



Countermeasures con't Hand Smoke Grenade HC C1A2

Height	137 mm
Diameter	61 mm
Weight	575 g
Smoke colour	Grey-white
Ignition delay	3.5 s
Burning time	60 s
Smoke ingredient	Hexachloroethane



Application

This compact Hand Smoke Grenade is an operational store used to provide large protective smoke screen in the visual wavelengths for troops in the field. It can be thrown by hand or may be projected from a rifle.

Operation

On withdrawal of the safety pin and release of the fly-off lever, the striker hits and ignites the cap of the igniter assembly. After a safety delay, the Smoke Grenade emits a dense cloud of grey-white screening smoke.

76 mm Visual and IR Screening Smoke Grenade C12

Length	260 mm
Diameter	76 mm
Weight	2.5 kg
Smoke colour	Brown
Ignition delay	2.5 s
Obscuration time	30 s +
Smoke ingredient	Brass flakes



Application

In a surprise attack every second counts and this Grenade uses a powerful explosive charge to instantaneously create a smoke cloud around an armored vehicle.

The 76 mm Screening Smoke Grenade provides vehicle self-protection in the visual and infrared bands. The grenade is designed to be compatible with the Wegmann launcher system and is qualified for use with that system, including the latest ripple fire version. Brass flakes are the most effective screening material for IR threats and are not affected by humidity, rain or snow. In addition, this grenade presents no fire hazard.

Operation

The grenade is electrically initiated by a HERO (Hazard of Electromagnetic Radiation to Ordnance) safe initiator. This squib ignites a black powder charge which projects the grenade to 30 m from the vehicle. After a delay column has burned out (2,5 s), an explosive charge disperses the payload instantaneously. A dual safe and arm mechanism protects the user from accidental functioning. The 76 mm Smoke Grenade has been developed in cooperation with National Defense of Canada.



Packagings meet the requirements of the United Nations Recommendations on the Transport of Dangerous Goods Model Regulations and are Certified by Competent Authority of Canada.



Quality System SNC TEC Registered
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Pyrotechnic Products



Always on target™

SNC Technologies Inc. is a leader in the manufacturing and assembly of reliable, high-quality pyrotechnic products for a wide range of military applications and is committed to delivering products reflecting the highest standards of quality, security and performance.

It is this stringency, from start to finish, which has allowed the company to successfully meet the demanding operational requirements of the Canadian Armed Forces, as well as an international clientele, for more than half a century.

The SNC TEC range of military pyrotechnic products includes the following:

Training Simulators

- Ground Burst C1A1
- Thunderflash C1A1
- Signal Cartridge C1

Light and Signal

- 40 mm Parachute Rocket Flare C7
- Trip Flare C6
- Smoke Grenade C8
- Signal Smoke Drift Indicator C8 (SSDI)
- Marker Location Marine C2A1
- JAU-22/B

Countermeasures

- Hand Smoke Grenade C1A2
- 76 mm Visual and IR Screening Smoke Grenade C12
- Pyrophoric IR Decoy Flare

Training Simulators



Ground Burst C1A1

Length	180 mm
Diameter	49 mm
Weight	125 g
Ignition delay	6 s
Whistling time	3.5 s
Explosive noise	over 110 dB



Application

The Ground Burst provides realistic simulation of the sounds heard on a battlefield when under attack from artillery fire.

Operation

When the cord is pulled, it draws the friction wire through the igniter composition. The burning of the safety fuse allows a delay during training before the device produces a whistling sound of increasing pitch followed by an explosion giving audible and visual simulation of an incoming high explosive artillery or mortar shell. This training device generates an explosive noise of over 110 dB measured 23 m from source over a wide temperature range.

Thunderflash C1A1

Length	213 mm
Diameter	33 mm
Weight	90 g
Ignition delay	7 s
Explosive noise	over 100 dB



Application

The Thunderflash is used during training exercises to simulate typical flash and sound encountered on the battlefield.

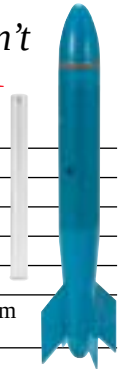
Operation

The match composition is exposed by tearing off the tape and removing the cap. The igniter is rubbed sharply across the striking surface causing it to ignite. This, in turn, ignites the safety fuse, which burns and initiates the report composition, producing a flash visible to the naked eye at a distance of 23 m in broad daylight and a sound level over 100 dB.



Training Simulators can't
Signal Cartridges C1

Length	218 mm
Diameter	216 mm
Weight	425 g
Smoke colour	Orange
Ignition delay	2 s
Burning time	10 s
Smoke ingredient	Dye/potassium chlorate



Application

To reduce the cost and danger of live fire training with large bombs, the Air Force uses practice bombs. Used in conjunction with the Canadian Modular Practice Bomb, this cartridge gives a clear indication of the point of impact of the bomb, giving the user important feedback on the accuracy of the drop.

Operation

Upon bomb impact on the ground, the striker hits the percussion primer. Then, an intermediate charge ignites the smoke mix. The rapidly produced smoke exits the rear of the bomb.

The special design provides for a low fire hazard and is effective in winter (snow covered) or summer conditions.

Environmental concerns over the materials used in the old design led to the development of this low toxicity, environmentally friendly new design currently under evaluation by the Canadian Air Force.

Marker Location
Marine C2A1

Length	470 mm
Diameter	76 mm
Weight	1.7 kg
Flame colour	Yellow
Smoke colour	White
Burning time	13.5 to 20 min
Smoke ingredient	Red phosphorus



Application

Clearly visible from the air because of its flame and smoke, the Marine Location Marker is primarily used in Anti-Submarine warfare operation as a positional marker on the water surface. It may also be used for other operations such as Search and Rescue to determine wind direction and speed, or in any

Light and Signal

Smoke Grenade C8

Length	120 mm
Diameter	60 mm
Weight	300 g
Smoke colour	Red/green/violet/yellow
Ignition delay	4 s
Burning time	40 s
Smoke ingredient	Dye/potassium chlorate



Application

The Smoke Grenade produces dense colored smoke for a variety of purposes such as a hand dispensed wind drift indicator, target identification marker, or as a signalling device for troops in the field.

Operation

When the cover is removed and pulled, the actuator is operated enabling the striker to fire the percussion cap. After a nominal delay, an dense coloured smoke is produced. It is available in yellow, red, green and violet smoke colours. This grenade is designed to meet the Canadian Armed Forces requirement for a highly reliable pyrotechnic signalling device.



Signal Smoke
Drift Indicator C8 (SSDI)

Length	508 mm
Diameter	163 mm
Weight	6.75 kg
Smoke colour	Orange
Ignition delay	3.5 s
Burning time	9 min
Smoke ingredient	Dye/potassium chlorate

Application

The Signal Smoke Drift Indicator is an air droppable, parachute-deployed, wind drift indicator designed to meet Search and Rescue requirements. It produces a bright orange smoke which indicates wind direction and speed to assist air rescue personnel.

Operation

As the Signal Smoke Drift Indicator is ejected from the aircraft, the nylon static line pulls on the cover, deploying a parachute. The tensile loads created by the parachute will lift and rotate the striker. The striker hits the primer cap which ignites a delay, which in turn ignites the smoke composition. The signal descends at a rate of 6 m/s and produces a bright orange smoke. It is buoyant in water and floats upright for two-thirds of the burn, canting over by about 70° as it burns out. The Signal Smoke Drift Indicator may also be operated manually on the ground to produce a bright orange smoke. It is currently in service with the Canadian Armed Forces.



JAU-22/B

Length	85.67 mm
Diameter	50.8 mm
Weight	350 g
Explosive charge	NOSOL sticks/flakes



Application

The Jau-22/B device converts the energy from a safe explosive to mechanical energy for the performance of a variety of tasks such as releasing stores from aircraft.

Operation

The Jau-22/B is a gas-producing device electrically initiated from a remote source. The initiator is a cartridge actuated sealed-in unit, which consists of a constant volume chamber with a single orifice for the exit of gas. It is used as a power source for ejection of search stores from the CP-140 Aurora aircraft. The initiator is HERO (Hazard of Electromagnetic Radiation to Ordnance) Safe.

40 mm Parachute
Rocket Flare C7

Length	330 mm
Diameter	43 mm
Weight	450 g
Ignition delay	< 12 s
Luminous intensity	150,000 candela (cd)
Time	30 s minimum
Illuminant ingredient	Sodium nitrate/magnesium



Application

This extremely powerful hand launched flare is used to illuminate large areas during night operations to expose the presence of enemy troops, vehicles or gun installations.

Trip Flare C6

Length	123 mm
Diameter	79 mm
Weight	400 g
Ignition delay	No delay
Luminous intensity	40,000 candela (cd)
Time	60 s
Illuminant ingredient	Atomized magnesium/sodium nitrate



Application

In order to alert sentries to the presence of intruders, this trip wire activated flare produces an instantaneous powerful white light illuminating the invader and the surrounding area.

Operation

The Trip Flare is issued fitted with a U-shaped mounting bracket assembly. The bracket may be installed on a tree by nailing, on a post by clamping or in the ground. The flare is actuated by a trip wire. When a pull is made on the wire, the fly-off lever is released and the striker hits the primer. A pyrotechnic illuminant mixture is ignited with a non-delay action and burns with a yellowish-white light, illuminating a circular area with a radius of up to 274 m (300 yd) depending on the terrain. The Trip Flare is designed to meet the Canadian Armed Forces requirement.

Operation

When the operator turns the safety ring until it snaps at the marking “F” above the safety slide and then pushes down the safety slide, the firing pin is released and hits the primer, igniting the rocket motor. With a launch angle of 45°, the illuminating system is launched from a hand held tube with minimum recoil and creates a 500 m diameter footprint. The rate of descent of the parachute is 5 m/s.

The rockets are available with signalling flares in the colours red, green and white as well as infrared illuminating.

Countermeasures

Pyrophoric IR
Decoy Flare

Length	158 mm
Diameter	36 mm
Weight	190 g
Payload	100 g of pyrophoric liquid



Application

This advanced Pyrophoric IR Decoy Flare is used to protect aircraft from attack by sophisticated infrared guided missiles. The flare uses a unique material and dispersal system to produce an IR spectrum matching that of the aircraft.

The flare is currently produced in two versions, MJU5188/B and MJU5130/B for use on the F18 fighter and C130 (Hercules) transport aircraft respectively. With minor modification, the flare can protect any aircraft and is currently qualified for use on the AN/ALE 39 and ALE 47 dispenser systems.

Operation

An electrically initiated impulse cartridge pushes the flare out of the dispenser. A safety locking sleeve clamps one end of an arming cable to the launcher. At full extension of the arming cable, a friction wire initiator ignites a gas generator which activates a piston to push the pyrophoric liquid from the flare. SNC TEC teamed with Bristol Aerospace to manufacture this innovative Decoy Flare with performance superior to conventional pyrotechnic flares.

