REPAIR PARTS CATALOG
and
OPERATOR'S MANUAL

FOR

Brillion

MODEL BFW

BUNK FEEDERS

ALL PARTS NOT LISTED ARE STANDARD HARDWARE

BRILLION IRON WORKS, INC.
Brillion, Wisconsin, U. S. A.

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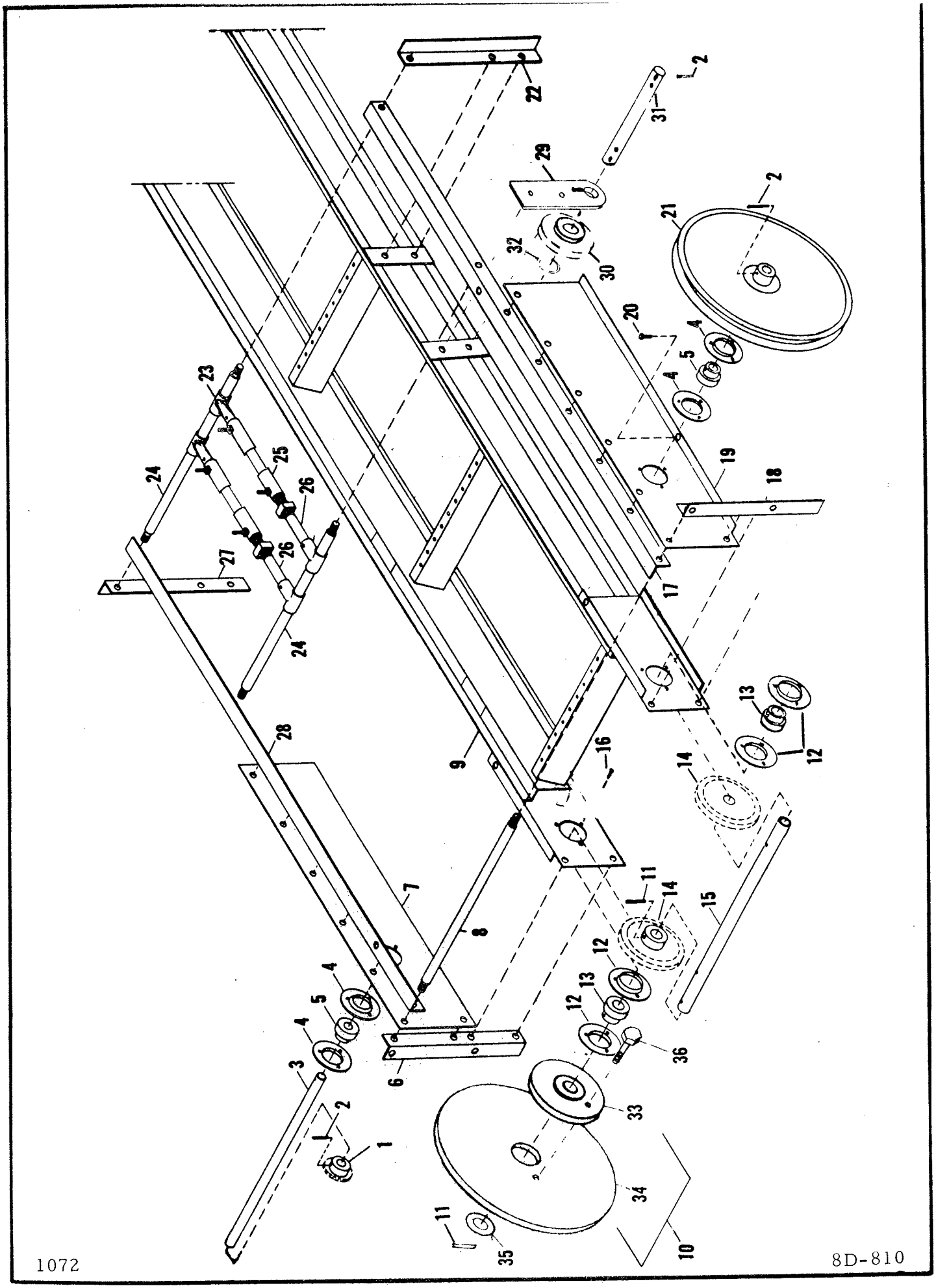
8D-810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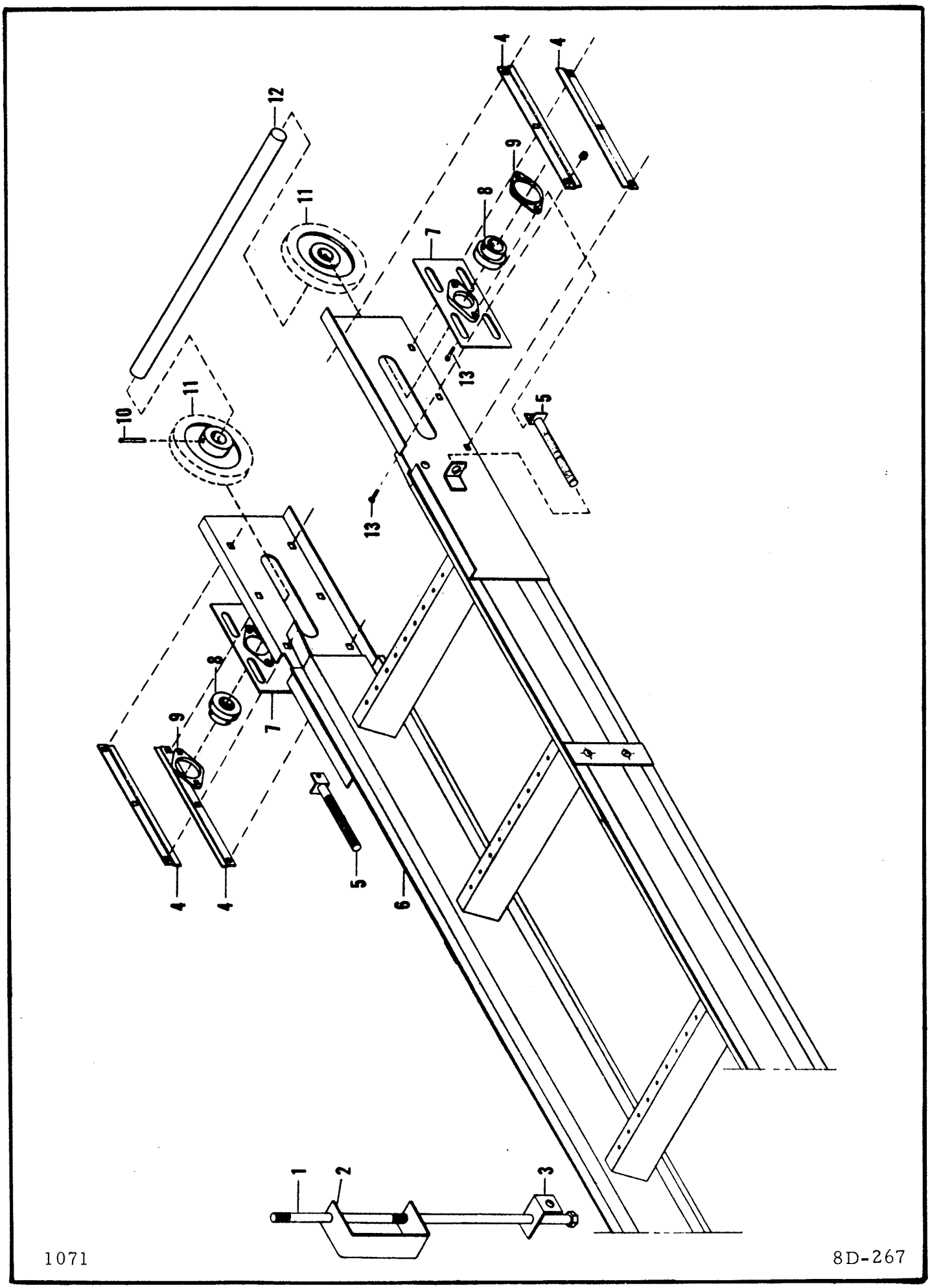
DRIVE SECTION ASSEMBLY - BFW

Index No.	Part No.	Description	No. Req'd.	Weight
1	8D-761	Sprocket - 14 Teeth	1	.6
2	1C-659	Roll Pin (1/4 x 1-1/2 long)	2	
3	8D-782	Jack Shaft	1	3.75
4	1D-599	Flangette	2	.3
5	1D-598	3/4" Bearing & Collar	2	.45
6	2D-851	L. H. Rear Support Post	1	1.5
7	1D-656	L. H. Side Panel	1	6.0
8	8D-781	Tie Rod	1	3.15
9	8D-790	Drive End Track Section	1	75.3
10	8D-802	Sprocket Assembly Complete (#32, 33, 34)	1	4.2
11	4C-858	Roll Pin (5/16 x 2" long)	3	
12	9C-601	Flangette	2	.3
13	9C-627	1" Bearing & Collar	2	.35
14	8D-804	Sprocket - 12 Teeth	2	4.2
15	8D-759	Drive Shaft	1	6.2
16	5C-761	Carriage Bolt (5/16 x 3/4" long)	12	
17	1D-686	R. H. Frame Angle	1	5.8
18	2D-850	R. H. Rear Support Post	1	1.5
19	1D-655	R. H. Side Panel	1	6.0
20	1C-259	Capscrew (1/4 x 1/2" long)	2	
21	8D-776	Sheave (16" O. D.)	1	6.8
22	8D-783	R. H. Front Support Post	1	1.5
23	1D-931	Tee Clamp	4	.3
24	8D-781	Tie Rod	2	3.15
25	6D-819	Motor Mount	4	.4
26	1D-680	Threaded Rod	2	1.9
27	8D-784	L. H. Front Support Post	1	1.5
28	1D-687	L. H. Frame Angle	1	5.8
29	8D-948	Idler Hanger - L. H. (shown) - USE ON OPPOSITE SIDE)	1	2.5
*	9D-34	Idler Hanger - R. H. (use on opposite side)	1	2.5
30	8D-949	8T Idler Sprocket (complete with bushing)	2	2.5
*	8D-945	8T Sprocket		2.4
*	2C-328	Bronze Bushing		.1
31	8D-946	Idler Shaft	1	3.75
32	8C-381	Machinery Bushing	2	
33	8D-795	Hub Assembly	1	1.73
34	8D-773	Sprocket - 60 Teeth	1	10.3
35	8D-839	Machinery Bushing	1	
36	1C-363	Shear Bolt (5/16-18 NC x 1-1/2 long capscrew)	1	.1
*	6C-748	Lock Nut (5/16-18 NC Hex Stover)	1	
*	8D-760	#50 Roller Chain	1	2.5
*	1D-601	V-Belt	1	.8
*	2D-212	Motor Sheave (5/8 Bore)	1	1.0
*	1D-597	Motor Sheave (7/8 Bore)	1	1.0

*Parts Not Illustrated



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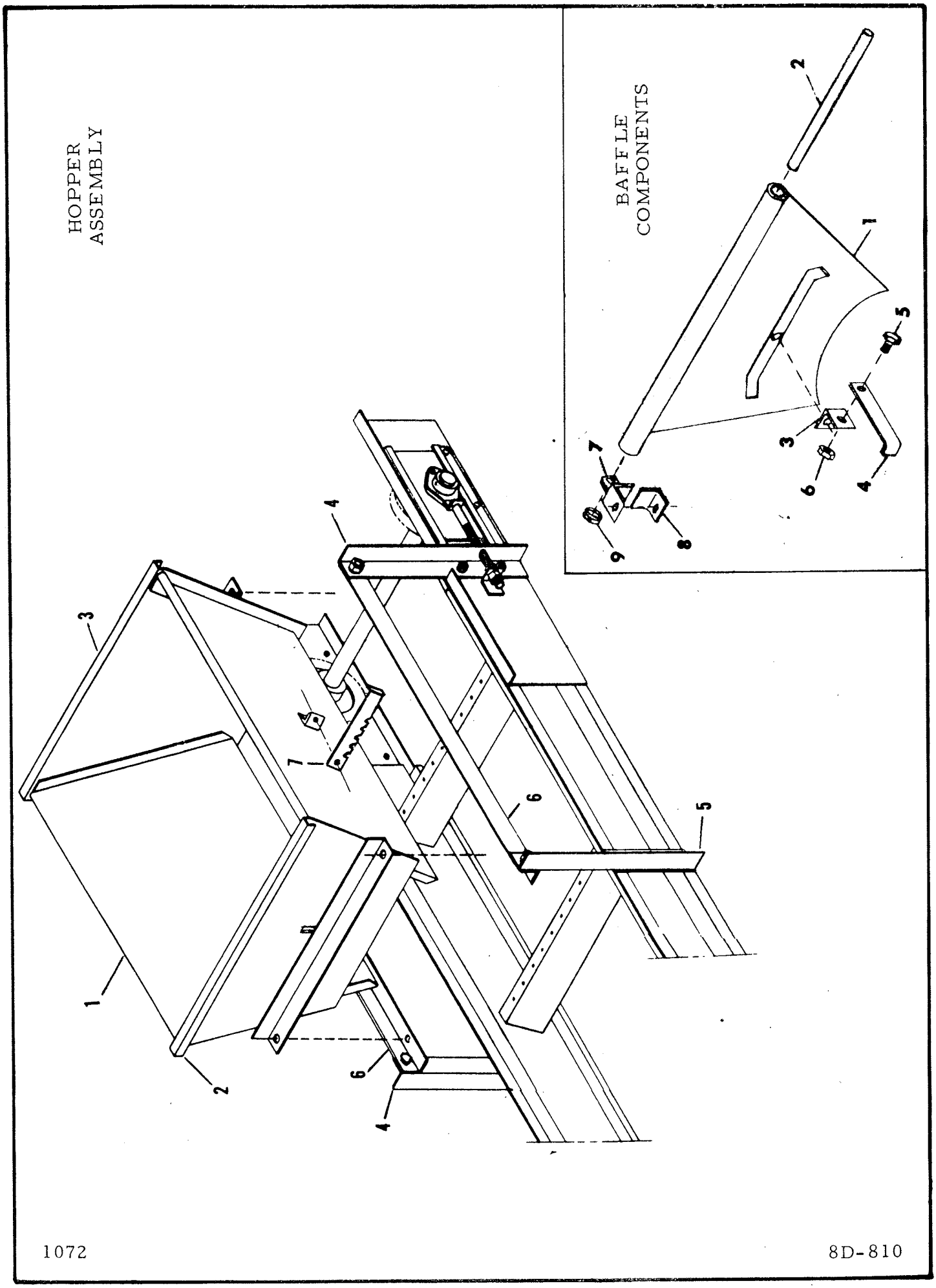
TAKE-UP SECTION ASSEMBLY - BFW

Index No.	Part No.	Description	No. Req'd.	Weight
1	1D-678	Bolt	Variable	1.0
2	2D-242	Support Bracket	"	1.1
3	1D-681	Support Clip	"	.8
4	1D-579	Take-Up Guide	4	.3
5	1D-667	Adjusting Rod	2	.5
6	8D-791	Take-Up End Track Section	1	95.9
7	1D-600	Take-Up Base Plate	2	.7
8	9C-627	1" Bearing & Collar	2	.35
9	1D-617	Flangette	2	.2
10	4C-858	Roll Pin (5/16 x 2" Long)	1	
11	8D-804	Sprocket - 12 Teeth	2	4.2
12	8D-803	Driven Shaft	1	5.9
13	5C-761	Carriage Bolt (5/16 x 3/4" Long)	16	
*	8D-792	Intermediate Track Section (10 ft.)	Variable	70.6
*	8D-797	Conveyor Assembly 42' Long	1	69.8
*	8D-798	Conveyor Assembly 20' Long	Variable	32.0
*	8D-720	Conveyor Slat	"	.40
*	2D-832	Chain Link - #55 Detachable Steel Chain (8 links)		.47
*	2D-149	Attachment Link - L. H. (#45-G27-L)	"	.25
*	2D-150	Attachment Link - R. H. (#45-G27-R)	"	.25
*	8D-841	Conveyor Slat Assembly (With 2D-149 & 2D-150 links attached)	"	1.0
*	8D-794	Intermediate Track Section (4 ft.)	"	29.0
*	8D-800	Conveyor Assembly - 8 Ft. Long	"	12.0
*	8D-793	Intermediate Track Section (6 ft.)	"	36.2
*	8D-799	Conveyor Assembly - 12 Ft. Long	"	19.5


HOPPER
ASSEMBLY
BAFFLE
COMPONENTS
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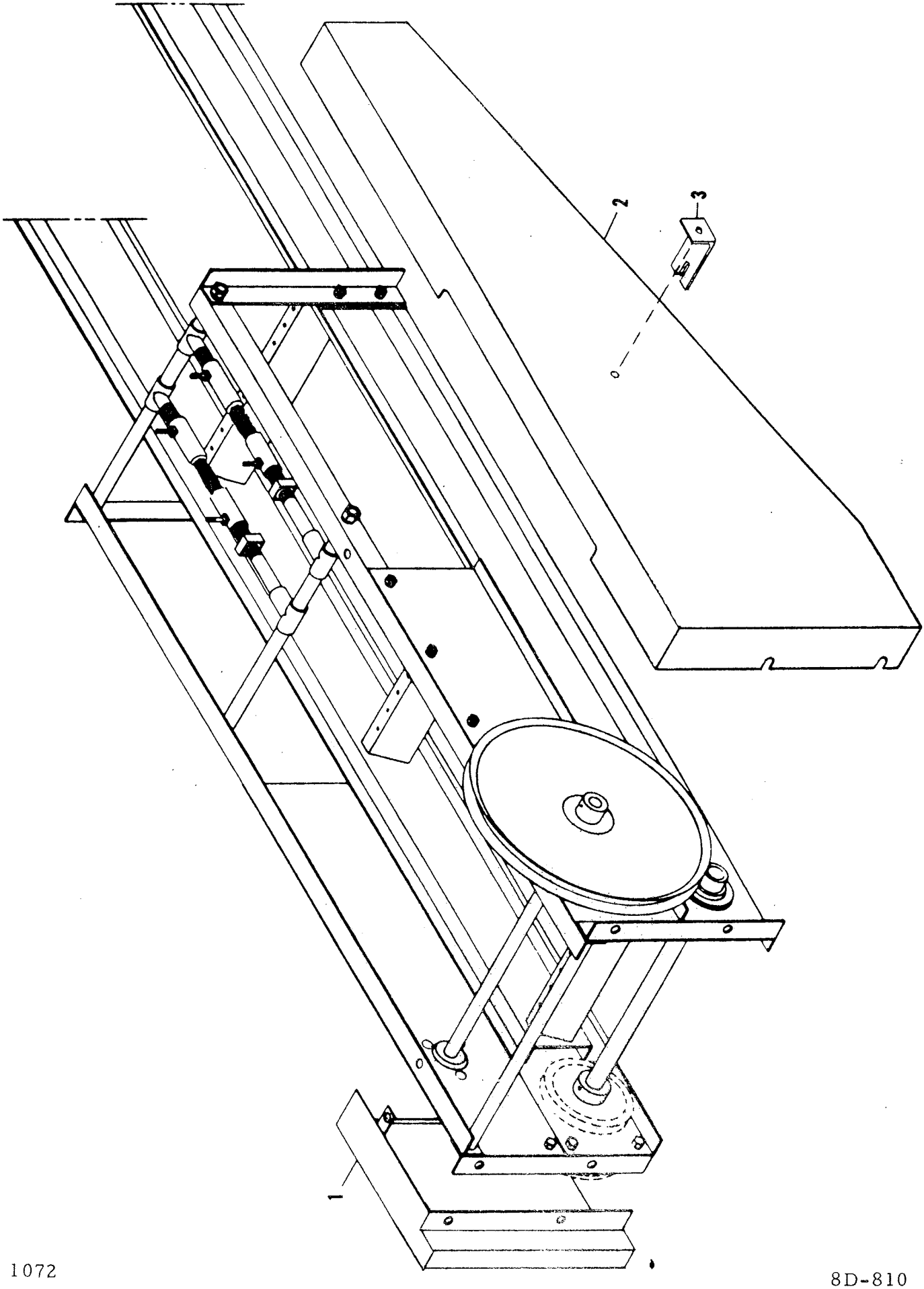
HOPPER ASSEMBLY - BFW

Index No.	Part No.	Description	No. Req'd.	Weight
1	5D-31	Hopper Side Panel	2	7.2
2	8D-758	Front Hopper Panel	1	9.1
3	8D-757	Rear Hopper Panel	1	10.1
4	8D-783	R.H. Front Support Post	2	1.5
5	8D-784	L.H. Front Support Post	2	1.5
6	2D-567	Angle	2	2.9
7	5D-32	Adjustment Lever	2	.4

BAFFLE COMPONENTS

Index No.	Part No.	Description	No. Req'd.	Weight
1	8D-774	Baffle Plate	1	3.0
2	8D-788	Hinge Rod (18" Long)	1	.54
3	8D-789	Angle	1	.15
4	8D-778	Adjustment Lever	1	.5
5	1C-237	Capscrew (5/16-18 NC x 3/4 Long)	2	.05
6	6C-748	Lock Nut	2	.05
7	8D-796	Bracket	2	.30
8	5D-33	Angle Clip	2	.15
*	1C-363	Capscrew (5/16-18 NC x 1-1/2 Long)	2	
*	1C-362	Lock Washer (5/16 Med.)	2	
*	1C-185	Wing Nut (5/16-18 NC)	2	
9	8D-775	Shaft Collar	2	.1



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DRIVE SECTION GUARDS - BFW

Index No.	Part No.	Description	No. Req'd.	Weight
1	8D-770	Chain Guard	1	7.5
2	1D-743	V-Belt Guard	1	13.5
3	8D-737	V-Belt Guard Bracket	1	.2

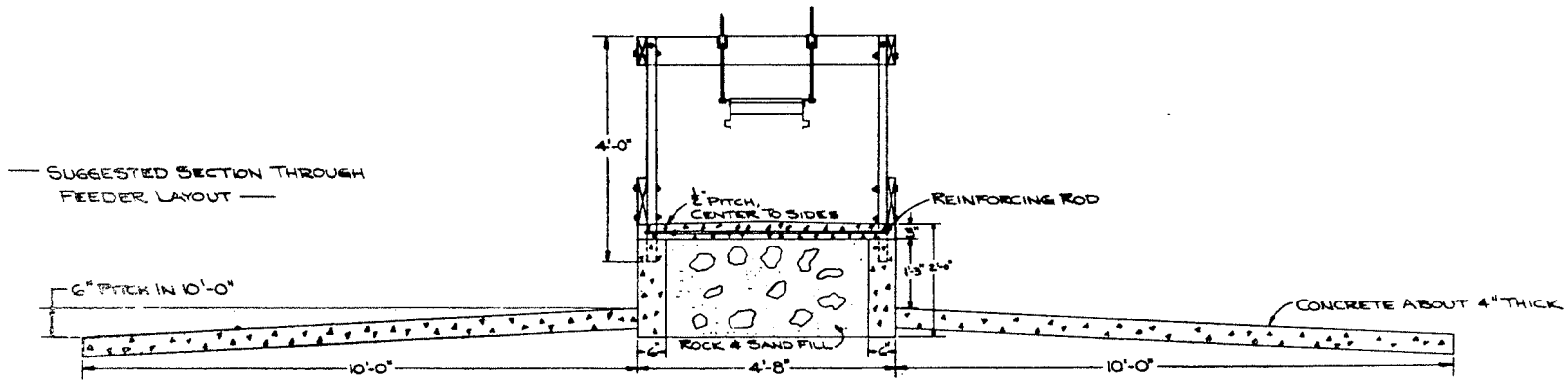


Figure 1

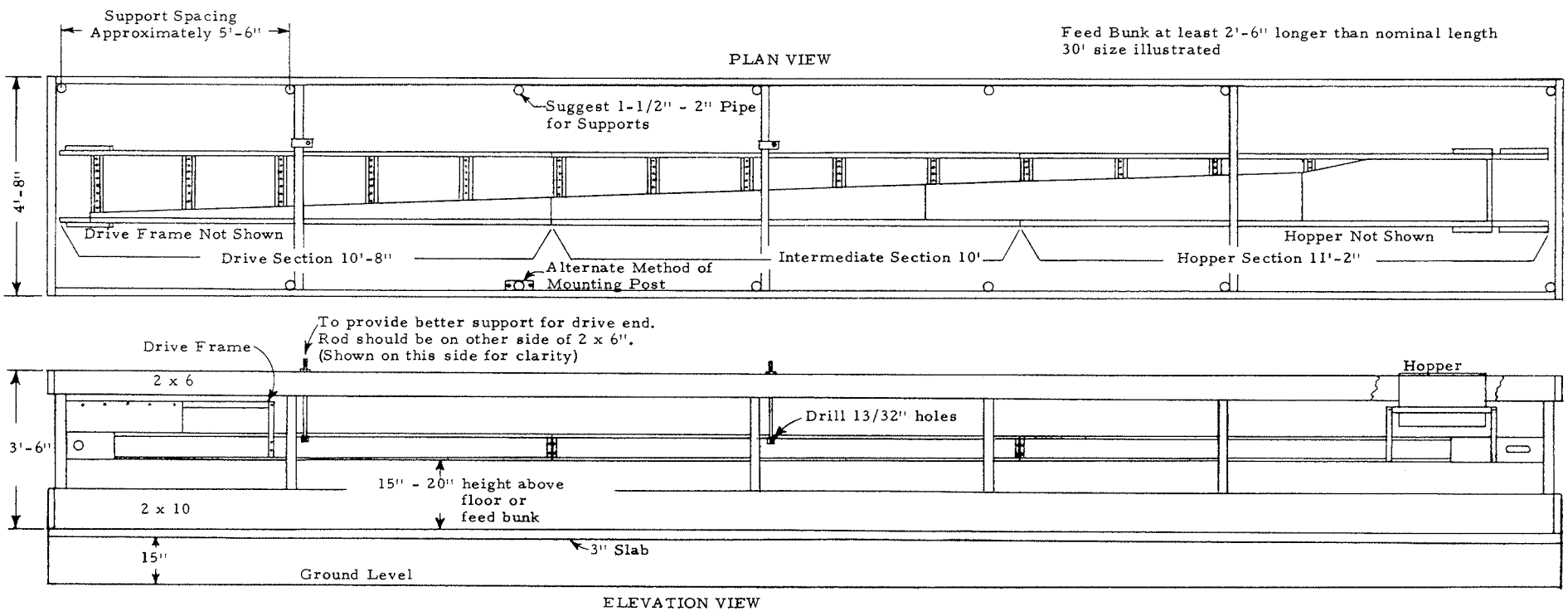


Figure 2

BRILLION MODEL BFW BUNK FEEDER

The Brillion Model BFW Bunk Feeder is constructed with the best materials and workmanship available. It is designed for ease of assembly, installation and operation.

Future problems can be avoided by following carefully the setting up and operating instructions.

Study the operator's manual and follow carefully the instructions regarding adjustments before operating the machine.

SPECIFICATIONS

Drive Unit: Speed reduction by V-belt from motor to jackshaft, and roller chain from jackshaft to conveyor drive shaft. Shear pin protected.

Bearings: Precision ball bearings with lifetime lubrication.

Recommended Motor Sizes: 1-1/2 h.p. - 100' to 140';
2 h.p. - 140' to 180'.

Hopper: 22" long x 14" deep. Standard equipment. Mounts directly above conveyor. Adjustable sides.

Track Sections: 26-1/8" wide. Drive section: 11' long. Take up section: 11'3" long. Intermediate sections: 10' long.

Slat Conveyor: 24-1/8" wide. Length of slat: 21". #55 steel detachable chain.

Tapered Bed: Special exterior plywood, permanently faced with a high density combination of fiber and phenolic resins.

SETTING UP INSTRUCTIONS

Refer to pages 2, 4, 6 & 8 in the parts list for identification and relative positions of parts for ease in assembly.

Refer to Figure 2, page 10 for positioning and suspending feeder in bunk.

ASSEMBLY OF FEEDER:

1. Place 2 x 4's (or other firm supports) across the feed bunk approximately every 5 feet.

2. Place hopper (take-up) track section in position over two 2 x 4's at the end of the feed bunk next to the silo (Figure 2).

3. Place intermediate track sections in position next to the hopper section as shown in Figure 2. Support each section on two 2 x 4's. Note that cross members are equally spaced the full length of the feeder.

4. Follow above with the drive track section.

5. Bolt track sections together using 3/8" x 3/4" long capscrews, lock washers and nuts. Make sure that the top edges of the tracks align with each other to provide a smooth joint for the chain to pass over.

6. Assemble the drive unit as shown on page 2. LEAVE ALL BOLTS LOOSE UNTIL ROLLER CHAIN HAS BEEN INSTALLED. THEN TIGHTEN ALL BOLTS.

7. Assemble the hopper frame-work as shown on page 6. Do not attach the hopper at this point.

8. Assemble the take-up unit as shown on page 4. Only ONE sprocket (8D-804) is pinned to the 8D-803 driven shaft.

9. Assemble the conveyor idler components to the drive track section (refer to page 2 - index no. 29, 30, 31). Secure the idler shaft with a cotter pin provided. Be certain the hub of the sprocket is toward the outside of the machine, i.e. adjacent to the hanger. For protection it is important to assemble the idler hangers as shown on page 2. The hanger with the pin-stop welded to it is the hanger illustrated and it is located on the same side as belt drive.

SAFETY INSTRUCTIONS

A. HAVE A SAFE INSTALLATION: Have a licensed electrician install the wiring. Have both the motor and the bunk feeder grounded. Failure to have a proper gound could result in a severe electrical hazard.

Use an electric motor which has manual reset thermal protection. Install a separate electrical disconnect switch for the bunk feeder. This disconnect switch must have an exclusive, positive, locking switch which can be operated only by the person working on the machine.

B. OPERATE SAFELY: Federal regulations require that at the time of initial assignment and at least annually thereafter, each employee shall be instructed in the safe operation and servicing of all equipment which he will be operating. This instruction shall cover the following safe operating practices:

1. Keep all guards and shields in place when machine is operating.

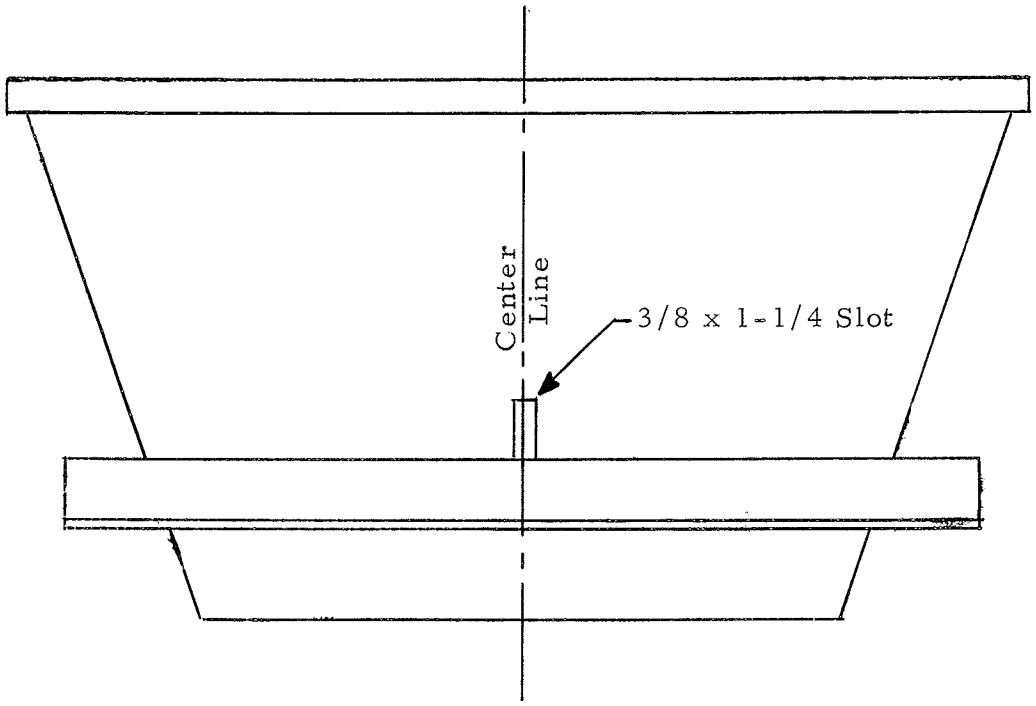
2. Turn off motor, disconnect and lock out electrical power, and wait for all movement to stop before servicing, adjusting, cleaning or unclogging machine.

3. Make sure everyone is clear of machine before connecting power and starting motor.

4. If servicing or adjusting requires the removal of any shield, wait until all movement has stopped before attempting to remove shield. Replace shield when finished.

INSTALLING HOPPER BAFFLE

The baffle may be installed on the front or rear panel of the bunk feeder hopper. To install on the rear of the hopper, cut a slot out of the rear hopper panel according to the detail below. Refer to page 6 to identify and locate parts. Do not tighten the nuts until the unit is completely installed. Attach the #7 hinge bracket to the top of the hopper panel, holding it in position with the #8 angle clip and a 5/16 x 1-1/2" long capscrew, lockwasher and wing nut. Next, slide the #2 hinge rod through one of the hinge brackets, through the #1 baffle plate and the other hinge bracket. Secure the hinge rod with a #9 shaft collar on each end. Attach the #3 angle to the baffle plate with a #5 capscrew and #6 locknut. Leave this joint loose enough to permit the angle to pivot. To complete the assembly, insert the #4 adjustment lever through the slot in the panel and attach it to the #3 angle with a #5 capscrew and #6 locknut. Leave this joint loose enough to permit the adjustment lever to pivot. Now tighten the wing nuts.



The bottom edge of the slot should be flush with the top of the mounting angle and it should be located in the center of the panel.

INSTALLING FEEDER IN BUNK

1. Suspend feeder from feed bunk cross members, starting approximately 5 feet from the drive end and approximately every 10 feet thereafter. Refer to Figure 2. It will be necessary to drill a 13/32 hole in each side of the track section to attach the support clips (#2, page 4). Attach the support clips with 3/8" x 3/4" long capscrews, lockwashers and nuts. Position the support clamps (#2, page 4) over the feed bunk cross members and hold in place with long bolt (#1, page 4), placing 1/2" washer and nut on from top.

2. Level the suspended feeder from side to side and end to end. Align with a chalk line and a carpenter's level from end to end both horizontally and vertically.

3. Align the assembled track sections from end to end, using a chalk line. Starting at the hopper end, assemble the SILAGE FEED BOARD to the track sections as shown in the plan view of Figure 2. Feed boards are keyed together with 1/8" thick keys. Position the beveled end of the first board in line with the level end of the take-up track section. After positioning each board, drill from underneath with a 3/16" drill through holes in the board supports. DO NOT DRILL THROUGH BOARD. Use the set collar provided as depth gauge for the drill. Attach boards with wood screws included.

4. Assemble the conveyor chain to feeder. Assemble on top of feeder, feeding over hopper end sprockets into lower track. Draw completely through lower track as each conveyor chain section is attached. When completely assembled, take up chain looseness with chain take-up. Take up both sides evenly. Standing at the drive end, advance the conveyor chain by turning the large pulley by hand. Observe the conveyor chain as it leaves the drive sprockets. If the conveyor chain feeds straight onto the lower track, with no tendency to buckle or follow the sprocket around, it is probably tight enough. Check again with the chain being advanced by the motor.

5. Assemble the hopper to the hopper frame as shown on page 6.

6. Attach the motor to the motor mounts. Assemble the motor sheave to the motor, flush with the end of the shaft, with the hub toward the motor. Place the V-belt over both sheaves and align. Align by loosening set screws in the T-clamps, positioning the motor and tightening set screws. Tighten V-belt by taking up on the 3/4" nuts on the threaded support rods.

   NOTE: BE SURE MOTOR SHEAVE TURNS IN COUNTER-CLOCKWISE DIRECTION BEFORE ATTACHING V-BELT.

7. Install roller chain and idler to the drive unit. Instructions for the installation of the idler are included with the idler and is the last page of this manual.

8. Attach chain guard and V-belt guard to drive unit. V-belt guard is held in place with wing nuts for easy removal. Attach the V-belt guard bracket to the guard - see page 8 for identification. Install capscrews, flat washers, and wing nuts before attaching V-belt guard.

Slide a 14 tooth sprocket, hub first, on the 5/8 square agitator shaft and a 25 tooth sprocket with hub out. Start set screw in holes in these sprockets but do not tighten.

Install remainder of ball bearings and flangettes on outside plate. Bearings and flangettes are installed on side opposite flange in plate. Locking collar end of bearing sticks through plate. The 5/8 bearing goes in the middle hole and is secured with 1/4 x 3/4 bolts. The other bearings are 3/4 and are secured by 5/16 x 3/4 bolts. Do Not Tighten. See figure 15.

Taking the plate and bearing assembly, slide the bearings over the shafts. The flange on the plate is towards the front of the machine and to the outside. Bolt the plate to the angle lugs on the frame. Use flat washers over the slots and 1/2 x 1-1/4 bolts. Snug the nuts finger tight.

Set the shield over the top of the side plate and against the box plate. Position the side plate in or out until the shield will fit correctly. Remove shield. Now check shaft alignment. Loosen bolts holding seedbox to end plate and shift box until shafts are parallel to frame. Tighten bolts holding seedboxes to end plate and plates to frame.

Use a straight edge to align the 12 tooth cast sprocket with the 7 tooth sprocket on the front roller. See figure 16. When these sprockets are aligned, install the locking collars on the bearings on this shaft. Lock collars by turning in direction of rotation of shaft.

Next align the 25 tooth sprocket on the square shaft with the 13 tooth sprocket on the first shaft. Tighten set screw holding 25 tooth sprocket.

Using the shift handles on the rear boxes, slide the seedmeter rolls to the outside as far as possible. Adjust the tubular shaft at the rear at the drive mechanism until 1/4 gap between collar on end of shaft and roll pin in square shaft is reached. Tighten lock collars on tubular shaft. Align 14 tooth sprocket on square shaft with 23 tooth sprocket on tubular shaft and tighten set screws.

Study figure 17 for procedure for installing #55 detachable link chain. This chain runs from the 7 tooth sprocket on the front roller to the 12 tooth cast sprocket of the front shaft. After assembling the chain, attach the idler sprocket. Place a 1" diameter x 2-5/16 long bushing in the bore of the 5 tooth sprocket. With a flat washer under the head of a 1/2 x 3-1/2 bolt, bolt the idler to the idler angle. See figure 14. The wider spaced holes in the angle match the spacing of the slots in the angle welded to the box end plate. The idler should be on the back side of the chain. Bolt the idler angel in place with 1/2 x 1-1/4 bolts, using flat washers to cover the slots in the angle. Slide tightener forward to take most of slack out of the #55 chain. Tighten the bolts.

Install the #40 roller chain with 42 pitches over the 13 tooth sprocket on the front shaft and the 25 tooth sprocket on the square shaft. The #40 roller chain with 35 pitches is installed on the 14 tooth sprocket on the square shaft and the 23 tooth sprocket on the rear shaft.

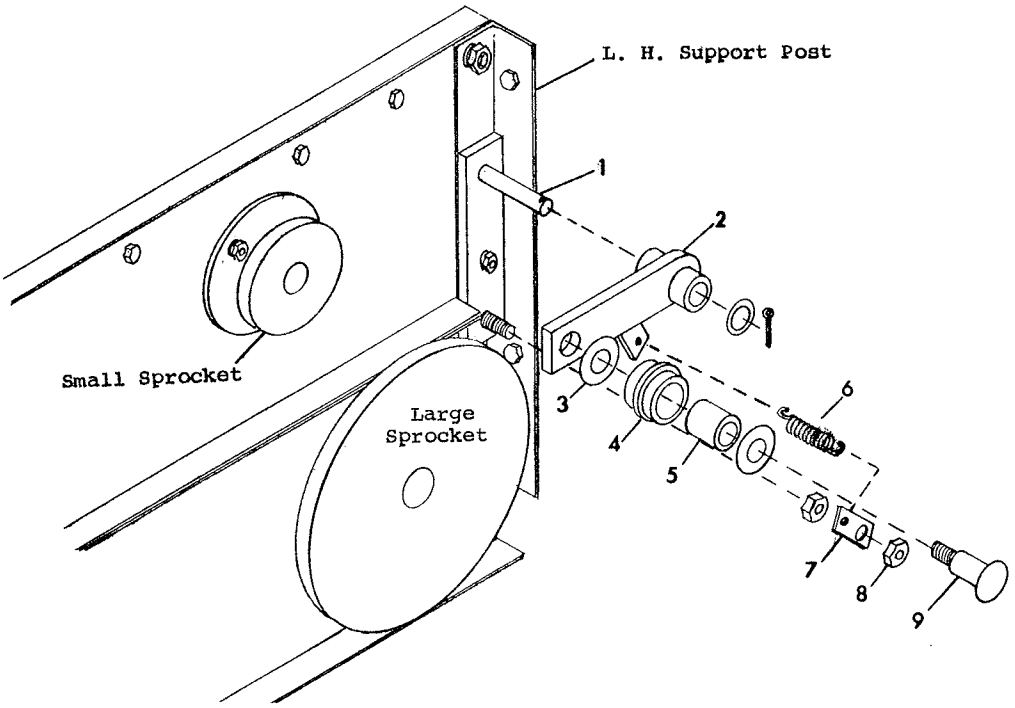
Now tighten the bolts holding the bearing flangettes to the plates. Set the shield over the frive and secure with 1/4 x 3/4 round head bolts.

ASSEMBLY INSTRUCTIONS AND PARTS LIST

FOR BUNK FEEDER DRIVE CHAIN IDLER KIT (8D-812)

Refer to the parts illustration below for identification and relative positioning of the idler kit components.

To begin assembly of the idler kit to your Brillion Bunk Feeder, remove the two center 3/8" capscrews which attach the left hand support post to the panels. Then using the longer capscrews (3/8-13 NC x 1-1/4 long, 3/8-13 NC x 1-3/4 long) attach the idler bracket (8D-819) to the L. H. support post. The longer capscrew is used in the lower hole. Next assemble the idler assembly to the idler arm (8D-818). It is assembled in the sequence as shown below. Insert the idler shaft (8D-820) through the machinery bushing (8C-892), the idler assembly (8D-822 & 8D-823), and another machinery bushing (8C-892). Secure these parts to the idler arm with the lock nut (5C-392). Attach the spring (4C-872) to the spring clip (4C-266) and install the spring clip on the 3/8 x 1-3/4 capscrew and secure in place with a lock nut (3C-954). Finally attach the spring to the assembled idler arm and slide the idler arm on to idler bracket. Secure to the idler bracket with the flat washer and cotter pin provided.



Sym.	Part No.	Part Name	No. Req'd.	Weight
1	8D-819	Idler Bracket	1	.88
2	8D-818	Idler Arm	1	.80
3	8C-892	Machinery Bushing	2	
4	8D-822	Idler	1	.26
5	8D-823	Bearing	1	.06
4 & 5	8D-824	Idler Assembly	1	.32
6	4C-872	Spring	1	.02
7	4C-266	Spring Clip	1	
8	5C-954	Lock Nut	1	
9	8D-820	Idler Shaft	1	.18
*	5C-392	Lock Nut (use with idler shaft)	1	

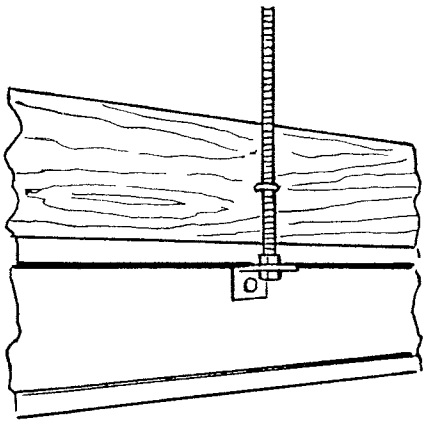


FIGURE 1

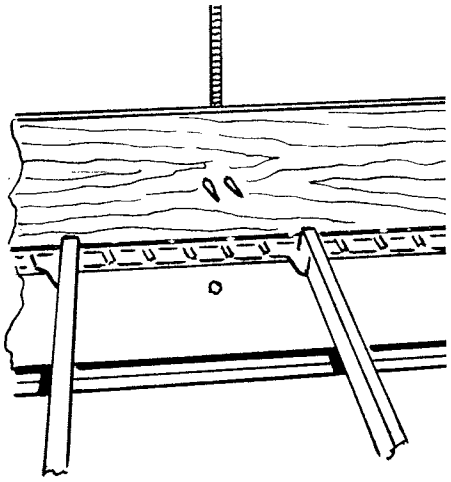


FIGURE 2

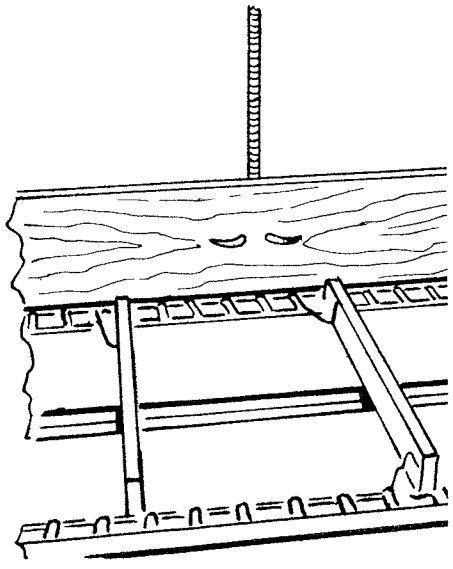


FIGURE 3

INSTRUCTIONS FOR BUILDING AND INSTALLING WIND SHIELDS ON BRILLION BUNK FEEDERS

Although the wind usually does not create a problem, it is a simple matter to build a wind shield if needed. The common materials needed are available at any lumber yard or farm store. You can install a wind board on either or both sides of the track section, but usually it is sufficient to shield only the side from which the prevailing winds blow.

Materials needed are:

(a) 3/4" exterior plywood or 1" lumber 4" to 12" wide.

(b) 3" bright steel staples - one or two are required per hanger rod. If lumber used is 6" wide or less, only one staple is required per hanger.

(c) Wood strips or cleats to join the end of the boards together.

Starting at the hopper end, position the first board on the upper edge of the track section, up tight to the hanger rod. Drive a staple (predrilling holes for the staples may be desirable) through the board, straddling the hanger rod. (See figures one and two.) Using a pair of pliers, spread the points of the staples and clinch with a hammer and weight. (See figure three.) Proceed to the next hanger and position each board in place following the same procedure until all the boards are positioned. Splice the board ends together using wood strips or cleats made from scraps of lumber.

To prevent interference between the windboards and the conveyor chain in case of board warpage, drive a small nail or screw into the bottom edge of the board midway between the hanger rods. See sketch #4.

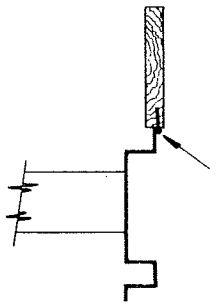


FIGURE 4