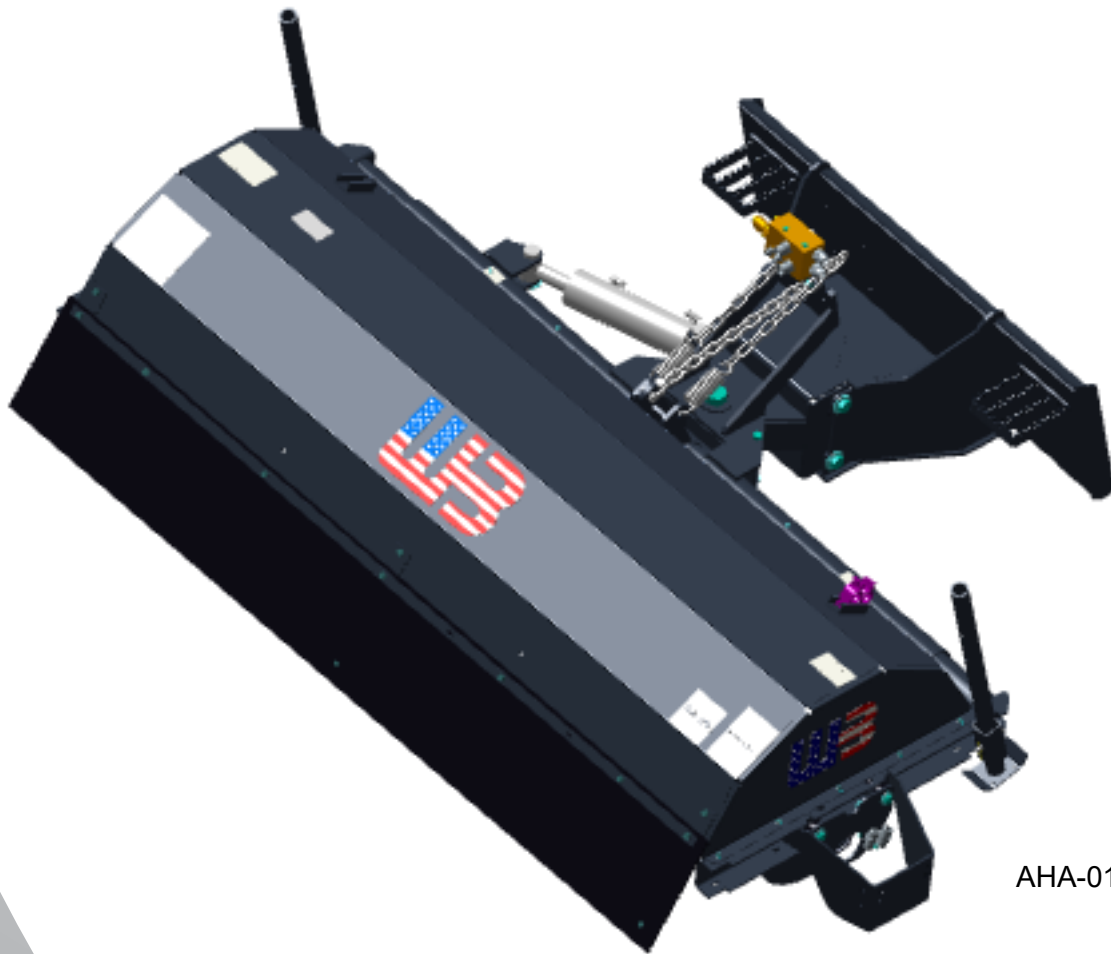


OPERATOR'S MANUAL

Model WHL

Hydraulic Loader Broom



AHA-01962 WHL



WB© WERK-BRAU CO., INC.
FINDLAY, OH USA
1-800-537-9561
MANUFACTURED BY M-B COMPANIES, INC.
NEW HOLSTEIN, WI USA
1-800-558-5800

INTRODUCTION	
General	2
Operator’s Manual	2
Identification Numbers	2
SAFETY	
Safety Alerts	3
Safety Decals	3
Pre-Start Guidelines	3
Operation Guidelines	3
Maintenance Guidelines	4
SETUP AND ADJUSTMENTS	
Setup	5
Mounting	5
Leveling	5
Pattern Adjustment	5
OPERATION	
Pre-Startup Checks	6
Travel Procedure	6
Operation	6
MAINTENANCE	
Maintenance Schedule	7
Lubrication	7
Filler Replacement	7
Core Removal	7
Brush Removal	7
Brush Installation	8
Core Installation	8
STORAGE	9
TROUBLESHOOTING	10
NOTES	12
WARRANTY	13
BRUSH REFILL KITS	14
PARTS BREAKDOWNS CAN BE FOUND IN THE BACK OF THIS MANUAL	

INTRODUCTION

GENERAL

The WHL Model brooms are hydraulically-driven. A quick hitch is used to connect to the prime mover.

OPERATOR'S MANUAL

You must read, understand and comply with all the safety and operating instructions in this manual before attempting to set-up and operate your power broom.

Failure to comply with the safety and operating instructions can result in loss of machine control, serious personal injury to you and/or bystanders, and risk of equipment and property damage.

IDENTIFICATION NUMBERS

When contacting your authorized dealer for information, replacement parts or service, you **MUST** have the model and serial number of your unit.

Record the serial number in the space provided. The serial number plate/decals can be found in the location shown in Figure 1.

Model Name/Number:	
Date Purchased:	Serial #:

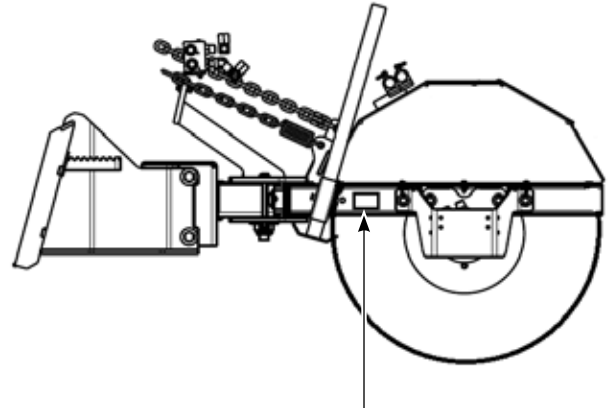


Figure 1

SAFETY

SAFETY ALERTS

Signal words and alert symbols notify of important safety precautions.

DANGER!

Indicates a hazardous situation which, if not avoided, will result in serious injury or death.



WARNING!

Indicates a hazardous situation which, if not avoided, could result in serious injury or death.



CAUTION!

Indicates a hazardous situation or unsafe practice which, if not avoided, could result in minor or moderate injury or property damage.



Indicates a hazardous situation or unsafe practice which, if not

SAFETY DECALS

Although reading this manual and the safety instructions it contains will provide you with the necessary basic knowledge to operate this equipment safely and effectively, we have placed several safety labels on the unit to remind you of this important information while you are operating your unit.

All DANGER, WARNING, CAUTION, and instructional messages on your unit should be carefully read and obeyed. Bodily injury can result when these instructions are not followed. The information is for your safety and it is important.

These labels will act as a constant visual reminder to you, and others who may use the equipment, to follow the safety instructions necessary for safe, effective operation.

If any of these labels are lost or damaged, replace them at once. See your local dealer for replacements.



PRE-START GUIDELINES

- Install any covers or guards which may have been removed for shipping purposes.
- Before starting equipment, walk around equipment, making a visual inspection that all safety devices are properly installed and secured.
- Check that all hardware, fasteners, hydraulic fittings, etc. are in good condition and properly fastened. Replace any fatigued or damaged items with proper replacements.
- Personnel who are not required to be in the work area should be kept away. Never start the equipment unless you are absolutely certain that everyone in the area is clear of the machine and aware it is being started.
- Follow the manufacturer's recommended start-up procedure.

OPERATION GUIDELINES

Read, understand and follow all instructions in the manual and on the unit before starting.

NOTE: All reference to left, right, front or rear are given from the operator position and facing forward.

- To avoid serious injury or death, do not modify equipment. Any modifications made to equipment can be dangerous and can void equipment warranty.
- Never defeat a safety device to make a task easier.
- Always wear proper apparel when operating equipment; safety glasses, face shield or goggles, ear protection, and dust mask. Tie hair back. Never wear loose clothing or jewelry that could get caught in moving parts.
- Never operate equipment with covers or guards removed. Rotating parts can cause severe injury. Keep hands, feet, hair, jewelry and clothing away from all moving parts.
- Only allow responsible adults who are familiar with the instructions, to operate the unit (local regulations can restrict operator age).
- Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown.
- Be aware of surroundings. Be sure the area is clear of other people, bystanders or pets. Stop unit if anyone enters the area.

SAFETY

SAFETY ALERTS

Signal words and alert symbols notify of important safety precautions.

SAFETY DECALS

Although reading this manual and the safety instructions it contains will provide you with the necessary basic knowledge to operate this equipment safely and effectively, we have placed several safety labels on the unit to remind you of this important information while you are operating your unit.

All DANGER, WARNING, CAUTION, and instructional messages on your unit should be carefully read and obeyed. Bodily injury can result when these instructions are not followed. The information is for your safety and it is important.

These labels will act as a constant visual reminder to you, and others who may use the equipment, to follow the safety instructions necessary for safe, effective operation.

If any of these labels are lost or damaged, replace them at once. See your local dealer for replacements.



⚠ CAUTION

Read Operator's Manual before using broom. If operating instructions are missing, contact the M-B Co. for your free replacement.

- Before operating broom make sure all guards and broom are installed properly.
- Wear eye protection when operating broom.
- Do not operate broom near any objects that can be damaged by thrown debris. Be sure no by-standers are near broom during operation.
- The polypropylene brush segments can melt or burn. Do not subject to excessive heat or flame.
- Do not allow riders on broom.
- Stop power source, lower broom to the ground, set parking brake, and remove ignition key before servicing or adjusting.
- Do not operate broom on any roof or other elevated surface.

PRE-START GUIDELINES

- Install any covers or guards which may have been removed for shipping purposes.
- Before starting equipment, walk around equipment, making a visual inspection that all safety devices are properly installed and secured.
- Check that all hardware, fasteners, hydraulic fittings, etc. are in good condition and properly fastened. Replace any fatigued or damaged items with proper replacements.
- Personnel who are not required to be in the work area should be kept away. Never start the equipment unless you are absolutely certain that everyone in the area is clear of the machine and aware it is being started.
- Follow the manufacturer's recommended start-up procedure.

OPERATION GUIDELINES

Read, understand and follow all instructions in the manual and on the unit before starting.

- NOTE: All reference to left, right, front or rear are given from the operator position and facing forward.
- To avoid serious injury or death, do not modify equipment. Any modifications made to equipment can be dangerous and can void equipment warranty.
 - Never defeat a safety device to make a task easier.
 - Always wear proper apparel when operating equipment; safety glasses, face shield or goggles, ear protection, and dust mask. Tie hair back. Never wear loose clothing or jewelry that could get caught in moving parts.
 - Never operate equipment with covers or guards removed. Rotating parts can cause severe injury. Keep hands, feet, hair, jewelry and clothing away from all moving parts.
 - Only allow responsible adults who are familiar with the instructions, to operate the unit (local regulations can restrict operator age).
 - Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown.
 - Be aware of surroundings. Be sure the area is clear of other people, bystanders or pets. Stop unit if anyone enters the area.
 - Always look down and behind before and while traveling in reverse.
 - Be aware of discharge direction and do not point discharge at anyone. Do not point the discharge at glass enclosures, automobiles, or windows.

SETUP AND ADJUSTMENTS

SETUP

Proper setup and leveling of your power broom will increase the life of the brush and produces more efficient movement of material. Visually inspect the adjustments on the broom before each operating session and measure the adjustments once every 10 hours.

The following procedures must be followed in the prescribed sequence in order to be effective.

MOUNTING

1. Position the prime mover in front of the quick mount hitch.
2. Drive into the broom hitch with the prime mover hitch in the down position. Any locking devices must be in the unlock position.
3. Lift the broom hitch until the storage stands are off the ground.
4. Remove the clip from the clevis pin. Raise the stand to its highest position and secure it with the clevis pin.
5. Turn off the engine.
6. Lock the quick hitch.
7. Connect the hydraulic hoses and the electrical harness.

LEVELING

See Figure 3.

During operation the side arms on the broom head should be level. As the broom bounces, three chains are used to stabilize the head.

1. After the broom is mounted to the prime mover (tractor, skid-steer, loader), park the unit on a flat level surface; preferably concrete or asphalt.
2. Count the chain links on the single center chain. There should be 11 links between the shackle and the securing bracket. The 12th link is engaged in the groove. Next count the links on the two chains that have the extension springs. There should be 8 links between the spring and the securing bracket.
3. If adjustments to the number of links need to be made you must lift up on the front of the broom hood or place jackstands under the front edge of the support arms. Lowering the broom hitch will put slack in the chains.
4. Lift the chain out of the slot and move it to the correct link. Place the chain back into the slot.

NOTE: The extension springs must not be stretched to a length that deforms the spring. The center stop chain is adjusted to prevent the broom head from dropping down farther than the extension springs working range.

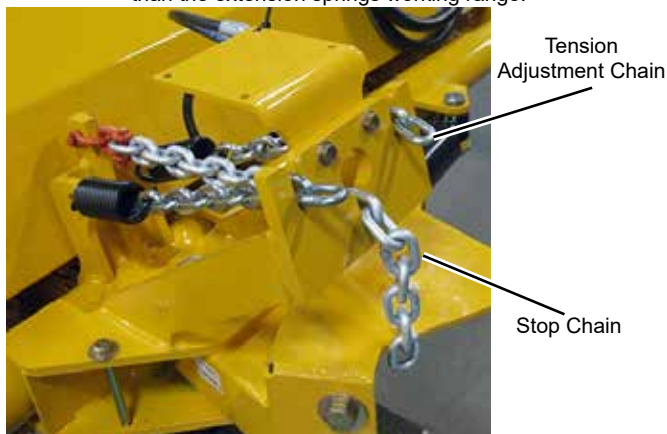


Figure 2

PATTERN ADJUSTMENT

1. After the broom has been leveled, the last adjustment is the brush pattern (swept area).
2. With the unit set-up on a flat level surface lower the broom.
3. Once this adjustment is set, it can be confirmed by running the unit for about 30 seconds in the down position while stationary. Stop the broom and back the unit away. The 'cleaned' (contact patch) should be 2-4" wide for the entire length of the broom (see Figure 4).

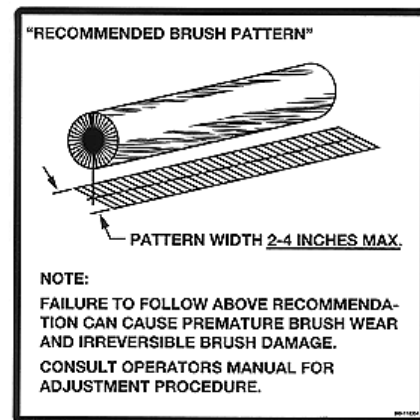


Figure 3

Once the broom has been properly adjusted, a short operation period is recommended for break-in; approximately 15 minutes. After this break-in period, repeat the leveling procedure.

The pattern will be constantly adjusted by the operator.

If the broom is bouncing it is working too hard. Slow down or lift the broom to have smooth operation.

If the broom is not cleaning the surface the pattern width is not wide enough. Lower the broom or slow down for smooth operation.

OPERATION

PRE-STARTUP CHECKS

IMPORTANT!

You must read, understand and comply with all the safety and operating instructions in this manual before attempting to set-up and operate your power broom. Failure to comply with the safety and operating instructions can result in loss of machine control, serious personal injury to you and/or bystanders, and risk of equipment and property damage.

1. Visually inspect equipment and hardware to ensure that all parts are secure and all hardware is tightened and secure.
2. Check for oil leaks and loose hose connections.
3. Inspect the broom adjustments to ensure that the broom is level and that there is proper brush pattern. Refer to the **Setup and Adjustment** section.
4. Inspect the bristle length to determine if replacement segments are needed.

TRAVEL PROCEDURE

Follow these instructions for extended travel (i.e. to and from the sweeping site):

- Move the broom switch to the Off position.
- Move the lift toggle to the up position until the brush is in the fully raised position.
- Raise the support stands to the highest position and secure in place.

OPERATION

IMPORTANT!

The support stands should never be used for anything other than as stationary storage stands to hold the broom up while it is being stored.

- Ensure the support stands are raised to the highest position and secured in place.
- Sweep at a speed that is appropriate for the conditions and location.
- For heavy material such as gravel or stones, drive more slowly with a higher broom speed. For lighter material, drive faster with a lower broom speed.
- It may be necessary to increase broom contact pattern under some conditions. If the surface being swept is uneven and causes the broom to leave upswept patches, increase the pattern size to compensate.
- If the material being swept is dried-on or difficult to remove, such as mud or ice, it may be necessary to drive extremely slow to allow the broom to "scrub" the surface.

MAINTENANCE

MAINTENANCE SCHEDULE

- Check adjustments – every 10 hours
- Grease bearings – after initial 10 hours, then every 200 - 300 hours thereafter.
- Grease pivot points – every 50 hours

NOTE: Grease points are noted with an applicable decal.



LUBRICATION

- Grease bearings and pivot points per the MAINTENANCE SCHEDULE using Chevron Ultra Duty II, Grade 2; or equivalent high-temp grease.
- There are minimum of (7) grease points on the unit; (4) at the swing frame tubes, (1) on the swing frame pivot point and (2) on the brush end bearings.

FILLER REPLACEMENT

Core Removal

1. Lower broom until brush contacts the ground.

NOTE: Steps 2 and 3 apply to each brush drive motor.

2. Remove (2) 1/2-13 x 1-1/2" capscrews, flat washers, lock nuts and motor guard from brush frame. Retain guard and mounting hardware. See Figure 5.

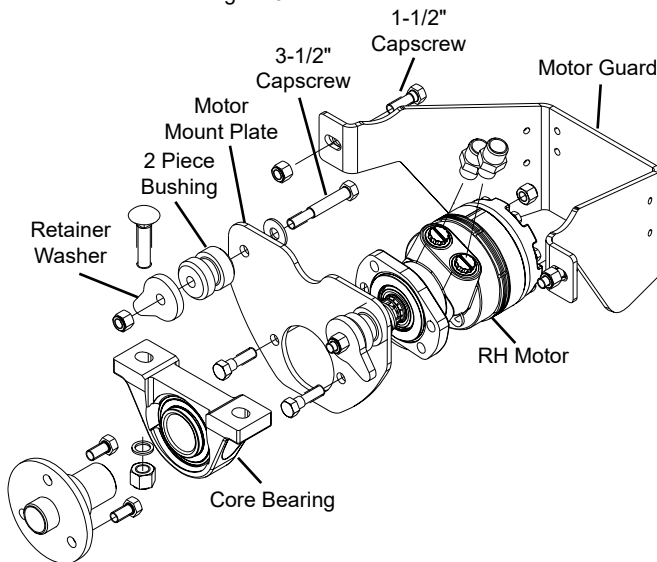


Figure 4

3. Remove (2) 1/2-13 x 3-1/2" capscrews, flat washers, retainer washers and lock nuts from the brush frame. Slide motor and motor mount plate out of mating splined hub. Let motor hang on hoses. Retain mounting hardware. See Figure 5. Remove (2) 5/8-11 x 2" carriage bolts and lock nuts attaching core support bearing to bottom of brush frame at each end of broom. See Figure 5.
4. Raise the hood and slide core out the front of the broom.

NOTE: The 2 piece bushing can stay in place. This bushing provides a vibration mount for the motor. To remove the bushing pull the two halves apart.

Brush Removal

1. Remove support bearing from the hub on one end of core.
2. Remove (3) 1/2-13 x 1" capscrews, lock washers and splined hub from one end of core. Retain hub and mounting hardware. See Figure 6.

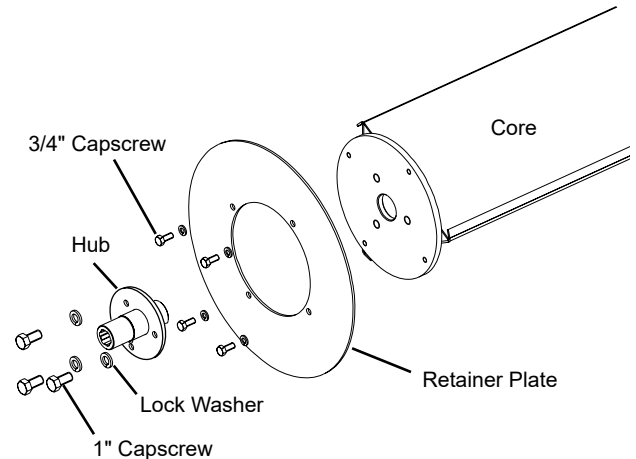


Figure 5

3. Remove (4) 5/16-18 x 3/4" capscrews, lock washers and end disc (wafer retainer plate) from one end of core. Retain end disc and mounting hardware. See Figure 6.
4. Slide spent brush wafers and spacers off core and discard.

MAINTENANCE

Brush Installation

1. Stand core in upright position and begin filling by sliding a poly brush wafer and then a spacer down the full length of the core.
2. Note the location of the drive pin on the inside ring of each brush wafer. Position each wafer so its drive pin is positioned between the stop flanges. Rotate each subsequent wafer before installing so the position of its pin is staggered on the core by one stop flange. See Figure 7.

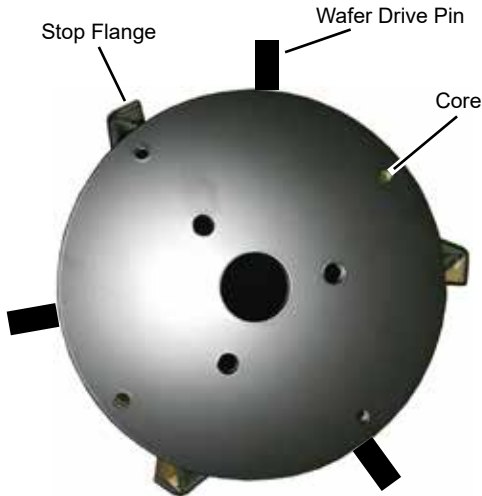


Figure 6

IMPORTANT! Proper wafer and spacer position must be followed to ensure proper balance on the core.

NOTE: The circular spacers have unconnected, overlapped ends.

3. Position the overlap of the first spacer between the stop flanges, rotated one flange ahead of the drive pin location of the last installed brush wafer. All following spacers must follow the same staggered placement pattern.

NOTE: Brush surface contact during initial operation will set all wafer drive pins up against the core stop flanges. See Figure 8.

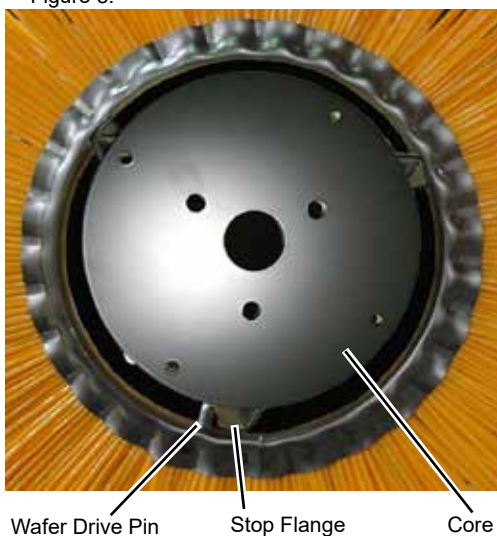


Figure 7

4. Continue stacking the core in a wafer-spacer, wafer-spacer configuration until it is full, ending with a poly brush wafer.

NOTE: Always start and finish with a poly wafer. The last wafer should actually extend beyond the end of the core (minimum 1/2"). The retainer plate compresses the spacers onto the core when tightened.

5. Install end disc (wafer retainer plate) on core with original hardware. See Figure 6.
6. Install splined hub on core with original hardware. See Figure 6.
7. Slide end bearings onto hubs. See Figure 6.

Core Installation

1. Position filled core in front of the broom head. Lift the broom high enough so that core clears the hood and the brush can be rolled/pushed back into its original position. Once in place, lower broom head down onto the support bearings at each end of core.
2. Attach core support bearings to bottom of brush frame at each end of broom with original hardware. See Figure 5.

NOTE: Steps 3 through 5 apply to each brush drive motor. Apply grease to splines before installing hydraulic motors.

3. Slide motor shaft into mating splined hub.
4. Install motor mount plate on brush frame using original hardware. See Figure 5.
5. Install motor guard on brush frame with original hardware. See Figure 5.
6. Before placing machine back into service, adjust and test for proper amount of brush pattern. Excessive and/or misaligned pattern can cause brush failure or premature wear. Refer to the **Setup and Adjustments** section of the manual for pattern adjustment.

STORAGE

STORAGE

- Always store the broom in a supported position, on its included stands, with the brush off the ground. If the bristles are stored in a deformed position for extended periods of time the broom will become severely out of balance.
- Store the broom in a location out of the sun and weather to prevent premature failure of plastic bristles. Bristles can become brittle when subjected to sunlight or repeated temperature changes.
- Disconnect all electrical connections between the broom and prime mover (mower/loader/tractor) for extended storage to prevent battery drain.
- Properly clean the unit before storage and remove dirt, debris, salt, etc. to extend paint life.
- If the unit is power-washed, all lubrication points should be greased before storage.

TROUBLESHOOTING

Trouble	Possible Cause	Remedy
Broom does not rotate.	<ol style="list-style-type: none"> 1. No hydraulic pressure/flow. 2. Hoses disconnected. 3. Hoses bent or kinked. 4. Pressure relieving too low. 5. Electric valve not functioning. 	<ol style="list-style-type: none"> 1. Check tractor operation. 2. Connect hoses and fittings. 3. Remove sharp bends and kinks. 4. Adjust relief valve. 5. Check electrical connections.
Broom rotates in wrong direction.	<ol style="list-style-type: none"> 1. Hoses installed incorrectly. 	<ol style="list-style-type: none"> 1. Switch hydraulic hose connections
Brushes wearing very quickly.	<ol style="list-style-type: none"> 1. Brush pattern too wide. 	<ol style="list-style-type: none"> 1. Adjust brush pattern to be 2-4" wide. Refer to the Setup and Adjustments section of this manual.
Broom bounces during sweeping.	<ol style="list-style-type: none"> 1. Travel speed too fast and/or brush speed too slow. 	<ol style="list-style-type: none"> 1. Adjust to find correct ground and brush speed for surface.
Broom sweeping poorly.	<ol style="list-style-type: none"> 1. Material is 'caked-on' or frozen. 2. Uneven sweeping surface. 3. Material is too heavy. 4. Broom rotating too slowly. 5. Prime mover moving too fast. 6. Pattern incorrectly set. 	<ol style="list-style-type: none"> 1. Slow down and 'scrub' surface. 2. Increase pattern to compensate. 3. Slow down prime mover speed. 4. Increase engine speed. 5. Slow down prime mover speed. 6. Adjust height of broom.
Broom does not lift or angle.	<ol style="list-style-type: none"> 1. No/Low hydraulic pressure/flow. 2. Electric valve not functioning. 3. System backpressure. 	<ol style="list-style-type: none"> 1. Check prime mover operation. Check hydraulic oil level. Refer to Maintenance section of this manual for hydraulic system requirements. 2. Check electrical connections. 3. Check prime mover instructional manual.
Hydraulic pump making noise.	<ol style="list-style-type: none"> 1. Pump intake blocked. 2. Shaft seal leaking. 	<ol style="list-style-type: none"> 1. Check inlet lines for obstructions. 2. Check and repair as necessary.

NOTES

Warranty/Product Registration

A Warranty Registration Form must be submitted online to make warranty effective.

Warranty Start Date:

All claims must be submitted using the proper form and emailed to mbattachments@aebi-schmidt.com.

To be eligible for warranty payment the product must be registered with M-B Companies via

www.m-bco.com/warranty

M-B Companies, Inc. reserves the right to decline any claim that does not meet above requirements.

Pre-Approval Required Prior To ANY Work Being Performed.

LIMITED WARRANTY

Limited Warranty: Subject to the limitations set forth herein, M-B Companies, Inc. ("M-B") warrants its products to be free from defects in material and workmanship for a period of twelve (12) months from the date of delivery of the product to its original owner, except that the warranty is twelve (12) months solely for the following products: Truck Mounted Pavement Marking Equipment, Airport Snow Removal Products, Attachment Products, Brushes. Parts shall have a ninety (90) day warranty. This warranty is not transferable without the written consent of M-B.

Notice: M-B's obligations under this Limited Warranty are conditioned on M-B receiving, within the warranty period, written notice from Buyer specifying the nature of any alleged defect and requesting corrective action by Seller.

Remedies: M-B, at its option, will repair or replace, or provide a credit to Buyer for, defective warranted items. If requested by M-B, products or parts for which a warranty claim is made shall be returned, transportation prepaid, to M-B's factory. Buyer shall not return any product for repair, replacement or credit without M B's advance written consent.

Other Manufacturer's Warranty: On products furnished by M-B, but manufactured by any other manufacturer, the warranty of said manufacturer, if any, will be assigned to Buyer, if the said warranty is assignable. However, M-B does not represent or guarantee that such manufacturer will comply with any of the terms of the warranty of such manufacturer.

Exclusions: Any improper use, operation beyond capacity, or substitution of parts not approved by M-B, or alteration or repair by others in such a manner as in M-B's judgment materially and/or adversely affects the product shall void this warranty. This warranty does not apply to defects caused by damage or unreasonable use while in the possession of the owner, including but not limited to: failure to provide reasonable and necessary maintenance, normal wear, routine tune ups or adjustments, improper handling or accidents, operation at speed or load conditions contrary to published specifications, improper or insufficient lubrication, or improper storage.

Seller manufactures power brooms that mount to many makes and models of equipment. Seller attempts to ensure that the mounting frames fit correctly. However, the large number of tractor models, types and options currently available, compounded by frequent manufacturer design changes, may prevent Seller from supplying a frame that fits every unit correctly. Therefore, unless Buyer supplies drawing which detail the attachment points on the specific unit to which the broom will be mounted, Seller will not be responsible for the fit of the mounting frame.

The batteries, tires, rubber material, brushes and material normally consumed in operation, and major components such as engines, air compressors, and hydraulic pumps and motors are excluded from this warranty but may be covered to the extent of any warranty received by M-B from its supplier if permitted by the terms of such warranty.

Limitations of liability: M-B shall not be liable for any incidental, consequential, punitive or special damages of any kind, including, but not limited to, consequential labor costs or transportation charges in connection with the repair or replacement of defective parts, or lost time profits or expense which may have accrued because of said defect.

M-B disclaims all other warranties, whether express or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose. This warranty is exclusive remedy of buyer. This warranty cannot be extended, broadened or changed in any respect except in writing by an authorized officer of M-B.

Notwithstanding anything in this warranty is to the contrary, in no event shall M-B's total liability hereunder exceed the purchased price of the particular product.

REPLACEMENT BRUSH KITS

Part Number	Description
907-46663	REFILL, 32 IN. X 7 FT. ,WAFER,COMBO
907-46660	REFILL, 32 IN. X 6 FT. ,WAFER,COMBO



WB© WERK-BRAU CO., INC.
FINDLAY, OH USA
1-800-537-9561
MANUFACTURED BY M-B COMPANIES, INC.
NEW HOLSTEIN, WI USA
1-800-558-5800

2

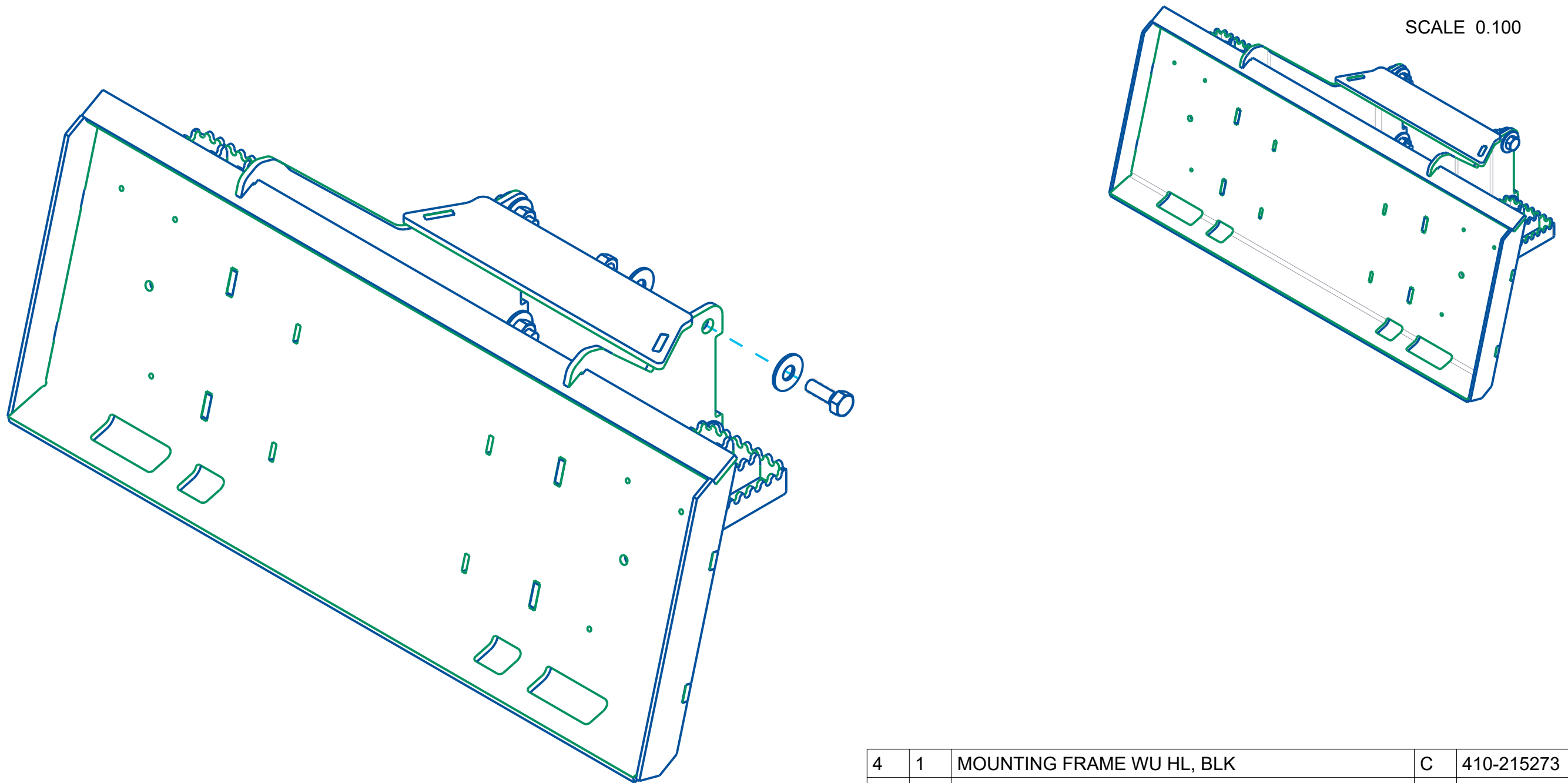
1

ZONE	REV	CN	DESCRIPTION	BY	DATE

B

B

SCALE 0.100



A

A

4	1	MOUNTING FRAME WU HL, BLK	C	410-215273
3	4	NUT, HEX, CENTER LOCK, 3/4-10-UNC	A	371-82083
2	8	WASHER, FLAT -3/4 STD ZINC PL	X	341-80000
1	4	HHCS 3/4-10 UNC X 2.000	A	311-82000
SYM	QTY	DESCRIPTION	SIZE	PART NUMBER

THIS DRAWING IS PROVIDED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN ON DEMAND BY MB COMPANIES. MB COMPANIES RETAINS ANY AND ALL RIGHTS ASSOCIATED WITH IT AND THE ARTICLE OR ARTICLES IT REPRESENTS. DISCLOSURE, REPRODUCTION OR ALTERATION OF ANY PART OF THIS DRAWING; OR MANUFACTURE, USE OR SALE OF THE ARTICLE OR ARTICLES REPRESENTED, IS PROHIBITED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF MB COMPANIES



MATERIAL: SEE BOM

TOLERANCE UNLESS OTHERWISE SPECIFIED	ENG	JAM	DATE	07-Jun-22
.XX± .03 .XXX± .010	DRN	JAM	DATE	07-Jun-22
	CHKD	SNT	DATE	07-Jun-22
X/Y ± 1/32° ANGLE ± 2°	APRVD	SNT	DATE	07-Jun-22

DESCRIPTION: MOUNT, HT/HL, SKIDSTEER Q/A, BLK

SCALE: 0.175 SHEET 1 OF 1

SIZE	PART NUMBER:	REV
B	432-215272	0

WT (±2%):199 LBS

2

1

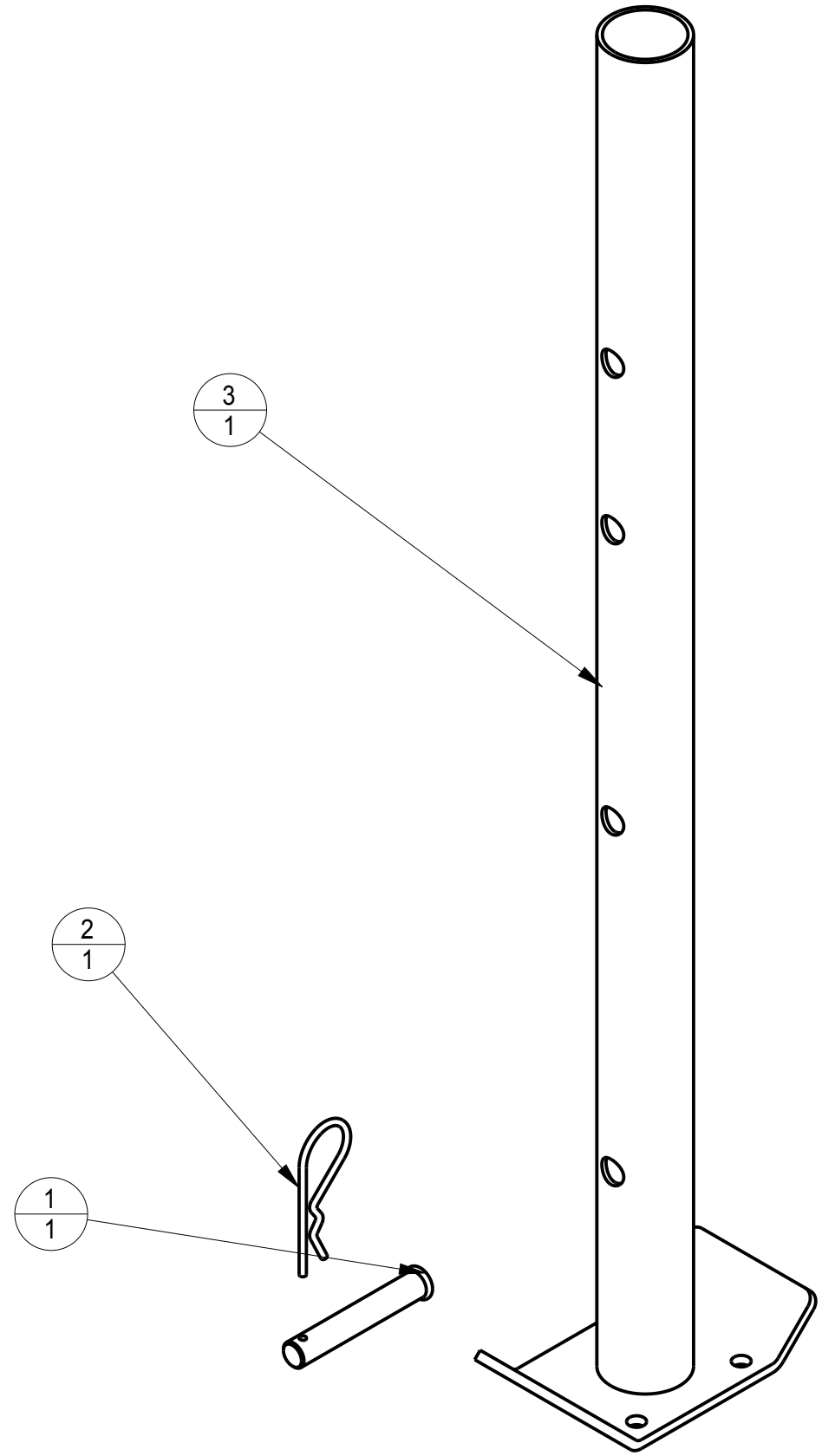
2

1

ZONE	REV	CN	DESCRIPTION	BY	DATE

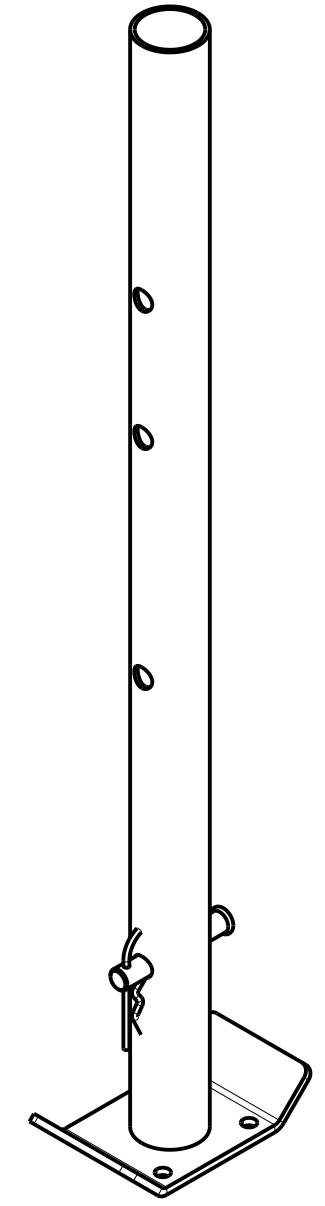
B

B




A

A



SCALE 0.250

3	1	STORAGE STAND W.U.	B	410-94050
2	1	CLIP, HAIRPIN .125" DIA SHAFT 7/16"-3/4"	X	380-84739
1	1	PIN, CLEVIS 1/2 X 3	A	380-76379
SYM	QTY	DESCRIPTION	SIZE	PART NUMBER

 M-B COMPANIES, INC. OF WISCONSIN 3RD ANGLE PROJECTION	MATERIAL	NUMBER	SEE BOM	QTY:	SEE BOM	NAME:	STORAGE STAND SINGLE KIT			
	SEE BOM						SCALE:	0.350		
	TOLERANCE UNLESS OTHERWISE SPECIFIED		DWN	TAK	DATE	15-Aug-13	SHEET 1 OF 1			
	.XX ± .03	X/Y ± 1/32	CKD	SMP	DATE	24-Sept-13	SIZE	PART NO.	REV	0
.XXX ± .010	ANGLE ± 1/2°	APP	SMP	DATE	24-Sept-13	B	432-190598			

2

1

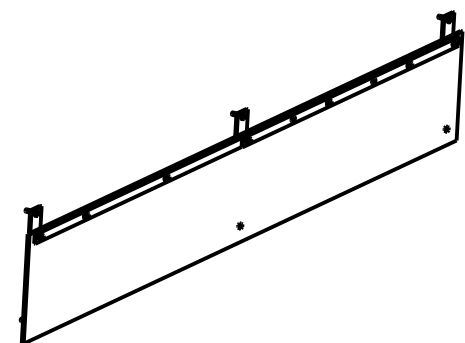
4

3

2

1

ZONE	REV	CN	DESCRIPTION	BY	DATE
D3	A	03524	SPLIT DEFLECTOR STRIPS	JAM	05-May-22



432-190631

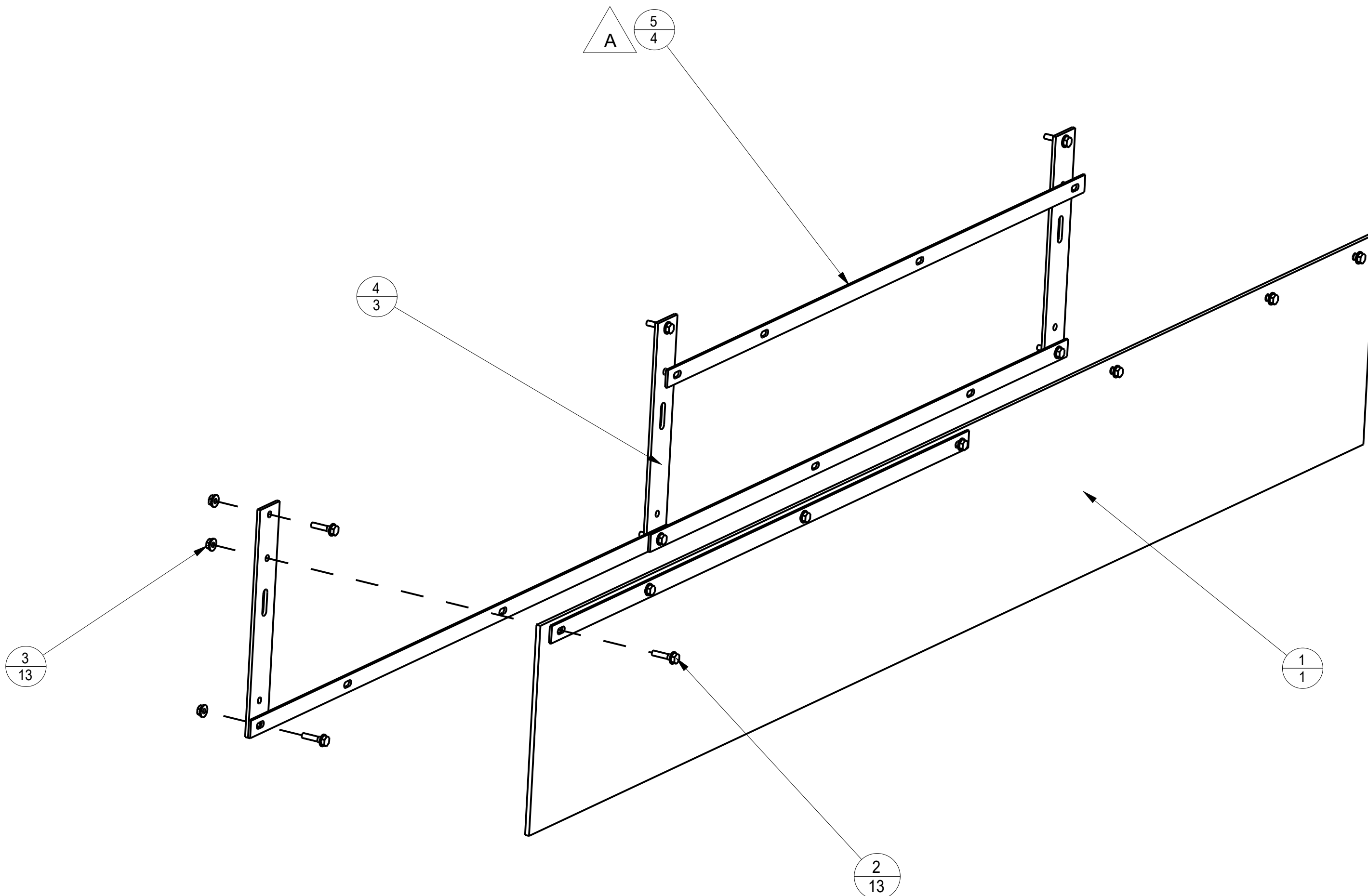
SCALE 0.050

D

C

B

A



5	4	7' SPLIT BAR	B	401-215111
4	3	DEFLECTOR SUPPORT STRIP	A	400-83533
3	13	NUT, FLANGED 5/16-18 PLATED LOCKING	X	371-92059
2	13	HHCS SERRATED FLANGE 5/16-18 X 1-1/4	X	370-190650
1	1	DIRT DEFLECTOR, 7'	B	101-75792
SYM	QTY	DESCRIPTION	SIZE	PART NUMBER

C

B

A

THIS DRAWING IS PROVIDED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN ON DEMAND BY MB COMPANIES. MB COMPANIES RETAINS ANY AND ALL RIGHTS ASSOCIATED WITH IT AND THE ARTICLE OR ARTICLES IT REPRESENTS. DISCLOSURE, REPRODUCTION OR ALTERATION OF ANY PART OF THIS DRAWING, OR MANUFACTURE, USE OR SALE OF THE ARTICLE OR ARTICLES REPRESENTED, IS PROHIBITED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF MB COMPANIES



MATERIAL: SEE BOM

TOLERANCE UNLESS OTHERWISE SPECIFIED		ENG	SMF	DATE	03-Feb-14
.XX± .03	XY ± 1/32	DRN	SMF	DATE	03-Feb-14
.XXX± .010	ANGLE ± 2°	CHKD	SLS	DATE	03-Feb-15
		APRVD	SLS	DATE	03-Feb-15

DESCRIPTION: DEFLECTOR, 7

SCALE: 0.200 SHEET 1 OF 1

SIZE	PART NUMBER:	REV
C	432-190631	A

WT (±2%):[.0] LBS

4

3

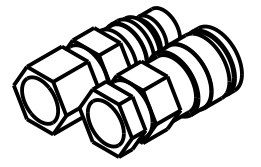
2

1

2

1

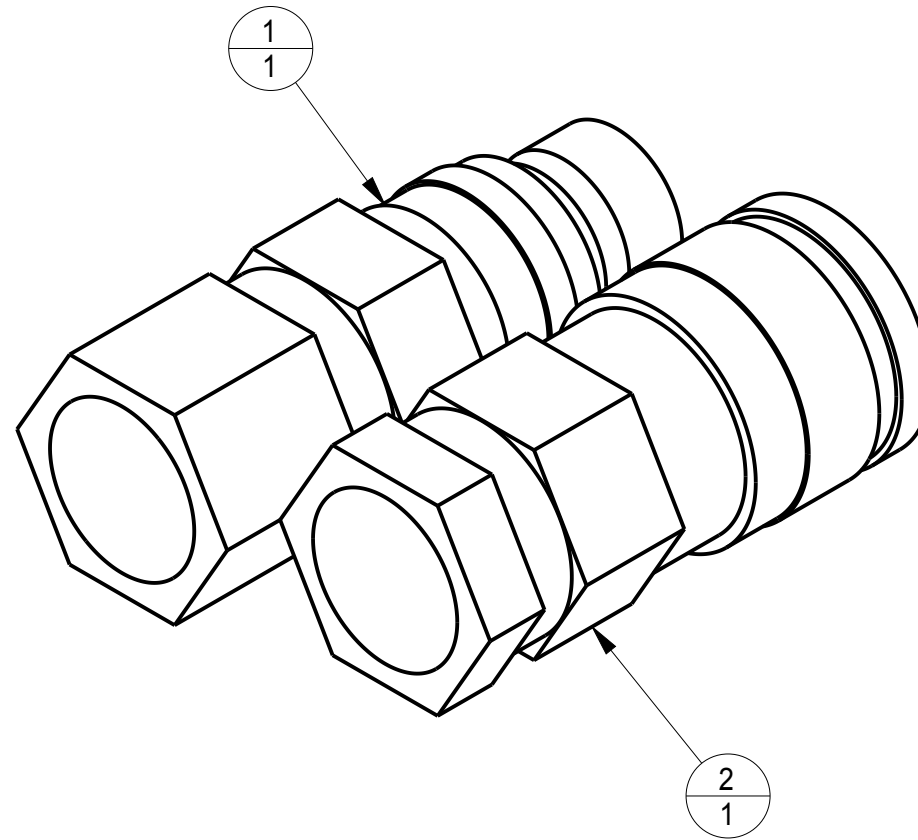
ZONE	REV	CN	DESCRIPTION	BY	DATE



SCALE 0.250

B

B



A

A

3	2	HOSE ASSY 3/4", 75" OAL	A	213-126729
2	1	QUICK DISCONNECT, FEMALE FLAT FACE, 1-1/16 STR THD ORB	A	207-121974
1	1	QUICK DISCONNECT, MALE FLAT FACE, 1-1/16 STR THD, ORB	A	207-121973
SYM	QTY	DESCRIPTION	SIZE	PART NUMBER

THIS DRAWING IS PROVIDED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN ON DEMAND BY MB COMPANIES. MB COMPANIES RETAINS ANY AND ALL RIGHTS ASSOCIATED WITH IT AND THE ARTICLE OR ARTICLES IT REPRESENTS. DISCLOSURE, REPRODUCTION OR ALTERATION OF ANY PART OF THIS DRAWING; OR MANUFACTURE, USE OR SALE OF THE ARTICLE OR ARTICLES REPRESENTED, IS PROHIBITED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF MB COMPANIES



M-B COMPANIES, INC.
OF WISCONSIN



MATERIAL: SEE BOM

TOLERANCE UNLESS OTHERWISE SPECIFIED

.XX± .03
.XXX± .010

X/Y ± 1/32
ANGLE ± 2°

ENG	TAN	DATE	16-MAR-09
DRN	TAN	DATE	16-MAR-09
CHKD	YY	DATE	24-Oct-18
APRVD	YY	DATE	24-Oct-18

DESCRIPTION: HOSE KIT, 45 DEG X STR, WITH FF COUPLERS

SCALE: 1.000 SHEET 1 OF 1

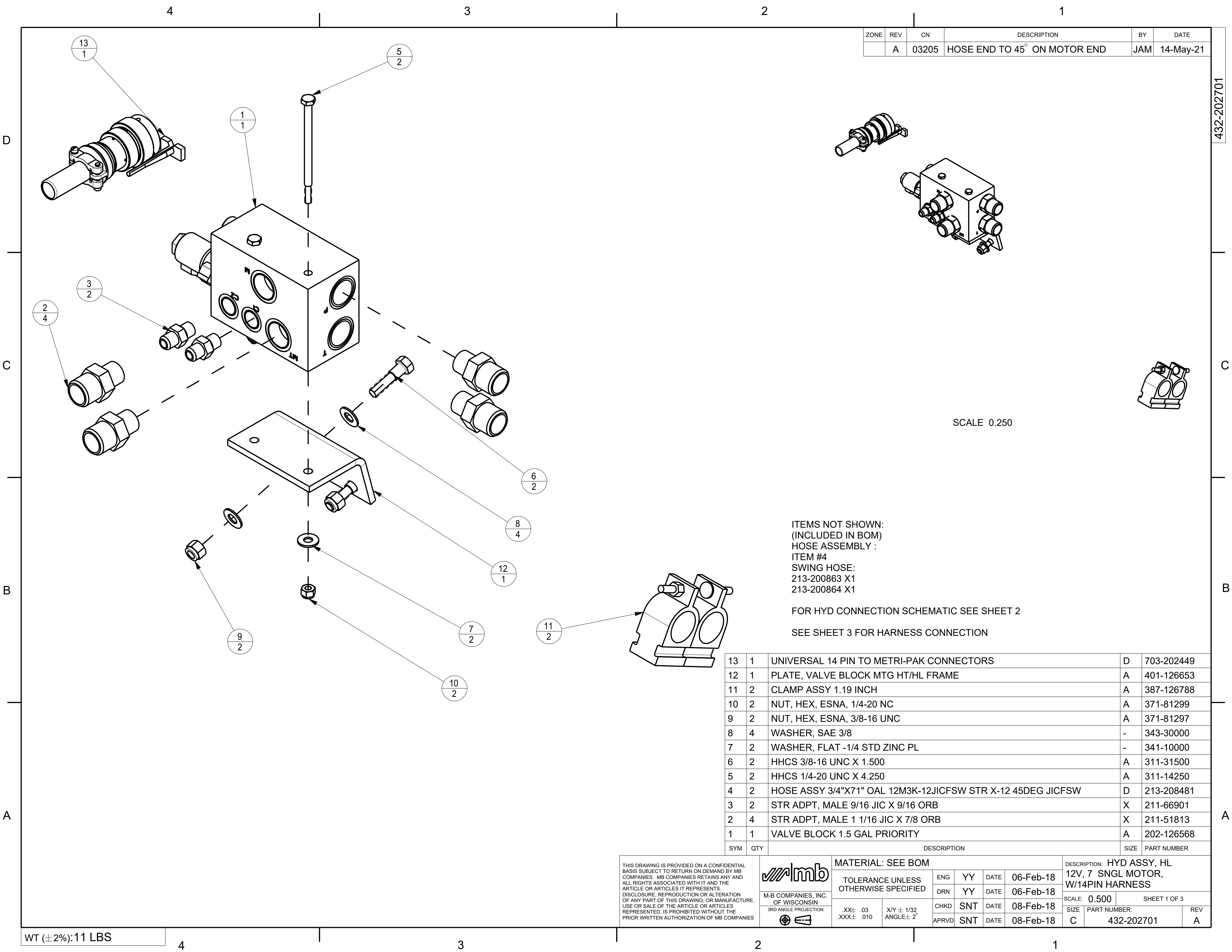
SIZE	PART NUMBER:	REV
A	430-96712	0

WT (±2%):8 LBS

2

1

ZONE	REV	CN	DESCRIPTION	BY	DATE
	A	03205	HOSE END TO 45° ON MOTOR END	JAM	14-May-21



SCALE 0.250

ITEMS NOT SHOWN:
(INCLUDED IN BOM)
HOSE ASSEMBLY :
ITEM #4
SWING HOSE:
213-200863 X1
213-200864 X1

FOR HYD CONNECTION SCHEMATIC SEE SHEET 2

SEE SHEET 3 FOR HARNESS CONNECTION

13	1	UNIVERSAL 14 PIN TO METRI-PAK CONNECTORS	D	703-202449
12	1	PLATE, VALVE BLOCK MTG HT/HL FRAME	A	401-126653
11	2	CLAMP ASSY 1.19 INCH	A	387-126788
10	2	NUT, HEX, ESNA, 1/4-20 NC	A	371-81299
9	2	NUT, HEX, ESNA, 3/8-16 UNC	A	371-81297
8	4	WASHER, SAE 3/8	-	343-30000
7	2	WASHER, FLAT -1/4 STD ZINC PL	-	341-10000
6	2	HHCS 3/8-16 UNC X 1.500	A	311-31500
5	2	HHCS 1/4-20 UNC X 4.250	A	311-14250
4	2	HOSE ASSY 3/4"X71" OAL 12M3K-12JICFSW STR X-12 45DEG JICFSW	D	213-208481
3	2	STR ADPT, MALE 9/16 JIC X 9/16 ORB	X	211-66901
2	4	STR ADPT, MALE 1 1/16 JIC X 7/8 ORB	X	211-51813
1	1	VALVE BLOCK 1.5 GAL PRIORITY	A	202-126568
SYM	QTY	DESCRIPTION	SIZE	PART NUMBER

THIS DRAWING IS PROVIDED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN ON DEMAND BY MB COMPANIES. MB COMPANIES RETAINS ANY AND ALL RIGHTS ASSOCIATED WITH IT AND THE ARTICLE OR ARTICLES IT REPRESENTS. DISCLOSURE, REPRODUCTION OR ALTERATION OF ANY PART OF THIS DRAWING, OR MANUFACTURE, USE OR SALE OF THE ARTICLE OR ARTICLES REPRESENTED, IS PROHIBITED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF MB COMPANIES



MATERIAL: SEE BOM

TOLERANCE UNLESS OTHERWISE SPECIFIED	ENG	YY	DATE
	DRN	YY	DATE
	CHKD	SNT	DATE
	APRVD	SNT	DATE

06-Feb-18
06-Feb-18
08-Feb-18
08-Feb-18

DESCRIPTION: HYD ASSY, HL 12V, 7 SNGL MOTOR, W/14PIN HARNESS			
SCALE: 0.500	SHEET 1 OF 3		
SIZE	PART NUMBER:	REV	
C	432-202701	A	

WT (±2%): 11 LBS

432-202701

4

3

2

1

ZONE	REV	CN	DESCRIPTION	BY	DATE
			SEE PAGE 1		

432-202701

D

C

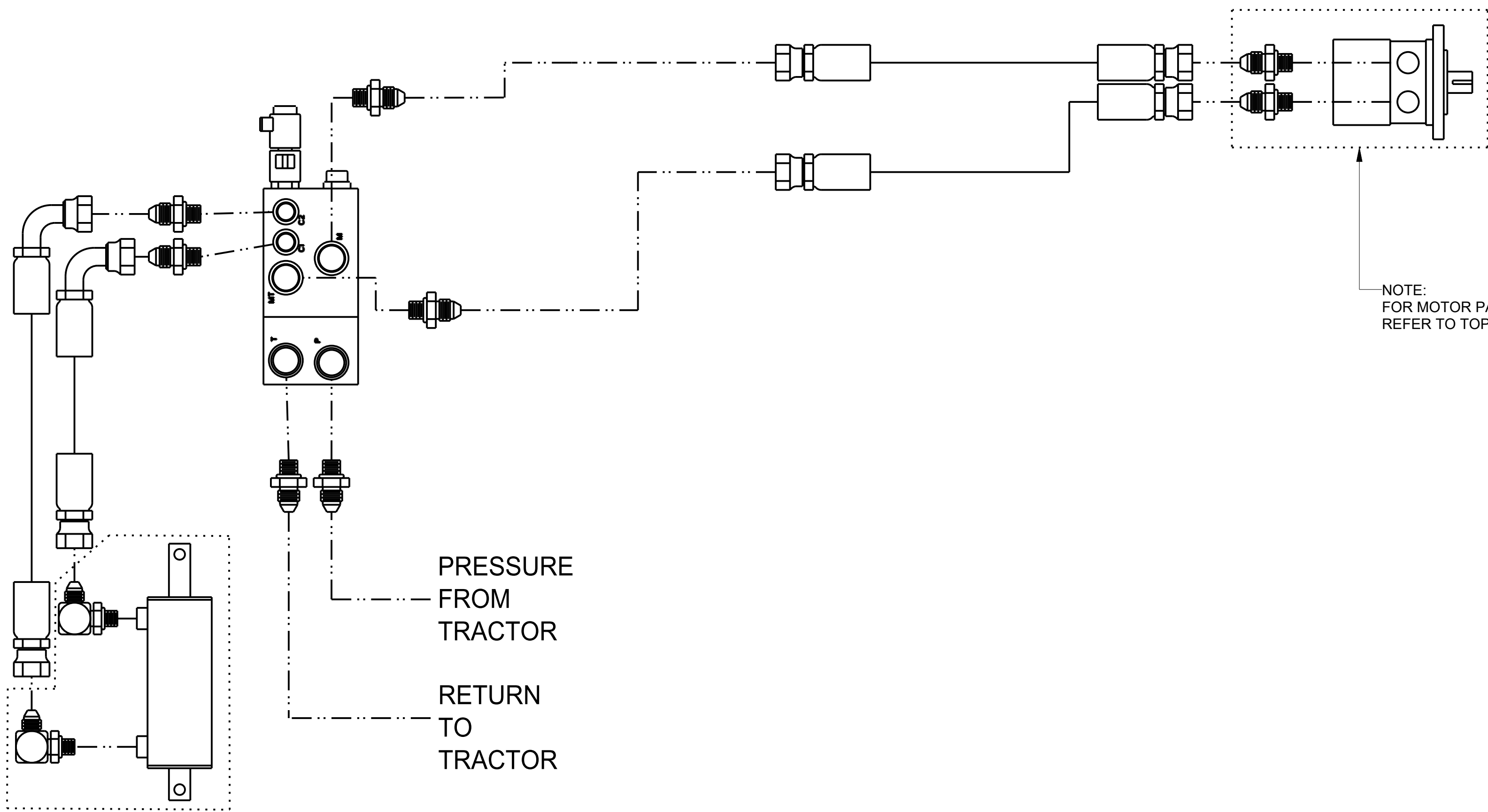
B

A

C

B

A



PRESSURE FROM TRACTOR

RETURN TO TRACTOR

NOTE: FOR MOTOR PARTS AND FITTINGS REFER TO TOP LEVEL

WT (±2%): 11 LBS

4

3

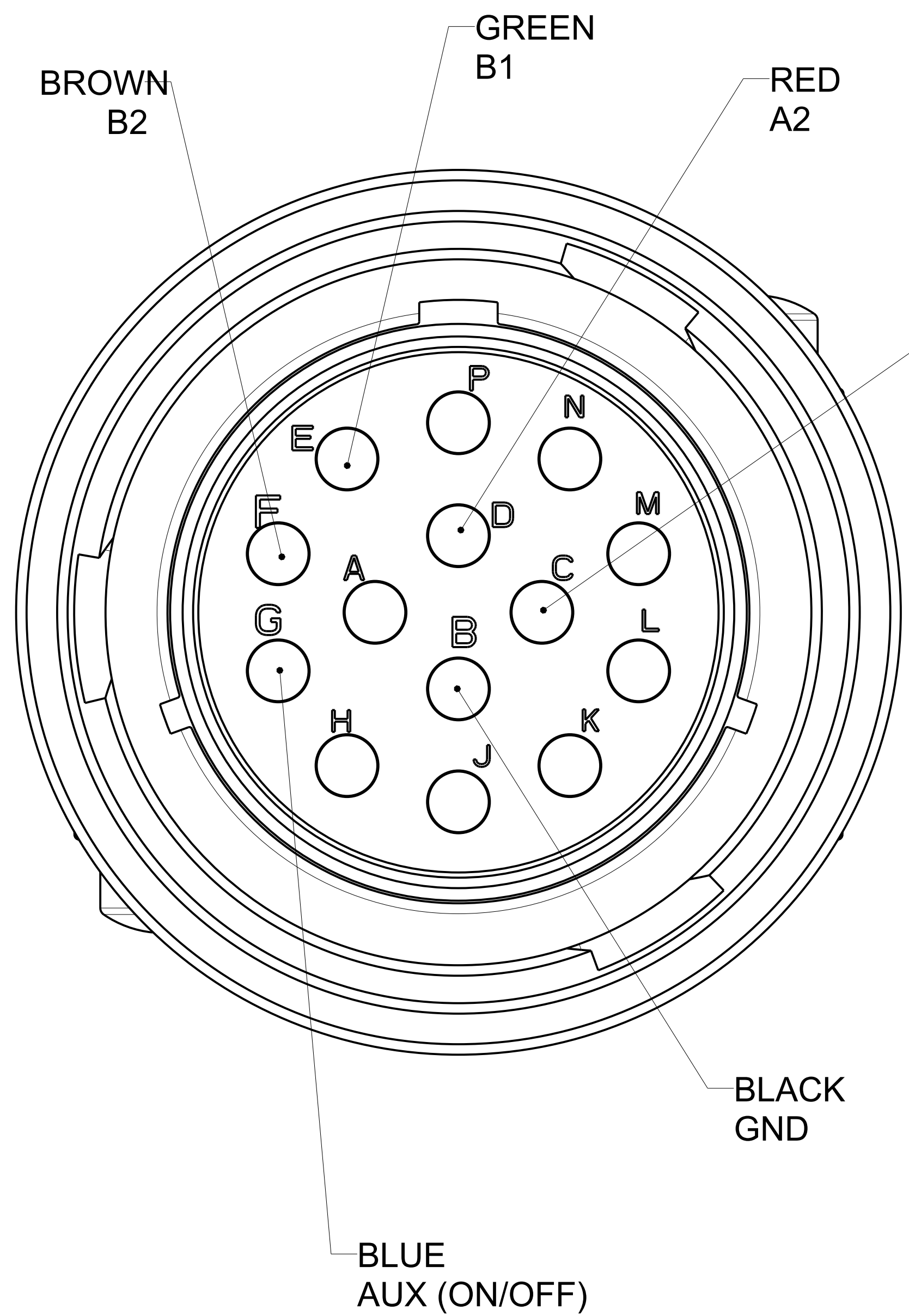
2

1

<p>THIS DRAWING IS PROVIDED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN ON DEMAND BY MB COMPANIES. MB COMPANIES RETAINS ANY AND ALL RIGHTS ASSOCIATED WITH IT AND THE ARTICLE OR ARTICLES IT REPRESENTS. DISCLOSURE, REPRODUCTION OR ALTERATION OF ANY PART OF THIS DRAWING, OR MANUFACTURE, USE OR SALE OF THE ARTICLE OR ARTICLES REPRESENTED, IS PROHIBITED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF MB COMPANIES</p>	<p>M-B COMPANIES, INC. OF WISCONSIN 3RD ANGLE PROJECTION</p>	MATERIAL: SEE BOM				DESCRIPTION: HYD ASSY, HL			
		TOLERANCE UNLESS OTHERWISE SPECIFIED				ENG	YY	DATE	06-Feb-18
						DRN	YY	DATE	06-Feb-18
						CHKD	SNT	DATE	08-Feb-18
				APRVD	SNT	DATE	08-Feb-18		
		.XX± .03	X/Y ± 1/32					SCALE: 0.500	
		.XXX± .010	ANGLE ± 2°					SHEET 2 OF 3	
				SIZE	PART NUMBER:		REV		
				C	432-202701		A		

ZONE	REV	CN	DESCRIPTION	BY	DATE
			SEE PAGE 1		

432-202701



INSTALL NOTE:
 #1 REFER TO OPERATING MACHINE MANUAL FOR 14 PIN LAYOUT
 ***BEFORE OPERATING MAKE SURE THE GND PIN IS "B" ON ON MACHINE SIDE.
 IF NOT USING THE PROVIDED TOOL POSITION THE PIN IN THE CORRECT SPOT

#2 MATCH PIN TO DESIRED SWITCH FUNCTION ON JOYSTICK

#3 USING THE CORRESPONDING CONNECTOR FROM THE PIN SELECTED PLUG INTO THE HYD. VALVE

#4 CONNECT THE 14 PIN CONNECTOR TO THE MACHINE, TEST FUNCTION

***IF BROOM SWING THE IN THE OPPOSITE DIRECTION AS INTENDED, REVERSE THE CONNECTORS FOR CORRECT FUNCTION

WT (±2%): 11 LBS

THIS DRAWING IS PROVIDED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN ON DEMAND BY MB COMPANIES. MB COMPANIES RETAINS ANY AND ALL RIGHTS ASSOCIATED WITH IT AND THE ARTICLE OR ARTICLES IT REPRESENTS. DISCLOSURE, REPRODUCTION OR ALTERATION OF ANY PART OF THIS DRAWING, OR MANUFACTURE, USE OR SALE OF THE ARTICLE OR ARTICLES REPRESENTED, IS PROHIBITED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF MB COMPANIES.	 M-B COMPANIES, INC. OF WISCONSIN <small>3RD ANGLE PROJECTION</small>	MATERIAL: SEE BOM				DESCRIPTION: HYD ASSY, HL		
		TOLERANCE UNLESS OTHERWISE SPECIFIED		ENG	YY	DATE	06-Feb-18	
				DRN	YY	DATE	06-Feb-18	
				CHKD	SNT	DATE	08-Feb-18	
		APRVD	SNT	DATE	08-Feb-18			
		SIZE	PART NUMBER:		REV			
		C	432-202701		A			

D

C

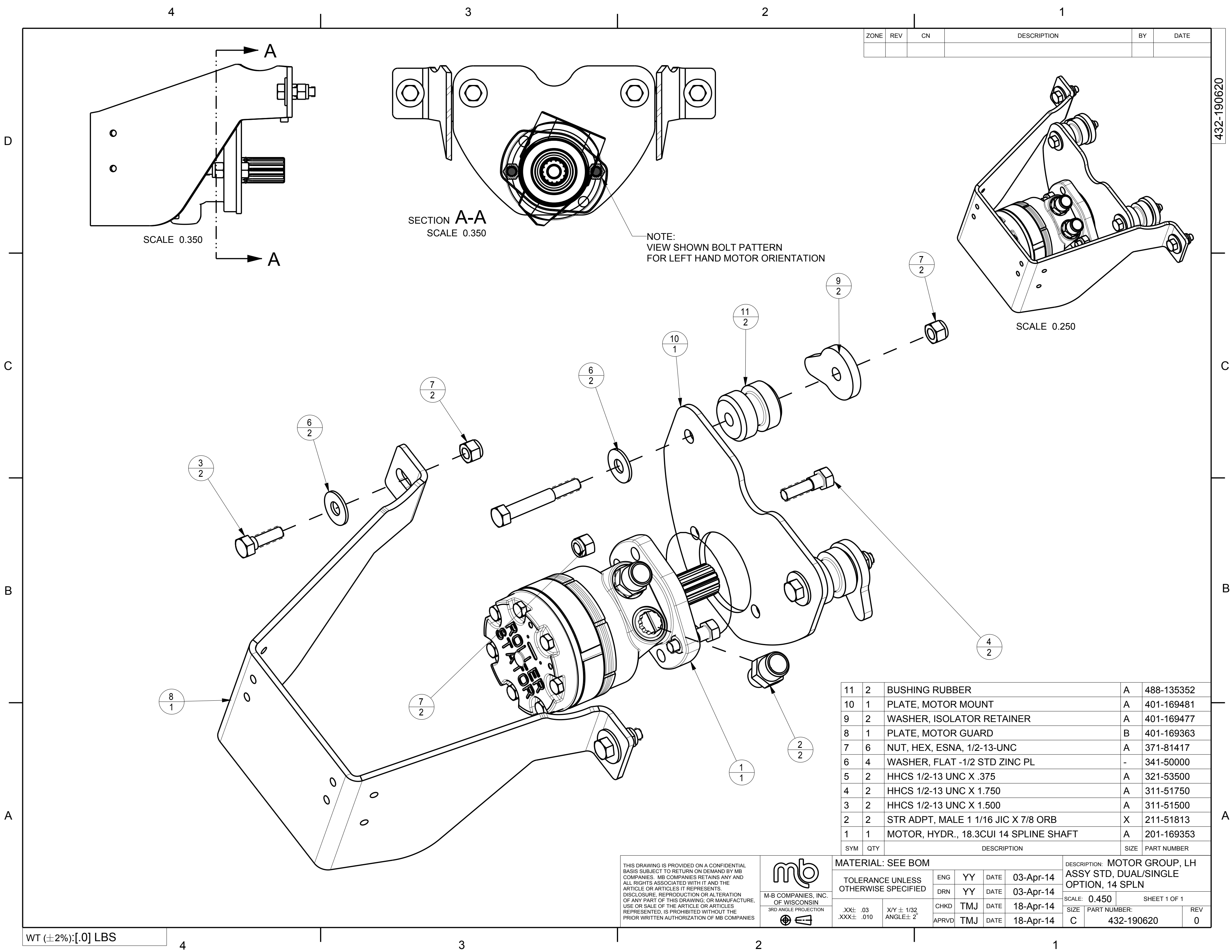
B

A

C

B

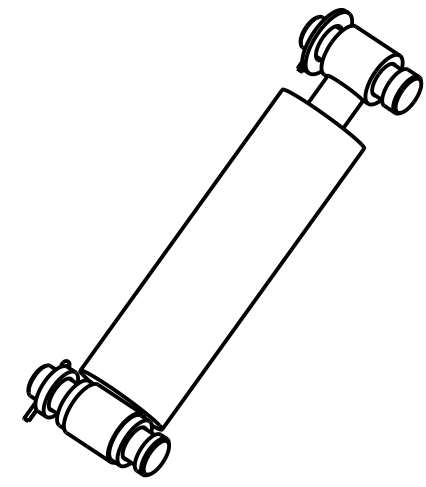
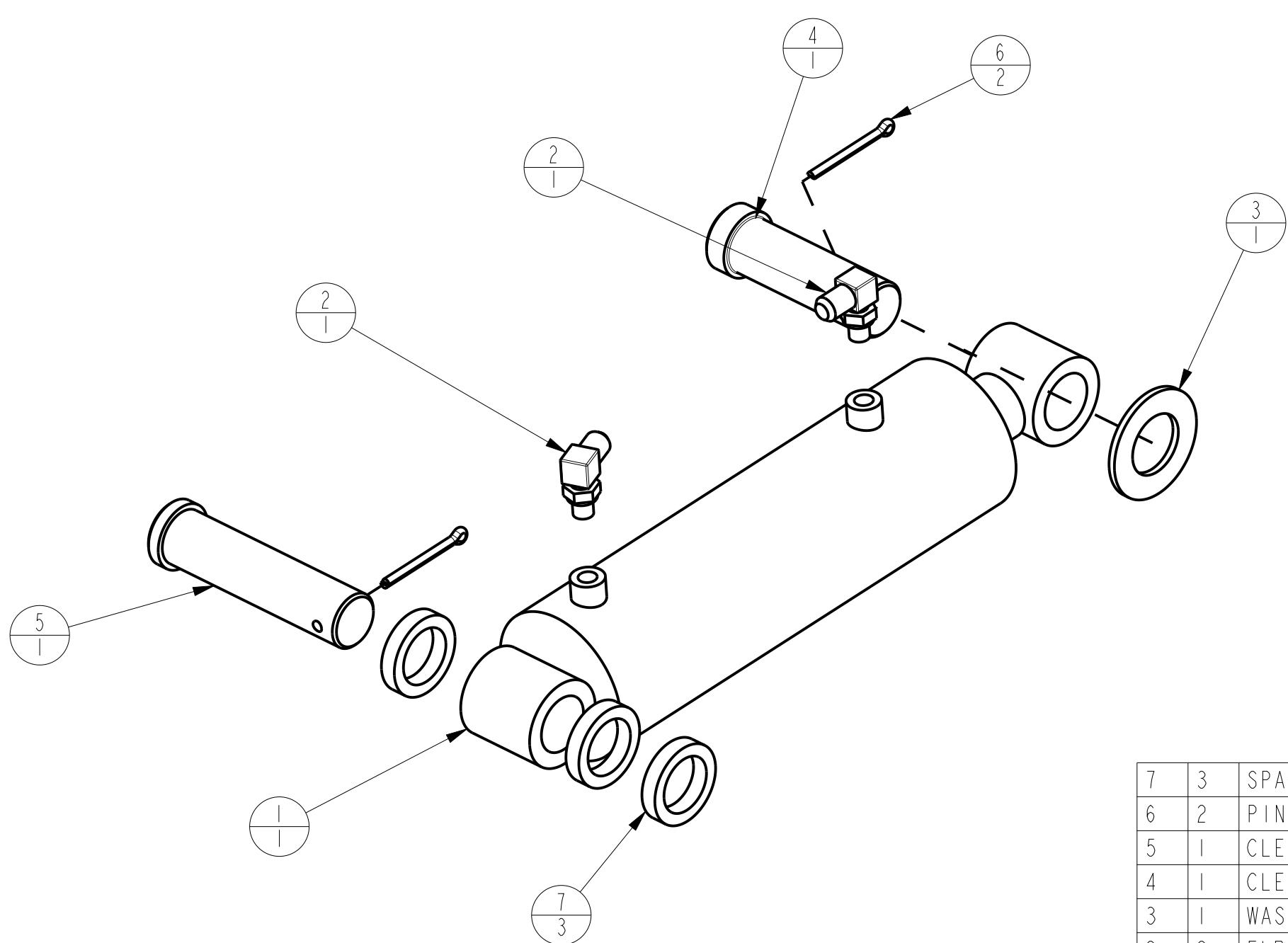
A



ZONE	REV	CN	DESCRIPTION	BY	DATE

B

B



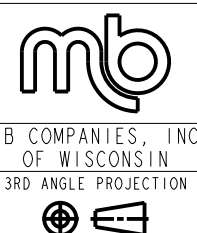
SCALE 0.150

A

A

7	3	SPACER BUSHING, HL SWING		401-203919
6	2	PIN, COTTER .19 X 2		380-81543
5	1	CLEVIS PIN 1.25 in. DIA X 5 LG		380-203918
4	1	CLEVIS PIN 1.25" DIA X 4 .43" LONG	A	380-190142
3	1	WASHER, FLAT 1.25 SAE STD ZINC PL	X	372-92010
2	2	ELBOW 90, 9/16 JIC X 7/16 ORB	A	211-71943
1	1	HYD CYLINDER 3 INCH, BORE 7 INCH STROKE	B	203-190543
SYM	QTY	DESCRIPTION	SIZE	PART NUMBER

THIS DRAWING IS PROVIDED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN ON DEMAND BY MB COMPANIES. MB COMPANIES RETAINS ANY AND ALL RIGHTS ASSOCIATED WITH IT AND THE ARTICLE OR ARTICLES IT REPRESENTS. DISCLOSURE, REPRODUCTION OR ALTERATION OF ANY PART OF THIS DRAWING; OR MANUFACTURE, USE OR SALE OF THE ARTICLE OR ARTICLES REPRESENTED, IS PROHIBITED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF MB COMPANIES



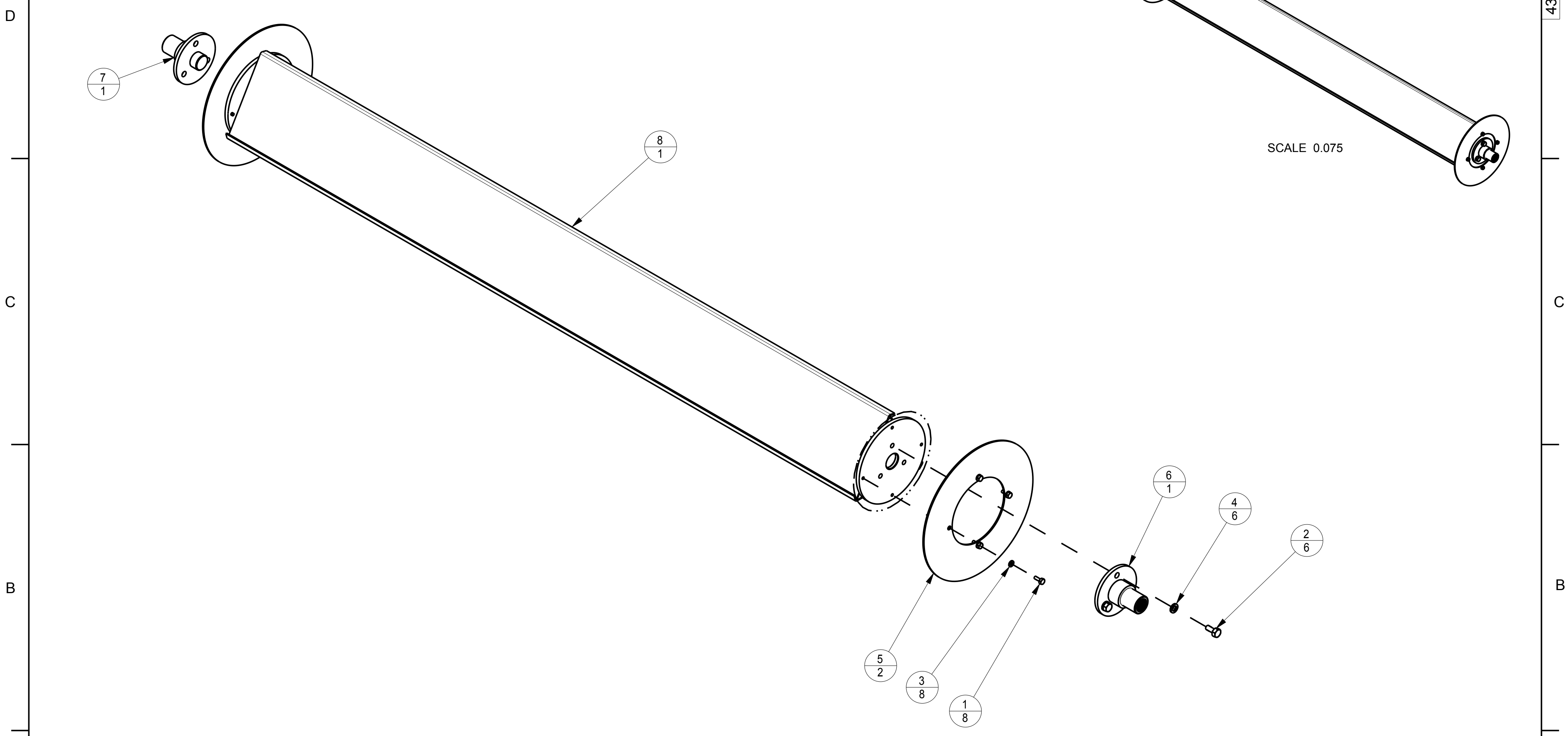
MATERIAL: SEE BOM			
TOLERANCE UNLESS OTHERWISE SPECIFIED	ENG	CJH	DATE
	DRN	CJH	DATE
.XX ± .03	CHKD	TMJ	DATE
.XXX ± .010	APRVD	TMJ	DATE
X/Y ± 1/32			
ANGLE ± 2°			

DESCRIPTION: GROUP, HL HYD. SWING ASSY	
SCALE: 0.350	SHEET 1 OF 1
SIZE	PART NUMBER:
B	432-203973
	REV
	0

WT (±2%): [.0] LBS

4 3 2 1

ZONE	REV	CN	DESCRIPTION	BY	DATE



8	1	CORE, TRI 10 X 7"	B	410-93194
7	1	HUB, IDLER, 1.75" BEARING, PLATED	A	410-169964
6	1	HUB, DRIVE, 14-TOOTH	A	410-169418
5	2	DISC, END, 14" OD X 10 GA.	A	400-64724
4	6	WASHER, LOCK -1/2 YLW ZINC PL	-	351-50000
3	8	WASHER, LOCK -5/16 STD ZINC PL	-	351-20000
2	6	HHCS 1/2-13 UNC X 1.000	A	311-51000
1	8	HHCS 5/16-18 UNC X 0.750	A	311-20750
SYM	QTY	DESCRIPTION	SIZE	PART NUMBER

THIS DRAWING IS PROVIDED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN ON DEMAND BY MB COMPANIES. MB COMPANIES RETAINS ANY AND ALL RIGHTS ASSOCIATED WITH IT AND THE ARTICLE OR ARTICLES IT REPRESENTS. DISCLOSURE, REPRODUCTION OR ALTERATION OF ANY PART OF THIS DRAWING, OR MANUFACTURE, USE OR SALE OF THE ARTICLE OR ARTICLES REPRESENTED, IS PROHIBITED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF MB COMPANIES



MATERIAL: SEE BOM

TOLERANCE UNLESS OTHERWISE SPECIFIED		ENG	SJZ	DATE	31-Oct-14
.XX± .03	XY ± 1/32	DRN	SJZ	DATE	31-Oct-14
.XXX± .010	ANGLE ± 2°	CHKD	TMJ	DATE	31-Oct-14
		APRVD	TMJ	DATE	31-Oct-14

DESCRIPTION: CORE ASSY, SINGLE MOTOR, 7 HT/HL

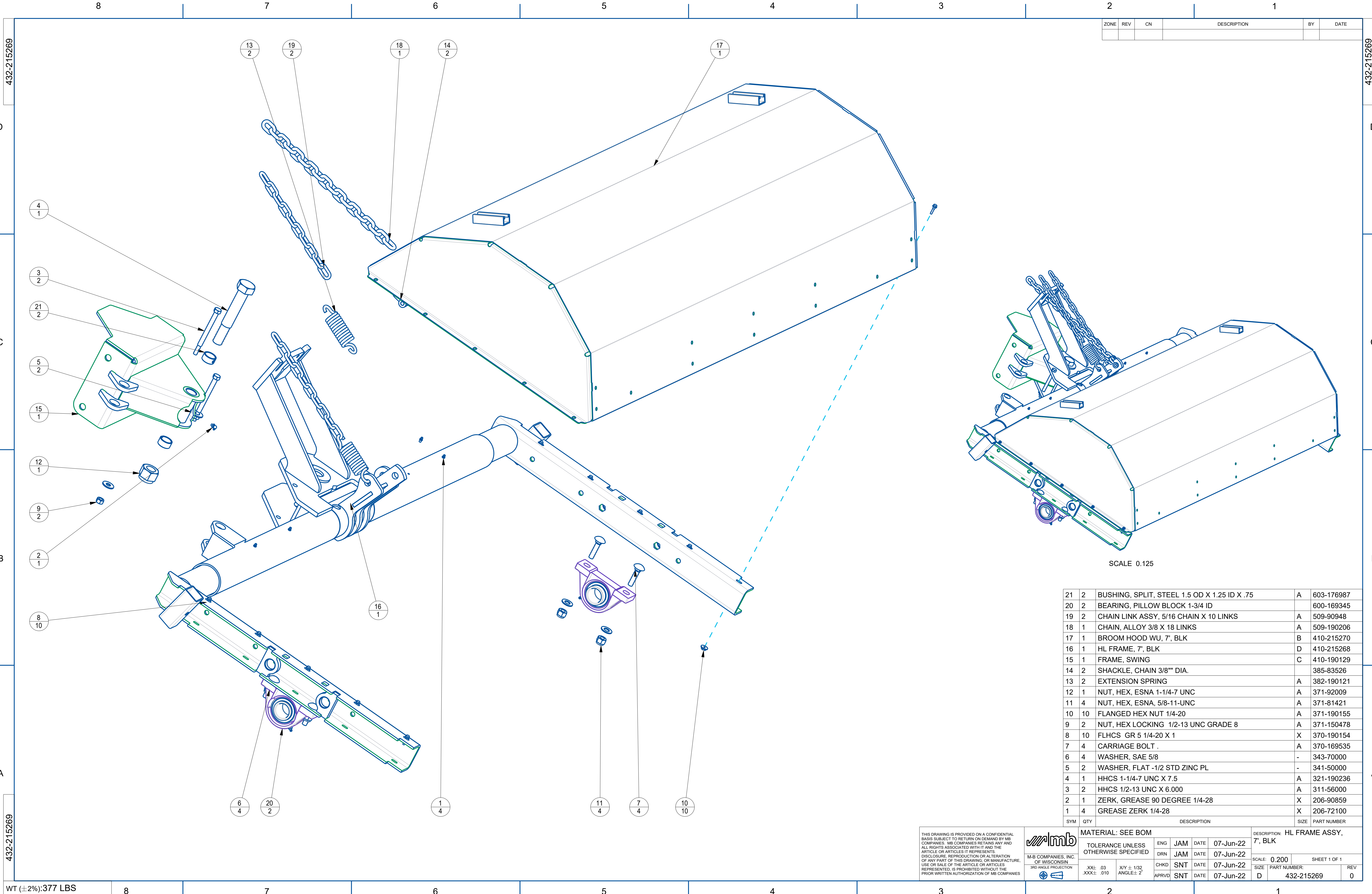
SCALE: 0.150 SHEET 1 OF 1

SIZE	PART NUMBER:	REV
C	432-190617	0

WT (±2%):[.0] LBS 4 3 2 1

432-190617

A



ZONE	REV	CN	DESCRIPTION	BY	DATE

SCALE 0.125

21	2	BUSHING, SPLIT, STEEL 1.5 OD X 1.25 ID X .75	A	603-176987
20	2	BEARING, PILLOW BLOCK 1-3/4 ID	A	600-169345
19	2	CHAIN LINK ASSY, 5/16 CHAIN X 10 LINKS	A	509-90948
18	1	CHAIN, ALLOY 3/8 X 18 LINKS	A	509-190206
17	1	BROOM HOOD WU, 7', BLK	B	410-215270
16	1	HL FRAME, 7', BLK	D	410-215268
15	1	FRAME, SWING	C	410-190129
14	2	SHACKLE, CHAIN 3/8" DIA.		385-83526
13	2	EXTENSION SPRING	A	382-190121
12	1	NUT, HEX, ESNA 1-1/4-7 UNC	A	371-92009
11	4	NUT, HEX, ESNA, 5/8-11-UNC	A	371-81421
10	10	FLANGED HEX NUT 1/4-20	A	371-190155
9	2	NUT, HEX LOCKING 1/2-13 UNC GRADE 8	A	371-150478
8	10	FLHCS GR 5 1/4-20 X 1	X	370-190154
7	4	CARRIAGE BOLT	A	370-169535
6	4	WASHER, SAE 5/8	-	343-70000
5	2	WASHER, FLAT -1/2 STD ZINC PL	-	341-50000
4	1	HHCS 1-1/4-7 UNC X 7.5	A	321-190236
3	2	HHCS 1/2-13 UNC X 6.000	A	311-56000
2	1	ZERK, GREASE 90 DEGREE 1/4-28	X	206-90859
1	4	GREASE ZERK 1/4-28	X	206-72100

<p>THIS DRAWING IS PROVIDED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN ON DEMAND BY MB COMPANIES. MB COMPANIES RETAINS ANY AND ALL RIGHTS ASSOCIATED WITH IT AND THE ARTICLE OR ARTICLES IT REPRESENTS. DISCLOSURE, REPRODUCTION OR ALTERATION OF ANY PART OF THIS DRAWING OR MANUFACTURE, USE OR SALE OF THE ARTICLE OR ARTICLES REPRESENTED, IS PROHIBITED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF MB COMPANIES.</p> <p>M-B COMPANIES, INC. OF WISCONSIN</p> <p>3RD ANGLE PROJECTION</p>	MATERIAL: SEE BOM		TOLERANCE UNLESS OTHERWISE SPECIFIED		ENG	JAM	DATE	07-Jun-22	DESCRIPTION: HL FRAME ASSY, 7', BLK
	DRN	JAM	DATE	07-Jun-22	SCALE: 0.200	SHEET 1 OF 1			
	CHKD	SNT	DATE	07-Jun-22	SIZE	PART NUMBER:			
	APRVD	SNT	DATE	07-Jun-22	SIZE	PART NUMBER:		432-215269	REV

WT (±2%):377 LBS

8

7

6

5

4

3

2

1

ZONE	REV	CN	DESCRIPTION	BY	DATE

AHA-01962

AHA-01962

D

D

C

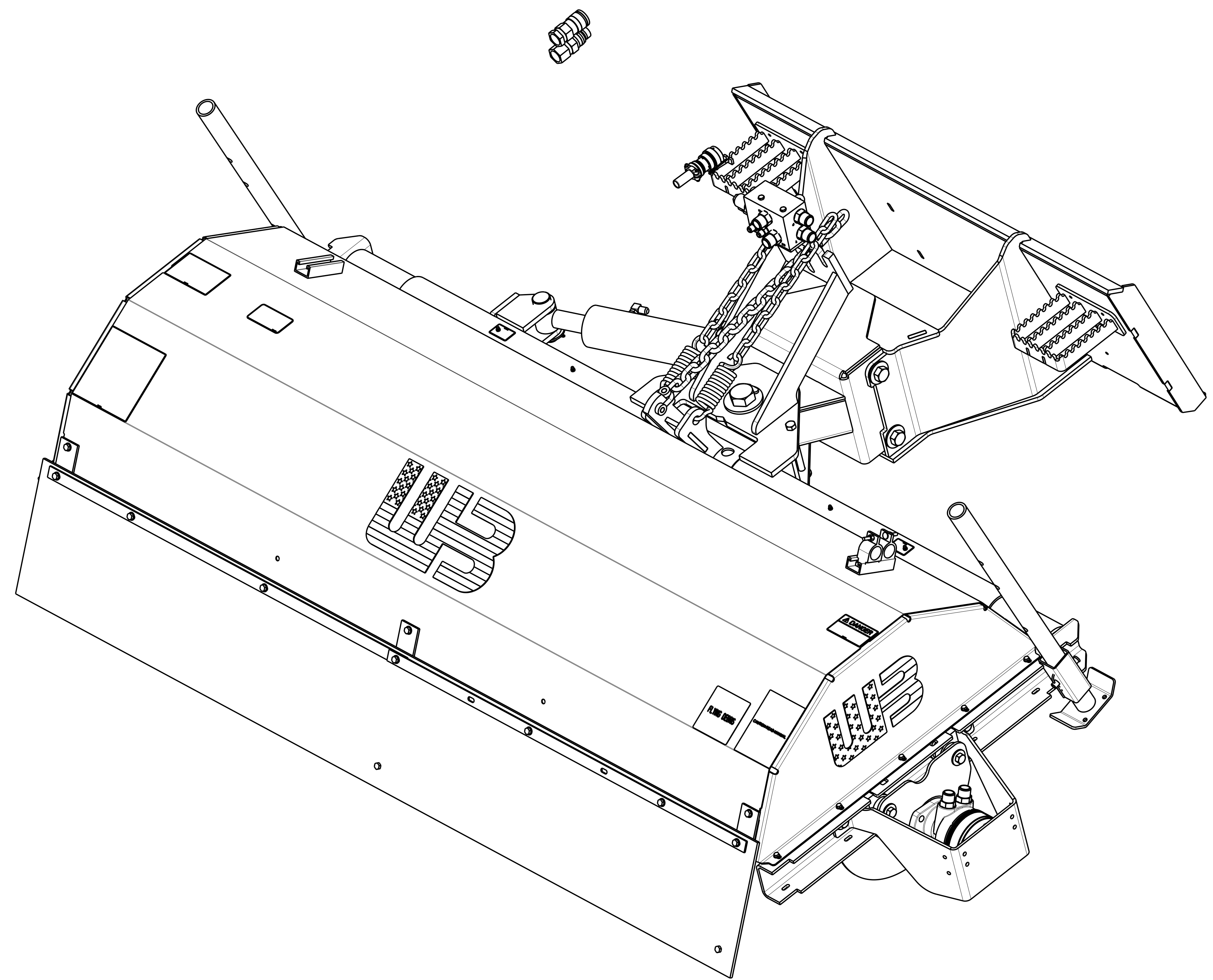
C

B

B

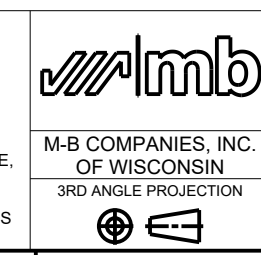
A

A



AHA-01962

THIS DRAWING IS PROVIDED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN ON DEMAND BY MB COMPANIES. MB COMPANIES RETAINS ANY AND ALL RIGHTS ASSOCIATED WITH IT AND THE ARTICLE OR ARTICLES IT REPRESENTS. DISCLOSURE, REPRODUCTION OR ALTERATION OF ANY PART OF THIS DRAWING, OR MANUFACTURE, USE OR SALE OF THE ARTICLE OR ARTICLES REPRESENTED, IS PROHIBITED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF MB COMPANIES.



MATERIAL: SEE BOM

TOLERANCE UNLESS OTHERWISE SPECIFIED		ENG	JAM	DATE
.XX±	.03			25-May-22
.XXX±	.010			25-May-22

DRN	JAM	DATE
		25-May-22
		25-May-22

DESCRIPTION: HL7/PW1/S/H/E/12/N/N/B/WERK-BRAU, 14 PIN, DD, HOSE KIT

SCALE: 0.200 SHEET 1 OF 3

SIZE	PART NUMBER	REV
D	AHA-01962	0

WT (±2%): 725 LBS

8

7

6

5

4

3

2

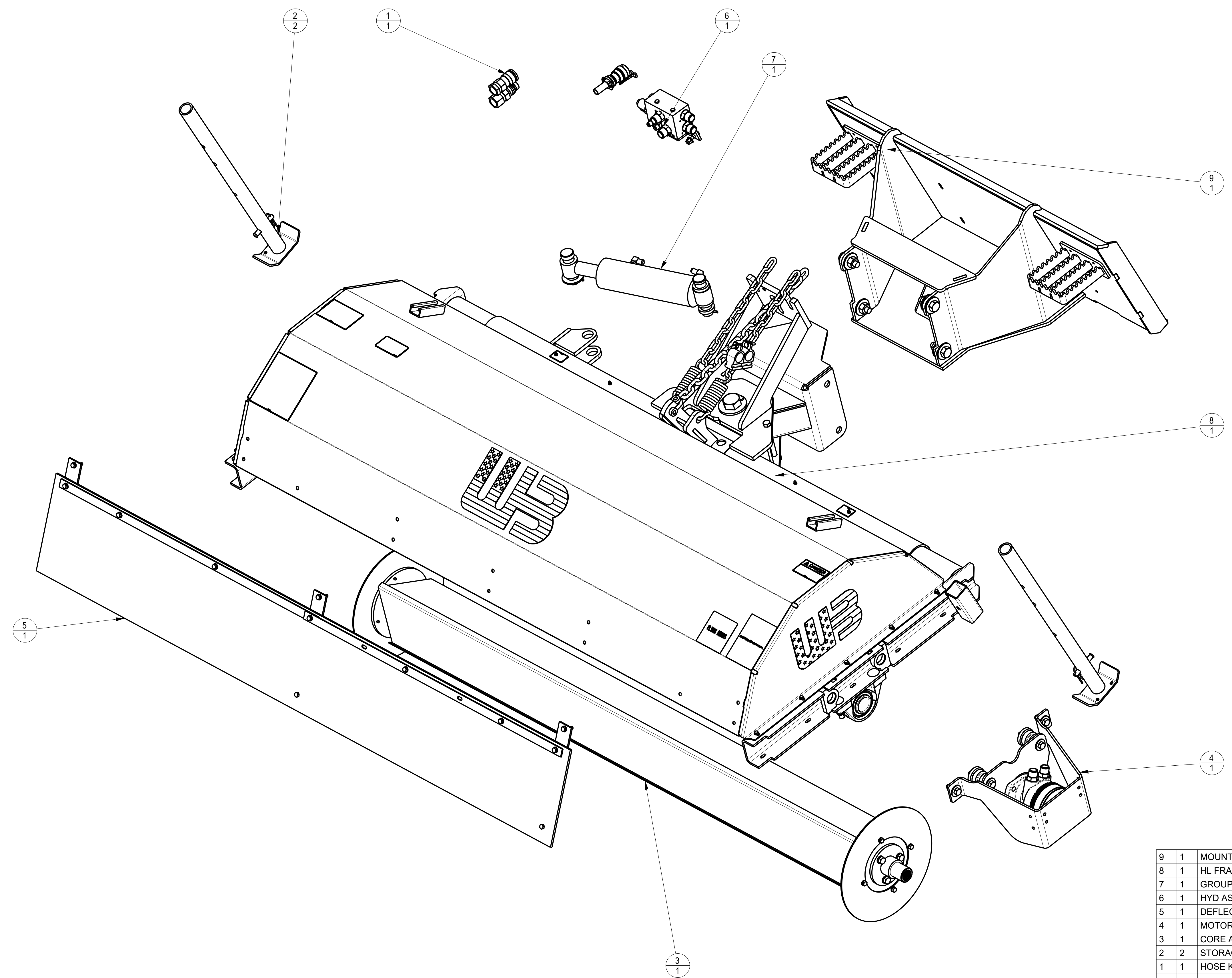
1

8 7 6 5 4 3 2 1

ZONE	REV	CN	DESCRIPTION	BY	DATE

AHA-01962

AHA-01962



SYM	QTY	DESCRIPTION	SIZE	PART NUMBER
9	1	MOUNT, HT/HL, SKIDSTEER Q/A, BLK HL	B	432-215272
8	1	HL FRAME ASSY, 7', BLK	D	432-215269
7	1	GROUP, HL HYD. SWING ASSY	B	432-203973
6	1	HYD ASSY, HL 12V, 7 SNGL MOTOR, W/14PIN HARNESS	C	432-202701
5	1	DEFLECTOR, 7'	C	432-190631
4	1	MOTOR GROUP, LH ASSY STD DUAL/SINGLE OPTION 14 SPLN	C	432-190620
3	1	CORE ASSY, SINGLE MOTOR, 7' HT/HL	C	432-190617
2	2	STORAGE STAND SINGLE KIT	B	432-190598
1	1	HOSE KIT, 45 DEG X STR, WITH FF COUPLERS	A	430-96712

THIS DRAWING IS PROVIDED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN ON DEMAND BY MB COMPANIES. MB COMPANIES RETAINS ANY AND ALL RIGHTS ASSOCIATED WITH IT AND THE ARTICLE OR ARTICLES IT REPRESENTS. DISCLOSURE, REPRODUCTION OR ALTERATION OF ANY PART OF THIS DRAWING, OR MANUFACTURE, USE OR SALE OF THE ARTICLE OR ARTICLES REPRESENTED, IS PROHIBITED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF MB COMPANIES.

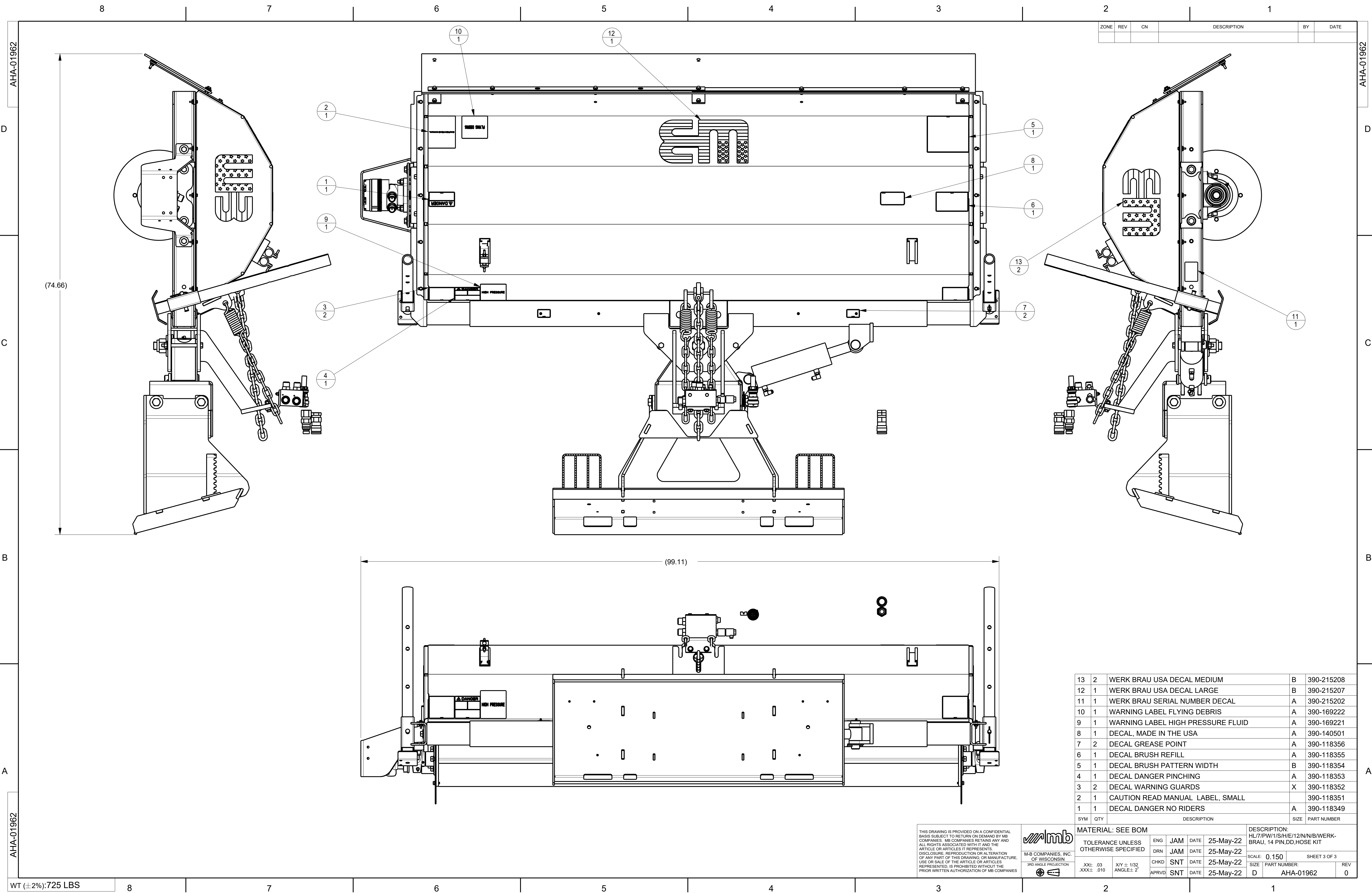
MATERIAL: SEE BOM		ENG JAM DATE 25-May-22		DESCRIPTION: HL/7/PW/1/S/H/E/12/N/N/B/WERK-BRAU, 14 PIN, DD, HOSE KIT	
TOLERANCE UNLESS OTHERWISE SPECIFIED		DRN JAM DATE 25-May-22		SCALE: 0.160 SHEET 2 OF 3	
M-B COMPANIES, INC. OF WISCONSIN		CHKD SNT DATE 25-May-22		SIZE PART NUMBER: D AHA-01962	
3RD ANGLE PROJECTION		APRVD SNT DATE 25-May-22		REV 0	

WT (±2%): 725 LBS

8 7 6 5 4 3 2 1

AHA-01962

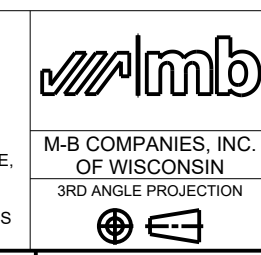
AHA-01962



ZONE	REV	CN	DESCRIPTION	BY	DATE

SYM	QTY	DESCRIPTION	SIZE	PART NUMBER
13	2	WERK BRAU USA DECAL MEDIUM	B	390-215208
12	1	WERK BRAU USA DECAL LARGE	B	390-215207
11	1	WERK BRAU SERIAL NUMBER DECAL	A	390-215202
10	1	WARNING LABEL FLYING DEBRIS	A	390-169222
9	1	WARNING LABEL HIGH PRESSURE FLUID	A	390-169221
8	1	DECAL, MADE IN THE USA	A	390-140501
7	2	DECAL GREASE POINT	A	390-118356
6	1	DECAL BRUSH REFILL	A	390-118355
5	1	DECAL BRUSH PATTERN WIDTH	B	390-118354
4	1	DECAL DANGER PINCHING	A	390-118353
3	2	DECAL WARNING GUARDS	X	390-118352
2	1	CAUTION READ MANUAL LABEL, SMALL		390-118351
1	1	DECAL DANGER NO RIDERS	A	390-118349

THIS DRAWING IS PROVIDED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN ON DEMAND BY MB COMPANIES. MB COMPANIES RETAINS ANY AND ALL RIGHTS ASSOCIATED WITH IT AND THE ARTICLE OR ARTICLES IT REPRESENTS. DISCLOSURE, REPRODUCTION OR ALTERATION OF ANY PART OF THIS DRAWING, OR MANUFACTURE, USE OR SALE OF THE ARTICLE OR ARTICLES REPRESENTED, IS PROHIBITED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF MB COMPANIES.



MATERIAL: SEE BOM		TOLERANCE UNLESS OTHERWISE SPECIFIED		ENG	JAM	DATE	25-May-22
				DRN	JAM	DATE	25-May-22
				CHKD	SNT	DATE	25-May-22
				APRVD	SNT	DATE	25-May-22

DESCRIPTION: HL7/PW1/S/H/E/12/N/N/B/WERK-BRAU, 14 PIN, DD, HOSE KIT		SCALE: 0.150	SHEET 3 OF 3
SIZE	PART NUMBER:		
D	AHA-01962		
			REV 0