

Vixen®

Instruction Manual for POLARIE Fine Adjustment Unit



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Preface

Thank you for your purchase of a POLARIE Fine Adjustment Unit (hereafter called the POLARIE FA unit).

This manual describes the functions and uses of the POLARIE FA unit with the POLARIE or AP polar axis bracket for AP star tracker. Use this instruction manual in conjunction with your tripod manuals and the manuals of your equipment to be attached to it.

Safety Precaution

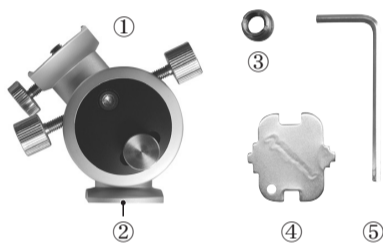
Please be sure to read this manual carefully before using the POLARIE FA unit.

This manual will assist you in the proper use of the product to prevent possible injuries to yourself and others, as well as damage to the equipment. Keep it nearby to find quick answers to questions.

Contents

This product contains the parts listed below. Check if all the items are included.

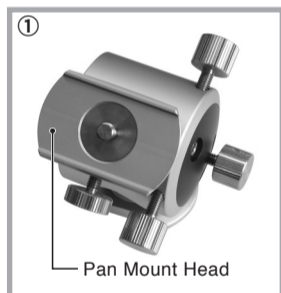
- ① POLARIE Fine Adjustment Unit
- ② 1/4 inch thread screw socket (installed)
- ③ 3/8 inch thread screw socket
- ④ Screwdriver for screw socket
- ⑤ Allen wrench of 4mm on a side
- ⑥ Instructions (this manual)



Identification of each part

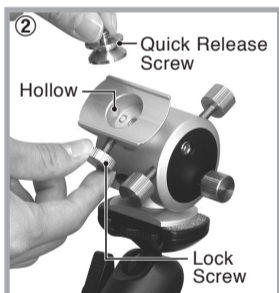
① Pan Mount Head

This is used to attach the equipment. The attaching surface of the pan mount head fits the bottom of the POLARIE or AP polar axis bracket snug and it prevents from turning or loosening the equipment.



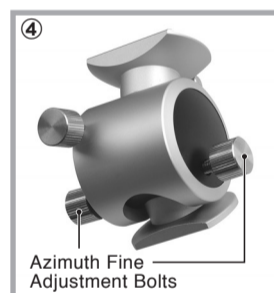
② Quick Release Screw

The quick release screw is a 1/4 inch camera thread screw. The shape of the quick release screw is designed to fit the hollow on the pan mount head perfectly. It is secured with the lock screw on the side of the pan mount head.



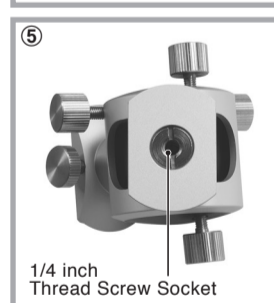
③ Altitude Fine Adjustment Bolts

The altitude fine adjustment bolts are used to move the pan mount head in the altitude direction. Turning one side of the fine adjustment bolts, push the pan mount head while loosening the other side of the fine adjustment bolt. The altitude adjustable range is about +/- 15 degrees.



④ Azimuth Fine Adjustment Bolts

The azimuth fine adjustment bolts are used to move the pan mount head in the azimuth direction. Turning one side of the fine adjustment bolt, push the pan mount head while loosening the other side of the fine adjustment bolt. The azimuth adjustable range is about +/- 15 degrees.



⑤ 1/4 inch Thread Screw Socket

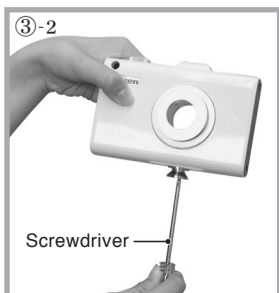
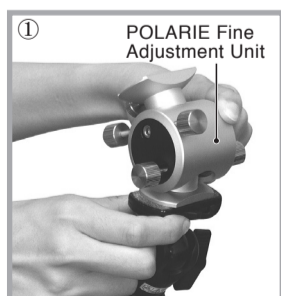
The POLARIE FA unit can be attached onto commercially available camera tripods with a 1/4 inch or 3/8 inch thread screw. The POLARIE FA unit comes equipped with both the 1/4 thread screw socket and the 3/8 thread screw socket.

Using the POLARIE Fine Adjustment unit

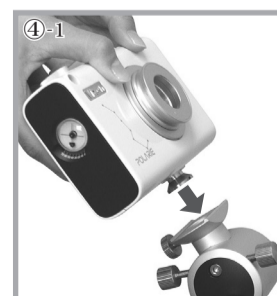
Setting up the Equipment

The POLARIE star tracker is shown here.

- ① Attach the POLARIE FA unit onto the mount head of your tripod.
- ② Remove the quick release screw on the pan mount head by loosening the lock screw on the side of the pan mount head.
- ③ Screw the quick release screw into the 1/4 inch thread socket on the bottom of the POLARIE, securing it by using the supplied screwdriver.



- ④ Place the POLARIE over the pan mount head and insert the quick release screw into the hollow on the pan mount head so that they fit together. Tighten the lock screw on the side of the pan mount head securely.



- ⑤ The set up finished. The AP polar axis bracket (for AP star tracker) is shown in the figure 5-2 as another example.



Using the POLARIE Fine Adjustment unit

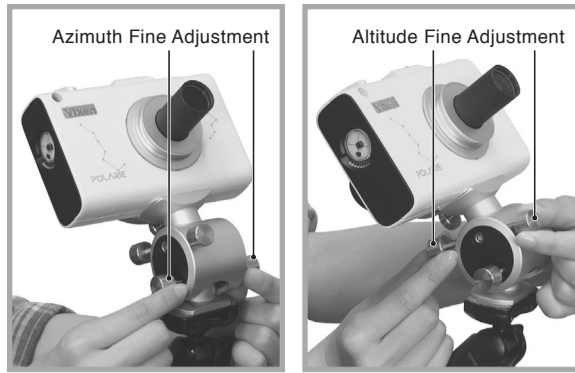
Fine Adjustment Bolts

The fine adjustment bolts are used for polar alignment in your set up of POLARIE (or AP star tracker).

A pair of the altitude fine adjustment bolts is used to adjust the elevation of the polar axis to be parallel to the Earth's axis.

A pair of the azimuth fine adjustment bolts is used to adjust the direction of the polar axis to be angled to the Earth's axis.

Loosening one side of the adjustment bolt will allow you to tighten the adjustment bolt on the other side to move the pan mount head for fine adjustments (within the range of +/- 15 degrees).



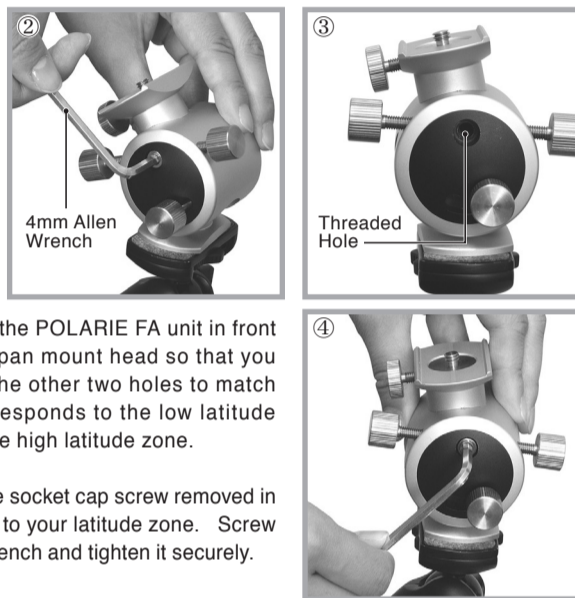
Changing the Latitude Zone

The POLARIE FA unit is set for use with the POLARIE (or AP star tracker) in the middle latitude zone between 30 degrees and 60 degrees. If your observing site is lower or higher than the range of the middle latitude zone, you need to change the current latitude setting to match the latitude of your observing site. The latitude zone can be changed in three positions according your necessity.

| Latitude Zone | |
|-----------------|-----------------------------|
| High latitude | 60 degrees up to 85 degrees |
| Middle latitude | 30 degrees up to 60 degrees |
| Low latitude | 0 degree up to 30 degrees |

Procedures

- Remove the equipment from the pan mount head of the POLARIE FA unit for safety.
- There is a socket cap screw on one side (near the altitude adjustment screws) of the POLARIE FA unit. Loosen and remove the socket cap screw with the supplied 4mm Allen wrench.
- You will see a threaded hole where the socket cap screw was removed from. Tilt the POLARIE FA unit in front (upper) or behind (lower) by holding the pan mount head so that you can shift from the center hole to one of the other two holes to match your latitude zone. The upper hole corresponds to the low latitude zone and the lower hole corresponds to the high latitude zone.
- While holding the pan mount head, insert the socket cap screw removed in step 2 above, in the hole that corresponds to your latitude zone. Screw down the socket cap screw with the Allen wrench and tighten it securely.
- Now the latitude zone setting is finished and the POLARIE FA unit is ready to use.

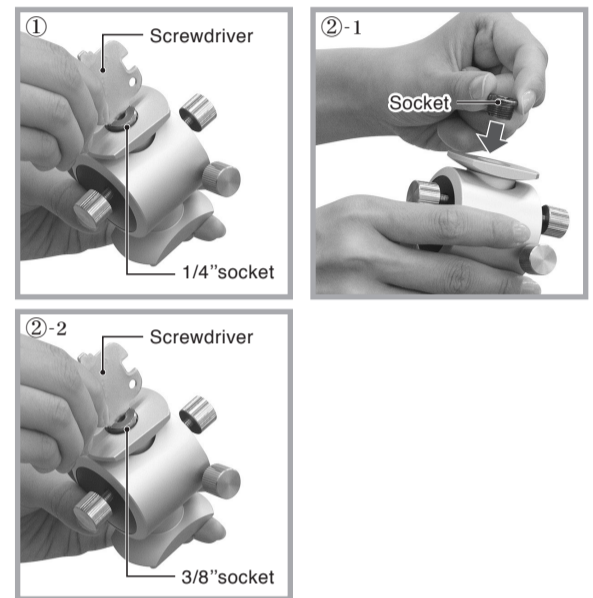


Changing the Screw Socket

It is possible to change the 1/4 inch thread screw socket on the bottom of the POLARIE FA units to use a camera tripod with 3/8 inch thread screw.

Procedures

- Remove the 1/4 inch thread screw socket on the bottom of the POLARIE FA unit using the supplied screwdriver for camera screw socket as shown in the figure.
- Screw down the 3/8 inch thread screw socket and tighten it securely with the screwdriver.



Specifications

| Name | POLARIE Fine Adjustment Unit |
|--------------------------------|---|
| Pan Mount Head | Quick Release Screw type, 1/4 inch threads screw |
| Altitude Fine Adjustment Range | About +/- 15 degrees, 3.7 degrees per rotation |
| Latitude Settings | Low : Between 0 degree and 30 degrees Middle : Between 30 degrees and 60 degrees High : Between 60 degrees and 85 degrees |
| Azimuth Fine Adjustment Range | About +/- 15 degrees, 5.7 degrees per rotation |
| Maximum Loading Weight | About 7kg (15.4 lb) |
| Screw Sockets | For a camera tripod with 1/4 or 3/8 inch thread screws |
| Use with | POLARIE, AP Polar axis bracket |
| Materials used mostly | Aluminum alloy, stainless steel |
| Dimensions | 51mm x 73mm x 49mm (2" x 2.8" x 1.9") |
| Weight | About 300g (About 10.58 oz) |