Yaesu ATBK-100 Antenna Base Kit
Operating Manual

The ATBK-100 is a VHF/UHF Counterpoise Kit for the ATAS-100/-120/-120A Active-Tuning Antenna System. The ATBK-100 fits over a user-supplied antenna mount on the metal handrail of a flat, apartment, or townhouse balcony, and it includes counterpoise radials for the 50 MHz, 144 MHz, and 430 MHz bands, with the balcony railing providing the counterpoise for the HF bands.

Component List

Counterpoise Radials	4
Radial Mounting Ring	1
Spanner wrench	1
hex ("Allen") wrench	1

Installation Precautions

- ❍ This product is intended for mounting on a metal handrail so as to establish a good earth ground on the HF bands, and is not intended for vehicular installations of any kind.
- ❍ Do not install the antenna in any location where it could come in contact with a nearby TV antenna, electrical wiring, or telephone wiring.
- ❍ Do not install the antenna in a location where drying clothes or other combustible objects could come in contact with the radiating element or counterpoise radials.
- ❍ Do not install the antenna in any location where humans or pets could come in contact with the radiating element or counterpoise radials. A serious electrical shock and/or RF burn could result from such contact.
- ❍ During installation, be extremely careful not to drop hardware or tools, as anyone standing below you could be seriously injured by the falling object(s).

Installation Procedure

1. Referring to Figure 1, install one each M5 nut onto the bases of the two large counterpoise radials. Tighten these nuts until they are snug against the bases of the radials.
2. Screw the two large counterpoise radials onto the Radial Mounting Ring, as shown in Figure 2. Tighten the nuts installed in step 1 using the supplied spanner wrench.
3. Install the two remaining counterpoise radials (one long, one short) onto the Radial Mounting Ring, as shown in Figure 3. Secure these two radials to the ring using the supplied hex ("Allen") wrench.
4. Install the Antenna Base to the balcony handrail. If the handrail is painted, you should scrape the paint away at the points where the Antenna Base will be located; after the Antenna Base is in place, you may paint over the connection to provide weatherproofing.
5. Referring to Figure 4, slide the Counterpoise Radial Mounting Ring over the antenna base Antenna Base coaxial connector, then screw the ATAS-100/-120/-120A onto the coaxial connector.
6. Referring to Figure 5, rotate the Counterpoise Radial Mounting Ring so that all radials point outward from the balcony rail. When the Counterpoise Radial Mounting Ring is in the proper position, tighten the Counterpoise Radial Mounting Ring against the ATAS-100/-120/-120A base by securing the two hexagonal screws using the supplied hexagonal ("Allen") wrench.
7. Installation is now complete. No adjustment to the ATBK-100 is required. Follow the instructions in your radio's manual, as well as the ATAS-100/-120/-120A instructions, for specific antenna tuning instructions. Once antenna testing has been completed, tape the coaxial cable connection to the bottom of the Antenna Base thoroughly to prevent the ingress of water.

In Case of Difficulty Achieving a Low SWR

- ❒ Check for a good mechanical contact between the ATAS-100/-120/-120A and the mount, and between the Antenna Base and the handrail.
- ❒ There may be mutual coupling between the ATAS-100/-120/-120A element and surrounding metal objects. Try moving the position of the antenna or counterpoise radials, if possible.
- ❒ Be sure that the hardware affixing the counterpoise radials is securely tightened.
- ❒ In some instances, a long coaxial cable run may develop "common mode" currents due to the influence of surrounding objects. Try re-positioning the coaxial cable, change the length of the coaxial cable, or try coiling about six turns of coaxial cable (about 6" diameter) near the base of the antenna to form an RF choke, which may eliminate the common-mode current flowing on the shield of the coaxial cable.

Operating Cautions

- ❍ Remove and securely store the ATAS-100/-120/-120A and the Counterpoise Radial Mounting Ring in the event of a typhoon, hurricane, or other strong wind condition. Any solid object like this antenna structure could become an extremely dangerous missile under conditions of hurricane-force winds.
- ❍ Use only a type "M" ("PL-259") 50-Ω coaxial connector for attachment of the cable to the base of the antenna.
- ❍ Check periodically to be sure that the antenna and its counterpoise radials are not shorting to each other or to surrounding objects.
- ❍ Discontinue use immediately if an extraordinarily abnormal condition is observed, such as smoke, sparks, or extremely high SWR. These conditions are evidence of a serious technical problem, which must be resolved before safe, effective transmissions can be resumed.

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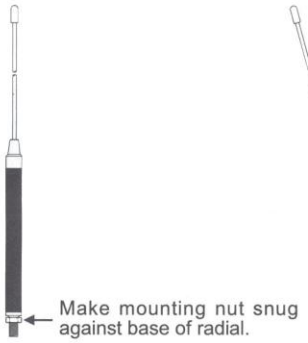


Figure 1

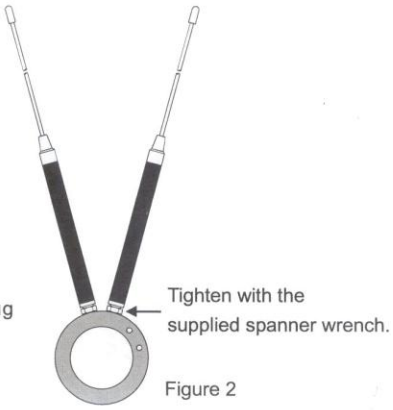


Figure 2

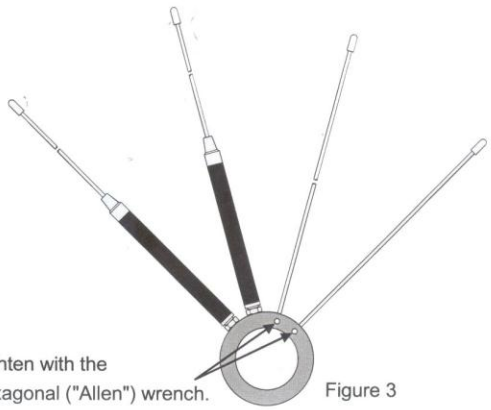
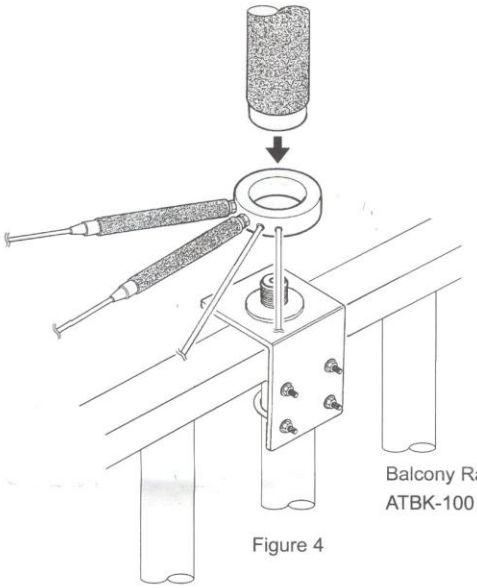
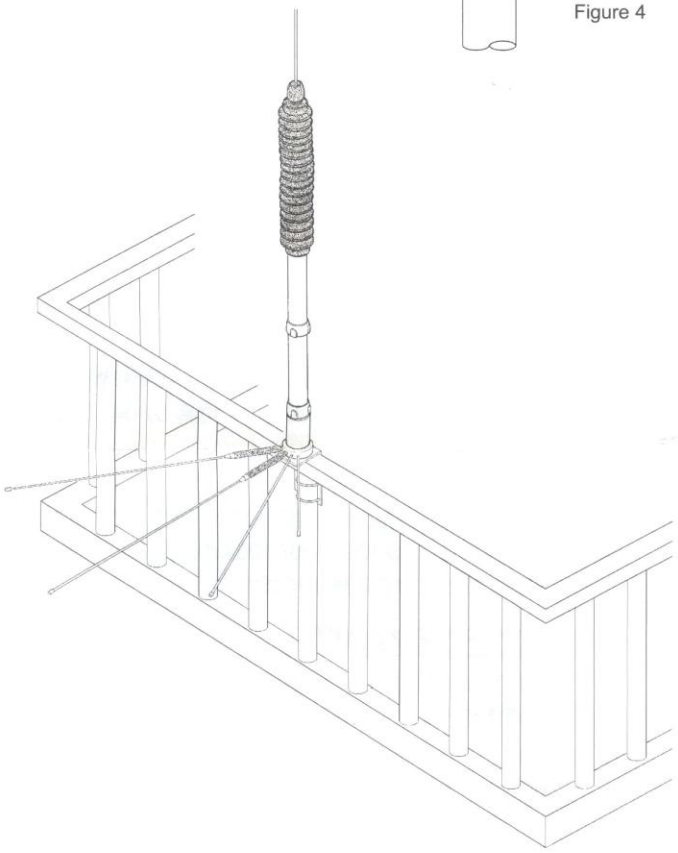


Figure 3



Balcony Rail Mount Not Supplied with
ATBK-100 Kit.

Figure 4



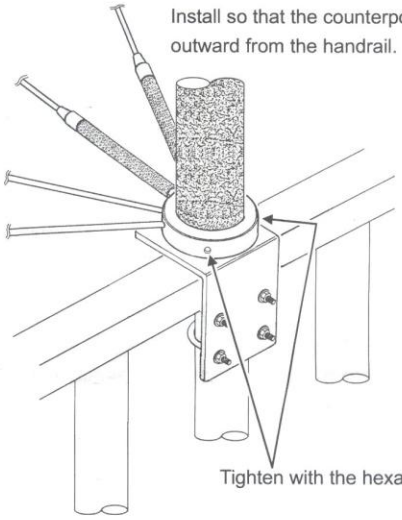


Figure 5