

Mounting Instructions: “CLAMP-250 Mounting System”

*** Mobile Antennas & Masts, Buddipole™ * Fixed-base, EMCOMM & RV ladders ***

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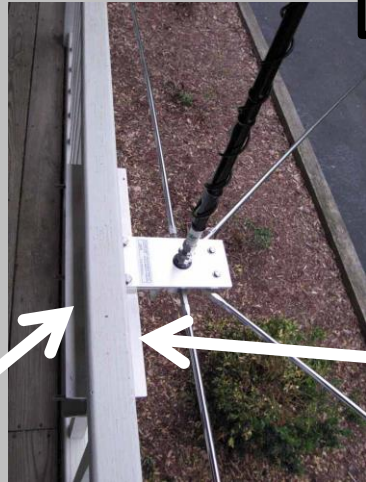
(1) Basic Installation Options

What is a “vertical & horizontal base”, “single bolt-on” & “dual clamp-on bases”, and “tilt plate”?

Single (bolt-on) & Dual (clamp-on) Base



Outer base



Inner base

Outer base

All outer bases
are the same

Single “Outer base”

bolted to vertical railing post with wood lag screws or bolts (shown with AMB-Bkt-3T bracket).

Dual bases clamped to deck railing.

- “Inner base” is the part on the inside of the railing/fence, fastened to the outer base with three long 3/8” bolts.
- “Outer base” supports the antenna/mast brackets & mounts.

Horizontal & Vertical Base



Horizontally mounted base

(can be single or dual)



Vertically mounted base

(can be single or dual)

How does this all work? “Quite well!”

- **UNIQUE & VERY STURDY** way to mount just about any mobile antenna and light weight mast for fixed base, EMCOMM, antenna restricted neighborhoods, RV ladders and more. Very configurable !
- Five basic components to the CLAMP250 “system”:
 1. Heavy-duty single bolt-on or dual clamp-on base → see Slide (5)
 2. Four antenna brackets, 2 mast kits, 1 mounting adapter → (6,7)
 3. Interchangeable antenna bases (antenna screws into these) → (3)
 4. Bolt-on “Tilt Plate” if you need to tilt antenna/mast (0–17°) → (8,9)
 5. Accessories such as counterpoise brackets, HF shunt coil, etc. → (2)

Tilt Plate: Tilts antennas and masts from 0 to 17° Horizontal, Vertical, Single & Dual base



(2) Antenna Brackets, Mast Kits & Accessories

Quick look at the various brackets, mounts and accessories that fit CLAMP250 configurations

"L" Antenna Brackets (small & large antennas)



AMB-Bkt-1
(small antennas)

*We also have several
interchangeable
antenna bases
for our brackets*

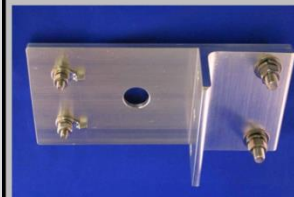


AMB-Bkt-3T
(large antennas)

Flat Antenna Brackets (small antennas)



CLAMP-Horiz Base-4
horizontal base ONLY
does NOT fit Tilt Plate



CLAMP-Horiz Base-4

UHAM-200
base NO
LONGER
AVAILABLE
(sorry)

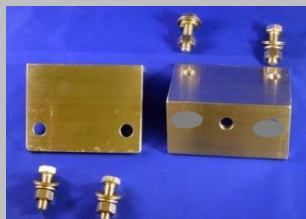
For ANTENNA BASES → see Section (3)

Counterpoise Ring



AMB-Gnd-5
1-5 whips & "ham
sticks", 3/8x24 threads

Mounting Adapters for Ant. Brackets on Horizontal Base



CLAMP-SHD-ADP-4
bolts to sides CLAMP250 base

Mast Kits (masts to 2" OD)



Mast Kit #1
for vertical base



Mast Kit #2
(w/ anti rotate screw)
for horizontal base

Both kits include "mast protect strips"



HF Shunt Coil



SHUNT-100

2nd Antenna Bracket



AMB-Arm2 (NMO radial base)

Tilt Plate (0-17°)



Antennas & masts
horiz. & vertical base

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(3) Antenna Bases for our Brackets

We have a wide variety of **INTERCHANGEABLE** bases for mobile antennas & Buddipole™ antennas



➔ **HIGH QUALITY & HEAVY-DUTY** antenna bases

➔ **Heavy-duty, nicely machined, nickel-plated brass nuts on our SO239 & NMO bases**
(not the standard flimsy SO239 nuts that crack easily or the "roughly finished" heavy duty nuts that rust)

➔ **All are interchangeable – see our compatibility pages (4b) – (4d) for your antenna & bracket options**



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REP Design
"Rust Test"

tap water + table salt
all 3 nuts in same test
bath, same time

(4a) Compatibility: Mounting Options & Dimensions for the CLAMP250 base

Dimensions & mounting methods to determine how the CLAMP250 base will fit YOUR fence, railing, ladder, post, etc.

Inner Base (only needed for "clamp-on" use)

All outer bases are the same

Outer Base (required for all applications) – this is the part that all of our brackets are attached to. It can be clamped to both sides of your mounting surface when used with the inner base, or it can be bolted by itself if the clamping method is not needed. Both methods are VERY SECURE, if your surface is sturdy.

CLAMP-ON Dual Base method:

- The "inner" base is only used to clamp to both sides of your mounting surface.
- Three (3) 3/8 inch bolts stick through gaps in your mounting surface, OR you can drill 3/8 inch holes, at (A), (B) & (C). At location (A) use either of the 2 holes – allows for some variation in the spacing of the fence, railing gap.

"CLAMP-ON" method

Inner base

Outer base

Outer base

Use these dimensions to fit check your location

Horizontal clamp-on

Vertical clamp-on

BOLT-ON Single Outer Base method:

- Use three heavy-duty wood lag screws or three 3/8 inch bolts, at (A), (B) & (C). Be sure to use flat and lock washers.
- The SAME outer base is used for the single and dual mounting schemes.
- In the bolt-on examples below, you can see the three 3/8 inch size bolts used to attach the outer half to a fence. This also works well for mounting to a vertical post, etc.



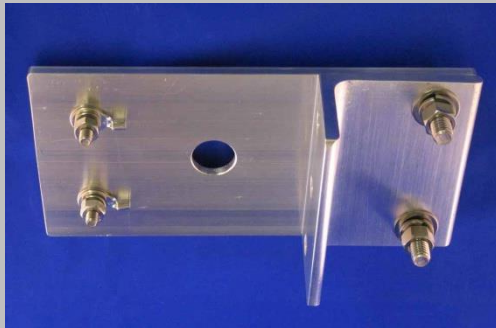
(4b) Compatibility: Small Antennas (HF/V/UHF)

Description of antenna types & masts that fit each of our antenna brackets for the CLAMP250 system

"Small" Antenna Examples:

- Any size 2m-70cm & higher mobile
- HF/6m such as "ham sticks", "wander lead", small loading coil types
- HF Small screwdriver/motorized such as High Sierra Sidekick, Little Tarheel, ATAS-100/120
- Buddipole™ dipoles & Buddistick™ verticals

CLAMP-Horiz Base-4
horizontal base ONLY
does NOT fit Tilt Plate



AMB-Bkt-1
fits vertical base & "Tilt Plate"
does NOT fit horizontal base



Interchangeable

Antenna Bases – Group 5

**High Quality
Heavy Duty**



3/8x24
stud



AntMtgKits
3/8x24 bolt kits
2" insulators



SO239
("PL259")



NMO (2 types)
• 2" barrel
• with groundplane radials



VersaBase
(Buddipole™
antennas)

(4c) Compatibility: HF Screwdriver/Motorized Needing Dual Support

Description of antenna types & masts that fit each of our antenna brackets for the CLAMP250 system

“Dual Support” HF Screwdriver & Motorized Antenna Examples:

- Hi Q Antennas standard models with 3/8x24 base bolt & 2 inch diameter insulating wafers
- Full-sized High Sierra & Tarheel
- “Any brand” with base diameter up to 2 inches or less

STILL AVAILABLE AS AN OPTION

For HORIZONTALLY Mounted Bolt or Clamp-on Bases



Sorry but the UHAM-200 is no longer available

UHAM-200

“2-D” adjustable bracket fits horizontal & vertical base
also fits Tilt Plate



on horizontal clamp-on base

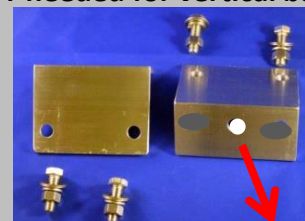


on horizontal clamp-on base
With Tilt Plate

CLAMP-SHD-ADP-4

adapter for mounting to
horizontal base

NOT needed for vertical base



(4d) Compatibility: Large Antennas (bottom diameter to 3 inches)

Description of antenna types & masts that fit each of our antenna brackets for the CLAMP250 system

“Large” Antenna Examples:

- Hi Q Antennas standard models with 3/8x24 base bolt & 2 inch insulating wafers (if second attachment is not needed)
- Hi Q Antennas ruggedized models with ½ inch base bolt & 2.5 inch insulating wafers
- Scorpion Antennas models with ¾ inch base bolt
- Full-sized High Sierra & Tarheel (if second attachment point is not needed for fixed base operation)
- “Any brand” with base diameter up to 3 inches that can mount into a ¾ inch diameter hole with panel thickness of ½ inch
- Also fits small to large HF/V/UHF mobile antenna that are compatible with the antenna bases shown below

AMB-BKT-3T

“L” mount for small to large antennas



fits horizontal base with CLAMP-SHD-ADP-4 adapter, vertical base (no adapter needed) & “Tilt Plate”



AMB-Bkt-3T on Tilt Plate – vertical position



AMB-Bkt-3T on Tilt Plate –max. tilt

CLAMP-SHD-ADP-4

adapter for mounting to horizontal base



Interchangeable

Antenna Bases – Group 6

High Quality
Heavy Duty



AntMtgKits
3/8x24 bolt kits
2" insulators



SO239
("PL259")



NMO (2 types)
• 2" barrel
• with groundplane radials



VersaBase
(Buddipole™
antennas)

(4e) Compatibility: Buddipole™ & Other Masts (to 2 inch O.D.)

Description of antenna types & masts that fit each of our antenna brackets for the CLAMP250 system

Light Weight Mast Examples (also fits flag and other poles):

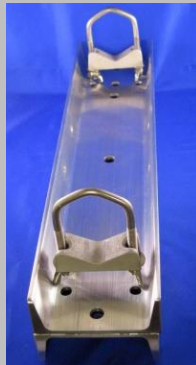
- Buddipole™ masts, 8 ft. and 16 ft. models – vertical & horizontal base.
- Any light-weight mast up to 2 inches in O.D. for use with light-weight antennas or wire antennas
- Guying is NOT needed in most installations but might be needed for heavier antennas or in very windy areas
- “Tilt Plate” is required; can place mast vertically or tilted from 0 – 17 degrees outward

Mast Kit #1

two “V-clamps”
fits vertical base
without “Tilt Plate”



*Includes rubber
“mast protect strips”*



Mast Kit #2

two “V-clamps”+ anti-rotate screw
requires “Tilt Plate”
fits horizontal & vertical base



*Includes rubber
“mast protect strips”*



“Tilt Plate”
fits vertical &
horizontal base
Includes mounting
brackets and all
hardware



aluminum & stainless steel
parts included with Tilt Plate



shown mounted on CLAMP250
vertical base



shown mounted on
horizontal base

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(5) Mounting the CLAMP250 Base

“Quick Start Guide” for Mounting Single or Dual Bases, Vertically or Horizontally

Mounting One or Both Bases (Horizontal or Vertical)

1. You can purchase BOTH clamping bases OR just a single OUTER base for bolt-on applications. All “Outer Bases” are the same and fit all of our brackets. Both bases have a rubber coating for “grip” and to help protect the surface.
2. The base is what everything else is supported on – our brackets bolt on with included stainless steel hardware. Our accessories are “plug & play” simple.
3. **SAFETY FIRST!** Be sure that your mounting surface (fence, railing, ladder, post, etc.) is sturdy enough to support the CLAMP250 with your antenna or mast. If your installation is over an area that could fall on people or cause damage, you might consider a “safety line” so that if it comes loose it will not fall on someone or something. NEVER EVER install any antenna where it can fall on power, telephone or other utility lines. Remove your antenna/mast or disconnect the coax BEFORE a lighting storm arrives – if you can HEAR THUNDER you can be struck by lightening, many miles/Km’s away!
2. To bolt-on one “outer” base (can be used for all applications *except ladders*):
 - Use 3 screws or bolts to attach just the “Outer Base” to your mounting surface; you will need to provide this hardware. Be sure your hardware can support the base and your antenna/mast.
 - If vertically mounted, use one of the three screws/bolts to fasten the mount to the base, and use a 4th screw/bolt for the 2nd bracket bolt.
 - If horizontally mounted, only 3 screws/bolts are needed, as the antenna brackets bolt to the “L” adapter which bolts to the sides of the base.
3. To clamp-on both bases (for *all applications*, required for ladder mounting):
 - Three (3) included long 3/8x16 bolts go through the spaces between ladder, fence and railing sections to fasten the two clamping halves tightly together. If there isn’t a space, you can drill a 3/8 inch hole.
 - The long screw on the “mount end” is also used to bolt applicable mounts (top of photo to left).
4. The bases can be mounted vertically or horizontally.
5. Once the base(s) are securely mounted, you are ready to install the other brackets for your antenna/base – see “Quick Start Guides” on the next pages.



Horizontal clamp-on
 (“dual base”)
 shown on metal fence



Vertical clamp-on
 (“dual base”)
 shown on RV ladder

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Horizontal bolt-on
 (“single outer base”)
 shown on wood fence



Vertical bolt-on
 (“single outer base”)
 shown with “Tilt Plate” on
 4x4” vertical wood post

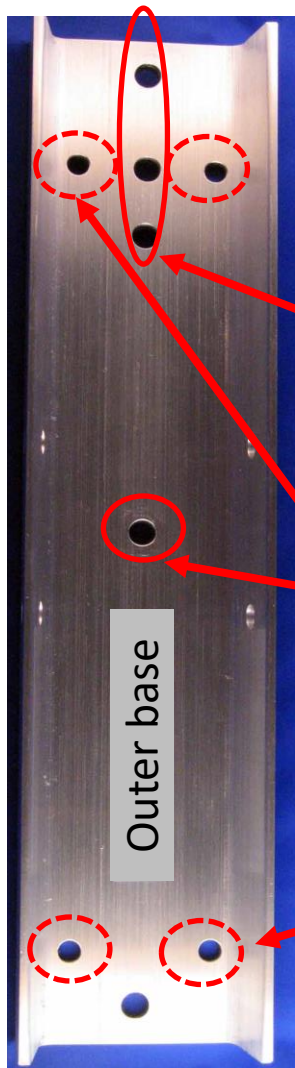
(6) Attaching antennas & masts: on Vertical Base

"Quick Start Guide" for Attaching Brackets to Single & Dual Vertical CLAMP250 base

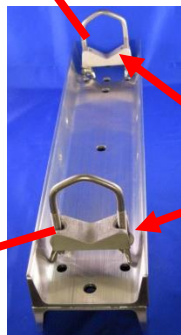


Installing Antenna Mounts & Options (stainless steel hardware included)

1. The arrows show all compatible configurations for mounting to a vertically mounted CLAMP250 single or dual base, without the "Tilt Plate" (allows for tilting antennas and masts up to 17 degrees).
2. The antenna brackets bolt to two of the upper three holes – see elongated circle to the left.
3. The AMB-Gnd-5 ground counterpoise ring bolts to upper or lower hole in brackets AMB-Bkt-1, AMB-Bkt-3T. The "Gnd-5" allows up to 5 groundplane radials with 3/8x24 threads, for full 180 degree coverage on the outside of a fence/railing/ladder.
4. The SHUNT-100, bolts directly to these antenna mounts (see arrows).



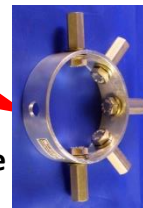
AMB-Bkt-1
or AMB-Bkt-3T
"L mounts"



Mast Kit #1



AMB-Gnd-5
counterpoise



SHUNT-100
HF shunt coil

Also included: -2- mast protection strips (UV/weather resistant EDPM rubber 1/16"x2x6.5", adhesive backed, black, medium hardness).

Installing Mast Kit #1:

1. Use the upper & lower pair of holes (see 4 dashed circles) if mounting a mast or flag pole.
2. The mast/pole is fastened to the two special "V-Clamps" which allow attaching masts or poles up to 2" in diameter (OD).
3. Two (2) UV/weather resistant EDPM rubber strips, adhesive backed, are placed around your mast adjacent to the V-clamps, after the V-clamps are attached to the clamp. Before sticking to your mast, clean the mast with rubbing alcohol, then stick the strips to your mast. You can use black electrical tape if needed to hold the strips around your mast.

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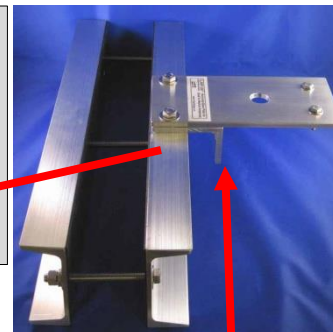
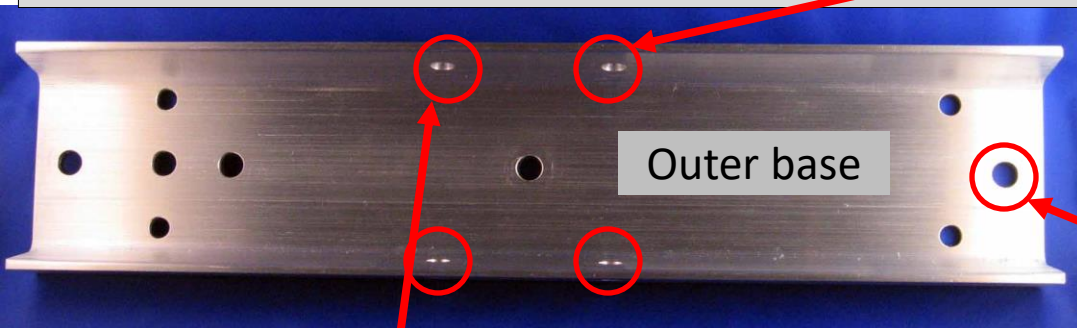
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(7) Attaching antennas & masts: on Horizontal Base

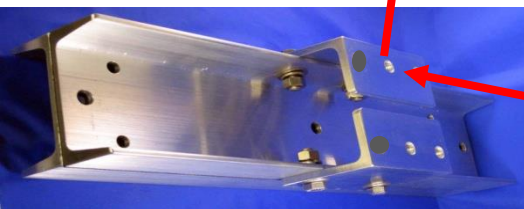
"Quick Start Guide" for Attaching Brackets to Single & Dual Horizontal CLAMP250 base

(A) Small Antennas: Use the "CLAMP-Horiz Base-4" flat bracket:

1. The flat bracket mounts on top of the L bracket and both parts bolt into the two sets of holes on the top side of the CLAMP250 outer base.
2. The remaining hole in the L bracket is for the optional AMB-Gnd-5.
3. The two 1/4" bolts on this bracket are for grounding, mounting SHUNT100 & AMB-Arm2 second antenna bracket with NMO radial base.

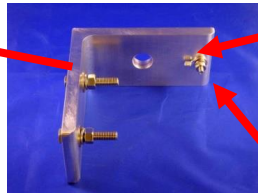


"CLAMP-Horiz Base-4" flat mounting bracket has "L" bracket below that adds strength and is for mounting the Gnd-5

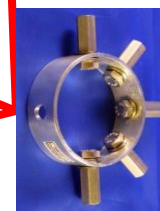


CLAMP-SHD-ADP-4
two L brackets + hardware adapt horizontally mounted CLAMP250 bolt into the four circled holes above for
AMB-Bkt-3T & UHAM200

AMB-Bkt-3T "L mount"
(Bkt-1 does not fit)



SHUNT-100



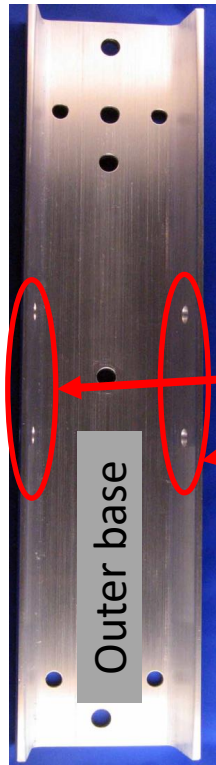
AMB-Gnd-5
ground counterpoise ring (fits up to 5 whips, "ham sticks", etc. with 3/8x24 threads)

(B) Medium & Large Antennas:

1. There are two bracket options depending on the size and type of antenna:
 - AMB-Bkt-3T
 - UHAM-200.
2. First, mount the two CLAMP-SHD-Bkt-4 L brackets to the four holes on the top and bottom sides of the CLAMP250 (four circled holes shown above).
3. The brackets bolt into the two matching holes on the sides of the two L brackets.
4. The AMB-Gnd-5 mounts to the AMB-BKT-3T bracket or left or right outer base holes, for 180 degree counterpoise radial deployment.

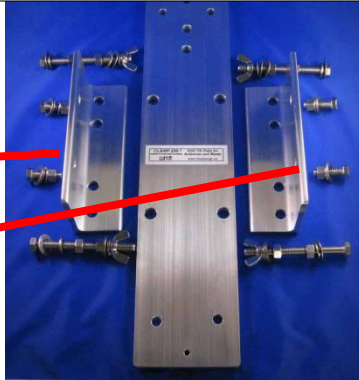
(8) Installing the Optional “Tilt Plate”: on Vertical & Horizontal Bases

“Quick Start Guide” for Attaching the Tilt Plate to Single & Dual Vertical CLAMP250 base (0-17° tilt)



A-1. Mounting Tilt Plate “L” brackets to Vertically Mounted, single or dual, CLAMP250 base

1. The two “L brackets” that come with the “Tilt Plate” bolt to the 4 holes on the sides of the CLAMP250 outer base, with included hardware → see diagram (a).
2. Insert a flat washer on each of the four longer bolts first (easier to do BEFORE mounting the L brackets).
3. Mount the two “L’s” on the base *“pointing towards each other”* → see (b).



(a) Tilt Plate Kit parts (unassembled)



(b) Tilt Plate L brackets mounted to vertical CLAMP250 base with 4 *shorter bolts*

A-2. Mounting Tilt Plate “L” brackets to Horizontally Mounted, single or dual, CLAMP250 base

1. The “Tilt Plate” mounts the same as on a vertical base, except that the two “L’s” that come with the “Tilt Plate” are mounted *“pointing away from each other”*. Note that diagram (b) shows the “L’s” point TOWARD each other (opposite way).
2. Refer to slide (9) for horizontally mounted base.

(c) Tilt Plate 4 *longer bolts* attach it to L brackets)

(d) Side view of long bolts that attach the Tilt Plate to the base – these are also what are adjusted to tilt your antenna/mast.



B. Mounting “Tilt Plate” to the two “L” brackets & tilting the plate

1. The “Tilt Plate” mounts to the two “L’s” that come with the “Tilt Plate” → see (a), (b) & (c). The four bolts with one flat washer each were installed already in steps A-1 or A-2 above. The following steps will complete the installation → refer to figure (d) on how to install the rest of the hardware.
2. On the outside of the L brackets, on each of four screws, place a flat washer, lock washer and nut. Tighten the nuts on the four bolts to secure the bolts to the “L’s”.
3. Place a nut and flat washer on each bolt, insert the Tilt Plate onto the four bolts.
4. On the outside of the Tilt Plate, place a flat washer, lock washer and wing nut.
5. The Tilt Plate can be adjusted for distance away from the CLAMP250 base, AND for outward tilt up to 17 degrees, by adjusting the four sets of nuts and wing nuts on either side of the tilt plate. Securely tighten the four wing nuts when done.

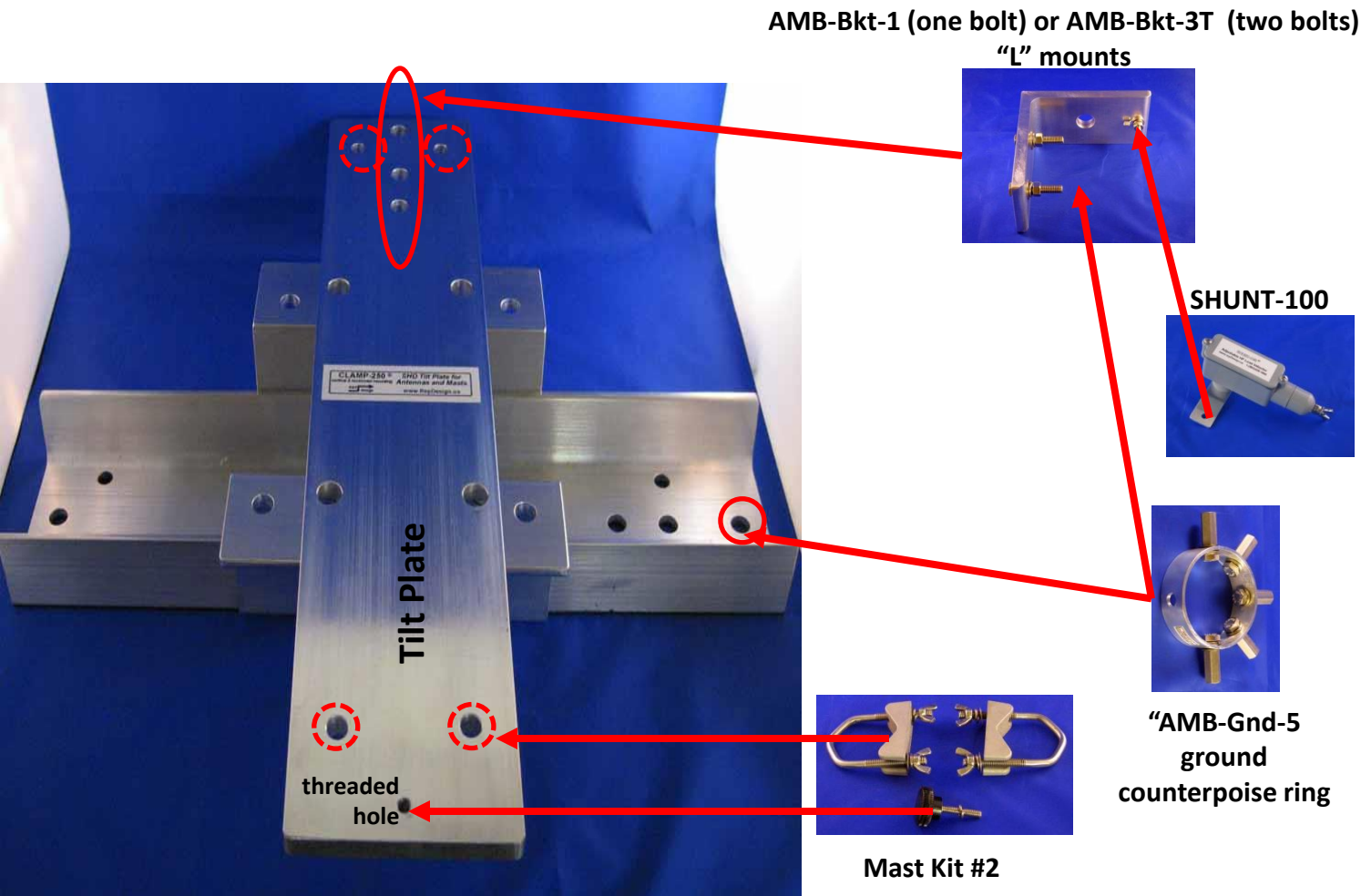
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(9) Attaching Antenna & Mast Brackets on “Tilt Plate”

“Quick Start Guide” for attaching Brackets to Tilt Plate on horizontal or vertical, single or dual, base



Mounting brackets and mast kits.

Refer to the photo above showing the mounting holes for these various accessories. The red arrows show where these can be mounted. The bolts in the brackets line up with the appropriate bolts in the Tilt Plate.

NOT SHOWN:

AMB-Arm2 “2nd antenna” bracket mounts to the same ¼ inch bolt on the “L” brackets as the SHUNT100

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