

# NEWS RELEASE

## Macsteel Service Centers USA Installs Multi-Blanking Line

Greenville, SC – Macsteel Service Centers USA has installed a high-performance Braner/Loopco “Cassette” Leveler Servo Feed Cut-to-Length/Multi-Blanking Line in its Greenville, SC metal distribution facility. The new line converts 60,000# x 72” wide carbon steel, stainless, and aluminum coil in gauges from .019” through .250” into laser quality close-tolerance flat sheets and precision blanks. Macsteel’s new Multi-Blanking Line is equipped with a Computer Controlled Hydraulic Cassette Leveler, Precision AC Servo-Feed, and a variable speed DC Shear capable of producing close-tolerance parts at production rates exceeding 80-strokes/minute.



60,000# x 72” x .250”/.019” Hi-Performance Cassette Leveler-Servo-Feed-DC Shear CTL/Multi-Blank Line



Entry Table efficiently threads coils from the Uncoiler into the Cassette Leveler. Pushbutton adjusted Side Guides present the strip on the Leveler centerline. A Hydraulic Guillotine Shear crops heads and tails from the master coil and deposits the scrap into a Scrap Cart

**Hydraulic Cassette Leveler:** A “Cassette” Leveler allows Macsteel to produce panel-flat laser quality parts throughout a wide gauge and product range. Microprocessor controlled hydraulic work roll positioning cylinders are housed within the massive 4-post Leveler frame into which quick-change Cassettes are installed. The exchangeable Cassettes contain all the working Leveler parts...work rolls, back-up flights, and universal drive shafts, in a common Cassette housing. Cassettes are powered in and out of the Leveler frame by pushbutton. Cassette back-up flights are automatically aligned with the hydraulic back-up cylinders, and the work roll drive shafts are automatically engaged with the Leveler gear drive as the Cassette is installed. A microprocessor control automatically accomplishes initial Leveler set-up based upon operator entered coil mechanical properties. The Braner/Loopco Cassette Leveler employs hydraulic cylinders rather than motors, gear reducers, sliding wedges, and jack screws to accomplish Leveler adjustments. Hydraulic cylinders installed at the entry and exit ends of each back-up flight are independently adjustable. Precision electronic linear transducers are utilized for cylinder positioning. Adjusting the entry end and exit end cylinder elevations causes the work rolls to be “tilted” front-to-back for coil-set correction. Adjusting cylinder elevations from side-to-side accomplishes “roll-bend” for precise edge-wave and center-buckle shape correction. Hydraulic Leveler ben-

efits include: Elimination of mechanical screw-wedge maintenance; Automatic Leveler set-up; Order set-up parameters from computer memory; and Automatic Leveler calibration.



Precision Microprocessor Controlled Hydraulic Cassette Leveler

Macsteel’s Hydraulic Cassette Leveler employs a 3.000” x 17-roll x 5-Hi Cassette for leveling .250”-.060” gauges, and a 1.500” x 17-roll x 5-Hi Cassette for .075”-.019” gauges. 5-Hi Cassettes allow Macsteel to corrective level surface critical cold rolled carbon steel, stainless, and aluminum coil to laser quality flatness. Cassettes are stored on a 2-Cassette Injector Car that indexes and exchanges Cassettes in about 2-minutes. A Power Cassette Maintenance Opener “opens” a Cassette like a book to expose work rolls, back-up bearings, and universals for periodic cleaning and maintenance.



1.500” x 17-Roll x 7-Adjustable Flight x 5-Hi Cassette Produces Laser Quality Flat Strip



Macsteel’s Cassette Leveler is equipped with 3.000” x 5-Hi and 1.500” x 5-Hi Cassettes that exchange in 2-minutes. A Cassette not in use is stored on a Power Injector Car equipped with a Power Cassette Opener that opens the Cassette like a book for quick and easy maintenance

**Pushbutton Tooling Lock Turret Head™ Slitter:** Precision multi-blank slitting to 0.002” tolerance is accomplished by a quick-change pushbutton tooling lock-up 2-head Turret Head™ Slitter. Tooling set-ups are made in 15-minutes while the line is running, which virtually eliminates lost production down-time related to slitter re-tooling. Slitter head change time is 2-minutes. Reliability is “bullet-proof”.



*Turret Head™ Slitter set-ups are accomplished while the line is running, eliminating set-up down-time. The Turret Head™ is simply withdrawn from the line when producing full width sheets.*

**Precision Electronic Servo-Feed:** Macsteel's Multi-Blanking Line employs a reliable high-cyclic rate precision AC servo to feed and meter strip to precise tolerances. The Servo-Feed draws the leveled strip from a free-loop and feeds the strip through the Shear to a pre-set length. Part length is precisely metered by an electronic encoder while a microprocessor automatically establishes ideal acceleration/deceleration rates. Length and batch count are easily entered into the digital operating system. Servo Feeds compare favorably to "reciprocating mechanical hitch feeds" in productivity and reliability. Grabbing, releasing, sliding backwards, and re-grabbing consumes the majority of a reciprocating hitch feed's cycle time. By comparison Servo-Feeds drive one-way and have few moving parts that fail or require repair and replacement. The Servo-Feed's quick rotary operation, low acceleration/deceleration shock load, few moving parts with an absence of chains, screws, clamps, and related mechanical parts results in consistent close-tolerance accuracy, low operating cost, and "bullet-proof" reliability.



*In addition to the Servo-Feed's quick cycle rate, it employs an instantaneous "pull-back" sequence that pulls the strip away from the Shear blade during the shear cycle. The pull-back sequence is an important feature for preventing shear blade scuffing*

**Hi-Performance Variable Speed Shear:** A massive top driven variable speed DC motor driven Shear is employed for part cut-off. The high-performance Shear is capable of producing pattern length sheets in a 60-stroke/minute "clutch-brake" mode, and shorter multi-



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blank parts in an 80+ stroke/minute non-stop "continuous-stroke" mode. Synchronized with the Servo-Feed, the continuous non-stop shear cycle offers unrivaled productivity performance. When the Shear runs in the continuous-stroke mode, the DC motor driven crankshaft runs non-stop, synchronized with the Servo-Feed. The pull-back and feed sequence begins as soon as the upper shear blade severs the strip on its down stroke. The instant sequence allows the strip to be fed forward while the Shear ram is traveling up. The feed sequence continues well past Shear top dead center and stops when the shear blade approaches the strip on the down stroke. The simultaneous Servo Feed-DC Shear cycle expands the feed forward time window and results in a production rate much higher than a conventional start-stop feed-shear mode.



*Massive Hi-Performance Continuous-Stroke DC Bow-Tie Shear Offers Unrivaled Production Performance*

**Programmable Multi-Blank Stacker:** The Multi-Blank Stacker features full automatic set-up via microprocessor controlled AC servo motors. The automatically positioned multi-blank blank dividers produce "solid-block" straight-sided single sheet and multi-blank packs. A pushbutton energized part reject system kicks-out sheets and blanks that do not meet Macsteel's quality standards.



*Heavy pallets used for pattern size sheets are power injected into the Stacker. Automatic pallet centering is accomplished by a PLC with key pad pallet size input.*

Precise tolerance panel flat parts, solid-block sheet packs, hi-performance, plus *bullet-proof reliability* made the Macsteel's choice of a Braner/Loopco Cassette Leveler-Servo Feed Cut-to-Length/Multi-Blanking Line a "no-brainer".

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