



## REP Design LLC

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### INSTALLATION INSTRUCTIONS:

#### **BKT-HondaRL-1<sup>®</sup> Multiple Antenna Bracket**

**Thank you for your purchase! We appreciate your business and would like to hear from you about your installation – comments, suggestions and photos! Also let us know if you have ideas for new products!**

These instructions describe how to install the BKT-HondaRL-1<sup>®</sup> ("BKT") antenna bracket to your vehicle and your own antennas (see precautions below). The most current version of these instructions is on our web site "Downloads" page, and may be more recent than hard copy instructions provided with our products. Color versions of the black and white photos provided in hard copy instructions are available with the download version of these instructions. The instruction version date is on the footer of each page of our instructions.

**If you do not feel that you have the ability to safely install the BKT to your vehicle and antennas, please contact us if you would like to return it (within the first two weeks, see Warranty for details). SAFETY FIRST!**

#### **Description of the "BKT":**

The BKT is a 51 inch long heavy-duty, aluminum, antenna bracket that bolts to the upper pair of Honda Ridgeline tie-down brackets located near the front left and right corners of the bed. It mounts above the Honda factory bed cover and therefore can be used with the Honda cover open or closed. It will likely also work with after market covers, but it is up to the owner to determine this. Photos are provided at the end of these instructions.

The BKT is available in bare aluminum or five powder coated finishes, and comes standard with all stainless steel hardware to simply bolt it to the existing holes in the Honda tie-down bracket. In the standard configuration *no* antenna mounting holes are drilled. For a small fee, from one to five holes will be drilled in the BKT when ordered (the user must be careful with multiple closely-spaced antennas as mentioned below). The user can also easily drill holes in the BKT since it is made of aluminum.

#### **What you need to install the "BKT" Bracket**

No special tools are required. You will need two standard wrenches for tightening the 1/2 and 3/8 inch bolts. Be sure all bolts are securely tightened and check them periodically. Always remember: SAFETY FIRST!

You will need antenna bases that fit your antennas - NMO, PL259, 3/8" stud, etc. **Be sure to purchase bases that can mount in a 1/4 inch panel thickness**, which is thicker than most antenna mounting surfaces. For example, Antenex makes an NMO base that will mount in a 1/4" panel thickness.

#### **Important Considerations for Using Multiple Antennas**

Generally, up to 3 antennas can be used with the BKT-HondaRL-1 ("BKT") and, if properly done, up to 5 antennas can be installed. It is up to the user to determine if their installation will not cause any harm to their equipment and that multiple antennas do not interfere with the tuning of adjacent antennas (e.g. proper SWR). Please note that REP Design LLC is not responsible for damage to your equipment and that the user takes full responsibility for proper electrical and RF installation considerations.

If you connect multiple antennas to one radio, you may need to use a combiner/duplexer/ band pass filter to isolate the various antennas.

If you use multiple radios with multiple antennas it is VERY IMPORTANT to ensure that transmitting on one radio and antenna does not affect or damage another receiver connected to another antenna. You can use band pass filters and other

means to help limit the amount of RF that can get into a receiver when another radio is transmitting. It is up to the user to determine how this should best be done in their specific installation.

### **The installation and maintenance instructions for the UHAM are as follows:**

The BKT is quick to assemble using the six provided stainless steel bolts and hardware. It bolts to the Ridgeline tie-down brackets without having to drill any holes for mounting the BKT. Refer to the **Figures** at the end of these instructions for installation illustrations. The installation steps are as follows.

(1) **Loosely Assemble the BKT.** The BKT parts, if shipped, come assembled “backwards” to avoid damage during shipment. If so, disassemble all parts and assemble as shown in **Figure 1**. The “spacer” (has two holes; all are bare aluminum even on powder coated versions) fits between the main bracket and mounting plate (mounting plate has three holes). The spacer is used to raise the BKT further above the bed cover. The mounting plate is what fastens to the Honda tie-down brackets. **Assemble the parts, LOOSELY, BEFORE mounting to the Ridgeline**, as it easier to mount the bolts this way.

(2) **Mount your antennas to the BKT.** BEFORE placing on the Honda, and after loosely assembling the BKT, mount your antennas to the BKT with coax. Weather proof the bottom of the antenna mount using “coax putty” or other means of weatherproofing.

It is recommended that HF antennas be mounted on either the left or right hole as this provides for a shorter ground path. It is typically best if the center antenna(s) are VHF-UHF antennas, as the ground plane provided by the BKT in the middle is more suitable for higher frequencies. Only VHF, UHF and SMALL or MEDIUM HF antennas should be mounted directly to the BKT where the panel thickness is ¼ inch.

LARGER HF antennas (e.g. Hi Q 4/80, 5/160; High Sierra HS1800, larger Tarheel, etc.) should be mounted through the BKT, SPACER and FLAT MOUNTING PLATE as this provides a very secure surface for mounting larger antennas. The panel thickness here is 1-1/4 inches. Our optional UHAM-150 mount bolts to the BKT and provides a secure second point of attachment that also allows for 20 second removal of the antenna if an optional quick disconnect is used. The UHAM-150 is adjustable to fit many brands of HF screwdriver and motorized antennas.

Lastly, decide how you will **ground the BKT to your Ridgeline**. Three 1/4x20 bolts are provided for grounding. Two are located on the back side at both ends. These should be grounded to your vehicle through a heavy and short ground strap that goes to bare metal – be sure to weather proof any paint that you scrape off to obtain a good ground. A third ground bolt is located on the front center part of the BTK, just behind the rear window of the Ridgeline. This can be used if the two other grounding points do not provide sufficient SWR. Note that on the powder coated versions, we mask off the inside area around the three bolts to obtain a good ground – WE PAY ATTENTION TO DETAILS! A good ground is very important, especially for HF antennas!

(3) **Mount the UHAM to your vehicle.** Once the BKT and antennas are assembled, place the BKT on the two upper Honda tie-down brackets. The BKT is a very tight fit but we drill the four holes for mounting the BKT to the spacer and mounting plate larger (1/2 inch diameter) so that the plates can move in all directions to help install the BKT. Once the mounting plates are resting on the Honda tie-down brackets, mount the BKT to the Honda brackets using the two (2) larger (1/2x13) bolts. **Figure 1** shows how the hardware is assembled. Securely tighten these two (2) bolts.

Tighten the four smaller (3/8x16) bolts securely - be sure the BKT is centered on your vehicle. You are DONE!

### **Maintenance.**

The **BKT** requires little maintenance as it is made from 6061 aluminum and stainless steel parts. If used during winter or near salt water be sure to wash it with soap and water as soon as practical after exposure, as you would your own vehicle. This is more important for the unfinished, bare aluminum, as the powder coated version is very resistant to weather conditions.

**Periodically check to be sure that the six (6) bolts are tight and have not come loose.** Also check your antennas to be sure that they have not come loose, and that coax fittings under the BKT are weatherproofed. **SAFETY FIRST!**

### **Spare parts, accessories, downloads and related products.**



Let us know if you need spare parts or are interested in our other products. For a current description of our products, photos, videos and prices please visit our web site: [www.repDesign.us](http://www.repDesign.us). If you don't see something you're looking for, related to mobile or portable radio operation, please let us know – your idea could become a new product! As a specialty company, we are looking for unique ideas to serve the amateur radio community.

For a listing of our current products, with links to detailed information and to order, go to our “Products” web page: <http://www.repdesign.us/Products%20%26%20Ordering.html>

You can find the current versions of product instruction manuals (with COLOR PHOTOS) on our “Downloads” page: <http://www.repdesign.us/Download.html> . If you would like higher resolution, color, photos (compared to the black and white on these printed instructions) these can be viewed on the instruction manual download.

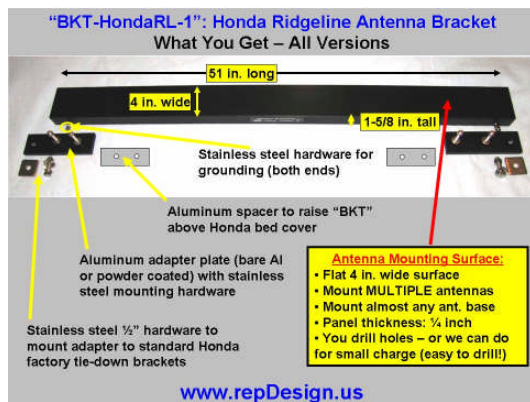
### Warranty Summary:

All products include a **two (2) week "return for any reason" and six (6) month manufacturing defects limited warranty**. If you should need to return your product please contact us IN ADVANCE to obtain a return authorization number. **Please refer to the complete warranty terms that are enclosed with your order; this is also included on our web site.**

Please note that REP Design LLC is not responsible for damage to your equipment and that the user takes the full responsibility for proper electrical and RF installation considerations, as stated above. The proper RF and electrical performance is not covered under the REP Design LLC warranty. If you are uncertain about this you can return your product within two weeks, as detailed above and in the full warranty.

### Photos and Installation Illustrations (for color images, go to our web site “Downloads” page, click on “Manuals”) :

**Figure 1 : What you get.** The left photo diagram shows the parts that come with the BKT (on powder coated BKTs the spacer is not powder coated and comes in bare aluminum). The right photo shows the BKT on a customer's Ridgeline.



**Figure 2: Assembly Diagram.** Left diagram shows how the two sizes of bolts are mounted (right end shown). The middle photo shows how the mounting plate and spacer are mounted relative to the Ridgeline tie-down bracket (left end is shown). The right photo shows the underside of the main bracket – the bottom is not powder coated for good antenna grounds.

BKT-HondaRL-1: Assembly Diagram (Right End Shown)  
 REP Design LLC  
 Drawing by: RE Post Date: 8/30/2008

