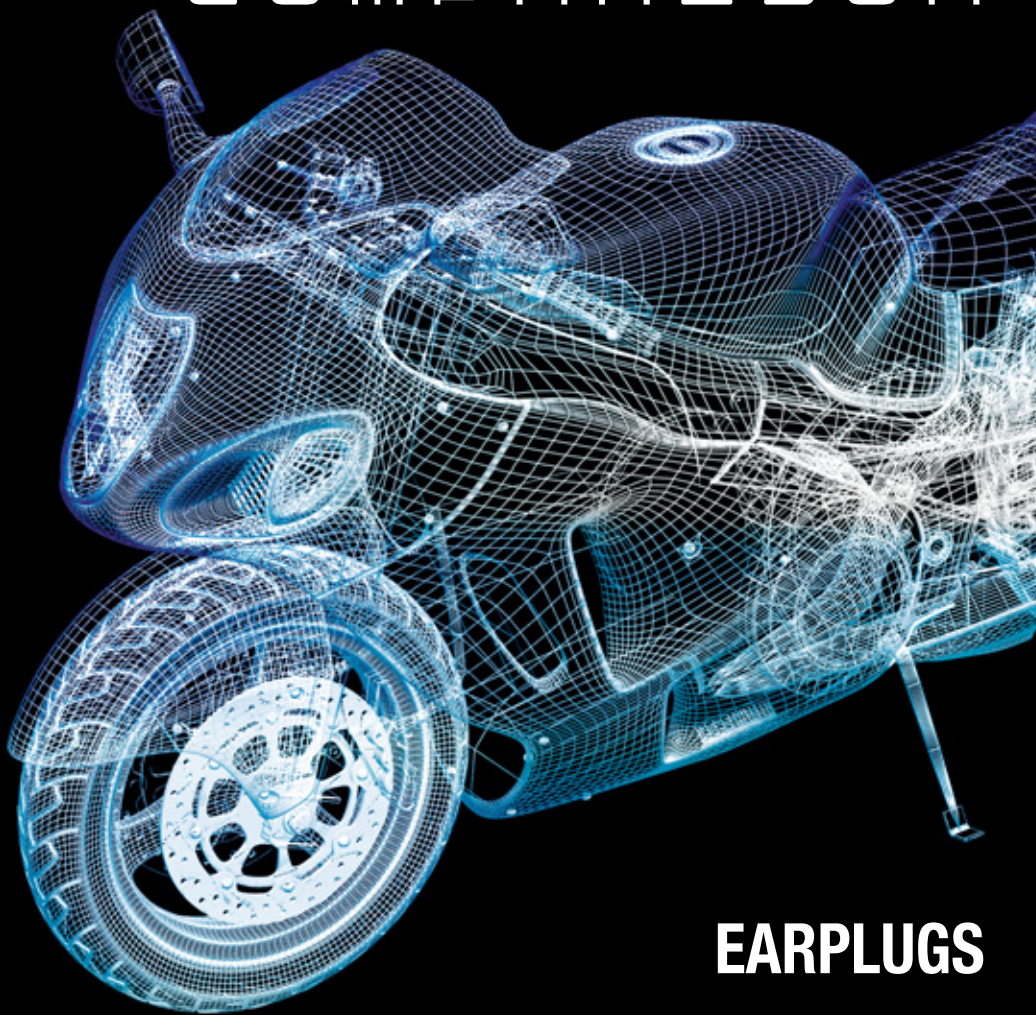


Motorcycle

CONSUMER NEWS®

PRODUCT

COMPARISON



EARPLUGS

TOP BOX OPTIONS

PORTABLE BEAD BREAKERS

**FREE
GIFT**

COMPARISON

Earplugs

by Gary Prickett
photos by
Gina Cioli



Custom vs. universal fit, foam vs. silicone; which are best?

It should come as no surprise that MCN's staff and contributors unanimously adopt the idea of ATGATT (All The Gear All The Time) when it comes to riding safety. This philosophy extends beyond the wearing of padded gear to protect flesh and bone and includes hearing protection. It has long been known

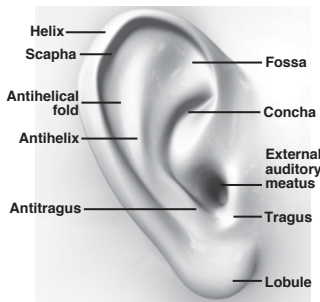
that even when wearing well-constructed and properly fitted full-face helmets, the continuous roar of wind and road noise can result in hearing loss and even residual ringing in the ears (Tinnitus) following sustained periods of riding. This ringing is the result of a temporary threshold shift (only sounds louder than a certain level will be heard) following noise exposure, that over time can result in permanent hearing damage. Testing has determined that wind noise around a helmet measures about 90 decibels (dB) at 36 mph and about 110 dB at 96 mph. It is generally accepted that long term exposure to noise over 90 dB can cause gradual hearing loss and regular exposure of 110 dB or higher for more than one minute, can lead to

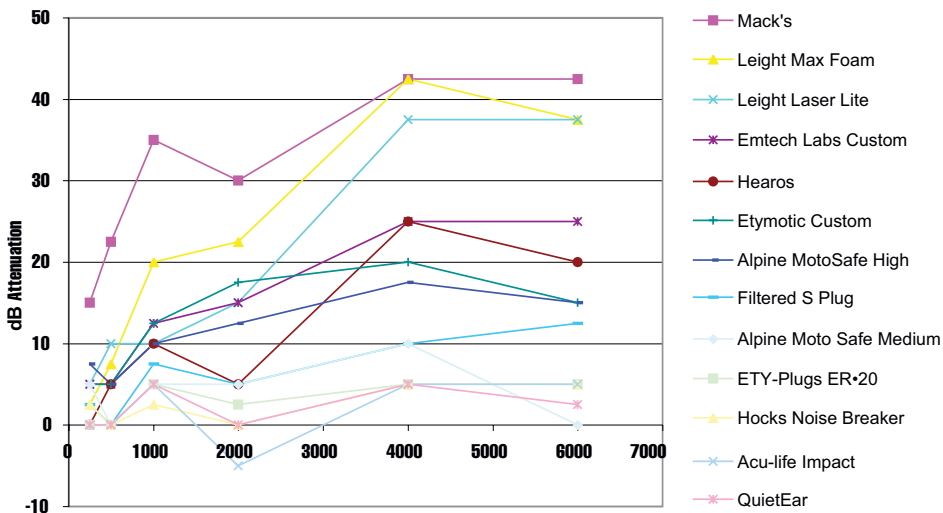
Noise Induced Hearing Loss (NIHL). The most effective way to avoid NIHL is to wear hearing protection. Ear plugs are the most practical form of ear protection for motorcyclists, ranging from the relatively inexpensive foam ear plugs to the more expensive custom-molded type.

An often heard criticism of "conventional" ear plugs is that they block out so much sound, that they make normal conversation difficult to hear. There is also the criticism from folks who use helmet-to-helmet communication systems and/or listen to music through helmet-mounted speakers while riding, that a significant amount of audio fidelity is lost to the sound attenuating characteristics of this type of ear plug. For these

folks, the use of musicians' ear plugs would seem to offer a reasonable compromise.

Standard foam and custom-made silicone ear plugs block sounds on an increasing level, with high notes (the high frequency sounds) being damped to a greater degree than low notes (low frequency sounds), musicians' ear plugs





damp (or attenuate) all sounds at a more even level. Stated another way, musicians' ear plugs are designed to filter all of the frequencies within the range of human hearing fairly evenly over the entire frequency spectrum. This provides the same sound perception as having no ear plugs at all, but at a reduced level of loudness.

MCN decided to compare a variety of commercially available ear plug styles and types in an attempt to help you find an "ideal" pair; whether you ride without headphones or if you are one who has headphones installed in his or her helmet for communication or music listening purposes. While it would be laborious to test every single brand and style, we selected a number of types that offer a reasonable representation of ear plugs that are currently available. It was next determined that a testing protocol needed to be established in an attempt to evaluate the characteristics of ear protection devices suitable for use while wearing a motorcycle helmet fitted with helmet speakers. For the objective test criteria—the level of sound attenuation offered by each protective device—we were fortunate to enlist the aid of the Audiology Department of the University of California Irvine Medical Center. This provided us with access to the University's hearing test laboratory as well as the consultation with two of the Department Heads.* The other objective aspect was the retail cost of the devices tested, taken from the price paid as well as an Internet search for other purchasing op-

tions. The subjective element of our test involved the level of comfort of each properly fitted ear plug when worn under a helmet equipped with headphones. To maintain parity, the same tester, helmet (Nolan N-103 modular) and motorcycle (2009 BMW F650GS fitted with an F800GS wind-screen) were used throughout the testing. While moving, the helmet was in clean, non-turbulent air.

Testing was carried out in the University's audiology testing booth. Our tester was subjected to a series of sound bursts of various frequencies ranging from 250–6000Hz in octave (doubling) steps. When sounds were heard by the test subject, a button was activated by the subject, which was ultimately represented by a plot point on a line graph.

What The Numbers Mean

The volume of sound is measured in decibels (dB). The greater the dB number, the louder the sound. To give you some perspective, here are the dB ratings of common sounds one might encounter:

- Normal conversation is rated at about 55 dB.
- Heavy traffic is rated at 90–100 dB.
- A rock concert or chainsaw is rated at 110–120 dB.

The tone or pitch of a sound is measured as a frequency, cycles per second (Hz). The range of human hearing is from about 20 Hz (a very low tone) to about 20,000 Hz (a very high tone).

What The Graph Shows

The test subject's baseline hearing ability was established by subjecting him to two sequential hearing tests, with the test numbers averaged and noted. Two hearing tests were then conducted with each set of ear plugs in place in the subject's ears. The resulting test numbers were subtracted from the baseline values and plotted on the graph to indicate the net value of each ear plug's ability to attenuate the volume of sound at each frequency tested. Comparatively, the higher the decibel value plotted on the graph, the greater the ear plug's ability to attenuate potentially harmful sound particularly at higher frequencies. The flatter curves are representative of the characteristics of the musicians' ear plugs. The zero line is the baseline, equal to the results of the test subject's unprotected hearing.

Road Testing

Each set was also evaluated in the test subject's ears under the helmet while riding and listening to music. Significantly, the tester's subjective evaluation of the relative sound attenuation and audio fidelity characteristics of each set of ear plugs correlated precisely with the laboratory testing results. During the multiple days over which this testing took place, each set of plugs was worn several times to compare with different sets for relative attenuation and fidelity characteristics. Each was worn for as long as could be comfortably tolerated—up to a maximum time of four hours or for as little as 15 minutes due to the onset of extreme discomfort.

Conclusions

The comfort/fit requirements of the individual user will determine which brand or type of ear plug is most suitable for motorcycling, but there are some clear winners here. If your riding sessions last several hours at a time and you don't wear headphones or are willing to sacrifice some level of audio fidelity, the Leight Laser Lite, Hearos, and the Leight Max Foam are a cut above the rest of the ear plugs tested here. A significant benefit of all of them is their relative effectiveness and comfort while also being inexpensive, disposable foam plugs. The most expensive brand among the four only costs \$1.25 a pair, making a serious case against the idea of shelling out big money for the more expensive, custom-fit, reusable plugs.

Of the silicone-based ear plugs we tested, the Alpine MotoSafe Professional Driver's Ear Plugs seem to demonstrate a reasonable compromise between noise attenuation, audio fidelity, cost (\$24.95–\$25.95/pair), quality, and comfort. The rest suffer either because of limited noise attenuation characteristics or a lack of comfort when worn with a helmet containing integral speakers. We would not consider them to be suitable under the conditions contained in this comparison.

* Jeff A. Carroll, Ph.D. Director of Tinnitus Center & Alicia R. Traktman, Au.D. Director of Audiology, Univ. of California at Irvine Medical Center.

NUMERICAL SCORES AND COMPARATIVE RANKING TABLE

	RANKING ACCORDING TO NUMERICAL SCORES				TOTALS
	(Objective) Wind noise attenuation	(Objective) Acoustic fidelity	(Subjective) Comfort	(Objective) Cost/pr.	
Leight Laser Lite	11	3	11	12	37
Hearos	9	5	12	10	36
Leight Max Foam	12	2	10	11	35
Mack's	13	1	9	9	32
ETY-Plugs ER-20	4	10	6	6	26
QuietEar	1	13	4	8	26
Alpine MotoSafe High	7	7	7	4	25
Alpine MotoSafe Medium	5	9	7	4	25
Emtech Labs Custom	10	4	8	2	24
Filtered S	6	8	3	5	22
Hocks	3	11	1	7	22
Acu-Life Impact	2	12	1	7	22
Etymotic Custom	8	6	2	1	17

Acu-Life Impact \$10.18-\$11.95/pr

Noise Attenuation: ●○○○○
 Acoustic Fidelity: ●●○○○
 Comfort: ●○○○○
 Value: ●●○○○
 Overall: ●○○○○



Comment: Designed to allow harmless, low-level sounds to pass through to the ear while blocking loud, dangerous noises, when a sudden spike in sound level strikes the valve body inside these ear plugs, the acoustic valve closes instantly, preventing the dangerous sound waves from entering the ears. Comfortable because of their smaller diameter, they were less effective in blocking wind noise because they don't fit as tightly in the ear canal as some of the other ear plugs in this test.

Health Enterprises, Inc.,
 90 George Leven Dr; North Attleboro, MA 02760;
 800-633-4243; www.healthenterprises.com

Alpine MotoSafe \$24.95-\$25.95/pr

Noise Attenuation: ●●●○○
 Acoustic Fidelity: ●●○○○
 Comfort: ●●●○○
 Value: ●●●○○
 Overall: ●●●○○



Comment: Alpine's MotoSafe Natural Sound Professional Driver's Ear Plugs are claimed to be the top-selling ear plug line in the European Union. Not intended to be a musician's ear plug, they reduce volume of sound evenly across all audible frequencies. They come with two pairs of interchangeable sound filters for high (yellow, shown) and medium (green) levels of noise attenuation. The yellow filters attenuate sound almost as well as the Custom Molded Musician's Ear Plugs for considerably less cost and with more comfort.

Available at www.earplugsuperstore.com; 918-478-5500

Emtech Custom \$60-\$100/pr

Noise Attenuation: ●●●●○
 Acoustic Fidelity: ●○○○○
 Comfort: ●●○○○
 Value: ●○○○○
 Overall: ●○○○○



Comment: Designed for insertion into the ear canal and filling of the Concha and the External Auditory Meatus of the outer ear, these ear plugs did a reasonable job of attenuating wind noise. Sound attenuation is not as great as with properly sized and fitted foam ear plugs. The helmet headphones pressed against the exterior of the outer ear's Tragus, which pressed against the external portion of the ear plug to create noticeable discomfort after 1 1/2 hours of wear time.

Emtech Laboratories, Inc.,
 PO Box 12900; Roanoke, VA 24022; 540-265-9156;
www.emtech-labs.com

Etymotic Custom \$150-\$200/pr

Noise Attenuation: ●●●○○
 Acoustic Fidelity: ●●○○○
 Comfort: ○○○○○
 Value: ●○○○○
 Overall: ●○○○○



Comment: Custom molded to our tester's ear canals, these should've been among the best of the musician's ear plugs tested. However, comfort was seriously compromised by the size and placement of the noise filtering mechanism, just beneath the Tragus of the outer ear, placing pressure of the helmet speakers against the outer ear. It only took 15 minutes of riding time for our tester to experience a level of pain that required their immediate removal.

Etymotic Research, Inc., 61 Martin Lane;
 Elk Grove Village, IL 60007; 888-389-6684;
www.etymotic.com

ETY-Plugs \$10.95-\$12.00/pr

Noise Attenuation: ●●○○○
 Acoustic Fidelity: ●●●●○
 Comfort: ●●○○○
 Value: ●●●○○
 Overall: ●●●○○



Comment: Etymotic Research's ER•20 uses a "unique acoustic construction," which results in almost equal sound reduction (20dB) at all frequencies. Music and speech stay clear, just quieter, like turning down the volume. They offer slightly less wind noise attenuation than the Filtered S Plugs but with similar listening fidelity. The presence of a hard plastic filter shaft creates discomfort after 1 1/2 hours when worn in combination with helmet speakers.

Etymotic Research, Inc., 61 Martin Lane; Elk Grove Village, IL 60007; 888-389-6684; www.etymotic.com

Filtered S \$39.95/pr

Noise Attenuation: ●●○○○
 Acoustic Fidelity: ●●●●○
 Comfort: ●●○○○
 Value: ●●○○○
 Overall: ●●○○○



Comment: Filtered S plugs are claimed by the manufacturer to reduce wind noise, allow better audio reception and be comfortable enough to sleep in. Their patented flexible ear tip is said to conform to the S bend in the ear canal for a comfortable fit. These do a better job of blocking wind noise and providing audio fidelity than the Alpine Ear Plugs with High filters. The trade-off is a greater level of discomfort after 1-1/2 hours of use with helmet mounted head phones.

Plugup.com; 10265 NW 56th St.; Doral, FL 33178; 305-477-2333; www.plugup.com

Hearos**\$.50/pr****Noise Attenuation:** ●●●○○**Acoustic Fidelity:** ●●●○○**Comfort:** ●●○○○**Value:** ●●●○○**Overall:** ●●●○○**RECOMMENDED**

Comment: Hearos Super Soft Ear Filters are a contoured ear plug made from an extra soft foam material. They were the most comfortable of the foam ear plugs tested over a prolonged period of continuous use. Their small diameter made them less effective at blocking wind noise than the Howard Leight Max Foam Ear Plugs. In addition, the absence of a flared top allowed them to be inserted so far into the ear canal that removal was sometimes difficult.

Available at www.earplugsuperstore.com; 918-478-5500; and also at major drug stores.

Hocks**\$13.45-\$17.95/pr****Noise Attenuation:** ●○○○○**Acoustic Fidelity:** ●●●○○**Comfort:** ●●○○○**Value:** ●●○○○**Overall:** ●●○○○

Comment: Hocks claims to reduce loud noises to 80-85 dB using the "Accelerated Resonant Decay Principle" whereby sonic energy is converted to thermal energy via compression acceleration. The filter consists of a series of progressively smaller orifices through which incoming sound must pass before reaching the ear drum. Overall attenuation is similar to the ETY Plugs, but a rigid sound filter and encasing stem made them uncomfortable after only one hour of wear time.

Hocks Hearing Healthcare Products; PO Box 6616; Portland, OR 97228; 800-654-6257; www.noisebreakers.com

Leight Laser Lite**\$.09/pr****Noise Attenuation:** ●●●○○**Acoustic Fidelity:** ●○○○○**Comfort:** ●●●○○**Value:** ●●●○○**Overall:** ●●●○○**BEST BUY**

Comment: The contoured T-shape of Howard Leight Laser Lite Foam Ear Plugs is said to provide a more comfortable fit for those with smaller sized ear canals. Although more comfortable than the Howard Leight Max Foam Ear Plugs because of their smaller diameter, they were less effective in blocking wind noise because they did not fit as tightly in the tester's ear canal. The Laser Lites might be more effective when used by those who find larger foam ear plugs uncomfortable.

Available at www.earplugsuperstore.com; 918-478-5500

Leight Max Foam**\$.12/pr****Noise Attenuation:** ●●●○○**Acoustic Fidelity:** ●○○○○**Comfort:** ●●●○○**Value:** ●●●○○**Overall:** ●●●○○**RECOMMENDED**

Comment: Howard Leight's contoured, bell-shaped Max Foam Ear Plugs are claimed to be "the world's most-used polyurethane foam earplugs." Their shape is designed for easy insertion, and it resists the tendency to back out of the ear canal. With the highest level NRR number of all ear plugs in this comparison, it was confirmed that attenuation of wind noise was the best of all those tested. In addition, they could be worn comfortably for rides lasting four hours or longer.

Available at www.earplugsuperstore.com; 918-478-5500

Mack's**\$1.25/pr****Noise Attenuation:** ●●●○○**Acoustic Fidelity:** ●○○○○**Comfort:** ●●○○○**Value:** ●●○○○**Overall:** ●●○○○

Comment: Made from moldable silicone, Mack's Pillow Soft Ear Plugs are designed to be rolled into a ball and hand molded to fit within concha of the outer ear, obstructing but not entering the ear canal. Sound attenuation was effective, but the feeling in the ear was distracting. In addition, although they can be remolded with the fingers for multiple uses, the amount of dirt that can be transferred to these ear plugs by the user's fingers, makes them visually and hygienically undesirable.

McKeon Products, Inc., 25460 Guenther; Warren, MI 48091; 586-427-7560; www.macksearplugs.com

QuietEar**\$3.95/pr****Noise Attenuation:** ●○○○○**Acoustic Fidelity:** ●●●○○**Comfort:** ●●○○○**Value:** ●●○○○**Overall:** ●●○○○

Comment: QuietEar's Reusable Variable Noise Reduction Ear Plugs claim to offer variable noise reduction (VNR) technology that lets you hear sounds in the voice frequency range while providing protection from dangerous higher frequencies and increased attenuation as the noise volume at the ear increases. They feature a precisely designed vent for acoustic filtering, but they had little effect on wind noise. In addition, they were uncomfortable when worn under the helmet, limiting wear time to no more than 1-1/2 hours.

Available at www.earplugsuperstore.com; 918-478-5500

COMPARISON



Top Box Options

Bare Bones or Bells and Whistles?

The reality of today's economy causes many of us to look closely at how our money is spent. While saving a buck makes sense, it often makes more sense to spend a bit more to ensure that your purchase will meet all of your needs and stand up to the abuse that motorcycle accessories must endure.

Being a frugal Yankee, I tend to lean toward no-frills choices rather than forking over more money for bells and whistles. When it came to buying my first piece of hard luggage, I considered several options. I was looking for a reasonably priced topbox that provides protection from both the elements and theft. The choices ranged from basic and inexpensive to full-featured, luxurious and pricey. Two top boxes that represent opposite ends of this spectrum are the Bestem T-box 2008 and the Coocase V36 Wizard Luxury Edition.

Bestem T-Box 2008—\$59.95

I first heard about the budget-minded Bestem

T-box 2008 while searching the archives of several Internet forums. The T-Box is a basic top box made of black ABS plastic. The inside of the box is unlined, which means that your cargo may be scuffed unless you provide some sort of padding. The interior measures 14 1/2 " x 11" x 11", which is large enough for a single full-faced helmet, but little else. The rim of the box has a double-wall construction that keeps water out, but there is no rubber gasket, which made me skeptical about my cargo remaining dry in bad weather. It was my tester's luck that an opportunity to test this capability presented itself on our way home from Americade. Thankfully, even without the benefit of a rubber gasket, the interior stayed dry after a good heavy rain. There was no need to simulate the effect with a garden hose.

The mounting system includes a black metal base plate and universal hardware that required about two hours to fit onto the SW Motech Alu-rack that had been previously mounted to our Kawasaki Z750S test mule.

The keyed latch is simple and easy to use and features a quick-release system for removing the box from the base plate. One complaint is that you can only open and close the box using the included key, which can be inconvenient. Also, even though the hinges seem sturdy enough, I wonder about their durability over the long haul.

The T-box has a built-in passenger backrest and a red lens whose function is for styling purposes only. If you are a budget-minded rider who is in the market for a basic top box, the Bestem 2008 is a good solution.

Coccase V36 Wizard Luxury Edition—\$249.00

Basic Edition—\$169.99

At the other end of the spectrum is the Coccase V36 Wizard Luxury provided by our friends at Twisted Throttle. At nearly \$200 more than the Bestem T-Box, the Coccase had to prove its worth to this frugal New Englander.

The top-of-the-line Coccase top case is a premium piece of hard luggage with a luxuriously textured plastic lid panel (which is also removable and can be paint-matched). The Coccase features solid construction, sturdy hinges and a quality latching system. The box has a 36-liter volume, measuring 17.5" x 16" x 12", which easily holds a full-faced helmet with space to spare for a pair of gloves and a rain jacket. The lid has two ratchet-type supports and a rubber gasket to ensure a waterproof seal.

The luxury version of the V36 includes premium features such as a cushioned interior liner to protect valuables from scuffs and damage. Also included are an electronics package that power a keyless entry and automatic locking system, a motion-sensitive alarm system and four small LED running/brake lights housed in the backside of the lid for extra conspicuity. When we say the Luxury model has bells and whistles, we mean literally.

The Coccase mounts directly to many OEM and aftermarket racks using the supplied plastic mounting plate. Fitting the Coccase to our Triumph-mounted SW Motech rack took a bit of customizing, but the quality hardware allowed a secure installation.

For those who want a quality top case, but aren't willing to shell out the bucks for the Luxury edition, a basic version of the case is



The Coccase (left) is larger, but there is enough space in the Bestem for a full-face helmet and other essentials.

available for \$80 less. The basic version offers waterproof storage, but without the electronics or padded liner.

Conclusion

Both boxes do the same job of storing a helmet and other essentials. The Coccase's interior liner, sophisticated electronics, sturdy mounting hardware, tight tolerances and overall quality promise a long and satisfying service life. The Bestem may not have the fancy features of the Coccase, but it is an attractive looking and useful case nonetheless.

If you're looking for an inexpensive topbox capable of carrying your stuff while keeping it secure and dry, you can't go wrong with the Bestem. The mounting hardware, hinges and latching system aren't as sophisticated and it isn't the most rugged unit, but the Bestem is a real value. However, if what you are looking for is a top box that is extra sturdy and pampers you with creature comforts, then look no further than the exquisite Coccase V36 Luxury.

—Ken Condon

Contact:

Bestem USA—
2189 Flintstone Dr., Suite D-E; Tucker, GA 30084;
678-534-1366; www.bestemusa.com

Twisted Throttle LLC—
1080 Kingstown Rd., Bld. 1; Peace Dale, RI 02879;
401-284-4200; www.twistedthrottle.com

COMPARISON

Portable Bead Breakers



Clockwise from upper left: BestRest Products TireIron BeadBrakR; Stop & Go International Tire Bead Breaker; Motion Pro Bead Popper; Tyrepliers.

*by Scott Rousseau
photos by Dave Searle*

Four tools that make quick work out of a tough job

Flat tires are no fun, and if you have a lot of motorcycling miles under your belt, then you have experienced one while on a ride. If you're one of those DIYers who is unafraid to roll up your sleeves and fix a flat or change a tire, then you also know that the most stressful part of the job is the effort required to "break the bead" or separate the outer edge of the sidewall from the inner edge of the tire. Whether you are a sport-touring rider who is on the side of the road miles from nowhere or a dual-sporter in the middle of the desert, having the ability to break the bead and patch an inner tube or a tubeless tire can mean the difference between motoring away to seek a more comprehensive repair or being stranded—that is, assuming you carry a portable air compressor (check out "12V Mini Pumps Battle!" and "Emergency Tire Inflation the Easy Way" on mcnews.com) or a CO2-style cartridge device to re-inflate the repaired tire.

One time-honored technique among the dual-sport crowd has been to use the foot of a riding buddy's sidestand as a bead breaker for

off-road tires, but tubeless tires such as those on GS-style adventure bikes or sport-tourers present an even greater challenge because of the bead's tight fit against the rim to keep everything airtight. Worse yet, the technique won't help a solo rider even if he or she should happen to have the luxury of a centerstand to facilitate wheel removal.

Enter these four handy tools that are designed to make easy work of breaking a bead. This quartet is ample proof of the old adage, "There's more than one way to skin a cat." The Stop & Go International Tire Bead Breaker and the Tyrepliers feature jaws activated via a screw that requires a wrench to engage; the Bead BrakR is a completely self-contained, single-jaw, lever-style breaker similar in concept to many of the stationary hand- or foot-operated breaker units found in motorcycle shops; and the Motion Pro Bead Popper is keep-it-simple basic, designed to break the bead with the aid of blunt force from a hammer or a rock.

We wanted to know which of these bead breakers is worthy of a spot in your toolpack, so

we tested them out on the tubeless rear wheel of BMW F650GS. While performance and ease of use are ultimately the chief criteria in this evaluation, we also rated them based on cost,

packing weight and size and the need for accessory tools to help them accomplish the task at hand. What we found was that all four will get the job done, but one is clearly superior.

Tyrepliers Price \$86.15

Dimensions: 6 1/2" W x 15" L x 1" H

Weight: 1.85 lbs. ●●●●○

Extra Tools Required: 17mm wrench

Portability: ●●●●●

Utility: ●●●●●

Value: ●●●●○

Overall ●●●●○

Comments: The Australian-made Tyrepliers weigh less than 2 lbs. complete with a handy canvas carrying pouch that will easily fit into the bottom of a saddlebag. They are designed to quickly and easily separate the bead from the rim with the aid of a 17mm wrench, which is not included. Breaking the bead is a simple matter of positioning the Tyrepliers so that the threaded portion of the tool is located inside the rim and then tightening the nut until sufficient clamping force is applied. The Tyrepliers made short work of our test subject's bead, and its light weight makes it easy to reposition on the rim if necessary. It can also be used with the wheel in an upright position. Its jaw opens to 6.75" which means



Tyrepliers cannot accommodate 8.00" cruiser rims commonly used with 240mm wide rear tires. Its only other design limitation is that it cannot be used with solid wheels. But for most wheels, the Tyrepliers are the right tool for the job.

Extreme Outback Products—
P.O. Box 3075, Vacaville, CA, 95696;
707-447-7711;
www.extremeoutback.com

Stop & Go Int'l Bead Breaker Price \$86.15

Dimensions: 6 3/4" W x 8 1/2" L x 1 3/4" H

Weight: 4.85 lbs. ●●●○●

Extra Tools Required: 3/4" wrench

Portability: ●●●○●

Utility: ●●●●●

Value: ●●●●○

Overall: ●●●○●

Comments: The Stop & Go International Bead Breaker operates on the same principle as the Tyrepliers, using massive jaws to clinch the tire toward the center of the rim and break the bead, but unlike the Tyrepliers, the Stop & Go is designed to go around the circumference of the tire rather than from inside the rim, making it useful on solid rims or rims with very little space between the spokes. The Stop & Go's jaws measure 5.75" wide, fully opened, which limits its use to tires no larger than 160mm wide. It requires a 3/4" wrench (not included) to turn the nut and initiate the bead breaking process. While the Stop & Go worked just fine on our 140/80-17 test tire, its cast-iron construction makes it cumbersome to use, and it's easy for the screw jack mechanism to fall out when there is no tension on it. The Stop & Go



is an effective bead breaker that could be a valuable tool in a shop environment, but its weight seriously hurts its portability rating, and it also has no carrying pouch.

Stop & Go International, Inc.—
3610 Thunderbird Ln., Crystal Lake, IL 60012-2089;
815-455-9080; www.stopngo.com

BestRest Tirelon Bead BreakR

Price \$150.00

Dimensions: 2 3/4" W x 8 1/2" L x 1.75" H

Weight: 2.25 lbs. ●●●●○

Extra Tools Required: None

Portability: ●●●●○

Utility: ●●○○○

Value: ●●○○○

Overall: ●●●○○

Comments: BestRest's lever-style Tirelon BeadBrakR is the most comprehensive and adjustable kit in this comparison. It's light, compact, comes in a handy nylon carrying case and requires no outside tools to perform its task. Included in the kit are a valve stem remover, three tire irons that can be used to separate the tire from the rim after the bead has been broken, a pair of plastic rim protectors, a 2 oz. bottle of Bead Goop rim lubricant for extra-stubborn beads, and a set of three wooden blocks to stabilize the tool and the rim. Once you get the hang of it, setting up the BeadBrakR is straightforward. Using the five locking pins in the kit, you fasten two of the irons into the elbow, slide the inner rim support into place and then pin the "boom" to the vertical tire iron, set the claw in one of the five available positions to gain the best leverage, pin the third tire iron to the tail of the boom to use as a handle, and you're all set. The BeadBrakR requires that the wheel be laid flat on the ground, and our F 650 test wheel needed something to keep the disc off the ground (the hub sticks out even further on the drive side), so we used 2x4s. Slop in the pins robbed us of



some leverage on the bead, and the wood blocks that fit in the elbow constantly needed to be reset. The Bead BrakR works as advertised, but it is more difficult to set up than the other units we tested, and it's much more expensive.

**BestRest Products—6908 220th St. SW,
Mountlake Terrace, WA 98043;
425-673-1023; www.bestrestproducts.com**

Stop & Go Int'l Bead Breaker

Price \$45.95

Dimensions: 2 3/4" W x 8 1/2" L x 1.75" H

Weight: 0.25 lbs. ●●●●○

Extra Tools Required: Hammer/rock

Portability: ●●●●○

Utility: ●●○○○

Value: ●●●●○

Overall: ●●●●○

Comments: Made in the USA of high-impact plastic, the Bead Popper weighs in at a feathery 4 oz., making it ideal for carry in a backpack or tool bag for off-roaders. Motion Pro also claims that it will not mar rims. The Bead Popper is designed to break the bead with the help of a forceful blow from a hammer or large rock, both of which could be in short supply at the critical moment they're needed. It can be used on any size motorcycle tire. The Bead Popper was effective on our test tire, but it did require considerably more effort than the other three units tested here. We had to make a few circuits around the tire to break the bead, and it also required that the wheel be laid flat on the ground in order to break the bead—not ideal in soft or uneven terrain.

**Motion Pro—867 American St., San Carlos, CA 94070;
650-594-9600; www.motionpro.com**



Motorcycle

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