REPAIR SERVICE MANUAL NO. 4 FEB. 1, 1981



MINOLTA equipment is designed to provide the user long lasting troublefree service. In order to assure quality service to owners of MINOLTA products and thus encourage maximum and effective use of this equipment MINOLTA has established strategically located Service Centers and Authorized Service Centers for nationwide coverage. MINOLTA trained personnel at the Service Centers stand ready to exert their utmost efforts to solve your service and/or maintenance problems.

This manual provides information on repair service as follows:

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HOW TO PACK YOUR CAMERA, LENS OR OTHER DELICATE INSTRUMENT FOR SURVIVAL IN TRANSIT

1 PACKING EQUIPMENT FOR SHIPMENT

Shipments must be packed to withstand the rough handling encountered during transportation (U.S. Mails, United Parcel Service, freight, etc.). Often equipment is not properly packed, resulting in severe damage above and beyond the original repair problem.

Remember, MINOLTA will not assume the responsibility for damage encountered in transit and will institute charges for any repairs required. It is strongly recommended that the steps listed below be followed:

- **A.** Use the original product carton **with** inserts If the original carton is not available, place the equipment in a container large enough to allow sufficient space for packing material. Do not pack more than one item per carton.
- **B.** Insert the original product carton or substitute carton into a larger, solid shipping container with additional packing material between each carton.
- C. Insure the shipment.
- D. If the carton contains a letter, postal regulations must be followed as explained in Item 2.
- **E.** If the equipment is damaged in transit, the claim must be initiated by sender M NOLTA CORPORATION will assist the sender whenever possible.

2. FIRST CLASS ENCLOSURES

You can enclose a first class letter in third and fourth class parcels without paying first class postage for the entire package. Simply mark the package "First Class Mail Enclosed" and add the first class letter's postage to the parcel's postage. Or, as an alternative, tape your first class letter with its own postage on it to the front of the parcel.

A. Placement of Postage

If not taped to the front of the parcel the enclosure should be placed on top of other items in the parcel when practical.

B. Payment of Postage

Postage for the enclosure must be placed on the outside of the parcel. It may be added to the postage for the parcel and the total amount paid together, or the postage for the enclosure may be affixed separately from the postage for the parcel.

C. Marking required

The mailer must place the endorsement "First Class Mail Enclosed" on each parcel, below the postage and above the address. The endorsement may be hand stamped, printed or put on by any other method.

MINOLTA CORPORATION WILL NOT BE RESPONSIBLE FOR FAILURE TO COMPLY WITH THE U.S. POSTAL REGULATIONS.

The foregoing summary of certain postal regulations is provided for your convenience. We suggest, however, that you contact your local Post Office to verify the summary and be sure no changes have been made in the regulations.

3. WHERE TO SEND EQUIPMENT TO BE SERVICED

Send the equipment to the MINOLTA Regional Service Center which services your store or to one of our Authorized Independent Service Centers.

REGIONAL SERVICE CENTERS

Minolta Corporation 101 Williams Drive Ramsey 201/825-4000 N.J. 212/594-8010 N.Y

New Jersey 07446

Attn: Photo Service Department

Minolta Corporation 5904 Peachtree Corners, East Norcross Georgia 30071 404/449-3600

Attn: Photo Service Department

Minolta Corporation 3000 Tollview Drive Rolling Meadows

312/398-4400 312/792-2166 Chicago

Attn: Photo Service Department

Minolta Corporation 3105 Lomita Boulevard Torrance 213/530-2022 213/775-4191 LA

California 90505

Attn: Photo Service Department

AUTHORIZED INDEPENDENT SERVICE CENTERS

* ARIZONA

PHOENIX CAMERA REPAIR, INC. 3232 North 16th Street Phoenix, Arizona 85016 (602) 277-1811

* CALIFORNIA

CAMERA REPAIR SERVICE 380 14th Street Oakland, California 94612 (415) 444-1900

JIMMIE'S CAMERA REPAIR 7129 Balboa Boulevard Van Nuys, California 91406 (213) 988-6511

KURT'S CAMERA REPAIR Time Square Center 7805 Mission Gorge Road San Diego, California 92120 (714) 286-1810

PROFESSIONAL PHOTO REPAIR 1725 "L" Street Sacramento, California 95814 (916) 446-2803

* COLORADO

ROCKY MOUNTAIN CAMERA REPAIR CO. 240 Broadway Denver, Colorado 80203 (303) 744-3459

* DISTRICT OF COLUMBIA

STRAUSS PHOTO TECHNICAL SERVICE, INC. 1240 Mt. Olivet Road N.E. Washington, D.C. 20002 (202) 529-3200

* FLORIDA

SOUTHERN PHOTO TECHNICAL SERVICE, INC. 1750 Ninth Avenue North St. Petersburg, Florida 33713 (813) 896-6141

* HAWAII

ALII CAMERA, INC. 677 Ala Moana (Suite 303) Honolulu, Hawaii 96813 (808) 531-4728

* MASSACHUSETTS

PRECISION CAMERA REPAIR, INC. 43 Sheridan Street Chicopee Falls, Massachusetts 01020 (413) 598-8005

* MICHIGAN

MIDWEST CAMERA REPAIR, INC. 318 Oak Street Wyandotte, Michigan 48192 (313) 285-2220

* MINNESOTA

CUSTOM CAMERA & ELECTRONICS SERVICE 823 West Lake Street Minneapolis, Minnesota 55408 (612) 822-2421

* MISSOURI

CPI CAMERA REPAIR CENTER 7935 Clayton Road St. Louis, Missouri 63117 (314) 725-5649

* NEW YORK

TOKYO CAMERA REPAIR SERVICE 60 East 42nd Street (Room 1333) New York, New York 10017 (212) 687-3600

*NORTH CAROLINA

SOUTHERN PHOTO TECHNICAL SERVICE, INC. 2610 South Boulevard Charlotte, North Carolina 28209 (704) 523-0012

* OHIO

CAMTRONICS CAMERA & PROJECTOR REPAIR 4345 North High Street Columbus, Ohio 43214 (614) 262-2784

* OREGON

ASSOCIATED CAMERA REPAIR, INC. 3333 N.E. Sandy Boulevard Portland, Oregon 97232 (503) 232-5625

* PUERTO RICO

MURPHY'S CAMERA REPAIR 909 Fernandez Juncos Avenue (Stop 14) Santurce, Puerto Rico (908) 725-1565

* TENNESSEE

SOUTHERN PHOTO TECHNICAL SERVICE, INC. 3388 Summer Avenue Memphis, Tennessee 38112 (901) 452-0728

* TEXAS

CAMERA SERVICE, INC. 3407 South Sheperd Drive Houston, Texas 77098 (713) 528-6652

HAVEL CAMERA SERVICE 1504 Fredericksburg Road San Antonio, Texas 78200 (512) 735-7412

* WASHINGTON

PHOTO TRONICS, INC. 223 Westlake North Seattle, Washington 98109 (206) 682-2646

* WISCONSIN

BDC ENTERPRISES, INC. 133 West Johnson Street Madison, Wisconsin 53703 (608) 257-6315

4. HANDLING OF CONSUMER REPAIRS

A. Things to look for:

- 1 Battery check:
 - a. are they "dead"?
 - b. are they the proper ones for the particular model?
 - c. were they inserted properly?
 - d. are battery contacts clean?
- 2. Check whether the film was properly loaded.
- 3. Look carefully at the camera to determine whether it has been dropped or has otherwise suffered from impact damage.
- 4. Check whether the exterior of the body of the camera or lens shows water or other liquid or sand damage (rust and/or corrosion).
- 5. Check whether camera has been tampered with.
- 6. Check the brand. We accept only MINOLTA products for service. Do not send other brand name merchandise.

B. Repair Tags

- 1 Be as specific as you can with respect to the nature of the defect. PLEASE refrain from just marking the tag "defective" Mark all information; such as, dropped, water or sand damage, etc.
- 2. It is important that the customers' comments be entered on repair tag or that a note be attached if such comments concern bad color, fuzzy picture, light leak, over or under exposed, etc. If possible, include samples or prints of slides, which will be returned.
- 3. Review the information on the repair tag with your customer
- 4. Please make sure to list all attachments sent with camera; case, filter, flash, lens cap, etc.
- 5. Loaded Camera MINOLTA CORPORATION cannot accept responsibility for film left in camera sent for repairs.

5. IN WARRANTY SERVICE

- A. MINOLTA CORPORATION, in compliance with regulations issued under the Magnuson-Moss Warranty Act, makes available to all dealers its full warranty data in 8½ x 11 format for inclusion in binders at dealers' locations.
- **B.** All MINOLTA products listed in Section C below are supplied with a limited warranty to which a warranty registration is attached. In order for the customer to obtain the benefits of the warranty, the mail-in portion (the registration card) must be completed and mailed within 15 days of the date of purchase.
- C. In warranty claims will be approved after checking the product against the registration logged by our Electronic Data Processing Center on the following products (warranty periods shown commence on the date of first retail purchase):
 - 1 SLR's two years.
 - 2. Rokkor-X Lenses five years
 - 3. Celtic Lenses two years
 - 4. 35mm Rangefinders, 110 Pocket Cameras one year
 - 5. 110 SLR's two years
 - 6. Movie Cameras one year
 - 7 Auto Electroflash Strobes one year
 - 8. Meters one year
 - 9. Enlargers two years
 - 10. Binoculars five years
- **D.** In warranty claims on the products listed below must be substantiated by sales slip if requested by the MINOLTA Regional Service Center or Authorized Service/Repair Center (Warranty periods shown commence on the date of first retail purchase).
 - 1 Pocket Autopak Cameras one year
 - 2. Electroflash 32, 28, 25, 14, and 20 one year
- **E.** Upon receipt from dealer of the equipment to be serviced, acknowledgement will be sent to dealer stating nature of repairs to be performed.
- F. Time in Service Center MINOLTA's past experience reveals that under normal conditions allowance should be made for five ten working days, plus time for transportation back to the dealer

- **G.** If an in warranty repair is required outside of the U.S.A., the service facility may charge a handling fee which is the responsibility of the owner
- **H.** Hidden damage If, upon the implementation of the warranty repair service, water, sand, liquid or impact damage is found, or the problem is determined to be otherwise outside the coverage of the warranty, MINOLTA CORPORATION reserves the right to cancel the no-charge in warranty estimate and issue a second repair estimate covering the necessary repairs.
- I. All Dealer Stock Repairs must be sent to closest MINOLTA Regional Service Center

6. OUT OF WARRANTY SERVICE

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- A. A product will be considered out of warranty if:
 - 1 A defect in workmanship or material is not present or the product shows evidence of any occurence detailed in Paragraph 6 of the terms on the warranty card as listed below:

"THIS WARRANTY BECOMES VOID IF THE PRODUCT SHOWS EVIDENCE OF SAND AND/OR WATER DAMAGE, MISHANDLING, TAMPERING, BATTERY OR CHEMICAL CORROSION, USE CONTRARY TO THE APPLICABLE INSTRUCTION MANUAL, SHIPPING DAMAGE OR REPAIR PERFORMED BY OTHER THAN AN AUTHORIZED MINOLTA REPAIR STATION. ROUTINE CLEANING AND NORMAL COSMETIC AND MECHANICAL WEAR ARE NOT COVERED UNDER THE TERMS OF THE WARRANTY"

- 2. The warranty period has expired.
- **B.** Upon receipt of the equipment to be serviced, an acknowledgement and estimate will be sent stating nature of repairs to be effected and estimated dealer cost. The dealer retains the acknowledgement copy, signing and returning the estimate. Should the dealer fail to return the signed estimate within thirty (30) days, a "follow-up" estimate is mailed. If the second estimate is not returned within sixty (60) days from the invoice date, the equipment will be returned unrepaired to the dealer

MINOLTA CORPORATION WILL NOT ACCEPT ESTIMATE APPROVAL BY PHONE, NOR WILL MINOLTA CORPORATION QUOTE REPAIR ESTIMATES BY PHONE, BUT MINOLTA CORPORATION WILL ALLOW A BLANKET AUTHORIZATION FROM OPEN ACCOUNTS ONLY TO REPAIR WHEN CHARGES DO NOT EXCEED \$65.00. THIS AUTHORIZATION REQUEST MUST BE SUBMITTED IN WRITING TO THE MANAGER OF THE LOCAL MINOLTA SERVICE CENTER.

If the dealer is not an authorized MINOLTA dealer, with an open billing account, payment must be sent with the approved estimate.

- C. Repaired, out of warranty equipment acquires a six months LIMITED warranty effective with the date of repairs.
- **D.** Hidden damage If, upon implementation of the repair service, water, sand, liquid, or impact damage is found, MINOLTA CORPORATION reserves the right to cancel the original repair estimate and issue a second repair estimate covering the additional necessary repairs.

7. INTERCHANGEABLE LENS REPAIR

The front element can be replaced in the U.S.A. Inside and rear elements must be repaired or replaced at the factory in Japan. For repairs in Japan, the estimated time is three months.

8. WATER AND SAND DAMAGE

A. Short spray exposure

If estimate indicates this type of damage, **written** approval by the dealer is needed at once to avoid further internal corrosion damage.

B. Immersion

Generally cannot be repaired. Dealers should recommend replacement purchase.

9. WATER DAMAGE UNREPAIRABLE

Example #1 will assist you in clarifying why most water damaged equipment cannot be repaired.

WATER DAMAGED EQUIPMENT

When a camera body or lens comes in contact with either fresh or salt water or is exposed to heavy moisture in the air it is termed "WATER DAMAGED" by Minolta. Such damage can be identified as follows:

- 1 **Corrosion of reddish brown color** occurring on iron based metals such as the winding base, screws and other body parts.
- 2. **Green oxidation** occurring on brass, copper and bronze such as the winding mechanism, the shutter base plate and several internal camera parts as well as electrical connections.
- White oxidation occurring mainly on the body die casting.

Water damage generally affects rivets, springs and gear spindles. Rust will most likely begin to form on these parts within twenty four hours after the camera has been in contact with water. This type of corrosion may continue to increase for more than a year. There is in fact no way of determining how severe it may ultimately get. If the camera is not exposed to air, rust cannot occur. However, this is virtually impossible to prevent unless immediate special treatment is given. Unfortunately such special treatment is generally far beyond the capability of the average consumer.

While from a technical standpoint, repair is often possible, it may not be feasible from an economic standpoint. If a repair is going to take more than seven hours, the cost of labor (and perhaps parts) makes the difference between the service charge and a replacement charge very small. Under such circumstances we recommend that the product be replaced. Further, even if the camera is overhauled at a financially agreeable price, past experience has shown us that there is a chance of corrosion developing again in the future and of course causing more difficulty.

EXAMPLE #2

UNREPAIRABLE EQUIPMENT

The equipment listed below can no longer be repaired by MINOLTA Service Centers. Upon receipt of unrepairable equipment, a letter to that effect will be sent to the dealer

MODEL		DISCONTINUED
MINOLTA-35 FOCAL PLANE	& LENSES	May, 1955
SR-1, SR-2, & SR-3		Mar., 1961
SR-1F & SR-7		Mar., 1965
MINOLTA-A, AC, & A-2		July, 1959
SUPER-A & LENSES		Aug., 1958
AUTOWIDE		Jan., 1959
MINOLTA-V2		Mar., 1960
MINOLTA-V3	(Not Sold in U.S.A	
MINOLTA-A3, A5, & AL		July, 1965
ALL UNIOMAT	(Not Sold in U.S.A	
HIMATIC	(Not Sold in U.S.A	
AL-E & AL-II	(Not Sold in U.S.A	
MINOLTA-ER		Apr., 1964
REPO & REPO-S		June, 1966
ELECTRO SHOT		Feb., 1967
24 RAPID		June, 1966
AUTOPAK-500, 550 & 700		Sept., 1965
MINOLTA-16, 16-EE, & 16EE-0	CDS	Sept., 1965

UNREPAIRABLE EQUIPMENT continued

The equipment listed below can no longer be repaired by MINOLTA Service Centers. Upon receipt of unrepairable equipment, a letter to that effect will be sent to the dealer.

MODEL	DISCONTINUED
OLD TYPE AUTOCORD	Dec., 1959
ZOOM-8 & AUTO ZOOM-8 MOVIE	June, 1966
MINOLTINA-8 (Not Sold in U.S	
AP-8 & AP-8S MOVIE PROJECTOR	Feb., 1965
MOVIE EDITOR, SUPER-8	May, 1965
MINI-16, 35, & 44 SLIDE PROJECTOR	Feb., 1965
SR METER-I, II, & S	Aug., 1965
OLDEST SLR ROKKOR LENSES(Manual & Au	ito) Mar., 1962
OLDEST SLR ACCESSORIES	July, 1962
VIEW METER-9	Aug., 1965
ALL FLASH GUN (Bulb Ty	/pe) Aug., 1967
16 MM ENLARGER	Mar., 1969
MINI-35 II SLIDE PROJECTOR	Sept., 1970
AUTOPAK-800	Oct., 1970
WIRELESS CONTROL UNIT (For Autopak 8 D-	10) Mar., 1970
AUTODUAL 8 MOVIE PROJECTOR	Mar., 1971
WIRELESS CONTROL UNIT (for SR-M)	Dec., 1972
BATTERY CHECKER (for SR-M)	Dec., 1972

10 OUT OF WARRANTY REPAIR CLASSIFICATIONS

It should be fully understood that until such time as the MINOLTA Service Center examines the equipment the actual repair charges cannot be established. Utmost care should be taken not to quote final prices to your customer since mis-classification could easily occur MINOLTA maintains four repair classifications as listed below:

A. Class I - Minor Repair

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This category covers equipment in fair operating condition, but in need of minor adjustments or minor repairs.

B. Class II - Routine Repair

Moderately worn equipment in working condition, but requiring adjustment falls into this category.

C. Class III - Major Repair

This category covers badly worn or old equipment requiring complete disassembly, cleaning and readjustment. Equipment in this category is usually inoperative and requires major overhauling and parts. Our objective is to restore the equipment to as close to original operating condition as possible.

D. Class IV - General Overhaul

This category, as its name shows, covers general overhaul of equipment. This includes repair such as slight water damage, overhaul due to sand, heavy physical damage or dropped, etc. We will furnish an estimate after a Service Center examination is complete.

Minolta Battery Guide

This guide cross-references Minolta products with three American battery brands.

CURRENT PRODUCTS

DISCONTINUED PRODUCTS

Product	Quantity	Eveready	Duracell	Ray-O-Vac
35mm SLR Cameras				
XK Motor Drive (Body)	2	S76	MS76	RS76
XK Motor Drive (Motor)	10	E91	MN1500	815
XD-11 XD-5, XG-1	2	S76	MS76	RS76
Auto Winder D, G	4	E91	MN1500	815
Data Back D, G	2	S76	MS76	RS76
SR-T 201, 200	1	EPX13 or		RPX13 or
0111201, 200		EXP625	PX625	RPX625
XG-M	2	S76	MS76	RS76
35mm Rangefinder Camera	•			
Hi-Matic G	1	EPX675	PX675	RPX675
Hi-Matic F	2	E640	RM640	T640
Hi-Matic AF2, S2	2	E91	MN1500	815
CLE	2	S76	MS76	RS76
Electronic Flash Units				
Auto Electroflash 320/320X	4	E91	MN1500	815
Auto Electroflash 280	4	E91	MN1500	815
Auto Electroflash 200X	4	E91	MN1500	815
Auto Electroflash 132X, 128	4	E91	MN1500	815
Auto Electroflash 118X	2	E91	MN1500	815
Auto Electroflash 25	4	E91	MN1500	815
Electroflash 20	2	E91	MN1500	815
Electroflash 14	2	E91	MN1500	815
PocketFlash 110 (for	1	E91	MN1500	815
Autopak 470)				
CLE Flash	2	E92	MN2400	4003
Movie Cameras and Access	ories			
Autopak 8D-12	5	E91	MN1500	815
High Speed Power Pack	7	E91	MN1500	815
Intervalometer P	5	E91	MN1500	815
Intervalometer S	6	E93	MN1400	814
Wireless Remote Control				
Receiver	1 and	216 and	M1604 and	1604 and
1.000.10.	2	E91	MN1500	815
Transmitter	1	216	M1604	1604
FM Wireless Microphone	1	216	M1604	1604
XL-Sound 84, 64, 42	6	E91	MN1500	815
XL-601, 401	2	E91	MN1500	815
				0,10
110 Cameras		076	11070	DOTO
110 Zoom SLR MARK II	2	S76	MS76	RS76
110 Zoom SLR	2	S76	MS76	RS76
Weathermatic-A	1	E91	MN1500	815
Pocket Autopak 470	2	S76	MS76	RS76
Pocket Autopak 460Tx	1	E91	MN1500	815
Pocket Autopak 450Ex	1	E91	MN1500	815
Pocket Autopak 430Ex	1	E91	MN1500	815
Exposure Meters and Acces	sories			
Auto Meter III	1	E91	MN1500	815
Auto Spot II Digital	1	216	M1604	1604
Auto Spot II	1	216	M1604	1604
Booster Kit	1	544	PX28	RPX28
Color Meter III	1	216	M1604	1604
Flash Meter III	6	S76	MS76	RS76
Spot Meter M	1	E91	MN1500	815
Oper Meter M			111111000	010

Product	Quantity	Eveready	Duracell	Ray-O-Vac
35mm SLR Cameras				
XK Body XE-7 XE-5 XG-7 SR-T 100, 101, 102, 202	2 2 2 1	S76 S76 S76 EP13 or	MS76 MS76 MS76 PX13 or	RS76 RS76 RS76 RPX13 or
XG-9	2	EPX625 S76	PX625 MS76	RPX625 RS76
35mm Rangefinder Came	eras			
Hi-Matic C, S	1	EPX675	PX675	
Hi-Matic 7 7S, 9, 11	i	EPX13 or EPX625	PX13 or PX625	RPX13 or RPX625
Hi-Matic FP E	2	E640	RM640	T640
Hi-Matic 7sII	1	EPX675	PX675	RPX675
Hi-Matic S, SD, AF	2	E91	MN1500	815
Flash Units				
Auto Electroflash 32, 28	4	E91	MN1500	815
Auto Electroflash 22	4	E91	MN1500	815
Pocket Flash 25B (for				1
Autopak 200 Series)	2	E91	MN1500	815
Electroflash P 3 Electroflash &	2	E91	MN1500	815
Electroflash 2, S	4	E91	MN1500	815
Deluxe Fanflash III	1	504	M504	220
Auto Electroflash 450	6 or	E91 or 497	MN1500 or PF497	815 or 1012
Movie Cameras				
Autopak 8D-4, 8D-6	4	E91	MN1500	815
Autopak 8D-10	5	E91	MN1500	815
XL-400, 250	2	E91	MN1500	815
XL-660, 440, 225	6	E91	MN1500	815
110 and 126 Autopak Cameras				
Pocket Autopak 50, 70,				
250, 270	1	538	7R-31	RPX31
Pocket Autopak 200	1	E640	RM640	T640
Autopak 500	2	E92	MN2400	824
Autopak 550	2	EPX825	PX825	RPX825
Autopak 600X Autopak 700	1	E640 EPX13	RM640 PX13	T640 RPX13
Autopak 800	2	EPX825	PX825	RPX825
Pocket Autopak 460T 450E, 430E	1	E91	MN1500	815
Exposure Meters and Accessories				
			DV00	DDV00
Auto Meter II	1	544	PX28	RPX28

NOTE: THE POLICIES AND PROCEDURES CONTAINED HEREIN ARE SUBJECT TO CHANGE AT ANY TIME AND FROM TIME TO TIME. ALTHOUGH MINOLTA CORPORATION'S GENERAL POLICY IS TO GIVE ADVANCE NOTICE OF MODIFICATIONS, MINOLTA CORPORATION RESERVES THE RIGHT TO MODIFY THESE POLICIES AND PROCEDURES WITHOUT NOTICE.



MINOLTA CORPORATION Photographic Division

101 Williams Drive Ramsey, New Jersey 07446