



KOBAC (SPARROW HAWK)

Training/combat turboprop aircraft

KOBAC, the two-seat training/combat aircraft with a turbo-prop engine has been developed on the basic version of LASTA aircraft. It has greatly improved performances and weapon carrying capacity, as well as a new attack-navigation system and a new safe emergency escape system.

The above improvements contribute to a wider range of aircraft applications, including advanced training-combat and Counter Insurgency (COIN). This aircraft also features excellent maneuvering characteristics. It is designed as per the indigenous standard CS-23 for the aerobatic category N1= +7 g and N2= -3.5g, and the „utility“ category (N1=+4.4g, N2=-1.8g at full load).

The aircraft design includes additional fuel tanks under the wing tips, allowing for long flying hours and „waiting“ in the target area, which is an important requirement in the COIN category of aircraft. It can use concrete and prepared grass air strips. Both crew members have advanced ejection seats.

External stores can be distributed on 5 hardpoints, 4 being under the wings and one under the belly, with the total weight of 500 kg. The armament system includes pods with 7.62 mm and 12.7 mm machineguns and with 20 mm cannon, multiple rocket launchers, air bombs and guided missiles.

The aircraft is equipped with an advanced attack and navigation system (ANS), including the optoelectronic system with a day camera and thermal imager, laser range finder, central processor, data visualization monitor for the data obtained from the optoelectronic system and ANS, inertial system and GPS. The ANS enables surveillance and accurate action using diverse rockets/missiles, day and night, planning of a mission and analysis of the performed tasks.

Technical data:

- Weight at takeoff, filled with fuel + two pilots: 1500 kg
- Maximum weight at takeoff, armed: 2000 kg
- Maximum speed in horizontal flight: 514 km/h
- Maximum speed allowed (in descent) 555 km/h
- Maximum speed in ascent 23,5 m/s
- Fuel weight in internal tanks: 300 kg
- Fuel weight in underwing tanks: 280 kg
- Weight of COIN weapons: 500 kg
- Power plant: Turbo-prop engine class up to 750 HP
- Flight autonomy, horizontal flight at the altitude of 4500 m up, economic speed 4 hours
- Maximum flying hours, horizontal flight at the altitude of 4500 m up, economic speed: 1300 km
- Take off distance (obstacle 15 m): 410 m
- Aircraft length 8.6 m
- Wing span 9.6 m
- Aircraft height 3.2 m
- Wing surface 11.6 m²
- Approach speed, flap retracted 142 km/h
- Minimum speed at landing, flaps lowered 121 km/h
- Flight ceiling 6500/8000 m

Cockpit:

Aircraft cockpit provides the following:

- Ergonomic accommodation for 90% pilots
- Safe accommodation for 99% pilots
- Approach vision reserve over 2°
- Rear seat elevated for 100mm
- Slanted instrument tables
- Equipped for easy transition to jet engine training aircraft
- Adjustable suspended pedals



- Integral seat and parachute straps
- Cutting of canopy transparency with MDC
- Possibility of light baggage storing

Aircraft flying as per the basic instrument flight training is performed from the front cockpit under the full supervision of the instructor from the second cockpit. In case of emergency evacuation of the pilot, the aircraft is provided with the system for cutting the cockpit canopy (detonating cutter).

Attack and Navigation System (ANS)

The Attack and Navigation System (ANS) has been developed by Yugoimport SDPR as a response to current and future requirements of aircraft systems in the fields of armament control, surveillance systems, flight display systems and advanced navigation with the display of the actual tactical situation. Generally, the ANS is a state-of-the-art multi-functional system with the following integrated units:

- Fire control system for the guided and conventional weapons, in day and night conditions
- Automatic tracking and surveillance of mobile and stationary ground targets at up to 8000m
- Navigation system with the integrated GPS and radio navigation, with on-line displays of tactical situations on raster maps of the territory over which the aircraft is flying
- Primary Flight display with visual monitoring of flight and engine parameters in the form of standard aircraft instruments
- Flight Recording System
- The ANS configuration has an open hardware-software architecture consisting of:
- Contemporary gyro-stabilized, surveillance and guidance optoelectronic system with integrated day and night cameras and the laser range finder
- Dual redundant multi-processor mission computers with integrated symbol generators
- Set of analog and digital avionics with aircraft, engine, inertial and multi-functional sensors
- Visualization system with the Head Up Display in the front cockpit and six multi-functional high-resolution color monitors, three of each in the front and rear cockpit
- Robust navigation system and GPS
- HOTAS system, executed in both cockpits
- Robust Database Management system supporting the flight recording system, and the mission debriefing system used in post-flight processing.

Operational characteristics

- General repair of airframe and engine after 3000 flight hours.
- Mean time of systems failure greater than 300 hours; for the aircraft as a whole over 50 hours.
- Pre-flight inspection and fuel filling, up to 20 minutes.
- Post-flight inspection, up to 30 minutes.

Ejection seats

Martin Baker Mk. 17 with the following features:

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|------------------------------------|----------------|
| • Weight of the equipped pilot | 47 – 111 kg |
| • Aircraft speed at seat ejection | 111 – 555 km/h |
| • Flight altitude at seat ejection | 0 – 7700 m |
| • Seat weight | 36 - 43 kg |

Electric and electronic systems and equipment

These systems are state-of-the-art, completed with a new ANS developed by YUGOIMPORT/SDPR.

The Attack and Navigation System consists of a central processor, monitor for display of data obtained from the OE system, navigation and flight data. In addition, there is a manual control unit, inertial system and GPS.

The OE system has two day and night cameras with optical zooms, laser range finder, manual control unit with interface, power supply adapter for the equipment and the gyro-stabilized OE system.

Apart from this, the aircraft is outfitted with a video distribution system and recording system.

Aircraft design regulations and airframe hardness

The aircraft will be designed in accordance with CS – 23, aerobatic category ($n_1 = +6g$, $n_2 = -3g$), while the airframe hardness and rigidity will be proven by computation methods, except for the engine mount, new weapon carrier and the new flap (if modified) which will undergo experimental testing.

The COIN variant will be of the utility category ($n_1 = +4.4g$, $n_2 = -1.8g$).

Armament

The armed aircraft is designed for a higher level of training in the use of grenades, rockets and bombs. It is useful in air support missions, while the COIN variant is used for patrolling and long attacks.

The aircraft is suitable for use in day and night conditions. It has 5 lines of armament, ca. 550kg.

Application: Close air support COIN, efficient against troops in medium fortified facilities, armored vehicles and various material targets



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

All the data given in the brochure are for information purposes only. The final configuration and/or technical specification are defined for each contract individually.