

# BESSER VERTICAL-HORIZONTAL SPLITTER

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

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 Rung 2:97

Rung 2:97  
 THIS RUNG MOVES THE SELECTED RECIPE INTO THE WORKING BUFFER

+EQU-----+	+COP-----+
--EQUAL	+COPY FILE
Source A        N10:0	Source        #N10:221
0	Dest            #N7:1
Source B        22	Length            6
-----+	-----+

N7:1

```

-COP-  2:76 2:77 2:78 2:79 2:80 2:81 2:82 2:83 2:84 2:85 2:86 2:87
       2:88 2:89 2:90 2:91 2:92 2:93 2:94 2:95 2:96 2:97 2:98 2:99
-GRT-  2:21 2:35
-LEQ-  2:21 2:35
  
```

N10:221

```

-COP-  2:97
  
```

Rung 2:98  
 THIS RUNG MOVES THE SELECTED RECIPE INTO THE WORKING BUFFER

+EQU-----+	+COP-----+
--EQUAL	+COPY FILE
Source A        N10:0	Source        #N10:231
0	Dest            #N7:1
Source B        23	Length            6
-----+	-----+

N7:1

```

-COP-  2:76 2:77 2:78 2:79 2:80 2:81 2:82 2:83 2:84 2:85 2:86 2:87
       2:88 2:89 2:90 2:91 2:92 2:93 2:94 2:95 2:96 2:97 2:98 2:99
-GRT-  2:21 2:35
-LEQ-  2:21 2:35
  
```

N10:231

```

-COP-  2:98
  
```

Rung 2:99  
 THIS RUNG MOVES THE SELECTED RECIPE INTO THE WORKING BUFFER

+EQU-----+	+COP-----+
--EQUAL	+COPY FILE
Source A        N10:0	Source        #N10:241
0	Dest            #N7:1
Source B        24	Length            6
-----+	-----+

N7:1

```

-COP-  2:76 2:77 2:78 2:79 2:80 2:81 2:82 2:83 2:84 2:85 2:86 2:87
       2:88 2:89 2:90 2:91 2:92 2:93 2:94 2:95 2:96 2:97 2:98 2:99
-GRT-  2:21 2:35
-LEQ-  2:21 2:35
  
```

N10:241

```

-COP-  2:99
  
```

BESSER VERTICAL-HORIZONTAL SPLITTER

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HVSPLITTER LOGIC:453242 ELEM:453243 REV - 5/26/93  
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Rung 2:100

Rung 2:100

-----+END+-----

# BESSER VERTICAL-HORIZONTAL SPLITTER

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

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Address	Symbol / Instruction	Comment / File Number:Rung Number
B3/2		ENCODER COUNTS UP
	-] [- 2:7	
	-]/[- 2:8	
	-(L)- 2:0	
	-(U)- 2:1	
B3/10		START PUSHER BAR
	-] [- 2:20	
	-]/[- 2:16	
	-(L)- 2:17	
	-(U)- 2:18	
B3/11		DECEL FOR FIRST SPLIT
	-] [- 2:33	
	-(L)- 2:21	
	-(U)- 2:22	
B3/12		DECEL FOR SECOND SPLIT
	-] [- 2:33	
	-(L)- 2:23	
	-(U)- 2:24	
B3/13		DECEL FOR THIRD SPLIT
	-] [- 2:33	
	-(L)- 2:25	
	-(U)- 2:26	
B3/14		DECEL FOR FOURTH SPLIT
	-] [- 2:33	
	-(L)- 2:27	
	-(U)- 2:28	
B3/15		DECEL FOR FIFTH SPLIT
	-] [- 2:33	
	-(L)- 2:29	
	-(U)- 2:30	
B3/16		DECEL FOR SIXTH SPLIT
	-] [- 2:33	
	-(L)- 2:31	
	-(U)- 2:32	
B3/20		DECEL PUSHER BAR
	-]/[- 2:34	
	-( )- 2:33	
B3/21		START FIRST SPLIT
	-] [- 2:18 2:47 2:64	
	-(L)- 2:35	
	-(U)- 2:36	
B3/22		START SECOND SPLIT
	-] [- 2:20 2:34 2:47 2:66	
	-(L)- 2:37	
	-(U)- 2:38	

# BESSER VERTICAL-HORIZONTAL SPLITTER

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Address	Symbol / Instruction	Comment / File Number:Rung Number
B3/23		START THIRD SPLIT
	-] [-	2:47 2:68
	-(L)-	2:39
	-(U)-	2:40
B3/24		START FOURTH SPLIT
	-] [-	2:47 2:70
	-(L)-	2:41
	-(U)-	2:42
B3/25		START FIFTH SPLIT
	-] [-	2:47 2:72
	-(L)-	2:43
	-(U)-	2:44
B3/26		START SIXTH SPLIT
	-] [-	2:47 2:74
	-(L)-	2:45
	-(U)-	2:46
B3/30		START SPLIT CYCLE
	-] [-	2:48 2:50 2:52 2:53 2:54
	-]/[-	2:20
	-( )-	2:47
B3/31		
	-OSR-	2:52
B3/34		STOP PUSHER BARREVERSE
	-]/[-	2:51
	-( )-	2:53
B3/40		KNIFES HAVE LEFT HOME
	-] [-	2:57
	-(L)-	2:55
	-(U)-	2:56
B3/42		KNIFES HAVE PRESSON BLOCK
	-] [-	2:59
	-(L)-	2:57
	-(U)-	2:58
B3/44		SPLIT COMPLETE
	-] [-	2:63
	-]/[-	2:54
	-(L)-	2:59
	-(U)-	2:60
B3/46		KNIFES ARERETRACED
	-] [-	2:63
	-( )-	2:62
B3/50		SPLIT CYCLE COMPLETE
	-] [-	2:56 2:58 2:60 2:64 2:66 2:68 2:70 2:72 2:74
	-( )-	2:63

# BESSER VERTICAL-HORIZONTAL SPLITTER

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Address	Symbol / Instruction	Comment / File Number:Rung Number
B3/51		FIRST SPLIT COMPLETE
	-] [-	2:20
	-]/[-	2:33 2:47
	-(L)-	2:64
	-(U)-	2:65
B3/52		SECOND SPLIT COMPLETE
	-] [-	2:20
	-]/[-	2:33 2:47
	-(L)-	2:66
	-(U)-	2:67
B3/53		THIRD SPLIT COMPLETE
	-]/[-	2:33 2:47
	-(L)-	2:68
	-(U)-	2:69
B3/54		FOURTH SPLIT COMPLETE
	-]/[-	2:33 2:47
	-(L)-	2:70
	-(U)-	2:71
B3/55		FIFTH SPLIT COMPLETE
	-]/[-	2:33 2:47
	-(L)-	2:72
	-(U)-	2:73
B3/56		SIXTH SPLIT COMPLETE
	-]/[-	2:33 2:47
	-(L)-	2:74
	-(U)-	2:75
C5:0		
	-HSC-	2:3
	-RES-	2:5
C5:0.ACC		
	-MOV-	2:6
	-SUB-	2:6
I:0.0/1		AUTOMATIC
	-] [-	2:16 2:17 2:20 2:21 2:23 2:25 2:27 2:29 2:31 2:34 2:35 2:37 2:39 2:41 2:43 2:45 2:48 2:49 2:50 2:54 2:61
	-]/[-	2:18 2:20 2:51
I:0.0/2		LS-2 CONVEYOR HOME
	-] [-	2:5 2:16 2:17 2:18 2:19 2:22 2:24 2:26 2:28 2:32 2:36 2:38 2:40 2:42 2:44 2:46 2:53 2:65 2:67 2:69 2:71 2:73 2:75
	-]/[-	2:20 2:34 2:51
I:0.0/3		LS-3 TABLE DOWN
	-] [-	2:17 2:20
I:0.0/4		LS-4 TABLE UP
	-] [-	2:20 2:20 2:34 2:54

# BESSER VERTICAL-HORIZONTAL SPLITTER

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Address	Symbol / Instruction	Comment / File Number:Rung Number
I:0.0/5	-] [- -]/[-	LS-5 PRESSURE SWITCH 2:12 2:14 2:57 2:13 2:59
I:0.0/6	-] [-	LS-6 DEPALLETERINTERLOCK 2:17
I:0.0/7	-] [- -]/[-	PER-7 VHSPLITTEREMPTY 2:16 2:17
I:0.0/8	-]/[-	PER-8 OUTBOARD CONV FULL 2:15
I:0.0/9	-] [-	MANUAL PUSHER BARFORWARD 2:0 2:18 2:19 2:20
I:0.0/10	-] [-	MANUAL PUSHER BARREVERSE 2:1 2:19 2:51
I:0.0/11	-] [- -]/[-	HORIZONTALSPLIT SELECTED 2:20 2:34 2:48 2:53 2:54 2:17 2:54
N7:0	-ADD- -GRT- -SUB-	2:52 2:53 2:9 2:10
N7:1	-COP- -GRT- -LEQ-	2:76 2:77 2:78 2:79 2:80 2:81 2:82 2:83 2:84 2:85 2:86 2:87 2:88 2:89 2:90 2:91 2:92 2:93 2:94 2:95 2:96 2:97 2:98 2:99 2:21 2:35 2:21 2:35
N7:2	-EQU- -GRT- -LEQ-	2:20 2:23 2:37 2:23 2:37
N7:3	-GRT- -LEQ-	2:25 2:39 2:25 2:39
N7:4	-GRT- -LEQ-	2:27 2:41 2:27 2:41
N7:5	-GRT- -LEQ-	2:29 2:43 2:29 2:43
N7:6	-GRT- -LEQ-	2:31 2:45 2:31 2:45

# BESSER VERTICAL-HORIZONTAL SPLITTER

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Address	Symbol / Instruction	Comment / File Number:Rung Number
N7:11	-ADD-	2:52
N7:12	-SUB-	2:10
N7:13	-SUB-	2:11
N7:20	-MOV- -SUB-	2:4 2:5 2:6 2:6
N7:21	-ADD- -SUB-	2:7 2:6 2:8
N7:22	-ADD- -GRT- -LES- -MOV- -MUL- -SUB-	2:7 2:7 2:9 2:9 2:5 2:9 2:8 2:8
N7:23	-MUL- -SUB-	2:9 2:9
N7:24	-SUB-	2:9
N7:25	-LEQ- -SUB-	2:35 2:37 2:39 2:41 2:43 2:45 2:10 2:11
N7:26	-ADD- -GRT-	2:52 2:53
N7:27	-LEQ- -SUB-	2:21 2:23 2:25 2:27 2:29 2:31 2:11
N10:0	-EQU-	2:76 2:77 2:78 2:79 2:80 2:81 2:82 2:83 2:84 2:85 2:86 2:87 2:88 2:89 2:90 2:91 2:92 2:93 2:94 2:95 2:96 2:97 2:98 2:99
N10:11	-COP-	2:76
N10:21	-COP-	2:77
N10:31	-COP-	2:78

# BESSER VERTICAL-HORIZONTAL SPLITTER

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Address	Symbol / Instruction	Comment / File Number:Rung Number
N10:41	-COP-	2:79
N10:51	-COP-	2:80
N10:61	-COP-	2:81
N10:71	-COP-	2:82
N10:81	-COP-	2:83
N10:91	-COP-	2:84
N10:101	-COP-	2:85
N10:111	-COP-	2:86
N10:121	-COP-	2:87
N10:131	-COP-	2:88
N10:141	-COP-	2:89
N10:151	-COP-	2:90
N10:161	-COP-	2:91
N10:171	-COP-	2:92
N10:181	-COP-	2:93
N10:191	-COP-	2:94
N10:201	-COP-	2:95
N10:211	-COP-	2:96
N10:221	-COP-	2:97



# BESSER VERTICAL-HORIZONTAL SPLITTER

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Address	Symbol / Instruction	Comment / File Number:Rung Number
N10:231	-COP-	2:98
N10:241	-COP-	2:99
O:0.0/0	-] [- -]/[- -( )-	PUSHER BARFORWARD 2:0 2:2 2:34 2:54 2:20
O:0.0/1	-] [- -( )-	PUSHER BARREVERSE 2:1 2:2 2:51
O:0.0/2	-] [- -( )-	KNIFES RETRACT 2:14 2:30 2:62 2:61
O:0.0/3	-] [- -]/[- -( )-	KNIFES EXTEND 2:12 2:13 2:55 2:20 2:61 2:54
O:0.0/4	-( )-	TABLE DOWN 2:49
O:0.0/5	-]/[- -( )-	TABLE UP 2:49 2:48
O:0.0/6	-( )-	DEPALLETINTERLOCK 2:16
O:0.0/7	-( )-	PUSHER BARFORWARD FAST 2:34
S:1/15	-] [-	2:4
T4:0	-TOF-	2:2
T4:0/DN	-] [-	2:3 VIBRATION COUNT REJECT TIM
T4:1	-TON-	2:12
T4:2	-TON-	2:13
T4:2/DN	-] [-	2:55 TIME BEFORPRESSURE FWD OFF

# BESSER VERTICAL-HORIZONTAL SPLITTER

HVSPLITTER LOGIC:453242 ELEM:453243 REV - 5/26/93  
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Address	Symbol / Instruction	Comment / File Number:Rung Number
T4:3	-TON- 2:14	
T4:3/DN	-] [- 2:17	TIME BEFORPRESSURE REV ON 2:62
T4:4	-TON- 2:15	
T4:4/DN	-]/[- 2:17	CONVEYOR FULL TIME
T4:5	-TON- 2:19	
T4:5/DN	-] [- 2:20	MANUAL PUSHER BARCONTINUE 2:51
T4:6	-TON- 2:50	
T4:6/DN	-] [- 2:51	TIME BEFORPUSHER BARREVERSE
T4:7	-TON- 2:54	
T4:7/DN	-] [- 2:54 -]/[- 2:54	KNIFES EXTEND SAFETY TIM 2:61
T4:8	-TON- 2:54	
T4:8/DN	-] [- 2:59	TIME FOR PRESSURE SW RELEASE

# S A F E T Y   R E Q U I R E M E N T S

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This notice is issued to advise you that due to Federal and State Safety and Health Standards, some previously accepted shop practices **may not** have emphasized the need for proper precautions to insure safe operation of machines, tools, automatic loaders and allied equipment or warned against the use of certain solvents or other cleaning substances that are now considered unsafe or prohibited by law.

Since some of these practices may not reflect current safety practices and procedures, they should be re-examined to insure compliance with the Federal Safety and Health Standards.

We recommend that you advise all shop supervisors, maintenance personnel, machine and tool operators of the importance of this bulletin and we suggest it be read by all persons involved in the maintenance, setup and operation of Besser-built equipment.

**IMPORTANT:** The operation of any machine or power-operated device can be extremely hazardous unless proper safety precautions are strictly observed.

**ALWAYS** ..... be sure proper guarding is in place for all pinch, catch, shear, squeeze and nip points.

**ALWAYS** ..... make sure the equipment is clear of all personnel before starting it.

**ALWAYS** ..... be sure the equipment is properly grounded.

**ALWAYS** ..... turn the main electrical panel off and lock it out when working on equipment. Tag the electrical panel, "**DANGER - DO NOT START THIS MACHINE**".

**ALWAYS** ..... wear appropriate protective equipment like safety glasses, safety shoes, hearing protection, hard hats, etc.

**ALWAYS** ..... keep chemical and flammable material away from electrical or operating equipment.

**ALWAYS** ..... provide a safe work area that is free from slipping and tripping hazards.

**NEVER** ..... exceed the rated capacity of a machine or tool.

**NEVER** ..... modify machinery in any way without the written approval of the Besser Engineering Department.

**NEVER** ..... operate equipment unless proper maintenance has been regularly performed and the equipment is known to be in good working order.

**NEVER** ..... operate any equipment if unusual or excessive noise or vibration occurs.

**NEVER** ..... operate any equipment while any part of the body is in the proximity of potentially hazardous areas.

**NEVER** ..... use any toxic or flammable substance as a solvent cleaner.

**NEVER** ..... allow the operation or repair of equipment by untrained personnel.

**NEVER** ..... climb or stand on equipment when it is in operation.

**CAUTION - AUTOMATIC MACHINERY CAN START AT ANY TIME!**

# BESSER

NEW SAFETY SIGNS ARE NOW AVAILABLE FROM BESSER COMPANY. ORDER TODAY!!

1

PART NO. 113236-F0204  
2"W. x 4" H.

2

PART NO. 113236-F0409  
4-1/2" W. x 9-1/2" H.

3

PART NO. 113237-F0410  
4-1/2"W. x 10 1/4" H.

4

PART NO. 113238-F1005  
10" W. x 6" H.

5

PART NO. 113239-F0604  
6-5/8" W. x 4" H.

6

PART NO. 113240-F0307  
3-1/2"W. x 7-1/2" H.

7

PART NO. 113241-F0605  
6-5/8" W. x 4" H.

8

PART NO. 113242-F0409  
4-1/2" W. x 9-3/4" H.

9

PART NO. 113243-F0410  
4-1/2" W. x 9-3/4" H.

10

PART NO. 113244-F0410  
4-1/2" W. x 10" H.

11

PART NO. 113245-F1005  
10" W. x 5-3/4" H.

12

PART NO. 113246-F0704  
7" W. x 4-1/2" H.

13

PART NO. 113247-F1006  
10" W. x 6" H.

14

PART NO. 113248-F1006  
10" W. x 6" H.

15

PART NO. 113249-F0410  
4"W. x 10" H.

16

PART NO. 113250-F1006  
10" W. x 6" H.

# **BESSER**

## **VH SPLITTER**

### **VERTICAL/HORIZONTAL CONCRETE SPLITTING MACHINE**

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#### **SPECIFICATIONS**

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**VERTICAL/HORIZONTAL SPLITTING CAPACITY UP TO - 24" Wide x 12" High x 18" Long**

- FRAME:** Steel/welded fabrication.  
Materials meet or exceed ASTM A36.
- MOTOR:** 25 H.P. - 460 Volt - 3 Phase - 29 Amps.
- PUMP:** 1811 R.P.M. (18.6 kw.) at 1500 P.S.I. (1.06 kgs./mm<sup>2</sup>) maximum - 7.7 in.<sup>3</sup>/R, (195.6 mm<sup>3</sup>/R). Working pressure 450 P.S.I. (.32 kgs./mm<sup>2</sup>).

#### **HYDRAULIC CYLINDERS:**

- 8" (203.2 mm) diameter at 6" (152.4 mm) stroke.
- Working pressure 22,500 lbs. (10,206 kg.) at:  
450 PSI (.32 kgs./mm<sup>2</sup>) Pump Pressure.
- Maximum Load 75,000 lbs. (34,020 kg.) at 1500 P.S.I.,  
(1.06 kgs./mm<sup>2</sup>) Pump Pressure.

#### **AIR CYLINDER:**

- 4" (101.6 mm) diameter at 24" (609.6 mm) stroke.
- Working pressure = 95 P.S.I. (.0668 kgs./mm<sup>2</sup>).

**CONTROL:** Allen Bradley SLC-150.  
TCAT LED Timer Display.

**MACHINE CYCLE SPEED:**  
5.5 Seconds vertical and horizontal.

**NOTE:** *Changing the machine from vertical to horizontal or vice versa, can be accomplished in a minimum amount of time. All electrical, hydraulic and air connections are quick disconnects.*

**BESSER Company, P.O. Box 336, 801 Johnson St., Alpena, Michigan, 49707 U.S.A.**