

OBJECTIVE

TO DEVELOP THE STUDENT'S KNOWLEDGE OF THE FOUR FUNDAMENTAL FLIGHT MANEUVERS.

ELEMENTS

1. **Straight-and-level flight.**
 - a. Pitch, Bank, and yaw.
 - b. Trim.
 - c. Integrated use of outside references and flight instruments.
2. **Level Turns.**
 - a. Forces acting in a turn.
 - b. Aileron drag and coordination.
 - c. Speed of roll.
 - d. Slips and Skids.
 - e. Integrated use of outside references and flight instruments.
3. **Climbs and Climbing Turns.**
 - a. Best Rate of Climb airspeed.
 - b. Best Angle of Climb airspeed.
 - c. Torque and coordination.
 - d. Trim.
4. **Glides and Gliding Turns.**
 - a. Effect of High Lift Devices.
 - b. Most efficient Glide Speed.
 - c. Coordination.
 - d. Trim.
5. **Descents with Power.**
 - a. Power Settings and Airspeeds.
 - b. Trim.

**SCHEDULE
EQUIPMENT**

Total Time 1:30
Handout

INSTRUCTOR'S ACTIONS**DEMONSTRATE AND DISCUSS LESSON OBJECTIVES:**

1. **Effect and Use of flight controls.**
2. **The Integrated Flight Instruction method.**
3. **Outside and Instrument references used for Pitch, Bank, and Power control; the Cross-Check and Interpretation of those references; and the Control Technique Used.**
4. **Trim Technique.**
5. **Methods that can be used to Overcome Tenseness and Over controlling.**

STUDENT'S ACTIONS

Listen, Ask Questions, and Take Notes.

COMPLETION STANDARDS

THE LESSON WILL HAVE BEEN SUCCESSFULLY COMPLETED WHEN, BY AN ORAL TEST, THE STUDENT DISPLAYS A BASIC UNDERSTANDING OF THE FUNDAMENTAL FLIGHT MANEUVERS.

COMMON ERRORS

FOR ALL FOUR MANEUVERS:

1. Failure to Cross-Check and correctly interpret Outside and Instrument References.
2. Application of Control Movements rather than Pressures.
3. Un-coordinated use of Flight Controls.
4. Faulty Trim Technique.

UNDER LEVEL TURNS:

5. Faulty Altitude and Bank Control.

UNDER STRAIGHT & CLIMBING TURNS:

5. Improper Correction for Torque Effect.

UNDER STRAIGHT DESCENTS & DESCENDING TURNS:

5. Failure to Clear Engine and use carb. heat, as appropriate.

Descends

Power Idling
Glide Attitude

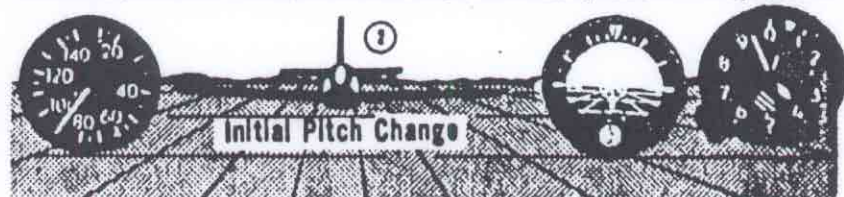
Cruise Power
Flaps Retracting
Wings Leveling
Airspeed Accelerating

Cruise Power
Gear Retracting
Nose Raising
Airspeed Stabilizing

Cruise Power
Nose Level
Airspeed Stabilized

150' above desired altitude

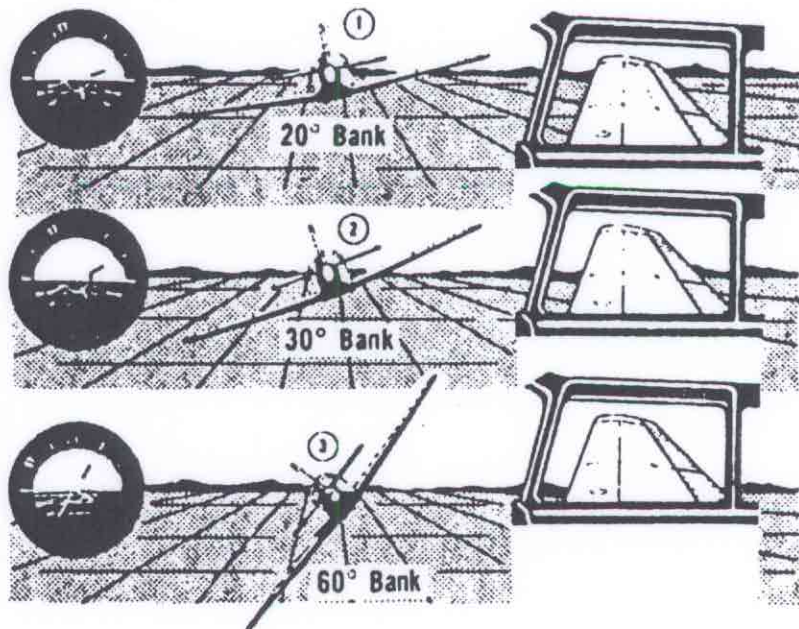
TRIM AIRPLANE



Straight + Level



Turns



Climbs

