Fixed Dumbbells as a Value Alternative To Urethane

by Tom Lincir

I can't say anything original, or probably even useful about the recession facing all of us today. For years we've heard the nit-wit business people, who have a peculiar (and meaningless) language all there own, tell us that we "have to do more with less." Except this time, it's a reality.

In previous issues of the NTFJ, I've discussed what makes a quality urethane dumbbell. In this economy, urethane can seem beyond the reach of many club owners looking to upgrade, replace, or expand their free weight offerings. Ivanko urethane is expensive. It's expensive because I don't compromise. Not on materials, not on productions methods, not on know-how.

You simply cannot make a quality product for dirt cheap. And if you want to cut prices, you usually have to cut quality. I was reminded of this fact when I came across a quotation from the film critic Ray Carney, who has done more than anyone to preserve the legacy of the avant-garde director John Cassavetes, whose film *Faces*, is a profound experiment in film-making. In commenting on a cheap, poorly produced box-set version of the Cassavates' work, Carney opined:

When someone's values are as commercialized and debased... when you don't take what you are doing seriously and don't treat it with real love and care—you wouldn't believe what people will do to save a few pennies or avoid a little extra work. A man who is in it strictly to make a profit is willing to do anything ...You see that everywhere. People are constantly cutting corners to save a nickel on something they don't believe in, then wasting a thousand times that amount on something that flatters their vanity and ego... The siren song of shoddiness and commercial compromise always beckons, always threatens to degrade everything exceptional. Doing anything valuable takes love and care. Nothing can replace them. And you can't pay people to care. They just have to care.

In the articles I've written here over the past ten years, I've tried the expose the practice of cutting corners, and help you resist "the siren song of shoddiness" that plagues a noticeable number of manufacturers. I've tried to educate gym owners and buyers on what constitutes quality equipment, the attributes to look for and what to avoid. As a result, you've made certain demands on my competitors, and at a recent trade show, I've seen steps toward meeting some of those demands in the form of improvements I've suggested almost ten years ago.

Even an apprentice-level welder learns than that welding two dissimilar metals (like stainless & cast-iron or steel) is iffy or tricky at best and dangerous at worst. Or even worse: welding a chrome-plated handle into a dumbbell head. As the weld melts the chrome, it contaminates the weld and weakens it. One well-known company has a warehouse full of broken heads to prove it. The correct way (if you believe in welding), is to "mask off" the ends of the handle before chrome plating, so there is no chrome near the weld to contaminate it. That's Welding 101. But why take a chance welding it? In my opinion, there's too much risk that way.

With a mechanical connection, like a fixed type dumbbell, you can safely combine dissimilar metals to give you the strongest and best connection and to allow for the correct steel for any particular application. For example: you could use heat-treated handles, stainless handles, hard-chromed handles, black oxide handles, or as we like to make them (and as I'm sure someone will soon "invent"): a hard chromed plating over stainless steel to give you a rust-resistant handle that is 75% the hardness of a diamond!

In "Value Based Purchasing" (NFTJ, Summer 2008), after examining, in depth, the various competing claims for why manufacturers claim to weld their dumbbells, I demonstrated that the only reason someone would weld parts together to make a dumbbell is because it's the cheapest way to do it. It stands to reason that if you make something the cheapest way, you should pass this savings on to your customer, or else the manufacturing is making too much profit right?

If welds are not the answer for fixed weight dumbbells, what is? Fixed dumbbells loosen not because of their basic design, but because of inferior component parts or incorrect assembly procedures. There are over a dozen key factors involved in the design and manufacture of perfect fixed weight dumbbells, several of which are Ivanko trade "secrets."

If any of these factors are overlooked, the dumbbell will not stay together. On the other hand, if a fixed dumbbell starts to loosen, you can take it off the floor before it becomes a liability risk. You will not have this same advance warning with welded dumbbells.

So if you want quality, but you can-

not or will not spend the money it takes to get a quality urethane dumbbell, I'd like you to consider an alternative: Ivanko fixed dumbbells in cast-iron and rubber. Nowadays, many manufacturers make fixed (aka "pro-style") dumbbells. Some of them even copy Ivanko's original designs. It's not a buyers fault if he unwittingly purchases an inferior look-alike product because he has in mind the old saw: "weight is weight." By discussing some of the critical factors in what constitutes a quality fixed dumbbell, I hope to help you make a more informed purchase.

VALUE: QUALITY OF COMPONENTS COMPRISE THE WHOLE

What are the qualities of a good fixed dumbbell? Careful, precise assembly and consistent tolerance of components that fit together tightly comprise a quality fixed dumbbell. It is essential that each component be the best. If you take short cuts on any one component, you've compromised the dumbbell as a whole. The main components of a fixed dumbbell are the handle and bolt, the plates, and the end plates.

HANDLES & BOLTS

Ivanko uses an imported one piece 30mm drop forged handle. Or for heavier duty applications, a 35mm handle, machined from a 2" dia. 1045 steel round, made in the USA. We can also make this handle from stainless or 4140 steel, depending upon the customers' needs.

For the bolt, we use a 5/8 national fine, 2 or 2-1/2" in length. We redesigned the bolt head to increase the strength and changed the hex socket to 3/8" from the standard 5/16" commonly used for this size, so we could increase the torque during assembly.

PLATES

The main thing here is to get consistent thickness and a precision hole to fit tightly over the bar. The end plate needs to be steel or ductile iron. When I started out back in the 60's, all the end plates were cast iron, and they all broke. The ductile cast iron end plate was an Ivanko original innovation. In the more than forty years we've been making fixed dumbbells, we've never had an end plate or bolt break.

ASSEMBLY

Making a trouble-free set of dumbbells requires them to be carefully and correctly assembled. The first step is that the handle holes and the bolts need to be absolutely clean. This is the most time consuming part of the assembly process, which is why no one else does it. It is also the most important step: all of the parts need to be soaked in solvent, wire brushed, and blown dry with an air nozzle. The parts need to be squeaky clean and dry: proper cleaning can easily take 2 or 3 hours to do right.

We then use a USA-made brand name thread locker at about $80+ per bottle, bought in bulk. Cheap, imported thread lockers do not work. This is a good example of "you get what you pay for." After the thread locker is applied, we torque the bolt to exactly 140 ft. pounds. The strength of the bolt and the larger hex socket allow us to torque the bolt this much.

PRINCIPAL REASONS WHY FIXED DUMBBELLS GET A BAD RAP

Fixed dumbbells have gotten a

bad rap largely by manufacturers that were more interested in taking short cuts, using inferior manufacturing methods and inferior materials, and maintaining their profit margins, than taking the time to do things right.

From our observations of other supplies of fixed-weight dumbbells, we have identified the major reasons they have product failures.

1) Assembly: not only are the bolts not torqued nor thread locker used, but the handles still have oil in the holes. The handles are never cleaned in the first place!

2) Oversized hole in handle: Every size of internal thread requires an exact hole size to allow 100% thread depth. This is called the "tap drill size." If you drill this hole oversized, it is much easier and faster to tap the threads in the hole. Of course, you then might have, say, 40% thread depth and a weak connection. This weak connection will loosen or fail. 90% of the dumbbell handles coming from China or Taiwan, that I have inspected, have this oversized hole.

3) Oversized hole in plate: The hole size should be a snug fit over the handle. If the fit is too sloppy, in time, the plate or plates will start rocking and pounding on the inside collar. As time goes on, the inside collar of the handle will pound through the plate.

4) Wrong grade of bolt: Sometimes we see a bolt that is too short, with course threads, or the wrong grade of bolt. The proper grade of steel, the proper length, and the proper number of threads per inch is something Ivanko has perfected over the last 40+ years of field testing. Any variation will surely be to the detriment of the product.

5) The Main Problem: you cannot verify the information I've told you after the dumbbell is assembled. You will only know it after the fixed dumbbells are in use, and then fall apart.

You have to trust your supplier and in most instances, this requires a leap of faith.

For more information on fixed rubber dumbbells, see previous issues:
"The Difference Between Good & Better" (Spring 2005). "Where Better Ideas Come From" (Summer 2002).

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Ivanko Barbell Company was founded by Tom Lincir in 1967 and is the most respected provider of professional and commercial grade barbell and dumbbell products worldwide. Your comments or questions are welcome. Contact Tom at tom@ivankobarbell.com or write to P.O. Box 1470, San Pedro, CA 90733 U.S.A. For product information and pricing, see our website ivankobarbell.com or call (310) 514-1155.