Iron & Steel Preservation

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Greetings,

There is always a "steel man" familiarity whenever I step onto a steel fabrication floor -- the sounds of tools, hammers, wrenches, metal cutters, all familiar from my years as a steel fabricator. It is the sound of metal being wrought by the hands of craftsmen, shaped by contemporary tools of the 21st century, tools not much different than those used in the early 20th century -- except for one, the shop riveter. Riveting building and bridge assemblies rarely occurs today, replaced by a tension control bolting system and/or electric arc welding. However, for the Longfellow Bridge in Boston/Cambridge, shop riveting has been specified as part of the rehabilitation. Longfellow Bridge, Massachusetts Department of Transportation

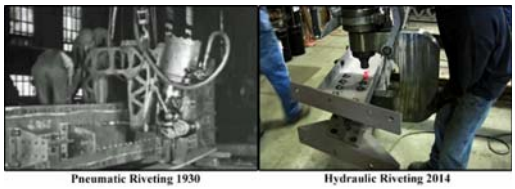
Thanks to Robert "Slider" Pellerin, Construction Manager for JF White-Skanska-Consigli, I had the opportunity to tour two steel fabrication shops involved in this work, replicating bridge members with a hydraulic riveter. Pellerin arranged with Patrick L. Blais (P.E. with JF White-Skanska-Consigli) for us to tour the shops where work is being done for the Longfellow Bridge Rehabilitation Project. Our first stop was at Atlantic Bridge & Engineering's fabrication shop in Candia, New Hampshire.

Stacked at one end of Atlantic's shop floor were the replicated vertical posts for the Longfellow Bridge, held together with temporary bolts for the first step in the shop riveting process. A gas forge was already fired up and ready to receive rivets to be heated to the required American Society for Testing Materials (ASTM) standard. A heated rivet is inserted in a prepared hole, and an Atlantic craftsman positions the hydraulic riveter over the rivet, the compressive force quickly forming the head. By the time the three-year rehabilitation work on the Longfellow Bridge is completed, over a hundred and fifty thousand shop rivets will have been driven at the two shops doing this work: Atlantic Bridge & Engineering and Cianbro Fabrication & Coatings.
Photos : Longfellow Bridge Rehabilitation Project

Shop riveting will be one of the themes at the 2015 Iron & Steel Preservation Workshop, featuring both the Longfellow Bridge Project and also research being done at Purdue University.

Vern Mesler
Iron & Steel Preservation Coordinator
Lansing Community College

Pneumatic and Hydraulic Riveters



Pneumatic Riveting 1930 Hydraulic Riveting 2014

[Pneumatic riveting "Make A Skyscraper-Empire State Bldg."] [Hydraulic riveting at Ballard Forge, Seattle, Washington]

Purdue University Research Project

Matt Hebdon, Purdue Ph.D. research assistant, conducts research on riveted girders. He will present at the 2015 Iron & Steel Preservation workshop on this subject.
Member-level redundancy of riveted built-up steel girders

Photos : Riveted built-up steel girders

ISP Stipends Available for Ohio Public Officials

The Ohio Historic Bridge Association (OHBA) is offering stipends to Ohio public officials at all levels to cover partial or whole registration costs for the Iron & Steel Preservation workshop (ISP). They are made possible through the generosity of the late Pauline Geiger Miller. Interested officials can apply by sending a letter of interest with contact information to David Simmons, president of the OHBA at dsimmons@ohiohistory.org. Deadline for receipt of applications is February 28. Successful applicants will be notified prior to the conference but will be expected to register themselves and will be reimbursed for the appropriate ISP registration fee.

Registration for 2015 ISP opens in January

Check out the January newsletter for registration details. Save the date: March 9-10, 2015. Presentations and hands-on demonstrations in iron and steel preservation will take place at Lansing Community College west campus, Lansing, Michigan.

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