

Is high MOI vital for irons?

High moment of inertia (the tendency for a clubhead to remain stable on off-center hits) has been a buzz phrase for drivers, but does high MOI play a role in irons as well?

"High," of course, is relative. Ping's old Eye2 irons, introduced in 1983, featured an above average MOI (about 2,600 grams-centimeters squared), and that number is only slightly below where the typical cavity-back iron is today. Says Benoit Vincent, TaylorMade's chief technical officer: "Unusual materials and shapes might produce an MOI of more than 2,800 in an iron, but in the end, what are the real benefits?"

Stability is good, but high MOI doesn't guarantee playability. "We don't try to maximize one variable at the expense of another," says Alan Hocknell, vice president for innovation and advanced design at Callaway. "For game-improvement irons, center-of-gravity location is our primary design goal. We won't compromise that for the sake of an extra 50 or 100 grams-centimeters squared MOI." Ping design engineer Brad Schweigert notes that a thinner face can help achieve a higher MOI (by redistributing the saved weight to the perimeter), but it also might mean hot spots that could hurt distance control. "Missing the green long is no better than missing it left or right," he says.

Some irons (Nike Sumo², the Nicklaus Polarity MTR and the Adams hybrid-like A3 OS) have moved near the 3,000 MOI range, but the challenge is to do so carefully. "If you increased MOI just by lengthening the blade," says Clay Long, designer of the Polarity, "you increase the slice bias, and that's not what you want from any club." m.s.



Sometimes high MOI is simple, sometimes it's more complex. Callaway's Big Bertha (1) [\$600 for 8 irons, steel shafts, callawaygolf.com] and Tour Edge's GeoMax (4) [\$500, touredgegolf.com] are single-material irons that have a higher MOI than their multimaterial brothers: the Callaway FT I-Brid [\$1,100] and the Exotics EX-3 [\$800]. One reason is a wider sole (more than 1½ inches on the GeoMax), which helps clubs such as the Nike SQ Sumo² [\$800, nikegolf.com] achieve a higher MOI. Another way to boost MOI is to stretch the heel-toe

weighting with extra hosel mass. An example of this is the Nicklaus Polarity MTR (2) [\$450, nicklaus-golf.com]. Finally, multimaterial designs can increase MOI with more subtle features. Cobra's S9 (3) has urethane inserts in the cavity and across the topline [\$700, cobragolf.com]. Nickent's 4DX Hybrid (5) features a titanium face, a wide sole and a graphite shell [\$800, nickentgolf.com]; and the Yonex Nanospeed i (6) mixes a thin maraging-steel face with tungsten heel and toe inserts [\$900, yonexusa.com].