

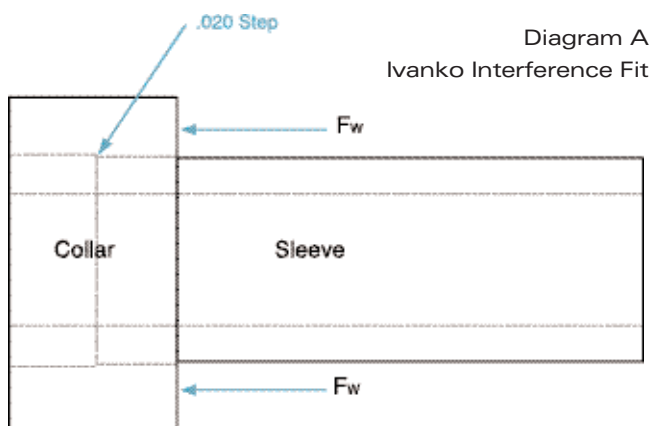
Doing The Right Things



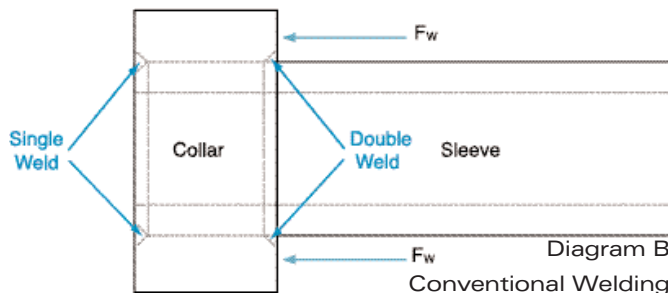
By Tom Lincir, President and Founder, Ivanko Barbell Company

When we discover a mistake or flaw in something with our name on it, we don't just hope that no one notices it, or try to cover it up with smokescreen words and pictures. We correct it. In our most recent article in National Fitness Trade Journal, we noticed that an important diagram had been omitted, and a critical table had some typos. So we've dedicated our precious space here to correcting those deficiencies.

The missing diagram pertained to the difference in methods of attaching the collar to the sleeve on Olympic bars — Ivanko's non-welded "interference fit" versus conventional welding. Diagram A, below was in the original article. It depicts Ivanko's interference fit with a .020" step that obstructs separation.



The missing diagram, Diagram B at the top of the next column, depicts conventional welding, both single welded and welded at both ends.



The following formula was used in computer simulations of the difference in pressure at the interface between collar and sleeve:

where:
$$P = \frac{E\delta}{R} \left[\frac{(r_o^2 - R^2)(R^2 - r_i^2)}{2R^2(r_o^2 - r_i^2)} \right]$$

P = interface pressure
 E = modulus of elasticity
 d = total radial interference
 R = transition radius
 Ro = outer radius
 Ri = inner radius

And here is the table that summarizes those differences (with the typos corrected):

	One End Welded	Both Ends Welded	Interference Fit No Step	Ivanko Interference Fit .020" Step
Load at Failure (lb)	21,600	51,500	63,000	139,000

The Ivanko interference fit is over 6.6 times stronger than single welding, and 2.7 times stronger than double welding.

Despite the few omissions and imperfections, we nevertheless received some gratifying comments from people who read the article (see below).

"Dad, I love the Kipling quotation below the evolution picture. It's really clever."

— Ivan

"Tom, The article does an excellent job of educating the masses on the finer points of Olympic bar construction, something that has been missing in the equipment industry for years."

— Osmo Kiiha, Editor Iron Master Magazine

"Tom, Great article! You are so-ooo smart and make it sound so simple!"

— Vicky Groskreutz (Chet's wife)

"Tom, Another reason why Ivanko equipment is considered among the best in the lifting world".

—Pete Alantz, President, Titan support systems, Inc.

"Tom, I'm so glad you left them to teach the Gorillas while you followed the March of Mankind."

— Rudyard Kipling, Poet

Ivanko Barbell Company was founded by Tom Lincir in 1967, and it is the leading provider of professional and commercial grade barbell and dumbbell products worldwide. Your comments or questions are welcome. Write Tom Lincir at Ivanko Barbell Company, P.O. Box 1470, San Pedro, CA U.S.A. 90733. Or phone (310) 514-1155, fax (310) 514-1363, or email tom@ivankobarbell.com.