

# Series Military Binoculars Instruction

**M750C**

**M751C**

**M750**

**M751**

**M836**

**M730**

**M830**



Thanks for your own of our one military binocular. Read the instructions accordingly and carefully before using and keep it in order for reminding. Thread the free neckstrap through fixtures before using.(Fig. 1)

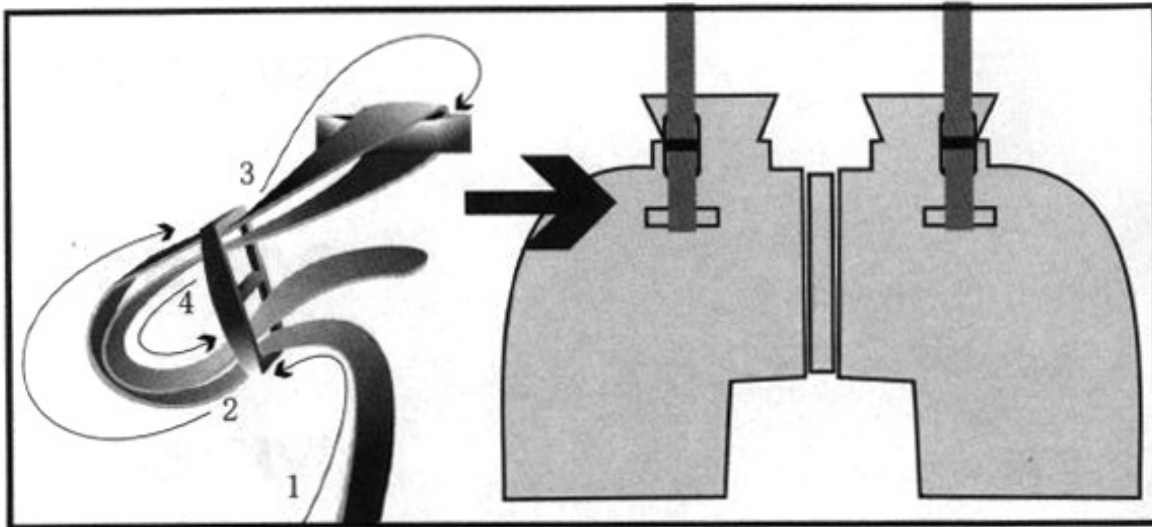


Fig. 1

Install the free batteries before using for these binoculars as illumination is required.(See Page 12). ☞ Fig. 13

**Precaution :**

Do not watch the sun directly, otherwise will harm your eyes.

While in storage or in application, do not use the binocular with compass in the magnetic area (such as there have artillery, tank, battle vehicle, high-voltage cable, transformer station, ferromagnetic mine and electromagnetic appliance), otherwise the compass works out of order or fails to function.

The compass works reliably and accurately in the 5 world areas (A area, B area, C area, D area and E area), which are defined in accordance with the international standard. Please choose your due compass accordingly with the defined area before you order.(Fig. 2)

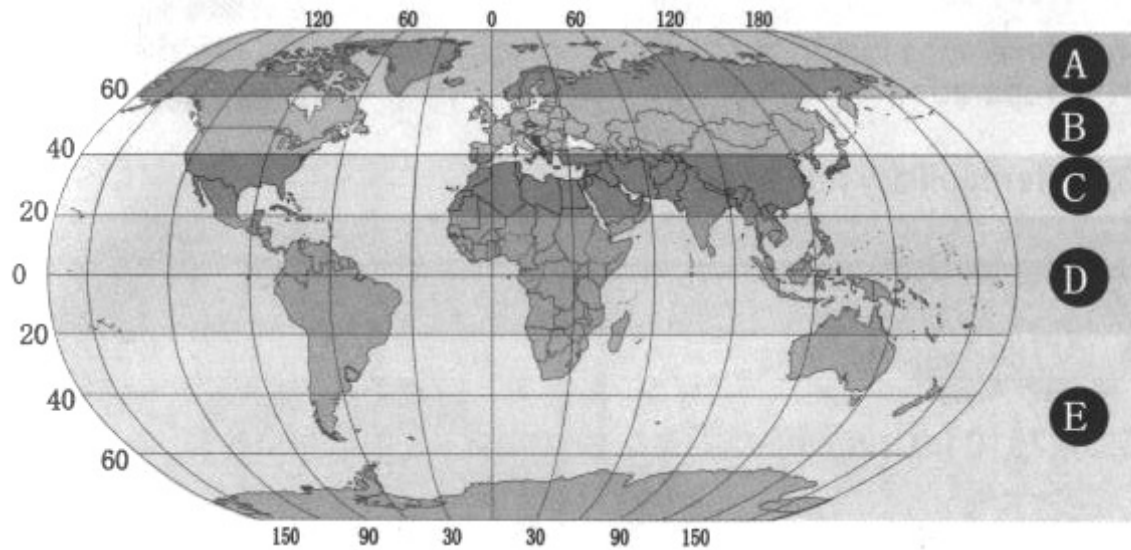


Fig. 2

A area: countries and areas in 60 degrees north latitude higher, including the whole Canada.

B area: countries and areas between 40 degrees north latitude and 60 degrees north latitude.

C area: countries and areas between 20 degrees north latitude and 40 degrees north latitude.

D area: countries and areas in 20 degrees north latitude lower to 20 degrees south latitude.

E area: countries in south latitude in Africa lower from Angola and Zambia and Oceania.

Please check the label on the body of telescope to distinguish which zone you need. Usually telescope is labeled with A B D E and will be ignored in most of time if it is in zone C.

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### 1. Preparation

Follow the instructions step by step while in observation.

### 2. Interpupillary Adjustment

While in observation, adjust the pupils until the object comes into one intercrossed image. (Fig. 3)

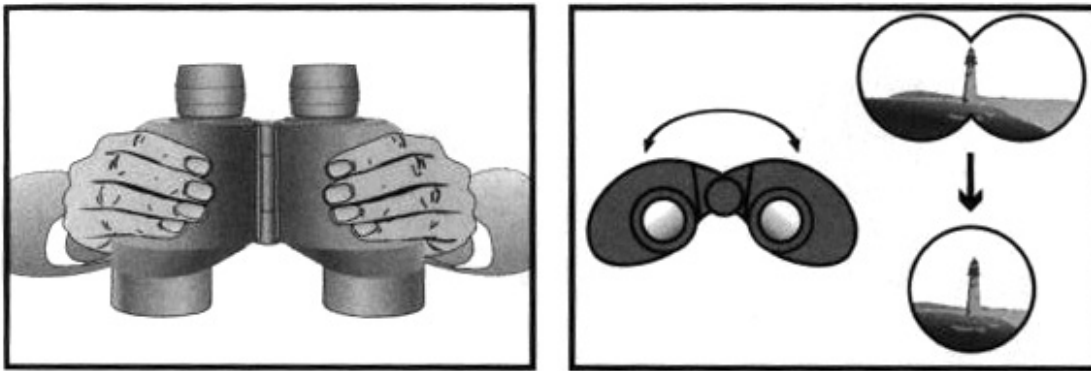


Fig. 3

### 3. Diopter Setting

While in observation, gently turn the diopter knobs by closing one eye and the other for the clear and sharp image. (Fig. 4)

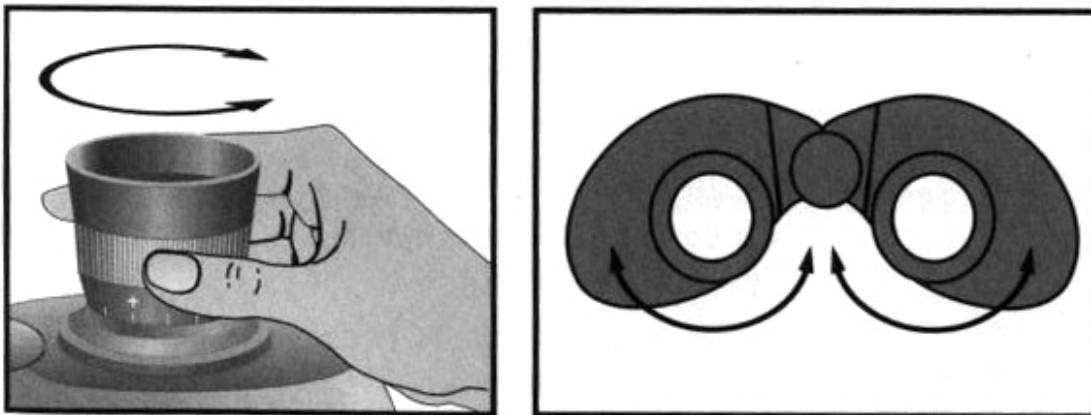


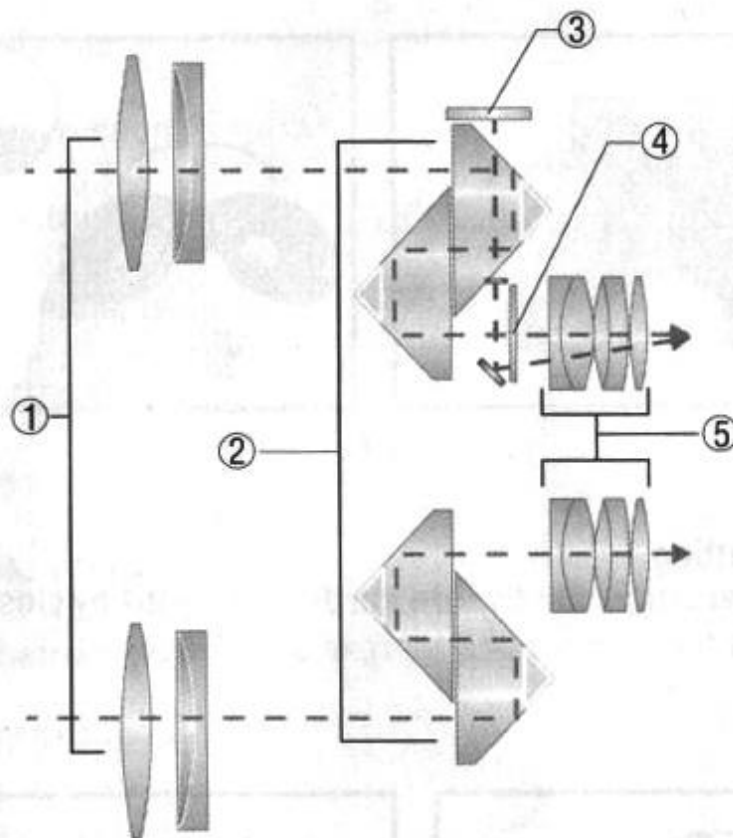
Fig. 4

## 4.M750C Instructions

### 1) Configuration

M750C binocular is designed for military applications, consisting of optical system and body assembly and with the features of the internal compass and the ranging reticle.

#### 1.1) Exploded View of Optical System (Fig. 5)



- ① The Objective Lenses
- ② The Erecting Prisms
- ③ Compass Projective System
- ④ Reticle
- ⑤ The Eyepiece

Fig. 5

## 1.2) Exploded View of Body Assembly (Fig. 6)

- ① The Left/Right Eyepiece
- ② Interpupillary scalar
- ③ Main Binocular Body Housing with the Porro Prism Assembly
- ④ The Objective Lenses
- ⑤ A Compartment For A Spare Battery
- ⑥ The Connecting Shaft Holding
- ⑦ The Battery Compartment
- ⑧ The Dustproof Cover For The Objective Lenses
- ⑨ Switch For Illuminating the Compass
- ⑩ Compass Imaging Assembly
- ⑪ The Compass Illuminated Window

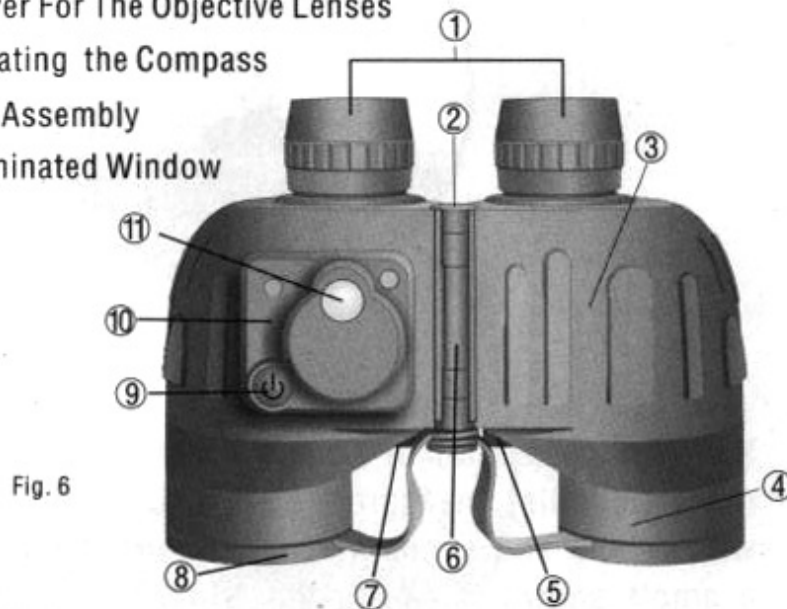


Fig. 6

## 2) Main Specifications

Feature: 7 × 50

Field of View: 7.5°

Exit Pupil: 7.1mm

Obj. Lens Dia.: 50mm

Transmission: > 83%(area besidereticle), > 90%

Brightness: 50.4

Size: 200 × 103 × 150mm

Weight: 1360g

Magnification: 7x

Eye Relief: 23mm

Resolution: ≤ 4.5"

M750C binocular meets the standards and requirements of GJB1240, GJB150 and MIL-STD810.

## 3) Usage of Reticle

### 3.1) Measure Azimuth with Reticle

The azimuth means the angle is measured horizontally to the binocular from the two objects or from the two further opposite side of one object (Referred to "Object").

A. When the azimuth of "Object" measured is lower than the reticle range (80 mils), measure the azimuth by fitting "Object" with reticles. For an example shown in Fig. 7, the azimuth of "Tank" as "Object" is measured to be 40 mils (20-60 mils).



Fig. 7

B. When the azimuth of "Object" measured is larger than the reticle range (80 mils), measure the azimuth by fitting vertically "Object" with reticle and summing the measurements of reticles. For an example shown in Fig. 8, the azimuth of "Cruiser" as "Object" is measured to be 130 mils (60 mils + 70 mils).

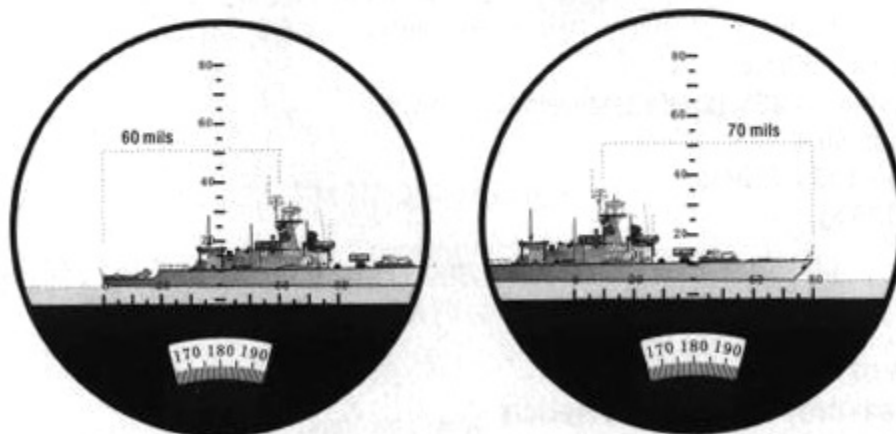


Fig. 8



### 3.2) Measure Elevation with Reticle

The elevation means the angle is measured vertically to the binocular from "Object".

A. The measurement of the elevation is mostly the same as that of the azimuth. When the elevation of "Object" measured is too lower, measure the elevation by fitting the lower part of "Object" with "0" reticle. For an example as shown in Fig. 9, the elevation of "Object" is measured to be 60 mils (00-60 mils).



Fig. 9

B. When the elevation measured is larger than the reticle arrange, the elevation is measured by summing the measurements of the reticles (same as that of the azimuth).

### 3.3) Measure Distance with Reticle

The distance is measured with reticle in mil, as shown in Fig. 10.

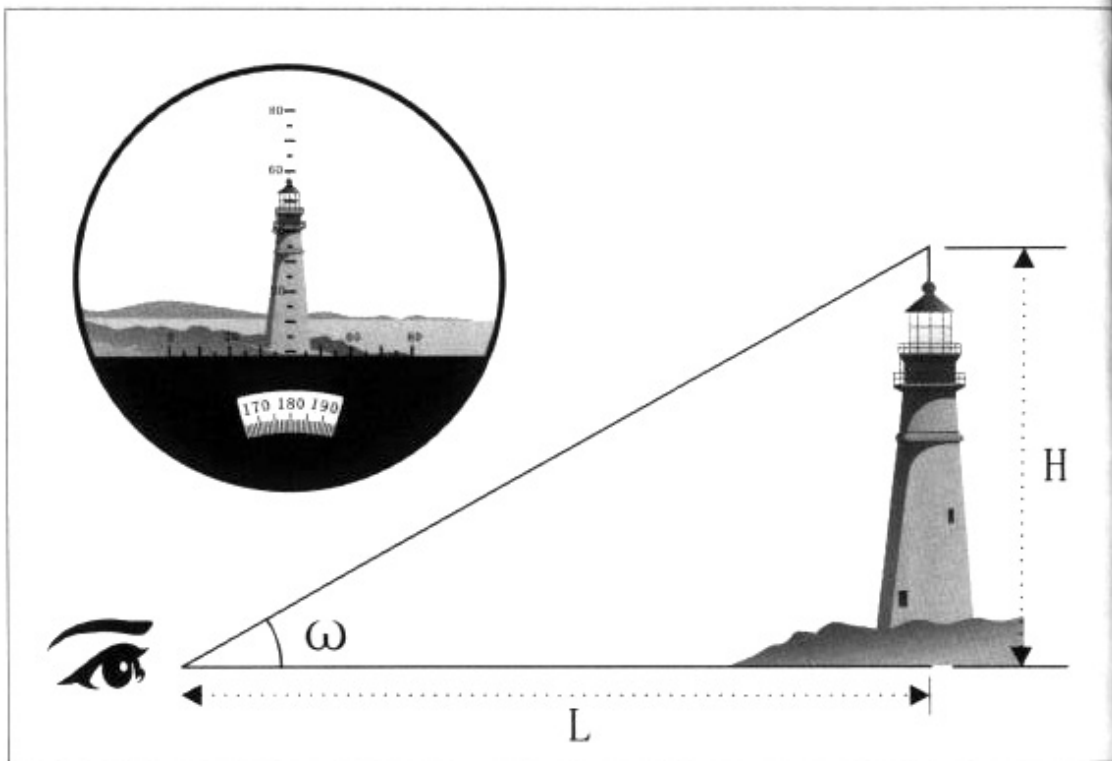


Fig. 10

The formula of distance measurement:  $L \text{ ( km ) } \approx H \text{ ( m ) } / K$ .

In which:

L- The distance between the observer and "Object" (km).

H- The height of "Object" (m) .

K- The elevation or azimuth of "Object" measured with reticle (mil).

Estimate the height or width of "Object" while measuring the distance and then measure the elevation or azimuth of "Object". Calculate the distance from the observer to "Object" by the above formula.

For example 1:

There is a light tower, whose height is 25 m.

The elevation measured reads 00-60 mils.

Say :  $L = H / K = 25 / 60 = 0.4166 \text{ km} = 416.6 \text{ m}$ .

So the distance from the observer to the light tower is 416.6 m.

For example 2:

There is an adult, whose height is 1.70 m.

The elevation measured reads 00–40 mils.

Say:  $L=H/K = 1.70/40 = 0.0425 \text{ km} = 42.5 \text{ m}$

So the distance from the observer to the adult is 42.5 m.

### 3.4) Measure Size with Reticle

Estimate the distance of "Object" while measuring the size, and then measure the elevation or the azimuth. Calculate the size by the above formula.

For one example:

The distance of "Object" measured is 0.6 km, the elevation measured is 00–30 mils and the azimuth 00–60 mils. By calculation, its height is 18 m ( $0.6 \times 30$ ), and its width is 36 m ( $0.6 \times 60$ ).

### 4) Usage of Compass

While in observation, the azimuth of "Object" can read easily through the right ocular. One graduation of compass is one degree of angle. When "Object" under observation is right in the north of your position, the compass reads  $360^\circ$ . Clockwise, when the compass reads  $90^\circ$ , "Object" is in the east of your position; when the compass reads  $180^\circ$ , "Object" is in the south of your position; when the compass reads  $270^\circ$ , "Object" is in the west of your position.(Fig. 11)

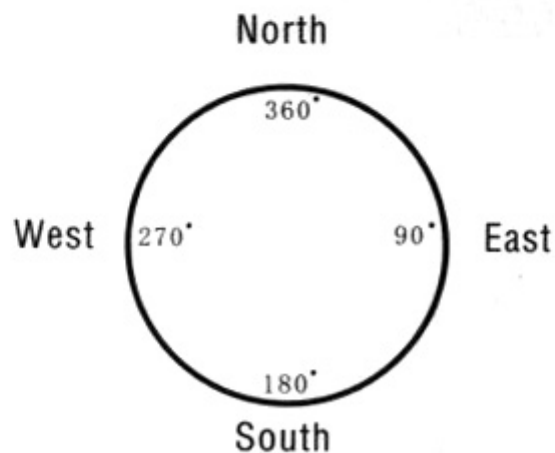


Fig. 11

While in location of "Object" by compass, less use the binocular in the magnetic area (such as there have artillery, tank, battle vehicle, high-voltage cable, transformer station, ferromagnetic mine and electromagnetic appliance), otherwise in which the sensitivity of compass is negatively effected and measurement is inaccurate. For the better observation and accurate measurement, keep the binocular in a vertical plane and within a range of  $\pm 15^\circ$  (In which the magnetic line is vertical to the compass needle ) , centre "Object" with reticle.

While in observation under the low light condition or in the evening press the lamp button of compass continuously.

#### 5) Usage under the Wearing of Gas Mask or Glasses

The rubber eye hoods of M750C binocular are down -folding. (Fig. 12

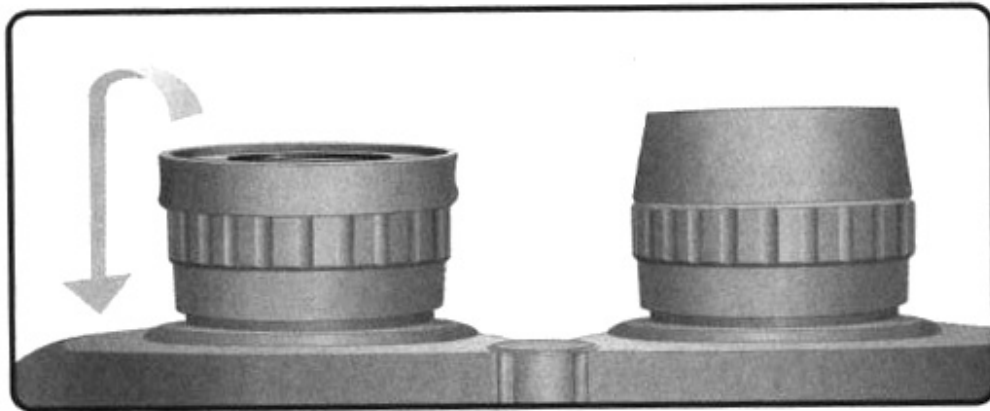


Fig. 12

#### 6) Replace Battery

Replace the batteries timely when the battery is low or exhausted for lengthy use or storage.

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#### Attention :

Replace the two batteries at one single time and remove them if do not intend to use the binocular for a long while.

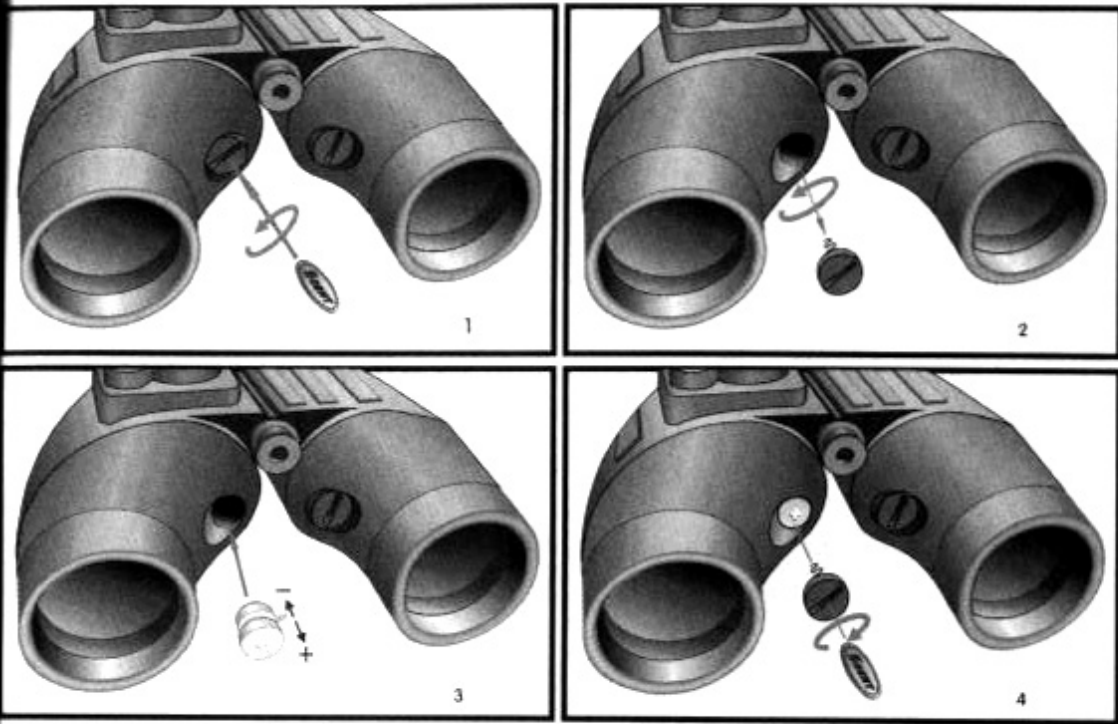



Fig. 13

### 7) Mount Tripod

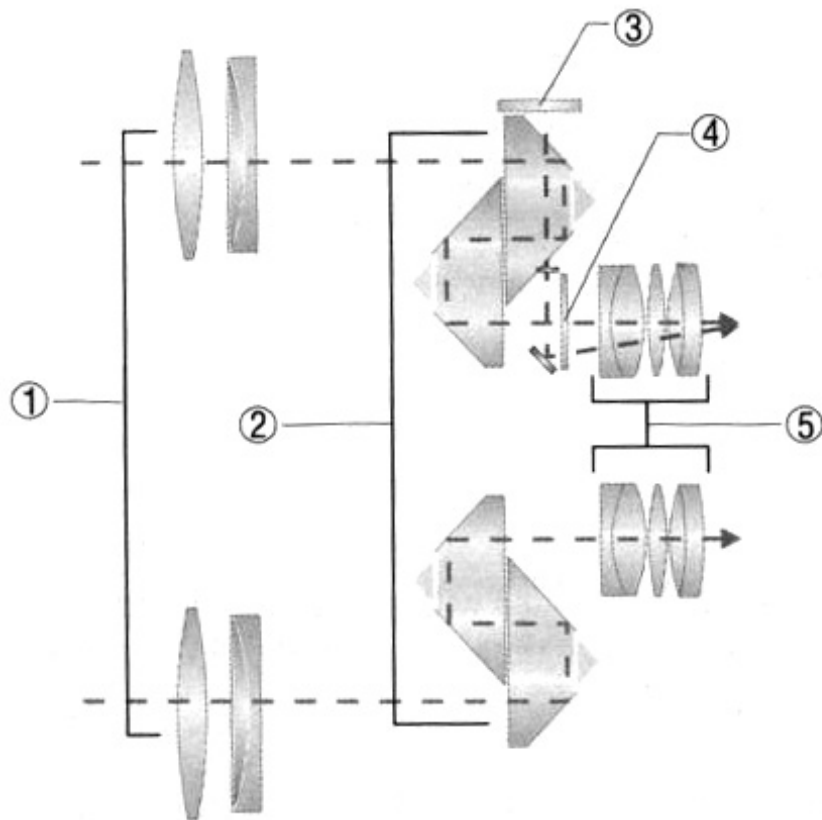
M750C binocular is threaded with socket in 1/4 inch, by which it is to be mounted onto tripod by adapter. (See Page33).  Fig. 38

## 5.M751C Instructions

### 1) Configuration

M751C binocular is designed for military applications, consisting of optical system and magnesium alloy construction and with the features of the internal compass and the ranging reticle.

#### 1.1) Exploded View of Optical System(Fig. 14)



- ① The Objective Lenses
- ② The Erecting Prisms
- ③ Compass Projective System
- ④ Reticle
- ⑤ The Eyepiece

Fig. 14

## 1.2) Exploded View of Construction

- ① The Left/Right Eyepiece
- ② The Compass Illuminated Window
- ③ Compass Imaging Assembly
- ④ The Dustproof Cover For The Objective Lenses
- ⑤ The Connecting Shaft Holding
- ⑥ The Objective Lenses
- ⑦ Main Binocular Body Housing with the Porro Prism Assembly
- ⑧ Interpupillary scalar

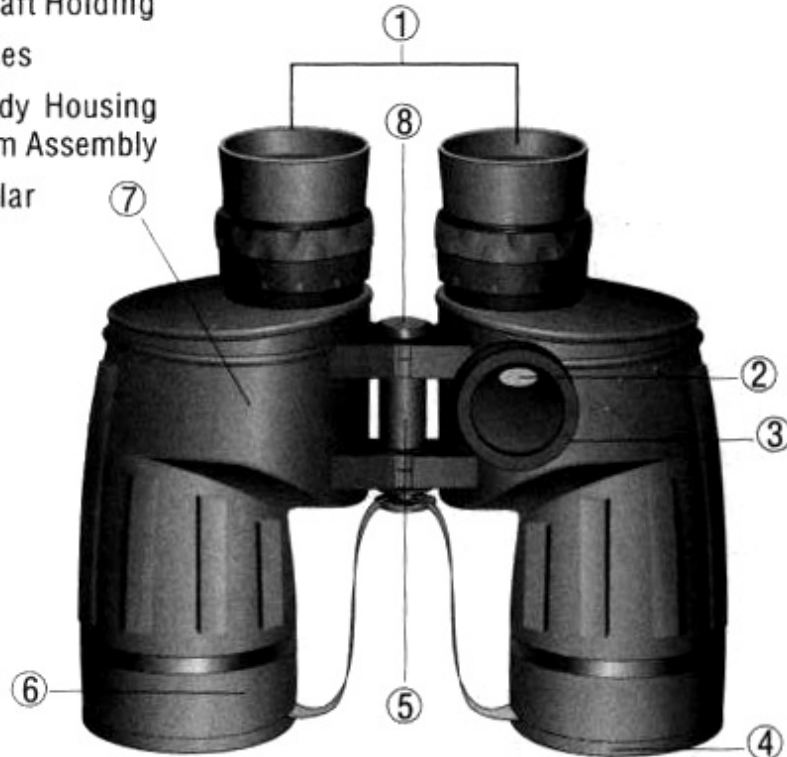


Fig. 15

## 2) Main Specifications

Feature: 7 × 50

Field of View: 7.5°

Exit Pupil: 7.1mm

Obj. Lens Dia.: 50mm

Transmission: > 83%(area besidereticle), > 90%

Brightness: 51

Size: 213 × 97 × 194mm

Weight: 1450g

Magnification: 7x

Eye Relief: 26mm

Resolution: ≤ 4"

M751C binocular meets the standards and requirements of GJB1240, GJB150 and MIL-STD810.

### 3) Usage of Reticle

3.1) Measure Azimuth with Reticle (See Page 6). ☞

3.2) Measure Elevation with Reticle (See Page 8). ☞

3.3) Measure Distance with Reticle (See Page 8). ☞

3.4) Measure Size with Reticle (See Page 10). ☞

### 4) Usage of Compass

While in observation, the azimuth of "Object" can read easily through the right ocular. One graduation of compass is one degree of angle. When "Object" under observation is right in the north of your position, the compass reads  $360^\circ$ . Clockwise, when the compass reads  $90^\circ$ , "Object" is in the east of your position; when the compass reads  $180^\circ$ , "Object" is in the south of your position; when the compass reads  $270^\circ$ , "Object" is in the west of your position.

While in location of "Object" by compass, less use the binocular in the magnetic area (such as there have artillery, tank, battle vehicle, high-voltage cable, transformer station, ferromagnetic mine and electromagnetic appliance), otherwise in which the sensitivity of compass is negatively effected and measurement is inaccurate. For the better observation and accurate measurement, keep the binocular in a vertical plane and within a range of  $\pm 15^\circ$  (In which the magnetic line is vertical to the needle of compass), centre "Object" with reticle.

### 5) Usage under the Wearing of Gas Mask or Glasses

The rubber eye hoods of M751C binocular are down-folding. (Fig. 16)



Fig. 16

### 6) Mount Tripod

M751C binocular is threaded with socket in 1/4 inch, by which it is to be mounted onto tripod by adapter. (See Page 33). ☞ (Fig. 38)

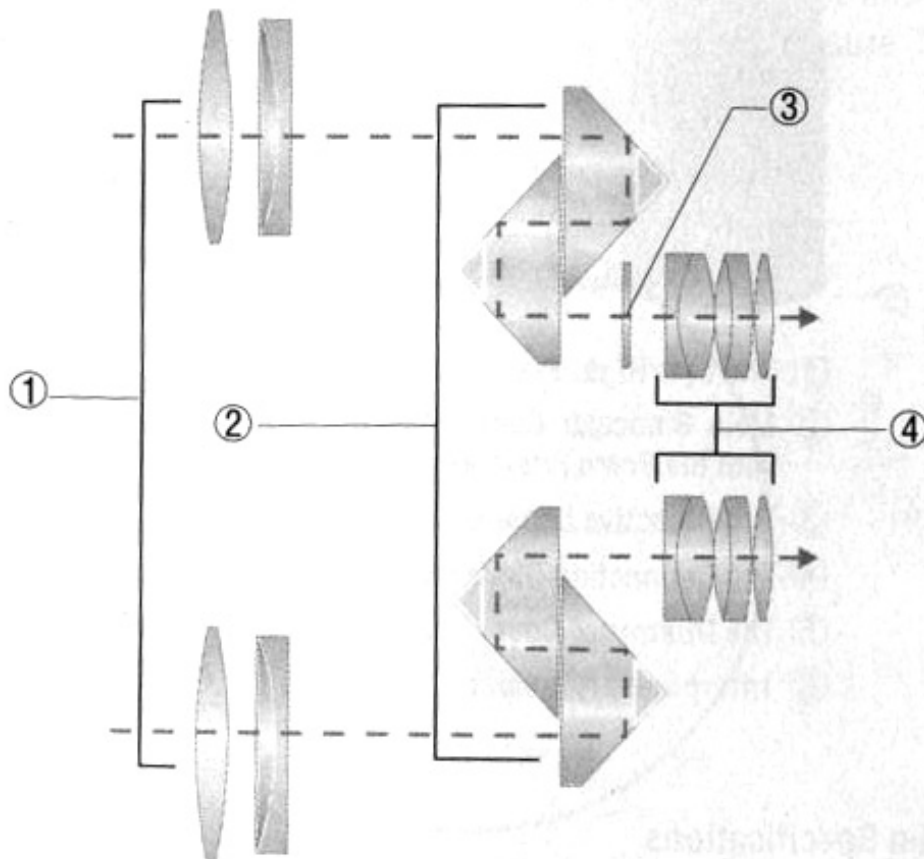


## 6.M750 Instructions

### 1)Configuration

M750 binocular is designed for military applications, consisting of optical system and body assembly and with the features of the internal compass and the ranging reticle.

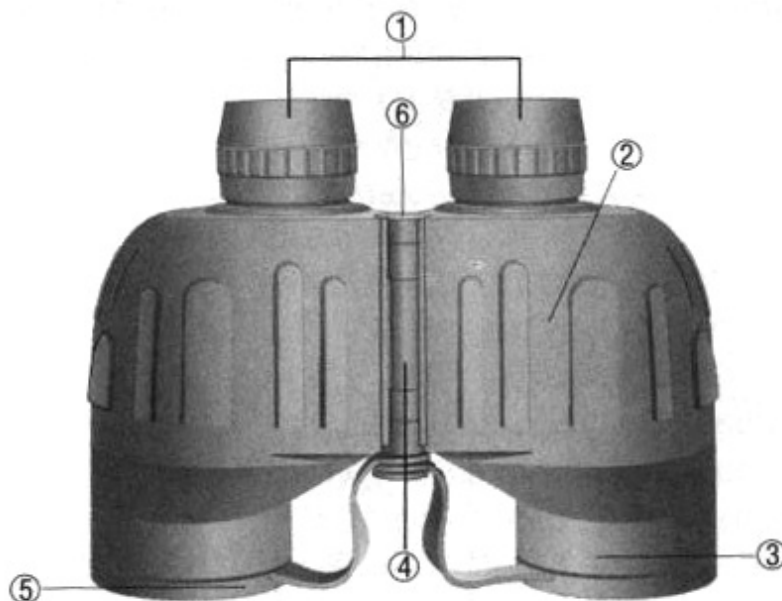
#### 1.1) Exploded View of Optical System(Fig. 17)



- ① The Objective Lenses
- ② The Erecting Prisms
- ③ Reticle
- ④ The Eyepiece

Fig. 17

## 1.2) Exploded View of Body Assembly(Fig. 18)



- ① The Left/Right Eyepiece
- ② Main Binocular Body Housing with the Porro Prism Assembly
- ③ The Objective Lenses
- ④ The Connecting Shaft Holding
- ⑤ The Dustproof Cover For The Objective Lenses
- ⑥ Interpupillary scalar

Fig. 18

## 2) Main Specifications

Feature: 7 × 50

Field of View: 7.5°

Exit Pupil: 7.1mm

Obj.Lens Dia.: 50mm

Transmission: > 83%(area besidereticle), > 90%

Brightness: 50.4

Size: 200 × 85 × 150mm

Weight: 1370g

Magnification: 7x

Eye Relief: 23mm

Resolution: ≤4.5"

M750 binocular meets the standards and requirements of GJB1240, GJB150 and MIL-STD810.

### 3) Usage of Reticle

The reticle system consists of horizontal and vertical reticles and there has corresponding measurement reticles at the low part shown as in Fig. 19. The unit of the horizontal and vertical reticles is in mil. The short reticle represents 5 mils and the long reticle represents 10 mils. Horizontal reticle is the horizontal measurement and vertical reticle is the elevation measurement. Use Mil reticles to measure "Object"'s azimuth, elevation, distance and size and simply use the corresponding measurement reticles to measure "Object" within the height of 2 meters.

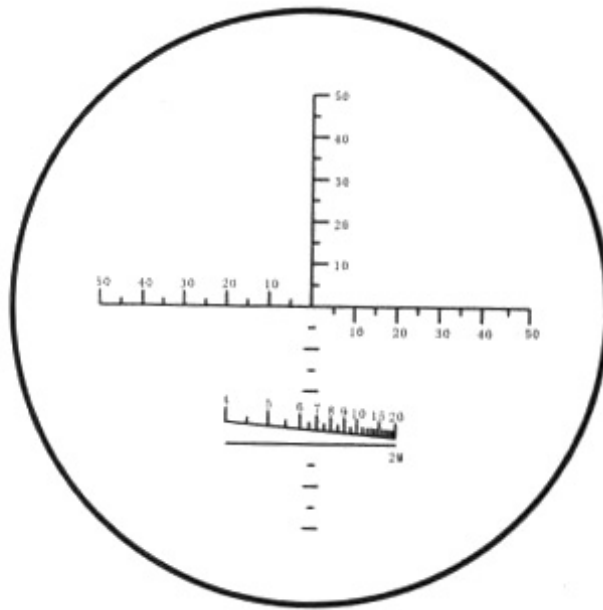


Fig. 19

#### 3.1) Measure Azimuth with Reticle

The azimuth means the angle is measured horizontally to the binocular from "Object" .

A. When the azimuth of "Object" measured is lower than the reticle range ( $\pm 50$  mils), measure the azimuth by fitting "Object" with reticles. For an example shown in Fig. 20, the azimuth of "Tank" as "Object" is measured to be 20 mils (20-00 mils)

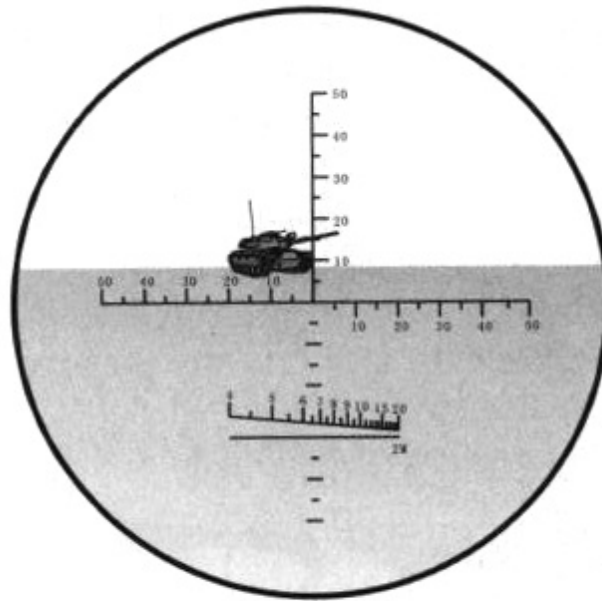


Fig. 20

B. When the azimuth of "Object" measured is larger than the reticle range ( $\pm 50$  mils), measure the azimuth by fitting vertically "Object" with reticle and summing the measurements of reticles. For an example shown in Fig. 21, the azimuth of "Cruiser" as "Object" is measured to be 130 mils (60 mils + 70 mils = 130 mils).

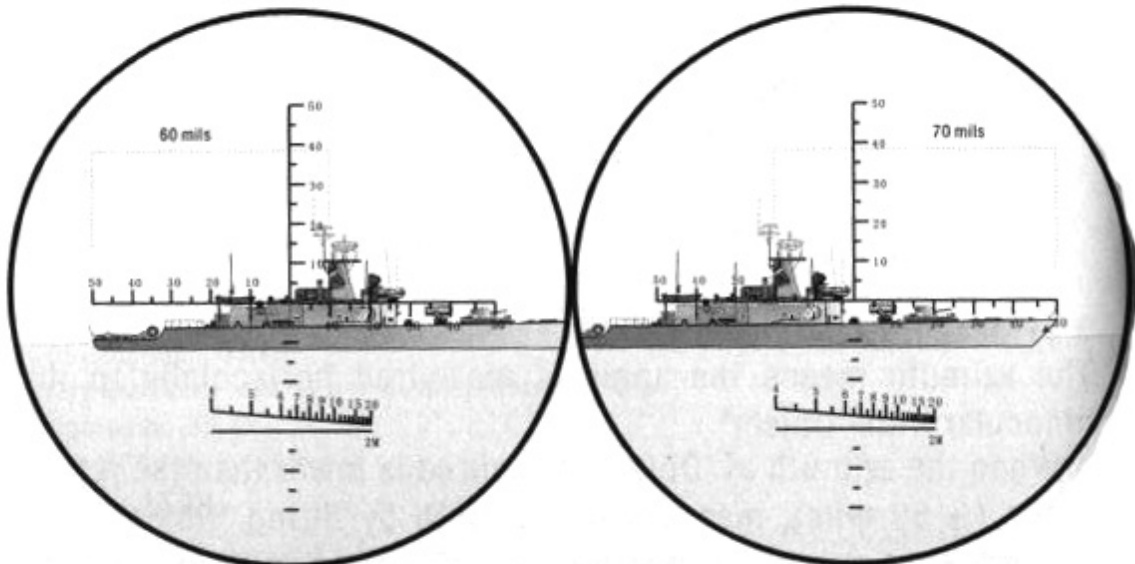


Fig. 21

### 3.2) Measure Elevation with Reticle


The elevation means the angle is measured vertically to the binocular from "Object" .


A. The measurement of the elevation is mostly the same as that of the azimuth. When the elevation of "Object" measured is too lower, measure the elevation by fitting the lower part of "Object" with the middle reticle. There has Mil reticles at the lower part. When the elevation of "Object" measured is too larger, measure the elevation by fitting the lower part of "Object" with any Mil reticle. Now as shown in Fig. 22 , the observer is expected to determine the mil from the lower Mil reticle. The mil on the top is 35 mils and on the lower 40 mils, the elevation is measured to be 75 mils (35 mils + 40 mils = 75 mils).



Fig. 22

B. When the elevation measured is larger than the reticle arrange, measure the elevation by summing the measurements of the reticles (same as that of the azimuth).

3.3) Measure Distance with Reticle (See Page8). 

3.4) Measure Size with Reticle (See Page10). 

### 3.5) Corresponding Measurement Reticle System

The corresponding measurement reticle system consists of horizontal line and diagonal line, by which it easily measures "Object" within the height of 2 meters such as vehicle and adult. While in observation, the reflex of "Object" is just between the horizontal line and diagonal line, the reticle intersected by the reflex and diagonal line is the distance of "Object". As shown in Fig. 23, the observer is 550 meters away from "Object".

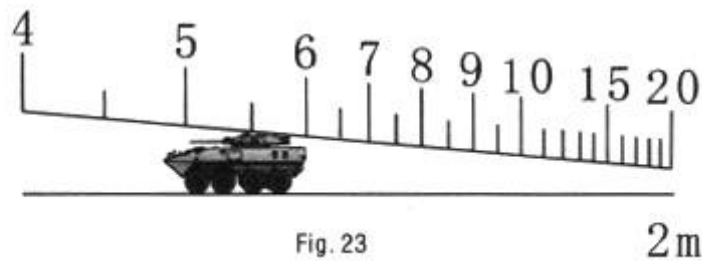


Fig. 23

### 4) Usage under the Wearing of Gas Mask or Glasses

The rubber eye hoods of M750 binocular are down-folding. (Fig. 24)

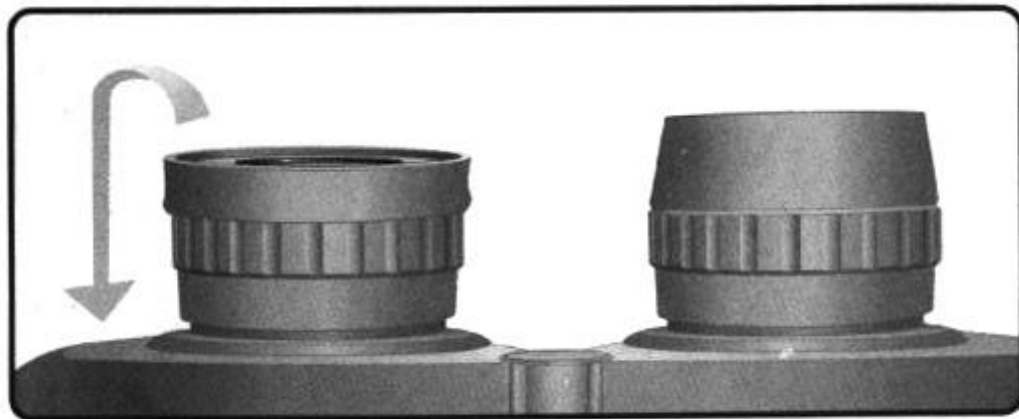


Fig. 24

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### 5) Mount Tripod

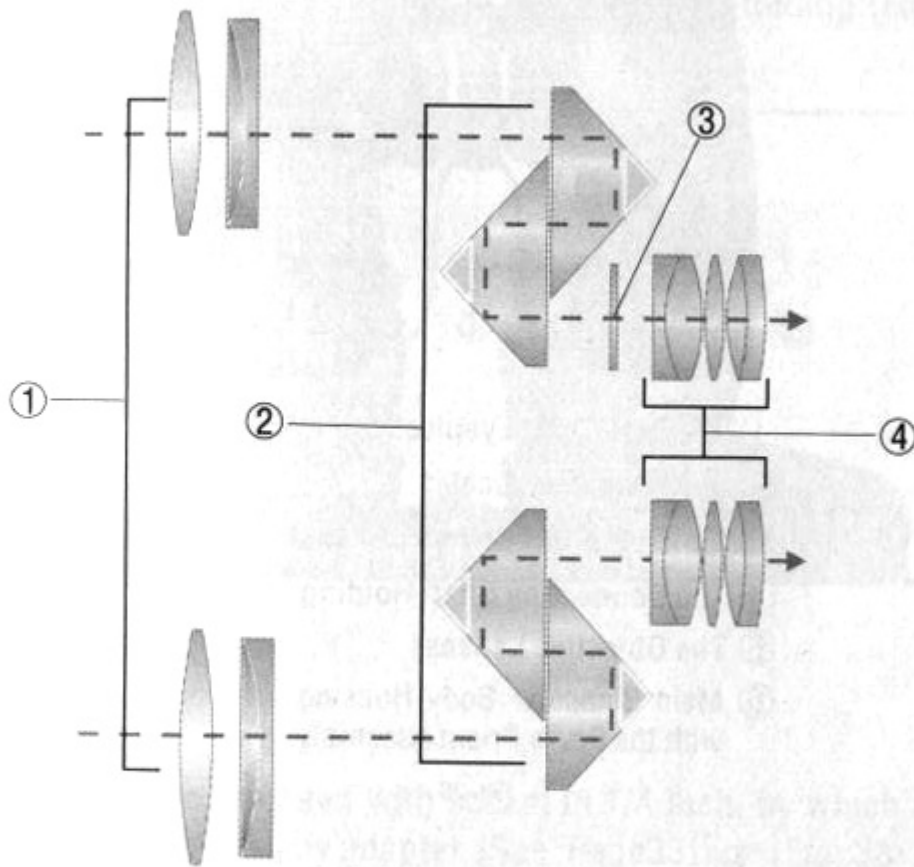
M750 binocular is threaded with socket in 1/4 inch, by which it is to be mounted onto tripod by adapter. (See Page 33). (Fig. 38)

## 7.M751 Instructions

### 1) Configuration

M751 binocular is designed for military applications, consisting of optical system and magnesium alloy construction and with the features of the internal compass and the ranging reticle.

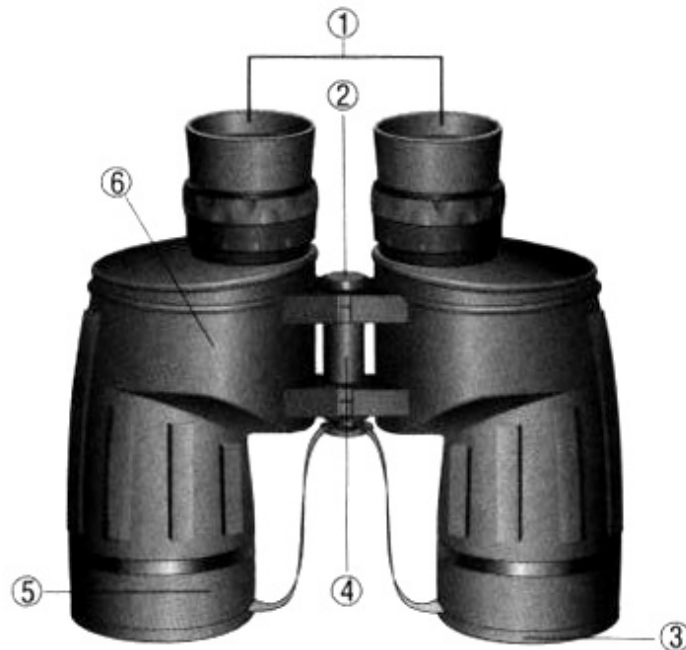
#### 1.1) Exploded View of Optical System(Fig. 25)



- ① The Objective Lenses
- ② The Erecting Prisms
- ③ Reticle
- ④ The Eyepiece

Fig. 25

## 1.2) Exploded View of Construction(Fig. 26)



- ① The Left/Right Eyepiece
- ② Interpupillary scalar
- ③ The Dustproof Cover For The Objective Lenses
- ④ The Connecting Shaft Holding
- ⑤ The Objective Lenses
- ⑥ Main Binocular Body Housing with the Porro Prism Assembly

Fig. 26

## 2) Main Specifications

Feature: 7 × 50

Field of View: 7.5°

Exit Pupil: 7.1mm

Obj. Lens Dia.: 50mm

Transmission: > 83%(area besidereticle), > 90%

Brightness: 51

Size: 213 × 78 × 194mm

Weight: 1420g

Magnification: 7 ×

Eye Relief: 26mm


Resolution: ≤ 4"


M751 binocular meets the standards and requirements of GJB1240 GJB150 and MIL-STD810.




### 3) Usage of Reticle

3.1) Measure Azimuth with Reticle (See Page18). 

3.2) Measure Elevation with Reticle (See Page 20). 

3.3) Measure Distance with Reticle (See Page 8). 

3.4) Measure Size with Reticle (See Page10). 

3.5) Corresponding Measurement Reticle System (See Page21). 

### 4) Usage under the Wearing of Gas Mask or Glasses

The rubber eye hoods of M751 binocular are down-folding. (Fig. 27)

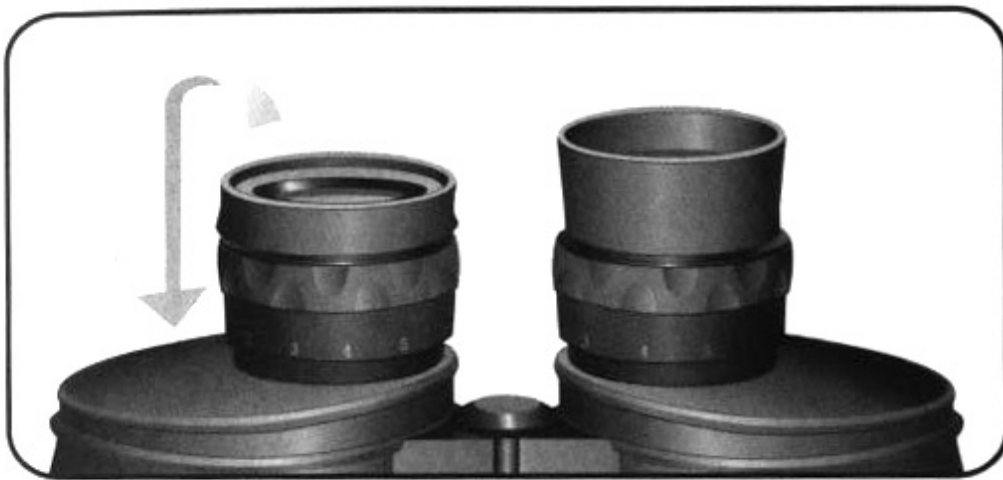



Fig. 27

### 5) Mount Tripod

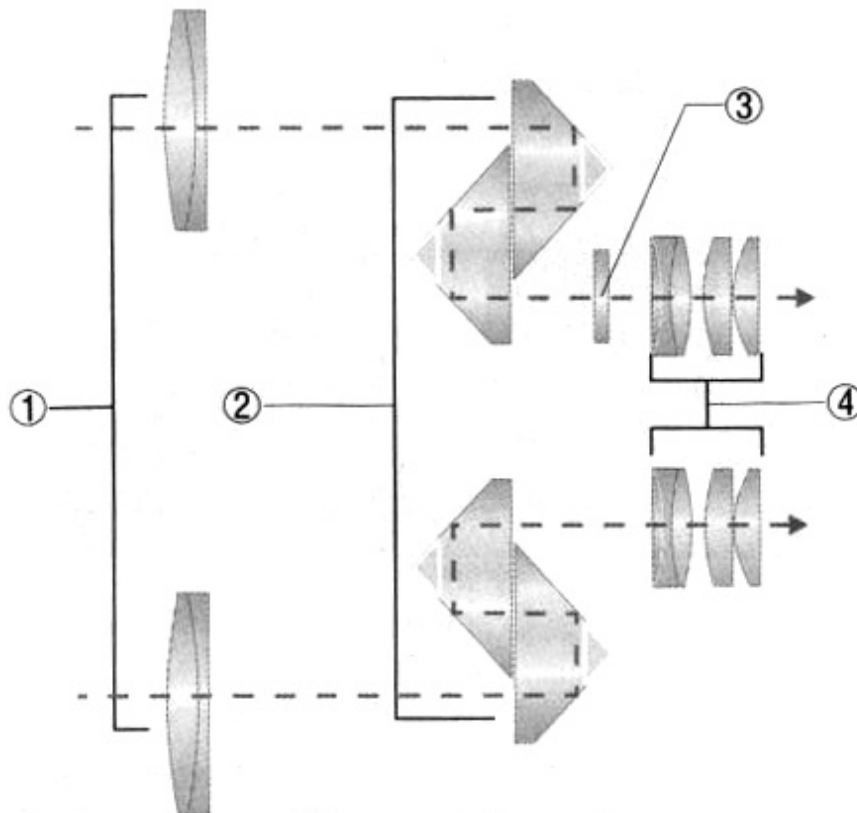
M751 binocular is threaded with socket in 1/4 inch, by which it is to be mounted onto tripod by adapter. (See Page33).  (Fig. 38)

## 8.M836 Instructions

### 1) Configuration

M836 binocular is designed for military applications, consisting of optical system and body assembly and with the features of the internal compass and the ranging reticle.

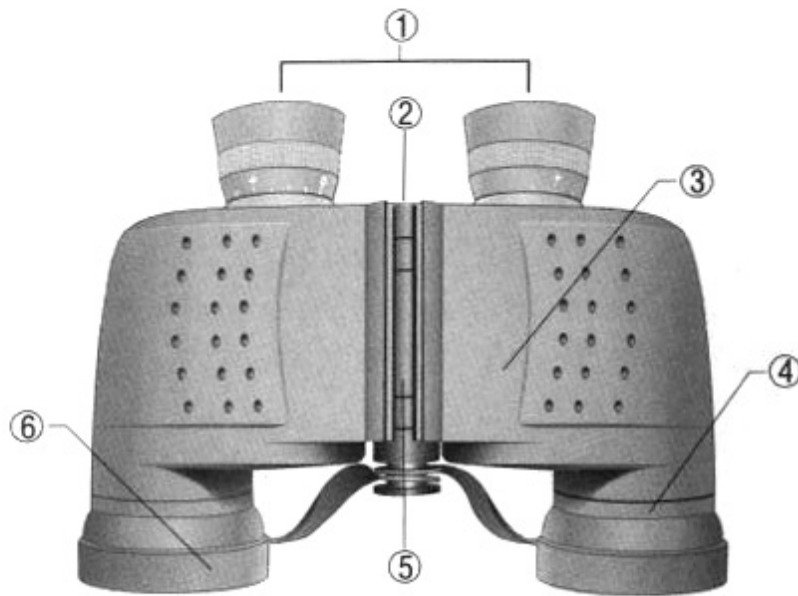
#### 1.1) Exploded View of Optical System(Fig. 28)



- ① The Objective Lenses
- ② The Erecting Prisms
- ③ Reticle
- ④ The Eyepiece

Fig. 28

## 1.2) Exploded View of Body Assembly(Fig. 29)



- ① The Left/Right Eyepiece
- ② Interpupillary scalar
- ③ Main Binocular Body Housing with the Porro Prism Assembly
- ④ The Objective Lenses
- ⑤ The Connecting Shaft Holding
- ⑥ The Dustproof Cover For The Objective Lenses

Fig. 29

## 2) Main Specifications

Feature: 8 × 36

Field of View: 7°

Exit Pupil: 4.4mm

Obj. Lens Dia.: 36mm

Transmission: > 83%(area besidereticle), > 90%

Brightness: 20.3

Size: 165 × 65 × 127mm

Weight: 600g

Magnification: 8 ×

Eye Relief: 16mm

Resolution: ≤6.2"

M836 binocular meets the standards and requirements of GJB1240, GJB150 and MIL-STD810.

### 3) Usage of Reticle

The reticle system consists of horizontal and vertical reticles and there has corresponding measurement reticles at the low part shown as in Fig. 30. The unit of the horizontal and vertical reticles is in mil. The short reticle represents 5 mils and the long reticle represents 10 mils. Horizontal reticle is the horizontal measurement and vertical reticle is the elevation measurement.

Use Mil reticles to measure "Object"'s azimuth, elevation, distance and size and simply use the corresponding measurement reticles to measure "Object" within the height of 2 meters.

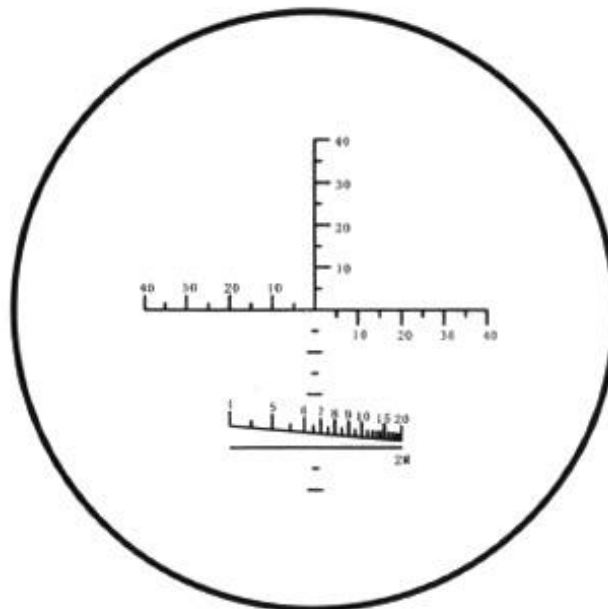


Fig. 30

#### 3.1) Measure Azimuth with Reticle

The elevation means the angle is measured horizontally to the binocular from "Object" .

A. When the azimuth of "Object" measured is lower than the reticle range ( $\pm 40$  mils), measure the azimuth by fitting "Object" with the reticle or the middle reticle. For an example shown in Fig. 31, the azimuth of "Tank" as "Object" is measured to be 20 mils (20-00 mils).

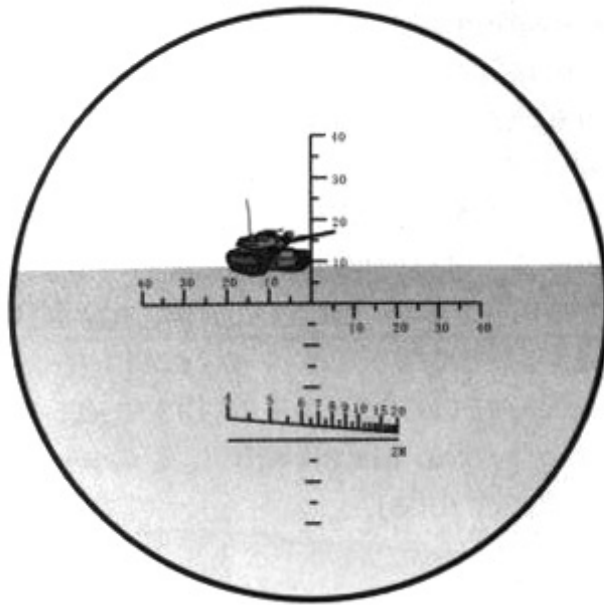


Fig. 31

B. When the azimuth of "Object" measured is larger than the reticle range ( $\pm 40$  mils), measure the azimuth by fitting vertically "Object" with reticle and summing the measurements of reticles. For an example shown in Fig. 32, the azimuth of "Cruiser" as "Object" is measured to be 110 mils (50 mils + 60 mils = 110 mils).

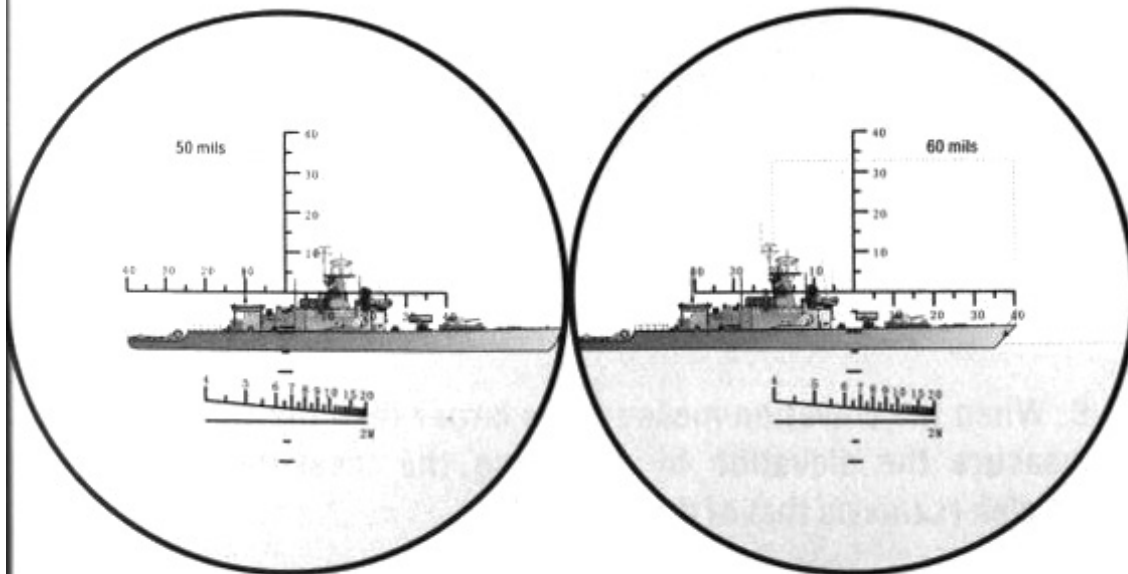


Fig. 32




### 3.2) Measure Elevation with Reticle

A. The measurement of the elevation is mostly the same as that of the azimuth. When the elevation of "Object" measured is too lower, measure the elevation by fitting the lower part of "Object" with the middle reticle. There has Mil reticles at the lower part. When the elevation of "Object" measured is too larger, measure the elevation by fitting the lower part of "Object" with any Mil reticle. Now as shown in Fig. 33 , the observer is expected to determine the mil from the lower Mil reticle. The mil on the lower is 40 mils and the mil on the top is 35 mils, the elevation is measured to be 75 mils ( $35 \text{ mils} + 40 \text{ mils} = 75 \text{ mils}$ ).



Fig. 33

B. When the elevation measured is larger than the reticle arrange, measure the elevation by summing the measurements of the reticles (same as that of the azimuth).

- 3.3) Measure Distance with Reticle (See Page8). 
- 3.4) Measure Size with Reticle (See Page10). 
- 3.5) Corresponding Measurement Reticle System (See Page21). 
- 4) Usage under the Weary of Gas Mask or Glasses  
The rubber eye hoods of M836 binocular are down-folding.(Fig. 34)

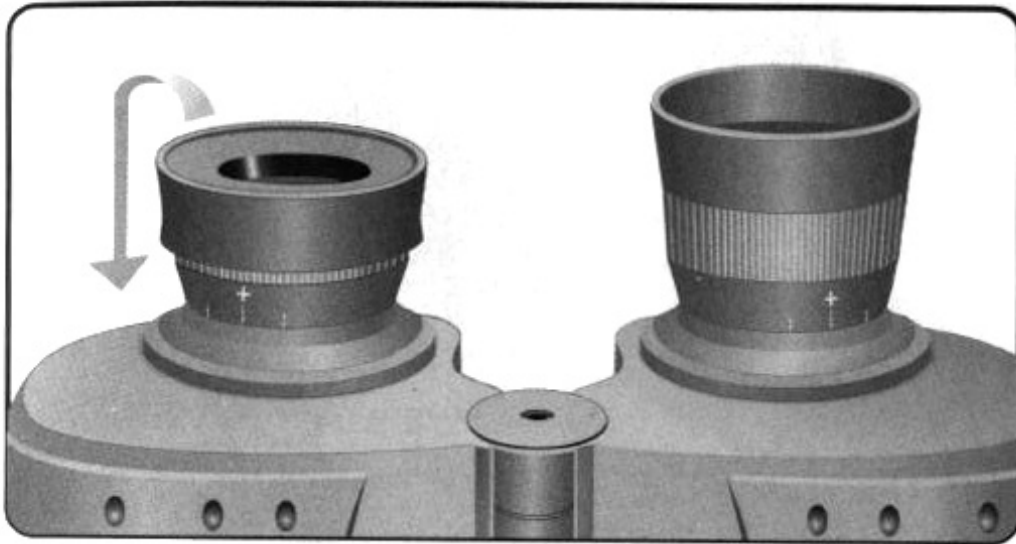



Fig. 34

#### 5) Mount Tripod

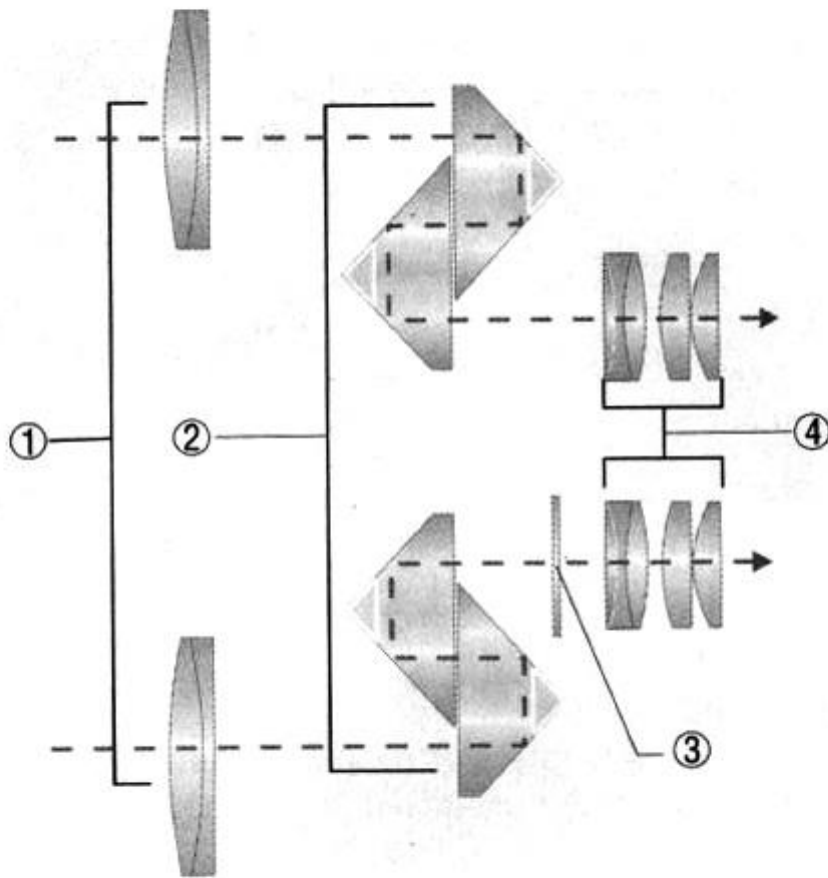
M836 binocular is threaded with socket in 1/4 inch, by which it is to be mounted onto tripod by adapter.(See Page33).  Fig. 38

## 9.M730 Instructions

### 1) Configuration

M730 binocular is designed for military applications, consisting of optical system and body assembly and with the features of the internal compass and the rangefinding reticle.

#### 1.1) Exploded View of Optical System(Fig. 35)

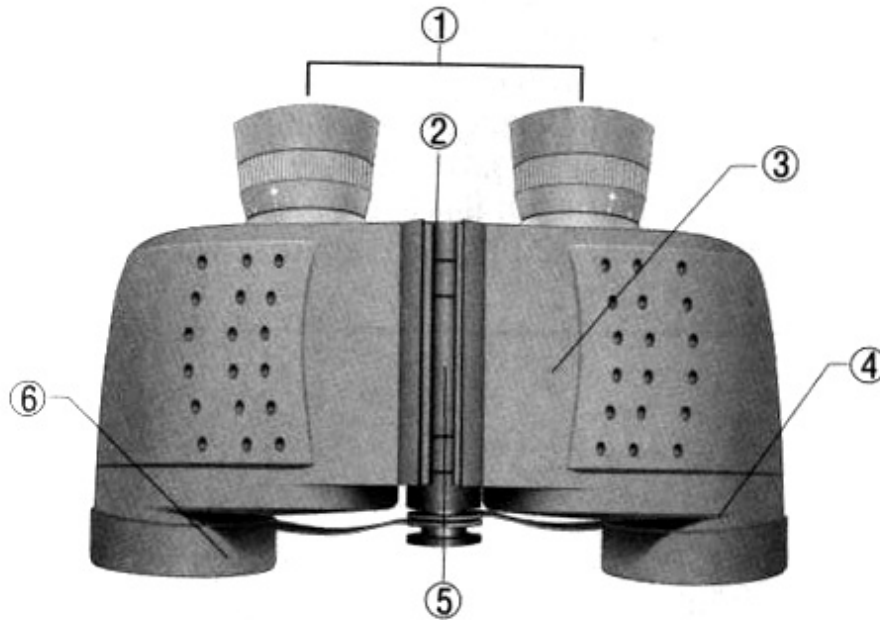


- ① The Objective Lenses
- ② The Erecting Prisms
- ③ Reticle
- ④ The Eyepiece

Fig. 35



## 1.2) Exploded View of Body Assembly(Fig. 36)



- ① The Left/Right Eyepiece
- ② Interpupillary scalar
- ③ Main Binocular Body Housing with the Porro Prism Assembly
- ④ The Objective Lenses
- ⑤ The Connecting Shaft Holding
- ⑥ The Dustproof Cover For The Objective Lenses

Fig. 36

## 2) Main Specification

Feature: 7 × 30

Field of View: 8°

Exit Pupil: 4.3mm

Obj. Lens Dia.: 30mm

Transmission: > 83%(area besidereticle), > 90%

Brightness: 18.4

Size: 165 × 65 × 117mm

Weight: 575g






Magnification: 7 ×

Eye Relief: 17mm

Resolution: ≤ 7"

M730 binocular meets the standards and requirements of GJB1240, GJB150 and MIL-STD810.

### 3) Usage of Reticle

- 3.1) Measure Azimuth with Reticle (See Page27). 
- 3.2) Measure Elevation with Reticle (See Page29). 
- 3.3) Measure Distance with Reticle (See Page8). 
- 3.4) Measure Size with Reticle (See Page10). 
- 3.5) Corresponding Measurement Reticle System (See Page21). 

### 4) Usage Under the Wearing of Gas Mask or Glasses

The rubber eye hoods of M730 binocular are down-folding. (Fig. 37)

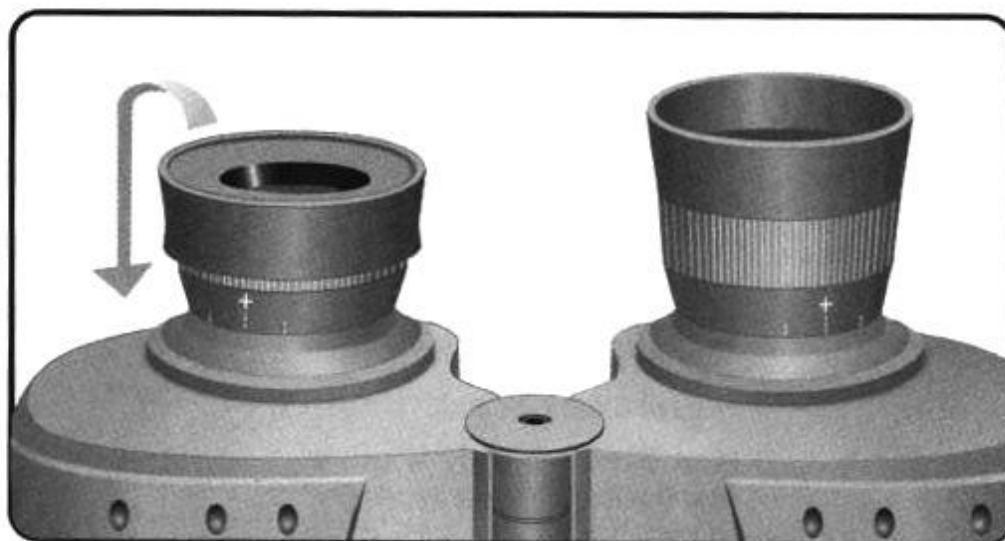


Fig. 37

### 5) Mount Tripod

M730 binocular is threaded with socket in 1/4 inch, by which it is to be mounted onto tripod by adapter. (Fig. 38)

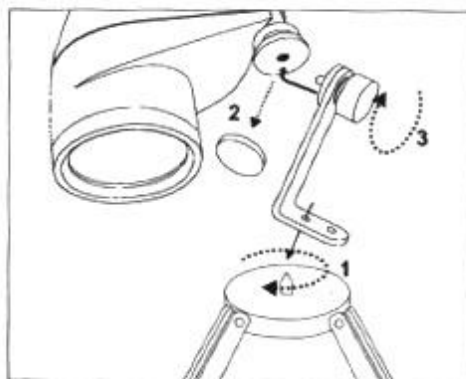


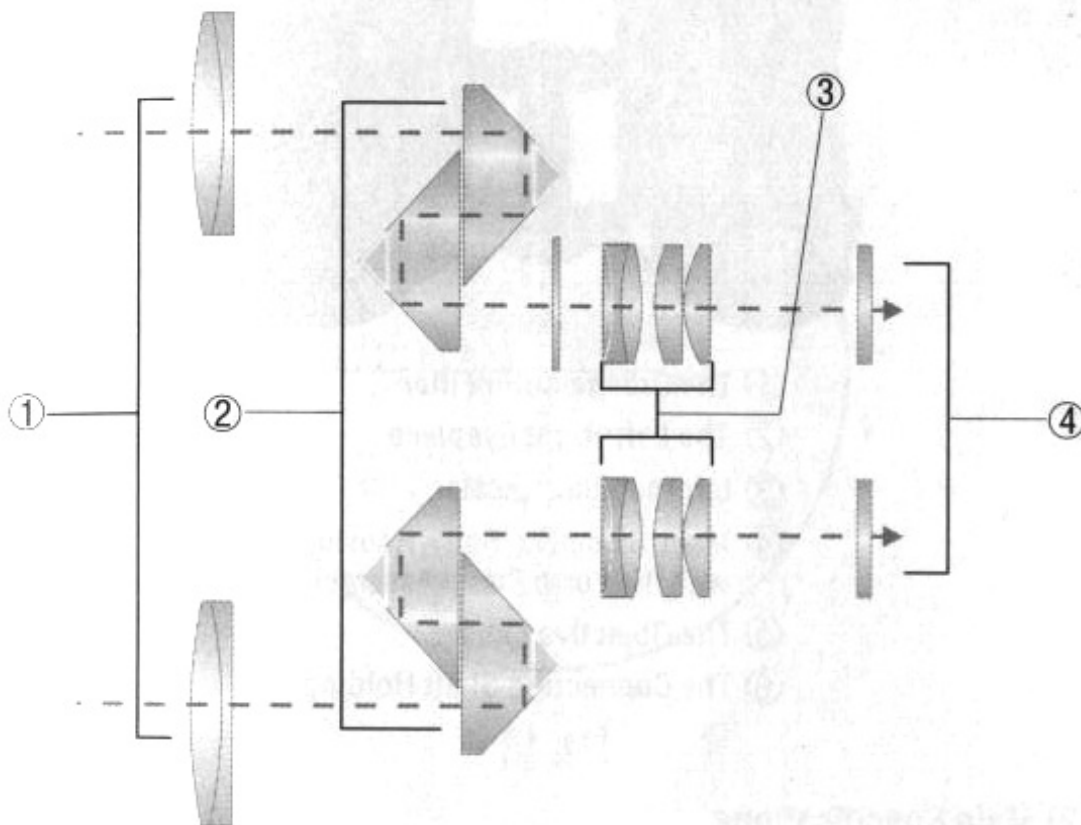
Fig. 38

## 10.M830 Instructions

### 1)Configuration

M830 binocular is designed for military applications, consisting of optical system and body assembly and with the features of the internal compass and the rangefinding reticle.

#### 1.1) Exploded View of Optical System(Fig. 39)



① The Objective Lenses

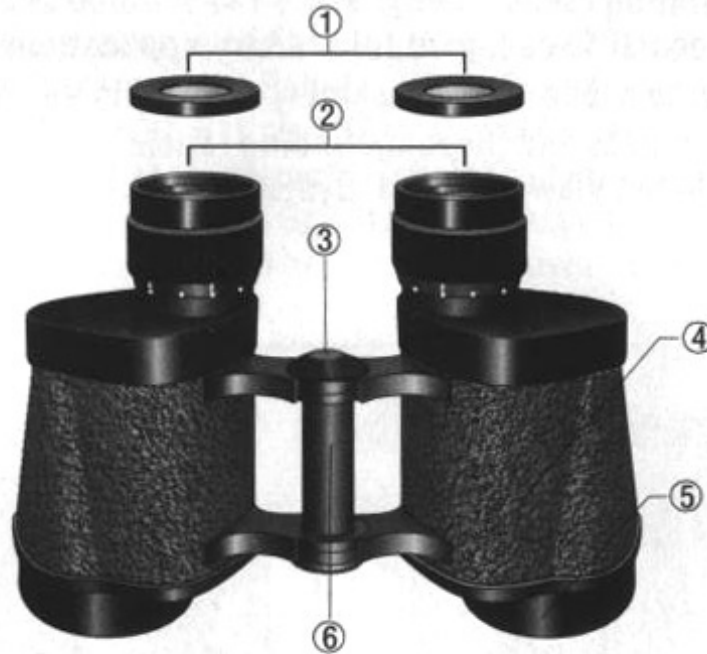
② The Erecting Prisms

③ The Eyepiece

④ The Orange Color Filter

Fig. 39

## 1.2) Exploded View of Optical System(Fig. 40)



- ① The Orange Color Filter
- ② The Left/Right Eyepiece
- ③ Interpupillary scalar
- ④ Main Binocular Body Housing with the Porro Prism Assembly
- ⑤ The Objective Lenses
- ⑥ The Connecting Shaft Holding

Fig. 40

## 2) Main Specifications

Feature: 8 × 30

Field of View: 7.5°

Exit Pupil: 3.6mm

Obj.Lens Dia.: 30mm

Transmission: > 83%(area besidereticle), > 90%

Brightness: 13

Size: 160 × 48 × 123mm

Weight: 590g

Magnification: 8 ×

Eye Relief: 17mm

Resolution: ≤ 7"

M830 binocular meets the standards and requirements of GJB1240 GJB150 and MIL-STD810.

### 3) Usage of Reticle

The reticle system consists of horizontal and vertical reticles as shown in Fig. 41. The unit of the horizontal and vertical reticles is in mil. The short reticle represents 5 mils and the long reticle represents 10 mils. Horizontal reticle is the horizontal measurement and vertical reticle is the elevation measurement. Use Mil reticles to measure "Object"'s azimuth, elevation, distance and size.

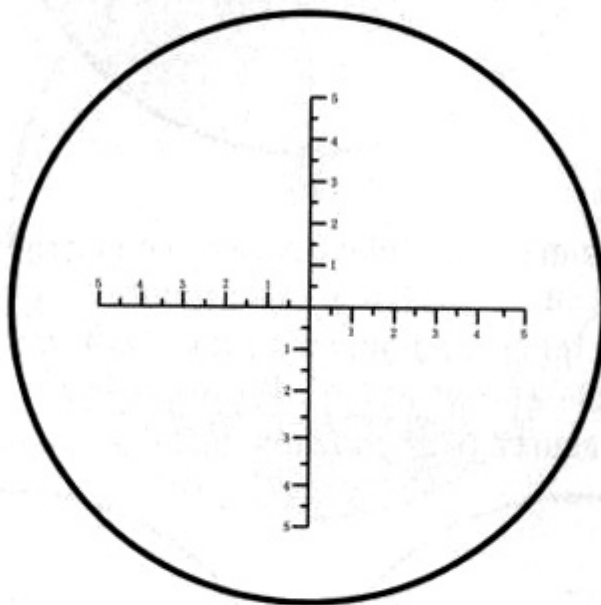


Fig. 41

#### 3.1) Measure Azimuth with Reticle

The azimuth means the angle is measured horizontally to the binocular from "Object".

A. When the azimuth of "Object" measured is lower than the reticle range ( $\pm 50$  mils), measure the azimuth by fitting "Object" with the reticle or the middle reticle. For an example shown in Fig. 42, the azimuth of "Tank" as "Object" is measured to be 20 mils (20-00 mils).

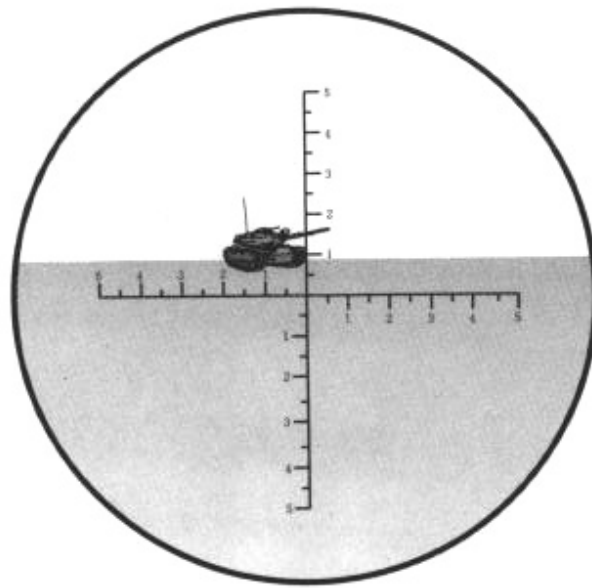


Fig. 42

B. When the azimuth of "Object" measured is larger than the reticle range ( $\pm 50$  mils), measure the azimuth by fitting vertically "Object" with reticle and summing the Measurements of reticles. For an example shown in Fig. 43, the Azimuth of "Cruiser" as "Object" is Measured to be 130 mils (60 mils + 70 mils = 130 mils).

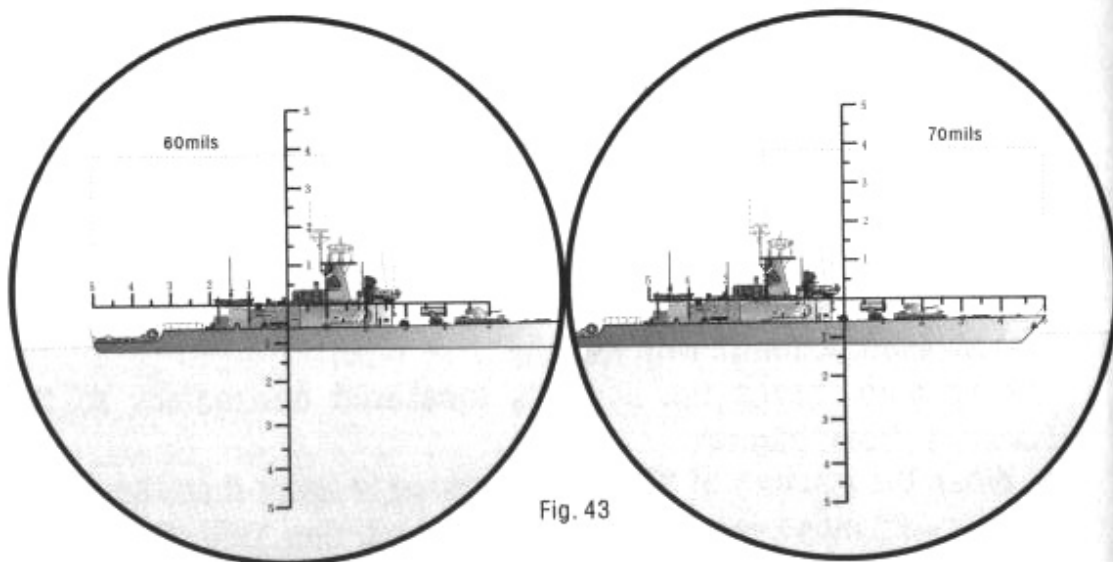


Fig. 43

### 3.2) Measure Elevation with Reticle

The elevation means the angle is measured vertically to the binocular from "Object".

A. The measurement of the elevation is mostly the same as that of the azimuth. When the elevation of "Object" measured is too lower, place the middle reticle on the lower part of "Object", the elevation reads from the reticle on the top of "Object". When the elevation of "Object" measured is too larger, place any reticle on the lower part of "Object", the elevation reads from the reticle on the top of



Fig. 44

"Object". As shown in Fig. 44 , the observer estimates the mil from the lower reticle. The reticle fitted on the top reads 35 mils and on the lower 40 mils, the elevation is 75 mils ( $35 \text{ mils} + 40 \text{ mils} = 75 \text{ mils}$ ).

B. When the elevation measured is larger than the reticle arrange, the elevation is measured by summing the measurements of the reticles (same as that of the azimuth).

**3.3) Measure Distance with Reticle** ( See Page8).

**3.4) Measure Size with Reticle** (See Page10).

#### **4) Usage of Filter**

M830 comes with one pair of orange color filters. Put the filters onto the oculars of the binocular when the working condition is in fog or sown weather or under strong sunny light.

### **11. Care and Maintenance**

Do not touch lenses by hand and be sure not to have them scratched by hard substances.

When in no use of the binocular, gently turn diopter knobs down to the lowest figure , cover it with lens caps and then put it into the carrying bag.

Lightly wipe dust particles and clean lenses with lens cleaning cloth. Never clean lenses by bare hand, oilcloth and paper. Keep lens cleaning cloth clean and put it into the carrying bag for spare use.

If lenses are stained by oil sludge, gently have them clean by soft cloth or silk moistened in industrial alcohol.

### **12. Caution**

Keep your binocular in top condition by the following suggestions:

Place the binocular with compass away from the magnetic area, otherwise in which the binocular works improperly and the sensitivity of compass is negatively effected .

Hard turning of diopter knobs is not recommended and gently handle the binocular while in use.

### **13. Storage**

For lengthy storage, place the binocular in a dry, dust-free place and away from the magnetic area. A desiccant is recommended to use.

### **14. Service**

Never attempt to disassemble the binocular for repairing by yourself when the binocular works out of order. Take it to an authorized or professional service center , or just send or mail it back to the factory for repairing.

### **15. Notice**

Subject to modification or improvement without notice.



