Stairway Measuring Guide





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21-m05-2019

Revision history of this guide

- September 19, 2013 – Initial release
- October 28, 2013 – Revised
- November 4, 2013
  - Highlighted IMPORTANT notes on page 4
  - Added two important NOTES to Step 6 on page 8
  - Emphasized in Step 6 on page 8 that you must take 2 photos from different angles each time
  - Added sub-step on page 9 to measure carpet thickness
  - In Sample sequence of photos beginning on page 10, emphasized that you must take 2 photos from different angles each time
  - Added NOTE on page 10
  - Added sub-step in Step 7 on page 12 to ensure photos are acceptable before returning the measuring kit
  - Added sub-steps on page 17 to email order form with photo link, indicate the serial number of the camera and ensure photos are acceptable before returning measuring kit
  - Added a photo of the final result on page 18
- November 8, 2013
  - Revised Step 10 on page 8 to emphasize that the photo of the level plate must be taken perfectly square over the plate (NOT on an angle).
- November 21, 2013
  - Added note on page 4 to turn OFF the camera flash if you are getting glare in the photos
  - Revised Flash Setting in the camera Menu Settings (Step 5) on page 7 to ON (turn off if you are getting glare)
- March 17, 2014
  - Added information "DO NOT rotate the images" to IMPORTANT ITEMS on page 3
  - Revised photo on page 5 to show entire leveling plate with bubble level
  - Added "Additional tools" section to STEP 2 on page 5
  - Revised sub-step 3 in STEP 3 on page 5
  - Revised NOTE at top of page 10
  - Revised sub-step 13 of STEP 8 on page 17
- March 26, 2014
  - Revised procedure "Create a Google drive to share E-template photos" on page 13
- June 5, 2014
  - Simplified guide, revised photos, rearranged sections
- April 7, 2015
  - Added Important Notice re: phone number for late night technical support on this page
  - Added NOTE re: Pixel Setting (do not change) to STEP 4 on page 6
- March 23, 2017
  - Added settings for new Canon cameras (G9X and S110) to STEP 4 on page 7
- April 1, 2019
  - Added new STEP 8 on page 19 providing photo measurement vs. site validation items
- May 21, 2019
  - Added a NOTE to sub-step 2 of STEP 7 on page 13

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IMPORTANT

Late Night Photo Measuring Support Center

For late night photo measuring technical support, please call: 1.844.799.5458 (8am-10pm ET).

TIPS for measuring and taking photos

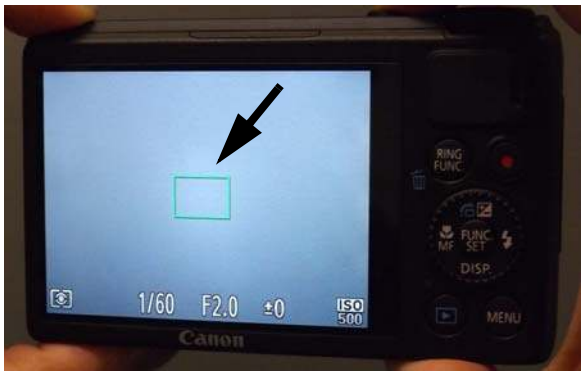
IMPORTANT

BEFORE starting the project, we strongly recommend that you:

- **Read the TIPS below.**
- **Read this entire guide.**
- **Do a TRIAL RUN at home before going into the field.**

CAMERA

- Make sure the dial on top of the camera is set to "C".
- NEVER change the camera MENU settings. The settings are provided in this guide for reference only.
- DO NOT use the camera ZOOM. If you accidentally turn on the zoom, turn the camera off then on again to reset. If you're not sure when the zoom was activated, start the photo shoot over again.
- When taking photos with the camera held as high as possible, ensure the green square is visible in the camera window before pressing the shutter button down fully.



MARKERS

- LANDING markers are identified with a RED number.
- STEP markers are always used in pairs and are identified with a GREEN step number and L or R (left or right).
- Use a plumb line on each step to position markers if there is a handrail or other obstruction.
- Each marker must be in at least 3 photos.
- There must be at least 8 markers in every photo, with overlap of common markers and stair markers as you move throughout the landings.
- DO NOT affix tape or any other adhesive material on the film of the markers as it may damage the printed target.
- Markers must be no more than 18" apart at landings. For smaller enclosed areas, the markers can be 12" apart.
- Markers must be no more than 36" apart on steps. If the width will exceed 36", add the width measurement by hand.
- Make sure all markers on stairs and landings are level (not tilted or on an angle, such as half on a rug runner and half on a wooden step).
- Use extra markers to mark bulkheads and landing details.
- Ensure the markers DO NOT move during the photo shoot. Do not try to relocate markers if they get moved. If a marker gets moved, put it back and start the photo shoot over again.
- If there is a handrail in the parking area of the landing, consider removing the handrail before placing landing targets for the parking area.

TAKING PHOTOS

- REDUCE GLARE as much as possible when taking photos; close curtains and windows as necessary, and cover all reflective surfaces (such as mirrors).
- Elevate the camera as high as possible when taking photos. When doing this, make sure you can see the green square in the centre of the camera display when you press the shutter button half way down.
- DO NOT take numerous random photos or repetitive photos from the same position.
- Take landing photos from the left, right, and center of each section with variations of height to create angles for more accurate processing results.
- Take overlapping photos of landing and stair targets.
- Use a step stool to stand on when taking photos in tight areas.
- If necessary, you can ROTATE the camera when taking photos from extreme angles.

MISCELLANEOUS

- DO NOT rotate the images in the software.

Step 1
Contents of stair measuring kit

1 Case
2 Level plate (with 3 coded targets and bubble level on it)
3 Zero point marker (with 1 coded target on it)
4 Plumb line
5 Camera with case and battery charger
6 80 - Step R markers (with 2 coded targets on each)
7 80 - Step L markers (with 2 coded targets on each)
8 100 - Landing markers (with 2 coded targets on each)
9 Stairway Measuring Guide

NOTE

Do not affix tape or any other adhesive material on the film of the markers as it may damage the printed target.



Additional tools

In addition to the photo kit, we recommend that you bring the following tools:

- Dark garbage bags (to cover windows, mirrors and other reflective surfaces)
- Masking tape (to adhere garbage bags to reflective surfaces and to adhere markers to overhead obstructions; ensure tape does not get on the film of the marker target)
- Step stool (to use for plumbing, bulkhead marker placement and in tight areas)
- Laser level (optional, but easier and faster to use than the manual plumb line)

Step 2
Place markers on bottom landing

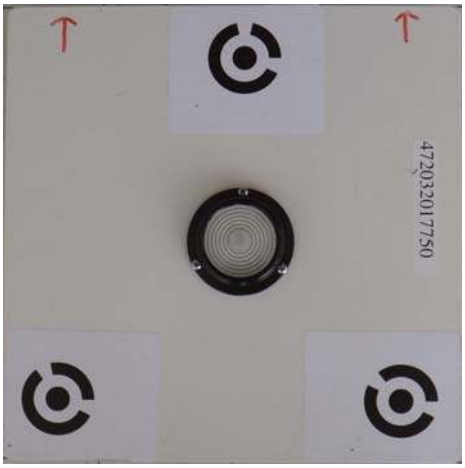
NOTE

Be sure to keep the markers organized numerically.

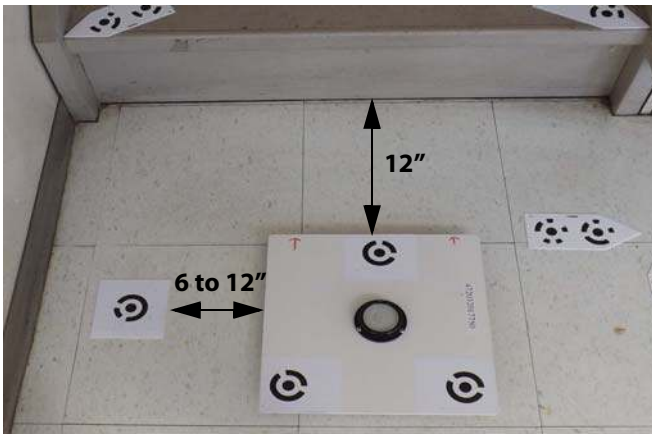
1 Position the **level plate** on the bean bag with the plate edge that contains the single-coded target parallel to the bottom step riser at a distance of 12" from the step.
2 Level the plate using the round bubble level in the center of the plate. The bubble must be EXACTLY in the center of the leveling circle.

NOTE

For accurate measurements, the plate must be as level as possible (bubble in the center of the leveling circle).



3 Place the **zero point single-coded target** on the floor next to the plate (6 to 12″ from the level plate). The target must be on the floor, not on an elevated surface. Be careful not to place it too close to the plate or under the tread lip as it may be partially blocked from view when taking the photos.



4 Place at least two **landing markers** with their pointed ends at either end of the landing area wall where the lift will be installed.

- Place markers along the wall (a maximum of 18" apart; 12" for tight areas) to the point at which the installation will terminate.
- Mark with multiple markers any curves or turns the railing makes until reaching the termination point. If any structure or permanent objects are close to the sweep of where the lift is intended to operate, place at least two markers at those positions, and three or more if the object is curved.
- If the markers required for all of the above are spaced too far apart to comfortably photograph 8 markers at a time, add additional landing markers to the area to build up the marker count.



5 For the hand rail side of the stairs, position markers to indicate the plumb position of the railing (use a **plumb bob** as shown below).



Step 3
Place markers on steps and landings

1 The **step markers** are in pairs, step 1L (left) and step 1R (right), 2L and 2R, 3L and 3R, and so on. There are enough for 80 stair tread front edges.

- On stair treads that are not rectangular, such as in the tight curves of circular stairways, use landing markers to indicate the intersections of extra sides.
- Place the **1L** marker to indicate the front left extremity of the tread and the **1R** marker for the front right extremity.





2 Continue up the steps, placing the L and R step markers on the front tread edge of each step (use markers in numerical order).

3 Use landing markers on any **intermediate landings** as necessary to build the marker count to 8 markers per photo.



4 At the **top landing**, mark the area in the same manner as for the bottom landing, except there is no zero point marker or level plate involved.



5 Use **landing markers** also to mark any **overhead** obstructions.

Align the long edge of a landing marker along any bulkhead (see below) or possible upper obstruction to a lift passenger's head. Use tape to fasten the marker in place; the tape MUST NOT touch the film of the marker.



Step 4
Before taking photos

NOTE

NEVER change the menu settings.
Especially, DO NOT change the Pixel Setting; the pictures will not process if this setting is changed.
The settings below are listed here for reference only.

ORIGINAL CAMERA

Before turning on the camera, verify the Mode dial on the top of the camera is set to "C".

The "C" setting is programmed with the following custom settings.

Funct Set

M1 – Normal (6M 2816x2112)



Menu Settings

AF Frame	Center
AF Frame Size	Normal
Digital Zoom	Off
AF-Point Zoom	Off
Servo AF	Off
AF-Assist Beam	On
MF-Point Zoom	On
Safety MF	On
Flash Setting	On (turn off if you are getting glare)
i-Contrast	Off
Review	2 sec
Review Info	Off
Blink Detection	Off
Custom Display	
IS Mode	Off (CRITICAL)
Date Stamp	Off
Record Raw + L	Off









CANON G9X CAMERA

Before turning on the camera, verify the Mode dial on the top of the camera is set to "C".

The "C" setting is programmed with the following custom settings.

Funct Set

M2 – Normal (2048 x 1536)



Menu Settings

Digital Zoom	Off
AF-Point Zoom	Off
AF Operation	One Shoot
AF Method	1-point AF
AF Frame Size	Normal
Continuous AF	On
AF-Assist Beam	On
MF-Point Zoom	Off
Safety MF	On
IS Settings	See next screen
IS Mode	Off (CRITICAL)









CANON S110 CAMERA

Before turning on the camera, verify the Mode dial on the top of the camera is set to "C".

The "C" setting is programmed with the following custom settings.

Funct Set

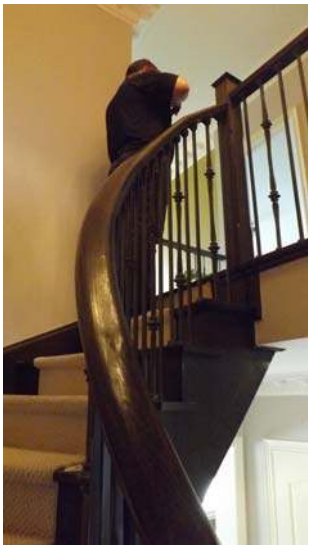
M1 - FINE (6M 2816 x 2112)

Menu Settings

AF Frame	1-point
AF Frame Size	Normal
Digital Zoom	Off
AF-Point Zoom	Off
Servo AF	Off
Continuous AF	On
Touch Shutter	Off
AF-Assist Beam	On
MF-Point Zoom	On
Safety MF	On
Flash Settings	Do not change
ISO Auto Settings	Max 1600
ISO Auto Settings	Rate of change Standard
High ISO NR	Standard
Spot AE Point	Center
Wind Filter	Off
Review	Quick
Review Info	Off
Blink Detection	Off
Custom Display	
IS Mode	Off (CRITICAL)
Date Stamp	Off
Face ID Settings	On
Set Control Ring Fun	STD

Step 5
Take photos

1 Begin taking photos at the **TOP landing**.



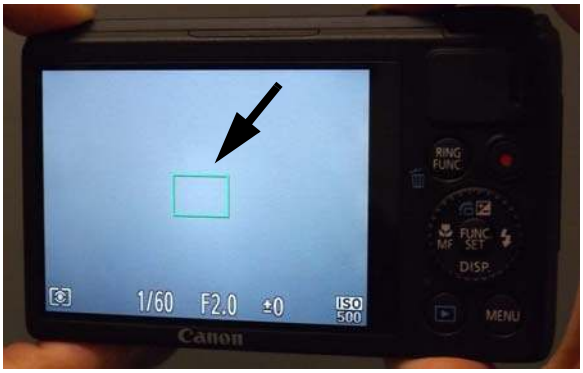


NOTE

Ensure each marker is in at least 3 photos.
Do not move markers while taking photos.
Include at least 8 markers in each photo.

NOTE

When using the camera, press down on the shutter button and WAIT until the **green square** is visible in the camera window before pressing the shutter button down fully. This will ensure the best resolution.



2 Take photos of the top landing from left, right and center positions. You can rotate the camera if necessary.
- For tight areas, stand on a step stool or take some photos holding the camera extended above your head (with green square visible in camera display).
- Ensure each landing marker is in at least 3 photos and get overlap of targets on larger landing areas.
- Take photos that include both landing and step markers.

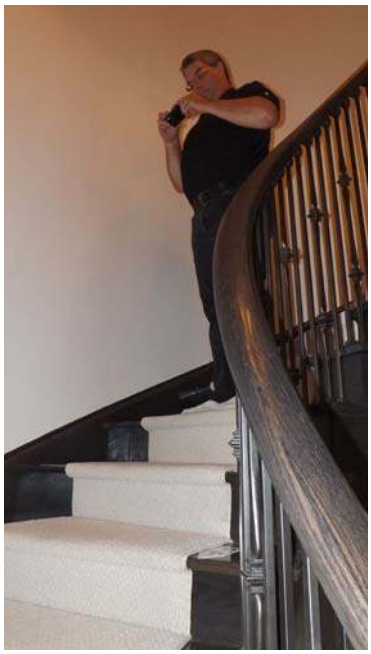
3 If possible, take a few photos OVER the upper rail to the steps and landings below, including any bulkhead targets.



4 While standing on the landing, looking DOWN the stairs, take the photo (with green square visible in camera window). Include markers at your feet and as many full steps as clearly visible. You can rotate the camera if necessary.

5 Go 3 steps down and turn facing UP the stairs. Take the photo (with green square visible in camera window). This shot should get the steps and landing targets in the photo. You can rotate the camera if necessary.

6 On the same step, turn facing DOWN the stairs and take the photo holding the camera as high as possible (with green square visible in camera window) take the photo including markers at your feet and as many full steps as clearly visible. You can rotate the camera if necessary.



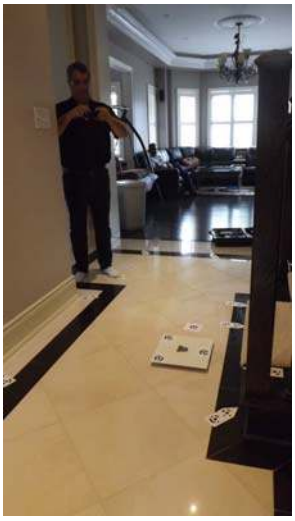
7 Repeat this 3 -step up/down shooting process until you reach the bottom landing. Along the way, if you have a clear shot of the bulkhead targets that would include a good number of other targets, take photos.

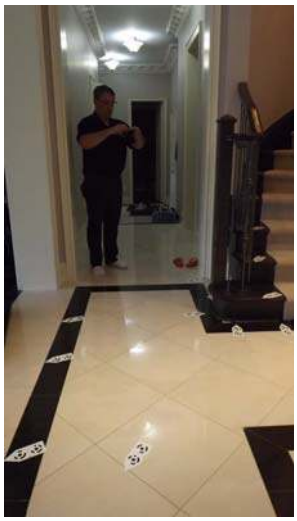
8 At any **intermediate landings**, repeat the upper landing procedure from the previous page.

9 At the **bottom landing**, repeat the landing procedure again ensuring you get all markers in multiple photos.

10 Facing the stairs, take a photo of the level plate perfectly square, directly over the plate. Ensure this photo is NOT taken on an angle.

11 Be sure to measure the thickness of any carpet on the landings and/or stairs and record this measurement.





Sample sequence of photos

NOTE

Ensure each marker is in at least 3 photos.
Do not move markers while taking photos.
Include at least 8 markers in each photo.

1 Shoot landing, from side



2 Shoot landing



3 From landing, shoot down



4 Shoot down from top step



5 Go 3 steps down, turn and shoot up



6 Turn around and shoot down



7 Go 3 steps down, turn and shoot up



8 Turn around and shoot down



9 Go 3 steps down, turn and shoot up



10 Turn around and shoot down



11 Go 3 steps down, turn and shoot up



12 Turn around and shoot down



13 Go 3 steps down, turn and shoot up



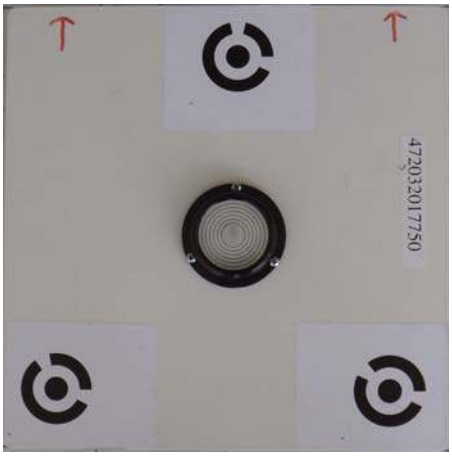
14 Turn around and shoot down



15 From floor, shoot toward stairs



16 Facing the stairs, take a photo of the level plate perfectly square, directly over the plate



Step 6

Clean-up and repack markers

1 Proceed up the stairs picking up the L and R step markers in order. As you go up the stairs, pick-up any intermediate landing markers as well, keeping them separate from the step markers.

2 After retrieving all step, intermediate landing, bulkhead and upper landing markers, collect those at the bottom landing, including the zero point marker and the level plate.

3 Repack all markers in the case in the proper place and order.

If necessary, clean the markers with a damp cloth and dry them before repacking.

4 IMPORTANT: You must confirm that the photos you submit are acceptable and can be used to create a drawing BEFORE returning the measuring kit.

5 Follow the next procedure to submit the photos and the order form to Savaria.

Step 7
Create a Google drive to share E-Template photos

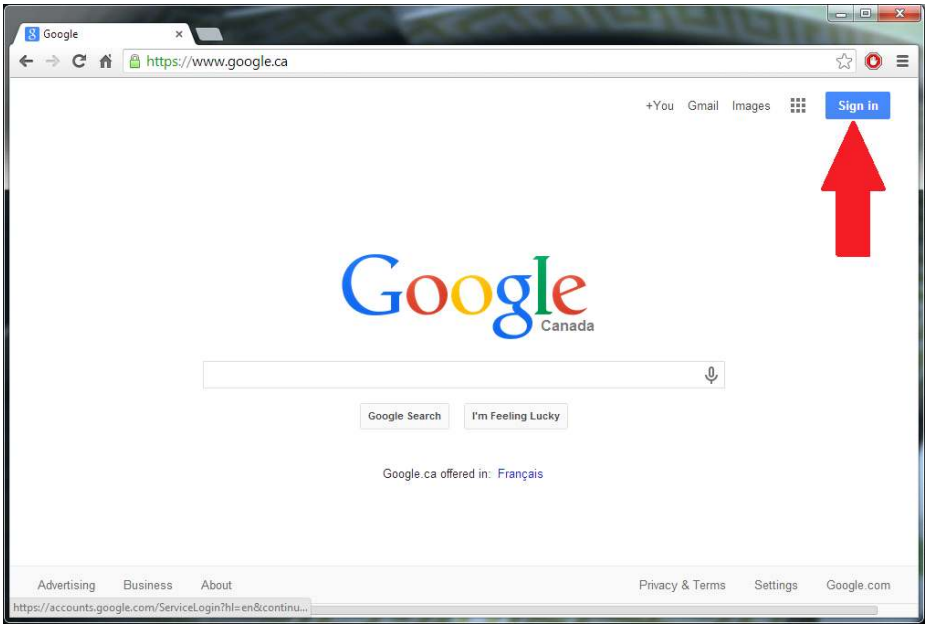
1 To download the photos from the camera, either use the cable provided or remove the SD card from the camera and insert it into your PC's card slot.

2 DO NOT use any camera or download wizards. Simply locate the camera or removable drive under My Computer in your Windows browser, then copy and paste (or drag and drop) the.JPEG files to a project folder you have created.

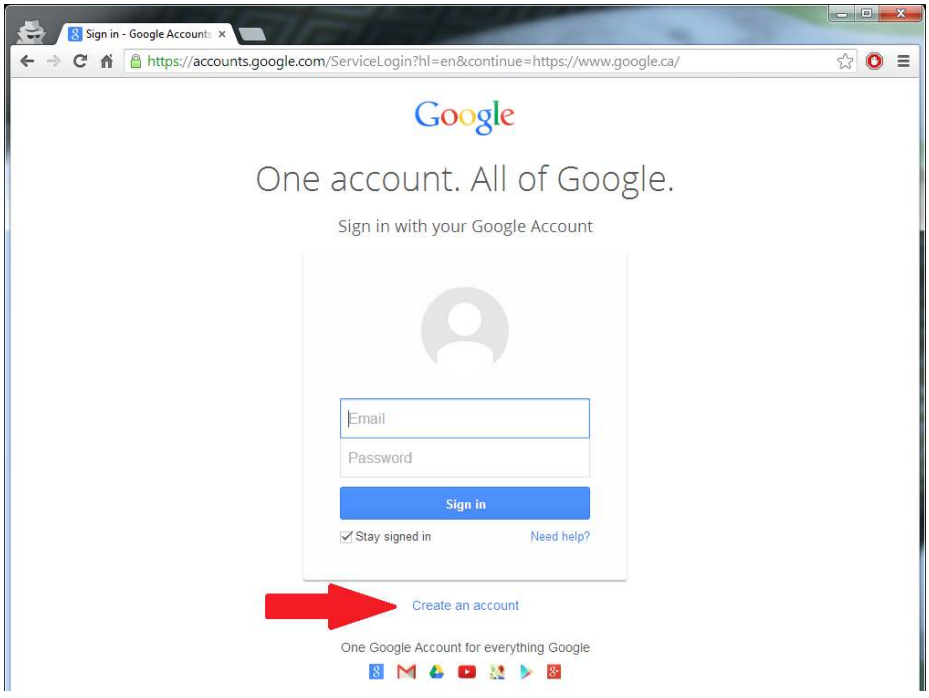
NOTE: For an Apple Mac computer, you need to upload the photos off the camera into the Photos App first. After that, create a New Folder on your desktop and drag and drop the uploaded photos from the Photos App into the New Folder. You can then drag and drop the photos from the New Folder into the Google Drive folder.

3 Note: If you already have a Google account, sign in and skip to Step 7 in this procedure.

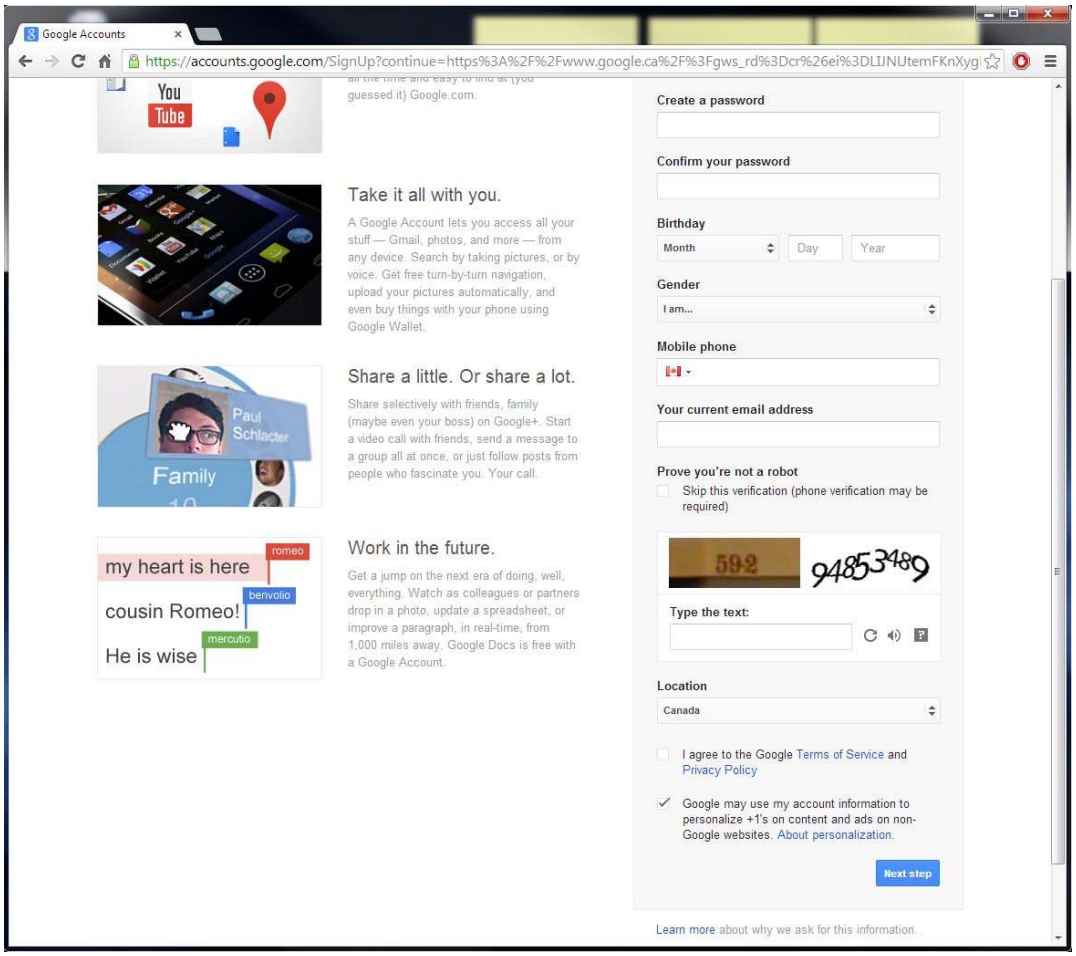
4 If you do not have a Google account, go to Google.com and click **Sign In**, in the top right-hand corner.



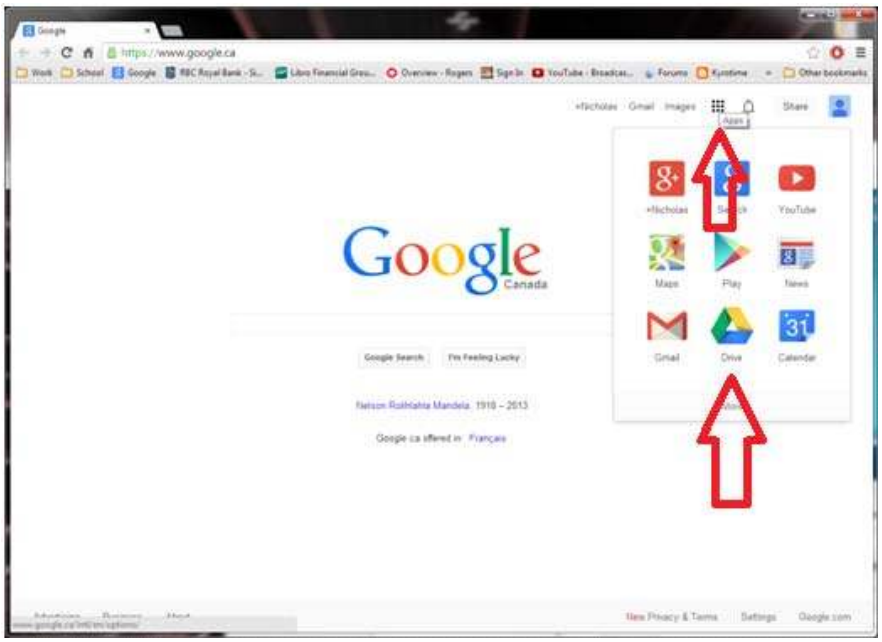
5 Click **Create an account** as shown below if you do not have an account.



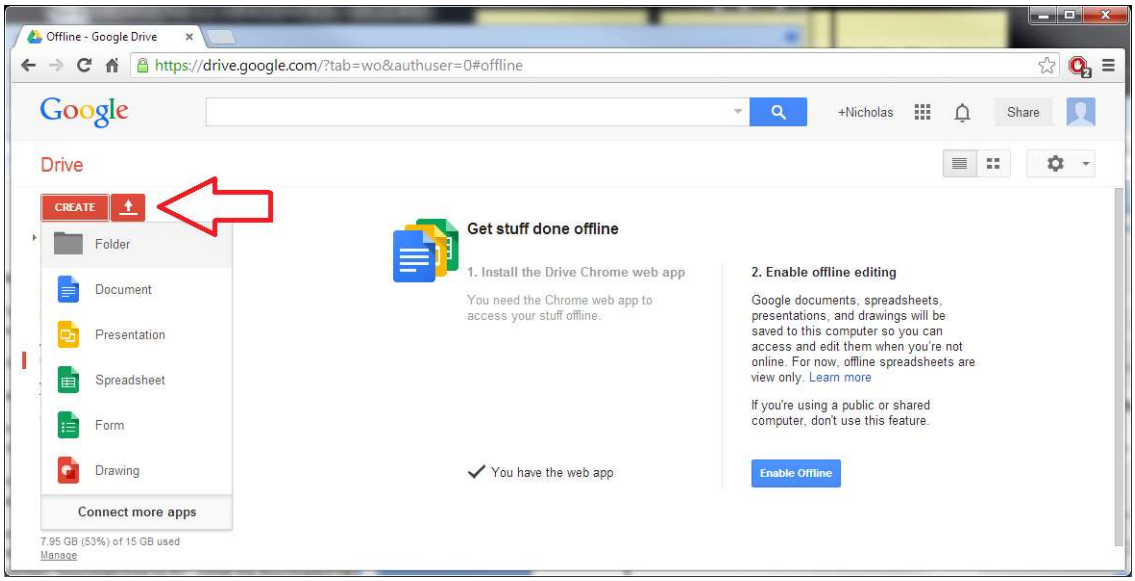
6 Enter all required information to complete the sign-up process.



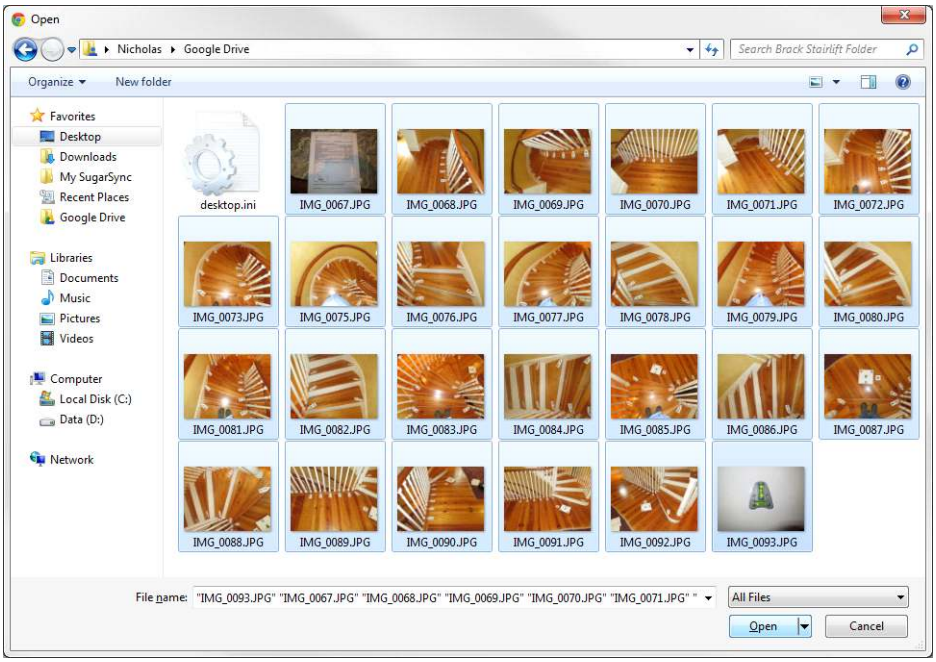
7 After the sign-up process is complete, navigate back to Google.com and the small 9-dot square in the top right hand corner. This will open the **Apps** menu; select **Drive** from the menu.



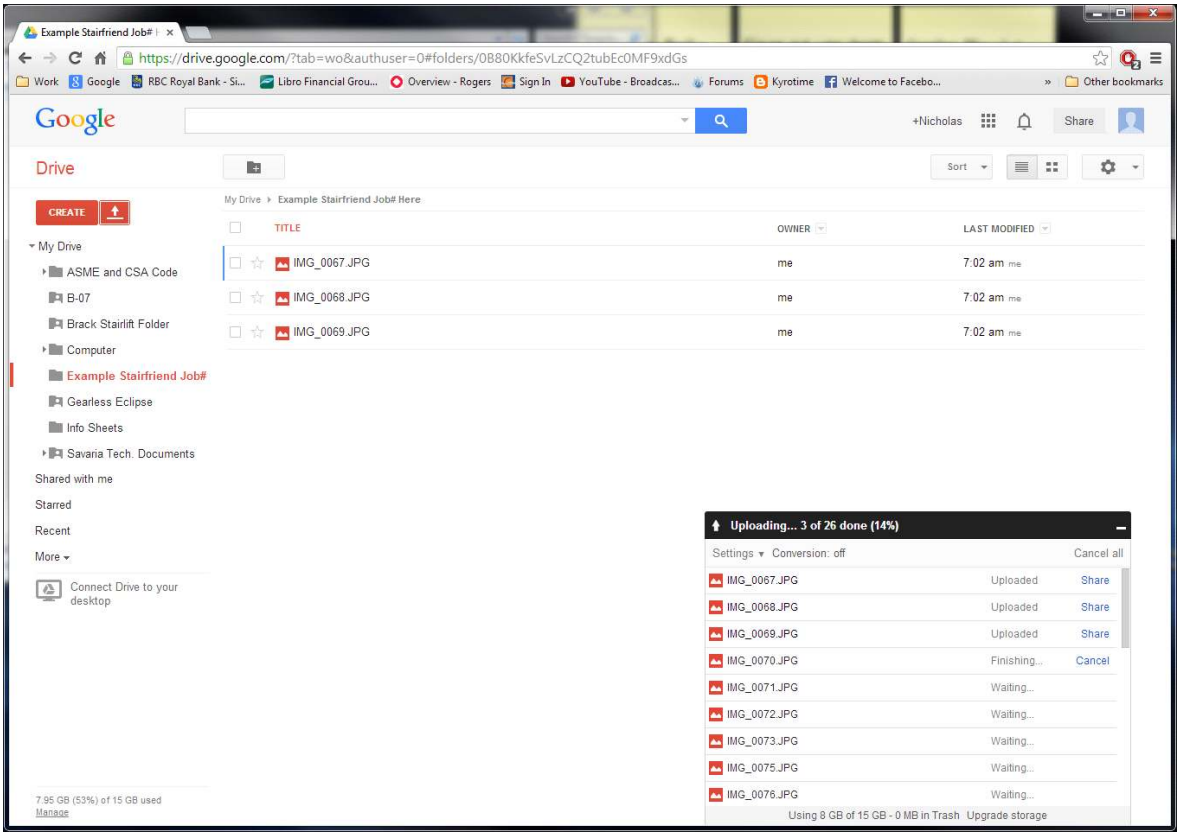
8 Once in Google Drive, click **Create** on the left and create a new folder. This will be the folder that you will share to get your pictures to Savaria. Use the job number as the name for the folder.



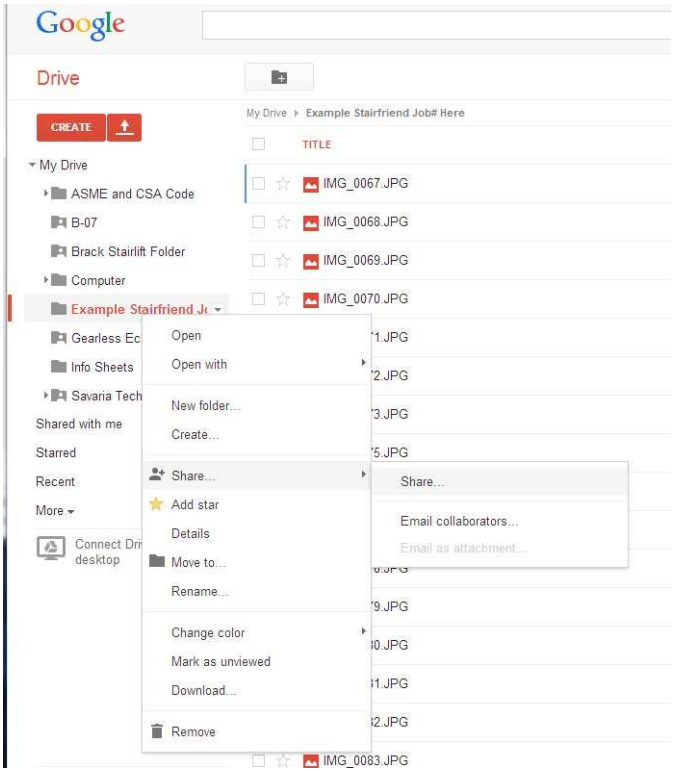
9 After this is complete, navigate to the folder that has the files you want to upload. Select all the photos that you want to upload to Google Drive and click **Open**.



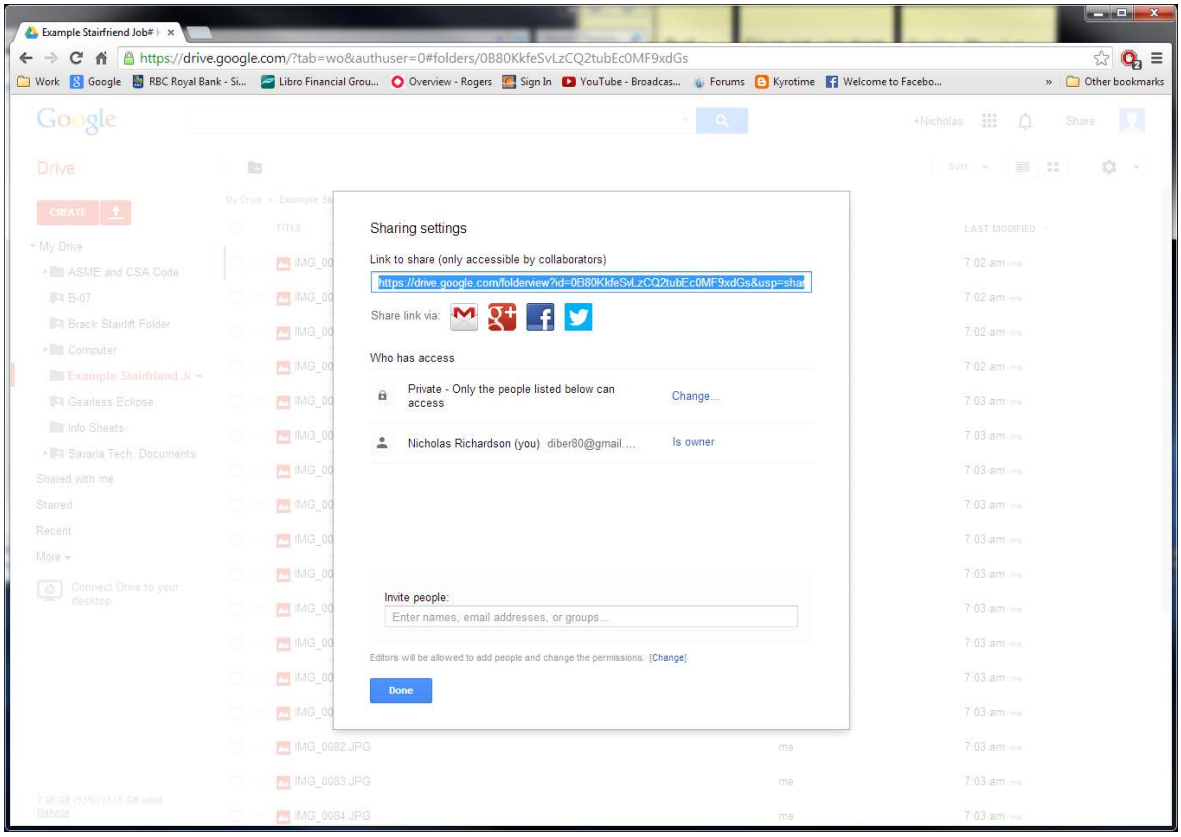
10 The following screen will appear, telling you that the files are uploading.



11 To share the folder that has all the photos in it, right-click the folder on the left and navigate to **Share** and **Share**.



12 The following window will pop up. Copy the link and e-mail it to **Stairfriend@Savaria.com**.



13 Be sure to email the **ORDER FORM** with your photo link as well.
Be sure to **ALWAYS include a quick hand sketch of the job** with your order form (include all doorways, obstructions, railings, parking, closets, etc.).

14 Be sure to indicate the **SERIAL NUMBER** of the camera on the order form or send a photo of it with the stairway photos.

15 IMPORTANT: You must confirm that the photos submitted are acceptable and can be used BEFORE returning the measurement kit.

Reference information

When taking photos for an ETemplate Stairlift project, keep in mind what is needed for the system to calculate accurate results.



NOTE

Do not affix tape or any other adhesive material on the film of the markers as it may damage the printed target.

IMPORTANT ITEMS

- Make sure your camera is set to the proper setting as specified on page 7. **DO NOT change the settings.** Simply verify that the dial position on top of the camera is set to "C" and turn it on. DO NOT use the zoom; images must be taken at 100%. The camera will auto-focus every time you take a photo. To accommodate this, press the shutter button down slightly until you see green bracket(s) or box(es); then hold, stay steady and press the button all the way. DO NOT rotate the images in the software.
- If there are hand rails on both sides of the stairs, place markers inside both plumb positions, right and left.
- All upper and lower landing areas must be marked clearly and photographed in order to define the area available for installation and operation of the equipment for boarding and exiting the chair.
- All landing photo sets should contain at least one photo of the top few steps and landing targets in the same photo.
- For the landing areas, take photos from as far left and right as possible, and at a height where at least 8 markers are clearly visible. The center dots and ring codes of all targets must be clearly discernible.
- If you can't see at least 8 markers clearly and distinctly on your camera's display, DO NOT take the photo.
- The system will scan each photo during processing and identify the coded markers it can see. Those that are not clear will be ignored.
- The first photo determines your first section of the project. Shoot additional photos of the same area of markers from the extreme left, right and center; again with the markers clearly visible.
- For tight areas, you can use a step stool to get photos from extreme angles while shooting each section.
- Move on to the next section, overlapping several markers from the first section in the process. Repeat the left, center, right, up, down camera positions to create maximum angles in the second section.
- Repeat this process for the third and any subsequent sections necessary to photograph the entire landing.
- For big areas, take a photo from a few feet further away that overlaps the first and second sections. This shot, repeated between each section, along with the overlap of the 5 or 6 targets that are common to both sections, will put the entire project area in the proper perspective and create an accurate design file of all the coded markers.
- Use multiple landing markers to increase the number of targets in an area or to bridge gaps in marker placement.

Step 8
Photo measurement drawing vs. site validation

We strongly recommend that dealers take manual measurements to validate the photo measurements. This will allow you to catch any discrepancies to ensure the Stairfriend fits like a glove.

Also by reviewing the approval drawing with your customer, you will be able to highlight some key dimensions for them to be aware of so they'll be happy with their Savaria stairlift for many years.

Dealer Review

- ❒ Validate dimensions (tolerance ½")
- ❒ Nose to floor when possible
- ❒ Vertical travel on all jobs
- ❒ Intermediate landing/pie shape dimensions
- ❒ Overhead (position, dimension)
- ❒ Footrest height (during travel, what is the highest point)
- ❒ Seat height at bottom landing and top landing
- ❒ Any interference (door, beam, handrail, etc.)
- ❒ Distance from seat to head of customer (for mannequin on drawing)
- ❒ Distance from back to knee of customer (for mannequin on drawing)
- ❒ Intermediate station needed (if yes, at what position)

End Customer Review

(We recommend that the end customer signs every page except the one with the dimensions of all the steps.)

- ❒ Distance from rail to wall
- ❒ Explain that the precision on drawings may differ by 1-2" once installed
- ❒ Seat height at bottom and top (get them to sign for those dimensions on the drawing)
- ❒ Show them where the seat can be turned once at a landing and where it can't
- ❒ Discuss the possible need to install infill panels to protect against shear points

STAIRWAY MEASURING GUIDE

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