

## BRIEFING FOR NOTAM ORIGINATORS

Persons responsible for the origination of NOTAM in Canada must familiarize themselves with how to accurately determine the affected area for any NOTAM for which they are the originator. The lower and upper limits, geographical coordinates, and radius of influence must be determined to ensure that the relevant NOTAM are included in briefings.

The purpose of this briefing is to advise and instruct persons responsible for originating NOTAM so that they understand:

- the **expectations for NOTAM Originators when submitting an airspace NOTAM**, and
- **how to accurately determine the affected area** for the NOTAM

The following topics summarize the contents of this briefing:

- [Overview of the Q-Line Elements Related to the Affected Area](#)
- [Expectations for NOTAM Originators](#)
- [Determine the Lower and Upper Limits \(Q-Line\)](#)
  - [When the vertical limits are provided in flight level](#)
  - [When the vertical limits are provided in feet above mean sea level \(AMSL FT\)](#)
  - [When the vertical limits are provided in feet above ground \(AGL FT\)](#)
- [Determine the Coordinates and Radius of Influence \(Q-Line\)](#)



For detailed information on lower and upper limits, refer to section 4.4.9 in the [Canadian NOTAM Operating Procedures](#).

For detailed information about Q-Line coordinates and radius of influence, refer to sections 4.4.10 to 4.4.12 in the [Canadian NOTAM Operating Procedures](#).

## Overview of the Q-Line Elements Related to the Affected Area

The ICAO NOTAM format includes a coded line (Q-Line) that contains 9 fields of information to support the filtering and parsing of ICAO NOTAM for briefings.

In the Q-Line, the upper and lower limits are expressed in flight levels, the coordinates are expressed in whole degrees and minutes of latitude and longitude, and the radius of influence is expressed in whole nautical miles.

Figure 1 - Q-Line example shows that the Q-Line is divided into nine fields; each separated by a stroke character (“/”). The Q-Line contains the necessary qualifiers to facilitate ICAO NOTAM retrieval.

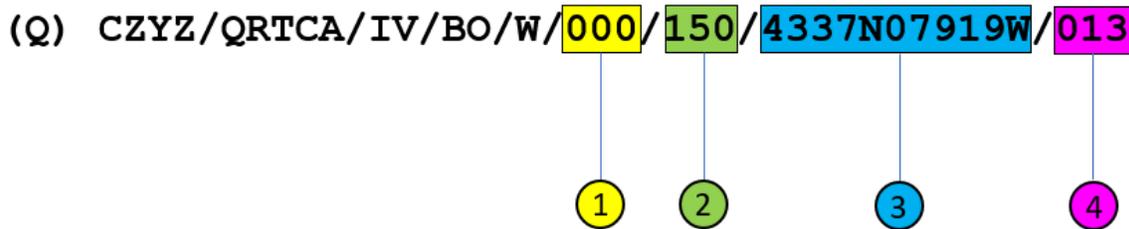


Figure 1 Q-Line example

The following fields pertain to the affected area of an ICAO NOTAM:

#	Q-Line Element
1	Lower limit
2	Upper limit
3	Coordinates (Latitude and longitude)
4	Radius of influence

For more information about the ICAO NOTAM format, please refer to the [Briefing on the Transition to ICAO NOTAM Format and new NOTAM Series](#).

## Expectations for NOTAM Originators

For airspace and navigation warning NOTAMs, the value for fields 1-4 in the Q-Line (see **Figure 1** Q-Line example) must be determined by the originator of the ICAO NOTAM (the authoritative source).



**CAUTION:** Using default values, or values that are either too large or too small, can be detrimental to operations because either more or fewer ICAO NOTAM than necessary will be included in briefings, which must be reviewed by flight personnel. Additionally, this practice may cause organizations to establish workarounds (such as re-calculating or validating the content of the ICAO NOTAM), which will unnecessarily increase workload demands.

If there is evidence that the values for fields 1 through 4 in the Q-Line have been incorrectly provided, or not provided at all, the NOF will be required to recalculate these values, which **will result in processing delays**.



Q-Line values for some airspace NOTAM are pre-calculated by the NOTAM Office. This includes all Class F airspace published in the *Designated Airspace Handbook* for which NOTAM can be issued. Unless the values for the published dimensions and vertical limits change, the values for fields 1 through 4 in the Q-Line are not required from the originator of the NOTAM.

## Determine the Lower and Upper Limits (Q-Line)

The following examples demonstrate how to determine the lower and upper limits when the vertical limits are:

- [provided in flight levels](#)
- [provided in feet above mean sea level \(AMSL FT\)](#)
- [provided in feet above ground \(AGL FT\)](#)



The value specified for the lower limit must be rounded down to the nearest 100FT increment, and the value specified for the upper limit must be rounded up to the nearest 100FT increment.

For detailed information on lower and upper limits, refer to section 4.4.9 in the [Canadian NOTAM Operating Procedures](#).

### When the vertical limits are provided in flight levels

If the vertical limits for an ICAO NOTAM are already defined in flight levels (FL), no additional information is required.

**Example 1:** The following example uses the lower (180) and upper (300) limit values provided with no other changes required.

Q) CZQM/QRDCD/IV/BOW/**180/300**/4415N06352W013  
 A) CZQM B) YMMDDHHMM C) YMMDDHHMM  
 E) DANGER AREA CYDXXX FICTITIOUS ACTIVATED  
 F) **FL180** G) **FL300**

### When the vertical limits are provided in feet above mean sea level (FT AMSL)

If the vertical limits of a NOTAM are provided in feet above mean sea level (AMSL), no additional information is required. These values will be converted to flight levels (FL) for the Q-Line.

**Example 2:** The following example uses the lower limit 040 (FL) for 4000FT AMSL and uses the upper limit 125 (FL) for 12500FT AMSL. These values indicate the vertical limits of the affected area for the NOTAM as 4000FT AMSL to 12500FT AMSL.

Q) CZQM/QRDCD/IV/BOW/**040/125**/4415N06352W013  
 A) CZQM B) YMMDDHHMM C) YMMDDHHMM  
 E) DANGER AREA CYDXXX FICTITIOUS ACTIVATED  
 F) **4000FT AMSL** G) **12500FT AMSL**

## When the vertical limits are provided in feet above ground (FT AGL)

If the vertical limits of the new NOTAM are provided in feet above ground (AGL), the values must first be converted to feet above mean sea level (AMSL) based on the highest elevation within the area described in the NOTAM, and then converted to flight levels for the Q-Line.

**Example 3:** The following example uses the highest elevation within 4NM of 4943N 07440W, which is approximately 1280FT AMSL. The upper limit in FT AGL is added to the highest elevation. The resulting value is rounded up to the nearest 100FT increment. As a result, the upper limit for the Q-Line will be expressed as 021 (2100FT AMSL). Remember that although higher than necessary values are not desirable, the values of the Q-Line are not very accurate. **The objective is to ensure that a particular NOTAM is considered for a particular flight plan/path.**

- Q) CZUL/QWHLW/IV/M/W/000/021/4943N07440W004
- A) CZUL B) YYMMDDHHMM C) YYMMDDHHMM
- E) BLASTING ACT WILL TAKE PLACE 3NM RADIUS CENTRED ON  
494239N 0744019W (...)
- F) SFC G) 800FT AGL

## Determine the Coordinates and Radius of Influence (Q-Line)



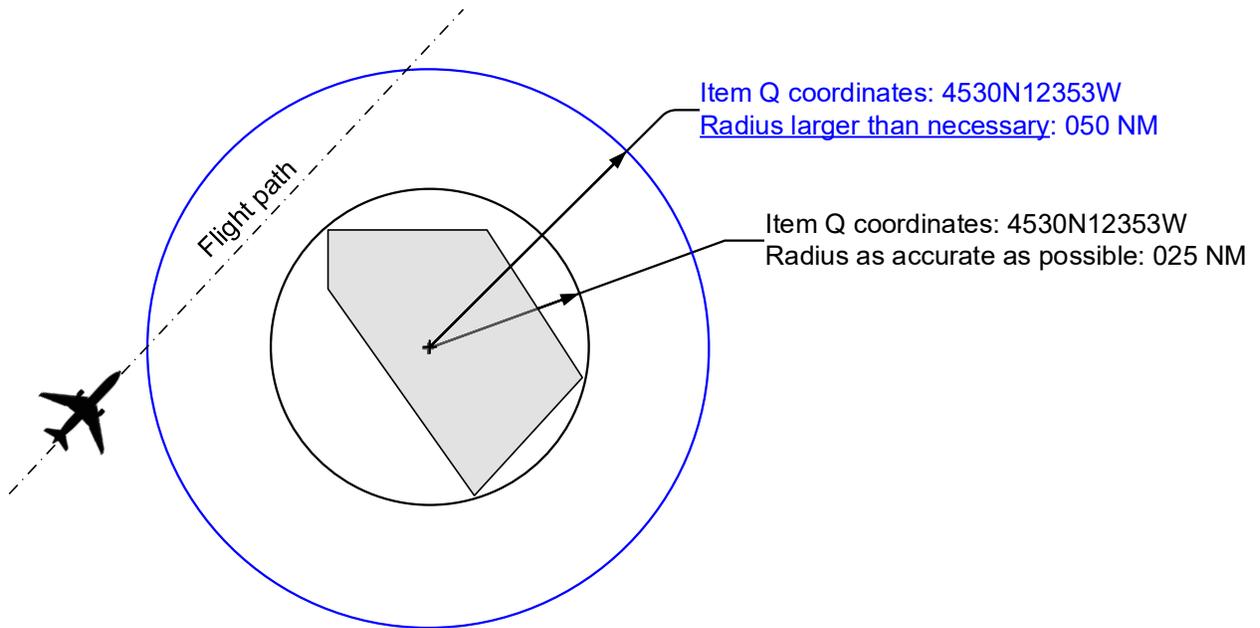
For detailed information about Q-Line coordinates and radius of influence, refer to sections 4.4.10 to 4.4.12 in the [Canadian NOTAM Operating Procedures](#).



**CAUTION:** Because the coordinates of the Q-Line do not include seconds of degrees, some adjustments might need to be made to the Q-Line coordinates and the radius of influence to ensure that the area described in the body of the NOTAM is fully encompassed without increasing or decreasing the radius more than necessary.

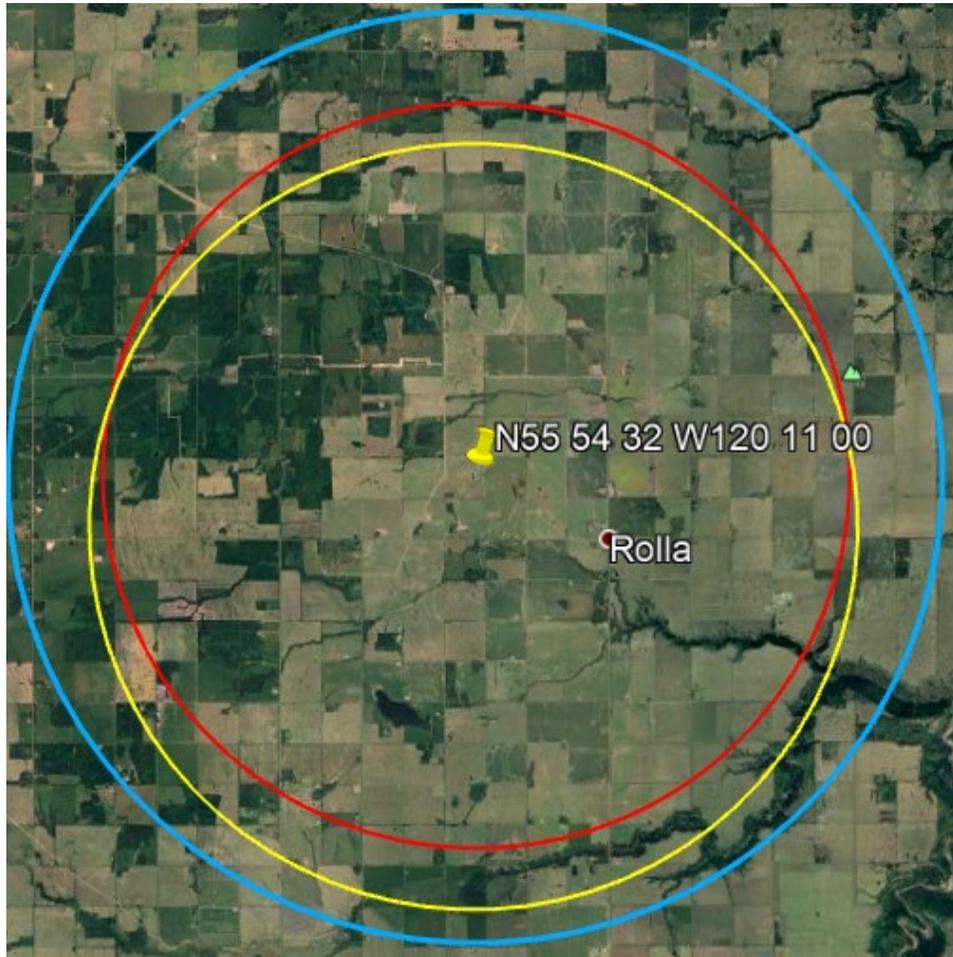
The objective is to ensure that **only NOTAM that are of interest to a particular flight path are considered in the briefing.**

**Figure 2** - Larger than necessary radius of the Q-Line shows how a NOTAM radius that is larger than necessary will affect the NOTAMs presented to pilots.



*Figure 2 Larger than necessary radius of the Q-Line*

**Example 4:** A parachute activity will take place within a 4NM radius of 55° 54' 32" N 120° 10' 59" W exactly. **Figure 3** identifies this area with a red circle. The coordinates and radius of influence in the Q-Line would be 5554N12011W004 and it is identified by the yellow circle. To ensure that the area within the red circle is fully encompassed in the Q-Line data, add 1NM to small areas (illustrated by the blue circle in the diagram below). For larger areas, an adjustment to the values for the coordinates and the radius of influence may be required.



*Figure 3 – Example 4*

**Example 5:** The NOTAM below has been created based on airspace coordinates located in the body of the NOTAM.

- Q) CZWG/QRMCA/IV/NBO/W/000/085/**5018N10443W003**  
A) CZWG B) YYMMDDHHMM C) YYMMDDHHMM  
E) MIL ACT WITHIN AREA BOUNDED BY 502000N 1044500W -  
502000N 1044000W – 501700N 1044000W – 501700N 1044500W -  
502000N 1044500W - 502000N 1044000W (...)  
F) SFC G) 8500FT AMSL

By drawing a circle around the shape described in the NOTAM above, the result is a radius of influence of 2.25NM centred on 50° 18' 28" N 104° 42' 33" W (yellow circle).

For the Q-Line, the coordinates needed to be adjusted to 5019N10443W (or 5018N10443W), and the radius of influence adjusted to 3NM (003) to fully encompass the area described in the NOTAM (blue circle).

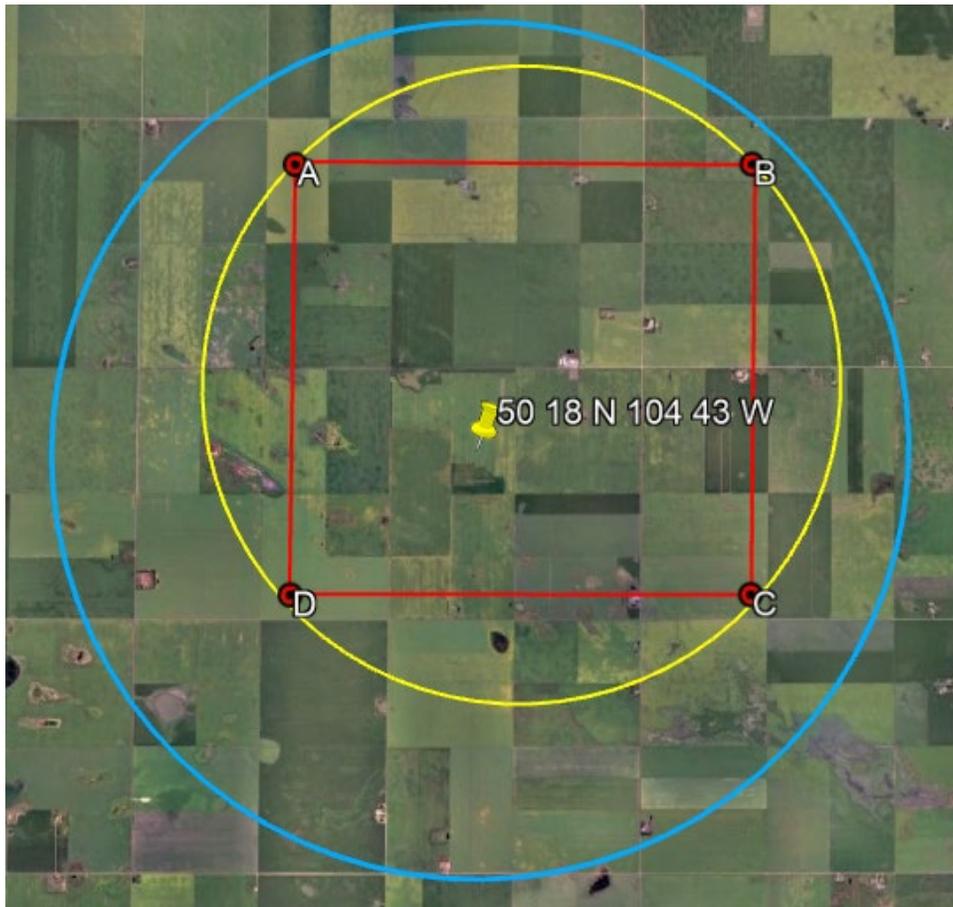


Figure 4 - Example 5

**Example 6:** The following example illustrates the required adjustments for the coordinates and radius of influence based on initial coordinates for a search and rescue effort.

- Q) CZWG/QWELW/IV/BO/W/000/085/**5123N10521W049**  
A) CZWG B) YYMMDDHHMM C) YYMMDDHHMM  
E) SEARCH AND RESCUE ACT WITHIN AREA BOUNDED BY  
511543N 1040948W – 505925N 1041359W – 510638N 1062526W –  
515629N 1061442W – 515509N 1054409W – 512330N 1054343W –  
511543N 1040948W (...)

For the Q-Line, the coordinates were adjusted to 5123N10521W, and the radius of influence was set to 49NM (049) to fully encompass the entire search area (pink shape) described in the NOTAM (yellow circle). This radius ensures that the area of influence extends far enough to include the affected search area.

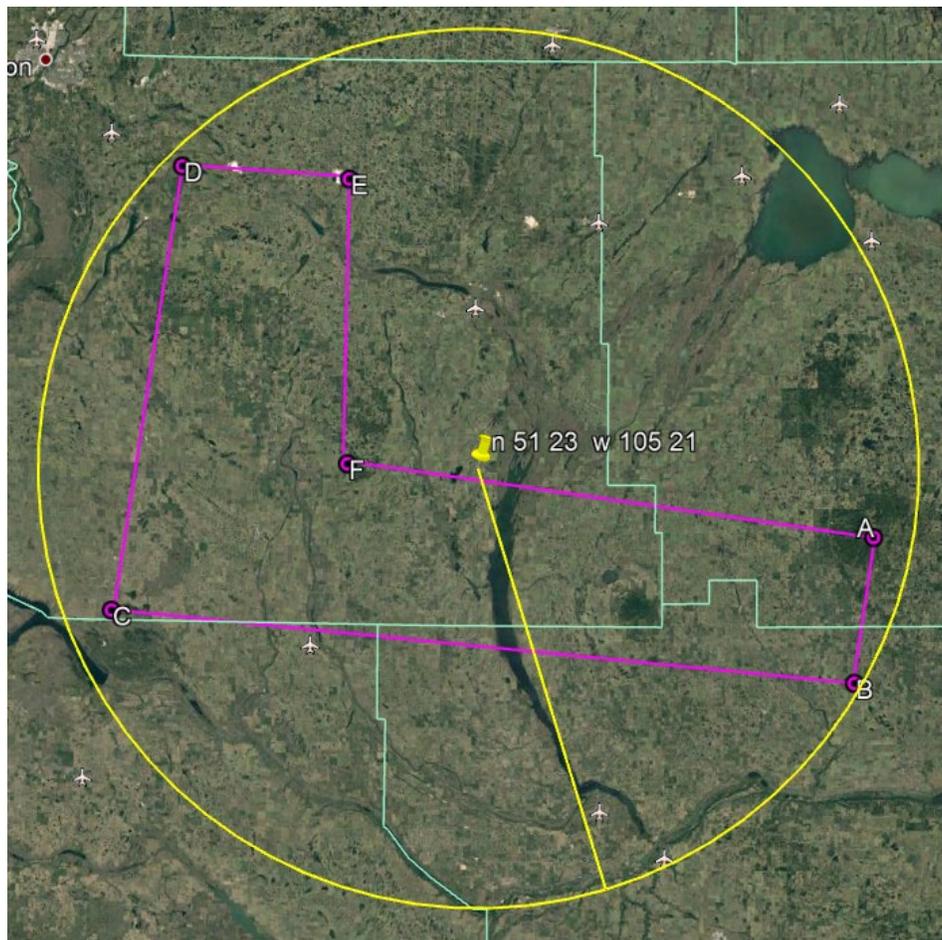


Figure 5 – Example 6

**Example 7:** This example illustrates the required adjustments for the coordinates and radius of influence based on coordinates provided for either side of a line.

- Q) CZWG/QRACA/IV/BOW/000/085/**5134N10535W028**
- A) CZWG B) YYMMDDHHMM C) YYMMDDHHMM
- E) SEARCH AND RESCUE ACT 3NM EITHER SIDE OF A LINE  
513808N 1061357W – 512815N 1053000W – 514007N 1045646W (...)

For the Q-Line, the radius of influence was set to 28NM (028) to fully encompass the entire search area (red lines) described in the NOTAM (yellow circle). This radius ensures that the area of influence extends far enough to include the affected search area.

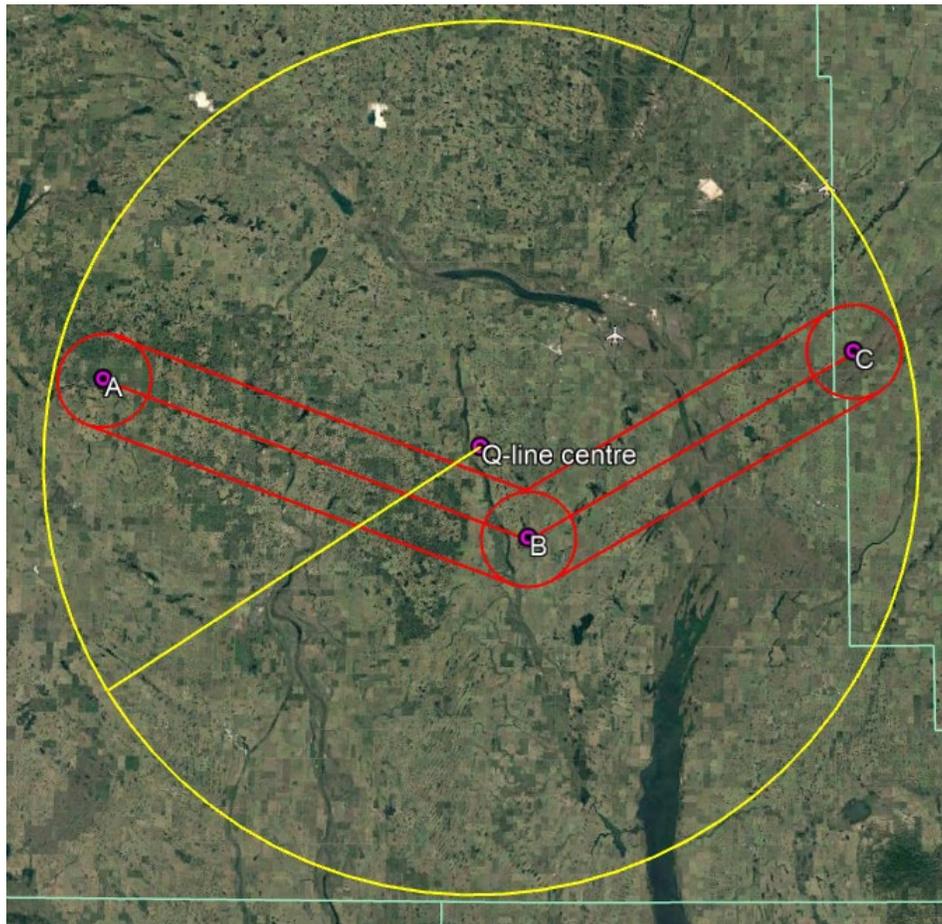


Figure 6 – Example 7



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