Canadian Virtual Airlines Pilot Training Program

Phase 1 - TurboProp
Training Lesson Plan
tp06 – emergency procedures

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
In this flight we will carry out an emergency descent from altitude simulating an explosive decompression, a rejected takeoff due to a simulated birdstrike and also fail an engine and carry out a single engine landing. Tolerances for this flight are listed above. You may fly this, and other, flight profiles as many times as you wish until you are comfortable with the teaching points. No video recorded segment of this flight is required. This flight should take approximately 75 minutes to complete. We will be filing an IFR flightplan from Winnipeg to Brandon for this hop at FL210.

Discussion
We are somewhat spoiled in our flightsim environment that, unless you have an aftermarket add-on that allows for system failures, we can comfortably assume that all of our myriad of parts will work as advertised 100% of the time. In the real world – pilots are constantly training for those events that occur when least expected nor least wanted. In this flight we will simulate three of those emergency procedures.

PreFlight
Set weather to daytime – winds 320/5 ceiling 10,000' overcast visibility 15 miles
Set aircraft fuel to 50% volume
Place your aircraft at Winnipeg Int'l - CYWG on the main ramp.
NAV/COMM Nav1 YWG VOR 115.5 (OBS setting 100)
Nav2 YBR VOR 113.8
ADF W NDB 215
TXPNDR 2200 (or as assigned by online ATC)
If you are flying this profile on the VATSIM network file an IFR flight plan CYWG to CYBR via direct. You can use the FMS to track direct to the YBR VOR or track outbound on the YWG 262R until receiving the YBR.

FlightProfile
Carry out a normal preflight inspection. Commence a normal engine start routine. Taxi from the ramp to rwy 31 – do not exceed 20 knots taxiing speed. Upon completion of your pre takeoff checks line up on 31.
(i) establish takeoff power – 92% torque

procedure#1 – rejected takeoff
- we will simulate rejecting a takeoff just prior to Vr (rotation speed)
- at 95kias a large flock of snow geese flies through your path and you hear several thumps
- immediately roll the throttles to idle
- verify your engine gauges that no flameout or severe engine damage occurred from the strike
- maintain centerline control of the aircraft and slow by braking/reverse pitch
- MAINTAIN CONTROL OF THE AIRCRAFT – advise ATC that you have aborted
  "PAN PAN PAN – Canadian22trainer is an abort – multiple birdstrikes"
- taxi clear of the active
- in the real world we would have an inspection of our aircraft
- if damage was severe we would shut down here and evacuate the aircraft
- if damage is less than severe we would taxi and shut down
- we will assume that we were not damaged by the geese and our aircraft is still A-one

Taxi back to rwy 31 – do not exceed 20 knots taxiing speed. Upon completion of your pre takeoff checks line up on 31.
(ii) takeoff and establish a 1000fpm climb at 160kias
(iii) through 4000' or as assigned by ATC turn left and climb on course
(iii) level at FL210 and accelerate to 200kias

procedure #2 – emergency descent
- decompression during hi level flight can occur in two ways
- explosive would be a catastrophic failure that would be easily evident to the pilot
- a slow leak would be much less evident (think of the Payne Stewart golfer tragedy)
- real world pilots train for hypoxia – which is the thin air/lack of oxygen at altitude causing physiological conditions eventually leading to incapacitation of the crew
- 2 minutes after leveling at FL210 we will simulate an explosive decompression event in the passenger cabin
- once recognizing this, or any other, emergency the main goal is **FLY THE PLANE**
- our goal in this event would be to get the aircraft to below 10 thousand feet as quickly as possible
- disconnect the autopilot and commence a max performance descent to below 10,000'ASL
- basically you will reduce thrust to idle and point the nose down to achieve maximum rate of descent
- do not overspeed the aircraft – ie – ride the 'barberpole' down (the barberpole is that red/white hatched indicator line on your airspeed indicator indicating max indicated airspeed)
- in the real world we would run various checklists and don emergency breathing apparatuses – feel free to do so if your computer simulator is so equipped
- once you have full control of the flying situation – advise ATC of your situation
  "PAN PAN PAN – Canadian22trainer is in an emergency descent"
- by declaring an emergency situation you will receive 'preferential' treatment from ATC
- once below 10,000'ASL assume a normal descent profile
- level at 8000'ASL and secure the emergency
- advise ATC that you are canceling IFR and proceeding to CYPG VFR

(iv) set up a track (via GPS, visually or to the YPG NDB/VOR) towards Portage
(v) descend to 2500' in anticipation of a VFR circuit and landing

procedure#3 – engine fire/single engine approach
- when you are 5 miles from CYPG – fail your right engine
- select idle/cutoff on your starboard fuel select level
- disconnect the autopilot
- select maximum thrust on your port engine
- feather the prop on your starboard side
- again, in the real world you would be running through various checklists
- you will require additional rudder to maintain straight and level flight due to the asymmetric thrust created from the shutdown engine
- carry out a single engine landing on rwy31L

(vi) exit the runway and taxi to CVA parking
(vii) have a cold one – the preferred beverage of CVA is Alexander Keiths IPA

Conclusion
This flight lesson contained several emergency procedures. 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 CVAtp05. 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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Jan 2005