

Straight and Level — In-flight Lesson

CASA Recreational Pilot License (Aeroplane) — Lesson 2

Language notes

- **"raise the nose" / "lower the nose"** — not "pull back" or "push forward"
- **"in balance"** — not "coordinated" or "ball centred"

Before starting the plane

- Seat locked, student comfortable
- Set nose on horizon — student notes their finger reference for level attitude
- Altimeter subscale set to QNH
- Review balance indicator
- Review "My aircraft / Your aircraft" handover phrases

During startup

- Student reads checks; work through together
- Confirm whether student handles throttle during taxi

Climb to training area

- Point out nose position relative to horizon (climb attitude)
- Note stable airspeed as a result of fixed attitude

In the training area

Establish straight and level at 2300 RPM before beginning exercises.

For each exercise: **Demonstrate** → **Direct** → **Monitor**.

Straight flight — visual reference and balance

- **Demonstrate:** reference point on horizon; wings level; balance ball centred
- **Direct:** student holds heading using reference point; coach balance ball
- **Monitor:** student holds straight flight unaided

Level flight — attitude, trim, cross-check

- **Demonstrate:** nose at level-flight attitude; wait for airspeed to settle; trim to zero force; hands off
- **Direct:** student raises/lowers nose, returns to level, trims
- **Monitor:** student establishes and holds level flight including trim

Performance equation — power changes

- **Demonstrate:** reduce power, hold attitude → airspeed reduces; restore power → airspeed returns
- **Direct:** student practises power reduction, attitude adjustment, re-trim
- **Monitor:** student manages power change and re-trim independently

Fast cruise

- **Demonstrate:** 2600 RPM; lower nose slightly to stay level; re-trim
- **Direct:** student applies full throttle, adjusts attitude, trims
- **Monitor:** student transitions to fast cruise unaided

Slow cruise

- **Demonstrate:** reduce power to 2200 RPM; raise nose slightly; re-trim; note heavier controls
- **Direct:** student reduces power, adjusts attitude, trims
- **Monitor:** student transitions to slow cruise unaided

Precautionary cruise (2 stages flap)

- **Demonstrate:** reduce power to 2200 RPM; 2 stages of flap; note pitch change; re-trim
- **Direct:** student extends flap, adjusts attitude, trims; then retracts in stages
- **Monitor:** student manages full flap extension and retraction unaided

Return to airport

- Retract flap in stages if extended; establish normal cruise
- CTAF call as appropriate
- TODO: brief approach and circuit entry for home aerodrome
- Let student fly straight and level during return for consolidation

Cruise configuration reference

| Configuration | Power (approx) | Attitude | Speed | Notes |
|----------------------|----------------|----------|-------|---|
| Normal cruise | 2400 RPM | fingers | KIAS | Reference attitude for this aeroplane |
| Fast cruise | 2600 RPM | fingers | KIAS | |
| Slow cruise | 2200 RPM | fingers | KIAS | Feels 'mushy' — more back-pressure |
| Precautionary cruise | 2200 RPM | fingers | KIAS | 2 stages of flap; pitch change on extension |