

Second Year Flight Syllabus

Winter 2012

Instrument Rating

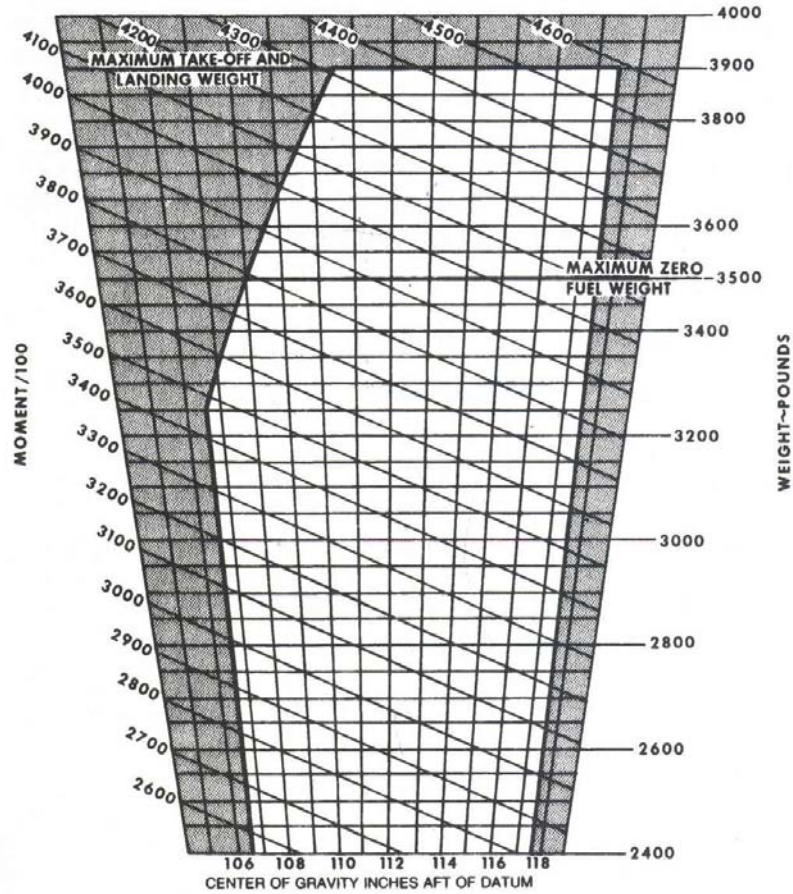
Requirements include the following:

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

WARNING: Your Transport Canada written examination (INRAT) and your flight test must occur within 12 months of each other. The written examination must be passed before the flight test can be done. You must apply for your Instrument Rating within 24 months of completing the written examination.

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

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. Above Standard

Performance remains well within the qualification standards and flight management skills are excellent.

- Performance is ideal under existing conditions. Aircraft handling is smooth and precise.
- Technical skills and knowledge exceed the required level of competency.
- Behaviour indicates continuous and highly accurate situational awareness.
- Flight management skills are excellent.
- Safety of flight is assured. Risk is well mitigated.

3. Standard

Minor deviations occur from the qualification standards and performance remains within prescribed limits.

- Performance meets the recognized standard yet may include deviations that do not detract from the overall performance.
- Aircraft handling is positive and within specified limits.
- Technical skills and knowledge meet the required level of competency.
- Behaviour indicates that situational awareness is maintained.
- Flight management skills are effective.
- Safety of flight is maintained. Risk is acceptably mitigated.

2. Basic Standard

Major deviations from the qualification standards occur, which may include momentary excursions beyond prescribed limits but these are recognized and corrected in a timely manner.

- Performance includes deviations that detract from the overall performance, but are recognized and corrected within an acceptable time frame.
- Aircraft handling is performed with limited proficiency and/or includes momentary deviations from specified limits.
- Technical skills and knowledge reveal limited technical proficiency and/or depth of knowledge.
- Behaviour indicates lapses in situational awareness that are identified and corrected.
- Flight management skills are effective but slightly below standard.
- Safety of flight is not compromised. Risk is poorly mitigated.

1. Below Standard

Unacceptable deviations from the qualification standards occur, which may include excursions beyond prescribed limits that are not recognized or corrected in a timely manner.

- Performance includes deviations that adversely affect the overall performance, are repeated, have excessive amplitude, or for which recognition and correction are excessively slow or nonexistent, or the aim of the task was not achieved.
- Aircraft handling is rough or includes uncorrected or excessive deviations from specified limits.
- Technical skills and knowledge reveal unacceptable levels of technical proficiency and/or depth of knowledge.
- Behavior indicates lapses in situational awareness that are not identified or corrected.
- Flight management skills are ineffective.

Safety of flight is compromised. Risk is unacceptably mitigated.

Lesson 31-MS **IFR Cross Country** **Frasca 142**
Dual 1.5 hours **CYLW-CYKA-CYLW** **Not Mutual**
Date Completed: _____
Instructor Signature: _____

Aim

The aim of this session is to practice cross-country IFR procedures in advance of the conducting the same flights in the aircraft.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)
Instrument Procedures Manual (IPM)
Canada Air Pilot (CAP)

Preflight Briefing

Review completed IFR navigation log, including flight plan form
Full weather and NOTAM assessment
CAP 2 - CYKA NDB B approach, CYLW ILS/DME 1 RWY 16 approach

Flight Sequence

Wind set at 25 knots

1. Kelowna Standard Instrument Departure (SID)
2. B5 to YKA
3. Hold at YKA
4. NDB B Approach to CYKA
5. Missed Approach
6. B5 to Intercept 17.5 NM DME Arc at CYLW
7. ILS/DME 1 RWY 16 Approach to CYLW
8. Engine and System Failures at the Discretion of the Instructor

Post Flight Briefing

Next flight is cross-country to Kamloops (CYKA). Arrive early, with preflight planning completed, and be ready to depart.

Notes:



Aim

The aim of this flight is to practice holding procedures and approaches during a cross-country flight.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)
Instrument Procedures Manual (IPM)
Canada Air Pilot (CAP)
Sandel SN3308 Handout

Preflight Briefing

Review completed IFR navigation log, including flight plan form
Full weather and NOTAM assessment
CAP 2 - CYKA LOC/DME C approach, CYLW NDB B approach
Garmin 155XL GSP and Sandel SN3308 operation

Flight Sequences

Student # 1

1. Depart CYLW
2. Hold at YKA
3. LOC/DME C Approach to CYKA
4. Practice Use of GPS/Sandel

Student # 2

1. Depart CYKA
2. Hold at LW
3. NDB B Approach to CYLW
4. Practice Use of GPS/Sandel

Post Flight Briefing

Notes:

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this session is to refine IFR hold and approach procedures on a cross-country flight.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)

Instrument Procedures Manual (IPM)

Canada Air Pilot (CAP)

Preflight Briefing

Review completed IFR navigation log, including flight plan form

Full weather and NOTAM assessment

CAP 2 - CYYF LOC/DME B approach, CYLW RNAV (GNSS)

A approach

Flight Sequence

1. Depart Kelowna
2. Hold at YYF
3. LOC/DME B Approach to CYYF
4. Missed Approach
5. RNAV (GNSS) A Approach to CYLW
6. Attitude Indicator Failure

Post Flight Briefing

Notes:

Lesson 34-ME **IFR Cross-Country** **BE-76**
Dual 1.4 hours **CYLW-CYYF-CYLW** **Mutual**
Date Completed: _____ **Hood 1.2 hours**
Instructor Signature: _____

Aim

The aim of this flight is to refine IFR hold and approach procedures on a cross-country flight.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)
Instrument Procedures Manual (IPM)
Canada Air Pilot (CAP)

Preflight Briefing

Review completed IFR navigation log, including flight plan form
Full weather and NOTAM assessment
CAP 2 - CYYF LOC/DME B approach, CYLW NDB B approach
Garmin 155XL GSP and Sandel SN3308 operation

Flight Sequence

Student #1

1. Depart CYLW
2. GPS/Sandel Operations
3. Hold at YYF
4. LOC/DME B Approach to CYYF

Student #2

1. Depart CYYF
2. GPS/Sandel Operations
3. Hold at LW
4. NDB B Approach to CYLW

Post Flight Briefing

Notes:



Date Completed: _____

Instructor Signature: _____

Aim

The aim of this session is to refine IFR hold and approach procedures, and to rectify deficiencies from previous simulator sessions.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)

Instrument Procedures Manual (IPM)

Canada Air Pilot (CAP)

Preflight Briefing

Review completed IFR navigation log, including flight plan form

Full weather and NOTAM assessment

CAP 2 - CZBB SID & VOR RWY 07 (GNSS) approach, CYXX

ILS RWY 07 approach

Flight Sequence

1. Standard Instrument Departure from Boundary Bay (CZBB)

2. Hold at YVR

3. VOR RWY 07 (GNSS) Overlay Approach to CZBB

4. Missed Approach

5. ILS 07 Approach to CYXX

Post Flight Briefing

Notes:

Date Completed: _____

Instructor Signature: _____

Aim

The aim of this session is to refine IFR hold and approach procedures to flight test tolerances.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)

Instrument Procedures Manual (IPM)

Canada Air Pilot (CAP)

Preflight Briefing

Review completed IFR navigation log, including flight plan form

Full weather and NOTAM assessment

CAP 2 - CZBB SID, CYYJ BUICK ONE ARR & ILS/DME

RWY 27 approach, CYCD NDB 16 approach

Flight Sequence

1. Standard Instrument Departure from Boundary Bay (CZBB)
2. BUICK ONE Arrival
3. ILS/DME RWY 27 Approach to Victoria (CYYJ)
4. Missed Approach
5. Hold at Active Pass NDB
6. Engine Failure
7. NDB 16 Approach to Naniamo (CYCD)
8. GPS Failure

Post Flight Briefing

Notes:

Aim

The aim of this flight is to refine IFR procedures to flight test standards, operating in the vicinity of the Kelowna airport.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)

Instrument Procedures Manual (IPM)

Canada Air Pilot (CAP)

Handout for Circling Procedures

Preflight Briefing

Review completed IFR navigation log, including flight plan form

Full weather and NOTAM assessment

CAP 2 - CYLW SID, ILS/DME 1 RWY 16 approach, NDB B approach

Circling procedures

Flight Sequence

1. Depart CYLW
2. Hold at LW
3. Full Procedure NDB B Approach
4. Missed Approach
5. ILS/DME 1 RWY 16 via DME Arc, Circling for 16/34
6. Engine Failure on ILS

Post Flight Briefing**Notes:**

Lesson 38 -MS **100 NM Cross-Country** **Frasca 142**
Dual 1.5 hours **CYLW-CYKA-CYYF** **Not Mutual**
Date Completed: _____
Instructor Signature: _____

Aim

The aim of this flight is to practice the 100 nm cross-country.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)
Instrument Procedures Manual (IPM)
Canada Air Pilot (CAP)

Preflight Briefing

Review completed IFR navigation log, including flight plan form
Full weather and NOTAM assessment
CAP 2 - CYLW SID, CYKA NDB B approach, CYYF
LOC/DME B approach

Flight Sequence

1. Depart CYLW
2. B5 to YKA
3. Hold at YKA
4. NDB B Approach to CYKA
5. Missed Approach
6. B26 to YYF
7. LOC/DME B Approach to CYYF

Post Flight Briefing

Next flight is 100 nm cross-country in aircraft - arrive early and be prepared!!!!

Notes:

Lesson 39-ME **100 NM Cross-Country** **BE-76**
Dual 1.8 hours **CYLW-CYKA-CYYF** **Mutual**
Date Completed: _____ **Hood 1.6 hours**
Instructor Signature: _____

Aim

The aim of this flight is to satisfy the requirements of the 100 nm cross-country flight for the IFR rating, and includes two instrument approaches to minimums.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)
Instrument Procedures Manual (IPM)
Canada Air Pilot (CAP)

Preflight Briefing

Review completed IFR navigation log, including flight plan form
Full weather and NOTAM assessment
CAP 2 - CYLW SID & ILS/DME 1 RWY 16 approach, CYKA NDB B approach, CYYF LOC/DME B approach
GPS/Sandel operations

Flight Sequence

Student #1

1. Depart CYLW
2. GPS/Sandel Operations
3. B5 to YKA, Hold at YKA
4. NDB B Approach to CYKA, Missed Approach
5. B26 to YYF
6. LOC/DME B Approach to CYYF

Student #2

1. Depart CYYF
2. GPS/Sandel Operations
3. B26 to YKA, Hold at YKA
4. NDB B Approach to CYKA, Missed Approach
5. B5 to CYLW
6. ILS/DME 1 RWY 16 Approach

Post Flight Briefing

Notes:



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

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 before being permitted to continue with the syllabus.

References

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

Preflight Briefing

"The Flight Test"

Flight Sequence		Mark
1. Depart CYLW	1 2 3 4 x 2	_____
2. ILS/DME 1 Rwy 16	1 2 3 4 x 3	_____
3. Missed Approach	1 2 3 4 x 2	_____
4. Tracking B5 Inbound to LW	1 2 3 4 x 1	_____
5. Hold at LW	1 2 3 4 x 2	_____
6. Engine Failure	1 2 3 4 x 2	_____
7. NDB B Approach	1 2 3 4 x 3	_____
8. Attitude Indicator Failure	1 2 3 4 x 1	_____
9. Flight Planning	1 2 3 4 x 2	_____
10. Airmanship & Radio Work	1 2 3 4 x 1	_____
	Total	____/76

Post Flight Briefing

Notes:

Lesson 42-ME **Mid Semester Flight Test** **BE-76**
Dual 1.4 hours **Hood 1.2 hours** **Not Mutual**
Date Completed _____ **Name** _____
Instructor _____ **Mark** ____/32 ____%

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

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 before being permitted to continue with the syllabus.

References

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

Preflight Briefing

"The Flight Test"

Flight Sequence		Mark
1. Depart CYLW	1 2 3 4 x 1	_____
2. Hold at LW	1 2 3 4 x 1	_____
3. Attitude Indicator Failure	1 2 3 4 x 1	_____
4. NDB B Approach	1 2 3 4 x 1	_____
5. Missed Approach	1 2 3 4 x 1	_____
6. ILS/DME 1 RWY 16	1 2 3 4 x 1	_____
7. Engine Failure	1 2 3 4 x 1	_____
8. Flight Planning	1 2 3 4 x 1	_____
9. Airmanship & Radio Work	1 2 3 4 x 1	_____
	Total	____/32

Post Flight Briefing

Remember to arrange some solo simulator sessions for practice.

Notes:



Aim

The aim of this flight is to refine IFR procedures to flight test standards, operating in the vicinity of the Kelowna airport.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)

Instrument Procedures Manual (IPM)

Canada Air Pilot (CAP)

Preflight Briefing

Review completed IFR navigation log, including flight plan form

Full weather assessment

CAP 2 - CYLW SID, ILS/DME 1 RWY 16 approach & NDB B approach

Flight Sequence

1. Depart CYLW
2. Autopilot Operation Enroute and for the ILS Approach
3. Straight-In ILS/DME 1 RWY 16 Approach
4. Missed Approach
5. Hold at LW
6. Full Procedure NDB B Approach (Circling)

Post Flight Briefing**Notes:**

Aim

The aim of this session is to review for the IFR flight test.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)
Instrument Procedures Manual (IPM)
Canada Air Pilot (CAP)

Preflight Briefing

Review completed IFR navigation log, including flight plan form
Full weather assessment

Flight Sequence

1. Depart CYLW Runway 34
2. Hold at WTMAN
3. ILS/DME 1 RWY 16 Approach With Failed Attitude Indicator
4. Missed Approach
5. Full Procedure NDB B Approach
6. Engine Failure

Post Flight Briefing**Notes:**

Aim

The aim of this session is to review for the IFR flight test.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)
Instrument Procedures Manual (IPM)
Canada Air Pilot (CAP)

Preflight Briefing

Review completed IFR navigation log, including flight plan form
Full weather assessment

Flight Sequence

1. Depart CYLW
2. NDB Tracking
3. Hold at LW
4. NDB B Approach
5. Missed Approach
6. ILS/DME 1 RWY 16 Approach
7. Emergency Procedures

Post Flight Briefing

Notes:

Aim

The aim of this session is to review for the IFR flight test.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)
Instrument Procedures Manual (IPM)
Canada Air Pilot (CAP)

Preflight Briefing

Review completed IFR navigation log, including flight plan form
Full weather assessment

Flight Sequence

1. Depart CYLW Runway 16
2. Hold at LW
3. NDB B Approach
4. Missed Approach
5. Vectors for ILS/DME 1 RWY 16
6. ILS/DME 1 RWY 16 Approach

Post Flight Briefing

Notes:

Aim

The aim of this session is to assess whether the student is fully prepared for the IFR flight test.

Acceptable Performance

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

References

BE-76 Pilot Operating Handbook (POH)

Instrument Procedures Manual (IPM)

Canada Air Pilot (CAP)

Preflight Briefing

Review completed IFR navigation log, including flight plan form
Full weather assessment

Flight Sequence

1. Depart CYLW
2. Track B5 to STUMM
3. Track B5 to LW, and Hold at LW
4. Full Procedure NDB B Approach
5. Missed Approach
6. ILS/DME 1 RWY 16 with TOSUS Transition
7. Engine and System Failures, at the Discretion of the Instructor.

Post Flight Briefing

If the student is successful, the instructor will provide a recommendation form for the flight test.

Notes:

Aim

To fly with enthusiasm and verve, and to display a strong command attitude.

Acceptable Performance

This flight test will account for 40 % of the final Flight Lab mark.

Good Luck!!

Aim

To learn the techniques used in Crew Resource Management.

Preflight Briefing

CRM techniques

Use of company standard operating procedures

Flight Sequence

Weather enroute will involve icing and turbulence

Student #1

1. Depart Calgary (CYYC)
2. Use of RNAV/Auto Pilot/Diversions
3. Approach at Edmonton International (CYEG)

Student #2

1. Depart CYEG
2. Use of RNAV/Auto Pilot/Diversions
3. Approach CYYC

Post Flight Briefing

Notes:

Date Completed: _____

Instructor Signature: _____

Aim

To learn the techniques used in Crew Resource Management.

Acceptable Performance

To work together effectively as a team.

Preflight Briefing

CRM techniques & SOPs

Uncontrolled aerodrome procedures

Flight Sequence

Student #1

1. Depart CYYJ
2. Gyro Failure
3. Communication Failure
4. Approach CYXX

Student #2

1. Depart CYXX
2. Gyro Failure
3. Navigation Failures
4. Approach CYYJ

Post Flight Briefing**Notes:**

Aim

To learn the techniques used in Crew Resource Management.

Acceptable Performance

To work together effectively as a team.

Preflight Briefing

CRM techniques and SOPs

Flight Sequence

Student #1

1. Depart CYLW
2. Engine Failures
3. Approach at CYVR

Student #2

1. Depart CYVR
2. Enroute Emergencies
3. Approach at CYLW

Post Flight Briefing

Next simulator session is the CRM test.

Notes:

Aim

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

Acceptable Performance

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

CRM techniques and SOP's

Flight Sequence (Night)

Trip 1 as Captain or First Officer						Mark
1. Depart CYYJ	1	2	3	4	x 1	_____
2. Approach CYXX	1	2	3	4	x 1	_____
3. Depart CYXX	1	2	3	4	x 1	_____
4. Approach CYVR	1	2	3	4	x 1	_____
5. Engine Failure	1	2	3	4	x 1	_____
6. System Failures	1	2	3	4	x 1	_____
7. Leadership (Captain Ability) or						
8. Leadership (First Officer Ability)	1	2	3	4	x 1	_____
					Total	_____

Trip 2 as Captain or First Officer						
1. Depart CYVR	1	2	3	4	x 1	_____
2. Approach CYYJ	1	2	3	4	x 1	_____
3. Depart CYYJ	1	2	3	4	x 1	_____
4. Approach CYXX	1	2	3	4	x 1	_____
5. Engine Failure	1	2	3	4	x 1	_____
6. System Failures	1	2	3	4	x 1	_____
7. Leadership (Captain Ability) or						
8. Leadership (First Officer Ability)	1	2	3	4	x 1	_____
					Total	_____

Post Flight Briefing

Notes:

