

BESSER VERTICAL-HORIZONTAL SPLITTER

ATLAS CYLINDER CORPORATION

SERIES "H"

1½" THRU 4" "H" ROD END FLANGE AND CAP END FLANGE

H-REF-2
1½" THRU 4" BORE

NFPA STYLE MF1
ROD END FLANGE

PRESSURE RATINGS FOR PUSH APPLICATIONS					
Bores	1½	2	2½	3¼	4
PSI	3000	3000	3000	3000	3000

5" THRU 12" TURN PAGE

H-BEF-2
1½" THRU 4" BORE

NFPA STYLE MF2
CAP END FLANGE

PRESSURE RATINGS FOR PULL APPLICATIONS					
Bores	1½	2	2½	3¼	4
PSI	3000	3000	3000	3000	3000

H-REF-1
1½" THRU 4" BORE

NFPA STYLE MF5
ROD END FLANGE

PRESSURE RATINGS FOR PUSH APPLICATIONS					
Bores	1½	2	2½	3¼	4
PSI	3000	3000	3000	3000	3000

H-BEF-1
1½" THRU 4" BORE

NFPA STYLE MF6
CAP END FLANGE

PRESSURE RATINGS FOR PULL APPLICATIONS					
Bores	1½	2	2½	3¼	4
PSI	3000	3000	3000	3000	3000

NOTE: Stroke must be added to the letters in parentheses.

NOTE: All hydraulic cylinders furnished non-cushioned unless ordered otherwise.

BORE	E	NPT EE	SAE EE	F	G	J	K	FB	R	TF	UF	(LB)	(P)
1½	2½	½	#8	¾	1¾	1½	½	7/16	1.63	37/16	4¼	45/8	3
2	3	½	#8	5/8	1¾	1½	5/8	9/16	2.05	41/8	51/8	45/8	3
2½	3½	½	#8	5/8	1¾	1½	5/8	9/16	2.55	45/8	55/8	4¾	31/8
3¼	4½	¾	#12	¾	2	1¾	¾	11/16	3.25	57/8	71/8	5½	37/8
4	5	¾	#12	7/8	21/8	1¾	¾	11/16	3.82	63/8	75/8	5¾	4

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SERIES "H"

5" THRU 12" "H" ROD END FLANGE AND BASE END FLANGE

H-REF-2
5" THRU 12" BORE

NFPA STYLE MF1

Pressure Ratings for Push Applications:

Bore	5	6	7	8	10	12
PSI	2000	1800	1400	1200	1400	1200

H-BEF-2
5" THRU 12" BORE

NFPA STYLE MF2

Pressure Ratings for Pull Applications:

Bore	5	6	7	8	10	12
PSI	2000	1800	1400	1200	1400	1200

H-REF-1
5" THRU 12" BORE

NFPA STYLE MF5

Pressure Ratings for Push Applications:

Bore	5	6	7	8	10	12
PSI	2000	1800	1400	1200	1400	1200

H-BEF-1
5" THRU 12" BORE

NFPA STYLE MF6

Pressure Ratings for Pull Applications:

Bore	5	6	7	8	10	12
PSI	2000	1800	1400	1200	1400	1200

NOTE: Stroke must be added to the letters in parentheses.

NOTE: All hydraulic cylinders furnished non-cushioned unless ordered otherwise.

BORE	E	NPT EE	SAE EE	F	G	J	K	FB	R	TF	UF	(LB)	(P)
5	6 ¹ / ₂	3/4	#12	7/8	2 ¹ / ₈	1 ⁷ / ₈	1	1 ⁵ / ₁₆	4.95	8 ³ / ₁₆	9 ³ / ₄	6 ¹ / ₄	4 ¹ / ₂
6	7 ¹ / ₂	1	#16	1	2 ¹ / ₄	2 ¹ / ₄	1 ¹ / ₈	1 ¹ / ₁₆	5.73	9 ⁷ / ₁₆	11 ¹ / ₄	7 ³ / ₈	5 ⁵ / ₁₆
7	8 ¹ / ₂	1 ¹ / ₄	#20	1	3 ¹ / ₈	2 ⁵ / ₈	1 ¹ / ₄	1 ³ / ₁₆	6.58	10 ⁵ / ₈	12 ⁵ / ₈	8 ¹ / ₂	5 ⁵ / ₈
8	9 ¹ / ₂	1 ¹ / ₂	#24	1	3 ¹ / ₂	3	1 ¹ / ₂	1 ⁵ / ₁₆	7.50	11 ¹³ / ₁₆	14	9 ¹ / ₂	6 ¹ / ₄
10	12 ⁵ / ₈	2	#32	1 ¹¹ / ₁₆	3 ⁵ / ₁₆	3 ¹¹ / ₁₆	2	1 ¹³ / ₁₆	9.62	15 ⁷ / ₈	19	12 ¹ / ₈	8 ¹ / ₄
12	14 ⁷ / ₈	2 ¹ / ₂	#32	1 ¹⁵ / ₁₆	4 ¹⁵ / ₁₆	4 ⁷ / ₁₆	2 ¹ / ₄	2 ¹ / ₁₆	11.45	18 ¹ / ₂	22	14 ¹ / ₂	10 ¹ / ₈

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ATLAS CYLINDER CORPORATION

SERIES "H"

5" THRU 12" "H" ROD END FLANGE AND BASE END FLANGE

H-REF-2
5" THRU 12" BORE

NFPA STYLE MF1

Pressure Ratings for Push Applications:

Bore	5	6	7	8	10	12
PSI	2000	1800	1400	1200	1400	1200

H-BEF-2
5" THRU 12" BORE

NFPA STYLE MF2

Pressure Ratings for Pull Applications:

Bore	5	6	7	8	10	12
PSI	2000	1800	1400	1200	1400	1200

H-REF-1
5" THRU 12" BORE

NFPA STYLE MF5

Pressure Ratings for Push Applications:

Bore	5	6	7	8	10	12
PSI	2000	1800	1400	1200	1400	1200

H-BEF-1
5" THRU 12" BORE

NFPA STYLE MF6

Pressure Ratings for Pull Applications:

Bore	5	6	7	8	10	12
PSI	2000	1800	1400	1200	1400	1200

NOTE: Stroke must be added to the letters in parentheses.

NOTE: All hydraulic cylinders furnished non-cushioned unless ordered otherwise.

BORE	E	NPT EE	SAE EE	F	G	J	K	FB	R	TF	UF	(LB)	(P)
5	6 $\frac{1}{2}$	$\frac{3}{4}$	#12	$\frac{7}{8}$	2 $\frac{1}{8}$	1 $\frac{7}{8}$	1	$\frac{15}{16}$	4.95	8 $\frac{3}{16}$	9 $\frac{3}{4}$	6 $\frac{1}{4}$	4 $\frac{1}{2}$
6	7 $\frac{1}{2}$	1	#16	1	2 $\frac{1}{4}$	2 $\frac{1}{4}$	1 $\frac{1}{8}$	$\frac{1}{16}$	5.73	9 $\frac{7}{16}$	11 $\frac{1}{4}$	7 $\frac{3}{8}$	5 $\frac{5}{16}$
7	8 $\frac{1}{2}$	1 $\frac{1}{4}$	#20	1	3 $\frac{1}{8}$	2 $\frac{5}{8}$	1 $\frac{1}{4}$	$\frac{1}{16}$	6.58	10 $\frac{5}{8}$	12 $\frac{5}{8}$	8 $\frac{1}{2}$	5 $\frac{5}{8}$
8	9 $\frac{1}{2}$	1 $\frac{1}{2}$	#24	1	3 $\frac{1}{2}$	3	1 $\frac{1}{2}$	$\frac{1}{16}$	7.50	11 $\frac{13}{16}$	14	9 $\frac{1}{2}$	6 $\frac{1}{4}$
10	12 $\frac{5}{8}$	2	#32	1 $\frac{11}{16}$	3 $\frac{5}{16}$	3 $\frac{11}{16}$	2	$\frac{1}{16}$	9.62	15 $\frac{7}{8}$	19	12 $\frac{1}{8}$	8 $\frac{1}{4}$
12	14 $\frac{7}{8}$	2 $\frac{1}{2}$	#32	1 $\frac{15}{16}$	4 $\frac{15}{16}$	4 $\frac{7}{16}$	2 $\frac{1}{4}$	$\frac{1}{16}$	11.45	18 $\frac{1}{2}$	22	14 $\frac{1}{2}$	10 $\frac{1}{8}$

BESSER VERTICAL-HORIZONTAL SPLITTER

SERIES "H"

ATLAS CYLINDER CORPORATION

5" THRU 12" "H" ROD END FLANGE AND CAP END FLANGE

The chart below lists the dimensions affected by piston rod diameter for the cylinders shown on the facing page. Below the chart are rod end machining styles and the proper accessories. Note: Letters in parentheses are for zero stroke — add stroke to dimension.

BORE	MM ROD DIA	A	B	BF	C	CC	D	KK	V	VA	VF	VH	W	WF	Y	(ZB)	(ZF)
5	2	2 1/2	2.624	3 1/4	-	1 1/2-12	1 1/2	1 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2	3	9 1/4	9 1/2
	2 1/2	3	3.124	4 1/4	-	2 1/2-12	2 1/2	1 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	3 1/4	9 1/2	9 1/2
	3	3 1/2	3.749	5 1/16	-	2 1/2-12	2 1/2	2 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	3 1/4	9 1/2	9 1/2
6	3 1/2	3 1/2	4.249	5 15/16	-	3 1/2-12	3	2 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	3 1/4	9 1/2	9 1/2
	2 1/2	3	3.124	4 1/4	-	2 1/2-12	2 1/2	1 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	3 1/4	10 1/4	10 1/4
	3	3 1/2	3.749	5 1/16	-	2 1/2-12	2 1/2	2 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	3 1/4	10 1/4	10 1/4
7	3 1/2	3 1/2	4.249	5 15/16	-	3 1/2-12	3	2 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	3 1/4	10 1/4	10 1/4
	4	4	4.749	6 1/16	-	3 1/2-12	3 1/2	3-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	3 1/4	10 1/4	10 1/4
	3	3 1/2	3.749	5 1/16	-	2 1/2-12	2 1/2	2 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	3 1/4	12	11 1/4
8	3 1/2	3 1/2	4.249	5 15/16	-	3 1/2-12	3	2 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	3 1/4	12	11 1/4
	4	4	4.749	6 1/16	-	3 1/2-12	3 1/2	3-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	3 1/4	12	11 1/4
	4 1/2	4 1/2	5.249	6 5/16	-	4 1/2-12	3 3/4	3 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	3 1/4	12	11 1/4
10	5	5	5.749	7 1/16	-	4 1/2-12	4 1/2	3 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	3 1/4	12	11 1/4
	3 1/2	3 1/2	4.249	5 15/16	-	3 1/2-12	3	2 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	4 1/8	13 1/4	12 1/4
	4	4	4.749	6 1/16	-	3 1/2-12	3 1/2	3-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	4 1/8	13 1/4	12 1/4
12	4 1/2	4 1/2	5.249	6 5/16	-	4 1/2-12	4 1/2	3 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	4 1/8	13 1/4	12 1/4
	5 1/2	5 1/2	6.249	7 1/16	-	5 1/2-12	4 3/4	4-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	4 1/8	13 1/4	12 1/4
	5	5	5.749	7 1/16	-	4 1/2-12	3 3/4	3 1/2-12	1/2	1 1/2	1/2	1/2	1 1/2	2 1/4	5	17 1/16	16 1/4

ROD END ACCESSORY CHART

STYLE 1 & 2 MALE ROD THREADS								STYLE 3 FEMALE ROD THREADS	
THREAD SIZE	ROD CLEVIS	EYE BRACKET	PIVOT PIN	ROD EYE	CLEVIS BRACKET	PIVOT PIN	ROD COUPLER	SELF-ALIGNING	MALE ROD EYE
1 1/2-20	JIC 40	EB 195	PP 368	REE 85	CB 205	PP 368	RC 07	SA-1	MRE-89
1 1/2-20	JIC 41	EB 195	PP 368	REE 90	CB 205	PP 368	RC 08	-	MRE-90
1 1/2-16	JIC 42	EB 196	PP 369	REE 91	CB 206	PP 369	RC 12	SA-2	MRE-91
1 1/2-14	JIC 43	EB 197	PP 370	REE 92	CB 207	PP 370	RC 14	-	MRE-92
1-14	JIC 44	EB 197	PP 370	REE 93	CB 207	PP 370	RC 16	SA-3	MRE-93
1 1/2-12	JIC 45	EB 198	PP 371	REE 94	CB 208	PP 371	RC 20	SA-4	MRE-94
1 1/2-12	JIC 46	EB 199	PP 372	REE 95	CB 208	PP 372	RC 24	SA-5	MRE-95
1 1/2-12	JIC 47	EB 200	PP 373	REE 96	CB 210	PP 215	RC 28	-	MRE-96
1 1/2-12	JIC 48	EB 200	PP 373	REE 97	CB 210	PP 215	RC 30	SA-6	MRE-97
2 1/2-12	JIC 49	EB 201	PP 374	REE 98	CB 211	PP 374	RC 36	-	MRE-98
2 1/2-12	JIC 50	EB 202	PP 375	REE 99	CB 212	PP 375	RC 40	-	MRE-99
2 1/2-12	JIC 51	EB 202	PP 375	REE 100	CB 213	PP 216	RC 44	-	MRE-100
3 1/2-12	JIC 52	EB 38	PP 545	REE 36	CB 242	PP 545	RC 52	-	MRE-36
3 1/2-12	JIC 53	EB 39	PP 547	REE 37	CB 242	PP 545	RC 56	-	MRE-37
4-12	JIC 54	EB 39	PP 547	REE 38	CB 243	PP 546	RC 64	-	MRE-38

Full Service Heavy Duty Hydraulic Cylinders

AND WHEN THE STANDARD ROD ENDS OR ACCESSORIES DON'T SUIT YOUR NEEDS, ASK FOR OUR "SPECIALS"

BESSER VERTICAL-HORIZONTAL SPLITTER

PARTS LIST

INPUT CONVEYOR

QTY.	NO.	DESCRIPTION
1	109540	Hydraulic Drive Motor
1	101759	Sprocket (Drive Motor) #60
1	82621	Bushing (Drive sprocket)
1	424880	Sprocket (Driven) #60
3	111809	Locking Assembly - 1-7/16" Bore
2	419440	Sprocket (Conveyor drive) #80
6	298300	Sprocket and Bearing #80
6	81709	Retaining Ring
8	424870	Attachment Link
8	107528	Connecting Link #80
1	106727	Hydraulic Motor Bars
1	104741	Reflector
2		Bearing (Drive Shaft) - Dodge SC-124208
1		Encoder - AB - 845T-DC5ECN-C
1		Proximity Switch - AB - Bul. 871 Type P
1		Photo Relay - AB - 42LTB-5000/42LRC-5000

OUTPUT CONVEYOR

QTY.	NO.	DESCRIPTION
1		Hydraulic Drive Motor - CharLynn - 101-1002-009
1	101759	Sprocket (Drive Motor) #60
1	82621	Bushing (Drive Sprocket)
1	103495	Needle Valve
1	104741	Reflector
4		Bearing (Shafts) Dodge Sc-124208
4		Sprocket (Conveyor)
1		Sprocket Drive

LIFT TABLE: AND TOP

QTY.	NO.	DESCRIPTION
1		Cylinder (Atlas Ser. 99455; 2-1/2 x 18)
2	106846	Limit Switch Body
2	106847	Limit Switch Receptacle
2	108527	Limit Switch Head
2	100671	Limit Switch Arm
1		Bearing (Crank) Dodge SC-124103
6		Springs (Lee LHC-162N-6)

SPLITTING ASSEMBLY

QTY.	NO.	DESCRIPTION
2		Cylinder Atlas 6 x 6 Style MFI
2		Cylinder Atlas 6 x 6 Style MF2
8	87702	Nut 2 * 4-1/2
8	87713	Nut - Jam 2 * 4-1/2
1	112845	Spring (Support Vertical)
8		Bushing - Main knife table - 2" Bore
4		Bushing - Guide rods - 1-3/4" Bore
4		Bushing - Guide rods - 2" Bore

BESSER VERTICAL-HORIZONTAL SPLITTER

PARTS LIST

PNEUMATIC & HYDRAULIC CONTROLS

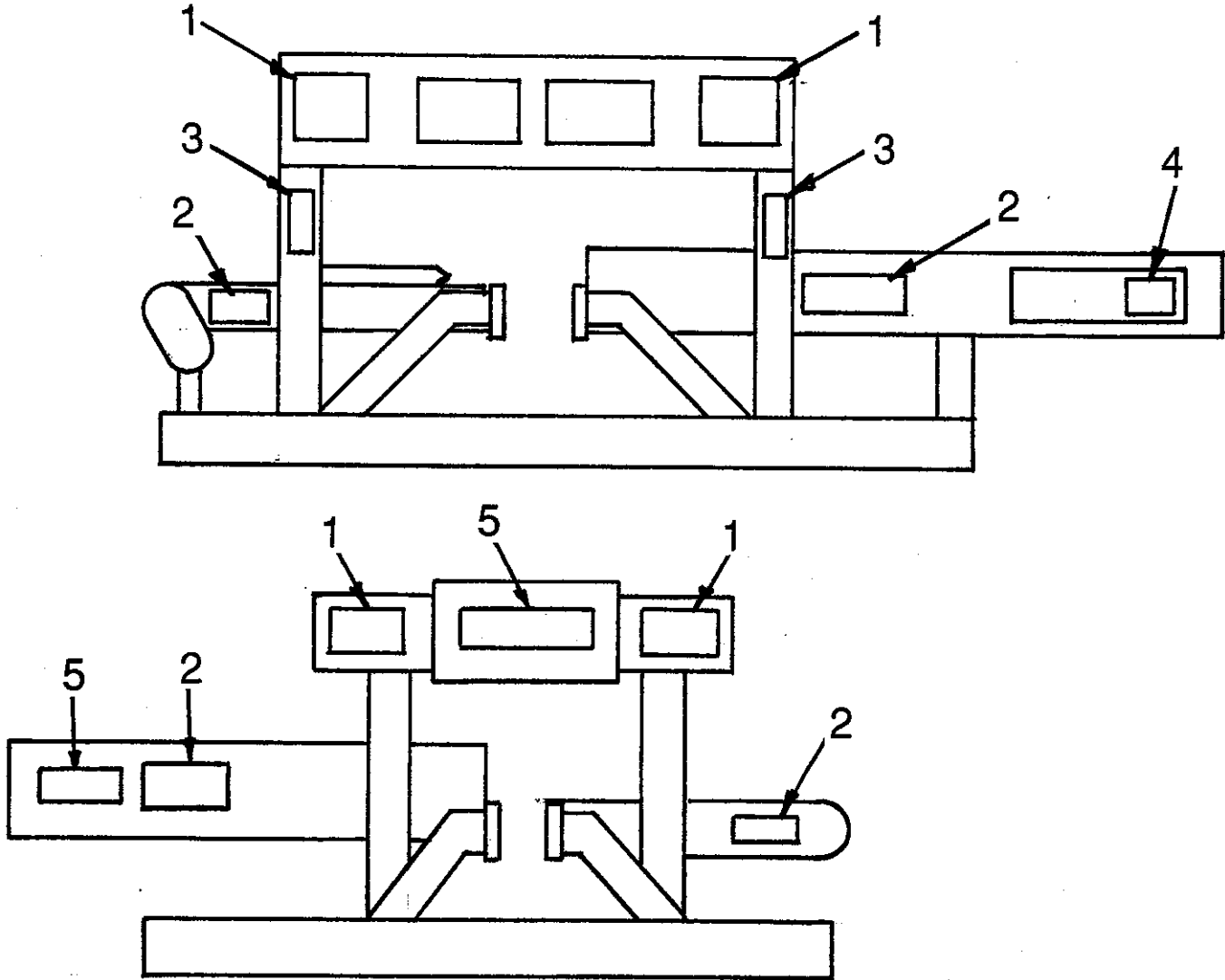
QTY.	NO.	DESCRIPTION
1	112676	Air Valve - Rexroth CS20042-2626
1	112889	Manifold - Rexroth P-68427
1	112890	Manifold End - Rexroth P-68428
1		Pressure Switch (Parker Mod. C96123)
1		Shuttle Valve - 1/4 NPT
2		ISO-03 - Hydraulic Direction Valve
2		ISO-03 - Hydraulic Sandwich Flow Control
1		ISO-08 - Hydraulic Direction Valve

PANEL CONTROL

QTY.	NO.	DESCRIPTION
5		Push Button Operator
1		3 Position Spring to Center
1		3 Position Selector Switch
1		Pull to Start/Push-off
1		Pull-on/Push-off
1		Contact Block - Pull-on
5		Contact Block - N.C.
6		Contact Block - N.O.
1	100579	Octal Base
1	100578	Plug in Relay - 120 V.
8		Fuse blocks
1	92182	Fuse FNM 15
1	92206	Fuse FNM 1
1	445357	Power Supply 24 VDC
2		Relays - Westinghouse
1		Door Switch
1	113773FL20C	PLC - AB - SLC500-L20C-0193N
1	113773FDTAM	Monitor - DTAM
1		Cable
AR		Terminal Blocks

AR = As Required

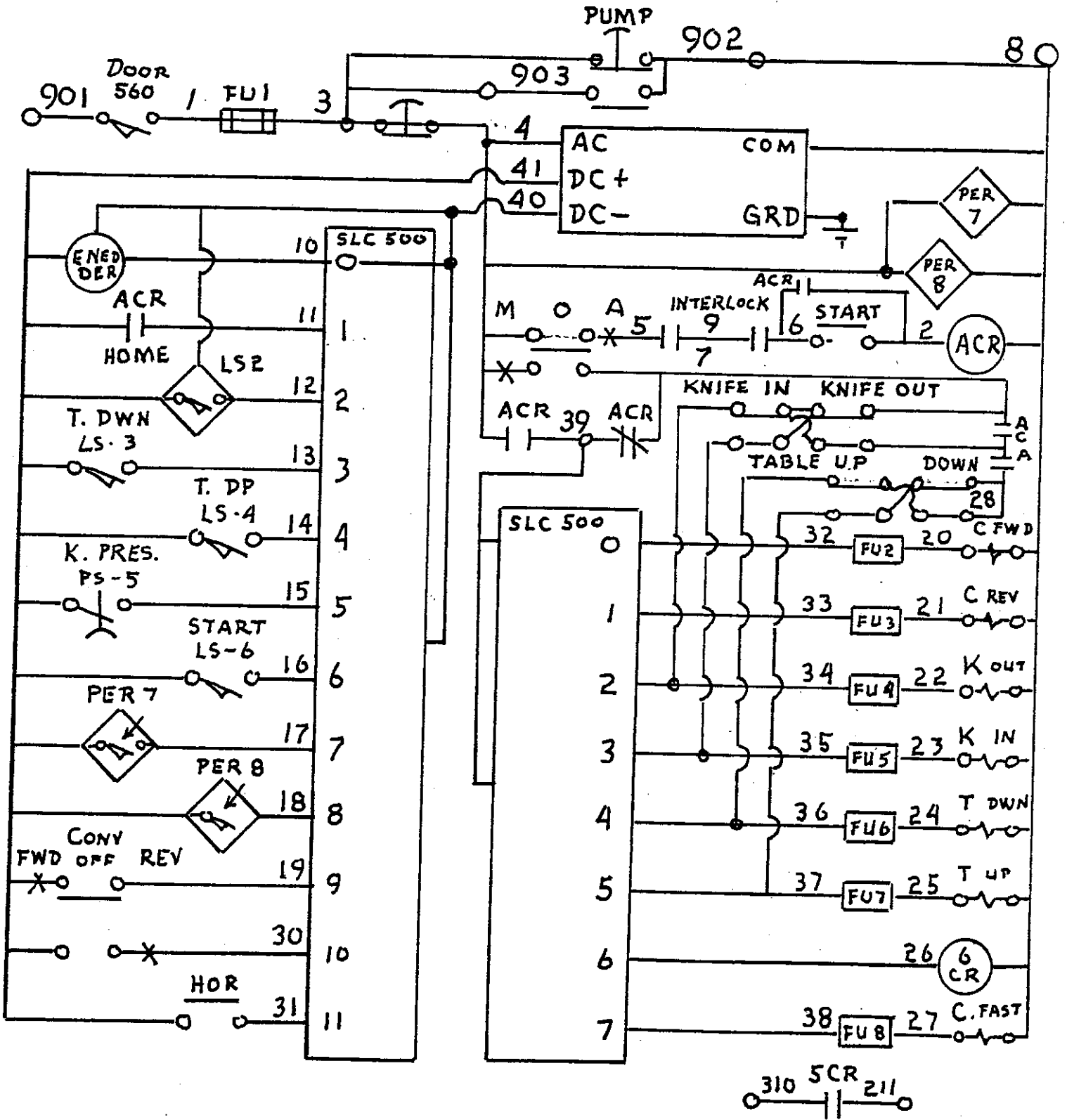
BESSER VERTICAL-HORIZONTAL SPLITTER



SAFETY SIGNS/DECALS

KEY	QTY.	PART NO.
1	4	111093
2	4	113246F0704
3	4	113249F0410
4	1	113236F0204
5	2	112880F0314

BESSER VERTICAL-HORIZONTAL SPLITTER

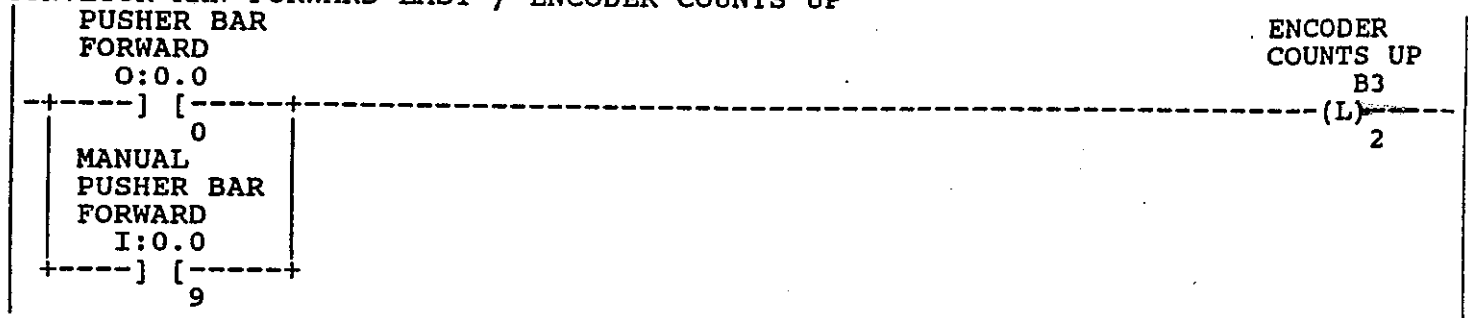


BESSER VERTICAL-HORIZONTAL SPLITTER

HVSPLITTER LOGIC:453242 ELEM:453243 REV - 5/26/93
 Program Listing Processor File: HVSPLIT.ACH

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 Rung 2:0

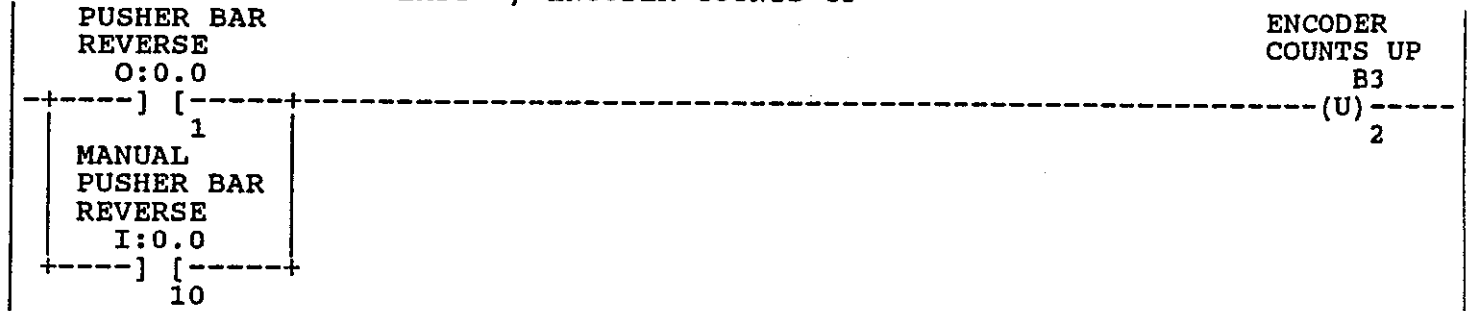
Rung 2:0
 CONVEYOR RAN FORWARD LAST / ENCODER COUNTS UP



B3/2

-] [-	2:7
-]/[-	2:8
-(L)-	2:0
-(U)-	2:1

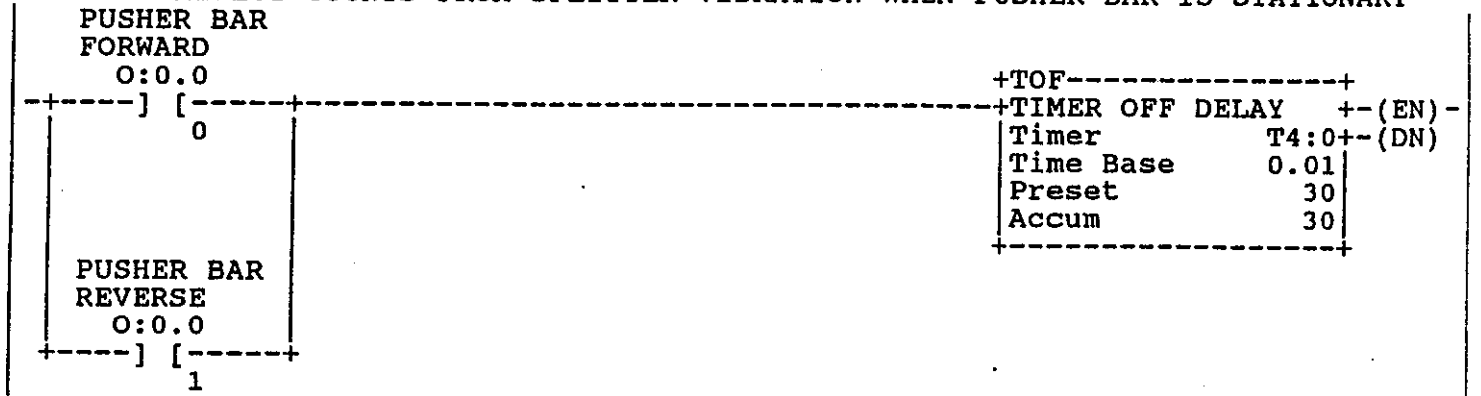
Rung 2:1
 CONVEYOR RAN FORWARD LAST / ENCODER COUNTS UP



B3/2

-] [-	2:7
-]/[-	2:8
-(L)-	2:0
-(U)-	2:1

Rung 2:2
 DISABLE INPUT FROM INCREMENTAL ENCODER TO HIGH SPEED COUNTER AFTER PUSHER BAR STOPS TO REJECT COUNTS FROM SPLITTER VIBRATION WHEN PUSHER BAR IS STATIONARY



BESSER VERTICAL-HORIZONTAL SPLITTER

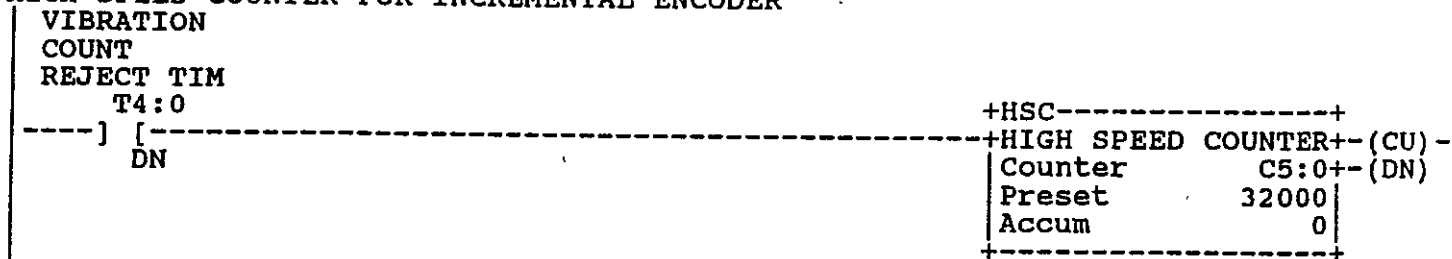
HVSPLITTER LOGIC:453242 ELEM:453243 REV - 5/26/93
 Program Listing Processor File: HVSPLIT.ACH

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 Rung 2:3

T4:0

-TOF- 2:2

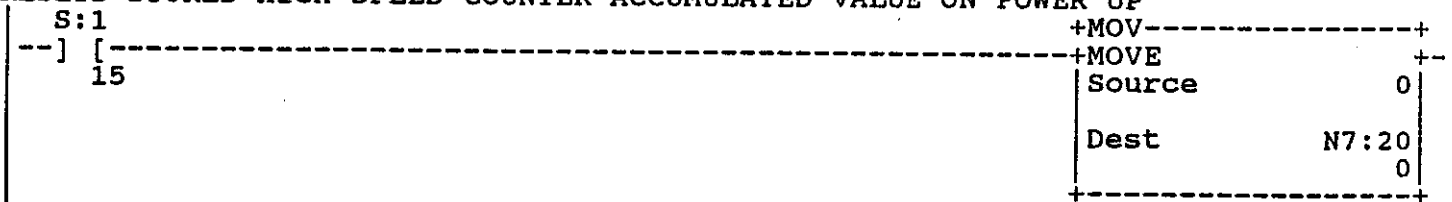
Rung 2:3
 HIGH SPEED COUNTER FOR INCREMENTAL ENCODER



C5:0

-HSC- 2:3
 -RES- 2:5

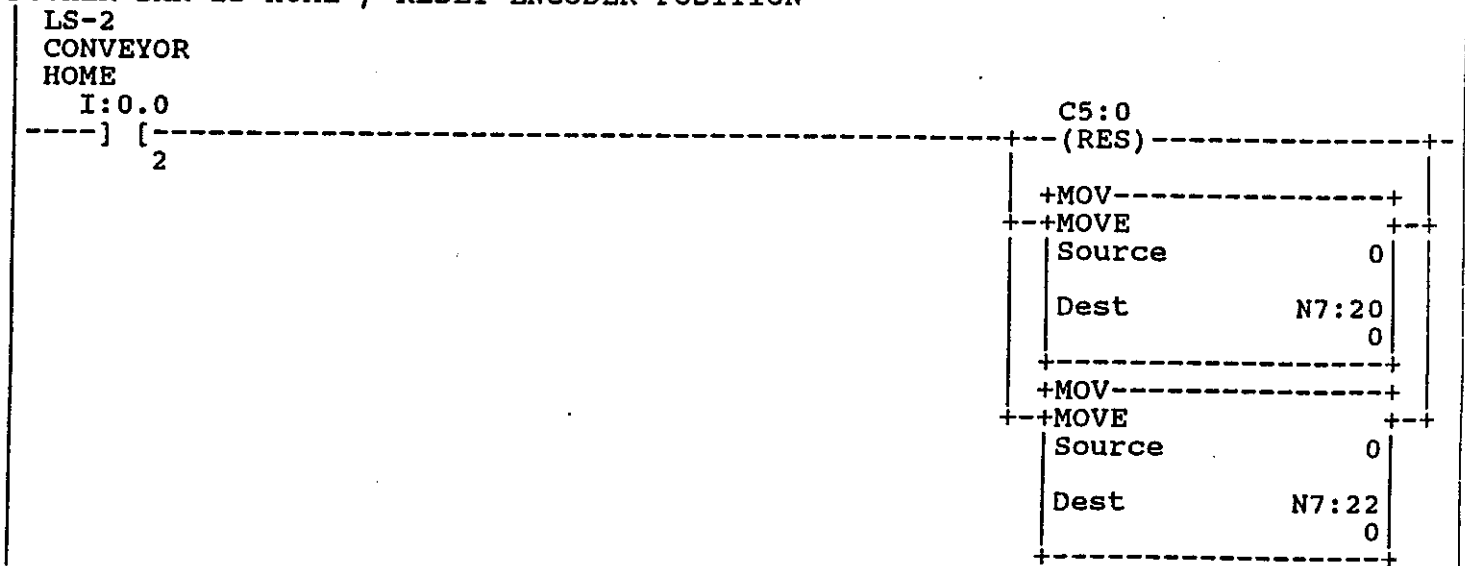
Rung 2:4
 RESETS STORED HIGH SPEED COUNTER ACCUMULATED VALUE ON POWER UP



N7:20

-MOV- 2:4 2:5 2:6
 -SUB- 2:6

Rung 2:5
 PUSHER BAR IS HOME / RESET ENCODER POSITION



BESSER VERTICAL-HORIZONTAL SPLITTER

HVSPLITTER LOGIC:453242 ELEM:453243 REV - 5/26/93
 Program Listing Processor File: HVSPLIT.ACH

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 Rung 2:6

```

C5:0
    -HSC- 2:3
    -RES- 2:5

N7:20
    -MOV- 2:4 2:5 2:6
    -SUB- 2:6

N7:22
    -ADD- 2:7 2:7
    -GRT- 2:9
    -LES- 2:9
    -MOV- 2:5
    -MUL- 2:9
    -SUB- 2:8 2:8
  
```

Rung 2:6

SUBTRACT THE STORED HSC ACCUMLATED VALUE FROM THE NEW HSC ACCUMULATED VALUE

	+SUB-----+
	+SUBTRACT
	Source A C5:0.ACC
	0
	Source B N7:20
	0
	Dest N7:21
	0
	+-----+
	+MOV-----+
	+MOVE
	Source C5:0.ACC
	0
	Dest N7:20
	0
	+-----+

```

C5:0.ACC
    -MOV- 2:6
    -SUB- 2:6

N7:20
    -MOV- 2:4 2:5 2:6
    -SUB- 2:6

N7:21
    -ADD- 2:7
    -SUB- 2:6 2:8
  
```