DEVELOPMENT

RAVEN 145
Loitering area denial weapon

This loitering area denial weapon represents a low cost and long range surveillance/strike weapon intended for real time surveillance and strike on a wide range of targets beyond the forward edge of battle area. Intended use: destruction of tanks and other armored vehicles, command posts, artillery fire positions, live force, and other moving or stationary targets, patrol boats and drones.

• Range	150+ km at 150 km/h (44 m/s)	
• Max. flying height (ceiling)	2000 m	
• Initial mass	50 kg, loaded (35 kg, unloaded)	
• Load/Workload, mass	15 kg	
• Drive	Launching powered by a solid rocket fuel (booster) motor;	
	Flight powered by a flat-twin motor (two cylinder gasoline motor)	
• Drone dimensions	Length	2.2 m
	Wing span	2.4 m
	Height, with booster	0.4 m
• Launcher	Truck FAP 2028	
	Number of containers	21-27
	Launching angle 45°	
• Control station	Truck mounted (FAP), with 2 or 3 guidance consoles in an air-conditioned cabin	
• Portable control station	2 x 25 kg	

Launching from a container, propelled by a solid fuel booster motor.
Transport and packing: It can be transported to a battle position when fully armed and with full tank. Wings are foldable.
During launching, gasoline motor starts up at the exit from the launching container.

• Preparation at battle position:	3 min. for moving into position and elevation
	30 sec. for launching from each individual container
• Number of simultaneous TV links	3
• Number of drones in the air at a time	12 (3 video channels are followed simultaneously, at operator's choice)
• Guidance/navigation system	Inertial, GPS, GLONAS, terminally guided TV/IIR homing head
• Approach angle	15° to 75° (Top Attack)

Drone 145 mm, containerized

Control station with antenna system

Launcher vehicle with 24 containers

Environmental requirements:

1. Operating temperature range from -20°C to 65°C
2. Sand, dust, and water-proofed
3. Resistant to vibrations, shocks, and transport vibrations
4. Resistant to fungi, salt mist
5. Resistant to spraying water, rain
6. Resistant to sun exposure, UV radiation

DRONE – Versions

	Reconnaissance drone, with gasoline motor	Drone with Electric motor	Drone with Gasoline motor	Drone 200 or 150 mm in diameter, with gasoline motor	Anti-drone drone, with gasoline motor	Drone with Turbo jet motor
Range	300	40	150	150	50	50
Speed (km/h)	150	160	150	140+	150	500+ (140 m/sec)
Time of flight (TOF) (min)	180	30	180	80	180	10
HH	TV	TV/IIRN	TV/IIRN	TV/IIRN	TV	TV/IIRN
Precusor	-	50 mm	50 mm	-		-
EO	Autopilot & control unit	Autopilot & control unit	Autopilot & control unit	Autopilot & control unit	Autopilot & control unit	Autopilot & control unit
Range of radio link with antenna (km)	150	50	150	150		50
Battery	+	+	+	+	+	+
WH	-	Tandem 145/50	Tandem 145/50	Combined 175, or fragmented 130	Non-guided rockets, with fragmented WH	175, or 130, or tandem 145/50
Wings and control surfaces/fins	Composite	Composite	Composite	Composite	Composite	Composite
Control section, with rudders	4 rudders, with 4 electric motors	4 rudders, with 4 electric motors	4 rudders, with 4 electric motors	4 rudders, with 4 electric motors	4 rudders, with 4 electric motors	4 rudders, with 4 electric motors
Driving/booster motor	Flat-twin (boxer) motor, 170 ccm, 15 hp	Brushless electric motor, 6 KW	Flat-twin (boxer) motor, 170 ccm, 15 hp	Flat-twin (boxer) motor, 170 ccm, 15 hp	Flat-twin (boxer) motor, 170 ccm, 15 hp	Kerosene
Parashute	+	-	-	-	+	-

Main parts of the system

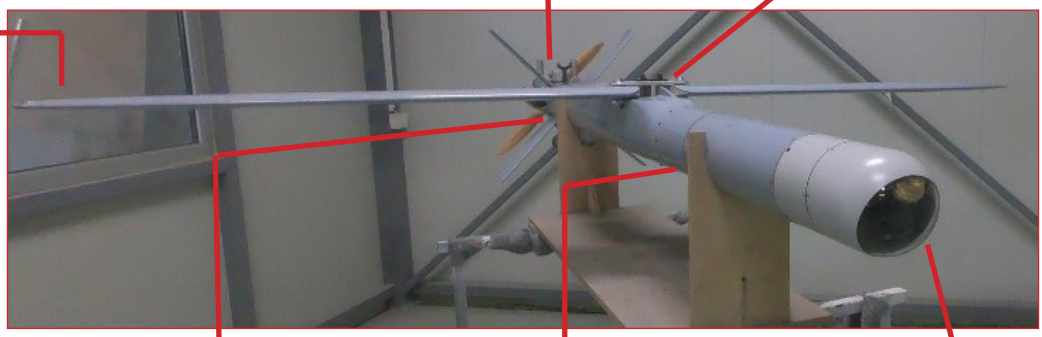
1. Drone
   - a. Homing Head (optional , 1 of 2 types)
     - i. TV HH
     - ii. IIR HH
   - b. War Head (optional , 1 of 4 types)
     - i. Combined (blast & fragmented), with steel balls, 130 mm
     - ii. Combined (blast & fragmented), with steel balls, 122 mm
     - iii. Anti-tank, tandem shape charged wh, 145 mm
       1. Precusor, 50 mm
       2. Main charge, 145 mm
       3. 2 Fuzes
     - iv. Combined (shape charged & fragmentation wh, with steel balls)
   - c. Auto-pilot section
   - d. Control section
   - e. Radio link
   - f. Wings with demounting mechanism.
   - g. Fuselage
   - h. Booster motor
2. Container
3. Launcher
   - a. Vehicle FAP 2028 or similar.
   - b. Hydraulic elevation mechanism
   - c. Elevation platform
4. Ground Control Station
   - a. Inside the cabin, with 2-phase antenna, range 200 km
     - i. Cabin
     - ii. Consoles (3 pcs, each having 2 monitors), antennas,
   - b. Portable, with 50 km range antenna for local control of 1 UAV
5. Power generator and an UPS

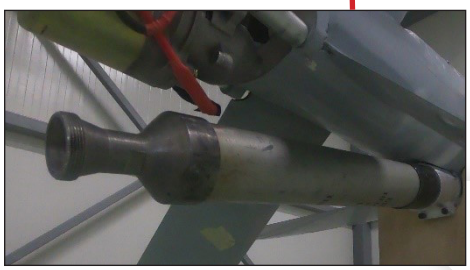
RAVEN COMPOSITION

Wings

Engine

Bodies





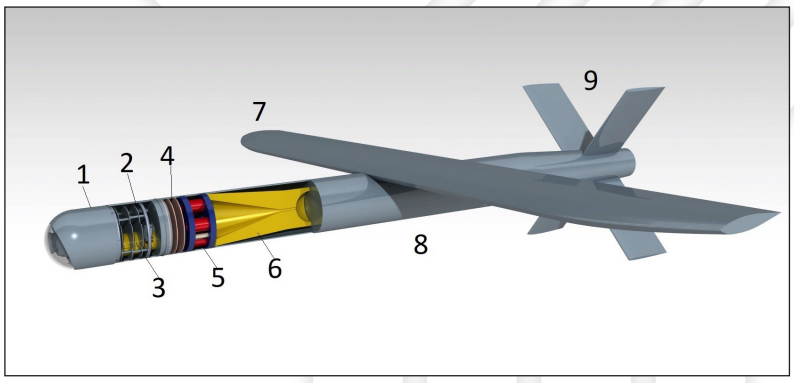
Booster

WH

HH

Raven composition (with tandem warhead):

1. Homing head
2. Homing head electronic
3. Front heat warhead
4. Autopilot
5. Battery block
6. Heat warhead
7. Wings
8. Fuselage with petrol reservoir
9. Wings with control surfaces



Warheads

Combined (blast & fragmented), with steel balls, 130mm, total mass 10.5 kg

Combined (blast & fragmented), with steel balls, 122 mm, total mass 13 kg

Anti-tank, tandem shape charged, 145 mm, total mass 6.4 kg

The drone can be equipped with either a combined (blast & fragmented) warhead, 175 mm, the total weight is 13 kg, or another type warhead the total mass of which does not exceed 13 kg.

HH – Homing Head

TV/IIR HH 145 mm

GCS - Ground Control Station

Ground control station (GCS) is used for launching, entering the flight profile data, guidance/control of the drone and the TV/IIR homing head.

GCS can be installed in/mounted on:

1. Vehicle mounted container, including
   a. 2 consoles, each having 2 monitors
   b. UPS units
   c. Power generator, to supply operation of the equipment and an a/c unit
2. Trailer mounted container
3. Portable/carry-on box, for on-site
   a. Two members of the crew carry 25 kg packages each, including the station, the antenna, and the battery

Radio / Antenna
Phased array antenna
TV Link: Analog frequency hopping szstem
Data Link: Frequency hopping spread spectrum (FHSS), with encription.

Shown in the figure are two console stations that can be placed inside a vehicle or in a schelter mounted on a trailer.

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Should you have any further enquires, please do not hesitate to contact us at **office@yugoimport.com**