INSTALLING THE OUTBACKER
STEALTHplus

INTRODUCTION

Thank you for purchasing the OUTBACKER **STEALTHplus**. Please take a few moments and carefully read these instructions **before** installing your antenna. This will ensure your mobile setup works and works well!
Like all OUTBACKER antenna, the STEALTHplus is constructed of a very tough yet flexible, fiberglass core. This core is then helically wound with copper wire, which is hand-tuned to the various "tap" points. A coating of clear epoxy resin is then applied. Finally a layer of colored polyurethane is applied as a protection against the elements. All fittings on the antenna are solid brass and nickel-plated. The 3/8" x 24tpi stud is made of tough, high-strength stainless steel.

DESCRIPTION OF COMPONENTS

1. FIBERGLASS MAIN SHAFT - Location of helical coils. Base mounting stud is stainless steel with standard 3/8" x 24 threads.

2. BAND SOCKETS - Non-corrosive and silver-plated sockets are clearly engraved with band markings. These sockets are used for selecting a band of operation.

3. WANDER LEAD - Insulated 36" length of stranded wire with banana plug on each end. Used for 40m through to 10m operations. One end should be plugged into the WL-36 socket and the other into the desired band socket. Must be wound (counter/clockwise) from the bottom up, with coils evenly spaced and neither taut, nor hanging loosely. Remove completely from antenna for 75m operation.

4 STINGER/ TIP/ TUNING ROD or SPIKE - Steel rod which extends up to 5" out of antenna shaft. Used for fine tuning SWR.

5 KNURLED LOCKING NUT - Located at the top of the antenna shaft. Used for holding STINGER in place - **finger tighten only**.

MOUNTING YOUR STEALTHplus

Correct mounting of your antenna is of utmost importance to obtain successful antenna performance. The STEALTHplus can be used with the Outbacker OB360, or any standard 3/8" x 24tpi mount.

Trunk Lip and Hatch Mounting

When mounting in either of these types of configurations, please mount the antenna as far from the roofline of your vehicle as possible. Be sure that the surface of the trunk lip and underneath the lip is clean and that there is solid electrical contact from the mount to the trunk lip. Here is an easy way to do that.

Fit the mount in place and tighten its set-screws, then "back out" set-screws and remove mount. Look at indentation points left by set-screws. Use your pocket knife to scrape off paint at those points, exposing shiny metal. Re-install mount, ensuring set-screws fit into scraped-clean-of-paint points and are in contact with shiny metal. Check your mount and antenna occasionally to ensure everything remains *snug. OUTBACKER assumes no liability for antenna lost as a result of loose mounts or hardware.* An excellent mount recommended by OUTBACKER is the Outbacker OB360C 3/8" mount. The mount comes with coax harness and will ensure a very strong setup without holes drilled into your vehicle. This mount may be obtained through your Outbacker Antenna dealer.
Bumper Mounting is <u>not</u> recommended for the STEALTHplus

INSTALLATION

The STEALTHplus can be installed on cars, trucks, RVs, and for fixed operations (condos, apartments, etc.). As with any antenna system, there are no specific rules to follow. However, here are some helpful suggestions.

1 Mount as high as possible, and as far away from other vertical metal areas as possible. If mounting in a condo, use a metal balcony rail where possible, or three-inch wide copper foil (minimum 20 ft length.) for counterpoise.

2 The optimum mounting location for any mobile is dead center of the vehicle roof. However, since this is not usually practical for most HF antennas, mount your antenna on the driver's side trunk of the vehicle to avoid tree limbs, etc. (see Trunk Mounting section).

3 Use high grade 52-ohm RG-58cu coax, or similar, with at least 95% shield. Marine grade coax is the best. Do not use foam coax as it will deform in heat and absorb moisture. Avoid solid center conductor-type coax as it breaks easily. DO NOT SPLICE THIS "RUN" OF COAX. It should be a single, unbroken length from transceiver to antenna mount. Use Coax Seal to protect cable where its wires separate at mount.

4 A solid electrical ground is an absolute necessity for proper and successful antenna performance. This is the most important yet often overlooked step in all mobiling antenna installations. DO NOT IGNORE THIS STEP AND DO NOT ASSUME THE NEGATIVE LEAD OF A POWER CABLE GIVES AN ADEQUATE GROUND CONNECTION. IT DOES NOT!

Install a 1"- 3" wide ground strap between a bolt connected to your auto's frame and the ground lug on your HF radio. A ground/frame bolt is usually located behind your auto's dash. Another ground/frame bolt is also used to secure the front seats in place (look under seat for shiny bolt). A large alligator clip on this ground strap will permit quick connection to rig (and easy rig removal).

If you are using a trunk lip mount, a 1"- 3" wide ground strap should also be added from the trunk lip (or from mounts ground connection) to a ground/frame bolt inside the trunk area. This step ensures the trunk lip is electrically connected to the auto's body rather than insulated by paint. It is also recommended that you ground your tailpipe at the tip to help reduce spark plug noise, etc.

5. It is recommended that you run your coax as far away from the ECM (Engine Control Module) and existing vehicle electrical systems as possible.

Now use an Ohmmeter to check your work. No Ohmmeter? Clip leads connected to a Code Practice Oscillator, or a keyer with sidetone can be used to check connections. Remove the ground-strap from your rig. Connect one Ohmmeter prod, or one clip lead **only** to the ground-strap. Connect other Ohmmeter prod, or other clip lead to the center pin of the PL-259 plug removed from your rig. You are now checking for good electrical connections through coax, mount, back to mounts, ground-strap, and back to meter. If resistance is above .7 ohms, or oscillator does not produce tone, recheck/re-scrape all ground connection points until "poor connection point(s)" are found. THIS STEP ENSURES YOU RADIATE "A KILLER" SIGNAL.

TUNE-UP AND OPERATION

After following the proper mounting and grounding procedures, which are crucial, as mentioned earlier, you are now ready for antenna tune-up.

1 . Route the feed-line to your transceiver making sure the antenna is properly grounded to the vehicle body at the antenna base.

2. Set the STINGER to the scribe point which is marked on the STINGER (length from scribe point to tip of STINGER is 3").
   a. For operation on 40m, tune your transmitter to 7.250MHz.
   b. Key the transmitter and read the SWR measured at the transmitter. If SWR reads greater than 2:1, go to Step C. If less than 2:1, go to Step D.
   c. If SWR is greater than 2:1, tune your transmitter to 7.295MHz and check the SWR there. If the SWR increases at this frequency, this indicates the antenna is too long and is resonating "low." You will want to shorten the STINGER about 1/4 inch, by loosening the KNURLED LOCKING NUT and making the adjustment. Then re-tighten **with fingers only.** If the SWR decreases at this frequency, your antenna is too short and you will need to lengthen the STINGER by following the same procedures as for shortening. Continue this process until the SWR, as measured at the transmitter, is as low as possible at your desired operating frequency on 40m.
   d. Provided your SWR is sufficiently low (less than 2:1 at the middle of the 40m phone band), in most cases all that is necessary to do when changing bands, is to move the top banana plug on the WANDER LEAD into the desired socket for 20m, 17m, 15m etc. Be sure to wrap the WANDER LEAD evenly and counter clockwise, but not too tightly against the shaft. You can make fine-tuning adjustments by moving the STINGER up or down.

3. 80m operation is obtained by complete removal of the WANDER LEAD. It will also be necessary to use the STINGER to adjust for lowest SWR on the desired operating frequency. You must adjust the STINGER for the lowest SWR on 80m. With the STINGER set at the scribe point, the resonant frequency is approximately 3.850 MHz. To raise the resonant frequency, push the STINGER in.

When operating the antenna on 6m, or 2m, the length of the black WANDER LEAD (36") is a critical factor as it forms an integral part of the antenna tuning.

Its length should not be altered for any reason

TROUBLESHOOTING

EXTREMELY HIGH SWR- Check all connections for opens, or shorts. Make sure the WANDER LEAD extends from the WL socket for your desired band of operation. Make sure the WANDER LEAD is evenly spaced as it wraps around the antenna, counter clockwise, from the bottom up. Again, remember, do not wrap too tightly. Also, remember that a quarter wave vertical needs a large span of metal/ground beneath it to act as a counterpoise.

MODERATELY HIGH SWR - Make sure the antenna is not unusually close (parallel) to any metal, such as the trunk, or side of an RV (see INSTALLATION). Recheck the integrity of your grounding. Try retuning the STINGER at the desired operating frequency.

Remember there are more important aspects of mobile installations than having a 1:1 SWR. It is okay and fully acceptable if your

SWR should vary from 1:1 to 1:8. Pay special attention to grounding and antenna placement.

CARE AND MAINTENANCE

All OUTBACKER antenna are fitted with a rubber "O" ring inside the tip to prevent water entering the mainshaft, however condensation will accumulate on the inside of the shaft, do not be alarmed. This condensation will not harm the antenna, nor will it cause inferior performance. Just remove the KNURLED LOCKING NUT and shake out any water. Check your antenna after heavy rain.

To clean your antenna, wash it with warm, soapy water and wipe dry with a soft cloth. Apply a thin coating of non-abrasive car wax. Buff the antenna to a shine. Do not use cleaners with an acetone base, as this will strip the shiny coating.

Specifications

Model: STEALTHplus (Cut to American frequencies Not for resale outside North America)
Band Coverage: 80m-75m-40m-30m-20m-17m-15m-12m-10m-6m-2m
Feed Impedance: 48-52 Ohms
Power: 100 watts (pep)
Construction: Brass - Stainless Steel - Urethane, 1/4 wave helical.
Mounting: 3/8" x 24tpi (UNF) Male thread (Stainless Steel)
W/Lead Length: 36" Plug tip, to Plug tip.

Supplied with STEALTHplus antenna

Qty	Part	Description
1		Main shaft. (Black)
1 x	OBWL	Wander lead. (WL stands for Wander Lead, 36" in length)
lx	OBSP15	5" short tuning spike

Please quote Part when ordering replacements.

Optional

OB360C	Trunk mount with spring and cable. (Rotates 360 deg)
OB360s	2 1/2" x 7/8" x 3/16" Steel spring
OSB	Heavy Duty fixed mount.
OBADP	3/8" unf to 1/2" bsw Stainless steel adapter.
OBQD	3/8" TO 3/8" Quick disconnect adapter (brass & stainless)
OBMT	M-Type to 3/8" adapter, (brass)
OBKNK	Knocknown Knuckle 3/8" to 3/8" unf

We hope you will receive much enjoyment from using your OUTBACKER Joey antenna. For technical assistance in North America contact,

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