

## SA-N-7 Gadfly [9M38] (1984, 3S-90 Uragan)

### Guided Weapon

Type: Guided Weapon

Weight: 685.0 kg

Length: 5.55 m

Span: 0.86 m

Length: 5.55 m

Diameter: 0.4

Generation: None



Properties: Illuminate at Launch, Anti-Air All-Aspect

Targets: Aircraft, Helicopter, Missile, Surface Vessel

Sensors / EW:

- SARH Seeker - (SA-N-7) Semi-Active, Weapon Seeker, Semi-Active Radar Homing (SARH), Max range: 55.6 km

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Weapons / Loadouts:

- SA-N-7 Gadfly [9M38] - (1984, 3S-90 Uragan) Guided Weapon. Air Max: 46.3 km. Surface Max: 46.3 km.

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OVERVIEW: The SA-N-7 (9M38) is a ship-launched, medium-range, supersonic, solid-fuel, low-to-medium altitude capable, semi-active H/I band radar, anti-aircraft missile. It carries a 70 kg HE warhead.

DETAILS: The GADFLY is guided using a combination of autopilot and proportional navigation. The missile uses inertial navigation and an autopilot to fly to a predetermined point, and then uses its semi-active radar to home in on reflected radar signals. The missile may also be able to receive command updates while in flight. It may also have an electro-optical sighting system for use in a severe jamming environment.

NOTES: The naval variant of the 9K37 "Buk", the 3S-90 "Uragan" uses the same 9M38 missile as the 9K37 though the launcher and associated guidance radars were exchanged for naval variants. It also carries the designation M-22. The Uragan utilizes the MR-750 Top Steer D/E band as a target acquisition radar (naval analogue of the 9S18 or 9S18M1) and the Front Dome H/I band tracking and engagement radar for illumination.

SOURCES: Jane's Weapons Systems, Vol. 3: Naval, "SA-N-7 series; 9K-90 (M-22) 'Uragan' ('Shtil')/'Ezh' ('Shtil-1')" 23 Sep 2013; "M-22 Uragan (SA-N-7 Gadfly)". Vestnik PVO (pvo.guns.ru) (in Russian). Accessed November 14, 2013. <http://pvo.guns.ru/naval/m22.htm> ; Federation of American Scientists. "SA-11 GADFLY." Accessed November 14,

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2013. <http://www.fas.org/man/dod-101/sys/missile/row/sa-11.htm>