

TM 11-427

WAR DEPARTMENT TECHNICAL MANUAL

B A R O M E T E R S

ML-102-B, ML-102-D, ML-102-E, ML-102-F,

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This reprint includes all changes in
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WAR DEPARTMENT TECHNICAL MANUAL
TM 11-427

**BAROMETERS ML-102-B, ML-102-D, ML-
102-E, ML-102-F, AND ML-316/TM**

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WASHINGTON: 1944

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By ORDER OF THE SECRETARY OF WAR:

G. C. MARSHALL,
Chief of Staff.

OFFICIAL:

J. A. ULIO,
*Major General,
The Adjutant General.*

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For explanation of symbols, see FM 21-6.

DESTRUCTION NOTICE

WHY -To prevent the enemy from using or salvaging this equipment for his benefit.

WHEN -When ordered by your commander.

HOW - 1. Smash-Use sledges, axes, handaxes, pickaxes, hammers, crowbars, heavy tools.
2. Cut - Use axes, handaxes, machetes.
3. Burn - Use gasoline, kerosene, oil, flame throwers, incendiary grenades.
4. Explosives-Use firearms, grenades, TNT.
5. Disposal-Bury in slit trenches, fox holes, other holes, Throw in streams. Scatter,

USE ANYTHING IMMEDIATELY AVAILABLE FOR DESTRUCTION OF THIS EQUIPMENT

WHAT - 1. Smash-case, mechanism, and carrying case.
2. Burn—wooden cases; technical manuals; records.
3. Bury or scatter-any or all of the above.

DESTROY EVERYTHING

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Figure 1. Barometers ML-102- () and ML-316/TM with carrying cases.*

RESTRICTED

SECTION I

DESCRIPTION

1. GENERAL. a. Use. (1) The barometers described in this manual are aneroid-type barometers used to measure the pressure of the atmosphere. Aneroid, from the Greek *a* (no) + *neros* (wet) means "containing no liquid." The greatest advantage of the aneroid is its portability. It is widely used where the use of the mercury barometer would be inconvenient or impractical. It is also valuable in giving relative indications and in measuring pressure changes over a few hours.

(2) Apart from the measurement of pressure, there is a broad field for the use of the aneroid barometer in determining height above sea level or above the ground, and in determining differences in elevation between two points. When used to measure height, the aneroid is called an *altimeter*. Altimeters are widely used in aircraft and in surveying.

(3) The barometers covered in this book are designed for use in fixed or mobile stations and for transport by hand or in vehicles.

(4) Each barometer is an integral unit requiring no additional equipment to accomplish the purpose for which it is intended.

b. Reliability. The aneroid barometer is less accurate than the mercury barometer. It should not be depended upon for measurement of *absolute* values of pressure unless it is compared at intervals of 90 days or less with a mercurial barometer for which errors are known.

Note. The aneroid barometers covered by this technical manual are much more accurate than former types of aneroid.

c. Nomenclature. (1) Throughout this manual Barometer ML-102-(*) refers to Barometers ML-102-B, ML-102-D, ML-102-E, and ML-102-F, or any one of them.

(2) Any reference to "the barometer" includes Barometer ML102-(*) or ML-316/TM. If Barometer ML-316/TM only is indicated, the complete nomenclature is used.

2. COMPONENTS. a. Barometers ML-102-B, ML-102-E, ML-102-F.

(1) *Pressure measuring and indicating system.* (a) Pressure sensitive cells (five in Barometer ML-102-B; two in Barometers ML-102-E and ML-102-F) .

(b) Lever system.

(c) Indicating pointer.

(2) *Metal case.* (a) Metal base.

(b) Dial.

(c) Plastic window and snap ring.

(3) Mounting frame assembly. (a) Metal frame in two sections.

(b) Screws, lockwashers, and nuts.

(c) Temperature correction chart and nomograph supplied for Barometer ML-102-E only.

(4) Carrying case with strap.