

Pilot's Pocket Checklist

1987 Yakovlev Yak-52

S/N 888306

Registration: N6209F



RECORD OF REVISIONS

Revision	Date	Page	Description
1.0	2/1/15	All	Original Issue
1.1	DRAFT	All	Revised for format

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GENERAL

DESCRIPTION

The Yakovlev Yak-52 is a single-engine, two-seat, fully aerobatic military trainer aircraft. Originally manufactured for use in the Russian DOSAAF, the aircraft has been imported into the United States and is operated on an Experimental-Exhibition Certificate of Airworthiness in accordance with a Program Letter agreed to with the local FSDO.

MANUFACTURER

The aircraft was manufactured by Aerostar in Bacau Romania, under license to the Yakovlev Design Bureau of Russia.

TECHNICAL DATA

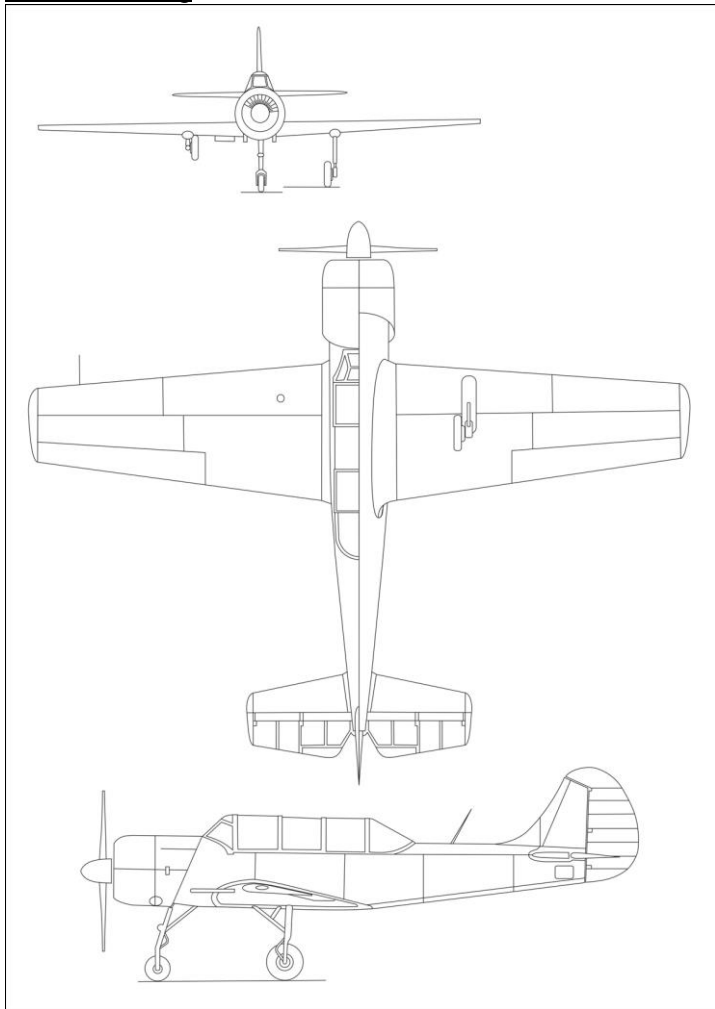
Dimensions

Length.....	7.7 m
Height.....	2.7 m
Wing Span.....	9.5 m
Wing Area	15.0 m ²
Wheel-base	TBD
Wheel-track	TBD

Weights

Empty Weight (typical).....	1000 kg
Gross Weight.....	1290 kg

3-View Drawing



ENGINE

Manufacturer Vedenyev/Aerostar
 Type Vedenyev M-14P
 Rated Power 360HP @ 100% RPM
 Max. Continuous Power 82% RPM

PROPELLOR

Manufacturer Avia
 Type V-530 TA-D35
 Diameter TBD m
 Pitch Range TBD° to TBD°, ± TBD°

FUEL

Main Tank Capacity 32 US Gal Usable
 (16 US Gal/Side)
 Aux Tank Capacity 15 US Gal Usable
 Minimum Octane 87

OIL

Minimum for Flight 9 L
 Maximum Capacity 15 L

TERMINOLOGY

TBD

LIMITATIONS**CERTIFICATION BASIS**

Experimental-Exhibition

AIRSPEEDS

Max Level Speed (Vmax).....	304 KPH
Stall Speed – Gear & Flaps UP.....	111 KPH
Stall Speed – Inverted	141 KPH
Stall Speed – Flaps DOWN.....	102 KPH
Never Exceed (VNE)	426 KPH
Max Gear Extended.....	204 KPH
Max Flaps Extended	170 KPH
Best Glide Speed.....	172 KPH
Max Distance Glide Speed	163 KPH

GLIDE RATIOS

Gear and Flaps UP.....	7 to 1
Gear DOWN.....	5 to 1
Gliding Turns.....	Best Bank Angle – 45 ⁰

ENGINE

TBD

PROPELLOR

TBD

LOAD FACTOR

Limit Load Factor (at Gross Weight) +7G, -5G

MAXIMUM OPERATING ALTITUDE

Service Ceiling 13,100 feet MSL

EMERGENCY PROCEDURES**AIRSPEEDS FOR EMERGENCY OPERATION**

Engine Failure After Take-Off	160 KPH
Maneuvering Speed	160 KPH
Maximum Glide	160 KPH
Precautionary Landing.....	160 KPH
Landing Without Engine Power	160 KPH

ENGINE FIRE IN-FLIGHT

FUEL CUT-OFF	OFF
Airspeed.....	174 KPH
Slip.....	To Blow Flames Away From Cockpit
Emergency Landing.....	Perform
Airspeed.....	Do Not Increase

ENGINE FAILURE AFTER TAKE-OFF

Airspeed.....	160 KPH
GEAR.....	UP
MAYDAY	Broadcast (Time Permitting)
FUEL CUT-OFF	OFF
Magnetos	0
BATT, IGN, & GEN switches.....	OFF (Front Cockpit)

ENGINE FAILURE IN-FLIGHT (Upright)

Airspeed 174 KPH
GEAR UP
Magnetos Check
Fuel Pressure Turn Pump to Left
and pump Fuel Pressure to .1 to .2
Attempt Restart Altitude Permitting

ENGINE FAILURE IN-FLIGHT (Inverted)

Attitude Roll Uproght
Airspeed 174 KPH
Throttle 1/3 Open
Fuel Pressure Turn Pump to Left
and pump Fuel Pressure to .1 to .2 kg/cm² or more
Prime Right and Pump
Magnetos Check 1+2
Attempt Restart Altitude Permitting

SMOKE/FUMES IN-FLIGHT

TBD TBD

BAIL OUT (Upright)

TBD TBD

BAIL OUT (Inverted)

TBD.....TBD

EMERGENCY GEAR EXTENTION

GEAR..... Set Lever to NEUTRAL (Both Cockpits)

Air Wait for Air to Exhaust

Airspeed..... Reduce to 132 KPH

Emergency Air Valve OPEN

GEAR..... Check for Green Lights and Barber Poles

Emergency Air Valve OFF

Only after shutting down the engine

EMERGENCY LANDING

TBD.....TBD

WHEEL BRAKE FAILURE

TBD.....TBD

FORCED LANDING

TBD.....TBD

ABNORMAL PROCEDURES

BATT LIGHT ILLUMINATED

TBD

CHIP LIGHT ILLUMINATED

TBD

FUEL SYSTEM IMBALANCE

TBD

LANDING GEAR FAILS TO RETRACT

TBD

LANDING GEAR FAILS TO EXTEND

TBD

WING FLAP FAILS TO RETRACT

TBD

WING FLAP FAILS TO EXTEND

TBD

MAIN AIR PRESSURE LOW (<30 KG/CM2)

TBD

Static Ports.....Clear
Pitot Opening..... Check
Left Main Gear..... Check
Left AileronCheck Condition, Security &
Freedom of Movement
Left Flap Check
Air Fill Port.....Check for Leaks
Rear Fuselage Tap Bottom Skin, Check for FOD
Horizontal Stab Check for Security
ElevatorCheck Condition, Security &
Freedom of Movement
Trim Tab.....Check Condition & Security
RudderCheck Cables, Attach, Rudder Condition,
Security & Freedom of Movement
Horizontal Stab Check for Security
ElevatorCheck Condition, Security &
Freedom of Movement
Right Flap..... Check
Right Aileron.....Check Condition, Security &
Freedom of Movement
Right Main Gear Check
Oil Cooler Cover Remove
Right Fuel Level Check

Fuel Sump Drain
 Oil Level..... Min 9 - 10 Liters
 Aileron and Rudder Tie Downs..... Remove (If Installed)

REAR COCKPIT CHECK (SOLO FROM FRONT)

Magnetos..... 0 (Front Cockpit)
 GEAR NEUTRAL
 FLAPS NEUTRAL
 Instructor Switches..... Down
 Magnetos..... 0
 Brake Override..... OFF (to rear)
 Parachute Secure or Removed
 Straps/Harness Secure
 Cockpit Check for FOD
 CanopyClosed and Locked

FRONT COCKPIT CHECK

Magnetos..... 0 (Front Cockpit)
 Starter Switch Guard..... Down
 All Switches OFF
 All Radios As Required
 GEARDOWN / Lock In Place
 Brakes Set and Locked
 Main Air Valve..... ON

Emerg. and Main Air..... Pressure OK (40/40 ATM Min)
Cockpit.....Check for FOD

BEFORE ENGINE START

Main Air ValveON
Front Brake Lock.....Set
Prop Pull through 12-14 blades
Prime As Necessary
Prop Pull through 4 add'l blades
Cowl Fuel Dump..... Secure
Snot Valve..... Seated and Secure
Oil Drain Secure

ENTERING THE COCKPIT (FRONT AND REAR)

Magnetos (Rear Cockpit)Ensure 1&2
Gear Lock.....Locked
Rudder Pedals..... Adjust as Required
Parachute..... Fasten
Straps/Harness.....Fasten and Adjust
Headset..... Connected
Canopy..... Check Freedom of Movement
Controls.....Free and Correct
Elevator TrimSet
Clock..... Wind and Set

Elapsed Time Indicator.....Start (If Desired)

STARTING ENGINE

Brakes On and Lock Set

Main Air ON (40 ATM Min)

Fuel Supply..... ON

Cooling Controls Close (Full AFT)

PROP Full Forward

BATT, IGN, & GEN switches ON (Front Cockpit)

Breaker Switches 1, 2, 4, 6 to ON

Prime As Necessary

Throttle Full Range twice, then 1/3 Open

Carb Heat OFF (If Installed)

Prop Area CLEAR

CHECK prop area is CLEAR

Starter Button..... Engage

Magnetos..... 1+2 (After Engine Fires)

Primer..... Check Vertical and Locked

Oil Pressure Check

Fuel Pressure Check

Throttle As Required for 40% RPM

Radios / Transponder..... As Required/STBY

ENGINE WARM UP

Engine Temperature..... Warm up at 40%
Temperatures and Pressures..... Check
Cooling Controls..... As Required
Attitude Indicator..... CAGE
Breaker Switches..... 3, 5, 7, 8 to ON
Radios..... Set
Altimeter and DG..... Set
Transponder..... 1200/STBY
Cockpit Lights..... As Required
STROBES..... As Required
NAV Lights..... As Required
Landing/Taxi Lights As Required

TAXIING

Brakes..... Check
Gyros and T & B..... Check Responsive

RUN UP

Brakes..... Set and Locked
Oil Temp 40° C (Min)
Oil Pressure In Green Arc
CHT 120° C (Min)
Fuel Pressure..... In Green Arc

Throttle	Advance 70%
Magnetos.....	Check (Max 3% Drop)
PROP	Cycle 3 times
Throttle	40%
Elevator Trim	Set
	Solo – 45 Deg.
	2 Pilots – Neutral
FLAPS.....	UP
Cooling Controls	As Required – set friction lock
Annunciator Lights	Press to Test
Canopy	As Required and Secure
Transponder	ALT
STROBES	As Required
NAV Lights.....	As Required
Landing/Taxi Lights.....	As Required

TAKE OFF

Throttle 70% RPM
Brakes Release
Throttle Apply Full Power
Airspeed @ 97 KPH - Lift nose just clear
Climb 170 KPH
Gear Lock Slide to Left
Gear UP

Gear Lock..... Slide to Right
At 500 Ft Power to 82% and 800 mm

CLIMB OUT

Power..... 70% and 70mm
Instruments Check
Controls..... Check
Gear and Lock..... Check
CHT Monitor

CRUISE POWER SETTINGS

Prop 65%
Manifold 680-720 mm
Airspeed..... Approx. 217 KPH
Snot Valve Handle..... Open (Main Air ≥ 50 Atm)

DESCENT AND LANDING

Power..... 70% and 400 mm
CHT > 120 Deg. C
Snot Valve Handle..... Closed
Airspeed..... 170 KPH in Pattern
GEAR..... DOWN Below 204 KPH On Downwind
Check GEAR Lights and Poles
PROP..... Max on Base (optional)

FLAPSDown – Short final (<170 KPH)
Airspeed 153 KPH on Final
Power Idle When Runway Assured
Flare and Touchdown at 120 KPH

AFTER LANDING

FLAPSUP (When Clear Runway)
Gear LockSlide to Right (When Clear Runway)
Strobe Lights..... OFF
Landing/Taxi Lights..... As Required

SHUT DOWN

Gear Lock Check
Breaker Switches 1, 2, 4, 5, 6 to OFF
PROPMax
Throttle 70% for 10 sec.
CHT 140-150 deg. C
Throttle 27%
Magnetos..... OFF
Breaker Switches 3, 7 OFF
Radios and Nav Equip..... OFF
Nav & Strobe Lights OFF
BATT, IGN, & GEN Switches..... OFF
Cooling ControlsClosed

Clock Timer OFF
Air Valve Closed
Snot Valve Drain on Exiting

AEROBATICS

Fuel No Fuel in Aux. Tank
Power 82% & 80mm (or As Req'd)
Fuel Qty > 40 Liters Total
FOD All items secure in both cockpits
Engine Instruments Monitor
Flaps UP
Seat Belts/Shoulder Harness Secure

AEROBATIC ENTRY SPEEDS

Loop 300 KPH
1/2 Cuban 300 KPH
Reverse 1/2 Cuban 300 KPH
Aileron Roll 230 KPH
Barrel Roll 250 KPH
Immelman 320 KPH
Spin RPM 82%

Gentle deceleration to IDLE

WEIGHT AND BALANCE/EQUIPMENT LIST

TBD

**DESCRIPTION AND OPERATION OF
AIRCRAFT AND SYSTEMS**

TBD

HANDLING, SERVICING AND MAINTENANCE**ENGINE OIL**

TBD TBD

FUEL

TBD TBD

LANDING GEAR

Main Wheel Tire Pressure 43 PSI

Nose Wheel Tire Pressure 50 PSI

Main Gear Shock Strut 170 PSI

Nose Gear Shock Strut 206 PSI

Gear Retraction/Extension <8 Seconds

Main Gear Shock Strut Fluid AMG 10

Shock Strut Gas Nitrogen

PASSENGER BRIEFING

Parachute.....	Fitment and Usage
Seat Harness.....	Fitment and Usage
Canopy.....	Operation
Emergency Egress – Ground.....	Overview
Emergency Egress/Bail Out – Airborne.....	Overview
Comms – Intercom	Overview
Comms – Radio.....	Overview
Positive Exchange of Control	Briefed
Sortie Overview	Briefed
Q&A	Discuss