

LINE DIAGRAM UNAVAILABLE

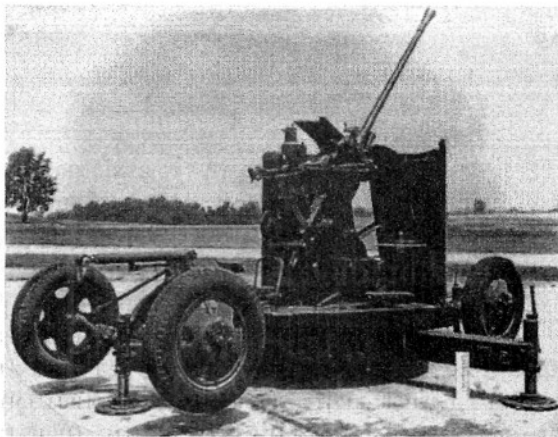
M-1990

Type: 30mm gatling gun **Tactical AA range:** 3,000m
Rate of fire: 2,400-3,400 rds/min **Azimuth:** unlimited
Elevation: -5 to 85 degrees **Fire control:** radar, speed ring
Ammunition: HEI-T (30x210mm) **Self destruct time:** 7 to 10 secs
Self destruct range: 3,600-4,500m
Other: manufactured in North Korea, 4 wheeled carriage (towed), 4 barrels, externally driven by electric motor

LINE DIAGRAM UNAVAILABLE

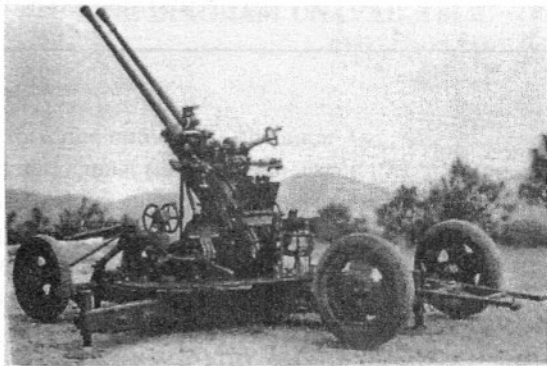
M-1992

Type: twin 30mm SP automatic cannon **Tactical AA range:** 3,000m **Rate of fire:** 800 rds/min per barrel **Azimuth:** unlimited **Elevation:** -5 to 85 degrees **Fire control:** radar, optical speed ring **Ammunition:** HEI-T (30x210mm) **Self destruct time:** 7 to 10 secs **Self destruct range:** 3,600-4,500m **Other:** manufactured in North Korea, gas operated, ZSU-23-4 variant chassis, max road speed 50 km/hr



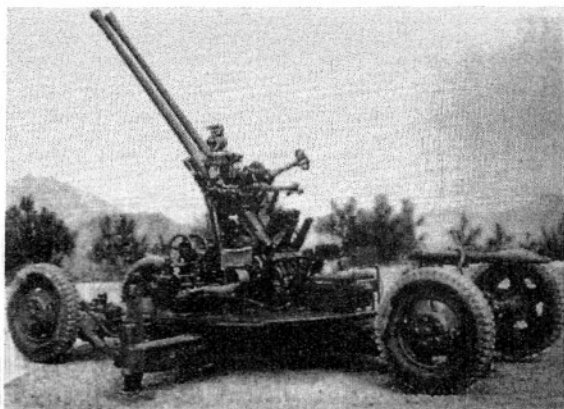
M-1939

Type: 37mm automatic cannon **Tactical AA range:** 2,500m **m Rate of fire:** 160-180 rds./min **Ammunition:** HEI-T (37x252mm) **Self destruct time :** 8 to 12 secs **Self destruct range:** 3,700 to 4,700m **Other:** manufactured in Russia and China(Type-55), 4 wheeled carriage (towed), 1 barrel, 5 round clip, recoil operation



Type-65

Type: Twin 37mm AA gun **Tactical AA range:** 3,500m
Rate of fire: 150-180 rds/min per barrel **Azimuth:**
unlimited **Elevation:** -10 to 85 degrees **Fire control:**
optical mech computing sight **Ammunition:** HEI-T
(37x252mm) **Self destruct time:** 9 to 12 secs **Self
destruct range:** 4,000 to 4,750m **Other:** manufactured in
China, recoil operated, 4 wheeled carriage (towed)



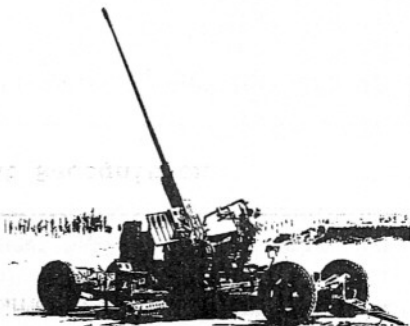
Type-74

Type: 37mm twin automatic cannon **Tactical AA range:** 3,500m **Rate of fire:** 220-240 rds/min per barrel
Azimuth: unlimited **Elevation:** -5 to 87 degrees **Fire control:** optical mech computing sight, radar
Ammunition: HEI-T (37x252mm) **Self destruct time:** 9 to 12 secs **Self destruct range:** 4,000 to 4,700m **Other:** manufactured in China, recoil operated, 4 wheeled carriage (towed)

LINE DIAGRAM UNAVAILABLE

SP AA GUN

Type: 37mm twin SP AA gun **Tactical AA range:** 2,500m **Rate of fire:** 150-180 rds/min per barrel
Azimuth: unlimited **Elevation:** -5 to 85 degrees **Fire control:** optical mech computing sight **Ammunition:** HEI-T (37x252mm) **Self destruct time:** 9 to 12 secs **Self destruct range:** 4,000 to 4,700m **Other:** manufactured in North Korea, recoil operated, 5 round clip, armored personnel carrier (tracked) carriage



S-60

Type: 57mm automatic AA gun **Tactical AA range:** 4000m w/o radar, 6000 m w/radar **Rate of fire:** 105-120 rds/min **Azimuth:** unlimited **Elevation:** -4 to 87 degrees **Fire control:** optical mechanical computing sight, radar **Ammunition:** HE-T (57X348mm) **Self destruct time:** 13 to 17 secs **Self destruct range:** 6,000 to 7200 m **Other:** manufactured in a 4 wheeled towed carriage, Chinese variant is the Type 59

LINE DIAGRAM UNAVAILABLE

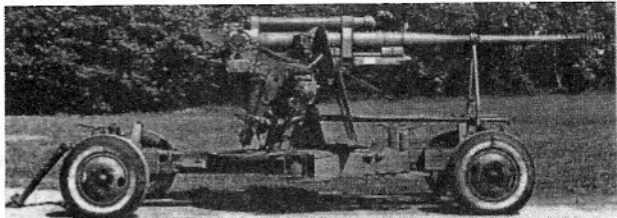
TWIN 57MM SELF PROPELLED AA GUN

Type: 57mm automatic AA gun **Tactical AA range:** 4000m **Rate of fire:** 150-180 rds/min/barrel **Azimuth:** unlimited **Elevation:** 0 to 87 degrees **Fire control:** optical mechanical computing sight **Ammunition:** HEI-T (57X348mm) **Self destruct time:** 13 to 17 secs **Self destruct range:** 6,000 to 7,200 m **Other:** mounted on a modified YW 531 APC, DPRK produced

LINE DIAGRAM UNAVAILABLE

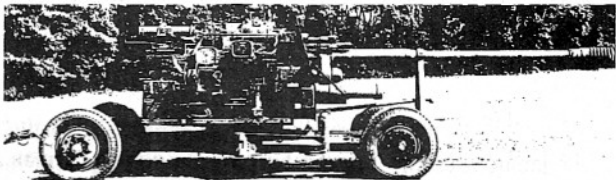
TWIN 57MM AA GUN

Type: 57mm automatic AA gun **Tactical AA range:** 4000m w/o radar, 6000m w/radar **Rate of fire:** 105-120 rds/min/barrel **Azimuth:** unlimited **Elevation:** -4 to 87 degrees **Fire control:** optical mechanical computing sight, radar **Ammunition:** HE-T (57X348mm) **Self destruct time:** 13 to 17 secs **Self destruct range:** 6,000 to 7,200 m **Other:** mounted on a 4 wheeled towed carriage DPRK produced



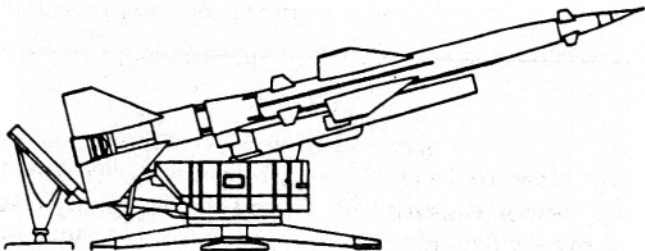
KS-12

Type: 85mm single shot AA gun **Tactical AA range:** 4,000m w/o radar, 10,200m w/radar **Rate of fire:** 15-20 rds/min **Azimuth:** 720 degrees **Elevation:** -3 to 82 degrees **Fire control:** optical telescope, radar **Ammunition:** HE-T, APC-T (85X---mm) **Self destruct time:** 1 to 33 secs **Self destruct range:** 800 to 10,200 m **Other:** mounted on a 4 wheeled towed carriage, Chinese variant is Type 72



KS-19

Type: 100mm single shot AA gun **Tactical AA range:** 4,000m w/o radar, 12,600m w/radar **Rate of fire:** 15 rds/min **Azimuth:** unlimited **Elevation:** -3 to 85 degrees **Fire control:** optical telescope, radar **Ammunition:** HE-T, APC-T (100X--mm) **Self destruct time:** 1 to 33 secs **Self destruct range:** 800 to 12,600 m **Other:** mounted on a 4 wheeled towed carriage, Chinese variant is Type 59



SA-2 B/C/D/E/F GUIDLINE

Description: The SA-2 is a somewhat mobile medium to high level guided SAM system. **Max Speed:** 4.0 B/C/D, 4.5 E/F Mach **Max Effective Altitude:** 27 B/C/F, 40 D/E km **Max Effective Range:** 35 B/F, 44 C, 50 D/E km **Warhead:** HE 200 kg (295 kg SA-2E) **Fuze:** contact, proximity, or command **Kill Radius:** 65m.

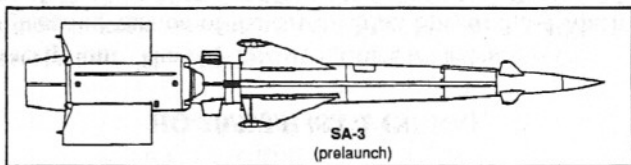
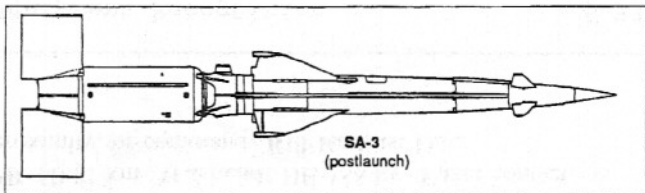
Equipment Recognition

6-72

LINE DIAGRAM UNAVAILABLE

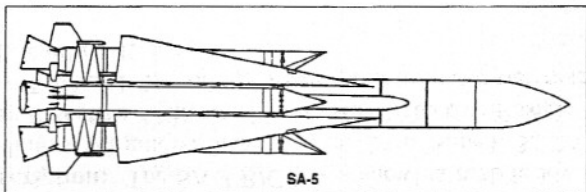
HQ-2B/F/J/P (SA-2 CHINA)

Description: The HQ-2B/J is a Chinese reversed engineering version of the SA-2. **Max Speed:** 3.5-4 Mach
Max Effective Altitude: 27 km **Max Effective Range:** 35
2B, 50 2J km **Warhead:** HE 188 kg **Fuze:** contact, proximity, or command **Kill Radius:** Unk



SA-3 GOA

Description: The SA-3 B/C is a somewhat mobile low to medium level guided SAM system. **Max Speed:** 3.5 Mach **Max Effective Altitude:** 22 km **Max Effective Range:** 25 km **Warhead:** HE 60 kg **Fuze:** proximity doppler radar **Kill Radius:** 12.5 m.



SA-5 GAMMON

Description: The SA-5 is a long range, medium to high altitude strategic semi active guided SAM system. **Max Speed:** 4 Mach **Max Effective Altitude:** 30.5 km **Max Effective Range:** 300 km **Warhead:** HE 215 kg **Fuze:** proximity & command **Kill Radius:** Unk.

LINE DIAGRAM UNAVAILABLE

HN-5/5A (SA-7 CHINA)

Description: The HN-5 is the Chinese version of the SA-7 man portable short range passive infra red homing SAM.

Max Speed: 1.5 Mach **Max Effective Altitude:** 2.5 km

Max Effective Range: 4.5 km **Warhead:** Unk **Fuze:** Unk

Kill Radius: Unk.

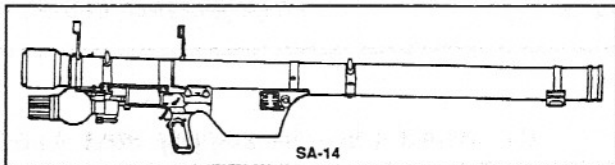
Equipment Recognition

6-76



SA-7B

Description: The SA-7B is a short range man portable, shoulder launched, fire and forget IR SAM. **Max Speed:** 1.7-1.95 Mach **Max Effective Altitude:** 4.5 km **Max Effective Range:** 5.6 km **Warhead:** HE 1.8 kg **Fuze:** contact & graze **Kill Radius:** Unk.

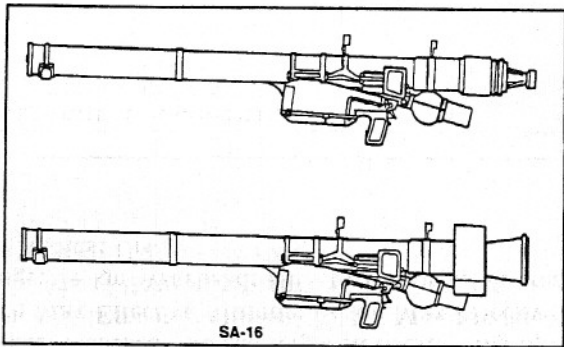


SA-14

Description: The SA-14 is a short range man portable, shoulder launched, fire and forget IR SAM. **Max Speed:** 2+ Mach **Max Effective Altitude:** 6+ km **Max Effective Range:** 7+ km **Warhead:** HE **Fuze:** contact & graze **Kill Radius:** Unk.

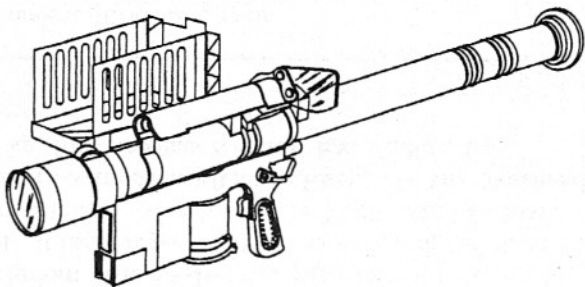
Equipment Recognition

6-78



SA-16

Description: The SA-16 is an improvement over the SA-14. It has a bigger warhead, more speed, and more maneuverability. **Max Speed:** 2+ Mach **Max Effective Altitude:** 6+ km **Max Effective Range:** 7+ km **Warhead:** HE 2 kg **Fuze:** contact & graze **Kill Radius:** Unk.



STINGER

Description: The Stinger is a man portable, shoulder fired, passive IR homing, short range SAM. **Max Speed:** 2.2 Mach **Max Effective Altitude:** 3.5 km **Max Effective Range:** 4 km **Warhead:** HE 3 kg **Fuze:** contact **Kill Radius:** Unk.