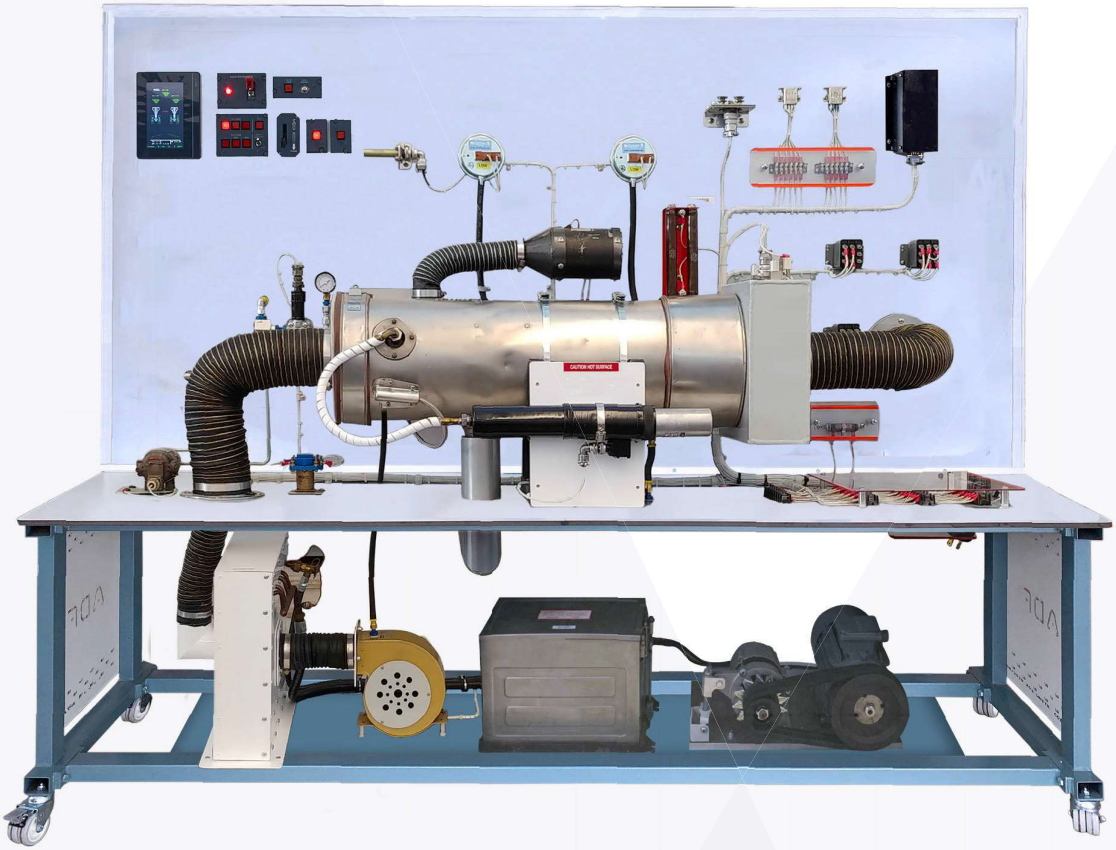
# Air Conditioning & Heating System Trainer

Model ACH-100A

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# Air Conditioning & Heating System Trainer

Model ACH-100A

The Air Cycle Machine trainer demonstrates how an aircraft Air Conditioning & Heating System function.
The compact construction of the set allows trainees to conceive the system as understanding the connection between the various parts of the system.

## Specifications

### Features

- Understanding fundamentals of aircraft Air Conditioning & Heating System and its components.
- The set is functional and configured like a typical aircraft Air Conditioning & Heating System.
- The selections made in the panels are visible on the screen.
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aliminium compozit panel

### Components

- Compressor Motor
- Vapor Cycle Compressor
- Receiver Dryer
- Condenser
- Combustion chamber
- Thermal Switch
- Fuel tank with plumping
- Fuel pump with electrical components
- Ignition system
- Thermal control switches
- Control Valves
- Air Blower and associated ducting
- Panel mounted control panel
- Regulating valve

- Terminals
- Master power panel
- Master power light
- Master caution panel
- Aural warning horn
- Test panel
- Circuit Breakers,
- LAN output
- Fault Panel for instructor.
- 24 VDC power supply

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz


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# Air Cycle Machine Trainer
Model ACM-100A


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# Air Cycle Machine Trainer
Model ACM-100A

The Air Cycle Machine trainer demonstrates how an aircraft air cycle machine system function.
The compact construction of the set allows trainees to conceive the system as understanding the connection between the various parts of the system.
Simulated turbine-engine bleed air,representing a typical system in a modern turbine engine powered aircraft.

## Specifications

### Features

- Understanding fundamentals of aircraft air cycle machine and its components.
- The set is functional and configured like a typical aircraft air cycle machine system.
- The selections made in the panels are visible on the screen.
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aliminium compozit panel

### Components

- Air cycle machine (ACM)
- Primary and Secondary Heat Exchangers
- Over Temperature Sensor
- Water Seperator
- Over Temperature Sensor
- Temperature control valves
- Digital display of the temperatures of the cabin chamber, bleed air, and ambient air controller etc.
- Bypass valve

- Ventilation blower
- Compensation chamber
- Simulated bleed air source
- Terminals
- Master power panel
- Master power light
- Master caution panel
- Aural warning horn
- Test panel
- Circuit Breakers,
- LAN output
- Fault Panel for instructor.
- 24 VDC power supply

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz


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# Aircraft ADF System Training Set

Model ADF-100A



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# Aircraft ADF System Training Set

Model ADF-100A

Our trainer enables trainees to get hands-on experience on ADF systems. The trainer ensures practical training with original aircraft ADF equipment configured to bring real-life experience to the training environment. Our design provides trainees with a good understanding of ADF equipment and a methodical approach for troubleshooting and testing procedures. We understand and tailor according to our customers' training needs.

The trainer is delivered plug and play and comes with necessary antennas, transmitters, receivers, wiring, and indicators.

**Optional**

- **ADF Test Set**
- **NAV/COM Ramp Tester**

Please contact us for Test Equipment .

## Specifications

### Features

- Understanding fundamentals of aircraft ADF and its components.
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel.

### Components

- ADF (Automatic Direction Finder )
- ADF Indicator
- ADF antenna with coaxial connector
- Dc Power Box
- Circuit Breaker
- 20 A power supply
- Current and voltage meters
- Assembled and wired according to aeronautical regulations
- Aeronautical standard connectors and jackets.

# Components Technical Specs

## ADF Device General Specs

- FREQUENCY RANGE: 200KHz to 1799KHz in 1 KHz increments
- BEARING ACCURACY: +- 3 degrees from 70 uV/m to 0.5 V/m RF input signal level
- Receiver senstivity : 150uV/m max for s+n/n = 6dB
- Receiver Selectivity: 6dB bandwidth: +-2 KHz max off center frequency; 80dB bandwidth: +-7 KHz max off center frequency
- POWER REQUIREMENTS: 11 to 33 VDC – 12watt
- ADF button
- BFO button
- FRQ button
- FLT/ET button
- SET/RST button
- VOL/Off knop
- Freq display
- Original installation manual.

## Optional

- **NAV/COM Ramp Tester**
- Output Power;
- ADF = -12 +/-3 dbm
- VOR= -10 +/-3 dbm
- ILS Localizer= -10 +/-3 dbm
- ILS GS = -17 +/-3 dbm
- ILS MKR = -15 +/-3 dbm
- DME = -12 +/-3 dbm
- TXPDR = -12 +/-3 dbm
- VOR radial accuracy; +/- 1 deg
- ILS localizer DDM accuracy; +/- 15%
- ILS glide slope DDM accuracy; +/- 15%
- DME accuracy; +/- 0.1NM
- Transponder specs;
- PRF 235+/-5 Mode A,C 50 +/-2 Mode S
- P2 level equal P1 +/- 0.1 dbm
- P2 position 2 +/-0.01 uS from P1
- P3 position 8 +/- .01uS or 21 +/- 0.02uS Rel to P1

- Pulse width 0.8 +/-0.01uS P1,P2,P3
- Frequency 1030 MHz Tx, 1090 MHz Rx , +/- 2.5ppm
- Reply % 0 to 100% displayed +/- 0.5%
- Reply window 2.5 to 3.5uS F1 from P3
- Pulse Width reads out to +/- 50nS resolution
- X Data Pulse Must=0 for good read
- SPI Displays ID message

**NOTE:** Avionics devices brand/model and some technical specs can be change due to market availability.

## Documentation

- User's Manual
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Ice and Rain Protection & Control System Trainer

Model AID-100A



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# Ice and Rain Protection & Control System Trainer

Model AID-100A

AID-100A Ice and Rain Protection System Trainer offers opportunity to trainees to physically see various components and connections in between them in real-life like mechanism. It brings together all aspects of deicing and rain protection system on aircrafts. AID-100A is manufactured with authentic aircraft components. It is mounted on movable four-wheeled frame that can be positioned as necessary

## Specifications

### Features

- Understanding fundamentals of aircraft Ice & Rain Protection & Control System and its components.
- Windshield heating system
- Pitot tube heating system
- The pitot tube is in a transparent protection area.
- Propeller blade heating system
- Slipring system for propeller principles is exhibited
- Drain heating system
- Pneumatic de-ice boot
- Windshield wiper system
- Windshield wiper is in a compartment with a transparent front part.
- windshield wiper is automatically spray alcohol to the surface.
- Water in windshield wiper compartment is accumulate to alcohol tank through drain line.
- The hose and tubes used in the trainer are labeled according to aviation standards.
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

## Components

- Lower EICAS or ECAM
  - Bleed valve status
  - Bleed line pressure
  - Fuel flow indicator
  - Switch Position
  - Valve status
- Bleed Control Panel
- Windsield wiper control panel
  - Off position
  - Park position
  - Low and High position
  - The text on the panel should back lighted like in aircrafts, not printed or stickers.
  - Panel should be independent of other panels.
- Window heat panel
  - Left side and forward control
  - Right side and forward control
  - The text on the panel should back lighted like in aircrafts, not printed or stickers.
  - Panel should be independent of other panels.
- Wing and Engine Anti-Ice contol panel
- Windscreen Wiper
- Windscreen Wiper motor/actuator
- Windscreen Wiper Arm/blade
- Aircraft Window with heating elements
- Temperature control termostat
- Window heating timer control box
- Windshield De-Icing Alcohol Dispensing
- Alcohol Pump
- Alcohol Tank
- Sprayer
- Pitot Tube with electrical heating elements
- Pitot tube heting timer control box

- Aircraft composit Propeller blade with electrical de-ice boot
- Propeller heating timer control box
- Propeller Slip-ring
- Pneumatic De-Ice Boot
- Pump for Pneumatic De-Ice Boot
- Drain with heating elements

## Documentation

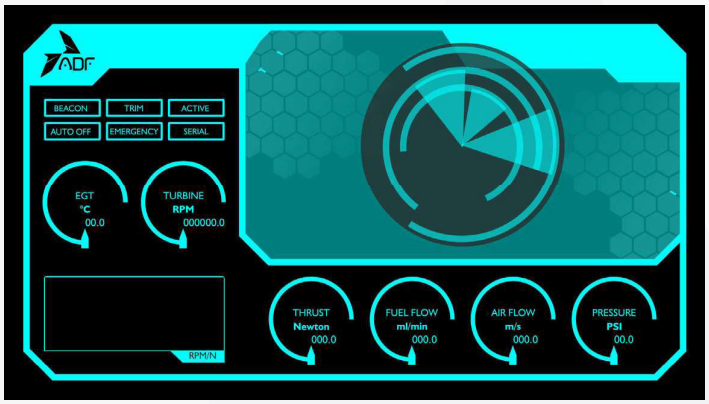
- User's Manual
- Study Guide
- Instructor's Guide
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Gas Turbine Mini Jet Engine Training Set

Model AJT-100A





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# Gas Turbine Mini Jet Engine Training Set

Model AJT-100A

Gas Turbine Mini Jet Engine Training Set is used to analyze working principles of computer-controlled gas turbine engine and fluid mechanics.

Training set examines specific thrust, fuel consumption and air/fuel ratio of gas turbine jet engine and open cyclic operating principles. It comprises of single shaft gas turbine, fuel system, starter, ignition system, measurement and control equipment.

Single shaft gas turbine includes radial compressor, axial gas turbine, circular combustion chamber and nozzle.

## Specifications

### General Features

- Movable Platform
- Starter Engine
- Ignition Plug
- Fuel Tank
- Fuel Pump
- Fuel Filter
- Fuel Valve

### Indicator LCD

- RPM Gauge
- P2, P3, T1, T2, T3, T5 Gauges
- Thrust Gauge
- Fuel Flow Gauge
- Caution Panel

### Gas Turbine Engine

- Max RPM : 125.000
- Idle RPM : 33.000
- Fuel Consumption : 35 – 50 L/h
- EGT : 0 – 700°C

### Sensors

- Thrust Sensor (0-500 Newton)
- P2 Pressure Sensor
- P3 Pressure Sensor
- T1 Temp.Sensor
- T2 Temp Sensor
- T3 Temp Sensor
- T5 Temp Sensor
- Fuel Flow Sensor

### Control Panel

- Master Switch
- Master Lamp
- Trim Switch
- Engine Start Switch
- Automatic Stop Switch
- Emergency Stop Switch
- Beacon Switch
- Computer ON/OFF

# 2-Axis Autopilot Trainer

Model AP-100A

# 2-Axis Autopilot Trainer
Model AP-100A

Autopilot trainer is an excellent resource for teaching the principles of automatic flight controls by demonstration using a complete system that encompasses all the aspects of two(2) axis autopilot.

## Specifications

### Features

- Indicators operate in sync with auto-pilot system
- Aircraft position controlled by yoke.
- Yoke and rudder pedal can move the control surfaces of the aircraft.
- Servos operate in sync with auto-pilot and yoke.
- 2 axis DOF system
- The aircraft automatically calibrated to runway position when the trainer is turned on.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.

### Components

**15-inch PFD-MFD screen**

- Attitude Directional Indicator(ADI)
- Directional Gyro(HSI)
- Airspeed Indicator(ASI)
- Altimeter(ALT)
- Vertical Speed Indicator(VSI)
- Turn and Slip Indicator
- Course deviation bar(CDI)
- Course Pointer
- RPM indicator
- Manifold Pressure indicator
- Engine instruments(Oil, Fuel system)


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## Components

- **Yoke ( auto-centered )**
- **Throttle Control**
- **Pitch / Roll servos**
- **The trainer should have auto-pilot panel.**
  - Active AP(auto-pilot) function button,
  - Active Pitch function button,
  - Active Roll function button,
  - Active ALT(altitude) function button,
  - Active V/S(vertical speed)function button,
  - Active FLC function button,
  - Active HDG(heading) function button,
  - Active FEET function Knob,
  - Active FPM function Knob,
  - Active HDG function Knob,
  - All function buttons should be illuminated.

- **Master Power and Switch panel.**
  - DC master power switch,
  - Master power lamp,
  - Beacon switch,
  - Engine Start,
  - PFD circuit breaker,
  - Auto-Pilot circuit breaker,
  - Beacon circuit breaker,
  - Aural warning horn
  - Resettable master caution

- **Model Metal Aircraft**
  - Aircraft size should be minimum 1400mmx1300mm
  - Aircraft color should be white
  - Moveable Aileron and Elevator
  - Aileron and elevator are different color
  - DOF system should operate in sync with auto-pilot(aileron and elevator) and yoke.
  - The trainer should have a beacon.

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# 3-Axis Autopilot Trainer
Model AP-100B

Autopilot Trainer is an excellent resource for teaching the principles of automatic flight controls by demonstration using a complete system that encompasses all the aspects of three(3) axis autopilot.

## Differences from AP-100A Model

- Rudder Pedal
- Yaw Servo
- +1 Yaw DOF System

## Specifications

### Features

- Indicators operate in sync with auto-pilot system
- Aircraft position controlled by yoke.
- Yoke and rudder pedal can move the control surfaces of the aircraft.
- Servos operate in sync with auto-pilot and yoke.
- 2 axis DOF + 1 DOF system
- The aircraft automatically calibrated to runway position when the trainer is turned on.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.

### Components

**15-inch PFD-MFD screen**

- Attitude Directional Indicator(ADI)
- Directional Gyro(HSI)
- Airspeed Indicator(ASI)
- Altimeter(ALT)
- Vertical Speed Indicator(VSI)
- Turn and Slip Indicator
- Course deviation bar(CDI)
- Course Pointer
- RPM indicator
- Manifold Pressure indicator
- Engine instruments(Oil, Fuel system)


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## Components

- **Yoke ( auto-centered )**
- **Rudder Pedal**
- **Throttle Control**
- **Pitch / Yaw / Roll servos**
- **The trainer should have auto-pilot panel.**
  - Active AP(auto-pilot) function button,
  - Active Pitch function button,
  - Active Roll function button,
  - Active ALT(altitude) function button,
  - Active V/S(vertical speed)function button,
  - Active FLC function button,
  - Active HDG(heading) function button,
  - Active FEET function Knob,
  - Active FPM function Knob,
  - Active HDG function Knob,
  - All function buttons should be illuminated.

- **Master Power and Switch panel.**
  - DC master power switch,
  - Master power lamp,
  - Beacon switch,
  - Engine Start,
  - PFD circuit breaker,
  - Auto-Pilot circuit breaker,
  - Beacon circuit breaker,
  - Circuit breaker lockout,
  - Aural warning horn,
  - Resettable master caution

- **Model Metal Aircraft**
  - Aircraft size should be minimum 1400mmx1300mm
  - Aircraft color should be white
  - Moveable Aileron/Elevator & Rudder
  - Aileron/elevator and rudder are different color
  - DOF system should operate in sync with auto-pilot(aileron/elevator/rudder) and yoke&rudder pedal.
  - The trainer should have a beacon.

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz


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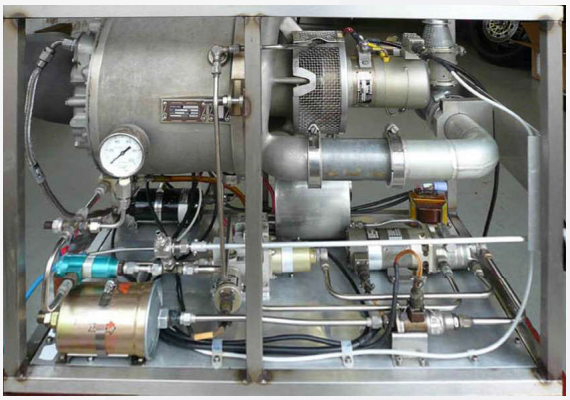
# Runnable APU Training Set

Model APU-100A





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# Runnable APU Training Set
Model APU-100A

Trainees can learn basic components and systems in a gas turbine engine with APU-100A Runnable APU Training Set. They can operate a gas turbine engine with the training set after learning on operational procedures. Training set includes all the systems that is on a gas turbine engine.

## Specifications

- Delivered ready for build-up and runnable applications
- Instrument panel( Analog or Digital )
- Fuel-system components/fuel pump
- Oil tank
- Fuel tank
- Ignition harness
- Starter
- Electrical system
- Engine-to-instrument console, with umbilical cord for safety
- Mounted on easy-to-roll work stands

## Engine Specifications

- Power Output: 50 BHP (Air delivery)
- RPM: 51,275 (100%) Idle 44,350 (86.5%)
- Compressor: Centrifugal Impeller
- Combustion Chamber: Reverse Flow Annular with 8 Burners
- Turbine: 2 Stage Axial Flow
- Layout: Single Spool with Reduction Gearbox
- Starting: Starter Motor with Integral Speed Sensor
- Ignition: HT Igniters with 2 Plugs
- Fuel System: Electric Motor Driven Gear Pump with Electronic Control System
- Lubrication: Dry Sump with Electric Driven Pump, Oil Spec MIl-L-7808
- Air delivery: 0.415 Kg/Sec @ 45 PSI
- Application: Air Producer in BAE Hawk (047), Ditto Jaguar(007), L39, Various French Aircraft

# Avionics Trainer
## Model AV-100A



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Our trainer enables trainees to get hands-on experience on avionics systems. The trainer ensures practical training with original avionics equipment configured to bring real-life experience to the training environment. Our design provides trainees with a good understanding of avionics equipment and a methodical approach for troubleshooting. We understand and tailor according to our customers' training needs.

The trainer is delivered plug and play and comes with necessary antennas, transmitters, receivers, wiring, and indicators.

**Note:** The trainer can be customized with indicators and avionics devices according to your training needs. Please contact us for your special requests.

**Optional**

**NAV/COM Ramp Tester**

Please contact us for Test Equipment

## Specifications

### Features

- The system combine "Navigation(ADF-DME-VOR-ILS-GPS-XPDR) instrumentation", "Communication(VHF) instrumentation", and "navigational information".
- NAV system testing
- Comm System Testing
- Indication Testing
- Encoder Altimeter Testing
- Altitude simulation
- Altimeter and Transponder run in sync
- TXPDR Ident
- DME Channel selection
- 6(six) metal drawers.
- All required cabling, coupler ,splitter and socket
- Instructor's Panel for fault insertion.
- Extension cable for GPS Antenna
- Tripod stand for mounting GPS Antenna
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable
- Training video for teachers
- Delivered fully assembled tested and ready to operate

## Components

- Two Nav/Com Radio ( Vor/ ILS )
- Two Nav Indicators ( Analog or Digital )
- GPS (Global Positioning System )
- ADF (Automatic Direction Finder )
- ADF Indicator
- ILS (Instrument Landing System )
- DME (Distance Measuring Equipment)
- Transponder
- Marker Beacon
- Altitude Encoder
- Intercom System
- Two Pilot Headsets
- Dynamic Microphone
- Altimeter
- Vacuum Pump
- Dc Power Box
- Circuit Breake
- Antennas
  - VOR/LOC antenna
  - ADF antenna
  - Marker-Beacon antenna
  - GS antenna
  - VHF-COM antenna
  - TRANSPONDER antenna
- All antennas cables

## Components Technical Specs

### NAV/COMM Device General Specs

- NAV/COMM Transceiver
- 200-channel NAV receiver
- Built-in VOR Converter
- Maksimum 25 kHz channel spacing
- Frequency(COM) 118.000 to 136.975
- Nav frequency 108.00 MHz to 117.95 MHz in 50 kHz spacing
- VOR/LOC converter
- Input voltage 28 VDC
- Built-in VOR/Localizer converter

- flip-flop frequencies
- Volume control
- Frequency memory and recall
- Display
- Frequency stability: ±0.0015%
- Original installation manual.

**NAV INDICATOR Device General Specs**

- Navigation Indicator containing VOR/LOC left-right needle
- To-From Indicator
- VOR/LOC Warning Flag
- OBS
- Integral VOR/LOC Converter
- At least one of them Glideslope Deviation needle
- Internally lighted
- Metal bezel with glass lens
- Used with nav-receiver
- Typical VOR Accuracy; (VOR) Bearing error less than 1.7 degrees. Full scale deflection for 10 deg. course error.
- CONVERTER INPUTS: .5VRMS +-10% ARINC phasing (VOR Composite Input); 100k ohms (Input Impedance)
- COURSE DATUM SYNCHRO OUTPUT: 393mV/degree, 1 deg. Accuracy Typical
- TYPICAL ACCURACY (LOC): (LOC) Centering error less than 3uA. Three fifths delfection for 4dB tone ratio
- CONVERTER OUTPUT DRIVE CAPABILITY: Five 1K loads 150 uA full scale (VOR/LOC Deviation); Two 200 ohm, 200-0-200uA loads (TO/FROM); Five 1K ohm, 0-260uA loads (VOR/LOC Warning Flag)
- Original installation manual.

**Transponder Device General Specs**

- Transmitter Frequency; 1090 MHz +-3 MHz
- Receiver Sensitivity: -73dBm (nominal); -69dBm (min. for 90% reply)
- Mode C Capability: Accepts standard ICAO Altitude Transmission Code digitizer output, reporting in 100 ft. increments from -1000 ft. throughout operating range
- Input voltage 28 VDC
- 4096 discrete codes
- Backlight labels and knobs
- CLR button
- VFR button
- IDT button

- Numaric Buttons(0-1-2-3-4-5-6-7)
- KNOP(OFF-SBY-TST-ON-ALT)
- Code window
- Original installation manual.

**DME Device General Specs**

- 200-channel receiver
- CHANNELING SOURCES: External control head providing BCD code, 2x5 code, slip code, or serial code
- RMT/FREQ/GS-T mode
- DME two concentric freq knop
- Freq Display
- Original installation manual.

**ADF Device General Specs**

- FREQUENCY RANGE: 200KHz to 1799KHz in 1 KHz increments
- BEARING ACCURACY: +- 3 degrees from 70 uV/m to 0.5 V/m RF input signal level
- Receiver senstivity : 150uV/m max for s+n/n = 6dB
- Receiver Selectivity: 6dB bandwidth: +-2 KHz max off center frequency; 80dB bandwidth: +-7 KHz max off center frequency
- POWER REQUIREMENTS: 11 to 33 VDC – 12watt
- ADF button
- BFO button
- FRQ button
- FLT/ET button
- SET/RST button
- VOL/Off knop
- Freq display
- Original installation manual.

**ADF Indicator General Specs**

- Single needle ADF indicator for use with ADF receiver
- ADF BEARING INPUT: DC sine and cosine voltages, +-3.0VDC max across each winding
- POWER REQUIREMENTS: Compass Card Drive: 12VDC at 0.12A
- Lighting: 14VDC at 0.16A or 28VDC at 0.08A

**GPS Device General Specs**

- Power 10-33 Volt DC

- Should operate up to 50.000 feet
- Color IFR GPS with moving map
- Comprehensive aeronautical database including airports, VORs, NDBs, intersections, and special-use airspace
- Automatic “vector to final” approach capability
- Dedicated “Range” and “Map” menu buttons facilitate map access and tailoring
- Dedicated “Procedures” button simplifies loading of approaches and arrival / departure procedures
- Provides map presentation of other non-GPS approaches (including ILS approaches) for greater situational awareness

**Aviation Map General Specs**

- 7” screen
- At least 9 watt
- Should operate 24 volt
- Should have a tripod for gps

**Audio Panel General Specs**

- Audio Inputs;
  - Impedance: 600 ohm
  - Max. input: 5 Vrms
  - Isolation: 60 dB minimum
  - Bandwidth: 100 Hz to 6.5 kHz
  - Transceiver: 3 (including TEL)
  - Receiver: 5 (NAV1, NAV2, AUX1, AUX2, AUX3)
  - Alerts: 4 (unswitched)
  - Telephone input: 1
- Intercom Functions;
  - Positions: 6 (pilot,copilot, 4 passengers)
  - Volume control: 2 (pilot, copilot/passengers)
  - VOX: Automatic (1 per MIC input)
  - Modes: Pilot, crew, all
  - MIC impedance: 150 ohm
  - MIC Bias: 11 VDC through 470 ohm
  - Keyed ICS: Configurable
- Music functions;
  - Inputs: 2 (independent from Bluetooth audio)
  - Impedance: 600 ohm (differential)

- Max. input: 3.0 Vrms
- Gain: +24 dB Max/-96dB min
- Input level: < 200 mVrms at max gain for full power out 3dB@1kHz Bandwidth 20 Hz to 20 kHz
- Distortion: < 0.1% THD+N typical at full power over full bandwidth
- Muting: Selectable and configurable
- Volume control: Knob controlled (pilot and copilot/passenger)

- Headphone Outputs
  - Output amplifiers: 3 Stereo (pilot, copilot, passenger)
  - Output power: 65 mW into 150 Ohms Pilot and Copilot, 260 mW into 37.5 Ohms passenger
  - Distortion: < 3% THD+N at 10% Power, < 10% THD+N at full power
  - Frequency response: 20 Hz to 20 kHz
  - Impedance rated: 150 Ohm pilot/copilot, 37.5 Ohm Passenger (4-150 Ohm headsets)
  - Impedance supported: 150 to > 600 Ohm
- Speaker;
  - Outputs: 1
  - 28 Volt: 10 Watt into 4 Ohm; 7 Watt into 8 Ohm
  - 14 Volt: 3 Watt into 4 Ohm 3dB@1kHz Bandwidth 350 Hz to 6.5 kHz
  - Distortion: < 10% THD+N at full power, < 3% THD+N at 10% power

**Headsets Specs**

- 24 dB NRR hearing protection
- 3.5mm Music input port
- EM56 noise reflective cup mic
- Clear Hear performance audio speakers
- Foam Fit comfort ear seals
- Deep Pocket ear canals
- Wind block foam mic muff
- Stainless steel adjustable headband

**Dynamic Microphone Specs**

- Impedance: 50-600 ohms.
- Includes: 5 ft. coiled cord with right-angle plug and hanger bracket.
- Right angle plug
- Hanger bracket

**Antennas**

- VOR/LOC antenna
- ADF antenna
- Marker-Beacon antenna
- GS antenna
- VHF-COM antenna
- TRANSPONDER antenna
- All antennas cables

**NAV/COM Tester**

- Output Power;
- ADF = -12 +/-3 dbm
- VOR= -10 +/-3 dbm
- ILS Localizer= -10 +/-3 dbm
- ILS GS = -17 +/-3 dbm
- ILS MKR = -15 +/-3 dbm
- DME = -12 +/-3 dbm
- TXPDR = -12 +/-3 dbm
- VOR radial accuracy; +/- 1 deg
- ILS localizer DDM accuracy; +/- 15%
- ILS glide slope DDM accuracy; +/- 15%
- DME accuracy; +/- 0.1NM
- Transponder specs;
- PRF 235+/-5 Mode A,C 50 +/-2 Mode S
- P2 level equal P1 +/- 0.1 dbm
- P2 position 2 +/-0.01 uS from P1
- P3 position 8 +/- .01uS or 21 +/- 0.02uS Rel to P1
- Pulse width 0.8 +/-0.01uS P1,P2,P3
- Frequency 1030 MHz Tx, 1090 MHz Rx , +/- 2.5ppm
- Reply % 0 to 100% displayed +/- 0.5%
- Reply window 2.5 to 3.5uS F1 from P3
- Pulse Width reads out to +/- 50nS resolution
- X Data Pulse Must=0 for good read
- SPI Displays ID message

**NOTE:** Avionics devices brand/model and some technical specs can be change due to market availability.

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz


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# Avionics Ramp Tester
## Model AV-500A

# Specifications

## Features

- Output Power;
- ADF = -12 +/-3 dbm
- VOR= -10 +/-3 dbm
- ILS Localizer= -10 +/-3 dbm
- ILS GS = -17 +/-3 dbm
- ILS MKR = -15 +/-3 dbm
- DME = -12 +/-3 dbm
- TXPDR = -12 +/-3 dbm
- VOR radial accuracy; +/- 1 deg
- ILS localizer DDM accuracy; +/- 15%
- ILS glide slope DDM accuracy; +/- 15%
- DME accuracy; +/- 0.1NM
- Transponder specs;
- PRF 235+/-5 Mode A,C 50 +/-2 Mode S
- P2 level equal P1 +/- 0.1 dbm
- P2 position 2 +/-0.01 uS from P1
- P3 position 8 +/- .01uS or 21 +/- 0.02uS Rel to P1
- Pulse width 0.8 +/-0.01uS P1,P2,P3
- Frequency 1030 MHz Tx, 1090 MHz Rx , +/- 2.5ppm
- Reply % 0 to 100% displayed +/- 0.5%
- Reply window 2.5 to 3.5uS F1 from P3
- Pulse Width reads out to +/- 50nS resolution
- X Data Pulse Must=0 for good read
- SPI Displays ID message

# Avionics Ramp Tester V2

Model AV-500B

The Tester is optimized for ramp testing of navigation and communication equipment. The unit provides test signals for marker beacon, communication, localizer, glide slope, and VOR. Also included, is a wide band comm receiver to permit evaluation of comm transmitter AM fidelity.

## Specifications

### Features

- Localizer: 108.1 MHz ± 003% , -3 ±3 dBm - base of antenna
- Deviation: Centered, ± .047 DDM, ± .094 DDM, ± .15 DDM, Tone delete: 90 and 150 Hz with undeleted tone - 20%
- Accuracy: ± .005 DDM
- Glide Slope: 334.7 MHz ± .003%, -6 ± 3 dBm - base of antenna
- Deviation: Centered, ± .094 DDM, ± .188 DDM, ± .30 DDM, Tone Delete 90 and 150 Hz with undeleted tone - 40%
- Accuracy: ± .01 DDM
- ILS: Both the Localizer and Glide Slope signals as above
- Deviation: Both signals deviated simultaneously
- VOR: 108.0 MHz ± .003%, -3 ±3 dBm - base of antenna
- Bearing: Selectable in 10° increments
- Accuracy: ±1.5°
- Marker: 75.0 MHz ± .003%
- Modulation: 400, 1300, 3000, 1020 Hz - 30%–CW or pulsed
- Transmitter test: -10 to +10 dBm Go-Nogo, Phones to check modulation
- Size: 3.8 x 7.4 x 2.3”
- Weight: 1.3 lbs.
- Power: Internal battery with over 2 hours running time (110/220VAC charger included)

**NOTE:** Avionics devices brand/model and some technical specs can be change due to market availability.


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# Avionics Systems Assembly Mockup for Desktop

Model Avio-130M

## Electronic Flight Information System & EMS

- There should be PFD and MFD which should communicate with WIFI and one Audio panel.
- The buttons and their backlight on the Audio Panel should be active and work like real GARMIN 1000 and Audio panel should connect to the PFD over bluetooth.
- Bezels: All buttons, switches and knobs should operate as real aircraft GARMIN 1000's buttons, switches, and knobs. No touch screen solutions are acceptable. For example, dual COMM rotary knob should have three functions, outer ring should tune UHF/VHF frequency in MHz, inner ring should tune the frequency in KHz and pressing this knob toggles the tuning cursor between the COM1 and COM2 fields.
- Bezels should have backlight function for night flights.
- GARMIN 1000 screens should be at least 2048x1536 resolution touch screens. GARMIN 1000 should transfer to and receive data from simulator software via WIFI. Desired emblem should be on the GARMIN screens when simulator on sleep mode.

- **Following features should be provided on PFD:**
  - Global navigation database and topo data
  - Engine status
  - Functional "Map Setup"
  - Flight plans storing/editing.
  - Terminal procedures
  - User waypoint creating/editing.
  - User defined holding patterns
- **Following features should be met on simulator:**
  - Auto-Pilot.
  - Flight director.
  - Pitch modes.
  - Pitch Hold.
  - Altitude Hold.
  - Vertical Speed.
  - Flight Level Change.
  - Vertical Path Tracking.
  - VNV Target Altitude Capture.
  - Glidepath.

- Glideslope: Yes.
- Roll modes.
- Roll Hold.
- Heading Select.
- Navigation
- Backcourse
- Approach
- Flight plan
- Invert Flight Plan
- Parallel Track
- Create ATK Offset Waypoint
- Direct-to
- Terminal Procedures
- User defined holding patterns
- Navigation database
- Inset map: Zoom in/out, browsing, partly de-clutter, topo and terrain. No traffic, storm scope, NEXRAD radar
- Synthetic Vision as an In-App-Purchase item
- VOR/ILS course select, ADF/VOR/Waypoint bearing indicator, CDI indicator, etc.
- Wind, Bearing1/2, HSI format, Alt unit, Standard baro
- DME source selection.
- Transponder settings.
- Timer and references (V speeds and minimums).
- Advisory and alerts.
- ADF dip.
- Automatic Magnetic variation.

## Remote Compass

- Fully functional and configured like a typical aircraft Magnetic Compass system.
- Compass System provides the pilot with a simple, comprehensive visual display of the aircraft's heading and position in relation to a desired course.
- Complete slaved compass system that includes a magnetic slaving transmitter, a slaving control and compensator unit, a directional gyro for stabilization of the system, and the Pictorial Navigation Indicator (PNI) itself.
- Combine the display functions of the standard Directional Gyro with VOR/LOC course deviation indication and Glideslope deviation and flag into one compact display.
- The Pictorial Navigation Indicator provides a pictorial display of the horizontal navi- gation situation. Also provides manual controls for course and heading datum selections. Outputs from the system are for automatic pilot or flight director, VOR receivers and additional compass loads
- The Directional Gyro is a remote mounted unit which, in conjunction with the Magnetic Azimuth Transmitter, provides a gyro-stabilized magnetic heading to the system Indicator. In addition to the slaving circuitry this unit contains an internal power supply which provides excitation voltages for the Magnetic Azimuth Transmitter and positive and negative D.C. voltages for the Pictorial Navigation Indicator and the Slaving Accessory.
- The Magnetic Azimuth Transmitter senses the direction of the earths magnetic field and transmits this information to the Pictorial Navigation Indicator.
- The Slaving Accessory is a panel mounted unit which contains the slaving meter, slaving switches, and corrector circuitry which compensates for the effect of local magnetic distur- bances on the Magnetic Azimuth Transmitter.
- The trainer should allow trainees to understand fundamentals of aircraft magnetic compass system and its components.
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.

## Components

- Pictorial Navigation Indicator(HSI)
- Directional Gyro
- Flux Detector(The Magnetic Azimuth Transmitter)
- Slaving Accessory
- Digital instrument
- DC Power Box
- Circuit Breake


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## Components Technical Specs

- Pictorial Navigation Indicator
  - Lubber Line
  - Nav Warning Flag
  - Heading Select Bug
  - Compass warning Flag
  - Selected Course pointer
  - To/From indicator
  - GS Deviation Scale
  - Compass Card
  - VOR/LOC Deviation Bar
- Directional Gyro
  - Remote mounted
  - Original Mounted Tray
  - Power: 14 or 28 volt dc
  - 300 degree free turnable system for testing
- Flux Detector(The Magnetic Azimuth Transmitter)
- Slaving Accessory
  - Slave/Free Gyro Switch
  - Slaving Meter indicator
  - CW/CCW Adjusment
- Digital instrument for Gyro degree
  - Size: Min 7 inch
  - Touchable
  - Real Times

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz


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# Bonding Meter
Model BNM-100A

Bonding meter feature 3.5-inch TFT display, maximum 50,000 counts measurement display, the rapid sampling rate of 60 readings per second, optimum 0.05% measurement precision, four wire measurement method as well as the temperature measurement and temperature compensation measurement function to meet the requirement of low resistance measurement application.

## Specifications

### Features

- Movable stant with drawer
- Mili-ohm meter
- 50,000 counts
- 3.5" (320 x 240) TFT LCD display
- High accuracy of 0.05% precision
- 1Amp test current, 0.1μΩ resolution
- Fast measurement of 60 readings per second
- Four wire resistance measurement
- Temperature compensation measurement function
- Delayed measurement
- 20 sets of panel setting memory

Included Accessories

- Quick Start Guide x 1,
- Power cord x 1,
- Test lead GTL-308 x 1,
- CD x1(complete user manual)

## Documentation

- Device's original Manual

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz


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# Bearing & Lubrication Trainer

Model BRN-100A



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Trainees can learn about various bearing and lubrication, one of the most essential parts of aircraft engines while they can also gain hands-on experience for lubrication on the engine in BRN-100A training set.

Trainees can observe cut views of bearings on the training set.

## Specifications

### Features

- The trainer should allow trainees to understand fundamentals of Bearing & Lubrication
- Application lubrication area.
- Application greasing area
- Application comparator area
- Drain line.
- The system should be mounted on a metal/alluminum mobile stand.
- Metal/alluminum frame should be with 4 wheels. 2 of 4 wheels must be lockable.
- Colored Ultraviolet printing method must be used in all writings and drawings on aliminium compozit panel. (It makes more durable and quality)
- Students' manual should be provided with the trainer
- Training video for teachers should be provided with the trainer

### Components

- 2 types of pillow block bearing.
- 1 deep groove ball bearing.
- 1 cut-away deep groove ball bearing.
- 1 spherical roller bearing.
- 1 cut-away Spherical roller bearing.
- 1 Thrust ball bearing.
- 1 cut-away Thrust ball bearing.
- 1 Taper roller bearing.
- 1 cut-away Taper roller bearing.
- 1 needle roller bearing.
- 2 linear bearings.
- 5 degreasing sprays.
- 2 grase pumps.
- 5 oilers
- Comparator with accessories

# Fittings and Fluid Lines Training Set

Model BSH-100A

# Fittings and Fluid Lines Training Set

Model BSH-100A

The Fluid Lines & Fittings Trainer Set demonstrates multiple types of fluid lines fittings and their assembly techniques. It displays the aircraft standard for assembling, routing, supporting fluid lines. Examples of frequently made mistakes are shown as well for trainees to avoid.

The training set is to be operated by a switch that lets the air pressure from a reservoir to operate an actuator.

Components/hoses are mounted on both the front and the back of the vertical panel.

## Specifications

### Features

- Understand fundemantels of aircraft Fittings and Fluid Lines.
- four(4) or more examples of correct/incorrect flexible hoses
- four(4) or more examples of correct/incorrect solid lines(tube).
- Hoses & Tubes
- AN, NPT fittings
- NPT fittings
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aliminium compozit panel.

### Components

- Teflon Hose
- Fire Resistance Hıse
- Rubber Hoses
- Milh-8794 Standart Hose
- Mil-H-5593 Standart Hose
- Mil-H-83797 Standart Hose
- Aluminium Tube Min 8 Mm Diameter
- Aluminium Tube Min 10 Mm Diameter
- Steel Tube Min 8 Mm Diameter
- Steel Tube Min 10 Mm Diameter
- An840 Hose Nipple Pipe Thread
- An821-Elbow
- An912 Bushing, Pipe Thread Reducer
- An929 Cap
- An817 Nut, Sleeve, Coupling
- An827 Cross, Flared Tube


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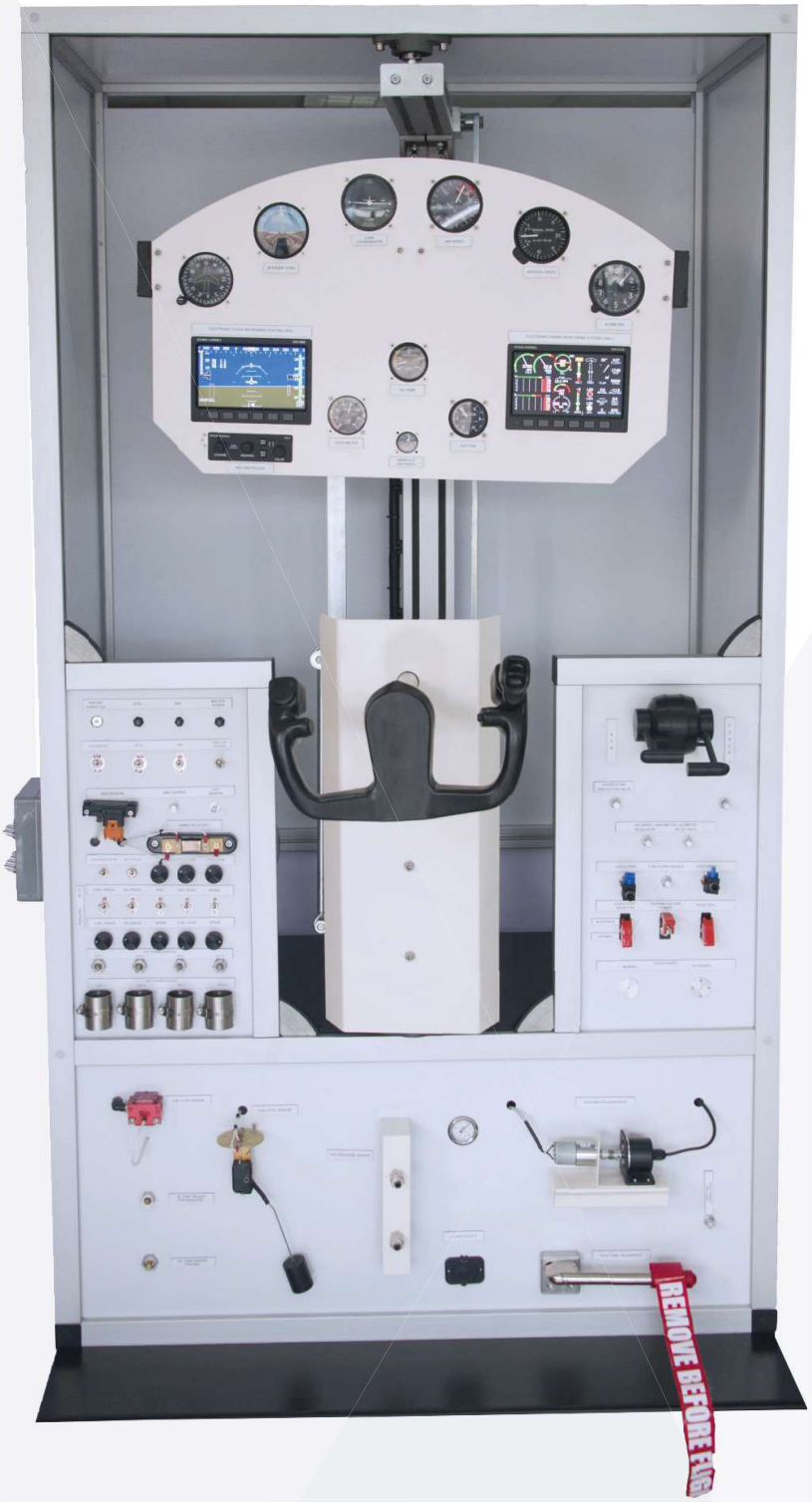
- An822 Elbow, Flared Tube And Pipe Thread, 90°
- An823 Elbow, Flared Tube And Pipe Thread, 45°
- An833 Elbow, Flared Tube Bulkhead And Universal, 90°
- An844 Hose Elbow - Pipe Thread 45°
- An914 Elbow, Internal And External Pipe Thread, 90°
- An821 Elbow - Flared Tube 90°
- Brass Union Nut An805-2
- An816 Nipple - Flared Tube And Pipe Thread
- An911 Nipple, Pipe Thread
- An818 Nut Coupling
- An924 Aluminum Nut
- An806 Flared Tube Plug
- An814 Plug And Bleeder Screw Thread
- An913 Plug, Square Head, Pipe Thread
- New Surplus An932-2d Plug Countersunk
- An919 Reducer, External Thread
- An824 Tee, Flared Tube
- An825 Tee - Flared Tube And Pipe Thread On Side
- An917 Tee, Internal Pipe Thread
- An834 Tee, Flared Tube, Bulkhead And Universal
- Male Elbow
- Male Plug
- Female Plug
- Male Cross
- Female Cross
- Niple
- Cap
- Sleeve
- Nut
- Straight
- Female Run Tee
- Male Run Tee
- Female Elbow
- Adaptor
- Ms21919-Dg2
- Ms21919-Dg3
- Ms21919-Dg4
- Ms21919-Dg5
- Ms21919-Dg6
- Ms Clamp

- Hose clamp
- Ring hose clamp
- Stepless screw clamp
- AN742 plain clamp
- Tube bender tool
  - Bend copper, aluminum and steel tubing from 6 to 10 mm.
- Tube cutter tool
  - Cut copper, aluminum tubing from 1,8” to 1 1/4”
- Flaring tool set
  - Five adapters from 4.8mm to 12.7mm.
  - Chrome swivel is made of alloy steel
  - Forged yoke is made of heat treated steel.
  - Case for storage
  - Design for double or single flare in soft steel, copper, and aluminum

# Cockpit Instrumentation System Trainer

Model CBT-100A





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# Cockpit Instrumentation System Trainer

Model CBT-100A

Aircraft Cockpit Instrument Training Set(CBT-100A) is a complete and fully functional simulation of typical aircraft cockpit. It includes essential flight, engine and pitot-static instruments. This training set provides hands-on maintenance training while also functioning as a demonstration tool for instructors. It demonstrates the principles of gyros, altimeter and the engine instruments, and also can be used for teaching of instrument removal and replacement.

**NOTE:** The trainer can be customized with sensors and indicators according to your training needs. Please contact us for your special requests.

This trainer also allows to perform practical tasks of EASA PART 147 ATA-31-00-00

## Specifications

### Features

- The system combine “Cockpit analog flight instrumentation”, “primary flight instrumentation”, “aircraft systems instrumentation” and “engine instrumentation”.
- Trainer use Digital ADAHRS (Air Data and Attitude Heading and Reference Systems.
- “Air Data and Attitude Heading and Reference Systems” provide highly accurate and reliable referencing of aircraft position, rate, vector and acceleration data.
- Three degrees of freedom instrument panel permits full demonstration of attitude and directional gyro functions.
- Functional engine monitoring system be connected to engine sensors.
- All analog instruments operate manually
- Primary flight display be mounted on a panel that can simulate roll, pitch, and yaw movements controlled by a mechanism operated by a control yoke.
- Provision of engine sensor simulation.
- Pitot-static system to conduct pitot static system checks for digital instrument at the trainer.
- Instructor’s Panel for fault insertion.

### Components

- **PFD Screen**
- **MFD Screen**
- **Engine Data Modules**
- **Analog instruments**
  - Attitude Gyro and Indicator
  - Directional Gyro / Heading Indicator
  - Airspeed Indicator

- Altimeter
- Vertical Speed Indicator
- Turn and Slip Indicator
- Fuel Temp/Press Indicator
- Oil Temp/Press Indicators
- Fuel Level Indicator
- MAP
- RPM
- Vacuum Gauge

- **Sensors**
  - Oil Temperature Sensor
  - Carburator Air Temp Sensor
  - Manifold Pressure Sensor
  - Fuel Level Sensor
  - Oil Pressure Sensor
  - Fuel Pressure Sensor
  - Engine RPM Sensor
  - Fuel Flow Sensor
  - Ammeter Shunt
  - CHT Thermocouples (Qty 4)
  - EGT Thermocouples (Qty 4)
  - OAT Sensor
  - Pitot Tube
  - Static Port
  - Inductive sensor
- **Aircraft circuit breakers.**
- **Throttle Lever**
- **Propeller Lever**
- **Pitot-Static System:**
  - Pitot Tube
  - Fuselage Static Port
  - Alternate Static Port
  - Static Source Selector Switch
  - Two Test Ports for Pitot-Static Test Set
- **Power**
  - Main Power
  - PDF
  - Tachometer
  - Turn&Slip
  - Vaccum Pump

- **Contacs:**
  - Pitot Heater
  - L/G
  - Taxi Light
- **Auxiliary Flight Control:**
  - Aileron Trim
  - Elevator Trim
  - Flap Position
- **Electronic Simulation of Sensors:**
  - Oil Temperature Manifold Pressure
  - Engine RPM
  - Oil Pressure
  - Fuel Level
  - Fuel Press
- **Sender Sellector Panel**
  - Fuel System
  - Oil System
- **Vacuum Control Panel**
  - Static System İnstrument
  - MAP
  - Fuel Flow

## Components Technical Specs

- PFD-MFD Screen
- PFD Page Layout have at least the following:
  - Airspeed Indicator
    - Ground Speed (GS)
    - True Airspeed (TAS)
  - Airspeed Bug
  - Airspeed Trend Rate
  - Attitude Indicator
  - Flight Path Marker
  - Altimeter
    - Setting Barometer (BARO)
  - Altitude Bug
  - Altitude Trend Rate
  - Barometer Setting, and Density Altitude.
  - Vertical Speed Indicator
  - Vertical Speed (VS) BUG.
  - Heading Indicator/Directional Gyro

## Components Technical Specs

- Heading (HDG) BUG
- Slip Ball
- Angle of Attack Indicator
- OAT(Outside air temperature)
- Winds Aloft magnitude and vector
- Artificial Horizon/Synthetic Vision

- Menu Page have at least the following:
  - Six Pack
  - Terrain Alert
  - Airport Flags
  - HSI SRC
  - Bugs
- Main Menu bar are at the bottom of the screen and should include following functions:
  - FPL – Flight Plan
  - INFO
  - MENU
  - Message( NO MSG / MESSAGE / CAUTION / WARNING )
- Flight Data Modules have at least the following:
  - All sensors should be solid state.
  - Accelerometers, which measure forces in all three directions
  - Rotational rate sensors, which sense rotation about all three axes
  - Pressure transducers for measuring air data
  - Magnetometers on all three axes for measuring magnetic heading.
- Engine Data Modules have at least the following:
  - These modules support popular four and six-cylinder engine installations and should measure a variety of engine and environmental parameters, such as:
    - RPM
    - Manifold pressure
    - Oil temperature
    - Oil pressure
    - Exhaust gas temperature (EGT)
    - Cylinder head temperature (CHT)
    - Fuel levels for multiple tanks
    - Voltage
    - Current
    - Fuel pressure

## Components Technical Specs

- Fuel flow
- Carburetor air temperature
- Coolant pressure and temperature
- Flap and trim potentiometers
- External contacts

- Fuel Computer
- Pitch Trim Indicator
- Roll Trim Indicators
- Flap Indicator

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

## Others

- GPS receiver / antenna
- Aircraft circuit breakers.
- Throttle lever.

# Advanced Cockpit Instrumentation System Trainer

## Model CBT-100B



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# Advanced Cockpit Instrumentation System Trainer

Model CBT-100B

Aircraft Cockpit Instrument Training Set(CBT-100B) is a complete and fully functional simulation of typical aircraft cockpit. It includes essential flight, engine and pitot-static instruments. This training set provides hands-on maintenance training while also functioning as a demonstration tool for instructors. It demonstrates the principles of gyros, altimeter and the engine instruments, and also can be used for teaching of instrument removal and replacement.

**NOTE:** If you wish to upgrade this system with navigation systems such as VOR/ILS/ VHF, please contact us.

**NOTE:** The trainer can be customized with sensors and indicators according to your training needs. Please contact us for your special requests.

**NOTE:** This system can be ordered with single or double PFD/MFD. Please contact for your specific request.

This trainer also allows to perform practical tasks of EASA PART 147 ATA-31-00-00.

## Differences from CBT-100A Trainer

- Smart PFD/MFD
- New technology PFD/MFD
- Larger display area
- Sliding MAP
- GPS
- Connects with NAV devices
- More specs below

## Specifications

### Features

- The system combine “Cockpit analog flight instrumentation”, “primary flight instrumentation”, “aircraft systems instrumentation” and “engine instrumentation”.
- Trainer use the latest in GPS and Digital ADAHRS (Air Data and Attitude Heading and Reference Systems.
- “Air Data and Attitude Heading and Reference Systems” provide highly accurate and reliable referencing of aircraft position, rate, vector and acceleration data.
- Three degrees of freedom instrument panel permits full demonstration of attitude and directional gyro functions.
- Functional engine monitoring system be connected to engine sensors.
- All analog instruments operate manually
- Primary flight display be mounted on a panel that can simulate roll, pitch, and yaw movements controlled by a mechanism operated by a control yoke.

- Provision of engine sensor simulation.
- Pitot-static system to conduct pitot static system checks for digital instrument at the trainer.
- Instructor's Panel for fault insertion.

## Components

- **Smart PFD-MFD Screen**
- **Engine Data Modules**
- **Analog instruments**
  - Attitude Gyro and Indicator
  - Directional Gyro / Heading Indicator
  - Airspeed Indicator
  - Altimeter
  - Vertical Speed Indicator
  - Turn and Slip Indicator
  - Fuel Temp/Press Indicator
  - Oil Temp/Press Indicators
  - Fuel Level Indicator
  - MAP
  - RPM
  - Vacuum Gauge
- **Sensors**
  - Oil Temperature Sensor
  - Carburator Air Temp Sensor
  - Manifold Pressure Sensor
  - Fuel Level Sensor
  - Oil Pressure Sensor
  - Fuel Pressure Sensor
  - Engine RPM Sensor
  - Fuel Flow Sensor
  - Ammeter Shunt
  - CHT Thermocouples (Qty 4)
  - EGT Thermocouples (Qty 4)
  - OAT Sensor
  - Pitot Tube
  - Static Port
  - Inductive sensor

- **GPS receiver / antenna**
- **Aircraft circuit breakers.**
- **Throttle Lever**
- **Propeller Lever**
- **Pitot-Static System:**
  - Pitot Tube
  - Fuselage Static Port
  - Alternate Static Port
  - Static Source Selector Switch
  - Two Test Ports for Pitot-Static Test Set
- **Power**
  - Main Power
  - PDF
  - Tachometer
  - Turn&Slip
  - Vaccum Pump
- **Contacs:**
  - Pitot Heater
  - L/G
  - Taxi Light
- **Auxiliary Flight Control:**
  - Aileron Trim
  - Elevator Trim
  - Flap Position
- **Electronic Simulation of Sensors:**
  - Oil Temperature Manifold Pressure
  - Engine RPM
  - Oil Pressure
  - Fuel Level
  - Fuel Press
- **Sender Sellector Panel**
  - Fuel System
  - Oil System
- **Vacuum Control Panel**
  - Static System İnstrument
  - MAP
  - Fuel Flow

## Components Technical Specs

- **Smart PFD-MFD Screen**
- **NOTE:** Smart PFD-MFD Screen brand/model and some technical specs can be change due to market availability. ( Dynon-Bendix-Garmin or similar )
- Screen is very bright and high-resolution driven by advanced graphics processors create highly visible and readable display.
- Display is 1280 x 800 pixel, 1200+ nit TFT active-matrix capacitive multi- touch LCD screen.
- High-Definition Touch Screen
- Display Connectors Specification
  - There are 37-Pin DIN Connector for the main wiring harness.
  - There are four (4) RS-232 connector ports for connection to compatible equipment.
  - All serial ports have configurable baud rates and data formats for use as general-purpose inputs and output.
  - There are minimum three (2) USB Connectors.
  - There is an Ethernet Connector to be used to synchronize data between displays.
- Displays operate between 10- and 30-volts DC.
- Display show “engine instrument data”
- Display show “flight instrument data”
- Screen Dimensions
  - 7.64” 7.64” Wide
  - 5.59” High
  - 3.13” Deep
- Users should be able to interact via the two knobs, two buttons integrated into the knobs, and eight buttons along the bottom of the display’s bezel and via touch gestures on the display screen itself.
- Display have a robust GPS moving map.
- Display backlighting is controlled by its ambient light sensor to actively adjust the brightness based on the current lighting conditions or user should be able to adjust the brightness by buttons.
- The default layout of screen show below
  - PFD
  - MAP
  - ENGINE
- Screen switch into 100% window or 50%/50% split windows.
- There is Count-Up/Count-Down timer in the display.

## Components Technical Specs

- PFD Page Layout have at least the following:
  - Airspeed Indicator
    - Ground Speed (GS)
    - True Airspeed (TAS)
  - Airspeed Bug
  - Airspeed Trend Rate
  - Attitude Indicator
  - Flight Path Marker
  - Altimeter
    - Setting Barometer (BARO)
  - Altitude Bug
  - Altitude Trend Rate
  - Barometer Setting, and Density Altitude.
  - Vertical Speed Indicator
  - Vertical Speed (VS) BUG.
  - Heading Indicator/Directional Gyro
  - Heading (HDG) BUG
  - Slip Ball
  - Angle of Attack Indicator
  - OAT(Outside air temperature)
  - Winds Aloft magnitude and vector
  - Artificial Horizon/Synthetic Vision
- Menu Page have at least the following:
  - Six Pack
  - G-meter
  - Terrain Alert
  - Airport Flags
  - HSI SRC
  - Bugs
- There is a Six-Pack presentation options on the PFD.
- Main Menu bar are at the bottom of the screen and should include following functions:
  - NRST – Nearest:
  - Info page
  - FPL – Flight Plan
  - INFO

## Components Technical Specs

- MENU
- Message( NO MSG / MESSAGE / CAUTION / WARNING )

- KNOPs functions have at least the following:
  - Adjust Bug (HDG, ALT, etc.)or BARO value
  - Change Map scale
  - Activate and/or move cursor
- Flight Data Modules have at least the following:
  - All sensors should be solid state.
  - Accelerometers, which measure forces in all three directions
  - Rotational rate sensors, which sense rotation about all three axes
  - Pressure transducers for measuring air data
  - Magnetometers on all three axes for measuring magnetic heading.
- Engine Data Modules have at least the following:
  - These modules support popular four and six-cylinder engine installations and should measure a variety of engine and environmental parameters, such as:
    - RPM
    - Manifold pressure
    - Oil temperature
    - Oil pressure
    - Exhaust gas temperature (EGT)
    - Cylinder head temperature (CHT)
    - Fuel levels for multiple tanks
    - Voltage
    - Current
    - Fuel pressure
    - Fuel flow
    - Carburetor air temperature
    - Coolant pressure and temperature
    - Flap and trim potentiometers
    - External contacts
- Fuel Computer
- Pitch Trim Indicator
- Roll Trim Indicators
- Flap Indicator

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

## Others

- GPS receiver / antenna
- Aircraft circuit breakers.
- Throttle lever.

# Aircraft EFIS/EICAS Trainer

Model CBT-100D



www.tescaglobal.com info@tesca.in +91-9829132777

AIRCRAFT EFIS/EICAS Trainer (CBT-100D) is a complete and fully functional simulation of typical aircraft cockpit. It includes essential flight, engine and pitot-static instruments. This training set provides hands-on maintenance training while also functioning as a demonstration tool for instructors. It demonstrates the principles of gyros, altimeter and the engine instruments, and also can be used for teaching of instrument removal and replacement.

**NOTE:** If you wish to upgrade this system with navigation systems such as VOR/ILS/ VHF, please contact us.

**NOTE:** The trainer can be customized with sensors and indicators according to your training needs. Please contact us for your special requests.

This trainer also allows to perform practical tasks of EASA PART 147 ATA-31-00-00.

## Specifications

### Features

- The system combine, "primary flight instrumentation", "aircraft systems instrumentation" and "engine instrumentation".
- Trainer use the latest in GPS and Digital ADAHRS (Air Data and Attitude Heading and Reference Systems.
- "Air Data and Attitude Heading and Reference Systems" provide highly accurate and reliable referencing of aircraft position, rate, vector and acceleration data.
- Three degrees of freedom instrument panel permits full demonstration of attitude and directional gyro functions.
- Functional engine monitoring system be connected to engine sensors.
- Primary flight display be mounted on a panel that can simulate roll, pitch, and yaw movements controlled by a mechanism operated by a control yoke.
- Provision of engine sensor simulation.
- Pitot-static system to conduct pitot static system checks for digital instrument at the trainer.
- Instructor's Panel for fault insertion.

## Components

- **Smart PFD-MFD Screen**
- **Engine Data Modules**
- **Sensors**
  - Oil Temperature Sensor
  - Carburator Air Temp Sensor
  - Manifold Pressure Sensor
  - Fuel Level Sensor
  - Oil Pressure Sensor
  - Fuel Pressure Sensor
  - Engine RPM Sensor
  - Fuel Flow Sensor
  - Ammeter Shunt
  - CHT Thermocouples (Qty 4)
  - EGT Thermocouples (Qty 4)
  - OAT Sensor
  - Pitot Tube
  - Static Port
  - Inductive sensor
- **GPS receiver / antenna**
- **Aircraft circuit breakers.**
- **Throttle Lever**
- **Propeller Lever**
- **Pitot-Static System:**
  - Pitot Tube
  - Fuselage Static Port
  - Alternate Static Port
  - Static Source Selector Switch
  - Two Test Ports for Pitot-Static Test Set
- **Power**
  - Main Power
  - PDF
  - Tachometer
  - Vaccum Pump
- **Contacs:**
  - Pitot Heater
  - L/G
  - Taxi Light


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- **Auxiliary Flight Control:**
  - Aileron Trim
  - Elevator Trim
  - Flap Position
- **Electronic Simulation of Sensors:**
  - Oil Temperature Manifold Pressure
  - Engine RPM
  - Oil Pressure
  - Fuel Level
  - Fuel Press
- **Sender Sellector Panel**
  - Fuel System
  - Oil System
- **Vacuum Control Panel**
  - Static System İnstrument
  - MAP
  - Fuel Flow

## Components Technical Specs

- **Smart PFD-MFD Screen**
- **NOTE:** Smart PFD-MFD Screen brand/model and some technical specs can be change due to market availability. ( Dynon-Bendix-Garmin or similar )
- Screen is very bright and high-resolution driven by advanced graphics processors create highly visible and readable display.
- Display is 1280 x 800 pixel, 1200+ nit TFT active-matrix capacitive multi- touch LCD screen.
- High-Definition Touch Screen
- Display Connectors Specification
  - There are 37-Pin DIN Connector for the main wiring harness.
  - There are four (4) RS-232 connector ports for connection to compatible equipment.
  - All serial ports have configurable baud rates and data formats for use as general-purpose inputs and output.
  - There are minimum three (2) USB Connectors.
  - There is an Ethernet Connector to be used to synchronize data between displays.
- Displays operate between 10- and 30-volts DC.
- Display show “engine instrument data”
- Display show “flight instrument data”

## Components Technical Specs

- Screen Dimensions
  - 7.64” 7.64” Wide
  - 5.59” High
  - 3.13” Deep
- Users should be able to interact via the two knobs, two buttons integrated into the knobs, and eight buttons along the bottom of the display’s bezel and via touch gestures on the display screen itself.
- Display have a robust GPS moving map.
- Display backlighting is controlled by its ambient light sensor to actively adjust the brightness based on the current lighting conditions or user should be able to adjust the brightness by buttons.
- The default layout of screen show below
  - PFD
  - MAP
  - ENGINE
- Screen switch into 100% window or 50%/50% split windows.
- There is Count-Up/Count-Down timer in the display.
- PFD Page Layout have at least the following:
  - Airspeed Indicator
    - Ground Speed (GS)
    - True Airspeed (TAS)
  - Airspeed Bug
  - Airspeed Trend Rate
  - Attitude Indicator
  - Flight Path Marker
  - Altimeter
    - Setting Barometer (BARO)
  - Altitude Bug
  - Altitude Trend Rate
  - Barometer Setting, and Density Altitude.
  - Vertical Speed Indicator
  - Vertical Speed (VS) BUG.
  - Heading Indicator/Directional Gyro
  - Heading (HDG) BUG
  - Slip Ball
  - Angle of Attack Indicator

## Components Technical Specs

- OAT(Outside air temperature)
- Winds Aloft magnitude and vector
- Artificial Horizon/Synthetic Vision

- Menu Page have at least the following:
  - Six Pack
  - G-meter
  - Terrain Alert
  - Airport Flags
  - HSI SRC
  - Bugs
- There is a Six-Pack presentation options on the PFD.
- Main Menu bar are at the bottom of the screen and should include following functions:
  - NRST – Nearest:
  - Info page
  - FPL – Flight Plan
  - INFO
  - MENU
  - Message( NO MSG / MESSAGE / CAUTION / WARNING )
- KNOPs functions have at least the following:
  - Adjust Bug (HDG, ALT, etc.)or BARO value
  - Change Map scale
  - Activate and/or move cursor
- Flight Data Modules have at least the following:
  - All sensors should be solid state.
  - Accelerometers, which measure forces in all three directions
  - Rotational rate sensors, which sense rotation about all three axes
  - Pressure transducers for measuring air data
  - Magnetometers on all three axes for measuring magnetic heading.
- Engine Data Modules have at least the following:
  - These modules support popular four and six-cylinder engine installations and should measure a variety of engine and environmental parameters, such as:
    - RPM
    - Manifold pressure
    - Oil temperature

## Components Technical Specs

- Oil pressure
- Exhaust gas temperature (EGT)
- Cylinder head temperature (CHT)
- Fuel levels for multiple tanks
- Voltage
- Current
- Fuel pressure
- Fuel flow
- Carburetor air temperature
- Coolant pressure and temperature
- Flap and trim potentiometers
- External contacts

- Fuel Computer
- Pitch Trim Indicator
- Roll Trim Indicators
- Flap Indicator

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

## Others

- GPS receiver / antenna
- Aircraft circuit breakers.
- Throttle lever.

# Analogue Cockpit Instrumentation System Trainer

Model CBT-100E



www.tescaglobal.com info@tesca.in +91-9829132777

# Analogue Cockpit Instrumentation System Trainer

Model CBT-100E

Aircraft Analogue Cockpit Instrument Training Set(CBT-100E) is a complete and fully functional simulation of typical aircraft analogue cockpit. It includes essential flight, engine and pitot-static instruments. This training set provides hands-on maintenance training while also functioning as a demonstration tool for instructors. It demonstrates the principles of gyros, altimeter and the engine instruments, and also can be used for teaching of instrument removal and replacement.

**NOTE:** The trainer can be customized with sensors and indicators according to your training needs. Please contact us for your special requests.

**NOTE:** Please check CBT-100A and CBT-100B model if you are looking for trainer with PFD/MFD.

This trainer also allows to perform practical tasks of EASA PART 147 ATA-31-00-00.

## Specifications

### Features

- The system combine “Cockpit analog flight instrumentation” and “engine instrumentation”.
- Three degrees of freedom instrument panel permits full demonstration of attitude and directional gyro functions.
- Functional engine instrumentation system be connected to engine sensors.
- All analog instruments operate manually
- Primary flight display be mounted on a panel that can simulate roll, pitch, and yaw movements controlled by a mechanism operated by a control yoke.
- Provision of engine sensor simulation.
- Pitot-static system.
- Instructor’s Panel for fault insertion.

### Components

- **Analog instruments**
  - Attitude Gyro and Indicator
  - Directional Gyro / Heading Indicator
  - Airspeed Indicator
  - Altimeter
  - Vertical(Upload speed) Speed Indicator
  - Turn and Slip Indicator
  - Fuel Temp/Press Indicator
  - Oil Temp/Press Indicators
  - Fuel Level Indicator
  - MAP

- **Sensors**
  - Oil Temperature Sensor
  - Manifold Pressure Sensor
  - Fuel Level Sensor
  - Oil Pressure Sensor
  - Fuel Pressure Sensor
  - Engine RPM Sensor
  - Ammeter Shunt
  - Pitot Tube
  - Static Port
- **Aircraft circuit breakers.**
- **Throttle Lever**
- **Pitot-Static System:**
  - Pitot Tube
  - Fuselage Static Port
  - Alternate Static Port
  - Static Source Selector Switch
  - Two Test Ports for Pitot-Static Test Set
- **Power**
  - Main Power
  - Tachometer
  - Turn&Slip
  - Vaccum Pump

## Example ATA Chapters

- 31-10-00 Instrument & Control Panels
- 31-20-00 Independent Instruments


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## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Manual
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Aircraft Cabin Pressurization Trainer

Model CPS-100A



www.tescaglobal.com info@tesca.in +91-9829132777

# Aircraft Cabin Pressurization Trainer

Model CPS-100A

The Cabin Pressurization trainer demonstrates how an aircraft cabin pressurization and air conditioning system function.

The compact construction of the set allows trainees to conceive the system as understanding the connection between the various parts of the system in regulating the cabin environment.

The trainer includes two chambers simulating altitude and cabin pressure.

The vacuum simulating chamber is able to simulate up to roughly 0 - 40,000 ft.

## Specifications

### Features

- Understanding fundamentals of aircraft Cabin Pressurization and its components.
- The set is functional and configured like a typical aircraft Cabin Pressurization system.
- The trainer include the following panels that will work functionally.
  - Aircraft Cabin Pressurization panel
  - Aircraft air condition panel
  - Aircraft auto-pilot panel
  - Test panel
  - Master power panel
  - Master caution panel
- Two transparent cabin in the training set to simulate the interior of the cabin.
- 2 outflow valves, 1 negative pressure safety valve, and positive pressure safety valve (as a substitution) are in the transparent cabin.
- Out Flow Valves are engine controlled.
- The valves in the cabin pressurization system operate automatically during the take off and landing.
- Cabin pressurization valves are both controlled manually and automatically.
- The trainer is able to perform full automatic take off and landing.
- Indicators, panels and valves work simultaneously in landing and take-off simulations.
- Take off and landing simulations are controlled from the autopilot panel.
- Vertica speed and altitude are determined and selected during take-off and landing.
- Valve failures are easily observed on gauges and panels.
- PACK, BLEED, PACK FLOW and TEMPERATURE selections are made at the air condition panel.

- LDG elevation, MODE SELECT, MAN V/S CONTROL and DITCHING are done at the cabin pressurization.
- The selections made in the panels are visible on the screen.
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

## Components

- Heat Exchanger
- Muffler
- Relief Valve
- Shut-Off Valve
- Vaccum Pump
- System Indicators
- PSU( Passenger Service Unit)
- 10 inch Lower ECAM
  - Vertical speed indicator
  - Altimeter indicator
  - Cabin Altimeter
  - Cabin pressure
  - Air pressure
  - Differential pressure
  - Status area
    - Flow status
    - Pack flow status
    - Bleed status
    - Auto pilot status
    - Pressurization mode
    - Temp
    - Air/ground
- Min 2 Outflow valve
- Min 2 outflow control computers
- Aircraft Cabin Pressurization panel
  - Man V/S Control Switch

  - Mode selector
  - LDG ELEV Knop
- Aircraft air condition panel
  - Pack-1 control
  - Pack-2 control
  - ENG 1 Bleed
  - ENG 2 Bleed
  - APU Bleed
  - Pack Flow Selector
- Aircraft auto-pilot control panel
  - Vertical Speed Selector
  - Altitude Knop
  - Control Siwitch
- Terminals
- Master power panel
- Master power light
- Master caution panel
- Aural warning horn
- Test panel
- Circuit Breakers,
- LAN output
- Fault Panel for instructor.
- Outflow valve control boxes
- Outflow valve terminals
- Vacuum chamber (altitude simulator)
- Cabin pressure chamber (cabin simulator)
- Regulator (simulates air to cabin)
- Cabin pressure sensor
- 24 VDC power supply

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Aircraft Cabin Pressurization Trainer

Model CPS-100B



www.tescaglobal.com info@tesca.in +91-9829132777

The Cabin Pressurization trainer demonstrates how an aircraft cabin pressurization and air conditioning system function.

The compact construction of the set allows trainees to conceive the system as understanding the connection between the various parts of the system in regulating the cabin environment.

The trainer includes two chambers simulating altitude and cabin pressure.

The vacuum simulating chamber is able to simulate up to roughly 0 - 40,000 ft.

## Specifications

### Features

- Understanding fundamentals of aircraft Cabin Pressurization and its components.
- The set is functional and configured like a typical aircraft Cabin Pressurization system.
- The trainer include the following panels that will work functionally.
  - Aircraft Cabin Pressurization panel
  - Aircraft air condition panel
  - Aircraft auto-pilot panel
  - Test panel
  - Master power panel
  - Master caution panel
- Two transparent cabin in the training set to simulate the interior of the cabin.
- 2 outflow valves, 1 negative pressure safety valve, and positive pressure safety valve (as a substitution) are in the transparent cabin.
- Out Flow Valves are engine controlled.
- The valves in the cabin pressurization system operate automatically during the take off and landing.
- Cabin pressurization valves are both controlled manually and automatically.
- The trainer is able to perform full automatic take off and landing.
- Indicators, panels and valves work simultaneously in landing and take-off simulations.
- Take off and landing simulations are controlled from the autopilot panel.
- Vertica speed and altitude are determined and selected during take-off and landing.
- Valve failures are easily observed on gauges and panels.
- PACK, BLEED, PACK FLOW and TEMPERATURE selections are made at the air condition panel.

- Understanding fundamentals of aircraft Cabin Pressurization and its components.
- The set is functional and configured like a typical aircraft Cabin Pressurization system.
- The trainer include the following panels that will work functionally.
  - Aircraft Cabin Pressurization panel
  - Aircraft air condition panel
  - Aircraft auto-pilot panel
  - Test panel
  - Master power panel
  - Master caution panel
- Two transparent cabin in the training set to simulate the interior of the cabin.

## Components

- PSU( Passenger Service Unit)
- 10 inch Lower ECAM
  - Vertical speed indicator
  - Altimeter indicator
  - Cabin Altimeter
  - Cabin pressure
  - Air pressure
  - Differential pressure
  - Status area
    - Flow status
    - Pack flow status
    - Bleed status
    - Auto pilot status
    - Pressurization mode
    - Temp
    - Air/ground
- Min 2 Outflow valve
- Min 2 outflow control computers
- Aircraft Cabin Pressurization panel
  - Man V/S Control Switch
  - Mode selector
  - LDG ELEV Knop

- Aircraft air condition panel
  - Pack-1 control
  - Pack-2 control
  - ENG 1 Bleed
  - ENG 2 Bleed
  - APU Bleed
  - Pack Flow Selector
- Aircraft auto-pilot control panel
  - Vertical Speed Selector
  - Altitude Knop
  - Control Siwitch
- Terminals
- Master power panel
- Master power light
- Master caution panel
- Aural warning horn
- Test panel
- Circuit Breakers,
- LAN output
- Fault Panel for instructor.
- Outflow valve control boxes
- Outflow valve terminals
- Vacuum chamber (altitude simulator)
- Cabin pressure chamber (cabin simulator)
- Regulator (simulates air to cabin)
- Cabin pressure sensor
- 24 VDC power supply

## Documentation

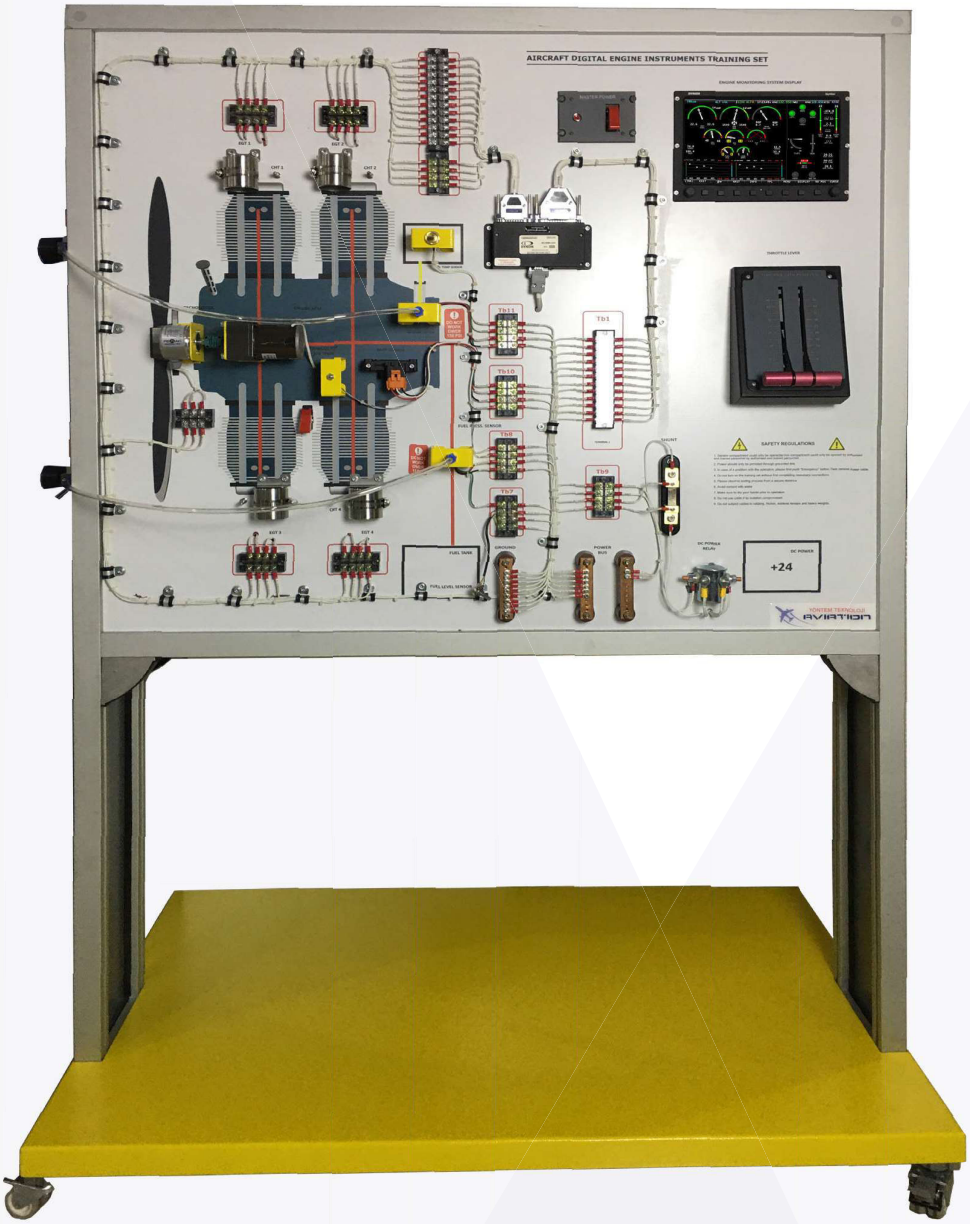
- User's Manual
- Study Guide
- Instructor's Guide

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Digital Engine Instrument System Trainer

Model CPT-110E





www.tescaglobal.com info@tesca.in +91-9829132777

# Digital Engine Instrument System Trainer
Model CPT-110E

Digital Engine Instrument System Trainer (CPT-110E) is a complete and fully functional simulation of typical aircraft piston engine instrument system. This training set provides hands-on maintenance training while also functioning as a demonstration tool for instructors. It demonstrates the principles of engine sensors & instrument and also can be used for teaching of instrument connection, removal and replacement.

## Specifications

### Features

- The system combine “aircraft systems instrumentation” and “engine instrumentation”.
- Functional engine monitoring system be connected to engine sensors.
- Provision of engine sensor simulation.
- Instructor’s Panel for fault insertion.
- Training video for teachers

### Components

- Smart MFD Screen
- Engine Data Modules
- Analog instruments
  - Fuel Temp/Press Indicator
  - Oil Temp/Press Indicators
- Sensors
  - Oil Temperature Sensor
  - Carburator Air Temp Sensor
  - Manifold Pressure Sensor
  - Fuel Level Sensor
  - Oil Pressure Sensor
  - Fuel Pressure Sensor
  - Engine RPM Sensor
  - Fuel Flow Sensor
  - Ammeter Shunt

- CHT Thermocouples (Qty 4)
- EGT Thermocouples (Qty 4)
- OAT Sensor
- Inductive sensor

- Aircraft circuit breakers.
- Throttle Lever
- Propeller Lever
- Power
  - Main Power
  - PDF
  - Tachometer
- Contacs:
  - Pitot Heater
  - L/G
  - Taxi Light
- Auxiliary Flight Control Simulation:
  - Aileron Trim
  - Elevator Trim
  - Flap Position
- Electronic Simulation of Sensors:
  - Oil Temperature Manifold Pressure
  - Engine RPM
  - Oil Pressure
  - Fuel Level
  - Fuel Press
- Sender Sellector Panel
  - Fuel System
  - Oil System

## Example ATA Chapters

- Instrument & Control Panels
- Independent Instruments
- Aural Warning Module R&R
- Efis Cont Panel R&R

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

## Others

- GPS receiver / antenna
- Aircraft circuit breakers.
- Throttle lever.

# Aircraft DME System Training Set

Model DME-100A



www.tescaglobal.com info@tesca.in +91-9829132777

# Aircraft DME System Training Set

Model DME-100A

Our trainer enables trainees to get hands-on experience on DME systems. The trainer ensures practical training with original aircraft DME equipment configured to bring real-life experience to the training environment. Our design provides trainees with a good understanding of DME equipment and a methodical approach for troubleshooting and testing procedures. We understand and tailor according to our customers' training needs.

The trainer is delivered plug and play and comes with necessary antennas, transmitters, receivers, wiring, and indicators.

**Optional**

- **Transponder/DME Test Set**
- **NAV/COM Tester**

Please contact us for Test Equipment.

## Specifications

### Features

- Understanding fundamentals of aircraft DME and its components.
- 0-10 A DC current meter and 0-30 V DC voltmeter
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel.

### Components

- DME (Distance Measuring Equipment)
- DME antenna with coaxial connector
- Dc Power Box
- Aircraft Circuit Breaker
- Circuit Breaker Lockout
- Audio jack
- 20 A power supply
- Current and voltage meters
- Assembled and wired according to aeronautical regulations
- Aeronautical standard connectors and jackets

# Components Technical Specs

## DME Device General Specs

- 200-channel receiver
- CHANNELING SOURCES: External control head providing BCD code, 2x5 code, slip code, or serial code
- RMT/FREQ/GS-T mode
- DME two concentric freq knop
- Freq Display
- Original installation manual.

## Optional

- **Transponder/DME Test Set**

Avionics test equipment is a ramp tester developed to simulate the ground station or airborne environment required to test Modes A and C transponders.

ARINC specifications and FAA regulations regarding pilot's code and encoded altitude tests and SLS, transponder receiver sensitivity, percent reply, and transmitter power, frequency

PRF measurements, precise range, power and frequency and velocity simulation.

- Digital readout of XPDR code and altitude
- Measures transponder frequency and checks for correct DME channel
- Binary pulse information for code and altitude
- Precision DME range and velocity signals, both X and Y channel
- Front panel connector provides direct check of altitude encoders
- Internal battery and battery charge
- Checks position of XPDR second framing pulse relative to F1

- **NAV/COM Tester**

- Output Power;
- ADF = -12 +/-3 dbm
- VOR= -10 +/-3 dbm
- ILS Localizer= -10 +/-3 dbm
- ILS GS = -17 +/-3 dbm
- ILS MKR = -15 +/-3 dbm
- DME = -12 +/-3 dbm
- TXPDR = -12 +/-3 dbm

- VOR radial accuracy; +/- 1 deg
- ILS localizer DDM accuracy; +/- 15%
- ILS glide slope DDM accuracy; +/- 15%
- DME accuracy; +/- 0.1NM
- Transponder specs;
- PRF 235+/-5 Mode A,C 50 +/-2 Mode S
- P2 level equal P1 +/- 0.1 dbm
- P2 position 2 +/-0.01 uS from P1
- P3 position 8 +/- .01uS or 21 +/- 0.02uS Rel to P1
- Pulse width 0.8 +/-0.01uS P1,P2,P3
- Frequency 1030 MHz Tx, 1090 MHz Rx , +/- 2.5ppm
- Reply % 0 to 100% displayed +/- 0.5%
- Reply window 2.5 to 3.5uS F1 from P3
- Pulse Width reads out to +/- 50nS resolution
- X Data Pulse Must=0 for good read
- SPI Displays ID message

**NOTE:** Avionics devices brand/model and some technical specs can be change due to market availability.

## Documentation

- User's Manual
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# ARINC429 & MIL STD 1553 Training Set

Model DTA-100



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## Specifications

Trainees can learn and practice the essential parts of data bus communication in an aircraft with DTA-100 Aircraft Data Bus Training Set. They can also learn the operation and applied data bus connection between avionic systems. The training set allows testing and maintenance of these systems. The training set includes two data bus systems.

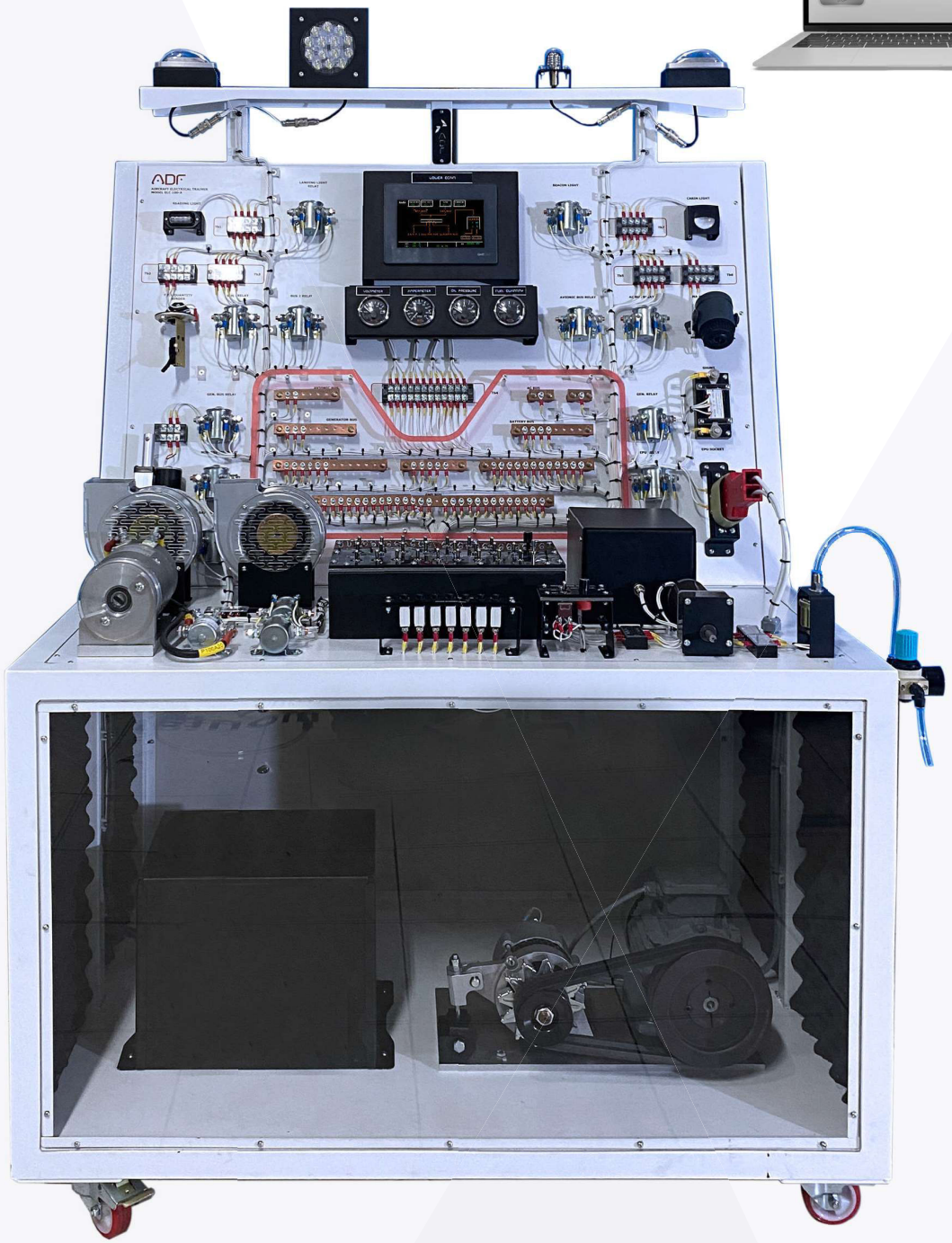
ARINC 429 is a data format for avionic systems. This format produces description of physical and electrical interface functions for numeric data systems in aircrafts. ARINC 429 is currently the essential data bus for several aircrafts.

MIL-STD-1553 is a data bus system enabling communication between avionics system with mechanic, electrical and functional characteristics in line with military standards.

- ARINC 429 DATA Generator PCI
- ARINC 429 Software
- MIL-STD 1553 DATA Generator PCI
- MIL STD 1553 Software
- Computer
- Data Screen
- Data Output and Input Socket
- Oscilloscope
- Printer
- Fault Panel
- RAC Panel System

# Aircraft Dual Electrical Training Set

## Model ELC-100D

# Aircraft Dual Electrical Training Set

Model ELC-100D

The Aircraft Dual Electrical System Trainer is a comprehensive system that is ideal for trainings on an aircraft dual-engine electrical system. By using this trainer, students both learn the functionality of each component, and develop logical and systematic approach to perform troubleshooting tasks.

The system is designed to depict a typical aircraft electrical system, and contains standard aircraft components and wiring. Model ELC 100D is a complete functional simulation of a dual-engine 28V DC electrical system include in 115/26 VAC 400 hz system.

## Specifications

### Features

- Understanding fundemantels of aircraft Electrical System and its components
- Typical aircraft Dual Electrical System system.
- Instructor's fault panel for introduction ( 10 simulated faults )
- Typical Cockpit Instrumentation, Circuit Breakers, and Controls
- Digital Instrument Panel (ECAM) System
- Analog Instruments
- DC and AC powers
- Representative DC and AC Loads
- AC and DC bus system (Main, Auxiliary, Bus, Gen, AC, Avionics)
- İnternal and External Lights
- Split bus system
- Battery charging system
- Distribution terminal strip
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aliminium compozit panel.
- Generators and battery should be in a box under the trainer with transparent plexiglass in front.
- All components should be connected via terminals.

- Computer Control Software (CCS)
  - Trainer monitored
  - Fault panel control from software
  - All data shown in the software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## Components

- Control Panel
  - All Bus control sw
  - All Load control
  - Nav light control
  - Beacon control
  - Volt metre selector knob
  - External lights control switches
  - İnternal lights control switches
- Breaker (CB) Panel
  - Generator CB
  - NAV CB
  - Aviyonic CB
  - Beacon CB
  - Actuator CB
  - Main Bus CB
  - Blower CB
  - Auxiliary- (Non- essential) CB
  - Extarnal power bus CB
  - Circuit breaker lockout
- Relays
  - Two ac bus relay
  - Two ac bus 26 vac relay
  - Generator bus 1 relay
  - Generator bus 2 relay
  - Battery bus relay
  - Main bus relay
  - Two Auxiliary- (Non- essential) (bus relay)
  - Extarnal power bus Relay
  - Avionics bus relay
  - Battery relay
  - Generator relay
  - Blower relay
  - Starter relay
  - · Reverse current relay
- Electromechanical Loads Generator
  - Landing Gear Motor
  - Cabin Air Blower
  - Electromechanical Actuator Starter engine

## Components

- Two 24 volt starter
- External Lights
  - Navigation Lights with Strobes
  - Right wing
  - Left wing
  - Tail
  - Beacon
  - Landing Light
  - Taxi Light
- Bus bars
  - Two ac bus 115 vac 400hz
  - Two ac bus 26 vac 400hz
  - Two gnd bus
  - Generator bus 1
  - Generator bus 2
  - Battery bus
  - Main bus
  - Two Auxiliary- (Non- essential) bus
  - Extarnal power bus
  - Avionics bus
- Internal Lights
  - Cabin Light
  - Reading Light
  - Multifunction Cockpit Light with Dimmer
- Instruments
  - Digital Instrument Panel (ECAM)
    - All bus voltmeter
    - All bus status should be illustrated
    - All switch positions
  - Load status
  - Two Analog Voltmeter
  - Analog Ammeter
  - Two Hourmeter
  - Analog Presssure Gauge
  - Analog Temperature Gauge
  - Two Analog Fuel level Gauge
- Wiring
  - Aircraft wires, with clear identification la- bels for each wire.

- All wires are coded and labeled for trouble- shooting.
- Electrical driven by 230 VAC/50 Hz Motor.

- Generator Controls (for two generator)
  - Electronic Controlled Generator
  - Driven motor control switch and light
  - Driven motor speed control knob
  - Voltage regulators
- AC Powers
  - One Static Inverters 115VAC @ 400 Hz.
  - One static inverter 26VAC @ 400 Hz
- DC Powers
  - Two 28 volt generator driven by electrical motor
- Aircraft EPU plug
- Aircraft EPU Socket

## Documentation

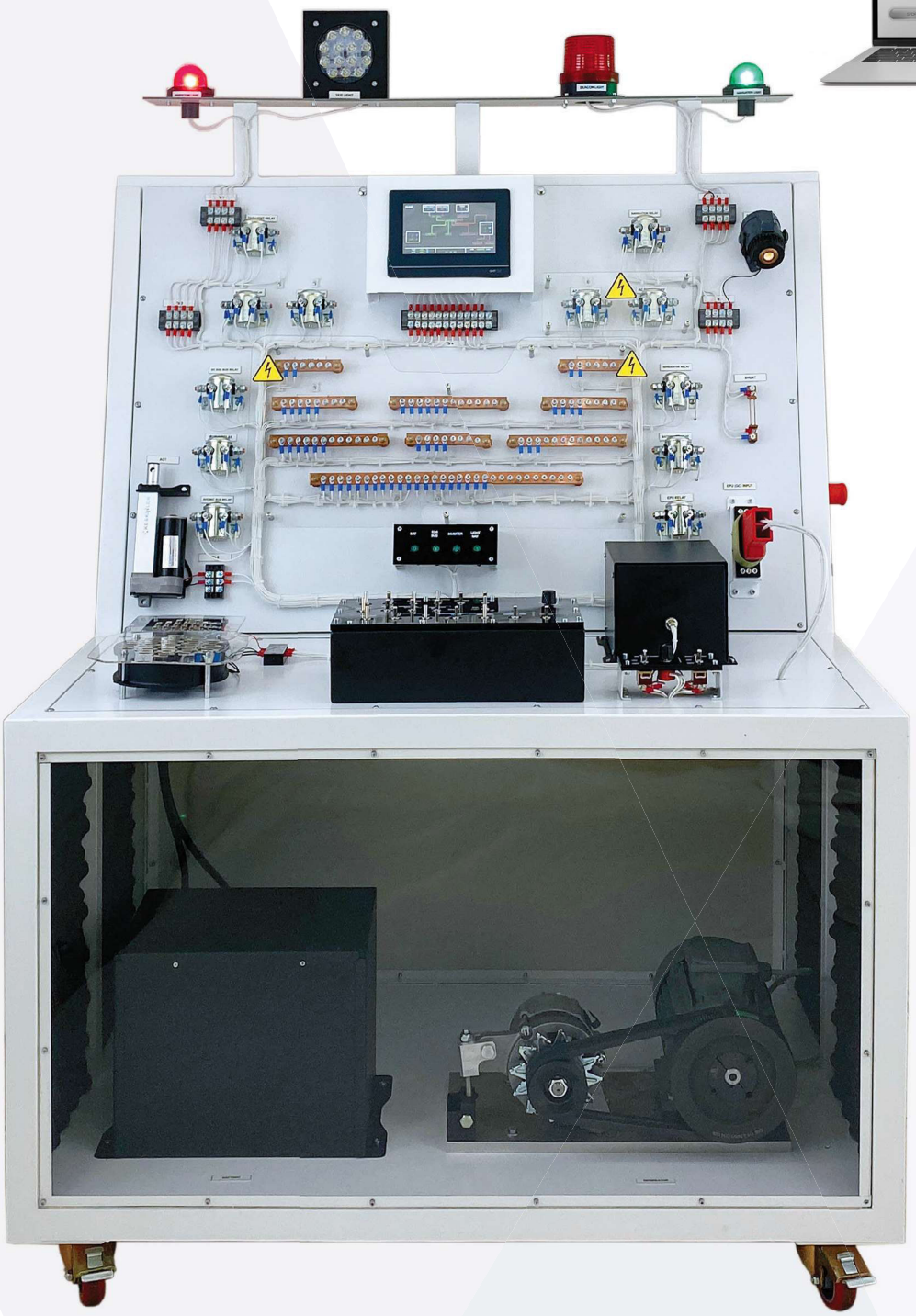
- User's Manual
- Study Guide
- Instructor's Guide
- Wiring Diagrams
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Aircraft Single Electrical System Trainer

## Model ELC-100S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# Aircraft Single Electrical System Trainer

Model ELC-100S

The Aircraft Single Electrical System Trainer is a comprehensive system that is ideal for trainings on an aircraft Single-engine electrical system. By using this trainer, students both learn the functionality of each component, and develop logical and systematic approach to perform troubleshooting tasks.

The system is designed to depict a typical aircraft electrical system, and contains standard aircraft components and wiring. Model ELC 100S is a complete functional simulation of a single-engine 28V DC electrical system include in 115/26 VAC 400 hz system.

## Specifications

### Features

- Understanding fundemantels of aircraft Electrical System and its components
- Typical aircraft Single Electrical System system.
- Instructor's fault panel for introduction ( 10 simulated faults )
- Typical Cockpit Instrumentation, Circuit Breakers, and Controls
- Digital Instrument Panel (ECAM) System
- Analog Instruments
- DC and AC powers
- Representative DC and AC Loads
- AC and DC bus system (Main, Auxiliary, Bus, Gen, AC, Avionics)
- İnternal and External Lights
- Battery charging system
- Distribution terminal strip
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aliminium compozit panel.
- Generators and battery should be in a box under the trainer with transparent plexiglass in front
- All components should be connected via terminals.

- Computer Control Software (CCS)
  - Trainer monitored
  - Fault panel control from software
  - All data shown in the software

## Components

- Control Panel
  - All Bus control sw
  - All Load control
  - Nav light control
  - Beacon control
  - Volt metre selector knob
  - External lights control switches
  - İnternal lights control switches
- Breaker (CB) Panel
  - Generator CB
  - NAV CB
  - Aviyonic CB
  - Beacon CB
  - Actuator CB
  - Main Bus CB
  - Blower CB
  - Auxiliary- (Non- essential) CB
  - Extarnal power bus CB
  - Circuit breaker lockout
- Relays
  - Two ac bus relay
  - Two ac bus 26 vac relay
  - Generator bus 1 relay
  - Generator bus 2 relay
  - Battery bus relay
  - Main bus relay
  - Two Auxiliary- (Non- essential) (bus relay)
  - Extarnal power bus Relay
  - Battery relay
  - Generator relay
  - Blower relay
  - Starter relay
- Electromechanical Loads Generator
  - Landing Gear Motor
  - Cabin Air Blower
  - Electromechanical Actuator Starter engine
  - Two 24 volt starter

## Components

- External Lights
  - Navigation Lights with Strobes
  - Right wing
  - Left wing
  - Tail
  - Beacon
  - Landing Light
- Control Panel
  - All Bus control sw
  - All Load control
  - Nav light control
  - Beacon control
  - Volt metre selector knob
  - External lights control switches
  - İnternal lights control switches
- Breaker (CB) Panel
  - Generator CB
  - NAV CB
  - Aviyonic CB
  - Beacon CB
  - Actuator CB
  - Main Bus CB
  - Blower CB
  - Non-ess bus CB
- Relays
  - Two ac bus relay
  - Two ac bus 26 vac relay
  - Generator bus 1 relay
  - Generator bus 2 relay
  - Battery bus relay
  - Main bus relay
  - Two non-esn bus relay
  - Avionics bus relay
  - Battery relay
  - Generator relay
  - Blower relay
  - Starter relay
- Electromechanical Loads Generator

## Components

- Landing Gear Motor
- Cabin Air Blower
- Electromechanical Actuator Starter engine
- Two 24 volt starter
- External Lights
  - Navigation Lights with Strobes
  - Right wing
  - Left wing
  - Tail
  - Beacon
  - Landing Light
  - Taxi Light
- Bus bars
  - Two ac bus 115 vac 400hz
  - Two ac bus 26 vac 400hz
  - Two gnd bus
  - Generator bus 1
  - Generator bus 2
  - Battery bus
  - Main bus
  - Two Auxiliary- (Non- essential) bus
  - Extarnal power bus
  - Avionics bus
- Internal Lights
  - Cabin Light
  - Reading Light
  - Multifunction Cockpit Light with Dimmer
- Instruments
  - Digital Instrument Panel (ECAM)
    - All bus voltmeter
    - All bus status should be illustrated
    - All switch positions
  - Load status
  - Two Analog Voltmeter
  - Analog Ammeter
  - Two Hourmeter
  - Analog Presssure Gauge
  - Analog Temperature Gauge


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- Two Analog Fuel level Gauge
- Wiring
  - Aircraft wires, with clear identification la- bels for each wire.
  - All wires are coded and labeled for trouble- shooting.
  - Electrical driven by 230 VAC/50 Hz Motor.
- Generator Controls (for two generator)
  - Electronic Controlled Generator
  - Driven motor control switch and light
  - Driven motor speed control knob
- AC Powers
  - One Static Inverters 115VAC @ 400 Hz.
  - One static inverter 26VAC @ 400 Hz
- DC Powers
  - Two 28 volt generator driven by electrical motor
- Aircraft EPU plug
- Aircraft EPU Socket

## Documentation

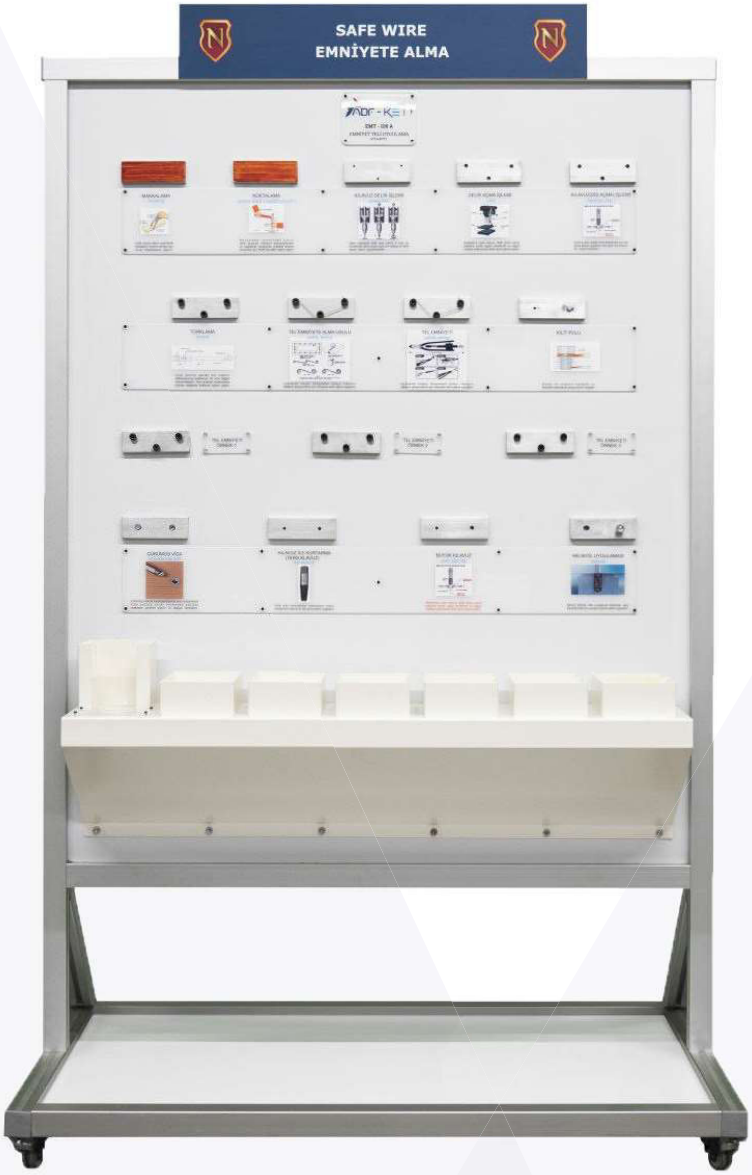
- User's Manual
- Study Guide
- Instructor's Guide
- Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Safety Wire Training Set

Model EMT-100A





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# Safety Wire Training Set
Model EMT-100A

EMT-100 A Safety-Wire Training Stand enables trainees to observe all steps of safety wiring on an aircraft or any component.

Trainees can also learn several application processes in line with EASA-147 mechanical requirements.

## Specifications

### Features

- Understanding fundemantels of Safety Wire and its components.
- 15 aliminum parts for different stage
- Aliminum panels display 7 different applications.
- Marking paintapplication
- Marking line application
- Center punch application
- Normal drill application
- Tapping application
- Helicoil application
- Safety wire application
- 3 different safety wire samples.

### Components

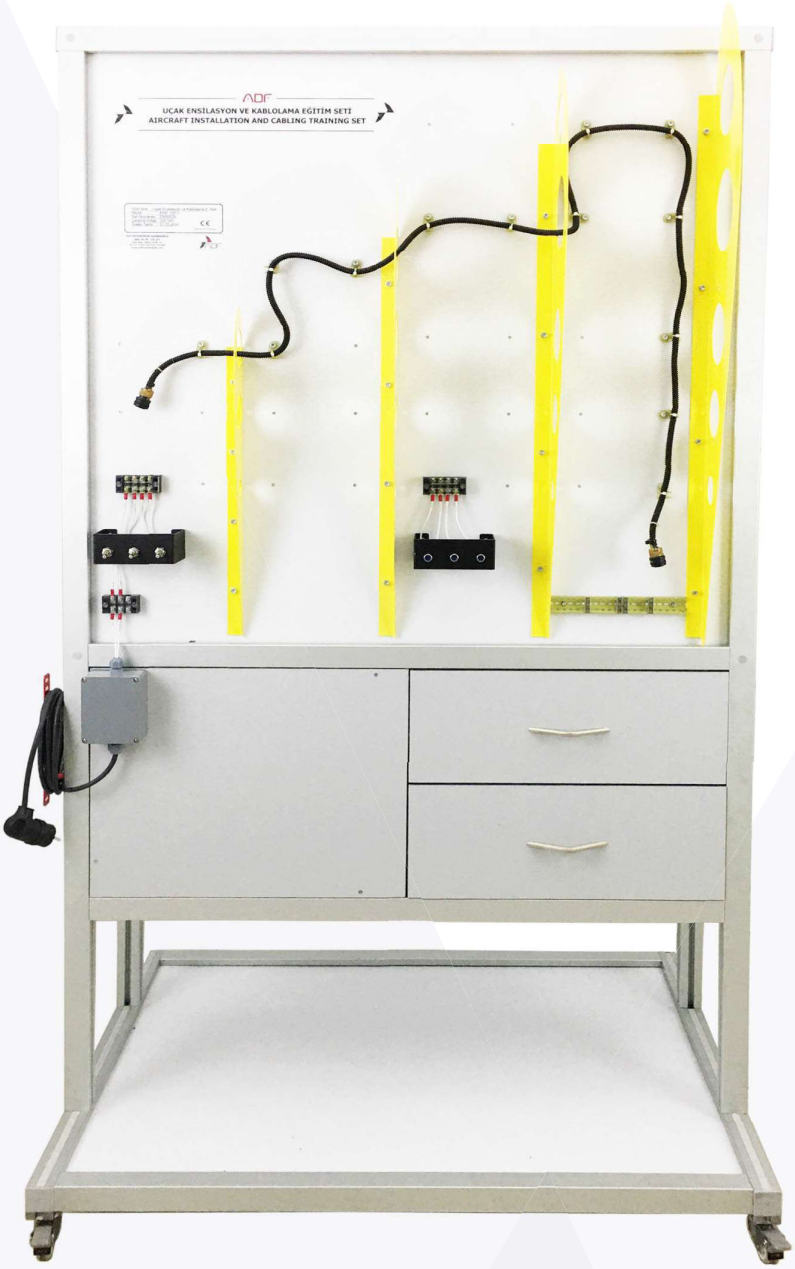
- Aliminum Parts
- Drilled Bolts
- Aviation standard safety wire twisters (6 inches – 2 pieces)
- Aviation standard safety wire twisters (9 inches – 2 pieces)
- Aviation standard 0,20/0,22 or 0,32 safety wires( 10 boxes )

## Documentation

- User's Manual
- Study Guide

# Aircraft Wire & Cable Application Trainer

Model ENS-100A



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# Aircraft Wire & Cable Application Trainer

Model ENS-100A

ENS-100A Aircraft Wire and Cable Application Training Stand is designed as a mechanism allowing practical wiring and cabling between devices. Trainees can practice various cabling and wiring on the set and learn about different techniques.

## Specifications

### Features

- Understanding fundemantels of aircraft Wire & Cable Application and its components.
- Electrical test applications
- Aircraft socket applications
- Antenna cable application
- Terminal application
- Electric bar application
- Ring and fork crimp applications
- Heat shrink tube applications
- Strap application
- Cables is displayed on ribs.
- 2 drawers for tools
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aliminium compozit panel.

## Components

- Test panel
- Aircraft Plug/Sockets
- Pin insertion/extraction tool kits Cable Stopper
- Aircraft pin crimp ring tool (standart M22520/1-01)
- Standart crimp ring tool
- Automatic Wire Stripper
- Wire Cutter
- Terminals
- Straps Application
- 5 different heat shrinks (100 meter)
- 3 different insulated crimp ring for applications (600 pieces)
- 3 different insulated fork crimps for applications (600 pieces)
- Aircraft cable sample(30 meter)
- Antenna cable
- Antenna cable plug/socket
- White abplication cable (200 meter)
- Relay
- Mock-up wing ribs (4 piece)

## Documentation

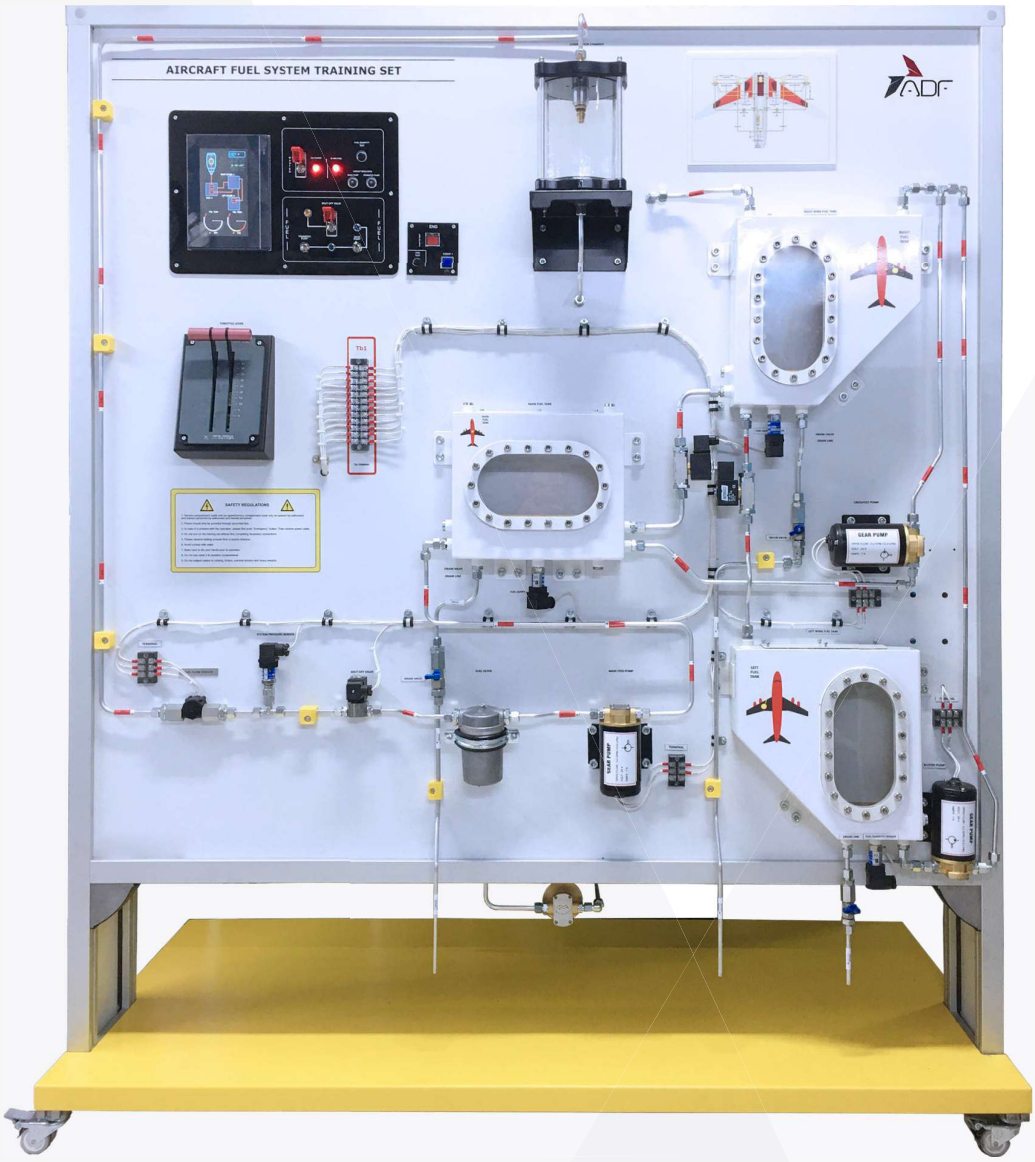
- User's Manual
- Study Guide

## Power Specs

- Electrical box
- Residual current device
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Aircraft Turbine Fuel System Trainer (3 tanks-1 ENG)

Model FCU-100A





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# Aircraft Turbine Fuel System Trainer (3 tanks-1 ENG)

Model FCU-100A

Designed to represent a complete aircraft fuel system, Model FCU – 100 Turbine Fuel System Training Set enables trainees to learn the essentials of fuel system components and how these components are linked to each other in a typical aircraft fuel system. This trainer includes a capacitance fuel system that shows non-linear fuel quantity indications with multiple probes set at various angles. It comes fully plumbed and with a wing tank.
This completely functional fuel system consists of a fuel management panel, fuel transfer system and capacitance fuel quantity indicating system. It also contains an instructor's panel that makes it possible to add faults to conduct troubleshooting training.
The fuel system panel features fuel quantity indicators, a fuel transfer selector valve, fuel transfer and low fuel warning lights, fuel pressure and flow indicators and complete fuel system drawings.

This system contains, engine driven fuel pump screen, fuel filter, fuel control unit, turbine fuel nozzle inside a clear enclosed container etc.

## Specifications

### Features

- Understand fundamentals of aircraft fuel system and its components.
- Fully functional and configured like a typical aircraft fuel system.
- Aircraft fuel system can run automatically and manually.
- Fuel tanks are automatically filled and when tank is full system is automatically be shut off.
- The control of the fuel that flows to combustion chamber can be observed using the throttle lever.
- Fuel tanks have a maintenance hatch.
- Fuel tanks be manually drained for maintenance.
- Fuel tanks have transparent window in order to observe fuel filling and refilling.
- Combustion chamber is transparent.
- Tanks are able to manually or automatically cross-fit.
- Aircraft fire scenario is simulated.
- The hose and tubes used in the trainer are labeled according to aviation standards.
- Wirings on the trainer are connected via terminals.
- Wires have clear identification labels for each wire.
- All wires are coded and labeled for troubleshooting.
- All required hoses and pipes
- Instructor's panel for Fault Insertion(Independent unit)
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.

- Training video for teachers.
- Delivered fully assembled tested and ready to operate.
- Colored Ultraviolet printing method on aluminum composite panel.

## Components

- Fuel Control Unit
- Three(3) pieces minimum mock-up fuel tank
- A minimum 40 Lbs aircraft refuel tank
- Three(3) pieces fuel pump
- Three(3) Level control switches
- A refuel pump
- Engine no: 1 Combustion chamber
- Nozzle
- Throttle lever
- Fuel filter
- Crossfeed control valve
- Fuel Pressure sender
- Fuel Level Sender
- Fuel Flow Sensor
- Shut-Off Valve
- Control panel
- 10” inch touchable screen
- Terminals
- Three(3) manual drain valve
- Check valves
- LAN output
- Control Panel
- Master power panel
- Master caution panel
- Aural warning horn
- Left pump control switch
- Right pump control switch
- Main pump control switch
- Test button
- Status lamps
- Aircraft circuit breaker
- Aircraft circuit breaker lockout
- 10” inch touchable screen(like EICAS or ECAM)
- • Left tank fuel quantity indicator

- Right tank fuel quantity indicator
- Fuel pressure indicator
- Fuel flow indicator
- Switch Position
- Valve status

## Documentation

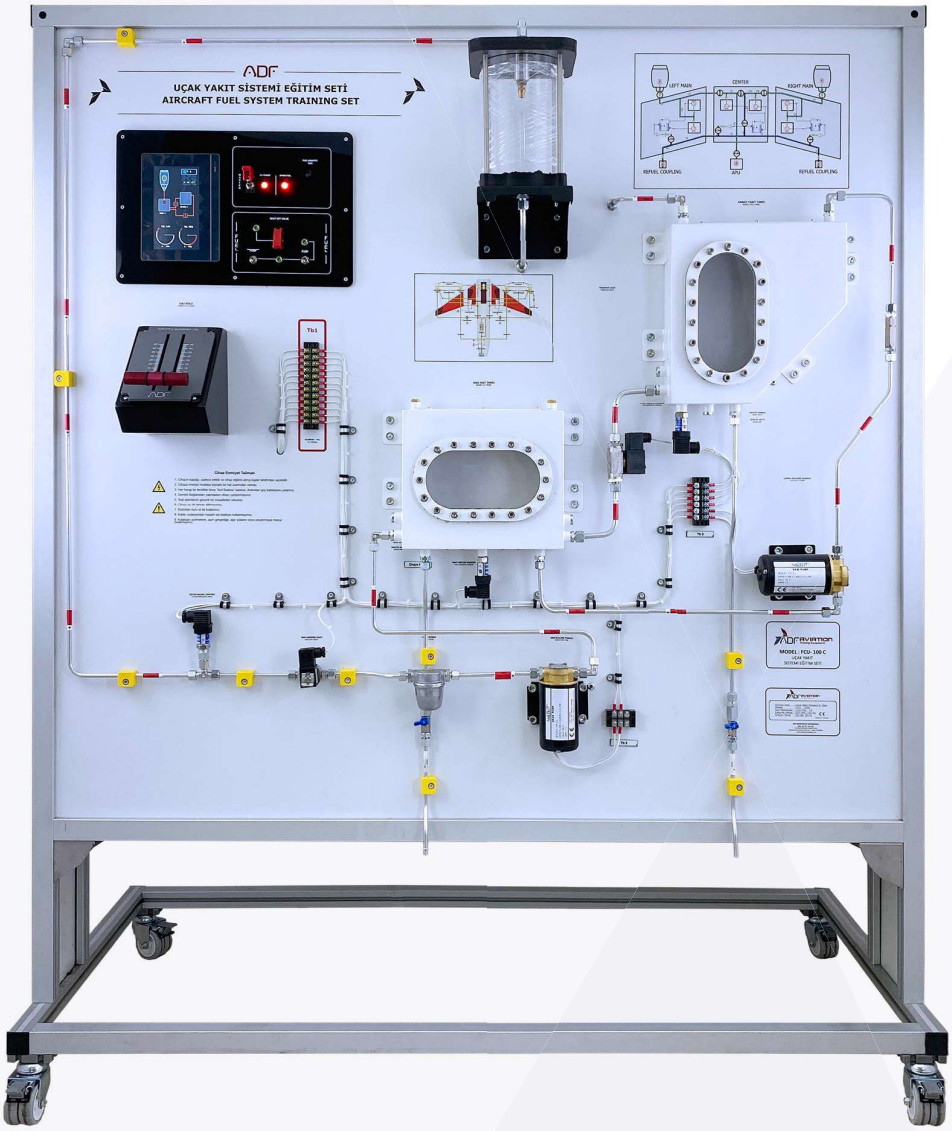
- User's Manual
- Study Guide
- Instructor's Guide
- Components Diagrams
- Flow Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Aircraft Turbine Fuel System Trainer

## Model FCU-100B



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# Aircraft Turbine Fuel System Trainer

Model FCU-100B

Designed to represent a complete aircraft fuel system, Model FCU – 100 Turbine Fuel System Training Set enables trainees to learn the essentials of fuel system components and how these components are linked to each other in a typical aircraft fuel system. This trainer includes a capacitance fuel system that shows non-linear fuel quantity indications with multiple probes set at various angles. It comes fully plumbed and with a wing tank.

This completely functional fuel system consists of a fuel management panel, fuel transfer system and capacitance fuel quantity indicating system. It also contains an instructor's panel that makes it possible to add faults to conduct troubleshooting training.The fuel system panel features fuel quantity indicators, a fuel transfer selector valve, fuel transfer and low fuel warning lights, fuel pressure and flow indicators and complete fuel system drawings.

This system contains, engine driven fuel pump screen, fuel filter, fuel control unit, turbine fuel nozzle inside a clear enclosed container etc.

## Specifications

### Features

- Understand fundamentals of aircraft fuel system and its components.
- Fully functional and configured like a typical aircraft fuel system.
- Aircraft fuel system can run automatically and manually.
- Fuel tanks are automatically filled and when tank is full system is automatically be shut off.
- The control of the fuel that flows to combustion chamber can be observed using the throttle lever.
- Fuel tanks have a maintenance hatch.
- Fuel tanks be manually drained for maintenance.
- Fuel tanks have transparent window in order to observe fuel filling and refilling.
- Combustion chamber is transparent.
- Tanks are able to manually or automatically cross-fit.
- Aircraft fire scenario is simulated.
- The hose and tubes used in the trainer are labeled according to aviation standards.
- Wirings on the trainer are connected via terminals.
- Wires have clear identification labels for each wire.
- All wires are coded and labeled for troubleshooting.
- All required hoses and pipes
- Instructor's panel for Fault Insertion(Independent unit)
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.

- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel.

- Computer Control Software (CCS)
  - Trainer monitored
  - Fault panel control from software
  - All data shown in the software

## Components

- Fuel Control Unit(FCU)
- Three(3) pieces minimum mock-up fuel tank
- A minimum 40 Lbs aircraft refuel tank
- Three(3) pieces fuel pump
- Three(3) Level control switches
- A refuel pump
- Engine no: 1 Combustion chamber
- Fuel Nozzle
- Throttle lever
- Fuel filter
- Crossfeed control valve
- Fuel Pressure sender
- Fuel Level Sender
- Fuel Flow Sensor
- Shut-Off Valve
- Control panel
- 10” inch touchable screen
- Terminals
- Three(3) manual drain valve
- Check valves
- LAN output
- Control Panel
- Master power panel
- Master caution panel
- Aural warning horn
- Left pump control switch
- Right pump control switch
- Main pump control switch
- Test button
- Status lamps

- Aircraft circuit breaker
- Aircraft circuit breaker lockout
- Pressure relief bypass valve
- 10” inch touchable screen(like EICAS or ECAM)
  - Left tank fuel quantity indicator
  - Right tank fuel quantity indicator
  - Fuel pressure indicator
  - Fuel flow indicator
  - Switch Position
  - Valve status

## Documentation

- User’s Manual
- Study Guide
- Instructor’s Guide
- Components Diagrams
- Flow Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Aircraft Turbine Fuel System Trainer

Model FCU-100C




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# Aircraft Turbine Fuel System Trainer

Model FCU-100C

Designed to represent a complete aircraft fuel system, Model FCU – 100 Turbine Fuel System Training Set enables trainees to learn the essentials of fuel system components and how these components are linked to each other in a typical aircraft fuel system. This trainer includes a capacitance fuel system that shows non-linear fuel quantity indications with multiple probes set at various angles. It comes fully plumbed and with a wing tank.

This completely functional fuel system consists of a fuel management panel, fuel transfer system and capacitance fuel quantity indicating system. It also contains an instructor's panel that makes it possible to add faults to conduct troubleshooting training.

The fuel system panel features fuel quantity indicators, a fuel transfer selector valve, fuel transfer and low fuel warning lights, fuel pressure and flow indicators and complete fuel system drawings.

This system contains, engine driven fuel pump screen, fuel filter, fuel control unit, turbine fuel nozzle inside a clear enclosed container etc.

## Specifications

### Features

- Understand fundamentals of aircraft fuel system and its components.
- Fully functional and configured like a typical aircraft fuel system.
- Aircraft fuel system can run automatically and manually.
- Fuel tanks are automatically filled and when tank is full system is automatically be shut off.
- The control of the fuel that flows to combustion chamber can be observed using the throttle lever.
- Fuel tanks have a maintenance hatch.
- Fuel tanks be manually drained for maintenance.
- Fuel tanks have transparent window in order to observe fuel filling and refilling.
- Combustion chamber is transparent.
- Tanks are able to manually or automatically cross-fit.
- Aircraft fire scenario is simulated.
- The hose and tubes used in the trainer are labeled according to aviation standards.
- Wirings on the trainer are connected via terminals.
- Wires have clear identification labels for each wire.
- All wires are coded and labeled for troubleshooting.

- All required hoses and pipes
- Instructor's panel for Fault Insertion(Independent unit)
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

- Computer Control Software (CCS)
  - Trainer monitored
  - Fault panel control from software
  - All data shown in the software

## Components

- Fuel Control Unit
- Three(3) pieces minimum mock-up fuel tank
- A minimum 40 Lbs aircraft refuel tank
- Three(3) pieces fuel pump
- Three(3) Level control switches
- A refuel pump
- Engine no: 1 Combustion chamber
- Engine no: 2 Combustion chamber
- Nozzle
- Throttle lever
- Fuel filter
- Crossfeed control valve
- Fuel Pressure sender
- Fuel Level Sender
- Fuel Flow Sensor
- Shut-Off Valve
- Control panel
- 10" inch touchable screen
- Terminals
- Three(3) manual drain valve
- Check valves
- LAN output
- Control Panel
  - Master power panel

- Master caution panel
- Aural warning horn
- Left pump control switch
- Right pump control switch
- Main pump control switch
- Test button
- Status lamps
- Aircraft circuit breaker

- 10” inch touchable screen(like EICAS or ECAM)
  - Left tank fuel quantity indicator
  - Right tank fuel quantity indicator
  - Fuel pressure indicator
  - Fuel flow indicator
  - Switch Position
  - Valve status

## Documentation

- User’s Manual
- Study Guide
- Instructor’s Guide
- Components Diagrams
- Flow Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Aircraft Turbine Fuel System Trainer (3 tanks-2 ENG)

Model FCU-100V




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# Aircraft Turbine Fuel System Trainer (3 tanks-2 ENG)

Model FCU-100V

Designed to represent a complete aircraft fuel system, Model FCU – 100 Turbine Fuel System Training Set enables trainees to learn the essentials of fuel system components and how these components are linked to each other in a typical aircraft fuel system.

This trainer includes a capacitance fuel system that shows non-linear fuel quantity indications with multiple probes set at various angles. It comes fully plumbed and with a wing tank.

This completely functional fuel system consists of a fuel management panel, fuel transfer system and capacitance fuel quantity indicating system. It also contains an instructor's panel that makes it possible to add faults to conduct troubleshooting training.

The fuel system panel features fuel quantity indicators, a fuel transfer selector valve, fuel transfer and low fuel warning lights, fuel pressure and flow indicators and complete fuel system drawings.

This system contains, engine driven fuel pump, screen, fuel filter, fuel control unit, system sensors, fuel dispenser system turbine fuel nozzle inside a clear enclosed container etc.

## Specifications

### Features

- Understand fundamentals of aircraft fuel system and its components.
- Fully functional and configured like a typical aircraft fuel system.
- Aircraft fuel system can run automatically and manually.
- Fuel tanks are automatically filled and when tank is full system is automatically be shut off.
- The control of the fuel that flows to combustion chamber can be observed using the throttle lever.
- Some of Trainer Functions
  - Mode selector auto/manuel function
  - Cross feed function
  - Pumps fault function
  - ECAM functions
  - Single chime functions
  - Master caution functions
  - Master warning functions
- Some of Trainer Processes
  - Fuel transfer process
  - Refueling process
  - Defueling process
  - Bonding process

- Some of Trainer Cases
  - Inner cell full
  - Slat extended
  - No engine start
  - Center tank low level
  - Wing tank full
- Fuel dispenser unit and its equipment
- Bonding equipment
- Aircraft fire scenario is simulated.
- Fuel tanks be manually drained for maintenance.
- Fuel tanks have transparent window in order to observe fuel filling and refilling.
- Combustion chambers is transparent.
- Tanks are able to manually or automatically cross-fit.
- The hose and tubes used in the trainer are labeled according to aviation standards.
- Wirings on the trainer are connected via terminals.
- Wires have clear identification labels for each wire.
- All wires are coded and labeled for troubleshooting.
- All required hoses and pipes
- Instructor's panel for Fault & simulation Insertion panel (Independent unit)
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

## Components

- Fuel Control Unit
- Five(5) pieces fuel tank ( 2 inner, 2 outer, 1 center )
- Six(6) pieces fuel pump
- Three(3) Level control switches
- 2 two Combustion chamber
- Engine no: 1 Combustion chamber
- Engine no: 2 Combustion chamber
- 2 two Nozzle
- Throttle lever,
  - Dual quadrants
  - Dual engine start panel
- Two transfer valve

- Suction Valve
- Fuel filter
- Cross feed control valve
- Fuel System Pressure sensor for each line
- Fuel Level sensor for each tank
- Fuel System Flow Sensor
- Fuel temp sensor
- Hi level sensor for each tank
- Two Engine Shut-Off Valve
- Three(3) manual drain valve
- Check valves
- Refueling panel
  - Left hi level
  - Center hi level
  - Right hi level
  - Refuel valves open function
  - Refuel valves norm function
  - Refuel valves shut function
  - Refuel mode selector SW
  - Transfer valve indicator
  - Test sw
  - END indicator
- Two (2) Refuel valve
- Two (2) Refuel coupling
- A refueling dispenser vehicle
- Refueling equipment
- Bonding equipment
- Fuel tanks maintenance hatch
- Fuel system control computer
- Master warning & caution panel
  - Aural warning horn
  - Master warning resettable illuminated pushbutton
  - Master caution resettable illuminated pushbutton
- Control Panel
  - Mode selector control illuminated pushbutton
  - Mode selector fault indicator
  - Cross Feed control illuminated pushbutton
  - Left tank pump-1 control illuminated pushbutton
  - Left tank pump-2 control illuminated pushbutton

- Left tank pump-1 fault indicator
- Left tank pump-2 fault indicator
- Center tank pump-1 control illuminated pushbutton
- Center tank pump-2 control illuminated pushbutton
- Center tank pump-1 fault indicator
- Center tank pump-2 fault indicator
- Right tank pump-1 control illuminated pushbutton
- Right tank pump-2 control illuminated pushbutton
- Right tank pump-1 fault indicator
- Right tank pump-2 fault indicator

- Master power panel
- Aircraft circuit breaker
- Aircraft circuit breaker lockout
- 10” inch touchable screen(like EICAS or ECAM)
  - Wings & Center tank pumps indications
    - In line
    - LOW
    - Cross line
  - Cross feed indications
    - Valve is open
    - Valve is closed
  - Momo display
  - Fault display
  - Transfer valve status
  - Fuel temperature indicator
  - Re-fuel indication
  - Left wing tank fuel quantity indicator
  - Right wing tank fuel quantity indicator
  - Center tank fuel quantity indicator
  - Fuel pressure indicator
  - Fuel flow indicator
  - Valve status
  - Fire status
- LAN output
- Fault & instructor port
- Lockable Fault & instructor box
- Terminals

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Components Diagrams
- Flow Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Dual Fire Detection & Extinguisher Trainer

Model FDE-100D



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# Dual Fire Detection & Extinguisher Trainer

Model FDE-100D

FDE-100D training set simulates a functional fire detection and extinguishing system.It incorporates the continuous loop and spot detectors with controls, indication and test circuits.

The extinguisher discharges shop air when the system is activated. The instructor can induce faults for the trainees to troubleshoot, providing hands-on experience in troubleshooting.

The trainer is installed on a movable frame, it can be positioned as needed. This set simulates the system with two fire extinguisher container.

## Specifications

### Features

- Understanding fundamentals of aircraft Fire Detection & Extinguishing system and its components.
- Fire is simulated on the training set with any sensor.
- The trainer is designed with three zones allowing Engine-1 and Engine-2 fire simulation.
- Engine-1 fire warning is activated from fenwal detector.
- Engine-2 fire warning is activated from IR sensor.
- APU fire warning should is activated from loop detector.
- Trainer includes separate extinguishers for each zone on the training set.
- The trainer include an original, emptied, secure aircraft extinguisher bottle for maintenance practices.
- Trainer set includes cargo smoke system.
- The sensor generates necessary warnings when smoke is introduced.
- The trainer have discharge nozzles for each zone.
- Discharge nozzles are between 150 - 350 mm in length.
- Trainer includes three aluminum protection plates for heating sections on the loop sensor.
- Loop sensor is minumum 900 mm in length.
- The complete loop sensor is mounted on the training set so that it could be clearly seen.
- Trainer includes master caution system that could be reset.
- Trainer includes warning-horn system.
- Trainer includes three easily fillable fire extinguisher bottles for extinguishing simulation.
- Pressure indicators are for each bottle.
- Each bottle have filling points.

- Trainer has three full/empty mechanic indicator for bottles.
- Trainer has control selenoids for each zone line.
- Extinguishing system work crossfeed mode.
- Aircraft fire scenarios are simulated.
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel.

## Components

- Control Panel
  - Master power switch
  - Master power lamp
  - Press to test illuminated Master caution
  - Aural warning horn
  - Guarded Engine-1 fire status lamp and button
  - Guarded Engine-2 fire status lamp and button
  - Guarded APU fire status lamp and button
  - Cargo Smoke detection
  - System Test Switch
- Fire control unit
- Continuous-Loop temperature sensor
- Loop sensor control box
- Fenwall spot detector
- Fenwall spot detector control box
- IR(infrared) dedector
- IR sensor control box
- Smoke dedector
- 2 unit simulated fire- Extinguisher bottle
- 2 unit Extinguisher bottle pressure gauge
- 2 unit Extinguisher bottle line control valve
- 2 unit Resetable Discharge Indicator

- 2 unit at least 300mm discharge nozzle
- 1 unit aircraft Extinguisher bottle for maintanance aplications
- 1 unit terminal
- Fault panel

## Documentation

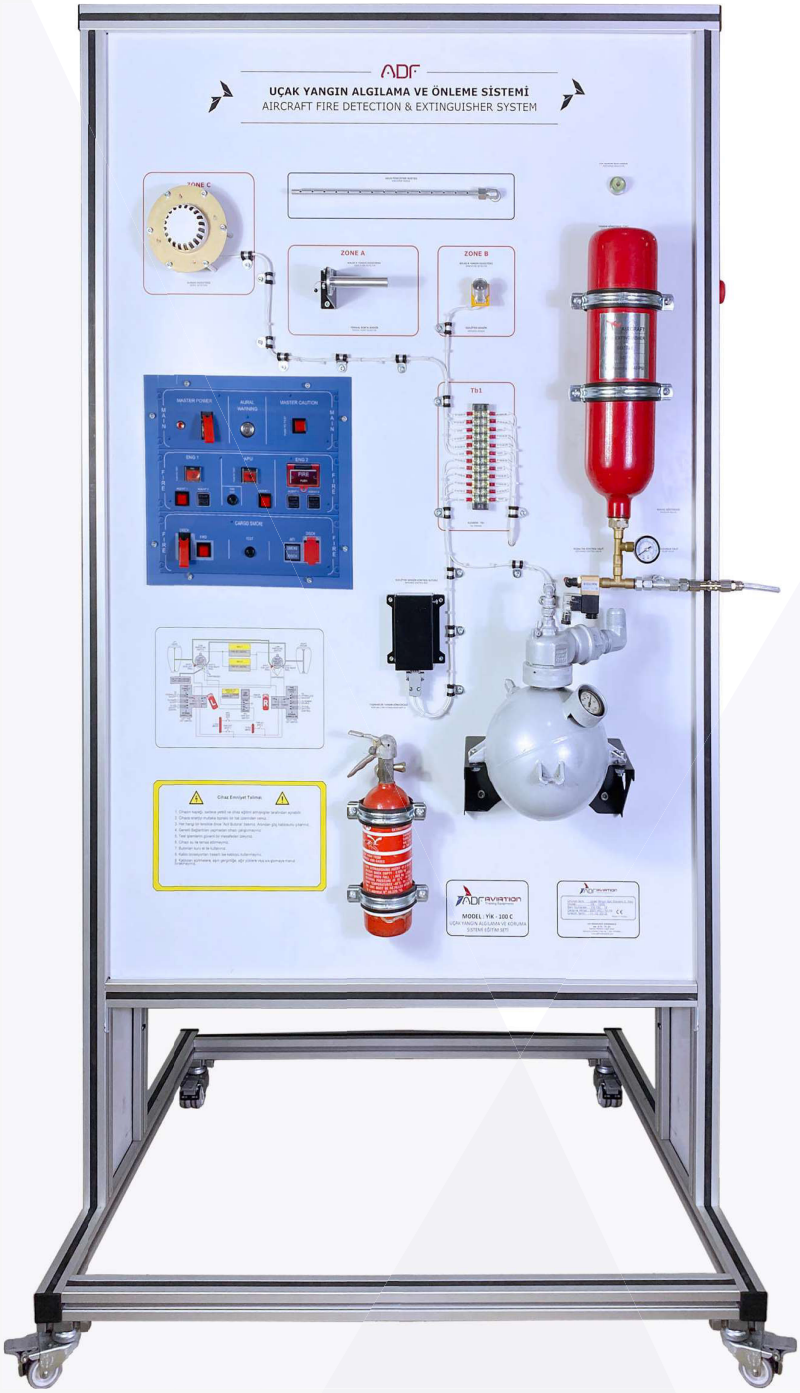
- User's Manual
- Study Guide
- Instructor's Guide
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Single Fire Detection & Extinguisher Trainer

## Model FDE-100S





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# Single Fire Detection & Extinguisher Trainer

Model FDE-100S

FDE-100S training set simulates a functional fire detection and extinguishing system. It incorporates the continuous loop and spot detectors with controls, indication and test circuits.

The extinguisher discharges shop air when the system is activated. The instructor can induce faults for the trainees to troubleshoot, providing hands-on experience in troubleshooting.

The trainer is installed on a movable frame, it can be positioned as needed. This set simulates the system with two fire extinguisher container.

## Specifications

### Features

- Understanding fundamentals of aircraft Fire Detection & Extinguishing system and its components.
- Fire is simulated on the training set with any sensor.
- The trainer is designed with three zones allowing Engine-1 and Engine-2 fire simulation.
- Engine-1 fire warning is activated from fenwal detector.
- Engine-2 fire warning is activated from IR sensor.
- APU fire warning should is activated from loop detector.
- Trainer includes separate extinguishers for each zone on the training set.
- The trainer include an original, emptied, secure aircraft extinguisher bottle for maintenance practices.
- Trainer set includes cargo smoke system.
- The sensor generates necessary warnings when smoke is introduced.
- The trainer have discharge nozzles for each zone.
- Discharge nozzles are between 150 - 350 mm in length.
- Trainer includes three aluminum protection plates for heating sections on the loop sensor.
- Loop sensor is minumum 900 mm in length.
- The complete loop sensor is mounted on the training set so that it could be clearly seen.
- Trainer includes master caution system that could be reset.
- Trainer includes warning-horn system.
- Trainer includes three easily fillable fire extinguisher bottles for extinguishing simulation.
- Pressure indicators are for each bottle.
- Each bottle have filling points.

- Trainer has three full/empty mechanic indicator for bottles.
- Trainer has control selenoids for each zone line.
- Extinguishing system work crossfeed mode.
- Aircraft fire scenarios are simulated.
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

## Components

- Control Panel
  - Master power switch
  - Master power lamp
  - Press to test illuminated Master caution
  - Aural warning horn
  - Guarded Engine-1 fire status lamp and button
  - Guarded Engine-2 fire status lamp and button
  - Guarded APU fire status lamp and button
  - Cargo Smoke detection
  - System Test Switch
- Fire control unit
- Continuous-Loop temperature sensor
- Loop sensor control box
- Fenwall spot detector
- Fenwall spot detector control box
- IR(infrared) dedector
- IR sensor control box
- Smoke dedector
- 1 unit simulated fire- Extinguisher bottle
- 1 unit Extinguisher bottle pressure gauge
- 1 unit Extinguisher bottle line control valve
- 1 unit Resetable Discharge Indicator

- 1 unit at least 300mm discharge nozzle
- 1 unit aircraft Extinguisher bottle for maintanance aplications
- 1 unit terminal
- Fault panel

## Documentation

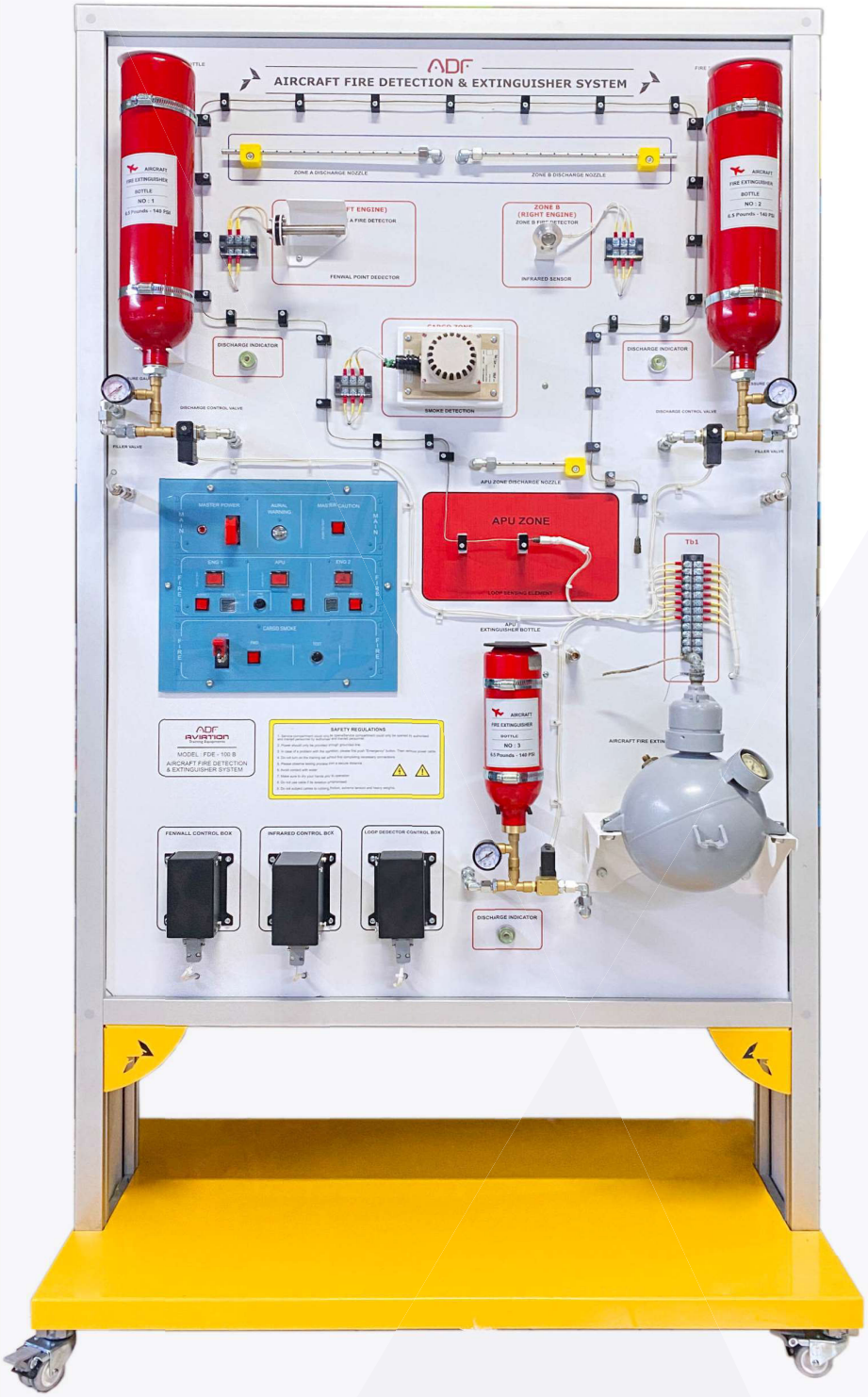
- User's Manual
- Study Guide
- Instructor's Guide
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Triple Fire Detection & Extinguisher Trainer

Model FDE-100T





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# Triple Fire Detection & Extinguisher Trainer

Model FDE-100T

FDE-100T training set simulates a functional fire detection and extinguishing system.It incorporates the continuous loop and spot detectors with controls, indication and test circuits.

The extinguisher discharges shop air when the system is activated. The instructor can induce faults for the trainees to troubleshoot, providing hands-on experience in troubleshooting.

The trainer is installed on a movable frame, it can be positioned as needed. This set simulates the system with two fire extinguisher container.

## Specifications

### Features

- Understanding fundamentals of aircraft Fire Detection & Extinguishing system and its components.
- Fire is simulated on the training set with any sensor.
- The trainer is designed with three zones allowing Engine-1, Engine-2 and APU fire simulation.
- Engine-1 fire warning is activated from fenwal detector.
- Engine-2 fire warning is activated from IR sensor.
- APU fire warning should is activated from loop detector.
- Trainer includes separate extinguishers for each zone on the training set.
- The trainer include an original, emptied, secure aircraft extinguisher bottle for maintenance practices.
- Trainer set includes cargo smoke system.
- The sensor generates necessary warnings when smoke is introduced.
- The trainer have discharge nozzles for each zone.
- Discharge nozzles are between 150 - 350 mm in length.
- Trainer includes three aluminum protection plates for heating sections on the loop sensor.
- Loop sensor is  minumum 900 mm in length.
- The complete loop sensor is mounted on the training set so that it could be clearly seen.
- Trainer includes master caution system that could be reset.
- Trainer includes warning-horn system.
- Trainer includes three easily fillable fire extinguisher bottles for extinguishing simulation.
- Pressure indicators are for each bottle.
- Each bottle have filling points.

- Trainer has three full/empty mechanic indicator for bottles.
- Trainer has control selenoids for each zone line.
- Extinguishing system work crossfeed mode.
- Aircraft fire scenarios are simulated.
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

- Computer Control Software (CCS)
  - Trainer monitored
  - Fault panel control from software
  - All data shown in the software

## Components

- Control Panel
  - Master power switch
  - Master power lamp
  - Press to test illuminated Master caution
  - Aural warning horn
  - Guarded Engine-1 fire status lamp and button
  - Guarded Engine-2 fire status lamp and button
  - Guarded APU fire status lamp and button
  - Cargo Smoke detection
  - System Test Switch
- Fire control unit
- Continuous-Loop temperature sensor
- Loop sensor control box
- Fenwall spot detector
- Fenwall spot detector control box
- IR(infrared) dedector
- IR sensor control box


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- Smoke dedector
- 3 unit simulated fire- Extinguisher bottle
- 3 unit Extinguisher bottle pressure gauge
- 3 unit Extinguisher bottle line control valve
- 3 unit Resetable Discharge Indicator
- 3 unit at least 300mm discharge nozzle
- 1 unit aircraft Extinguisher bottle for maintanance aplications
- 1 unit terminal
- Fault panel

## Documentation

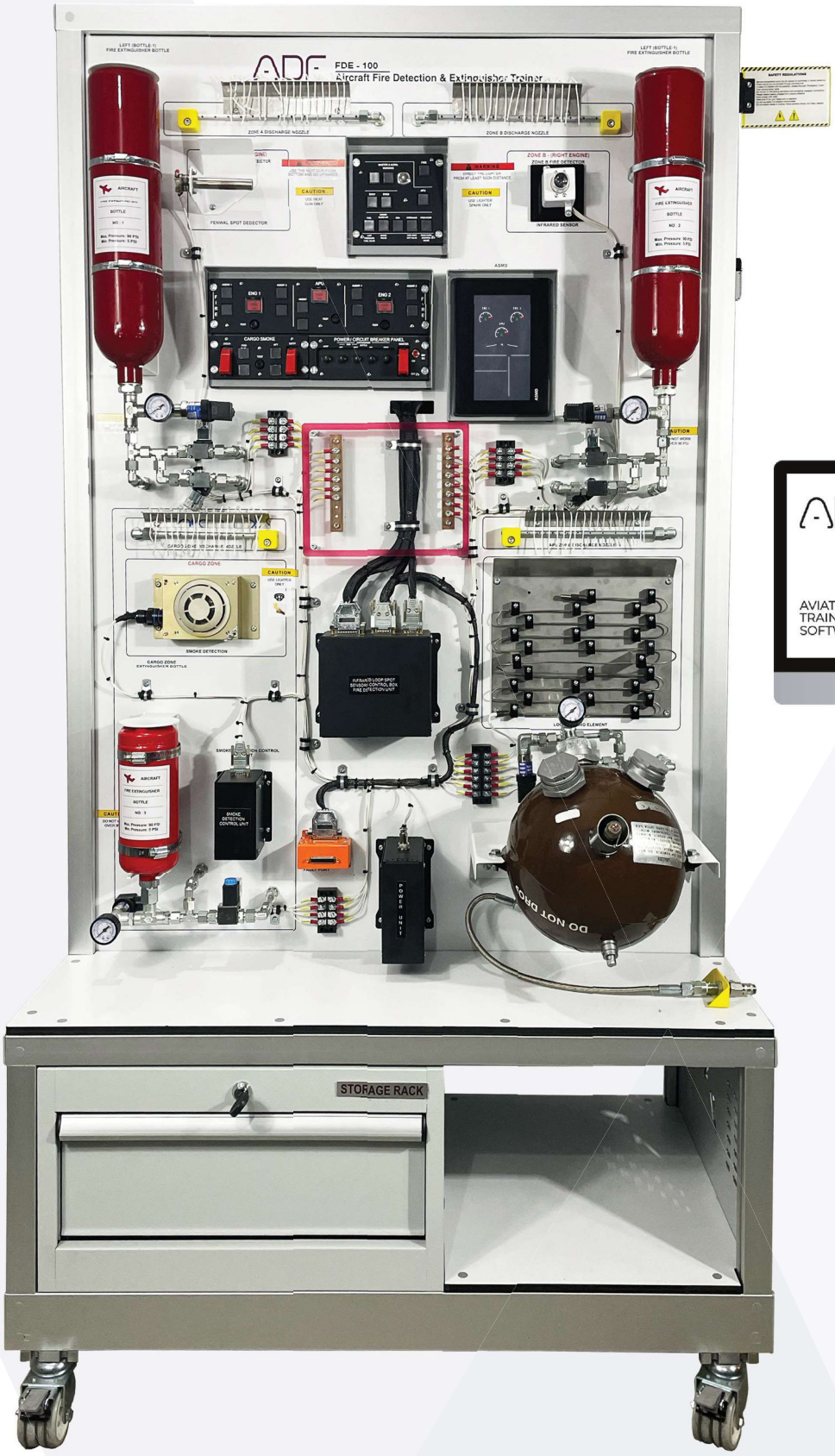
- User's Manual
- Study Guide
- Instructor's Guide
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Triple Fire Detection & Extinguisher Trainer

Model FDE-100V



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# Triple Fire Detection & Extinguisher Trainer

Model FDE-100V

FDE-100V training set simulates a functional Airbus fire detection and extinguishing system. It incorporates the continuous loop and spot detectors with controls, indication and test circuits.

The extinguisher discharges shop air when the system is activated. The instructor can induce faults for the trainees to troubleshoot, providing hands-on experience in troubleshooting.

The trainer is installed on a movable frame, it can be positioned as needed. This set simulates the system with two fire extinguisher container.

## Specifications

### Features

- Understanding fundamentals of aircraft Fire Detection & Extinguishing system and its components.
- Aircraft real fire & smoke scenarios are simulated.
- Fire is simulated on the training set with any sensor.
- The trainer is designed with three zones allowing Engine-1, Engine-2, APU fire and Cargo Smoke system simulation.
- Trainer includes separate extinguishers for each zone on the training set.
- The trainer include an original, emptied, secure aircraft extinguisher bottle for maintenance practices and using APU extinguisher bottle.
- Extinguishing system work crossfeed mode.
- Extinguishing bottle disassembly / assembly task
- Fire Extinguishing system test procedure task
- Sensor test procedure task
- Circuit breaker lockout application
- Trainer set includes Engine1, Engine2, APU and forward cargo smoke system.
- Engine-1 fire warning is activated from fenwal detector.
- Engine-2 fire warning is activated from IR sensor.
- APU fire warning is activated from loop detector.
- Smoke warning is activated from smoke detector.
- Trainer set includes extinguisher bottle for all systems
- Extinguisher bottles have pressure gauge, pressure sensor and control valve.
- Some of Trainer Functions
  - Agent function
  - FIRE push button function

- Discharge function
- Cross feed function
- Pumps fault function
- ECAM functions
- Single chime functions
- Master caution functions
- Master warning functions

- Some of Trainer Processes
  - Fire system test process
  - Fire Extinguisher bottle removal process
  - APU automatic fire Extinguishe process
  - Engine 1 fire process
  - Engine 2 fire process
  - APU fire process
  - Cargo smoke process
- Some of Trainer Cases
  - Engine 1 fire
  - Engine 2 fire
  - APU fire in flight
  - APU fire in ground
  - Cross feed
- The trainer have discharge nozzles for each zone(4 discharge nozzles).
- Trainer includes three aluminum protection plates for heating sections on the loop sensor.
- The complete loop sensor is mounted on the training set so that it could be clearly seen.
- Trainer includes master warning, master caution and warning-horn system that could be reset.
- Pressure sensors are for each bottle.
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- Locked metal drawer for fault panel, document, heat gun and
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

## Components

- 7 inch ECAM display
  - Engines RPM
  - Fire Status,
  - Caution Status
  - Warning Status
  - Fault Status
- Control Panel
  - Master power switch
  - Master power lamp
  - Aircraft circuit breaker panel
  - Press to test illuminated Master warning button
  - Press to test illuminated Master caution button
  - Aural warning horn
  - Fire status indicator
  - Engine 1, Engine 2, Apu engine running indicator
  - System Status indicator
    - Fuel,
    - Electric,
    - Hydraulic,
    - Bleed
- Engine 1 Fire Control
  - Guarded Engine-1 fire status lamp and button
  - Agent 1 button
  - Agent 2 button
  - Discharge 1 indicator
  - Discharge 2 indicator
  - System Test Button
- Engine 2 Fire Control
  - Guarded Engine-2 fire status lamp and button
  - Agent 1 button
  - Agent 2 button
  - Discharge 1 indicator
  - Discharge 2 indicator
  - System Test Button
- APU Fire Control
  - Guarded APU fire status lamp and button
  - Agent 1 button

- Discharge 1 indicator
- System Test Button

- Cargo Smoke Control
  - Guarded Forward cargo extinguisher bottle toggle switch
  - Guarded Aft cargo extinguisher bottle toggle switch
  - Agent 1 button
  - Agent 2 button
  - Discharge 1 indicator
  - Discharge 2 indicator
  - System Test Button
- Sensors
  - Continuous-Loop temperature sensor
  - Loop sensor is 900 mm or more in length.
  - Fenwall spot detector
  - IR(infrared) sensor
  - Smoke Detector
- Fire & Smoke System Control Computer
- Bottles
  - Apu simulated fire-extinguisher bottle(Orginal Airbus Fire Extinguisher bottle)
  - Engine1 simulated fire-extinguisher bottle
  - Engine2 simulated fire-extinguisher bottle
  - Cargo smoke simulated fire-extinguisher bottle
- Pressure Sensors
  - Apu fire-extinguisher bottle sensor
  - Engine1 fire-extinguisher bottle sensor
  - Engine2 fire-extinguisher bottle sensor
  - Cargo fire-extinguisher bottle sensor
- Gauges
  - Apu fire-extinguisher bottle gauge
  - Engine1 fire-extinguisher bottle gauge
  - Engine2 fire-extinguisher bottle gauge
  - Cargo fire-extinguisher bottle gauge
- Discharge nozzles
  - Apu Zone
  - Engine 1 Zone
  - Engine 2 Zone
  - Cargo Zone
  - Discharge nozzles are between 150 - 350 mm in length.

- 4 unit terminal
- 5 unit line control valve
- 2 unit original circuit breaker lockout and its label
- Heat-gun
- Filler Service point
- Instructor&Fault Port
- Power unit

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Flow Diagrams
- Components Diagrams

## Power Specs

- Lan connection point
- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Aircraft Glass Cockpit Trainer

Model GSC-100A




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Aircraft Glass Cockpit Trainer (GSC-100A) is a complete and fully functional simulation of typical aircraft cockpit. It includes essential flight, engine, auto-pilot and pitot-static instruments.

This trainer is designed to teach trainees operation of glass cockpit panel.

The trainer is developed to model Garmin 1000 system.

The trainer is suitable for avionics technician and pilot trainees .

All functions of panel is available.

## Specifications

### Components

- Two PFD/MFD
- Switch Panel
- Audio Panel
- Standby gauges
- Throttle
- Mixture lever
- Engine start key
- Full scale yoke(2 unit)
- Full Scale Rudder Pedal(2 Unit)
- Two adjustable seats with belts in the trainer.
- Openable front surface to service the electronic parts and computer.

- Navigation and Avionics
  - There are There should be PFD and MFD which is communicate with one Audio panel.
  - The buttons and their backlight on the Audio Panel is active and work.
  - Audio panel is connected to the PFD

- Bezels:
- All buttons, switches and knobs can operate
- For example, dual COMM rotary knob have three functions, outer ring should tune UHF/VHF frequency in MHz, inner ring should tune the frequency in KHz and pressing this knob toggles the tuning cursor between the COM1 and COM2 fields.
- Bezels have backlight function for night flights.
- Screens are 2048x1536 resolution touch screens.

- Auto-Pilot.
- Flight director.
- Pitch modes.
- Pitch Hold.
- Altitude Hold.
- Vertical Speed.
- Flight Level Change.
- Vertical Path Tracking.
- VNV Target Altitude Capture.
- Glidepath.
- Glideslope: Yes.
- Roll modes.
- Roll Hold.
- Heading Select.
- Navigation.
- Backcourse.
- Approach
- Flight plan
- Invert Flight Plan
- Parallel Track
- Create ATK Offset Waypoint
- Direct-to
- Terminal Procedures
- User defined holding patterns
- Navigation database
- Inset map: Zoom in/out, browsing, partly de-clutter, topo and terrain. No traffic, storm scope, NEXRAD radar
- Synthetic Vision as an In-App-Purchase item
- VOR/ILS course select, ADF/VOR/Waypoint bearing indicator, CDI indicator, etc.
- Wind, Bearing1/2, HSI format, Alt unit, Standard baro
- DME source selection.
- Transponder settings.
- Timer and references (V speeds and minimums).
- Advisory and alerts.
- ADF dip.
- Automatic Magnetic variation.

- PFD
  - Global navigation database and topo data
  - Engine status
  - Functional “Map Setup”
  - Flight plans storing/editing.
  - Terminal procedures
  - User waypoint creating/editing.
  - User defined holding patterns

- Standby gauges
  - Gauges is digital with analog look.
  - Followings are included on standby gauges.
    - ALT
    - ADI
    - Customizable ASI

- Dual Controlled Yoke
  - Sectorized two yoke
  - Auto-center position
  - Yoke rods 20 mm diameter chrome metal.
  - Yoke mechanism are manufactured from metal for durableness.
  - Yokes are manufactured with fiberglass.

- Dual controlled RUDDER and BRAKE mechanism
  - Sectorized two rudder pedals
  - Brake functions
  - Rudder mechanism is manufactured from metal for durableness.
  - Rudder mechanism is finish paint for long life.
  - Rudder yaw, steering and brake pedal position angles are provided from absolute encoder or potentiometer which is located inside the yoke mechanism.
  - Rudder brake function is dual controlled and operates just like the real aircraft brake pedals.

- Switch panel.
  - Active STBYBATT switch with ARM/TEST/OFF positions.
  - Active STBYBATT switch with green TEST light.
  - Active MASTER switch with BATT and ALT positions.
  - Active AVIONIC switch with BUS1 and BUS2 positions.

- Active BEACON, LAND, TAXI, NAV, STROBE, FUEL PUMP, PITOT HEAT, CABIN PWR 12V switches.
- Active PANELS, STBY IND, PEDASTAL and AVIONIC rotary knobs.
- Adjustable backlight brightness.

- Throttle
  - Friction adjustment for throttle control
  - 60mm full range for throttle lever

- Mixture lever
  - Vernier control for mixture control
  - 60mm full range for throttle lever

- Engine start key
  - Five positions OFF, R, L, BOTH, START
  - 30 degrees between each notch
  - Spring loaded to BOTH position between BOTH and START positions.

- Rotary knobs to change view.
  - One rotary knob is used to change the pilots view for left and right direction.
  - One rotary knob is used to change the pilots view for up and down direction.

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

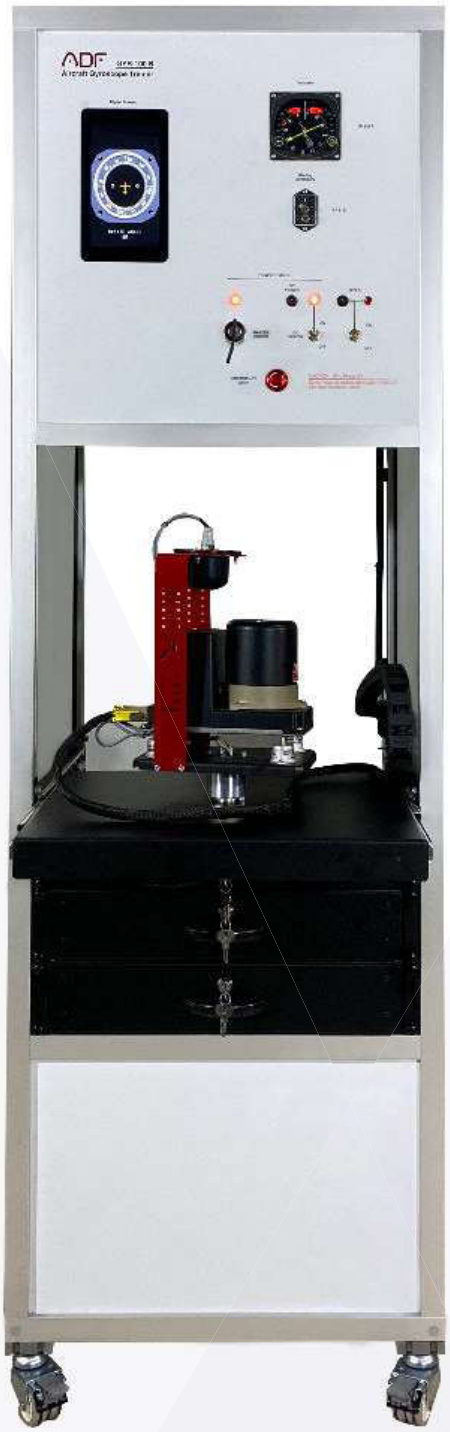
- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

## Others

- GPS receiver / antenna
- Aircraft  circuit breakers.
- Throttle lever.

# Aircraft Gyroscope Training Set

Model GYR-100A





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GYR-100A **Magnetic Compass** System Training Set is designed to teach the operational logic and system components of a **Magnetic Compass**. Trainees can operate a Magnetic Compass. system in this set and observe from indicator screen.

They can also learn maintenance principles of **Magnetic Compass** system.

This trainer also allows to perform practical tasks of EASA PART 147 ATA-34-20-01

## Specifications

### Features

- Fully functional and configured like a typical aircraft Magnetic Compass system.
- Compass System provides the pilot with a simple, comprehensive visual display of the aircraft's heading and position in relation to a desired course.
- Complete slaved compass system that includes a magnetic slaving transmitter, a slaving control and compensator unit, a directional gyro for stabilization of the system, and the Pictorial Navigation Indicator (PNI) itself.
- Combine the display functions of the standard Directional Gyro with VOR/LOC course deviation indication and Glideslope deviation and flag into one compact display.
- The Pictorial Navigation Indicator provides a pictorial display of the horizontal navi- gation situation. Also provides manual controls for course and heading datum selections. Outputs from the system are for automatic pilot or flight director, VOR receivers and additional compass loads
- The Directional Gyro is a remote mounted unit which, in conjunction with the Magnetic Azimuth Transmitter, provides a gyro-stabilized magnetic heading to the system Indicator. In addition to the slaving circuitry this unit contains an internal power supply which provides excitation voltages for the Magnetic Azimuth Transmitter and positive and negative D.C. voltages for the Pictorial Navigation Indicator and the Slaving Accessory.
- The Magnetic Azimuth Transmitter senses the direction of the earths magnetic field and transmits this information to the Pictorial Navigation Indicator.
- The Slaving Accessory is a panel mounted unit which contains the slaving meter, slaving switches, and corrector circuitry which compensates for the effect of local magnetic distur- bances on the Magnetic Azimuth Transmitter.
- The trainer should allow trainees to understand fundamentals of aircraft magnetic compass system and its components.
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.

## Components

- Pictorial Navigation Indicator(HSI)
- Directional Gyro
- Flux Detector(The Magnetic Azimuth Transmitter)
- Slaving Accessory
- Digital instrument
- DC Power Box
- Circuit Breake

## Components Technical Specs

- Pictorial Navigation Indicator
  - Lubber Line
  - Nav Warning Flag
  - Heading Select Bug
  - Compass Warning Flag
  - Selected Course Pointer
  - To/From Indicator
  - GS Deviation Scale
  - Compass Card
  - VOR/LOC Deviation Bar
- Directional Gyro
  - Remote mounted
  - Original Mounted Tray
  - Power: 14 or 28 volt dc
  - 300 degree free turnable system for testing
- Flux Detector(The Magnetic Azimuth Transmitter)
- Slaving Accessory
  - Slave/Free Gyro Switch
  - Slaving Meter indicator
  - CW/CCW Adjusment
- Digital instrument for Gyro degree
  - Size: Min 7 inch
  - Touchable
  - Real Times


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## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# HF-COM Communication System Trainer

Model HF-100A




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# HF-COM Communication System Trainer

Model HF-100A

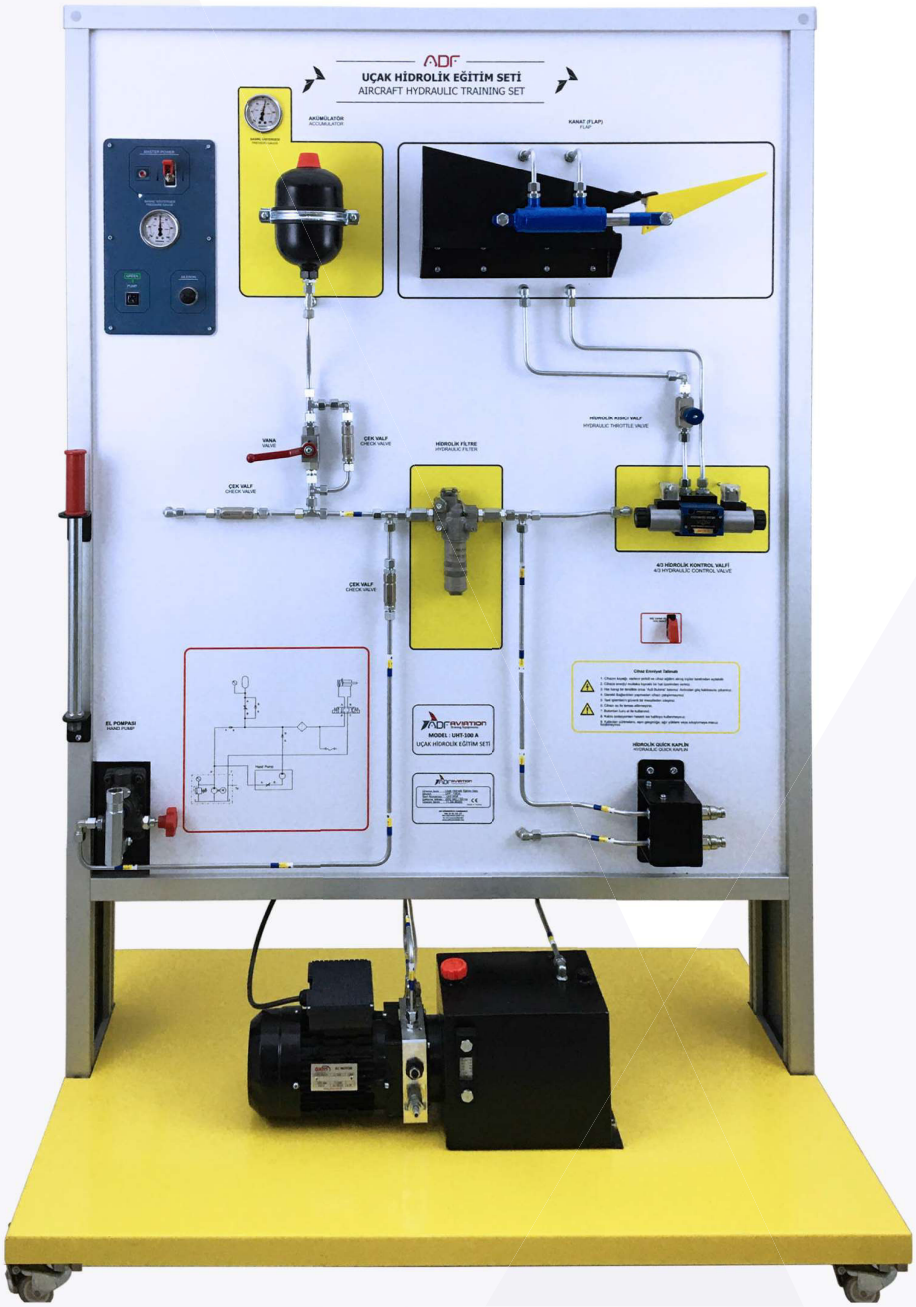
Trainees can practice airband communication and familiarize with HF radio system parts with HF-100A model HF-COM communication training set.

The HF-100A training set also allows trainees to learn and practice radio maintenance procedures.

## Specifications

- Delivered fully assembled tested and ready to operate.
- AC power 220/110 Volt required.
- Dimensions(L x W x H): 200 x 120 x 130 cm
- User's manual
- Students' study guide
- CBT ( Computer Base Training )
- Wiring diagrams
- Flow schematics
- Components diagrams
- Instructors' training resources

# Hydraulic System Trainer
## Model HST-100A



Aircraft Hydraulic System Trainer provides students with practical experience needed to understand the function, to get to know components and to improve troubleshooting skills. Fully functional hydraulic system designed so that every component can be disassembled, reassembled and functionally tested.

All the components mounted on the trainer are operational, removable and they can be reinstalled.

**NOTE:** EICAS/ECAM screen is located on the hydraulic landing gear trainer or main unit.

## Specifications

### Features

- Hydraulic control solenoids
- Flap or Aileron control
- System is powered by Hydraulics Pump, Hand Pump or Accumulator.
- All wires should be coded and labeled for troubleshooting.
- The hardware used in the trainer is mounted to the frame in a way that it can be easily observable by students.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel.

### Components

- Electrically Driven Hydraulic Pump
- Hydraulics Filter
- Flap/Aileron control solenoid
- Emergency Hand Pump
- Hydraulic Fluid Reservoir
- Hydraulic Accumulator with automatic filling system
- Hydraulic System analog pressure gauge
- Valve pressure sender
- Hydraulic System Pressure sender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- Drain Valve
- Check valve
- Overpressure valve
- Test Valve
- Flap or Aileron mock-up
- Cylinder (2)
- Microswitch
- Control Panel
  - Aircraft Circuit brakers
  - Aircraft Circuit breaker lockout
  - Power Panel
  - Emergency Button
  - Pump safety switch
  - Energy Lamp

### Optional

- 7 or 10 inch touchable screen (like EICAS or ECAM)
  - Landing gear position
  - Landing door position
  - Pressure gauge
  - Sensors status
  - Landing gear system control
  - Throttle Lever Position
  - Speed brake position

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Tubing and Piping Trainer
Model HT-100B



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# Tubing and Piping Trainer
Model HT-100B

HT-100B Tube and Hose System Training set provides training on tubing of hydraulic and pneumatic systems in an aircraft. In this training set, tubing and hosing done by trainees can be tested with the pump and gauges.

## Specifications

### Features

- Understand fundemantels of Tubing and Piping and its components
- Practise piping and tubing skills
- 20 Different Trainings Scenarios
- 20 different transition points
- Pressure gauges to show the line pressures
- Vertically and horizontally application
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable
- Training video for teachers
- Delivered fully assembled tested and ready to operate

### Components

- 2 hydraulic pressure gauges
- 2 pneumatic pressure gauges
- Hydraulic tank with hand pump
- Flaring tools
- Tube Cutter
- Tube Bender
- Fittings ( at least 200 units )
  - Male Elbow
  - Male Plug
  - Female Plug
  - Male Cross
  - Female Cross
  - Niple
  - Cap
  - Sleeve
  - Nut
  - Straight
  - Female run tee
  - Male run Tee
  - Female elbow
  - Adaptor
- 50 meter transparent pneumatic hose
- 50 meter aluminum and 20 m metal hoses
- 2 drawers for fittings

## Documentation

- User's Manual
- Study Guide

# Aircraft Hydraulic Landing Gear System Trainer

Model HYD-100B



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# Aircraft Hydraulic Landing Gear System Trainer

Model HYD-100B

HYD-100B Landing Gear Module for offers effective hands-on training for aircraft landing gear system maintenance trainees.

It assures that technicians are trained to maintain the landing gear system in the best way possible and in accordance with safety standards. It displays the landing gear mechanism as found in actual aircraft. This trainer is designed to represent a landing gear system. It contains all components and assemblies of an actual hydraulic landing gear system.

Model HYD – 100B features complete wheel and tire assembly with hydraulic brake system, including master cylinder and brake pedal. The control unit includes control throttles for landing gear and hydraulic flap operation. Indicators demonstrate show up, down, and in-transition conditions. A throttle warning horn is also mounted on the control panel. This model comes mounted on a mobile stand to provide a clear view from all directions.

## Specifications

### Features

- Hydraulic Landing Gear System
- Wheel housing damper.
- Hydraulic Flap System
- Hydraulic Brake System
- Aircraft Wheel System
- Hydraulic System Control
- Lower ECAM/EICAS
- Master Caution System
- Aural warning Horn Panel System
- Hydraulic Landing Gear Trainer able to display the landing gear operating system of a regular aircraft.
- Digital sensor data and switch states used in the set.
- Throttle lever with associated components complete the warning circuit of gear up warning horn.
- The accumulator and the hand pump be able to control the landing gear.
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate.
- Colored Ultraviolet printing method on aluminum composite panel.

## Components

- Electrically Driven Hydraulic Pump
- Hydraulics Filter
- Flap/Aileron control solenoid
- Emergency Hand Pump
- Hydraulic Fluid Reservoir
- Hydraulic Accumulator with automatic filling system
- Hydraulic System analog pressure gauge
- Valve pressure sender
- Hydraulic System Pressure sender
- Hydraulically Operated Landing Gear Mechanism
- Drain Valve
- Hydraulic Actuating Cylinder for Landing gear
- Hydraulic Actuating Cylinder for Landing gear door
- Check valve
- Hydraulic System analog pressure gauge
- Hydraulic System Pressure sender
- Brake pressure gauge
- Hydraulic Sequencing System and operate
- Hydraulic Flap System
- Hydraulic flap Actuating
- Flap Position Sensors
- Flap control switch
- Cutaway or Mock-up Flap
- Aircraft Tire Assembly (6 or 8 inch)
- Aircraft Tire
- Aircraft Wheel
- Aircraft Brake disk
- Aircraft Brake Plate
- Aircraft Brake caliber
- Hydraulic Brake Components
- Aircraft Brake master cylinder
- Park brake
- Brake Fluid Reservoir
- Aircraft Brake Pedal
- Brake Hose
- Throttle Lever (TQ)
- Control Panel
  - Circuit brakers

## Components

- Aircraft Circuit breaker lockout
- Lockable Landing gear control lever
- Power Panel
- Aircraft Master Caution and aural warning Horn Panel
- Aircraft Landing gear control panel
- Landing gear status lamp
- Test button
- Lockable Flap control panel/lever (pullable )
- Lockable speed brake control panel/lever ( push able )
- Landing Gear door control lamp
- Energy Lamp
- Lower EICAS or ECAM(7 or 10 inch)
  - Landing gear position
  - Landing door position
  - Pressure gauge
  - Sensors status
  - Landing gear system control
  - Throttle Lever Position
  - Speed brake position
- Other
  - 10 cotters for aircraft tire
  - 1 Analog tire pressure gauge for aircraft tire

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Flow Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Aircraft Hydraulic Landing Gear System Trainer (Module)

TESCA™

Model HYD-100C




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# Aircraft Hydraulic Landing Gear System Trainer (Module)

TESCA™

Model HYD-100C


# Aircraft Hydraulic Landing Gear System Trainer (Module)

Model HYD-100C

HYD-100C Landing Gear Module for offers effective hands-on training for aircraft landing gear system maintenance trainees.

It assures that technicians are trained to maintain the landing gear system in the best way possible and in accordance with safety standards. It displays the landing gear mechanism as found in actual aircraft. This trainer is designed to represent a landing gear system. It contains all components and assemblies of an actual hydraulic landing gear system.

Model HYD – 100 C features complete wheel and tire assembly with hydraulic brake system, including master cylinder and brake pedal. The control unit includes control throttles for landing gear and hydraulic flap operation. Indicators demonstrate show up, down, and in-transition conditions. A throttle warning horn is also mounted on the control panel.
This model comes mounted on a mobile stand to provide a clear view from all directions.

This trainer work with UHT-100A Aircraft Hydraulic System Trainer (Main Unit). They must be ordered together.

**NOTE:** EICAS/ECAM screen is located on the hydraulic landing gear trainer or main unit.

## Specifications

### Features

- Hydraulic Landing Gear System
- Hydraulic Flap System
- Hydraulic Speed Brake System
- Hydraulic Brake System
- Aircraft Wheel System
- Hydraulic System Control
- Lower ECAM/EICAS
- Hydraulic Landing Gear Trainer able to display the landing gear operating system of a regular aircraft.
- Digital sensor data and switch states used in the set.
- Throttle lever with associated components complete the warning circuit of gear up warning horn.
- the accumulator and the hand pump be able to control the landing gear.
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.


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- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

- Computer Control Software (CCS)
  - Trainer monitored
  - Fault panel control from software
  - All data shown in the software
  - Flap is controlled via the software. (Up / Down)
  - Landing gear is controlled via the software. (Up / Down)

## Components

- Hydraulically Operated Landing Gear Mechanism
- Drain Valve
- Hydraulic Actuating Cylinder for Landing gear
- Hydraulic Actuating Cylinder for Landing gear door
- Check valve
- Hydraulic System analog pressure gauge
- Hydraulic System Pressure sender
- Brake pressure gauge
- Hydraulic Sequencing System and operate
- Hydraulic Flap System
- Hydraulic flap Actuating
- Hydraulic Speed brake System
- Hydraulic Speed brake Actuating
- Flap Position Sensors
- Flap control switch
- Mock-up Flap
- Mock-up Speed brake
- Aircraft Tire Assembly (6 or 8 inch)
- Aircraft Tire
- Aircraft Wheel
- Aircraft Brake disk
- Aircraft Brake Plate
- Aircraft Brake caliber
- Hydraulic Brake Components
- Aircraft Brake master cylinder
- Park brake
- Brake Fluid Reservoir
- Aircraft Brake Pedal
- Brake Hose

- Throttle Lever (TQ)
- Control Panel
  - Circuit brakers
  - Aircraft Circuit breaker lockout
  - Lockable Landing gear control lever
  - Power Panel
  - Aircraft Master Caution and aural warning Horn Panel
  - Aircraft Landing gear control panel
  - Landing gear status lamp
  - Test button
  - Lockable Flap control panel/lever (pullable )
  - Lockable speed brake control panel/lever ( push able )
  - Landing Gear door control lamp
  - Energy Lamp
- Lower EICAS or ECAM
  - Landing gear position
  - Landing door position
  - Pressure gauge
  - Sensors status
  - Landing gear system control
  - Throttle Lever Position
  - Speed brake position
- Other
  - 10 cotters for aircraft tire
  - 1 Analog tire pressure gauge for aircraft tire

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Flow Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Aircraft Hydraulic Landing Gear System Trainer (Module)

TESCA™

Model HYD-100V



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# Aircraft Hydraulic Landing Gear System Trainer (Module)

Model HYD-100V

HYD-100V Landing Gear Module for offers effective hands-on training for aircraft landing gear system maintenance trainees.

It assures that technicians are trained to maintain the landing gear system in the best way possible and in accordance with safety standards. It displays the landing gear mechanism as found in actual aircraft. This trainer is designed to represent a landing gear system. It contains all components and assemblies of an actual hydraulic landing gear system.

Model HYD – 100B features complete wheel and tire assembly with hydraulic brake system, including master cylinder and brake pedal. The control unit includes control throttles for landing gear and hydraulic flap operation. Indicators demonstrate show up, down, and in-transition conditions. A throttle warning horn is also mounted on the control panel.

This model comes mounted on a mobile stand to provide a clear view from all directions.

## Specifications

### Features

- Understanding fundamentals of aircraft hydraulic landing gear system and its components.
- Some of Trainer Functions
  - Landing gear extension functions
  - Landing gear retraction functions
  - Gravitiy lever functions
  - Speed brake lever functions
  - Flap lever functions
  - Brake functions
  - Park brake functions
  - Hydraulic power functions
  - Accumulator functions
  - Emer hand pump functions
  - Pumps fault functions
  - ECAM functions
  - Single chime functions
  - Master caution functions

- Master warning functions
- Check valves functions

- Some of Trainer Processes
  - Landing gear extension test process
  - Landing gear retraction test process
  - Aircraft jacking process
  - Hydraulic system functional test process
  - Hydraulic system leak test process
  - Hand pump test process
  - Accumulator test process
  - ECAM test process
  - Emergency system test process
- Some of Trainer Cases
  - Low level
  - Over heat
  - Low air pressure
  - Engine fire
  - System Leak
  - Fuel pump fault
- Hydraulic Flap System
- Brake System
- Aircraft Wheel System
- Hydraulic System Control
- Lower ECAM (on the main unit)
- Master Caution System
- Aural warning Horn Panel System
- Hydraulic Landing Gear Trainer able to display the landing gear operating system of a regular aircraft.
- Digital sensor data and switch states used in the set.
- Throttle lever with associated components complete the warning circuit of gear up warning horn.
- the accumulator and the hand pump be able to control the landing gear.
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.

- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

## Components

- Electrically Driven Hydraulic Pump
- Hydraulics Filter
- Flap/Aileron control solenoid
- Emergency Hand Pump
- Hydraulic Fluid Reservoir
- Hydraulic Accumulator with automatic filling system
- Hydraulic System analog pressure gauge
- Valve pressure sender
- Hydraulic System Pressure sender
- Hydraulically Operated Landing Gear Mechanism
- Drain Valve
- Hydraulic Actuating Cylinder for Landing gear
- Hydraulic Actuating Cylinder for Landing gear door
- Check valve
- Hydraulic System analog pressure gauge
- Hydraulic System Pressure sender
- Brake pressure gauge
- Hydraulic Sequencing System and operate
- Hydraulic Flap System
- Hydraulic flap Actuating
- Flap Position Sensors
- Flap control switch
- Cutaway or Mock-up Flap
- Aircraft Tire Assembly (6 or 8 inch)
- Aircraft Tire
- Aircraft Wheel

- Aircraft Brake disk
- Aircraft Brake Plate
- Aircraft Brake caliber
- Hydraulic Brake Components
- Aircraft Brake master cylinder
- Park brake
- Brake Fluid Reservoir
- Aircraft Brake Pedal
- Brake Hose
- Throttle Lever (TQ)
- Control Panel
  - Circuit brakers
  - Aircraft Circuit breaker lockout
  - Lockable Landing gear control lever
  - Power Panel
  - Aircraft Landing gear control panel
  - Landing gear status lamp
  - Lockable Flap control panel/lever (pullable )
  - Lockable speed brake control panel/lever ( push able )
  - Landing Gear door control lamp
  - Energy Lamp
- Lower EICAS or ECAM(10 inch on the main unit)
  - Landing gear position
  - Landing door position
  - Pressure gauge
  - Sensors status
  - Landing gear system control
  - Throttle Lever Position
  - Speed brake position
- Other
  - 10 cotters for aircraft tire
  - 1 Analog tire pressure gauge for aircraft tire

# Aircraft Hydraulic Landing Gear System Trainer (Module)

Model HYD-100V

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Flow Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz


FROM DE2114
Z29 UTC SPD/ALT
TORNU 1106 / FL339
BRG305° 38
BREDA 1112 .85/ FL369
TRK298° 40
ODVIL 1117 # / FL308
26
ABNED 1121 # / FL397
11NM
(T/C) 1122 # / FL400
DEST UTC DIST EFOB
MMUN30L 2112 4636 11.3
DIR PROG PERF INIT DATA
F-PLN RAD NAV FUEL PRED SEC F-PLN ATC COMM MCDU MENU
BRT DIM
AIR PORT
A B C D E
F G H I J
K L M N O
P Q R S T
U V W X Y
Z / SP OVFY CLR
1 2 3
4 5 6
7 8 9
. 0 +/-

The purpose of the Centralized Fault Display System (CFDS) is to make the maintenance task easier by displaying fault messages in the system.
Learning the BITE ( Built-In Test Equipment ) for each electronic system.
Understanding purpose of CFDIU (Centralized Fault Display Interface Unit)
Applications on MCDU (Multipurpose Control and Display Unit)

## Specifications

### Features

- MCDU system
- Maintenance Menu
- LEG Report
- BITE test
- Printing Report
- Avionics Status
- System Report
- Learning normal mode and Reporting Mode
- The system mounted on a metal/aluminum mobile stand
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable
- Training video for teachers
- Delivered fully assembled tested and ready to operate

### Components

- MCDU
- Printer

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide

## Power Specs

- 110 VAC 60 Hz or 220-240 VAC 50 Hz


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# Micro-Switch Training Set

Model MKS-100A




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# Micro-Switch Training Set
Model MKS-100A

The trainer allow trainees to understand fundamentals of Micro-Switch. Trainer have 5 different type of Micro-Switch which are used with pneumatic system.

- Training video for teachers.
- Delivered fully assembled tested and ready to operate.

## Specifications

### Features

- Aircraft micro-switch application
- 3/2-way valve operation
- Different types of 5/2-way valve operation
- Single-acting cylinder operation
- Combine logic operations
- Analyse and set up circuits with two cylinders.
- Explain and implement AND/OR logic operations.

### Components

- Aircraft Circuit breaker
- Aircraft Circuit breaker lockout
- Aircraft micro-switch
- 5 different Micro-Switch
  - Long Lever
  - Short lever
  - Roller lever ( 2 different type)
  - Limit Switch
- Pneumatic Filter
- Min 4 Pneumatic cylinder
  - Min 1(one) Double acting cylinder with double rod
  - Min 2(two) Double acting cylinder with single rod
  - Min 1(one) Single acting cylinder
- Min 2(two) Pressure gauge
- Min 3(three) 3/2-way roller lever valve, normally closed
- Min 3(three) 3/2-way roller lever valve with idle return
- Min 1(one) 3/2-way single selenoid valve
- Min 1(one) 3/2-way selector switch valve
- Min 2(two) 5/2-way selector switch valve

- Min 1(one) 5/2-way single pilot valve
- Min 1(one) 5/2-way double pilot valve
- Min 2(two) 5/2-way single selenoid valve
- Min 2(two) 5/2-way double selenoid valve
- Min 1(one) Shuttle valve
- Min 1(one) Dual-pressure valve
- Min 2(two) One-way flow control valve
- Pneumatic distrubute line
- Min 4 relay modul with 4 mm socket input
- Min 4 switch modul with 4 mm socket input
- GND and 24 volt power line with 4 mm socket input
- Min 2 lamp modul with 4 mm socket input
- Pressure regulator with pressure gauge
- All necessary fittings and plumbing

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz


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# Autopilot / Automatic Flight Controls Trainer

Model AP-100C

# Autopilot / Automatic Flight Controls Trainer

Model AP-100C

Autopilot Trainer is an excellent resource for teaching the principles of automatic flight controls by demonstration using a complete system that encompasses all the aspects of three(3) axis autopilot and automatic flight controls.

## Differences from AP-100B Model

- Automatic/Motorized Yoke System
- Automatic/Motorized Rudder Pedal System
- Automatic/Motorized Throttle Lever
- Pitch Trim Servo System
- Heading Feed Back
- Altitude Feed Back
- Active Remote Gyro HSI System
- Flux Detector(The Magnetic Azimuth Transmitter)
- Slaving Accessory
- Remote Control Panel
- Vacuum Pump

## Specifications

### Features

- Indicators operate in sync with auto-pilot system
- Aircraft position controlled by yoke.
- Automatic/Motorized Yoke System
  - Yoke automatically/motorized moves in two axis with data from autopilot computer. It performs automatic positioning according to the position of the airplane.
- Automatic/Motorized Rudder Pedal System
  - Rudder Pedal automatically/motorized moves in one axis with data from autopilot computer. It performs automatic positioning according to the position of the airplane.
- Automatic/Motorized Throttle Lever
- Yoke and rudder pedal can move the control surfaces of the aircraft.
- Servos operate in sync with auto-pilot and yoke/rudder pedal.
- 2 axis DOF + 1 DOF system
- Pitch Trim Servo System
- Heading Feed Back
- Altitude Feed Back
- Active Remote Gyro HSI System
- Remote Control Panel


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- Vacuum Pump
- Remote Altitude control & feedback
- Remote Heading control & feedback
- Remote side wing control
- Remote head wing control
- The aircraft automatically calibrated to runway position when the trainer is turned on.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.

## Components

**15-inch PFD-MFD screen**

- Attitude Directional Indicator(ADI)
- Directional Gyro(HSI)
- Airspeed Indicator(ASI)
- Altimeter(ALT)
- Vertical Speed Indicator(VSI)
- Turn and Slip Indicator
- Course deviation bar(CDI)
- Course Pointer
- RPM indicator
- Manifold Pressure indicator
- Engine instruments(Oil, Fuel system)

- **Yoke ( Automatic/Motorized )**
- **Rudder Pedal ( Automatic/Motorized )**
- **Throttle Control ( Automatic/Motorized )**
- **Pitch / Yaw / Roll / Pitch Trim servos**
- **The trainer should have auto-pilot panel.**
  - Active AP(auto-pilot) function button,
  - Active Pitch function button,
  - Active Roll function button,
  - Active ALT(altitude) function button,
  - Active V/S(vertical speed)function button,
  - Active FLC function button,

- Active HDG(heading) function button,
- Active FEET function Knob,
- Active FPM function Knob,
- Active HDG function Knob,
- All function buttons should be illuminated.

- **Master Power and Switch panel.**
  - DC master power switch,
  - Master power lamp,
  - Beacon switch,
  - Engine Start,
  - PFD circuit breaker,
  - Auto-Pilot circuit breaker,
  - Beacon circuit breaker,
  - Gyro circuit breaker,
  - Circuit breaker lockout,
  - Aural warning horn,
  - Resettable master caution

- **Model Metal Aircraft**
  - Aircraft size should be minimum 1400mmx1300mm
  - Aircraft color should be white
  - Moveable Aileron/Elevator/ Trim & Rudder
  - Aileron/elevator/trim and rudder are different color
  - • DOF system should operate in sync with auto-pilot(aileron/elevator/rudder) and yoke&rudder pedal.
  - The trainer should have a beacon.

- **Remote Directional Gyro**
  - Remote mounted
  - Drive signal for heading loop drive motor
  - Slaving meter drive signal
  - Original Mounted Tray
  - Shock mounted
  - Internal power supply
  - Provide's a gyro-stabilized magnetic heading
  - Used in conjuction with the Magnetic Azimuth Transmitter.
  - Power: 14 or 28 volt dc
  - 300 degree free turnable system for testing

- **Flux Detector(The Magnetic Azimuth Transmitter)**
  - Senses the direction of the earth's magnetic field and transmits information to gyro.

- **Slaving Accessory**
  - Slave/Free Gyro Switch
  - Slaving Meter indicator
  - CW/CCW Adjusment

- **Remote Control Panel**
  - Heading Control
  - Altitude Control
  - Speed Control
  - Side Wings Control

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Aircraft Navigation & Magnetic Compass Trainer

Model NAV-100A



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# Aircraft Navigation & Magnetic Compass Trainer

Model NAV-100A

NAV-100A Aircraft Navigation & Magnetic Compass System Training Set is designed to teach the operational logic and system components of a navigation & magnetic compass. Trainees can operate a Navigation & Magnetic Compas system in this set and observe from indicator screen.

They can also learn maintenance principles.
This trainer also allows to perform practical tasks of EASA PART 147 ATA-34-20-01 / ATA-34-50-00.

**Optional**
**NAV/COM Tester**

## Specifications

### Features

- Fully functional and configured like a typical aircraft **Navigation** system.
- Fully functional and configured like a typical aircraft **Magnetic Compass** system.
- Compass System provides the pilot with a simple, comprehensive visual display of the aircraft's heading and position in relation to a desired course.
- Complete slaved compass system that includes a magnetic slaving transmitter, a slaving control and compensator unit, a directional gyro for stabilization of the system, and the Pictorial Navigation Indicator (PNI) itself.
- Combine the display functions of the standard Directional Gyro with VOR/LOC course deviation indication and Glideslope deviation and flag into one compact display.
- The Pictorial Navigation Indicator provides a pictorial display of the horizontal navi- gation situation. Also provides manual controls for course and heading datum selections. Outputs from the system are for automatic pilot or flight director, VOR receivers and additional compass loads
- The Directional Gyro is a remote mounted unit which, in conjunction with theMagnetic Azimuth Transmitter, provides a gyro-stabilized magnetic heading tothe system Indicator. In addition to the slaving circuitry this unit contains aninternal power supply which provides excitation voltages for the MagneticAzimuth Transmitter and positive and negative D.C. voltages for the PictorialNavigation Indicator and the Slaving Accessory.

- The Magnetic Azimuth Transmitter senses the direction of the earths magnetic field and transmits this information to the Pictorial Navigation Indicator.
- The Slaving Accessory is a panel mounted unit which contains the slaving meter, slaving switches, and corrector circuitry which compensates for the effect of local magnetic distur- bances on the Magnetic Azimuth Transmitter.
- The trainer should allow trainees to understand fundamentals of aircraft magnetic compass system and its components.
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.

## Components

- Navigation Device
- Pictorial Navigation Indicator(HSI)
- Directional Gyro
- Flux Detector(The Magnetic Azimuth Transmitter)
- Slaving Accessory
- Nav Antenna
- Digital instrument
- DC Power Box
- Circuit Breake

## Components Technical Specs

- Navigation Device
  - 1.3” high flat-pack, NAV unit
  - 200-channel navigation receiver
  - Built-in 40 channel Glideslope receiver available as option (see table below)
  - Features simultaneous gas discharge display of both active and standby frequencies
  - Flip-flop frequency transfer button
  - Electrically Alterable Read Only Memory (EAROM) provides non-volatile storage of two frequencies
  - Used with VOR/LOC/GS indicators
  - operate an HSI
  - All solid-state system employs digital frequency synthesizer for NAV frequency control

- Crystal filter provides added protection against channeling interference for improved selectivity on 50 kHz frequencies
- Operates on any DC voltage from 11 to 33 volts

- DME CHANNELING: 5 wire 2x5 code MHz & kHz lines; 1 wire 50 kHz line; 1 DME common line
- NAV ACCURACY: +-15 deg. max. error/95% probability
- NAV FREQ. RANGE: 108.00-117.95 MHz
- GS FREQ. RANGE: 329.15-335.00 MHz
- GS SENSITIVITY: Typically 12uv (hard) for half flag 20uv (hard) max
- COURSE DEVIATION RESPONSE: 0.6 seconds max
- IDENT FILTER: 15dB minimum tone rejection
- AUDIO OUTPUT: 50mW @ 500 ohms
- GS CHANNELS: 40 (150 kHz spacing)
- GS SELECTIVITY: 6dB max at +-25 kHz, 60dB min at +-300 kHz
- SPURIOUS RESPONSES: Down at least 60dB

- Pictorial Navigation Indicator
  - Lubber Line
  - Nav Warning Flag
  - Heading Select Bug
  - Compass warning Flag
  - Selected Course pointer
  - To/From indicator
  - GS Deviation Scale
  - Compass Card
  - VOR/LOC Deviation Bar
- Directional Gyro
  - Remote mounted
  - Original Mounted Tray
  - Power: 14 or 28 volt dc
  - 300 degree free turnable system for testing
- Flux Detector(The Magnetic Azimuth Transmitter)
- Slaving Accessory
  - Slave/Free Gyro Switch
  - Slaving Meter indicator

  - CW/CCW Adjusment
- Digital instrument for Gyro degree
  - Size: Min 7 inch
  - Touchable
  - Real Times
- Magnetic Compass

34-20-01 – Magnetic Compass removal/Installation

- NAV/COM Tester

Output Power;
- ADF = -12 +/-3 dbm
- VOR= -10 +/-3 dbm
- ILS Localizer= -10 +/-3 dbm
- ILS GS = -17 +/-3 dbm
- ILS MKR = -15 +/-3 dbm
- DME = -12 +/-3 dbm
- TXPDR = -12 +/-3 dbm
- VOR radial accuracy; +/- 1 deg
- ILS localizer DDM accuracy; +/- 15%
- ILS glide slope DDM accuracy; +/- 15%
- DME accuracy; +/- 0.1NM
- Transponder specs;
- PRF 235+/-5 Mode A,C 50 +/-2 Mode S
- P2 level equal P1 +/- 0.1 dbm
- P2 position 2 +/-0.01 uS from P1
- P3 position 8 +/- .01uS or 21 +/- 0.02uS Rel to P1
- Pulse width 0.8 +/-0.01uS P1,P2,P3
- Frequency 1030 MHz Tx, 1090 MHz Rx , +/- 2.5ppm
- Reply % 0 to 100% displayed +/- 0.5%
- Reply window 2.5 to 3.5uS F1 from P3
- Pulse Width reads out to +/- 50nS resolution
- X Data Pulse Must=0 for good read
- SPI Displays ID message

**NOTE:** Avionics devices brand/model and some technical specs can be change due to market availability.


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## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's orijinal Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Nav/Com/GPS Transceiver

Model NAV-500A

Includes a 66 channel GPS receiver for reliable navigation. Boasting an oversize full dot matrix LCD display.

Airband Transceiver / GPS provides full communication on the Aircraft communications Band and additionally provides VOR and ILS navigation features on the "NAV" band, and waypoint navigation with the built in GPS receiver. The device includes NOAA weather band monitoring and the capability of programming up to 200 memory channels with a quick and easy channel recall feature. The brand new easy to operate menu system is icon driven making it simple to navigate through all of the powerful features this transceiver / GPS has to offer. Additionally the device can easily be reprogrammed in minutes using the optional PC Programming software and the supplied USB programming cable.

## Specifications

### Features

- 5 Watts TX Output Power
- Huge 1.7" x 1.7" Full-Dot Matrix Display (160 x 160 dots)
- ILS Navigation Display (Localizer and Glide Slope)
- VOR Navigation Display
- Easy to operate menu system
- Integrated 66 Channel WAAS GPS receiver
- Waypoint Navigation
- GPS Position Logging
- NOAA Weather Channel Receive (U.S.A. Version Only)
- NOAA Weather Alert (U.S.A. Version Only)
- 200 Memory Channels with 15 alphanumeric characters
- Back-lit Keypad and Display
- Water Protection – IPX5 Rating
- Loud Audio (800 mW)
- High-Capacity Li-Ion Battery Pack (7.4 V 1800 mAh)
- Alkaline Battery Tray (AA x 6)


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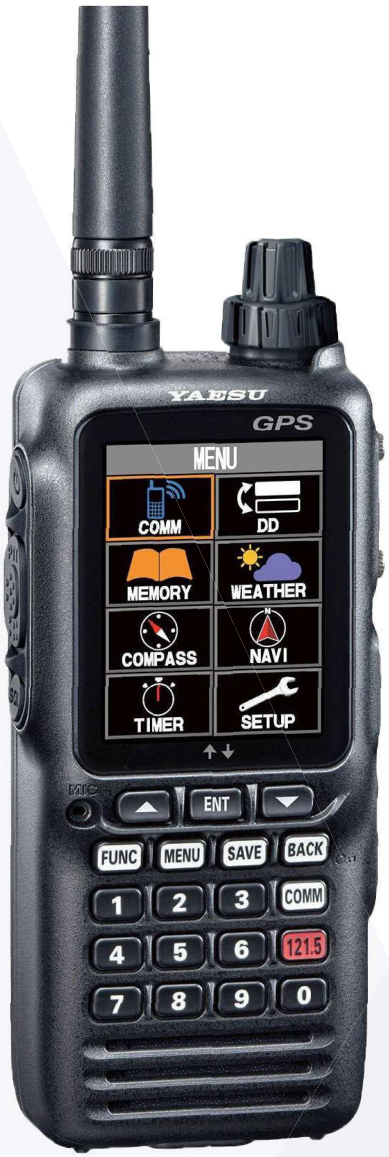
# Nav/Com/GPS Transceiver V2

Model NAV-500B



# Nav/Com/GPS Transceiver V2

Model NAV-500B

Portable airband transceiver, precisely engineered to meet the requirements of top aviators. Boasting top tier features like a 2.4" full-color TFT display, enhanced navigtion features using ILS, VOR, or GPS, and a 400 channel memory bank. Forget the wires, featuring a Built-in bluetooth module allowing operation with a commercially available bluetooth headset, or use with optional headset Packaged with a high capacity 2200mAh Lithium-Ion battery, Headset adapter, 100-240VAC charger, 12VDC charger/Power cable, drop in charging cradle, backup Alkaline battery tray, and heavy duty belt clip.

## Specifications

### Features

- Oversized 2.4" TFT Color Display (240 x 320 pixel)
- Dual Frequency Display
- Wireless Bluetooth operation
- ILS Navigation Display (localizer and Glide Slope)
- VOR Navigation Display
- Integrated 66 Channel WAAS GPS Receiver
- Waypoint Navigation
- 8.33 kHz Narrow Band Compatible
- NOAA Weather Channel Receive
- NOAA Weather Alert
- 400 Memory Channels with 14 Character Alphanumeric Tags
- Water Protection - IPX5 Rating
- Rugged Construction: Certified to MIL-STD-810H
- Loud Audio Output
- PC Programmable (USB Cable Included)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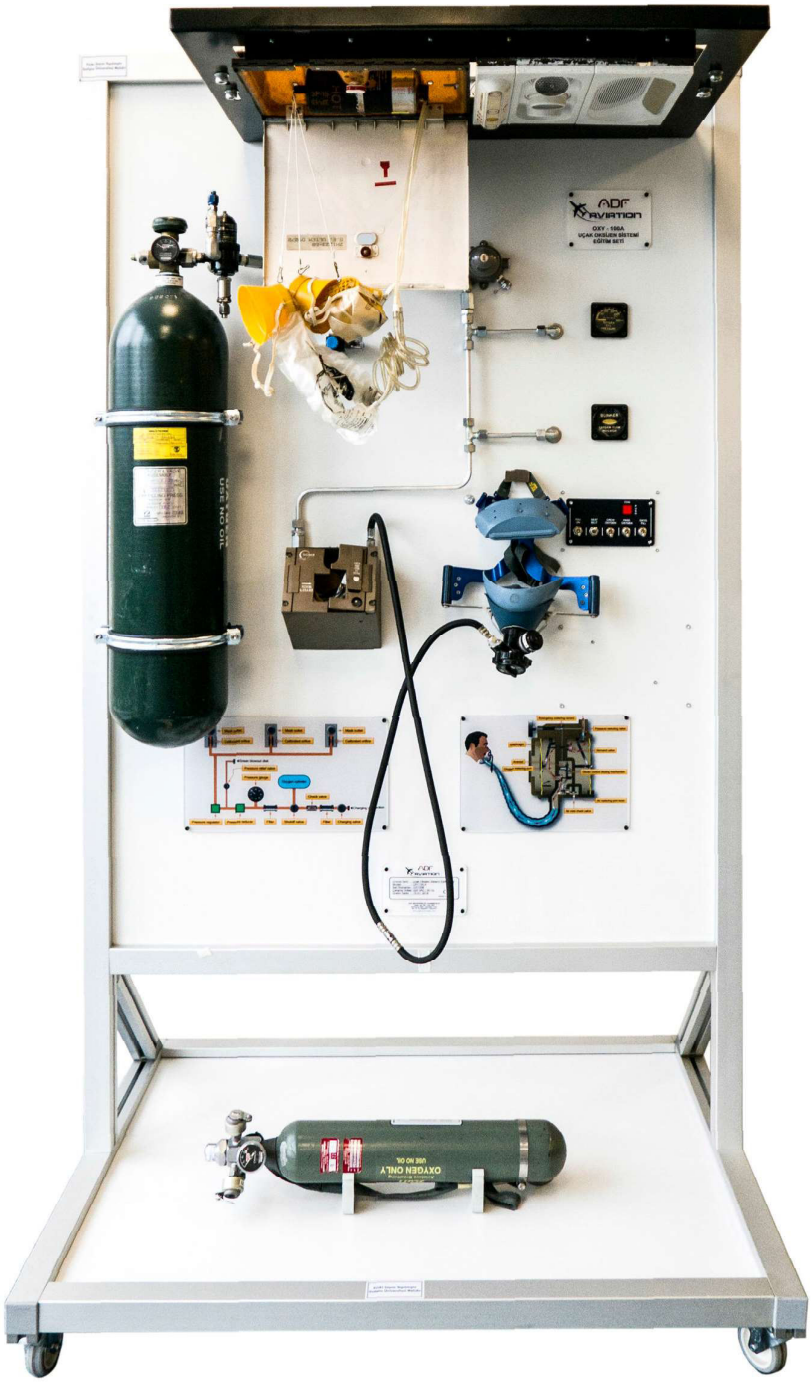
# Aircraft Oxygen System Trainer

Model OXY-100B



This training set is a fully functional typical aircraft oxygen system.

The external filler valve includes an orifice which restrains the filling rate, and it is protected by a cap so that contamination is prevented when the charging line is not connected.

The pressure regulator in the system adjusts the pressure in the cylinder to an amount that's usable by the masks.

The mask couplings are fitted with restricting orifices to meter the amount of oxygen needed at each mask.

A flow indicator that becomes visible when no oxygen is flowing is built into each tube to the mask. Indicator is pushed out of sight as oxygen begins flowing.

## Specifications

### Features

- Understanding fundamentals of aircraft Oxygen System and its components.
- Passenger oxygen system
- Pilot oxygen system
- Crew oxygen system
- Passenger Service Unit system
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

### Components

- Control Panel
  - Oxygen Control
  - PSU control
  - Filling Valve Control
- PSU ( Passenger Service Unit)
- COG ( Cemical Oxygen generator)
- Oxygen Cylinder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- Cylinder Pressure Gauge
- System Pressure Gauge
- Pressure Regulator
- Control Valve
- Filler Valve
- Pilots' Oxygen Mask
- Crew Portable Oxygen Cylinder
- Passenger's Portable Mask
- Passenger Drop-down masks

## Documentation

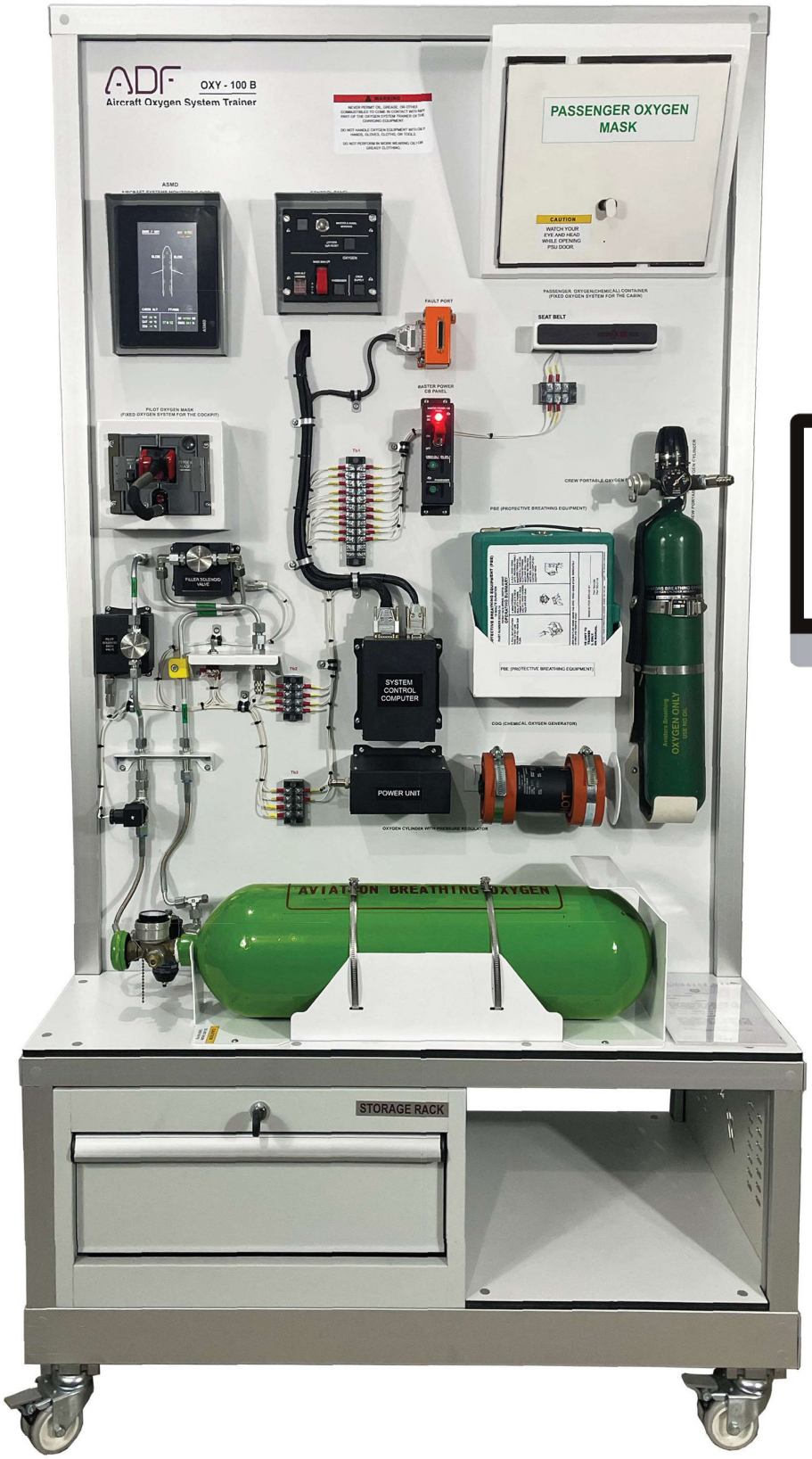
- User's Manual
- Study Guide
- Instructor's Guide
- Components Diagrams

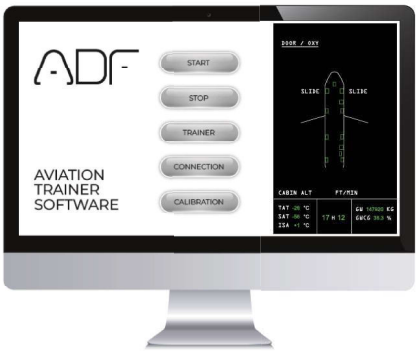
## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Aircraft Oxygen System Trainer

## Model OXY-100V



This training set is a fully functional typical aircraft oxygen system.

The external filler valve includes an orifice which restrains the filling rate, and it is protected by a cap so that contamination is prevented when the charging line is not connected.

The pressure regulator in the system adjusts the pressure in the cylinder to an amount that's usable by the masks.

The mask couplings are fitted with restricting orifices to meter the amount of oxygen needed at each mask. A flow indicator that becomes visible when no oxygen is flowing is built into each tube to the mask.

Indicator is pushed out of sight as oxygen begins flowing.

## Specifications

### Features

- Understanding fundamentals of aircraft Oxygen System and its components.
- Passenger oxygen system
- Pilot oxygen system
- Crew oxygen system
- Passenger Service Unit system
- Auto-Manuel passenger oxygen system activate
- Some of Trainer Functions
  - ECAM functions
  - Seat belt functions
  - PSU reset functions
  - Single chime functions
  - Master caution functions
  - Cabin Altitude functions
  - Master caution functions
  - Passenger mask automatic running test functions
  - Passenger mask automatic running test functions
- Some of Trainer Processes
  - Oxygen filling process
  - Oxygen cylinder removal process
  - Passenger mask reset process
- Protective Breathing Equipment
- Chemical oxygen generator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- System control computer
- Filler point
- Instructor's panel for Fault & simulation Insertion panel (Independent unit)
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

## Components

- Control Panel
  - Crew Control illuminated pushbutton
  - Mask manual / auto control guarded sw
  - Passenger status indicator
  - High alt landind guarded illuminated pushbutton
  - Timer reset illuminated pushbutton
  - Aural warning horn
  - Master caution resettable illuminated pushbutton
- 7" inch touchable screen(ECAM)
  - Oxygen pressure indicator
  - Oxygen status indicator
- System control computer box
- DC power unit
- PSU ( Passenger Service Unit)
- COG ( Cemical Oxygen generator)
- Oxygen Cylinder
- Cylinder Pressure Gauge
- System Pressure sensor
- Pressure Regulator
- Control Valve
- Filler Valve
- Filler coupling

- Pilots' Oxygen Mask
  - Mask door
  - Mask test button
  - Mask status indicator
  - Pressure releasing button
- Crew Portable Oxygen Cylinder
- Passenger's Portable Mask
- Passenger Drop-down masks
- Aircraft circuit breaker
- Aircraft circuit breaker lockout
- LAN output
- Fault & instructor port
- Lockable Fault & instructor box
- Terminals
- MRT
- Storage drawer

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz


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# Aircraft Piston Engine Cutaway

Model PCA-100A

# Aircraft Piston Engine Cutaway

Model PCA-100A

Trainees can learn principles of operation of a piston aircraft engine on PCA-100A Piston Engine Cutaway. In this cutaway, the cylinder moves and the elements that impact the operation can be clearly seen. All strokes; intake, compression, power, and exhaust, can be observed in a four-stoke engine.

This cutaway can be manufactured with four or six cylinders.

## Specifications

- Pistons
- Ignition System
- Intake System
- Valves
- Magnetos
- Carburetor
- Crankshaft
- Lifter
- Accessory Drive


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# Aircraft Window & Seat Assembling Trainer

Model PNL-100B

# Aircraft Window & Seat Assembling Trainer

Model PNL-100B

Trainees can practice removal and installation of cabin panels with PNL-100B Aircraft Window & Seat Assembling Training Set. The trainees can apply skills on the set and fulfill EASA-147 requirements with this training set.

## Specifications

### Features

- Understand fundemantels of aircraft cabin parts.
- Training video for teachers
- Delivered fully assembled tested and ready to operate

### Components

- Mock-Up Curved Aircraft Fuselage Cut-away
- Aircraft Window Panel
- Aircraft Seat
- Aircraft Seat Rail
- Aircraft Carpet

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide


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# Pneumatic Trainer
## Model PNO-100C


The Aircraft Pneumatic System Trainer is designed to provide hands-on training on a functional pneumatic system. The system represents a pneumatic system that is used as an emergency backup for hydraulic system. A typical example is emergency braking system in case of hydraulically actuated brake failure.

The trainer can be operated by a switch which allows the air pressure from a reservoir to operate an actuator. The reservoir can be refilled after use from any pressurized air source like shop air or air compressor.

## Specifications

### Features

- Understanding main back-up Pneumatic system and its components
- Understanding emergency braking system.
- Understanding emergency backup for hydraulic system fail.
- Air compressor included
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

### Components

- Air Pressure Gauge
- Pneumatic Reservoir
- Pneumatic Actuators (Qty. 2)
- Filler Valve
- Air Filter
- Selector Valve / Solenoid Control Valve
- Shuttle Valve
- Check Valve
- Regulator
- Moisture Separator
- Air compressor not included, must buy locally


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## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Runnable Piston Engine Aircraft Training Set

Model PSA-100A



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# Runnable Piston Engine Aircraft Training Set

Model PSA-100A

## Specifications

- PSA – 100 A training set provides a cost-effective training resource for hands-on training in aviation schools. The trainer comes complete with an operational piston engine. The engine is connected to propeller assembly including spinner and governor. The engine is operated from a semi-enclosed test cell cabin that has all the necessary instrumentation and controls to run the engine. The engine is mounted with all necessary electrical wiring, engine accessories, controls, and instruments
- that are needed for running the engine. The students may also be trained to remove and replace parts for field level maintenance practice.
- The engine trainer may be mounted on wheels for easy mobility. For fixed installations, the trainer is provided with heavy duty vibration and shear mounts to absorb vibrations.

# Pitot / Static Test Device
Model PST-100A

# Pitot / Static Test Device
Model PST-100A

Pitot Staic test set and is perfect for leak testing aircraft pitot and static systems or on-board testing of altimeters/vertical speed indicators and airspeed indicators.

Testers are designed with hand pumps or electrical pumps and external pressure ports for delivering the required pressure and vacuum required for on-board testing

## Specifications

### Features

- Performs precision Pitot-Static leak tests
- Ideal for flightline calibration checks and troubleshooting
- Correction cards for all analog instruments
- Two-instrument combination with optional ranges
- Lightweight plastic case for portability
- Fully portable and self-contained
- Original durable and lockable box
- Pressure Adjusment
- Vacuum Adjusment

### Components

- Altimeter
- Vertical Speed Indicator
- Air Speed Indicator
- Vacuum control valve
- Pressure sontrol valve
- Pumps control
- Pumps
- Hose
- Fittings
- Cables

## Documentation

- User's Manual
- Components Diagrams

## Power Specs

- 110 VAC 60 Hz or 220-240 VAC 50 or 24 Volt DC power


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# Runnable Aircraft Propeller Trainer

Model RAP-100B

Trainees examine and learn propeller operation procedures and maintenance procedures in runnable aircraft propeller training set.

Constant Speed Propeller

# Specifications

## Features

- Understanding fundamentals of aircraft Propeller and its components.
- Functional and configured like a typical aircraft Propeller system.
- Propeller is constant speed propeller
- The hose and tubes used in the trainer should be labeled according to aviation standards.
- Propeller RPM control
- Pitch control
- Propeller guard
- Wirings on the trainer should be connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

## Components

- Constant Speed Propeller
  - RPM Gauge
  - Pressure Gauge
- EICAS/ECAM Screen
- Throttle lever – TQ
- Control Panel
- Master power panel
- Aircraft circuit breaker
- electric motor
- Electric motor inverter
- Beacon

## Documentation

- User's Manual
- Study Guide

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz


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# O-Ring Trainer
## Model RNG-100A


# O-Ring Trainer
Model RNG-100A

Trainees would recognize various o-ring types that are commonly used in aircraft maintenance with RNG-100 Model O-Ring Training Set. It also provides opportunity for comparing and usage procedures.

RNG-100 training set includes different o-ring models and practice materials. Trainees can learn the o-ring place of use with moving transparent cylinder in the training set.

## Specifications

### Features

- Understanding fundamentals of aircraft O-Ring
- Suitable for bi-directional use
- One side of the training set is O-ring and the other side is sealing applications.
- Contain the cylinder O-ring application.
- Common O-ring types are displayed in the set.
- 10 application points in the set for practice
- Transparent and aluminum application point for sealing
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aliminium compozit panel.

### Features

- Transparent Cyclinder
- 15 different types of O-Ring
- 10 practice components
- Inch and Metric Full O-ring Box ( 4 piece )
- Tube liquid seals (10 piece)
- O-ring extractor tool kits ( 5 piece)

## Documentation

- User's Manual
- Study Guide


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# Turboshaft Engine Trainer
## Model RTSE-100A


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# Turboshaft Engine Trainer
Model RTSE-100A

Trainees can learn basic components and systems in a gas turbine engine with RTSE-100A Runnable Turboshaft Engine training set. They can operate a gas turbine engine with the training set after learning on operational procedures. Training set includes all the systems that is on a gas turbine engine.

## Specifications

### Features

- Understanding fundamentals of aircraft Runnable Turboshaft Training Set and its components.
- Engine;
- 100% throttle, min 5500 RPM
- 24-30 volt DC Starter motor included
- Oil tank on the engine included
- Oil cooler included
- Oil Pressure and Scavenge pumps included.
- Ignition system included
- 820-1230 BHP
- 4 Stage Axial LP Compressor
- Centrifugal Impeller HP Compressor
- Bleed Valve
- Nh turbine RPM is min 42400
- NI turbine RPM is min 35,000
- NPT turbine RPM is min 27,000
- Overall Pressure Ratio is 12:1
- at least 5 chip-dedectors point - removed easily by hand
- Fuel Tank included
- Movable kiosk for the operating panel
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

## Components

- Turboshaft Engine
  - Starter
  - Oil pump
  - Ignititer
  - Fuel pump
  - Oil Cooler
- Master power switch
- Start/Run switch
- Start button
- Cancel Button
- Pressure light indicator
- Power/sart/running light
- Starter control sw and light
- İgnition control sw and light
- HP RPM indicator
- FPT RPM indicator
- EGT indicator
- Should have an original case
- Battery

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz


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# Riveting Training Set
## Model RVT-100A



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# Riveting Training Set
Model RVT-100A

RVT-100A Riveting Training Set is designed to train and practice riveting procedure on fuselage of an aircraft. Trainees can learn right and wrong ways of riveting techniques and differentiate between them.

This training set also provides opportunity to practice over-sized riveting and Hi-Lok/ Lok-Bolt aplications.

## Specifications

### Features

- Understanding fundemantels of Riveting.
- Understanding Cleco aplications.
- 3 correctly applied rivet samples.
- 3 incorrectly applied rivet samples.
- Aircraft rivets.
- Hi-Loks / Lok-Bolts
- Riveting kit
- Cleco kit
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate

### Components

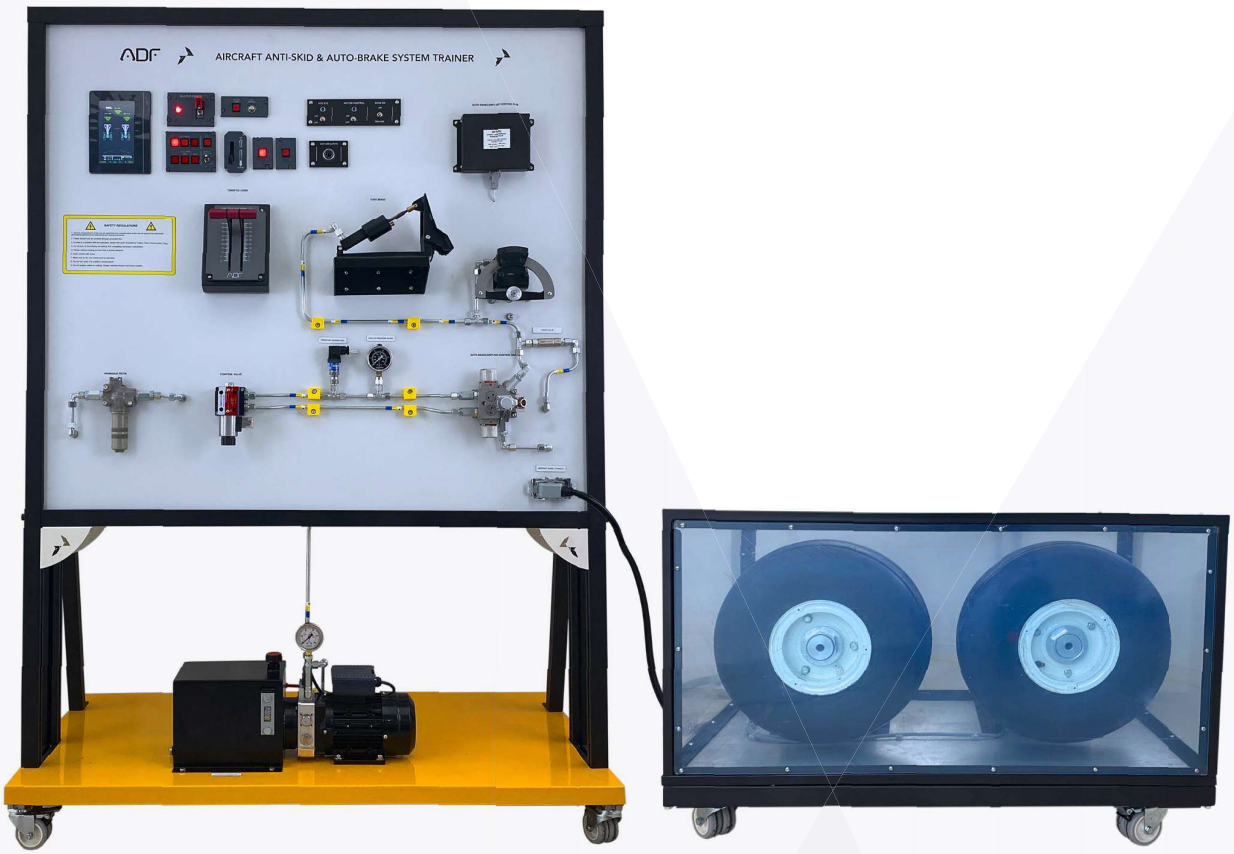
- Rivet gun kit
  - AIR Hammer
  - 2 Bucking Bars
  - 4 Cupped Universal Head BITS (3/32, 1/8, 5/32 & 3/16)
  - 2 RETAINING Springs
- Cleco Kit
  - PLIERS Pliers
  - Cleco fasteners
  - Side grip clamps
- Heavy duty rivet cutter
- Offset Rivets
  - 2.5” straight rivet 3/32”
  - 2.5” straight rivet 5/32”
  - Rivet sets offset .401 shank (AN470)
- Rivet collar cutter 5/32
- C-SET - 3/16 diameter hole
- Rivet holder
- 500 x 1000 mm aplication aluminum plate.

## Documentation

- User’s Manual
- Study Guide

# Anti-Skid and Auto-Brake System Trainer

Model SKT-100A

# Anti-Skid and Auto-Brake System Trainer

Model SKT-100A

Our Anti-skid and Auto Braking System trainer is designed to represent the anti-skid braking system that is one of the most essential components of modern jet aircraft.

This training set gains more importance as the need for training maintenance technicians in this area keep increasing. Hands-on training provided by this set ensures that trainees not only comprehend the theory, but they are also well prepared in practice to maintain the anti-skid braking system. Anti-skid and Auto Braking System Training Set includes a typical hydraulic brake system as well as the anti-skid assemblies and components.

This training set contains two wheels.

## Specifications

### Features

- Understanding fundamentals of aircraft auto-brake/anti-skid and its components.
- Anti-skid and auto-brake system able to work together and independently
- Non operations of auto-brake scenario are implemented
- Operations of auto-brake scenario are implemented
- Take off scenario is implemented
- Landing scenario is implemented
- Auto-brake scenarios is implemented
- Rejected take off scenario is implemented
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

- Computer Control Software (CCS)
  - Trainer monitored
  - Fault panel control from software
  - All data shown in the software

### Components

- Auto-brake/anti-skid Control panel
  - Landing gear position lamps
  - Auto brake Low-Med-Max selection illuminated push button
  - Anti-Skid on/off switch
  - Rejected take-off selection illuminated push button
- Master Caution and aural warning Horn Panel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- Lockable Landing gear control lever
- Hydraulic pump on/off switch and lamp
- AC engine on/off switch and lamp
- Air/ground switch
- Test button
- Skid simulation panel
- INOP lamp
- Master power panel
  - Master power lamp
  - Master power switch
- 10” inch screen (like EICAS or ECAM)
  - Landing gear position
  - Landing door position
  - Numaric pressure value
  - Sensors status
  - Anti-Skid/Auto-Brake position status
  - Numaric Simulated air speed value
- Electronic Control Box (Antiskid Control Computer)
- Antiskid Valve
- TQ - throttle quadrant
- Electrically Driven Hydraulic Pump
- Hydraulics Filter
- Hydraulic Fluid Reservoir
- Hydraulics tank Drain Valve
- Check valve
- 0-100 bar Hydraulic System analog pressure gauge
- 0-100 bar Hydraulic System Pressure sender
- Aircraft landing gear module
  - Two(2) pieces Aircraft Tire
  - Two(2) pieces Aircraft Wheel
  - Two(2) pieces Aircraft Brake system
  - Two(2) pieces AC motor for turning the wheels
  - Plexiglass cover
- Aircraft foot Brake Pedal
- Aircraft foot Brake master cylinder
- Brake microswitch
- Two(2) pieces AC motor driver

## Documentation

- User’s Manual
- Study Guide
- Instructor’s Guide
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Anti-Skid and Auto-Brake System Trainer (One Wheel)

TESCA™

Model SKT-100B




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# Anti-Skid and Auto-Brake System Trainer (One Wheel)

Model SKT-100B

Our Anti-skid and Auto Braking System trainer is designed to represent the anti-skid braking system that is one of the most essential components of modern jet aircraft.

This training set gains more importance as the need for training maintenance technicians in this area keep increasing. Hands-on training provided by this set ensures that trainees not only comprehend the theory, but they are also well prepared in practice to maintain the anti-skid braking system. Anti-skid and Auto Braking System Training Set includes a typical hydraulic brake system as well as the anti-skid assemblies and components.

This training set contains two wheels.

## Specifications

### Features

- Understanding fundamentals of aircraft auto-brake/anti-skid and its components.
- Anti-skid and auto-brake system able to work together and independently
- Non operations of auto-brake scenario are implemented
- Operations of auto-brake scenario are implemented
- Take off scenario is implemented
- Landing scenario is implemented
- Auto-brake scenarios is implemented
- Rejected take off scenario is implemented
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

### Components

- Auto-brake/anti-skid Control panel
  - Landing gear position lamps
  - Auto brake Low-Med-Max selection illuminated push button
  - Anti-Skid on/off switch
  - Rejected take-off selection illuminated push button
- Master Caution and aural warning Horn Panel
- Lockable Landing gear control lever
- Hydraulic pump on/off switch and lamp
- AC engine on/off switch and lamp

- Air/ground switch
- Test button
- Skid simulation panel
- INOP lamp
- Master power panel
  - Master power lamp
  - Master power switch
- 7” inch screen (like EICAS or ECAM)
  - Landing gear position
  - Landing door position
  - Numaric pressure value
  - Sensors status
  - Anti-Skid/Auto-Brake position status
  - Numaric Simulated air speed value
- Electronic Control Box (Antiskid Control Computer)
- Antiskid Valve
- TQ - throttle quadrant
- Electrically Driven Hydraulic Pump
- Hydraulics Filter
- Hydraulic Fluid Reservoir
- Hydraulics tank Drain Valve
- Check valve
- 0-100 bar Hydraulic System analog pressure gauge
- 0-100 bar Hydraulic System Pressure sender
- Aircraft landing gear module
  - Aircraft Tire
  - Aircraft Wheel
  - Aircraft Brake system
  - AC motor for turning the wheel
- Aircraft foot Brake Pedal
- Aircraft foot Brake master cylinder
- Brake microswitch
- AC motor driver

## Documentation

- User’s Manual
- Study Guide
- Instructor’s Guide
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz


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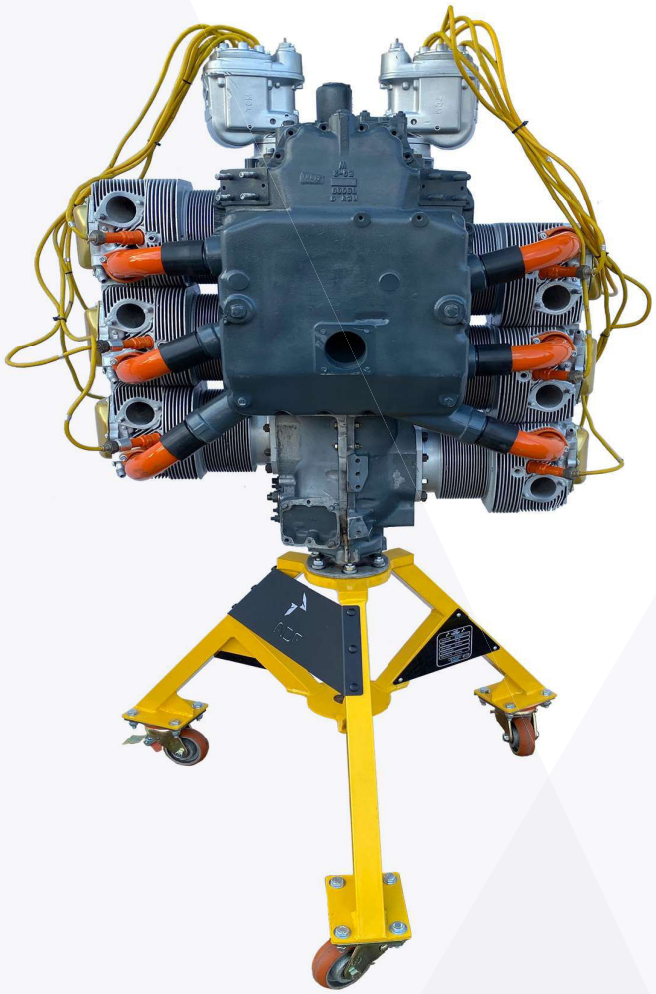
# Teardown Aircraft Piston Engine

Model TPE-100A



# Teardown Aircraft Piston Engine

Model TPE-100A

Trainees can familiarize with four-stroke aircraft motor components and parts with TPE-100A Teardown Aircraft Piston Engine. They can improve manual practice by making extraction and assembly on the training set. They will also learn about maintenance procedures for the engine.

## Specifications

- Pistons
- Ignition System
- Intake System
- Valves
- Magnetos
- Carburetor
- Crankshaft
- Lifter
- Accessory Drive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# Aircraft Lavatory System Trainer

Model TVL-100A


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# Aircraft Lavatory System Trainer
Model TVL-100A

Trainees can learn about fresh and dirty water system parts in an aircraft with TVL-100A Aircraft Lavatory System Training Set. They can also gain hands-on maintenance procedures of a lavatory in an aircraft.

## Specifications

### Features

- Understanding fundamentals of Aircraft Lavatory System and its components.
- Digital screen
- Aircraft Lavatory System (mock-up)
- Training video for teachers
- Delivered fully assembled tested and ready to operate

### Components

- Mock-Up Aircraft Lavatory Cabin
- Digital Screen
- water level sensor
- Water level gauge
- Vacuum Accumulator
- Vacuum Breaker
- Bowl
- Flush Solenoid
- Flush Handle
- Flush Valve
- Portable Water Inlet
- Manuel Water Shut-Off Valve
- Waste and Water TankFlush Control Module

## Documentation

- User's Manual
- Study Guide

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Hydraulic System Main Unit

Model UHT-100A

Aircraft Hydraulic System Trainer provides students with practical experience needed to understand the function, to get to know components and to improve troubleshooting skills. Fully functional hydraulic system designed so that every component can be disassembled, reassembled and functionally tested.

All the components mounted on the trainer are operational, removable and they can be reinstalled.

**NOTE:** EICAS/ECAM screen is located on the hydraulic landing gear trainer or main unit.

## Specifications

### Features

- Hydraulic control solenoids
- Flap control
- Speed Brake Control
- Landing Gear Control
- System is powered by Hydraulics Pump, Hand Pump or Accumulator.
- The hardware used in the trainer is mounted to the frame in a way that it can be easily observable by students.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel
- Wirings on the trainer is connected via terminals.
- Wires have clear identification labels for each wire.

When pump malfunction is given in the trainer, the accumulator and the hand pump able to control the landing gear.

### Components

- Electrically Driven Hydraulic Pump
- Hydraulics Filter
- Landing gear control solenoid
- Landing gear door control solenoid
- Flap control solenoid
- Speed Brake control solenoid

- Emergency Hand Pump
- Hydraulic Fluid Reservoir
- Hydraulic Accumulator with automatic filling
- Hydraulic System analog pressure gauge (8 pieces)
- Pressure sender
- Hydraulic System Pressure sender
- Drain Valve
- Check valve
- Control Panel
  - Aircraft Circuit brakers
  - Aircraft Circuit breaker lockout
  - Power Panel
  - Aircraft Master Caution and aural warning Horn Panel
  - Emergency Button
  - Pump safety switch
  - Energy Lamp
- 7 or 10 inch touchable screen (like EICAS or ECAM)
  - Landing gear position
  - Landing door position
  - Pressure gauge
  - Sensors status
  - Landing gear system control
  - Throttle Lever Position
  - Speed brake position

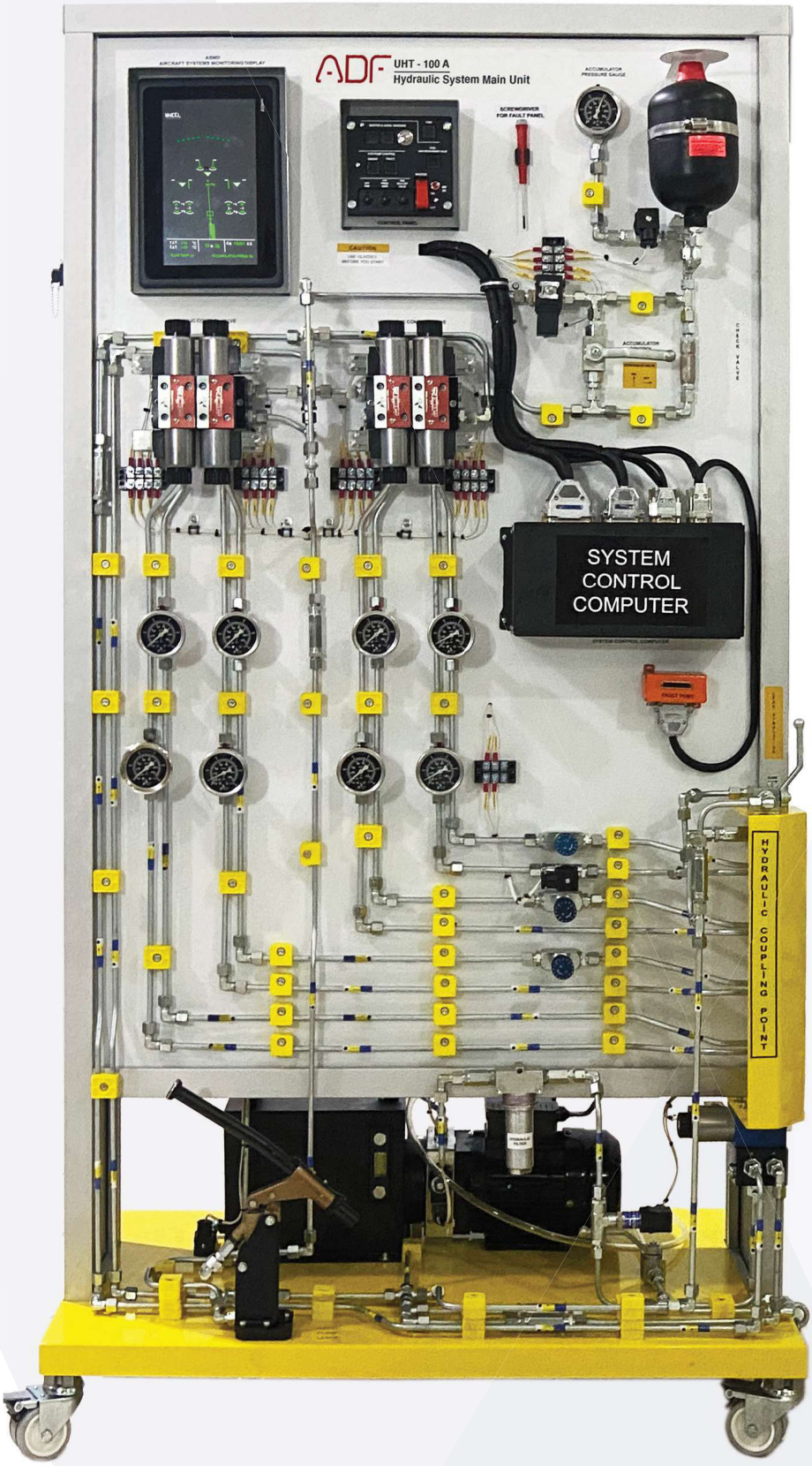
## Documentation

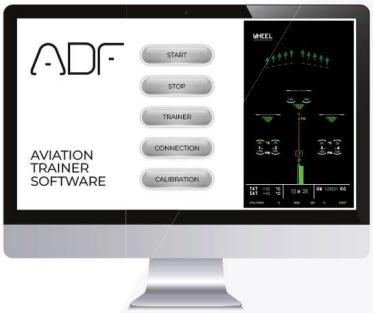
- User's Manual
- Study Guide
- Instructor's Guide
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Hydraulic System Main Unit
## Model UHT-100V





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# Hydraulic System Main Unit

Model UHT-100V

Aircraft Hydraulic System Trainer provides students with practical experience needed to understand the function, to get to know components and to improve troubleshooting skills. Fully functional hydraulic system designed so that every component can be disassembled, reassembled and functionally tested.

All the components mounted on the trainer are operational, removable and they can be reinstalled.

**NOTE:** EICAS/ECAM screen is located on the hydraulic landing gear trainer or main unit.

## Specifications

### Features

- Understanding fundamentals of aircraft hydraulic system and its components.
- Hydraulic control solenoids
  - Flap
  - Speed Brake
  - Landing Gear
  - Landing Gear Door
- System is powered by Hydraulics Pump, Hand Pump or Accumulator
- Some of Trainer Functions
  - Hydraulic power functions
  - Accumulator functions
  - Emer hand pump functions
  - Pumps fault functions
  - ECAM functions
  - Single chime functions
  - Master caution functions
  - Master warning functions
  - Check valves functions
- Some of Trainer Processes
  - Hydraulic system functional test process
  - Hydraulic system leak test process
  - Emergency system test process
  - Automatic accumlator filling process
- Some of Trainer Cases
  - Low level
  - Over heat
  - Low air pressure

- Engine fire
- System Leak

- All wires should be coded and labeled for troubleshooting.
- The hardware used in the trainer is mounted to the frame in a way that it can be easily observable by students.
- Instructor's panel for Fault Insertion
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

## Components

- Control Panel
  - Press to test illuminated Master warning button
  - Press to test illuminated Master caution button
  - Aural warning horn
  - Fire warn indicator
  - Hydraulic pump control illuminated pushbutton
  - Leak measurement valve control illuminated pushbutton
  - Hydraulic pump fault indicator
  - Three(3) units Aircraft circuit breaker
  - Guarded master power sw
- 10 inch touchable screen ECAM
  - Landing gear position (real time)
    - Up locked
    - Transit
    - Down locked
  - Landing door position
  - HYD tank status
    - Temp
    - Pressure
    - Level
  - Pressure gauge
  - Flap position
  - Landing gear system control
  - Speed brake position
- Aircraft circuit breaker lockout
- Electrically Driven Hydraulic Pump


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- Hydraulics Filter
- Landing gear control solenoid
- Landing gear door control solenoid
- Flap control solenoid
- Speed Brake control solenoid
- Emergency Hand Pump
- Hydraulic Fluid Reservoir
- Hydraulic Accumulator with automatic filling
- Hydraulic System analog pressure gauge (8 pieces)
- Sensors
  - Tank air pressure sensor
  - Tank temperature sensor
  - Tank level sensor
  - Hydraulic system pressure sensor
- Drain Valve
- Check valve
- LAN output
- Fault & instructor port
- Lockable Fault & instructor box
- Terminals

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# VHF-COM Communication Trainer

Model VHF-100A



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# VHF-COM Communication Trainer

Model VHF-100A

Trainees can practice airband communication and familiarize with VHF radio system parts with VHF-100A model VHF-COM communication training set.

The VHF-100A training set also allows trainees to learn and practice radio maintenance procedures.

## Specifications

- VHF Comm. Control Panel
- VHF Comm. Transceiver
- VHF Commv. Antenna
- Antenna Cable
- Audio Panel
- Intercom System
- Pilot Head Phone
- Microphone and Phone Jacks Input
- Power Unit
- 118.000 – 136.975 MHz

# Aircraft Weather Radar Trainer
Model WXR-100A



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# Aircraft Weather Radar Trainer

Model WXR-100A

WXR-100A Weather Radar Training Set enables trainees to learn about parts and operation procedures of an aircraft weather radar while they can also learn and implement maintenance processes.
The trainer includes below main equipment's.

- Aircraft Weather Radar Transreceiver
- Aircraft Weather Radar Antenna
- Aircraft Weather Radar Display

WXR-100A Weather Radar trainer can real various weather conditions.

## Specifications

### Features

- Understanding fundamentals of aircraft Weather Radar and its components.
- Aircraft weather radar system
- Color radar system with vertical profile display of weather information
- Consisting of indicator, and receiver/transmitter
- Aircraft Solid-state Four color display
- Understanding fundamentals main specifications such as Tilt, Gain, Range.
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

### Components

- Fully functional and configured like a typical aircraft Weather Radar system.
- Aircraft weather radar display.
- Aircraft weather radar antenna.
- Aircraft weather radar receiver/transmitter
- Beacon

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz

# Aircraft Weather Radar Trainer

Model WXR-100B



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# Aircraft Weather Radar Trainer
Model WXR-100B

WXR-100A Weather Radar Training Set enables trainees to learn about radar antenna and operation procedures of an aircraft weather radar while they can also learn and implement maintenance/test processes.

WXR-100A Weather Radar trainer can simulate various weather conditions.

## Differences from WXR-100B

- Simulated different weather conditions
- Bigger screen/display
- Simulated signal for training
- Without receiver/transmitter

## Specifications

### Features

- Understanding fundamentals of aircraft weather radar.
- Digital weather radar system
- Color radar system with vertical profile display of weather information
- Consisting of indicator
- Solid-state color display
- Moving map system
- Automatic scanning
- Automatic turnable radar antenna
- Understanding fundamentals main specifications such as Tilt, Gain, Range.
- Wirings on the trainer are connected via terminals.
- Wires should have clear identification labels for each wire.
- All wires should be coded and labeled for troubleshooting.
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel

## Components

- Functional aircraft weather radar antenna.
  - Automatic turable
- Weather radar display.
- Aircraft weather radar panel
  - Tilt
  - Gain
  - Map
  - Turbilabce
  - WX
- Beacon
- Simulate Panel
  - Cloudy
  - Clean
  - Turbulent
  - All

## Documentation

- User's Manual
- Study Guide
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz


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# Aircraft Transponder System Training Set

## Model XPND-100A



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# Aircraft Transponder System Training Set

Model XPND-100A

Our trainer enables trainees to get hands-on experience on transponder systems. The trainer ensures practical training with original aircraft transponder equipment configured to bring real-life experience to the training environment. Our design provides trainees with a good understanding of transponder equipment and a methodical approach for troubleshooting and testing procedures. We understand and tailor according to our customers' training needs.

The trainer is delivered plug and play and comes with necessary antennas, transmitters, receivers, wiring, and indicators.

**Optional**

- **Transponder/DME Test Set**
- **NAV/COM Tester**

Please contact us for Test Equipment.

## Specifications

### Features

- Understanding fundamentals of aircraft transponder and its components.
- Encoder altimeter
- Encoder altimeter testing
- TXPDR Ident
- Aircraft Altimeter
- Altimeter and Transponder run in sync
- Altitude simulation
- Installed and mounted in the rack.
- A-mode, C-mode and S-mode operation.
- Toggle switch for modes A or C
- 0-15 A DC current meter and 0-30 V DC voltmeter
- The system mounted on a metal/aluminum mobile stand.
- Metal/aluminum frame with 4 wheels. 2 of 4 wheels are lockable.
- Training video for teachers
- Delivered fully assembled tested and ready to operate
- Colored Ultraviolet printing method on aluminum composite panel.

### Components

- Transponder
- Transponder antenna with coaxial connector
- Altitude Encoder
- Altimeter
- Vacuum Pump
- Dc Power Box
- Aircraft Circuit Breaker

- Circuit Breaker Lockout
- 20 A power supply
- Current and voltage meters
- Assembled and wired according to aeronautical regulations
- Aeronautical standard connectors and jackets.

## Components Technical Specs

### Transponder Device General Specs

- Transmitter Frequency; 1090 MHz +-3 MHz
- Receiver Sensitivity: -73dBm (nominal); -69dBm (min. for 90% reply)
- Mode C Capability: Accepts standard ICAO Altitude Transmission Code digitizer output, reporting in 100 ft. increments from -1000 ft. throughout operating range
- Input voltage 28 VDC
- 4096 discrete codes
- Backlight labels and knobs
- CLR button
- VFR button
- IDT button
- Numaric Buttons(0-1-2-3-4-5-6-7)
- KNOP(OFF-SBY-TST-ON-ALT)
- Code window
- Original installation manual.

### Optional

- **Transponder/DME Test Set**

Avionics test equipment is a ramp tester developed to simulate the ground station or airborne environment required to test Modes A and C transponders.

ARINC specifications and FAA regulations regarding pilot's code and encoded altitude tests and SLS, transponder receiver sensitivity, percent reply, and transmitter power, frequency.

PRF measurements, precise range, power and frequency and velocity simulation.

- Digital readout of XPDR code and altitude
- Measures transponder frequency and checks for correct DME channel
- Binary pulse information for code and altitude
- Precision DME range and velocity signals, both X and Y channel
- Front panel connector provides direct check of altitude encoders
- Internal battery and battery charge
- Checks position of XPDR second framing pulse relative to F1.

- **NAV/COM Tester**
- Output Power;
- ADF = -12 +/-3 dbm
- VOR= -10 +/-3 dbm
- ILS Localizer= -10 +/-3 dbm
- ILS GS = -17 +/-3 dbm
- ILS MKR = -15 +/-3 dbm
- DME = -12 +/-3 dbm
- TXPDR = -12 +/-3 dbm
- VOR radial accuracy; +/- 1 deg
- ILS localizer DDM accuracy; +/- 15%
- ILS glide slope DDM accuracy; +/- 15%
- DME accuracy; +/- 0.1NM
- Transponder specs;
- PRF 235+/-5 Mode A,C 50 +/-2 Mode S
- P2 level equal P1 +/- 0.1 dbm
- P2 position 2 +/-0.01 uS from P1
- P3 position 8 +/- .01uS or 21 +/- 0.02uS Rel to P1
- Pulse width 0.8 +/-0.01uS P1,P2,P3
- Frequency 1030 MHz Tx, 1090 MHz Rx , +/- 2.5ppm
- Reply % 0 to 100% displayed +/- 0.5%
- Reply window 2.5 to 3.5uS F1 from P3
- Pulse Width reads out to +/- 50nS resolution
- X Data Pulse Must=0 for good read
- SPI Displays ID message

**NOTE:** Avionics devices brand/model and some technical specs can be change due to market availability.

## Documentation

- User's Manual
- Instructor's Guide
- Device's original Manual
- Device's original Wiring Diagrams
- Components Diagrams

## Power Specs

- Electrical box
- Residual current device
- Emergency Button
- Energy Signal Lamp
- 110 VAC 60 Hz or 220-240 VAC 50 Hz