LUMSDEN FLEXX FLOW INC.

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TECHNICAL GUIDELINE BROCHURE

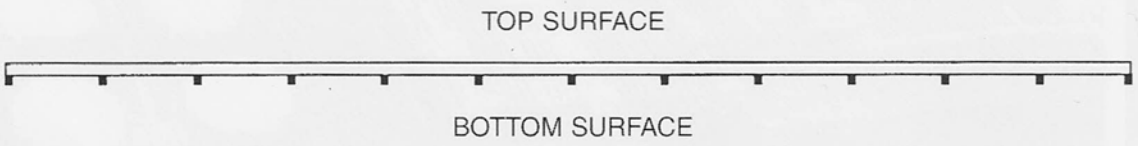
BELT TYPES

1) Flexx Flow Belts are available in the following specification.

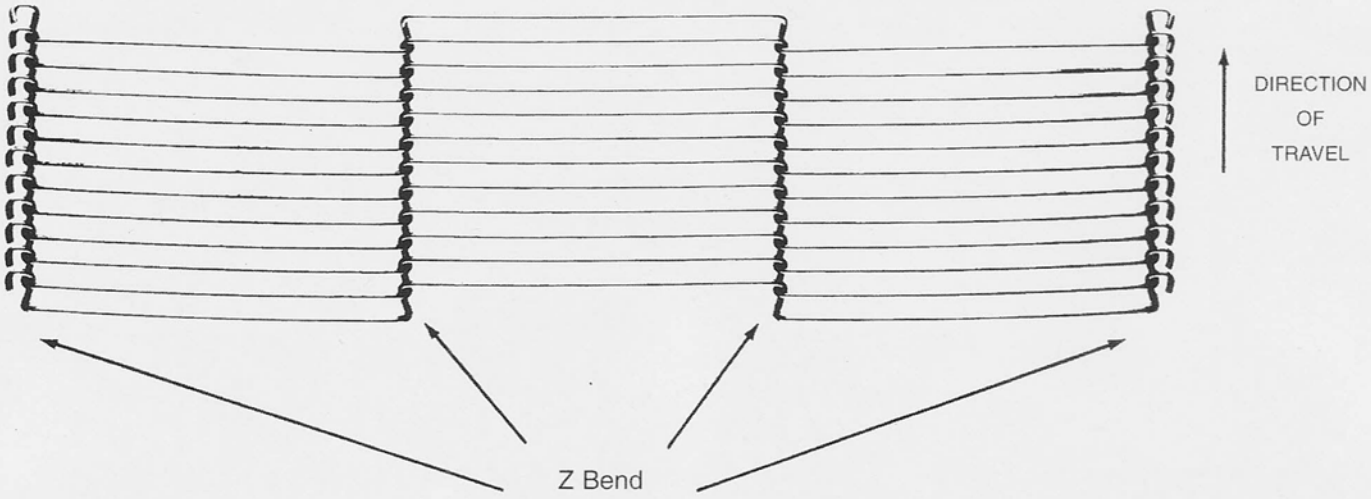
TABLE #1

SPECIFICATION PITCH x WIRE DIA.	ACTUAL PITCH	ACTUAL OPENING BETWEEN WIRES	NO. OF WIRES PER LN. FT.	* OPEN AREA
1/8" x .050"	.167"	.117"	72	71.5%
1/4" x .050"	.250"	.200"	48	80.3%
3/8" x .050"	.286"	.236"	42	82.7%
3/8" x .062"	.286"	.224"	42	78.6%
3/8" x .082"	.375"	.296"	32	78.3%
1/2" x .072"	.500"	.428"	24	84.5%
1/2" x .092"	.500"	.408"	24	81.2%

1) Flexx Flow Belts have a top (smooth) surface, and a bottom surface. Always use the top surface for product conveying.

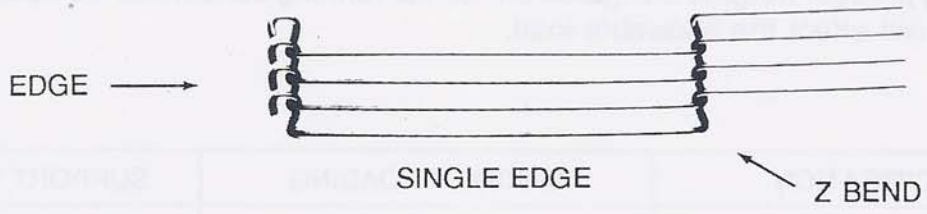


3) Flexx Flow Belts have a direction of travel which is designed to prevent conveyor protrusions from snagging the belt edge. The edge should wipe the sides instead of catching.



* Approximate open area excluding the edges.

4) Flexx Flow Belts are available in "single loop ends" as shown in the following sketch.



5) Flexx Flow Belts are made of USDA approved high tensile 302 stainless steel wire.

BELT SELECTION

Proper selection of Flexx Flow Conveyor Belts involves consideration of product size / loading capabilities / allowable speed / and transferability.

In general, your belt selection decision is based on the ability to attain satisfactory product handling and at the same time achieve maximum belt life. To do this, consideration must be given to the following areas:

a) Belt Opening Size vs. Product Size
b) Belt Strength vs. Desired Product Loading
c) Maximum Belt Speed vs. Desired Production Rates
d) Minimum Transfer Diameter vs. Application and Adjacent Conveyors

1) Opening Sizes

As listed in Table #1, on Page 1, the opening size shows the dimension between wires down the length of the belt. The width of the opening varies depending on the number of spaces across the belt width. To determine the width of the opening, consult our Lumsden Flexx Flow specification literature or call our office for assistance.

2) Product Loading

The following product weights are based on normal running conditions. Temperature, speed, and belt support will effect the allowable load.

TABLE #2

SPECIFICATION	MAXIMUM LOADING	SUPPORT RAIL SPACING
1/8″ × .050″	1.5 lbs. per sq. ft.	4″ centers across width
1/4″ × .050″	1.2 lbs. per sq. ft.	4″ centers across width
3/8″ × .050″	1.2 lbs. per sq. ft.	4″ centers across width
3/8″ × .062″	2.5 lbs. per sq. ft.	4″ centers across width
3/8″ × .082″	10.0 lbs. per sq. ft.	4″ centers across width
1/2″ × .072″	6.0 lbs. per sq. ft.	4″ centers across width
1/2″ × .092″	10.0 lbs. per sq. ft.	4″ centers across width

NOTE: Maximum loading decreases when utilizing 6" center support rails.

3) Speed

Under good conditions, speeds up to 120 feet per minute may be used, but to achieve maximum belt life, it is recommended to use the following normal speeds.

TABLE #3

SPECIFICATION	BELT SPEED
1/8″ × .050″	up to 30 fpm
1/4″ × .050″	up to 30 fpm
3/8″ × .050″	up to 40 fpm
3/8″ × .062″	up to 50 fpm
3/8″ × .082″	up to 75 fpm
1/2″ × .072″	up to 75 fpm
1/2″ × .092″	up to 75 fpm

4) Allowable Tension

The following table shows the Maximum Allowable Tension per Z-Bend joint at the drive roll. The amount of Z-Bends is calculated by taking the number of spaces across the width plus 1.

TABLE #4

SPECIFICATION	MAX. ALLOWABLE TENSION
1/8″ × .050″	11 lbs. per Z-Bend
1/4″ × .050″	11 lbs. per Z-Bend
3/8″ × .050″	11 lbs. per Z-Bend
3/8″ × .062″	15 lbs. per Z-Bend
3/8″ × .082″	24 lbs. per Z-Bend
1/2″ × .072″	18 lbs. per Z-Bend
1/2″ × .092″	30 lbs. per Z-Bend

5) Transfers, Drives, and Reverse Bends

Other considerations, when selecting the right belt specification, are the sprocket diameter, minimum transfer roll size, and the correct reverse bend diameter.

When Flexx Flow Belts are used in applications with elevated temperatures, or for conveyor lengths in excess of 40 feet, a take up roll is recommended to compensate for stretch and expansion. In order to take up this slack, the belt must take a reverse bend. A reverse bend must be larger in radius than the normal way the belt would flex and varies depending on belt specification.

TABLE #5

SPECIFICATION	SPROCKET DIAMETERS	TRANSFER ROLLERS GROOVED	TRANSFER ROLLERS UNGROOVED	MINIMUM DIAMETER REVERSE BEND
1/8" X .050"	1.25", 1.39", 2.00", 2.25",	7/16"	1/4"	1 3/4"
1/4" X .050"	1.25", 2.00", 3.00"	5/8"	5/16"	1 1/2"
3/8" X .050"	1.25", 2.00", 2.25", 3.00", 4.12"	5/8"	3/8"	1 1/2"
3/8" X .062"	1.25", 2.00", 2.25", 3.00", 4.12"	3/4"	1/2"	1 3/4"
3/8" X .082"	2.00", 3.00", 4.12"	7/8"	9/16"	2 1/2"
1/2" X .072"	1.62", 2.00", 3.00", 4.25"	1 1/8"	5/8"	2 1/2"
1/2" X .092"	1.62", 2.00", 3.00", 4.25"	1 1/4"	3/4"	2 1/4"

CONVEYOR DESIGN

1) Some general points to address in the construction of Flexx Flow Conveyors are the following:

   a) A belt take up device should be included on any conveyor using Flexx Flow Belting. There are various methods of allowing for this take up, from a simple slotted hole at the tail pulley to a spring or counter weight tension system. This will make belt installation easier and allow for belt stretch which can occur from increased loading or temperature change.

   b) It is recommended that whenever possible, the drive sprockets be positioned at the conveyor discharge or shortly thereafter.

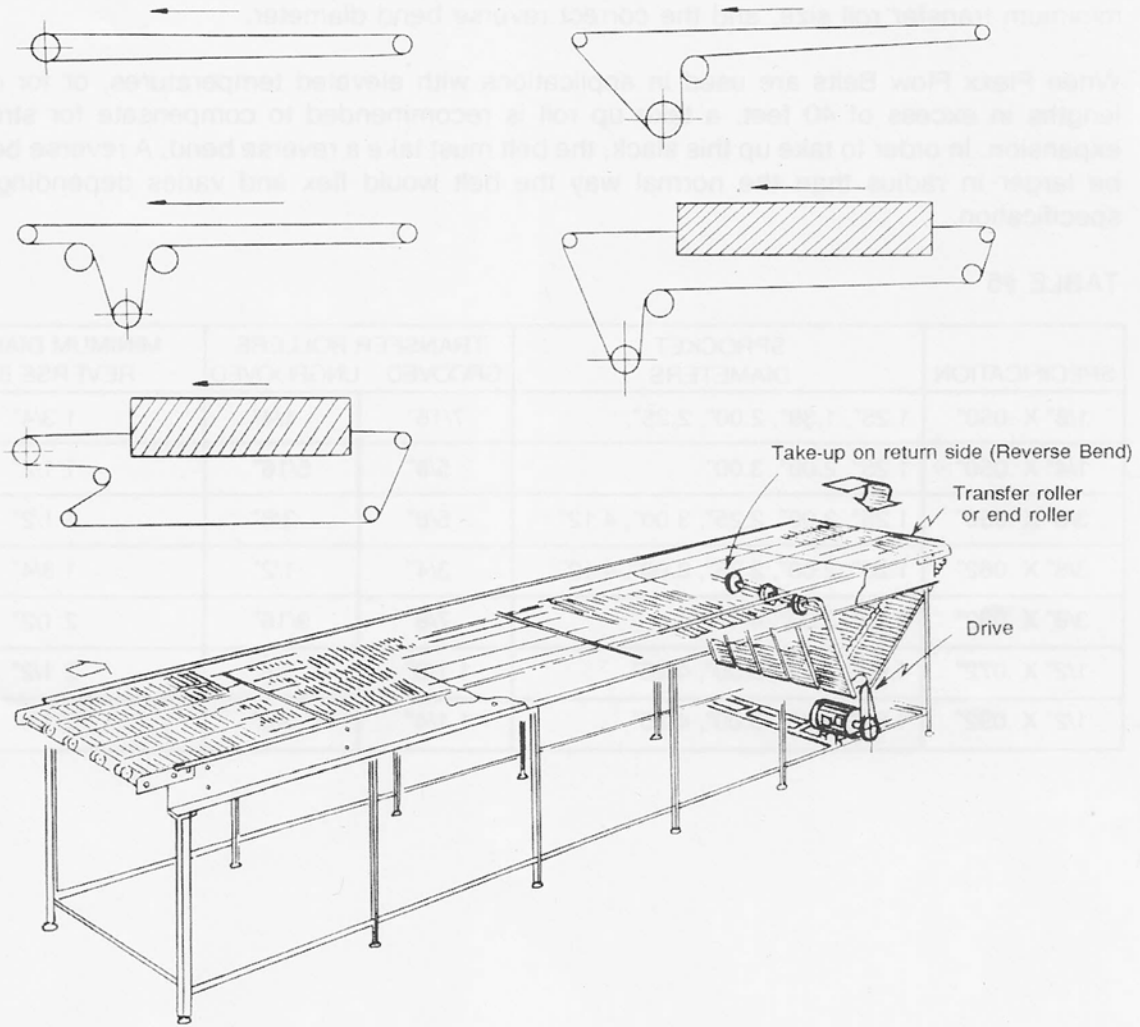
   c) Allow adequate clearance across the conveyor width so the belt does not rub against the conveyor side wall. We recommend a minimum ½" clearance on both sides of the belt.

   d) Sprocket shaft size must be sufficient in diameter to prevent shaft deflection which can cause the belt to jump teeth or stretch unevenly.

   e) Drive and tail shafts must be level and parallel to each other.

   f) Be sure all drive sprockets are keyed alike to maintain even pull on the belt.

2) The following illustrations show typical conveyor designs, drive locations, and direction of product flow.



3) Consideration must be given to the type and location of bell supports. The most common configuration is round or flat support bars spaced every 4" to 6" across the belt width at locations which do not interfere with the "Z" bends. The supports can be made of stainless steel or various types of plastic such as UHMW. See Diagram #1.

Another common support system, often recommended for longer conveyors, is one made up of free turning rollers placed at 6" to 12" intervals.

In some cases, it is desirable to have a slider bed on the top pass and a roller support on the return pass in order to get maximum product support and minimum belt pull. See Diagram #2.

DIAGRAM #1

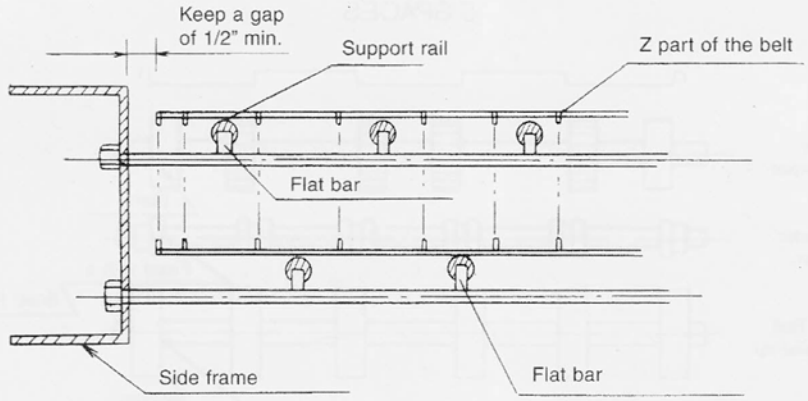
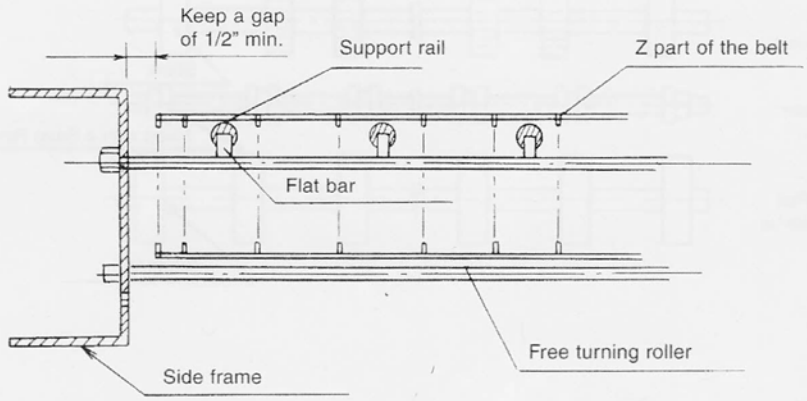


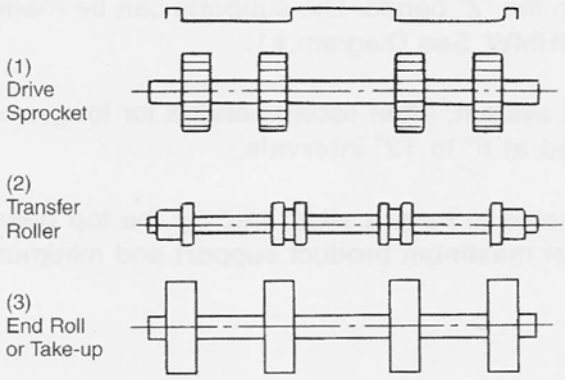
DIAGRAM #2



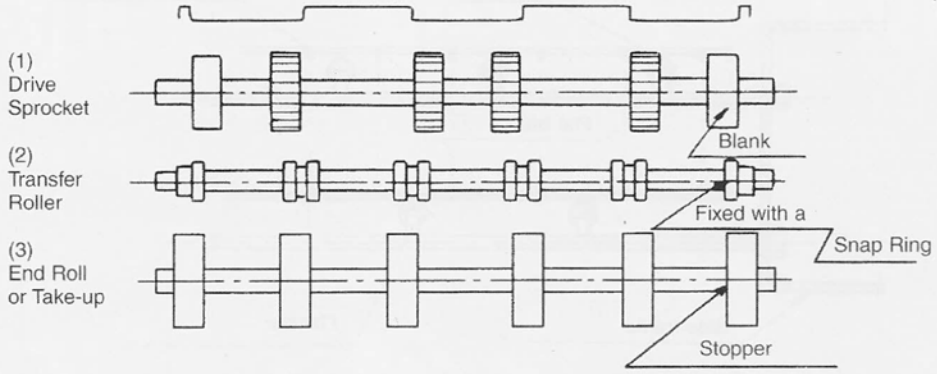
LOCATION OF SPROCKETS, TAKE UPS, AND TRANSFERS

The following Diagrams show the correct way to locate the (1) Drive Sprockets, (2) Transfer Rolls, (3) Take-Up Rolls.

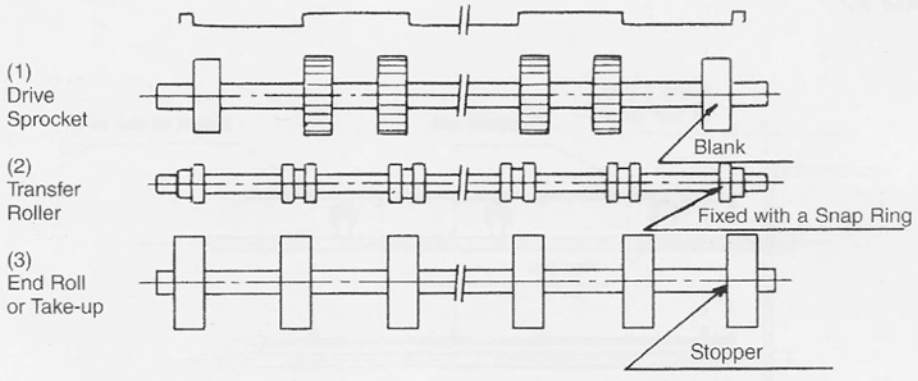
3 SPACES



5 SPACES



7 SPACES OR MORE



Flexx Flow Belt Component Quantity Requirements Chart

# of Spaces Across Belt	Drive Shaft		Idler Shaft		Belt Supports	How Many Space Clips				
	Number of		Number of		Wear Strips	No. of Spaces	Single Clips	Set of Clips		
	Sprockets	Blanks	Sprockets	Blanks				Single	+	3-Space
1	2	0	2	0	2	1	-	-		-
3	4	0	2	2	2	3	2	0		1
5	4	2	2	4	3	5	3	1	+	1
7	6	2	2	6	4	7	4	0		2
9	8	2	2	8	5	9	5	1	+	2
11	10	2	2	10	6	11	6	0		3
13	12	2	2	12	7	13	7	1	+	3
15	14	2	4	12	8	15	8	0		4
17	16	2	4	14	9	17	9	1	+	4
19	18	2	4	16	10	19	10	0		5
21	20	2	4	18	11	21	11	1	+	5
23	22	2	4	20	12	23	12	0		6
25	24	2	4	22	13	25	13	1	+	6
27	26	2	4	24	14	27	14	0		7
29	28	2	4	26	15	29	15	1	+	7
31	30	2	4	28	16	31	16	0		8
33	32	2	4	30	17	33	17	1	+	8
35	34	2	4	32	18	35	18	0		9
37	36	2	6	32	19	37	19	1	+	9
39	38	2	6	34	20	39	20	0		10
41	40	2	6	36	21	41	21	1	+	10
43	42	2	6	38	22	43	22	0		11
45	44	2	6	40	23	45	23	1	+	11
47	46	2	6	42	24	47	24	0		12
49	48	2	6	44	25	49	25	1	+	12

LUMSDEN FLEXX FLOW WIREMATION

1-800-367-3664

SPLICING THE FLEXX FLOW BELT

STEP 1—Position belt on your equipment as shown in figure I and refer to the belt as Section "A" and Section "B" (Note direction of travel).

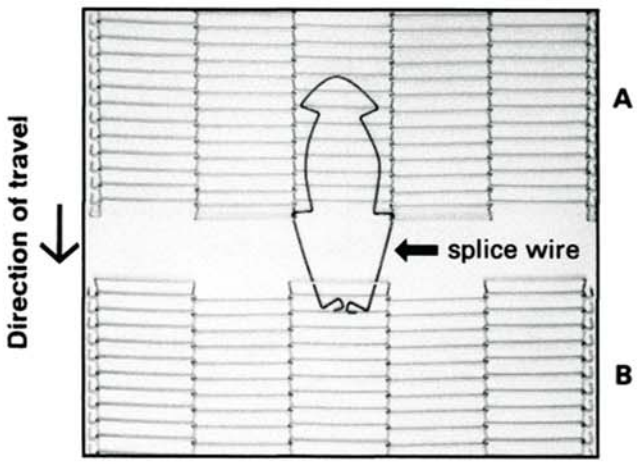


FIGURE I

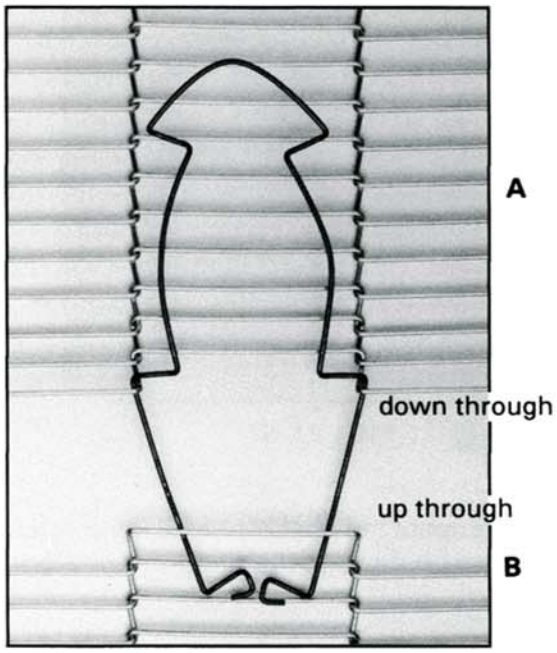


FIGURE I - Close Up View

STEP 2—Carefully bend the center span of the splice wire, as shown in figure I, trying not to distort the "Z" bends. Insert the splice wire down through the top of section "A" and up through the bottom of section "B".

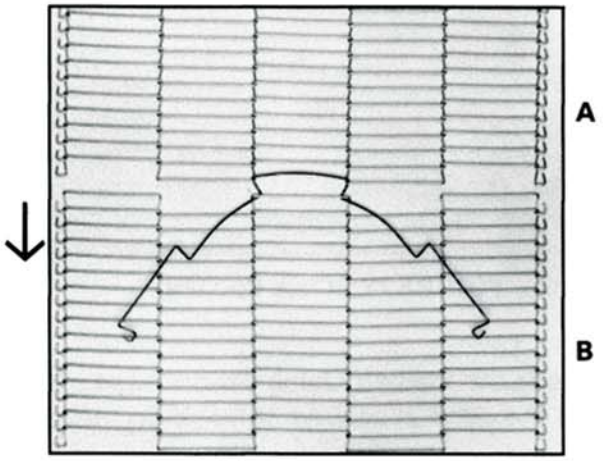


FIGURE II

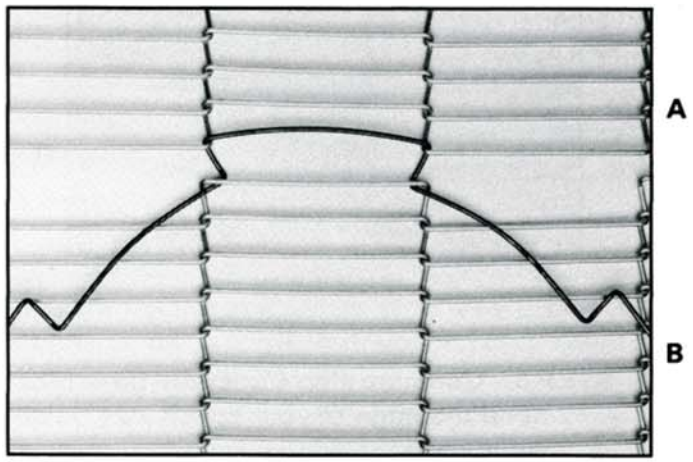


FIGURE II — Close Up View

STEP 3—Pull splice wire through until belt comes together as shown in figure II.

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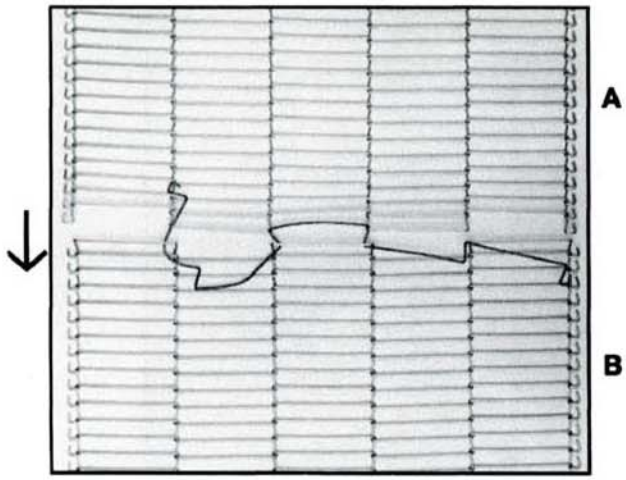

FIGURE III

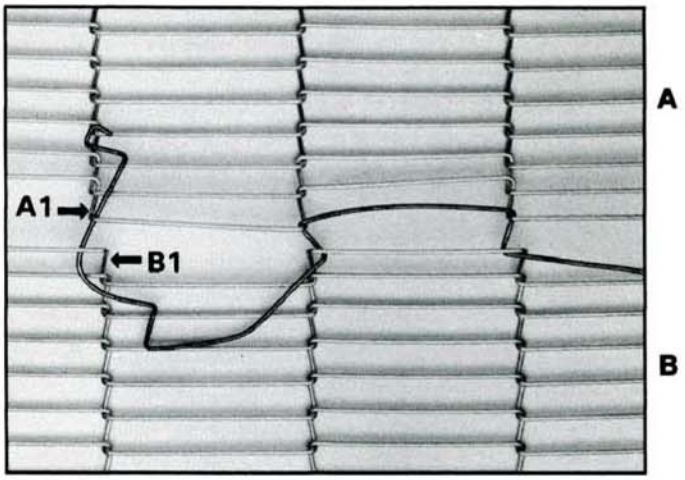

FIGURE III - Close Up View

STEP 4—Locate the next "open" Z bend in section "B" and weave down through at location B1. Weave up through the next "open" Z bend in section "A" at location A1.

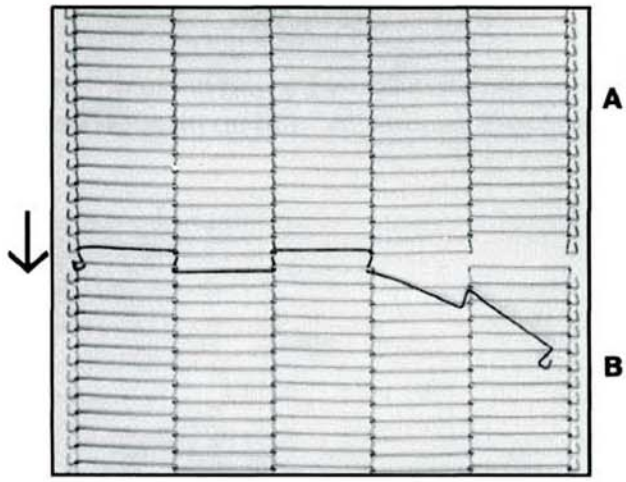

FIGURE IV

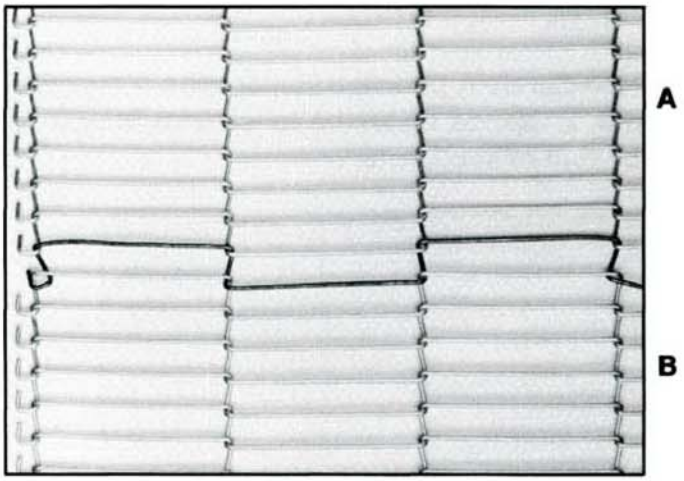

FIGURE IV - Close Up View

STEP 5—Continue step 4 until you have reached the edge of the belt. Using needle nose pliers bend the edge of your splice wire down through the edge in section "A", and up through section "'B".

NOTE: It is best to start weaving from the center of the belt and work towards one edge.

Once completed, weave the other side of the belt.

STEP 6—Repeat steps 4 and 5 to complete the other side of the belt.

STEP 7—Straighten the splice strand as much as possible.

NOTE: For temporary emergency splicing, splice clips are available for all belts. In addition, stainless steel splice tubes are available for the .092 diameter wire (Part # T92). Both splice methods are temporary and should be replaced with a full width strand when time permits.