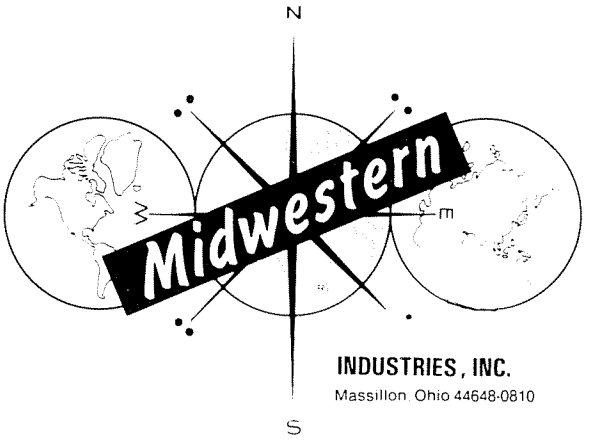
MEV 5X10



MIDWESTERN'S MEV SCREEN

MODEL NO. MEV510-2 SERIAL NO. 0604-5114

OWNER OPERATOR MANUAL

For additional information call:

(330) 837-4203
(Ask for MEV Service & Parts)
FAX: (330) 837-4210
www.midwesternind.com
E-mail: info@midwesternind.com

BILL LEAVE
AL SCHMIDT

GUARANTEED SERVICE

WHEN YOU OWN MIDWESTERN EQUIPMENT, you can count on prompt, reliable service should problems arise. Technicians are available, and our locations maintain supplies of critical replacement parts which can be shipped by air freight for fast delivery. Call for assistance.

CORPORATE HEADQUARTERS & PLANT
P.O. Box 810
MASSILLON, OHIO 44648-0810
Phone: (330) 837-4203
FAX: (330) 837-4210
www.midwesternind.com
E-mail: info@midwesternind.com

SOUTHERN FACILITY, MIDWESTERN INDUSTRIES, INC.
P.O. Box 10157
MACON, GEORGIA 31297-0157
Phone: (478) 781-8725
FAX: (478) 781-8746

-WARNING-

FAILURE TO FOLLOW ALL INSTRUCTIONS IN THE MANUAL AND ANY ALTERATIONS MADE TO THE EQUIPMENT FOLLOWING SHIPMENT FROM THE FACTORY WILL VOID WARRANTY.

DIRECT ATTACHMENT, SUCH AS WELDING OR BOLTING OF ANY ADDITIONAL CHUTES OR HOPPERS, ETC., TO VIBRATING EQUIPMENT OTHER THAN THOSE SUPPLIED BY MIDWESTERN WILL AUTOMATICALLY VOID WARRANTY.

ANY CONNECTION MADE TO UNIT MUST BE FLEXIBLE.

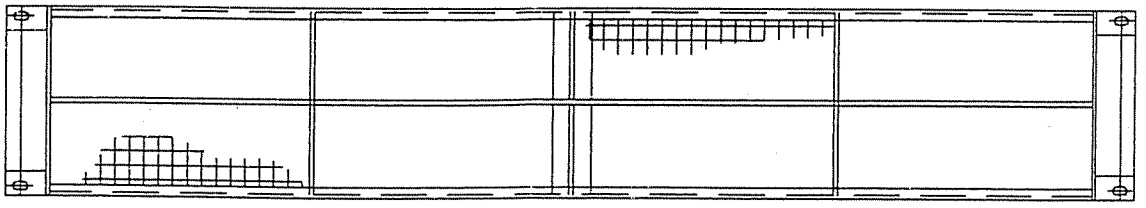
BEFORE STARTING THE UNIT THE OPERATOR MUST BE CERTAIN THE UNIT IS FREE TO FOLLOW THE MOVEMENT PRODUCED BY THE VIBRATING EQUIPMENT.

IN GENERAL, THE FEEDING AND DISCHARGE CONNECTION MUST HAVE SUFFICIENT CLEARANCE TO PREVENT ANY CONTACT.

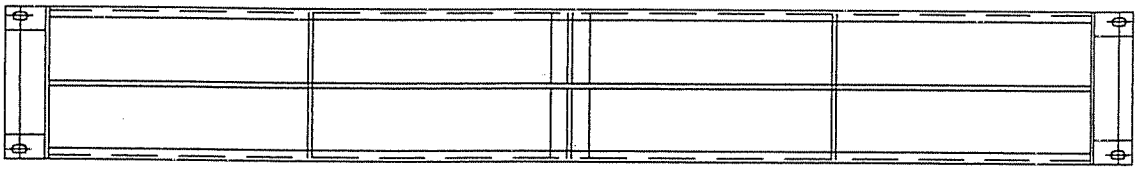
MAN00210

MEV 5' X 10'

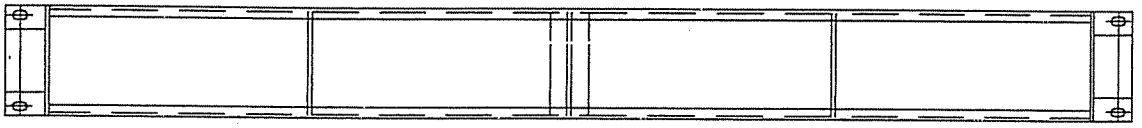
REVISED
2/16/99



MIDDLE BALL TRAYS REQUIRE 40 BALLS



FEED END BALL TRAYS REQUIRE 32 BALLS



DISCHARGE END BALL TRAYS REQUIRE 16 BALLS

DISTRIBUTE BALL'S EVENLY IN ALL COMPARTMENTS

DRAWING NO.
MAN00187

-WARNING-

BEFORE STARTING THE UNIT:

THE BASE MUST BE SECURED TO THE FLOOR OR ADEQUATE SUPPORT STUCTURE.

THE FRAMES MUST BE ATTACHED TO THE TABLE.

THE SHIPPING LUGS MUST BE REMOVED.

ALL GUARDS & SERVICE DOORS MUST BE IN PLACE.

MIDWESTERN'S MEV
Vertical sizing screen

Section

Introduction

Receipt and Inspection

Motor External Wiring

A. Installation

B. Feeding and Discharging Connections

C. Screen Panels
   Panel Removal and Installation
   Screen Tensioning
   Standard MEV Screen

D. General Maintenance

E. Replacement Parts

REVISED
6/11/02

INTRODUCTION

MIDWESTERN'S MEV Screens are rugged, quality-built machines utilizing the vertical sizing concept. Much like laboratory testing screens the MEV rapidly and efficiently segregates material flow to each deck, resulting in consistent and precise particle separation.

Although the MEV is the most simplified and versatile approach to screening in years, the owner/operator still plays an important role in the overall performance of the machine.

Please study this manual carefully and keep it handy for reference too proper installation, operation, and maintenance steps.

RECEIPT & INSPECTION

The MEV Screen is tested and inspected thoroughly prior to shipment. Normally, the machine is completely assembled except for mounting springs and motor drive.

Upon receipt of your shipment, check for damage, missing parts, or any abnormality. Promptly notify your appropriate carrier.

NOTICE

THE MEV MACHINE IS TO BE OPERATED AT A MAXIMUM R.P.M., DETERMINED AT TIME OF PURCHASE, FAILURE OF CUSTOMER TO DO SO AUTOMATICALLY VOIDS WARRANTY.

REVISED
11/28/01

MOTOR EXTERNAL WIRING

Starting and over-load control devices must be matched to motor rating. For safety or convenience, they may need to be installed some distance from the motor. Follow the control manufacturer's instruction to make proper installation and connections.

OBSERVE THE FOLLOWING:

A. Connect electrical power supply to conform to national electrical code and any local regulations. Line voltage and wire capacity must match motor rating stamped on nameplate.

B. Momentarily energize the motor to check that rotation is in the proper direction.

C. If motor is three-phase type, reverse rotation (if required) by interchanging any two of the three power leads.

D. Motor is 1800 R.P.M. unit is sheaved to run at 1250 R.P.M. max.

REVISED
6/11/02

INSTALLATION AND STARTUP

NOTE:
IN ORDER TO ASSIST IN THE PROPER INSTALLATION AND OPERATION OF THIS MEV, MIDWESTERN INDUSTRIES SHOULD BE CONTACTED TO SCHEDULE A MIDWESTERN REPRESENTATIVE TO BE PRESENT AT YOUR FACILITY AT THE TIME OF START-UP.

THE FOLLOWING GUIDE LINES SHOULD BE USED
IN SETTING THE MEV FOR OPERATION:

MIDWESTERN VIBRATING SCREENS are designed to conform to a wide variety of plant layouts, bin installations, and conveyor arrangements. Each unit should be installed so that the screen cloth assembly may be removed readily from either end of the screen. Ample clearance should be provided at feed end of the machine to facilitate the occasional tensioning of the screen cloth that may be necessary.

The MEV is designed to be pedestal mounted. SECTION A page 3 shows the exact sub-base dimensions used for pedestal mounting. The structure must de strong enough to support the listed unit weights (see SECTION A page 5).

For ease of installation, make sure the sub-base locations are correct and level. Also check to see that the spring mounts are parallel to each other. When lifting the unit, use only the lugs provided on the spring mounts of the unit (see SECTION A page 4).

After the MEV is mounted on the suspension springs, make sure the top and bottom spring pad plates are level and parallel. After adjusting, check all nuts and bolts on the suspension system for proper tension.

Torque 1-8 x 4-1/2 Grade 5 Bolts, 630 Ft. Lbs. (Plain)

Torque 5/8-11 x 2 Grade 5 Bolts, at 112 Ft. Lbs. (Plain)

It is important that the base mountings have a sound footing on secondary support structures. If not fastened securely, a condition might develop where the vibratory action generated by the machine would dissipate through the base structure and down into underlying supports. The result would promote unnecessary strain on components and reduced efficiency.

SECTION A page 6 shows primary installation of a Midwestern MEV and basic description of parts supplied with unit and where they are located.

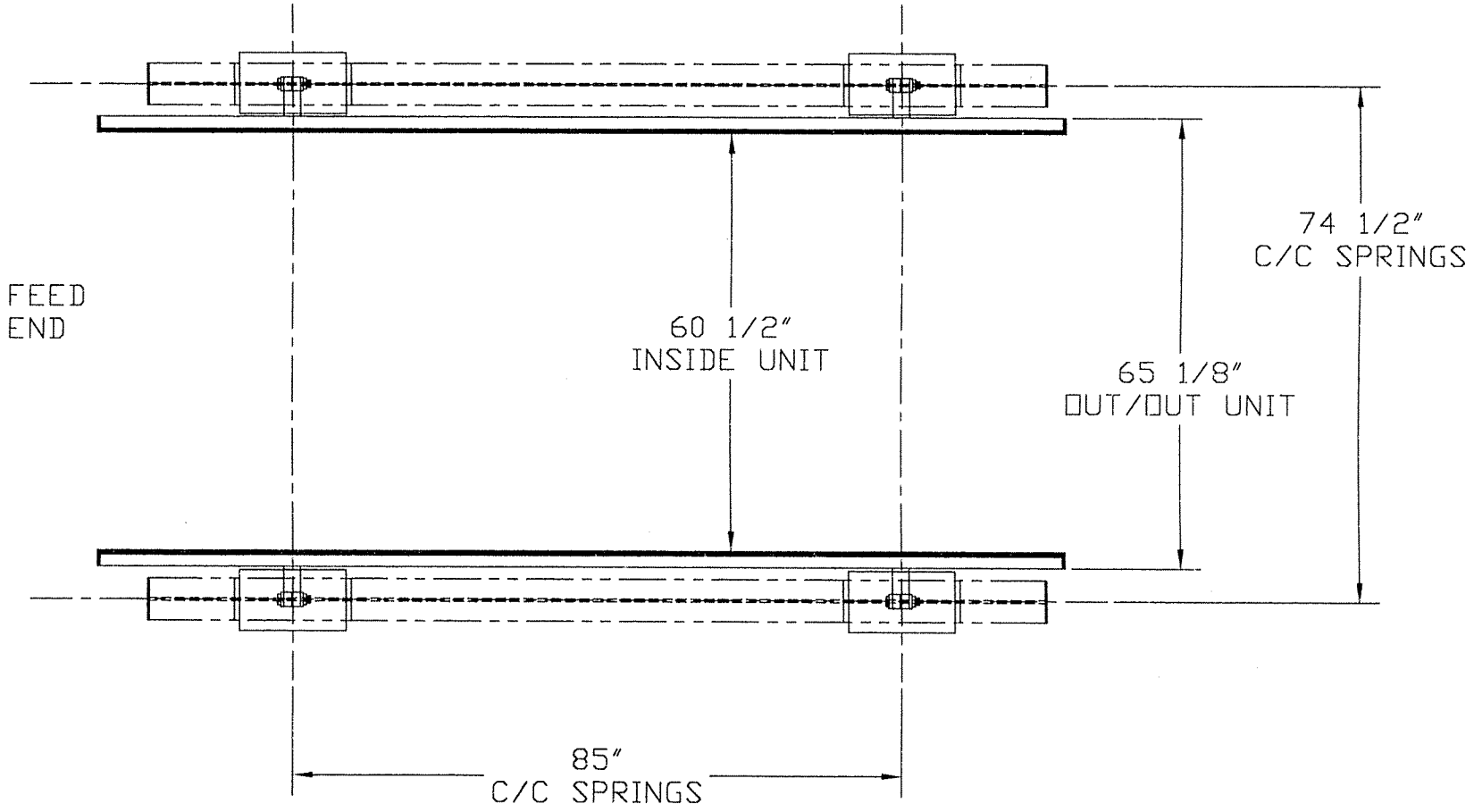
When installing belts and sheaves refer to SECTION A page 8. Make sure the motor sheave is aligned with the unit sheave and use the tensioner located on the motor mount, mounting plate on the sub-base to tighten or loosen the belts when they are in place (1" deflection at 5 lbs. for proper tensioning).

NOTE: Before starting the machine, the operator should be certain that the unit is entirely free to follow the movement produced by the Drive System. The screen frame must be free from the encumbrances of secondary chutes and hoppers.

Be sure there is sufficient room behind the MEV to remove screen panels. (For MEV 5'x10' there should be 9ft. clearance, for MEV 4'x8' should be 7ft. clearance, and MEV 3'x5' should be 4ft. clearance)

After unit is operating refer to SECTION A page 9, for methods of operation also known as shaft rotation and whether you are running in conveying mode or retention mode.

WHILE UNIT IS RUNNING MAKE SURE FEED MATERIAL IS SPRED FULL WIDTH WHEN IT CONTACTS THE FIRST SCREEN. OTHERWISE, FULL TONNAGE CANNOT BE REALIZED.



PLAN VIEW (PEDESTAL MOUNTING)
UNIT ANGLE TO BE SET AT 18°

REVISIONS			
LTR.	DATE	DESCRIPTION	BY

CUSTOMER

DRAWN BY: RAYNER
DATE: 2/19/99
SCALE FACTOR: N.T.S.
REF. DWG.: 91ET510C118

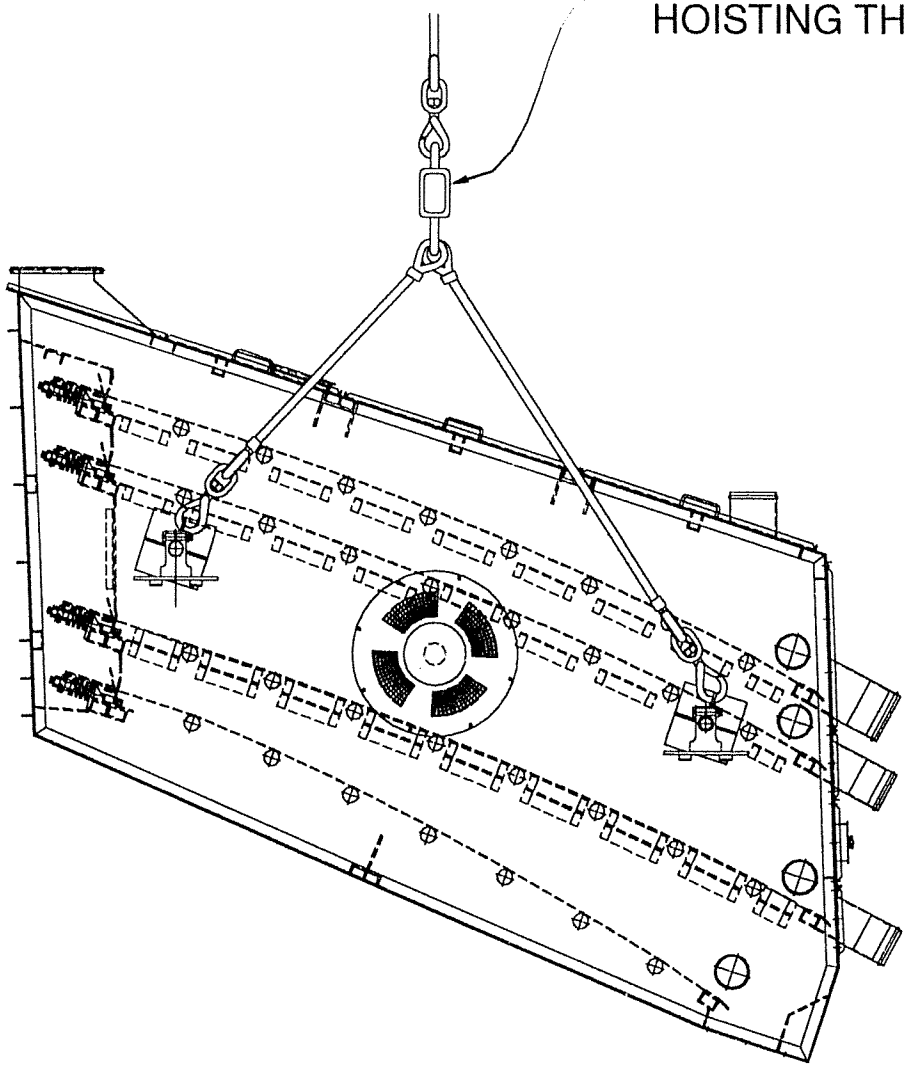
MIDWESTERN INDUSTRIES INC.
MASSILLON, OHIO
44648-0810 U.S.A.

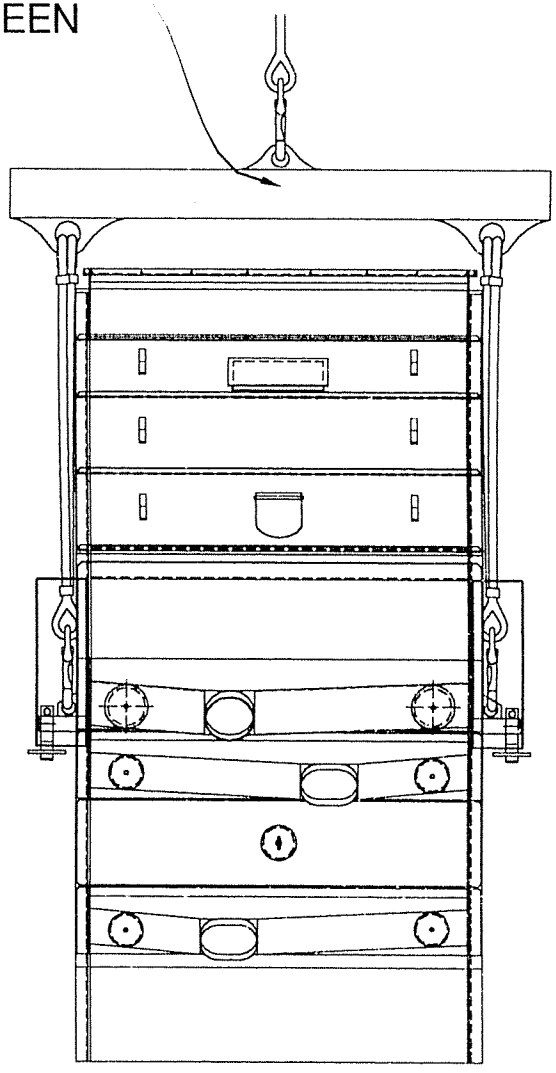
TITLE: MOUNTING FOR MEV 510 SCREEN
DRAWING NO.: MAN00193
REV.:

SECTION A
PAGE 3

CAUTION

UTILIZE A SPREADER BAR WHEN
HOISTING THE MEV SCREEN



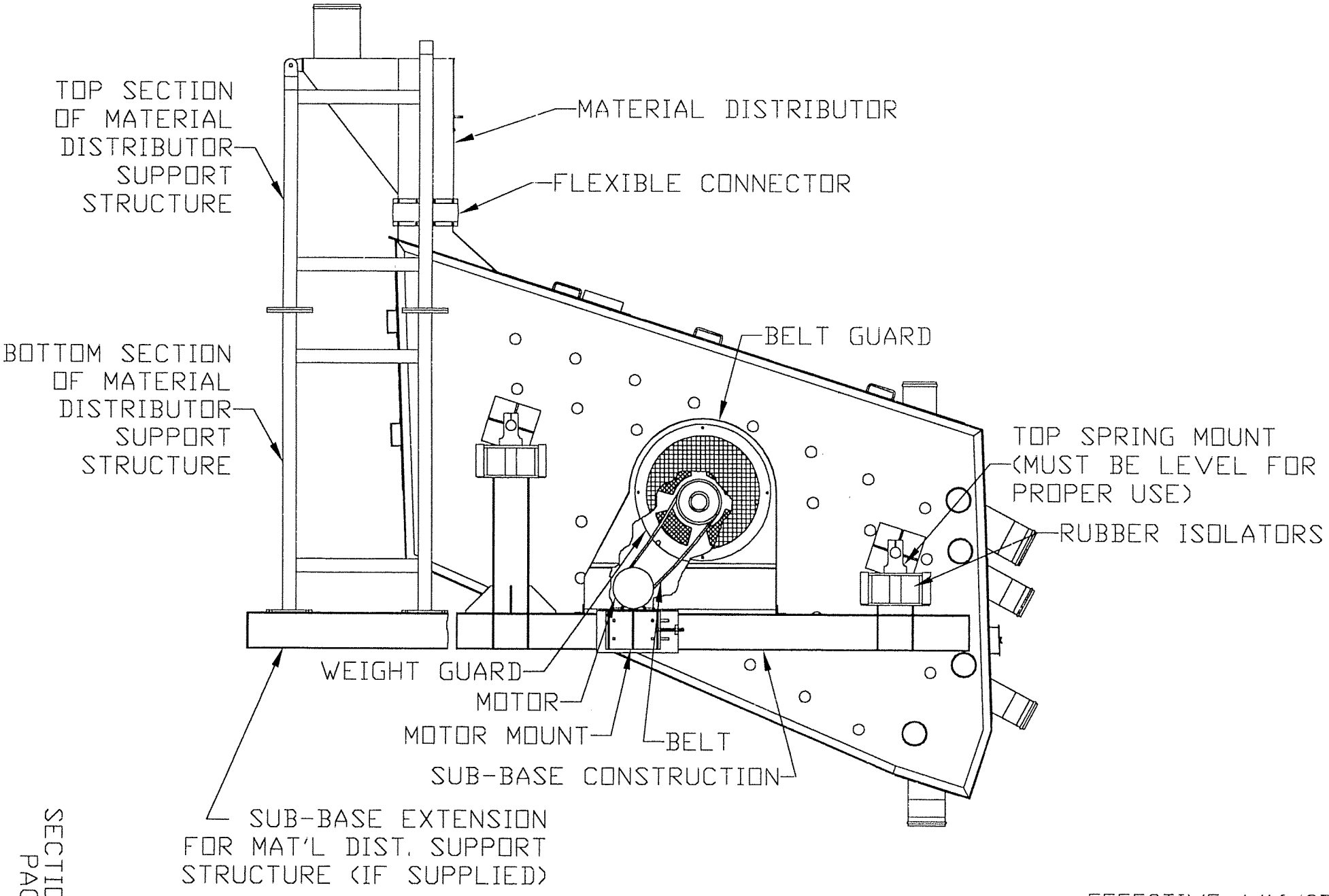


CAUTION

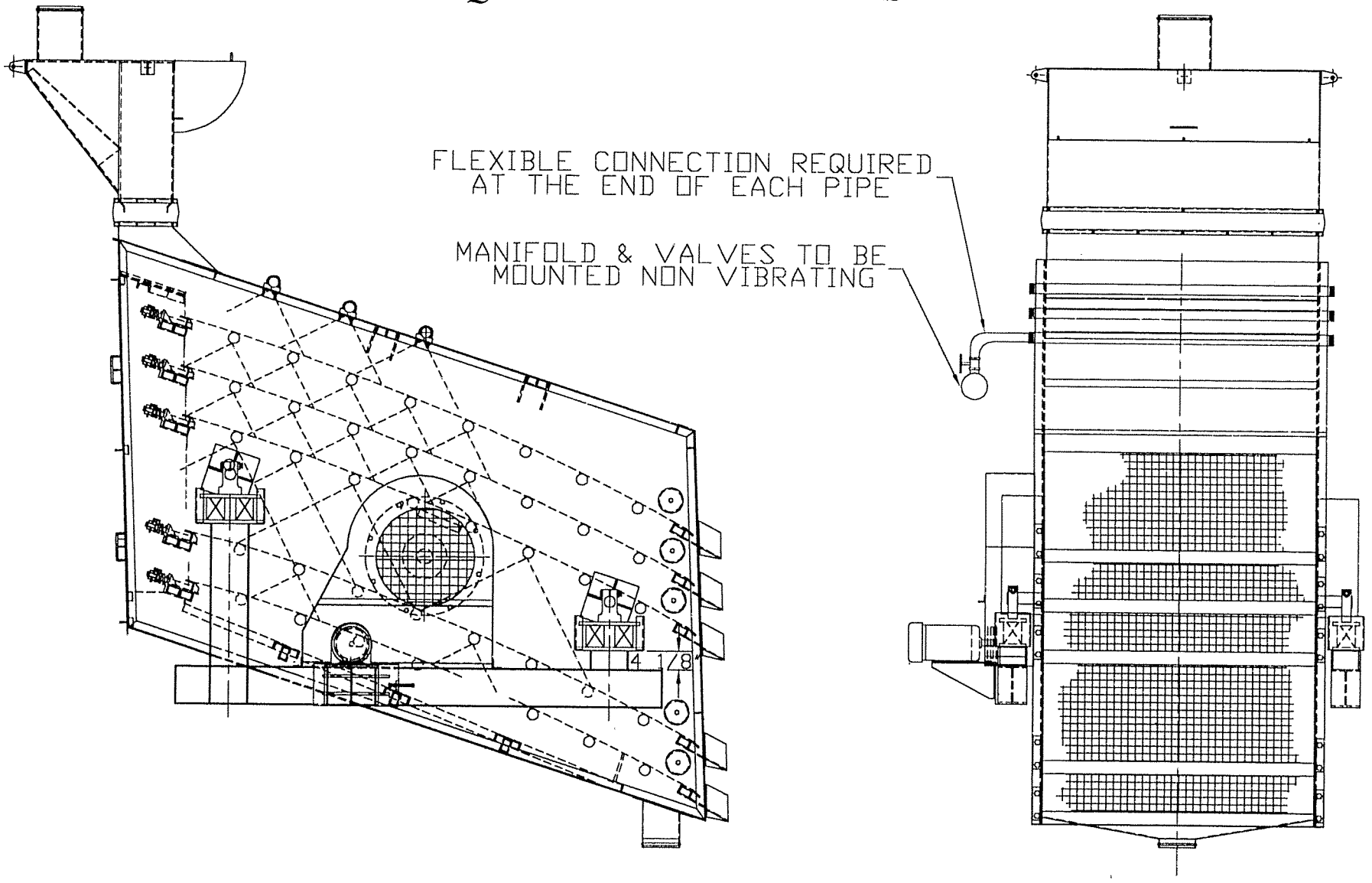
WHEN HOISTING THE MEV SCREEN TO STRUCTURAL SUPPORTS
UTILIZE A SPREADER BAR TO AVOID POSSIBLE DAMAGE TO THE SCREEN

UNIT WEIGHTS

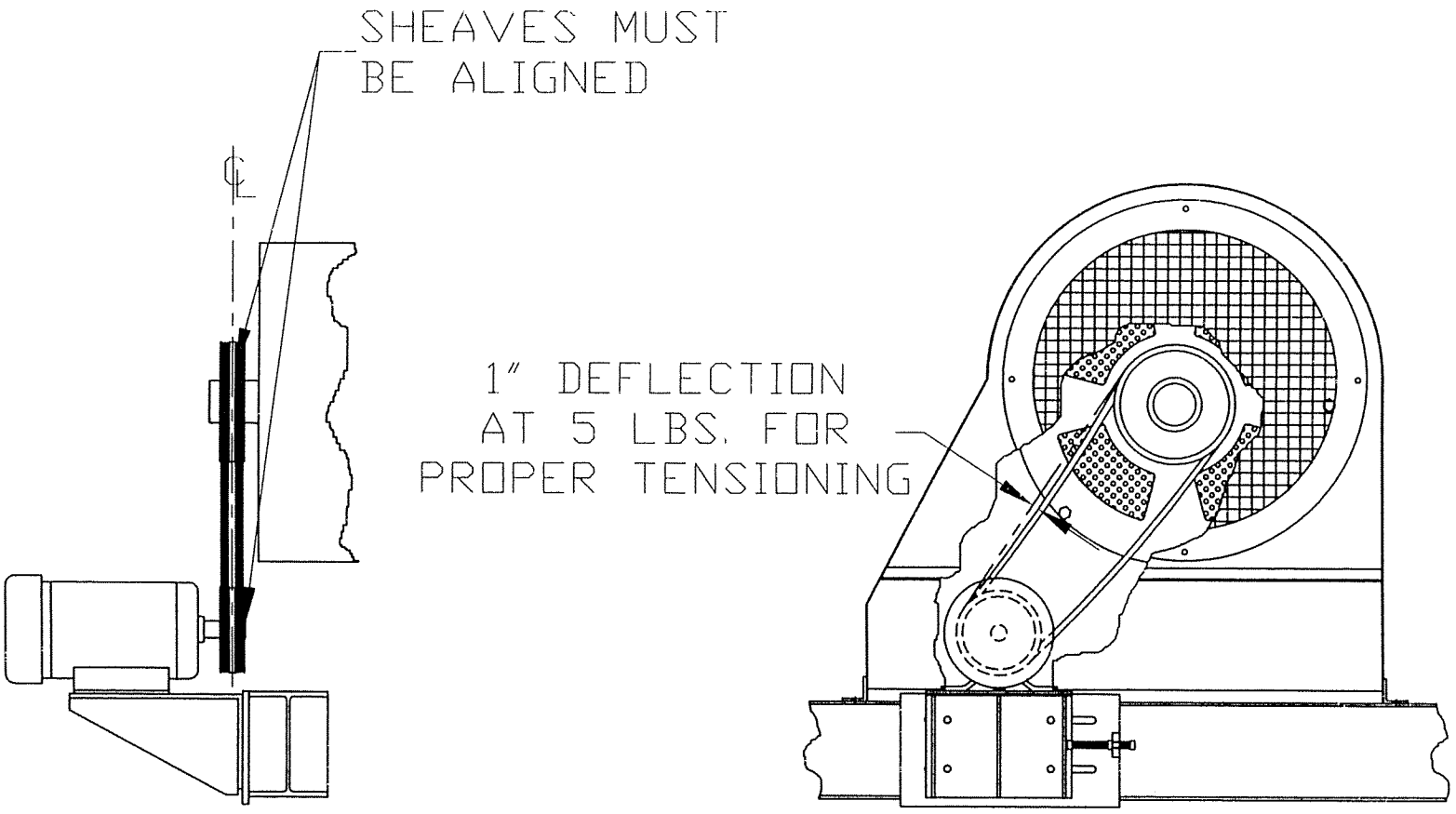
UNIT SIZE	UNIT WEIGHT	LIVE LOAD
510-1	6,000 lbs.	11,800 lbs.
510-2	7,400 lbs.	14,500 lbs.
510-3	8,900 lbs.	17,500 lbs.
510-4	10,200 lbs.	20,100 lbs.
510-5	10,400 lbs.	20,400 lbs.


TOP SECTION OF MATERIAL DISTRIBUTOR SUPPORT STRUCTURE
MATERIAL DISTRIBUTOR
FLEXIBLE CONNECTOR
BELT GUARD
BOTTOM SECTION OF MATERIAL DISTRIBUTOR SUPPORT STRUCTURE
TOP SPRING MOUNT (MUST BE LEVEL FOR PROPER USE)
RUBBER ISOLATORS
WEIGHT GUARD
MOTOR
MOTOR MOUNT
BELT
SUB-BASE CONSTRUCTION
SUB-BASE EXTENSION FOR MAT'L DIST. SUPPORT STRUCTURE (IF SUPPLIED)

UNITS EQUIPED WITH SPRAY BARS



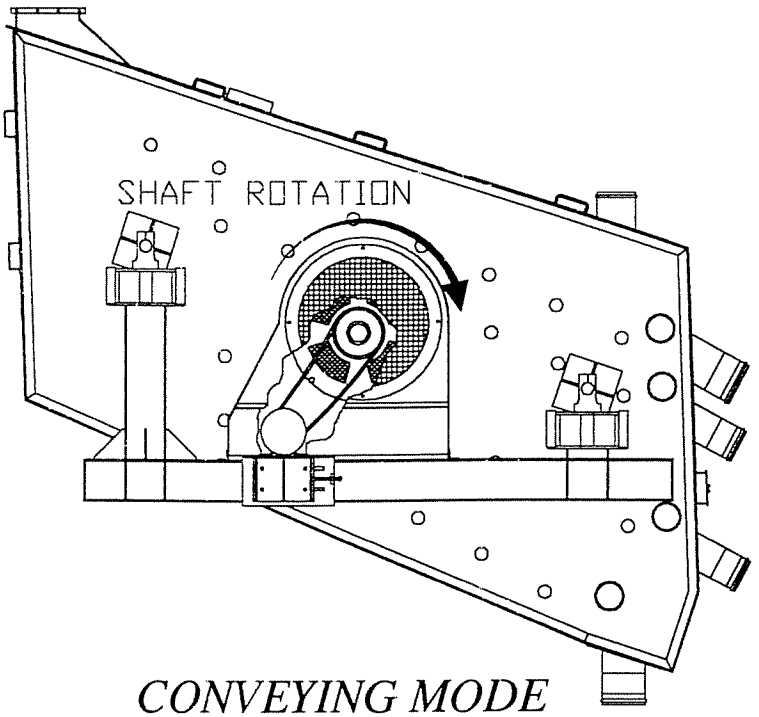
MIDWESTERN MEV BELT INSTALLATION



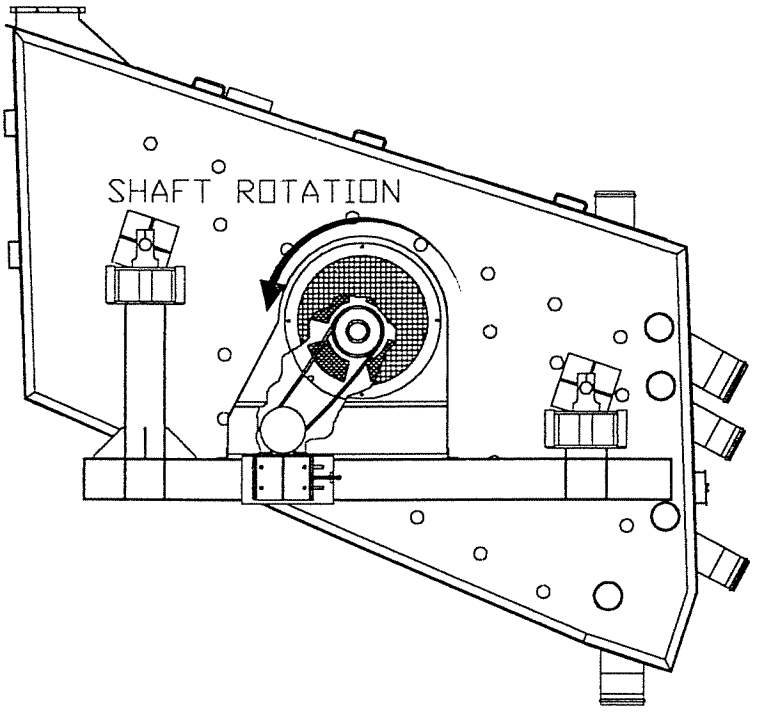
NOTE: ALL POWERTWIST PLUS C SERIES BELTS ARE DIRECTIONAL. THE ARROW ON THE BELTS MUST FALLOW THE SAME DIRECTION AS THE DRIVE. SEE SECTION A PAGE 9 FOR DEFINITION OF DRIVE DIRECTIONS.

REVISED 9/30/03
MAN00077

METHODS OF OPERATION (MEV)



CONVEYING MODE
RECOMMENED METHODS OF OPERATION



COUNTER-FLOW (RETENTION) MODE

FEEDING AND DISCHARGING CONNECTIONS

MIDWESTERN Vibrating Screens are equipped with feed plates fabricated in heavy steel to receive material fed from conveyors or elevators. They serve to except the impact of the material to help prevent wear to the unit. The correct feeding to the MEV is very important to obtain maximum performance. SECTION B page 2 shows typical feeding arrangements we recommend.

BASIC FEED CRITERIA:

1) Material is fed to the center of the feed plate at a rate moderate enough to avoid spilling over the sides.

2) Material should not strike the top screen deck directly.

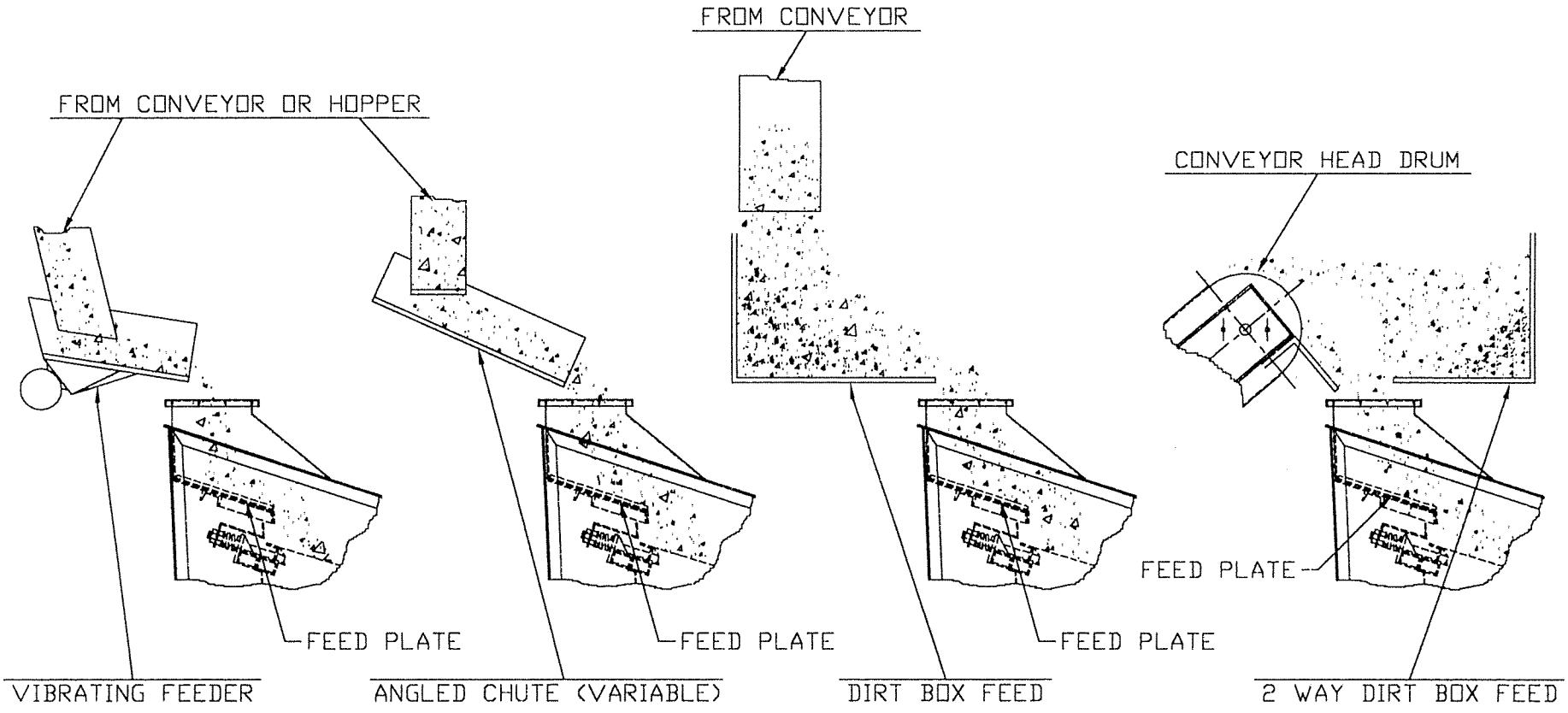
3) The width of feed-chute should be more than 75% of feed plate width. (Ref. MEV 5'x10' should be at least 45 inches wide, MEV 4'x8', 36 inches wide, and the MEV 3'x5', 27 inches wide.)

4) Flow of material should be full width of the screen.

Depth of feed material . . . If the material being fed to the machine is permitted to reach too great of depth on the screening surface, some fines are apt to "ride over" with the coarse. The result is poor efficiency. To make use of the full potential of your vibrating screen, it is to the operator's advantage to limit the feed to a point where the greatest amount of material can be placed in a position of direct contact with the screen wire at which point there is the most concentrated vibratory impulse. Further, a heavy feed will sometimes tend to pound near-size particles into screen wire openings making it difficult for the vibration to dislodge them. Eventually, overloading the machine in this way will result in "blinding" and "plugging" of the screen openings and drastically reduce efficiency.

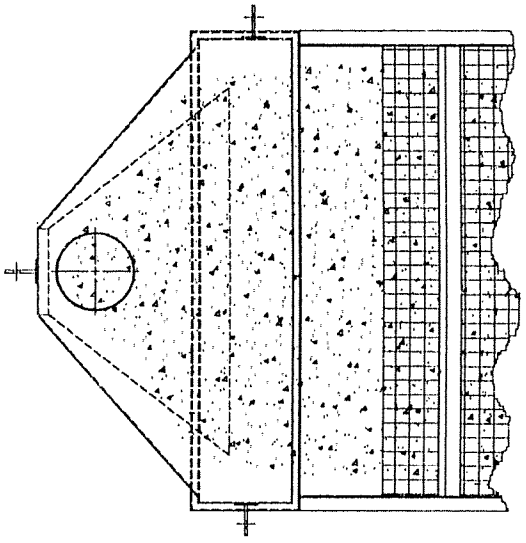
The discharge chute or hopper should be located to receive every particle from the machine. In general, the feeding and discharge connections should have more than one inch clearance to the frame of the machine to prevent any contact.

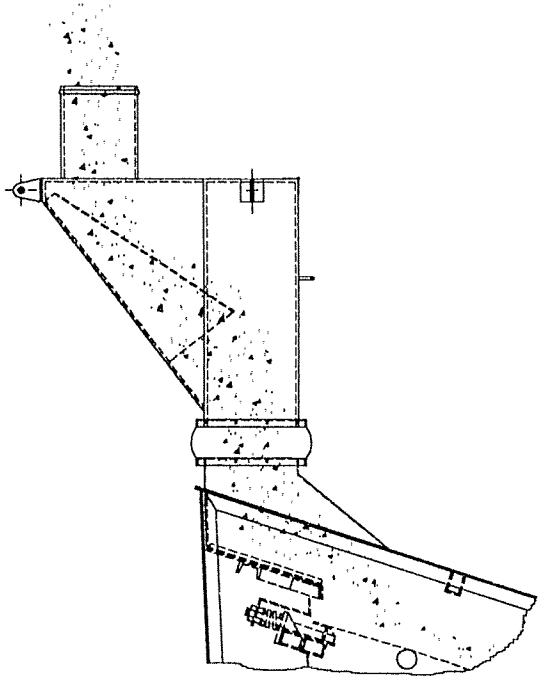
THE FEED MATERIAL SHOULD BE FED ONTO THE FEED PLATE IN A DIRECTION PARALLEL TO THE SIDE OF THE MACHINE. OBLIQUE MATERIAL FLOWS WILL REDUCE THE QUALITY OF THE SIZE AND INCREASE WEAR.

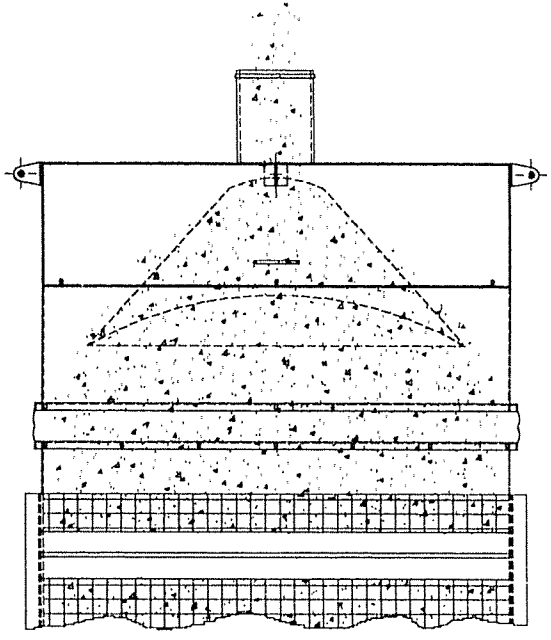


ON NO ACCOUNT SHOULD A COLUMN OF MATERIAL BE ALLOWED TO FORM ABOVE FEED PLATE, OR MATERIAL BE ALLOWED TO DROP FROM ANY HEIGHT GRATER THAN 305 MM. (12") ONTO FEED PLATE OR SCREEN PANELS.

CORRECT FEED ARRANGEMENTS







REVISIONS			
LTR.	DATE	DESCRIPTION	BY

CUSTOMER

DRAWN BY: COLBURN

DATE: 1/19/96

CHECKED BY

REFERENCE DWG.

MIDWESTERN INDUSTRIES INC.
MASSILLON, OHIO
44648-0810 U.S.A.

TITLE

MEV 510/MTV 57
LOW PROFILE
MATERIAL DISTRIBUTOR

DRAWING NO. MISC0268

REV.

SCREEN PANEL TENSIONING

Screen panel tensioning is one of the most important aspects of any screening equipment. Insufficient screen tension causes not only poor separation and noisy operation but can destroy a screen panel. The MEV is designed for easy screen changing and tensioning.

Proper screen panel tension is based on wire diameter of a given screen. As the MEV uses three (MEV3'x5'), four (MEV4'x8'), or five (MEV5'x10') draw bar studs with heavy-duty coil springs, proper tension is determined as the springs are compressed to a specific length.

The screen tensioning drawing in this section indicates proper positioning of tension gauge (see SECTION C page 6). Included are listings of all tensioning dimensions for MEV screens. Supplied with each MEV is a "T"-bar, and two flat bars to facilitate the installation and removal of finer "limber" screens.

Also if ball trays are used, when screens have worn check to make sure no ball's have been lost, if so, follow ball installation (see SECTION C page 9).

See SECTION C page 2 for basic screen changing steps.

THE FOLLOWING ARE BASIC SCREEN CHANGING STEPS:

* Remove jam nuts and safty guard bar.

* Loosen tensioning nuts and push draw bar forward. It is not necessary to remove tension springs, nuts, or washers completely.

* Unhook old screen at discharge end and slide out the back of unit.

* Slide new screen into place using "T"-bar if necessary (see SECTION C page 3). Fine mesh screens are reversible and can be installed either end first.

* For fine mesh screen installation install flat bars before installing screen with "T"-bar (see SECTION C page 3).

* Screens with a wire diameter of .092" and larger, have a bend near one of the hooks. This hook goes on the discharge end.

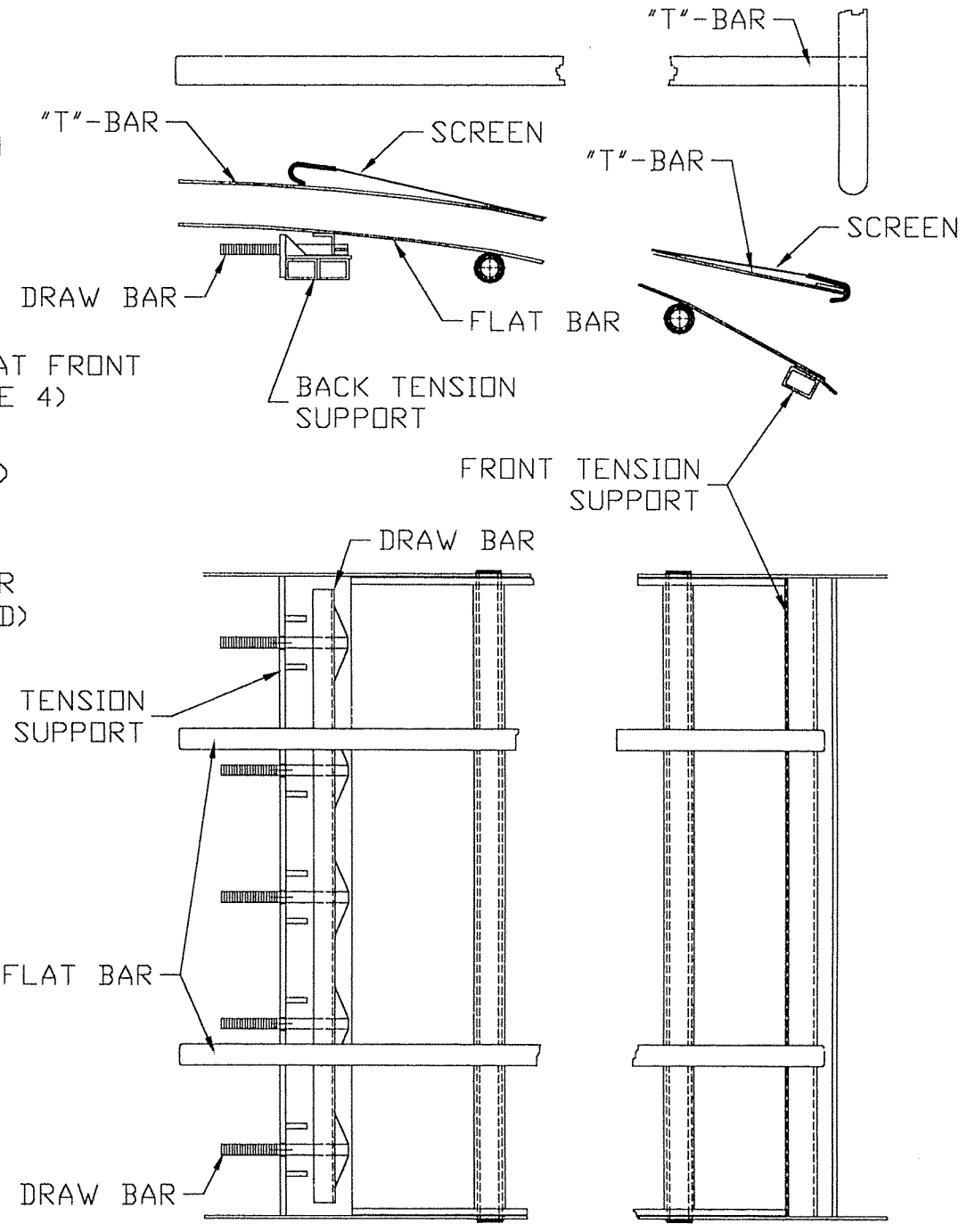
* Make sure both hooks are properly seated and continue to check these while tensioning is under way. It is often suitable to bump hooks into place with a mallet or hardwood block.

* Tighten the tension nuts evenly starting from the center to the outside until the tension springs compress to the proper dimension.

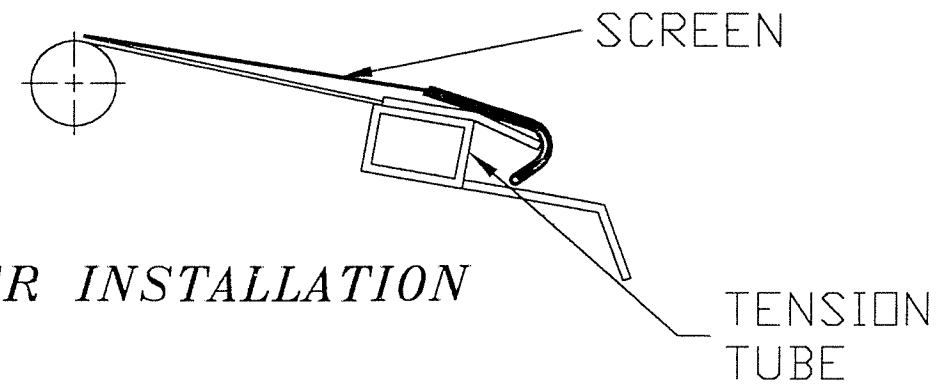
* Replace safety guard bars and jam nuts.

* New screen panels tend to relax and break in initially. Their tension should be checked several times after operating by simply holding the gauge next to each spring and verifying proper compression.

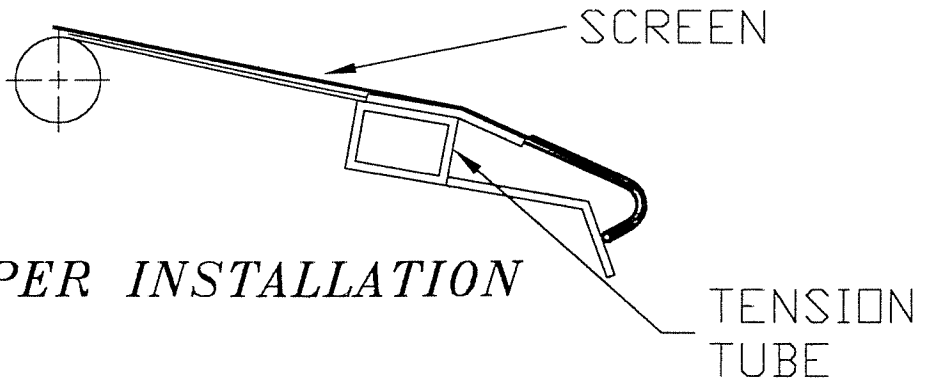
1. REMOVE OLD SCREEN.
2. PUT FLAT BARS IN SUGGESTED LOCATION SHOWN IN DRAWING (TO HELP PREVENT SCREENS FROM CACHING ON PIPES AND TENSION SUPPORTS)
3. SLIDE NEW SCREEN INTO PLACE USING "T"-BAR AS GUIDE. (SHOWN HERE)
4. MAKE SURE HOOK IS PROPERLY SEATED AT FRONT TENSION SUPPORT. (SEE SECTION C PAGE 4)
5. HOOK SCREEN OVER ANGLE DRAW BAR. MAKE SURE SCREEN (SECTION C PAGE 5) AND HOOK IS PROPERLY SEATED.
6. TIGHTEN SCREEN TO PROPER TENSION. (REFER TO SECTION C PAGE 11 - 16 FOR TENSION DIMENSION OF SCREEN UTILIZED)



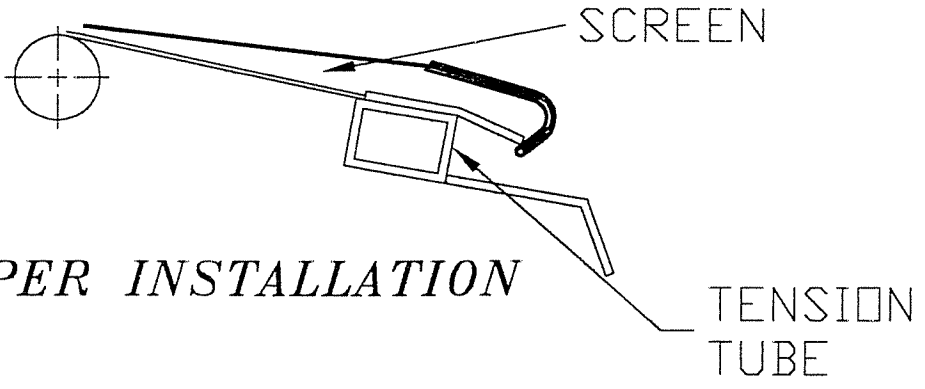
5/31/02
MAN00287



PROPER INSTALLATION

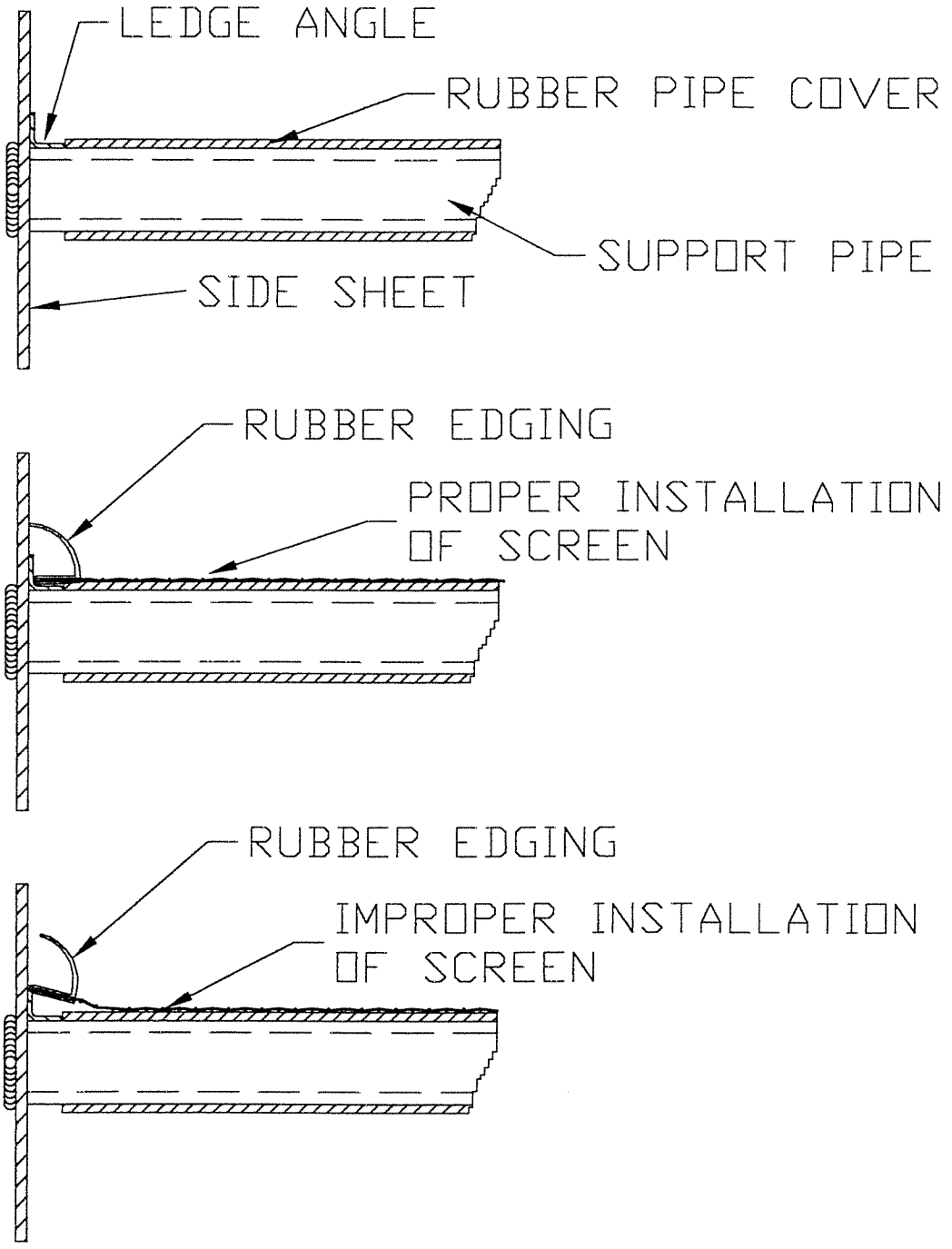


IMPROPER INSTALLATION



IMPROPER INSTALLATION

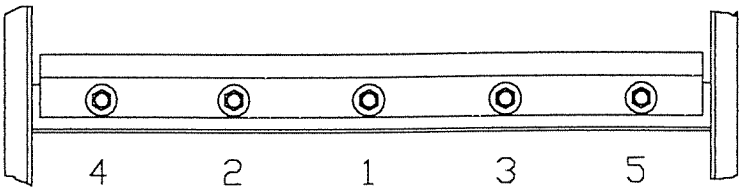
MIDWESTERN INDUSTRIES INC. MASSILLON, OHIO 44648-0810 U. S. A.	DRAWN BY: RAYNER	DATE: 4/20/98	TITLE: DISCHARGE END SCREEN INSTALLATION
	CUSTOMER		
REV.	SCALE FACTOR		DRAWING NO. MISC0617



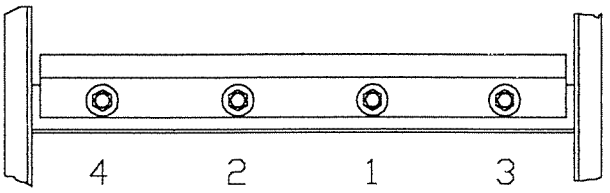
MIDWESTERN INDUSTRIES INC. MASSILLON, OHIO 44648-0810 U. S. A.	DRAWN BY: RAYNER	DATE: 7/24/01	TITLE: SCREEN INSTALLATION
	CUSTOMER		
REV.	SCALE FACTOR		DRAWING NO. MISC1050

MEV SCREEN PANELS

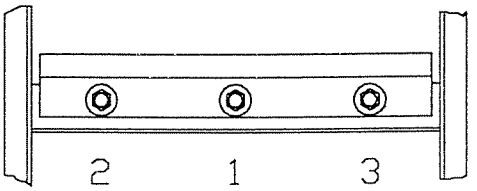
PROPER TENSIONING ORDER FOR DRAW BAR



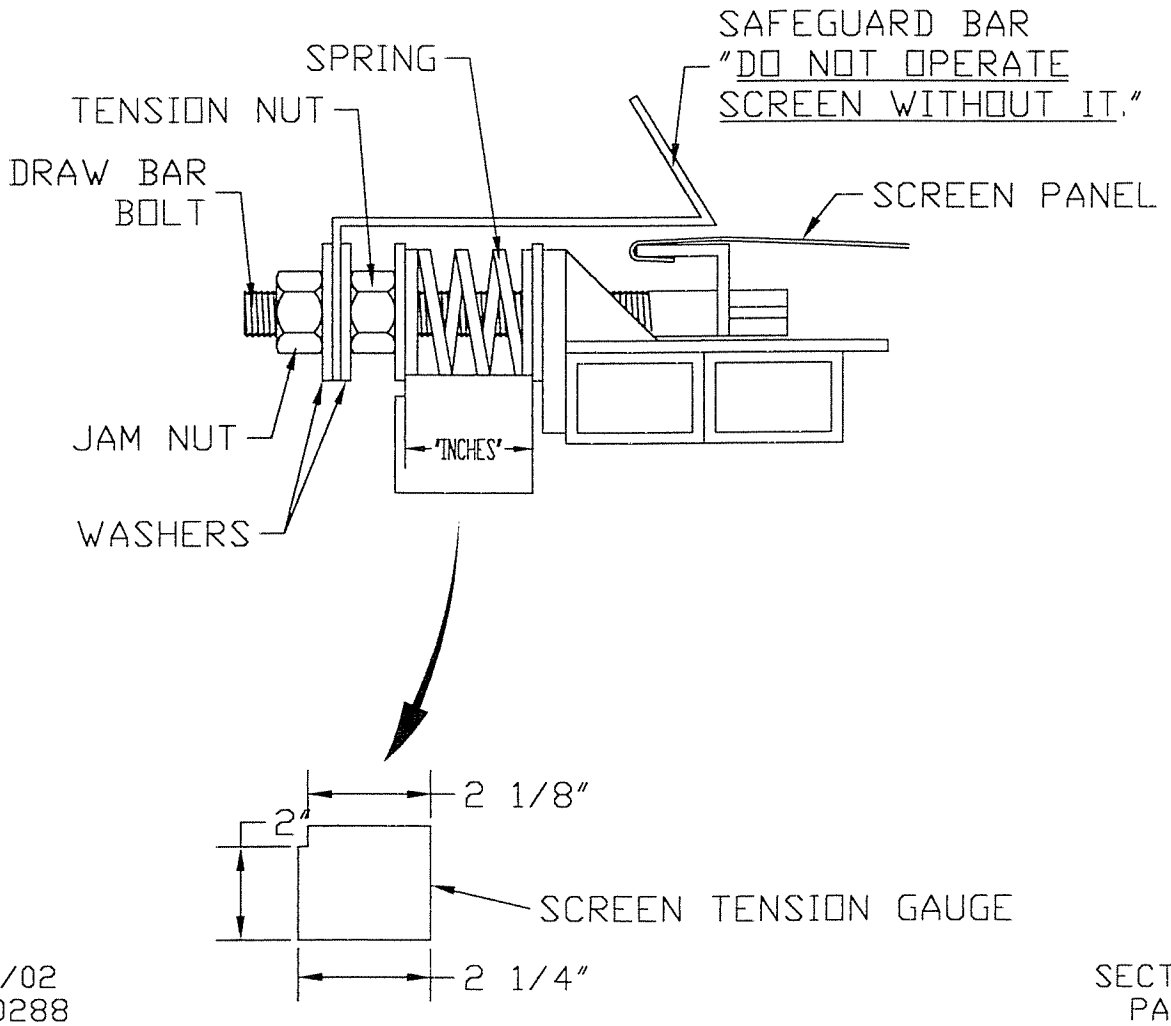
(MEV 5'X10' DRAW BAR)



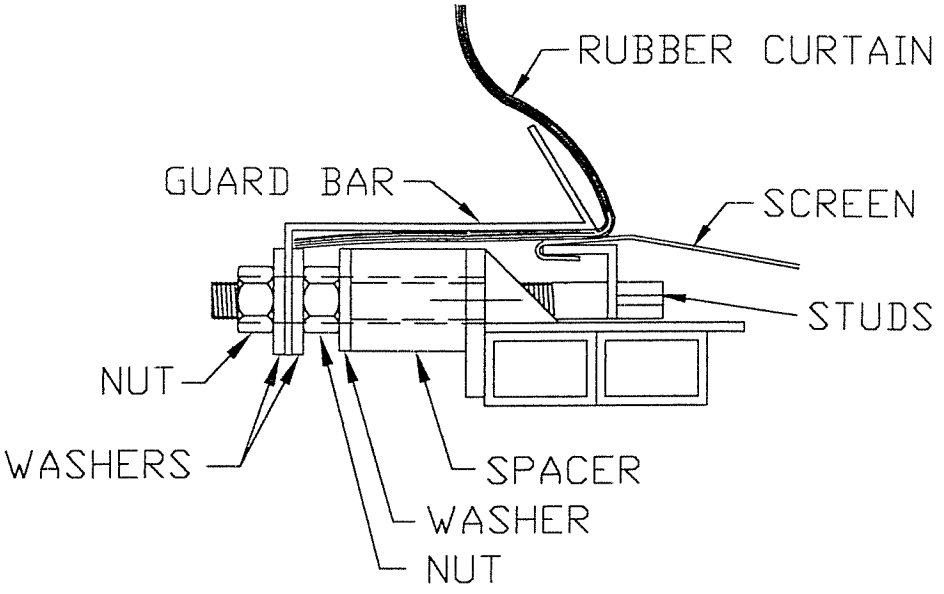
(MEV 4'X8' DRAW BAR)



(MEV 3'X5' DRAW BAR)



SCREENS W/ .135" & GREATER WIRE DIAMETER SPACERS USED INSTEAD OF SPRINGS



TENSION & JAM NUTS MUST BE TORQUED TO 125 FOOT LBS.

MIDWESTERN INDUSTRIES INC. MASSILLON, OHIO 44648-0810 U. S. A.	DRAWN BY: SCHMITT	DATE: 1/3/00	TITLE: MEV DRAW BAR SPACER USED ON DECKS WITH .135" DIA. & GREATER WIRE DIAMETER
	CUSTOMER		
REV.	SCALE FACTOR		DRAWING NO. MAN00207

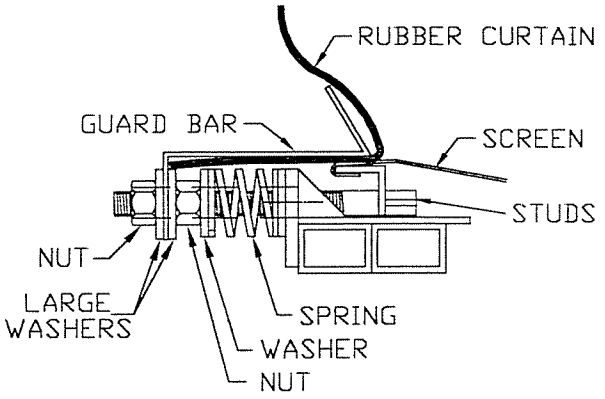
MEV 5'X10' UNITS
IMPORTANT SCREEN INSTALLATION
FOR DUST ENCLOSURES

INSTALLATION FOR DECKS WITH SCREENS

FOR USE ON MEV 5'X10' 1-5 DECK UNITS

CURTAIN: 60 5/8" WIDE

1) INSTALL SCREEN
2) HOOK SCREEN ON DRAW BAR AND TENSION TO THE CORRECT SETTING (SEE MANUAL)
3) LAY CURTAIN ON THE SCREEN BACK TO THE END OF THE SPRING ASSEMBLY
4) INSTALL GUARD BAR MAKING SURE NOT TO MOVE CURTAIN. (SEE DIAGRAM)

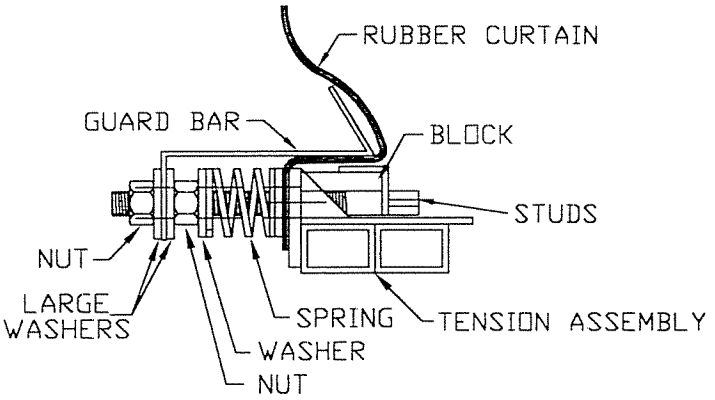


INSTALLATION FOR DECKS WITHOUT SCREENS

FOR USE ON MEV 5'X10' 1-5 DECK UNITS

CURTAIN: 60 5/8" WIDE

1) APPLY CURTAIN USING NECESSARY HOLES TO DRAW BAR STUDS.
2) THEN ASSEMBLE DRAW BAR WITH WASHERS, SPRINGS, AND NUTS, ON STUDS
3) TENSION DRAW BAR TO BLOCKS 2 1/4"
4) APPLY GUARD BAR WITH REMAINING WASHERS AND NUTS.

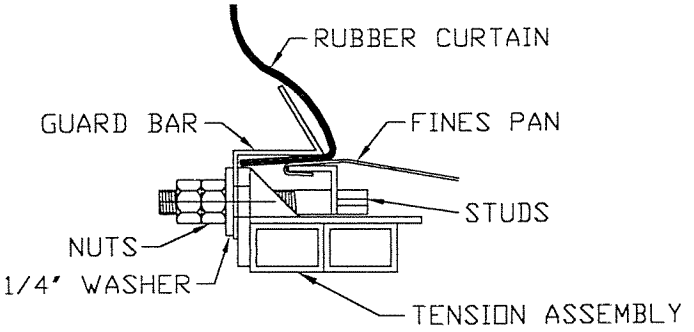


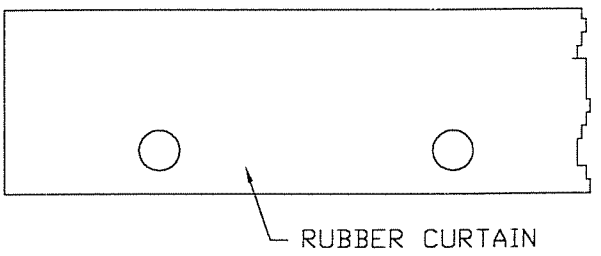
FINES PAN INSTALLATION

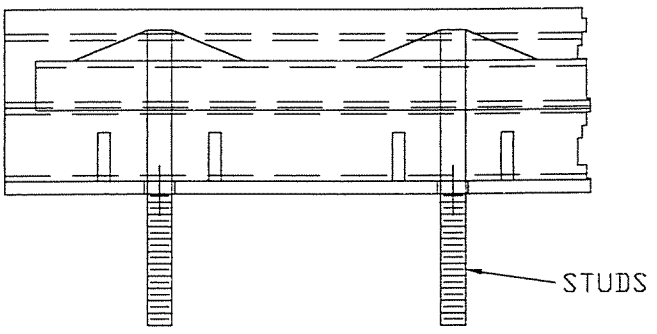
FOR USE ON MEV 5'X10' 1-4 DECK UNITS

CURTAIN: 60 5/8" WIDE

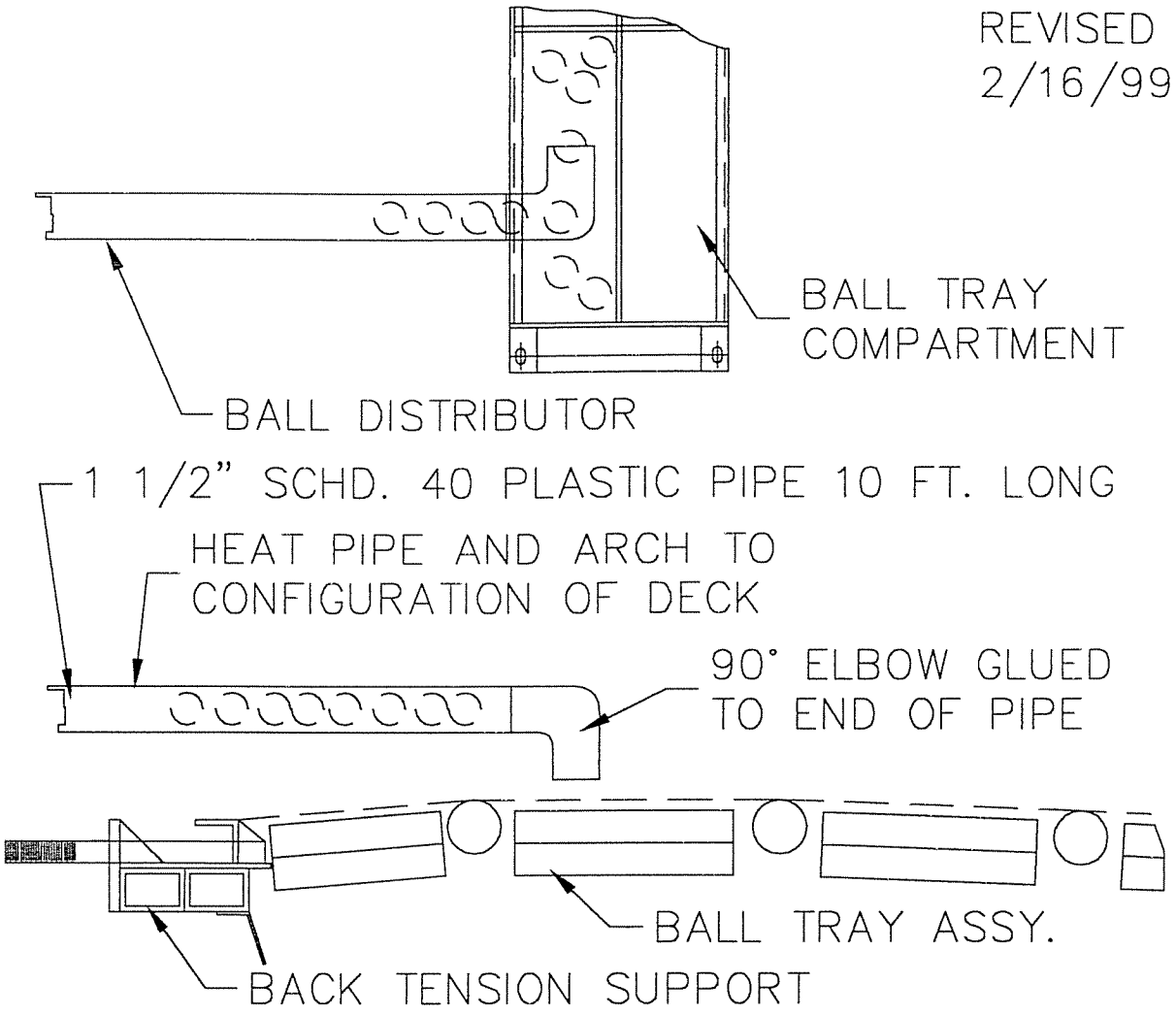
1) INSTALL FINES PAN
2) ATTACH DRAW BAR WITH SECOND AND FOURTH STUDS ONLY (TORQUE TO 130 FT LBS)
3) LAY CURTAIN ON THE PAN BACK TO THE END OF THE TENSION ASSEMBLY
4) ATTACH GUARD BAR MAKING SURE NOT TO MOVE CURTAIN, WITH THE REMAINING THREE STUDS ON THE DRAW BAR USING LARGE WASHERS & NUTS. (TORQUE TO 130 FT LBS)
5) REMOVE NUTS FROM THE FIRST TWO STUDS.
6) REATTACH NUTS USING LARGE WASHERS. (TORQUE TO 130 FT LBS)
7) ATTACH SECOND SET OF NUTS. (TORQUE TO 130 FT LBS)







REVISED
2/16/99

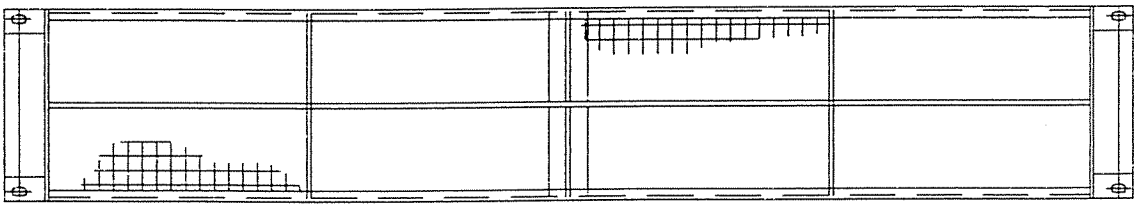


1. LOCK–OUT POWER TO MACHINE.
2. REMOVE SCREEN CLOTH FROM DESIRED DECK.
3. PLACE ELBOW OF BALL DISTRIBUTOR INTO COMPARTMENT TO BE FILLED.
4. DROP REQD. NO. OF BALLS INTO PIPE.
5. TURN PIPE SIDEWAYS TO RELEASE BALLS.
6. REPEAT PROCEDURE UNTIL ALL COMPARTMENTS HAVE RECOMMENDED NO. OF BALLS.
7. REPLACE SCREEN CLOTH.

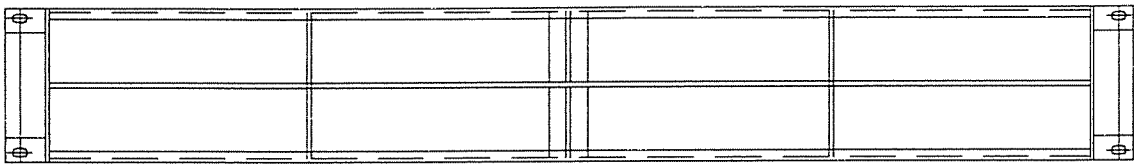
DRAWING NO.
MAN00289

MEV 5' X 10'

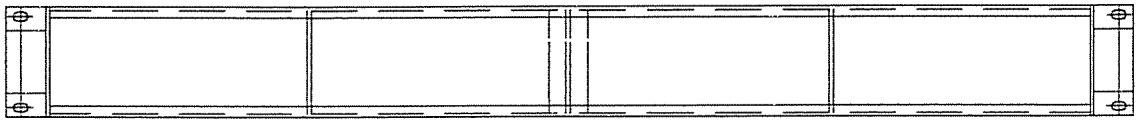
REVISED
2/16/99



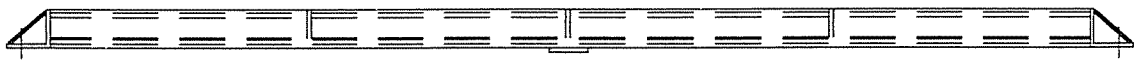
MIDDLE BALL TRAYS REQUIRE 40 BALLS



FEED END BALL TRAYS REQUIRE 32 BALLS



DISCHARGE END BALL TRAYS REQUIRE 16 BALLS



DISTRIBUTE BALL'S EVENLY IN ALL COMPARTMENTS

DRAWING NO.
MAN00187

PROPER TENSIONING FOR TENSIL BOLTING CLOTH SCREEN PANELS ON MEV

	MESH	WIRE DIA.	OPENING	SPRING COLOR	INCHES	LBS. PULL EACH
T	16 W/ BACKUP	0.009	0.0535	YELLOW	2 1/4	1,050
E	18 W/ BACKUP	0.009	0.0466	YELLOW	2 1/4	1,050
N	20 W/ BACKUP	0.009	0.041	YELLOW	2 1/4	1,050
S	22 W/ BACKUP	0.0075	0.038	YELLOW	2 1/4	1,050
I	24 W/ BACKUP	0.0075	0.0342	YELLOW	2 1/4	1,050
L	26 W/ BACKUP	0.0075	0.031	YELLOW	2 1/4	1,050
	28 W/ BACKUP	0.0075	0.0282	YELLOW	2 1/4	1,050
B	30 W/ BACKUP	0.0065	0.0268	YELLOW	2 1/4	1,050
O	32 W/ BACKUP	0.0065	0.0248	YELLOW	2 1/4	1,050
L	34 W/ BACKUP	0.0065	0.0229	YELLOW	2 1/4	1,050
T	36 W/ BACKUP	0.0065	0.0213	YELLOW	2 1/4	1,050
I	38 W/ BACKUP	0.0065	0.0198	YELLOW	2 1/4	1,050
N	40 W/ BACKUP	0.0065	0.0185	YELLOW	2 1/4	1,050
G	42 W/ BACKUP	0.0055	0.0183	YELLOW	2 1/4	1,050
	44 W/ BACKUP	0.0055	0.0172	YELLOW	2 1/4	1,050
C	46 W/ BACKUP	0.0055	0.0162	YELLOW	2 1/4	1,050
L	48 W/ BACKUP	0.0055	0.0153	YELLOW	2 1/4	1,050
O	50 W/ BACKUP	0.0055	0.0145	YELLOW	2 1/4	1,050
T	52 W/ BACKUP	0.0055	0.0137	YELLOW	2 1/4	1,050
H	54 W/ BACKUP	0.0055	0.013	YELLOW	2 1/4	1,050

PROPER TENSIONING FOR TENSIL BOLTING CLOTH SCREEN PANELS ON MEV

	MESH	WIRE DIA.	OPENING	SPRING COLOR	INCHES	LBS. PULL EACH
T	58 W/ BACKUP	0.0045	0.0127	YELLOW	2 1/4	1,050
E	60 W/ BACKUP	0.0045	0.0122	YELLOW	2 1/4	1,050
N	62 W/ BACKUP	0.0045	0.0116	YELLOW	2 1/4	1,050
S	64 W/ BACKUP	0.0045	0.0111	YELLOW	2 1/4	1,050
I	70 W/ BACKUP	0.0037	0.0106	YELLOW	2 1/4	1,050
L	72 W/ BACKUP	0.0037	0.0102	YELLOW	2 1/4	1,050
	74 W/ BACKUP	0.0037	0.0098	YELLOW	2 1/4	1,050
B	76 W/ BACKUP	0.0037	0.0095	YELLOW	2 1/4	1,050
O	78 W/ BACKUP	0.0037	0.0091	YELLOW	2 1/4	1,050
L	80 W/ BACKUP	0.0037	0.0088	YELLOW	2 1/4	1,050
T	84 W/ BACKUP	0.0035	0.0084	YELLOW	2 1/4	1,050
I	88 W/ BACKUP	0.0035	0.0079	YELLOW	2 1/4	1,050
N	90 W/ BACKUP	0.0035	0.0076	YELLOW	2 1/4	1,050
G	94 W/ BACKUP	0.0035	0.0071	YELLOW	2 1/4	1,050
	105 W/ BACKUP	0.003	0.0065	YELLOW	2 1/4	1,050
C	120 W/ BACKUP	0.0025	0.0058	YELLOW	2 1/4	1,050
L	145 W/ BACKUP	0.0022	0.0047	YELLOW	2 1/4	1,050
O	165 W/ BACKUP	0.0019	0.0042	YELLOW	2 1/4	1,050
T	200 W/ BACKUP	0.0016	0.0034	YELLOW	2 1/4	1,050
H	230 W/ BACKUP	0.0014	0.0029	YELLOW	2 1/4	1,050

PROPER TENSIONING GUIDE FOR SCREEN PANELS ON MEV

SQUARE OPENING		WIRE DIAMETER				
INCHES	MM.	INCHES	MM.	SPRING COLOR	INCHES	LBS. PULL EACH
4"	100	0.375	9.5	YELLOW	2	2,100
3 1/2"	90	0.312	7.9	YELLOW	2	2,100
3"	76	0.25	6.3	YELLOW	2	2,100
2 1/2"	63	0.25	6.3	YELLOW	2	2,100
2"	50	0.25	6.3	YELLOW	2	2,100
1 1/2"	38	0.192	4.8	YELLOW	2	2,100
1 1/4"	32	0.162	4.1	YELLOW	2	2,100
1"	25	0.12	3	YELLOW	2	2,100
3/4"	19	0.12	3	YELLOW	2 1/8	1,575
5/8"	16	0.092	2.3	YELLOW	2 1/8	1,575
1/2"	12.5	0.08	2	YELLOW	2 1/8	1,575
3/8"	9.5	0.072	1.8	YELLOW	2 1/8	1,575
5/16"	7.9	0.063	1.6	YELLOW	2 1/8	1,575
1/4"	6.4	0.047	1.2	YELLOW	2 1/8	1,575
3/16"	4.8	0.041	1	YELLOW	2 1/8	1,575
5/32"	4	0.041	1	YELLOW	2 1/8	1,575
1/8"	3.2	0.035	0.9	YELLOW	2 1/4	1,050
3/32"	2.4	0.035	0.9	YELLOW	2 1/4	1,050
1/16"	1.6	0.035	0.9	YELLOW	2 1/4	1,050

CLEARANCE!

PROPER TENSIONING GUIDE FOR MARKET GRADE SCREEN PANELS ON MEV

	MESH	WIRE DIA.	OPENING	SPRING COLOR	INCHES	LBS. PULL EACH
	2	0.063	0.437	YELLOW	2 1/4	1,050
	3	0.054	0.279	YELLOW	2 1/4	1,050
	4	0.0475	0.2023	YELLOW	2 1/4	1,050
M	4	0.063	0.187	YELLOW	2 1/4	1,050
A	5	0.041	0.159	YELLOW	2 1/4	1,050
R	6	0.0348	0.1318	YELLOW	2 1/4	1,050
K	7	0.035	0.108	YELLOW	2 1/4	1,050
E	8	0.0286	0.0964	YELLOW	2 1/4	1,050
T	10	0.0258	0.0742	YELLOW	2 1/4	1,050
	11	0.018	0.073	YELLOW	2 1/4	1,050
	12	0.023	0.0603	YELLOW	2 1/4	1,050
G	14	0.0204	0.051	YELLOW	2 1/4	1,050
R	16	0.0181	0.0445	YELLOW	2 1/4	1,050
A	18	0.0173	0.0386	BLUE	2	575
D	20	0.0162	0.034	BLUE	2	575
E	24	0.014	0.0277	BLUE	2	575
	30	0.0128	0.0203	BLUE	2	575
	35	0.0118	0.0176	BLUE	2	575
	40	0.0104	0.015	BLUE	2	575
	50	0.009	0.011	BLUE	2	575

PROPER TENSIONING GUIDE FOR MARKET GRADE SCREEN PANELS ON MEV

MESH	WIRE DIA.	OPENING	SPRING COLOR	INCHES	LBS. PULL EACH
60	0.0075	0.0092	BLUE	2	575
80	0.0055	0.007	BLUE	2	575
100	0.0045	0.0055	BLUE	2	575
120	0.0037	0.0046	BLUE	2	575
150	0.0026	0.0041	BLUE	2	575

MARKET GRADE

WHEN TENSIONING SCREENS WITH A BACKUP UTILIZE THE TENSIONING INFORMATION ON THE BACKUP SCREEN

FOR EXAMPLE: 50 MESH MG. WITH 11 MESH MG. BACKUP AT 1,050 LBS. PULL EACH, 2 1/4", UTILIZING YELLOW SPRINGS

FOR MILL GRADE, UTILIZE THE TENSIONING INFORMATION FOR MARKET GRADE

PROPER TENSIONING GUIDE FOR SCREEN PANELS ON MEV INTERKLEEN ™

14" SLOT LENGTH

	OPENING		WIRE DIA.			
	INCHES	MM.	INCHES	SPRING COLOR	INCHES	LBS. PULL EACH
	1/2"	12.5	0.08	YELLOW	2"	2,100
	7/16"	11.1	0.072	YELLOW	2"	2,100
I	3/8"	9.5	0.072	YELLOW	2"	2,100
N						
T	5/16"	7.9	0.063	YELLOW	2"	2,100
E						
R	1/4"	6.4	0.047	YELLOW	2"	2,100
K						
L	3/16"	4.8	0.041	YELLOW	2"	2,100
E						
E	1/8"	3.2	0.035	YELLOW	2"	2,100
N						
	3/32"	2.4	0.035	YELLOW	2"	2,100
	0.08	2	0.028	YELLOW	2"	2,100

(MEV 4' X 8' AND MEV 5'X10')

MAINTENANCE

* LUBRICATON

BEARING LUBRICATION IS EXTREMELY CRITICAL, DUE TO HEAVY LOADING AND VIBRATION. PLEASE READ AND MAINTAIN THE FOLLOWING STEPS FOR GOOD MAINTANCE.

GREASE INSTALLED AT FACTORY: MOBIL SHC 460

NOTE: BLENDING OF GREASES OF A DIFFERENT DETERGENT BASE IS LIKELY TO RESULT IN A MARKED DETERIORATION OF LUBRICITY WITH THE RISK OF PREMATURE BEARING FAILURE.

IN THE EVENT THAT A GREASE OTHER THAN MOBIL SHC 460 IS USED, THE BEARING MUST BE FLUSHED AND CLEANED COMPLETELY, THEN REPACKED WITH THE NEW TYPE OF GREASE.

LUBRICATION

ADD 5 GRAMS EVERY 40 HOURS, EQUAL TO 4 FULL PUMPS FROM AN ORDINARY HAND-HELD GREASE GUN.

GENERALLY, SMALLER AMOUNTS OF GREASE AT MORE FREQUENT INTERVALS IS BEST FOR ANY GREASING SCHEDULE.

FOR SUSTAINED TEMPERATURES BELOW 34 ^{O}F, CHECK GREASE SUPPLIER FOR RECOMMENDED LOW TEMPERATURE GREASE.

NUTS AND BOLTS

ALL NUTS AND BOLTS USED TO ASSEMBLE THE MEV SCREEN ARE HIGH GRADE. ALTHOUGH THESE FASTENERS HAVE BEEN PROPERLY TORQUED AT THE FACTORY, PERIDIC INSPECTION IS ADVISED.

BOLT SIZE	TORQUE (DRY & ZINC) PLATED	TORQUE (LUBED)
1/4"-20 GRADE 5	8ft. Lbs.	76in. Lbs.
5/16"-18 GRADE 5	17ft. Lbs.	13ft. Lbs.
3/8"-16 GRADE 8	45ft. Lbs.	35ft. Lbs.
1/2"-13 GRADE 5	76ft. Lbs.	57ft. Lbs.
1/2"-20 GRADE 8	120ft. Lbs.	90ft. Lbs.
5/8"-11 GRADE 8	220ft. Lbs.	170ft. Lbs.
1"-8 GRADE 5	640ft. Lbs.	483ft. Lbs.

SCREENS

SCREENS SHOULD BE CHECKED PERIODICALLY FOR PROPER TENSION, WEAR, OR PUNCTURES. REFER TO SECTION C TO ANSWER ANY QUESTION REGARDING SCREENS AND PROPER TENSIONING.

2/10/99
Revised 1/12/01

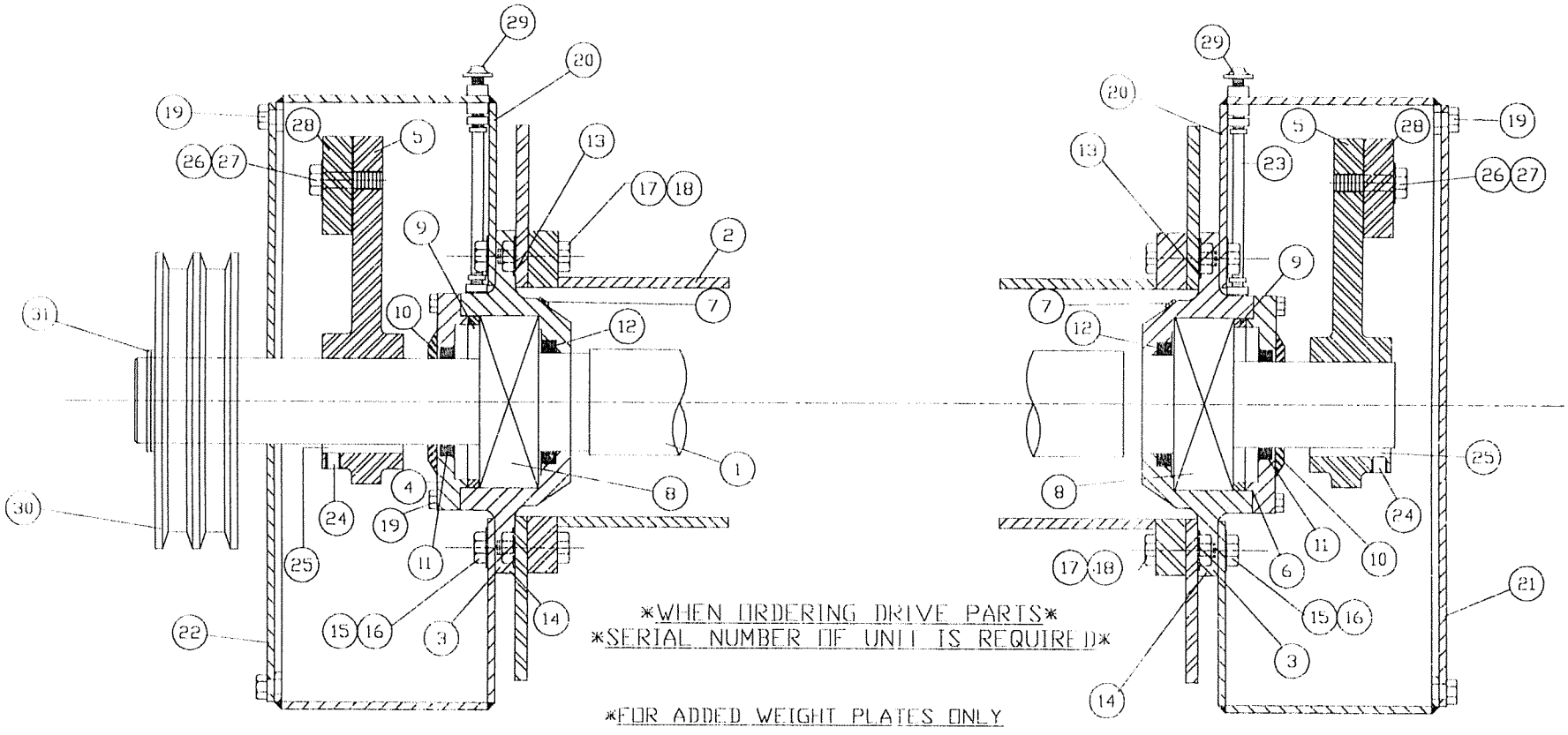
REPLACEMENT PARTS

When ordering any parts, please clarify the following information for prompt service:

The Machine Model Number
The Machine Serial Number
Description of Part
Part Number
Quantity
Shipping Medium
Destination
Purchase order Number

RECOMMENDED SPARE PARTS

1 Each of Screen Cloth being used
1 Standard Draw Bar
2 Each of Screen Tensioning Spring
of every color used (Ref Yellow or Blue)
2 Rubber Springs
4 Nuts & Locking Nuts for Draw Bar
1 22316EJA-VA405 Bearing
1 417205 Seal
1 416011 Seal



				25	2	MEV510752.25KEY	KEY	12	2	MEV510417205	BRG. HSG. SEAL
				24	6	MEV5105001.25SS	SET SCREW	11	2	MEV510416011	COVER SEAL
				23	2	MEV510115101	GREASE LINE	10	2	MEV510400801	SLINGER
				22	1	MEV510C113105	WEIGHT COVER	9	2	MEV510C1073	SPACER RING
				21	1	MEV510C113103	WEIGHT COVER	8	2	MEV510316VA405	BEARING
				20	2	MEV510C113101	WEIGHT GUARD ASSY.	7	2	MEV510317400	RELIEF FITTING
				19	12	MEV5103751.5HHB	BOLT GRD. 5	6	1	MEV510ET21063	ET21063 O-RING
31	1	MEV510SF2.938	BUSHING	18	12	MEV5105002.5HHB	BOLT GRD. 8	5	2	MEV510CXXXXX	WEIGHT
30	1	MEV5102C100SF	SHEAVE	17	12	MEV510500NUT	NUT GRD. 8	4	2	MEV510C1071	BEARING HOUSING COVER
29	2	MEV5101610BL	1/8" GREASE FITTING	16	16 PAIR	MEV510625CLW	CAM LOCK WASHERS	3	2	MEV510C019101	BEARING HOUSING
*28	———	MEV510XXXXX	WEIGHT PLATE (AS REQD.)	15	16	MEV5106252.5HHB	BOLT GRD. 8	2	1	MEV510C104101	TORQUE TUBE
*27	———	MEV510625W	WASHER GRD. 8	14	2	MEV510316BA	COMPLETE BEARING ASSY.	1	1	MEV510C020101	SHAFT
*26	———	MEV510625HHB	BOLT GRD. 8	13	1	MEV510ET21062	O-RING	ITEM	REQD.	PART NO.	MAT'L

REVISIONS

LTR	DATE	DESCRIPTION	BY
A	9/15/99	CHANGED NUMBERS	JR
B	10/21/00	MODIFIED ADD ON WEIGHTS	AS
C	3/19/01	MODIFIED PART NUMBERS	AS

CUSTOMER

DRAWN BY: COLBURN | DATE: 2/8/96

CHECKED BY:

NEXT ASSY.:

MIDWESTERN INDUSTRIES INC.
MASSILLON, OHIO
44648-0810 U.S.A.

TITLE: MEV 510 SHAFT ASSY.

DRAWING NO.: MISC0273

REV.: C

REVISED
12/31/02

BEARING HOUSING REPLACEMENT

1) Remove belt guard, belts, and pulley (If drive side).

2) Remove weight guard covers

3) Remove weights

4) Remove grease line

5) Remove (8) 5/8-11 x 2-1/2" long bolts from bearing housings

6) Remove weight guard housing

7) Install (4) ½-13 x 4" pusher bolts; proceed with removal of bearing housing from shaft. Block shaft to maintain position.

8) The shaft should be inspected at this time. If the shaft has wear from the bearing having spun, or grooves at the seal locations, it should be replaced.

9) The shaft must be clean, then install the bearing housing. The bearing is self aligning, and must remain straight while installing. If the bearing needs to be aligned, rotate the inner race. Do not force the bearing into alignment by pounding, as this will damage the bearing. (For units that are used with large amount of water apply Aviation FORM-A-GASKET Sealant Liquid between bearing housing and side sheet before continuing with step 10.)

10) Install bearing housings with (8) new 5/8-11 x 2-1/2" grade 8 Bolts and 5/8" cam-lock washers, torque to 170 ft. Lbs. Lubed or 220 ft. Lbs. dry.

11) Clean the grease line by pumping in fresh grease, then install the grease line into the bearing housing. Complete bearing housings are packed at the factory, and need no further grease at installation.

12) Install the weights in the same position they were. The weights need to be set the same on both sides of the MEV (see dwg MAN00191 in this manual for weight installation instructions.)

13) Install the weight guard covers.

14) Install pulley on shaft and align pulley with sheave on motor (see SECTION A page 8)

15) Install belts and tension (see SECTION A page 8).

16) Install belt guard.

4/29/99

BEARING REPLACEMENT USING EXISTING HOUSING

MEV510 (See Illustration MAN00197)

1. Remove the bearing housing cover.

2. Heat the bearing housing to 250 degrees F.

3. Turn the housing upside down. The bearing can be removed by using a 3 5/8" dia. slug thru the bore, and applying pressure. The seal should be removed at this time.

4. The housing needs to be inspected. If the bearing spun in the housing, or if there are other signs of severe damage such as heavy gouging, or cracks, the housing needs to be replaced.

5. The housing must be cleaned, any burrs removed, and the grease holes cleaned out.

6. Install a new seal in the housing, the seal is to be installed with the writing on the seal facing up toward the bearing.

7. Heat the housing to 200 degrees F.

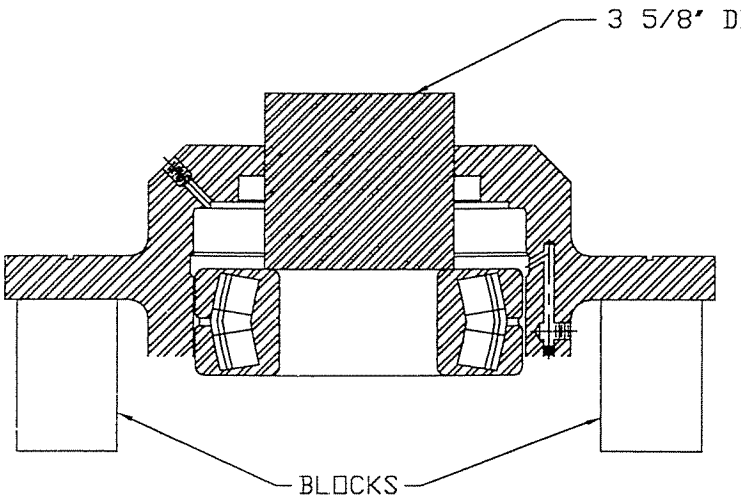
8. Lay the housing face up, start the bearing in as straight as possible. The bearing should drop in. If not, apply some pressure to the outer race of the bearing, **NEVER PUSH ON THE INNER RACE**, as this will damage the bearing. If the bearing comes out of alignment, it can be aligned by rotating the bearing. Do not force the bearing into alignment by pounding, as this will damage the bearing.

9. The bearing must be packed with new grease. This can be done by installing a grease fitting into the housing. Use the fitting on the top of the housing (do not use the fitting on the bottom). As grease is pumped in, rotate the inner race until the bearing is full of grease.

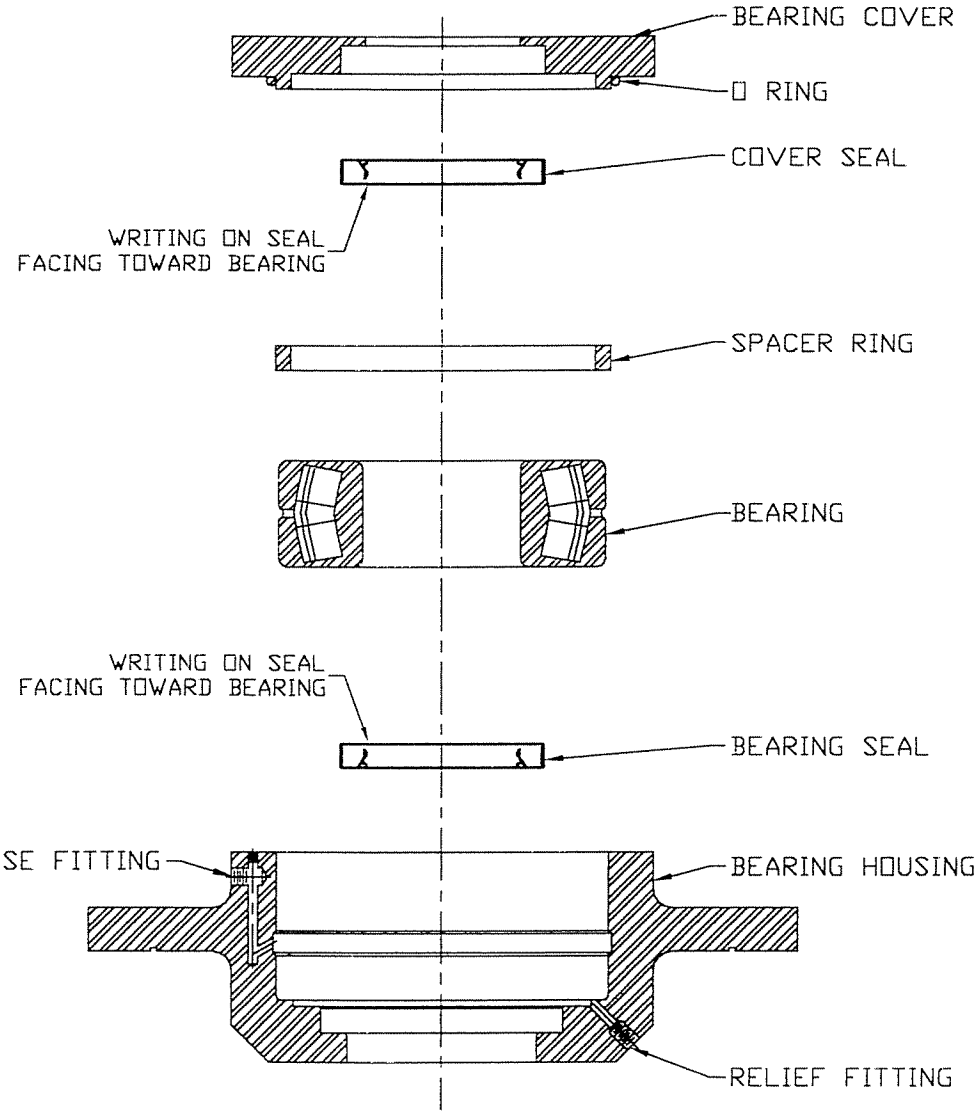
10. The seal in the bearing cover should be replaced with the writing on the seal facing in toward the bearing, and a new O ring installed.

11. Install the spacer ring, then the bearing cover, and torque bolts (see SECTION D page 2).

12. Follow instructions on "Bearing Housing Replacement" found in this section.



BEARING REMOVAL



BEARING ASSEMBLY

TITLE: MEV BEARING ASSEMBLY

DRAWING NO. MAN00197

REV.

MIDWESTERN INDUSTRIES INC. MASSILLON, OHIO 44646-0810 U.S.A.

DRAWN BY: SCHMITT

DATE: 4/11/96

CHECKED BY

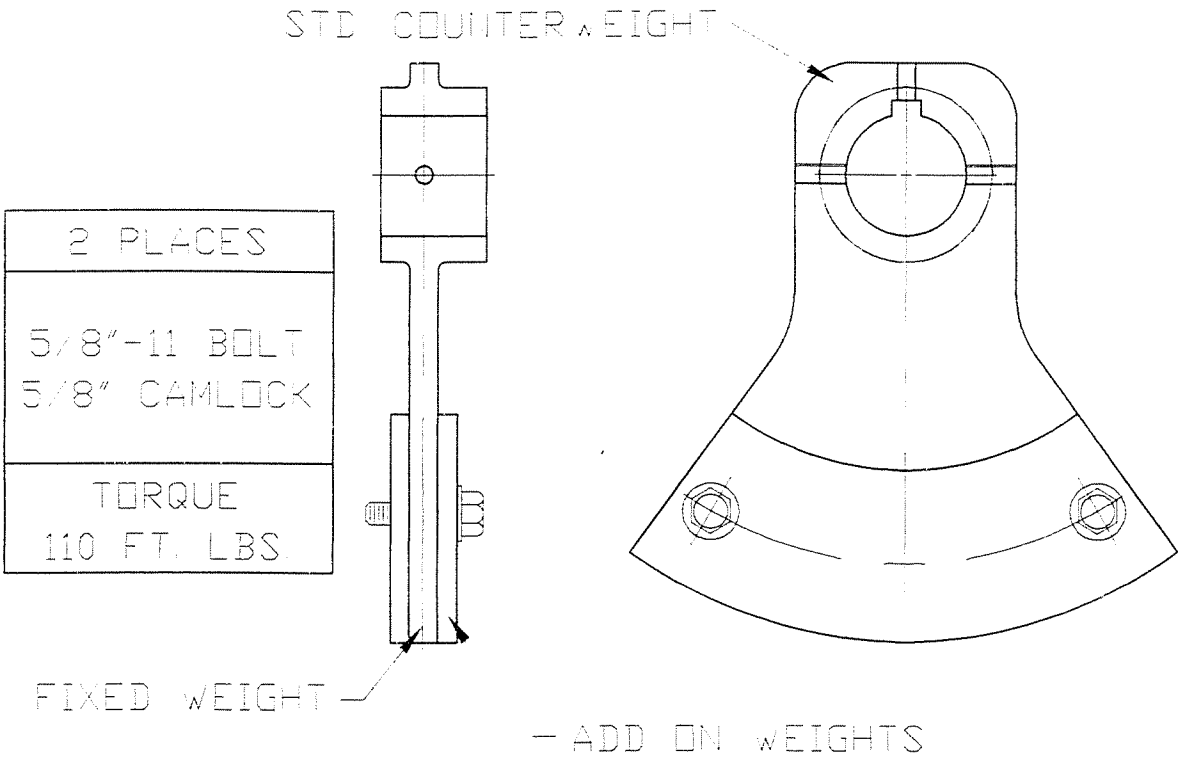
NEXT ASSY.

CUSTOMER

REVISIONS

LTR.	DESCRIPTION	BY	DATE

ALL MEV COUNTERWEIGHTS

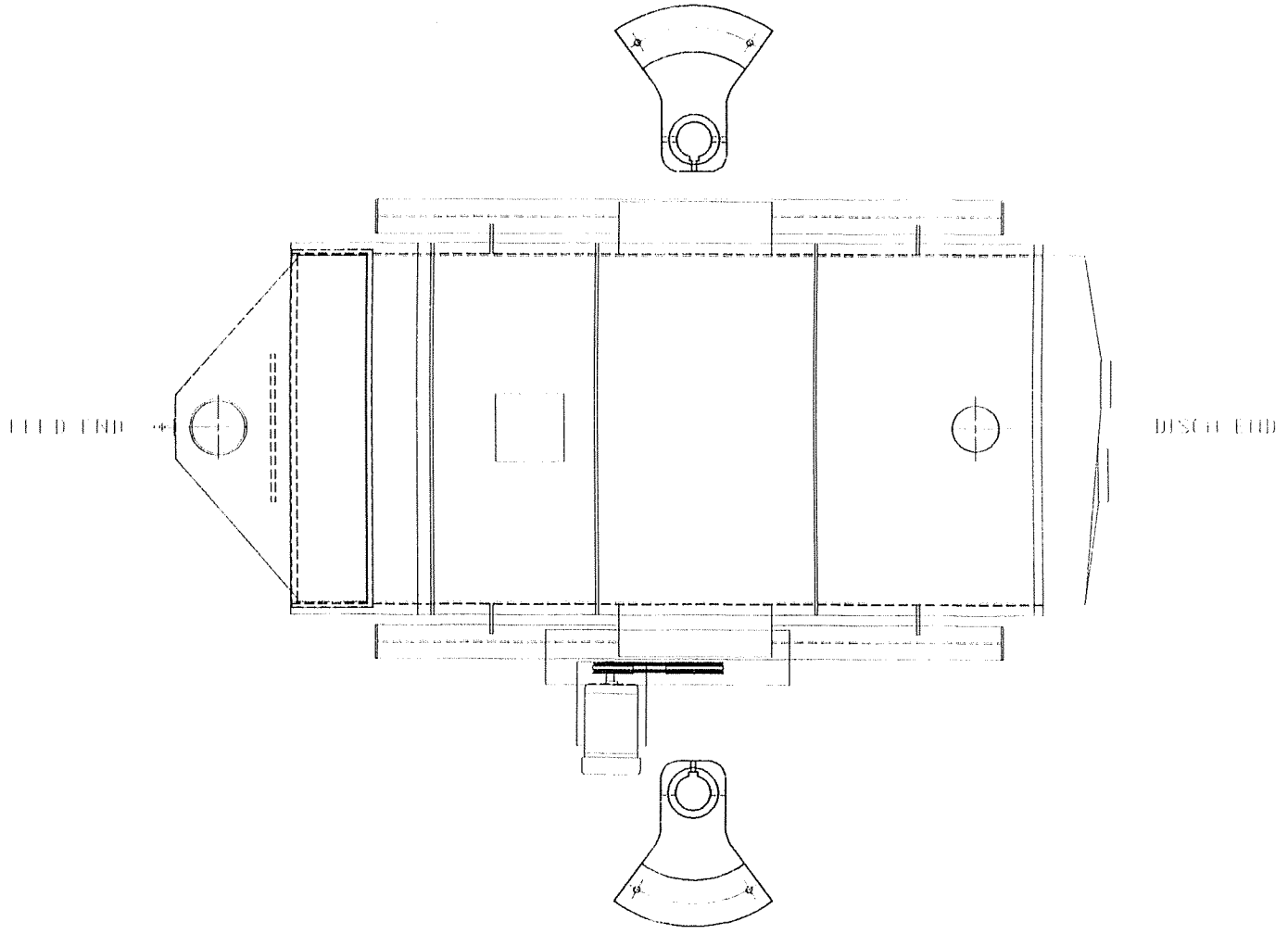


NOTES:

* ADD ON WEIGHTS CAN BE BOLTED ON EITHER SIDE OR BOTH SIDES OF BASE WEIGHT.
* KEEP 2 BOLTS IN PLATES AT ALL TIMES.
* ADD ON WEIGHTS MUST BE EXACTLY SAME ON EACH SIDE OF UNIT. (SEE MAN00225)
* ADDING ADDITIONAL WEIGHTS OTHER THAN THOSE SUPPLIED BY MIDWESTERN WILL AUTOMATICALLY VOID WARRANTY.

10/11/00

DRAWING NO.
MAN00226



THE BASE WEIGHTS ON BOTH SIDES MUST BE THE SAME THICKNESS
IF ADD ON WEIGHTS ARE USED, THEY MUST BE THE SAME ON BOTH SIDES OF THE UNIT

REVISIONS			
LTR	DATE	DESCRIPTION	BY

CUSTOMER

DRAWN BY: SCHMITT

DATE: 10/11/00

SCALE FACTOR

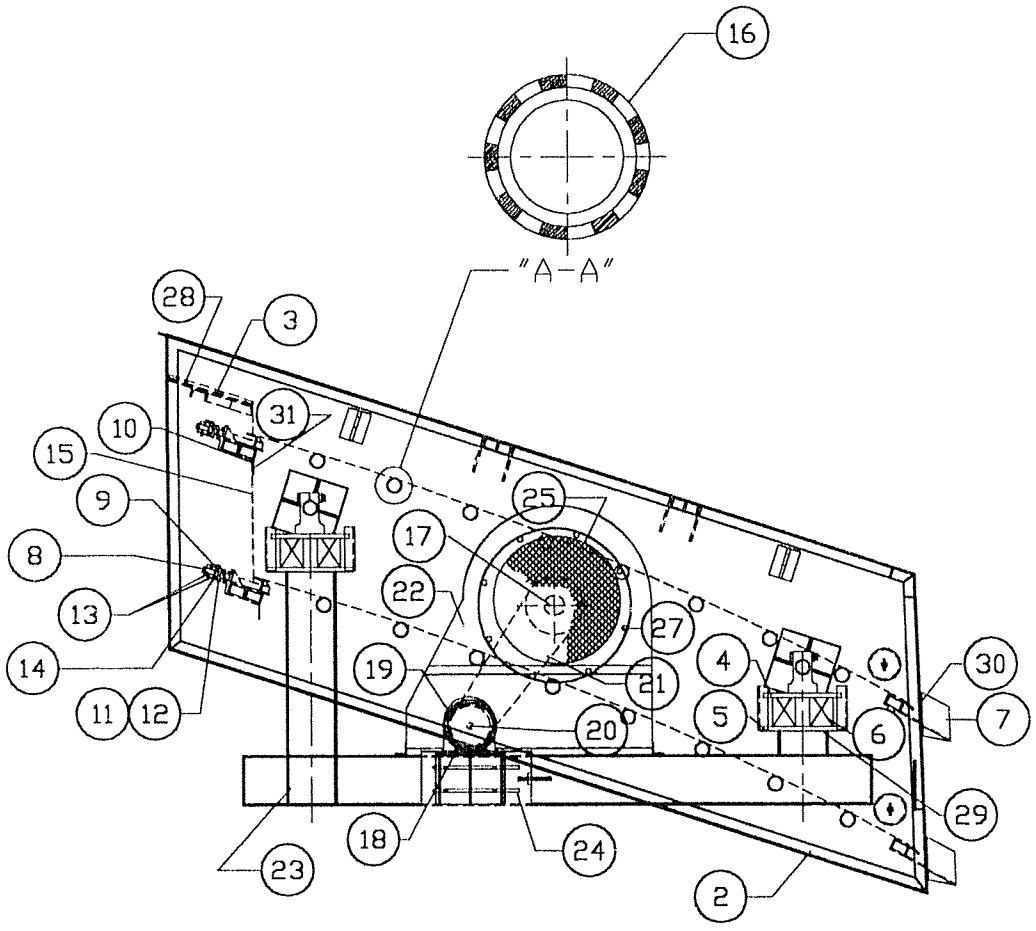
NEXT ASSY.

MIDWESTERN INDUSTRIES INC
MASSILLON, OHIO
44648-0810 U.S.A.

TITLE: LAYOUT OF ALL MEV WEIGHTS

DRAWING NO.: MAN00225

REV.



1 -101 SCREEN ASSY.

ITEM	REQD.	PART NO.	MAT'L
31	24	MEV51025201BNW	1/4"-20 X 1" BOLT-NUT-WASHER
30	28	MEV510513125BNW	1/2"-13 X 1 1/4" BOLT-NUT-WASH.
29	24	MEV510625112BNW	5/8"-11 X 2" BOLT-NUT-WASHER
28	16	MEV510375161FHB	3/8"-16 X 1" FL. HD. SOC. CAP. SCR. -NUT-WASHER
27	16	MEV5103751675BW	3/8"-16 X 1" BOLT-WASHER
26	4	MEV5101845BNW	1"-8 X 4 1/2" BOLT-NUT-WASHER
25	2	MEV510C113101	WEIGHT GUARD ASSY.
24	1	MEV510035107	MOTOR MOUNT
23	1	MEV510035101	SUB-BASE
22	1	MEV510C152101	BELT GUARD
21	2	MEV510C72	C-72 BELT
20	1	MEV510SF1375	BUSHING
19	1	MEV5102C70SF	SHEAVE
18	1	MEV51010HPT02	10 H.P. T.E.F.C. 1800 R.P.M. 230/460 VOLT
17	1	MISC0273	SHAFT ASSY.
16B	8	MEV510SPC57	WHITE SILICONE RUBBER PIPE COVER
16A	8	MEV510RPC57	BLACK E.P.D.M. RUBBER PIPE COVER
15	1	MEV510RC26	1/8" X 26" X 60 5/8" BLACK E.P.D.M. CURTAIN
14	10	MEV510DBW	1" GRADE 5 WASHER
13	20	MEV510DBN	1"-8 GRADE 5 NUT
12	10	MEV5109321036	TENSION SPRING (YELLOW)
11	10	MEV5109321021	TENSION SPRING (BLUE)
10	1	MEV510C10311	CLAMP BAR (CURTAIN)
9	2	MEV510CM0411	GUARD BAR
8	2	MEV510C104103	DRAW BAR
7	2	MEV510C041101	DISCHARGE LIP
6	8	MEV51035801780	RUBBER ISOLATOR
5	4	MEV510C018103	LOWER SPRING MOUNT
4	4	MEV510C018101	UPPER SPRING MOUNT
3	1	MEV5101117	A.R. WEAR PLATE
2	1	MF512024-101	BOX ASSEMBLY
1	1	-101 SCREEN ASSY.	MEV 510-2

REVISIONS

LTR	DATE	DESCRIPTION	BY
A	7/10/98	RUBBER ISOLATORS WERE W22-358-0180	AS
B	6/12/02	UPDATED PART NUMBERS	JR

DRAWN BY: COLBURN | DATE: 2/1/96

CHECKED BY:

CUSTOMER

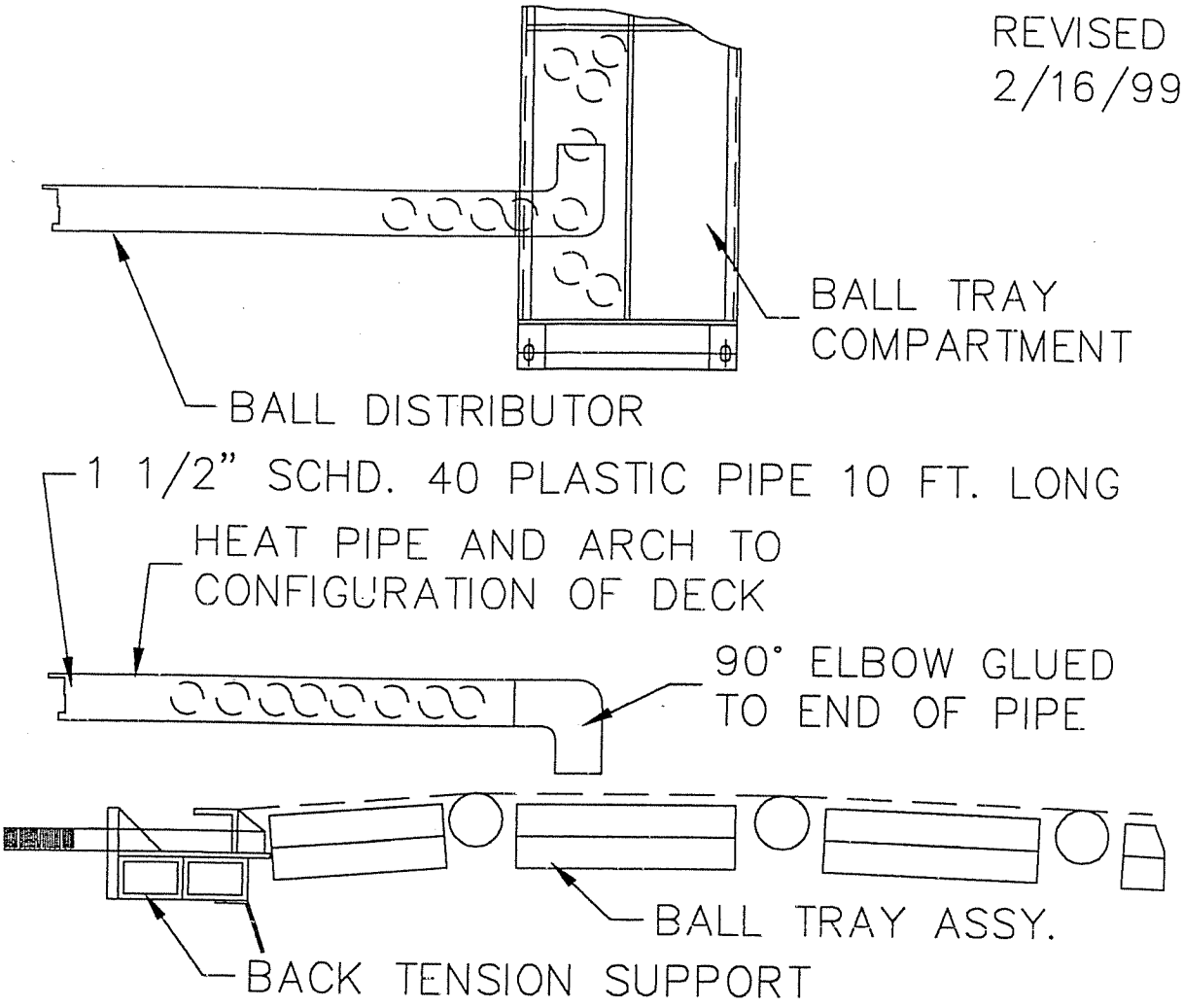
NEXT ASSY.

MIDWESTERN INDUSTRIES INC.
MASSILLON, OHIO
44648-0810 U.S.A.

TITLE: MODEL MEV 510-2
5'X10' DOUBLE DECK SCREEN
UNIT SET @ 18°

DRAWING NO. SD512068 | REV. B

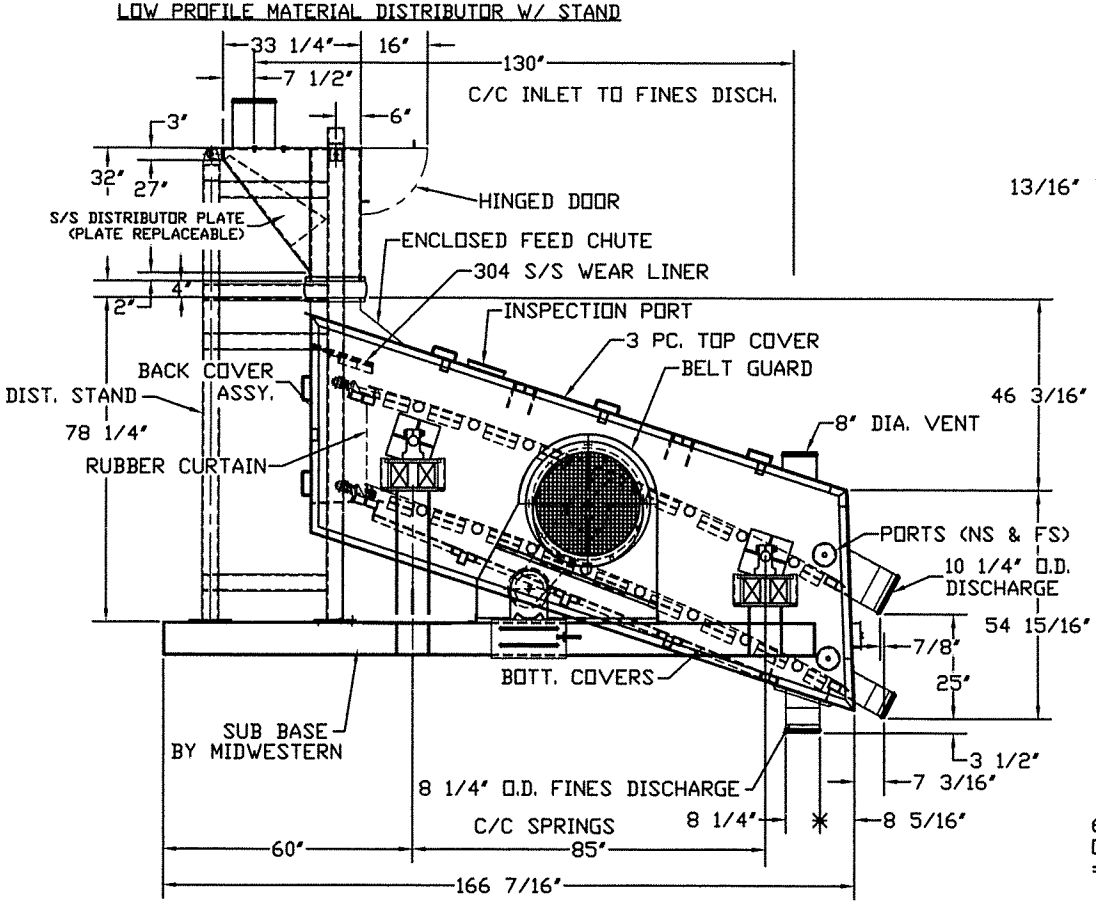
REVISED
2/16/99

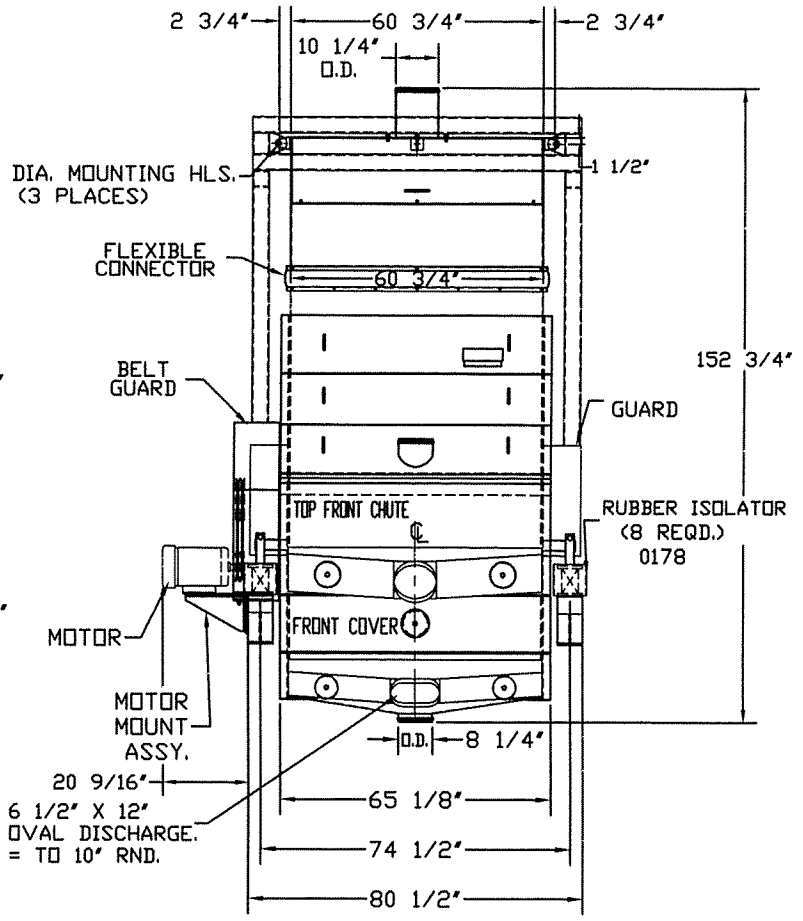


1. LOCK–OUT POWER TO MACHINE.
2. REMOVE SCREEN CLOTH FROM DESIRED DECK.
3. PLACE ELBOW OF BALL DISTRIBUTOR INTO COMPARTMENT TO BE FILLED.
4. DROP REQD. NO. OF BALLS INTO PIPE.
5. TURN PIPE SIDEWAYS TO RELEASE BALLS.
6. REPEAT PROCEDURE UNTIL ALL COMPARTMENTS HAVE RECOMMENDED NO. OF BALLS.
7. REPLACE SCREEN CLOTH.

DRAWING NO.
MAN00289

LOW PROFILE MATERIAL DISTRIBUTOR W/ STAND





*UNIT WT. 7,900 LBS.
*PANEL SIZE, 60" X 126" I.S.H.
*SUGGEST 9FT. CLEARANCE BEHIND MACHINE FOR SCREEN REMOVAL
*SUGGEST 7FT. CLEARANCE ON ONE SIDE OF MACHINE FOR SHAFT REMOVAL
*ALL CONNECTIONS TO MACHINE MUST BE FLEXIBLE
*MOTOR: 10 H.P. T.E.F.C. 230/460/3/60 1725 R.P.M. TO RUN @ MAX. 1250 R.P.M.
*MOTOR, MOTOR MOUNT, SHEAVES, BELT GUARD POWERTWIST PLUS C BELTS (2 REQD.), SPR. MOUNTS, & SUB-BASE C/S OR OTHER BY MIDWESTERN

*UNIT TO BE TYPE 304 S/S
*BALL TRAY CLIPS ON TOP DECK
*BALL TRAYS ON BOTH DECKS 304 S/S (17 REQD.)
*LOW PROFILE MATERIAL DISTRIBUTOR 304 S/S CONSTRUCTION WITH S/S DISTRIBUTOR PLATE
*REFER TO QUOTE/ORDER FOR ALL AND ANY INFORMATION NOT NOTED ON PRINT

REVISIONS

LTR.	DATE	DESCRIPTION	BY

CUSTOMER: *GILES CHEMICAL*

DRAWN BY	DATE
SCHMITT	5/20/04
CHECKED BY	
NEXT ASSY.	

Midwestern INDUSTRIES, INC.
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Massillon, OH 44648-0810
Phone: (330) 837-4203
Fax: (330) 837-4210
E-mail: info@midwesternind.com
www.midwesternind.com

TITLE: MODEL MEV 510-2
5'X10' DOUBLE DECK SCREEN
TOTALLY ENCLOSED SET @ 18°

DRAWING NO. SD512445

REV.

GUARANTEED SERVICE

WHEN YOU OWN MIDWESTERN EQUIPMENT, you can count on prompt, reliable service should problems arise. Technicians are available, and our locations maintain supplies of critical replacement parts which can be shipped by air freight for fast delivery. Call for assistance.

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FAX: (330) 837-4210
www.midwesternind.com
E-mail: info@midwesternind.com

SOUTHERN FACILITY, MIDWESTERN INDUSTRIES, INC.
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MACON, GEORGIA 31297-0157
Phone: (478) 781-8725
FAX: (478) 781-8746

MIDWESTERN developed and / or manufactures these products

- **CLOTH-EDGED SIFTER SCREENS**
  T304, T316 and T430 magnetic stainless steel with or without grommets

- **RECTANGULAR SCREENS**
  High Carbon, Oil Tempered, and Stainless Steel

- **CONVERTA-SCREEN HEATING**
  Low voltage electric heating for vibrating screens

- **MULTI-VIB®**
  End-tensioned, high capacity, heavy duty vertical sizing machine

- **MEV SCREEN**
  End-tensioned, cost effective, heavy duty sizing machine

- **UNI-ROD®**
  Clog-proof, self-cleaning, high capacity, scalping/sizing unit

- **UNIVERSAL SCREENS**
  (Universal Vibrating Screen Co. A Division of Midwestern Industries)
  Mobile Uniflex and Univibe models; also larger production models

- **GYRA-VIB® SEPARATOR**
  "MR" Series direct drive and "ME" Series variable speed models

- **PORTA-SIFTER®**
  For batch sampling, contamination removal, and other applications

- **DISPOSABLE METAL/MEGA-TITE SCREENS**
  Round replacement screens for vibratory separators