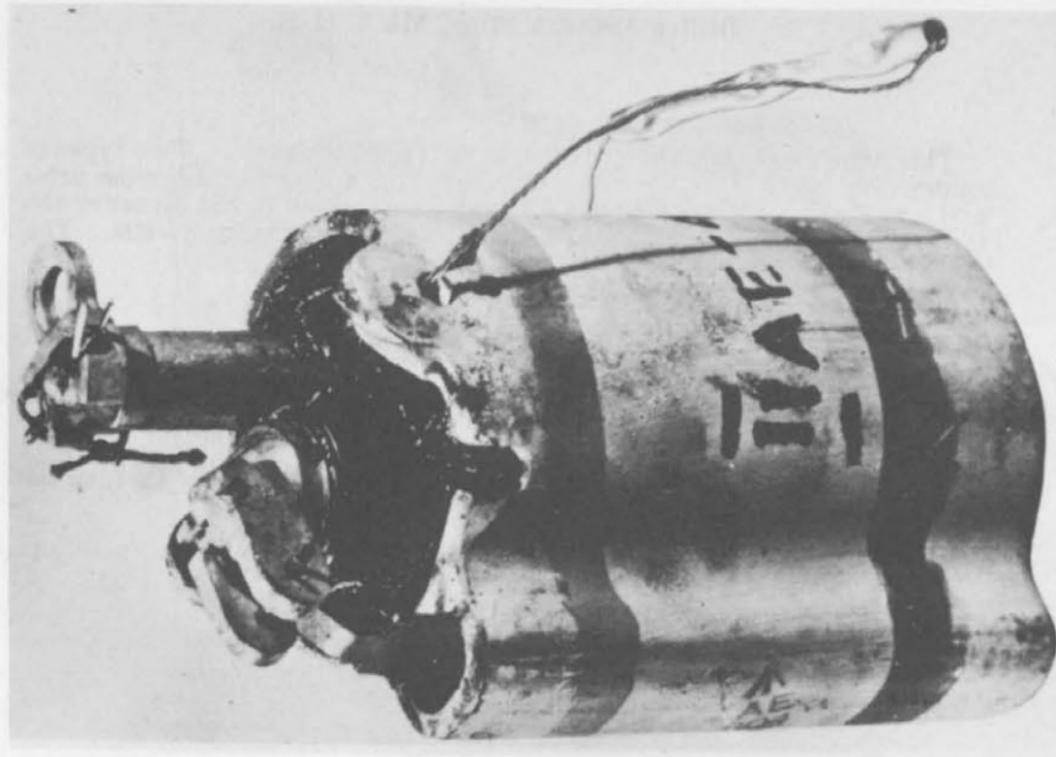
Characteristics:

Dimensions.....	Dia, 8.0"; ht, 4.0"
Explosive.....	TNT, 4.5 lb*
Overall weight.....	8.8 lb*

Disarming:

1. Search for and remove any boobytraps.
2. Remove the spider.
3. Remove fuze well cover.
4. Insert safety pin in fuze and remove fuze from mine.

*Another version of this mine, the Mk 5 HC, has a charge weight of 8.3 lb and an overall weight of 12.5 lb.



BRITISH ANTIPERSONNEL MINE, MK 2.

British Antipersonnel Mine, Mk 2

This is a bounding fragmentation mine. The outer case serves as a mortar and houses the projectile that contains the integral fuzeing systems. The mine is actuated through a trip wire. On actuation, the mine is projected into the air and the main charge is fired, breaking the projectile into fragments.

Characteristics:

Dimensions.....	Dia, 3.5"; ht, 5.5"
Explosive.....	Amatol, 1.0 lb
Overall weight.....	9.0 lb

Disarming:

1. Insert a safety pin in each of the two fuzes.
2. Cut the trip wire.
3. Remove the propelling fuze and remove the blank cartridge from the well.
4. Remove the main fuze by means of the knurled collar.
5. Remove the detonator assembly from the well.

British Antipersonnel Mine, No. 5, E. P.

This item is used both as an antipersonnel mine and as the fuze for the E. P. mine, Mk 2. It is cylindrical in shape and has an off-center well parallel to its long axis. This well accepts a wooden plunger fitted with a shear pin. A hole near the base of the mine connects with the bottom of the plunger hole and accepts the detonator assembly.

(NO ILLUSTRATION AVAILABLE)

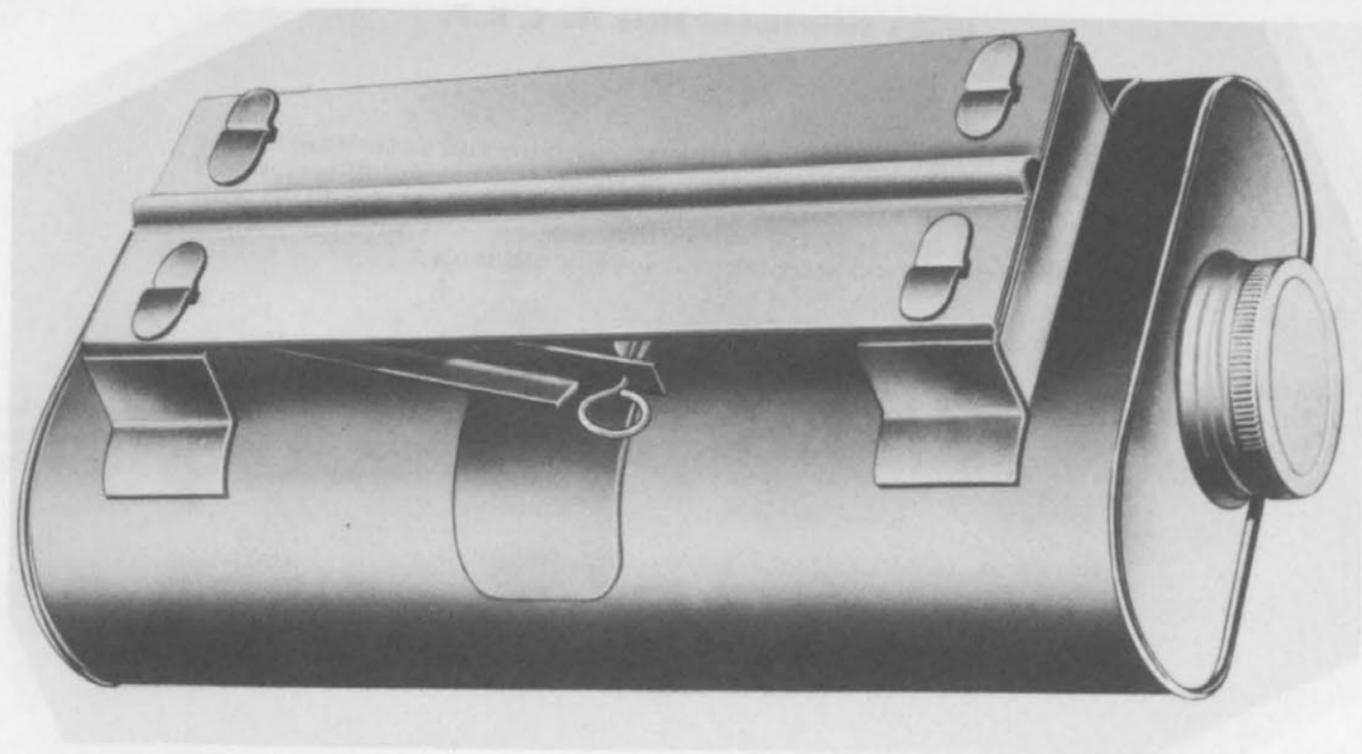
Characteristics:

Dimensions..... Dia, 2.0"; ht, 3.0"
Explosive..... Unknown, 5.0 oz
Total weight..... 12.0 oz .

Disarming:

1. Remove the wooden plunger.
2. Using tape ends provided, pull out detonator assembly. Do *not* use force—if the detonator does not come easily destroy the mine.

BRITISH ANTIPERSONNEL MINE, NO. 5, E.P.



BRITISH HAWKINS GRENADE MINE, NO. 75.

British Hawkins Grenade Mine, No. 75

This is a flask-shaped, metallic, dual-purpose mine. It employs two chemical fuzes (No. 98, Mk 1) that fit under a pressure plate attached to the top of the mine. It has no supplementary fuze wells for boobytrapping.

Characteristics:

Dimensions----- L, 7.0''; w, 4.0''; ht, 2.5''
Explosive----- Ammonal, 1.5 lb
Overall weight---- 3.0 lb

Disarming:

1. Search for and remove any boobytraps.
2. Withdraw the fuze-retaining pin.
3. Remove the fuzes.



BRITISH PRESSURE FUZE, NO. 1, MK 1.

British Pressure Fuze, No. 1, Mk 1

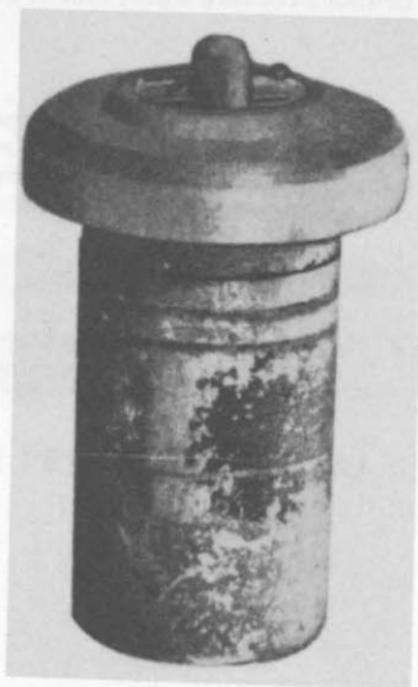
This fuze is of the instantaneous mechanical type. It has a cylindrical brass case housing a pressure head, a plunger, a sleeve with four safety prongs, and a spring-loaded striker held in place by retaining balls. The base of the fuze contains a percussion cap and detonator.

Characteristics:

Dimensions----- Dia, 0.9''; ht, 3.1''
Operating force----- 350 lb

Disarming:

This fuze has no external safety devices. Disarming consists of removing the fuze from the mine.



BRITISH PRESSURE FUZE, NO. 3, MK 1.

British Pressure Fuze, No. 3, Mk 1

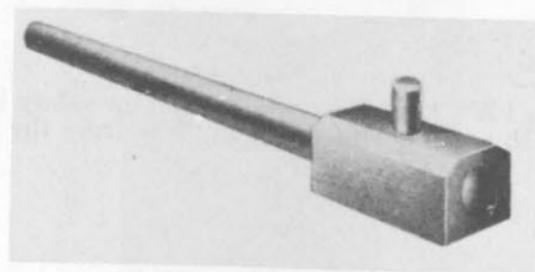
This fuze is used with the Mk 4 and 5 antitank mines. The cylindrical case contains a spring-loaded striker retained by a shearpin. A cotter-type safety pin passes through the striker shaft above the shearpin. A cup crimped to the base of the fuze holds a detonator and booster charge.

Characteristics:

Dimensions----- Dia, 1.5"; ht, 3.5"
Operating force----- 400 lb

Disarming:

Insert a safety in the striker shaft and remove the fuze from the mine.



BRITISH PRESSURE FUZE, NO. 98, MK 1.

British Pressure Fuze, No. 98, Mk 1

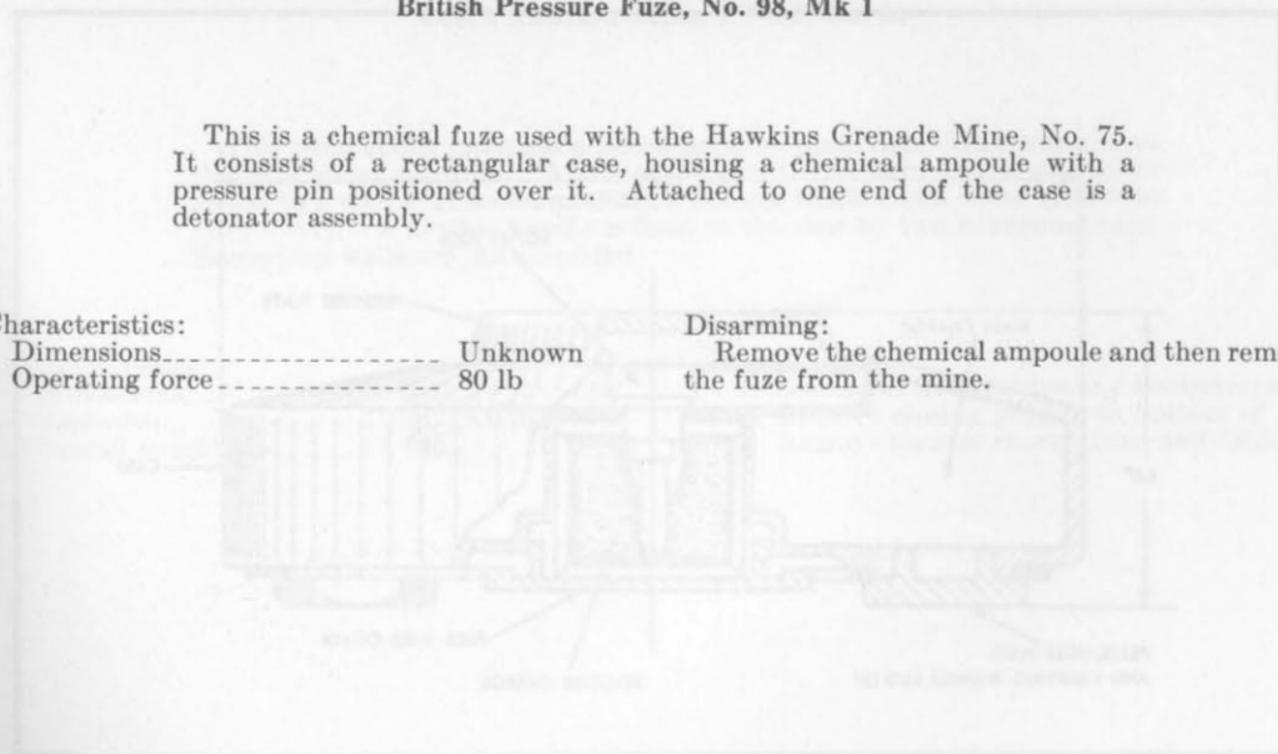
This is a chemical fuze used with the Hawkins Grenade Mine, No. 75. It consists of a rectangular case, housing a chemical ampoule with a pressure pin positioned over it. Attached to one end of the case is a detonator assembly.

Characteristics:

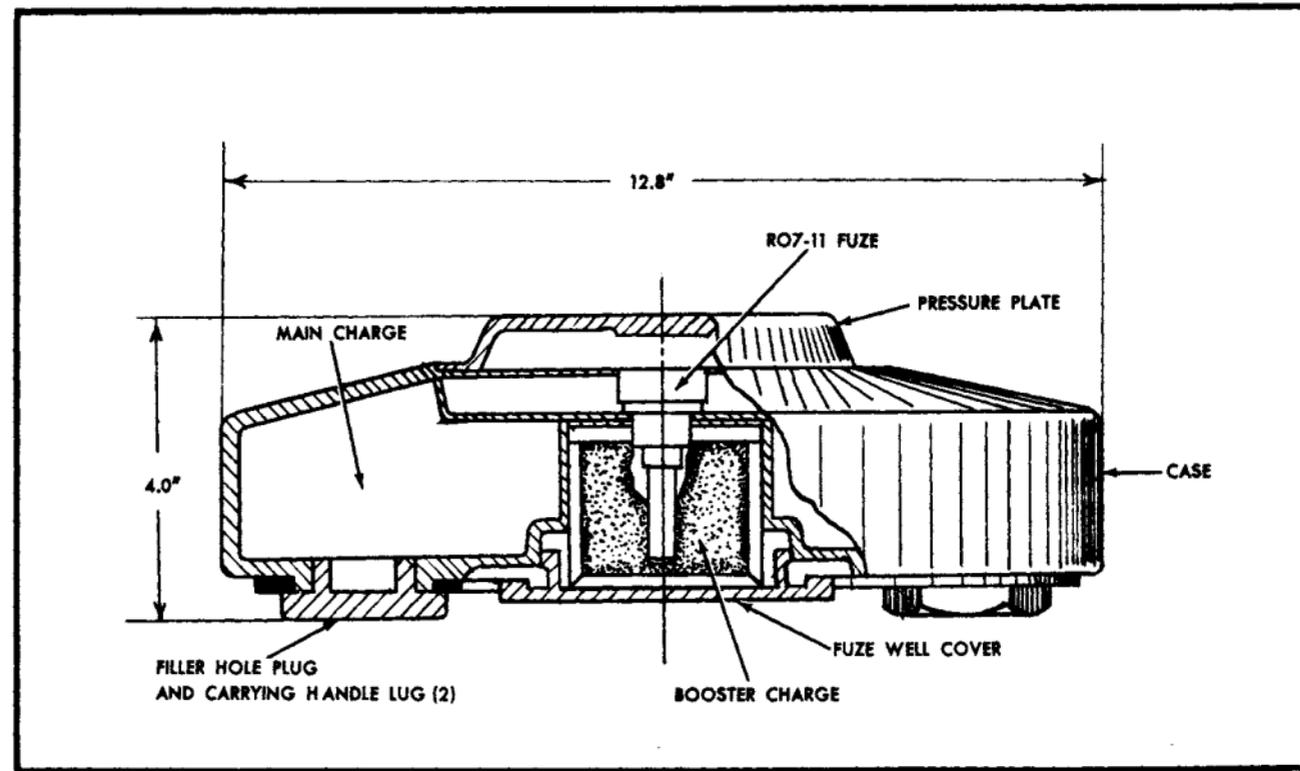
Dimensions----- Unknown
 Operating force----- 80 lb

Disarming:

Remove the chemical ampoule and then remove the fuze from the mine.



Czech Antitank Mine, PT-Mi-Ba, 53



CZECH ANTITANK MINE, PT-MI-BA, 53.

This nonmetallic mine has a raised pressure plate that shears away from the case under pressure. A closing plug in the bottom of the case gives access to a well that accommodates a booster block and a shear type fuze (RO-7-11). A flexible handle is fixed to the case by two hexagonal lugs. Boobytrap wells are not provided.

Characteristics:

Dimensions.....	Dia, 12.8''; ht, 4.0''
Explosive.....	TNT, 15.0 lb
Overall weight.....	17.4 lb

Disarming:

1. Search for and remove any boobytraps.
2. Remove closing plug from bottom of mine.
3. Remove booster charge, fuze, and detonator.

Czech Antitank Mine, PT-Mi-K

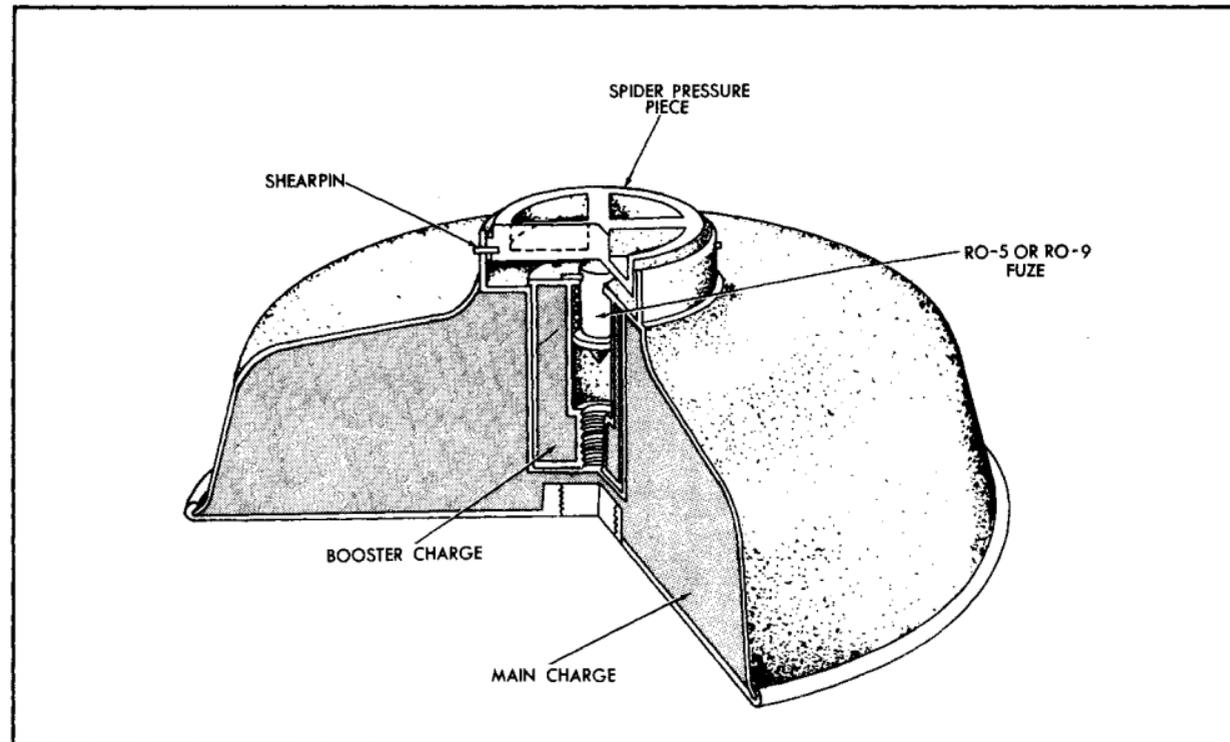
This is a metallic antitank mine designed to be used with a mechanical minelayer. It has a small pressure spider supported by shear lugs. The striker of the fuze (RO-5 or RO-9) is also shearpin-retained. It is not known whether the mine is provided with boobytrap wells.

Characteristics:

Dimensions.....	Dia, 12.0"; ht, 4.0"
Explosive.....	TNT, 11.0 lb
Overall weight.....	16.0 lb

Disarming:

1. Remove fuze from mine.
2. Do *not* attempt to remove detonator from mine or fuze.



CZECH ANTITANK MINE, PT-MI-K.

Czech Antitank Mine, PT-TO-Mi-Ba

This nonmetallic mine is a Czech copy of the World War II German Topf mine. It consists of a plastic case and a charge and uses a chemical fuze. Access to the fuze well is by a closing plug in the bottom of the case. A carrying handle is fixed to the bottom of the mine by two hexagonal lugs.

(NO ILLUSTRATION AVAILABLE)

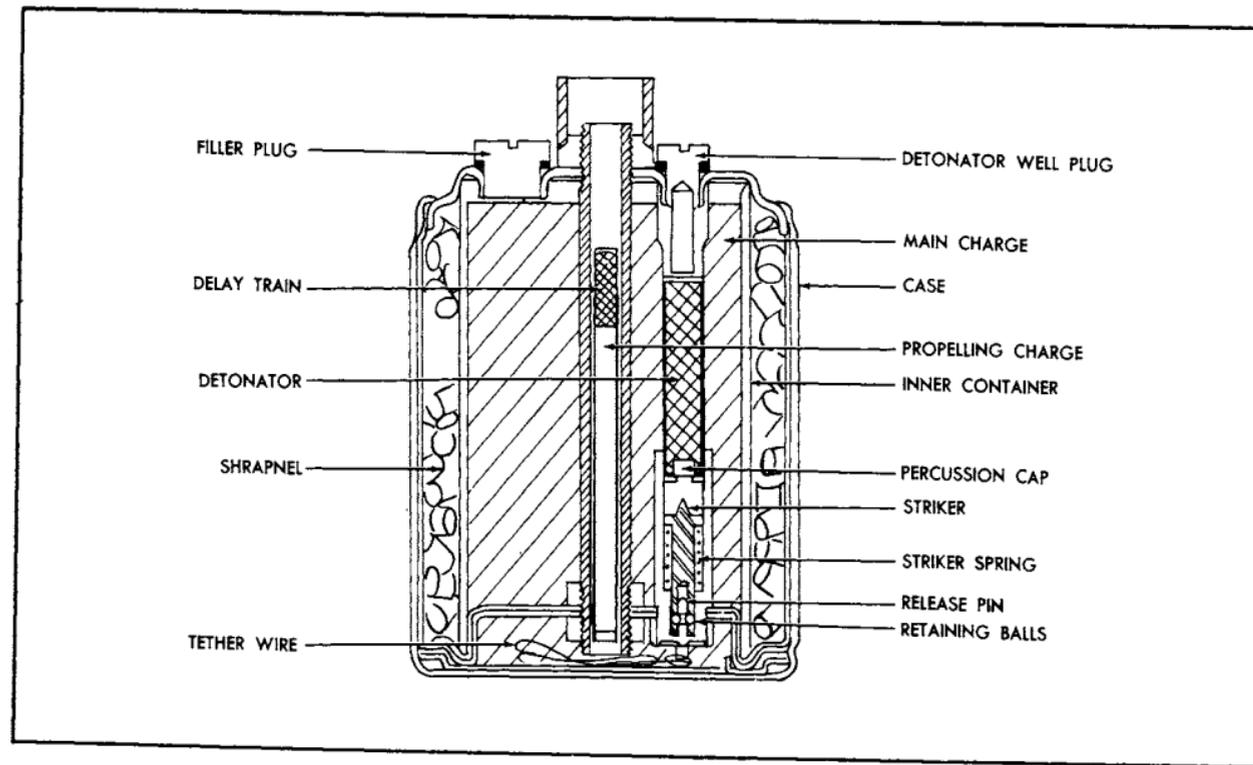
Characteristics:

Dimensions.....	Dia, 11.6''; ht, 5.0''
Explosive.....	TNT, 11.9 lb
Overall weight.....	18.7 lb

Disarming:

1. Search for and remove any boobytraps.
2. Remove closing plug.
3. Remove fuze.
4. Remove detonator.

CZECH ANTITANK MINE, PT-TO-MI-BA.



CZECH ANTIPERSONNEL MINE, PP-MI-SR.

Czech Antipersonnel Mine, PP-Mi-Sr

This is a bounding shrapnel mine similar to the World War II German S-mine. The fuze (RO-8) it employs is also similar to the World War II German S-mine fuze 35. Three to five seconds after actuation of the fuze, the mine bounds about one yard into the air and detonates, hurling its shrapnel in all directions.

Characteristics:

Dimensions	Dia, 4.0"; ht, 5.5"
Explosive	TNT, 11.5 oz
Overall weight	7.0 lb

Disarming:

1. Search for and remove any boobytraps.
2. Replace the fuze safety pin.
3. Remove fuze from mine.
4. Remove detonator.

Czech Antipersonnel Mine, PP-Mi-St

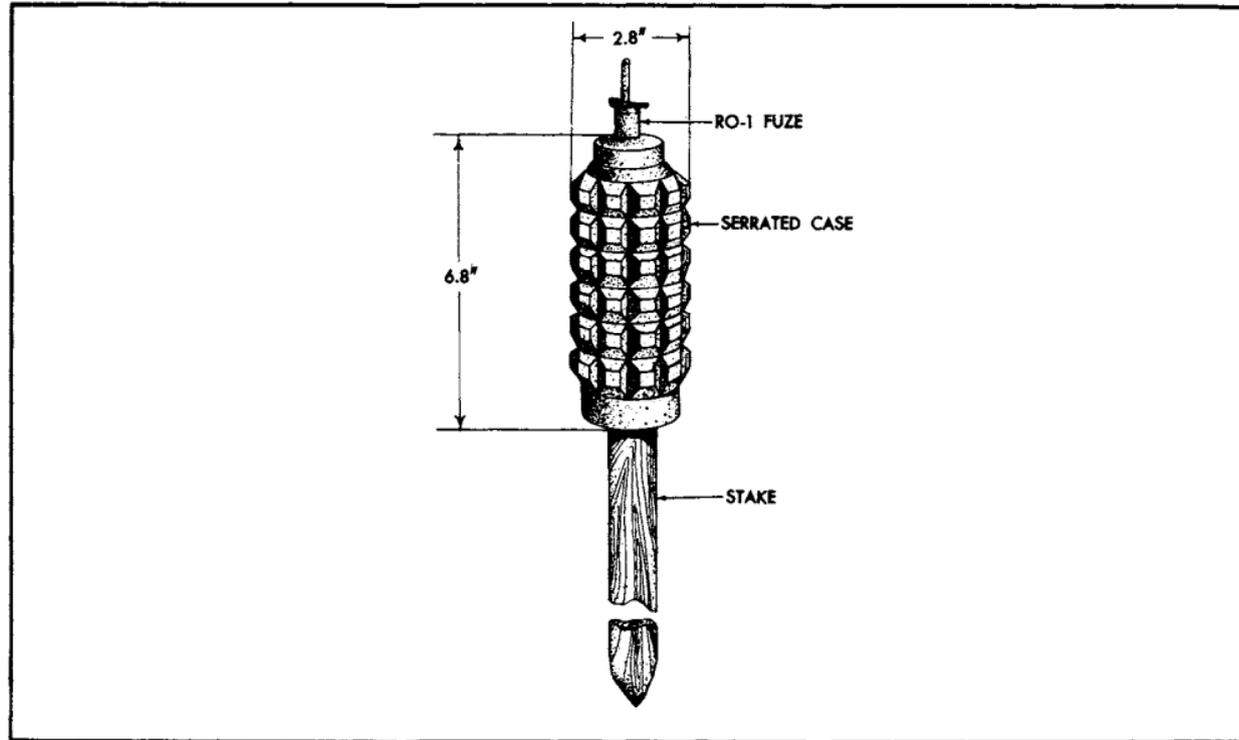
This mine is a Czech copy of the Soviet POMZ-2. It is a stationary fragmentation mine and employs a simple pull fuze (RO-1).

Characteristics:

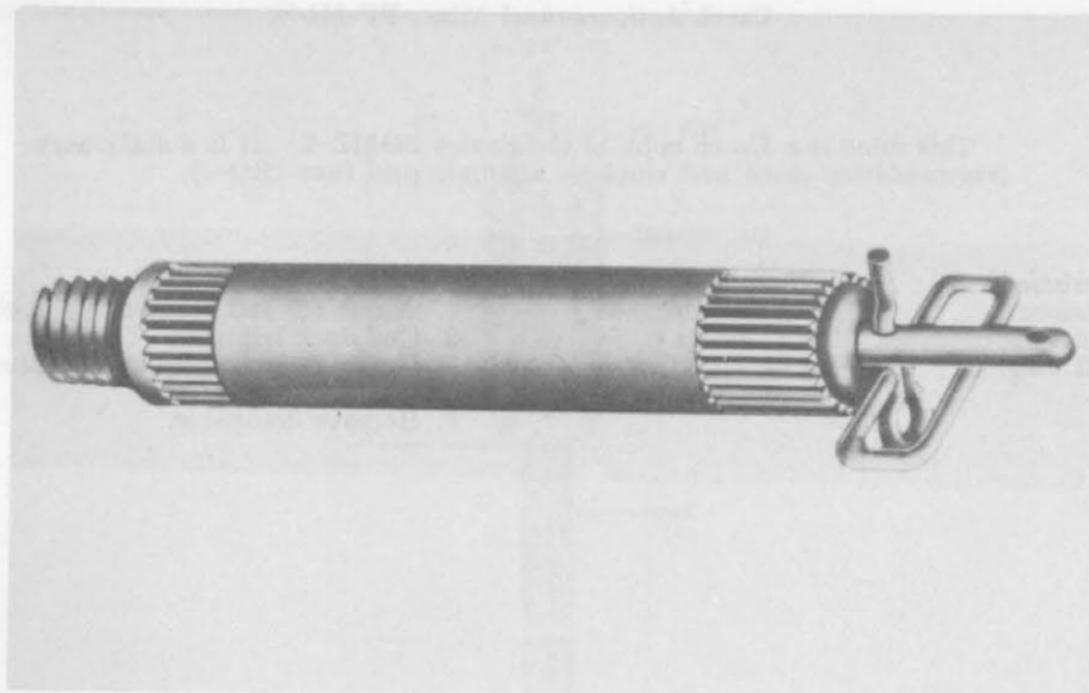
Dimensions.....	Dia, 2.4''; ht, 5.3''
Explosive.....	TNT, 2.6 oz
Overall weight.....	3.4 lb

Disarming:

1. Search for and remove any boobytraps.
2. Cut slack trip wire.
3. Holding striker-retaining pin firmly in place, remove fuze.
4. Remove detonator.



CZECH ANTIPERSONNEL MINE, PP-MI-ST.



CZECH FIRING DEVICE, RO-1.

Czech Firing Device, RO-1

This is a simple pull fuze with a spring-loaded, pin-retained striker. The striker-retaining pin is a "looped" or "butterfly" type. This device is used as the fuze in the PP-Mi-St antipersonnel mine.

Characteristics:

Dimensions..... Dia, 0.5''; ht, 3.5''
Actuating force..... 2.0 lb or more

Disarming:

1. Holding striker-retaining pin firmly in place, remove fuze from mine.
2. Separate detonator from fuze.

(NO ILLUSTRATION AVAILABLE)

CZECH FUZE, SF-1.

Czech Fuze, SF-1

This is a Czech copy of the World War II German Topf mine fuze. It is constructed of plastic and contains two vials of chemicals. One vial holds ethyl nitrate, and the other contains a potassium and sodium compound. Pressure applied to the top of the fuze fractures a shear ring and the vials are broken. Mixture of the two chemicals produces a flash that sets off the detonator. This fuze may be very sensitive and should be handled with care.

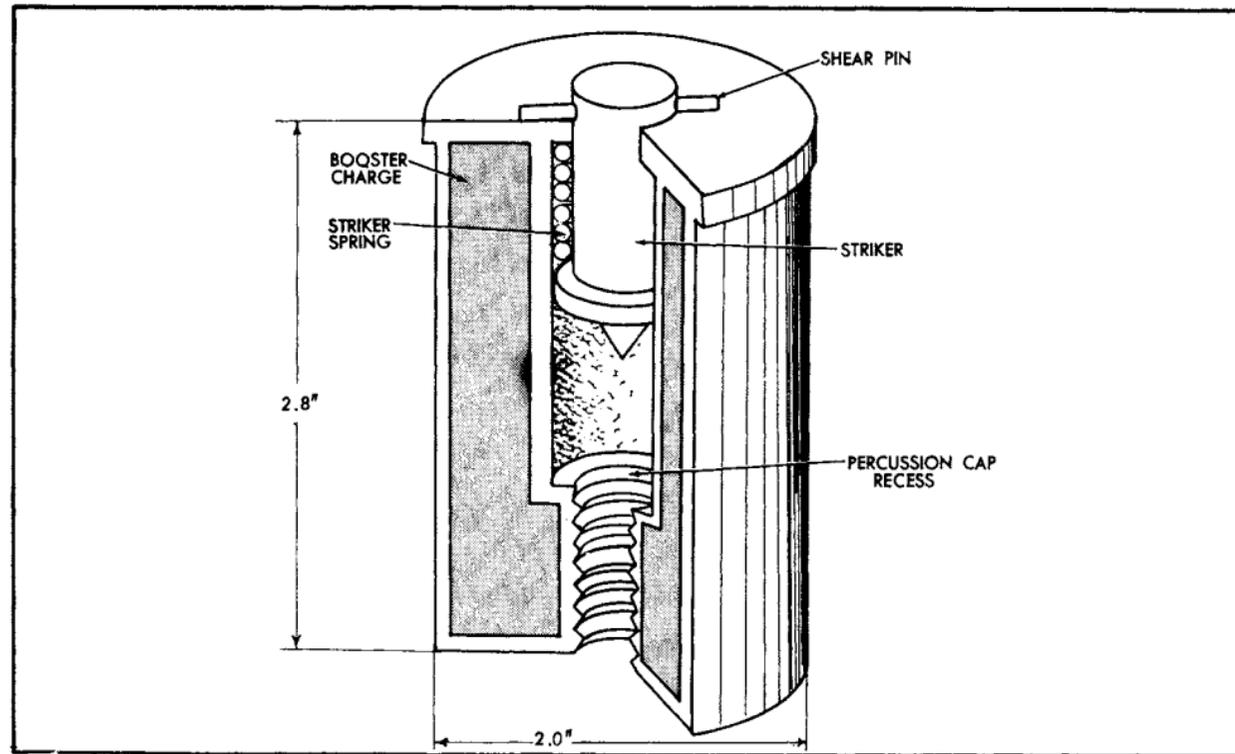
Characteristics:*

Dimensions..... Dia, 1.5"; ht, 3.5"
Actuating force..... 132 lb (approx.)

Disarming:

1. Remove fuze from mine.
2. Remove detonator from fuze.

*Characteristics given are for the German model; it is not known whether the Czechs have made a direct copy or modification of the fuze.



CZECH MINE FUZES, RO-5 AND RO-9.

Czech Mine Fuzes, RO-5 and RO-9

These fuzes have spring-loaded, shear pin-retained strikers. The only difference in the two models is that with the RO-5 the detonator is screwed into the mine, and with the RO-9 the detonator is integral with the fuze.

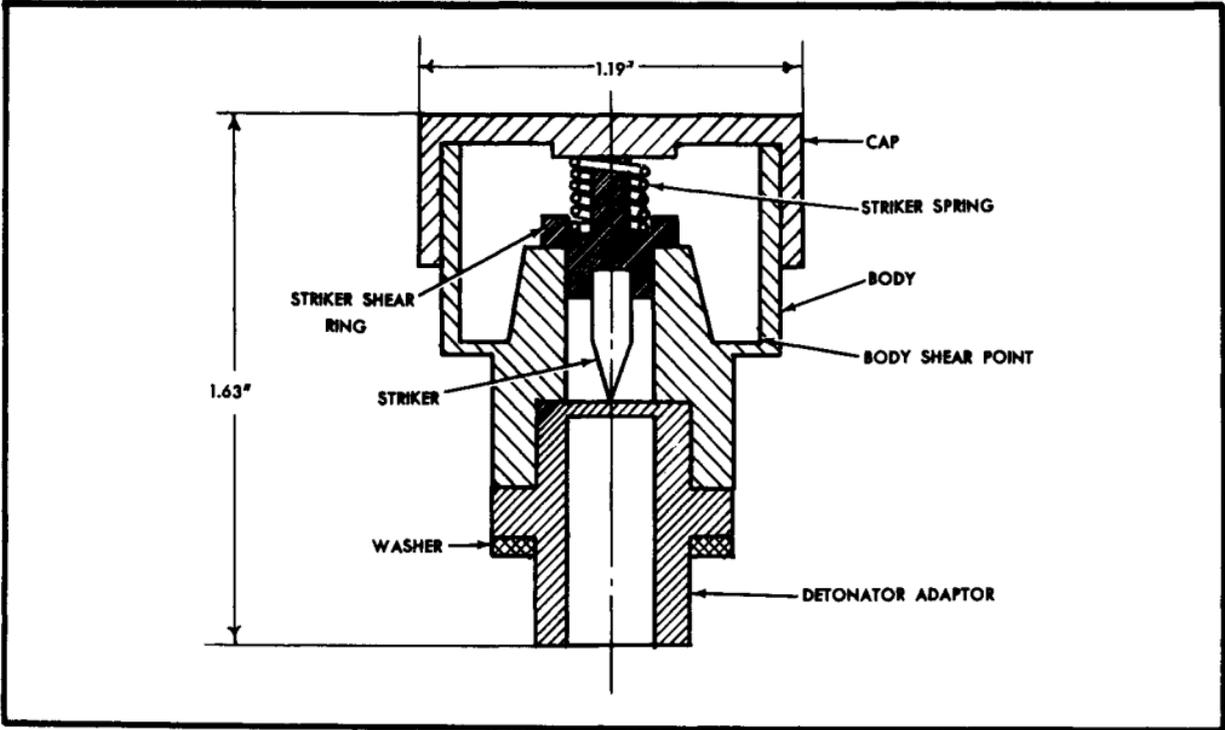
Characteristics:

Dimensions..... Dia, 2.0''; ht, 2.8''
 Actuating force..... 396 lb

Disarming:

1. Remove fuze from mine.
2. Do *not* try to remove detonator from mine or fuze.

Czech Fuze, RO-7-11

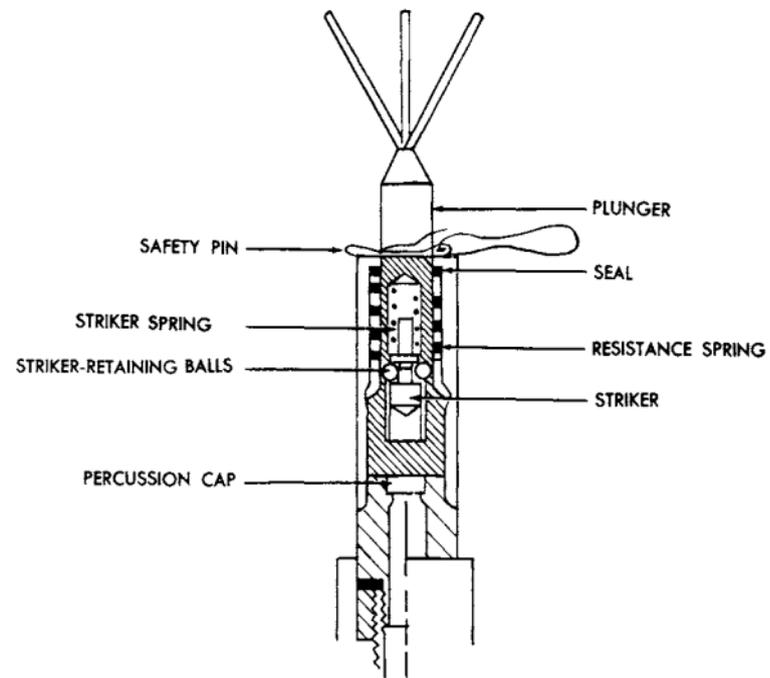


CZECH FUZE, RO-7-11.

This fuze is a simple mechanical type operating on a shear principle. The striker spring is not put under compression until the fuze case fractures; then with the internal shear ring failing, the spring-driven striker falls onto the detonator assembly. The fuze is used with the antitank mine PT-Mi-Ba, 53.

- Characteristics:
- Dimensions..... Dia, 1.2''; ht (w/o detonator), 1.6''
 - Actuating force..... 300 to 550 lb

- Disarming:
1. Remove fuze from mine.
 2. Separate detonator from fuze.



CZECH FIRING DEVICE, RO-8.

Czech Firing Device, RO-8

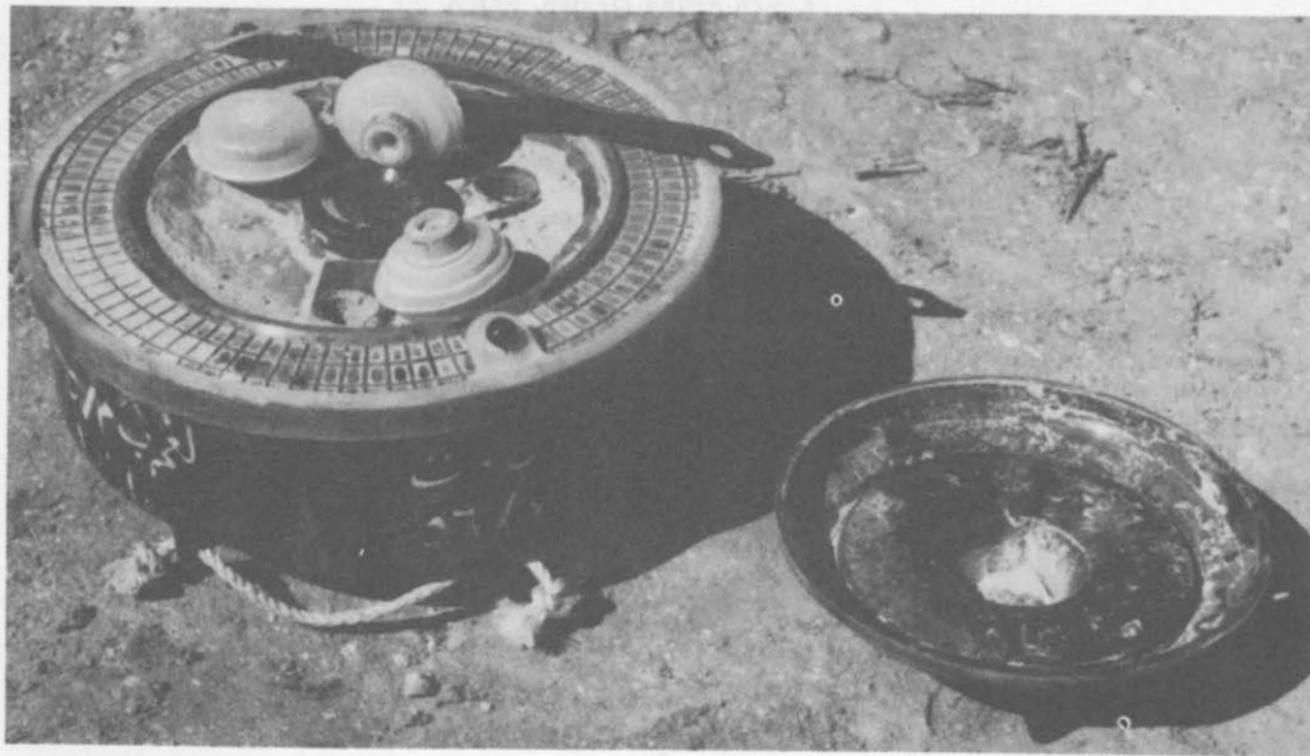
This fuze is a pressure type similar to the World War II German S-mine fuze 35. It is provided with a 3-pronged pressure head and a safety pin passes through it near the top of the case. The striker is spring-loaded and ball-retained. This fuze is used with the bounding shrapnel mine PP-Mi-Sr.

Characteristics:

Dimensions..... Dia, 0.7"; ht, 4.0"
 Actuating force..... Unknown

Disarming:

1. Replace safety pin.
2. Remove fuze from mine.
3. Remove detonator.



EGYPTIAN NONMETALLIC ANTITANK MINE.

Egyptian Nonmetallic Antitank Mine

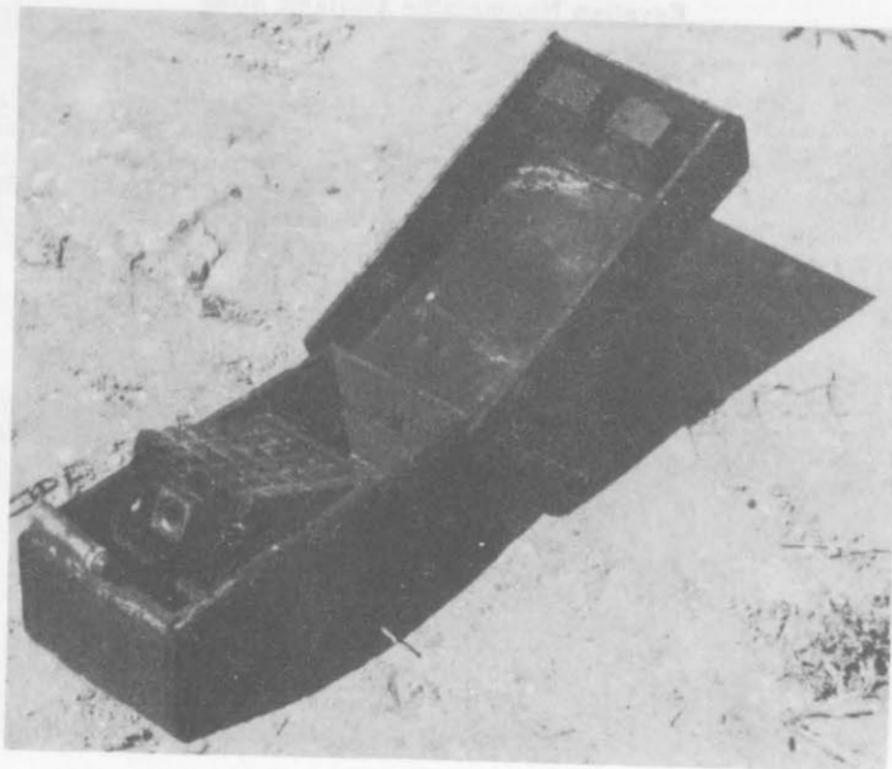
This mine is made to the plans of the Italian SACI mine. It is completely nonmetallic except for the fuze striker points and the detonators. The mine uses three fuzes that operate on a shear principle. The pressure plate has a 3-armed section formed in it; this is positioned so that an arm is above each fuze. The mine is provided with two boobytrap wells—one in the side and one in the bottom.

Characteristics:

Dimensions	-----	Dia, 11.0"; ht, 6.3"
Explosive	-----	TNT, 15.4 lb
Overall weight	-----	19.8 lb

Disarming:

1. Search for and remove any boobytraps.
2. Remove the pressure plate.
3. Remove the three fuzes.
4. Remove the three detonators.



EQYPTIAN ANTIPERSONNEL MINE.

Egyptian Antipersonnel Mine

This is a simple wooden box mine similar to the World War II German Schü mine and the Soviet PMD-series. To increase its lethality the charge is contained in a metallic fragmentation jacket. The mine employs a simple pull fuze (RO-1) and has no provisions for boobytrapping.

Characteristics:

Dimensions----- L, 9.4"; w, 5.1"; ht, 4.3"
Explosive----- TNT, 10.6 oz
Overall weight---- Unknown (probably about
2.5 lb)

Disarming:

1. Search for and remove any boobytraps.
2. Raise the hinged lid.
3. Holding striker-retaining pin firmly in place, remove the fuze.
4. Remove the detonator.

(NO ILLUSTRATION AVAILABLE)

EGYPTIAN FUZE FOR NONMETALLIC ANTITANK MINE.

Egyptian Fuze for Nonmetallic Antitank Mine

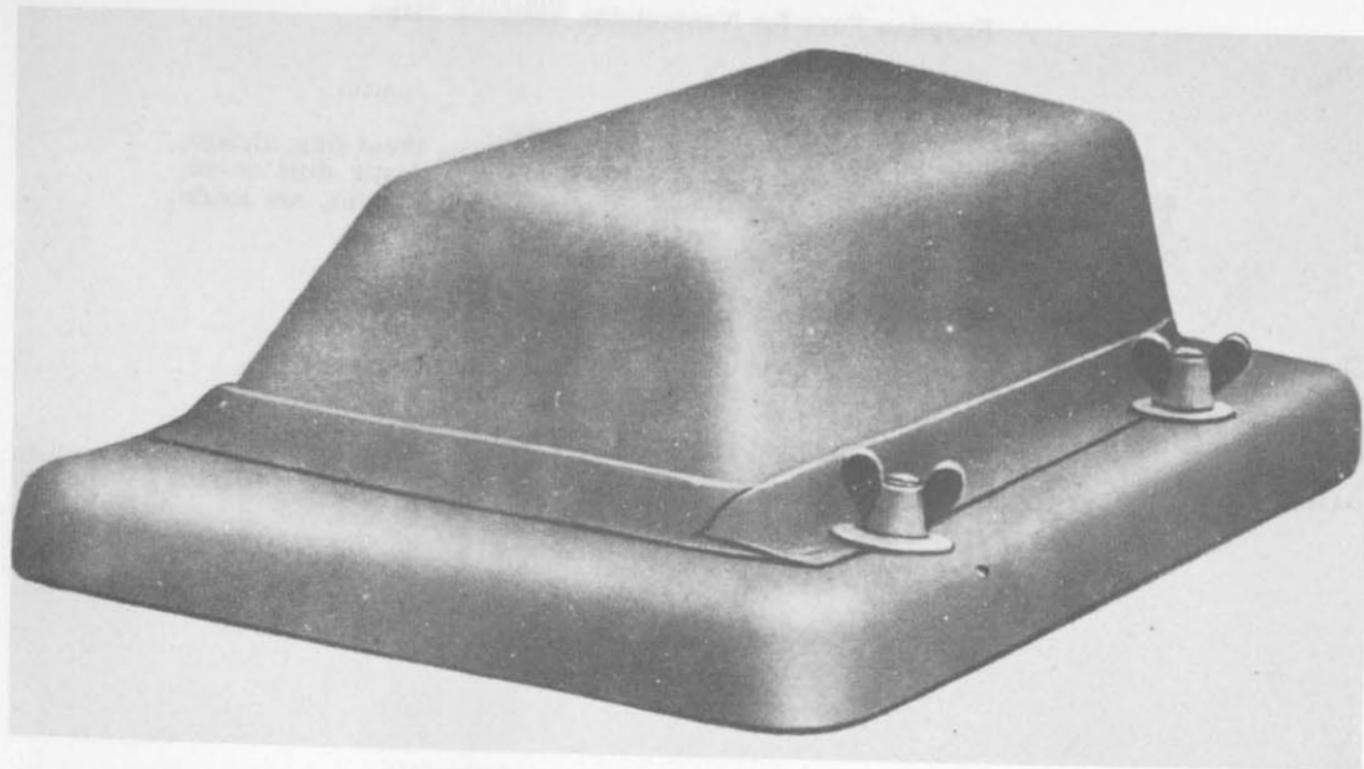
This is a simple mechanical fuze consisting of a case, shear ring, striker, and spring. The top of the fuze is protected by a plastic dust cover. All parts of the fuze, with the exception of the striker point, are made of plastic.

Characteristics:

Dimensions----- Dia, 2.2"; ht, 1.9"
Actuating force----- Unknown

Disarming:

1. Remove fuze from mine.
2. Remove detonator.



FRENCH HEAVY ANTITANK MINE.

French Heavy Antitank Mine

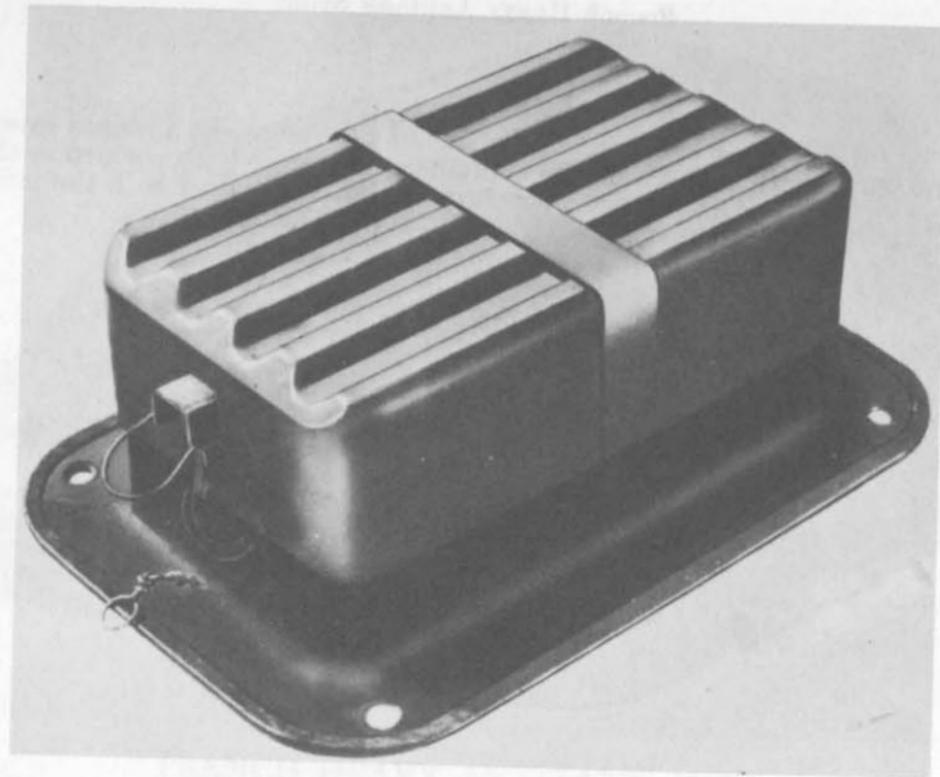
The metallic case of the mine consists of a base plate and a hinged cover. Attached to the base is a charge container. A fuze well is provided in the top of the charge container. The fuze (M-1935-36) used with the mine is a mechanical shearpin type.

Characteristics:

Dimensions----- L, 16.1"; w, 10.0"; ht,
4.8"
Explosive----- Probably picric acid, 3.3 lb
Overall weight---- 27 lb

Disarming:

1. Search for and remove any external booby-traps.
2. Loosen wing nuts.
3. Raise cover with the aid of a rope, from a safe distance.
4. Without placing any pressure on its head, remove the fuze from the mine.



FRENCH LIGHT ANTITANK MINE.

French Light Antitank Mine

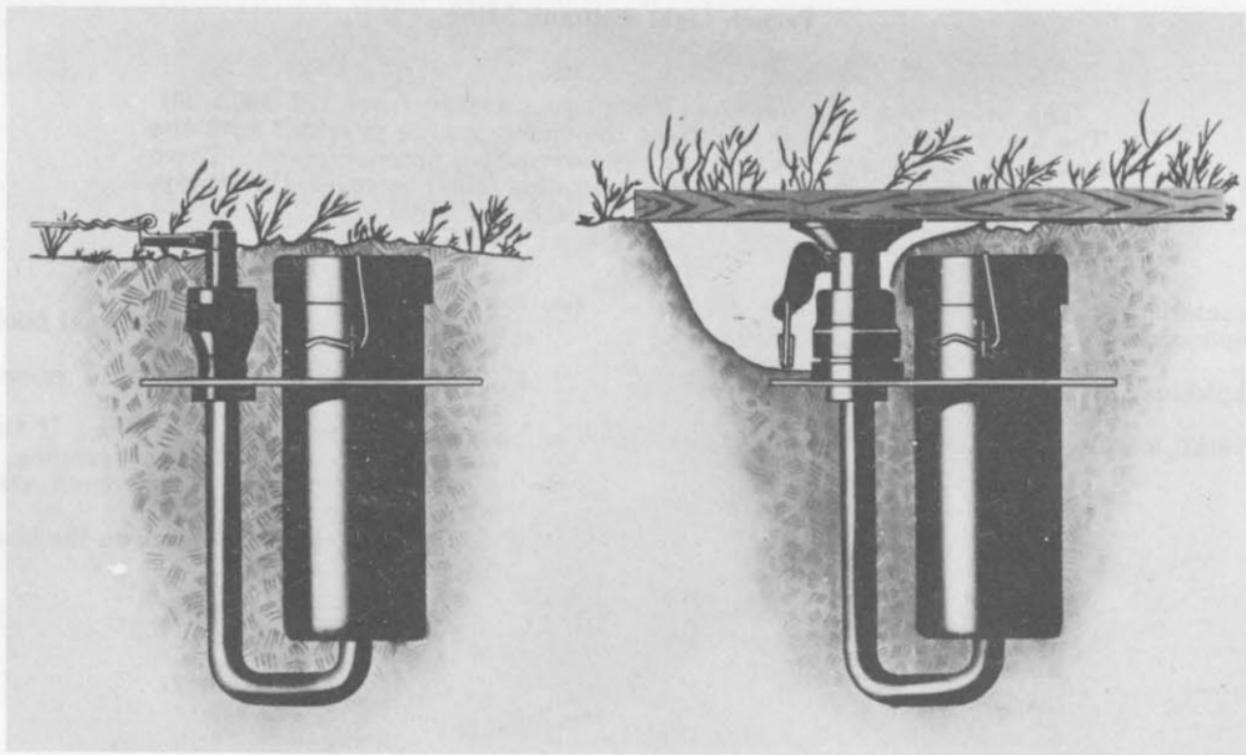
This is a metallic mine employing two pressure fuzes (M-1935-36). The lower part of the case contains the charge and is provided with the fuze wells. The upper part of the case serves as a pressure plate. There are no standard means for boobytrapping this mine; however, the removable pressure plate may be rigged in a number of ways.

Characteristics:

Dimensions----- L, 12.8''; w, 8.8''; ht,
4.5''
Explosive----- Probably picric acid, 5.8
lb
Overall weight---- 14.5 lb

Disarming:

1. Search for and remove any external boobytraps.
2. Unhook the chains holding the pressure plate to the base.
3. Lift the pressure plate carefully. If there are any indications of boobytrapping, remove the plate with a rope from a safe distance.
4. Without exerting any pressure on the heads, unscrew the two fuzes.



FRENCH BOUNDING ANTIPERSONNEL MINE.

French Bounding Antipersonnel Mine

The basic part of this mine is a mortar shell. It is inclosed in a metal case. Fixed to the case is a flash tube that accepts the fuze and contains a propelling charge. The mine may be used with either a pressure (S. E. M. G.) or pull (M-1939) fuze.

Characteristics:

Dimensions.....	Dia, 3.3'';
	ht, 7.3''
Explosive.....	Picric acid,
	5.0 oz
Overall weight.....	5.5 lb

Disarming:

Pull fuze:

1. Cut slack trip wire.
2. Place safety ring over top of fuze.
3. Unscrew fuze from mine.

Pressure fuze:

1. Insert fuze safety pin, beveled end uppermost.
2. Screw safety nut onto safety pin.
3. Remove fuze from mine.



FRENCH PRESSURE FUZE, M35/36.

French Pressure Fuze, M-1935-1936

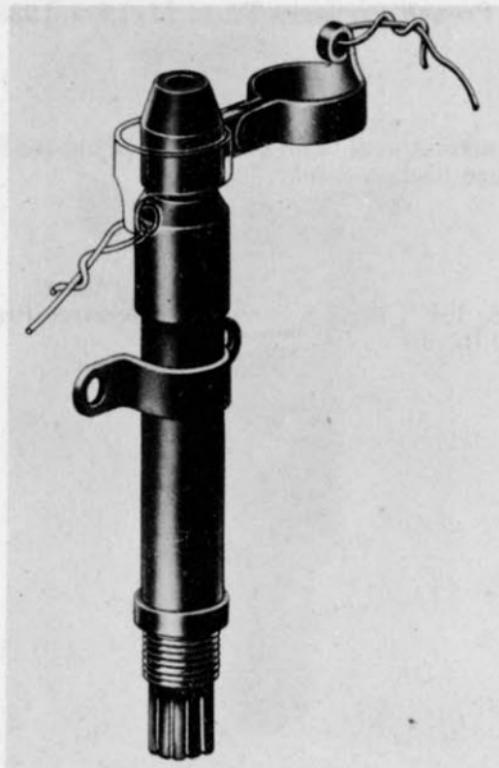
This fuze is a mechanical type and has a spring-loaded, shearpin-retained striker. The fuze has no safety.

Characteristics:

Dimensions----- Dia, 1.4''; ht, 2.8''
Operating force----- 400 lb

Disarming:

Remove fuze from mine.



FRENCH PULL FUZE, M39.

French Pull Fuze, M-1939

This is a simple pull fuze with a bar-retained, spring-loaded striker. A hinged ring fitted to the end of the bar may be swung over the head of the fuze to keep the bar in position. The fuze is equipped with a bracket for fastening it to an object.

Characteristics:

Dimensions----- Dia, 0.5"; ht, 3.3"
Operating force----- Unknown

Disarming:

1. Cut the trip wire.
2. Swing the hinged ring over the top of the fuze.
3. Remove the fuze from the mine.



FRENCH S. E. M. G. FUZE.

French S. E. M. G. Fuze

This is a combination fuze capable of being actuated by either pressure or pull. The spring-loaded striker is held in its cocked position by retaining balls. A safety pin passes through the neck of the fuze.

Characteristics:

Dimensions----- Dia, 2.0''; ht, 3.5''
Operating force--- Pressure, 100 lb; pull, 9 lb

Disarming:

1. Insert the safety pin, beveled end uppermost.
2. Screw safety nut onto safety pin.
3. Cut the trip wire.
4. Unscrew fuze from mine by grasping the fuze by the lower collar and *not* by the center collar.



GERMAN TELLERMINE, 35.

German Tellermine, 35

This metallic antitank mine utilizes the Tellermine fuze 35. The fuze is centrally located in, and projects above, the large pressure plate. The mine has two boobytrapping wells, one in the side, one in the bottom.

Characteristics:

Dimensions----- Dia, 12.6"; ht, 3.3"
Explosive----- TNT, 11.0 lb
Overall weight----- 19.0 lb

Disarming:

1. Search for and remove any boobytraps.
2. Press in safety bolt.
3. Turn the arming dial from "scharf" (armed) to "sicher" (safe).
4. Holding safety bolt in place, remove the fuze.



GERMAN TELLERMINE (STAHL), 35.

German Tellermine (Stahl), 35

This mine differs from the Tellermine 35 in that it has a fluted pressure plate and may employ any of the Tellermine fuzes—35, 42, or 43. When the 35 fuze is used, it protrudes from the pressure plate; when the 42 or 43 fuzes are used, they fit beneath the pressure plate and the access hole is covered with a plug. The mine is provided with boobytrapping wells.

Characteristics:		Explosive-----	TNT, 11.0 lb
Dimensions-----	Dia, 12.5''; ht, 3.5''	Overall weight-----	19.0 lb

Disarming:

If the Tellermine fuze 35 has been employed, the mine may be disarmed by following the procedure given for the Tellermine 35.

No attempt should be made to disarm the mine if the fuze well access plug is in position concealing the fuze. The mine may be fuzed with either the model 42 or 43, but it is impossible to determine from examination which one has been used. Any attempt to disarm a mine fitted with a model 43 fuze will result in its detonation.



GERMAN TELLERMINE, 42.

German Tellermine, 42

This mine uses a smaller pressure plate than the Tellermine 35, and like the Tellermine (Stahl) 35 it has a fluted pressure plate and a closing plug for the fuze access well. The mine has two boobytrapping wells, one in the side, one in the bottom.

Characteristics:

Dimensions.....	Dia, 12.8''; ht, 4.0''
Explosive.....	TNT, 11.0 lb
Overall weight.....	19.0 lb

Disarming:

No attempt should be made to disarm this mine. It may be fuzed with either the model 42 or model 43, but it is impossible to determine from examination which one has been used. Any attempt to disarm a mine fitted with a model 43 fuze will result in its detonation.



GERMAN TELLERMINE (PILZ), 43.

German Tellermine (Pilz), 43

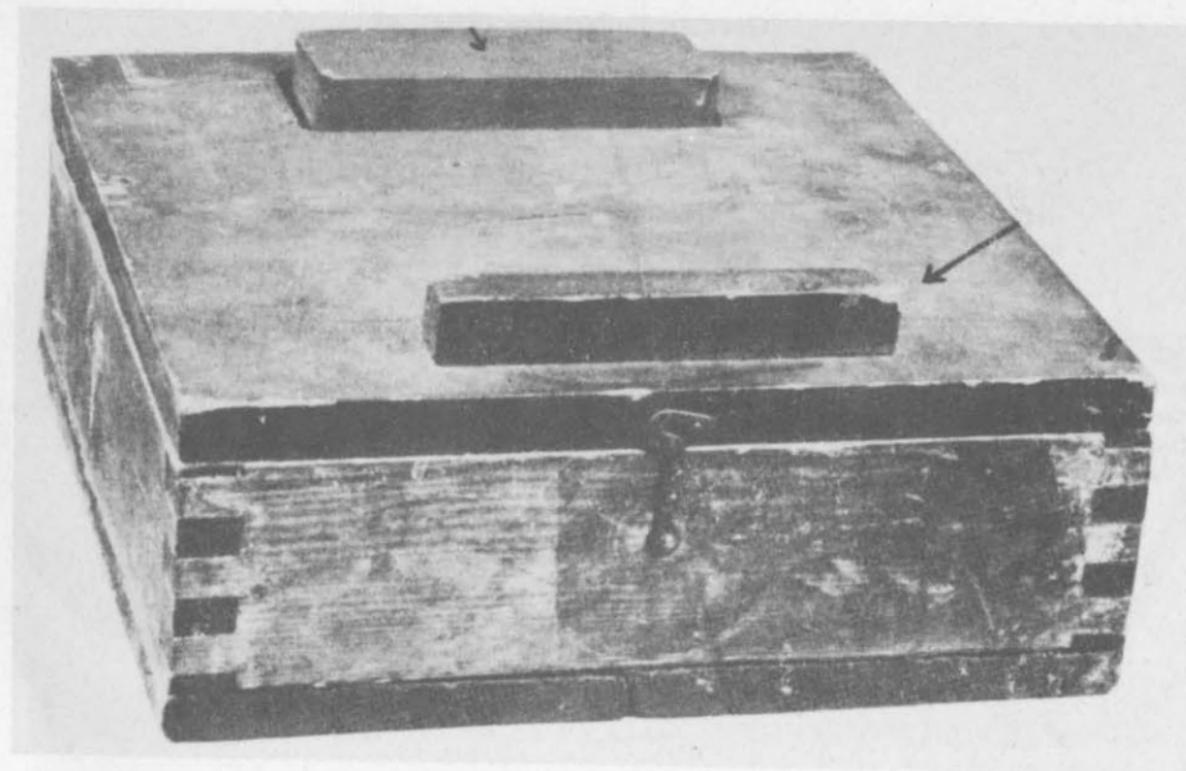
This mine is similar to the Tellermine 42 except that the pressure plate is smooth rather than fluted, and crushing of the plate, rather than deflection of a support spring, is required for actuation. The fuze used is either a model 42 or 43. The mine is provided with two boobytrapping wells.

Characteristics:

Dimensions.....	Dia, 12.3"; ht, 3.6"
Explosive.....	Amatol, 12 lb
Overall weight.....	18.0 lb

Disarming:

As with the Tellermine 42, no attempt should be made to disarm this mine.



GERMAN HOLZMINE, 42.

German Holzmine, 42

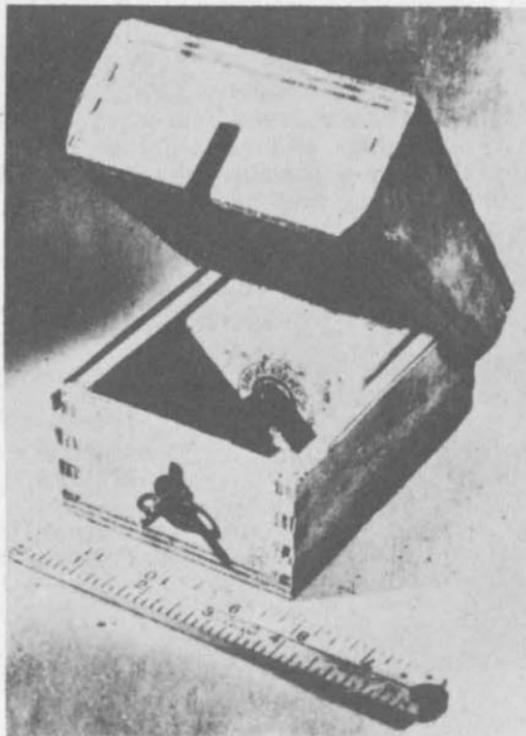
Although this antitank mine is made of wood, it is normally detectable, since some of its fastenings and certain fuze parts are metallic. The mine is actuated through a pressure block that protrudes through the upper part of the case near one edge. Pressure on this block forces it down removing the striker-retaining pin of a ZZ 42 fuze. There is no standard provision for boobytrapping the mine, but a number of expedient ways may be used.

Characteristics:

Dimensions..... L, 12"; w, 13"; h, 4.5"
Explosive..... Amatol, 11.9 lb
Overall weight..... 18.0 lb

Disarming:

1. Search for and remove any boobytraps.
2. Carefully remove the lid and pressure block.
3. Holding the striker-retaining pin in place, remove the fuze and first primer block from the mine.
4. Separate the fuze and detonator from the primer block.



GERMAN SCHÜ. MINE, 42.

German Schü. Mine, 42

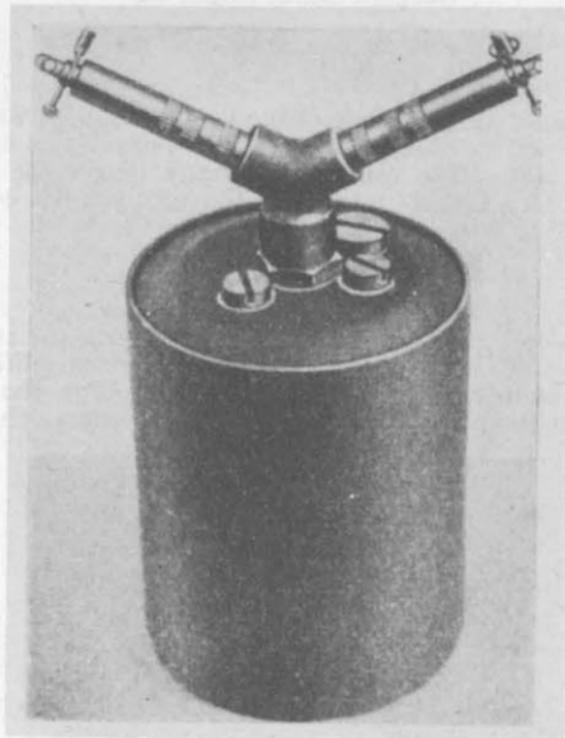
This is a simple antipersonnel mine consisting of a wooden or pressed cardboard case with a hinged lid, a block of explosive, and a mechanical pull fuze (ZZ 42). The mine is normally detectable because of fuze components. This type of mine is employed by many countries.

Characteristics:

Dimensions (approx)--- L, 4.8''; w, 3.3''; ht,
1.8''
Explosive----- 0.44 lb
Overall weight----- 1.1 lb

Disarming:

1. Search for and remove any boobytraps.
2. Carefully lift the case lid.
3. Holding the striker-retaining pin in place, remove the fuze.



GERMAN S MINE, 35.

German S Mine, 35

This is a bounding shrapnel mine. It consists essentially of an outer casing that serves as a mortar, and an inner casing that houses the main charge and shrapnel. Actuation of the fuze fires a small charge that hurls the canister into the air. At a height of 3 to 6 feet the main charge is detonated and the shrapnel is hurled in all directions.

Characteristics:

Dimensions----- Dia, 4"; ht, 5"
Explosive----- TNT, 1.0 lb

Overall weight----- 9.0 lb

Disarming:

Various fuzes can be employed with this mine. Space limitation precludes giving disarming procedures for all types. If the fuze can be identified as one described in this handbook, follow the disarming steps given for it.

If the fuze cannot be identified and it is absolutely necessary to disarm the mine, follow the general rules given in the first part of this section.

After neutralizing the fuze, remove it and the three detonator well plugs from the mine. Then turn the mine upside down to remove the detonators.



GERMAN STOCKMINE.

German Stockmine

This mine consists of a cylindrical concrete jacket, with shrapnel embedded in it, containing a charge. The mine is fitted to the top of a stake driven into the ground. A hole in the top of the jacket serves as a fuze well to accept a ZZ 42 pull fuze or similar type.

Characteristics:

Dimensions----- Dia, 3.0"; ht, 6.5"
(w/o stake).
Explosive----- Various, 0.25 lb
Overall weight----- 4.5 lb

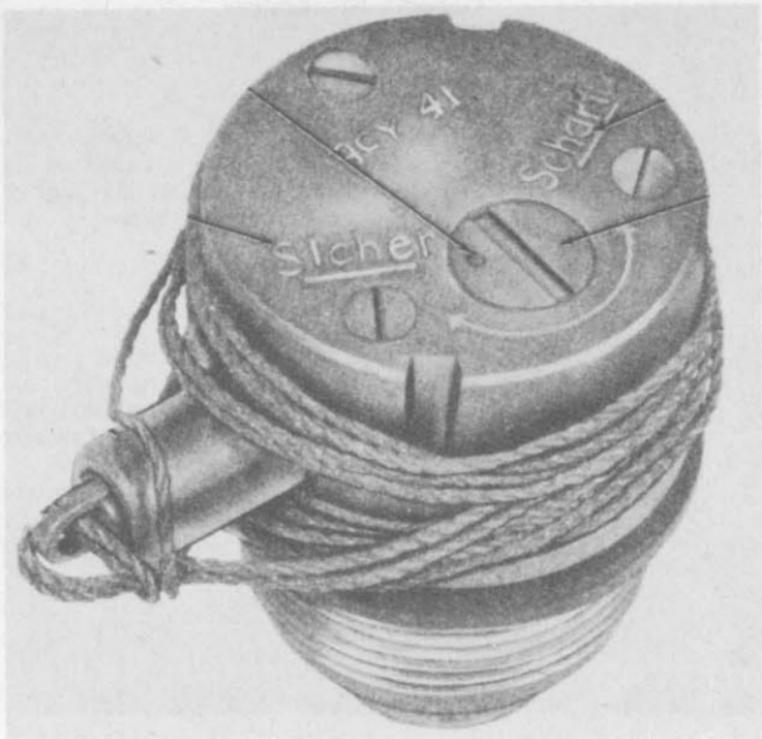
Disarming:

Loose trip wire:

1. Cut trip wire.
2. Holding striker-retaining pin in place, remove fuze from mine.

Taut trip wire:

1. Search *both* ends of trip wire for fuzes.
2. Place safety in fuze(s).
3. Remove fuze(s) from mine.



GERMAN TELLERMINE FUZE, 35.

German Tellermine Fuze, 35

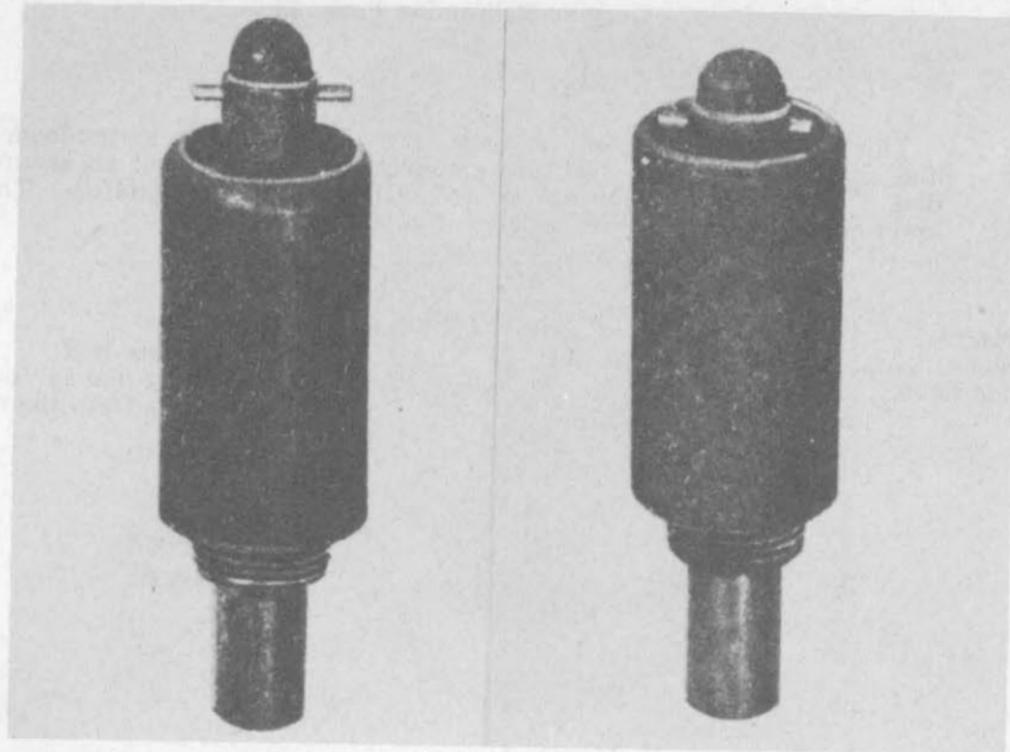
This is a cylindrical brass pressure fuze. The striker is spring-loaded and shearpin-retained. The fuze employs a safety bolt and an arming dial. The dial may be set at "sicher" (safe) or "scharf" (armed). The lower end of the case houses a percussion cap.

Characteristics:

Dimensions----- Dia, 1.6"; ht, 2.1"
Operating force----- 400 lb

Disarming:

1. Press in the safety bolt.
2. Turn the arming dial to "sicher."
3. Remove the fuze from the mine.



GERMAN TELLERMINE FUZES, 42 (LEFT) AND 43 (RIGHT).

German Tellermine Fuzes, 42 and 43

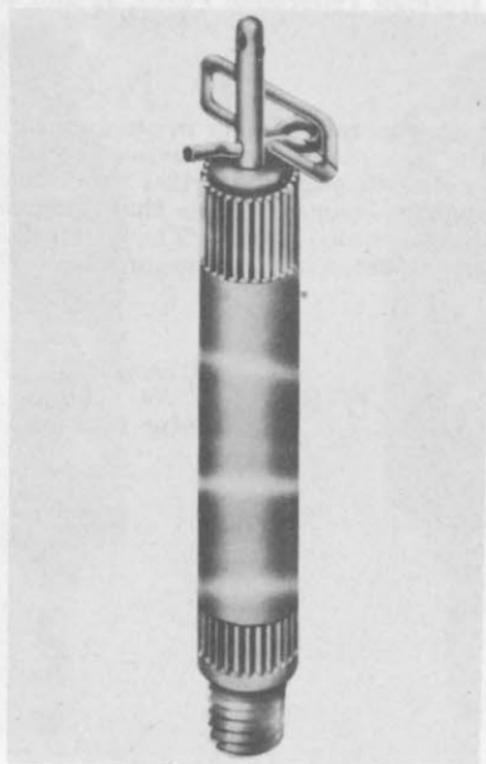
These two fuzes are generally similar in outward appearance. The one difference is that the shearpin of the 42 rests on top of the case, while the shearpin of the 43 passes through the striker above the case (the striker is supported internally by a second shearpin that is ruptured when the pressure plate of the mine is screwed home). The model 42 is actuated by pressure; the model 43 is actuated by pressure or release of pressure.

Characteristics:

Dimensions----- Dia, 0.9"; ht, 2.0" (42),
 2.3" (43).
 Operating force--- 400 lb

Disarming:

No attempt should be made to disarm any mine that may be fitted with these fuzes.



GERMAN PULL FUZE, ZZ 42.

German Pull Fuze, ZZ 42

This is a simple mechanical fuze having a plastic case housing a pin-retained, spring-loaded striker. The fuze may use either a ringed or butterfly pin. The lower end of the case contains a percussion cap and is threaded for fastening into the mine. The fuze is used with a variety of mines.

Characteristics:

Dimensions..... Dia, 0.5''; ht, 3.5''
Operating force..... 6 lb

Disarming:

Holding the striker-retaining pin in place, remove the fuze from the mine or charge.



GERMAN S MINE FUZE, 35.

German S Mine Fuze, 35

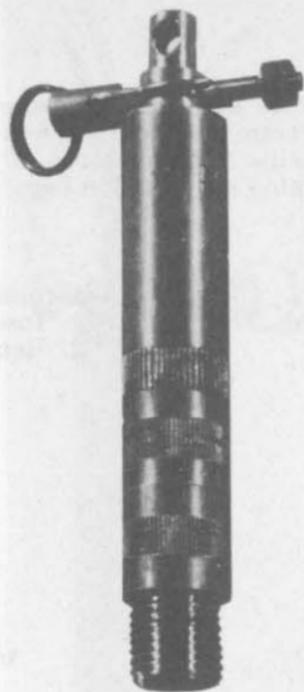
This is a mechanical fuze with a ball-retained striker. It is equipped with a three-pronged pressure head and a safety pin. The case may be of aluminum, steel, or bakelite. The bottom of the case is fitted with a nonstandard base containing a percussion cap.

Characteristics:

Dimensions----- Dia, 0.9''; ht, 3.8''
Operating force----- 15 lb

Disarming:

1. Insert a nail or wire in safety pin hole.
2. Remove fuze from mine.



GERMAN PULL FUZE, 35.

German Pull Fuze, 35

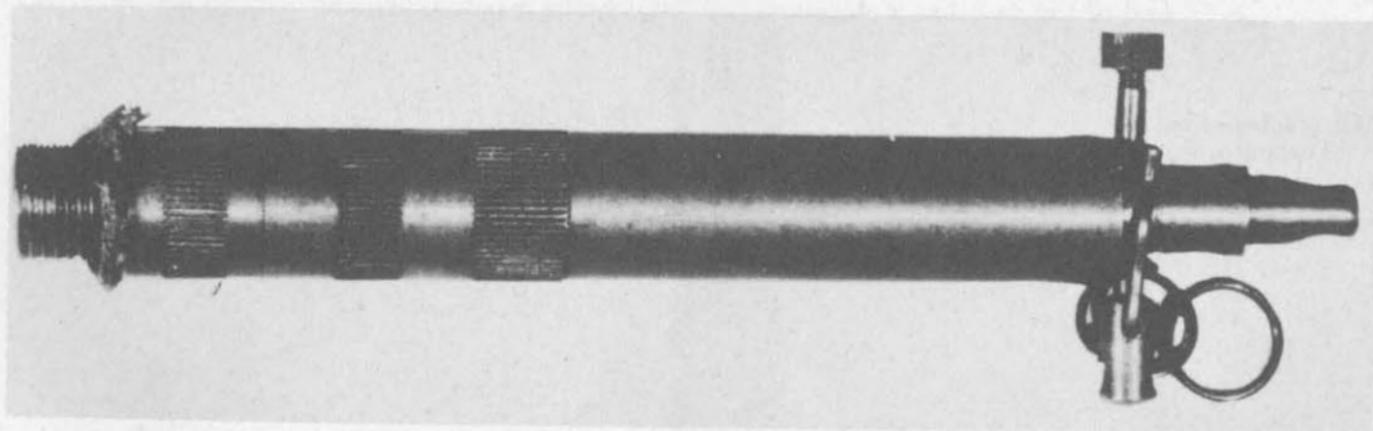
This cylindrical brass-cased fuze has a spring-loaded, ball-retained striker. A safety pin passes through the case and striker. The lower end of the case has a standard base containing a percussion cap.

Characteristics:

Dimensions..... Dia, 0.5"; ht, 2.9"
Operating force..... 9 lb

Disarming:

1. Insert safety pin.
2. Remove trip wire.
3. Remove fuze from mine.



GERMAN, PULL, TENSION-RELEASE FUZE, 35.

German, Pull, Tension-Release Fuze, 35

This cylindrical brass-cased fuze is actuated through a taut trip wire. Additional force applied to the wire or cutting the wire will cause the fuze to function. A safety pin is provided near the top of the fuze, and a standard base with percussion cap is attached to the lower case.

Characteristics:

Dimensions..... Dia, 0.5"; ht, 4.4"
Operating force..... 9 lb

Disarming:

1. Insert a safety and tape in position.
2. Cut trip wire after checking anchor end.
3. Remove fuze from mine.



GERMAN PRESSURE FUZE, 35.

German Pressure Fuze, 35

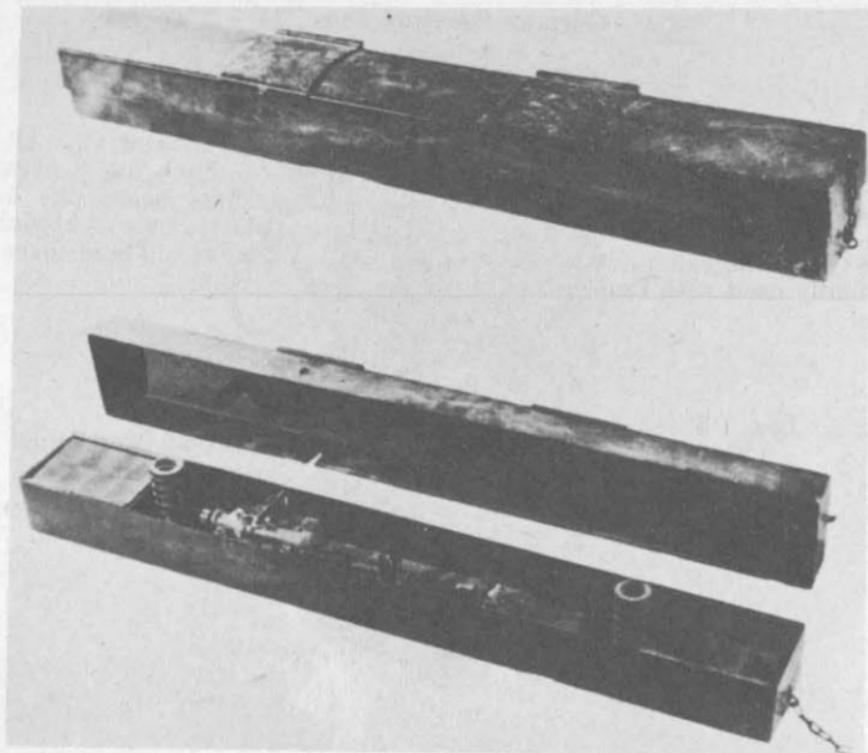
Three versions of this fuze exist, designated A, B, and C. All are mechanical fuzes and outwardly are very similar. Each has a pressure head and a safety passing through the plunger just below the head. Models A and B are metallic; Model C has a plastic case. Models A and C are the same size and are larger than Model B. These fuzes are normally used with improvised mines.

Characteristics:

Dimensions----- Dia, 1.3'' (A and C), 1.0''
(B); ht, 2.8'' (A, B,
and C).
Operating force--- 65 lb

Disarming:

1. Insert a safety.
2. Remove fuze from mine.



ITALIAN B-2 ANTITANK MINE.

Italian B-2 Antitank Mine

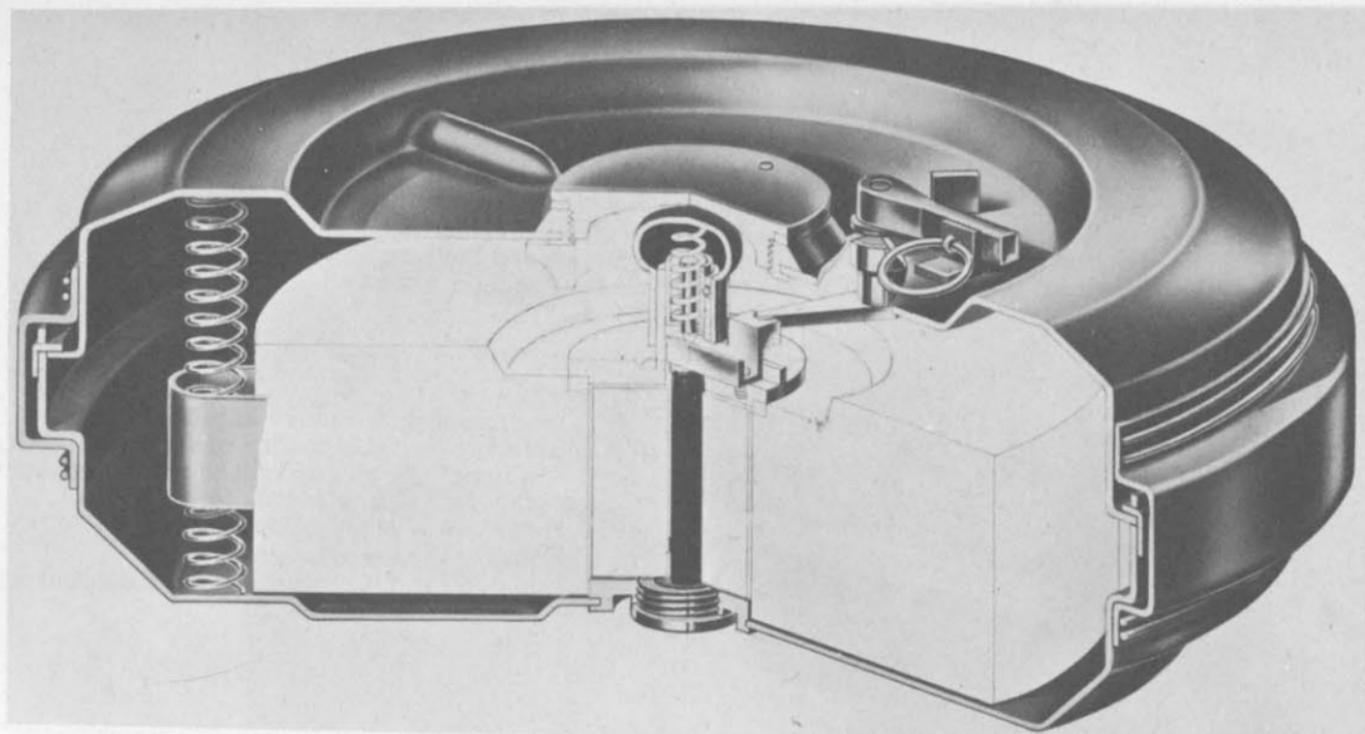
This long rectangular mine contains an explosive charge in each end and an integral fuze system in the middle. The fuze system consists of a spring-loaded striker retained in its cocked position by a wire. When the lid of the mine is closed, a cutter bar is poised over the retaining wire. Positioned in front of the striker is a percussion cap holder and a detonator. Detonating cord connects the charges to the fuze system.

Characteristics:

Dimensions----- L, 42.0''; w, 5.0''; ht,
5.0''
Explosive----- TNT, 7.0 lb
Overall weight----- 33.0 lb

Disarming:

1. Search for and remove any boobytraps.
2. Attach a suitable length of rope to the two hinged lids on top of the mine and open them from a safe distance.
3. Remove the percussion cap holder.
4. Remove the pressure cover.
5. Remove the detonating cord and detonators.



ITALIAN TYPE D ANTITANK MINE.

Italian Type D Antitank Mine

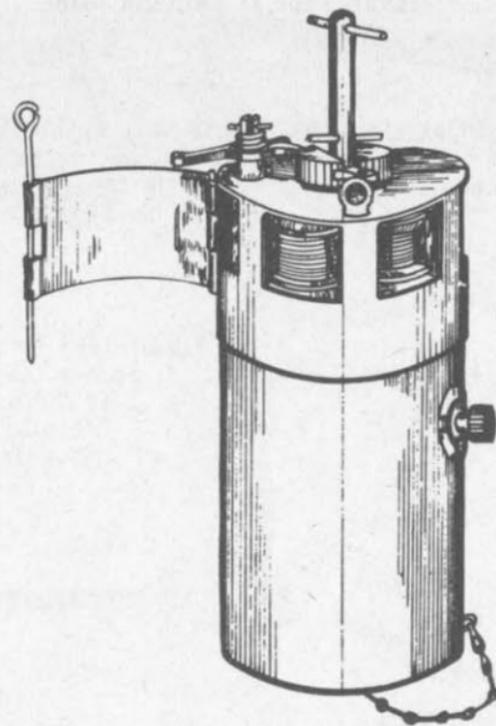
This is a cylindrical, steel-cased mine with an integral fuze. A spring-loaded striker is ball-retained; depression of the mine's pressure plate allows these balls to fall into recesses and the freed striker to fire the mine. Once the arming lever on top of the mine has been set at the armed position, it cannot be reset at the safe position.

Characteristics:

Dimensions.....	Dia, 12.0''; ht, 3.6''
Explosive.....	Unknown
Overall weight.....	Unknown

Disarming:

1. Search for and remove any boobytraps.
2. Lift the mine and unscrew the plug in the bottom surface, thereby removing the detonator.



ITALIAN B-4 ANTIPERSONNEL MINE.

Italian B-4 Antipersonnel Mine

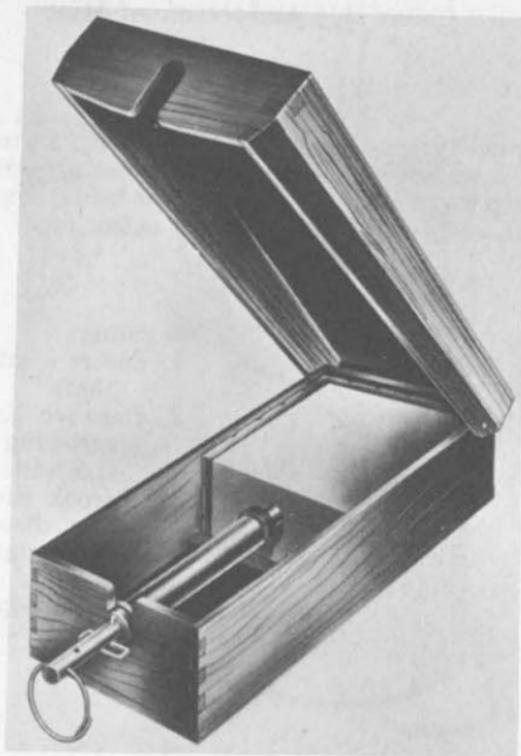
This is a shrapnel-type antipersonnel mine with an integral fuze. The mine is fitted with spikes and fireproof cords for attaching it to a tree or post. Several trip wires may be used with the mine; some taut, for tension release actuation, and some slack, for pull actuation.

Characteristics:

Dimensions.....	Dia, 2.8"; ht, 5.1"
Explosive.....	TNT, 0.25 lb
Overall weight.....	3.0 lb

Disarming:

1. Insert a safety pin in the hole of the striker shaft.
2. Remove the percussion cap carrier by unscrewing the knurled knob in the side of the mine.
3. Uncock the striker by removing the safety pin, disengaging the actuating key from the striker shaft, and gently lowering the striker.
4. Cut all trip wires.



ITALIAN ANTIPERSONNEL R MINE.

Italian Antipersonnel R Mine

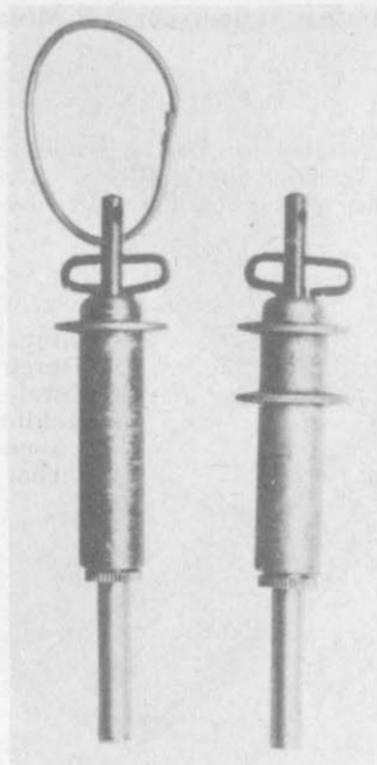
This is a small antipersonnel mine of the Schü. mine type. The wooden case, with a hinged lid, houses a simple fuze (Model R), charge, and metal shrapnel plates. Some of these mines may have bakelite rather than wooden cases.

Characteristics:

Dimensions----- L, 5.5"; w, 2.5"; ht, 1.5"
Explosive----- TNT, 5.2 oz
Overall weight---- 1.0 lb (approx)

Disarming:

1. Search for and remove any boobytraps.
2. Carefully raise the lid.
3. Holding the striker-retaining pin in place, separate the fuze and detonator from the charge.



ITALIAN PULL FUZE, R AND RM.

Italian Pull Fuzes, R and Rm

These are simple pull fuzes having a spring-loaded, pin-retained striker. They may be fitted with a ringed or butterfly retaining pin. Both fuzes have detonator-retaining rings on their lower ends, and accept OTO detonators. The Rm fuze differs from the R in having two collars around its upper end instead of one.

Characteristics:

Dimensions..... Dia, 0.6''; ht, 2.6''
Operating force..... 4.4 lb or more

Disarming:

1. Insert a safety pin in the middle hole of the striker shaft.
2. Remove fuze from mine.

DEMOLITION EQUIPMENT

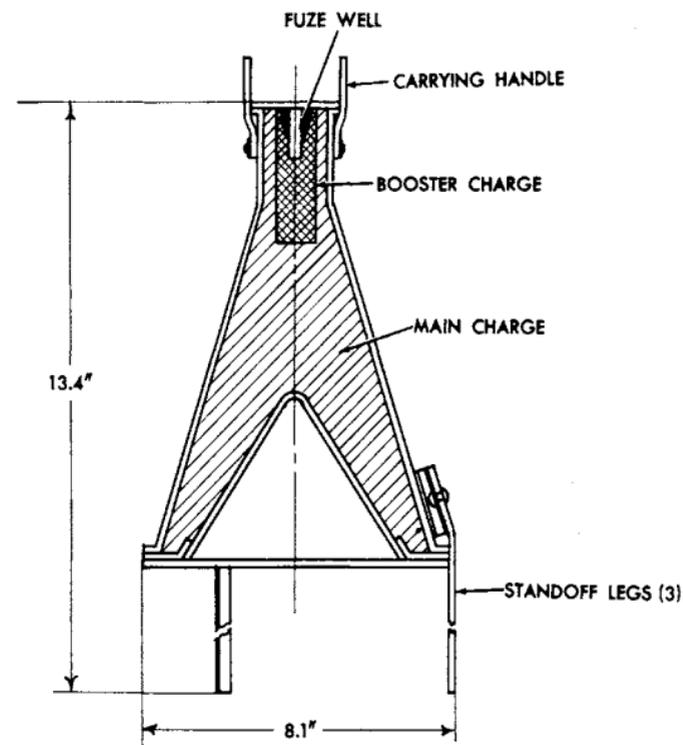
The main explosives that are used in the Middle East are TNT, picric acid, gun cotton, plastic explosives, and various types of dynamite. These are available in conventional forms (blocks, cartridges, and slabs) and as fillings in various shaped charges and bangalore torpedoes. Demolition accessories available include time fuse, detonating cord, electric and nonelectric blasting caps, and blasting machines.

This equipment may be of British, Czechoslovakian, Soviet, or domestic origin. No illustrations and very little identifying data are presented on these items since they are conventional types and are easily recognized.

Foreign explosives and demolition accessories should be used only after they have been examined by experienced personnel and proper instructions have been issued. Do not decide for yourself whether foreign explosives are usable—this is dangerous for many reasons. For example:

1. Picric acid in a rusted or corroded container may have formed very sensitive compounds.
2. Some explosives found with an oily or "wet" looking wrapper may be sensitive because of sweating of some of their components.
3. Misfires and low order detonations can result because foreign explosives are generally less sensitive than U. S. military explosives and require the use of suitable boosters or primers.

Czech Shaped Charge, PN-4



CZECH SHAPED CHARGE, PN-4.

This conical shaped charge has 10.6 pounds of TNT/hexogen (50/50) and reportedly will penetrate 13.8 inches of armor plate, or 39.4 inches of reinforced concrete. The charge is provided with folding legs to provide the proper stand-off distance. The charges are issued packed three to a crate.

Characteristics:

Diameter	8.0''
Height (w/legs)	13.4''
Height (w/o legs)	8.7''

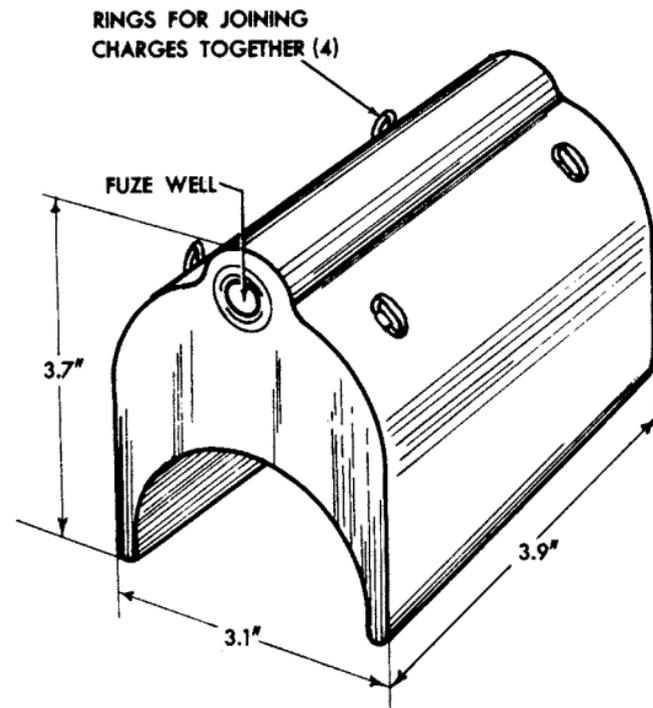
Czech Shaped Charge, PN-14

This is a larger version of the PN-4 shaped charge. It has 14.1 pounds of TNT and reportedly will penetrate 19.7 inches of armor plate, or 59.1 inches of reinforced concrete. These charges are packed one to a crate.

(NO ILLUSTRATION AVAILABLE)

Characteristics:

Diameter.....	12.6''
Height (w/ legs).....	19.7''
Height (w/o legs).....	9.9''



CZECH SHAPED CHARGE, UTN-600.

Czech Shaped Charge, UTN 600

This is a linear shaped charge (force concentrated along a line rather than at a point) and contains 1.2 pounds of TNT/hexogem (50/50). Several of the devices may be connected together to get a charge of the required length. The charge reportedly cuts armor plates up to 1.9 inches thick. The devices are packed 40 to a wooden case.

Characteristics:

Length.....	3.9''
Width.....	3.1''
Height.....	3.7''

Czech Shaped Charge, UTN 2

This is a larger version of the UTN 600 shaped charge. It has 4.3 pounds of TNT and reportedly will cut steel plates up to 2.9 inches thick. Twelve of the charges are packed in a wooden crate.

Characteristics:

Length.....	7.8''
Width.....	4.5''
Height.....	4.7''

By Order of *Wilber M. Brucker*, Secretary of the Army:

MAXWELL D. TAYLOR,
General, United States Army,
Chief of Staff.

Official:

HERBERT M. JONES,
Major General, United States Army,
The Adjutant General.

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USARMA (Israel) (2)
USARMA (Jordan) (2)
USARMA (Lebanon) (2)
USARMA (Turkey) (2)
MAAG (Iran) (3)
MAAG (Iraq) (2)
MAAG (Saudi Arabia) (2)
JUSMAG (Army Elm)
(Greece) (3)
US Mil Mis (w/Army) (Iran)
(3) JAMMAT (USA Elm)
(3)

NG: None.

USAR: None.

For explanation of abbreviations used, see AR 320-50.

NOTE: Only the sections concerning the DA Pamphlets in the DA PAM 30-... series are reproduced here.

* Pam 310-1

PAMPHLET }
No. 310-1 }

DEPARTMENT OF THE ARMY
Washington 25, D. C., 31 January 1955

MILITARY PUBLICATIONS

INDEX OF ADMINISTRATIVE PUBLICATIONS

(Army Regulations, Special Regulations, Department of the Army Pamphlets,
Commercial Traffic Bulletins, General Orders, Bulletins,
Circulars, and Army Procurement Circulars)

Current as of 1 January 1955

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*This Pamphlet supersedes SR 310-20-5, 1 July 1954, including C 2, 30 September 1954, and so much of SR 310-20-3, 1 August 1953, including C 4, 13 January 1954, as pertains to Department of the Army Pamphlets.

[S] 30-3-1	[Classified]	1 Mar 51
[S] 30-4-1	[Classified]	1 Jan 51
[S] 30-4-1(pt.2)	[Classified]	1 Mar 51
[C] 30-5-1	[Classified]	1 Oct 51

★ Changes 1

DEPARTMENT OF THE ARMY PAMPHLETS

NO.	TITLE	DATE
[S] 30-5-2	★ [Classified]	3 Nov 5
[C] 30-7-1	[Classified]	1 Nov 5
[CM]30-7-2	★ Foreign military weapons and equipment. Vol. III: Infantry weapons. Section II: Soviet satellites.	22 Nov 5
30-7-3	★ Foreign military weapons and equipment. Vol. III: Infantry weapons. [Section III: North Atlantic Pact countries]	17 Nov 5
30-7-4	★ Foreign military weapons and equipment. Vol. III: Infantry weapons. Section IV: Other countries [Austria, Germany, Japan].	24 Nov 5
[C] 30-10-1	★ [Classified]	10 Nov 5
[C] 30-10-2	★ [Classified]	14 Oct 5
30-11-1	★ Foreign military weapons and equipment. Vol. VI: Signal equipment. [Section I: U. S. S. R.] Changes 1	5 Jun 5
[C] 30-11-2	[Classified]	4 Sep 5
[S] 30-14-1	★ [Classified]	2 Nov 5
30-26	A guide to the collection of technical intelligence.	11 Aug 5
[C] 30-40	★ [Classified]	30 Jun 5
30-50-1	★ Handbook on the Soviet and satellite armies. Part 1: The Soviet army.	15 Mar 5
[CM]30-50-2	★ Handbook on the Soviet and satellite armies. Part 2: The satellite armies.	15 May 5
30-51	Handbook on the Chinese Communist Army.	30 Sep 5
30-75	Handbook on Soviet tactics; the rifle regiment.	1 Aug 5
[CM]30-76	★ Handbook on Soviet tactics; the rifle division.	15 Aug 5
[CM]30-81	★ Soviet tactics; methods of training.	1 May 5
[CM]30-86	★ Soviet tactics; air support of ground operations.	1 Dec 5