

# NEWS RELEASE

## Ryerson Tull Processing's New Multi-Blanking Line

Marshalltown, IA – Ryerson Tull Coil Processing has installed a high-speed precision multi-blanking line with embossing capability at its expanded Marshalltown, IA facility. The Multi-Blanking Line, designed and manufactured by Braner/Loopco, Schiller Park, IL, is capable of producing precision tolerance cold rolled, galvanized, and pre-painted embossed steel blanks and sheets ranging in size from 8" wide x 12" long, to 74" wide x 192" long. The line has the ability to process coils weighing up to 50,000#, with a gauge range from .014" through .050". Line operating modes include high-speed sheeting, side trimming, and multi-blanking up to five (5) finished blanks at speeds up to 300 FPM.



*Embossing, Leveling, and Slitting*

### **Embosser:**

A 250-ton embosser is installed at the entry end of the line to impress a modified stucco pattern into .028" thick x 74" wide strip. The embosser is equipped with 24" diameter engraved work rolls positioned by a pair of adjustable pressure hydraulic cylinders and driven by a variable speed DC drive. The embosser is mounted on a special base that allows it to be "injected" into line when embossed parts are produced.

### **Leveler:**

The Ryerson Tull Coil Processing line is equipped with a "Cassette" type roller leveler equipped with a 1.500" x 17 roll x 5-hi cassette capable of producing panel flat sheets by removing strip shape defects such as wavy edge and center buckle. The Cassette Leveler is designed to utilize multiple interchangeable work roll "cassettes" for leveling a wide variety of gauges and products.

The capacity of a roller leveler is determined by its work roll size and roll centers, and the product that can be processed by a leveler is determined by its back-up roll arrangement. Logically, large diameter work rolls are

utilized for leveling heavier gauges while small work rolls are used for leveling lighter gauges. Typically, a given work roll size will correct within a gauge range of approximately 4x. Above and below that gauge range the leveler will have limited ability to completely eliminate strip shape defects. Leveler back-up rolls are arranged in 4, 5, and 6-hi configurations, with each configuration having benefits and drawbacks. A properly sized 4-hi leveler will do a fine leveling job, is the least costly, but "tiger striping" surface sensitive materials can be troublesome. A 5-hi configuration levels as well as a 4-hi and has the benefit of eliminating tiger stripes on the top of the sheet. A 6-hi will eliminate tiger striping on the top and bottom, but cannot shape correct as well as a 4-hi or 5-hi. The "conventional" leveler is equipped with a "fixed" non-changeable work roll size and a fixed back-up roll arrangement. This design limits conventional levelers to a narrow gauge and product range. A Cassette Leveler, by comparison, can be equipped with multiple interchangeable cassettes, each with a different work roll size and back-up arrangement. For example, although the leveler included in the Ryerson Tull multi-blanking line is currently equipped with a 1.500" x 5-hi cassette, the leveler is capable of accommodating future cassettes that range in size from 1.156"



*Servo Feed and High Speed Shear*

to 1.750" in 4, 5, and 6-hi back-up arrangements. Various size cassettes can be added in the future, allowing Ryerson Tull to respond to customer demands and business opportunities as they may arise.

The Ryerson Tull Cassette Leveler is equipped with computerized roll positioning controls, a tool that minimizes the black-art of leveler set-up. The gauge and strength of the material is entered via keypad, causing the leveler to automatically adjust to a prescribed entry and exit roll gap. Another command adjusts the leveler for center buckle and wavy edge. Manual overrides allow the operator to make entry and exit roll gap and roll bend adjustments on the fly. Job numbers can be assigned to final

leveler set-up parameters for future recall from the computer memory the next time that particular job is processed, minimizing leveler set-up and adjustment time as well as minimizing scrap.



*Exit End View*

### **Programmable Multi-Blank Slitter:**

The multi-blank slitter included in the Ryerson Tull multi-blanking line allows the simultaneous production of up to five (5) finished blanks plus edge trim. A computer calculates the slitter set-up, and then automatically positions the slitter knives to produce the various blank widths required. Manual positioning of the slitter knives for each slit blank width is completely eliminated. The *"Programmable Slitter"* contains multiple slitter tooling *"heads"*, with each head equipped with upper and lower slitter knives and strippers. The slitter heads are *automatically positioned* by a motorized precision ball screw assembly and digital encoder according to parameters established by the operator and the host computer. The operator simply enters the width of each blank into the controller keypad, and the heads are automatically unlocked, moved into position, and locked into place on a rigid base. Because the Programmable Slitter's slitter heads are synchronized with the constant leveler speed, not the cyclic start-stop feeder, the slit edges are consistent and shock load related equipment wear is eliminated.

### **Electronic Servo Feed:**

The *"Precision Electronic Servo Feed"* produces single sheets and multi-blanks to precise tolerances at high cyclic rates. The Servo Feed system utilizes high traction non-marking feed rolls to feed and meter the strips from the free loop into the shear. Low inertia feed rolls are accelerated, decelerated, and positioned by a precision electronic servo drive. Adjustable acceleration and deceleration rates allow for the processing of a wide variety of parts and sizes. Utilizing advanced computer-micro-

processor motion control electronics, the Precision Servo Feed is user friendly, allows for quick keypad set-up, offers exceptional reliability, requires minimal maintenance, and is capable of metering feed lengths to precision tolerances. Because the Precision Servo Feed moves in only one direction, forward, it is capable of extremely high cyclic rates under low acceleration conditions. Servo feeds compare favorably with mechanical positive stop *"reciprocating feeds"* that require violent acceleration-deceleration rates in order to compensate for time lost traveling backwards for another bite. Smooth controlled acceleration allows the strip to be fed, without slippage, with minimal feed roll pressure reducing the possibility of strip marking related to excessive gripping force. Violent acceleration induced shock loads that lead to excessive and costly maintenance and repairs are eliminated.

### **High Speed Shear:**

The Shear is a high cyclic rate mechanical *"bow-tie"* blade guillotine type powered by a variable speed DC motor driving a flywheel through a clutch-brake. When cutting short parts, the variable speed motor drives the crank shaft non-stop, producing a cycle rate up to 100 pieces/minute. In this mode, the clutch/brake is locked-up with the shear drive synchronized with the Electronic Servo Feed cycle. Longer lengths are produced in the intermittent clutch-brake mode at cyclic rates to 60 strokes/minute.



*Solid Block Multi-Blank Packs*

The versatile *"Cassette Leveler"* with its automatic roll positioning and job set-up memory, the *"Programmable Slitter"* with its full automatic slitter head positioning, the reliable high cyclic rate precision *"Electronic Servo Feed"*, and the high speed *"DC Shear"*, integrated with operator friendly controls combine to make the Ryerson Tull Multi-Blanking line the true *"state-of-the-art"* in high production precision multi-blanking line technology.



Braner USA, Inc., 9301 W. Bernice St., Schiller Park, IL 60176  
Phone: (847) 671-6210 Fax: (847) 671-0537  
[www.braner.com](http://www.braner.com)



1107 East Main  
Marshalltown, IA 50158