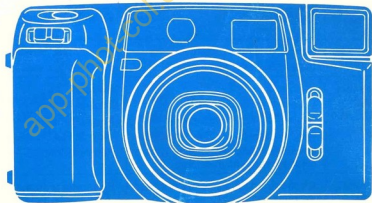




AF-ZOOM 90 (QUARTZ DATE) FREEDOM ZOOM 90 (QUARTZ DATE)

E INSTRUCTION MANUAL



1. MAIN FEATURES

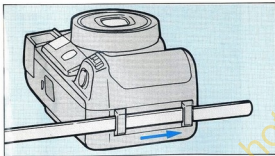
Your Minolta AF-Zoom 90/ Freedom Zoom 90 is an intelligent, compact 35mm zoom camera offering many advanced features to simplify operation and improve picture quality.

- 38-90mm power zoom lens
- Program Zoom mode for automatic portrait framing
- Intelligent multi-beam autofocusing
- Intelligent autoexposure
- Optional 1.3X Zoom Extender and other accessories

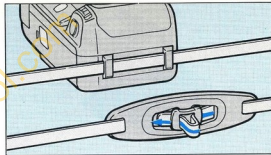
To learn how to operate your new camera properly and obtain satisfying results right from the start, please read this manual carefully before taking pictures.

If you have any questions about this camera, contact your local camera dealer or the Minolta distributor or subsidiary in your area.

2. ATTACHING THE STRAP



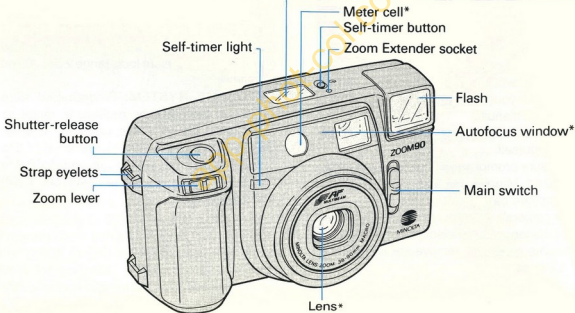
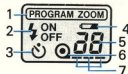
Attach strap as shown for added safety and convenience.

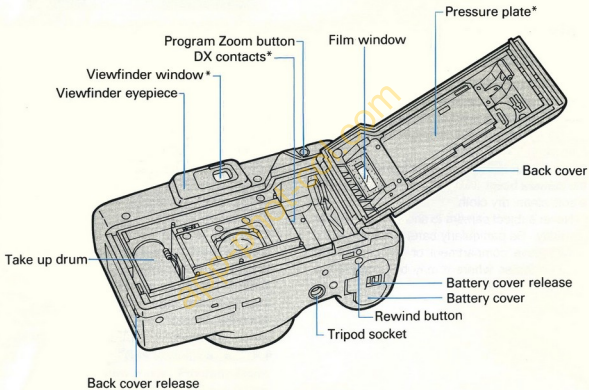


3. NAMES OF PARTS

LCD DATA PANEL

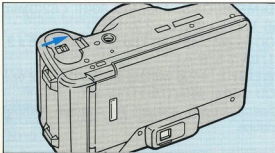
- 1 Program Zoom mode indicator
- 2 Flash mode indicator
- 3 Self-timer indicator
- 4 Low-battery signal
- 5 Frame counter
- 6 Film cartridge
- 7 Film transport signals





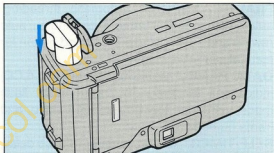
* Do not touch

4. BATTERIES



Your AF-Zoom 90/Freeform Zoom 90 is powered by a 2CR5-type 6-volt lithium battery. To install the battery:

1. Slide the battery cover release tab in the direction shown above, then lift the edge of the battery chamber cover.



2. Insert the battery, according to the marks shown on the battery compartment, then snap the cover shut.


BATTERY CAUTIONS

- Keep batteries away from children.
- Follow all instructions supplied by battery manufacturer.
- Keep battery contacts clean.


5. CHECKING BATTERY CONDITION


Move main switch to  position and depress the shutter-release button slightly.



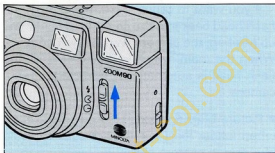
If the blinking low-battery signal () appears together with other displays in the LCD data panel, battery power is low. The battery should be replaced soon.



If the blinking low-battery signal () appears alone in the LCD data panel, or if no display appears, replace the battery.

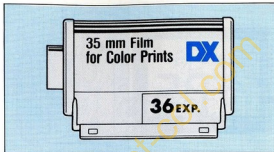
- Before removing the old battery, move main switch to  position.
- We suggest that you replace the battery immediately after removing the old one. If film is loaded and the battery is left out for more than ten minutes, the frame counter will return to "1" when operation resumes. In this case the frame counter will increase by one and blink for two seconds after each picture is taken.
- Successive flash exposures may cause the low-battery signal to appear in the LCD panel, even when a battery with sufficient power is installed. If this occurs, rest the camera for one minute and then press the shutter-release button partway down; if the low-battery symbol is gone, resume normal operation. If the low-battery signal still appears, replace the battery.

6. MAIN SWITCH



Turn the camera on by moving the main switch to ☺ position. The Freedom Zoom 90/AF-Zoom 90's built-in lens cover is controlled by the main switch. When you turn the camera on the lens cover opens automatically; when the main switch is moved to ☹ the lens cover closes, ensuring that the lens is protected when you're not using the camera

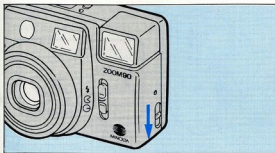
7. FILM




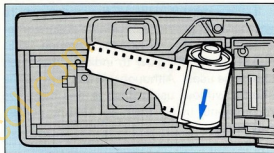
Only 35mm film can be used in this camera. With DX-coded film (DX is printed on the film cartridge), film speeds from ISO 50 to 3200 are set automatically. The camera will set the film speed to ISO 100 when cartridges without DX coding are loaded.

- 72 exposure cartridges and Polaroid instant 35mm films cannot be used.

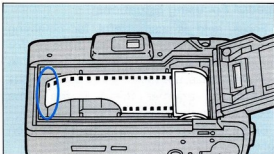
8. HOW TO LOAD FILM



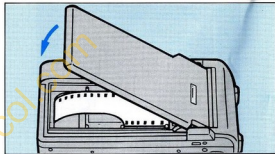
1. Move main switch to , then use the back cover release to open the camera.
 - Make sure the frame counter shows "0" before opening the camera.




2. Place the film cartridge into the film chamber as shown.
 - **CAUTION:** Load film in subdued light, or at least shaded from direct sunlight



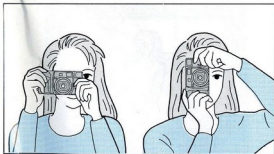
3. Lay the film flat between the guide rails and extend the tip of the film over the take-up drum to the orange film mark. If the film extends too far, gently push the excess back into the cartridge.



4. Close the back cover. The film will advance automatically to the first frame. When "1" appears in the frame counter you are ready to start taking pictures.

- If "  " blinks in the LCD panel, the film is loaded incorrectly. Open the back cover and repeat steps 2 through 4.

9. HOLDING THE CAMERA



OK

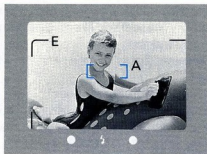
For greater stability when taking pictures, hold the camera as shown. Make sure that lens, flash, autofocus window, and meter cell are not obstructed by your hands, camera strap, etc. For vertical pictures, the camera should be held so the flash is on top.



X

- Picture blurring tends to occur more often when longer focal lengths are set. To avoid blur due to camera shake, be careful to hold the camera steady when taking pictures.

10. VIEWFINDER



B C D

A. Autofocus zone: This should be centered on your subject.

B. Green OK lamp: This signal glows when focus and exposure are correct for non-flash photography.

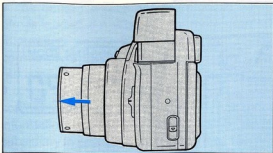
C. Green FLASH-READY lamp: With the camera in flash ON mode, this signal glows to indicate a) that focus has been correctly set and b) that the flash is charged and ready to fire.

D. Orange USE-FLASH lamp: This signal glows to indicate that flash should be used.

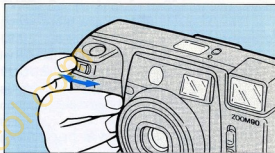
E. Close-framing marks: Compose the picture within the area shown by these marks when your subject is at close range, according to the following table:

Focal Length (mm)	Camera-Subject Distance
90	0.7—1.6m (2.3 — 5.2ft.)
70	0.7—1.2m (2.3 — 3.9ft.)
50	0.7—0.9m (2.3 — 3.0ft.)
38	0.7m (2.3ft.)

11. USING POWER ZOOM

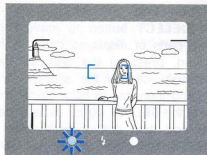


Looking through the viewfinder, aim the camera at your subject. Then, use the zoom lever, located in front of the shutter-release button, to adjust the perspective as you like.



Sliding the zoom lever in the direction of the lens decreases the focal length and sliding it away from the lens increases the focal length. The actual focal length in use at any time can be checked by referring to the scale on top of the lens barrel.

12. TAKING PICTURES



38mm

While looking through the eyepiece, center the autofocus zone on your subject and press the shutter-release button partway down. When the green OK lamp glows, press the shutter all the way down to take the picture. If the orange USE-FLASH lamp glows, slide the main switch up to prepare the flash before pressing the shutter-release button all the way down. (Refer to **Flash information** section.)



90mm

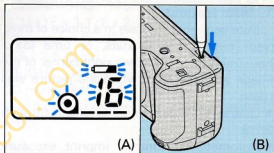
After the picture is taken the film is automatically advanced one frame and the frame counter increases by one.

- If the film stops advancing and the shutter locks before the end of the roll, replace the battery. **DO NOT OPEN THE BACK COVER.**

13. AUTO REWIND

After the last frame on the roll is exposed, rewinding starts automatically and the frame counter counts down as the film is rewound. When rewinding is complete the rewind motor shuts off and "⦿" blinks in the data panel. Open the camera by sliding the back cover release and remove the film.

- If when the rewind motor stops the LCD appears as shown (A), **DO NOT OPEN THE CAMERA**. The blinking display with the low battery signal indicates that a fresh battery is required to complete film rewind. Insert a fresh battery. If rewind does not start right away, press the rewind button to resume.





Manual Start of Rewind

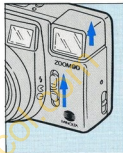
To rewind the film before the last frame is exposed, use a ball point pen or similar object to press the rewind button located at the bottom of the camera (B).


14. FLASH INFORMATION

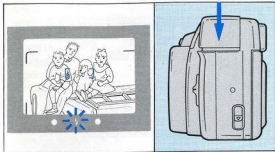
If the ambient light of the scene you're photographing is not sufficient to ensure proper exposure, the viewfinder's orange USE-FLASH lamp will glow to indicate that flash should be used. Although you can release the shutter without using flash in this case, we recommend using flash to ensure correct exposure.


To use flash:


1. Slide the main switch up to the "  " position. The flash will pop up and adjust for the focal length in use, and "  ON " appears in the LCD panel.
2. Frame your subject in the viewfinder.



3. Press the shutter-release button partway down to focus. The viewfinder's green FLASH-READY lamp () will glow to indicate that the subject is in focus and the flash is charged. Press the shutter all the way down to take the picture.



- If the green FLASH-READY lamp () does not glow the flash is not yet charged and the shutter cannot be released. Continue pressing the shutter-release button lightly; the green FLASH-READY lamp will glow once the flash is charged, and you will then be able to release the shutter.

If you want to cancel flash mode, push the flash head back into the camera; if it is in the up position, the camera will always use flash. When the main switch is moved to  , the flash head is automatically retracted into the camera.

- Picture blurring tends to occur more often when longer focal lengths are set. To avoid blur due to camera shake, be careful to hold the camera steady when taking flash pictures. Be especially careful when taking pictures of a subject at the far end of the camera's flash range.

15. FOCUS HOLD

The table shows the flash ranges for ISO 50 through 3200 films. For best results, your subject should be within the range of the film you are using.

ISO Film Speed	38mm lens	90mm lens
50,64	0.7 — 4.2m (2.3 — 13.8ft.)	0.7 — 2.1m (2.3 — 6.9ft.)
100	0.7 — 6m (2.3 — 19.7ft.)	0.7 — 3m (2.3 — 9.8ft.)
200	0.7 — 8.4m (2.3 — 27.6ft.)	0.7 — 4.2m (2.3 — 13.8ft.)
400	0.7 — 12m (2.3 — 39.4ft.)	0.7 — 6m (2.3 — 19.7ft.)
800, 1000	0.8 — 17m (2.6 — 55.8ft.)	0.7 — 8.5m (2.3 — 27.9ft.)
1600	1.1 — 24m (3.6 — 78.7ft.)	0.7 — 12m (2.3 — 39.4ft.)
3200	1.5 — 34m (4.9 — 111.5ft.)	0.7 — 17m (2.3 — 55.8ft.)



Step 1: Aim camera so autofocus zone is centered on your subject, then press the shutter-release button partway down. The viewfinder's green OK lamp or, if you're using flash, flash-ready lamp, will glow.

If you want to take a picture with your subject outside the autofocus zone, use focus hold as shown above.



Special Focusing Situations

Focus hold is also useful for obtaining accurate focus of subjects difficult for autofocusing, such as those listed below. In cases like these, use focus hold to set the focus distance on another object at the same distance from the camera as your subject.

- Bright light sources such as the sun or neon lights
- Highly reflective surfaces such as water, mirrors, etc.
- Non-substantial objects such as flame, fireworks, hair, etc.
- Dark objects and surfaces with low reflectance
- Objects behind glass, bars, etc.

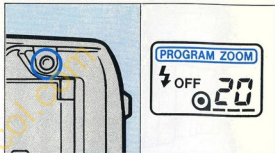
Step 2: While keeping the shutter-release button pressed partway down, recompose the picture; then, press the button down all the way to take the picture.

- When you press the shutter-release button partway down the camera also locks the exposure setting, ensuring proper exposure of your main subject.
- Focus hold can be cancelled at any time by lifting your finger from the shutter-release button.

16. PROGRAM ZOOM



Program Zoom makes taking portraits simple. With your subject at a distance of approx. 2 to 5m (7 to 17ft.), Program Zoom can be used to effect a subject magnification of approximately 1/60X at the film plane; while Program Zoom can be used with any subject, the 1/60X magnification that it programs is ideal for portraits. With the camera held horizontally, Program Zoom delivers framing



suitable for a waist-up portrait shot; with the camera held vertically, Program Zoom offers full-length portrait framing.

To select Program Zoom mode, press the Program Zoom button located on the back of the camera, to the right of the viewfinder. When using Program Zoom mode, "PROGRAM ZOOM" is displayed in the data panel.



To take pictures in Program Zoom mode, operate the camera as you would otherwise; in this case, just before releasing the shutter, the camera automatically adjusts the lens focal length to give a subject magnification of approximately 1/60X at the film plane.

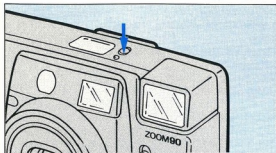
If the zoom lever is used while the camera is set to Program Zoom mode, Program Zoom mode will be cancelled for the current frame only; the LCD's Program Zoom indicator blinks


to indicate temporary cancellation. If, having temporarily cancelled Program Zoom you decide instead that you want to use it, press the Program Zoom button and it will be restored.

To exit Program Zoom mode, simply press the Program Zoom button; you can confirm that you have left Program Zoom mode by checking that "PROGRAM ZOOM" is no longer displayed in the LCD panel.

- Program zoom does not function when you use the self-timer; pressing the Program Zoom button cancels the self-timer.


17. SELF-TIMER





To delay shutter release for ten seconds after pressing the shutter-release button, press the self-timer button to select self-timer mode. The self-timer indicator () will appear in the data panel. To take a picture, aim the camera in the usual way and press the shutter-release button all the way down. Both the self-timer light, located on the front of the camera, and the indicator in the data panel will blink during countdown to exposure.



If you want to take another picture using the self-timer, repeat the above steps.

- To cancel the self-timer prior to pressing the shutter release button, press the self-timer button a second time. To cancel the self-timer once the shutter-release button has been pressed, but before the picture has been taken, slide the zoom lever in either direction or move the main switch to  position.

18. TROUBLE SHOOTING

Problem	Cause	Solution
Entire picture blurred.	Camera Movement.	Hold camera steady and release shutter gently.
Subject out of focus.	Autofocus windows obstructed. Subject too close to camera. Autofocus zone not on main subject. Special focusing situation.	Keep hands, camera strap, and other objects away. Make sure subject is at least 0.7m (2.3ft.) away. Use focus hold. Use focus hold on another subject that is an equal distance away.
Picture foggy or has blurry areas.	Dirty Lens.	Clean lens as explained in Care and Storage section.
Picture too dark, or partial picture.	Lens or flash obstructed. Subject beyond flash range.	Keep hands, camera strap, and other objects away. In low light, make sure subject is within flash range.
Shutter cannot be released.	Main switch on  . Battery is exhausted. Battery is inserted incorrectly. Flash charging. Rewind is complete but film cartridge remains in camera.	Switch to  . Replace battery. Remove and insert correctly. Wait till FLASH-READY lamp glows. Remove film.
Subject at the edge of the frame is cut off.	Close framing marks were not used to compose the picture for a subject at close range. Negative cropped.	Be careful to frame subjects at close range inside close-framing marks.

19. OPTIONAL ACCESSORIES



Zoom Extender 1.20

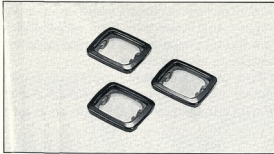
A 1.3X Zoom Extender is available for the AF-Zoom 90/Freedom Zoom. When attached to the camera, the effective focal length range shifts to 90mm-120mm, perfect for telephoto shots of people and distant outdoor scenes.



90mm



120mm



Creative filter set

A set of three filters is also available. The soft focus filter is ideal for romantic portraits. The star filter makes lights and reflections appear dazzling. The fog filter creates a fog effect in landscape photos.



Soft focus filter



Star filter



Fog filter

20. CARE AND STORAGE

- If lens becomes dirty, clean it gently with a lens brush. If necessary, moisten a sheet of lens tissue with one drop of lens-cleaning fluid and gently wipe lens. Never touch lens surface with your fingers.

- Never use alcohol or chemical solvents on the camera body. If it is dirty, wipe it gently with a soft, clean, dry cloth.

- Never subject camera to shock, high heat, or humidity. Be particularly careful not to leave it in the glove compartment or other places in motor vehicles where it may be subjected to high temperatures.

- This camera is designed for use between 40° and -10°C (104° and 14°F). Using the camera at very low temperatures impairs its performance. In cold weather, carry the camera inside your coat to keep it warm. Do not transfer the camera directly from an extremely cold to warm area, since condensation may form inside and prevent normal operation.

- Do not let the camera get wet. Water seepage could result in costly or irreparable damage to internal parts.

- When not in use, keep the camera in a cool, dry place away from dust and chemicals. For extended storage we recommend that you place the camera in an airtight container with a drying agent such as silica gel.

● The battery should not be removed while film is loaded; if it is left out for more than 10 minutes when the film is loaded, the frame counter will be reset to 1 when operation resumes.

● If you have questions about your camera, contact your local camera dealer. For more information write to the Minolta distributor or subsidiary in your area (addresses listed on the back of this manual.)

● Do not attempt to disassemble or repair the camera yourself.

● To assure prompt service, please contact an authorized Minolta Service Center before shipping your camera for repairs.

● This camera's circuitry may switch off, even when a battery with sufficient power is installed. To resume operation, remove the battery and install it again.

21. TECHNICAL DETAILS

TYPE: Compact autofocus 35mm camera with power zoom lens

LENS: 38-90mm f/3.5-7.5 power zooming lens

FOCUSING: Infrared active-type multi-beam autofocus with cancellable focus hold and coupled autoexposure lock; range 2.3 ft. (0.7m) to infinity

EXPOSURE SYSTEM: Programmed auto exposure controlled by multi-zone metering and subject-distance data; exposure range at ISO 100: EV 6.6 to EV 17.7 (1/8 sec. at f/3.5 to 1/400 sec. at f/23) with 38mm lens, EV 8.8 to EV 19.9 (1/8 sec. at f/7.5 to 1/400 sec. f/49) with 90mm lens

PROGRAM ZOOM: For subjects within approx. 2 to 5m (7 to 17ft.) range, Program Zoom mode automatically adjusts focal length to give subject magnification of approximately 1/60X at the film plane

FLASH SYSTEM: Automatic shutter lock during flash charge; flash recycling approximately 3.5 secs.

FILM SPEED RANGE: Automatic setting for DX-coded ISO 50-3200 film; ISO 100 set for films without DX coding

VIEWFINDER: Real-image type with auto-focus zone, close-framing marks, green OK lamp, green FLASH-READY lamp, and orange USE-FLASH lamp; magnification 0.5X with 38mm lens, 1.1X with 90mm lens; image area: 85% at 3 meters

FILM TRANSPORT: Automatic threading, auto advance to first frame, auto winding, auto rewind and auto rewind stop; rewind button for manual start of rewind

DATA PANEL: Liquid-crystal display (LCD) indications for Program Zoom mode, flash mode, self-timer, low power, film loaded, and frame number

SELF-TIMER: 10-sec. shutter release delay; indicated by blinking red light on front of camera

POWER: 6V lithium battery pack (2CR5)

BATTERY PERFORMANCE: Approximately 23 rolls. (Based on Minolta's standard test method, using 24-exposure film with flash on 50% of the exposures.)

DIMENSIONS: 145(W) x 80(H) x 62(D)mm (5-11/16 x 3-1/8 x 2-7/16 in.)

QD model: 145 x 80 x 66.5mm (5-11/16 x 3-1/8 x 2-5/8 in.)

WEIGHT: 440g without battery (15-1/2 oz.)

QD model: 445g (15-11/16 oz.)

Specifications subject to change without notice.

FOR OWNERS OF THE AF-ZOOM 90 QUARTZ DATE /FREEDOM ZOOM 90

1. Main features

Data back imprints date in a choice of three (year/month/day) formats, or time (day/hour/minute) in the lower right corner of the image as a record of when the picture was taken.

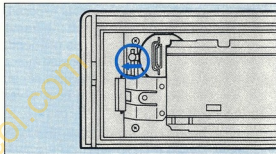
- Quartz clock and auto calendar through 2019
- Automatically controls imprint exposure according to the camera's film speed setting

2. Power

One 3V lithium cell (CR 2025 or equivalent) powers clock, liquid crystal display (LCD), and data imprinter.

Battery Replacement

When display dims or becomes difficult to read, battery should be replaced. Open the camera's back cover and replace the battery as follows.



Remove the battery chamber cover by pressing lock tab as shown. Take out the old battery using a ball point pen or similar object, then insert a fresh one with the plus side (+) up, as indicated on back of the cover.

Reinsert battery chamber cover and press down until it snaps down in place. Following battery replacement, reset date (year, month, and day) and time mode (hour, and minute)

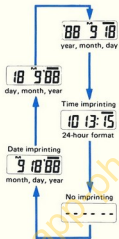
QUARTZ DATE:

3. Names of parts



MODE SELECT ADJUST

1. Print Indicator
2. **MODE** button
3. **SELECT** button
4. **ADJUST** button



4. Setting Data

Use **SELECT** button to move between different parts of displayed data. With date displayed, pressing the **SELECT** button, successively, causes the settings for year, month and then day to blink. In time mode, pressing the **SELECT** button causes the hour, minute and then the colon to blink. The **ADJUST** button is used to change the blinking display. In time mode, pressing the **ADJUST** button while the colon is blinking synchronizes the second counter to 00.

5. Data Imprinting

Press the **MODE** button to select date or time imprinting.

- Imprinted data may be difficult to read if the lower right area of your subject as seen in the viewfinder, with the camera held horizontally, is bright or not uniform
- Imprint exposure is automatically controlled by the camera.
- Legibility of imprinted data may vary somewhat with film type.
- After imprinting, "—" blinks in the LCD panel for approximately two seconds.

6. Care and storage

This unit is designed for use between 40 and 0°C (104 and 32°F). At temperatures above or below this range, LCD and imprinted data may become difficult to read. Even higher temperatures may cause the LCD to temporarily blacken.

Minolta Camera Co., Ltd.

Minolta GmbH

Minolta France S.A.

Minolta (UK) Limited

Minolta Austria Gesellschaft m.b.H.

Minolta Camera Benelux B.V.

Belgium Branch

Minolta (Schweiz) AG

Minolta Svenska AB

Minolta Corporation

Head Office

Los Angeles Branch

Chicago Branch

Atlanta Branch

Minolta Canada Inc.

Head Office

Montreal Branch

Vancouver Branch

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