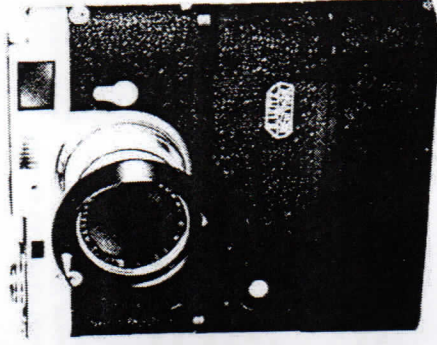


# Leica Motor



## GENERAL INSTRUCTIONS

Your Leica Motor may be fitted to any suitably modified M2 or M4 Leica camera. And your motor equipped Leica can be operated as a sequence camera; a single exposure camera with automatic film advance; a remote camera controlled by push button remote cord, or by radio. It may be actuated by a trip-wire or photo-cell for surveillance or nature photography and, with an intervalometer, can be used for time-lapse photography.

The camera can be manually operated (film advanced and shutter released) with the motor attached.

## CAMERA MODIFICATION

Your Leica requires modification, including a different take-up spool, before the motor can be fitted to it.

When the Leica camera and Leica Motor are purchased as a unit, the camera is already modified and no further adaptation is necessary.

Modification of your Leica in no way prevents it from being used in the normal manner without motor. The Leicavit can be used providing it is fully wound and cocked before it is attached.

## BATTERY PACK

The battery pack is held to the base of the Leica Motor by two knurled bolts. To remove the pack simply unscrew the bolts, using a coin in the slot if necessary.



To install dry cells, let the bolt furthest from the speed-selector drop down, and slide off the cover. When inserting the cells be certain to observe the indicated polarity, and be sure the battery contact springs are making good contact. If necessary bend the springs to insure good contact. One poor contact will cause improper operation.

The battery pack holds eight "AA" cells. You can expose approximately 40 rolls of 36-exposure film with a fresh set of batteries, but only when high-energy "AA" cells are used. The following, or their equivalents, are recommended:

After replacing the battery cover, fasten the pack to the Leica Motor by aligning the white dot on the pack with that on the motor. (Battery Pack's conducting pins must align with contact plates on base of motor.) Tighten the bolts.

#### OPERATION

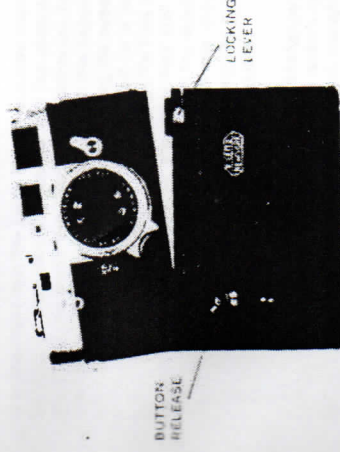
The Leica Motor mounts on the bottom of your Leica, replacing the camera's baseplate.

Load your Leica with film in the normal manner, but do not wind off the usual "safe" exposures. (Do not leave the rewind knob in extended position.) Advance the film one frame and leave the shutter in the wound position. Do not depress the shutter release.

Lock the knurled knob of the camera's take-up spool in the down position by turning clockwise.

Turn the motor on, set it to "H" then cycle the Motor Drive at least twice by depressing the release button on its front. (This is necessary to assure proper alignment of the drive pin with the slot in the camera's winding shaft.)

Whenever the camera and motor are separated, you should be sure that the shutter is wound and the motor cycled at least twice before trying to reassemble them.



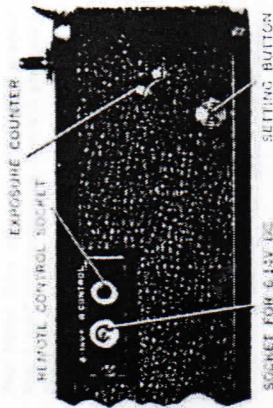
With the Leica Motor's locking lever turned to the front as far as it will go, fit the motor to the camera in the same manner as the baseplate. Then secure it by turning the locking lever all the way to the rear.

Wind off the usual two "safe-exposures"; either by manually advancing the film or by using the motor's release. Set the Leica's exposure counter to "Zero".

Set the Motor Drive's exposure counter, located at the rear, to the number of sequence exposures desired. The counter is set by sliding the setting button to the right and releasing. (This may be done either before or

after the Motor Drive has been attached to the camera). The counter is subtractive and indicates the number of frames remaining in the sequence.

The motor will automatically stop when the set number of exposures has been made. If you wish Motor Drive operation for the full roll of film, set the counter to "36" (for a 36-exposure film) or to "20" (for a 20-exposure cassette).



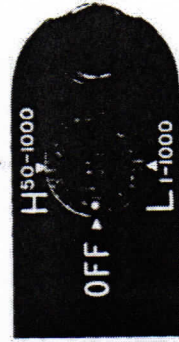
To remove an exposed film, set the "speed-control" switch (on the bottom of the battery pack) to "OFF". Then set the camera's rewind lever to "R" and rewind the film in the usual manner. Remove the Leica Motor from the camera by turning its locking lever all the way to the front.

#### SPEED CONTROL

The Leica Motor has a unique feature in that its operation is controlled by the two curtains of the Leica focal-plane shutter. This has been achieved by building a micro-switch into the shutter mechanism. In operation, the passage of the first shutter curtain switches the motor off; the arrival of the second turns it on again. This technical innovation makes the motor drive almost foolproof.

The switch on the bottom of the battery pack, has three positions: "H" for high-speed operation (approximately two and one-half frames per second); "L" for low-speed (approximately one frame per second) and "OFF". When the Motor Drive is not being used, the switch should be turned "OFF" to avoid unintentional operation.

Because of the micro-switch in the shutter mechanism, the motor operates on all shutter speeds from 1 to 1/1000th second with the switch set to either "H" or





#### REMOTE CONTROL

The rear of the motor is provided with two outlets; one accepts a special remote control cord and a second takes a connecting cord for the use of any 6-14 volt DC power source, when desired. The remote firing circuit incorporates a special high-resistance relay permitting the use of up to one mile (1.62 km.) of standard two-conductor wire. Induction coils wired into both sides of the remote control circuit of the motor ensure reliable functioning with radio control.

**Do not plug an auxiliary power source into the remote control socket.**

#### USE WITH ELECTRONIC FLASH

Keep the following points in mind when using the Leica Motor with electronic flash:

1. You must use the low ("L") setting.
2. Trip the shutter either with the motor release or with the remote control.
3. Allow enough time for the flash unit to re-cycle completely between exposures.

#### SOME TIPS FOR BEST RESULTS

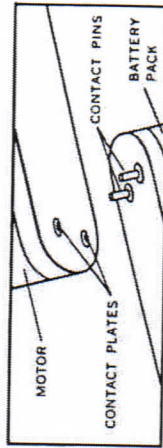
Familiarize yourself with your Leica Motor and its operation by trying it on the camera without film. Its operation is simple, but not foolproof.

It is important that the Leica Motor's exposure counter be reset for each new film you put into the camera. If you do not, the motor may reach "zero" before you have completed the roll and it will cut off. If this happens, reset the counter, without manually winding the camera. If the Leica Motor's exposure counter is set for a number of exposures greater than the length of the film, you may tear film perforations. Or the motor may stall. If the motor stalls at the end of a roll, turn the selector switch to "OFF" and rewind the film. If this should happen, immediately turn the selector switch to "OFF" and then remove the battery pack from the motor.

Then turn the battery pack end-for-end (to change polarity) and hold the contact pins against the motor's contact plates. This will reverse the motor just enough to clear the jam. Attach the battery pack. First time button is pushed, motor will only wind camera, it will not trip shutter.

The "AA" cells in the Motor's power pack require a "rest" after extended use. If the motor stops (due to weak batteries) before a cycle is completed, the speed selector switch should be turned to "OFF" for a short period. The batteries will recover faster and last longer. You should not use a combination of cells in the battery pack that produces more than 12 volts or less than 4.7 volts. (Six volts is nominal for the "L" setting.)

Your Motor Drive is a well constructed precision unit. And if used with reasonable care will give you long and dependable service.



PROBLEM	CAUSE	SOLUTION
Motor Drive does not attach to camera	Shutter not fully wound	Wind shutter manually
	Motor not fully cycled	Cycle by depressing release button
	Take-up spool not locked in down position	Depress, rotate and lock take-up spool knurled knob
No power in Motor Drive, but camera can be operated manually	Dead batteries	Replace batteries
	Motor exposure counter at "ZERO"	Reset counter
Motor operates slowly	Weak or improperly inserted batteries	Fresh batteries, properly inserted
	Faulty film cassette	Use new roll of film
	Camera sluggish	Have camera cleaned
Stalled Motor Drive and/or jammed camera	Motor counter at "zero" before end of roll and camera winding has begun before resetting counter	Remove battery pack, turn end-for-end and reverse motor to clear jam. (Reset Motor Counter if necessary)
	Film exhausted before Motor Drive reached "zero"	Turn switch to "OFF" and rewind film

