

Ferrule Master & Stud Welding Cart System
The New Rule Products Method to Stud Welding

What is it?

The New Rule Products **Ferrule Master & Stud Welding Cart System** is one of the most innovative and ergonomically fitting tools the stud welding industry has ever seen. The 2-man stud-welding system improves the safety and efficiency of stud welding stud shear connectors in the field by reducing stress placed on the workers' body from over exertion, awkward postures, and repetitive movements, which are the 3 leading causes for musculoskeletal injuries and workers' compensation claims in construction. This innovative New Rule Stud Welding Cart System fits the job to the worker, not the worker to the job.

Where did it originate?

The entire New Rule Products method to dispense ferrules, dispense studs, and weld stud shear connectors from the upright position was designed and manufactured in St. Louis, Missouri. During the last 3 years of R&D, the stud welding cart system has been successfully used on many bridge projects in Illinois. The product will be announced and released to the general public in spring 2010.

What it has replaced:

Since stud welding was invented, ironworkers have been forced to haul their cumbersome equipment across their work surface and forced to bend, stoop, or kneel to gain proper access to their work surface and stud weld, usually at the ground level. In the stud-welding industry, ironworkers currently have no ergonomically favorable way to stud weld. They are forced to work in an ergonomically compromised position and sometimes forced to retire early due to work-related musculoskeletal injuries. The current, or traditional method forces ironworkers to manually place each ferrule by hand, and then manually place each stud next to the pre-placed ferrules on the deck by hand, in preparation for the second ironworker who must then manually grab each stud again, insert the stud into the gun, and then stud-weld from the bent position. Welding is done with the worker's face in close proximity to the weld fumes and flying molten weld berries, which can also be hazardous to their lungs.

Why is it Innovative? (Numbers in parenthesis refer to photos on attached picture page)

Ironworkers can now store their **New Rule Ferrule Packaging (1)** and almost any industry standard box of studs **(4)** on top of the highly mobile stud-welding cart, reducing the need to carry, pull or push heavy or cumbersome materials across the work surface. The innovative **Ferrule Master (3)** allows ironworkers to dispense ceramic ferrules from the upright and walking position, allowing up to 3 ferrules per second to be dispensed. **The Stud Welding Cart System** is a one of a kind moveable cart that allows ironworkers to instantly load the **Ferrule Master** with 63 ferrules **(2)**, place studs into the stud chute **(5)**, pick studs with the stud gun extension **(6)**, and weld studs from the upright position **(7)**; thus reducing stress placed on the back, neck, arms, and legs of the ironworker from working in the awkward, bent position.

The innovative **moveable arm & stud gun extension**, by design, are perfectly perpendicular to the work surface **(6)** in order to ensure 90 degree welds. The entire cart incorporates mechanical technology, tool balancers **(9)**, and basic principles in ergonomics to maximize the ease of picking studs from the stud catcher and welding studs from the upright position **(7)**. The stud gun is designed with 2 adjustable ergonomic handles molded to fit the hand of almost any worker **(9)**. The ergonomic hand-molded handles are also each wired with a trigger to dictate when the stud is welded by pulling both triggers in unison. Our handle design allows the worker to use both arms equally, thus reducing the weight displacement placed on one part of the arm or body for extended periods. The ironworker, who is welding, can easily pick a pre-loaded stud, orientate the stud, and weld consistently as long as the second ironworker is moving the cart, dispensing ferrules and loading studs **(7, 8, 10)**. The stud welding cart system moves effortlessly over flat or corrugated metal decking. Once welding begins, 2 ironworkers can easily switch between the 2 tasks of welding studs and managing the stud cart, in order to reduce repetitive movements in one day. Our entire stud welding cart system allows for 2 ironworkers to move in tandem up and down the work surface dispensing ferrules, loading studs, and welding studs as needed, on location from the standing position **(8)**. Ironworkers no longer have to manually pre-place hundreds, or even thousands, of ferrules and studs from the bent position before welding can begin. With the New Rule Products Stud Welding Cart System, welding can begin immediately after the deck has been prepared.

The entire stud welding cart system increases safety, increases efficiency, increases quality assurance*, decreases insurance costs for contractors, reduces stud knock-offs*, reduces repair costs**, and reduces the overall in-place cost of stud welding for the contractor because ironworkers can weld up to 75% more studs in one work day. It is the safest, most efficient stud welding system that we are aware of, in the entire world.

At New Rule Products, "We *Stand For Safer, More Efficient Stud Welding*" ®

*The Stud Welding Cartsystem has an optional Time, Current, Lift, Plunge Analyzer on-board computer system that provides real-time scientific analysis for engineers. This system prevents potentially faulty welds from being welded and thus, reduces, stud knock-offs.

**The Stud Welding Cart System is designed to weld within the duty cycle of the equipment, which will reduce the repair costs of equipment pushed beyond the limit of the duty cycle.

Ferrule Master
Ferrule Dispensing & Packaging

1

2

3

"We Stand For Safer, More Efficient Stud Welding"®

4

Stud Chute & Catcher
(Stud Shear Connector Dispensing)

5

6

Stud Welding Cart
Stud Welding and Cart Mobility

7

8

9

10

~~Traditional Method~~