

**Installation Instructions
GNSS Antenna Mounting Bracket
Order Number AS0044600**



Document No. PD0024700D

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Introduction

The AS0044600 GNSS Antenna Mounting Bracket is designed specifically for use with antennas shipped with Arbiter Systems GNSS-Synchronized Clocks. The included hardware allows for attaching the bracket to a two (2) inch diameter pipe. A different clamp, customer supplied, may be substituted for use with a larger diameter pipe. The bracket may also be mounted to a wall, a roof, or any other flat surface.

Additionally, the antenna may be rotated to compensate for mounting to objects or surfaces that are not perfectly vertical or horizontal. This allows optimum positioning of the antenna for the best possible satellite reception.

Parts List

The following parts are included with in the Antenna Mounting Bracket Kit:

<u>Qty.</u>	<u>Description</u>	<u>P/N</u>
1	Mounting bracket, stainless steel	HD0052700
1	U-bolt, $1\frac{1}{8}$ in, SS, with mounting plate, 2 hex nuts	HP0026700
1	Threaded pipe, $3/4$ in x 4 in, PVC, schedule 80	HP0014804
1	Hose clamp, $5/8$ in x $1\frac{1}{4}$ to $2\frac{5}{8}$, in worm drive, stainless steel	HP0014900

Tools Required

The following tools will be necessary to install the GNSS antenna mounting bracket:

- $7/16$ in open-end wrench
- $5/16$ in nut driver or flat-blade screwdriver

Installation

The following sections describe the steps necessary to properly install the GNSS antenna using the mounting bracket.

Typically, it is a good idea to mount the bracket to the surface or mast prior to installing the antenna assembly. However, it is important to understand how the finished assembly goes together in order to properly orient the bracket.

Antenna Preparation

Prior to installation of the GNSS antenna to the bracket, it must be configured as follows.

1. Thread one end of the coaxial antenna cable through the center of the PVC pipe.
2. Attach the male F connector on the end of the cable to the female F connector on the antenna.
Do not spin the antenna onto cable connector. It may damage the antenna. Use a $7/16$ in open-end wrench to snug the barrel of the male connector; do not over-tighten.
3. Thread the PVC pipe into the base of the antenna, and hand tighten.

Mounting the Antenna Assembly to the Bracket

The bracket included with the kit features holes designed to accommodate numerous different mounting configurations.

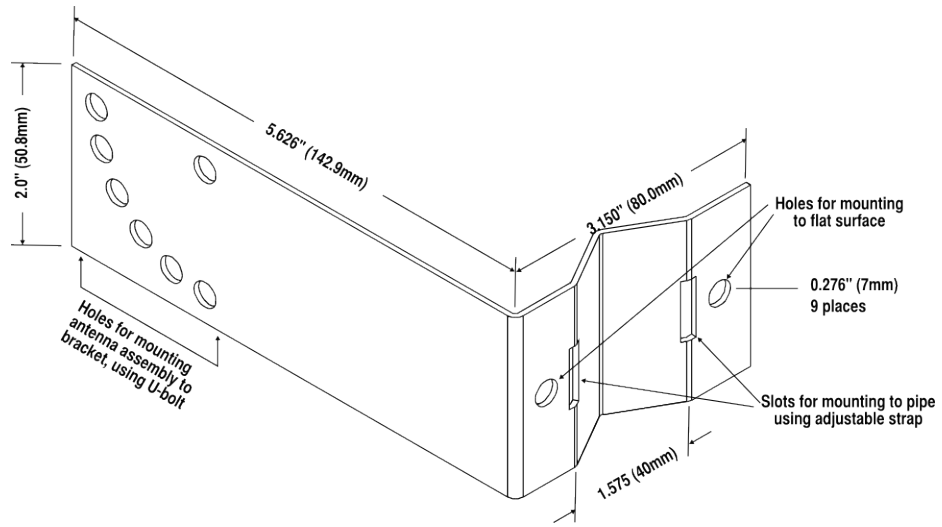


Figure 1: GNSS Antenna Mounting Bracket Dimensions

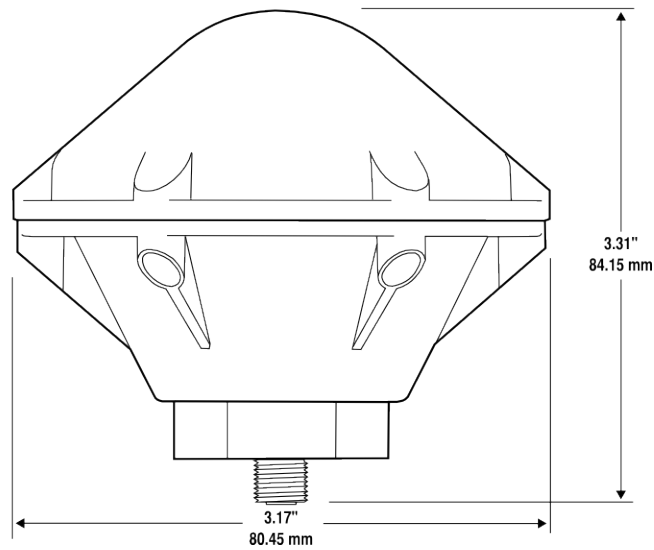


Figure 2: GNSS Antenna Dimensions

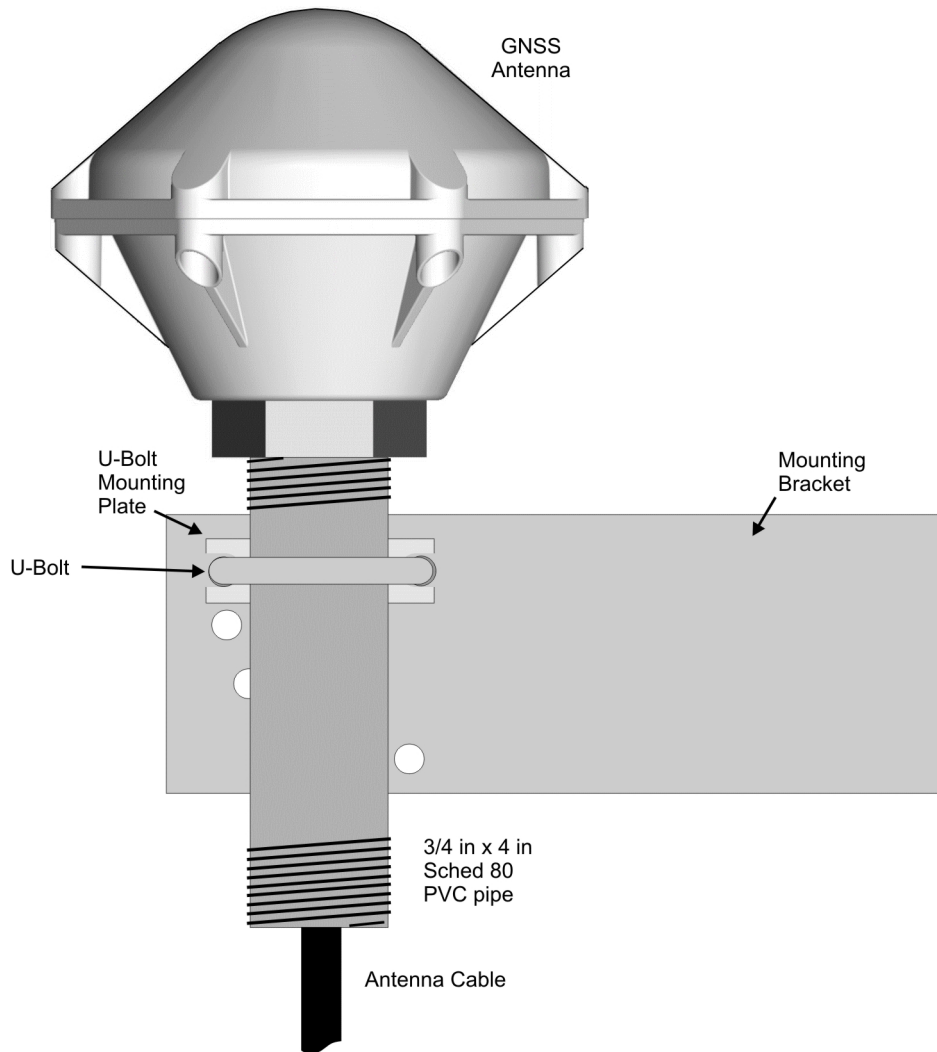


Figure 3: Mounting the Antenna Assembly to the Bracket

1. Place the U-bolt over the 4-in. length of PVC pipe to which the antenna is mounted.
2. Feed the ends of the U-bolt through the U-bolt mounting plate and the appropriate holes on the mounting bracket, as shown in Figure 3. Note: For mounting surfaces that are not perfectly horizontal or vertical, refer to Section - Mounting the Bracket to an Angled Object or Surface.
3. Thread on the two 1/4-20 hex nuts. Tighten the nuts using the 7/16 in open-end wrench. Use care to avoid damaging the PVC pipe by over-tightening.

Mounting the Bracket to a Flat Surface

The mounting bracket features two holes which may be used to secure it to a flat surface, using lag screws, machine bolts, anchor bolts, etc. Refer to Figure 1 for the location of these holes.

The mounting holes are designed to accommodate any 1/4 in hardware. Figure 4 shows the bracket and antenna assembly configured for mounting to a flat vertical surface. If the surface is not perfectly vertical or horizontal, refer to Section - Mounting the Bracket to an Angled Object or Surface.

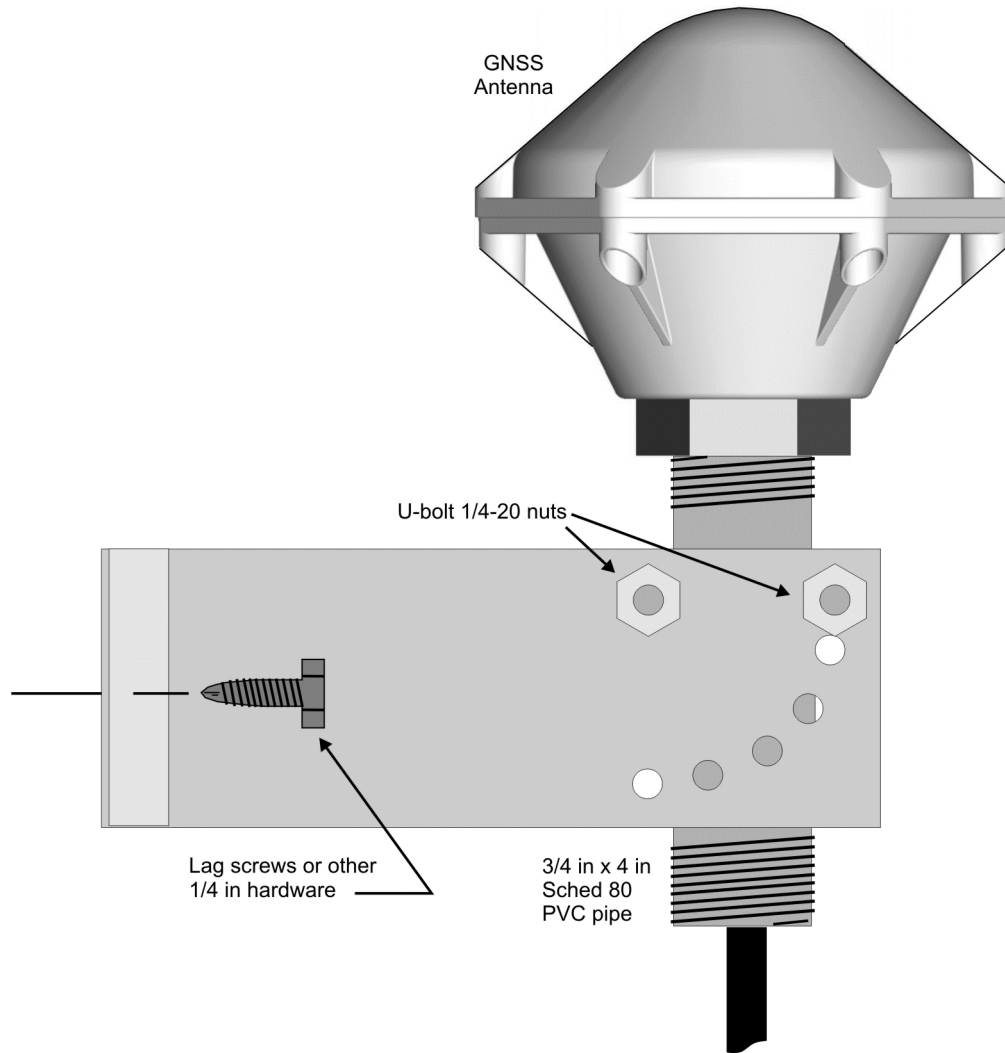


Figure 4: Mounting the Bracket to a Flat Surface

Mounting the Bracket to a Pipe

The mounting bracket features two slots which may be used to secure it to a pipe using a worm-drive adjustable clamp. Refer to Figure 1 for the location of the slots.

The slots are designed to accommodate any 5/8 in worm-drive adjustable clamps. Figure 5 shows the bracket and antenna assembly configured for mounting to a vertical pipe. If the surface is not perfectly vertical or horizontal, refer to Section - Mounting the Bracket to an Angled Object or Surface.

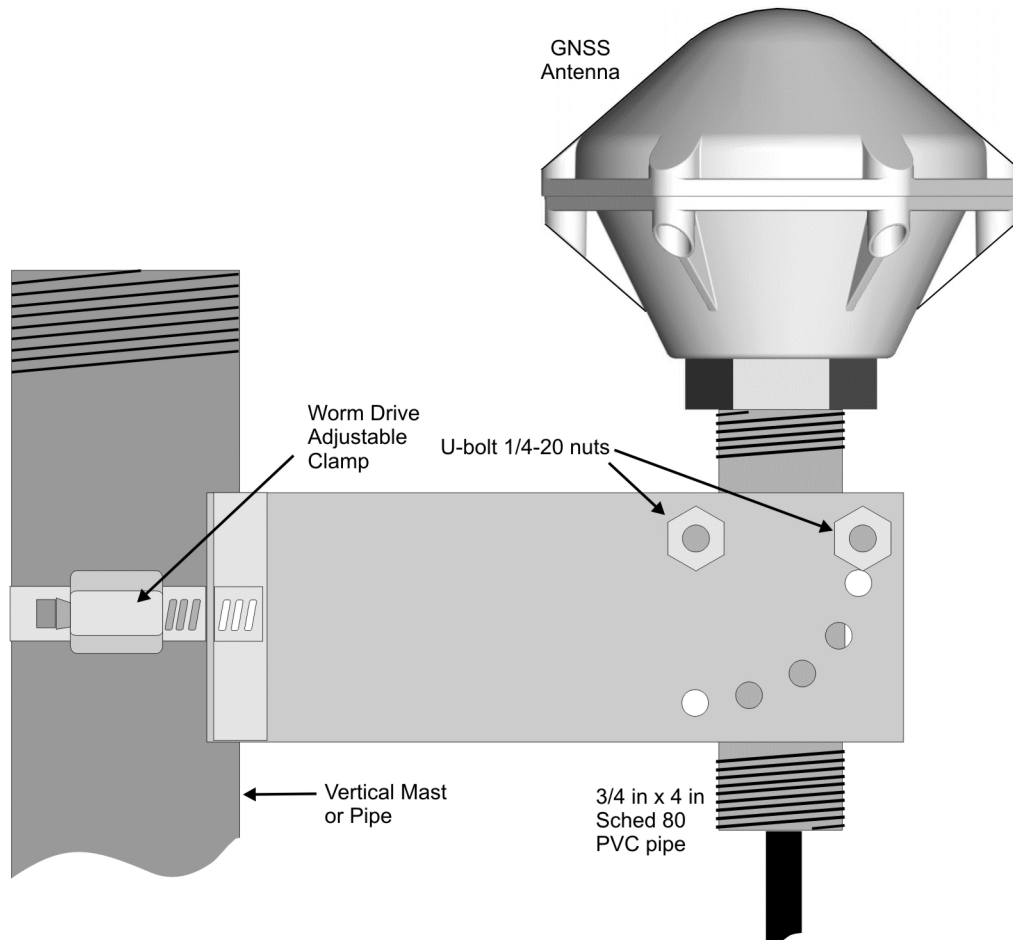


Figure 5: Mounting the Bracket to a Pipe or Mast

1. Open the worm-drive clamp by turning the adjusting screw counter-clockwise, using a 5/16 in nut driver or flat-blade screwdriver.
2. Insert the free end of the clamp into one of the slots in the bracket, and feed it back out through the other slot.
3. If the mast or pipe has an exposed end over which the bracket assembly can be lowered, re-insert the free end of the clamp into the adjusting screw. Otherwise, leave the clamp open.
4. Attach the bracket to the mast or pipe, and tighten, using the 5/16 in nut driver or flat-blade screwdriver. Optionally, a small band of neoprene rubber or similar material may be used under the clamp to prevent slippage.

Mounting the Bracket to an Angled Object or Surface

It is important to orient the antenna as near to horizontal as possible. This provides the largest view of the sky, resulting in optimum satellite coverage. Failure to observe this requirement increases the likelihood that interruptions will occur and cause timing performance degradation. Especially if the signal loss occurs for prolonged periods.

Figure 6 shows the antenna bracket assembly mounted to a pipe that is at an angle. Additional holes were included on the bracket to accommodate such installations (refer to Figure 1). These holes allow adjustment in 18-degree increments and should compensate for any angle encountered.

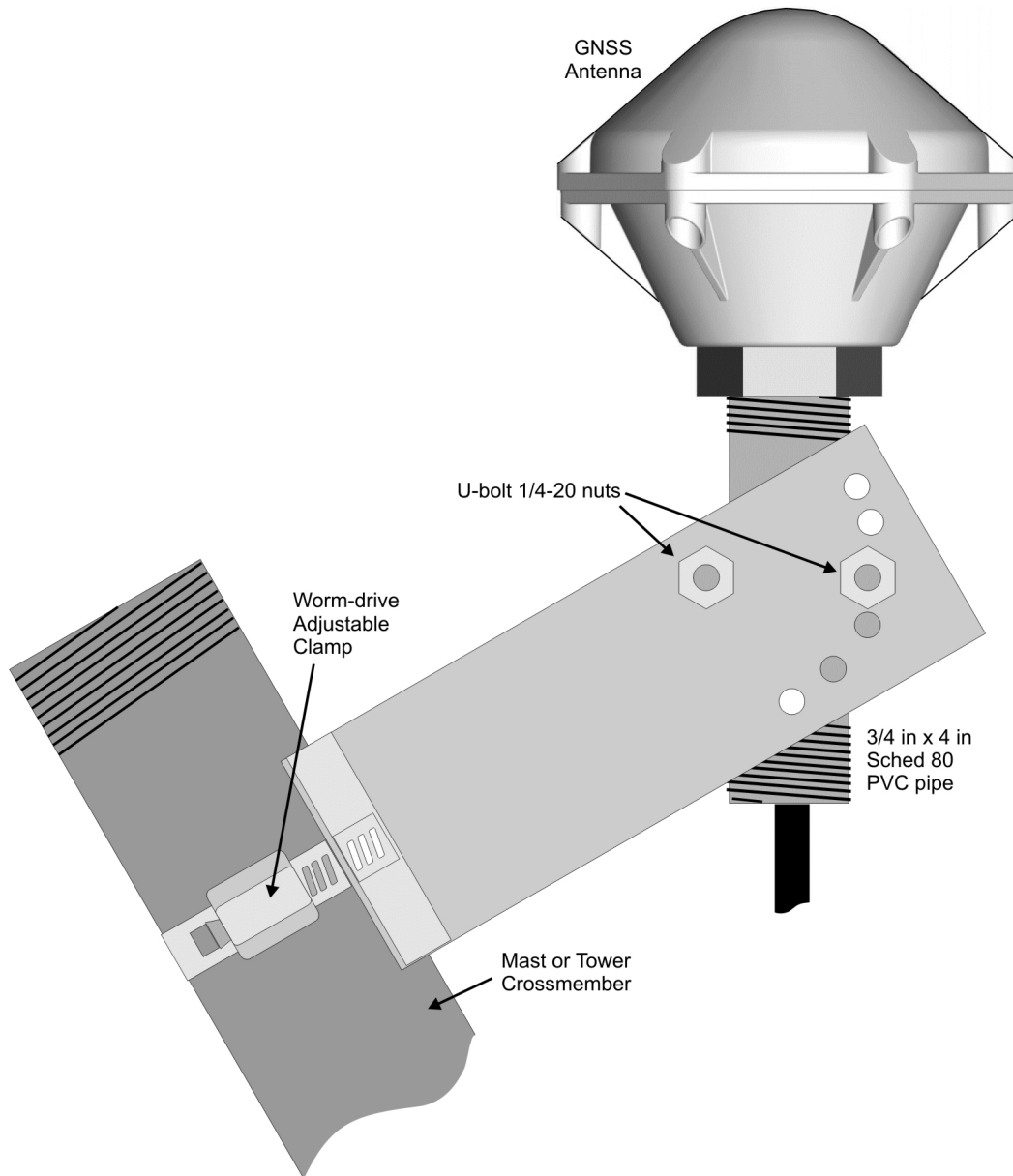


Figure 6: Mounting the Bracket to an Angled Object