

PPL ground theory

20170913 Stephen Watson

Visual Navigation World Aeronautical Chart (WAC)

- Dead Reckoning
 - Constant
 - * Power
 - * Altitude
 - * TAS -> GS
 - * Time
- GNSS
- Nav aids
 - Aviate, Navigate, Communicate
 - Aviate: Attitude, Lookout, Performance
- Line features
 - Roads
 - Power lines
 - Railway lines
 - Rivers
 - Stock routes
 - Gas pipelines
 - Coast line
- Points
 - Towns
 - Masts
 - Alternating beacons (ABN)
 - Broadcasting stations (BS)
 - Aerodromes
 - Dams and lakes

Planning Chart Australia (PCA)

- Areas for weather briefing
- VHF/HF coverage and frequencies
- Brisbane/Melbourne Centre
- Spot heights

PPL Navigation flights Abbreviations

- YBAF Archerfield
- DBO Dayboro
- YKCY Kilcoy
- YGYM Gympie
- WTBG Walter-Taylor Bridge

- YCAB Caboolture
- TVT TV Towers

VCA

- Violation of Controlled Airspace
- Brisbane Centre will contact
- Usually allocate transponder code
- Usually provide vector to Class G

Navigation points and aerodromes

- Point
- **Full stop or T&G**

PPL NAV 01

- Route
 - YBAF - WTBG - DBO - YKCY - **YGYM**
 - YGYM - **YCAB** - DBO - TVT - **YBAF**
- Navigation
 - Northern departure
 - Track to TV Towers
 - Overfly Walter Taylor Bridge (WTBG) then
 - Climb to 1500ft then
 - Turn and track to easternmost point of Lake Samsonvale (Petrie)
 - *Climb to Low Levels*
 - Turn and track to Dayboro (DBO)
 - Turn and track to Kilcoy (YKCY)
 - Turn and track to Gympie (YGYM)
 - * Checkpoint Kilcoy town (immediately after turning)
 - * Checkpoint Jimna (to the left)
 - * Checkpoint Mt Allan fire tower (overhead)
 - * Checkpoint Borumba Dam (to the left)
 - Land at YGYM
 - Track to Caboolture (YCAB)
 - * Checkpoint Bruce Highway (to the left)
 - * Checkpoint Lake Baroon (to the left)
 - Turn and track to Dayboro (DBO)
 - Turn and track to TV Towers
 - Report inbound at TV Towers
 - Maintain heading to Centenary Bridge
 - Report Centenary Bridge
- Lodge flight plan
 - NAIPS -> Flight Notification -> ICAO
 - Cancel SARTIME by ringing CENSAR before expiry (1800814931)

- Fuel endurance
 - 189L @ 35L/min
 - 324 minutes
- Fuel log
 - 3 columns; UTC+10, UTC, Fuel endurance in minutes
 - Each row is 30 minute interval
 - Cross off each 30 minute row as time elapses
- Workcycle
 - **Compass**
 - * Compass
 - * DG
 - **Configuration**
 - * flaps
 - * retractable gear
 - **Logs**
 - * fuel
 - * nav
 - **Engine**
 - * RPM
 - * fuel flow
 - **Altimetry**
 - * terrain
 - * cloud base
 - * VMC
 - * QNH
 - * LSALT
 - **Radio**
 - * frequency
 - * Secondary Surveillance Radar (SSR) (transponder)
 - * nav aids
 - * GNSS (GPS mode)
 - **Orientation**
 - * "clock, map, ground"
- 1 in 60
 - correct track error, then closing angle
- Top of Descent planning e.g. landing YGYM
 - ELE 260
 - CCT HEIGHT 1260
 - OVERFLY 1760
 - FINAL 760
 - cruising at 4500
 - lose ~2500ft to OVERFLY
 - 5 min @ 500ft/min
 - TAS ~1.5nm/min, find point ~7.5nm from YGYM
 - Imbil is ~10nm from YGYM

- report INBOUND
- TODO
 - *put labels on A5 sheets that are not easy to immediately identify e.g. maps*
 - ERSA FAC in A5
 - Fuel log in A5
 - WAC in A5
 - nav log in A5
 - Pre-calculate 1 in 60 multiplier for known checkpoints on navigation plan
 - Flight Plan save
 - Route study for first nav