GROUND SCHOOL

CHAPTER 1 AIRCRAFT

1. Overview
2. Publications
3. Airplane Equipment
4. Airplane Structure
5. Nose Section
6. Center Section
7. Aft Fuselage Section
8. Wings
9. Ground Handling
10. Limitations
11. Emergency Procedures

CHAPTER 2 ENGINES

1. Overview
2. Engine Description
3. Engine Structure
4. Engine Controls
5. Engine Instrumentation
6. Engine Oil System
7. Engine Ignition System
8. Starting System
9. Induction Air Systems
10. Turbocharger System
11. Fuel Injection System
12. Propeller
13. Fire Detection and Extinguishing
14. Limitations
15. Emergency Procedures

CHAPTER 3 FUEL SYSTEM

1. Overview

2. Main Fuel System
3. Fuel Vents
4. Fuel Drains
5. Auxiliary tip tanks and auxiliary aft tank
6. Fuel Pumps
7. Fuel System Controls
8. Circuit Protection
9. Servicing
10. Fuel Additives
11. Limitations
12. Emergency Procedures

CHAPTER 4 PERFORMANCE/ WIGHT & BALANCE

1. Overview
2. C.G. Limits
3. Weight & Balance Computations
4. Performance Tables

CHAPTER 5 FLIGHT CONTROLS

1. Overview
2. Control Wheel
3. Ailerons and Aileron Trim
4. Elevator and Elevator Trim
5. Electric Elevator Trim
6. Rudder and Rudder Trim
7. Yaw Damper System
8. Control Locks
9. Control Lock
10. Nose Wheel Steering
11. Limitations
12. Emergency Procedures

CHAPTER 6 ELECTRICAL SYSTEM

1. Overview
2. Battery
3. Alternators
4. External Power Sys

FLIGHT TRAINING

13 **FLIGHT #1**

- Flight Planning / Pre-Flight
- High Altitude Climb
- Performance Charts
- Flight Director / Autopilot Procedures (climb & descent)
- Altitude Preselect (climb & descent)

1. Engagement Procedures
2. Disengagement Procedures

14 **NORMAL DESCEND**

1. Power Settings
2. Flap Positions
3. Drag Devices

15 **EMERGENCY DESCEND / RAPID DECOMPRESSION**

1. Turbulent Air
2. Smooth Air

16 **STALLS**

1. Slow Flight Configuration
2. Clean Configuration
3. Landing Configuration
4. Power On
5. Accelerated
6. Autopilot

17 **EMERGENCY PROCEDURES**

1. Electrical Failure
2. Depressurization/Emergency Descent
3. Emergency Landing Gear Extension (when applicable)
4. Engine Failure

1. Power Off Landing
2. No Flap Takeoff and Landing
3. Short Field Takeoff and Landing
4. Balked Landing

19 **FLIGHT #2**

- Flight Planning / Pre-Flight
- Normal Takeoff
- IFR Climb 1,000' AGL
- (all flight maneuvers above 1,000' AGL for flight # 2 will be under the hood)

1. Steep Turns
2. Slow Flight

20 **STALLS**

1. Clean Configuration
2. Landing Configuration

21 **UNUSUAL ATTITUDES**

1. Nose Low (pitch 10 degrees down, roll 35 degrees, airspeed increasing)
2. Nose High (pitch 10 degrees up, roll 40 degrees, airspeed decreasing)

22 **INSTRUMENT APPROACHES**

1. ILS
2. LOC
3. GPS

(Instrument Approaches (flight director engaged only)

23 **FLIGHT #3**

- Flight Planning / Pre-Flight
- Normal Takeoff
- IFR Cross Country (actual or simulated)

1. Cross Country (300 miles minimum)
2. Multiple Approaches at Two Different Airports
3. Pressurized Flight Above 15,000' MSL (on at least one leg of the cross country)

24 **INSTRUMENT PROCEDURES**

1. Partial Panel
2. Holding

3. Minimum Equipment Flight (single radio, CDI, stand-by compass, etc.)
4. Simulated Electrical Failure and Rapid Decompression

25 **INSTRUMENT APPROACHES (Flight Director/ Autopilot Coupled)**

1. Precision
2. Non-Precision