

# NEWS RELEASE

## JFE Shoji Installs Cassette Leveler/Servo Feed CTL

Tijuana, Mexico – JFE Shoji Steel America, a distributor and processor of close-tolerance carbon steel strip has installed a Braner/Loopco Cassette Leveler/Servo-Feed Cut-to-Length Line in its Tijuana Mexico facility. The new precision Cut-to-Length/Blanking Line converts 20-ton x 60" wide surface-critical coated and bare carbon steel coil in gauges from .016" through .125" into precise length panel flat sheets and side-trimmed blanks. Equipped with a Stub Arbor Side Trimmer, computer controlled Hydraulic Cassette Leveler, a Precision AC Servo-Feed, and a Hi-Speed Hydraulic Shear, the new CTL Line generates precise sheets and blanks at production rates to 50+ PPM.



60" x .125"/.016" Cassette Leveler/Servo Feed CTL/Blanking Line

**Top-Bottom Pay-Off Entry Section:** Master coils are transported and loaded onto the CTL Line via Floor Level Coil Car. The Coil Car is equipped with adjustable coil stabilizers to handle narrow width coils and a hydraulic "snubber" roll that assists bottom coil threading. The Uncoiler can unwind the coil from the top or bottom to generate sheets/blanks with a coated side up or down. A Telescoping Blade Peeler and Non-Marking Pinch Rolls quickly threads the coil into an Entry Shear where heads and tails can be removed and coils "split" for re-stocking.



Entry Section allows coils to be unwound from top or bottom

**Side Trimming:** A Side Trimmer is installed after the Entry Section and ahead of the Cassette Leveler to generate precision width blanks. The Trimmer is equipped with rotary cutters mounted on DC motor driven stub arbor housings. The stub arbor housings are pushbutton positioned for precise strip width adjustment. Vertical and horizontal knife clearances are adjustable for processing a gauge range from .016" through .125".

**Computer Controlled Hydraulic "Cassette Leveler":** A massive 4-post "Cassette" type corrective Leveler equipped with interchangeable Cassettes delivers panel-flat surface-critical sheets and blanks throughout the entire .016" - .125" gauge range. A 1.250" x 17-Roll x 7-Adjustable Flight x 5-Hi Cassette levels gauges from .016" through .062". A 1.750" x 17-Roll x 7-Adjustable Flight x 5-Hi Cassette is employed for leveling gauges from .028" through .125". A Cassette can be ejected from the 4-Post Leveler Frame and replaced with another Cassette via pushbutton in just a few minutes. Benefits of the Cassette Leveler include a wide gauge and product range, simplified work roll, back-up, and universal shaft maintenance.



Stub-Arbor Side Trimmer generates precision width strip nance, and improved "up-time" because roll cleaning & maintenance is accomplished while the Leveler remains in operation with another Cassette.



Cassette Leveler employs multiple Cassettes for processing a .016"-.125" gauge range



1.250" x 17-Roll x 5-Hi Cassette Leveling .018" Side-Trimmed Electro Galvanized Coil

**Hydraulic Leveler Roll Positioning:** The JFE Shoji Cassette Leveler employs hydraulic cylinders rather than mechanical screws and sliding wedges to position its work rolls. Hydraulic cylinders mounted in the 4-post Leveler frame mate with the entry and exit ends of each Cassette back-up flight. All hydraulic cylinders employ precision electronic linear transducers to precisely position the entry



View inside a 4-Post Cassette Leveler Frame shows linear transducer controlled hydraulic cylinders that adjust Cassette back-up flights

and exit ends of each back-up flight. Work rolls are tilted front-to-back to eliminate coil-set by adjusting the entry and exit cylinder elevations. Adjusting cylinder elevations across the width of the Leveler accomplishes "work roll bending" for center-buckle and wavy-edge shape correction. Independent back-up flight adjustments front-to-back as well as side-to-side allows the hydraulic leveler to perform more precise shape correction than old mechanical leveler technology.



Hydraulic Cassette Leveler Operator Set-Up Console Display

**Precision Electronic Servo-Feed:** Two-sets of widely spaced roller side guides center the strip into the Servo Feed. The guides assure the strip is square with the Servo Feed in order to maintain precise diagonal blank tolerances. A high-traction non-marking Servo-Feed powered by a precision microprocessor controlled AC servo motor feeds and measures the surface-critical strip to precise length tolerances. The Servo-Feed draws the leveled strip from the free-loop and feeds a pre-set length through the Shear. Part lengths are precisely measured by a digital encoder, while a microprocessor automatically establishes ideal acceleration/deceleration rates. Part length and batch count are key pad entered into the digital operating system. Servo Feeds compare favorably to "reciprocating mechanical feeders" in productivity and reliability. A reciprocating mechanical feeder grabs the strip, shoves forward to a positive stop, engages holding clamps, shoves the reciprocating clamp backwards, grabs again and releases the holding clamp before starting another feed cycle. Grabbing, releasing, sliding backwards, and re-grabbing consumes the majority of a reciprocating feeder cycle time. By comparison a Servo-Feed simply rotates feed rolls in one direction. The need to make multiple reciprocating feed cycles further diminishes a reciprocating mechanical feeder's productivity when producing long sheets. The Servo-Feed's non-reciprocating operation, low acceleration/deceleration rate, few moving parts, and a total absence of chains, length adjust screws, shock absorbers, limit switches, valves, pumps, slides, clamps, & hydraulic hoses gives it consistent accuracy and "bullet-proof" reliability.



Precision Electronic AC Servo-Feed Processing Surface-Critical Strip

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**Hi-Speed Shear:** The JFE Shoji CTL Line employs a Hi-Speed Hydraulic Shear to produce precise sheets and blanks. The Hi-

Speed Hydraulic Shear is capable of a 60-strokes/minute cyclic rate, which is comparable to a mechanical shear cyclic rate. The Shear employs PLC controlled hydraulic cylinders to drive the upper guillotine ram through the cutting cycle. 4-edge shear blades are mounted on the guillotine ram and the lower blade holder. Blade clearance is adjustable from a single point for processing a wide range of gauges and mechanical properties. Because the Shear employs cylinders rather than a pneumatic clutch and brake to drive the ram, the shearing cycle is virtually silent. The JFE Shoji Shear is fast, has a virtually silent shear cycle, and the few moving parts offers "bullet-proof" reliability.



Hi-Speed Hydraulic Shear Offers Speed, Silent Cycle, & Bullet-Proof Reliability

**Reject Runout Belt:** Sheared sheets and blanks are transported from the Shear to either a "reject" container or a Sheet Stacker via variable-speed AC motor powered Belt Conveyors. The Belt Conveyor is equipped with a hydraulic pop-up reject feature.

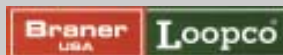


Variable Speed AC Motor Driven Belt Conveyor with Pop-Up Reject Mode

**Sheet-Blank Stacker:** An Automatic Stacker stacks surface-critical 60" wide x 168" long sheets and side-trimmed blanks as small as 10" wide x 12" long into solid block packages. Non-marking pneumatic cylinder actuated "flippers" handle and deposit the sheets onto the stack without marking. Sheet-blank packs are carried away from the line via side-discharge power roller conveyor.



Automatic Pneumatic "Flipper" Sheet Stacker & Runout Conveyor Productivity and bullet-proof reliability made JFE Shoji's choice of a Braner/Loopco Cut-to-Length Line a "no-brainer".



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