



Canadian Virtual Airlines Pilot Training Program

Phase 1 - TurboProp Training Lesson Plan tp03 – IFR1 Non-Precision Approaches

Requirements

Frolov/PSS DH8-300
VATSIM connection for online flight (optional)
FSR video flight recording for Instructor review

Tolerances

Altitude +/- 200' Speed +/- 20 kias Heading +/- 10*
Use of autopilot allowed in this lesson

Outline

This first flight in our IFR training will introduce you to basic non-precision approach profiles. Tolerances for this flight are listed. You may fly this, and other, flight profiles as many times as you wish until you are comfortable with the teaching points. One video recorded segment of this flight is required - when video recording use 1 second recording interval. This flight should take approximately 45 minutes to complete.

Discussion

Instrument approach procedures are basically grouped into 2 broad categories. Non-precision approaches do not provide the pilot with vertical guidance to the ground. Precision approaches do provide a glidepath and vertical descent information. Non-precision approaches include – NDB, VOR, LOC, LOC(BC), GPS, TACAN while precision are the ILS, MLS and PAR. Both types require you to place your aircraft at an *initial approach fix* (IAF) at a given altitude. In a non-precision approach you descend based on altitudes on the approach chart to cross certain fixes at given altitudes eventually leading to a *minimum descent altitude* (MDA) where you either sight the landing environment and carry out your landing – or carry out a missed approach. In this segment we will carry out 2 non-precision approaches -- a full procedure NDB to rwy31L and an arcing procedure VOR/DME to rwy13R.

PreFlight

Set weather to daytime no winds – ceiling 1000' overcast and visibility 3 miles
Set aircraft fuel to 50% volume
Place your aircraft at Portage la Prairie - CYPG on the main ramp.
NAV/COMM Nav1 YPG VOR 114.6
ADF PG NDB 353
TXPNDR 2200 (or as assigned by online ATC)

If you are flying this profile on the VATSIM network file an IFR flight plan CYPG to CYPG local training. Your callsign is CVAxT where the xx is the last 2 digits of your CVA ID number. Voice callsign will be “CanadianxxTrainer”.

FlightProfile

Carry out a normal preflight inspection. Commence a normal engine start routine. Taxi from the ramp to rwy 31R – do not exceed 20 knots taxiing speed. Upon completion of your pre takeoff checks line up on 31R.

- (i) takeoff and establish a 1000fpm climb at 160kias
- (ii) level at 3000'ASL and make a left turn – track direct to the PG NDB
- (iii) maintain 3000'ASL and 180kias

approach #1 – full procedure NDB 31L

- we will be conducting a standard teardrop procedure turn off the PG NDB – you should have a printed copy of the approach plate handy while you are flying this procedure

graphic depiction of procedure turn attached

- upon passing overhead the PG NDB at 3000'ASL turn to the outbound heading of 127*
- reduce speed to 160kias
- remain on H127* for 30 seconds and then commence the procedure turn
- turn left to H082* and track that heading for 60 seconds – descend to PT altitude of 2500'ASL
- after 60 seconds on H082* turn right to H262*
- maintain H262* until your ADF needle points 307* to the PG NDB – should be roughly 60 secs
- turn right H307* and descend to beacon crossing altitude of 1700'ASL

*****COMMENCE VIDEO RECORDING*****

- upon passing the PG NDB inbound extend flaps/gear and slow to appch speed (120kias)
- descend to MDA 1085'ASL
- the speed chart on the lower right of your appch plate - approx 2 mins from NDB to MAP
- we will carry out a missed approach at the MAP

- (iv) carry out a missed approach – set climb power and retract gear/flaps on schedule
- (v) establish a 160kias 1000fpm climb to 4000'ASL

*****STOP VIDEO RECORDING*****

name the fsr recording CVAxTtp03.fsr

- (vi) level at 4000'ASL and accelerate to 200kias
- (vii) turn right H180 – track out bound to 20DME
- (viii) set OBS setting on Nav1 to 120
- (ix) at 20 DME turn right H350

approach#2 – arc procedure VOR/DME 13R

- an arc procedure can be one of the most challenging to fly precisely
- it is not a continuous turn to maintain exactly a specific distance
- it is a series of small turns to keep the NavAid *more-or-less* at a specific distance
- in this case fly H350 until you are 10.5DME from the YPG VOR
- we will now fly the 10nm arc to intercept the 300R and fly the VOR/DME appch to 13R
- upon reaching 10.5DME turn left H295
- using a series of 20 degree right turns keep the YPG VOR 10 DME off your right side
- once established on the arc – descend to 2200'ASL maintain 180kias
- track a heading until 10.5 DME and then turn right 20*
- track the new heading until 10.5 DME and turn right again
- continue the series of turns until passing the lead radial (288R as depicted on the chart)
- turn right H100 and intercept the 300R and track it inbound
- established on the 300R descend to 1700'ASL
- at 5 DME extend gear/flaps, slow to final appch speed, descend to MDA 1260'ASL
- when the runway environment is in sight transition to visual flight

- (x) carry out a fullstop landing rwy13R
- (xi) taxi to CVA parking

Conclusion

This flight lesson contained basic IFR flight procedures for flying non-precision approaches. File your appropriate flight time with CVA through normal channels. File an additional PIREP via email with your designated Instructor Pilot indicating you have successfully (or unsuccessfully) completed CVAtp03 – include the zipped FSR recording you took of the missed approach procedure labeled CVAxTtp03.zip. Should you require online/offline assistance or have questions as to the procedures for handling the DH8 contact your instructor for guidance and/or schedule an online training flight.

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Left Hand Procedure Turn

