

## A Strong Truck Antenna Mount Without Drilling New Vehicle Holes

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The bane of all hams intent on mounting an antenna, especially an HF antenna, is the thought of having to drill holes in their brand-new pickup truck. Even those of us with old clunkers don't like to poke holes in our trusty steeds. Those of us with pipe carriers or headache racks have expensive accessories that will do double duty as antenna mounts. However, those of us that have nothing or just a bed cover are faced with this issue. Commercially available stake hole antenna mounts are dreadfully expensive. If you have a bed cover, in many cases, it will block the stake hole thus requiring that you cut into the cover support structure. The goal of this project was to make a very strong mount that could handle a very heavy HF antenna while on the road yet allow for the antenna to be stowed securely inside the bed of the truck under the bed cover for garaging and anti-theft purposes. In addition, the mount does not hinder the use of the bed for cargo. Below is an economical way of achieving the same result.

Many trucks have at least one hole in the side of the stake pocket to allow for securing the stake pocket accessory. This hole(s) can be used to secure an antenna mount structure inside the bed of the truck. This example is on a Ford F-150 but can be modified for your situation. In the case of the F-150, There are three predrilled holes in the rear stake pocket (Fig 1):



Fig 1

Note that in this case, the aluminum bed cover rail tracks cover access to the stake pocket. In addition, the rail tracks overhang the stake pocket sides requiring the antenna mount to be offset further into the bed. For antenna clearance.

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## Parts List:

The parts required for this installation are few:

1. Mild square steel tube – 1-3/4 to 2 inch square, length to suit.
  - a. Note: The best, low cost source for square tube is a metal dealer like a scrap yard or MetalMart. A lot of times, they have scrap lengths for a low price.
  - b. Metal building companies also have left over lengths that they throw away.
2. 3/16" x 2 in Toggle Bolts (or larger if desired).
3. Antenna mount of your choice.
4. 3/8" and 1/2" drill bits (size depending on the toggle bolt head and shaft size).
5. Electric Drill, screw driver, wrenches, etc.
6. Optional – A drill press is nice to have if one is available.

## Build Instructions and Notes:

The first step is to determine the length of the tubing. In this case, the Ford has three half inch holes for the purpose of retaining the stake pocket accessory. It was decided to use the bottom hole to route LMR-400 cable to the cab of the truck. Additionally, the top of the mount had to be low enough to clear the sliding aluminum bed cover with the antenna folded down. A 14-inch length was chosen. Your length may differ. Next, two 3/8" holes were drilled through the tube for mounting to the upper holes (Fig 2):

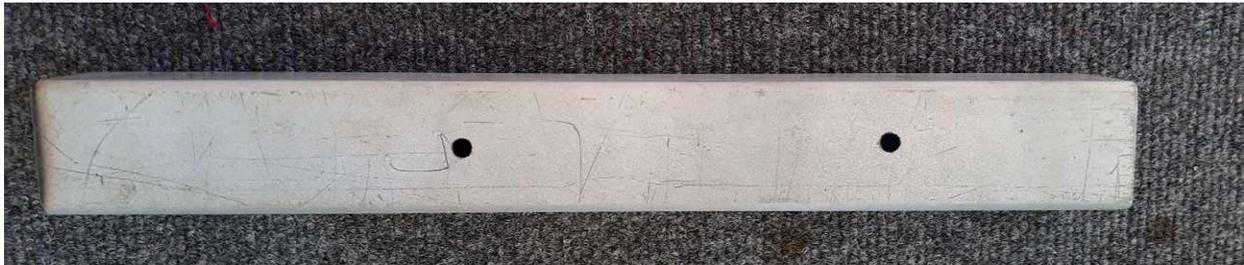


Fig 2

Drilling through the tube aligns the holes on both sides. Using the 1/2" drill, enlarge the holes on one side to provide for clearance for inserting the toggle bolts through the tube and for tightening with a screwdriver. Drill the correct size and pattern of holes for the mount of your choice (Fig 3):



Fig 3

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Mount the toggle bolts and the antenna mount onto the tube. Needle nose pliers can be used to insert the mount screws into the mount screw holes. (Fig 4):



Fig 4

Note that retaining nuts were used to keep the screws in captive should the mount ever need to be removed for maintenance or replacement (Fig 5):

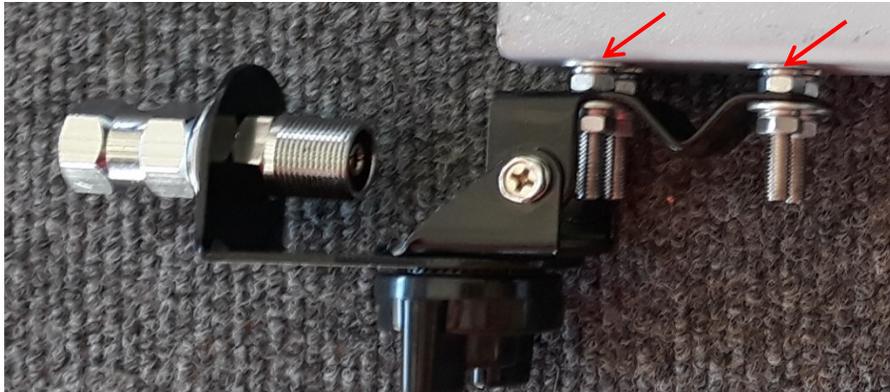


Fig 5

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Compress the toggle bolts and insert them through the holes in the stake pocket. Once inserted, tighten the toggle bolts through the screwdriver holes by holding the tube away from the stake pockets so the toggle bolt claws will engage with the stake pocket. Alternate tightening the toggle bolt screws to maintain claw contact with the pocket (Fig 6):



Fig 6

The resulting mount will allow folding of the antenna under the bed cover for garaging and theft protection. A quick disconnect can be used for antennas that are too large to fold (Figs 7 and 8):



Fig 7



Fig 8

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### Conclusion:

The end result is a no holes drilled (in the truck) heavy duty antenna mount that can be used stationary or in motion. The mount can fold under a bed cover and the antenna can be folded or removed allowing for the bed cover to be completely closed. The cost to build is low and the result is stout.

