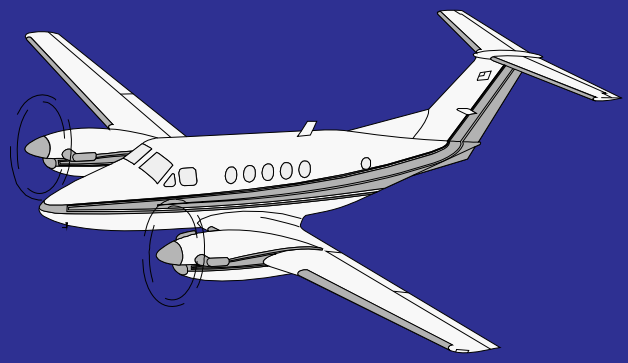
RON COX
AVIATION SERVICES

PISTON
AIRCRAFT TRAINING PROGRAMS

A-36
PA-32
C-310
Seneca
Baron
P-210
P-337
Aerostar
58P
C-340
PA-31
C-414
C-421
Duke
Mojave
Malibu/Mirage



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Email: rcoxpilot@msn.com

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Ron Cox Aviation Services
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Ron Cox Aviation Services
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PRESSURIZED / NON-PRESSURIZED SINGLE & MULTI-ENGINE PISTON TRAINING[1]

A-36
PA-32
C-310
Aztec
Seneca
Baron 55 & 58
P-210
P-337
Aerostar
58P
C-340
PA-31
C-414
C-421
Duke
Mojave
Malibu/Mirage

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FOUR DAY PRESSURIZED PISTON
INITIAL TRAINING SYLLABUS

Ground Training
20 HOURS TOTAL

SUBJECT (Time)

AIRCRAFT GENERAL (45 minutes)

A. General Description
B. Airframe and Engines

LIMITATIONS (1 hour)

A. Airspeed
B. Engine
C. Weight
D. Maneuver Limits
E. Flight Load Limits
F. Fuel Limitations
G. Operating Limitations

ENGINES (2 hours)

A. Overview
B. Fuel Injection System
    a. Fuel-Air Control Unit
    b. Fuel Injection Pump
    c. Fuel Manifold & Injector Assembly
C. Ignition System
    a. Magnetos
    b. Spark Plugs
    c. Engine Starting System
D. Engine Top
    a. Cylinders
    b. Pistons
    c. Rods
    d. Rings
    e. Break-in
E. Engine Oil System
    a. Lubrication
    b. Hydraulic

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F. Induction Air
    a. Components
    b. Normal & Alternate
    c. Turbocharger
        i. Description
        ii. Normal & Abnormal Operation
G. Propeller
    a. Governor & Hub Description
    b. Normal Operation
    c. Feathering / Unfeathering
    d. Prop Sync
H. Powerplant Instrumentation
I. Limitations
J. Fire Detection & Extinguishing System (optional)

PREFLIGHT & NORMAL PROCEDURES (2 hours)

A. Preflight
B. Before Starting Engines
C. Starting Engines
D. Before Taxiing
E. Taxiing
F. Before Takeoff
G. Takeoff
H. After Takeoff
I. Climb
J. Cruise
K. Descent
L. Before Landing
M. After Landing
N. Shutdown

LANDING GEAR & BRAKES (2 hours)

A. Landing Gear Hydraulic System or Electrical Operation
    a. Components
    b. Normal & Abnormal Operation
B. Landing Gear
C. Brake System
    a. Components
    b. Parking Brake
    c. Limitations

FUEL SYSTEM (1 hour 30 minutes)

A. Tanks
    a. Location & Capacities
    b. Vent System
B. Indicating System
    a. Fuel Quantity
    b. Fuel Low
    c. Low Fuel Level Warning
C. Pumps
    a. Standard
    b. Operation
D. Normal & Crossfeed Operation
E. Cold Weather Operation
    a. Alcohol
    b. EGME

ELECTRICAL SYSTEM (1 hour 45 minutes)

A. Battery
    a. Description
    b. Maintenance
    c. Hot Battery Bus
B. Alternators
    a. Description
    b. Power Distribution & Control
C. Normal Operation
D. External Power
E. Monitoring System
    a. Annunciator Lights
    b. Volt / Ammeter
F. Avionics Busses
G. Emergency Power Alternator Control
H. Lighting
    a. External
    b. Internal
    c. Annunciator Panel

ENVIRONMENTAL SYSTEMS (2 hours)

A. Air Distribution, Heating & Ventilation Systems
B. Pressurization System
C. High Altitude Physiological Operation
D. Air Conditioning
E. Oxygen System

EMERGENCY PROCEDURES (1 hour and 30 minutes)

A. Loss of Power
B. Electrical System
C. Fuel System
D. Avionics Bus Failure
E. Flight Instrument Failure
F. Landing Gear Failures
G. Pressurization System Emergency Procedures
H. Split Flaps
I. Spins
J. Static System Obstructions

FLIGHT CONTROLS (1 hour)

A. Ailerons
B. Aileron Trim
C. Elevators
D. Elevator Trim
E. Rudder
F. Rudder Trim
G. Flap System
H. Nosewheel Steering
I. Stall Warning
J. Limitations

FLIGHT INSTRUMENTS (1 hour)

A. Pitot / Static System
B. Vacuum / Pressure System
C. Engine
D. Flight

ANTI-ICE / DEICE SYSTEMS (1 hour 30 minutes)

A. Anti-ice
    a. Pitot Heat
    b. Stall / Vent Heat
    c. Windshield Heat
B. Deice
    a. Surface Deice System
    b. Windshield Alcohol System
    c. Propeller Heat

WEIGHT & BALANCE / PERFORMANCE (2 hours)

A. Weight & Balance
    a. Effects of Weight & Balance on Center of Gravity
    b. Aircraft Forms
    c. Determining Weight & Balance
    d. Sample Problems
B. Performance
    a. Explanation of Tables
    b. Interpreting Charts
    c. Practical Exercise

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Flight Training
10 HOURS TOTAL

FLIGHT #1 (3 hours)

A. Pre-flight Planning
B. High Altitude Climb above FL 240
C. Leaning Procedures
D. Flight Director / Autopilot Procedures (Climb & Descent)
    a. Engagement Procedures
    b. Disengagement Procedures
E. Normal Descent
    a. Power Settings
    b. Flap Positions
    c. Drag Devices
F. Emergency Descent
    a. Turbulent Air
    b. Smooth Air
G. Stalls
    a. Slow Flight Configuration
    b. Clean Configuration
    c. Landing Configuration
    d. Power On
    e. Accelerated
H. Vmca and Drag Demonstration (Multi-Engine Aircraft Only)
I. Emergency Procedures
    a. Electrical Failure
    b. Depressurization / Emergency Descent
    c. Emergency Landing Gear Extension (if applicable)
    d. Engine Failure (Zero Thrust for Multi / Simulated for Single)
    e. Power Off Landing
    f. Balked Landing

FLIGHT #2 (3 hours)

A. Flight Planning / Pre-Flight
B. Normal Take-off
C. IFR Climb 1,000'AGL to 8,000' AGL (All flight maneuvers above 1000'AGL for Flight #2 will be under the hood)
D. Steep Turns
E. Slow Flights
F. Stalls
    a. Clean Configuration
    b. Landing Configuration
    c. Power-On
G. Descents
    a. Normal
        i. Power
        ii. Flaps
        iii. Gear
    b. Rough Air Penetration
H. Unusual Attitudes
    a. Nose Low (Pitch 10 degrees down, roll 35 degrees, airspeed increasing)
    b. Nose High (Pitch 10 degrees up, roll 40 degrees, airspeed decreasing)
I. Instrument Approaches
    a. ILS
    b. VOR
    c. NDB
    d. GPS
J. Instrument Approaches (Flight Director engaged only)
K. Normal, Short Field, No Flap, Take-off and Landings

FLIGHT #3 (4 hours)

A. Flight Planning / Pre-Flight
B. Normal Take-Off
C. IFR Cross Country (Actual or Simulated)
    a. Cross Country 300 Miles Minimum
    b. Multiple Approaches at Two Different Airports
    c. Pressurized Flight above 15,000' MSL on at least one leg of the cross country.
D. Instrument Procedures
    a. Partial Panel
    b. Holding
    c. Minimum Equipment Flight (i.e. Single Radio, CDI, Stand-by Compass, etc.)
    d. Simulated Electrical and Gear Failure / Decompression
E. Instrument Approaches (Flight Director / Autopilot Coupled)
    a. ILS
    b. VOR
    c. NDB
    d. BC
    e. DME ARC
    f. GPS

THREE DAY PRESSURIZED / NON-PRESSURIZED PISTON INITIAL TRAINING SYLLABUS

Ground Training
16 HOURS TOTAL

SUBJECT (Time)

AIRCRAFT GENERAL (30 minutes)

A. General Description
B. Airframe and Engines

LIMITATIONS (45 minutes)

A. Airspeed
B. Engine
C. Weight
D. Maneuver Limits
E. Flight Load limits
F. Fuel Limitations
G. Operating Limitations

ENGINES (1 hour 45 minutes)

A. Overview
B. Fuel Injection System
    a. Fuel-Air Control Unit
    b. Fuel Injection Pump
    c. Fuel Manifold & Injector Assembly
C. Ignition System
    a. Magnetos
    b. Spark Plugs
    c. Engine Starting System
D. Engine Top
    a. Cylinders
    b. Pistons
    c. Rods
    d. Rings
    e. Break-in
E. Engine Oil System
    a. Lubrication
    b. Hydraulic

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F. Induction Air
    a. Components
    b. Normal & Alternate
    c. Turbocharger
        i. Description
        ii. Normal & Abnormal Operation
G. Propeller
    a. Governor & Hub Description
    b. Normal Operation
    c. Feathering / Unfeathering
    d. Prop Sync
H. Powerplant Instrumentation
I. Limitations
J. Fire Detection & Extinguishing System (optional)

PREFLIGHT & NORMAL PROCEDURES (1 hour 30 minutes)

A. Preflight
B. Before Starting Engines
C. Starting Engines
D. Before Taxiing
E. Taxiing
F. Before Takeoff
G. Takeoff
H. After Takeoff
I. Climb
J. Cruise
K. Descent
L. Before Landing
M. After Landing
N. Shutdown

LANDING GEAR & BRAKES (1 hour 45 minutes)

A. Landing Gear Hydraulic System or Electrical Operation
    a. Components
    b. Normal & Abnormal Operation
B. Landing Gear
C. Brake System
    a. Components
    b. Parking Brake
    c. Limitations

FUEL SYSTEM (1 hour 15 minutes)

A. Tanks
    a. Location & Capacities
    b. Vent System
B. Indicating System
    a. Fuel Quantity
    b. Fuel Low
    c. Low Fuel Level Warning
C. Pumps
    a. Standard
    b. Operation
D. Normal & Crossfeed Operation
E. Cold Weather Operation
    a. Alcohol
    b. EGME

ELECTRICAL SYSTEM (1 hour 30 minutes)

A. Battery
    a. Description
    b. Maintenance
    c. Hot Battery Bus
B. Alternators
    a. Description
    b. Power Distribution & Control
C. Normal Operation
D. External Power
E. Monitoring System
    a. Annunciator Lights
    b. Volt / Ammeter
F. Avionics Busses
G. Emergency Power Alternator Control
H. Lighting
    a. External
    b. Internal
    c. Annunciator Panel

ENVIRONMENTAL SYSTEMS (1 hour 45 minutes)

A. Air Distribution, Heating & Ventilation Systems
B. Pressurization System (if applicable)
C. High Altitude Physiological Operation
D. Air Conditioning
E. Oxygen System

EMERGENCY PROCEDURES (1 hour and 30 minutes)

A. Loss of Power
B. Electrical System
C. Fuel System
D. Avionics Bus Failure
E. Flight Instrument Failure
F. Landing Gear Failures
G. Pressurization System Emergency Procedures (if applicable)
H. Split Flaps
I. Spins
J. Static System Obstructions

FLIGHT CONTROLS (45 minutes)

A. Ailerons
B. Aileron Trim
C. Elevators
D. Elevator Trim
E. Rudder
F. Rudder Trim
G. Flap System
H. Nosewheel Steering
I. Stall Warning
J. Limitations

FLIGHT INSTRUMENTS (45 minutes)

A. Pitot / Static System
B. Vacuum / Pressure System
C. Engine
D. Flight

ANTI-ICE / DEICE SYSTEMS (1 hour 15 minutes)

A. Anti-ice
    a. Pitot Heat
    b. Stall / Vent Heat
    c. Windshield Heat
B. Deice
    a. Surface Deice System
    b. Windshield Alcohol System
    c. Propeller Heat

WEIGHT & BALANCE / PERFORMANCE (1 hour)

A. Weight & Balance
    a. Effects of Weight & Balance on Center of Gravity
    b. Aircraft Forms
    c. Determining Weight & Balance
    d. Sample Problems
B. Performance
    a. Explanation of Tables
    b. Interpreting Charts
    c. Practical Exercise

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Flight Training
5 HOURS TOTAL

FLIGHT #1 (3 hours)

A. Pre-flight Planning
B. High Altitude Climb above FL 240 (if applicable)
C. Leaning Procedures
D. Flight Director / Autopilot Procedures (Climb & Descent)
    a. Engagement Procedures
    b. Disengagement Procedures
E. Normal Descent
    a. Power Settings
    b. Flap Positions
    c. Drag Devices
    d. Rough Air Penetration
F. Emergency Descent (Below 12,000')
    a. Turbulent Air
    b. Smooth Air
G. Steep Turns
H. Slow Flights
I. Stalls
    a. Slow Flight Configuration
    b. Clean Configuration
    c. Landing Configuration
    d. Power On
    e. Accelerated
J. Unusual Attitudes
    a. Nose Low (Pitch 10 degrees down, roll 35 degrees, airspeed increasing)
    b. Nose High (Pitch 10 degrees up, roll 40 degrees, airspeed decreasing)
K. Vmca and Drag Demonstrations (Multi-Engine Aircraft Only)
L. Emergency Procedures
    a. Electrical Failure
    b. Depressurization (if applicable) / Emergency Descent
    c. Emergency Landing Gear Extension (if applicable)
    d. Engine Failure (Zero Thrust for Multi / Simulated for Single)
    e. Power Off Landing
    f. Balked Landing
M. IFR Climb 1,000'AGL to 8,000' AGL (All flight maneuvers above 1000'AGL for this section will be under the hood)

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N. Instrument Approaches
    a. ILS
    b. VOR
    c. NDB
    d. GPS
O. Instrument Approaches (Flight Director engaged only)
P. Normal, Short Field, No Flap, Take-off and Landings

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FLIGHT #2 (2 hours)

A. Flight Planning / Pre-Flight
B. Normal Take-Off
C. IFR Cross Country (Actual or Simulated)
    a. Cross Country 100 Miles Minimum
    b. Multiple Approaches at Two Different Airports
    c. Pressurized Flight above 15,000' MSL (if applicable) on at least one leg of the cross country.
D. Instrument Procedures
    a. Partial Panel
    b. Holding
    c. Minimum Equipment Flight (i.e. Single Radio, CDI, Stand-by Compass, etc.)
    d. Simulated Electrical and Gear Failure / Decompression (if applicable)
E. Instrument Approaches (Flight Director / Autopilot Coupled)
    a. ILS
    b. VOR
    c. NDB
    d. BC
    e. DME ARC
    f. GPS

TWO DAY NON-PRESSURIZED PISTON
INITIAL TRAINING SYLLABUS

Ground Training
12 HOURS TOTAL

SUBJECT (Time)

AIRCRAFT GENERAL (30 minutes)

A. General Description
B. Airframe and Engines

LIMITATIONS (30 minutes)

A. Airspeed
B. Engine
C. Weight
D. Maneuver Limits
E. Flight Load limits
F. Fuel Limitations
G. Operating Limitations

ENGINES (1 hour)

A. Overview
B. Fuel Injection System
    a. Fuel-Air Control Unit
    b. Fuel Injection Pump
    c. Fuel Manifold & Injector Assembly
C. Ignition System
    a. Magnetos
    b. Spark Plugs
    c. Engine Starting System
D. Engine Top
    a. Cylinders
    b. Pistons
    c. Rods
    d. Rings
    e. Break-in
E. Engine Oil System
    a. Lubrication
    b. Hydraulic

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F. Induction Air
    a. Components
    b. Normal & Alternate
    c. Turbocharger
        i. Description
        ii. Normal & Abnormal Operation
G. Propeller
    a. Governor & Hub Description
    b. Normal Operation
H. Powerplant Instrumentation
I. Limitations
J. Fire Detection & Extinguishing System (optional)

PREFLIGHT & NORMAL PROCEDURES (1 hour 30 minutes)

A. Preflight
B. Before Starting Engines
C. Starting Engines
D. Before Taxiing
E. Taxiing
F. Before Takeoff
G. Takeoff
H. After Takeoff
I. Climb
J. Cruise
K. Descent
L. Before Landing
M. After Landing
N. Shutdown

LANDING GEAR & BRAKES (1 hour)

A. Landing Gear Hydraulic System or Electrical Operation
    a. Components
    b. Normal & Abnormal Operation
B. Landing Gear
C. Brake System
    a. Components
    b. Parking Brake
    c. Limitations

FUEL SYSTEM (1 hour)

A. Tanks
    a. Location & Capacities
    b. Vent System
B. Indicating System
    a. Fuel Quantity
    b. Fuel Low
    c. Low Fuel Level Warning
C. Pumps
    a. Standard
    b. Operation
D. Normal Operation
E. Cold Weather Operation
    a. Alcohol
    b. EGME

ELECTRICAL SYSTEM (1 hour)

A. Battery
    a. Description
    b. Maintenance
    c. Hot Battery Bus
B. Alternator(s)
    a. Description
    b. Power Distribution & Control
C. Normal Operation
D. External Power
E. Monitoring System
    a. Annunciator Lights
    b. Volt / Ammeter
F. Avionics Busses
G. Emergency Power Alternator Control
H. Lighting
    a. External
    b. Internal
    c. Annunciator Panel

ENVIRONMENTAL SYSTEMS (1 hour)

A. Air Distribution, Heating & Ventilation Systems
B. High Altitude Physiological Operation
C. Air Conditioning
D. Oxygen System

EMERGENCY PROCEDURES (1 hour)

A. Loss of Power
B. Electrical System
C. Fuel System
D. Avionics Bus Failure
E. Flight Instrument Failure
F. Landing Gear Failures
G. Split Flaps
H. Spins
I. Static System Obstructions

FLIGHT CONTROLS (1 hour)

A. Ailerons
B. Aileron Trim
C. Elevators
D. Elevator Trim
E. Rudder
F. Rudder Trim
G. Flap System
H. Nosewheel Steering
I. Stall Warning
J. Limitations

FLIGHT INSTRUMENTS (1 hour)

A. Pitot / Static System
B. Vacuum / Pressure System
C. Engine
D. Flight

ANTI-ICE (30 minutes)

A. Anti-ice
    a. Pitot Heat
    b. Stall / Vent Heat
    c. Windshield Heat

WEIGHT & BALANCE / PERFORMANCE (1 hour)

C. Weight & Balance
    a. Effects of Weight & Balance on Center of Gravity
    b. Aircraft Forms
    c. Determining Weight & Balance
    d. Sample Problems
D. Performance
    a. Explanation of Tables
    b. Interpreting Charts
    c. Practical Exercise

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Flight Training
5 HOURS TOTAL

FLIGHT #1 (3 hours)

A. Pre-flight Planning
B. Leaning Procedures
C. Flight Director / Autopilot Procedures (Climb & Descent)
    a. Engagement Procedures
    b. Disengagement Procedures
D. Normal Descent
    a. Power Settings
    b. Flap Positions
    c. Drag Devices
    d. Rough Air Penetration
E. Emergency Descent (Below 12,000')
    a. Turbulent Air
    b. Smooth Air
F. Steep Turns
G. Slow Flights
H. Stalls
    a. Slow Flight Configuration
    b. Clean Configuration
    c. Landing Configuration
    d. Power On
    e. Accelerated
I. Unusual Attitudes
    a. Nose Low (Pitch 10 degrees down, roll 35 degrees, airspeed increasing)
    b. Nose High (Pitch 10 degrees up, roll 40 degrees, airspeed decreasing)
J. Vmca and Drag Demonstrations (Multi-Engine Aircraft Only)
K. Emergency Procedures
    a. Electrical Failure
    b. Emergency Descent
    c. Emergency Landing Gear Extension (if applicable)
    d. Engine Failure (Zero Thrust for Multi / Simulated for Single)
    e. Power Off Landing
    f. Balked Landing
L. IFR Climb 1,000'AGL to 8,000' AGL (All flight maneuvers above 1000'AGL for this section will be under the hood)

M. Instrument Approaches
    a. ILS
    b. VOR
    c. NDB
    d. GPS
N. Instrument Approaches (Flight Director engaged only)
O. Normal, Short Field, No Flap, Take-off and Landings

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FLIGHT #2 (2 hours)

A. Flight Planning / Pre-Flight
B. Normal Take-Off
C. IFR Cross Country (Actual or Simulated)
    a. Cross Country 100 Miles Minimum
    b. Multiple Approaches at Two Different Airports
D. Instrument Procedures
    a. Partial Panel
    b. Holding
    c. Minimum Equipment Flight (i.e. Single Radio, CDI, Stand-by Compass, etc.)
    d. Simulated Electrical and Gear Failure
E. Instrument Approaches (Flight Director / Autopilot Coupled)
    a. ILS
    b. VOR
    c. NDB
    d. BC
    e. DME ARC
    f. GPS

TWO DAY PRESSURIZED / NON-PRESSURIZED PISTON REFRESHER TRAINING SYLLABUS

Ground Training
12 HOURS TOTAL

SUBJECT (Time)

AIRCRAFT GENERAL (30 minutes)

A. General Description
B. Airframe and Engines

LIMITATIONS (30 minutes)

A. Airspeed
B. Engine
C. Weight
D. Maneuver Limits
E. Flight Load limits
F. Fuel Limitations
G. Operating Limitations

ENGINES (1 hour)

A. Overview
B. Fuel Injection System
    a. Fuel-Air Control Unit
    b. Fuel Injection Pump
    c. Fuel Manifold & Injector Assembly
C. Ignition System
    a. Magnetos
    b. Spark Plugs
    c. Engine Starting System
D. Engine Top
    a. Cylinders
    b. Pistons
    c. Rods
    d. Rings
    e. Break-in
E. Engine Oil System
    a. Lubrication
    b. Hydraulic

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F. Induction Air
    a. Components
    b. Normal & Alternate
    c. Turbocharger
        i. Description
        ii. Normal & Abnormal Operation
G. Propeller
    a. Governor & Hub Description
    b. Normal Operation
    c. Feathering/Unfeathering
    d. Prop Sync
H. Powerplant Instrumentation
I. Limitations
J. Fire Detection & Extinguishing System (optional)

PREFLIGHT & NORMAL PROCEDURES (1 hour)

A. Preflight
B. Before Starting Engines
C. Starting Engines
D. Before Taxiing
E. Taxiing
F. Before Takeoff
G. Takeoff
H. After Takeoff
I. Climb
J. Cruise
K. Descent
L. Before Landing
M. After Landing
N. Shutdown

LANDING GEAR & BRAKES (1 hour)

A. Landing Gear Hydraulic System or Electrical Operation
    a. Components
    b. Normal & Abnormal Operation
B. Landing Gear
C. Brake System
    a. Components
    b. Parking Brake
    c. Limitations

FUEL SYSTEM (1 hour)

A. Tanks
    a. Location & Capacities
    b. Vent System
B. Indicating System
    a. Fuel Quantity
    b. Fuel Low
    c. Low Fuel Level Warning
C. Pumps
    a. Standard
    b. Operation
D. Normal & Crossfeed Operation
E. Cold Weather Operation
    a. Alcohol
    b. EGME

ELECTRICAL SYSTEM (1 hour)

A. Battery
    a. Description
    b. Maintenance
    c. Hot Battery Bus
B. Alternators
    a. Description
    b. Power Distribution & Control
C. Normal Operation
D. External Power
E. Monitoring System
    a. Annunciator Lights
    b. Volt / Ammeter
F. Avionics Busses
G. Emergency Power Alternator Control
H. Lighting
    a. External
    b. Internal
    c. Annunciator Panel

ENVIRONMENTAL SYSTEMS (1 hour)

A. Air Distribution, Heating & Ventilation Systems
B. Pressurization System (if applicable)
C. High Altitude Physiological Operation
D. Air Conditioning
E. Oxygen System

EMERGENCY PROCEDURES (1 hour)

A. Loss of Power
B. Electrical System
C. Fuel System
D. Avionics Bus Failure
E. Flight Instrument Failure
F. Landing Gear Failures
G. Pressurization System Emergency Procedures (if applicable)
H. Split Flaps
I. Spins
J. Static System Obstructions

FLIGHT CONTROLS (1 hour)

A. Ailerons
B. Aileron Trim
C. Elevators
D. Elevator Trim
E. Rudder
F. Rudder Trim
G. Flap System
H. Nosewheel Steering
I. Stall Warning
J. Limitations

FLIGHT INSTRUMENTS (1 hour)

A. Pitot / Static System
B. Vacuum / Pressure System
C. Engine
D. Flight

ANTI-ICE / DEICE (1 hour)

A. Anti-ice
    a. Pitot Heat
    b. Stall / Vent Heat
    c. Windshield Heat
B. Deice
    a. Surface Deice System
    b. Windshield Alcohol System
    c. Propeller Heat

WEIGHT & BALANCE / PERFORMANCE (1 hour)

A. Weight & Balance
    a. Effects of Weight & Balance on Center of Gravity
    b. Aircraft Forms
    c. Determining Weight & Balance
    d. Sample Problems
B. Performance
    a. Explanation of Tables
    b. Interpreting Charts
    c. Practical Exercise

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Flight Training
5 HOURS TOTAL

FLIGHT #1 (3 hours)

A. Pre-flight Planning
B. High Altitude Climb above FL 240 (if applicable)
C. Leaning Procedures
D. Flight Director / Autopilot Procedures (Climb & Descent)
    a. Engagement Procedures
    b. Disengagement Procedures
E. Normal Descent
    a. Power Settings
    b. Flap Positions
    c. Drag Devices
    d. Rough Air Penetration
F. Emergency Descent (Below 12,000')
    a. Turbulent Air
    b. Smooth Air
G. Steep Turns
H. Slow Flights
I. Stalls
    a. Slow Flight Configuration
    b. Clean Configuration
    c. Landing Configuration
    d. Power On
    e. Accelerated
J. Unusual Attitudes
    a. Nose Low (Pitch 10 degrees down, roll 35 degrees, airspeed increasing)
    b. Nose High (Pitch 10 degrees up, roll 40 degrees, airspeed decreasing)
K. Vmca and Drag Demonstration (Multi-Engine Aircraft Only)
L. Emergency Procedures
    a. Electrical Failure
    b. Depressurization (if applicable) / Emergency Descent
    c. Emergency Landing Gear Extension (if applicable)
    d. Engine Failure (Zero Thrust for Multi / Simulated for Single)
    e. Power Off Landing
    f. Balked Landing
M. IFR Climb 1,000'AGL to 8,000' AGL (All flight maneuvers above 1000'AGL for this section will be under the hood)

N. Instrument Approaches
    a. ILS
    b. VOR
    c. NDB
    d. GPS
O. Instrument Approaches (Flight Director engaged only)
P. Normal, Short Field, No Flap, Take-off and Landings

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FLIGHT #2 (2 hours)

A. Flight Planning / Pre-Flight
B. Normal Take-Off
C. IFR Cross Country (Actual or Simulated)
    a. Cross Country 150 Miles Minimum
    b. Multiple Approaches at Two Different Airports
    c. Pressurized Flight Above 15,000' MSL (if applicable) on at least one leg of the cross country.
D. Instrument Procedures
    a. Partial Panel
    b. Holding
    c. Minimum Equipment Flight (i.e. Single Radio, CDI, Stand-by Compass, etc.)
    d. Simulated Electrical and Gear Failure / Decompression (if applicable)
E. Instrument Approaches (Flight Director / Autopilot Coupled)
    a. ILS
    b. VOR
    c. NDB
    d. BC
    e. DME ARC
    f. GPS

MALIBU/MIRAGE INITIAL TRAINING SYLLABUS

Ground Training
20 HOURS TOTAL

SUBJECT (Time)

AIRCRAFT GENERAL (45 minutes)

A. Malibu Dimensions
B. Cabin
C. Lighting System
D. Fuselage, Empennage, and Wings
E. Landing Gear
F. Technical Specifications
G. Malibu Bonding Process

ENGINES (2 hours)

A. Nomenclature Description
B. Engine Controls
C. Starting System
D. Instruments
E. Fuel Injection
F. Engine Oil
G. Turbo System
H. Propeller
I. Airworthy Directives and Service Bulletins
J. Historical Maintenance History
K. Operating Tips

FLIGHT CONTROLS (1 hour)

A. Ailerons
B. Aileron Trim
C. Elevators
D. Elevator Trim
E. Rudder
F. Rudder Trim
G. Nosewheel Steering
H. Flaps
I. Load Factors
J. Limitations of Flight Control

HYDRAULIC / LANDING GEAR (2 hours)

A. Landing Gear Systems
    a. Gar-Kanyon
    b. Parker-Hannifan
B. Landing Gear Hydraulics
C. Annunciators
D. Landing Gear Selector
E. Landing Gear Warning Horn
F. Landing Gear Emergency Extension
G. Brake Systems
H. Limitations

FUEL SYSTEM (1 hour 30 minutes)

A. Wet Wing
B. Fuel Pumps
C. Fuel Selector
D. Fuel Indicators
E. Fuel Management
F. Fuel Additives
G. Difference Data

ELECTRICAL SYSTEM (1 hour 45 minutes)

A. Description
B. Battery
C. Alternators
D. Electrical Load
E. System Description
F. Battery Control
G. External Power
H. Lightning System
I. Annunciators

FLIGHT INSTRUMENTS (1 hour)

A. Pitot / Static System
B. Airspeed Indicator
C. Altimeter
D. Vertical Speed Indicator
E. Gyro System
F. Altitude Indicator
G. Directional Gyro
H. Turn and Slip Indicator
I. Partial Panel Flying

ENVIRONMENTAL SYSTEMS (2 hours)

A. Air Distribution
B. Cabin Heat/Defrost/Ventilation
C. Air Conditioning
D. Pressurization
E. Oxygen System

ANTI-ICE / DE-ICE (1 hour 30 minutes)

A. Anti-Ice System
    a. AC Heated Windshield Systems
    b. Windshield Anti-Ice Limitations
B. Deice System
    a. Propeller Deice System
C. Operational Tips

WEIGHT AND BALANCE (1 hour)

A. Crew, Passenger and Baggage
B. Center of Gravity Limits Envelope Graph
C. Weight and Movement Tables
D. Airplane Weighing Form
E. Weight and Balance Record
F. Definitions
G. Practical Problems – Weight and Balance

PERFORMANCE (1 hour)

A. Performance Tables
B. Performance Graphs
C. Flight Profile

LIMITATIONS (1 hour)

A. Airspeed Limitations
B. Engine Operating Limitations
C. Engine Instrument Markings
D. Miscellaneous Instrument Markings
E. Weight Limitations
F. Center of Gravity Limits
G. Other Operational Limitations
H. Fuel Limitations

EMERGENCY PROCEDURES (1 hour 30 minutes)

A. Engine Fire Start and In-Flight
B. Engine Power Loss During Take-off
C. Engine Power Loss During In-Flight
D. Power Off Landing
E. Electrical Fire In Flight
F. Loss of Oil Pressure
G. Loss of Fuel Flow
H. Engine Driven Fuel Pump Failure
I. High Oil Temperature
J. High Cylinder Head Temperature
K. Electrical Failures
L. Electrical Overload (dual alternators)
M. Propeller Overspeed
N. Emergency Landing Gear Extension
O. Spin Recovery
P. Engine Roughness
Q. Emergency Descent
R. Pressurization Malfunction
S. Cabin Air Contamination / Smoke Evacuation
T. Partial Panel – Gyro Suction Failure
U. Inadvertent Icing Encounter In Flight
V. Hydraulic System Malfunction

AVIONICS ORIENTATION (1hour)

A. RNAV / GPS
B. HBI
C. Altitude Pre-Select / Vertical Speed
D. KFC 150 / S-TEL 55A
E. Pre-Flight Test
F. Malfunctions and Emergencies

WEATHER AND HIGH ALTITUDE OPERATIONS (1 hour)

A. Icing
B. Thunderstorms
C. Stormscope and Wx Radar
D. Hypoxia
E. Psychological Factors

Flight Training
10 HOURS TOTAL

FLIGHT #1 (3 hours)

A. Pre-flight Planning
B. High Altitude Climb FL 250
C. Leaning Procedures
D. Flight Director / Autopilot Procedures (Climb & Descent)
    a. Engagement Procedures
    b. Disengagement Procedures
E. Normal Descent
    a. A/S 160 KIAS – A/C Clean Configuration, MAP, RPM
    b. A/S 160 KIAS – 10 Degree Flaps, Gear, MAP, RPM
    c. A/S 160 KIAS – 10 Degree Flaps, Gear, MAP, RPB
F. Emergency Descent
    a. Turbulent Air
    b. Smooth Air
G. Stalls
    a. Slow Flight Configuration
    b. Clean Configuration
    c. Landing Configuration
    d. Power On
    e. Accelerated
H. Emergency Procedures
    a. Electrical Failure
    b. Depressurization / Emergency Descent
    c. Emergency Landing Gear Extension
    d. Engine Failure (Simulated)
        i. Glide – Altitude / Distance per N.M.
        ii. Change Configuration
    e. Power Off Landing
    f. Balked Landing

FLIGHT #2 (3 hours)

A. Flight Planning / Pre-flight
B. Normal Take-off
C. IFR Climb 1,000' AGL to 8,000' AGL (All flight maneuvers above 1,000' AGL for Flight #2 will be under the hood)
D. Steep Turns
E. Slow Flight
F. Stalls
    a. Clean Configuration
    b. Landing Configuration
    c. Power-On
G. Descents
    a. Normal
        i. Power
        ii. Flaps
        iii. Gear
    b. Rough Air Penetration
H. Unusual Attitudes
    a. Nose Low (Pitch 10 degrees down, roll 35 degrees, airspeed increasing)
    b. Nose High (Pitch 10 degrees up, roll 40 degrees, airspeed increasing)
    c. Autopilot Engage (Pitch 5 degrees down, roll 8 degrees per second)
    d. Autopilot Engage (Pitch 5 degrees up, roll 10 degrees per second)
I. Operation to KFC-150 / S-TEL 55A
    a. CWS
    b. MSI
    c. ADI
    d. Autopilot Controls
    e. Altitude Pre-Select & Vertical Speed (if installed AD 91-7-8 Rescinded)
J. Instrument Approaches (AP / FD Disengaged)
    a. ILS
    b. VOR
    c. NDB
    d. GPS
K. Instrument Approaches (Flight Director Engaged Only)
    a. ILS
    b. VOR
    c. NDB
    d. GPS
L. Normal, Short Field, No Flap, Take-off and Landings

FLIGHT # 3 (4 hours)

A. Flight Planning / Pre-flight
B. Normal Take-Off
C. IFR Cross Country (Actual or Simulated)
    a. Cross County 300 Miles Minimum
    b. Multiple Approaches at Two Different Airports
    c. Pressurized Flight Above 15,000' on at least one leg of the cross country.
D. Instrument Procedures
    a. Partial Panel
    b. Holding
    c. Minimum Equipment Flight (i.e. Single Radio, CDI, Stand-by Compass, etc.)
    d. Simulated Electrical and Gear Failure / Decompression
E. Instrument Approaches (Flight Director / Autopilot Coupled)
    a. ILS
    b. VOR
    c. NDB
    d. BC
    e. DME ARC
    f. GPS

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EFIS/FMS/GPS TRAINING

GPS and FMS guidance integrated into panel mounted glass cockpits with autopilot integration is the core of this instruction. General Aviation aircraft are becoming more complex in programming and execution of electronic commands, thus putting additional pressures on the pilot to fly and program while conducting single pilot operations. RCAS courses are designed to ease this transition to these class of aircraft.

Historical GPS Problems

- The ability of the pilot to get information he needs when he needs it.
- The majority of pilots are able to use only a small fraction of the capability of their receivers (i.e. the direct button)
- Poor understanding of the software prevents pilots from using many capabilities.
- There is a large dollar expenditure for approach approval, but a limited ability of the use of the function.
- Terminology and documentation can't be understood in simple terms.
- Frustration and lack of capable instructors qualified to teach other pilots how to get 100% use of their expensive equipment.

How can Ron Cox Aviation Services help?
Ron Cox Aviation Services can offer you solutions to your many GPS problems. The course teaches you the keystrokes necessary for your GPS to provide instantaneous "flight plans", navigation, in-flight TAS, DA, PA, winds aloft, approaches and fuel planning.

Ron Cox Aviation Services teaches all your GPS functions and features in a concise and simplified manner. Graduates of our course will be able to select GPS approach or navigational functions with ease in the cockpit environment in the heaviest of IFR conditions.

Learn Precision Navigation

- Flight Plans
- Waypoints
- Approach Segments
- Navigation
- Integration of the autopilot and flight director as a total flight management system
- Fuel computation
- PA, DA, VNAV, Winds aloft

Ron Cox Aviation Services Programs
All GPS courses are "hands on" and make and model specific. The course material is computer generated to simplify the complex GPS functions. Instructors are well versed in the dynamics of the GPS system and conduct training in the classroom and the aircraft.

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Ron Cox Aviation Services offers training in the following systems[1]:

GPS Systems:	Garmin 1000, 530, and 430
EFIS Systems:	Avidyne 5000, Aspen, and Honeywell 40/50
FMS Systems:	Honeywell Apex and Garmin 1000

[1] - Ron Cox Aviation Services is qualified to instruct in a wide variety of GPS makes and models. If your GPS is not listed, please contact us for information.

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