

**5 Aug 03**

This Charter flight is a 3 hop route in British Columbia, Canada using NDB navigation. The source material is from the autobiography "By Dead Reckoning", by Ralph Lewis. A chapter in his book is dedicated to the DC-3. He calls it "A remarkable Flying Machine". It was on his first flying job, as a radio operator in a three man crew for the Air Transport Command, that he was introduced to the C-47 in 1942. This charter depicts one of the routes he flew, in the weather he frequently found himself. His words are such a tribute to the DC-3 and the "unbelievable punishment it could withstand in the air", that I have chosen to try to create the same conditions he described in his book. Ralph Lewis went on to gain a Navigator rating, and on C-87s and DC-4s, he navigated long over-water routes in the Pacific with primitive navigation aids during and after the big war. Conditions were comparable those that E.K. Gann described over the North Atlantic, as depicted in Peter Tucker's excellent Charter 196-01. I recommend that those who want to fly this charter realistically read Peter Tucker's tutorial on navigation using only NDBs if they are unfamiliar with pre-50's navigation techniques.

Ralph Lewis describes the typical weather along the Charter route as so bad that he had to keep track of up to 20 alternate airfields as potential landing sites. He wrote "Airport ceilings and visibility could go from suitable one minute to zero-zero the next". At that time the weather was reported by Morse Code, encrypted so the Japanese could not read it. He had to decrypt the five character code groups in real time. His only navigation aids were the compass and radio beacons. Anecdotally, he also describes the C-47's water boiler. It was his job to keep it running to supply heat to the cockpit. Also, he describes a 200 ft long trailing wire antenna that was reeled in and out of the DC-3 for long range communications.

INSTALLATION. This charter is set up to automatically start you in a Microsoft aircraft. To fly this charter, simply copy the 910-01.flt and 910-01.wx files to the C:\Program Files\Microsoft Games\Flight Simulator 9\Flights\other and select the flight "910-01" from the "Flights/Select a flight/Other" menu. This saves you the trouble of setting up the plane, location, and weather. The charter loads the Beech Baron 58 with a distorted cockpit. Just click on Aircraft, and select the DC-3 aircraft you plan to use and resave the flight. You can also override the pre-loaded weather with real time weather, or weather of your choice.

The flight starts at the Terminal in Ft. St. John, BC in freezing weather and light snow. Outside temperature is -10 C. VFR apply. The copilot has already started number 2 and the pax and cargo are loaded. The flight plans call for runways in the general direction of flight. Real weather has been downloaded and edited and installed in the flight for you. You may find the wind conditions for Ft St John by tuning the radio to ATIS. It will specify runway 11 as the active runway, so you need to make a U turn and taxi out for take-off. The estimated fuel consumption is 750 gallons to CYVQ, so full tanks are provided. The plane should be at its normal gross landing weight. This is not controlled by this .flt file. The weight is set in the aircraft.cfg file of the aircraft selected. If you use the R4D-6 Company aircraft, the dry weight is only about 19,000 pounds. You may add up to 2,000 pounds of passengers/cargo. Winds aloft are forecast at North East at 10-15 Knots. It is good practice to top off the tanks before starting the third leg. Good Luck.

In lieu of approach plates, consider the NDB near the airports to be both IAF and FAF points. If you need to lose speed or altitude (or wait for the weather to clear), enter a holding pattern at the IAF NDB until you are set up properly at 120 Knots. The FAF altitude and minimum altitudes for each approach are specified below. For a missed approach, make a climbing turn back to the IAF NDB and hold at 4000 ft.

For CBX2, the FAF is the NDB at 3000 ft, 120 KIAS. On final approach, if you can't see CBX2 at 2500 ft ASL, return to and hold at the NDB at 4000 ft. Caution: There is another airport just to the west of CBX2. To land to the east, overfly the airport from FAF and make a procedure turn and land. The game will specify the correct runway so you will land into the (surface) wind. To learn it, use the following procedure when you are near the IAF. Bring up ATC by pressing the ~ key. Select "airport", select "announce full stop landing", select "announce position". The computer will figure the correct runway based on local wind conditions, and announce it as part of your position report.

The approach to CYFS is similar. Descend to 1500 ft over the NDB, at 120 Knots. In good weather, if you can see the airport in the distance, dog leg to the right and land on runway 30. Otherwise, go to the NDB and then land. Do not descend below 2400 ft ASL without visual ground contact. (You may need to be within 10 miles of the NDB to go below 2400 ft). [What I am trying to say is that in foul weather, you need to fly to the IAF at 2400 ft, then hold there descending to 1500 ft without getting beyond a 10 mile radius of the IAF. If, at 1500 ft you are still in the soup, you have to hold for a break in the weather, or climb back up to 2400 ft before leaving the holding pattern, to proceed to an alternate airport. Radio beacons (NDBs were rare in those days, so you would find several airports near them to make use of them.

The approach to CYVQ is similar. You may descend to 2000 ft if you remain to the south of the IAF. There are mountains to the north. Slow to 120 Knots. On final approach, do not descend below 700 ft ASL without visual contact with the ground.

Enjoy!

Leg 1

Note :

\* This Leg 1 version applies if FS NDB, Fort Simpson, is available in your XP scenery (depending on AIRAC cycle)  
 Use 910-01-01 CYXJ-BX2.fms

See the notes on page 1 for details of the approach.

From – To	Flight Description. "Allocated runways and related information may change when flying online or using Real Weather"			Course (Leg) Deg	Distance (Leg) nm	ETE (leg) HH+MM
		Init. Hdg – 292deg	Init. Alt – 6,500ft			
Fort St John (CYXJ) Canada  To  Fort Nelson (CBX2, or BX2 in XP) Canada	<b>Departure:</b> Departure runway at your option, depending on weather. To XJ NDB, 326.0. After take off turn, direct to NDB.....			292	4.5	
	<b>Enroute:</b> To CBX2 / BX2. Turn to 337deg. Keep heading, checking that RMI remains at a 157deg heading to station. When XJ fades out, tune your ADF to L6 NDB, 308.0, as bearing point. Commence descent to 3,000ft ASL at ETE - 11 min. When airport in sight (at your right), start slowing down to approach speed			337	154.0	
	<b>Approach:</b> To airport, runway, approach type and landing pattern at your option To runway for a visual approach.....  Land: Ft. Nelson runway (12 or 30) Length: 5,000ft Width: 120ft Surface: Oil treated  <i>(if troubles to locate CBX2 / BX2, fly direct to L6 NDB, make a procedure turn to come back overhead L6 and fly on 133deg heading.</i>					
<b>Flight: 910-01-01</b>	<b>Arrival Airport Elev. – 1,860ft</b>			<b>Estimated totals for this flight&gt;&gt;&gt;</b>		<b>159nm</b>

Note :

\* No 3I NDB into P3D5. Using L6 instead  
 \* CBX2 (FSX/P3D/MSFS) = BX2 in X-Plane

Leg 1

**Note :**

\* This Leg 1 version applies if FS NDB, Fort Simpson, is not available in your XP scenery (depending on AIRAC cycle)  
 Use 910-01-01 CYXJ-BX2 via YXJ.fms

See the notes on page 1 for details of the approach.

From – To	Flight Description. "Allocated runways and related information may change when flying online or using Real Weather"			Course (Leg) Deg	Distance (Leg) nm	ETE (leg) HH+MM
		Init. Hdg – 292deg	Init. Alt – 6,500ft			
Fort St John (CYXJ) Canada  To  Fort Nelson (CBX2, or BX2 in XP) Canada	<b>Departure:</b> Departure runway at your option, depending on weather. To YXJ VOR/DME, 114.2. After take off turn, direct to VOR			292	5.6	
	<b>Enroute:</b> To CBX2 / BX2. Overhead YXJ, turn to 337deg and track / follow 337 radial OB from YXJ. Tune your ADF to L6 NDB, 308.0, as bearing point as soon as signal is received. Commence descent to 3,000ft ASL at ETE - 11 min. When airport in sight (at your right), start slowing down to approach speed			337	154.0	
	<b>Approach:</b> To airport, runway, approach type and landing pattern at your option To runway for a visual approach.....  Land: Ft. Nelson runway (12 or 30)    Length: 5,000ft    Width: 120ft    Surface: Oil treated  <i>(if troubles to locate CBX2 / BX2, fly direct to L6 NDB, make a procedure turn to come back overhead L6 and fly on 133deg heading.</i>					
<b>Flight: 910-01-01</b>	<b>Arrival Airport Elev. – 1,860ft</b>			<b>Estimated totals for this flight&gt;&gt;&gt;</b>		<b>160nm</b>

**Note :**

\* No 3I NDB into P3D5. Using L6 instead  
 \* CBX2 (FSX/P3D/MSFS) = BX2 in X-Plane

**Leg 2**

**Note :**

*\* This Leg 2 version applies if FS NDB, Fort Simpson, is available in your XP scenery (depending on AIRAC cycle)*

*Use 910-01-02 BX2-CYFS.fms*

See the notes on page 2 for details of the approach.

From – To	Flight Description. "Allocated runways and related information may change when flying online or using Real Weather"			Course (Leg) Deg	Distance (Leg) nm	ETE (leg) HH+MM
		Init. Hdg – 304deg	Init. Alt – 6,500ft			
Fort Nelson (CBX2, or BX2 in XP) Canada  To  Fort Simpson (CYFS) Canada	<b>Departure:</b> Departure runway at your option, depending on weather. To L6 NDB, 308.0. Direct to NDB.....			313	6.2	
	<b>Enroute:</b> Turn right to 344deg. Keep heading, checking that RMI remains at a 164deg heading to station. When L6 fades out, tune your ADF to FS NDB, 375.0 and maintain heading 344deg. Commence descent to 1,500ft ASL at ETE - 16 min. When runway and PAPI lights on sight (slightly at your left), start slowing down to approach speed.			344	170.0	
	<b>Approach:</b> To airport, runway, approach type and landing pattern at your option Make a visual approach as described in the notes.....  Land: Ft Simpson runway (13 or 31) Length: 5,987ft Width: 146ft Surface: Asphalt					
<b>Flight: 910-01-02</b>	<b>Arrival Airport Elev. – 555ft</b>			<b>Estimated totals for this flight&gt;&gt;&gt;</b>		<b>176.8nm</b>

**Note :**

*\* CBX2 (FSX/P3D/MSFS) = BX2 in X-Plane*

**Leg 2**

**Note :**

*\* This Leg 2 flight description applies if FS NDB, Fort Simpson, is not available in your XP scenery (depending on AIRAC cycle)*

See the notes on page 2 for details of the approach.

From – To	Flight Description. "Allocated runways and related information may change when flying online or using Real Weather"			Course (Leg) Deg	Distance (Leg) nm	ETE (leg) HH+MM
		Init. Hdg – 304deg	Init. Alt – 6,500ft			
Fort Nelson (CBX2, or BX2 in XP) Canada  To  Fort Simpson (CYFS) Canada	<b>Departure:</b> Departure runway at your option, depending on weather. To L6 NDB, 308.0. Direct to NDB.....			313	6.2	
	<b>Enroute:</b> Turn right to 344deg. Keep heading, checking that RMI remains at a 164deg heading to station. When L6 fades out, maintain heading 344deg. If needed, tune your NAV1 to YFS VOR/DME, 117.9 for distance and rough heading information Commence descent to 1,500ft ASL at ETE - 16 min. When runway and PAPI lights on sight (slightly at your left), start slowing down to approach speed.			344	170.0	
	<b>Approach:</b> To airport, runway, approach type and landing pattern at your option Make a visual approach as described in the notes.....  Land: Ft Simpson runway (13 or 31) Length: 5,987ft Width: 146ft Surface: Asphalt					
<b>Flight: 910-01-02</b>	<b>Arrival Airport Elev. – 555ft</b>			<b>Estimated totals for this flight&gt;&gt;&gt;</b>		<b>176.8nm</b>

**Note :**

*\* CBX2 (FSX/P3D/MSFS) = BX2 in X-Plane*

Leg 3

Note :

\* This Leg 3 version applies if FS NDB, Fort Simpson, is available in your XP scenery (depending on AIRAC cycle)  
Use 910-01-03 CYFS-CYVQ.fms

See the notes on page 2 for details of the approach.

From – To	Flight Description. "Allocated runways and related information may change when flying online or using Real Weather"				Course (Leg) Deg	Distance (Leg) nm	ETE (leg) HH+MM
	Dep. Rwy – 31	Init. Hdg – 305deg	Init. Alt – 8,500ft	Apt Elev. – 555ft			
Fort Simpson (CYFS) Canada  To  Norman Wells (CYVQ) Canada	<b>Departure:</b> Departure runway at your option, depending on weather. To FS NDB, 375.0. After take off, direct to NDB.....				317	1.7	
	<b>Enroute:</b> To VQ NDB, 326.0. Turn left to 309deg. Commence descent to 2,000ft ASL at ETE - 21min. Direct to NDB. When runway and PAPI lights on sight (slightly at your left), start slowing down to approach speed.  <i>(Note for FSX/ P3D / MSFS: in reduced visibility conditions en route, you may consider using also WY NDB, 222.0, and ZFN NDB, 392.0)</i>  <i>(Note for X-Plane: in reduced visibility conditions en route, you may consider following Mackenzie River to the north. En route, you will fly over/near CYWY, Wrigely in XP, and CZFN, Tulita)</i>				309	253,0	
	<b>Approach:</b> To airport, runway, approach type and landing pattern at your option To runway. Turn left to 277deg for a visual approach as described in the notes..... Land: Norman Wells runway (09 or 27) Length: 5,980ft Width: 150ft Surface: Asphalt				277	3.7	
<b>Flight: 910-01-03</b>	<b>Arrival Airport Elev. – 241ft</b>			<b>Estimated totals for this flight&gt;&gt;&gt;</b>		<b>259nm</b>	

**Leg 3**

**Note :**

*This Leg 3 version applies if FS NDB, Fort Simpson, is not available in your XP scenery (depending on AIRAC cycle)  
Use 910-01-03 CYFS-CYVQ via YFS.fms*

See the notes on page 2 for details of the approach.

From – To	Flight Description. "Allocated runways and related information may change when flying online or using Real Weather"				Course (Leg) Deg	Distance (Leg) nm	ETE (leg) HH+MM
	Dep. Rwy – 31	Init. Hdg – 305deg	Init. Alt – 8,500ft	Apt Elev. – 555ft			
Fort Simpson (CYFS) Canada  To  Norman Wells (CYVQ) Canada	<b>Departure:</b> Departure runway at your option, depending on weather. To YFS VOR, 117.90. After take off, direct to VOR.....				276	2	
	<b>Enroute:</b> Reaching YFS VOR, turn right and intercept the 309deg radial OB from YFS VOR/DME. To VQ NDB, 326.0. Commence descent to 2,000ft ASL at ETE - 21min. Direct to NDB. When runway and PAPI lights on sight (slightly at your left), start slowing down to approach speed.  <i>(Note for FSX/ P3D / MSFS: in reduced visibility conditions en route, you may consider using also WY NDB, 222.0, and ZFN NDB, 392.0)</i>  <i>(Note for X-Plane: in reduced visibility conditions en route, you may consider following Mackenzie River to the north. En route, you will fly over/near CYWY, Wrigely in XP, and CZFN, Tulita)</i>				309	253,0	
	<b>Approach:</b> To airport, runway, approach type and landing pattern at your option To runway. Turn left to 277deg for a visual approach as described in the notes..... Land: Norman Wells runway (09 or 27) Length: 5,980ft Width: 150ft Surface: Asphalt				277	3.7	
<b>Flight: 910-01-03</b>	<b>Arrival Airport Elev. – 241ft</b>			<b>Estimated totals for this flight&gt;&gt;&gt;</b>		<b>259nm</b>	