

# Satellite Self-Installation Manual

**Shaw)** Direct

# 1. Getting Started

This Shaw Direct Installation Manual provides all of the information required to setup your satellite system. The manual provides step-by-step instructions, however skills in construction, wiring and assembly will also be required to successfully complete the installation.

## Self-Installation Explained:

Self-Installation of your Shaw Direct system can be broken down into three (3) basic steps:

1. **Dish Assembly** consists of assembling the pieces provided to form a complete satellite dish.
2. **Dish Installation** involves location suitable mounting locations, finding the satellite in relation to your surroundings, and physically attaching the dish to your structure.
3. **Connecting the Receiver** consists of connecting your Shaw Direct satellite receiver to the dish, tuning to the correct channel, and fine-tuning the dish based on the satellite signal readings provided.

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**IMPORTANT:** *We do not recommend installing the satellite dish on your roof, unless absolutely necessary. If you choose to mount the dish on the roof, we strongly recommend consulting a building or construction expert before installation.*

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**IMPORTANT:** *Read this manual thoroughly before you start.*

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**WARNING:** *All satellite dish systems must be properly grounded. Improper grounding can result in damage, serious personal injury, and/or system performance issues. National, provincial and local electrical codes may require you to ground the dish directly and to insert a grounding block in the coaxial cables running from the dish to the receiver inside the building. Before beginning installation, carefully read the section on grounding the dish (see section 10).*

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This installation requires you to:

- Use hand tools such as a drill
- Determine whether water pipes, electrical wiring or gas lines are close to the installation area
- Route coaxial cable through walls and under floors
- Use a compass, protractor and carpenter's level
- Use a ladder to climb structures
- Know your local, provincial and national grounding codes

If you do not have the experience to perform these tasks, contact Shaw Direct for assistance.

You will need the following tools:

- Philips screwdriver
- 3/8" hex or flat-head screwdriver
- 7/16 hex wrench, open or combination end
- Electric drill and bits
- Carpenter's level
- Compass
- Protractor

If you are installing a 75 cm dish, you will also require:

- 2 - 13 mm wrenches (one to hold and one to tighten)

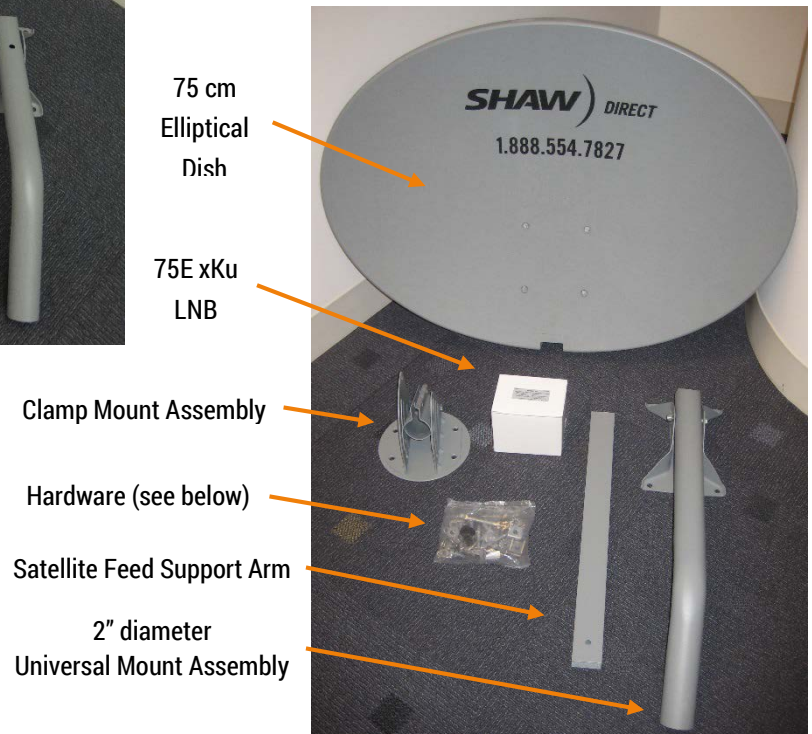
**NOTE:** You must use the mast that came with the dish, unless you are using a tripod.

## Dish Kit Contents

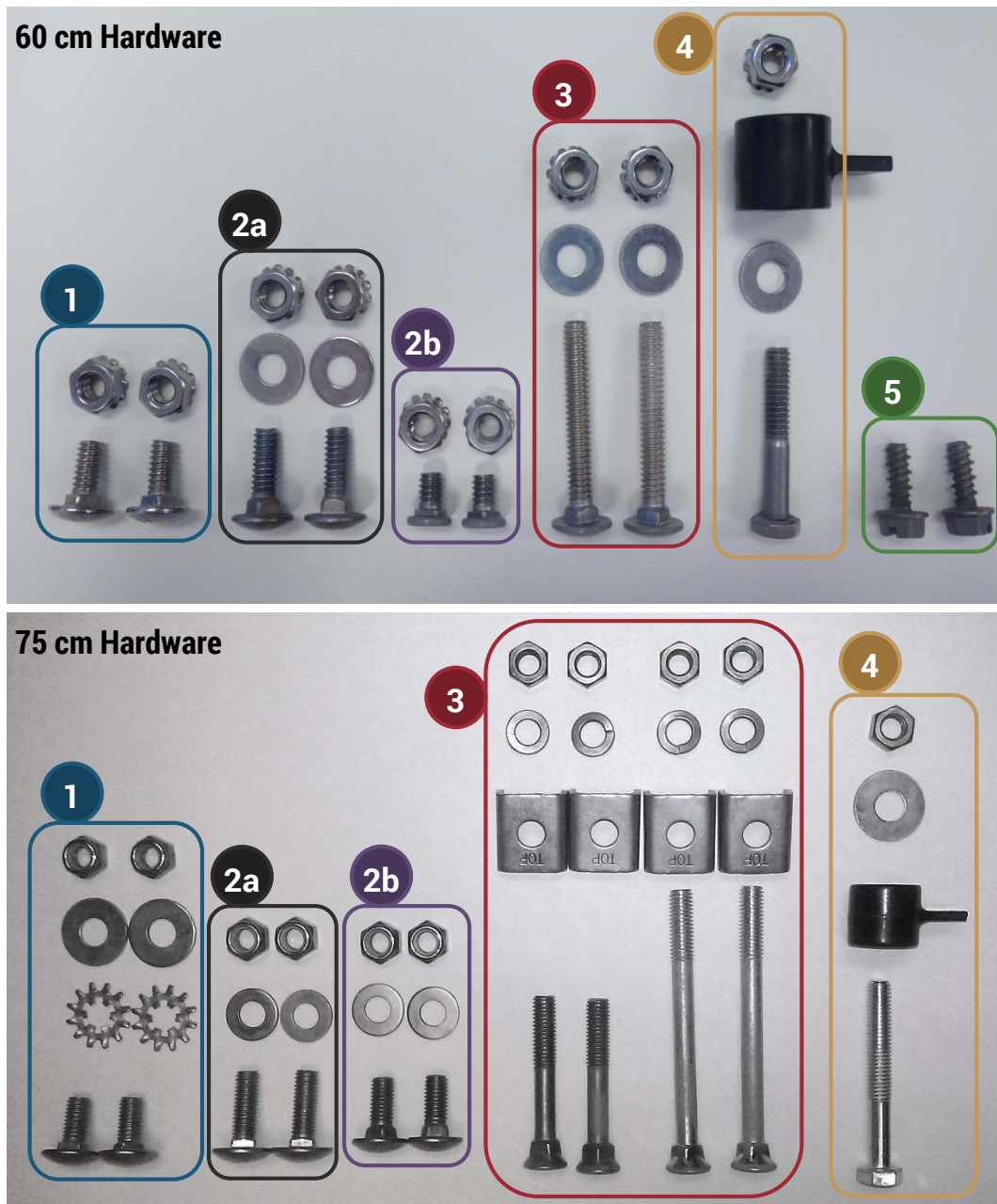
### 60 cm Dish Kit



### 75 cm Dish Kit



To facilitate assembly of the dish, arrange the hardware as follows. The number corresponds to the steps listed in Section 3.



### Missing pieces?

The Shaw Direct Self Install Kit contains many additional pieces to help you complete your installation, including:

- Screws to attach the Universal Mount to your structure
- Enough coaxial cable for two lines
- Dual grounding block and ground wire
- Dual coax wallplate
- Silicone to seal the cable entry holes and dish mount holes
- A compass to help locate the satellite
- Hardware to route and secure the coaxial cables, including zip ties and cable clips.

Give us a call at 1.888.554.7827 for more information or to purchase a Self Install Kit.

## Helpful Hints

Key points to remember when installing your Shaw Direct System:

- Do not drill any holes until you've confirmed the best location for the dish.
- Make sure the installation of the dish conforms to local electrical and building codes, zoning requirements and other applicable laws and regulations. If you are unsure, contact a local electrician or building inspector for assistance.
- For possible periodic removal of snow, choose a site that is easily accessible.
- Ensure there are no visible obstructions between the dish and your line of sight to the satellites. Keep in mind that trees will grow up and outward and may eventually block the signal.
- The maximum allowable length for the RG-6 coaxial cable connecting the receiver to your dish is 150 feet. Consult Shaw Direct if the cable will exceed this length.
- Use only RG-6 grade coaxial cable. Using lower grade RG-59 coaxial cable may result in excessive signal loss and poor reception. Cable grade type is indicated on the outer jacket of the cable.

Do not install the dish:

- Under power lines
- Where it may be easily tampered with
- Where it is exposed to high winds, during windy or stormy conditions

## 2. Mounting Locations

Your dish must be mounted on a solid base. To ensure your dish doesn't move in windy conditions, choose a location where it can be securely fastened. The mounting surface should be rigid and solid.

**IMPORTANT:** *The Elliptical Dish has a turn radius of +/- 35 degrees. If you are mounting the dish on the side of your house, check the assembled dish and mounting pole to see if you can rotate the dish in the desired azimuth setting.*

*If you can't rotate the dish, choose an alternate location.*

Key things to remember when choosing a mounting location:

- The mounting surface should be flat, even and in good condition.
- If you install the dish on the roof or side of your house, be sure to attach the bolts into a building stud, rafter or other solid surface.
- When mounting on the roof of your house, use an adequate/approved sealant (for your type of roofing material) around the holes where the base of the universal mount meets the mounting surface. This will prevent the roof from leaking. Consult with a roofing expert to confirm best sealant.

We do not recommend:

- Mounting the dish on a railing or fence
- Installing the dish on aluminum or vinyl siding (these are unlikely to be structurally sound)
- Mounting the dish on the roof unless absolutely necessary.

Keep grounding requirements in mind (see section 10 for additional information on grounding).

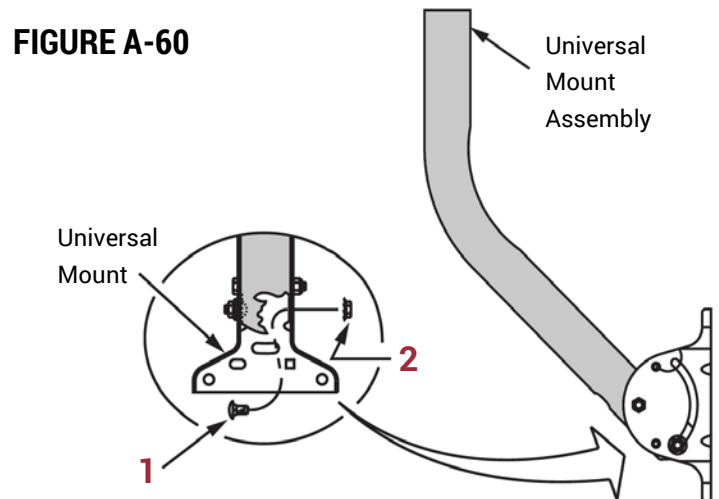
### 3. Dish Assembly

#### 60cm Dish

##### 1 Step 1 – Assemble Universal Mount Assembly

**NOTE:** This step is not required if you will be installing your dish on a tripod.

Insert the ½" Carriage Head bolt (1) as shown in FIGURE A-60, and secure it with a lock nut (2). Repeat for the opposite side. Tighten just enough to hold in place.



##### Step 2 – Assemble Clamp Mount Assembly (FIGURE B-60)

2a

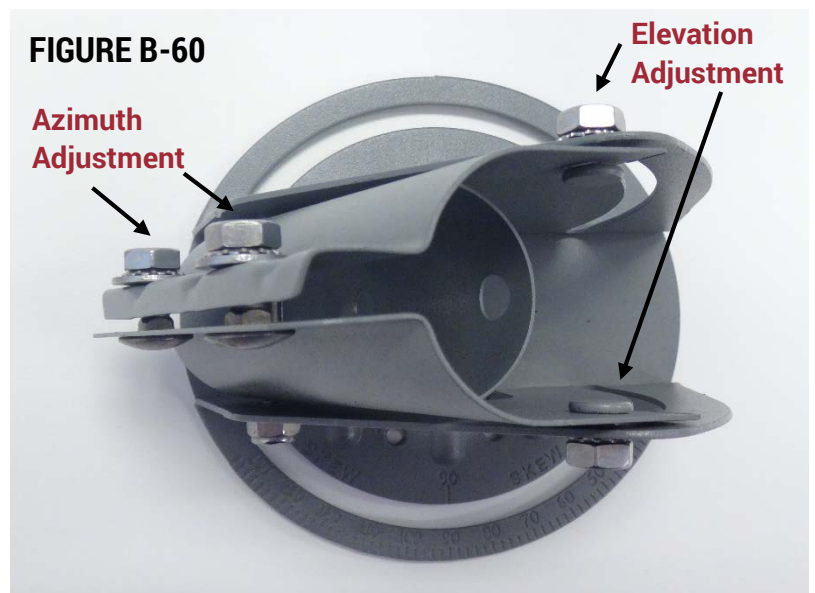
###### a. Azimuth Adjustment

Insert the two ¾" Carriage Head bolts in the top of the Clamp Mount Assembly. Insert a washer and lock nut on each bolt. Tighten just enough to hold in place.

2b

###### b. Elevation Adjustment

Insert the 3/8" Carriage Head bolts in the elevation adjustment area. Insert a lock nut on each bolt. Tighten just enough to hold in place.





3

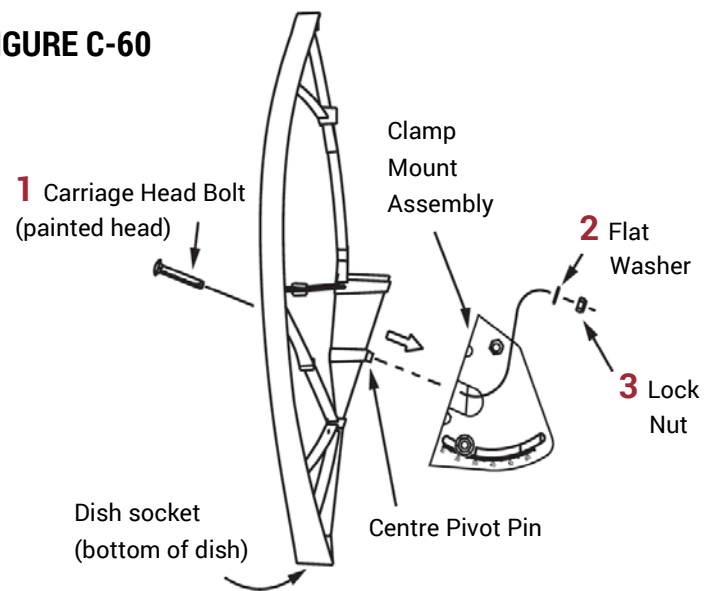
### Step 3 – Attach the Clamp Mount Assembly to the 60 cm Elliptical Dish (FIGURE C-60)

Place the completed Clamp Mount Assembly on the back of the 60cm Elliptical dish. When looking at the back of the dish, the marked skew adjustment scale should be on the left.

Insert the two longest (painted head) carriage head bolts (1) through the two holes on the front of the dish.

Secure each bolt with a flat washer (2) and a lock nut (3). Tighten just enough to hold in place – these will be used for **Skew Adjustment**.

FIGURE C-60



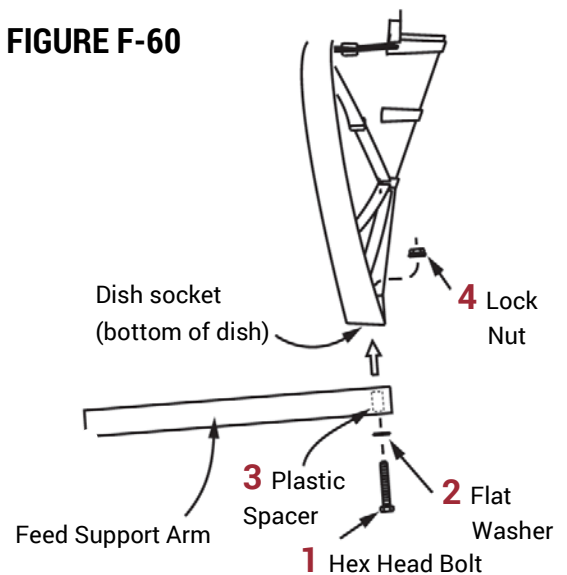
4

### Step 4 – Attach the Satellite Feed Support Arm to the 60 cm Elliptical Dish

Attach the Satellite Feed Support Arm to the 60 cm Elliptical Dish using the remaining hex head bolt (1), flat washer (2), plastic spacer (3), and lock nut (4), as shown in FIGURE F-60. Ensure the slot at the opposite end is on the **underside** of the feed support arm. Tighten fully.

Do not attach the LNB to the Satellite Feed Support Arm just yet. This will be done later.

FIGURE F-60



5

### Step 5 – Secure the clamp mount assembly to the 60 cm Elliptical Dish

You will use the two remaining hex head Hi/Lo screws in **Step 9** on page 11. Do not insert them yet.

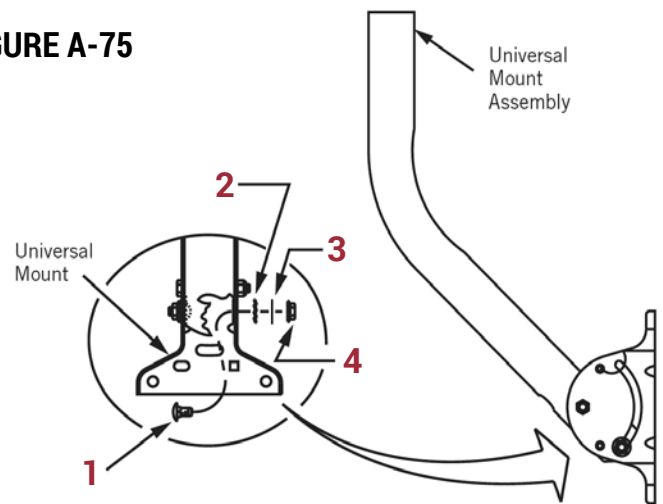
## 75cm Dish

### 1 Step 1 – Assemble Universal Mount Assembly

**NOTE:** This step is not required if you will be installing your dish on a tripod.

Insert the smallest Carriage Head bolt (1) as shown in FIGURE A-75, followed by the star washer (2), regular flat washer (3), and lock nut (4). Repeat for the opposite side. Tighten just enough to hold in place.

FIGURE A-75



### Step 2 – Assemble Clamp Mount Assembly (FIGURE B-75)

2a

#### c. Azimuth Adjustment

Insert the two largest Carriage Head bolts in the top of the Clamp Mount Assembly. Insert a washer and lock nut on each bolt. Tighten just enough to hold in place.

2b

#### d. Elevation Adjustment

Insert the remaining Carriage Head bolts in the elevation adjustment area. Insert a washer and lock nut on each bolt. Tighten just enough to hold in place.

FIGURE B-75

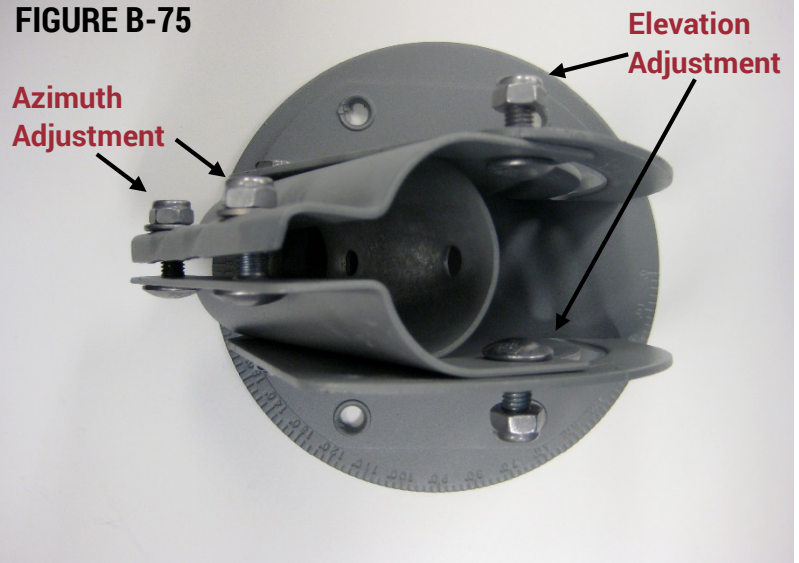
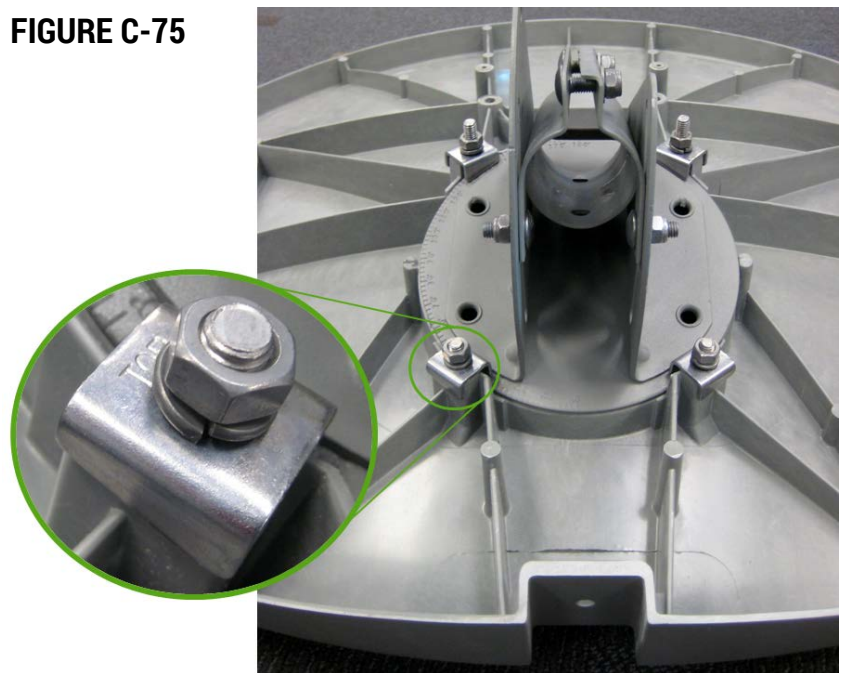


FIGURE C-75

3

### Step 3 – Attach the Clamp Mount Assembly to the 75 cm Elliptical Dish (FIGURE C-75)

Place the completed Clamp Mount Assembly on the back of the 75cm Elliptical dish. Insert the two longer Plow Bolts through the top holes on the front of the dish. Insert the two shorter Plow Bolts through the lower holes on the front of the dish.





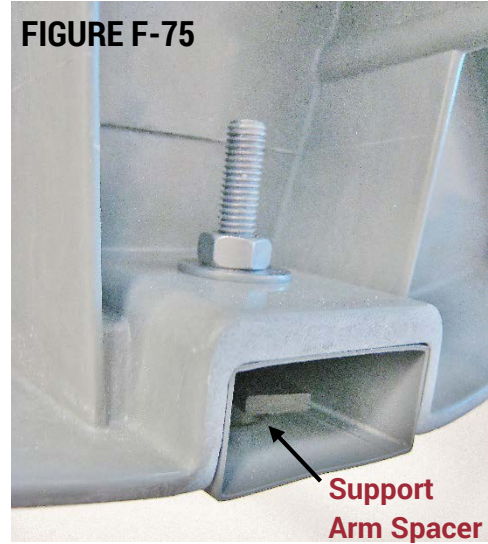
Secure each bolt with a skew lock clip, lock washer, and hex nut. Tighten just enough to hold in place – these will be used for **Skew Adjustment**.

**4**

**Step 4 – Attach the Satellite Feed Support Arm to the 75 cm Elliptical Dish**

Attach the Satellite Feed Support Arm to the 75 cm Elliptical Dish using the remaining bolt, plastic spacer, flat washer, and hex nut, as shown in FIGURE F-75. Ensure the slot at the opposite end is on the **underside** of the feed support arm. Tighten fully.

Do not attach the LNB to the Satellite Feed Support Arm just yet. This will be done later.



**4. Locating the Satellites**

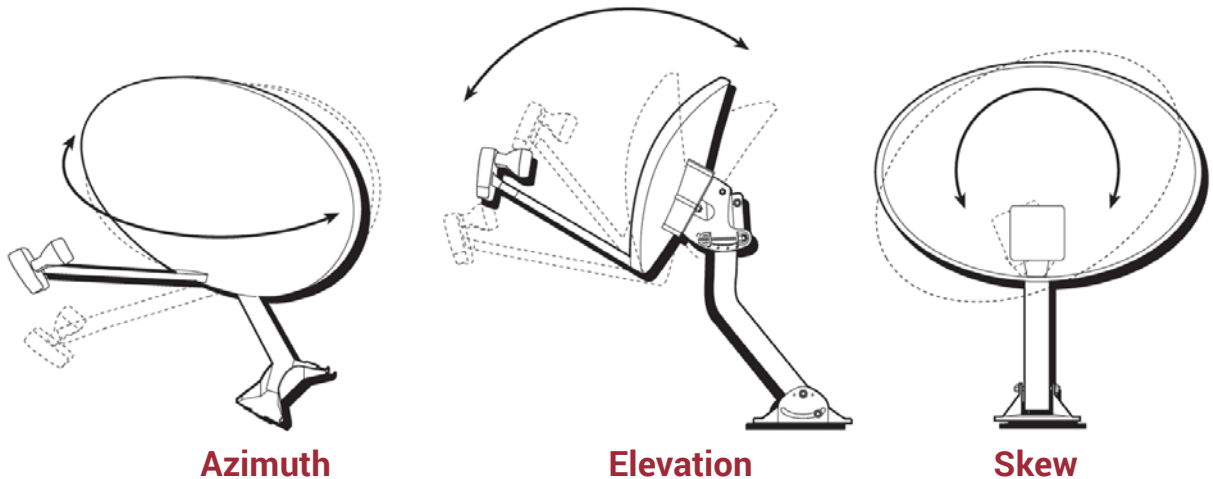
**Step 1:** Determine the direction in which to point the dish. The first two satellites (SAT A) are located at 107.3 west longitude; the other satellite (SAT B) is located at 111.1 west longitude. Your xKu LNB and elliptical dish will be aimed to receive signal from all three satellites.

**IMPORTANT:** Always use the **SAT B** Azimuth, Elevation and Skew listings in the Satellite Locator Chart at the back of this manual for the city nearest your location. This will ensure alignment to all three satellites.

Write them here:

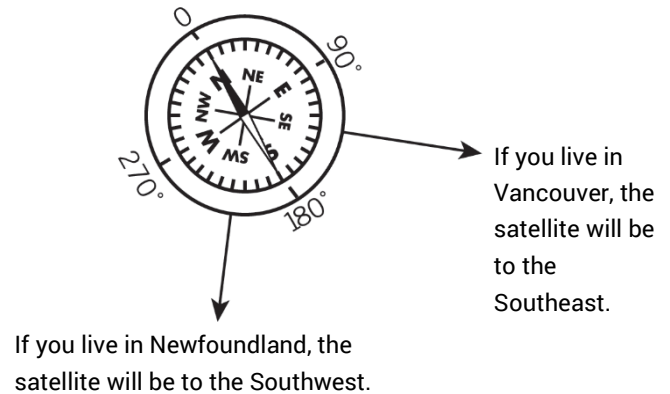
| Azimuth      | Elevation    | Skew         |
|--------------|--------------|--------------|
| SAT A: _____ | SAT A: _____ | SAT A: _____ |
| SAT B: _____ | SAT B: _____ | SAT B: _____ |

You will adjust the dish as follows to set the azimuth, elevation, and skew:



**Step 2:** At the dish install site, hold a compass level and still in the palm of your hand. When the needle stops rotating (dark half of the needle always points north), slowly rotate the body of the compass so that the “N” marking is aligned with the dark half of the needle. Locate the tick mark on the compass edge corresponding to the SAT B azimuth number you wrote down earlier (see Figure G). This is the direction in which to point your dish to receive both SAT A and SAT B signals.

**FIGURE G**

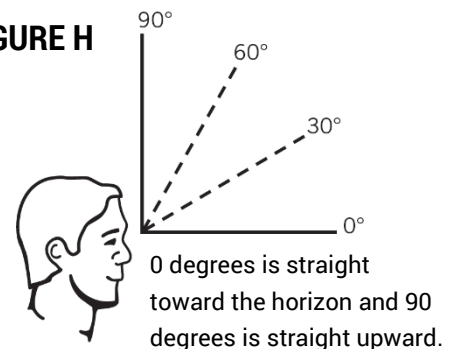


**TIP:** Use a stick or other object to mark the correct azimuth direction.

**NOTE:** To ensure an accurate compass reading, stay away from large metal objects. To double-check accuracy, take multiple readings several feet apart.

**Step 3:** Estimate the SAT B elevation (angle) setting you recorded earlier, using a protractor if needed (see Figure H). Check any obstructions at that elevation. If there are obstructions, then select an alternate location for the dish.

**FIGURE H**



**IMPORTANT:** When evaluating the install location, make sure there are no trees, branches or objects visually obstructing the dish and the general direction of the satellite. Also, keep in mind that trees grow up and outward and may eventually block the signal.

You have just completed locating a site for your dish.

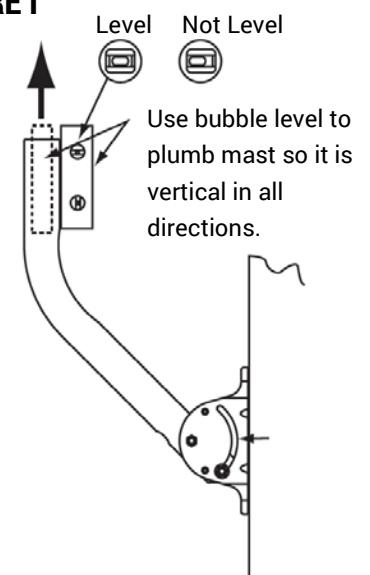
## 5. Attaching the Dish

**Step 1:** Ensure mast is plumb before drilling any holes. Hold the Universal Mount in place on the mounting area. Use a carpenter’s level to plumb the antenna mast’s straight section. If the bubble levels (horizontal and vertical) are not centered, rotate the mast (in the curved slot) until it is plumb. Lock it in place by securely tightening the Mast Adjusting Bolts (see Figure I).

**IMPORTANT:** Alignment of the dish will be difficult if the mast is not plumb.

**Step 2:** Drill holes in the structure on which you are mounting the dish to match the holes in the base of the Universal Mount.

**FIGURE I**

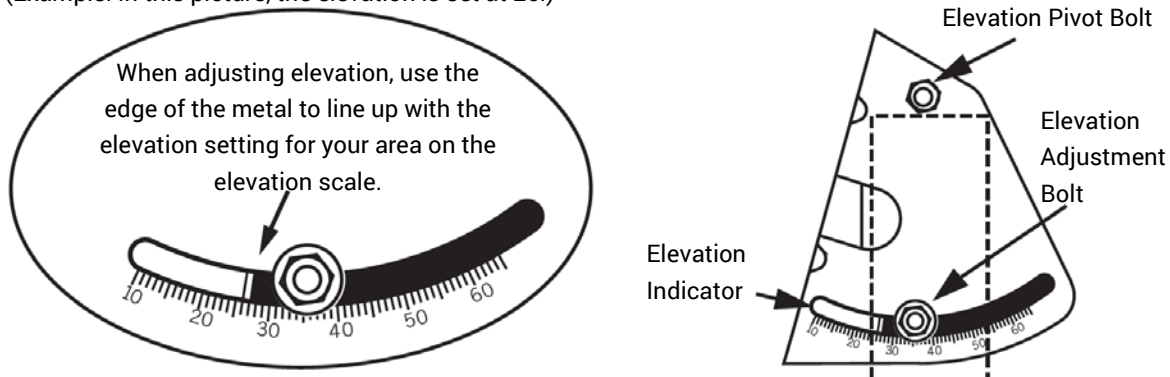


**Step 3:** Secure the Universal Mount with appropriate surface screws. Check the mount for movement. An improperly secured mount will affect signal reception.

**Step 4:** Slide the Dish/Clamp Mount Assembly onto the mast by loosening the (2) Azimuth Clamp Bolts (see Figure B) and the Elevation Pivot Bolt just enough to slide the assembly until it makes contact with the Elevation Pivot Bolt (see Figure J). Tighten the Elevation Pivot Bolt just enough to hold it in place on the mast.

### FIGURE J

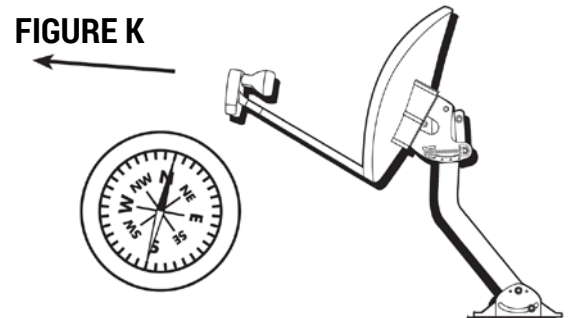
**Use the metal edge, not the nut, to set elevation.**  
(Example: In this picture, the elevation is set at 26.)



**Step 5:** Loosen the Elevation Adjustment Bolt 1/3 turn from tight on either side of the Clamp Mount Assembly. Adjust the Clamp Mount Assembly to the edge of the white indicator line per the SAT B elevation setting you recorded earlier. Tighten the Elevation Adjustment Bolts (see Figure J).

**Step 6:** Attach the xKu LNB/Feedhorn Clamp Assembly to the Feed Support Arm. Loosen the Feed Arm screw enough to allow the clamp to fit snugly into the Feed Support Arm. Securely tighten the Feed Arm screw.

**Step 7:** Using your compass, point the LNB in the direction corresponding to the SAT B azimuth setting (see Figure K). Draw a vertical mark overlapping the Clamp Mount Assembly and the mast. This mark will provide you with the approximate satellite location reference point when you are ready to tune to the satellite.

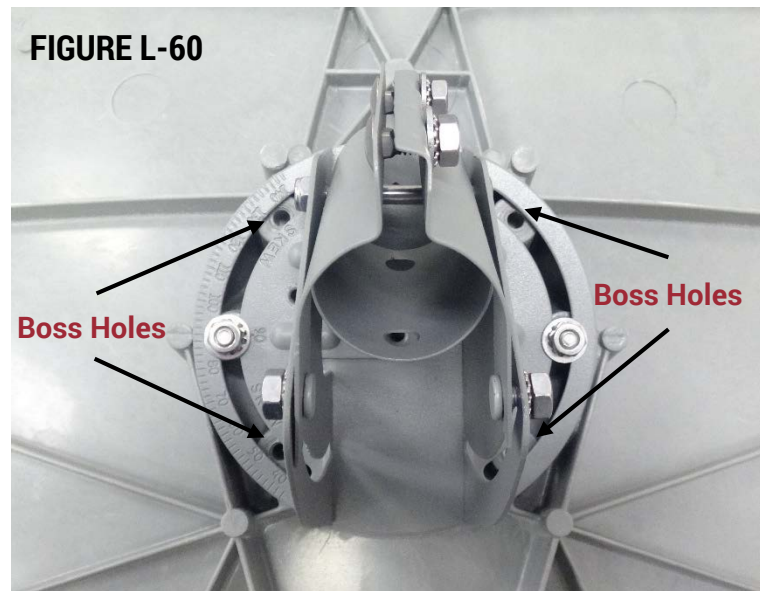


**Step 8:** Loosen the Skew Adjustment Bolts on either side of the Clamp Mount Assembly. Adjust the Skew Alignment Mark with the scale indicator to the SAT B skew setting you recorded earlier. Finally, lock it in place by securely tightening the Skew Adjustment Bolts.

**IMPORTANT:** Do not make any further adjustments to the Skew Setting from this point onward.

**Step 9:** If you are installing a 60 cm dish, install the two remaining Hi/Lo hex head screws in the dish boss holes, shown in Figure L-60. Four boss holes are available but you'll only need to use two (the other two may be obstructed depending on the skew setting). Do not over tighten the hex head screws.

You have just finished attaching the Dish to the Universal Mount.



## 6. Connecting the Receiver and Dish

You are now at the point in the installation where one of the output ports of the xKu LNB needs to be connected to the Shaw Direct satellite receiver. Connect the receiver to a TV to see a relative scaled signal level meter that will assist you in obtaining maximum signal strength. If you are unsure of how to connect the TV to the receiver, refer to the User Guide that came with your receiver.

**NOTE:** The following instructions apply to the HDDSR 600, HDDSR 605, and/or HDPVR 630 receiver. If you have a different model satellite receiver, instructions may vary.

**Step 1:** Connect the RG-6 coaxial cable provided with the install kit to one of the ports of the xKu LNB. Connect the other end of the coaxial cable to the satellite receiver input connector (If you are using an HDPVR 630, you must connect two coaxial cables). To make the dish alignment easier, we suggest you temporarily locate the receiver and TV at an electrical outlet close to where the dish is installed. Unless you can view the signal level on the TV screen from where the dish is being aligned, you will require an assistant to monitor the signal level reading on the TV as you align the dish.

**Step 2:** Tune your satellite receiver to the correct channel to be able to receive signal:

- If your receiver has never been activated or has been provided as a warranty replacement, it will be on channel 299. Tune to channel 252.
- If your receiver has been previous activated, tune to channel 700.
- If you are using an HDPVR 630 which has never been activated or has been provided as a warranty replacement, tune to channel 250, and then 252.
- If you are using an HDPVR 630 which has been activated previously, tune to channel 711, and then 700.

**Step 3:** Access the Tune in Satellite Signal menu. To access this menu, press OPTIONS on the remote, followed by the numbers 4, 3, 1. Depending on which version of software is running on your receiver, the menu will look like the one in either figure M-1 or M-2

The Tune in satellite signal screen will display the current signal on a scale of 0 (no signal) to 99 (maximum signal). The objective is to maximize the signal, which will typically reach up to 98 under ideal conditions. It is not necessary to enter an "EMM Provider ID".

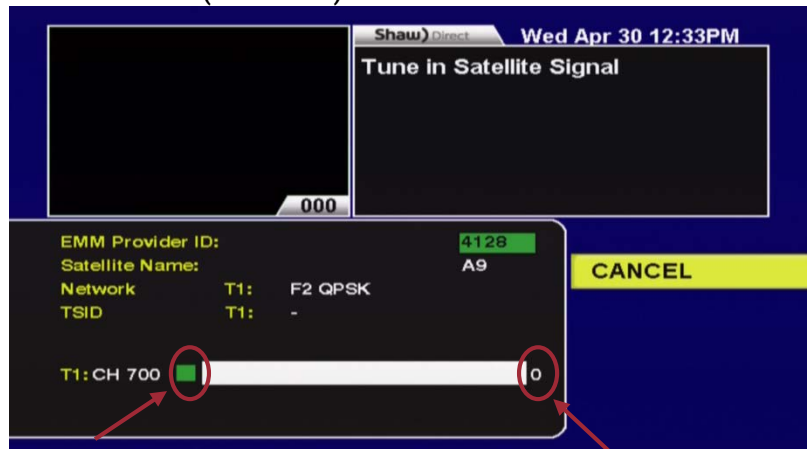
You will hear an audio beeping that will increase in speed as signal strength increases and will become a monotone once you have reached approximately 50% signal strength.

**IMPORTANT:** The audio tone is not available if your receiver is connected via HDMI.

Always press GO BACK on the remote to exit the Tune in Satellite Signal screen to prevent loss of audio when leaving this menu.

**Step 4:** Verify the connection between the satellite receiver and the LNB. The square next to the signal bar should be green. (For HDPVR 630, both squares should be green). If the square is red, ensure the RG6 coaxial cable is securely attached to the correct port on the back of the receiver, and one of the four ports on the LNB. The square must be green before proceeding.

**FIGURE M-1 (SD Guide)**



Signal Square

Signal Strength

**FIGURE M-2 (HD Guide)**



Signal Square

Signal Strength

## 7. Aligning the Dish to Acquire Shaw Direct Signal

With the receiver on and your assistant ready to monitor signal strength on the TV, you are now ready to make adjustments to the dish to acquire the Shaw Direct satellite signal. If you are using a satellite finder, please refer to the instructions in Section 9.

**Step 1:** Refer to the azimuth, elevation and skew settings for the location that you recorded on Page 8.



**Step 2:** Check that the dish skew is set to the skew setting listed for your area. The skew alignment mark is shown in Figure N.

**Step 3:** Check that the dish elevation is set to the elevation setting listed for your area.

**Step 4:** Draw a reference mark on the dish clamp and pipe mast as a starting point before you make any adjustments to the dish.

**Step 5:** Standing behind the dish, using both hands, grasp the dish on each side and move it so that it points all the way west. Then, slowly move the dish in very small increments to the east while your assistant observes the TV installation menu for increases in signal strength.

**Step 6:** As you start to get an indication of increasing signal, make a second reference mark on the dish clamp and pipe mast to serve as a point where signal strength increased.

**Step 7:** As you move the dish past the point of maximum signal strength, move the dish back in the opposite direction until you achieve maximum signal.

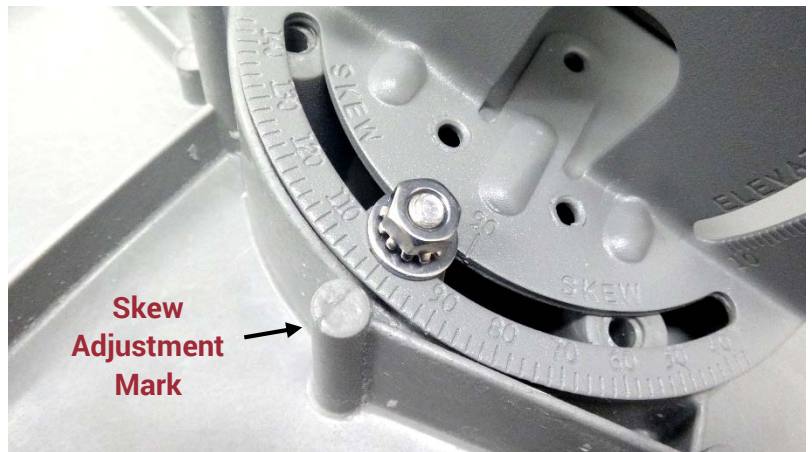
**Step 8:** Tighten the dish clamp screws.

**Step 9:** Now make small adjustments to the elevation of the dish to see if you can further improve on the signal strength. Loosen the Elevation Adjustment Bolts and make slight adjustments (1/2 degree increments) in the elevation, finding the maximum signal strength. When you've located the maximum signal strength possible, securely tighten all bolts.

**NOTE:** Do not be discouraged if you do not acquire signal on your first attempt. Be patient and try again. Recheck the pipe mast for true vertical 90 degrees. Once you acquire signal, you may need to make very small adjustments to the dish compass heading (azimuth), elevation and skew settings to maximize signal strength above 80.

**FIGURE N**

Use the skew adjustment mark, not the nut, to set skew.  
(Example: In this picture, the skew is set at 100.)



## Authorizing Receiver for Service

If your receiver installer menu displays signal strength above 80, you have successfully aligned the dish to the Shaw Direct satellite.

You are now ready to authorize your receiver for programming.

## 8. Activation and Fine Tuning

**Step 1:** Call Shaw Direct at 1.888.554.7827 to authorize your receiver for programming.

Shaw Direct will ensure the correct channel map is set for your receiver and verify the reception of each satellite. After your receiver has been activated, you can fine tune the dish to ensure maximum signal strength on all channels.

While speaking with the Shaw Direct representative, ask for a reference channel from each satellite to use when fine tuning the dish.

**Step 2:** Tune to the first reference channel provided and access the Tune in Satellite Signal menu as described in Section 6.

### Fine tuning the Azimuth:

**Step 3:** With your assistant monitoring the signal level, move the dish back and forth slightly (about a millimeter at a time) to attempt to acquire the highest reading possible on the signal strength meter.

**Step 4:** Once you have found the maximum signal strength, lock the azimuth rotation position in place by tightening the Azimuth Clamp Bolts (see Figure B).

***NOTE:** Fine tuning to the highest signal strength possible reduces signal interference in adverse weather conditions and ensures optimal reception from all satellites.*

### Fine tuning the Elevation:

**Step 5:** Loosen the Elevation Adjustment Bolts and make slight adjustments (1/2 degree increments) in the elevation, finding the maximum signal strength, as you did in the azimuth tuning process.

**Step 6:** Exit the Tune in Satellite Signal menu and tune to the second reference channel provided. Go back into the Tune in Satellite Signal menu and repeat steps 3-5 to maximize signal strength from the second satellite. (If your receiver is running the HD Guide, it is not necessary to exit the screen – you can change channels from within the Tune In Satellite Signal menu.)

**Step 7:** When you've located the highest signal possible on both channels, securely tighten all bolts.

YOU HAVE JUST COMPLETED FINE TUNING. Skip ahead to section 10.

## 9. Alternate Tuning Method

You may prefer to locate the satellites using a SF-100 Satellite Finder (see Figure O), a standalone satellite signal finding meter which can be purchased separately from Shaw Direct or your Shaw Direct retailer.

**Step 1:** Connect a short coaxial cable from the LNB terminal on the Satellite Finder to the xKu LNB. Connect the receiver terminal on the meter to a coaxial cable, which in turn connects to the SAT IN port on the Shaw Direct receiver.

**Step 2:** Tune to the channel advised in Section 6.

**NOTE:** For the satellite finder and LNB to function, they must be connected to a satellite receiver that is plugged in and turned on.

**Step 3:** Adjust the dish as closely as possible to the elevation and azimuth settings you recorded earlier.

**Step 4:** Move the dish azimuth rotation very slightly to the right of the reference mark you drew on page 8.

**Step 5:** Slowly rotate the dish back toward the reference mark and listen for pitch changes in the audible tone. If your elevation is set correctly, you should hear two major pitch changes as it picks up the satellite signals. A weak first change of pitch may be the wrong satellite. Continue rotating the dish until the second major deflection, which will be SAT A (107.3), your intended target.

**Step 6:** When you have located both signals, move the dish slightly to the right and left of the mark until you've maximized the signal. Then tighten the Azimuth Clamp Bolts. Verify you've located the correct satellite by confirming signal strength on the satellite receiver (see page 12).

**Step 7:** While listening to the meter, apply gentle pressure to the top of the dish to move the dish – first slightly downward, then upward to see if you can increase the signal strength further. Carefully adjust the elevation until you've maximized the signal. Tighten the Elevation Adjustment Bolts.

**Step 8:** Follow the steps described in Fine Tuning (Section 8) to obtain the highest reading possible on the signal strength meter.

**Step 9:** The dish should now be peaked to its maximum. Remove the Satellite Finder and plug the LNB directly into the receiver. Confirm the signal strength by checking the on-screen signal strength meter, as described in Section 6.

Your system is now fine tuned.

**FIGURE O**



## 10. Grounding the Coaxial Cable

The Shaw Direct Self Install kit includes the following items to ground the outdoor coaxial cable:

- Dual Coax Cable Grounding Block
- Grounding Wire

Outdoor coaxial cable that may be subject to static discharge or contact with electrical wiring must be grounded through a grounding block located as close as possible to the cable entry point (see Figure P).

**Step 1:** Attach the grounding block to the side of your home, close to the coaxial cable entry point. Connect the coaxial cable(s) running from the dish, and to the receiver(s).

**Step 2:** Attach the ground wire to the grounding block connector and tighten the screw.

**Step 3:** Attach the grounding wire from the grounding block connector to the central building ground or another approved grounding point. Acceptable grounding points *may* include a ground rod, metal electrical service panel, or copper cold water pipe within five feet of the entrance to the structure. Examples are shown in Figure Q.

**IMPORTANT:** Always refer to your regional electrical code and/or contact a licensed electrician if you are unsure about your local grounding requirements.

**IMPORTANT:** For more information on grounding, refer to the receiver's User Guide included with your Shaw Direct system.

FIGURE P

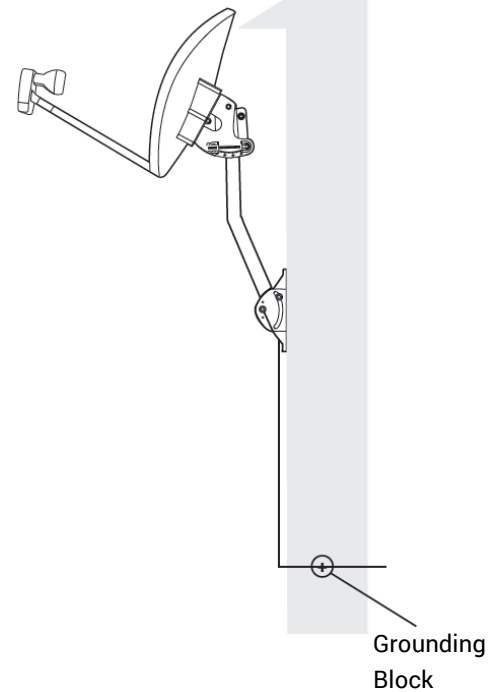
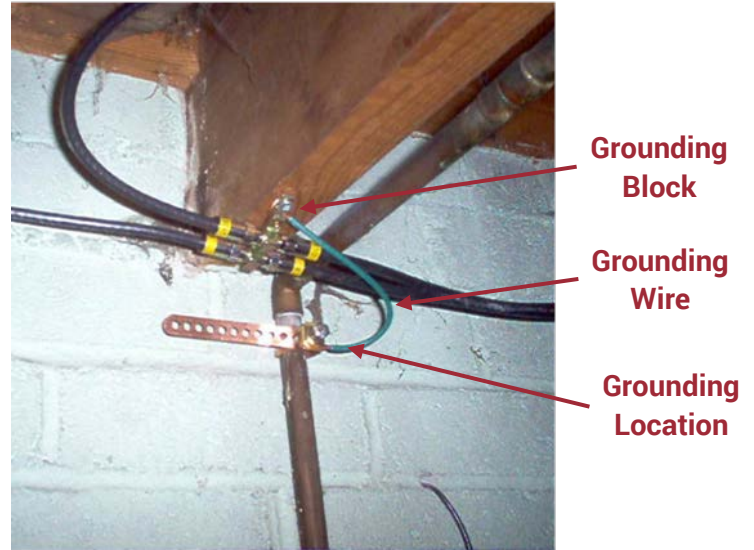


FIGURE Q



## 11. Troubleshooting

If you are having trouble finding the satellite signal, try each of the following:

- You must be tuned to a valid channel in order to align the dish. Review section 6 for the channels to use with the xKu LNB. If you do not have an xKu LNB, try aligning the dish on channel 299.

- The cable can be plugged into any of the four (4) available ports on the xKu LNB, but must be plugged into the SAT IN port on the Shaw Direct receiver. If you have an HDPVR 630, two (2) cables must be connected to the SAT 1 and SAT 2 ports.
- Make sure all cables are secure and re-verify your azimuth, elevation and skew setting for your location. The settings straight section must be plumb.
- Adjust the elevation by +1 degree from the settings you recorder earlier and repeat the steps in Section 7 to acquire Shaw Direct signal.
- Adjust the elevation by –1 degree from your original settings you recorded earlier and repeat the steps in Section 7 to acquire Shaw Direct signal.
- Ensure cables are connected properly at the grounding block.

If you still can't select or acquire signal, call us at 1.888.554.7827 for further assistance.

## 12. Satellite Locator Chart

Satellite coordinates are provided on the next page for both Satellite A (107.3W longitude) and Satellite B (111.1W longitude.) The reception of satellite signals in areas with a dish elevation less than 12 degrees may not be possible. Consult with a Shaw Direct retailer in your area. All information is listed in degrees.

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**Note:** Please refer to the SATELLITE B settings if you have an elliptical dish. Satellite A should only be used for a round dish.

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### Online Satellite Location

If you have access to a computer, exact dish coordinates can also be obtained at [www.dishpointer.com](http://www.dishpointer.com). Enter your current address and then select “111.1W ANIK F2” as the satellite. For the “LNB Skew” listed online, **add 90 degrees** for equivalent settings. For example, an LNB skew listed online as “-5.0°” is 85 degrees. An LNB skew listed online as “30.0°” is 120 degrees.



| Satellite A   |                                       |  | Satellite B   |                                       |  | Satellite A   |                                       |  | Satellite B   |                                       |  |      |     |
|---|---------------------------------------|--|---|---------------------------------------|--|---|---------------------------------------|--|---|---------------------------------------|--|------|-----|
| Compass<br>Azimuth<br><i>Azimuth -<br/>Coord.<br/>magn.</i> | Dish<br>Elevation<br><i>Élévation</i> | Dish<br>Skew<br><i>Inclin-<br/>aizon</i> | Compass<br>Azimuth<br><i>Azimuth -<br/>Coord.<br/>magn.</i> | Dish<br>Elevation<br><i>Élévation</i> | Dish<br>Skew<br><i>Inclin-<br/>aizon</i> | Compass<br>Azimuth<br><i>Azimuth -<br/>Coord.<br/>magn.</i> | Dish<br>Elevation<br><i>Élévation</i> | Dish<br>Skew<br><i>Inclin-<br/>aizon</i> | Compass<br>Azimuth<br><i>Azimuth -<br/>Coord.<br/>magn.</i> | Dish<br>Elevation<br><i>Élévation</i> | Dish<br>Skew<br><i>Inclin-<br/>aizon</i> |      |     |
| <b>Newfoundland / Terre-Neuve</b>                           |                                       |  |   |                                       |  | Beattyville   | 232                                   | 26.9                                     | 114   | 237                                   | 25.2                                     | 116  |     |
| Bonavista   | 264                                   | 14.4                                     | 126   | 267                                   | 12.1                                     | 127   | Cap-de- la-Madeleine                  | 241                                      | 26.8  | 119                                   | 245                                      | 24.7 | 121 |
| Cartwright  | 262                                   | 13.8                                     | 120   | 265                                   | 11.9                                     | 121   | Charlesbourg                          | 243                                      | 25.7  | 119                                   | 247                                      | 23.7 | 121 |
| Corner Brook  | 260                                   | 17                                       | 124   | 263                                   | 14.8                                     | 125   | Chibougamau                           | 238                                      | 24.9  | 115                                   | 242                                      | 23.1 | 117 |
| Gander  | 263                                   | 15                                       | 125   | 266                                   | 12.8                                     | 126   | Chicoutimi                            | 243                                      | 24.4  | 118                                   | 247                                      | 22.5 | 120 |
| Grand Falls   | 262                                   | 15.7                                     | 125   | 265                                   | 13.5                                     | 126   | Cowansville                           | 240                                      | 27.8  | 120                                   | 244                                      | 25.7 | 122 |
| Hebron  | 259                                   | 13.6                                     | 114   | 262                                   | 12                                       | 115   | Dolbeau                               | 241                                      | 24.7  | 117                                   | 245                                      | 22.8 | 119 |
| Indian Harbour  | 262                                   | 13.6                                     | 119   | 265                                   | 11.7                                     | 120   | Donnacona                             | 242                                      | 26.1  | 119                                   | 246                                      | 24.1 | 121 |
| Labrador City   | 251                                   | 19.1                                     | 116   | 254                                   | 17.3                                     | 118   | Dosquet                               | 242                                      | 26.2  | 119                                   | 246                                      | 24.1 | 121 |
| Nain  | 258                                   | 14.4                                     | 116   | 262                                   | 12.7                                     | 117   | Drummondville                         | 241                                      | 27.1  | 119                                   | 245                                      | 25.1 | 121 |
| North West River  | 259                                   | 15.5                                     | 119   | 262                                   | 13.6                                     | 120   | Eastmain                              | 231                                      | 24.5  | 111                                   | 235                                      | 23   | 113 |
| Nutak   | 259                                   | 13.8                                     | 115   | 262                                   | 12.2                                     | 116   | Festubert                             | 240                                      | 26.2  | 118                                   | 244                                      | 24.2 | 120 |
| Placentia   | 263                                   | 15.5                                     | 127   | 266                                   | 13.2                                     | 128   | Fort Coulonge                         | 233                                      | 29.3  | 117                                   | 237                                      | 27.4 | 119 |
| Port aux Basques  | 258                                   | 18.5                                     | 125   | 262                                   | 16.2                                     | 126   | Gagnon                                | 248                                      | 20.4  | 117                                   | 252                                      | 18.6 | 118 |
| Rigolet   | 261                                   | 14.3                                     | 119   | 264                                   | 12.4                                     | 120   | Gaspe                                 | 253                                      | 20.7  | 121                                   | 256                                      | 18.6 | 123 |
| Schefferville   | 251                                   | 17.8                                     | 115   | 255                                   | 16.1                                     | 116   | Gatineau                              | 235                                      | 29.1  | 118                                   | 239                                      | 27.1 | 120 |
| St. Anthony   | 262                                   | 14.4                                     | 122   | 266                                   | 12.3                                     | 124   | Granby                                | 240                                      | 27.6  | 120                                   | 244                                      | 25.6 | 122 |
| St. John's  | 264                                   | 14.6                                     | 127   | 267                                   | 12.3                                     | 128   | Grand Mere                            | 241                                      | 25.1  | 117                                   | 245                                      | 23.2 | 119 |
| Trepassey   | 263                                   | 15.4                                     | 128   | 267                                   | 13.1                                     | 129   | Hauterive                             | 248                                      | 22.5  | 119                                   | 251                                      | 20.5 | 121 |
| Wabush City   | 251                                   | 19                                       | 116   | 254                                   | 17.2                                     | 118   | Hull                                  | 235                                      | 29.1  | 118                                   | 239                                      | 27.2 | 120 |
| <b>Nova Scotia / Nouvelle-Écosse</b>                        |                                       |  |   |                                       |  | Inukjuak  | 235                                   | 19                                       | 107   | 239                                   | 17.8                                     | 109  |     |
| Bridgewater   | 252                                   | 23.7                                     | 125   | 256                                   | 21.3                                     | 127   | Ivujvik                               | 240                                      | 15.4  | 105                                   | 244                                      | 14.4 | 106 |
| Cape Breton Is.   | 256                                   | 20.5                                     | 125   | 260                                   | 18.2                                     | 127   | Joliette                              | 239                                      | 27.5  | 119                                   | 243                                      | 25.5 | 121 |
| Chesterfield In.  | 208                                   | 17.5                                     | 98  | 212                                   | 16.9                                     | 100   | Kuujuaq                               | 252                                      | 15.8  | 112                                   | 256                                      | 14.4 | 113 |
| Dartmouth   | 254                                   | 22.9                                     | 125   | 257                                   | 20.6                                     | 127   | Kuujuarapik                           | 234                                      | 21.5  | 109                                   | 238                                      | 20.1 | 111 |
| Freeport  | 250                                   | 24.8                                     | 124   | 254                                   | 22.5                                     | 126   | La Sarre                              | 228                                      | 27.8  | 113                                   | 233                                      | 26.2 | 115 |
| Mulgrave  | 256                                   | 21                                       | 125   | 259                                   | 18.6                                     | 127   | La Tuque                              | 240                                      | 26.1  | 118                                   | 244                                      | 24.1 | 120 |
| Port Hawkesbury   | 256                                   | 21                                       | 125   | 260                                   | 18.6                                     | 127   | Levis                                 | 243                                      | 25.7  | 119                                   | 247                                      | 23.7 | 121 |
| Port Maitland   | 250                                   | 24.9                                     | 125   | 254                                   | 22.5                                     | 127   | Madeleine                             | 256                                      | 20.1  | 124                                   | 259                                      | 17.8 | 125 |
| Sable Is.   | 258                                   | 21.1                                     | 128   | 261                                   | 18.6                                     | 129   | Malartic                              | 230                                      | 28  | 114                                   | 235                                      | 26.2 | 116 |
| Shelburne   | 251                                   | 24.6                                     | 125   | 255                                   | 22.2                                     | 127   | Maniwaki                              | 235                                      | 28.5  | 117                                   | 239                                      | 26.6 | 119 |
| Sydney  | 257                                   | 19.9                                     | 125   | 261                                   | 17.6                                     | 127   | Matagami                              | 232                                      | 26.5  | 113                                   | 236                                      | 24.8 | 115 |
| Truro   | 254                                   | 22.3                                     | 125   | 257                                   | 20                                       | 126   | Matane                                | 249                                      | 22.3  | 120                                   | 252                                      | 20.3 | 121 |
| Wedgeport   | 250                                   | 25                                       | 125   | 254                                   | 22.6                                     | 127   | Mingan                                | 253                                      | 19.5  | 120                                   | 257                                      | 17.5 | 122 |
| Yarmouth  | 250                                   | 25                                       | 125   | 254                                   | 22.7                                     | 127   | Miquelon                              | 234                                      | 26.2  | 114                                   | 238                                      | 24.5 | 116 |
| <b>Prince Edward Island / Ile-du-Prince-Édouard</b>         |                                       |  |   |                                       |  | Mistassini  | 241                                   | 24.6                                     | 117   | 245                                   | 22.8                                     | 119  |     |
| Charlottetown   | 254                                   | 21.7                                     | 124   | 258                                   | 19.4                                     | 126   | Monet                                 | 235                                      | 26.8  | 115                                   | 239                                      | 25   | 118 |
| <b>New Brunswick / Nouveau-Brunswick</b>                    |                                       |  |   |                                       |  | Mont Laurier  | 235                                   | 28.1                                     | 117   | 239                                   | 26.2                                     | 119  |     |
| Bath  | 248                                   | 24                                       | 122   | 252                                   | 21.9                                     | 123   | Mont Louis                            | 251                                      | 21.1  | 120                                   | 255                                      | 19.1 | 122 |
| Bathurst  | 251                                   | 22.2                                     | 122   | 255                                   | 20.1                                     | 123   | Montmagny                             | 244                                      | 25.3  | 120                                   | 248                                      | 23.2 | 122 |
| Chatham   | 251                                   | 22.5                                     | 122   | 255                                   | 20.3                                     | 124   | Montreal                              | 239                                      | 28  | 119                                   | 243                                      | 26   | 121 |
| Dalhousie   | 250                                   | 22.3                                     | 121   | 254                                   | 20.2                                     | 123   | Mont Joli                             | 247                                      | 22.9  | 119                                   | 251                                      | 20.9 | 121 |
| Edmundston  | 247                                   | 23.8                                     | 120   | 251                                   | 21.7                                     | 122   | Natashquan                            | 256                                      | 18.4  | 121                                   | 260                                      | 16.3 | 123 |
| Fredericton   | 250                                   | 23.9                                     | 123   | 253                                   | 21.7                                     | 124   | Noranda                               | 229                                      | 28.2  | 113                                   | 233                                      | 26.5 | 116 |
| Grand Manan Is.   | 249                                   | 24.9                                     | 124   | 253                                   | 22.6                                     | 126   | Parent                                | 237                                      | 26.6  | 116                                   | 241                                      | 24.7 | 119 |
| Hartland  | 248                                   | 24.1                                     | 122   | 252                                   | 22                                       | 124   | Paspebiac                             | 251                                      | 21.7  | 121                                   | 255                                      | 19.6 | 123 |
| Kedgwick  | 249                                   | 23.1                                     | 121   | 252                                   | 21                                       | 123   | Pointe aux Anglais                    | 249                                      | 21.6  | 119                                   | 253                                      | 19.6 | 121 |
| Moncton   | 252                                   | 22.7                                     | 123   | 256                                   | 20.5                                     | 125   | Pointe-aux-Tremble                    | 239                                      | 27.8  | 119                                   | 243                                      | 25.8 | 121 |
| Napadogan   | 249                                   | 23.8                                     | 122   | 253                                   | 21.6                                     | 124   | Port Cartier                          | 250                                      | 21.2  | 119                                   | 253                                      | 19.2 | 121 |
| Newcastle   | 251                                   | 22.6                                     | 122   | 255                                   | 20.4                                     | 124   | Quaqtaq                               | 253                                      | 14.1  | 109                                   | 256                                      | 12.8 | 110 |
| Oromocto  | 250                                   | 23.9                                     | 123   | 253                                   | 21.6                                     | 125   | Quebec                                | 243                                      | 25.8  | 119                                   | 247                                      | 23.7 | 121 |
| Plaster Rock  | 249                                   | 23.6                                     | 121   | 252                                   | 21.5                                     | 123   | Rimouski                              | 247                                      | 23.1  | 119                                   | 251                                      | 21.1 | 121 |
| St. John  | 250                                   | 24                                       | 123   | 254                                   | 21.7                                     | 125   | Riviere-du-Loup                       | 245                                      | 24.1  | 119                                   | 249                                      | 22.1 | 121 |
| <b>Québec</b>   |                                       |  |   |                                       |  | RivierePentecote  | 249                                   | 21.5                                     | 119   | 253                                   | 19.5                                     | 121  |     |
| Alma  | 242                                   | 24.7                                     | 118   | 246                                   | 22.7                                     | 120   | Roberval                              | 241                                      | 25  | 117                                   | 245                                      | 23.1 | 119 |
| Amos  | 231                                   | 27.6                                     | 114   | 235                                   | 25.9                                     | 116   | Rouyn                                 | 229                                      | 28.2  | 113                                   | 233                                      | 26.5 | 116 |
| Anticosti   | 254                                   | 19.6                                     | 121   | 258                                   | 17.5                                     | 123   | Salluit                               | 244                                      | 15  | 106                                   | 248                                      | 14   | 107 |
| Asbestos  | 242                                   | 26.9                                     | 120   | 246                                   | 24.9                                     | 122   | Senneterre                            | 232                                      | 27.3  | 114                                   | 236                                      | 25.6 | 117 |
| Baie Comeau   | 248                                   | 22.4                                     | 119   | 251                                   | 20.4                                     | 121   | Sept Iles                             | 250                                      | 20.8  | 119                                   | 254                                      | 18.8 | 121 |
| Baie St.Paul  | 244                                   | 24.9                                     | 119   | 248                                   | 22.9                                     | 121   | Shawinigan                            | 240                                      | 26.7  | 119                                   | 244                                      | 24.7 | 121 |
| Asbestos  | 242                                   | 26.9                                     | 120   | 246                                   | 24.9                                     | 122   | Sheldrake                             | 252                                      | 20  | 120                                   | 256                                      | 18   | 121 |

|                      | Satellite A                           |                  |                          | Satellite B                           |                  |                          |                 | Satellite A                           |                  |                          | Satellite B                           |                  |                          |
|----------------------|---------------------------------------|------------------|--------------------------|---------------------------------------|------------------|--------------------------|-----------------|---------------------------------------|------------------|--------------------------|---------------------------------------|------------------|--------------------------|
|                      | Compass                               | Dish             | Dish                     | Compass                               | Dish             | Dish                     |                 | Compass                               | Dish             | Dish                     | Compass                               | Dish             | Dish                     |
|                      | Azimuth                               | Elevation        | Skew                     | Azimuth                               | Elevation        | Skew                     |                 | Azimuth                               | Elevation        | Skew                     | Azimuth                               | Elevation        | Skew                     |
|                      | <i>Azimuth –<br/>Coord.<br/>magn.</i> | <i>Élévation</i> | <i>Inclin-<br/>aison</i> | <i>Azimuth –<br/>Coord.<br/>magn.</i> | <i>Élévation</i> | <i>Inclin-<br/>aison</i> |                 | <i>Azimuth –<br/>Coord.<br/>magn.</i> | <i>Élévation</i> | <i>Inclin-<br/>aison</i> | <i>Azimuth –<br/>Coord.<br/>magn.</i> | <i>Élévation</i> | <i>Inclin-<br/>aison</i> |
| Sherbrooke           | 242                                   | 27.2             | 120                      | 246                                   | 25.1             | 122                      | Gilmour         | 231                                   | 30.6             | 117                      | 236                                   | 28.7             | 119                      |
| Sorel                | 240                                   | 27.3             | 119                      | 244                                   | 25.3             | 121                      | Goderich        | 223                                   | 33.4             | 115                      | 228                                   | 31.6             | 117                      |
| St. Paul du Nord     | 246                                   | 23.5             | 119                      | 250                                   | 21.5             | 121                      | Gogama          | 223                                   | 29.9             | 112                      | 228                                   | 28.3             | 114                      |
| St. Agathe-des-Monts | 238                                   | 27.9             | 118                      | 242                                   | 26               | 120                      | Gravenhurst     | 229                                   | 31.1             | 116                      | 233                                   | 29.3             | 118                      |
| St. Agapit           | 242                                   | 26               | 119                      | 246                                   | 24               | 121                      | Guelph          | 226                                   | 32.9             | 116                      | 231                                   | 31               | 119                      |
| St. Anne de Beaupre  | 243                                   | 25.5             | 119                      | 247                                   | 23.4             | 121                      | Haliburton      | 231                                   | 30.6             | 116                      | 235                                   | 28.7             | 119                      |
| St. Augustin         | 259                                   | 16.1             | 121                      | 263                                   | 14.1             | 123                      | Hamilton        | 227                                   | 33               | 116                      | 232                                   | 31.1             | 119                      |
| St. Boniface         | 188                                   | 32               | 99                       | 193                                   | 31.3             | 102                      | Hanover         | 225                                   | 32.7             | 115                      | 229                                   | 30.9             | 118                      |
| St. Eloi             | 246                                   | 23.8             | 119                      | 250                                   | 21.8             | 121                      | Hearst          | 219                                   | 28.7             | 109                      | 224                                   | 27.3             | 112                      |
| St. Hyacinthe        | 240                                   | 27.6             | 119                      | 244                                   | 25.5             | 121                      | Hornepayne      | 217                                   | 29.5             | 108                      | 221                                   | 28.2             | 111                      |
| St. Jean             | 239                                   | 28               | 119                      | 243                                   | 25.9             | 122                      | Huntsville      | 228                                   | 30.9             | 115                      | 233                                   | 29.1             | 118                      |
| St. Jerome           | 238                                   | 28               | 118                      | 242                                   | 26               | 121                      | Ignace          | 201                                   | 31.4             | 103                      | 205                                   | 30.3             | 106                      |
| St. Jean de Matha    | 239                                   | 27.4             | 118                      | 243                                   | 25.4             | 121                      | Ingersoll       | 225                                   | 33.7             | 116                      | 230                                   | 31.8             | 119                      |
| St. Laurent          | 239                                   | 28               | 119                      | 243                                   | 26               | 121                      | Iroquois Falls  | 225                                   | 28.4             | 112                      | 230                                   | 26.9             | 114                      |
| St. Pacome           | 245                                   | 24.7             | 119                      | 249                                   | 22.6             | 121                      | Kapuskasing     | 222                                   | 28.5             | 110                      | 226                                   | 27.1             | 113                      |
| St. Pascal           | 245                                   | 24.5             | 119                      | 249                                   | 22.4             | 121                      | Kenora          | 194                                   | 31.6             | 101                      | 199                                   | 30.7             | 104                      |
| St. Simeon           | 245                                   | 24.3             | 119                      | 249                                   | 22.3             | 121                      | Kincardine      | 223                                   | 33               | 114                      | 228                                   | 31.2             | 117                      |
| St. Stephen          | 249                                   | 24.8             | 123                      | 252                                   | 22.5             | 125                      | Kingston        | 234                                   | 30.5             | 118                      | 238                                   | 28.5             | 121                      |
| Tadoussac            | 245                                   | 24               | 119                      | 249                                   | 22               | 121                      | Kirkland Lake   | 227                                   | 28.7             | 113                      | 231                                   | 27.1             | 115                      |
| Trois-Rivieres       | 241                                   | 26.8             | 119                      | 245                                   | 24.8             | 121                      | Kitchener       | 226                                   | 33.1             | 116                      | 230                                   | 31.2             | 119                      |
| Val d'Or             | 231                                   | 27.8             | 114                      | 235                                   | 26.1             | 116                      | Lindsay         | 229                                   | 31.5             | 116                      | 234                                   | 29.6             | 119                      |
| Valleyfield          | 238                                   | 28.5             | 119                      | 242                                   | 26.4             | 121                      | Little Current  | 223                                   | 31.5             | 113                      | 227                                   | 29.8             | 115                      |
| Vandry               | 239                                   | 26.1             | 117                      | 243                                   | 24.2             | 119                      | London          | 224                                   | 33.9             | 115                      | 229                                   | 32               | 118                      |
| Verdun               | 239                                   | 28               | 119                      | 243                                   | 26               | 121                      | Longlac         | 213                                   | 29.5             | 107                      | 218                                   | 28.3             | 110                      |
| Victoriaville        | 242                                   | 26.7             | 119                      | 246                                   | 24.6             | 122                      | Lynx            | 214                                   | 29.1             | 107                      | 218                                   | 27.8             | 110                      |
| Waskaganish          | 230                                   | 25.3             | 111                      | 234                                   | 23.8             | 113                      | Macdiarmid      | 209                                   | 30.4             | 106                      | 214                                   | 29.2             | 109                      |
| Wemindji             | 231                                   | 24               | 110                      | 235                                   | 22.5             | 112                      | Madoc           | 232                                   | 30.8             | 117                      | 236                                   | 28.8             | 120                      |
| Windsor              | 241                                   | 27.1             | 120                      | 245                                   | 25               | 122                      | Magog           | 241                                   | 27.4             | 120                      | 245                                   | 25.3             | 122                      |
| <b>Ontario</b>       |                                       |                  |                          |                                       |                  |                          | Manitoulin I.   | 221                                   | 31.9             | 112                      | 226                                   | 30.3             | 115                      |
| Apsley               | 231                                   | 30.8             | 116                      | 235                                   | 28.9             | 119                      | Matachewan      | 225                                   | 29.2             | 112                      | 230                                   | 27.6             | 115                      |
| Arnprior             | 234                                   | 29.4             | 117                      | 238                                   | 27.5             | 120                      | Mattawa         | 229                                   | 29.8             | 115                      | 234                                   | 28               | 117                      |
| Bancroft             | 231                                   | 30.5             | 116                      | 235                                   | 28.6             | 119                      | Mattice         | 220                                   | 28.7             | 109                      | 224                                   | 27.2             | 112                      |
| Barrie               | 227                                   | 31.9             | 116                      | 232                                   | 30               | 118                      | Mekatina        | 218                                   | 31.4             | 110                      | 223                                   | 29.9             | 113                      |
| Belleville           | 232                                   | 31               | 117                      | 236                                   | 29               | 120                      | Michipicoten    | 216                                   | 30.8             | 109                      | 221                                   | 29.4             | 112                      |
| Blind River          | 220                                   | 31.6             | 112                      | 225                                   | 30               | 115                      | Midland         | 227                                   | 31.7             | 115                      | 231                                   | 29.9             | 118                      |
| Bracebridge          | 228                                   | 31.2             | 115                      | 232                                   | 29.3             | 118                      | Milne Inlet     | 259                                   | 7.1              | 98                       | 263                                   | 6.6              | 99                       |
| Bradford             | 228                                   | 32.1             | 116                      | 232                                   | 30.2             | 119                      | Mobert          | 215                                   | 30.4             | 108                      | 219                                   | 29               | 111                      |
| Brampton             | 227                                   | 32.6             | 116                      | 232                                   | 30.7             | 119                      | Moosonee        | 226                                   | 26.2             | 110                      | 230                                   | 24.7             | 112                      |
| Brockville           | 235                                   | 29.8             | 118                      | 239                                   | 27.8             | 121                      | Nakina          | 212                                   | 29.2             | 107                      | 217                                   | 28               | 109                      |
| Burlington           | 227                                   | 32.9             | 116                      | 232                                   | 31               | 119                      | New Liskeard    | 227                                   | 29.2             | 113                      | 232                                   | 27.5             | 116                      |
| Carleton Place       | 234                                   | 29.6             | 117                      | 238                                   | 27.6             | 120                      | Newcastle       | 230                                   | 31.8             | 117                      | 234                                   | 29.9             | 119                      |
| Chapleau             | 220                                   | 30.4             | 110                      | 224                                   | 28.9             | 113                      | Nipigon         | 209                                   | 30.9             | 106                      | 213                                   | 29.7             | 109                      |
| Chatham              | 223                                   | 34.8             | 115                      | 227                                   | 33               | 118                      | North Bay       | 228                                   | 30.1             | 114                      | 232                                   | 28.4             | 117                      |
| Cobalt               | 227                                   | 29.3             | 113                      | 232                                   | 27.6             | 116                      | Oakville        | 227                                   | 32.7             | 116                      | 232                                   | 30.8             | 119                      |
| Cobourg              | 230                                   | 31.6             | 117                      | 235                                   | 29.6             | 120                      | Oba             | 218                                   | 29.5             | 109                      | 223                                   | 28.1             | 112                      |
| Cochrane             | 225                                   | 28.3             | 111                      | 229                                   | 26.8             | 114                      | Opasatika       | 221                                   | 28.6             | 110                      | 225                                   | 27.1             | 112                      |
| Collingwood          | 226                                   | 32.1             | 115                      | 231                                   | 30.2             | 118                      | Orillia         | 228                                   | 31.6             | 116                      | 232                                   | 29.7             | 118                      |
| Cornwall             | 237                                   | 29               | 119                      | 241                                   | 26.9             | 121                      | Oshawa          | 229                                   | 31.9             | 117                      | 233                                   | 30               | 119                      |
| Dalton               | 218                                   | 30.3             | 110                      | 223                                   | 28.8             | 112                      | Ottawa          | 235                                   | 29.1             | 118                      | 239                                   | 27.2             | 120                      |
| Deep River           | 232                                   | 29.4             | 116                      | 236                                   | 27.6             | 118                      | Ottawa Is.      | 233                                   | 18.3             | 105                      | 237                                   | 17.2             | 107                      |
| Dryden               | 198                                   | 31.1             | 102                      | 203                                   | 30.3             | 105                      | Oulmet          | 208                                   | 31.2             | 106                      | 213                                   | 30               | 109                      |
| Elliot Lake          | 221                                   | 31.3             | 112                      | 226                                   | 29.7             | 115                      | Owen Sound      | 225                                   | 32.3             | 114                      | 229                                   | 30.5             | 117                      |
| Emsdale              | 228                                   | 30.7             | 115                      | 232                                   | 28.9             | 118                      | Pagwa River     | 216                                   | 28.9             | 108                      | 220                                   | 27.6             | 110                      |
| English River        | 202                                   | 31.4             | 104                      | 207                                   | 30.3             | 107                      | Parry Is.       | 194                                   | 5.4              | 91                       | 198                                   | 5.3              | 92                       |
| Espanola             | 223                                   | 31.2             | 113                      | 227                                   | 29.5             | 115                      | Parry Sound     | 227                                   | 31.2             | 115                      | 231                                   | 29.4             | 117                      |
| Foleyet              | 222                                   | 29.8             | 111                      | 226                                   | 28.2             | 114                      | Pembroke        | 232                                   | 29.5             | 116                      | 237                                   | 27.6             | 119                      |
| Fort Albany          | 224                                   | 25.6             | 109                      | 229                                   | 24.3             | 111                      | Penetanguishene | 227                                   | 31.7             | 115                      | 231                                   | 29.9             | 118                      |
| Fort Frances         | 197                                   | 32.6             | 102                      | 202                                   | 31.6             | 105                      | Perth           | 234                                   | 29.8             | 118                      | 238                                   | 27.9             | 120                      |
| Fort Severn          | 212                                   | 23.8             | 103                      | 216                                   | 22.9             | 105                      | Petawawa        | 232                                   | 29.5             | 116                      | 236                                   | 27.6             | 119                      |
| Gananoque            | 234                                   | 30.2             | 118                      | 238                                   | 28.2             | 121                      | Peterborough    | 230                                   | 31.3             | 117                      | 234                                   | 29.4             | 119                      |
| Geraldton            | 212                                   | 29.8             | 107                      | 216                                   | 28.5             | 109                      | Pickle Crow     | 205                                   | 28.9             | 103                      | 209                                   | 27.8             | 106                      |

| Satellite A                   |                  |                    | Satellite B                   |                  |                    | Satellite A                   |                     |                    | Satellite B                   |                  |                    |      |     |
|-------------------------------|------------------|--------------------|-------------------------------|------------------|--------------------|-------------------------------|---------------------|--------------------|-------------------------------|------------------|--------------------|------|-----|
| Compass Azimuth               | Dish Elevation   | Dish Skew          | Compass Azimuth               | Dish Elevation   | Dish Skew          | Compass Azimuth               | Dish Elevation      | Dish Skew          | Compass Azimuth               | Dish Elevation   | Dish Skew          |      |     |
| <i>Azimuth - Coord. magn.</i> | <i>Elevation</i> | <i>Inclination</i> | <i>Azimuth - Coord. magn.</i> | <i>Elevation</i> | <i>Inclination</i> | <i>Azimuth - Coord. magn.</i> | <i>Elevation</i>    | <i>Inclination</i> | <i>Azimuth - Coord. magn.</i> | <i>Elevation</i> | <i>Inclination</i> |      |     |
| Pictou                        | 232              | 31                 | 118                           | 237              | 29                 | 120                           | York Factory        | 200                | 23.7                          | 100              | 204                | 22.9 | 102 |
| Port Nelson                   | 200              | 23.7               | 99                            | 204              | 22.9               | 102                           | <b>Saskatchewan</b> |                    |                               |                  |                    |      |     |
| Port Stanley                  | 224              | 34.1               | 116                           | 229              | 32.3               | 119                           | Assiniboia          | 169                | 33.1                          | 91               | 174                | 32.9 | 94  |
| Ramore                        | 226              | 28.6               | 112                           | 230              | 27                 | 115                           | Beauval             | 165                | 27.1                          | 90               | 169                | 27   | 93  |
| Red Lake                      | 196              | 30.2               | 101                           | 201              | 29.3               | 104                           | Biggar              | 165                | 30.4                          | 90               | 170                | 30.4 | 92  |
| Renfrew                       | 233              | 29.6               | 117                           | 237              | 27.6               | 119                           | Estevan             | 175                | 33.5                          | 94               | 180                | 33.1 | 97  |
| Richmond Hill                 | 228              | 32.2               | 116                           | 232              | 30.3               | 119                           | Fond du Lac         | 164                | 22.6                          | 90               | 168                | 22.6 | 92  |
| Sand Lake                     | 217              | 30.8               | 110                           | 222              | 29.4               | 112                           | Kamsack             | 177                | 30.8                          | 94               | 182                | 30.4 | 97  |
| Sarnia                        | 222              | 34.4               | 115                           | 227              | 32.6               | 118                           | La Ronge            | 169                | 27.1                          | 91               | 174                | 26.9 | 94  |
| Sault Ste Marie               | 217              | 31.9               | 111                           | 222              | 30.4               | 113                           | Lloydminster        | 161                | 29.1                          | 88               | 165                | 29.1 | 91  |
| Savant Lake                   | 203              | 30.2               | 104                           | 208              | 29.1               | 106                           | Maple Creek         | 162                | 32.7                          | 88               | 167                | 32.8 | 91  |
| Schreiber                     | 211              | 30.8               | 107                           | 215              | 29.5               | 110                           | Melfort             | 171                | 29.5                          | 92               | 176                | 29.3 | 95  |
| Simcoe                        | 226              | 33.6               | 116                           | 231              | 31.6               | 119                           | Moose Jaw           | 170                | 32.2                          | 91               | 175                | 32   | 95  |
| Sioux Lookout                 | 200              | 30.7               | 103                           | 205              | 29.7               | 106                           | Nokomis             | 171                | 31                            | 92               | 176                | 30.8 | 95  |
| Smiths Falls                  | 234              | 29.7               | 118                           | 239              | 27.7               | 120                           | North Battleford    | 164                | 29.7                          | 89               | 169                | 29.6 | 92  |
| Steep Rock Lake               | 201              | 32                 | 103                           | 206              | 30.9               | 106                           | Regina              | 172                | 32.1                          | 92               | 177                | 31.8 | 95  |
| St. Catharines                | 228              | 32.8               | 117                           | 233              | 30.8               | 120                           | Rosetown            | 165                | 31                            | 90               | 170                | 30.9 | 93  |
| St. Thomas                    | 224              | 34                 | 116                           | 229              | 32.2               | 119                           | Rosthern            | 168                | 29.8                          | 91               | 173                | 29.6 | 94  |
| Stokes Bay                    | 224              | 32.2               | 114                           | 228              | 30.4               | 117                           | Saskatoon           | 167                | 30.3                          | 91               | 172                | 30.2 | 94  |
| Stratford                     | 225              | 33.4               | 115                           | 229              | 31.5               | 118                           | Shaunavon           | 165                | 33                            | 89               | 169                | 33   | 92  |
| Sturgeon Falls                | 227              | 30.3               | 114                           | 231              | 28.5               | 117                           | Sherridon           | 178                | 24.8                          | 94               | 183                | 24.4 | 97  |
| Sudbury                       | 225              | 30.6               | 113                           | 229              | 28.9               | 116                           | Stanley             | 170                | 26.4                          | 92               | 175                | 26.2 | 94  |
| Sultan                        | 221              | 30.3               | 111                           | 225              | 28.8               | 114                           | Swift Current       | 166                | 32.4                          | 90               | 170                | 32.3 | 93  |
| Swastika                      | 227              | 28.8               | 113                           | 231              | 27.2               | 115                           | Tisdale             | 173                | 29.5                          | 93               | 177                | 29.2 | 95  |
| Tannin                        | 202              | 31                 | 104                           | 207              | 29.9               | 106                           | Uraniun City        | 161                | 22.4                          | 89               | 165                | 22.4 | 91  |
| Temiscaming                   | 229              | 29.6               | 114                           | 233              | 27.9               | 117                           | Watrous             | 170                | 30.8                          | 91               | 175                | 30.6 | 95  |
| Thessalon                     | 219              | 31.8               | 111                           | 224              | 30.2               | 114                           | Weyburn             | 174                | 32.9                          | 93               | 179                | 32.6 | 96  |
| Thetford Mines                | 243              | 26.3               | 120                           | 247              | 24.3               | 122                           | Wilkie              | 163                | 30                            | 89               | 168                | 30   | 92  |
| Thunder Bay                   | 206              | 31.7               | 106                           | 211              | 30.5               | 108                           | Yorkton             | 176                | 31.2                          | 94               | 181                | 30.8 | 97  |
| Timmins                       | 224              | 29                 | 111                           | 228              | 27.4               | 114                           | <b>Alberta</b>      |                    |                               |                  |                    |      |     |
| Tionaga                       | 222              | 29.6               | 111                           | 227              | 28.1               | 114                           | Athabasca           | 154                | 27.3                          | 86               | 159                | 27.5 | 89  |
| Tobermory                     | 223              | 32                 | 113                           | 228              | 30.3               | 116                           | Banff               | 151                | 30.9                          | 83               | 156                | 31.3 | 86  |
| Toronto                       | 228              | 32.4               | 116                           | 232              | 30.5               | 119                           | Bassano             | 157                | 31.6                          | 86               | 162                | 31.8 | 89  |
| Trenton                       | 232              | 31.1               | 117                           | 236              | 29.2               | 120                           | Brooks              | 158                | 31.9                          | 86               | 163                | 32   | 89  |
| Trout Creek                   | 228              | 30.4               | 115                           | 232              | 28.6               | 117                           | Calgary             | 154                | 31.2                          | 85               | 159                | 31.4 | 88  |
| Wallaceburg                   | 222              | 34.7               | 115                           | 227              | 32.9               | 118                           | Camrose             | 156                | 29.2                          | 86               | 160                | 29.4 | 89  |
| Waterloo                      | 226              | 33.1               | 116                           | 230              | 31.2               | 118                           | Cranbrook           | 151                | 32.7                          | 83               | 156                | 33.1 | 86  |
| Welland                       | 228              | 32.9               | 117                           | 233              | 31                 | 120                           | Drumheller          | 156                | 30.9                          | 86               | 161                | 31.1 | 89  |
| Whitby                        | 229              | 32                 | 117                           | 233              | 30.1               | 119                           | Edmonton            | 154                | 28.6                          | 86               | 159                | 28.8 | 88  |
| Whitney                       | 230              | 30.3               | 116                           | 234              | 28.4               | 118                           | Edson               | 149                | 28.2                          | 83               | 154                | 28.6 | 86  |
| Windsor                       | 221              | 35.3               | 115                           | 225              | 33.5               | 118                           | Fort Chipewyan      | 156                | 23.2                          | 88               | 161                | 23.2 | 90  |
| Wingham                       | 224              | 33.1               | 115                           | 229              | 31.3               | 118                           | Fort MacKay         | 156                | 24.8                          | 87               | 160                | 24.9 | 90  |
| Winisk                        | 217              | 23.9               | 105                           | 222              | 22.8               | 107                           | Fort McMurray       | 157                | 25.3                          | 87               | 161                | 25.4 | 90  |
| Woodstock                     | 225              | 33.5               | 116                           | 230              | 31.6               | 119                           | Fort Vermilion      | 148                | 23.2                          | 85               | 152                | 23.5 | 87  |
| <b>Manitoba</b>               |                  |                    |                               |                  |                    |                               | Grande Prairie      | 145                | 26.2                          | 82               | 149                | 26.7 | 85  |
| Brandon                       | 182              | 32.4               | 96                            | 187              | 31.9               | 99                            | Hanna               | 158                | 30.8                          | 86               | 162                | 30.9 | 89  |
| Dauphin                       | 181              | 31                 | 96                            | 186              | 30.5               | 99                            | Hines Creek         | 145                | 25.1                          | 83               | 149                | 25.6 | 85  |
| Emerson                       | 188              | 32.9               | 99                            | 193              | 32.2               | 102                           | Jasper              | 147                | 28.7                          | 82               | 151                | 29.2 | 85  |
| Flin Flon                     | 177              | 27.3               | 94                            | 182              | 26.9               | 97                            | Lac la Biche        | 156                | 27.4                          | 87               | 161                | 27.5 | 89  |
| Gimli                         | 188              | 31.2               | 98                            | 193              | 30.5               | 101                           | Lacombe             | 154                | 29.7                          | 85               | 159                | 30   | 88  |
| Grand Rapids                  | 183              | 28.8               | 96                            | 188              | 28.3               | 99                            | Leduc               | 154                | 28.9                          | 85               | 159                | 29.1 | 88  |
| Gypsumville                   | 185              | 30.2               | 97                            | 189              | 29.6               | 100                           | Lethbridge          | 156                | 32.8                          | 85               | 161                | 33   | 89  |
| Hodgson                       | 187              | 30.6               | 98                            | 192              | 30                 | 101                           | McLennan            | 148                | 25.9                          | 83               | 152                | 26.3 | 86  |
| Lynn Lake                     | 179              | 25                 | 94                            | 183              | 24.7               | 97                            | Meander River       | 145                | 22.4                          | 84               | 149                | 22.7 | 86  |
| Minnedosa                     | 182              | 32                 | 96                            | 187              | 31.4               | 99                            | Medicine Hat        | 160                | 32.5                          | 87               | 165                | 32.6 | 90  |
| Morden                        | 186              | 32.8               | 98                            | 191              | 32.2               | 101                           | Peace River         | 147                | 25.3                          | 83               | 151                | 25.7 | 86  |
| Portage la Prairie            | 185              | 32.1               | 98                            | 190              | 31.4               | 101                           | Red Deer            | 154                | 29.9                          | 85               | 159                | 30.2 | 88  |
| Norway House                  | 186              | 27.8               | 97                            | 191              | 27.2               | 100                           | Stettler            | 156                | 29.9                          | 86               | 161                | 30.1 | 89  |
| The Pas                       | 178              | 28.3               | 94                            | 183              | 27.9               | 97                            | Vegreville          | 157                | 28.7                          | 87               | 161                | 28.9 | 89  |
| Thompson                      | 186              | 25.9               | 97                            | 191              | 25.3               | 99                            | Vegreville          | 157                | 28.7                          | 87               | 161                | 28.9 | 89  |
| Winnipeg                      | 188              | 32                 | 99                            | 193              | 31.3               | 102                           | Vermilion           | 159                | 29                            | 87               | 164                | 29.1 | 90  |

|  | Satellite A                         |                  |                          | Satellite B                         |                  |                          |   | Satellite A                         |                  |                          | Satellite B                         |                  |                          |
|--|-------------------------------------|------------------|--------------------------|-------------------------------------|------------------|--------------------------|---|-------------------------------------|------------------|--------------------------|-------------------------------------|------------------|--------------------------|
|  | Compass                             | Dish             | Dish                     | Compass                             | Dish             | Dish                     |   | Compass                             | Dish             | Dish                     | Compass                             | Dish             | Dish                     |
|  | Azimuth                             | Elevation        | Skew                     | Azimuth                             | Elevation        | Skew                     |   | Azimuth                             | Elevation        | Skew                     | Azimuth                             | Elevation        | Skew                     |
|  | <i>Azmut –<br/>Coord.<br/>magn.</i> | <i>Élévation</i> | <i>Inclin-<br/>aïson</i> | <i>Azmut –<br/>Coord.<br/>magn.</i> | <i>Élévation</i> | <i>Inclin-<br/>aïson</i> |   | <i>Azmut –<br/>Coord.<br/>magn.</i> | <i>Élévation</i> | <i>Inclin-<br/>aïson</i> | <i>Azmut –<br/>Coord.<br/>magn.</i> | <i>Élévation</i> | <i>Inclin-<br/>aïson</i> |
| Wetaskiwin                                     | 155                                 | 29.2             | 85                       | 159                                 | 29.4             | 88                       |   |                                     |                  |                          |                                     |                  |                          |
| <b>British Columbia / Colombie-Britannique</b> |                                     |                  |                          |                                     |                  |                          |   |                                     |                  |                          |                                     |                  |                          |
| Ashcroft                                       | 142                                 | 30.4             | 79                       | 147                                 | 31.1             | 82                       | Padloping Is  | 268                                 | 7.7              | 107                      | 271                                 | 6.6              | 108                      |
| Atlin  | 125                                 | 18.7             | 75                       | 129                                 | 19.7             | 77                       | Pangnirtung   | 264                                 | 9.2              | 107                      | 267                                 | 8                | 108                      |
| Chemainus                                      | 139                                 | 31.7             | 76                       | 144                                 | 32.5             | 79                       | Pelly Bay   | 223                                 | 11.9             | 97                       | 227                                 | 11.4             | 98                       |
| Courtenay                                      | 137                                 | 30.6             | 75                       | 142                                 | 31.5             | 78                       | Qurlurtuuq  | 142                                 | 13.6             | 87                       | 146                                 | 13.7             | 88                       |
| Dawson Creek                                   | 142                                 | 25.4             | 81                       | 147                                 | 26               | 84                       | Rankin Inlet  | 205                                 | 17.8             | 98                       | 209                                 | 17.2             | 100                      |
| Duncan   | 139                                 | 31.9             | 76                       | 144                                 | 32.7             | 79                       | Repulse Bay   | 228                                 | 13.4             | 99                       | 232                                 | 12.7             | 100                      |
| Esquimalt                                      | 140                                 | 32.2             | 76                       | 145                                 | 33.1             | 79                       | Resolute  | 231                                 | 6.5              | 93                       | 235                                 | 6.2              | 94                       |
| Fort Grahame                                   | 136                                 | 23.9             | 79                       | 141                                 | 24.6             | 81                       | Resolution Is.  | 259                                 | 12.2             | 110                      | 263                                 | 10.9             | 112                      |
| Fort Nelson                                    | 138                                 | 21.9             | 81                       | 142                                 | 22.5             | 83                       | Somerset Is.  | 226                                 | 8                | 94                       | 230                                 | 7.7              | 95                       |
| Ft St. John                                    | 141                                 | 24.8             | 81                       | 146                                 | 25.4             | 83                       | Southampton Is.   | 230                                 | 14.9             | 101                      | 234                                 | 14.2             | 102                      |
| Hazelton                                       | 133                                 | 24.5             | 77                       | 137                                 | 25.3             | 79                       | Spence Bay  | 212                                 | 11.4             | 95                       | 216                                 | 11               | 97                       |
| Hudson Hope                                    | 140                                 | 24.8             | 80                       | 144                                 | 25.4             | 83                       | Tavani  | 200                                 | 18.9             | 97                       | 204                                 | 18.3             | 99                       |
| Kamloops                                       | 144                                 | 30.7             | 79                       | 149                                 | 31.3             | 82                       | Wager Bay   | 213                                 | 14.7             | 97                       | 217                                 | 14.1             | 99                       |
| Kelowna  | 145                                 | 31.7             | 80                       | 150                                 | 32.3             | 83                       | Whale Cove  | 201                                 | 18.3             | 97                       | 206                                 | 17.8             | 99                       |
| Kitimat  | 132                                 | 25.3             | 75                       | 136                                 | 26.2             | 78                       | <b>Northwest Territory / Territoires du Nord-Ouest</b>      |                                     |                  |                          |                                     |                  |                          |
| Ladysmith                                      | 139                                 | 31.6             | 76                       | 144                                 | 32.5             | 79                       | Arctic RedRiver   | 120                                 | 11.6             | 79                       | 124                                 | 12.3             | 81                       |
| Lillooet                                       | 141                                 | 30.3             | 78                       | 146                                 | 31               | 81                       | Banks Is.   | 126                                 | 7.9              | 86                       | 130                                 | 8.2              | 87                       |
| McLeod Lake                                    | 139                                 | 25.7             | 79                       | 143                                 | 26.4             | 82                       | Fort Franklin   | 132                                 | 15.3             | 83                       | 136                                 | 15.8             | 84                       |
| Nanaimo  | 139                                 | 31.4             | 76                       | 144                                 | 32.3             | 79                       | Fort Good Hope  | 126                                 | 13.6             | 81                       | 130                                 | 14.2             | 82                       |
| Nelson   | 149                                 | 32.4             | 82                       | 154                                 | 32.9             | 85                       | Fort Liard  | 136                                 | 20.3             | 81                       | 140                                 | 20.9             | 83                       |
| New Westminster                                | 140                                 | 31.6             | 77                       | 145                                 | 32.4             | 80                       | Fort Norman   | 130                                 | 15.4             | 82                       | 134                                 | 15.9             | 83                       |
| Penticton                                      | 145                                 | 32               | 80                       | 150                                 | 32.7             | 83                       | Fort Reliance   | 158                                 | 19               | 89                       | 162                                 | 19               | 91                       |
| Port Alice                                     | 134                                 | 29.2             | 74                       | 139                                 | 30.2             | 77                       | Fort Simpson  | 138                                 | 19.1             | 83                       | 142                                 | 19.6             | 85                       |
| Port Renfrew                                   | 138                                 | 31.9             | 75                       | 143                                 | 32.9             | 79                       | Fort Smith  | 154                                 | 21.8             | 87                       | 159                                 | 21.9             | 90                       |
| Prince George                                  | 139                                 | 26.8             | 79                       | 144                                 | 27.5             | 82                       | Ft McPherson  | 120                                 | 11.4             | 79                       | 124                                 | 12.1             | 80                       |
| Prince Rupert                                  | 130                                 | 24.7             | 74                       | 134                                 | 25.7             | 77                       | Ft Providence   | 143                                 | 20               | 84                       | 148                                 | 20.3             | 86                       |
| Quesnel  | 140                                 | 27.8             | 79                       | 145                                 | 28.5             | 82                       | Ft Resolution   | 150                                 | 20.5             | 87                       | 155                                 | 20.7             | 89                       |
| Queen Charlotte Is.                            | 127                                 | 25.1             | 72                       | 132                                 | 26.3             | 75                       | Hay River   | 147                                 | 20.7             | 85                       | 151                                 | 20.9             | 87                       |
| Revelstoke                                     | 147                                 | 30.7             | 81                       | 152                                 | 31.2             | 84                       | Holman Island   | 135                                 | 10.5             | 86                       | 139                                 | 10.7             | 88                       |
| Saanich  | 140                                 | 32.2             | 76                       | 145                                 | 33.1             | 79                       | Inuvik  | 120                                 | 10.9             | 80                       | 124                                 | 11.5             | 81                       |
| Sidney   | 140                                 | 32               | 76                       | 145                                 | 32.9             | 79                       | Jean Marie Rvr  | 139                                 | 19.4             | 83                       | 143                                 | 19.9             | 85                       |
| Simoom Sound                                   | 135                                 | 29               | 75                       | 139                                 | 30               | 78                       | Melville Is.  | 144                                 | 6                | 89                       | 148                                 | 6                | 90                       |
| Squamish                                       | 140                                 | 31               | 77                       | 145                                 | 31.9             | 80                       | Nahanni Butte   | 135                                 | 19.5             | 81                       | 140                                 | 20               | 83                       |
| Stewart  | 130                                 | 23.1             | 75                       | 134                                 | 24.1             | 78                       | Norman Wells  | 129                                 | 14.8             | 81                       | 133                                 | 15.3             | 83                       |
| Telegraph Creek                                | 128                                 | 20.9             | 76                       | 132                                 | 21.8             | 78                       | Port Radium   | 139                                 | 15.1             | 85                       | 143                                 | 15.3             | 87                       |
| Trail  | 148                                 | 32.8             | 81                       | 153                                 | 33.4             | 84                       | Rae   | 145                                 | 18.6             | 86                       | 149                                 | 18.8             | 87                       |
| Vancouver Is.                                  | 136                                 | 30               | 75                       | 141                                 | 30.9             | 78                       | Snowdrift   | 155                                 | 19.4             | 88                       | 159                                 | 19.4             | 90                       |
| Vancouver                                      | 140                                 | 31.5             | 77                       | 145                                 | 32.4             | 80                       | Tuktoyaktuk   | 120                                 | 10               | 81                       | 124                                 | 10.5             | 82                       |
| Vernon   | 146                                 | 31.3             | 80                       | 150                                 | 31.9             | 83                       | Victoria Is.  | 149                                 | 10.5             | 89                       | 154                                 | 10.5             | 90                       |
| Victoria Beach                                 | 189                                 | 31               | 99                       | 194                                 | 30.3             | 102                      | Wrigley   | 134                                 | 17.3             | 82                       | 138                                 | 17.8             | 84                       |
| Victoria                                       | 140                                 | 32.3             | 76                       | 145                                 | 33.1             | 79                       | Yellowknife   | 148                                 | 19               | 86                       | 152                                 | 19.2             | 88                       |
| Williams Lake                                  | 141                                 | 28.8             | 79                       | 146                                 | 29.5             | 82                       | <b>Yukon Territory</b>                                      |                                     |                  |                          |                                     |                  |                          |
| <b>Nunavut</b>                                 |                                     |                  |                          |                                     |                  |                          |   |                                     |                  |                          |                                     |                  |                          |
| Amadjuak                                       | 252                                 | 12.8             | 106                      | 255                                 | 11.7             | 107                      | Big Salmon  | 122                                 | 16.3             | 76                       | 127                                 | 17.2             | 78                       |
| Arctic Bay                                     | 253                                 | 7.1              | 97                       | 257                                 | 6.7              | 98                       | Carmacks  | 121                                 | 15.8             | 75                       | 125                                 | 16.7             | 77                       |
| Bathurst Inlet                                 | 158                                 | 14.8             | 90                       | 162                                 | 14.8             | 91                       | Dawson  | 118                                 | 13.3             | 75                       | 122                                 | 14.3             | 77                       |
| Bathurst Is.                                   | 211                                 | 5.4              | 92                       | 215                                 | 5.2              | 93                       | Forty Mile  | 117                                 | 12.8             | 75                       | 121                                 | 13.7             | 77                       |
| Cambridge Bay                                  | 165                                 | 12.4             | 91                       | 169                                 | 12.3             | 92                       | Keno Hill   | 121                                 | 14.4             | 77                       | 125                                 | 15.2             | 79                       |
| Cape Dyer                                      | 268                                 | 7.6              | 108                      | 272                                 | 6.4              | 109                      | Klondike  | 118                                 | 13.4             | 75                       | 122                                 | 14.3             | 77                       |
| Cornwallis Is.                                 | 233                                 | 6.1              | 93                       | 237                                 | 5.9              | 94                       | Mayo Landing  | 121                                 | 14.5             | 77                       | 125                                 | 15.3             | 78                       |
| Devon Is.                                      | 261                                 | 5.4              | 96                       | 265                                 | 5                | 97                       | Old Crow  | 116                                 | 10.3             | 77                       | 120                                 | 11.1             | 79                       |
| Eskimo Point                                   | 197                                 | 19.8             | 97                       | 201                                 | 19.3             | 99                       | Stewart River   | 118                                 | 14               | 75                       | 122                                 | 14.9             | 76                       |
| Frobisher Bay                                  | 257                                 | 11.7             | 107                      | 261                                 | 10.5             | 109                      | Tagish  | 124                                 | 17.9             | 75                       | 128                                 | 18.9             | 77                       |
| Gjoa Haven                                     | 198                                 | 12.5             | 94                       | 202                                 | 12.2             | 96                       | Teslin  | 125                                 | 18.5             | 76                       | 129                                 | 19.3             | 78                       |
| Igloolik Is                                    | 247                                 | 10.3             | 100                      | 251                                 | 9.6              | 101                      | Watson Lake   | 129                                 | 19.4             | 78                       | 134                                 | 20.2             | 80                       |
| Kangirsuk                                      | 251                                 | 15               | 110                      | 255                                 | 13.7             | 111                      | Whitehorse  | 123                                 | 17.4             | 75                       | 127                                 | 18.3             | 77                       |
| Lake Harbour                                   | 254                                 | 12.8             | 108                      | 258                                 | 11.6             | 109                      | <b>Canadian Arctic Islands / Archipel Arctique Canadien</b> |                                     |                  |                          |                                     |                  |                          |
| Mackenzie King Is.                             | 134                                 | 4                | 89                       | 138                                 | 4                | 90                       | Prince Charles Is.  | 254                                 | 10.3             | 102                      | 258                                 | 9.5              | 103                      |
| Padlei   | 190                                 | 19.3             | 96                       | 194                                 | 18.8             | 98                       | Prince of Wales Is.   | 197                                 | 8.3              | 93                       | 201                                 | 8.1              | 94                       |
|  |                                     |                  |                          |                                     |                  |                          | Prince Patrick Is.  | 121                                 | 4.2              | 87                       | 125                                 | 4.3              | 88                       |
|  |                                     |                  |                          |                                     |                  |                          | Queen Elizabeth Is  | 256                                 | 2.9              | 92                       | 259                                 | 2.8              | 93                       |