



## **GRAVITY ROLLER CONVEYORS**

### **WHY A WEBB-STILES GRAVITY ROLLER CONVEYOR?**

#### **BECAUSE . . .**

- A. WEBB-STILES offers a complete line of gravity roller conveyor assemblies, components and accessories.
- B. WEBB-STILES gravity roller conveyor components are pre-engineered and available from stock, eliminating high costs of custom engineering and long delivery delays.
- C. WEBB-STILES systems can be expanded and modified by use of additional components and parts.
- D. WEBB-STILES offers the most automated production facility for fabrication and assembly of gravity rollers.
- E. WEBB-STILES modern manufacturing facility is geared for high volume production and cost savings.
- F. WEBB-STILES many years experience in custom conveyor design, manufacture and installation is behind every component manufactured for gravity roller conveyor.
- G. WEBB-STILES gravity roller conveyors have proven themselves in hundreds of installations with the nation's most prominent manufacturers.
- H. WEBB-STILES "Hush-Veyor" gravity roller conveyors are a new Webb-Stiles exclusive that reduces rolling and impact noise up to two times that of standard roller conveyors at a very low cost.



## SELECTION OF A WEBB-STILES GRAVITY ROLLER CONVEYOR

### **When to Use Gravity Roller Conveyors:**

Gravity roller conveyors are recommended for handling packaged commodities having a reasonably smooth, flat or firm bottom surface to contact the rolls. Irregular and flexible items can be conveyed if they are placed on pallets or in containers.

Gravity roller conveyors are the basis of most package handling installations because of simplicity, economy and negligible maintenance. WEBB-STILES roller conveyors are available in a wide range of types and sizes, to suit the individual job requirements.

The roller conveyors may be used for level line installations where the commodities are temporarily stored and manually pushed forward as required, or they may be sloped downward, causing the commodity to travel forward by gravity.

Moving a commodity or pallet on level roller conveyor generally requires a force of only approximately 3% of the live load. This low friction factor provides a low-cost efficient handling system for manual movement of many types of materials from one station to another. The rate of flow is orderly, requiring minimum manual effort.

When installed at a slight decline, WEBB-STILES roller conveyors provide efficient movement of materials through the natural force of gravity. At a nominal slope, gravity roller conveyors can move commodities many feet, yet provide convenient height at both loading and unloading ends. The exact slope requirement can be determined in table under "Grade for Gravity Decline."

On long runs of gravity roller conveyor layouts, a belt booster can be installed at lower end to regain elevation. Curves, converging sections and other accessories may be added to facilitate movement.



## STANDARD SPECIFICATIONS FOR WEBB-STILES CONVEYORS

The standard widths of WEBB-STILES conveyors are based on the inside distance between frames or "BF". Under normal conditions the "BF" dimension will be 1" more than the Nominal Roll Length. This is emphasized to avoid any confusion between frame width "BF" and nominal roller length.

Conveyor widths should be specified with the inside frame dimensions "BF", not the length of the roller. Because of the variation of hub lengths on bearings, the nominal roller length is also variable. All WEBB-STILES conveyor roller axles are approximately 1" longer than the inside frame dimension "BF", depending on roll size.

When ordering "rollers only" or replacement rolls, always specify:

- A. — "BF" — inside distance between frames.
- B. — Type and size of Conveyor Frame.

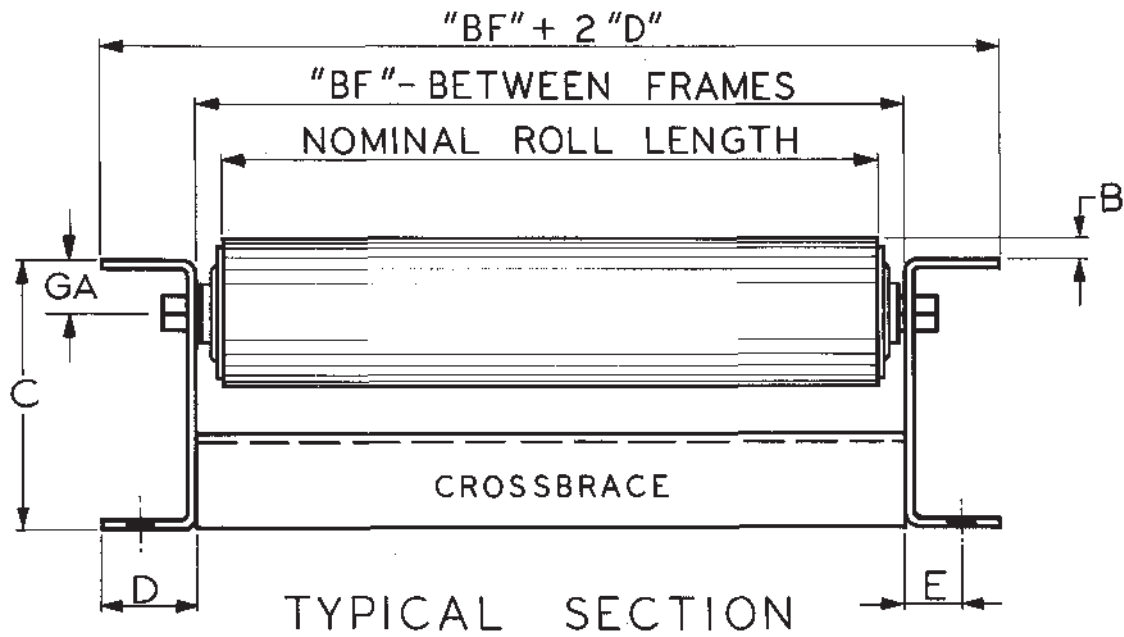
All WEBB-STILES conveyor frames are punched for rollers in "HIGH POSITION". In the high position the rollers project above the top of the conveyor frame, and practically every type of package or material which may overhang the sides of the conveyor can be efficiently conveyed. All conveyor frames are punched for hexagon roller shafts with the flat sides horizontal for maximum strength.

Table on the preceding page provides quick reference to the standard conveyor rollers, bearings, roller spacing and side frames.

Outlined on the following pages are individual conveyor rolls, conveyor frame sections, supports and accessories that are available, many from stock.



## STANDARD SPECIFICATIONS FOR ROLLER CONVEYORS



ROLLS			SHAFTS		BEARINGS			FRAMES				ROLL POSITION		Standard Roll Spacing (Inches)	
Dia. (In.)	Capacity	Gage	Between Frame "BF" (Inches)	Hex Size (In.)	Spring Loaded	Std. Bearing No.	No. Balls	Ball Dia. (In.)	"C" (In.)	"D" (In.)	"E" (In.)	Standard Between Frames "BF" (Inches)	"B" (In.)		"GA" (In.)
1	70#	11	7 to 104	3/8	Yes	554	15	1/8	3 1/2	1 1/4	3/4	7 to 37	1/16	9/16	1-1/2, 2, 3, 4,
1 3/4	250#	14	7 to 104	7/16	Yes	558	13	1/4	3 1/2	1 1/4	3/4	7 to 49	5/16	9/16	2, 3, 4, 4 1/2
1.9	260#	16	7 to 96	7/16	Yes	583	11	1/4	3 1/2	1 1/4	3/4	7 to 49	1/4	9/16	2, 3, 4, 4 1/2
1.9	260#	12	7 to 96	7/16	Yes	583	11	1/4	3 1/2	1 1/4	3/4	7 to 49	1/4	9/16	2, 3, 4, 4 1/2
1.9	250#	9	7 to 104	7/16	Yes	558	13	1/4	3 1/2	1 1/4	3/4	7 to 49	1/4	9/16	2, 3, 4, 4 1/2, 6
2 1/2	250#	14	7 to 96	7/16	Yes	558	13	1/4	3 1/2	1 1/4	3/4	7 to 51	1 1/16	9/16	3, 4, 6, 8
2 1/2	580# *3350#	10	7 to 104	1 1/16	yes	560	11	3/8	4	1 5/8	3/4	7 to 51	1/2	3/4	3, 4, 6, 8
2 9/16	580# *3350#	7	7 to 104	1 1/16	Yes	560	11	3/8	4	1 5/8	3/4	7 to 51	1/2	3/4	3, 4, 6, 8
3 1/2	580#	10	7 to 96	1 1/16	Yes	560	11	3/8	4	1 5/8	3/4	7 to 51	1	3/4	4, 6, 8, 12
3 1/2	1090# *5850#	.250"	7 to 104	1 1/16	No	565	15	7/16	4	1 5/8	3/4	7 to 51	3/8	1 3/8	4, 6, 8, 12

\*with precision bearings



## SELECTION OF A WEBB-STILES GRAVITY ROLLER CONVEYOR (con't)

### Selection of Conveyor Width

The width of a conveyor system (the "Between-Frame," "BF" dimension) is usually determined by two factors, whether the system will have straight conveyors only or whether the system will incorporate roller conveyor curves.

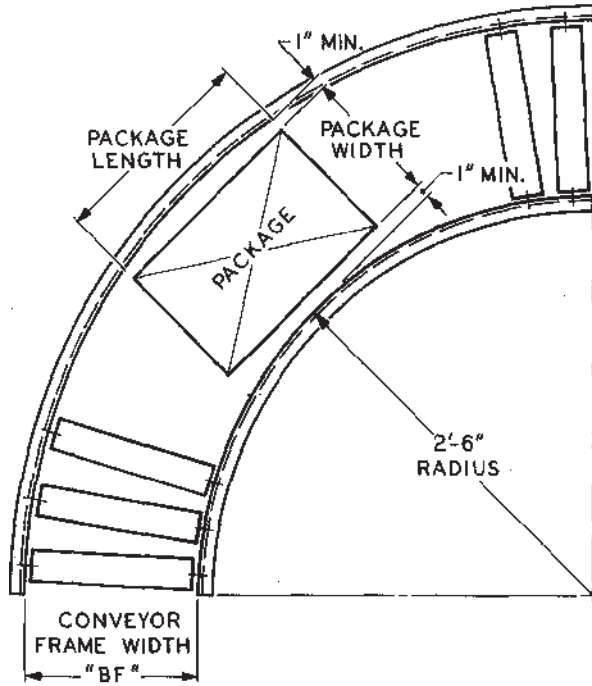
For STRAIGHT conveyor runs only, add two (2) inches minimum to the width of the widest package to be handled. You can round off to the next full inch, if you so desire for convenience. This will be your "BF" dimension. Example; widest load is  $26\frac{3}{4}$ , add 2" =  $28\frac{3}{4}$ ". Round off to 29" for "BF."

Where packages can overhang the conveyor the maximum overhang that we consider safe practice is two (2) inches on each side or maximum load width = "BF"  $\times$  1.25.

For gravity roller conveyors with curves select the widest package to be handled and refer to the Curve Clearance Chart for the recommended "BF" dimension. The "BF" Between-Frame dimension will then be the determining factor for the straight conveyor widths.



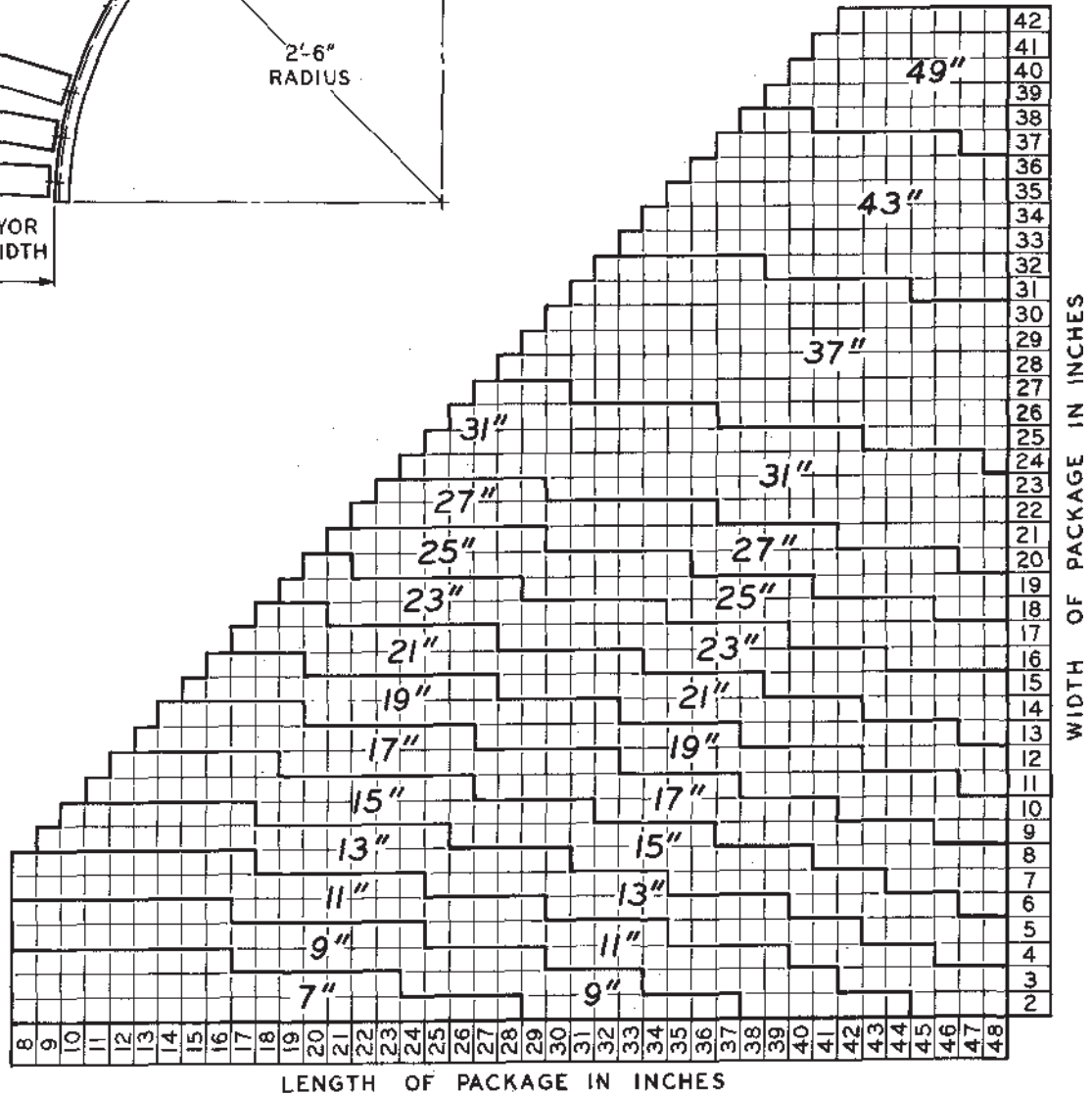
# CURVE CLEARANCE CHART



The curve clearance chart is based on standard inner frame radius of 2'-6". To find the recommended curve width for a package 36" long and 18" wide, find 36 along the bottom line and 18 in the list of figures along other side. Now read up along the vertical line from 36 until you intersect a horizontal line of 18. The width required is 25 inches, as shown on this chart.

### SPECIAL RADIUS CURVES

Where a system would have to be designed considerably wider because of curve clearance, it is sometimes more practical to fabricate a special "long" radius curve.



**CURVE FORMULA** "BF"  $\sqrt{(\text{Inside Radius} + \text{Package Width})^2 + \frac{(\text{Package Length})^2}{2}} - \text{Inside Radius} + 2$

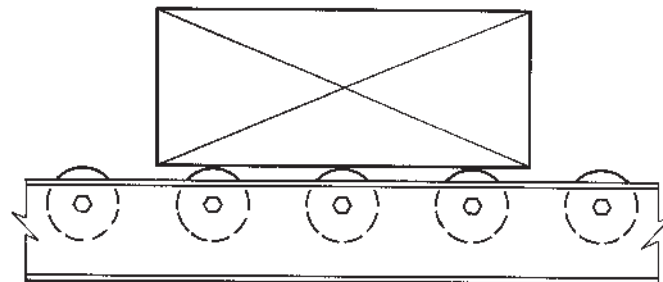
NOTE: Length of package must not exceed length of inside radius.



## SELECTION OF A WEBB-STILES GRAVITY ROLLER CONVEYOR (con't)

### Selection of Roll Spacing

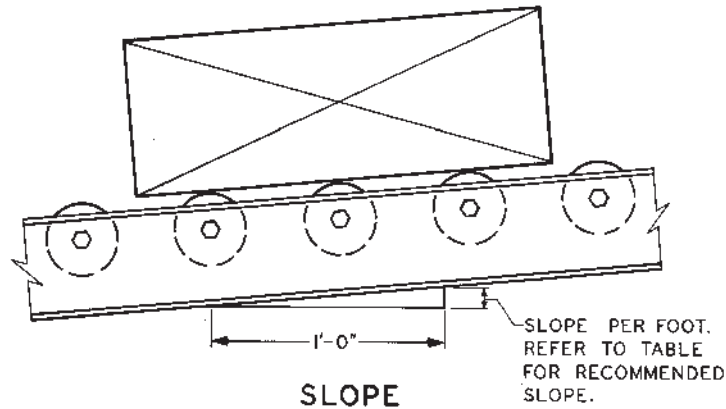
The proper space between rollers in a roller conveyor is determined by the size of the load. Three (3) rolls must be under the shortest load at all times to prevent the commodity conveyed from nosing in or tumbling. Thus, to determine the maximum distance between rollers, divide the length of the shortest package by three. For example a 12" long minimum package requires 4" minimum roll spacing. Care must be taken to assure that capacities of the rollers under each commodity either equals or exceeds the weight of the commodity being carried.



LOAD DISTRIBUTION

### Selection of Conveyor Slope

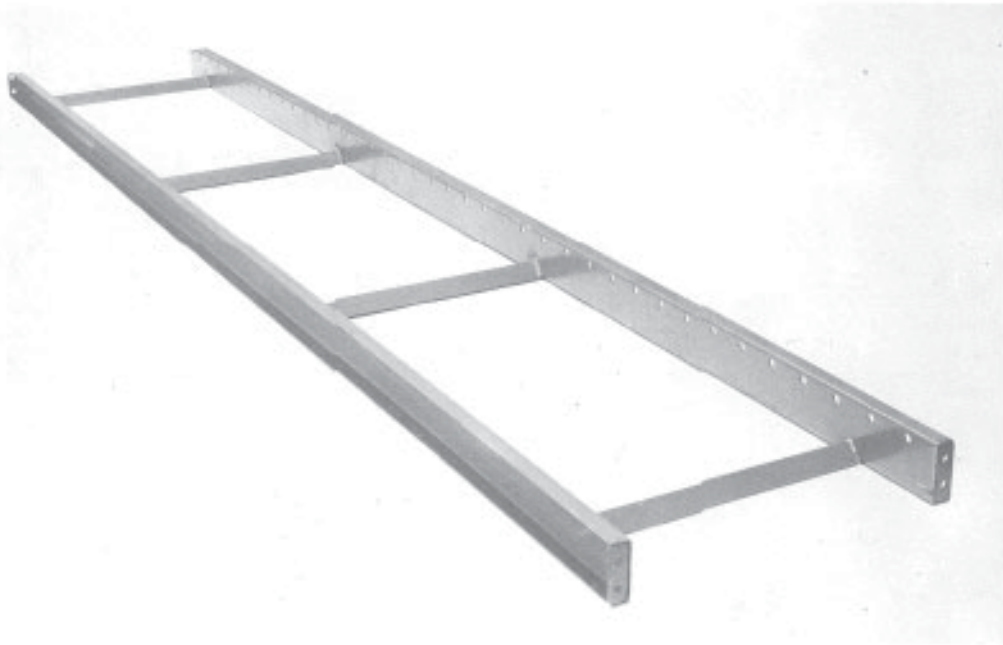
The weight of the commodity primarily determines the required conveyor slope. As an overall guide, the following chart shows suggested slope for roller conveyors conveying commodities with firm bottom surfaces. The slopes shown will vary slightly due to the variables in the riding surfaces, weight and size of package.



Load Weight	Average Slope per Foot
10-20#	$\frac{3}{4}''$ to $\frac{5}{8}''$
20-50#	$\frac{5}{8}''$ to $\frac{1}{2}''$
50-150#	$\frac{1}{2}''$ to $\frac{3}{8}''$
150-300#	$\frac{3}{8}''$ to $\frac{1}{4}''$
Over 300#	$\frac{1}{4}''$ to $\frac{1}{8}''$



## CONVEYOR FRAMES



WEBB-STILES standard conveyor frames are available in formed channel construction and also with structural channel for heavier capacities. Formed channel frames are accurately jig-formed for uniformity of roll spacing and close tolerances on critical dimensions. The smooth edge flanges on formed channels act as a guard against the extended roll shafts and protect adjacent personnel.

Conveyor frame sections are stocked in standard 10'-0" lengths and all frames are punched for 5'-0" intermediate support centers.

All WEBB-STILES conveyor frames are furnished in rugged, jig-welded construction with inverted angle crossbraces under the rolls for support at critical points. All frame sections are punched for hexagon roller shafts with the flat sides horizontal for maximum strength.

Curve sections have angle crossbraces, welded below the rollers.

The welded construction of conveyor frames and curve sections provides strength for shipping, handling and installation as well as stability in actual use.

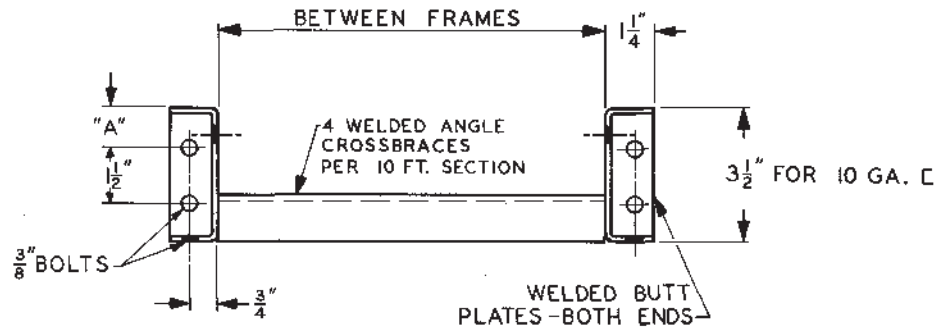
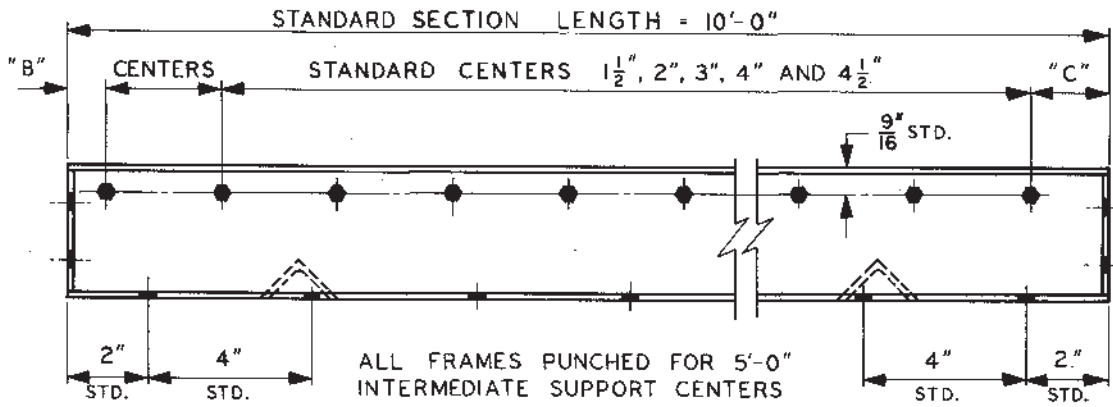
All frame sections, curves and converging sections have jig welded butt plates for bolting together adjacent sections of conveyor frames. The strength of the butt-plate connection is much higher than a conventional splice plate or hook coupling and provides a smooth inside surface to facilitate package flow.

Angle type frames, if required, can be furnished for special applications. The angle base is turned out as standard, but angles may be specified turned in, if space is a factor.





## FORMED CHANNEL FRAMES



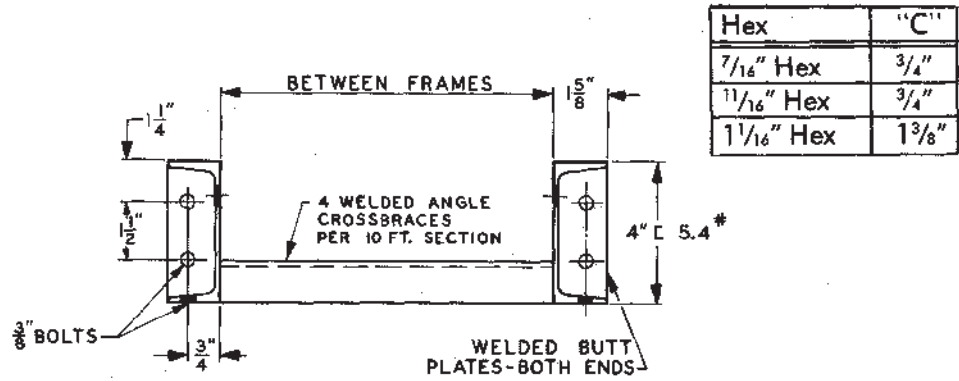
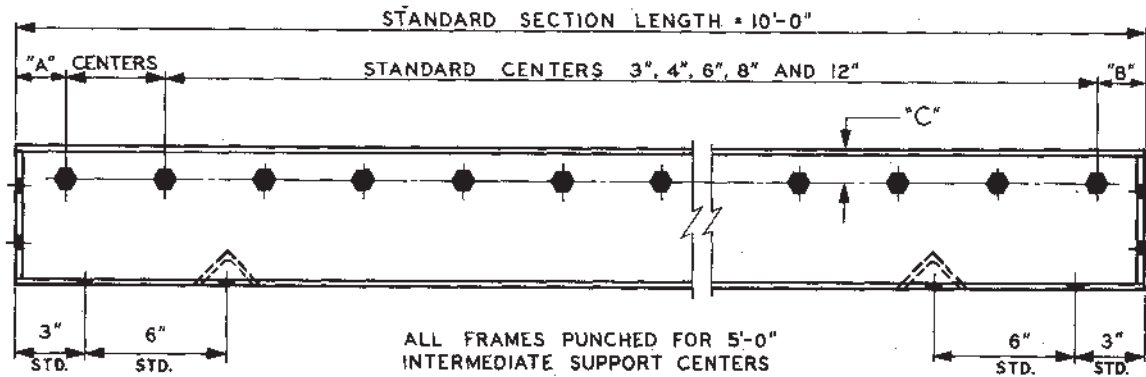
### DIMENSIONAL DATA

FORMED CHANNEL SIZE	"A"	"B" FOR ROLLER CENTERS OF:					"C" FOR ROLLER CENTERS OF:				
		1 1/2"	2"	3"	4"	4 1/2"	1 1/2"	2"	3"	4"	4 1/2"
3 1/2" x 1 1/4" x #10 GA.	1"	3/4"	1"	3/4"	1"	3/4"	3/4"	1"	2 1/4"	3"	2 1/4"

Custom side frames are readily available as options.



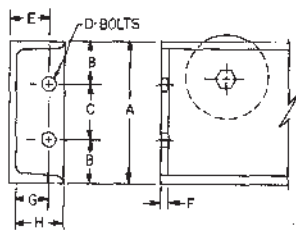
## STRUCTURAL CHANNEL FRAMES



### DIMENSIONAL DATA

FRAME SIZE	"A" AND "B" FOR STANDARD ROLLER CENTERS OF:				
	3"	4"	6"	8"	12"
4" CHANNEL @ 5.4#	1 1/2"	2"	3"	4"	6"

### STANDARD COUPLING BUTT PLATES

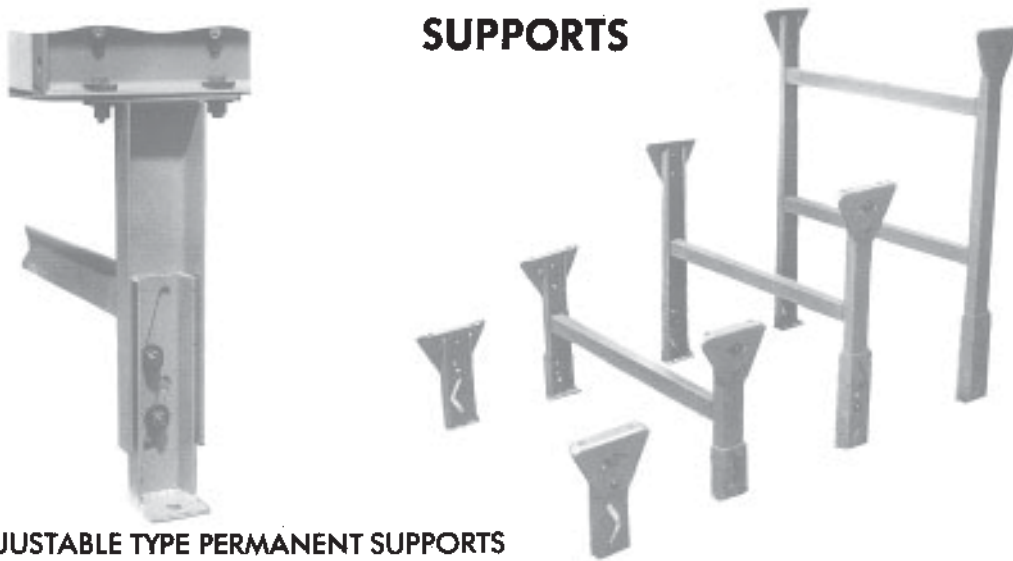


A FRAME SIZE	B	C	D-BOLTS		E	F	G	H
			NO.	DIA.				
3 1/2" Formed	1	1 1/2	2	3/8	3/4	3/16	1/2	1 1/8
4" Channel 5.4#	1 1/4	1 1/2	2	3/8	3/4	3/16	5/16	1 1/16
5" Channel 6.7#	1 1/4	2 1/2	2	3/8	1 1/8	1/4	1 1/16	1 1/16
6" Channel 8.2#	1 1/2	3	2	1/2	1 1/8	1/4	1 1/16	1 1/16
10" Channel 15.3#	2	3	3	3/8	1 3/8	3/8	1 1/16	2 3/8
12" Channel 20.7#	2 1/4	3 3/4	3	3/4	1 3/4	1/2	1 1/16	2 11/16

Custom side frames are readily available as options.



## SUPPORTS



### ADJUSTABLE TYPE PERMANENT SUPPORTS

Heavy duty roller conveyors are usually installed in a permanent position. For floor support at the desired height a series of adjustable, two-legged stands are available. Supports are of similar construction and in harmony with the conveyor frames.

#### TYPE "S" SUPPORTS

Formed channel uprights provide maximum strength in minimum size and are connected by jig welded cross ties. Standard "Type S" supports have a load rating of 1500 lbs. per support, and are available in standard heights from 12" to 48" and for conveyor frames with "BETWEEN FRAMES" dimensions of 7" to 51".

The die formed S-102 gussets provide a broad supporting surface and slotted holes permit tilting the gusset to accommodate any conveyor angle up to 30 degrees.

The die formed S-103 telescoping boots with slotted connections provide an ingenious means of adjusting the elevation to meet normal floor variations. For normal loads the bolted construction provides adequate stability. For heavy loads or high impact conditions, the boot may be welded permanently after installation.

All "TYPE S" support "HEIGHT" dimensions are based **from floor to top of support.**

When ordering "TYPE S STANDS ONLY", it is imperative to specify the following:

- A. "HEIGHT" - floor to top of support.
- B. "BF" - between frame dimension.
- C. Roller diameter and size of frame.

#### HEAVY DUTY SUPPORTS

Webb-Stiles heavy duty supports are constructed of structural channel for maximum strength and load capacity. They are connected by jig welded cross braces. Heavy duty supports have a load rating of 3000 lbs. per support, and are available in standard heights from 17" to 45" and conveyor frames with "BETWEEN FRAMES" dimensions of 7" to 51".

Both the standard and pitched heavy duty supports provide a broad supporting surface. The pitched support tilts to accommodate any conveyor angle up to 25 degrees.

Slotted connections provide for adjusting the elevation to meet normal floor variations plus or minus 3" of nominal support length. For normal loads the bolted construction provides adequate stability. For heavy loads or high impact conditions, the boot may be welded permanently after installation.

All "HEAVY DUTY SUPPORTS" "S.L." support length dimensions are based **from floor to top of support.**

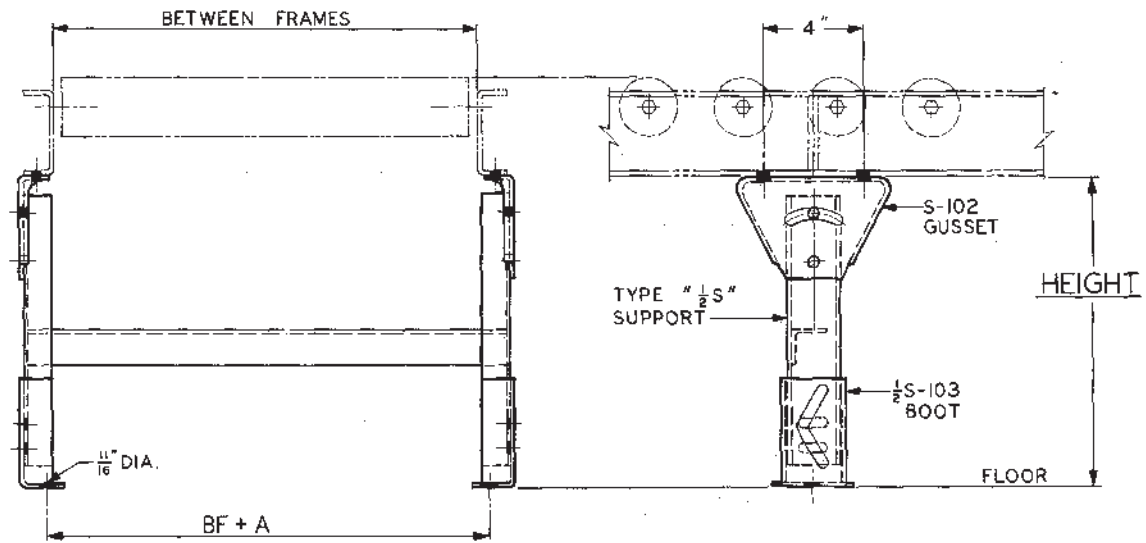
When ordering "HEAVY DUTY STANDS ONLY", it is imperative to specify the following:

- A. "S.L." Support Length - Floor to top of support.
- B. "B.F." - Between Frame dimensions.
- C. Roller diameter and size of frame.

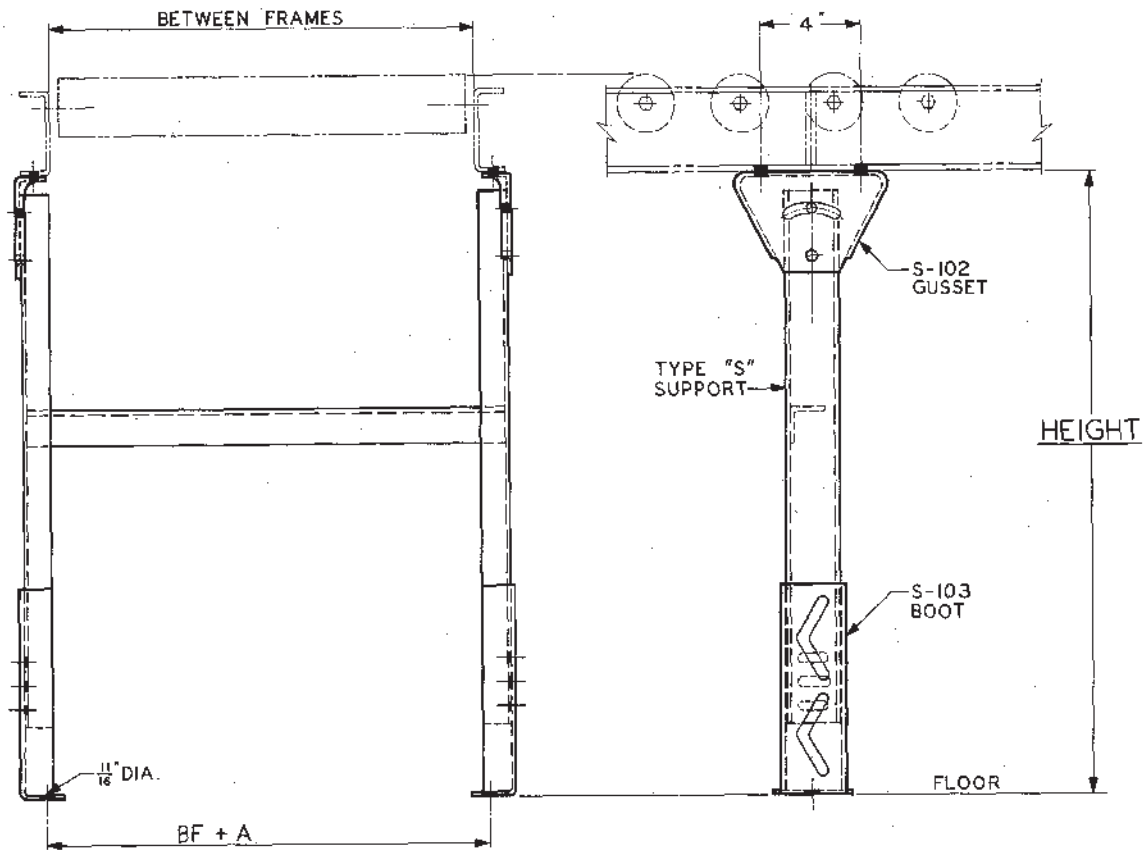
Ceiling supports and double deck type supports can be furnished as required.



# TYPE "S" SUPPORTS FOR FORMED CHANNEL FRAMES



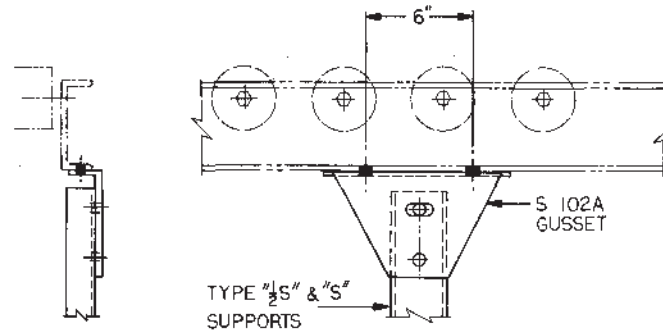
TYPE "1/2 S" SUPPORT



TYPE "S" SUPPORT



## TYPE "S" SUPPORTS FOR STRUCTURAL CHANNEL FRAMES



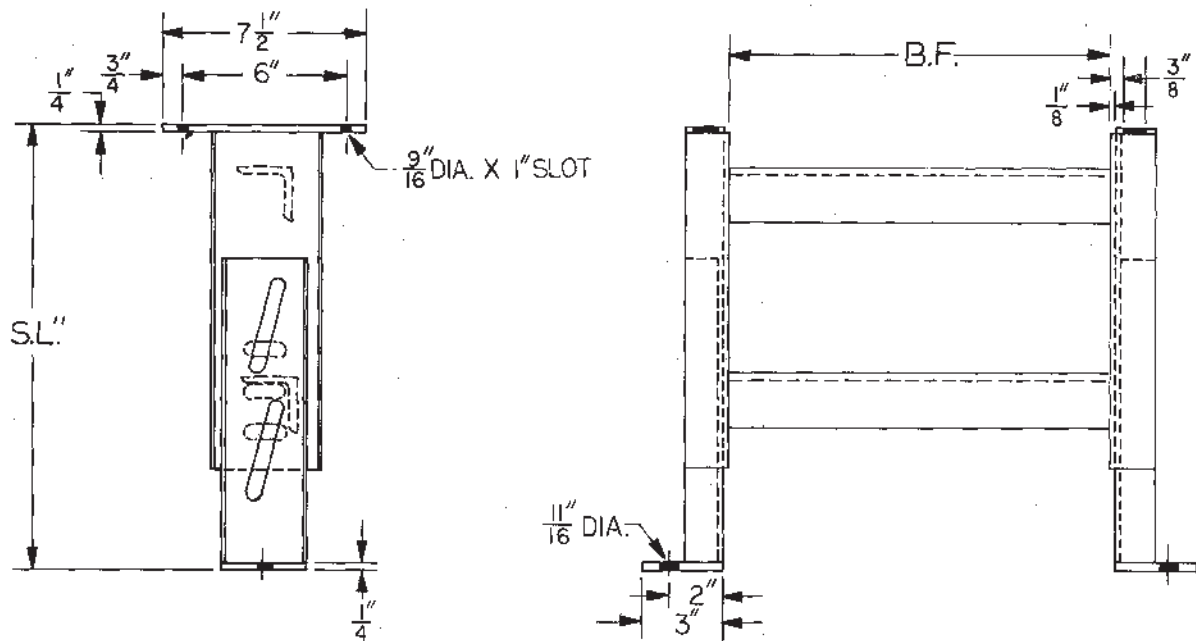
## ROLLER CONVEYOR SUPPORTS — SPECIFICATIONS 1500 LBS. CAPACITY

NO.	NOMINAL SUPPORT LENGTH	3 1/2" FORMED CHANNEL WITH S-102 GUSSET			4" STRUCTURAL CHANNEL WITH S-102A GUSSET			NO. OF CROSS BRACES	FRAME WIDTHS "BF" - STD.
		MIN. HEIGHT	MAX. HEIGHT	Dimension "A"	MIN. HEIGHT	MAX. HEIGHT	Dimension "A"		
1/2S1	10"	9 1/4"	11 1/4"	3/4"	9 3/8"	11 3/8"	5/8"	1	7" to 51"
1/2S2	11"	10 1/4"	12 1/4"	3/4"	10 3/8"	12 3/8"	5/8"	1	7" to 51"
1/2S3	12"	11 1/4"	13 1/4"	3/4"	11 3/8"	13 3/8"	5/8"	1	7" to 51"
1/2S4	13"	12 1/4"	14 1/4"	3/4"	12 3/8"	14 3/8"	5/8"	1	7" to 51"
1/2S5	14"	13 1/4"	15 1/4"	3/4"	13 3/8"	15 3/8"	5/8"	1	7" to 51"
S1	17"	14 1/4"	20 1/4"	3/4"	14 3/8"	20 3/8"	5/8"	1	7" to 51"
S2	20"	17 1/4"	23 1/4"	3/4"	17 3/8"	23 3/8"	5/8"	1	7" to 51"
S3	23"	20 1/4"	26 1/4"	3/4"	20 3/8"	26 3/8"	5/8"	1	7" to 51"
S4	26"	23 1/4"	29 1/4"	3/4"	23 3/8"	29 3/8"	5/8"	1	7" to 51"
S5	29"	26 1/4"	32 1/4"	3/4"	26 3/8"	32 3/8"	5/8"	2	7" to 51"
S6	32"	29 1/4"	35 1/4"	3/4"	29 3/8"	35 3/8"	5/8"	2	7" to 51"
S7	35"	32 1/4"	38 1/4"	3/4"	32 3/8"	38 3/8"	5/8"	2	7" to 51"
S8	38"	35 1/4"	41 1/4"	3/4"	35 3/8"	41 3/8"	5/8"	2	7" to 51"
S9	41"	38 1/4"	44 1/4"	3/4"	38 3/8"	44 3/8"	5/8"	2	7" to 51"
S10	44"	41 1/4"	47 1/4"	3/4"	41 3/8"	47 3/8"	5/8"	2	7" to 51"

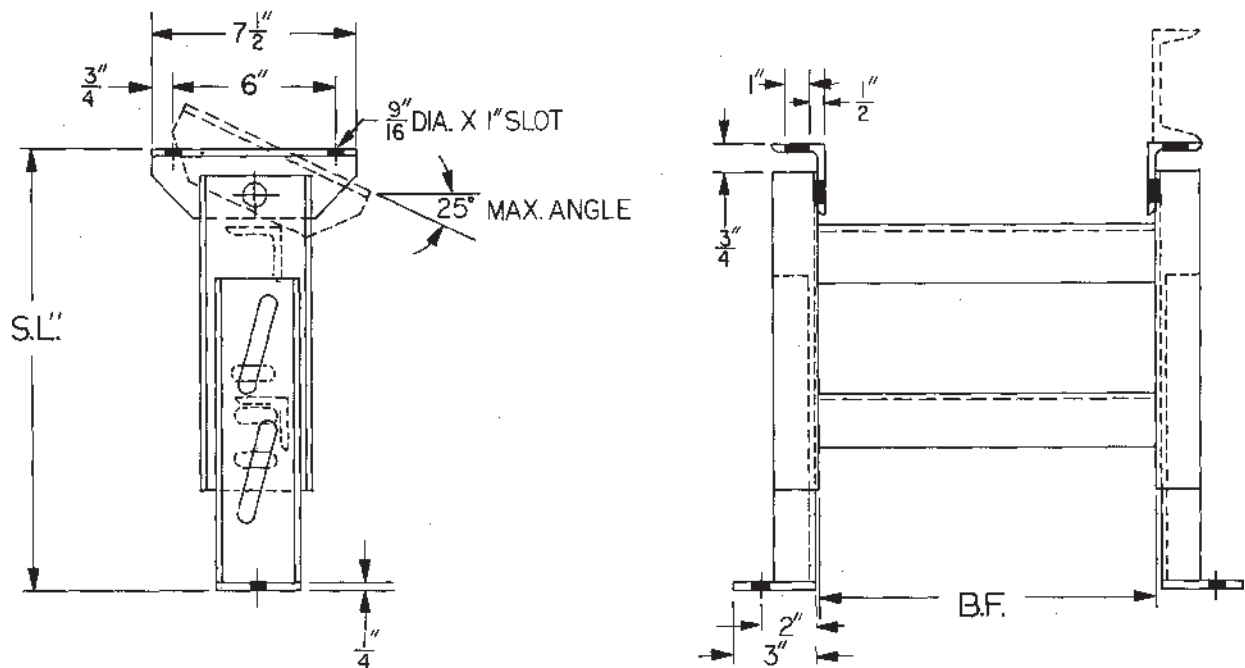
\*All heights given are floor to top of support.



# STRUCTURAL CHANNEL SUPPORTS



STANDARD HEAVY DUTY SUPPORTS



HEAVY DUTY SUPPORTS FOR PITCHED CONVEYORS



# STRUCTURAL CHANNEL SUPPORT — SPECIFICATIONS

## STANDARD HEAVY DUTY SUPPORTS

Nominal S.L. Support Length*	Min. Height	Max. Height	No. of Cross Braces	Frame Widths "BF"-STD.
15"	12"	18"	1	7" to 51"
16"	13"	19"	1	7" to 51"
17"	14"	20"	1	7" to 51"
18"	15"	21"	1	7" to 51"
19"	16"	22"	1	7" to 51"
20"	17"	23"	1	7" to 51"
21"	18"	24"	1	7" to 51"
22"	19"	25"	1	7" to 51"
23"	20"	26"	1	7" to 51"
24"	21"	27"	2	7" to 51"
25"	22"	28"	2	7" to 51"
26"	23"	29"	2	7" to 51"
27"	24"	30"	2	7" to 51"
28"	25"	31"	2	7" to 51"
29"	26"	32"	2	7" to 51"
30"	27"	33"	2	7" to 51"
31"	28"	34"	2	7" to 51"
32"	29"	35"	2	7" to 51"
33"	30"	36"	2	7" to 51"
34"	31"	37"	2	7" to 51"
35"	32"	38"	2	7" to 51"
36"	33"	39"	2	7" to 51"
37"	34"	40"	2	7" to 51"
38"	35"	41"	2	7" to 51"
39"	36"	42"	2	7" to 51"
40"	37"	43"	2	7" to 51"
41"	38"	44"	2	7" to 51"
42"	39"	45"	2	7" to 51"
43"	40"	46"	2	7" to 51"
44"	41"	47"	2	7" to 51"
45"	42"	48"	2	7" to 51"

\*All lengths given are floor to top of support

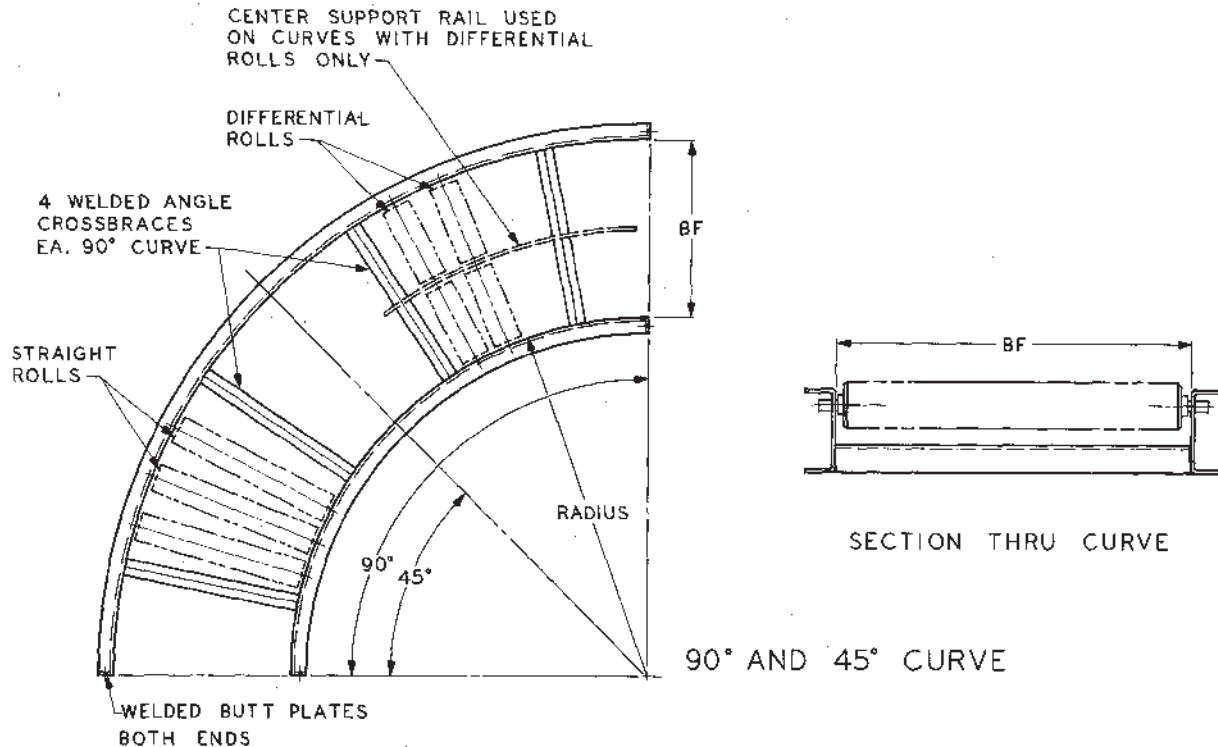
## HEAVY DUTY SUPPORTS FOR PITCHED CONVEYORS

Nominal S.L. Support Length*	Min. Height	Max. Height	No. of Cross Braces	Frame Widths "BF"-STD.
17"	14"	20"	1	7" to 51"
18"	15"	21"	1	7" to 51"
19"	16"	22"	1	7" to 51"
20"	17"	23"	1	7" to 51"
21"	18"	24"	1	7" to 51"
22"	19"	25"	1	7" to 51"
23"	20"	26"	1	7" to 51"
24"	21"	27"	2	7" to 51"
25"	22"	28"	2	7" to 51"
26"	23"	29"	2	7" to 51"
27"	24"	30"	2	7" to 51"
28"	25"	31"	2	7" to 51"
29"	26"	32"	2	7" to 51"
30"	27"	33"	2	7" to 51"
31"	28"	34"	2	7" to 51"
32"	29"	35"	2	7" to 51"
33"	30"	36"	2	7" to 51"
34"	31"	37"	2	7" to 51"
35"	32"	38"	2	7" to 51"
36"	33"	39"	2	7" to 51"
37"	34"	40"	2	7" to 51"
38"	35"	41"	2	7" to 51"
39"	36"	42"	2	7" to 51"
40"	37"	43"	2	7" to 51"
41"	38"	44"	2	7" to 51"
42"	39"	45"	2	7" to 51"
43"	40"	46"	2	7" to 51"
44"	41"	47"	2	7" to 51"
45"	42"	48"	2	7" to 51"

\*All lengths given are floor to top of support



## STANDARD ROLLER CONVEYOR CURVES



### A. — Two Rail Curves — Straight Rollers

Standard WEBB-STILES roller conveyor curves are manufactured with 2'-6" inside frame radius. Accurately rolled to the correct radius, the formed channel side frames are held in position by angle crossbraces welded to side frames below the rollers. Jig welded butt-plates are furnished at both ends of the curve section.

Two rail curve sections are used where the economy of the system is important. A satisfactory turning of the material conveyed can be accomplished with this type of curve if the package is relatively great in length, as compared to the width of the package.

If the conveyor line is free running and the packages are not touching one another, this type of curve is satisfactory and more economical. If the conveyor line is forced with packages pushed one against another, an outside guard rail is mandatory for help in negotiating the curve.

The curved section must be wider than the straight section if the package is to be carried fully on the rollers or if an outside curve guard is used. Refer to recommended curve width chart to determine proper curve width.

### B. — Differential Roll Curve — Three Rails with Straight Rollers

A three rail or differential roll curve employs two independent rolls on one common shaft. On curves with differential rolls, the outside rolls rotate at a higher speed than the inside rolls. The differential action of the rolls turn the conveyed packages more squarely onto the receiving section of the adjacent conveyor.

Sometimes, due to excessive curve width, the roller spacing on the outside curve rail becomes excessive and the outside rolls must be staggered, instead of being on a common shaft with the inside rolls.

Differential curves may also be furnished with outside guard rails. When guards are used, refer to recommended curve width chart.

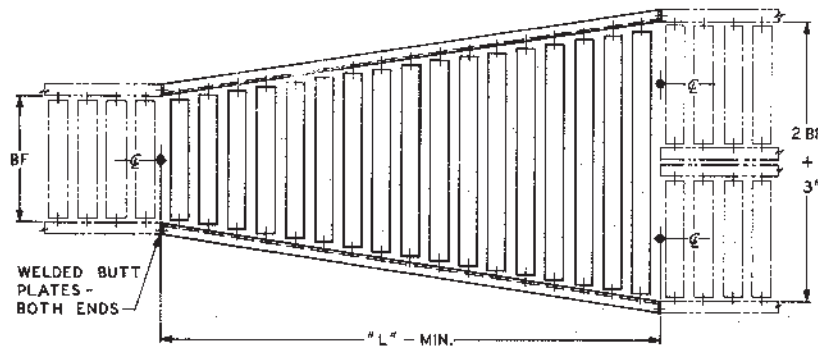
### C. — Pitched Roll Curve —

Webb-Stiles can manufacture roller curves with a pitched slope built into the curve. See selection of Conveyor Slope for the average slope per foot.

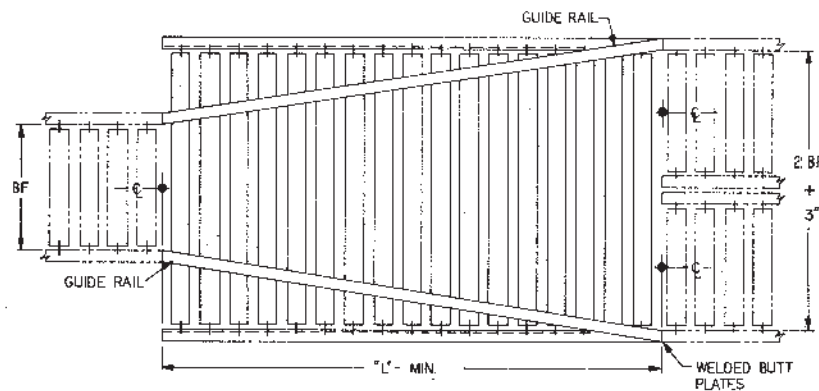




## CONVERGING SECTIONS



TYPE B



## CONVERGING OR DIVERGING SECTIONS

These sections may be used for both converging or diverging level "Push Gravity" applications. Direction of flow may be from either end. These sections can also be used to join narrow width gravity conveyors with curve sections where the "Between Frame" dimension is larger than on the straight section.

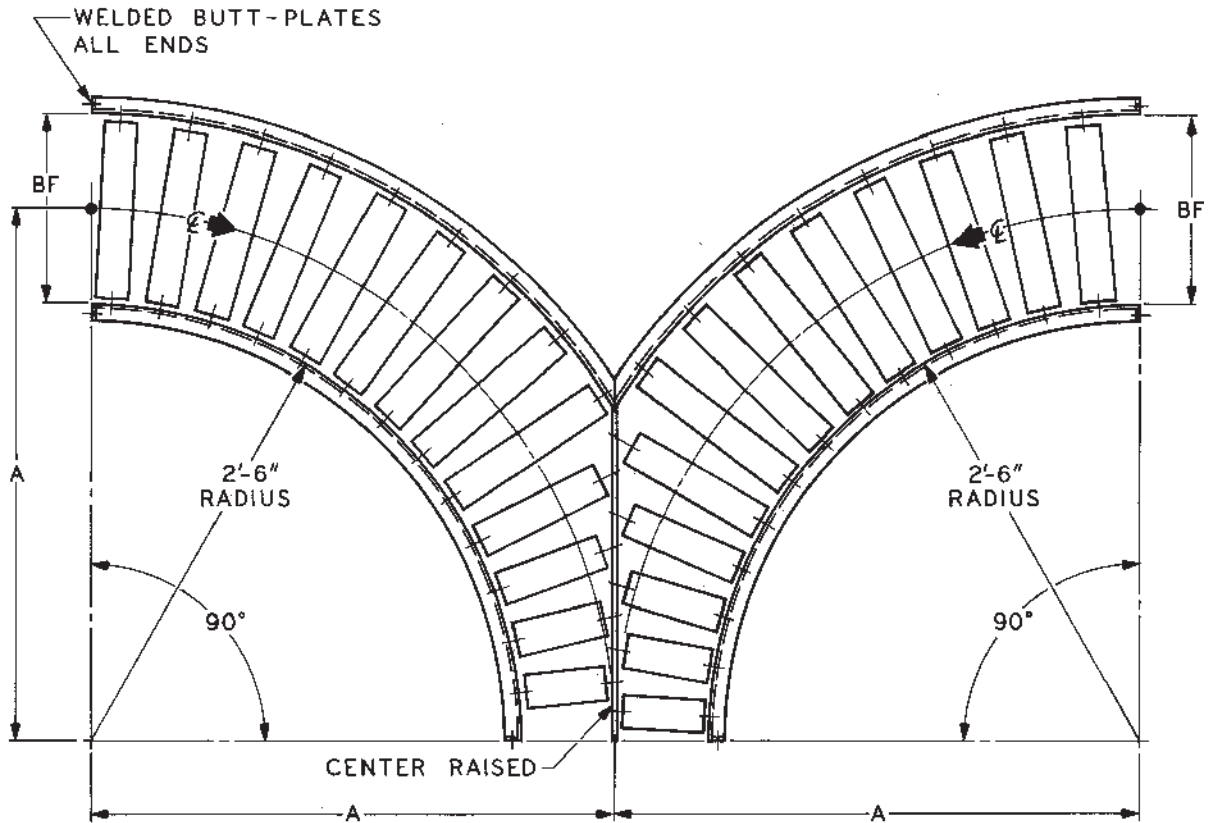
A shows one method used. B shows another method that is much more economical by using a less costly roller bed with raised guide rails used to help direct the load.

"BF"	"L" - MIN.
13"	4'-4"
15"	5'-0"
17"	5'-8"
19"	6'-4"
21"	7'-0"
23"	7'-8"
25"	8'-4"
27"	9'-0"
31"	9'-0"*
37"	9'-0"*

\* 9'-0" is maximum "L" for all frame widths.



## CONVERGING CURVES



### CONVERGING CURVES

Converging curves are used to join two opposite running conveyors into one common spur. Direction of flow is in one direction only. A slightly raised center rail is used to "bank" the load away from the converging rolls and minimize sliding friction. Used under ideal conditions, this section will provide good automatic converging action.

BF	"A"
13"	3'-0½"
15"	3'-1½"
17"	3'-2½"
19"	3'-3½"
21"	3'-4½"
23"	3'-5½"
25"	3'-6½"
27"	3'-7½"
31"	3'-9½"
37"	4'-0½"

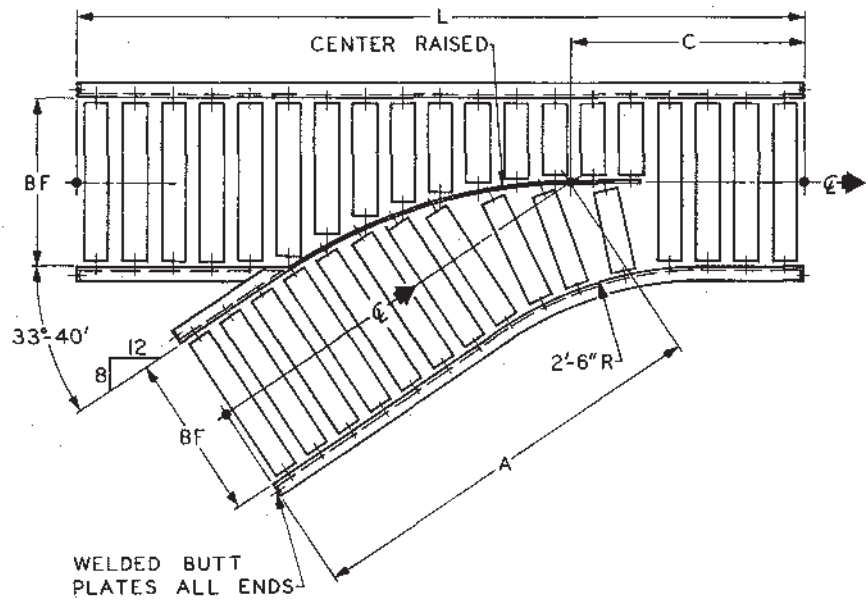


## CONVERGING SECTION

### CONVERGING SECTION

This section is used to converge an auxiliary gravity conveyor line into the main line. Direction of flow is in one direction only. A slightly raised center rail is used to "bank" the load away from the converging rolls and minimize sliding friction. When used under ideal conditions, this section will provide good automatic converging action.

BF	A	L	C
13"	2'-8 $\frac{1}{8}$ "	4'-8"	1'-6 $\frac{1}{8}$ "
15"	2'-11 $\frac{1}{4}$ "	4'-11 $\frac{1}{2}$ "	1'-6 $\frac{5}{8}$ "
17"	3'-3 $\frac{1}{8}$ "	5'-3 $\frac{1}{2}$ "	1'-6 $\frac{1}{2}$ "
19"	3'-6 $\frac{1}{4}$ "	5'-7 $\frac{1}{8}$ "	1'-7 $\frac{1}{4}$ "
21"	3'-9 $\frac{1}{8}$ "	5'-10 $\frac{3}{8}$ "	1'-7 $\frac{1}{2}$ "
23"	4'-0 $\frac{1}{4}$ "	6'-1 $\frac{3}{4}$ "	1'-7 $\frac{7}{8}$ "
25"	4'-4"	6'-5 $\frac{3}{4}$ "	1'-8 $\frac{1}{8}$ "
27"	4'-6 $\frac{3}{8}$ "	6'-9 $\frac{1}{4}$ "	1'-8 $\frac{1}{2}$ "
31"	5'-1 $\frac{1}{8}$ "	7'-4 $\frac{1}{2}$ "	1'-9 $\frac{1}{8}$ "
37"	5'-10 $\frac{1}{8}$ "	8'-3 $\frac{1}{2}$ "	1'-11 $\frac{1}{8}$ "

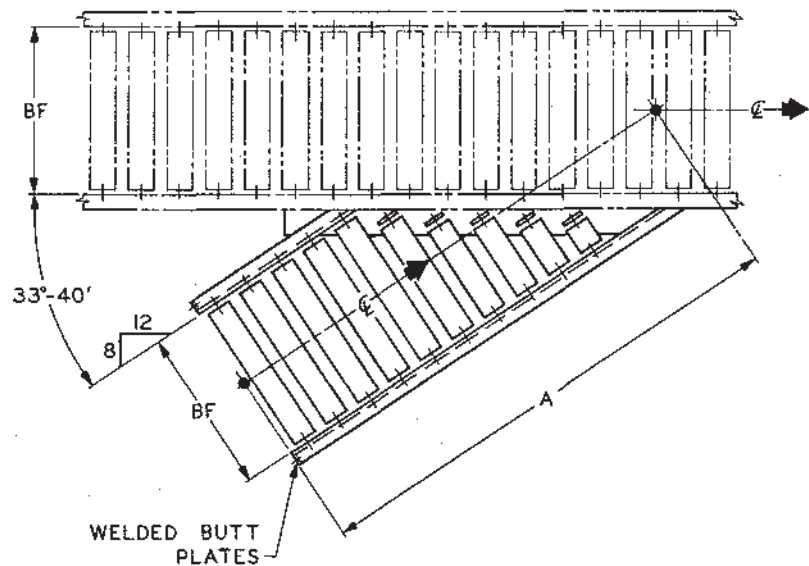


## SPUR SECTION

### SPUR SECTION

This type of section is used generally for auxiliary lines delivering packages into main line. Direction of flow is in one direction only. Packages require manual assistance across intersection. Where main line is a power conveyor, such as belt or live roller, the transfer can be made automatically. To provide flexibility, each spur is made as a separate assembly that may be attached to the main conveyor at any point.

BF	A
13"	2'-11 $\frac{1}{8}$ "
15"	3'-2 $\frac{7}{8}$ "
17"	3'-6 $\frac{1}{8}$ "
19"	3'-9 $\frac{1}{2}$ "
21"	4'-0 $\frac{1}{4}$ "
23"	4'-4 $\frac{1}{8}$ "
25"	4'-7 $\frac{1}{8}$ "
27"	4'-10 $\frac{3}{4}$ "
31"	5'-5 $\frac{1}{8}$ "
37"	6'-3 $\frac{1}{4}$ "



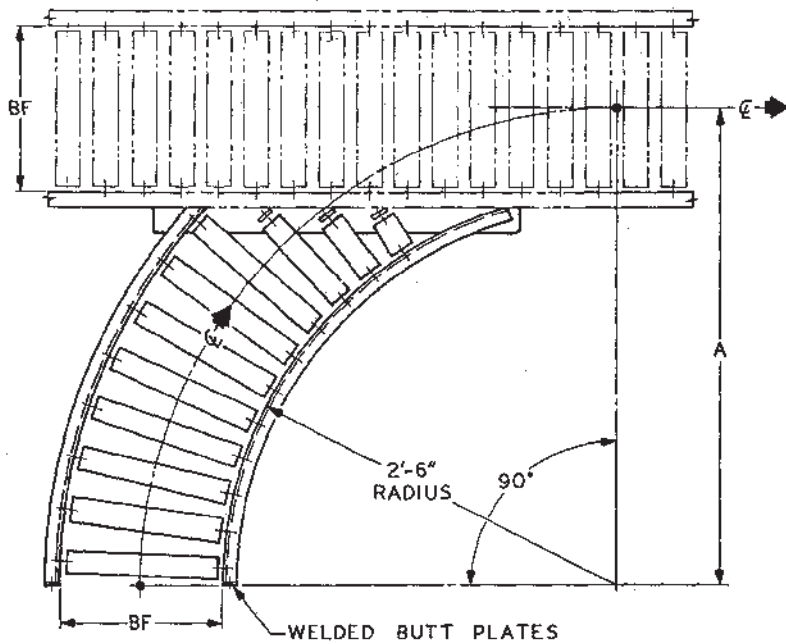


## SPUR SECTIONS

### SPUR SECTION

This type of section is similar to the straight spur sections, except that the connecting spur section is a curve segment. Direction of flow is in one direction only. Packages require manual assistance across intersection. Where main line is a power conveyor, such as belt or live roller, the transfer can be made automatically. To provide flexibility, each spur is made as a separate assembly that may be attached to the main conveyor at any point.

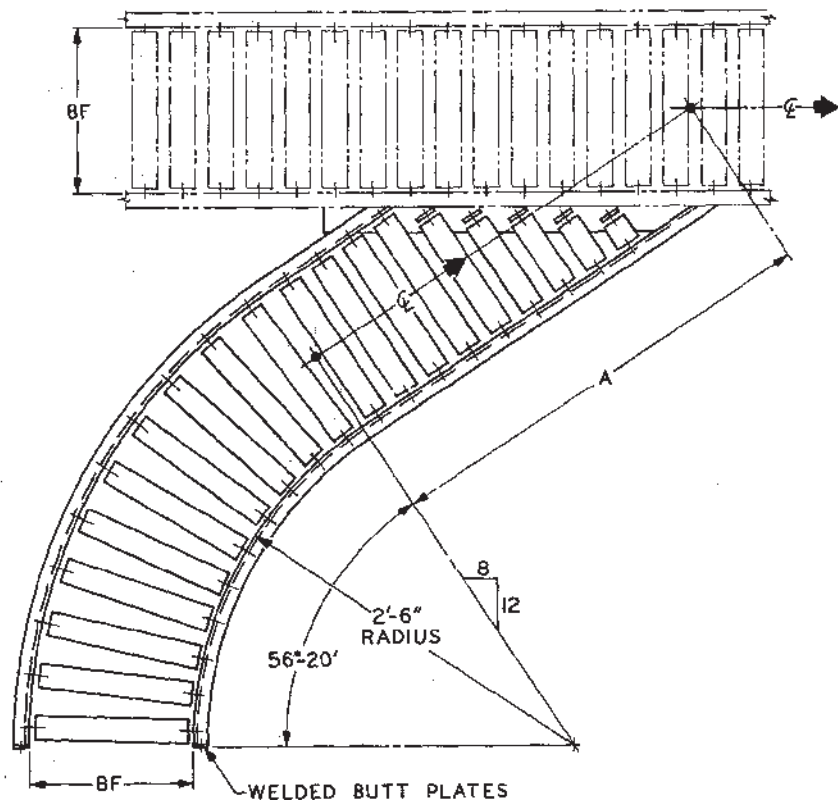
BF	"A"
13"	3'-0½"
15"	3'-1½"
17"	3'-2½"
19"	3'-3½"
21"	3'-4½"
23"	3'-5½"
25"	3'-6½"
27"	3'-7½"
31"	3'-9½"
37"	4'-0½"



### SPUR SECTION

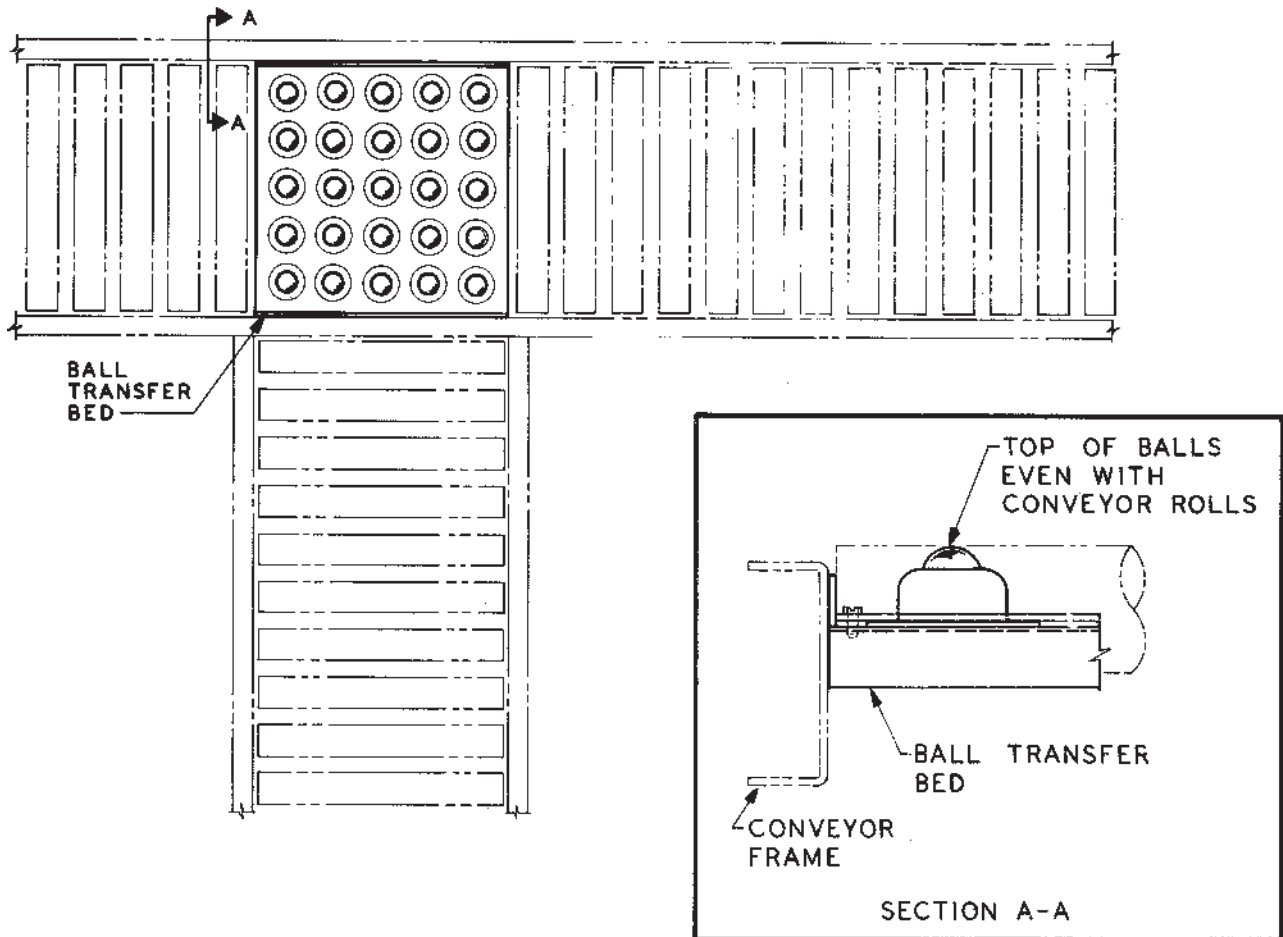
This type of section is used generally for auxiliary lines delivering packages into main line. Direction of flow is in one direction only. Packages require manual assistance across intersection. Where main line is a power conveyor, such as belt or live roller, the transfer can be made automatically. To provide flexibility, each spur is made as a separate assembly that may be attached to the main conveyor at any point.

BF	A
13"	2'-11⅝"
15"	3'-2⅞"
17"	3'-6⅞"
19"	3'-9½"
21"	4'-0⅞"
23"	4'-4⅞"
25"	4'-7⅞"
27"	4'-10½"
31"	5'-5⅞"
37"	6'-3¼"





## BALL TRANSFERS



Balls are held in place by a punched plate or bolted to a support plate in either a square or staggered pattern.

### BALL TRANSFERS

Ball transfers are recommended for usage where packages must be transferred at right angles without turning the package or where it is desired to turn packages without lifting. Ball Transfers are also useful for rotating packages while on the conveyor line and for sorting packages into separate outgoing lines. To obtain good results, the riding surface of the package must be smooth, firm and hard.

Standard WEBB-STILES ball transfers are designed to fit into gravity conveyor frames

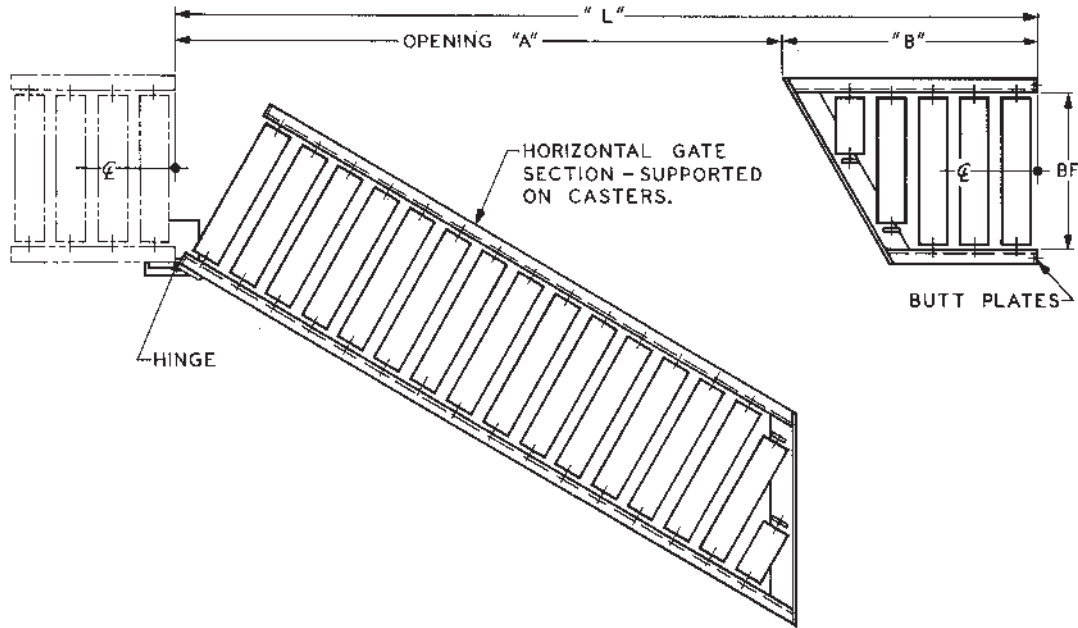
with tops of balls set even with conveyor rolls. Balls are hardened steel and the large ball rotates on a bed of small balls contained in a hardened steel cup. Balls may be bolted to support plate in a square or staggered pattern.

WEBB-STILES can also furnish special ball transfer beds complete with their own support stands that can be used around punch presses or shears to ease the handling of large plates or sheets. The free rotation of the balls makes accurate placement of the metal possible with minimum effort.

For heavy-duty caster and ball decks see special section under ball and caster decks.



## HORIZONTAL GATE SECTION

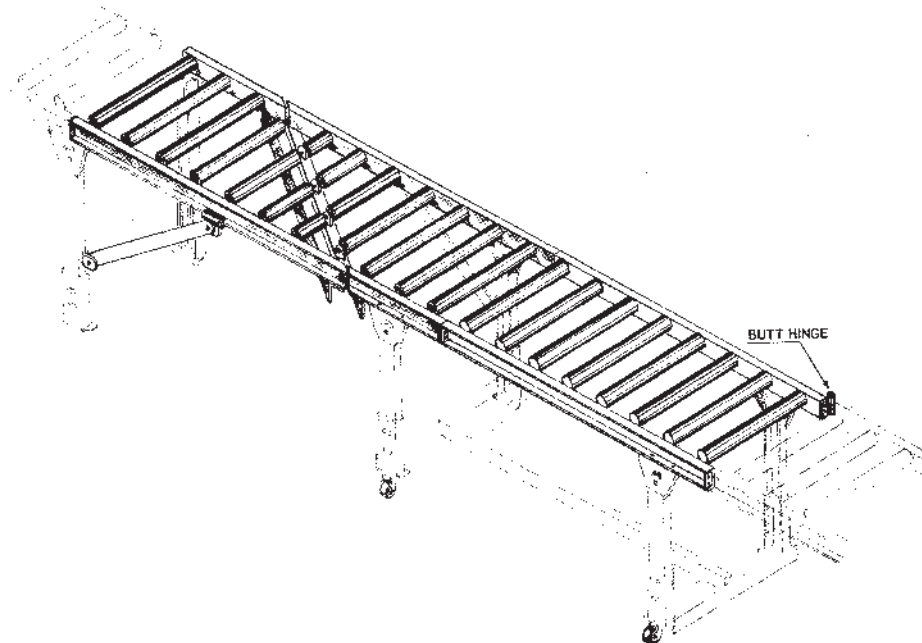


### HORIZONTAL GATE SECTION

Horizontal Gate sections are used to provide passageway through conveyor. They are particularly desirable for wide aiseways where overhead structure will not permit use of vertical hinge gate sections.

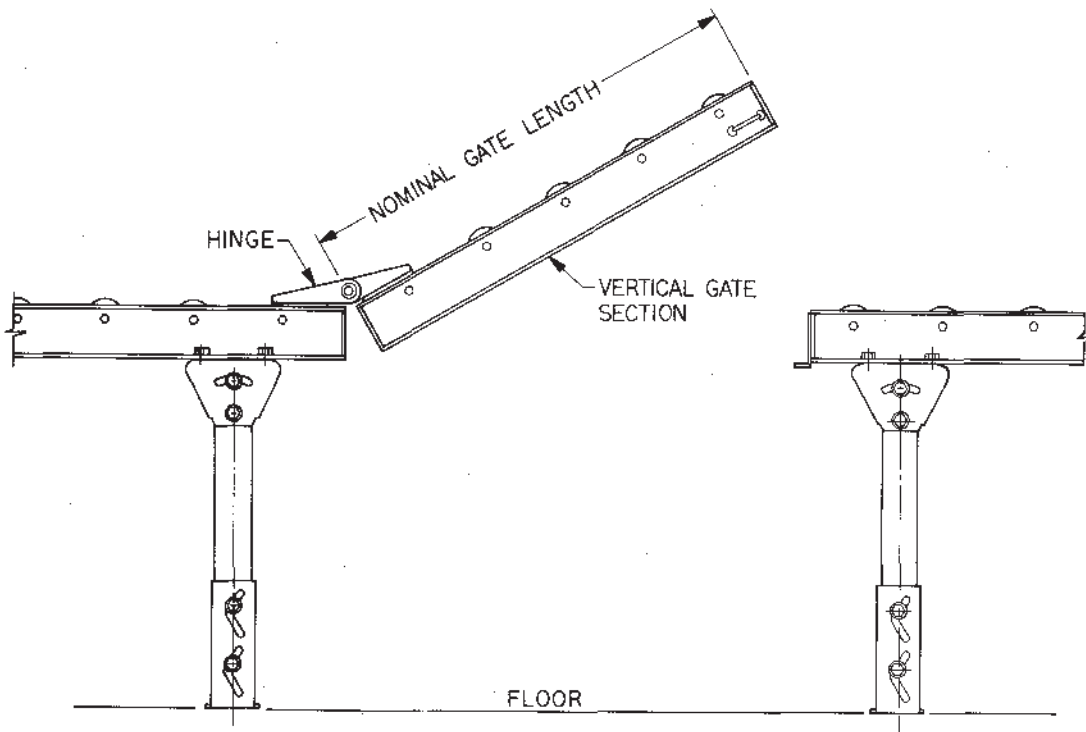
The horizontal gate section is pivoted at one corner and mounted on supports that are furnished with casters. Optional floor tracks are available to prevent casters from wearing grooves in the floor.

Horizontal gate sections are available in lengths to suit the opening requirements. Maximum opening length should be kept under 10'-0".





## VERTICAL GATE SECTION



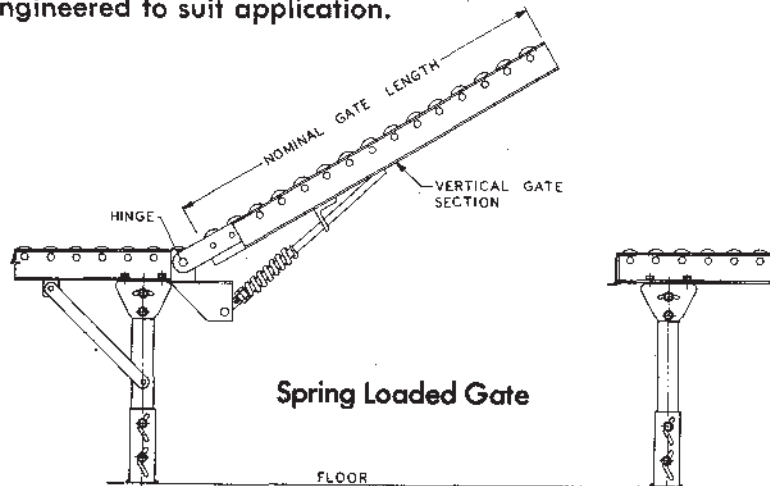
### VERTICAL GATE SECTIONS

#### Manual Vertical Gate

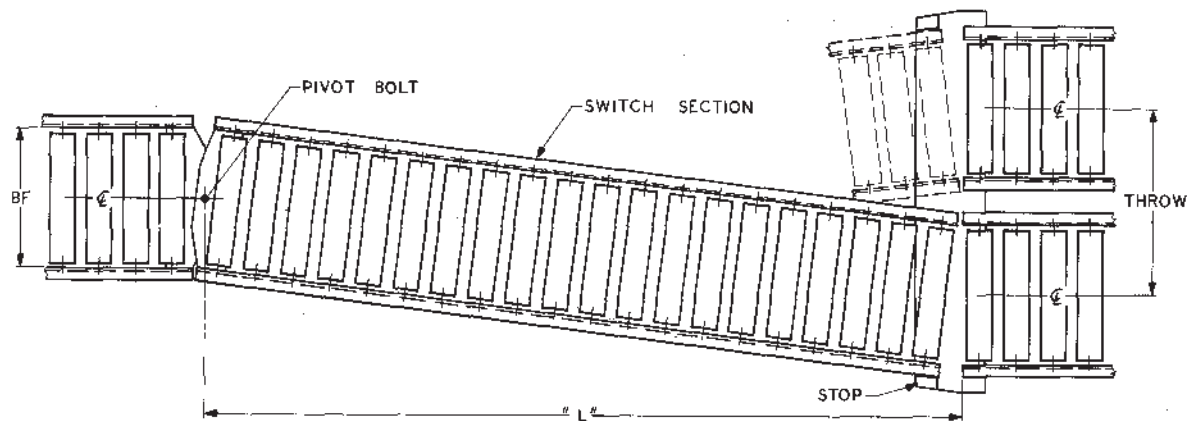
The simplest and least expensive vertical gate is a short section of hinged conveyor, that is opened manually by lifting the free end, and is usually folded back on itself to remain open.

The force required to open a manual vertical gate is at least 50% of its weight and its use is therefore limited to short gate lengths providing narrow passageways which are infrequently used.

For larger gate lengths that offer wider openings, counterweighted, spring loaded or air operated gates are used. This type of gate is custom engineered to suit application.



## PIVOT TYPE SWITCH



### PIVOT TYPE SWITCH

This type of switch consists of a section of roller conveyor pivoted at one end to swing in an arc at the other end and to line up with two or more roller sections.

Normal applications include both level and pitched systems. Direction of flow may be from either end. The switch is normally manually operated, but may be furnished with remote controlled operating devices, such as cables and air cylinders. The moving end of switch can be furnished with ball bearing wheels for easier operation.

The normal switch section length is 10'-0".

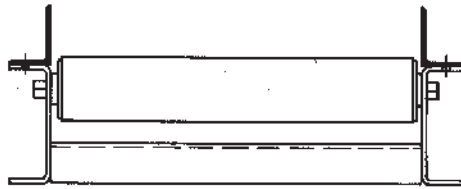




## CONVEYOR GUARDS

Various guard rails are available to help guide materials conveyed on gravity roller conveyors. The five basic types of guards illustrated below meet the majority of applications, and are available for straight roller sections or curves. Guards are especially recommended on the outside rail of roller conveyor curves.

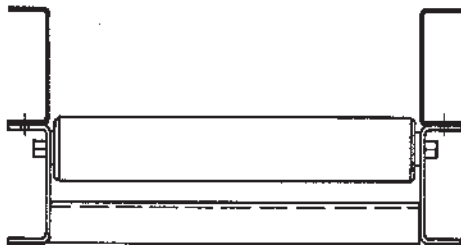
Special guards to meet unusual applications are available on request. All guards are furnished complete with mounting bolts, but are shipped loose to prevent damage in shipping.



Angle guard bolted direct to top flange of roller conveyor frame. Guard is flush with inside of roller conveyor frame.



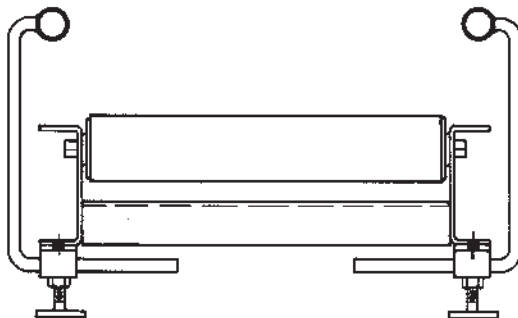
Angle guard, "set-out" type, bolted to underside of top flange of roller conveyor frame.



Channel guard bolted direct to top flange of roller conveyor frame. Guard is flush with inside of roller conveyor frame.



Extended formed metal guard, "set-out" type, bolted to underside of top flange of roller conveyor frame. This type of guard is made to order to satisfy requirements.



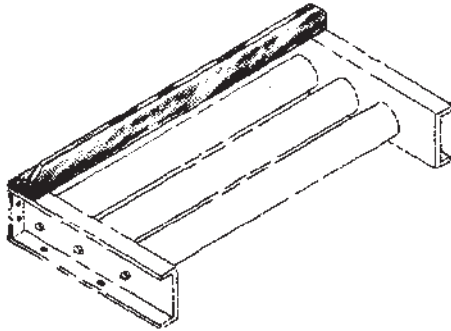
Adjustable tubular guards, "set-out" type, bolted to underside of lower flange of conveyor frame. Can be adjusted "in" and "out" to meet requirements.



# CONVEYOR STOPS

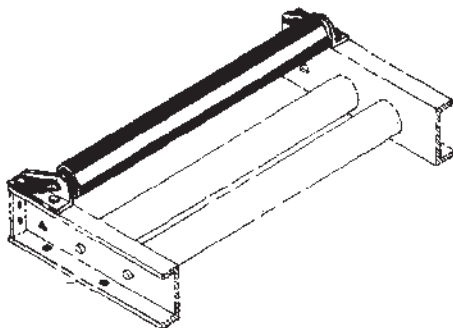
## FIXED STOPS – LIGHT DUTY

ANGLE STOP

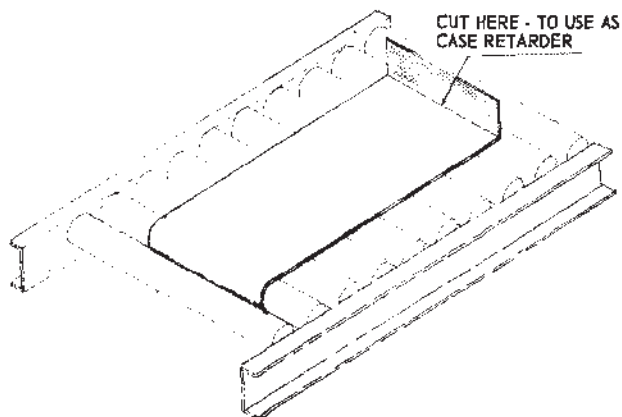


ROLL STOP

(Clips only - last roll in section is used for roll in Roll Stop)

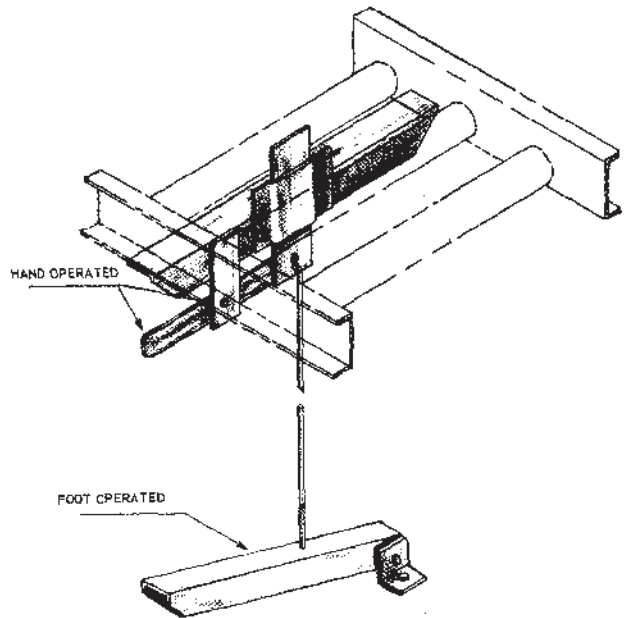


DEAD PLATE STOP



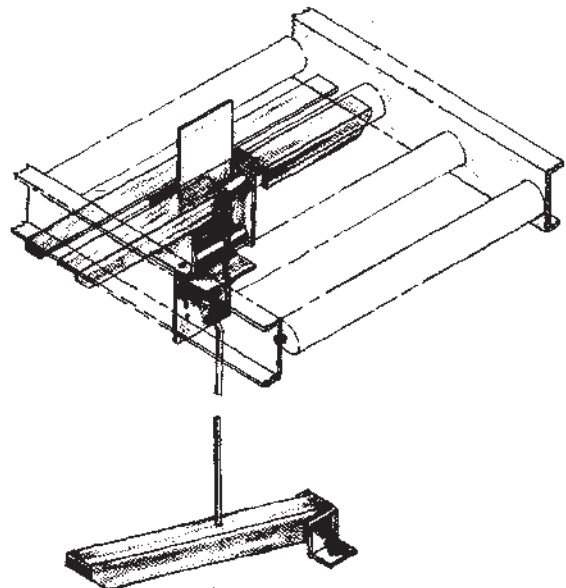
## RETRACTABLE STOPS – LIGHT DUTY

PLATE GUIDED STOPS



ROLL GUIDED STOP (Low Friction)  
Foot Operated

Not available as hand operated stop



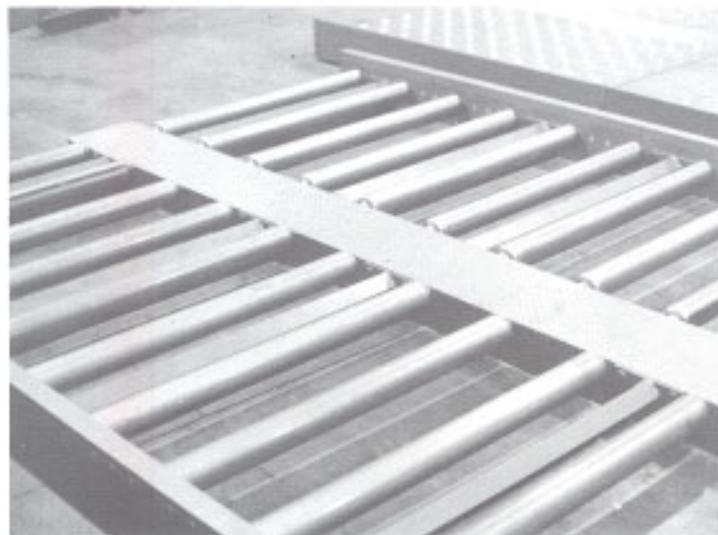
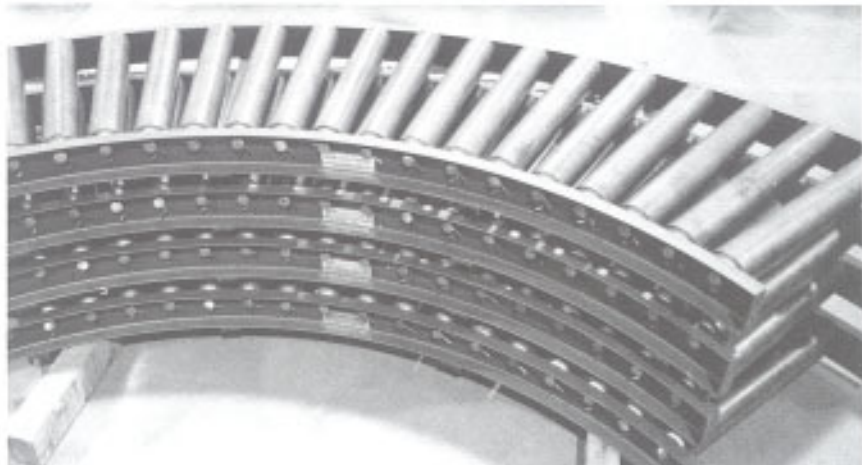


## WEBB-STILES GRAVITY ROLLER CONVEYOR

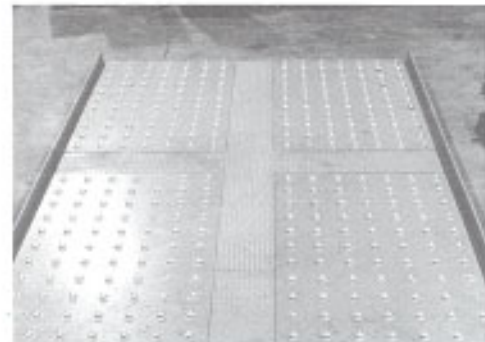


Webb-Stiles gravity roller conveyor sections ready for shipment to the customer. Webb-Stiles formed frames are punched to accept all standard roller centers which offers inventory control and customer cost savings.

These Webb-Stiles heavy duty gravity roller curves will handle automotive castings. The structural channel frames are accurately punched and then rolled to the correct radius.



This custom gravity roller section features a built-in walkway for moving the conveyor load. The large ball transfer below is part of the same system and allows the load to be easily re-oriented.



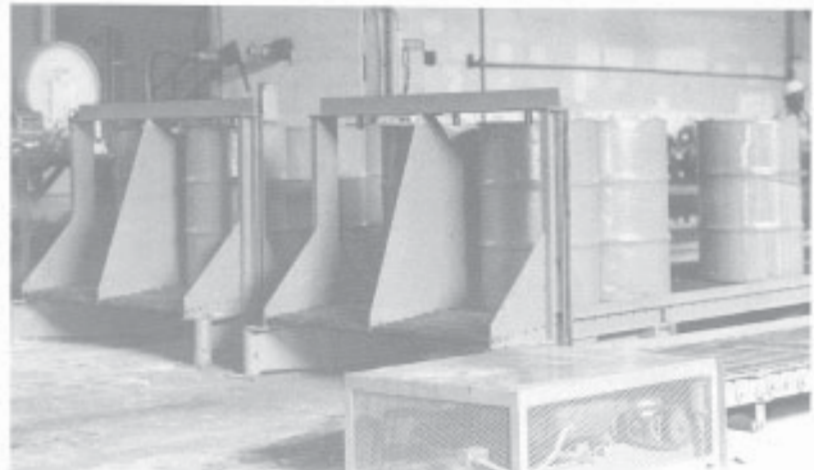


## WEBB-STILES INSTALLATIONS GRAVITY ROLLER CONVEYORS



Gravity roller with skatewheel curves make up a part of this package handling installation for a large department store. Chutes are used to slide the packages to the shipping room below.

Gravity roller is used to palletize 55 gallon drums at an oil producing facility. Each palletizer has two roller lanes built into it.



Spiral gravity storage units are loaded by continuous running vertical tray conveyors. These high capacity storage units gravity feed parts to the assembly line at an automotive plant. These

units can also be ceiling supported to minimize floor space usage.