



SOUTHERN INTERIOR

FLIGHT CENTRE

Commercial Aviation Diploma Program

Second Year Flight Syllabus

Fall Semester

Multi-Engine Rating

The requirements for the Multi-Engine Rating include completion of the Multi-Engine Flight Test. There is no minimum hour requirement for the rating.

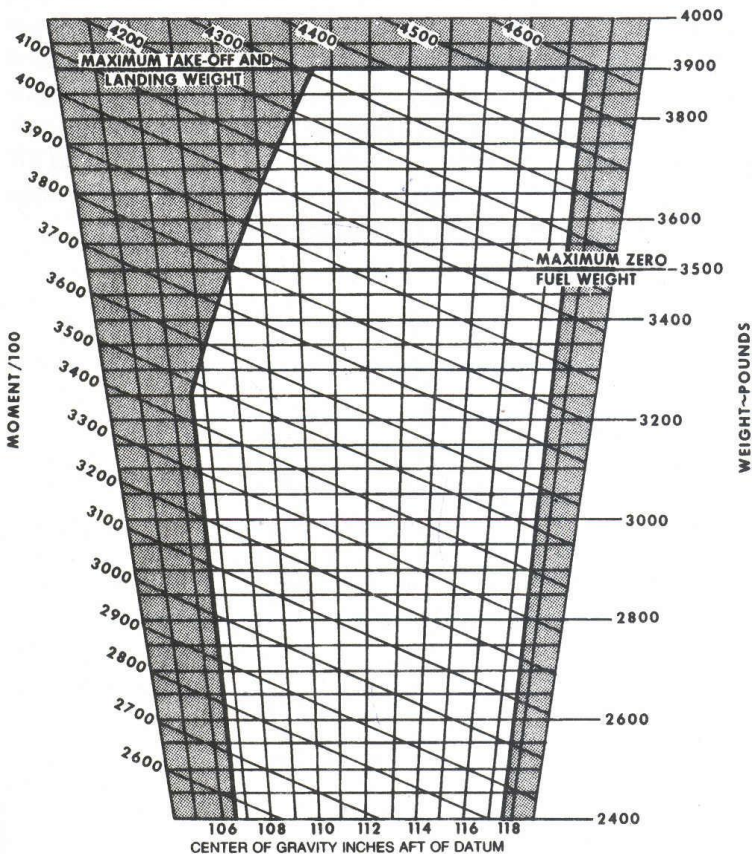
Instrument Rating

Requirements include the following:

Total Time:

- 50 hours PIC cross-country (of which 10 hours must be in the appropriate category)
- Training time
- 40 hours instrument (maximum 20 hours in the simulator)
- 100 NM cross-country flight (including an instrument approach to minimums at two different locations. Ensure logbook entry is correct)
- Category 1 Medical

MOMENT LIMITS VS WEIGHT



ENVELOPE BASED ON THE FOLLOWING WEIGHT AND CENTER OF GRAVITY LIMIT DATA (LANDING GEAR DOWN)

WEIGHT CONDITION	FWD C. G. LIMIT	AFT C. G. LIMIT
3900 POUNDS (MAX. TAKE-OFF/LANDING)	110.6	117.5
3250 POUNDS OR LESS	106.6	117.5

76-601-6



Commercial Aviation Diploma Program Second Year Flight Syllabus

Dual (D)

A flight with one instructor and one student in the aircraft.

Dual Mutual (DM)

A flight with one instructor working with two students in the aircraft.

Solo (S)

A flight with one student working alone in the aircraft.

Dual Mutual Simulator (DMS)

A simulator session with one instructor and two students.

Dual Simulator (DS)

A simulator lesson with one instructor and one student.

Mutual Simulator (MS)

A simulator session with two students working together.

Solo Simulator (SS)

A simulator session with one student working alone.

Southern Interior Flight Centre Marking Scale is taken from the Transport Canada Multi-Engine and Instrument Rating Flight Test Guides. When applying the 4-point grading scale, the examiner will award the mark that best describes the weakest element(s) applicable to the candidate's performance. Remarks to support mark awards of 1 or 2 must link to a safety issue, a qualification standard, or an approved technique or procedure.

4	<p>Performance is well executed considering existing conditions:</p> <ul style="list-style-type: none"> • Aircraft handling is smooth and positive with a high level of precision. • Technical skills indicate a thorough knowledge of procedures, aircraft systems, limitations and performance characteristics. • Situational awareness is indicated by continuous anticipation and vigilance. • Flight management skills are exemplary and threats are consistently anticipated, recognized and well managed. • Safety margins are maintained through consistent and effective management of aircraft systems and mandated operational protocols.
3	<p>Performance is observed to include minor errors:</p> <ul style="list-style-type: none"> • Aircraft handling with appropriate control input includes minor deviations. • Technical skills indicate an adequate knowledge of procedures, aircraft systems, limitations and performance characteristics to successfully complete the task. • Situational awareness is adequately maintained as candidate responds in a timely manner to cues and changes in the flight environment to maintain safety while achieving the aim of the sequence/item. • Flight management skills are effective. Threats are anticipated and errors are recognized and recovered. • Safety margins are maintained through effective use of aircraft systems and mandated operational protocols.
2	<p>Performance is observed to include major errors:</p> <ul style="list-style-type: none"> • Aircraft handling is performed with major deviations and/or an occasional lack of stability, over/under control or abrupt control input. • Technical skills reveal deficiencies either in depth of knowledge or comprehension of procedures, aircraft systems, limitations and performance characteristics that do not prevent the successful completion of the task. • Situational awareness appears compromised as cues are missed or attended too late or the candidate takes more time than ideal to incorporate cues or changes into the operational plan. • Flight management skills are not consistent. Instrument displays, aircraft warnings or automation serve to avert an undesired aircraft state by prompting or remedying threats and errors that are noticed late. • Safety margins are not compromised, but poorly managed.
1	<p>Performance is observed to include critical errors or the <i>Aim</i> of the test sequence/item is not achieved:</p> <ul style="list-style-type: none"> • Aircraft handling is performed with critical deviations and/or a lack of stability, rough use of controls or control of the aircraft is lost or in doubt. • Technical skills reveal unacceptable levels of depth of knowledge or comprehension of procedures, aircraft systems, limitations and performance characteristics that prevent a successful completion of the task. • Lapses in situational awareness occur due to a lack of appropriate scanning to maintain an accurate mental model of the situation or there is an inability to integrate the information available to develop and maintain an accurate mental model. • Flight management skills are ineffective, indecisive or noncompliant with mandated published procedures and/or corrective countermeasures are not effective or applied. • Safety margins are compromised or clearly reduced.

Dual 1.5 hours

Date Completed: _____

Instructor Signature: _____

Aim

To ensure that the student's flying is at commercial pilot standards before advancing to new skills in the Multi-IFR syllabus. If the student is not flying up to CPL standards, additional solo and dual flight will be required before progressing to the next lesson. This flight also serves as a check on type for those students not meeting SIFC's currency requirements.

Acceptable Performance

The student shall be able to maintain altitude, headings, airspeed, and angles of bank within CPL standards. Student shall be able to confirm requirement for and validity of aircraft documents.

References

C-172 Pilot Operating Handbook

Flight Training Manual

Part 2 - Exercises 9, 11, 12, 13, 14, 16, 18 & 22

Preflight Briefing

Full documents and airworthiness review

C172 POH

Performance & Speeds

Flight Sequences

1. Soft Field Takeoff From CYLW
2. Steep Turns
3. Slow Flight
4. Stalls
5. Spins (at the Discretion of the Instructor)
6. Spiral Dives
7. Forced Approach
8. Short Field Landing at CYLW

Dual 1.2 hours

Date Completed: _____

Student Signature: _____

Aim

To introduce the student to flying a twin-engine aircraft and to learn how to operate the Frasca 142 systems.

Acceptable Performance

The student shall learn all V speeds, calculate the weight and balance, takeoff and landing distances, and accelerate-stop and accelerate-go distances.

References

Multi-Engine Pilot Manual

DUCHESS BE-76 Pilot Operating Handbook (POH):

Sec 1-1 - General

Sec 2-1 - Limitations

Sec 4-1 - Normal Procedures

Sec 6-1 - Weight & Balance

Multi-Engine Standard Operating Procedures (SOPs)

Preflight Briefing

Simulator certification & logging of instrument training time

Standard calls & power settings

Duchess data sheet and weight & balance

Takeoff & landing distance and accelerate-stop distance

The instructor will show the student how to start and set up the Frasca 142 for solo use.

Flight Sequences

1. Setting up F142
2. Use of Checklists & Run-Up
3. Normal Takeoff
4. Climbs & Descents
5. General Maneuvering - Steep Turns
6. Slow Flight - Maneuvering at Reduced Airspeed
7. Normal Approach and Overshoot
8. Normal Landing

Solo 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

To practice set up and operation of the Frasca 142 and to practice SOP procedures flying a twin-engine aircraft.

Acceptable Performance

The student shall practice simulator setup at CYLW and air exercises using SOPs and checklist.

References

Multi-Engine Pilot Manual

BE-76 POH:

Sec 1-1 - General

Sec 2-1 - Limitations

Sec 4-1 - Normal Procedures

Sec 6-1 - Weight & Balance

Preflight Briefing

Standard calls & power settings

Duchess data sheet and weight & balance

Takeoff & landing distance and accelerate-stop distance

Ask an instructor for help setting up the simulator if needed! 😊

Flight Sequences

1. Setup of the F142 at CYLW
2. Use of Checklists & Run-Up
3. Normal Takeoff
4. Climbs & Descents
5. General Maneuvering - Steep Turns
6. Slow Flight - Maneuvering at Reduced Airspeed
7. Normal Approach and Overshoot
8. Normal Landing

Dual 1.2 hours

Date Completed: _____

Day

Student Signature: _____

Aim

The aim of this flight is to learn the techniques for engine failures and learn how to operate the Frasca 142 systems.

Acceptable Performance

The student shall be able to explain the principles of single engine flight and while in flight control the aircraft and perform the appropriate procedures in the event of an engine failure.

References

BE-76 POH:

Sec 3-3 - Emergency Airspeeds

Preflight Briefing

Principles of single engine flight

Emergency procedures

Engine failures

Flight Sequence

1. Normal Takeoff
2. Engine Failure in Cruise
3. Engine Failure in Steep Turns
4. Engine Failure During Overshoot
5. Normal Landing

Dual 1.2 hours**Date Completed:** _____**Instructor Signature:** _____**Aim**

The aim of this flight is to practice the techniques for twin-engine flying including takeoffs/landings, steep turns, maneuvering at reduced airspeed, and engine failures.

Acceptable Performance

The student shall be able to control the aircraft and perform the appropriate procedures in the event of an engine failure without assistance.

References

BE-76 POH:

Sec 3-3 - Emergency Airspeeds

Preflight Briefing

Emergency procedures

Engine failures

Flight Sequence

1. Normal Takeoff
2. Climbs & Descents
3. General Maneuvering - Steep Turns
4. Slow Flight - Maneuvering at Reduced Airspeed
5. Engine Failure in Cruise
6. Engine Failure in Steep Turns
7. Engine Failure During Overshoot
8. Normal Landing

Dual 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this flight is to review the procedures for engine failures, practice resolving system malfunctions, and to introduce the autopilot.

Acceptable Performance

The student shall be able to resolve all emergencies and system malfunctions.

References

BE-76 POH:

Sec 5-1 - Performance

Sec 6-1 - Weight & Balance

Sec 7-1 - Systems Description

Transport Canada Multi-Engine Flight Test Guide (TP 219E)

Preflight Briefing

Duchess flight data sheet

Single engine procedures & landing

System malfunctions

Autopilot

Flight Sequences

1. Introduction to the Autopilot
2. Takeoff as Specified From CYLW
3. Engine Failure in Cruise
4. Engine Failure During Overshoot
5. Engine Failure in Steep Turns
6. Pilot Initiated Shut-Down of Engine
7. Single Engine Circuit & Landing at CYLW

Dual 1.2 hours

Date Completed: _____

Student Signature: _____

Aim

The aim of this flight is to review the procedures for engine failures, practice resolving system malfunctions, and to introduce the autopilot.

Acceptable Performance

The student shall be able to resolve all emergencies and system malfunctions.

References

BE-76 POH:

Sec 5-1 - Performance

Sec 6-1 - Weight & Balance

Sec 7-1 - Systems Description

Transport Canada Multi-Engine Flight Test Guide (TP 219E)

Preflight Briefing

Duchess flight data sheet

Single engine procedures & landing

System malfunctions

Autopilot

Flight Sequences

1. Introduction to the Autopilot
2. Takeoff as Specified From CYLW
3. Engine Failure in Cruise
4. Engine Failure During Overshoot
5. Engine Failure in Steep Turns
6. Pilot Initiated Shut-Down of Engine
7. Single Engine Circuit & Landing at CYLW

Dual 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this flight is to introduce the student to flying a twin-engine aircraft.

Acceptable Performance

The student shall be able to quote all V speeds, calculate the weight and balance, takeoff and landing distances, and accelerate-stop and accelerate-go distances.

References

Multi Engine Pilot Manual

BE-76 POH:

Sec 1-1 - General

Sec 2-1 - Limitations

Sec 4-1 - Normal Procedures

Sec 6-1 - Weight & Balance

Transport Canada Multi-Engine Flight Test Guide (TP 219E)

Preflight Briefing

Preflight inspection

Flight test guide performance limitations

Standard calls & power settings

Takeoff & landing distance

Accelerate-stop distance

Flight Sequence

1. Aircraft Preflight Inspection
2. Normal Takeoff From CYLW
3. Climbs & Descents
4. General Maneuvering
5. Steep Turns
6. Simulated Approach to Land in Practice Area
7. Overshoot in Practice Area at Altitude
8. Demonstrate and practice abnormal situations with appropriate checklist
9. Normal Landing at CYLW

Dual 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this flight is to learn the techniques for slow flight and stalls, and to learn the basic functions of the Garmin 650 GPS.

Acceptable Performance

The student shall be able to complete the aircraft preflight inspection and respond to questions, set up and recover from slow flight and stalls, and perform basic GPS functions.

References

BE-76 POH:

Sec 3-1 - Emergency Procedures

Sec 5-24 - Stall Speeds

Sec 6-1 - Weight & Balance

Garmin GTN 650 Pilot's Guide

Garmin GTN 650 Cockpit Reference Guide (CRG)

Preflight Briefing

Duchess flight data sheet

Slow flight

Stalls

Garmin GTN 650

Flight Sequences

1. Aircraft Preflight Inspection
2. Normal Takeoff From CYLW
3. Introduce Garmin GTN 650
4. Slow Flight - Maneuvering at Reduced Speed
5. Stalls
6. Demonstration of Engine Failures
7. Practice abnormal procedures by checklist
8. Normal Landing at CYLW

Dual 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this flight is to learn the techniques associated with engine failures, and to introduce the autopilot in the aircraft.

Acceptable Performance

The student shall be able to control the aircraft; achieving level flight and eliminating yaw, perform the all appropriate procedures in the event of an engine failure and follow-up with checklist.

References

BE-76 POH:

Sec 3-3 - Emergency Airspeeds

Preflight Briefing

Engine failures

Emergency procedures

Autopilot

Flight Sequence

1. Aircraft Preflight Inspection
2. Introduction to the Autopilot
3. Normal Takeoff From CYLW
4. Engine Failure in Cruise
5. Engine Failure in Steep Turns
6. Engine Failure During Overshoot
7. Emergency Item by Memory
8. Normal Landing at CYLW

Dual 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this flight is to learn the techniques for circuits and cross wind procedures.

Acceptable Performance

The student shall be able to complete takeoffs, circuits, pre-landing checks, and landings in accordance with SOP's including on target speed and energy management, with minimal prompting.

References

BE-76 POH:

Sec 3-4 - Single Engine Inoperative Procedures

Sec 4-9 to 4-13 - Takeoff, Circuit and Descent Procedures

Sec 5-25 - Wind Components

Preflight Briefing

Duchess flight data sheet

Circuits with normal takeoff & landing

Malfunction during takeoff

Crosswind procedures

Flight Sequence

1. Aircraft Preflight Inspection
2. Normal Takeoff
3. Circuits at CYLW
4. Engine Failures in the Circuit
5. Single-Engine Landing

Dual 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this flight is to review the procedures associated with engine failures and system malfunctions, and to introduce the Sandel EFIS.

Acceptable Performance

The student shall be able to fully resolve all emergencies and system malfunctions without assistance. Resolution shall include memory items, checklists and considerations to complete flight to safe landing.

References

BE-76 POH:

Sec 5-1 - Performance

Sec 6-1 - Weight & Balance

Sec 7-1 - Systems Description

Transport Canada Multi-Engine Flight Test Guide (TP 219E)

Sandel SN3308 Pilot's Guide and Handout

Preflight Briefing

Duchess flight data sheet

Single-engine procedures & landing

System malfunctions

Sandel EFIS

Flight Sequences

1. Aircraft Preflight Inspection
2. Takeoff as Specified
3. Introduction to the Sandel EFIS
4. Engine Failure in Cruise
5. Engine Failure During Overshoot
6. Engine Failure in Steep Turns
7. Single Engine Circuit & Landing

Solo 1.2 hours

Date Completed: _____

Student Signature: _____

Aim

The aim of this flight is to learn the techniques for short field operations, and to review upper air exercises.

Acceptable Performance

The student shall be able to perform short field takeoffs and landings, and to carry out upper air exercises.

References

BE-76 POH:

Sec 3-1 - Emergency Procedures

Sec 5-24 - Stall Speeds

Transport Canada Multi-Engine Flight Test Guide (TP 219E)

Preflight Briefing

Duchess flight data sheet

Short field takeoffs & landings

Flight Sequence

1. Aircraft Preflight Inspection
2. Short Field Takeoff
3. Steep Turns
4. Slow Flight - Maneuvering at Reduced Speed
5. Stalls
6. Emergencies
7. Circuits
8. Short Field Landing

Solo 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

To review multi-engine exercises and emergencies in preparation for flight test.

Acceptable Performance

The student shall be able to perform multi-engine upper air exercises and emergencies without assistance.

References

Multi-Engine Pilot Manual

BE-76 POH: All sections

Multi-Engine Standard Operating Procedures (SOPs)

Transport Canada Multi-Engine Flight Test Guide (TP 219E)

Preflight Briefing

Standard calls & power settings

Duchess data sheet and weight & balance

Takeoff & landing distance and accelerate-stop distance

Flight Sequence

1. VFR Departure from CYLW
2. Upper air exercises
3. Emergencies
4. Engine Failures including in Steep Turn
5. Visual Approach into CYLW

Dual 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this flight is to review the skills for upper air work.

Acceptable Performance

The student shall be able to perform slow flight, stalls, steep turns, and engine failures without assistance to flight test standards. Failure to demonstrate use of correct checklist and follow-up actions will require remedial training.

References

BE-76 POH:

Sec 2-1 - Limitations

Sec 3-1 - Emergency Procedures

Sec 4-1 - Normal Procedures

Transport Canada Multi-Engine Flight Test Guide (TP 219E)

Preflight Briefing

Duchess flight data sheet

Upper air exercises

Flight Sequence

1. Aircraft Preflight Inspection
2. Takeoff as Specified by Instructor
3. Slow Flight - Maneuvering at Reduced Speed
4. Stalls
5. Steep Turns
6. Emergency Procedures
7. Normal Landing

Dual 1.0 hour

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this flight is to reinforce all multi-engine flying skills previously covered and to determine if the student is ready for the Multi-Engine Flight Test.

Acceptable Performance

The student shall be able to perform all sequences to flight test standard.

References

BE-76 POH:

All Sections

Transport Canada Multi-Engine Flight Test Guide (TP 219E)

Preflight Briefing

Oral questioning of multi-engine principles, aircraft systems and performance calculations, documentation and response to defects.

Sequence of events for flight test and setting expectations.

Flight Sequence

As per Multi-Engine Flight Test Form

Dual 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

To pass the multi-engine flight test.

References

BE-76 POH:All Sections

Transport Canada Multi-Engine Flight Test Guide (TP 219E)

Acceptable Performance

This flight test will account for 20% of your final Flight Lab mark.

Mark Achieved _____%

Please ensure that you receive the recommend form from your instructor, and that he/she receives a copy of your flight test report.

Good Luck!!!

Dual 1.2 hours

Date Completed: _____

Student Signature: _____

Aim

The aim of this lesson is to review VOR hold procedures, including entries from all quadrants, to practice the RMI, and to practice autopilot use.

Acceptable Performance

The student shall be able to enter a hold and perform wind corrections.

References

Instrument Procedures Manual - 6.4 Holds

AIM RAC 10.0 - Holding Procedures

CAP GEN

CAP 2 – CYXX/CZBB

Preflight Briefing

Critical engine

VOR holds and entries

NDB tracking with the RMI

Flight Sequence

1. Depart CZBB (BOUNDARY BAY FIVE)
2. VOR Tracking and Holds at YVR
3. Limited Panel Review, Performance Instrument Fail
4. Introduce the RMI
5. Practice Intercepts With the RMI
6. NDB Tracking With the RMI
7. VOR/DME Approach and Landing at CZBB (VOR 07)

Solo 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this lesson is to review VOR hold procedures, including entries from all quadrants, to practice the RMI, and to practice autopilot use.

Acceptable Performance

The student shall be able to enter a hold and perform wind corrections.

References

Instrument Procedures Manual - 6.4 Holds

AIM RAC 10.0 - Holding Procedures

CAP GEN

CAP 2 – CZBB

Preflight Briefing

Critical engine

VOR holds and entries

NDB tracking with the RMI

Flight Sequence

1. Depart CZBB (BOUNDARY BAY FIVE)
2. NDB Tracking With the RMI
3. Practice Intercepts With the RMI
4. VOR Tracking and Holds at YVR
5. Introduce the RMI
6. Limited Panel Review, Performance Instrument Fail
7. VOR/DME Approach and Landing at CZBB (VOR 07)

Dual 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this simulator session is to review NDB hold clearances, holds, T-sequences and wind corrections, and to introduce IFR departures.

Acceptable Performance

The student shall be able to perform standard and non-standard hold entries, wind corrections, and proper T-sequences.

References

Instrument Procedures Manual - 6.4 Holds

AIM RAC 10.0 - Holding Procedures

CAP 2 - CYXX Standard Instrument Departure (SID)

CAP GEN

Preflight Briefing

IFR departure procedures

NDB holds

Flight Sequence

1. Departure CYXX Vector SID (ABBOTSFORD NINE)
2. Direct XX NDB
3. Practice Holds Using Various Entries From All Quadrants
4. Limited Panel, trend instruments only
5. Engine Failure during hold
6. Approach into CYXX (ILS 07, Localizer only, no GPS)

Date Completed: _____

Student Signature: _____

Aim

The aim of this simulator session is to practice VOR/NDB hold clearances, holds, the 30°/90° rule, T-sequences and wind corrections, and to gain familiarity with the autopilot.

Acceptable Performance

The student shall be able to receive VOR/NDB hold clearances, and perform any hold entry, holds, the 30°/90° rule, T-sequences and wind corrections for holds.

References

Instrument Procedures Manual - 6.4 Holds

AIM RAC 10.0 - Holding Procedures

Holds Handout

CAP GEN

CAP 2 - CYXX

Preflight Briefing

NDB/VOR holds

Autopilot

Flight Sequence

1. IFR Departure From Abbotsford (CYXX)
2. Direct XX NDB
3. Use the Autopilot for the Holds
4. Practice Various Entries from All Quadrants (Wind 5-10 Knots and Greater)
5. Direct HUH VORTAC for VOR Holds
6. Engine Failures
7. Visual Approach at CYXX turn final over the XX NDB

MCX iPad: Load 75-DMS – relocate to CYXX

Solo 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this simulator session is to practice VOR/NDB hold clearances, holds, the 30°/90° rule, T-sequences and wind corrections, and to gain familiarity with the autopilot.

Acceptable Performance

The student shall be able to receive VOR/NDB hold clearances, and perform any hold entry, holds, the 30°/90° rule, T-sequences and wind corrections for holds without assistance.

References

Instrument Procedures Manual - 6.4 Holds

AIM RAC 10.0 - Holding Procedures

Holds Handout

CAP GEN

CAP 2 - CYXX

Preflight Briefing

NDB/VOR holds

Autopilot

Flight Sequence

1. IFR Departure From Abbotsford (CYXX)
2. Direct XX NDB
3. Use the Autopilot for the Holds
4. Practice Various Entries from All Quadrants (Wind 5-10 Knots and Greater)
5. Direct HUH VORTAC for VOR Holds
6. Engine Failures
7. NDB Approach at CYXX without other nav aids

Dual 1.2 hours

Date Completed: _____

Student Signature: _____

Aim

The aim of this lesson is to practice flying a VOR approach.

Acceptable Performance

Student shall gain a practical understanding of VOR approaches and DME arcs, and be able to explain primary elements of this type of approach and transition.

References

Instrument Procedures Manual - 6.6.4 Non-Precision Approaches

Instrument Procedures Manual – 3.3.4 DME

AIM RAC 9.0 - IFR Arrival Procedures

CAP GEN

CAP 2 – CYWL

Preflight Briefing

SPEC VIS departure

VOR approaches

DME Arc- Calculate turn radius at groundspeed

Flight Sequence

1. SPEC VIS Departure from Williams Lake (CYWL)
2. DRCT PUXES IAF for VOR RWY 12 CYWL via DME arc
3. Missed Approach
4. DRCT TUGER IAF for VOR RWY 12 CYWL via DME arc

MCX iPad:

Load 75-DMS – relocate to CYWL

Relocate aircraft throughout lesson to achieve more chances to practice

Solo 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this lesson is to practice flying a VOR approach.

Acceptable Performance

The student shall be able to conduct a full procedure VOR approach under some 'sporty' wind conditions with accuracy.

References

Instrument Procedures Manual - 6.6.4 Non-Precision Approaches

Instrument Procedures Manual – 3.3.4 DME

AIM RAC 9.0 - IFR Arrival Procedures

CAP GEN

CAP 2 – CZBB/CYVR

Preflight Briefing

VOR Approaches

DME Arc

Flight Sequence

1. IFR Departure From Vancouver International (CYVR)
2. Full Procedure VOR Approach into Boundary Bay (CZBB)
3. VOR DME Approach into CZBB after missed approach.

Note:

Observe the aircraft trace following the lesson to verify accurate tracking. Take a picture and compare with your peers.

Dual 1.2 hours

Date Completed: _____

Student Signature: _____

Aim:

The aim of this lesson is to practice flying a localizer approach.

Acceptable Performance

Student shall gain a practical understanding of localizer approaches, and be able to explain primary elements of this type of approach.

References

Instrument Procedures Manual - 6.6.4 Non-Precision Approaches
AIM RAC 9.0 - IFR Arrival Procedures
CAP GEN

Preflight Briefing

CAP GEN VECTOR SID and supplemental GPS Procedure
Localizer approaches
CAP 2 - CZBB aerodrome chart, LOC RWY 27 CYYJ Approach

Flight Sequence

1. Vector Departure from CZBB
2. DRCT DUNJY for HOLD on the Localizer
3. LOC RWY 27 to CYYJ
4. Missed Approach
5. Vectors to the ILS RWY 09

MCX iPad: Load 52-DMS

Solo 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim:

The aim of this lesson is to practice flying a localizer approach.

Acceptable Performance

The student shall be able to conduct a full procedure localizer approach and localizer hold without assistance.

References

Instrument Procedures Manual - 6.6.4 Non-Precision Approaches

AIM RAC 9.0 - IFR Arrival Procedures

CAP GEN

Preflight Briefing

CAP GEN VECTOR SID and supplemental GPS Procedure

Localizer approaches

CAP 2 - CZBB aerodrome chart, LOC RWY 27 CYYJ Approach

Flight Sequence

1. Vector Departure from CZBB
2. DRCT DUNJY for HOLD on the Localizer
3. LOC RWY 27 to CYYJ
4. Missed Approach
5. Track 230 OB from AP until crossing YYJ 266R then,
6. Heading 180 for Vectors to the ILS RWY 09

Dual 1.2 hours

Date Completed: _____

Student Signature: _____

Aim:

The aim of this lesson is to practice flying NDB approaches.

Acceptable Performance

Student shall gain a practical understanding of NDB approaches, and be able to explain primary elements of this type of approach.

References

Instrument Procedures Manual - 6.6.4 NDB Approaches

AIM RAC 9.0 - IFR Arrival Procedures

CAP 2 - CYXS SID and NDB RWY 15/NDB RWY 33 Approaches

CAP GEN

Preflight Briefing

NDB Approaches

Constant Decent Final Approaches

Flight Sequence

1. Standard Instrument Departure From Prince George (CYXS)
2. Full Procedure NDB RWY 15/NDB RWY 33 Approaches to CYXS

MCX iPad: Load 57-DMS – relocate to CYXS

Dual 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim:

The aim of this lesson is to practice flying NDB approaches.

Acceptable Performance

The student shall be able to conduct a full procedure NDB approach without assistance.

References

Instrument Procedures Manual - 6.6.4 Non-Precision Approaches

AIM RAC 9.0 - IFR Arrival Procedures

CAP 2 - CYXS SID and NDB RWY 15/NDB RWY 33 Approaches

CAP GEN

Preflight Briefing

NDB Approaches

Constant Decent Final Approaches

Flight Sequence

1. Standard Instrument Departure From Prince George (CYXS)
2. Full Procedure NDB RWY 15/NDB RWY 33 Approaches to CYXS

Dual 1.2 hours

Date Completed: _____

Student Signature: _____

Aim

The aim of this lesson is to practice flying ILS approaches and missed approaches.

Acceptable Performance

Student shall gain a practical understanding of ILS approaches, and be able to explain primary elements of this type of approach.

References

Instrument Procedures Manual - 6.6.5 Precision Approaches

AIM RAC 9.0 - IFR Arrival Procedures

CAP GEN

Preflight Briefing

ILS Approaches

DME Arcs

CAP 2 – CYXS SID and ILS Z RWY 15 Approach

Flight Sequence

1. Standard Instrument Departure From Prince George (CYLW)
2. DRCT YXS – ULEBU IAF for 14 DME ARC ILS RWY 15 Approach
3. Published Missed Approach
4. DRCT XIGUP IAF for 18 DME ARC ILS RWY 15 Approach
5. ILS RWY 15 Approach

MCX iPad: Load 46-DMS – relocate to CYXS

Solo 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this lesson is to practice flying ILS approaches and missed approaches.

Acceptable Performance

The student shall be able to conduct ILS approaches and missed approaches without assistance.

References

Instrument Procedures Manual - 6.6.5 Precision Approaches

AIM RAC 9.0 - IFR Arrival Procedures

CAP GEN

Preflight Briefing

ILS approaches

DME arcs

CAP 2 - CYLW SID and ILS Z RWY 16 Approach

Flight Sequence

1. Standard Instrument Departure From Kelowna (CYLW)
2. Use the VOR RNAV computer to make a waypoint from YDC at TOSUS, proceed direct to TOSUS
3. ILS Y RWY 16 Approach via 17.5 DME arc
4. Published Missed Approach
5. GPS Direct DATBO Initial Approach Fix
6. ILS Z RWY 16 Approach

Dual 1.2 hours

Date Completed: _____

Student Signature: _____

Aim

The aim of this lesson is to introduce the student to GPS approaches and missed approaches.

Acceptable Performance

Student shall gain a practical understanding of GPS approaches, and be able to explain primary elements of this type of approach.

References

Instrument Procedures Manual – 6.6.6 RNAV Approaches
Garmin GTN 650 Pilot's Guide/KLN 89/89B Guide
CAP GEN

Preflight Briefing

GPS Approaches
CYLW RNAV (GNSS) A Approach

Flight Sequence

1. PRINCETON TWO Departure to GABER
2. Direct AMBAT
3. RNAV A Approach from AMBAT
4. Missed Approach
5. NDB (GNSS) Approach

MCX iPad: Load 46-DMS

Solo 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this lesson is to practice GPS approaches and missed approaches.

Acceptable Performance

Student shall be able to perform a GPS approach without assistance.

References

Instrument Procedures Manual – 6.6.6 RNAV Approaches
Garmin GTN 650 Pilot's Guide/KLN 89/89B Guide
CAP GEN

Preflight Briefing

GPS Approaches
CYLW RNAV (GNSS) A Approach

Flight Sequence

1. Princeton One Departure to GABER Waypoint
2. Direct AMBAT
3. RNAV A Approach from AMBAT
4. Missed Approach
5. NDB (GNSS) Approach

Dual 1.2 hours

Date Completed: _____

Student Signature: _____

Aim

The aim of this lesson is to introduce the student to STARs, and to practice ILS approaches, holds and missed approaches.

Acceptable Performance

Student shall gain a practical understanding of STARs and ILS approaches, and be able to explain primary elements of a STAR.

References

IPM - 6.5.2 Standard Terminal Arrival Route

Garmin GTN 650 Pilot's Guide / KLN 89/89B Guide

CAP GEN

Preflight Briefing

Standard instrument arrivals (STARs)

CAP 2 - CYYJ Five SID, FASBO ARR, APASS 5 ARR & ILS + LOC Approaches

Flight Sequence

1. Victoria Five Departure
2. VOR Hold at YYJ
3. FASBO Five Arrival
4. ILS RWY 09
5. Missed Approach to AP
6. APASS Five Arrival
7. LOC RWY 27
8. Engine Failure

MCX iPad: Load 77-DMS

Solo 1.0 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this lesson is to introduce the student to STARs, and to practice ILS approaches, holds and missed approaches.

Acceptable Performance

Student shall be able to fly a STAR and ILS approach without assistance.

References

IPM - 6.5.2 Standard Terminal Arrival Route

Garmin KLN 89/89B Guide

CAP GEN

Preflight Briefing

Standard instrument arrivals (STARs)

CAP 2 - CYYJ Five SID, FASBO Arrival, APASS Five Arrival & ILS +LOC Approaches

Flight Sequence

1. Victoria Five Departure
2. VOR Hold at YYJ
3. FASBO Five Arrival
4. ILS RWY 09
5. Missed Approach to AP
6. APASS Five Arrival
7. LOC RWY 27
8. Engine Failure

Dual 1.0 hours

Date Completed: _____

Student Signature: _____

Aim

The aim of this lesson is to practice flying VOR & NDB GPS overlay approaches, holds and missed approaches.

Acceptable Performance

Student shall gain a practical understanding of GNSS approaches, and be able to explain primary elements of this type of approach.

References

IPM – 6.6.6 RNAV Approaches

AIM RAC 9.0 - IFR Arrival Procedures

Garmin G530 Pilot's Guide

CAP GEN

Preflight Briefing

VOR & NDB GPS overlay approaches and holds

CAP 2 - CYVR SID, CZBB RNAV RWY 07 approach, and CYXX RNAV 07 approach

Flight Sequence

1. VANCOUVER ONE DEP
2. Hold at LEVIV using the GPS
3. RNAV 07 Approach to CZBB
4. Missed Approach
5. Engine Failure
6. RNAV Z RWY 07 Approach to CYXX
7. Single Engine Landing

MCX iPad: Load 54-DMS – relocate to CYVR

Dual 1.2 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this lesson is to practice flying VOR & NDB GPS overlay approaches, holds and missed approaches.

Acceptable Performance

Student shall be able to perform a GPS overlay approach without assistance.

References

IPM – 6.6.6 RNAV Approaches

AIM RAC 9.0 - IFR Arrival Procedures

Garmin GTN 650 Pilot's Guide

CAP GEN

Preflight Briefing

VOR & NDB GPS overlay approaches and holds

CAP 2 - CYVR SID, CZBB VOR RWY 07 approach, and CYXX NDB 07 approach

Flight Sequence

1. Vancouver ONE SID
2. VOR Hold at LEVIV Using the GPS
3. RNAV RWY 07 Approach to CZBB
4. Missed Approach
5. Engine Failure
6. RNAV RWY 07 Approach to CYXX
7. Single Engine Landing

Dual 1.2 hours

Date Completed: _____

Student Signature: _____

Aim

The aim of this lesson is to learn practice arcs and LOC/RNAV approaches.

Acceptable Performance

Student shall gain a practical understanding of localizer approaches and be able to explain primary elements of this type of approach.

References

IPM – 6.6.4 Non-Precision Approaches

AIM RAC 9.0 - IFR Arrival Procedures

CAP GEN

Preflight Briefing

LOC (BC) approaches

CAP 2 - CYXJ LOC(BC)/NDB RWY 12 Approach

Flight Sequence

1. Depart Fort St. John (CYXJ) RWY 12
2. Intercept R-110 to YXJ
3. Intercept 21 DME Arc Via R-173 to LIRVA
4. ILS/NDB RWY 30 (LOC Only)
5. Missed Approach
6. Direct to RIKOV
7. RNAV (GNSS) RWY 21

MCX iPad: Load 62-DMS – relocate to CYXJ

Solo 1.2 hours

Date Completed: _____

Student Signature: _____

Aim

The aim of this lesson is to practice arcs and LOC/ RNAV approaches.

Acceptable Performance

Student shall be able to perform a localizer back course approach without assistance.

References

IPM – 6.6.4 Non-Precision Approaches

AIM RAC 9.0 - IFR Arrival Procedures

CAP GEN

Preflight Briefing

LOC (BC) approaches

CAP 2 - CYXJ LOC(BC)/NDB RWY 11 Approach

Flight Sequence

1. Depart Fort St. John (CYXJ) RWY 11
2. Intercept R-110 to YXJ
3. Intercept 21 DME Arc Via R-173 to LIRVA
4. ILS/ NDB RWY 30 (LOC Only)
5. Missed Approach
6. Direct to RIKOV
7. RNAV (GNSS) RWY 21

Dual 1.0 hours

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this session is to assess the student’s progress. The results of this flight test will contribute to the semester Flight Lab mark.

Acceptable Performance

Students will be graded per the Transport Canada Flight Test Guide – Instrument Rating. A total mark of 60% or greater is required to pass. Students scoring less than 60% will be required to complete additional training and to repeat this syllabus lesson.

References

Transport Canada Flight Test Guide - Instrument Rating (9939E)

Preflight Briefing

"The Flight Test". You are employed by a local carrier and are doing the morning ‘bag run’ from home base at Campbell River to Powell River and return. You do not need to shut-down in CYPW just reset for the return trip and perform the pre-departure procedures while the loader takes of the mail and throws in the

Flight Sequence

	1	2	3	4	Mark
1. Depart CYBL	1	2	3	4	_____
2. Approach & Land CYPW	1	2	3	4	_____
3. Depart CYPW	1	2	3	4	_____
4. Hold YBL	1	2	3	4	_____
5. Full Procedure ILS 12 CYBL	1	2	3	4	_____
6. Instrumentation Failure	1	2	3	4	_____
7. Radio Communication	1	2	3	4	_____
8. IFR Procedures	1	2	3	4	_____

Total Mark: _____/32

MCX iPad: Load 75-DMS – relocate to CYBL

Aim

Date Completed: _____

Instructor Signature: _____

The aim of this lesson is to practice NDB circling approaches.

Acceptable Performance

As per the Transport Canada Flight Test Guide - Instrument Rating (9939E)

References

IPM – 6.6.4 Non-Precision Approaches

IPM – 6.7.3 Radio Procedures – Uncontrolled Airports

AIM RAC 9.23 - 9.25

CAP GEN

Preflight Briefing

CAP 2 - CYVK NDB A Approach

Flight Sequence (VMC)

1. Spec Vis Departure from CYLW
2. Direct 6K NDB
3. CYVK Full Procedure NDB A Approach to Circling Minima
4. Missed Approach During Circling Procedure, Then to 6K
5. Direct WTMAN for Straight-In RNAV (GNSS) Z RWY 16 Approach
6. Engine Failure
7. Single Engine Circling Approach (If Able)

Alternate flight sequence if weather is IMC:

1. Kelowna Seven Departure
2. RNAV A (GNSS) Approach
3. Missed Approach
4. DATBO Transition
5. RNAV (GNSS) Z RWY 16
6. Engine Failure
8. Single Engine Circling Approach (If Able)

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this lesson is to familiarize the student with instrument flying in the Be-76, and to conduct the first LPV, RNAV (GNSS) Z RWY 16 approach into Kelowna.

Acceptable Performance

As per the Transport Canada Flight Test Guide - Instrument Rating (9939E)

References

Instrument Procedures Manual - 6.6.4 Non-Precision Approaches
- 6.6.5 Precision Approaches

BE-76 POH

CAP GEN

Preflight Briefing

IFR flight planning

IFR standard calls

NDB B & RNAV (GNSS) Z RWY 16 approaches

Flight Sequence

1. Kelowna SID Departure

2. Hold at LW or EX NDB

3. NDB B (GNSS) Approach & Missed Approach

4. RNAV (GNSS) Z RWY 16 Approach

Date Completed: _____

Instructor Signature: _____

Aim

The student shall be able to fly restricted (RCAP) approaches, holds and missed approaches.

Acceptable Performance

As per the Transport Canada Flight Test Guide - Instrument Rating (9939E)

References

AIM RAC 9.18.1 Category II ILS Approach Minima

BE-76 POH

Garmin GTN 650 Pilot's Guide

CAP GEN

Preflight Briefing

Restricted Instrument Procedures (RCAP)

Flight Sequence

1. Kelowna SID Departure
2. Restricted ILS Y RWY 16 Approach & Missed Approach
3. RNAV (GNSS) A Approach
4. Engine Failure

Alternate flight sequence if weather unsuitable for simulated IFR flight:

1. Kelowna SID Departure
2. NDB B Approach
3. Missed Approach
4. DATBO Transition for RNAV (GNSS) Z RWY 16 Approach
5. Engine Failure

Dual 1.2 hours**Date Completed:** _____**Hood 0.7 hrs****Instructor Signature:** _____**Aim**

The aim of this lesson is to practice ILS & GPS restricted approaches.

Acceptable Performance

As per the Transport Canada Flight Test Guide - Instrument Rating (9939E)

References

AIM RAC 9.0 - IFR Arrival Procedures

BE-76 POH

Garmin GTN 650 Pilot's Guide

CAP GEN

Preflight Briefing

ILS & GPS restricted approaches

Flight Sequence

1. Kelowna Seven SID From CYLW
2. Restricted ILS Y RWY 16 Approach & Missed Approach
3. RNAV (GNSS) A Approach from AMBAT
4. Engine Failure

Alternate flight sequence if weather unsuitable for restricted procedures:

1. Kelowna Seven Departure
2. NDB B (GNSS) Approach
3. Missed Approach
4. DATBO Transition
5. RNAV (GNSS) Z RWY 16 Approach
6. Engine Failure