Dyna Beads

INNOVATION OF THE MONTH

THE CONCEPT OF using a free-moving weight inside a tire to create balance is not new. To get a handle on the theory, consider that an imbalanced tire's heaviest spot basically creates an off-center axis of rotation—closer to the heavy spot—which causes the free weight to be thrown to the "greater distance" from the new axis. This happens automatically, we're assured, each time the tire moves from rest, and continues to adjust as the tire wears, unlike conventional balancing, which may be wrong after significant tread wear. Any additional free weight not needed for balance is simply distributed uniformly around the tire's internal circumference, they say.

Dyna Beads first found favor with long-haul truckers, who claimed to get longer tire life, a serious financial issue, as well as a smoother ride (but not a big deal when your rig rides on leaf springs with the flexibility of railroad track). We first found out about them from readers, who hoped we'd test the beads before plunking down their money. Consider this review MCN's obligation fulfilled.

Made of a heavy white ceramic material, the Dyna Beads are tiny, roughly 1mm in diameter, although the sizes vary, and are said to be much harder than either glass or stainless steel, so that they don't turn into powder in continuous use. We're told the product does not affect the action of tire pressure monitors, works as well in tubed tires as it does in tubeless and is chemically inert, causing no damage to alloy rims.

Most motorcycle tires are specified to use 2 oz. of the beads to replace conventional balance weights. We bought economy bulk packs for several installations but enough beads (4 oz. for $6.25), application bottle ($1.99) and the special valve cores (99¢ each) for one bike would cost just $10.22 plus shipping.

We measured them with a postal scale and then poured them through a funnel into the installation bottle. To get them into a tire, you position the valve stem at the bottom, remove the valve core, and using the installation tool's clear plastic hose, connect the bottle and valve stem. Small quantities of beads can then be poured into the stem, and tapping on the hose will get them all inside in less than five minutes. Note that rubber valve stems make the tapping much more effective and valve stems with a 90° bend may prevent installation. The special filtered valve cores prevent the beads from interfering with sealing, but are not absolutely necessary.

Do they work? We attempted both objective and subjective tests. We used a new Honda rear tire that carried 1.6 oz. of factory installed balance weight. Riding the bike on a smooth stretch of freeway at high speed before and after removal of the stock balance weights gave a noticeable subjective increase in vibration.

Pictured: Ziploc bag holding 2 oz. of Dyna Beads (quantity recommended for most motorcycle tires), installation bottle, connector hose, special filtered valve core and optional trick valve stem cap (allows pressure checks without removal).

The beads were installed with the tire mounted in a spin balancer. Prior to bead installation, the balance machine agreed with the factory's choice and location of weights. With the stock weights removed and the beads installed, the machine still called for the same amount and location of weight to achieve proper balance. The tire was spun up to speed five times and the results were always the same—the beads showed no effect.

Taking the bike out on the road, repeating the same stretch of freeway several times at speeds up to 85 mph, the beaded tire felt heavier, with a stronger sense of gyro stability, but was noticeably less smooth running than when factory balanced, but perhaps just slightly better than with the original weights removed.

As the quote at the end of doc flash's e-mails reads: "In theory, there is no difference between theory and practice, but in practice, there is." The theory is good, but the practice leaves something to be desired. Our advice: Go for a proper spin balance when you buy tires; it's more effective. *—Dave Searle*

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