

INSTRUCTION MANUAL

Orion® Smartphone Holder for Binoculars

#51514, #24438 with Tripod Adapter



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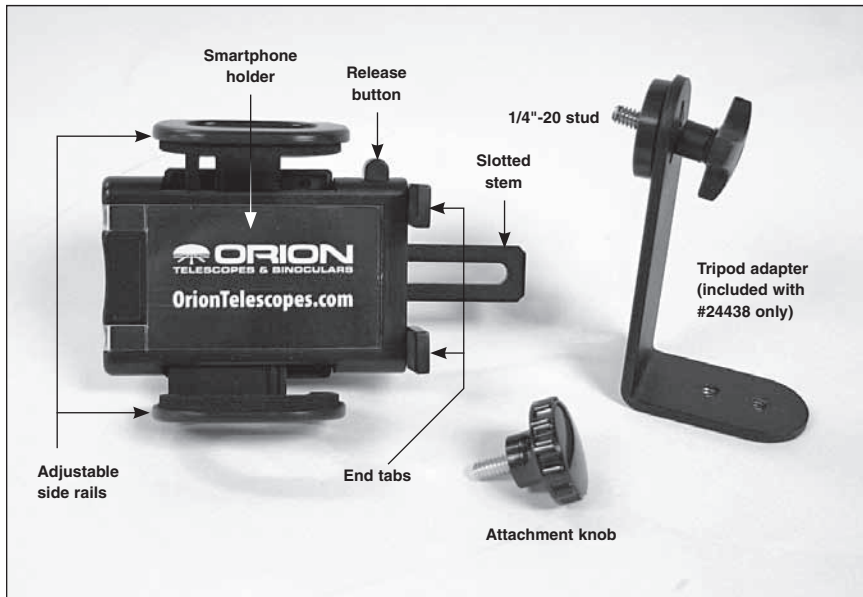


Figure 1. Components and features of the Smartphone Holder

Congratulations on your purchase of the Universal Smartphone Holder for Binoculars. This holder will allow you to mount an iPhone or almost any other smartphone on a pair of binoculars to aid in finding and identifying stars, planets, and other celestial objects in the night sky while stargazing with binoculars. Just fire up your favorite dynamic star chart app, such as one of Orion's StarSeek apps for iOS devices, and start touring the heavens with your binoculars – with your smartphone riding piggyback for easy visual reference!

Familiarize yourself with the components and features of the Smartphone Holder in **Figure 1**.

Attaching the Holder to Binoculars

We recommend attaching the Smartphone Holder to the binoculars before installing your smartphone in the holder.

1. Remove cap from threaded insert on the front of the binoculars' focusing bridge, to expose the threaded tripod mounting socket.
2. With the binoculars laying on your lap or on a table, hold the Smartphone Holder with one hand, as shown in **Figure 2**, with the phone side facing toward the binocular eyepieces. With the other hand insert the 1/4"-20 stud of the attachment knob through the slot on the mounting bracket, then thread it clockwise into the tripod mounting socket until tight.

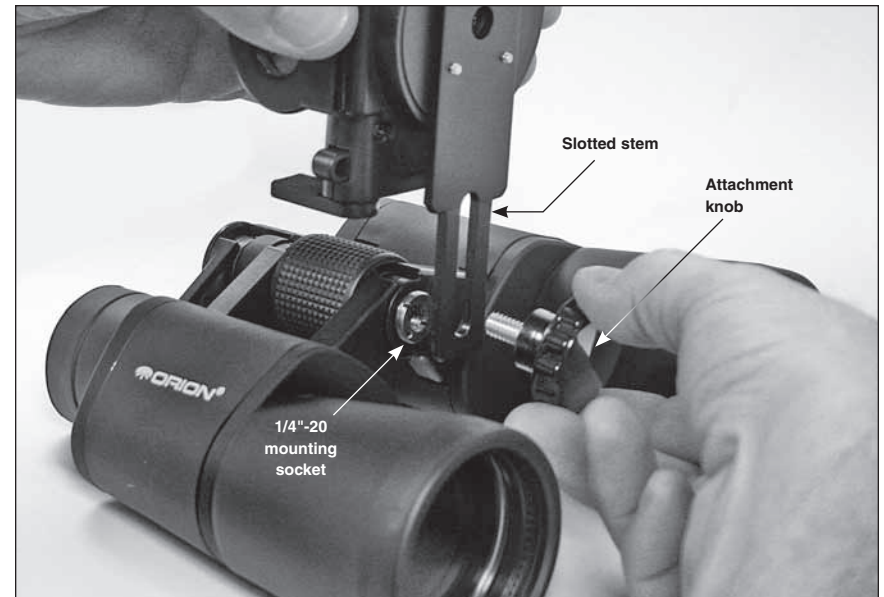


Figure 2. Attaching the Smartphone Holder to binoculars

Installing Smartphone in the Holder

The Smartphone Holder has padded side rails that adjust laterally to fit any smartphone having a width of 2" to 4-1/2", which includes most smartphones on the market today. Chances are you will not even have to remove your smartphone from its protective case or bumper, if it is in one. The holder has two retaining tabs at the bottom, which act as a stop for the bottom of your phone, and is open at the top to accommodate smartphones of any length.

The side rails are padded on the inside surface and curve inward slightly – the combination of which provides a secure grip on your phone once the rails are squeezed inward against the sides of your phone.

So to install your phone:

1. First press the release button (refer to **Figure 1**), which will spring the side rails apart.
2. Rotate the two end tabs until they are perpendicular to the plane of the holder. Then place your smartphone in the holder so that the bottom of the phone contacts the two tabs.

3. Now squeeze the side rails inward from the base of the rails (not the top of the rails, which could break them) until they contact the phone and the phone is snug in the holder (**Figure 3**). You'll hear a clicking sound as the rails are pushed inward; the clicking will stop when the rails are snug against the phone.

To remove your phone from the holder, grasp the phone with one hand, then with the other press the release button to spring the side rails outward.

NOTE: When your smartphone is in landscape orientation, its display screen may not be exactly centered horizontally over the midline of the binocular when the mounting bracket is in the vertical position. If that's the case, you can center the display by slightly loosening the attachment knob, then rotating the bracket slightly while keeping the phone holder horizontal. When the display is centered over the binocular, retighten the knob to set the bracket in that position.



Figure 3. Squeeze the side rails from the base of the rails, as shown, not at the top of the rails, until they are snug against the sides of your smartphone.

Using the Holder for Binocular Stargazing

Using an iPhone or other smartphone for stargazing with binoculars can be a great aid in locating, identifying, and learning about stars, planets, and other celestial objects in the visible heavens. There are many astronomy apps on the market for both iOS (Apple) and Android-based smartphones that can show you “what’s up” in any portion of the sky where you’re aiming. No longer do you need a printed star map by your side to find your way around the night sky. Now you can just hold up your smartphone to see a star chart matching the part of the sky you’re facing, with everything labeled on the phone’s display for easy reference. Orion’s StarSeek apps (Standard, Pro, and Max) for iPhone, iPod Touch, and iPad are among the best and most powerful such apps on the market today. They are available for download exclusively on the iTunes App Store.

While smartphone star chart apps are helpful in locating and identifying celestial objects, they are limited by the accuracy of the phones’ digital compass. Don’t expect the same level of accuracy as a computerized telescope’s “GoTo” pointing system, which is a different system altogether. With a smartphone, an object centered on its display may or may not be centered in the field of view of the binoculars when you look into the eyepieces. Depending on the magnifying power of your binoculars and the scale of the star map on your smartphone display, i.e., how much you’re “zoomed in”, the object may lie off-center or even outside of the



Figure 4. You can switch easily between portrait (left) and landscape orientations by just rotating the holder.

binoculars’ field of view. Likewise, it is very possible that when you center a star in the binocular field of view and then glance up to identify it on the smartphone app’s star chart, that star will appear off-center. That’s just the nature of the phone’s digital compass and/or gyroscope – they are not pinpoint accurate! But even given that caveat, you will still have no problem identifying and finding objects using this high-tech method of binocular stargazing.

So, then, what’s the best way to use a smartphone in the Smartphone Holder for binocular stargazing? For locating a star or celestial object, find it on your star chart app and position the binocular so that the object is centered on the phone’s display screen. Then, holding the binocular in that position, look into the binocular and see if the object appears in the field of view. If it does, that’s great! If it does not, just “sweep” around the area by moving the binoculars slowly in a tight circle until you see it. (Of course, you should focus the binoculars at infinity beforehand.) In this way the smartphone held in the Smartphone Holder atop the binoculars will help you locate objects much faster than if you were using a paper star chart.

For identifying an unknown star, planet, or other celestial object that you see in your binoculars, center it in the binoculars’ field of view, then glance up at the smartphone’s screen and see what object lies close to the center on the star chart. If the object is not precisely in the middle of the display it is likely to be close by and distinguishable by type of object, brightness, etc., compared to surrounding objects. You’ll quickly be able to identify countless objects in the night sky using your astronomy app-equipped smartphone as your mentor.

The Smartphone Holder allows your phone to be oriented in either portrait (vertical) or landscape (horizontal) orientation (**Figure 4**), and can easily be rotated from one orientation to the other. On the back of the holder is a sliding tab that locks the holder’s position (**Figure 5**), though you probably will not need to use

it. If you do, just make sure to unlock the tab before attempting to rotate the holder again.

Using the Holder with Tripod-Mounted Binoculars

Holding binoculars by hand to observe the night sky can cause arm and shoulder fatigue after just a few minutes. So you may want to consider mounting your binoculars on a tripod. A tripod will also hold the binoculars steadier than holding them by hand, keeping your viewing target steady in the field of view.

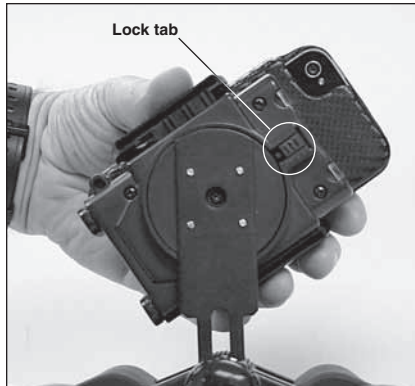


Figure 5. The sliding lock tab on the back of the holder will lock the holder in position, if desired.

The #24438 kit includes a tripod adapter for coupling the binoculars (sold separately) and Smartphone Holder to a tripod. This aluminum adapter has a $\frac{1}{4}$ "-20 stud of sufficient length to pass through the mounting bracket and still engage the binoculars' tripod mounting socket by several turns. Other binocular adapters may not work without modification because the $\frac{1}{4}$ "-20 stud may not be long enough to ensure adequate thread engagement with the binocular socket.

To install the Smartphone Holder on the binocular tripod adapter, it helps to have a second person to assist in holding the binocular while you attach the smartphone holder and tripod adapter. But if you're doing it solo, here's a good method:

1. Firmly attach the tripod adapter to the tripod (**Figure 6a**).
2. Now rotate the tripod head 90 degrees so that the tripod adapter is parallel to the ground, with the threaded stud pointing up (**Figure 6b**). Lock the tripod head's altitude axis.
3. Now hold the *empty* smartphone bracket over the tripod adapter, with side rails facing up, such that the threaded stud is visible in the slot of the metal stem. With your other hand line up the $\frac{1}{4}$ "-20 socket of the binoculars with the threaded stud of the tripod adapter, and rest the binocular on top of the

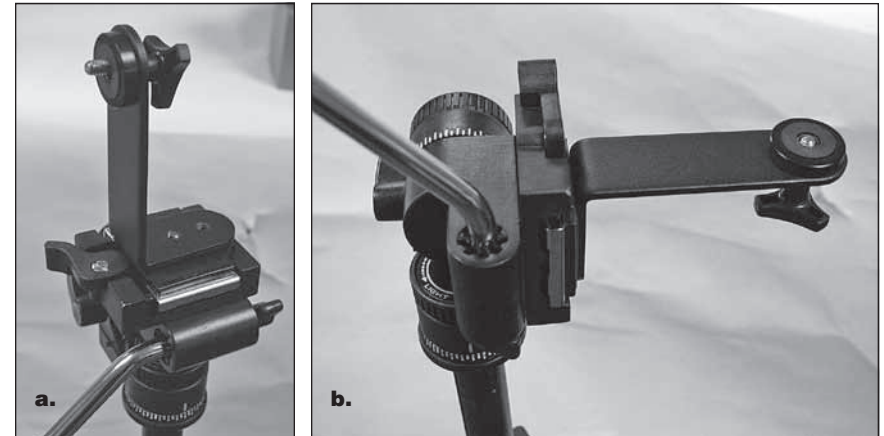


Figure 6. a) The tripod adapter is shown installed on an Orion Paragon HD-F2 tripod (sold separately). **b)** To attach the smartphone holder and binoculars to the tripod adapter, first rotate the tripod head so the adapter is horizontal, with threaded stud facing up.

slotted stem (while still holding onto the binoculars). With the weight of the binoculars on top of the stem, you can then let go of the Smartphone Holder (not the binoculars!) without it falling to the ground, which in turn will allow you to use your free hand to reach under and turn the knob on the tripod adapter, threading the stud into the binocular socket (**Figure 7**). Once the knob is tightened, you can release the lock on the tripod's altitude axis and rotate the head back to the upright position, in which the binoculars are parallel to the ground (**Figure 8**).



Figure 7. Install the slotted stem of the smartphone holder between the tripod adapter and binoculars.

Note: You will not need the 1/4"-20 attachment knob when coupling the Smartphone Holder to a tripod binocular adapter. It is used only for hand-held binocular stargazing without a tripod.

In choosing a tripod for binocular stargazing, be sure its head has the ability to rotate 90 degrees from the horizontal plane to vertical plane. That way, the binoculars and Smartphone Holder will be able to point up to the zenith, the highest point overhead. Also look for a tripod whose head extends high enough to limit the amount of crouching down you have to do to see through the binoculars when they are aimed high. Orion's Paragon HD-F2 tripod fits the bill nicely on both counts, with the head extending 72.5" high at full extension.

Perhaps the ultimate binocular platform for binocular stargazing is the Orion Paragon-Plus Binocular Mount & Tripod. It's a parallelogram-style mount that eliminates arm strain and shakiness, and allows you to aim your binocular high overhead, even to the zenith, while you stand or sit comfortably underneath. It positions the binoculars from 2' 7" to 7' 7" high, and you can raise and lower the binoculars while staying fixed on a target, a wonderful feature when two or more people of varying height are observing together. This mount's built-in binocular adapter has a 1/4"-20 stud that is long enough to accommodate the Smartphone Holder and still securely hold your binoculars.

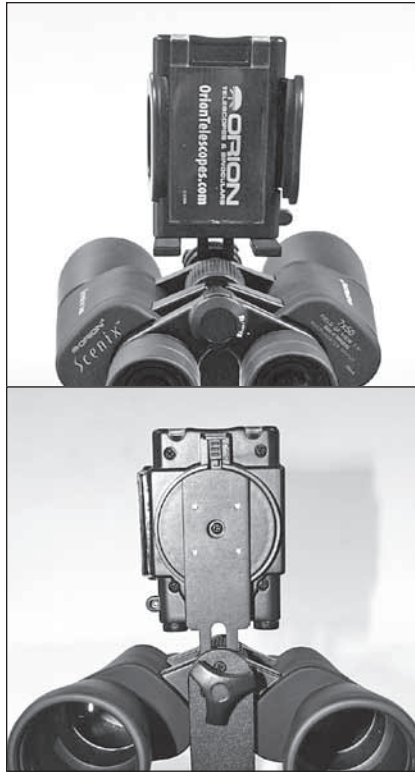


Figure 8. The smartphone holder (front and back) properly installed on a tripod-mounted pair of binoculars.

Specifications

Smartphone holder (#51514)

Dimensions: 5-3/8" x 2-7/8" x 2-1/4"

Weight: 3.8 oz.

Fits phone sizes: 2" to 4-1/2" wide; any length

Material: Aluminum and plastic

Tripod L-Adapter (included with #24438)

Dimensions: 4-1/4"H x 1-1/4"W x 2-5/8"D

Mounting stud: 1/4"-20

Material: Aluminum, anodized



Figure 9. Install your smartphone in the holder and fire up the Orion StarSeek app or another dynamic star chart app (sold separately), and you'll be ready to locate, identify, and view countless wonders of the night sky with your binoculars.

One-Year Limited Warranty

This Orion Smartphone Holder for Binoculars is warranted against defects in materials or workmanship for a period of one year from the date of purchase. This warranty is for the benefit of the original retail purchaser only. During this warranty period Orion Telescopes & Binoculars will repair or replace, at Orion's option, any warranted product that proves to be defective, provided it is returned postage paid to: Orion Warranty Repair, 89 Hangar Way, Watsonville, CA 95076.

If the product is not registered, proof of purchase (such as a copy of the original invoice) is required. This warranty does not apply if, in Orion's judgment, the product has been abused, mishandled, or modified, nor does it apply to normal wear and tear. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. For further warranty service information, contact: Customer Service Department, Orion Telescopes & Binoculars, 89 Hangar Way, Watsonville, CA 95076; (800) 676-1343.

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