Operating Instructions

LOCKFORMER

SPIN COLLAR MAKER

THE LOCKFORMER COMPANY
711 W. OGDEN AVENUE • LISLE, ILLINOIS 60532
SPIN COLLAR MAKER

CAPACITY: 24 GAUGE GALVANIZED MAXIMUM

CAUTION: DO NOT RUN HEAVIER GAUGES

STOCK WIDTH: 3 Inch AS DELIVERED

6 Inch WITH ROLL INTERCHANGE

DIAMETER RANGE: 4 Inch MINIMUM 16 Inch MAXIMUM

CURLER ADJUSTMENT:

TO ADJUST DIAMETER, SEE DRAWING #58013. LOOSEN THE TWO WING NUTS #61473 AND RAISE THE PIVOT ROLL ASSEMBLY BY TURNING ADJUSTING SCREWS #57565. THE HIGHEST POSITION WILL GENERATE AN APPROXIMATE 4 INCH DIAMETER COLLAR. MINOR ADJUSTMENT WILL GENERATE THE DESIRED DIAMETER.

THE ANGULAR PLANE OF THE PIVOT BARS WILL BE APPROXIMATELY:

4 Inch Diameter at 30 Degree/28 Degree

8 Inch Diameter at 15 Degree/13 Degree

DUE TO THE VARIANCES IN COMMERCIAL TOLERANCES OF METALS, IT IS NOT PRACTICAL TO ESTABLISH EXACT SETTINGS FOR THE DIAMETER REQUIRED. IT MAY BE NECESSARY TO ADJUST FOR EACH DIFFERENT RUN OF MATERIAL.

GUIDE FINGER ADJUSTMENT:

A GUIDE FINGER (60395) IS LOCATED ON THE CURLER ASSEMBLY (58013). THE PURPOSE OF THIS FINGER IS TO FORM THE BEAD SECTION CONSISTENTLY AND REDUCE THE STRAIGHT SECTION WHICH CAN OCCUR AT THE LEAD END OF THE COLLAR BEAD. THE FINGER IS VERTICALLY ADJUSTABLE AND SHOULD BE RE-SET FOR EACH DIAMETER COLLAR BEING RUN.

TO SET GUIDE FINGER: (SEE 58013)

1. LOOSEN THE TWO SCREWS (60395) AND LOWER FINGER OUT OF PASSLINE.

2. SET CURLER ROLLS BY ADJUSTING ADJUSTMENT KNOBS (57565) TO OBTAIN CORRECT DIAMETER AS REQUIRED.

3. WHEN CORRECT DIAMETER COLLAR IS ACHIEVED, RUN A TEST PIECE THRU CURLER AND STOP MACHINE WHEN COLLAR IS APPROXIMATELY HALF CURLED.


5. RUN THE COLLAR OUT OF CURLER.
TO SET GUIDE FINGER CONT:

6. RUN A TEST PIECE THRU MACHINE AND NOTE RESULTS. IF COLLAR IS FORMED PROPERLY, MACHINE IS READY FOR PRODUCTION OPERATION. IF A STRAIGHT SECTION EXISTS AT THE LEAD END OF FORMED COLLAR IT IS NECESSARY TO EXERT MORE UPWARD PRESSURE WITH GUIDE FINGER.

SEVERAL TEST PIECES AND SUBSEQUENT GUIDE FINGER ADJUSTMENTS MAY BE NECESSARY TO ACHIEVE OPTIMUM RESULTS.

GAUGE BAR SETTING:

PLACE A STRAIGHT EDGE AGAINST THE OUTSIDE FACE OF THE MACHINE PLATE AS SHOWN ON SKETCH #1. SET THE RIGHT ENTRANCE GAUGE BAR 1-1/2" TO 1-9/16" TO THE RIGHT. SET THE LEFT ENTRANCE GAUGE BAR STOCK WIDTH (PLUS 1/64" TO 1/32" TO ALLOW MATERIAL TO PASS FREELY) TO THE LEFT. SET REAR LEFT GAUGE BAR TO ALIGN WITH FRONT BAR. IT MAY BE NECESSARY TO TAPER THE REAR OF THIS BAR SLIGHTLY INWARD TO ACHIEVE BEST FORMING. RUN A TEST PIECE THRU THE ROLLS AND STOP IT JUST PRIOR TO ENTERING THE COLLAR MAKER. SET THE EXIT GAUGE BAR FLUSH AGAINST RIGHT EDGE OF STOCK (AS VIEWED FROM ENTRANCE).

ROLLFORMER HOLD DOWN STUDS:

THE TWO HOLD DOWN STUDS ARE LOCATED ABOVE THE LEFT MACHINE PLATE. MAKE "HOLD-DOWN ADJUSTMENT" TO MEET ANY VARIATION IN THE MATERIAL BEING RUN. DO NOT ADJUST UNLESS MATERIAL SLIPS, OR STICKS IN FORMING OPERATION.

OPERATION:

START MACHINE AND PLACE MATERIAL SHEARED TO PROPER WIDTH BETWEEN GAUGE BARS AND FEED MATERIAL AGAINST THE STOP. THE MACHINE WILL THEN NOTCH THE LEAD EDGE OF THE STOCK. CONTINUE TO PUSH THE BLANK PAST THE STOP UNTIL THE ROLLS GRIP THE BLANK AND POWER IT THRU THE MACHINE. CAUTION! DO NOT OPERATE THIS MACHINE WITH COVERS REMOVED DUE TO EXPOSED GEARS, CHAIN, SPROCKET, ETC.

ALWAYS FEED MATERIAL WITH CURL DOWN.

PUNCH AND DIE MAINTENANCE: (DRAWING #58014)

WHEN IT IS NECESSARY TO SHARPEN THE PUNCH AND DIE, REMOVAL OF DIE SET CAN BE DONE AS FOLLOWS:

A. REMOVE FRONT TOP COVER WHICH ENCLOSSES THE DIE AREA.
B. REMOVE FRONT TABLE TOP.
C. REMOVE (2) DIE MOUNTING SCREWS...ONE LOCATED ON EACH SIDE ON DIE SLOT.
D. SLIDE DIE SET OUT OF MACHINE FOR SERVICING.
E. TO RE-ASSEMBLE REVERSE ABOVE PROCEDURE.
PUNCH AND DIE MAINTENANCE CONT:

IT IS RECOMMENDED THAT THE DIE SET BE SENT TO A COMPETENT GRINDING HOUSE OR TOOL AND DIE SHOP.

IF EQUIPPED TO SHARPEN DIE SET YOURSELF IT IS RECOMMENDED THAT THE FOLLOWING COMMENTS BE OBSERVED.

1. REMOVE DIE BLOCK FROM DIE SHOE AND GRIND TOP SURFACE ONLY. CAUTION! NEVER GRIND TOP OF DIE SHOE.

2. GRIND PUNCH END FLAT.

3. SHIM PUNCH AND DIE TO EXACT AMOUNT WHICH WAS REMOVED DURING GRINDING TO MAINTAIN ORIGINAL PUNCH AND DIE HEIGHT.

4. MAINTAIN 2-3/8" + 1/32" OPEN HEIGHT OF DIE SET.

5. WHEN 2-3/8" DIMENSION IS MAINTAINED THE CLEARANCE BETWEEN DIE TOP AND PUNCH BOTTOM SHOULD BE 1/16".

CURLER CRIMP CHANGEOVER:

1. REMOVE CURLER GUARD.

2. REMOVE THREE SIDE PLATE MOUNTING SCREWS (TWO SOCKET HEAD AND ONE HEX HEAD SCREW).

3. REMOVE CHAIN GUARD.

4. REMOVE ENTIRE UPPER CURLER FEED ROLL ASSEMBLY (LOOSEN TWO SCREWS IN EACH PILLOW BLOCK).

5. REMOVE RETAINING RING FROM END OF SHAFT OPPOSITE GEAR. ALSO REMOVE THRUST RACE AND THRUST BEARING.

6. REARRANGE CRIMP ROLL AND SPACERS TO CONFORM TO WIDTH DESIRED.

7. REMOVE CURLER PIVOT BAR RETAINING RINGS AND THRUST RACE AND BEARING.

8. SLIDE SIDE PLATE OFF SHAFT ENDS.

9. REARRANGE COMPONENTS ON SHAFT TO CONFORM TO DESIRED WIDTH AND MATCH UPPER ASSEMBLY.
CURLER CRIMP CHANGEOVR CONT:

10. REASSEMBLE COMPONENTS AND REINSTALL ONTO CURLER IN REVERSE PROCEDURE ABOVE.

ADJUSTMENTS AND TROUBLE SHOOTING:

1. MATERIAL NOT FEEDING INTO BEAD AND CRIMP ROLL COLLAR MAKER.
   
   CHECK SIDE GAUGE SETTING FOR PROPER WIDTH WITH 1/32 CLEARANCE.
   CHECK STOCK FOR BEING OVERRSZE. ADJUST ACCORDINGLY.

2. METAL SKewing OUT OF COLLAR MAKER MAKING ENDS OUT OF MATCH EXCEEDING 1/16 INCHES.
   
   A. TIGHTEN BOTH SOCKET HEAD CAP SCREWS ON BEAD END PILLOW BLOCK OF COLLAR MAKER.
   
   B. CHECK GAUGE BAR SETTING AT ENTRY END TO COLLAR MAKER. EXCESS CLEARANCE BEYOND 1/32 INCHES MAY BE CAUSE.
   
   C. RUN COLLAR HALF WAY THRU CURLER AND STOP MACHINE. ADJUST VERTICAL PLATE FLUSH AGAINST SIDE OF BEAD.

3. LEAD EDGE OF BEAD TORN AS IT EXITS FROM COLLAR MAKER OR MATERIAL JAMS AND FOLDS UNDER ON SMALL DIAMETER.
   
   A. CHECK AND LOWER FINGER #40111 (SEE DRAWING #58013) SLIGHTLY OR REMOVE AND INCREASE LEAD END RADIUS ON A GRINDER. NOTE PART IS THRU HARDENED AND GRINDING WILL NOT CREATE A SOFT AREA.

   THE PURPOSE OF THE GUIDE IS TO MINIMIZE THE FLAT OR REVERSE CURVE CAUSED ON THE LEAD END BY THE RAPID FORMING OF THE BEAD IN THIS ONE ROLL STATION. SEE SET UP AND ADJUSTMENTS AS PREVIOUSLY OUTLINED.

ENCLOSURES:

DRAWING # 58013 (CURLER ASSEMBLY), 58024 (MECH. ASSEMBLY), 58025 (FINAL ASSEMBLY), 58014 (NOTCH DIE ASSEMBLY)

SKETCH #1

PARTS LIST: #0960211 - STAND AND DIE SETS
#0960212 - CHASSIS (ROLLFORMER)
#0960213 - CURLER UNIT
#0960405 - ELECTRICALS
SET FLUSH WITH EDGE OF STOCK UPON EMERGENCE FROM ROLLS

STRAIGHT EDGE (AGAINST FACE OF MACHINE PLATE)

1 1/2 TO 1 9/16

BLANK WIDTH + 1/32" - 0

FEED DIRECTION

LOCKFORMER

INSTRUCTION SKETCH NO. 1