



# Yak-130

Combat Trainer Jet

# Yak-130

## Yak-130: THE PROS WHY CHOOSE Yak-130?

Yak-130 is the best cost-effective dual-role solution to meet a wide range of pilot training and combat employment requirements.

Yak-130 is the only new-generation combat trainer with flight characteristics similar to those of the 4th/4th+ generation fighters in the subsonic speed envelope.

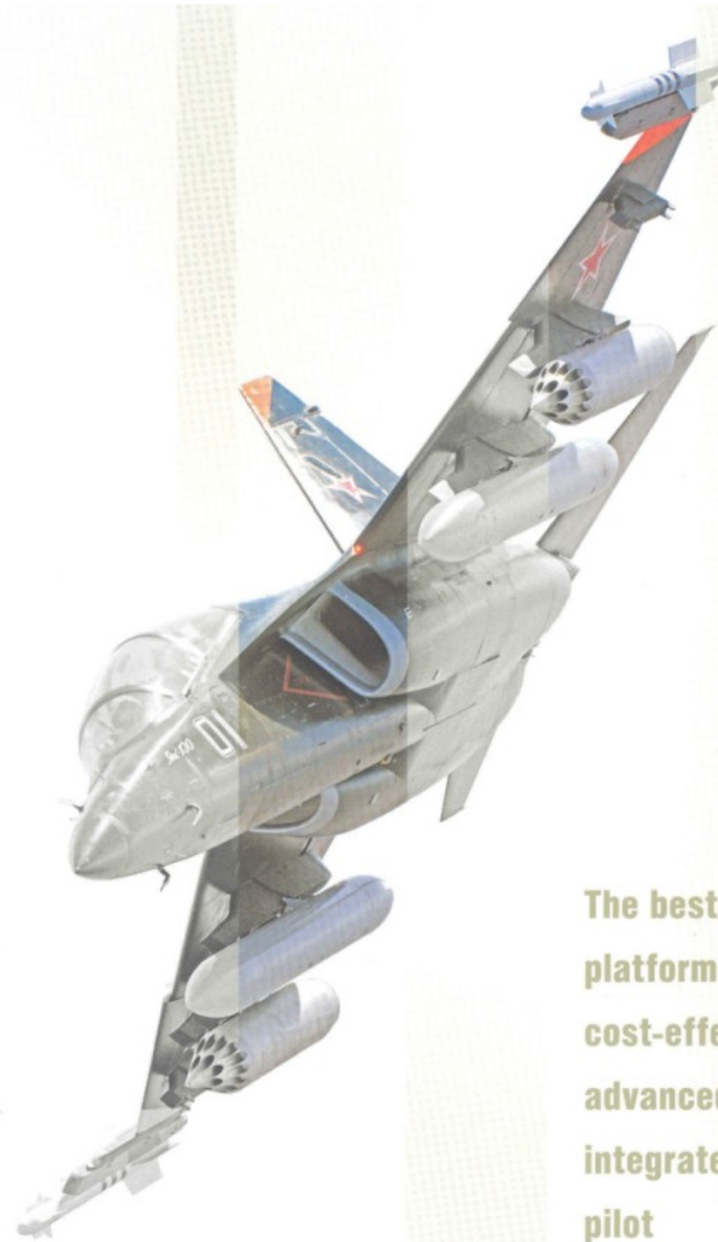
Yak-130 embodies state-of-the-art information technologies and advanced human-machine interface fully representative of modern front-line combat aircraft.

Yak-130 is a core element of the integrated training system for frontline aviation crews, covering 80% of training syllabus.

Yak-130 ensures enhanced flight safety due to high reliability and redundancy of its vital onboard systems, and introduction of an active flight safety system.

Yak-130 offers great operational autonomy due to special design features and simplified maintenance procedures.

Yak-130 features great growth potential provided by advanced aerodynamics, systems and onboard equipment, open architecture, digitisation, modularity and unification principles.



**The best  
platform for  
cost-effective  
advanced  
integrated  
pilot  
training.**

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## Abbreviations

APU	auxiliary power unit
EFT	external fuel tank
FADEC	full authority digital engine control
FBW	fly-by-wire
FOD	foreign object damage
HOTAS	hands-on throttle and stick
HUD	headup display
IFF	identification "friend-foe"
IFR	instrument flight rules
ITS	integrated training system
MFD	multi-function display
OBOGS	onboard oxygen generating system
MTBF	mean time between failures

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# Yak-130

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MAIDEN FLIGHT OF THE TRAINER DEMONSTRATOR

IPKUT Corporation | NEW GENERATION COMBAT TRAINER



CONTRACT ON DELIVERY TO THE RUSSIAN AIR FORCE

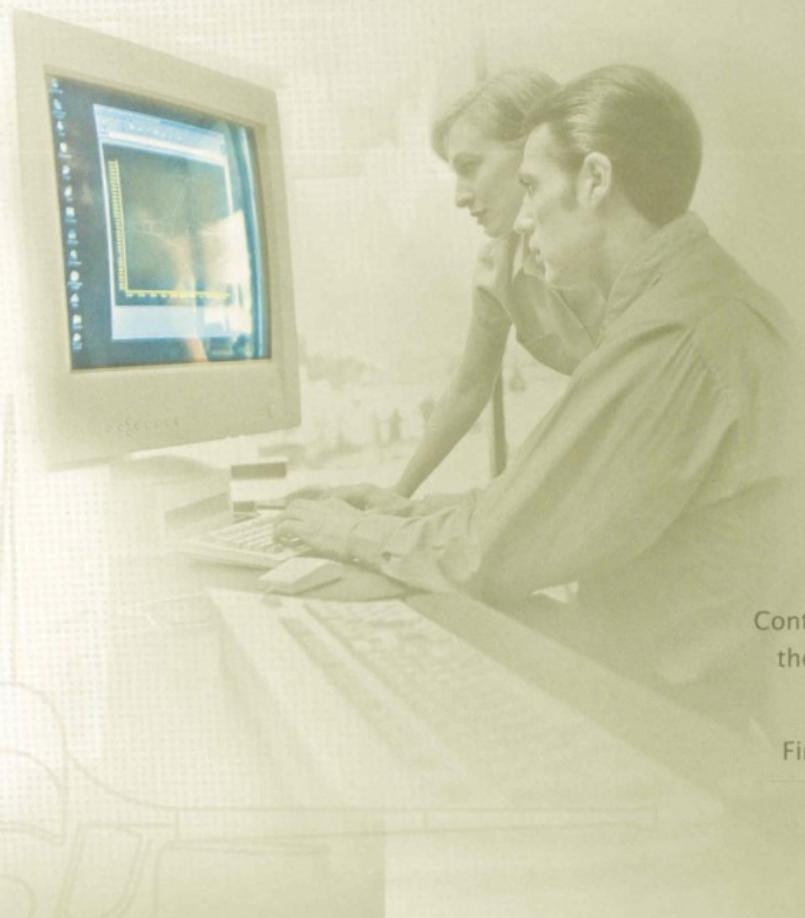


WINNER IN THE RUSSIAN AIR FORCE TENDER

## Yak-130: DEVELOPMENT PROGRAMME

The Yakovlev Design Bureau started developing Yak-130 in 1991 as the competitor in the Russian Air Force's tender for a new trainer aircraft. Since 1993 till 1999 the development programme had been continued in cooperation with the Italian company Aermacchi within the framework of the Yak/AEM-130 joint international programme aimed at "westernisation" of the aircraft. The Yakovlev Design Bureau came later to upgrade, all by itself, the Yak-130 design to a combat trainer configuration to meet revised tactical and technical requirements of the Russian Air Force for both basic and advanced trainer and light combat aircraft.

Two contracts on delivery of the Yak-130 combat trainer have been signed and are now being executed: 12 aircraft for the Russian Air Force; 16 aircraft for the Algerian Air Force. Talks on delivery to other customers are underway.



Yak-130: DEVELOPMENT PROGRAMME

### Yak-130 PROGRAMME MILESTONES

Start of the development programme	1991
Maiden flight of the trainer demonstrator	1996
Winner in the Russian Air Force tender	2002
Maiden flight of the first prototype	2004
Contract on delivery to the Russian Air Force	2005
First export contract	2006

# Yak-130

IRKUT Corporation | NEW GENERATION COMBAT TRAINER

The Integrated Training System covers the entire training cycle.

*student selection > basic training > advanced training > lead-in fighter training*



Yak-130  
BASIC/ADVANCED  
COMBAT TRAINER



Yak-52M/Yak-152  
PRIMARY TRAINER



SPECIALIZED  
SIMULATOR



PROCEDURAL  
SIMULATOR



COMPUTERIZED  
CLASSROOM

## Yak-130: INTEGRATED TRAINING SYSTEM

In the early 1990s primary and basic training of Russian military jet pilots was accomplished on the L-29 and L-39 jet trainers. However, these aircraft could not help to form air student's flying skills adequate for the transition to the 4th generation fighters because of the great gap in flight performance with the latter. Whereas employing two-seat versions of combat aircraft for advanced training was inefficient due to high flight and maintenance costs.

Taking into account these concerns the Yakovlev Design Bureau proposed a concept of a fully **integrated training system (ITS)** with modern jet trainer at its core. The ITS should cover all scholarship phases, ranging from air student selection and academic studies, to primary, basic and advanced flight training, combat employment and type conversion training, to provide training of highly skilled pilots in shorter time and at lower cost.

The Yak-130-based ITS includes computerised classrooms, specialised procedural, operational flight and full-mission simulators, primary trainer aircraft (piston-engined Yak-52M or Yak-152) and its core element – Yak-130 combat trainer aircraft.

Yak-130 alone covers up to 80% of the flight training programme including combat missions with simulated and real weapon employment.

Yak-130 is optimised for fighter pilot training, including flight proficiency, navigation and weapon delivery skills, development of situational awareness and tactical "out-of-cabin" thinking, decision-making in complex and time-critical situations.

Yak-130 is also a very cost-effective trainer as its flight hour costs 4–6 times less than that of a 4th generation fighter.

The ITS unified information-software system and training management and control system provide data format compatibility in both ground-based and airborne parts of the system, automated syllabi generation and scheduling, training flight planning and debriefing, individual student progress tracking, etc.

### INTEGRATED TRAINING SYSTEM STRUCTURE

- Computerised classrooms
- Procedural simulators
- Flight and mission simulators
- Training management and control system
- Yak-52M/Yak-152 primary trainer
- Yak-130 basic/advanced combat trainer

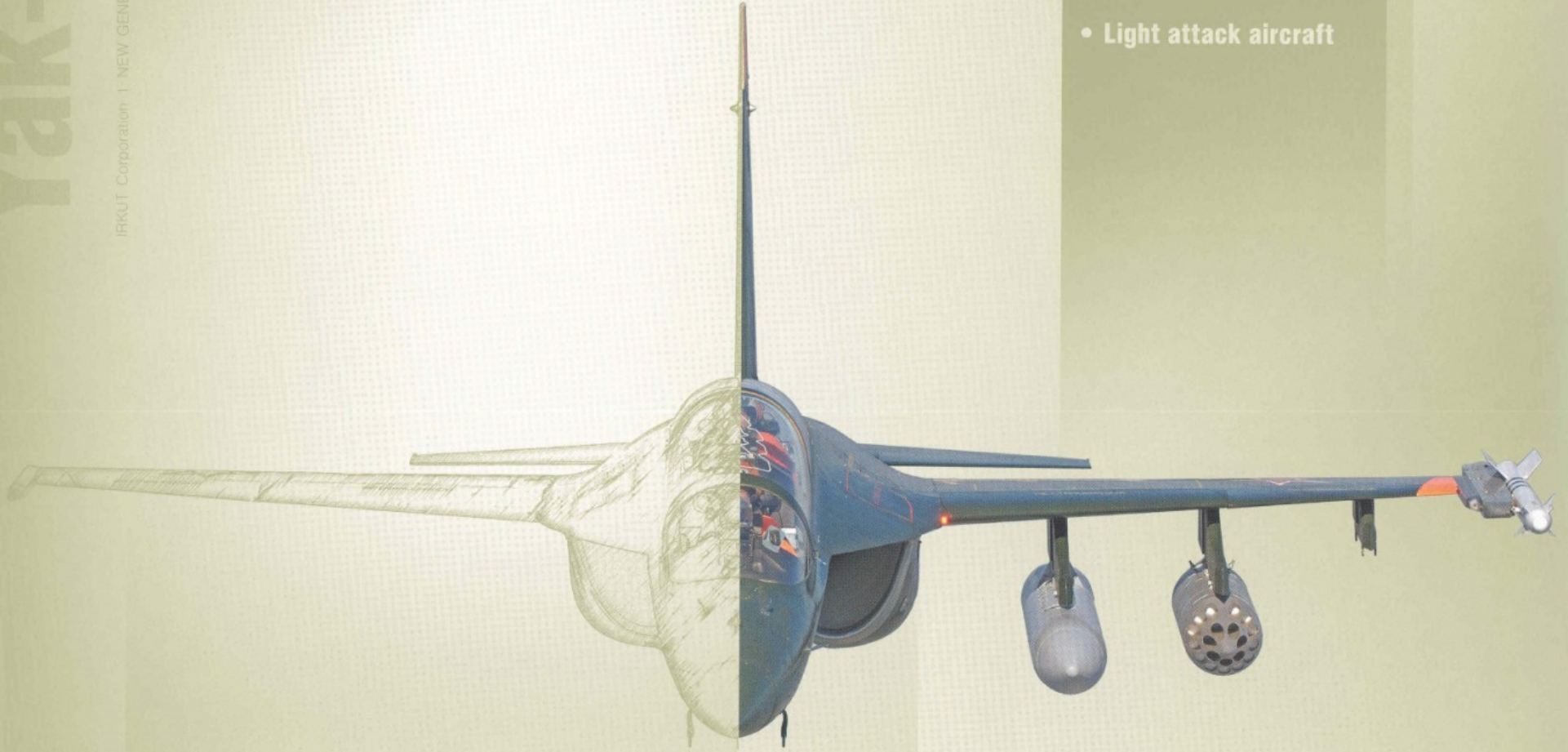
### TRAINING PHASES

- Air students selection
- Theory education
- Primary flight training
- Basic flight training
- Advanced flight training
- Combat employment training
- Type conversion training



# Yak-130

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- Basic trainer
- Advanced trainer
- Type conversion trainer
- Light attack aircraft

## Yak-130: PURPOSE

The Yak-130 two-seat combat trainer aircraft is designed to provide high-quality basic, advanced, tactical and type conversion pilot training for all current and prospective front-line combat aircraft, as well as engage ground and aerial targets by day and night in fair and adverse weather conditions.

Yak-130 is an effective “flight desk” designed to master various flight modes: takeoff, landing, standard and advanced manoeuvres, navigation, low-altitude, IFR, night and formation flying. Instructor helps student gain confidence and proficiency in standard and simulated (degraded/emergency) flight situations, such as hardware failures, pilot errors, etc. Simulation is provided by the **onboard training subsystem** which also models combat scenarios with various targets and threats for efficient tactical training.

Besides flying schools, Yak-130 can be used in **air combat centres** for tactical training; in **operational conversion units** for type conversion training of fighter pilots; and in **active military aviation units** for keeping up flying and weapons delivery skills, and preserving service life of active-duty combat aircraft.

The baseline Yak-130 can be also efficiently employed in combat actions as **light attack aircraft** to defeat surface and aerial targets in low-intensity conflicts.



# Yak-130

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On-board automated test-and-control system for equipment and systems

On-board oxygen generating system

Integrated digital re-programmable fly-by-wire control system

TA-14-130 auxiliary power unit

Two AI-222-25 engines



Up-to-date "information-and-control" field of the cockpit

Digital flight/navigation/sighting avionics suite

"0-0" ejection seats with "through-canopy" ejection capability



Air intakes with shields



## Yak-130: MAIN FEATURES

Two AI-222-25 engines

Quadruple fly-by-wire system

Advanced onboard navigation and attack system

Cockpit with up-to-date controls, MFDs, and HUD

Onboard auxiliary power unit

Onboard oxygen generating system

Onboard equipment automated testing system

Engine air inlets with doors closing at taxiing and takeoff

“Zero-zero” ejection seats providing “through-canopy” escape

### Yak-130 operational advantages:

- simple, robust and durable airframe design;
- non-consuming pneumatic system needs no refilling;
- onboard oxygen generating system and chemical oxygen generators in ejection seats operate autonomously with no need for refilling;
- onboard auxiliary power unit supplies power on the ground to ensure:
  - operation of aircraft power supply system and onboard equipment without starting main engines;
  - ground testing of the onboard equipment without external power supply;
  - air conditioning of the cockpit and cooling of the avionic equipment compartments (no external air conditioner is required);
- onboard automated testing system helps to enhance flight safety, cut pre-flight preparation time, reduce nomenclature of necessary ground support equipment, and simplify maintenance routines;
- low-pressure tires, landing gear, and air intakes with FOD-prevention doors allow operations from unpaved and unprepared airfields.

# Yak-130

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## Yak-130: FLIGHT PERFORMANCE

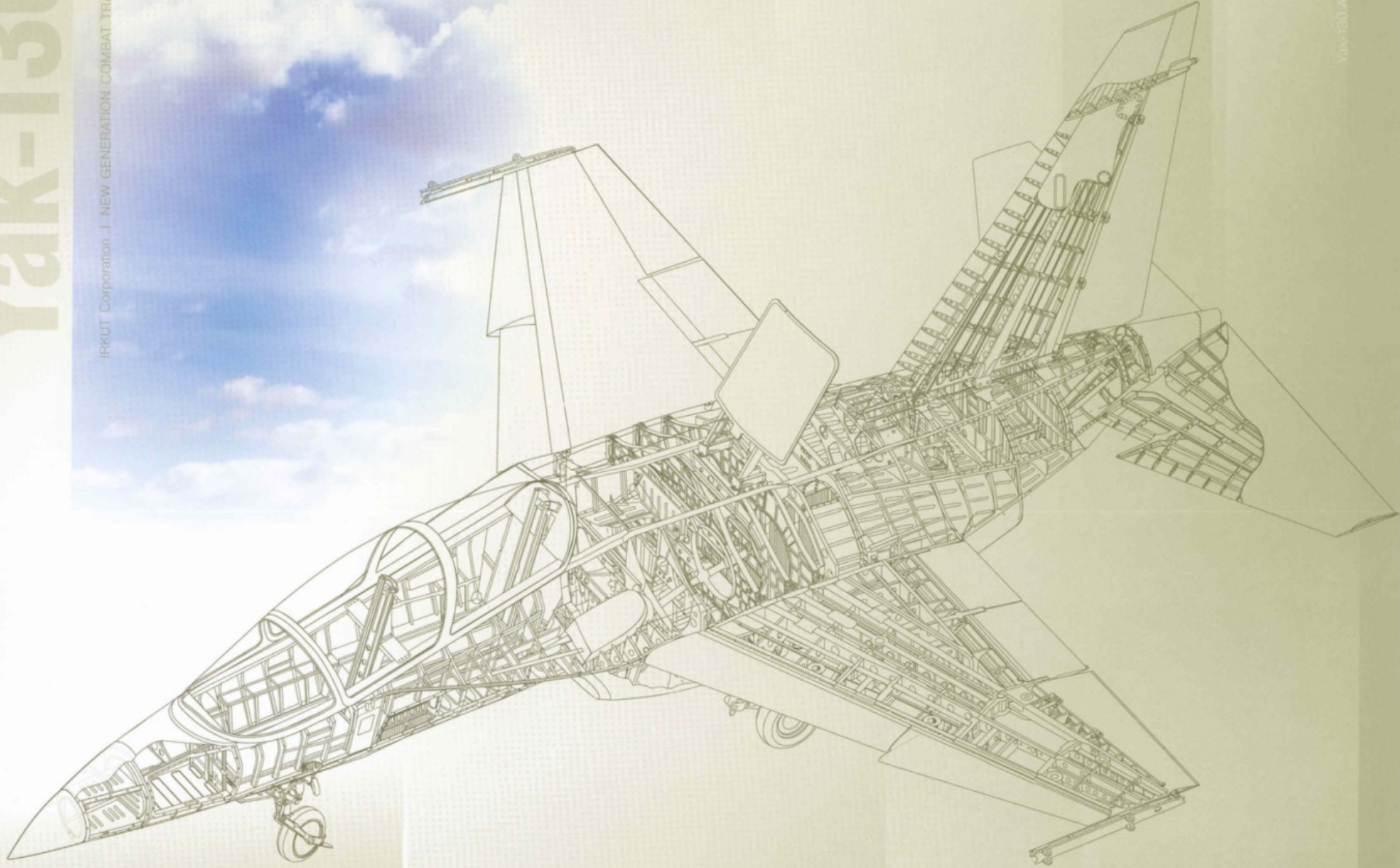
Yak-130 is an easy-to-handle aircraft with good stall recovery and spin resistance characteristics. Its flight performance is similar to that of modern 4th/4th+ generation combat aircraft in the subsonic envelope, including takeoff and landing, low-speed flying, climbs, turns and vertical manoeuvres. The aircraft meets rigorous requirements for advanced flight, combat employment, and type conversion training modes.

BASIC SPECIFICATIONS	Units of measurement	
	Metric	Imperial
<b>Dimensions</b>		
Length	11.493 m	37.71 ft
Height	4.76 m	15.62 ft
Span	9.84 m	32.28 ft
Wing area	23.52 sq.m	253.17 sq.ft
Wheelbase	3.949 m	12.96 ft
Wheel track	2.53 m	8.30 ft
<b>Weights</b>		
Takeoff weight with full fuel load (clean):	7,230 kg	15,939 lb
Maximum takeoff weight with payload	10,290 kg	22,686 lb
Fuel capacity:		
• internal tanks	1,700 kg	3,748 lb
• external tanks	900 kg	1,984 lb
Maximum combat payload	3,000 kg	6,614 lb
<b>Flight characteristics</b>		
Maximum level speed (clean, H=0, 50% fuel)	1,060 km/h	572 kts
Maximum Mach number	Mach 0.91	Mach 0.91
Maximum angle of attack	35 deg	35 deg
Operational load limit (clean)	+8/-3 g	+8/-3 g
Service ceiling	12,500 m	41,000 ft
Flight range (w/o external fuel tanks):	1,600 km	864 nm
Maximum range (with 2 EFTs, H=12,000 m)	2,300 km	1,242 nm
Maximum flight endurance (with 2 EFTs)	3.0 h	3.0 h
Climb time (0 to H=9,000 m)	3.0 min	3.0 min
Combat radius ("Hi-Lo-Hi", 2xS-25 / 2xB-8M1 / 2xKAB-500):		
• w/o EFT	500 km	270 nm
• with EFT	800 km	432 nm
Takeoff run	400 m	1,312 ft
Landing roll	650 m	2,133 ft



# Yak-130

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Yak-130 AIRFRAME

## Yak-130: AIRFRAME

Yak-130 is an all-metal monoplane with swept mid-wing, all-moving stabilizer, fin with rudder, and three-leg landing gear. Well-developed leading edge extensions of the wing and subsonic air intakes provide stable and controllable flight at high angles of attack (up to 40 degrees).

**Airframe** is made of high-strength Al-Mg-Li alloys featuring no composite power elements to meet the requirement for simple and low-cost maintenance and repairs, essential for very humid-and-hot operational conditions. Some load-carrying elements of the wing and empennage are made of titanium. A number of maintenance hatches and quick-release panels on the airframe skin allow easy access to units and equipment inside the fuselage.

**Wing** is an all-metal trapezoid swept at a 31-deg angle on the leading edge, with a «tooth» along the leading edge, and a straight trailing edge. Wing control surfaces include two-slot extension flaps, ailerons, and two-section leading edge flaps along the entire wingspan.

### Maximum deflection angles of control surfaces (degrees)

Flaps (takeoff/landing)	20/40
Ailerons (upwards/downwards)	35/30
Leading edge flaps	25/30
Stabilizer (climb/dive)	40/15

**Crew cockpit** houses the crew (student, instructor) in two tandem cabins shielded with one canopy. The canopy includes a fixed all-glass windshield and a common hinged portion uplifted to the right. The overhead glass is divided in two parts by the middle arc and internal partition. Behind the cabins, in the upper centre fuselage, an airbrake flap is installed.

A three-leg lever-type **landing gear** is retracted in flight. Its design allows operations from paved and unpaved airfields with soil densities exceeding 7 kg/sq.cm. Each main landing gear leg has one wheel with the hydraulic disk brake, and the nose leg has a non-braking wheel. There are two landing lamps mounted on the right and left-side doors of the main landing gear, a mudguard on the nose landing gear, and a taxiing lamp on its strut. Both the landing gear and its doors are operated (lowered and retracted) in normal conditions by the primary hydraulic system, and in emergency by the emergency pneumatic system.





# Yak-130

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## Yak-130: POWERPLANT

The Yak-130 powerplant includes two AI-222-25 twin-shaft low-bypass turbojet engines, two air inlets, and an auxiliary power unit (APU).

AI-222-25 is a proven non-afterburning turbofan of modular design with stable operation in a wide "speed-altitude" envelope. The engine is reputed for high performance, reliability, simplicity of maintenance, low specific fuel consumption, low noise and smoke emissions.

Engines are started by a self-contained air starting system. On the ground it starts the engines from the APU or other operating engine; and in flight - by autorotation, with optional spinning from other operating engine or the APU. An autonomous closed-type oil system keeps on lubricating the engines during lasting aerobatic manoeuvres.

### Main specifications

■ Maximum thrust (H=0, M=0, ISA), kgf	2,500
■ Specific fuel consumption, kg/kg <sup>3</sup> h	0.644
■ Assigned service life, h	3,000
■ MTBF, h	1,500

Each cabin is equipped with thrust control levers, and engines status and parameters display.

**Air intakes** installed under the wing extensions ensure smooth engine operation at all operational angles of attack. They are equipped with doors to protect engines from foreign object damage on the ground. Extra air valves in the upper part of the intakes serve also as anti-surge doors.

**APU** installed in the rear fuselage provides independent engine starting (at up to 8,000 m altitude), air supply to the air conditioning system on the ground, and standby electric power for onboard AC users on the ground and in the air.

Yak-130 is also equipped with **fire-warning and fire-fighting systems** designed to detect and extinguish fire in the main engines and APU compartments.

### Engine automatic control system

Engines operation is managed by a duplex all-mode electronic hydromechanical automatic control system built around an electronic digital full authority controller of FADEC type with a redundant hydromechanical control loop. The automatic control system monitors engines technical status, service life reserve and working parameters, and manages powerplant modes of operation, surge protection, starting.



# Yak-130

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## Yak-130: AIRCRAFT SYSTEMS

**Fuel system** of a closed type continuously supplies fuel under pressure to the main engines and APU on the ground and in all flight conditions including negative g-load and inverted flights. It includes two fuselage and two wing fuel tanks with the total capacity of 1,700 kg, single-point pressure refuelling system, tank drainage system and fuel metering system. Two external fuel tanks can be suspended under the wing. The pressure refuelling system ensures automatic filling of all tanks including two external ones. Gravity refuelling is also possible. At customer's request the aircraft can be fitted with the in-flight refuelling system.

The quadruple analogue-digital **fly-by-wire system** (FBW) provides a carefree handling of the aircraft by means of the wing control surfaces, stabilizer and rudder. The FBW system maintains flight characteristics within the operational envelope for a given stores configuration, and automatically limits maximum angles of attack, normal g-loads and rudder deflection angles in function of ram air pressure. It allows re-programming stability and controllability characteristics to simulate flight performance of a given combat aircraft. The FBW system includes air data measurement and distribution system (altitude, airspeed, sideslip angle, angle of attack, air temperature, etc.).

**Hydraulic system** includes two independent subsystems, primary (general) and secondary (booster), with the working pressure of 210 kg/sq.cm. Primary hydraulic system powers the flight control system, deflectable leading and trailing edge flaps, airbrake, landing gear/doors retraction/extension system, main landing gear wheels braking system, and left-hand air intake door control system. Secondary hydraulic system provides operation of the flight control system, deflectable leading edge flaps, main landing gear wheels braking system, and right-hand air intake door control system.

**Pneumatic system** is composed of two independent subsystems: pneumatic system for primary hydraulic system tank pressurising, and emergency pneumatic system. Emergency pneumatic system ensures landing gear and doors extension and pressurization of the secondary hydraulic system tank.

**Electrical system** is designed to supply the aircraft systems and onboard equipment with AC and DC in flight provided by the onboard electric generators, converters and batteries, and on the ground from airfield electric power units.

The electric power supply system consists of the primary (main) system 115/200V three-phase AC 400Hz, and secondary system 27V DC. Two batteries are an emergency DC power supply source.



# Yak-130

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www.irkut.com | SUPERIOR ESCAPE SYSTEMS

## Yak-130: LIFE SUPPORT AND ESCAPE SYSTEMS

**“Zero-zero” type ejection seats** allow crew to leave the aircraft in emergency through the canopy glass at airspeeds ranging from 0 to 1,050 km/h and all altitude range of aircraft. The canopy glass is fragmented by pyrotechnic cords of the glass breakup system after ejection has been initiated.

**Oxygen system** comprises the onboard oxygen generating system (OBOGS) designed to supply oxygen to the crew members in all flight modes at altitudes of up to 12,500 m, including emergency situations such as cockpit depressurization and crew ejection. Emergency oxygen system installed in the ejection seats is a source of oxygen for about 5 minutes in cases of the OBOGS failure and cockpit depressurization (automatically activated if over 8,000 m), ejection and subsequent parachute descent.

**Air conditioning system** is designed to ventilate and maintain the required air temperature and pressure in the cockpit, cool down electronic equipment compartments, pressurize external fuel tanks, supply air to the OBOGS, etc.

**Protective equipment** provides optimal working conditions for the flight crew and includes pilots’ anti-G suits and protective helmets with oxygen masks.



# Yak-130

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Yak-130 COCKPIT



**All flight and mission data are presented on tree colour MFDs in each cabin and on the HUD in the front cabin.**



## Yak-130: COCKPIT

The Yak-130 cockpit comprises two fully-integrated tandem cabins similar in layout and instrumentation to those of advanced 4th/4th+ generation fighters. They provide real-fighter cockpit environment with excellent visibility for both student and instructor pilots on the ground and in the air.

Both cabins are equipped with central aircraft control sticks and side engine control levers designed according to the HOTAS concept to provide for continuous flight management, improved performance and reduced stress of the crew.

**State-of-the-art man-machine interface** enables training in realistic scenarios with added simulation. The instructor can select and modify different training modes in flight. Up-front control panels, displays and warning indicators inside the cabins are well observed and easily accessible.

All data on the aircraft systems, equipment performance and combat employment are presented on a headup display in the front cabin, and three 6x8-in multifunction liquid crystal full-colour displays for each pilot in both the front and rear cabins.

**Headup display (HUD)** is a basic pilot instrument presenting flight and tactical data including aircraft attitude, altitude, airspeed and flight path symbols, critical flight mode warnings; threat and engagement zone markings, weapon delivery instructions, etc.

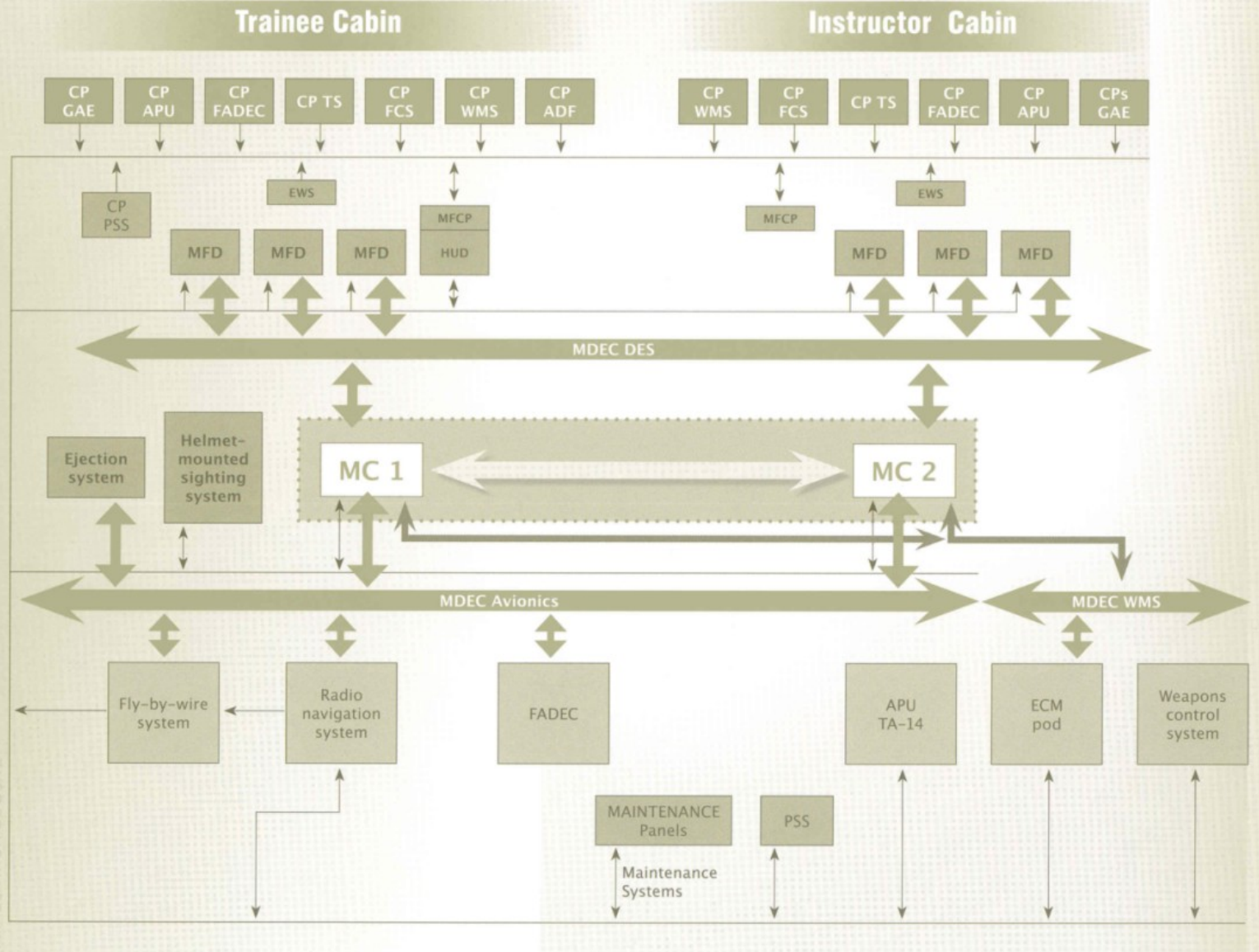
**Multifunction displays (MFD)** are primary head-down reference instruments with push-button controls ("soft keys"). Left-hand MFD presents flight and navigation data for missions flown in complex conditions: in clouds, over sea, without horizon reference, at night, etc. Central MFD presents tactical situation, navigational and cartographic data. Right-hand MFD presents equipment status data from the onboard automated testing system, recommendations for emergency procedures as well as images from electro-optical seekers of guided munitions. All MFDs are interchangeable: when any one of them fails, flight and navigation data required for safe piloting is presented on a sound one.

**Flight data recording system** registers cockpit instruments readouts, pilots' actions, training course and combat mission results. HUD symbology and situations inside and outside the cabins are video-recorded.





## AVIONICS STRUCTURE



- CP Control Panel
- TS Transceiver
- ADF Automatic Direction Finder
- APU Auxiliary Power Unit
- DES Data Exchange System
- EWS Emergency Warning System
- FADEC Full Authority Digital Engine Control
- FCS Flight Control System
- GAE General Aircraft Equipment
- HUD Head-Up Display
- MC Mission Computer
- MDEC Multiplex Data Exchange Channel
- MFD Multi-Functional Display
- PSS Power Supply System
- WMS Weapons Management System
- MFCP Multi-functional control panel

## Yak-130: AVIONICS SUITE

Yak-130 features advanced **avionics suite** typical for modern frontline combat aircraft. It includes:

- **navigation aids** (inertial navigation system with GPS/GLONASS receiver, radio navigation and landing equipment, automatic radio compass, radio altimeter, range-finder);
- **targeting equipment** (HUD for displaying targeting data from the central computer, six MFDs, helmet-mounted target designation system, TV signal digitizing and switching unit, data input system, data transmission line);
- **communications equipment** (two four-band voice and data communication radio sets, automatic radio beacon, interphone);
- **state identification equipment** (IFF responder to requests made by state identification and air traffic control systems);
- **flight data recording system** (onboard monitoring and recording system).

Autonomous precise navigation is provided by a strapdown inertial navigation system integrated with the GPS/GLONASS satellite navigation system receiver. Radio navigation is provided by the DME-94 and VOR/ILS/MR VIM-95 navigation and landing systems. Inertial and radio navigation data are presented on the HUD and central MFD.

The open architecture avionics suite can be easily expanded with new sensors, controls, data processors and displays, etc. It is based on three dual-redundant digital multiplexed data buses compliant with MIL-STD-1553B standard allowing future system growth. The buses are controlled by two onboard computers, also used for solving navigational and aiming tasks, calculating ballistic parameters of various munitions, generating HUD symbology, distributing video information to MFDs, forming commands from the HOTAS controls, etc.

Initial flight data (coordinates of airfields, radio beacons and waypoints) and communication channels data are entered into the memory of the main computer with the data input system. Non-volatile memory is used for data transfer to facilitate their recording, storage, uploading, and downloading for post-flight analysis and de-briefing.



# YAK-130

**Yak-130  
can carry  
up to  
3,000-kg  
payload  
on nine  
hardpoints.**

Yak-130 WEAPONS



2 x R-73E air-to-air missiles  
or 2 x ECM pods with decoy launchers



2 x R-73E  
air-to-air missiles



4 x KAB-500Kr  
TV-guided bombs



80 x S-8 rockets  
or 20 x S-13 rockets  
or 4 x S-25 rockets



4 x 50 / 100 / 250 / 500-kg  
aerial bombs



SNPU-130 pod  
with GSh-23L gun



2 x PTB-450  
external fuel tanks

## Yak-130: WEAPONS

Yak-130 combat trainer can deliver various types of guided and unguided munitions. It can carry up to 3,000-kg payload on nine hardpoints: six underwing, two wingtip and one underfuselage. The outward pylons and wingtip stations are used for suspension of guided missiles weighing up to 250 kg. The inward and middle pylons can accommodate up to 525-kg payload. Two inward pylons are "wet" and can carry external fuel tanks. Two inward pylons are "wet" and can carry external fuel tanks.

Stores options include guns, bombs, missiles and rockets, target designation and electronic countermeasures pods, such as:

- ❑ 23-mm GSh-23 aircraft gun with 120-round ammunition;
- ❑ KAB-500Kr guided bombs, 50-kg drill (practice) bombs, up to 500-kg aerial bombs of various types and purpose;
- ❑ R-73E short-range air-to-air guided missiles;
- ❑ S-8, S-13 and S-25 air-to-surface rockets;
- ❑ electronic countermeasures pods with chaff dispensers (to jam radars and seekers of air-to-air and surface-to-air guided missiles) and flare dispensers (to jam IR homing heads of air-to-air and surface-to-air guided missiles). The jamming dispensers can house as many as 128 chaff/flare cartridges.

Basic targeting data is fed to the HUD. Weapon delivery commands are administered with knobs on the control sticks and throttles. Stores status is shown on MFDs.



Yak-130 can be employed as a light attack aircraft in air-to-air and air-to-surface missions.

## Typical Aerial Targets



Helicopters



Combat trainers



UAVs



Light attack aircraft



Transport aircraft

## Typical Ground Targets



Cutters



Ground installations



Unsheltered aircraft on the ground



Small-size pinpoint targets

# Yak-130: LIGHT ATTACK AIRCRAFT

Yak-130 can be employed in low-intensity conflicts in the role of light attack aircraft armed with a range of air-to-ground and air-to-air guided and unguided munitions.

### Typical combat missions:

- engagement of point ground/maritime and low-speed air targets;
- close air support;
- interdiction;
- counterinsurgency operations;
- air patrol.

Besides advanced flight performance Yak-130 light attack aircraft has a number of tactical advantages, such as:

- increased survivability thanks to small visual signature and employment of infrared and electronic countermeasures;
- high precision navigation and weapons delivery;
- capability to operate from unprepared and soil airfields;
- high tactical autonomy and basing flexibility;
- rugged design and simple maintenance.

The baseline Yak-130 has sufficient modernisation and growth potential thanks to excellent aerodynamics, excess energy and volume reserves, easily expandable equipment and weapon suites. Its combat capabilities can be augmented by accommodating more sophisticated systems, equipment and munitions, such as:

- in-flight refuelling system;
- onboard target acquisition radar;
- forward-looking IR system;
- electronic intelligence and countermeasures systems;
- medium-range guided missiles, etc.

Owing to high-level unification, the light attack aircraft can have up to 90% commonality with the baseline Yak-130.

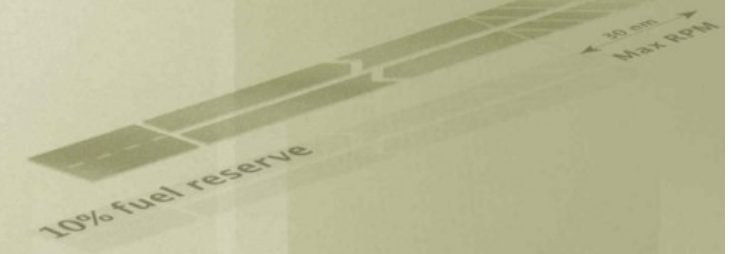
2x250-kg bombs + 1 gun pod + 2 fuel tanks + 2 ECM pods  
LO-HI-HI-LO - 800 km (420 nm)



2x250-kg bombs + 1 gun pod + 2 fuel tanks + 2 ECM pods  
LO-LO-LO-LO - 415 km (225 nm)

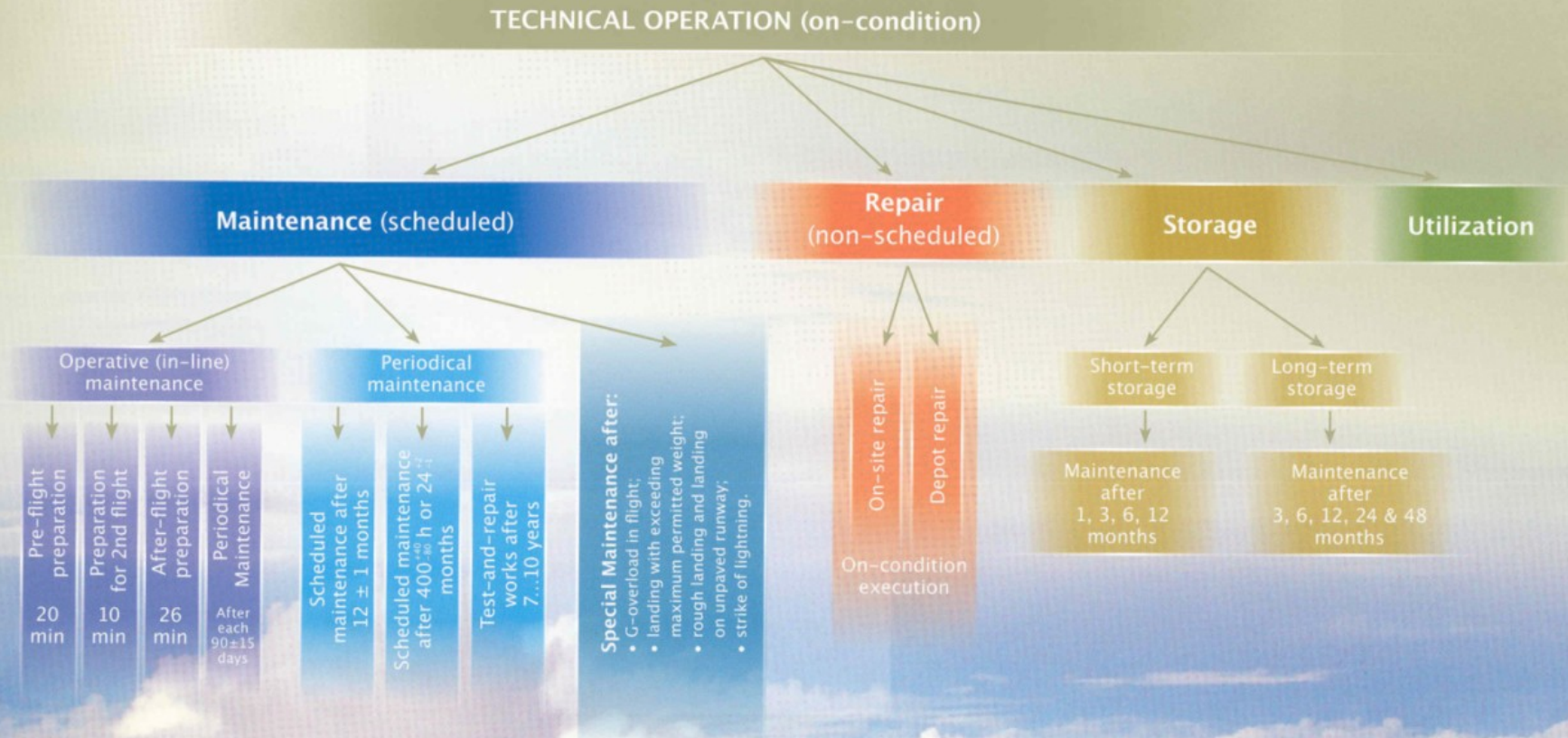


2x500-kg bombs + 1 gun pod + 2 fuel tanks +  
+ 2 IR missiles + ECM pods  
LO-LO-LO-LO - 400 km (215 nm)



# INTEGRATED LOGISTICS SUPPORT

## Organisation of the Yak-130 on-condition maintenance



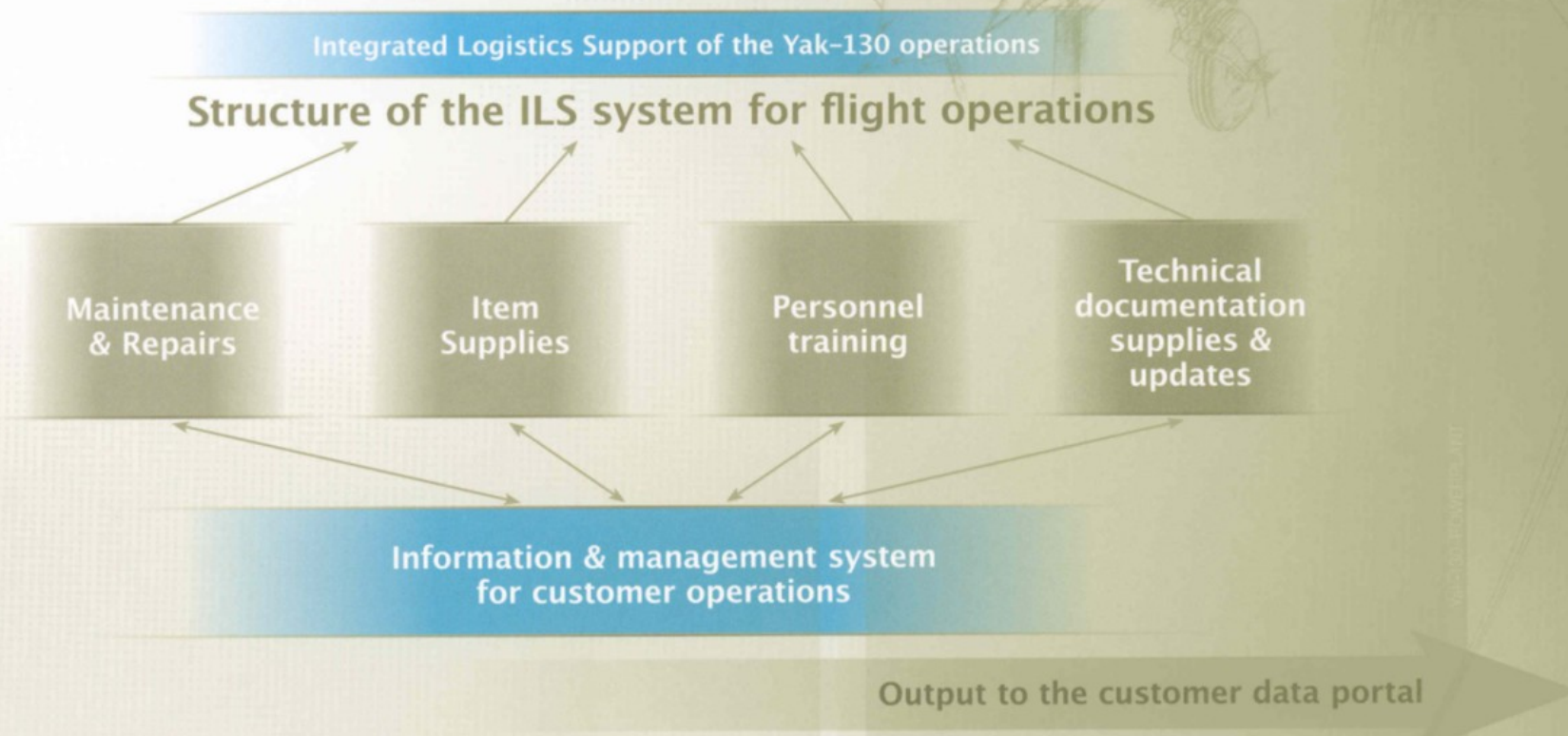
The Yak-130 ILS system with dedicated operational strategy can ensure assigned service life of 10,000 flight hours or 30 calendar years.

## Yak-130: INTEGRATED LOGISTICS SUPPORT

The Yak-130 integrated logistics support (ILS) system is intended to provide effective, safe and low-cost operations including maintenance, repairs and logistics.

The Yak-130 ILS system is to provide performance of the following tasks:

- on-condition maintenance of the Yak-130 operations;
- upholding Yak-130 serviceability at a required level;
- management of spare parts and equipment supplies on both scheduled and urgent basis;
- setting up after-sales servicing;
- supplying and updating of the operational manuals (including electronic ones);
- customer personnel training.





## ILS Information and Management System

Information and Management System (IMS) is the core element of ILS. It is an advanced computer-based expert system, designed for optimal management of ILS-related consumable resources (manpower, time, materials, and money) to ensure high safety, combat effectiveness and low life-cycle costs of the Yak-130 combat trainer during its service life.

ILS Information and Management System consists of:

- Hardware (computer network):
  - user PC terminals;
  - fiber-optic/wire communication links;
  - central server.
  
- Software (covering all IMS tasks):
  - documentation monitoring and updating;
  - aircraft technical condition registering and analysis;
  - flight, maintenance and repair planning;
  - stock management;
  - reliability management;
  - maintenance and repair management.



SU-30. INFORMATION AND MANAGEMENT SYSTEM

# Yak-130

IRKUT Corporation | NEW GENERATION COMBAT TRAINER









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