

INSTALLING THE OUTBACKER

OB8 / OB8-500 / SPLIT / TRI - SPLIT / OB8JR

INTRODUCTION

Thank you for purchasing the OB8. Please take a few moments to carefully read **these** instructions **before** installing your antenna. This will ensure that your mobile set-up works and works well!

Like all OUTBACKER® antenna, the OB8 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 coloured 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 51" length of stranded wire with banana plug on each end. Used for 75m through to 10 m operation (80m to **10m if antenna is fitted with 160m**). One end should be plugged into the WL 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 80m operation (**applicable to 160m if fitted**).
4. STINGER/ TIP/ TUNING ROD - Steel rod which extends up to 6" 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 OB8

Correct mounting of your OB8 is of utmost importance to obtain successful antenna performance.

Trunk Lip and Hatch Mounting

When mounting in either of these types of configurations, please mount the antenna as far from the roof line 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. Reinstall 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 antennas lost as a result of loose mounts, or huirchvure.*

Luggage compartment / Trunk lip mounting are *not* recommended for antenna over 4ft in length.

INSTALLATION

The OB8 can be **installed** on cars, **trucks**, RVs. and for fixed operation (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 centre of the vehicle roof. However, since this is not usually practical for most HF antennas, mount your antenna on the drivers 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 centre 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 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 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. If you are using a bumper mount, adding a similar ground strap is also encouraged (many bumpers are insulated by their crash/shock absorbers). 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.

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 (**160m**) 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(**160m**). With the STINGER set at the scribe point, the resonant frequency is approximately 3.850 MHz (**1830MHz**). To raise the resonant frequency, push the STINGER in.

The length of the wander lead 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 or van (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: OB8 / OB8-500 / SPLIT / TRI-SPLIT / OB8JR

Band Coverage: (160m*)-80m-75m-40m-30m-20m-17m-15m-12m-10m

Feed Impedance: 48-52 Ohms

Power : 100 watts (pep)

Construction: Brass - Stainless Steel - Urethane, 1/4 wave helical.

Mounting: 3/8"x24tpi (UNF) Male thread (Stainless Steel)

Wander Lead Length: OB8.OB8-SPLIT plug tip to plug tip 51" OB8-500. plug tip to plug tip 55" OB8-TRISPLIT plug tip to plug tip 43" OB8-JR plug tip to plug tip 36"

* **OPTIONAL**

Supplied with OB8 antenna

Qty	Part*	Description
1		Main shaft (Black)
1x	OBWL	Wander lead
1x	OBSP15	6" short tuning spike. (installed at manufacture)

Optional Part#

OBSB Heavy Duty fixed mount.

OBADP 3/8" unf to 1 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)

Should you discover your OUTBACKER® antenna has been damaged in transit, please notify your supplier, or write to the manufacturer within seven days. Claims made more than 7 days after delivery will not be recognized.

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