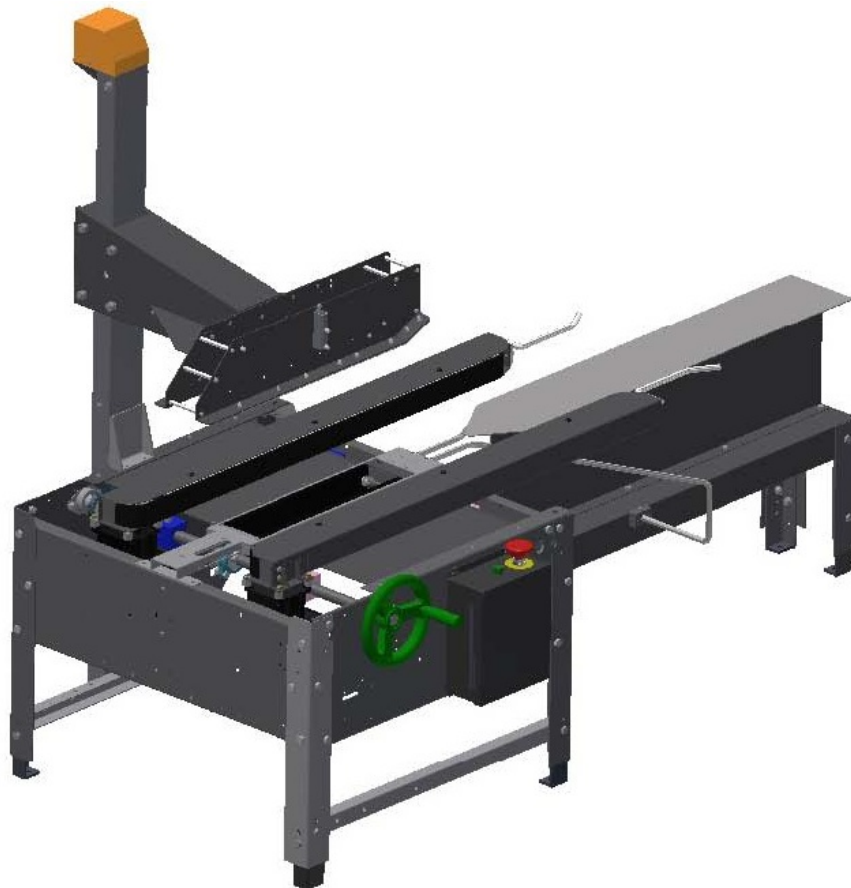




Little David™ Case Sealer

SP304F

**Extended Side Belt Drive
Uniform Case Sealer**



Version: C

Operator's Manual

LITTLE DAVID™ CASE SEALER

SP304F Operation

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Monday, January 28, 2013

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Introduction

Thank you for purchasing the Little David™ case sealer, the SP304F. The SP304F is uniform side belt drive case sealer. The SP304F is a robust built 24/7 case sealer constructed of quality materials, bearing, and electrical components.. All employees who will be required to operate and maintain the case sealer **must** read this manual to ensure safe operation as well as proper set-up and maintenance throughout the life of the machine . After reading this manual, you will know how to perform the following functions,

- How to operate the machine safely.
- How to set the conveyor height of the machine
- How to set the head height..
- How to adjust the side belt drive width.
- Troubleshooting and replacing of worn or defective parts.

Throughout this manual there are several illustrations designed to help you perform the variety of tasks described.

Operating Safety

Observe the warnings and cautions below when using the Little David SP304F case sealer. Within this manual, all safety labels are depicted with location and part number. If a safety label is missing or not legible it must be replaced immediately. Failure to follow safety labels can lead to injury or damage to the machine.

Instruction: Requirement to System Operation

Instruction: An electrical receptacle must be located near the machine. The line cord connection to the receptacle is the disconnect means for the machine. The receptacle must be located in an area that is easily accessible to all personnel.

Warning: Potential Bodily Injury

Warning: Always disconnect all sources of energy to the machine before performing maintenance. Sources of energy include electrical and pneumatic. Refer to your company's lock out tag out procedures.

Warning: Never bypass or remove safety guards from the machine or tape cartridge.

Warning: Never override safety devices such as Emergency Stop switches.

Warning: Never adjust the machine or tape cartridges when the machine is operating.

Warning: Never place hands or body inside confines of the machine unless top head assembly is locked in place and all power sources are locked out.

Warning: Never wear jewelry, loose clothing, such as ties, scarves etc and long hair must be pulled back when operating this machine.

Warning: Never pull a jammed box out of the machine while it is in operation. Stop machine and raise head with bypass switch.

Warning: When feeding a semi automatic case sealer always hold the top flaps down a rear of box, to avoid accidental entrapment in the machine

This manual contains operator information for Little David Application Equipment. It is directed toward the person who operates and maintains the machine. Read through the manual completely before operating the machine. Thereafter, refer to it as necessary.

Take special note of all warnings, cautions, and maintenance instructions. Like any other piece of equipment, the Little David Case Sealer functions best when maintained and used correctly.

Caution: Potential Machine Damage:

Caution: Never push or drag machine across the floor with the top head assembly fully raised. Makes sure it is completely lowered.

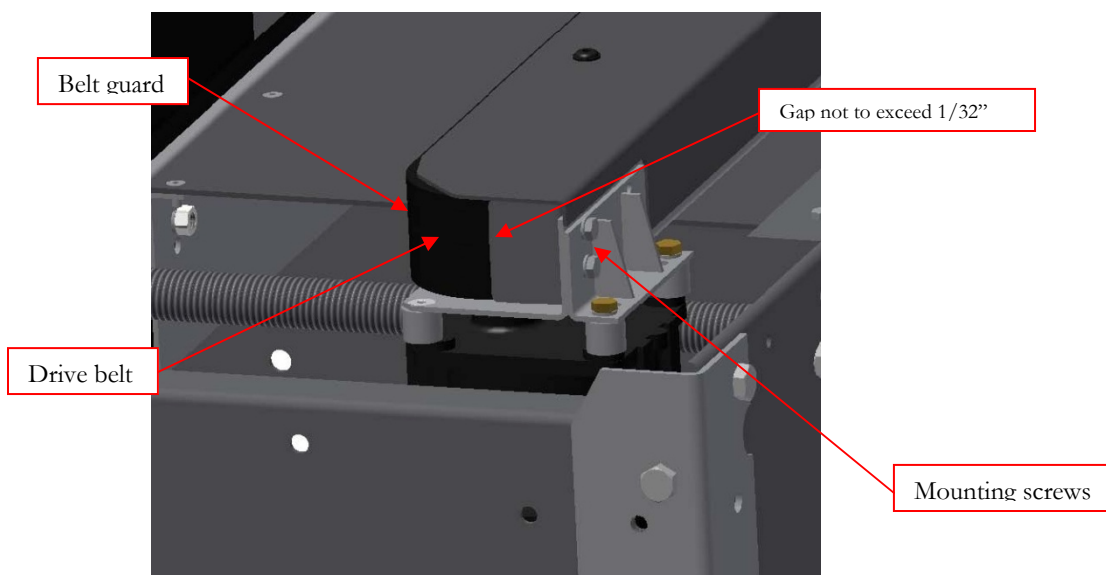
Caution: Never pull the machine by its pack table or side rails.

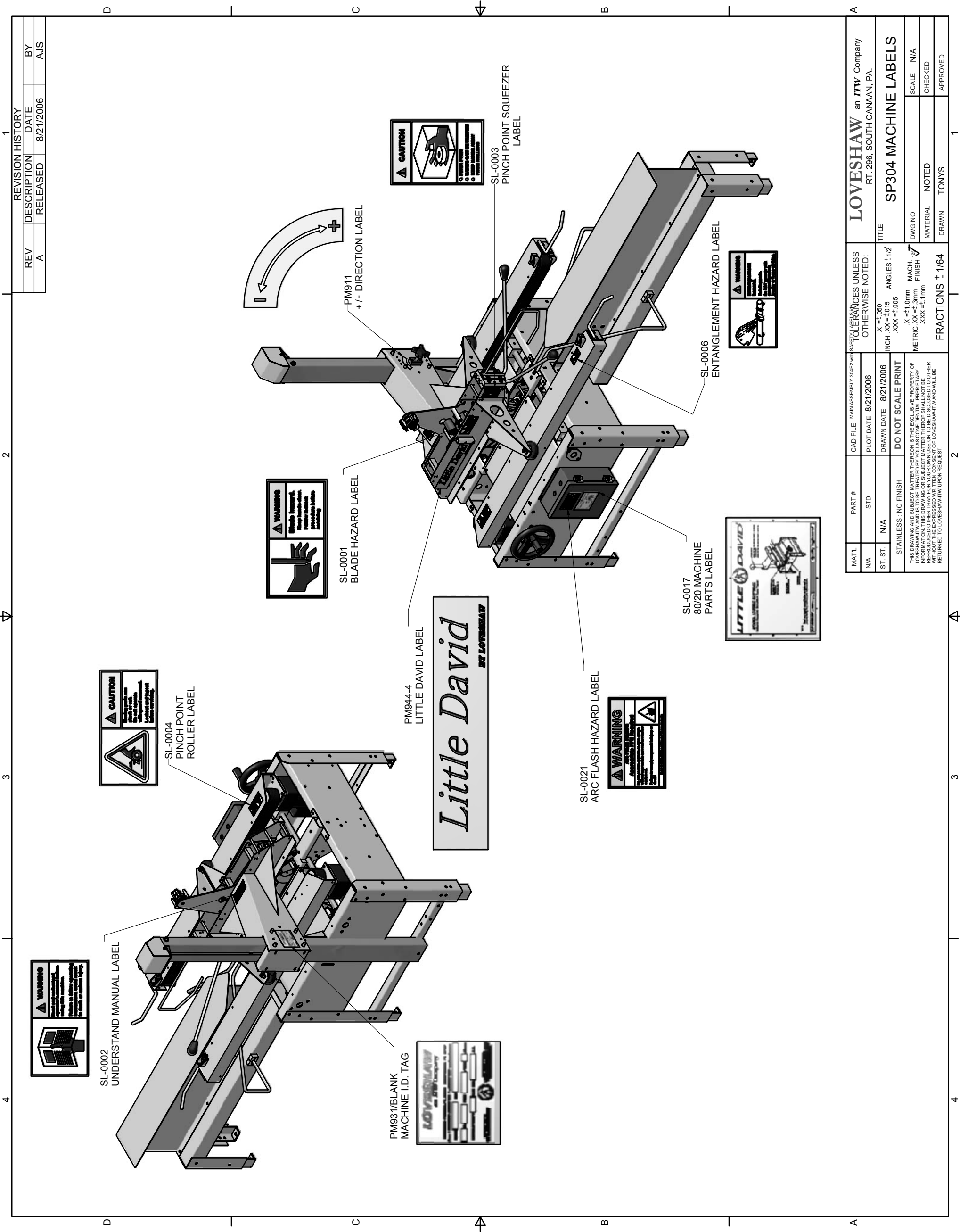
Caution: Provide and use proper electrical power.

Caution: Do not operate, maintain, or otherwise use this machine, except as described in this manual.

Special instruction:

The side drive assembly incorporates adjustable side belt guard. The guard are made adjustable to maintain 1/32" gap between the top of the belt and the guard itself. This eliminates a pinch point between the guard and the belt. The guards are located at the rear of the machine where the belt wraps around the drive pulleys. The guards must be adjusted inward as the belts wear. It is **mandatory** the gap be adjusted to **no** more than 1/32" clearance between the top of the belt and the guard itself. The guard is simply adjusted by loosening two 6mm panel head machine screws and sliding the guard inward to maintain the 1/32" gap. Failure to adjust the guards may cause injury.





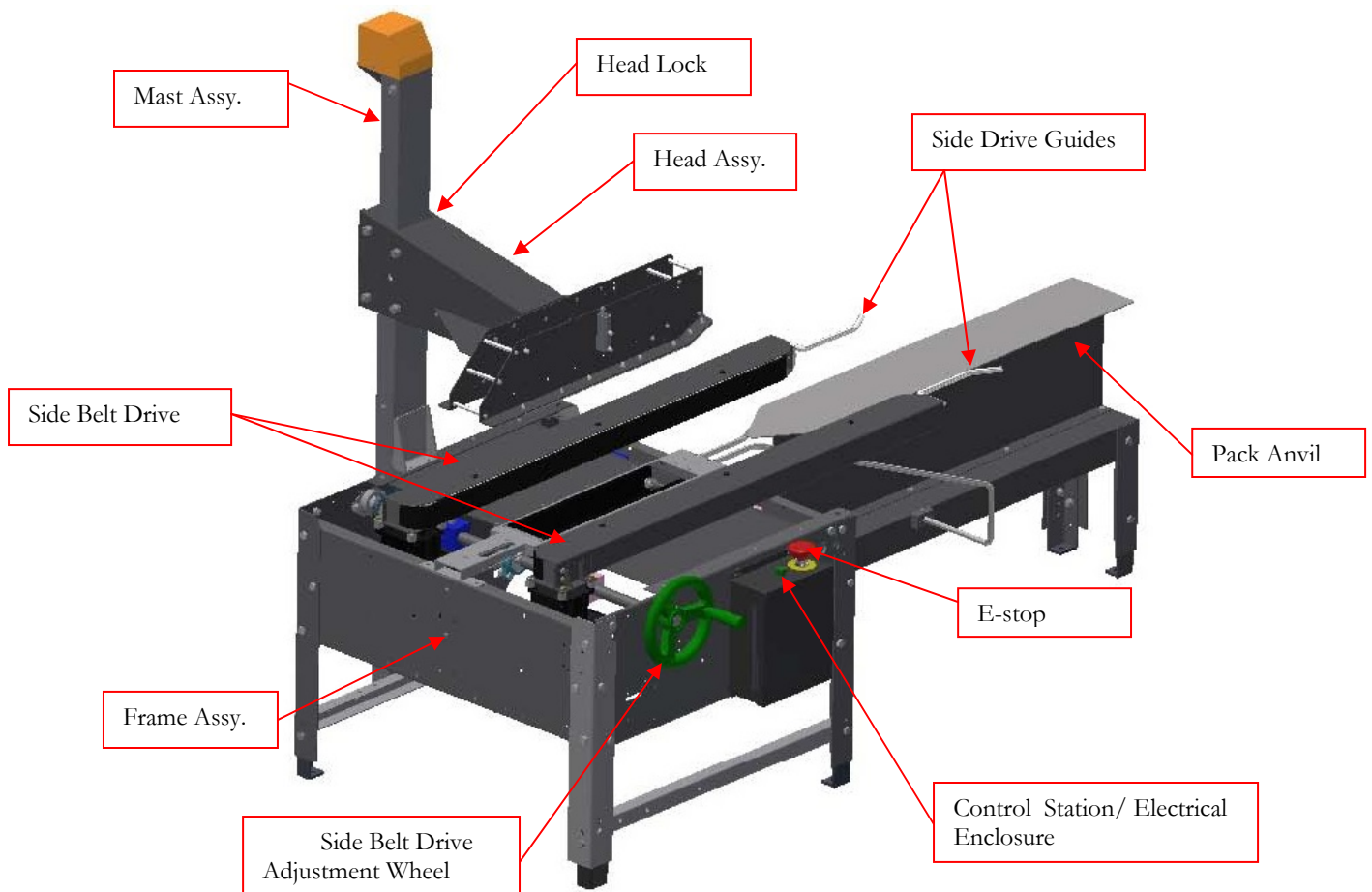
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STAINLESS: NO FINISH		DO NOT SCALE PRINT	INCH .XX = ±.015		SP304 MACHINE LABELS	
THIS DRAWING AND SUBJECT MATTER THEREON IS THE EXCLUSIVE PROPERTY OF LOVESHAW-ITW AND IS TO BE TREATED BY YOU AS CONFIDENTIAL. PROPRIETARY INFORMATION IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF LOVESHAW-ITW AND WILL BE RETURNED TO LOVESHAW-ITW UPON REQUEST.		MACH. FINISH	ANGLES ±1/2		DWG NO	SCALE N/A
			.XXX = ±.005		MATERIAL	NOTED
			X = ±1.0mm		DRAWN	TONYS
		FRACTIONS ± 1/64		APPROVED		

Case Sealer Sections

Overview

This manual covers several parts of the machine. The following diagram identifies the key sections of the machine.



Machine Specifications

Machine dimensions:

- Height: 62.81" @ 24.25" conveyor height
- Width: 42.08"
- Length: 37.44" (base machine only)
Length: 79.77" with 48.00" pack anvil
- Conveyor height: 24.25" to 30" – Standard

Electrical Requirements:

- Standard Voltage: 120/1/60 with 15 amp dedicated service.
- Optional voltages are available consult factory.

Operating speed:

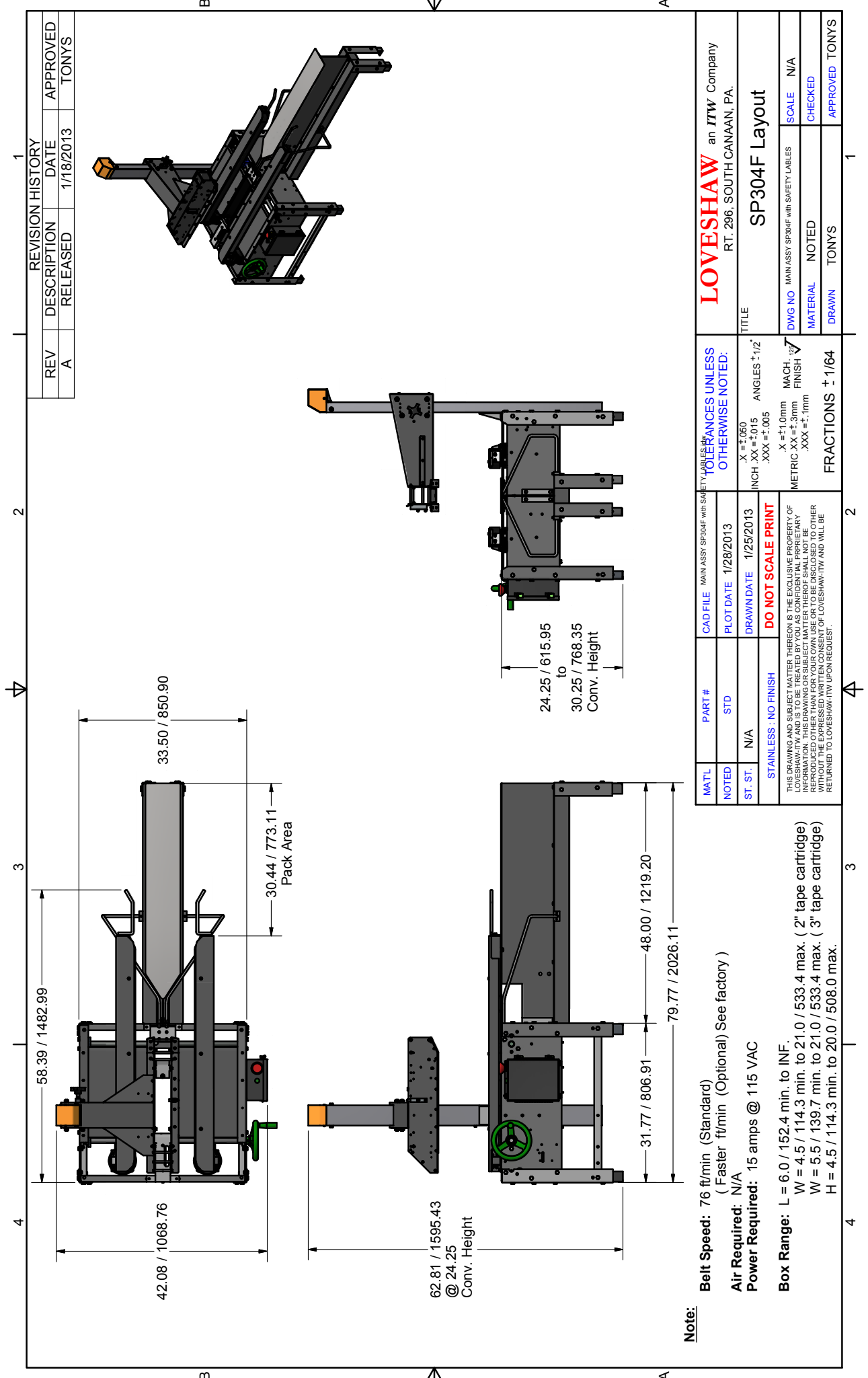
- Standard belt speed: 76 ft/min
-

Air Requirement:

- N/A

Machine box capacity:

- Length: - 6” to infinite
 - Width: - 4.50” to 21” (2" tape cartridge)
 - Width: - 5.50" to 21" (3" tape cartridge)
 - Height: 4.50” to 20”
-



Installation

Always check for any signs that the machine may have been damaged before fully removing it from the shipping skid. If machine arrives damaged contact Loveshaw immediately to help in filing a claim with shipping company.

Section 1: Placing the Machine

The case sealer is fully assembled and ready for operation.

Step One: Carefully remove the machine from the shipping skid. Remove all fasteners and brackets holding the machine to the skid.

Step Two: *Take care removing the machine from the skid as it weighs 260 pounds! Use a forklift or similar device to complete this task*

Step Three: Move machine to designate location. It may be necessary to adjust the conveyor height of the machine. The legs on the machine are adjustable by loosening the leg clamping hardware and moving the leg to its proper position. The use of a jack or forklift is required.

Theory of Operation

SP304F

The SP304F needs to be manually adjusted for the width and height of the box to be sealed.

With the machine off, a box will need to be placed between the side belt arms. Rotate the hand wheel to adjust the side belt drives out. Raise the head assembly by losing the lock knob on the side of the head weldment. With the lock knob loose lift the head assembly till it clears the box then rotate the lock knob to lock the head in place.

(NOTE: Do not place the box on top or under cartridge while adjusting drives or head assembly. Damage may result.)

While holding the box in placed between the side belt drives turn the hand wheel till the side belt drives grip the box. Fold all four top flaps of the box, holding them down unlock and then lower the head assembly till it is just resting on top of the box then lock the head in place with head lock knob.

Start machine and the box will be pulled through with the side belt drives and exit the machine. It may be necessary to increase the side belt drive tension if the box stalls. Rotate the hand wheel to increase drive pressure. **(NOTE: Excess pressure will cause box damage and to little will cause box to stall.)**

Key design features:

The SP304F is a uniform manual adjusted extended side belt case sealer with counter balanced head assembly.

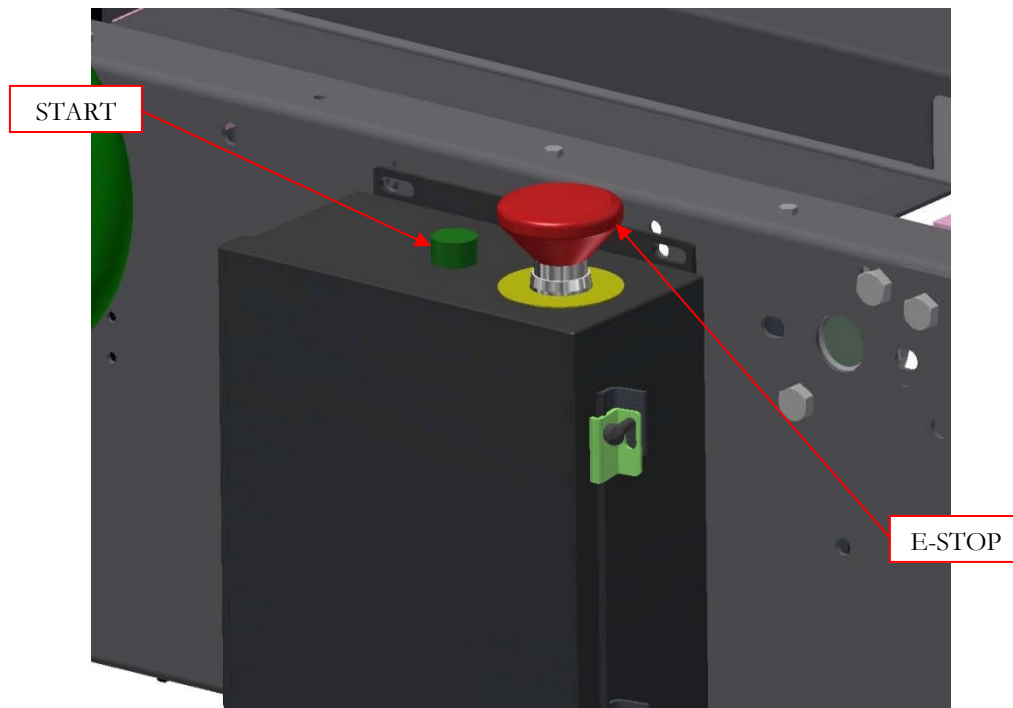
Some of the key features are.

- Self tracking industrial grade endless belts.
 - Extended drive to pull case through folding area.
 - Easy access internal mounted side belt tensioners.
 - Adjustable rear pinch point guards.
 - 2" to 3" tape cartridge capability (Fill plates and hardware required for change from 3" to 2" in base. Head assembly requires longer head shafts from 2" to 3".
 - Internal mounted and guarded constant force spring used to balance the weight on head weldment.
 - Roller bearings on mast assembly for long life and smooth vertical movement.
 - Head lock knob designed for quick adjustment of head height and positive locking ability.
-

Machine Components

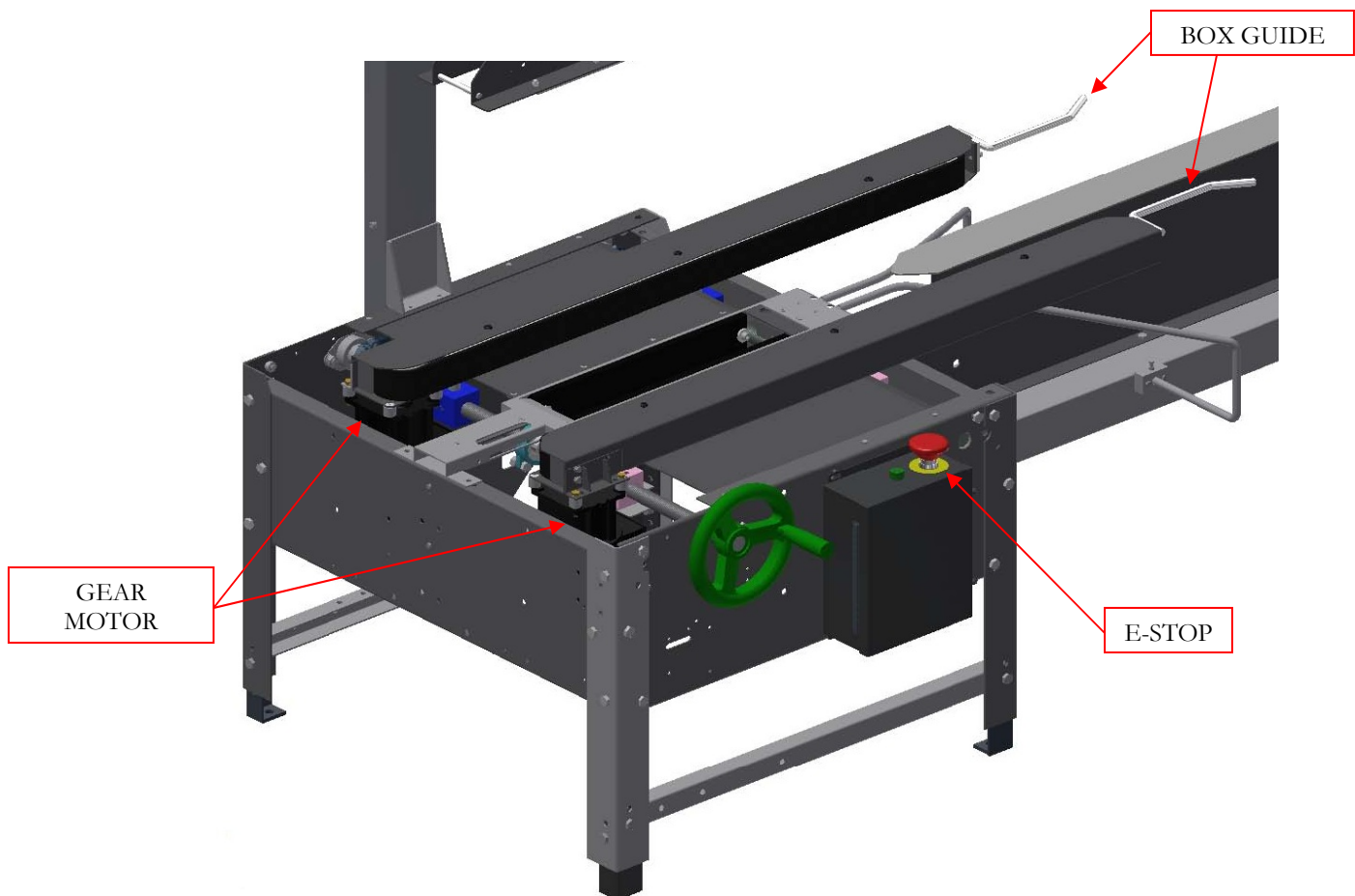
Control Station / Electrical Enclosure

The control station consist of an electrical enclosure, push pull mushroom head emergency stop switch and a momentary start pushbutton with motor overload relay.



Side Belt Drive Assembly

The side drive assembly consist of (2) 1/6 hp gear motor, idler, tension assembly, box guides and endless, guided, rough top belting. The side belt drive assembly, assist in conveying the box forward through the machine. The side belt drive assembly insures that tall unstable boxes will not topple over as they process through the machine. The endless rough top belt has an integral guide rib on the back of it. This guide eliminates any sophisticated apparatus to track the belt. The endless belt feature has increased longevity over conventional laced belting. The tensioner when adjusted maintains the tension on the drive roller.

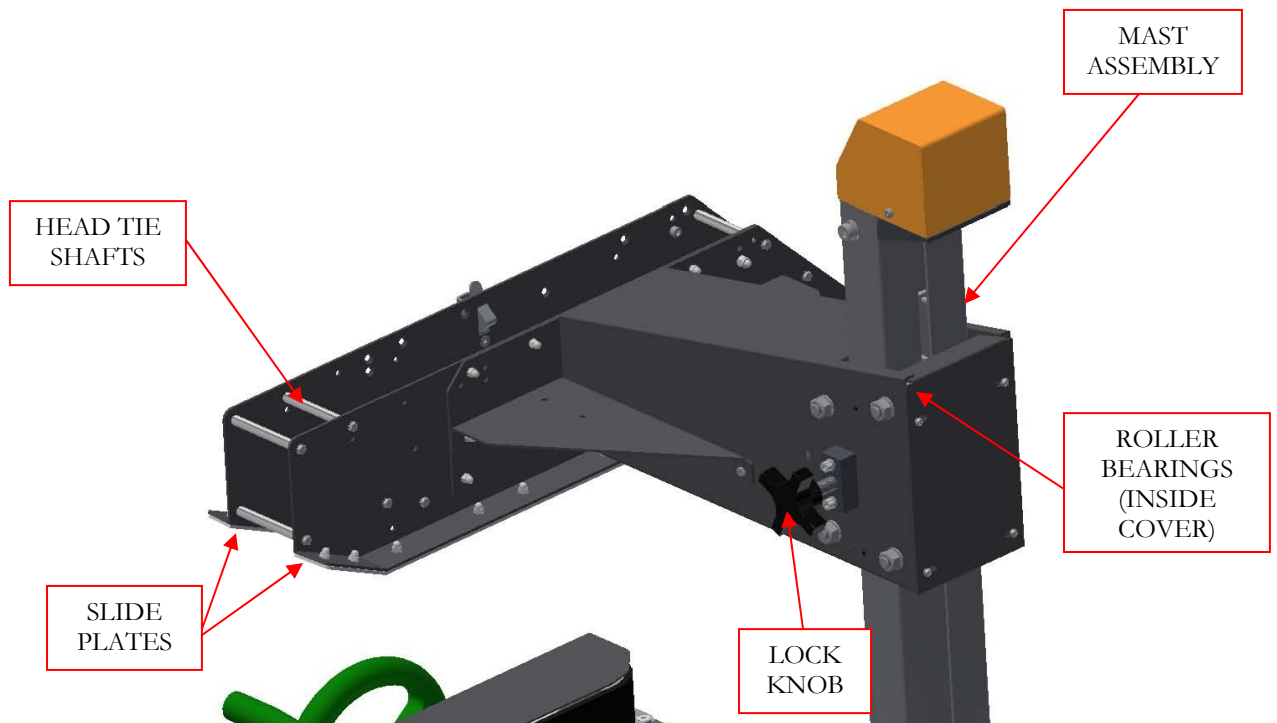


Head Weldment & Mast Assembly

The head weldment assembly consists of a sheet metal weldment, roller bearings, slide plates and locking knob. The weldment can be converted to a 2" wide or 3" wide cartridge cavity by changing the tie shafts. The horizontal surface that contact the box is made of a low friction plastic that provides a long wear surface.

Internal sealed roller bearings and low friction slide plates provide smooth vertical head weldment travel on the mast assembly.

The mast assembly is made up of a vertical structural tube, constant force spring assembly, spring mount bracket and guard.



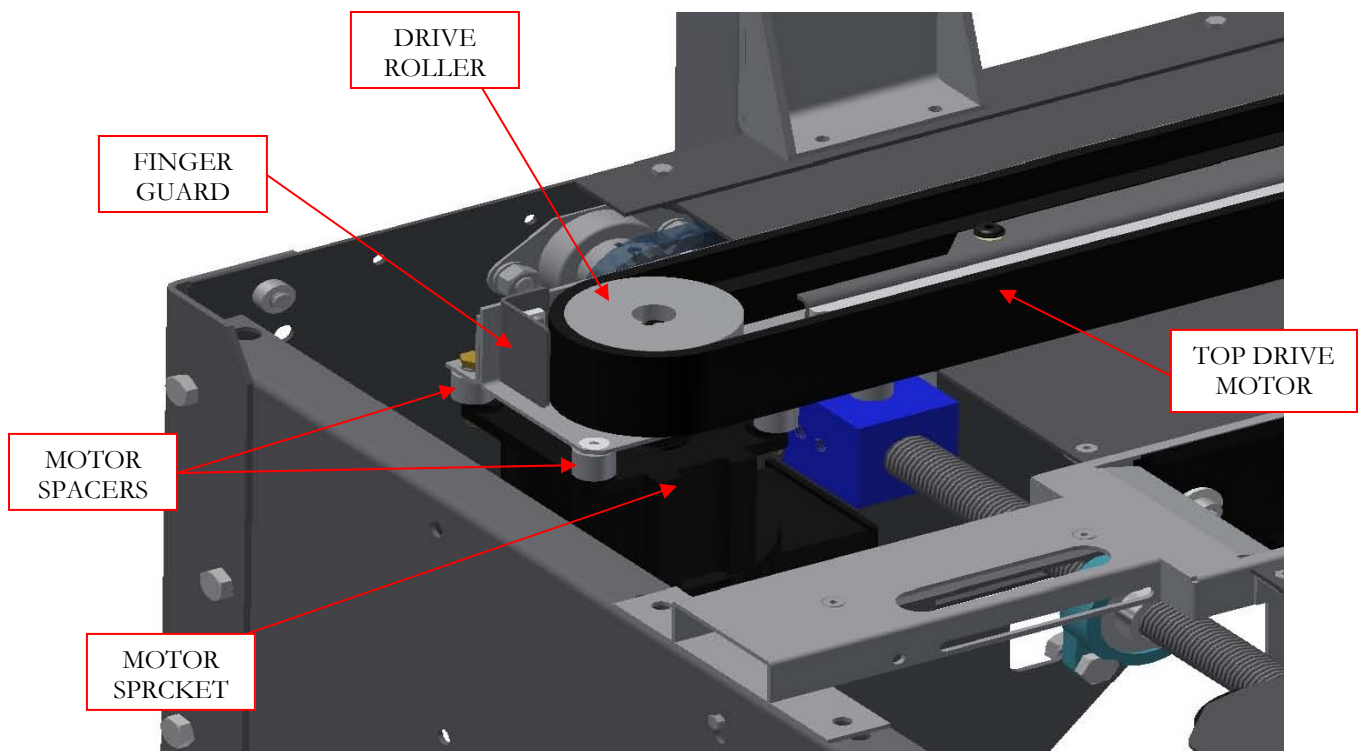
Maintenance

Safety: NEVER perform any maintenance on the LD3SBF without first following your company's **LOCK OUT / TAG OUT** procedures.

Replacing Side Belt Gear motor

1. Disconnect electrical or unplug machine.
2. Remove side belt drive guard.
3. Loosen belt by turning locking nut on bottom side of belt arm. When loosen remove tension by loosening lock nut and turning jacking bolt towards the center of belt arm. This will remove tension from belt.
4. Loosen hardware at rear of belt arm for finger guard. This will allow the guard to be moved out of the way and remove the provide clearance to remove the endless belts..
5. Note height of drive roller on drive shaft for reinstall. Turn drive roller to access (2) set screws. Loosen (2) set screws and remove drive roller and key.
6. Locate motor wire. It may be necessary cut a few wire ties to allow some slack in the line when removing the motor. Note there location for replacement later.
7. Remove motor mounting screws completely then remove motor and motor spacers.

8. Rewire replacement motor and replace it with the four mounting
9. Replace wire ties on motor cable. Make sure to leave room for side belt to travel in/out.
10. With height note from removal reinstall drive roller and key.
11. Install endless belt and tighten tensioner. DO NOT over tighten this may cause damage to idler assembly or belt.
12. Adjust finger guard so the belt will not rub it but maintains a 1/32" clearance.
13. Replace top drive guard.
14. Re-connect electrical supply or plug in machine and run as normal.



Machine Maintenance:

Daily----- Clean machine (as required)

Inspect side belt drives.

Weekly---- Check / Adjust side belt tensioner

Inspect area around gear motors

Inspect belt idlers

Adjust finger guards for belts (as required)

Monthly---- Check / Adjust head wear pads

Cartridge Maintenance: Refer to cartridge area of manual

Constant force spring removal and installation procedure for internally mounted spring

6/20/06 Rev. 1

1 of 3

The following are step by step instructions for the removal and installation of the internally located constant force spring assembly.

SPECIAL NOTE:

Follow proper lock out/tag out procedures and use proper PPE (personal protection equipment) Example: safety glasses and protective gloves.

Figure 1:
Locate spring
cover
at top of mast
assembly



Figure 4:
Loosen and
remove spring
bracket hardware.

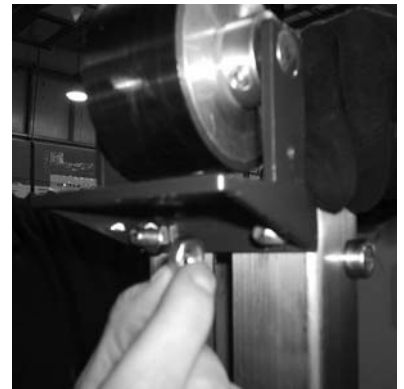


Figure 2:
Loosen and remove
hardware holding
spring cover.
(1) located near side
(1) located far side

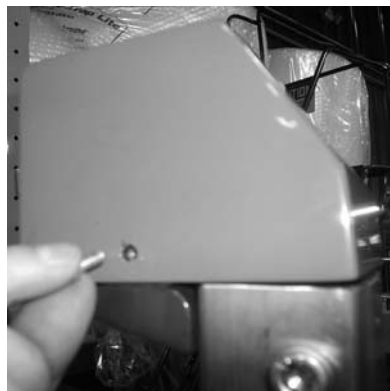


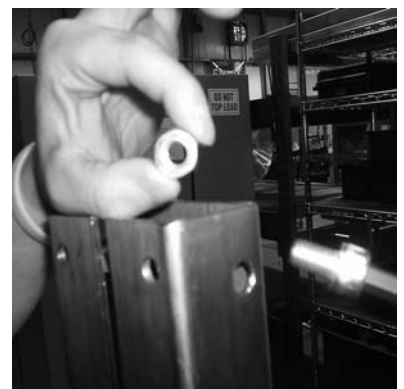
Figure 5:
Remove spring
bracket assembly
from top of mast.



Figure 3:
Remove spring
cover from
mast assembly
exposing spring.



Figure 6:
Remove head stop
hardware from mast.
(1) located near side
(1) located far side



Constant force spring removal and installation procedure for internally mounted spring

6/20/06 Rev. 1

2 of 3

Figure 7:
Slide head upward until
spring is forced
outside of mast.



Figure 11:
Reassemble new
constant force
spring assembly.



Figure 8:
Slide head up to
expose spring mount
hardware. Then lock
in place using lock
knob on the side of
head weldment.



Figure 12:
Insert spring shaft
thru spring drum
and center with
a set collar on
each side.

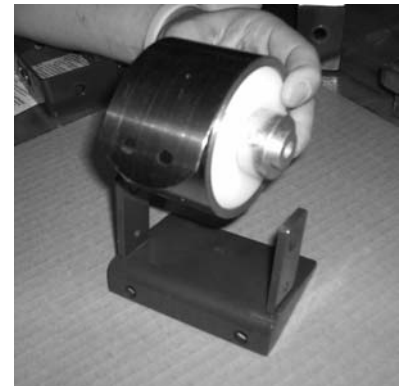


Figure 9:
Remove hardware
that holds spring
in place.

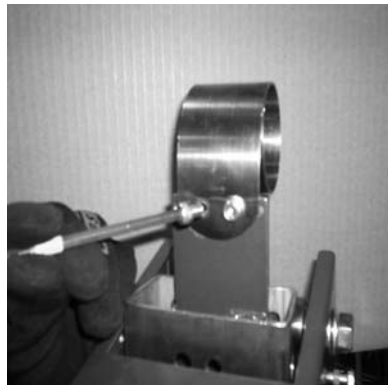


Figure 13:
Insert constant force
spring assembly into
spring bracket.
The spring should be
facing the rear of
the bracket as shown.



Figure 10:
Remove spring from
spring/actuator
bracket.



Figure 14:
Attach new spring
bracket assembly to
top of mast.



Constant force spring removal and installation procedure for internally mounted spring

6/20/06 Rev. 1

3 of 3

Figure 15:

Pivot spring in place
to line up with
spring/actuator
bracket and
reinstall hardware.



Figure 16:

Reinstall head stop
hardware in mast
assembly.
(1) near side
(1) far side



Figure 17:

Reinstall spring
cover.
(1) bolt near side
(1) bolt far side.

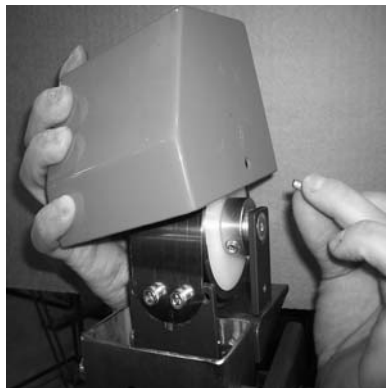


Figure 18:

Assembly is complete.
Adjust head and run
machine as normal.



Troubleshooting:

PROBLEM	CAUSE	CORRECTIVE ACTION
Machine will not start.	Emergency stop switch(s) activated either control box or top head assembly. No incoming power. Defective start pushbutton	Check that both E-stop switches are not engaged. Check machine fuses and plant receptacle. Re-place pushbutton.
Box jamming in machine.	Box is out of range of machine. Box is voided and head is crushing it. Tape cartridge problems. Side belt drive belting worn.	Do not run out of spec box. Adjust head balance regulator. Check tape cartridge troubleshooting. Replace drive belts.
Top head assy. won't move.	Lock knob engaged Guide bearing / wear pad tight.. Head lifting spring failure.	Check that lock knob is not engaged. Adjust guide bearing / wear pads. Replace head lifting spring.
Side drive will not move.	Adjustment chain broken. Side drive screw binding.	Check that chain and adjust. Grease adjustment screw.
Drive belts are slipping.	Belts are not tensioned. Belts are worn.	Adjust tensioner until spring is collapsed. Replace drive belts.

Warranty:

CASE SEALER, CUSTOM & SPECIAL APPLICATIONS

Little David® Warranty

For: All Standard Little David® Semi-Automatic Case Sealers.
All Standard LD-16 Series Fully Automatic Case Sealers.

All Special Application Case Sealers (Fully & Semi Automatic).

2 YEAR WARRANTY ON DRIVE MOTOR

2 YEAR WARRANTY ON GEAR MOTOR

2 YEAR WARRANTY ON GEAR REDUCER

3 YEAR WARRANTY ON TAPE CARTRIDGE

(EXCEPT FOR MOVING PARTS THAT ARE SUBJECT TO NORMAL WEAR, TEAR AND REPLACEMENT WHICH ARE WARRANTED ONLY TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP.)

1 YEAR ON PLC

1 YEAR ON SERVO DRIVE

1 YEAR ALL OTHER PARTS

Except for wear and moving parts.

*LIMITED WARRANTY – **LOVESHAW**, an **ITW** COMPANY (HEREIN AFTER "**LOVESHAW**")

WARRANTS ONLY THAT THE GOODS SOLD BY IT SHALL BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP, UNDER PROPER AND NORMAL USE AND MAINTENANCE,

AS FOLLOWS:

<u>DRIVE MOTOR</u> -	2 YEARS
<u>GEAR REDUCER</u> -	2 YEARS
<u>GEAR MOTOR</u> -	2 YEARS (THIS APPLIES TO SIDE BELTS ONLY)
<u>TAPE CARTRIDGE</u> -	3 YEARS (EXCEPT FOR MOVING PARTS AND PARTS WHICH ARE SUBJECT TO NORMAL WEAR, TEAR AND REPLACEMENT WHICH ARE WARRANTED ONLY TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP);
<u>PLC</u> -	1 YEAR
<u>SERVO DRIVE</u> -	1 YEAR
<u>ALL OTHER PARTS</u> -	1 YEAR (EXCEPT FOR MOVING PARTS AND PARTS, WHICH ARE SUBJECT TO NORMAL WEAR, TEAR AND REPLACEMENT WHICH ARE WARRANTED ONLY TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP).

THE WARRANTY PERIOD SHALL COMMENCE AS OF THE DATE OF DELIVERY TO THE PURCHASER. THE

OBLIGATION OF **LOVESHAW** UNDER THIS WARRANTY IS STRICTLY LIMITED TO THE COST OF REPAIRING OR REPLACING, AS **LOVESHAW** MAY ELECT, ANY PART OR PARTS THAT PROVE IN **LOVESHAW'S** JUDGMENT TO HAVE BEEN DEFECTIVE IN MATERIAL OR WORKMANSHIP AT THE TIME THE GOODS WERE SHIPPED FROM **LOVESHAW'S** PLANT. ANY WARRANTY CLAIM NOT MADE IN WRITING TO **LOVESHAW** AT ITS HOME OFFICE WITHIN THE APPLICABLE WARRANTY PERIOD AND WITHIN 10 DAYS OF FAILURE WILL NOT BE VALID. THIS IS THE SOLE AND EXCLUSIVE REMEDY AVAILABLE UNDER THIS WARRANTY. UNDER NO CIRCUMSTANCES WILL **LOVESHAW** BE LIABLE FOR INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES.

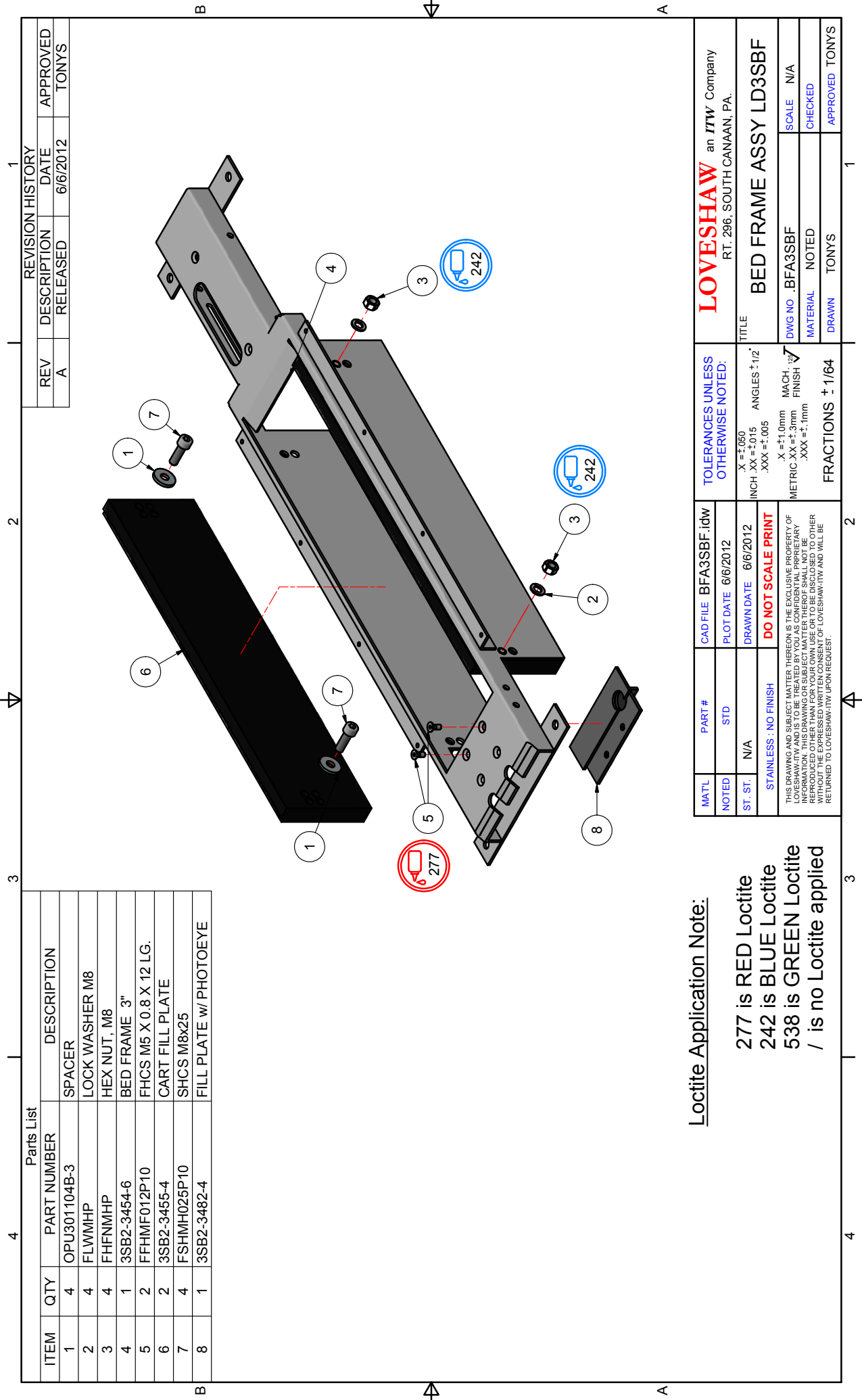
IF REQUESTED BY **LOVESHAW**, PURCHASER SHALL RETURN ANY DEFECTIVE PART OR PARTS TO **LOVESHAW'S** PLANT, FREIGHT PREPAID. ALL WARRANTY PART REPLACEMENT AND REPAIRS MUST BE MADE BY **LOVESHAW** OR A **LOVESHAW** DEALER AUTHORIZED TO HANDLE THE GOODS COVERED BY THIS WARRANTY. ANY OUTSIDE WORK OR ALTERATIONS DONE WITHOUT **LOVESHAW'S** PRIOR WRITTEN APPROVAL WILL RENDER THIS WARRANTY VOID. **LOVESHAW** an **ITW** COMPANY WILL NOT ASSUME ANY EXPENSE OR LIABILITY FOR ANY REPAIRS MADE TO ITS GOODS OUTSIDE ITS WORKS WITHOUT ITS PRIOR WRITTEN CONSENT. THIS WARRANTY SHALL NOT APPLY TO ANY ITEM THAT HAS NOT BEEN USED, OPERATED, AND MAINTAINED IN ACCORDANCE WITH **LOVESHAW'S** RECOMMENDED PROCEDURES. **LOVESHAW** SHALL HAVE NO LIABILITY WHATSOEVER WHERE THE GOODS HAVE BEEN ALTERED, MISUSED, ABUSED OR INVOLVED IN AN ACCIDENT.

NO PERSON IS AUTHORIZED TO MAKE ANY WARRANTY OR TO CREATE ANY LIABILITY BINDING UPON **LOVESHAW**, WHICH IS NOT STATED IN THIS WARRANTY. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES OF ANY KIND, EXPRESSED OR IMPLIED, WHICH ARE HEREBY EXCLUDED. IN PARTICULAR, THE IMPLIED WARRANTY OF MERCHANTABILITY, AS WELL AS THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY EXCLUDED.

LOVESHAW

an **ITW** Company
2206 Easton Turnpike, South Canaan,, PA 18459
570.937.4921 - 800.572.3434 - FAX 570.937.3229

ASSEMBLY DRAWINGS AND SCHEMATICS



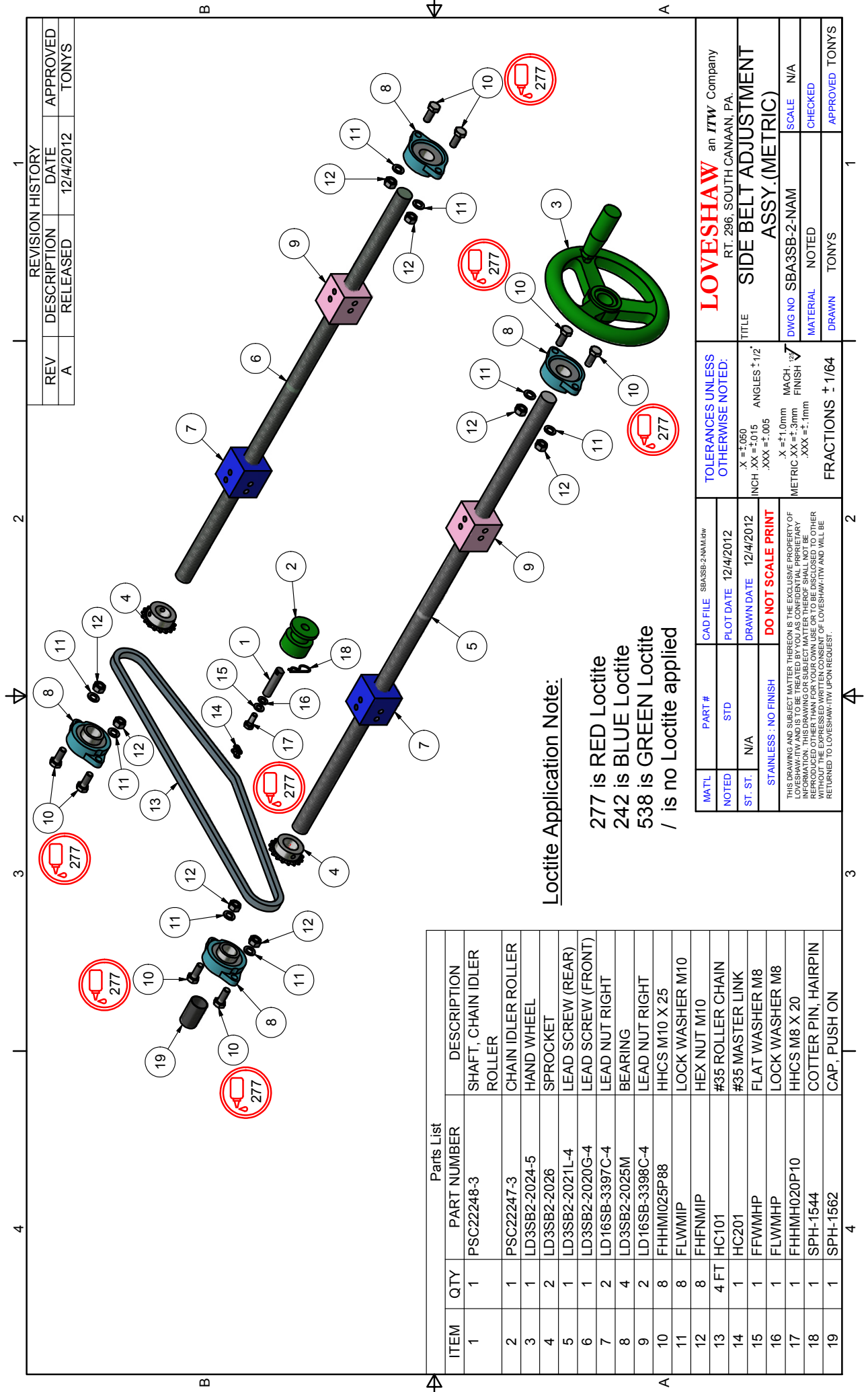
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1	4	OPU301104B-3	SPACER	A	6/6/2012
2	4	FLWMHP	LOCK WASHER M8		
3	4	FHFNHMP	HEX NUT, M8		
4	1	3SB2-3454-6	BED FRAME 3"		
5	2	FFHMF012P10	FHCS M5 X 0.8 X 12 LG.		
6	2	3SB2-3455-4	CART FILL PLATE		
7	4	FSHMH025P10	SHCS M8x25		
8	1	3SB2-3482-4	FILL PLATE w/ PHOTOEYE		

REV	DESCRIPTION	DATE	APPROVED
A	RELEASED	6/6/2012	TONYS

Loctite Application Note:

- 277 is RED Loctite
- 242 is BLUE Loctite
- 538 is GREEN Loctite
- / is no Loctite applied

MATL		PART #	CAD FILE	BFA3SBF.idw	TOLERANCES UNLESS OTHERWISE NOTED:		LOVESHAW an ITW Company RT. 296, SOUTH CANAAN, PA.	
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							DRAWN TONY'S	
							CHECKED	
							SCALE N/A	
							APPROVED TONY'S	



Loctite Application Note:

277 is RED Loctite
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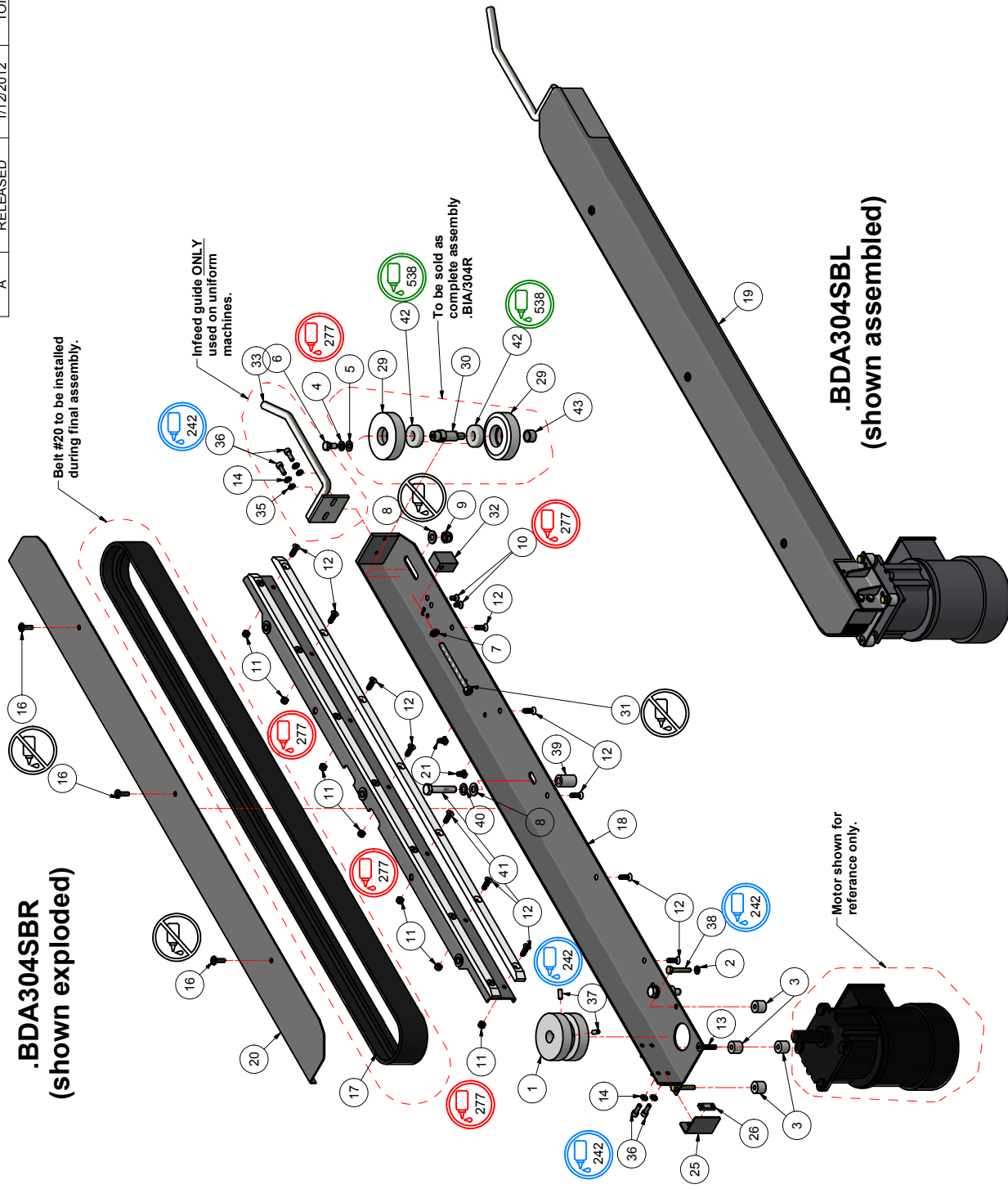
Parts List			
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2	1	PSC22247-3	CHAIN IDLER ROLLER
3	1	LD3SB2-2024-5	HAND WHEEL
4	2	LD3SB2-2026	SPROCKET
5	1	LD3SB2-2021L-4	LEAD SCREW (REAR)
6	1	LD3SB2-2020G-4	LEAD SCREW (FRONT)
7	2	LD16SB-3397C-4	LEAD NUT RIGHT
8	4	LD3SB2-2025M	BEARING
9	2	LD16SB-3398C-4	LEAD NUT RIGHT
10	8	FHMI025P88	HHCS M10 X 25
11	8	FLWMIP	LOCK WASHER M10
12	8	FHFNMP	HEX NUT M10
13	4 FT	HC101	#35 ROLLER CHAIN
14	1	HC201	#35 MASTER LINK
15	1	FFWMHP	FLAT WASHER M8
16	1	FLWMHP	LOCK WASHER M8
17	1	FHMH020P10	HHCS M8 X 20
18	1	SPH-1544	COTTER PIN, HAIRPIN
19	1	SPH-1562	CAP, PUSH ON

REVISION HISTORY			
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DWG NO SBA3SB-2-NAM		X = ±1.0mm MACH. FINISH METRIC XX = ±.3mm .XXX = ±.1mm	
MATERIAL		NOTED	
DRAWN		TONYS	
FRACTIONS ± 1/64		CHECKED	
1		APPROVED TONY'S	

Parts List				REVISION HISTORY			
ITEM	QTY	PART NUMBER	DESCRIPTION	REV	DESCRIPTION	DATE	APPROVED
1	2	LD3SB2-2005A-4	DRIVE ROLLER	A	RELEASED	1/12/2012	TONYS
2	6	FLWSDP	LOCK WASHER 1/4				
3	8	K26SB	SPACER				
4	2	FLVMHP	LOCK WASHER M8				
5	2	FLVMHP	LOCK WASHER M8				
6	2	FHHM016P10	HHCS M8 X 16				
7	2	FHJNMHP	HEX JAM NUT, M8, PLATED				
8	2	FFVMMP	FLAT WASHER M10				
9	2	FNLNMP	NYLOCK NUT M10				
10	4	FFHMG012P10	FHCS M8x12 LG.				
11	28	FNLNMG	NYLOCK NUT M6				
12	38	FFHMG020P10	FHCS M6 x 20				
13	2	FFHSG125S08	FLAT HD 1/4-28 UNF x 1 1/4 LG. S.S.				
14	12	FLWMGP	LOCK WASHER M6				
16	6	SPH-1404	screw M6x20mm LG.				
17	2	PSX2208-4	ENDLESS BELT				
18	1	3SB2-3474R-6	BELT ARM				
19	1	3SB2-3474L-6	BELT ARM				
20	2	3SB2-3472-5	BELT ARM COVER				
21	4	SPH-1420	CABLE TIE HOLDER (PUSH STYLE)				
25	2	3SB2-3473-3	FINGER GUARD				
26	2	3SB2-3475-3	GUARD NUT PLATE				
27	4	3SB2-3477-4	BELT RUB STRIP				
28	2	3SB2-3476-4	BELT BACKER				
29	4	3SB2-3480A-4	IDLER ROLLER				
30	2	3SB2-3481A-4	IDLER SHAFT				
31	2	3SB2-3479-3	STUD JACKING				
32	2	3SB2-3478-3	BLOCK JACKING				
33	1	3SB2-2010R-5	BOX GUIDE				
34	1	3SB2-2010L-5	BOX GUIDE				
35	4	FFWMGP	FLAT WASHER M6				
36	4	FHHMG016P10	SHCS M6x16 LG.				
37	4	FSSMG016B10	SET SCREW M6 X 16 LG.				
38	3	FHHSG150P08	HH 1/4-28 x 1 1/2" LG.				
39	2	LD16SB-3399E-3	SPACER				
40	2	FLVMIP	LOCK WASHER M10				
41	2	FHHM050P88	HHCS M10 X 50				
42	4	BRG-2024	BEARING				
43	2	3SB2-3467C-3	SHAFT SPACER				

.BDA304SBR (shown exploded)



.BDA304SBL (shown assembled)

Loctite Application Note:

- 277 is RED Loctite
- 242 is BLUE Loctite
- 538 is GREEN Loctite
- / is no Loctite applied

MATL	PART #	CAD FILE	BDA304SBL.dwg	LOVESHAW an ITW Company
NOTED	STD	PLOT DATE	1/12/2012	RT. 286, SOUTH CANAAN, PA.
ST. ST.	N/A	DRAWN DATE	1/12/2012	TITLE
STAINLESS, NO FINISH				BELT ARM ASSEMBLY
TOLERANCES UNLESS OTHERWISE NOTED:				DWG NO BDA304SBL
X ±.005				MATERIAL
INCH XX ±.015				NOTED
X ±.1.0mm				DRAWN
METRIC XX ±.3mm				TONYS
.XXX ±.1mm				APPROVED
FRACTIONS ± 1/64				TONYS

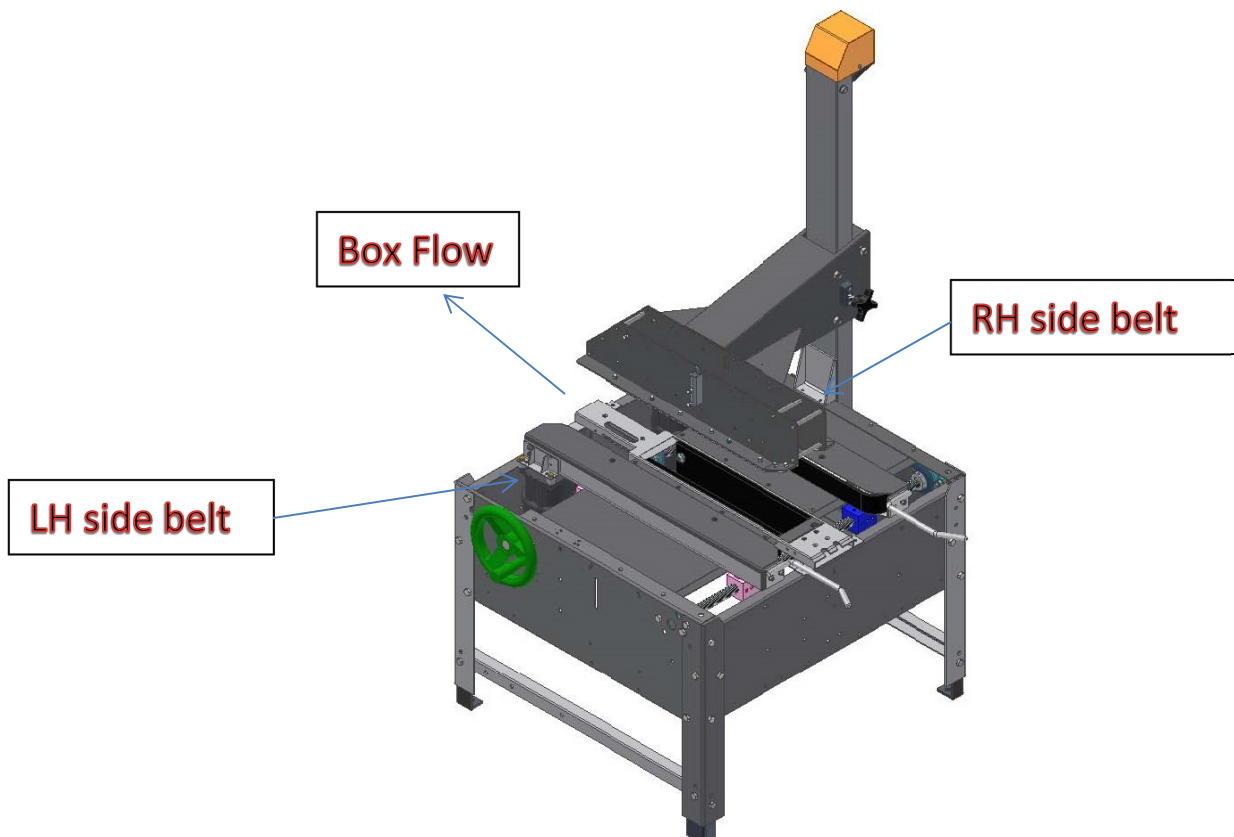
LD3SBF & SP304F Motor Selection Chart

SPECIAL NOTE:

Before ordering any sidebelt gear motors have machine Model, Serial Number and motor side location. This will help determine correct gear motor for replacement.

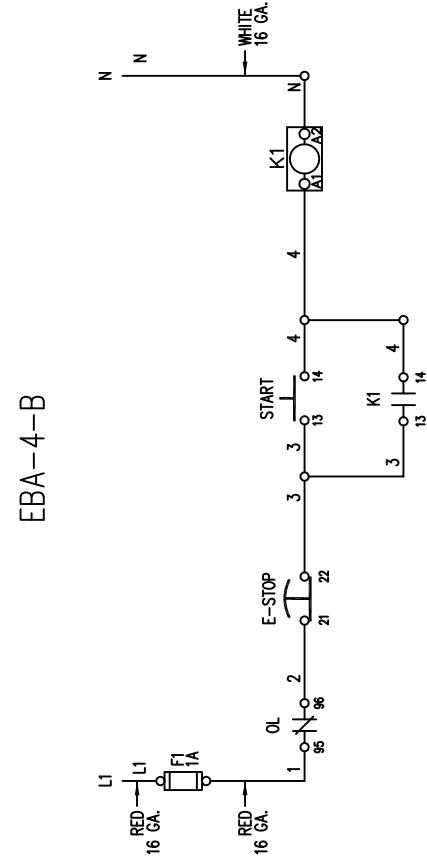
See Special Note

Motor Part #	Description	Voltage / Hz
50100-042R	Gear Motor RH	120/1/60
50100-042L	Gear Motor LH	120/1/60
50100-053	Gear Motor	240/1/50
50100-068	Gear Motor	220-440/3/50-60

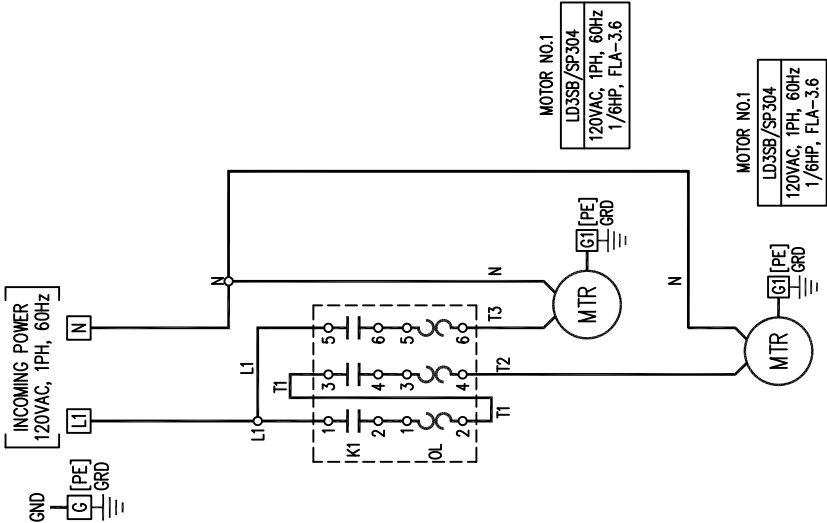


REVISION RECORD				
REV	DESCRIPTION	DATE	ATH	DR
A	RELEASED	02/13		

CUSTOMER TO SUPPLY PROPERLY PROTECTED
INCOMING POWER AS PER LOCAL CODES.



EBA-4-B

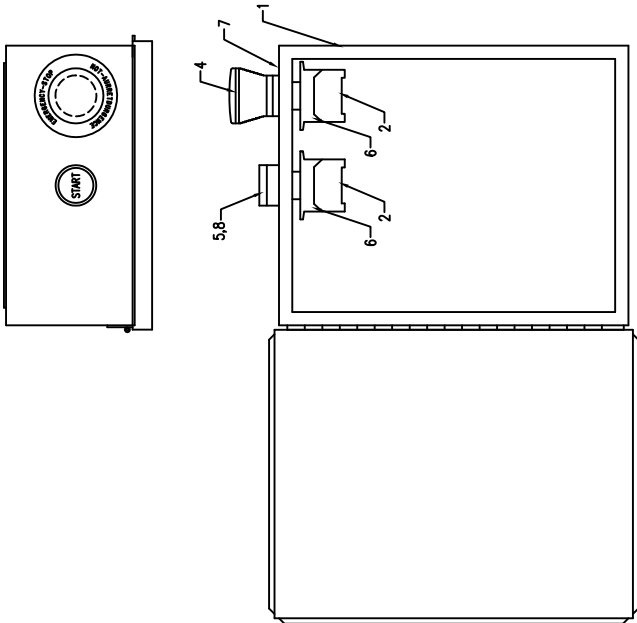


TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.			
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL SCHEMATIC EBA-4-B			
FRACTIONAL +/- 1/64	DWG. NO.ED2561		SCALE: N/A	
ANG. - 1/2°	DESIGNED: MENTA		DATE:2/1/13	
	DRAWN: WM		APPRVD: --	

REVISION RECORD

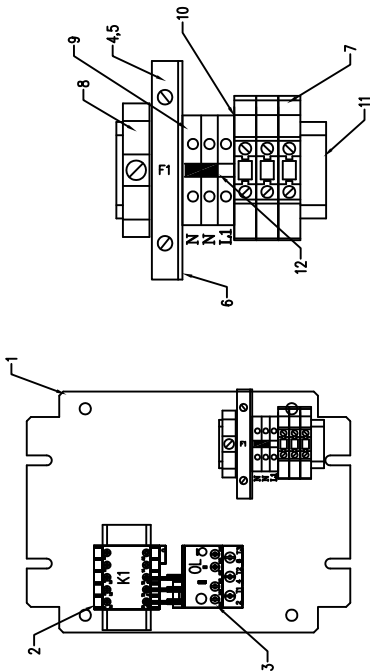
REV	DESCRIPTION	DATE	ATH	DR	CK
A	RELEASED	02/13			

LD35B / SP304 - 120/1/60 - ENCLOSURE ASSEMBLY
EEA-4-B



* ENCLOSURE SHOWN WITH DOOR OPEN FOR CLARITY

LD35B / SP304 - 120/1/60 - PANEL ASSEMBLY
EPA-4-B



PANEL ASSEMBLY BILL OF MATERIAL		
KEY	PART NO.	DESCRIPTION
1	SS1-B-R	PANEL
2	SS2-A-1	CONTACTOR
3	SS3-I-1	MOTOR OVERLOAD
4	SS5-A	1A FUSE
5	SS6-FUSE	FUSE HOLDER
6	SS6-FUSE-EB	END PIECE
7	SS6-B	EARTH TERMINAL
8	SS6-C	END CLAMP-SMALL
9	SS6-A	TERMINAL BLOCK
10	SS6-J1	END PIECE
11	SS6-L	DIN RAIL
12	SS6-D-2	2 TERMINAL JUMPER

ENCLOSURE ASSEMBLY BILL OF MATERIAL		
KEY	PART NO.	DESCRIPTION
1	SS1-A-R	ENCLOSURE 10x8x4
2	SS8-A-D7	N.O. CONTACT BLOCK
3	SS8-B-D7	N.C. CONTACT BLOCK
4	SS8-C-D7	STOP 40mm PUSH-PULL OPERATOR
5	SS8-D-D7	START PB OPERATOR
6	SS8-E-D7	COUPLING PLATE
7	SS8-F-D7	60mm YELLOW RING, W/EMERG STOP
8	SS8-G-D7	START COLOR CAP

TOLERANCES
EXCEPT
AS NOTED

DECIMAL
(3 PLC)
+/- .005

FRACTIONAL
+/- 1/64

ANG. - 1/2°

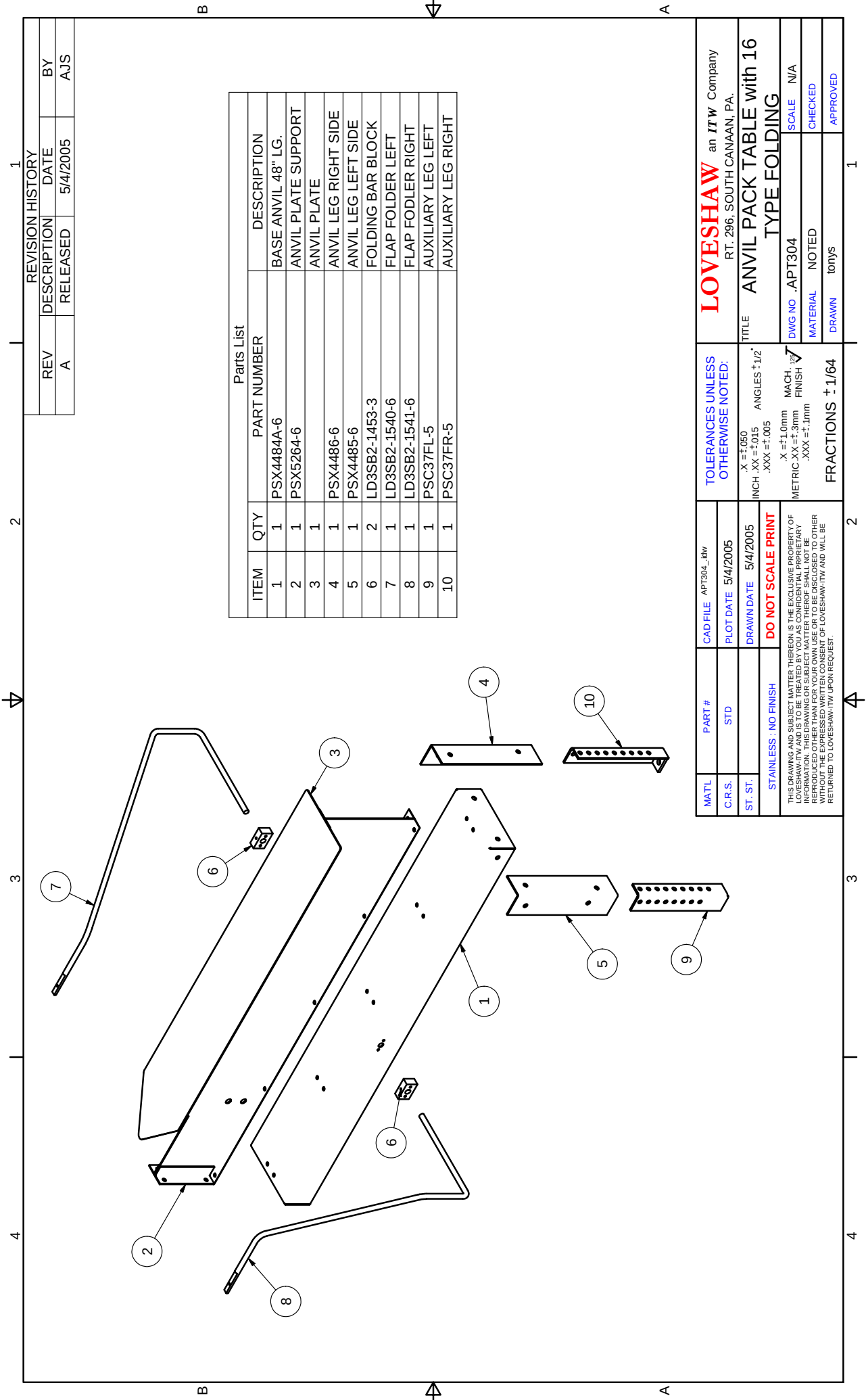
THE LOVESHAW CORPORATION
RT 296, SOUTH CANAAN, PA.

TITLE: ELECTRICAL ASSEMBLY
LD35B / SP304 - 120VAC

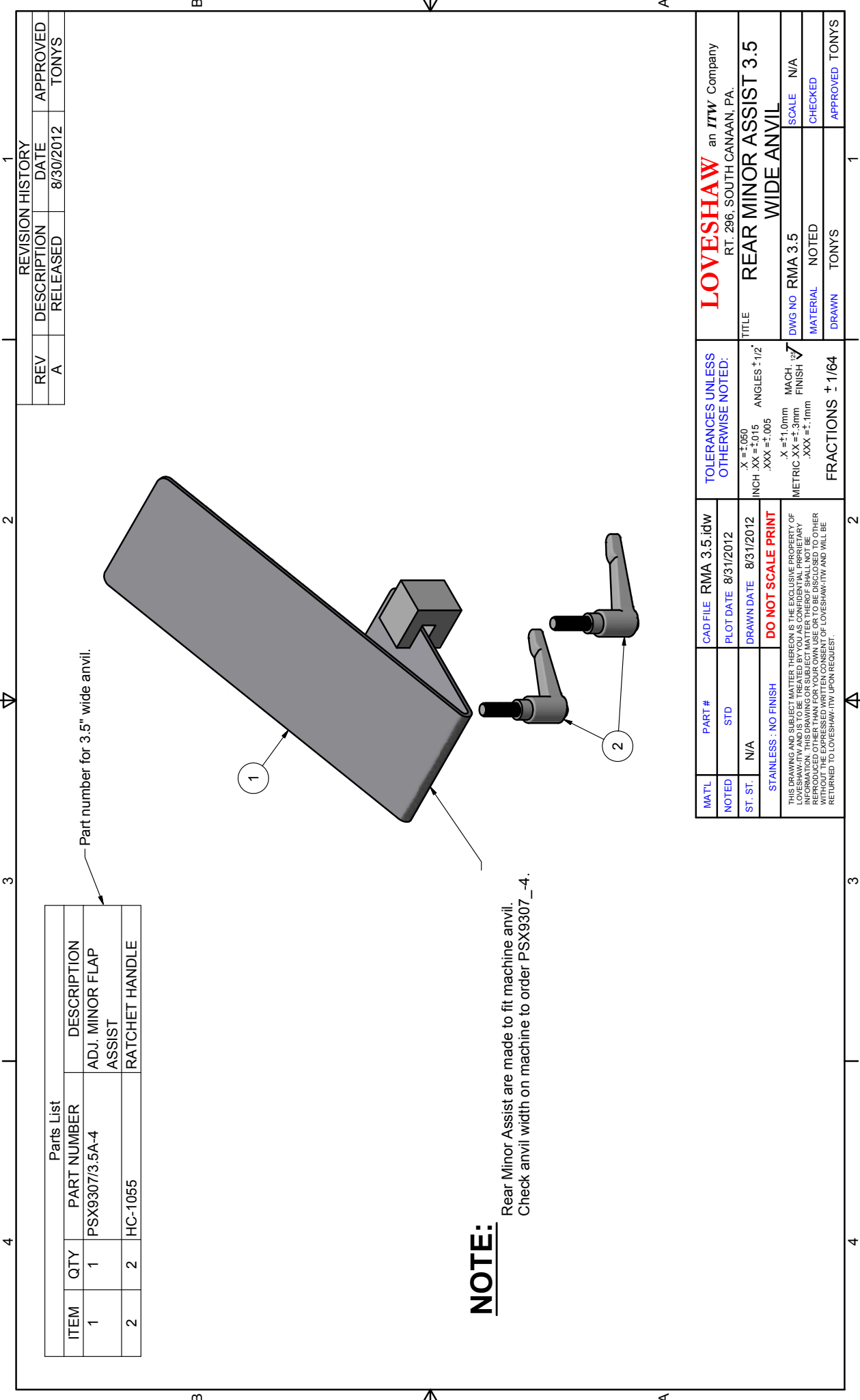
DWG. NO. ED2560
MATERIAL: N/A

DESIGNED: MENTA
DRAWN: WM
APPRVD: --

MACHINE AVAIABLE SPECIAL OPTIONS



MATL	PART #	CAD FILE	APT304_dwg	TOLERANCES UNLESS OTHERWISE NOTED:	LOVESHAW an ITW Company RT. 296, SOUTH CANAAN, PA.
C.R.S.	STD	PLOT DATE	5/4/2005	$X = \pm 1.050$ INCH $XX = \pm .015$ $XXX = \pm .005$	TITLE ANVIL PACK TABLE with 16 TYPE FOLDING
ST. ST.	STAINLESS : NO FINISH	DRAWN DATE	5/4/2005	$XXX = \pm .005$ $XXX = \pm .005$ MACH. $\pm .005$ FINISH $\pm .005$ METRIC $XX = \pm .3mm$ $XXX = \pm .1mm$	DWG NO. APT304 SCALE N/A
THIS DRAWING AND SUBJECT MATTER THEREON IS THE EXCLUSIVE PROPERTY OF LOVESHAW-ITW AND IS TO BE TREATED BY YOU AS CONFIDENTIAL PROPRIETARY INFORMATION. THIS DRAWING OR SUBJECT MATTER THEREOF SHALL NOT BE REPRODUCED OTHER THAN FOR YOUR OWN USE OR TO BE DISCLOSED TO OTHER INDIVIDUALS OR COMPANIES WITHOUT THE WRITTEN CONSENT OF LOVESHAW-ITW AND WILL BE RETURNED TO LOVESHAW-ITW UPON REQUEST.				FRACTIONS $\pm 1/64$	MATERIAL NOTED DRAWN tonys CHECKED APPROVED



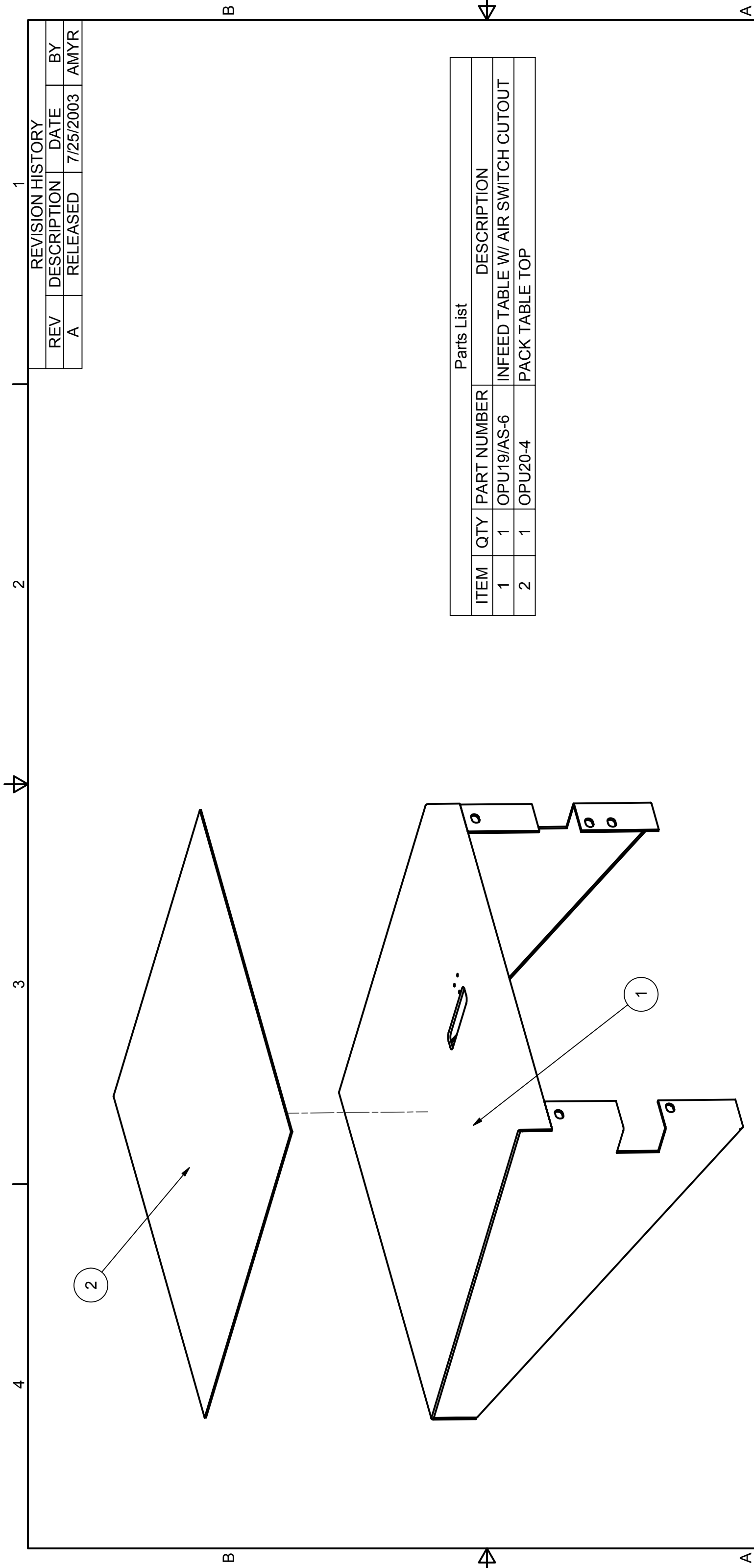
Parts List		
ITEM	QTY	DESCRIPTION
1	1	ADJ. MINOR FLAP ASSIST
2	2	RATCHET HANDLE

NOTE:

Rear Minor Assist are made to fit machine anvil.
Check anvil width on machine to order PSX9307_-4.

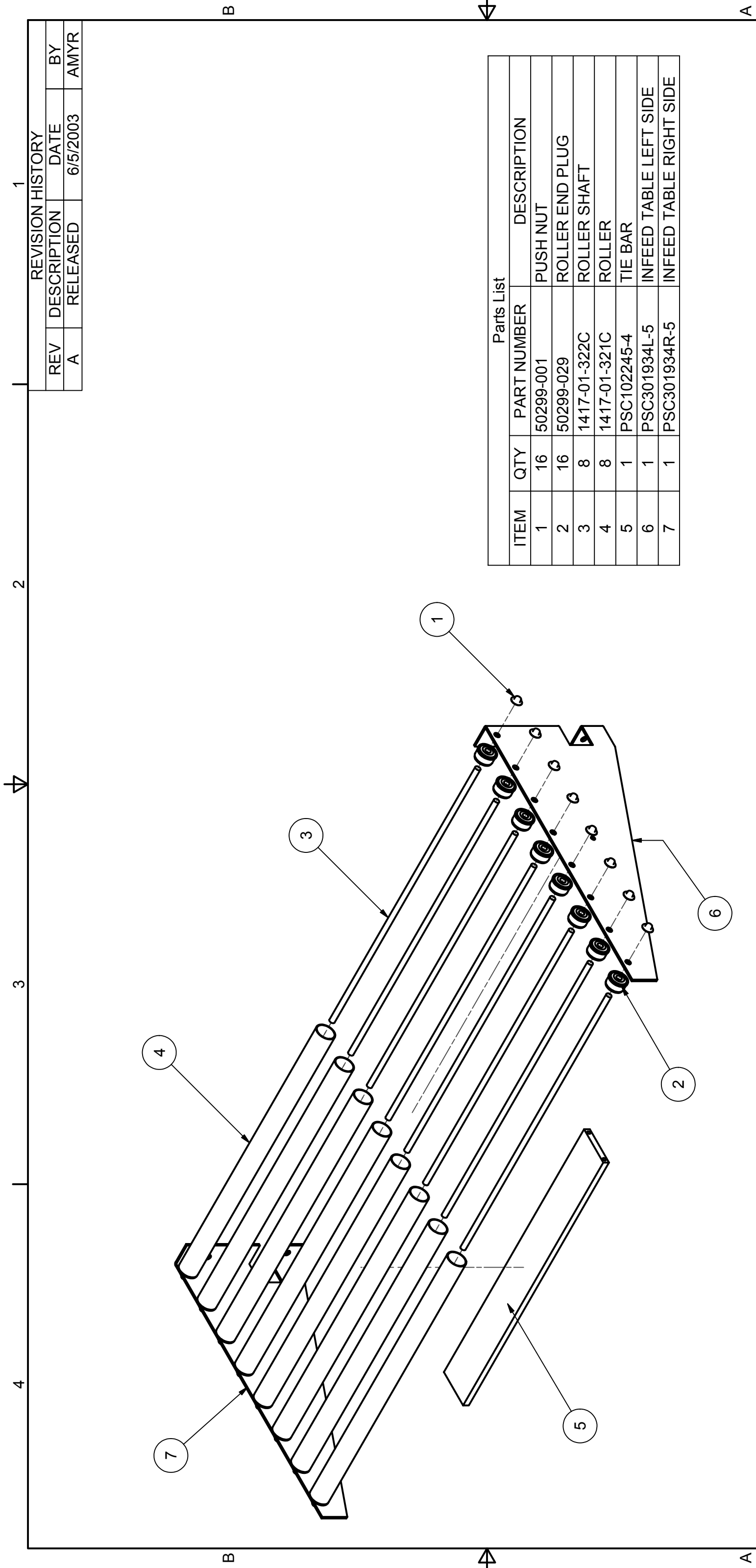
REVISION HISTORY		
REV	DESCRIPTION	DATE
A	RELEASED	8/30/2012

MATL	PART #	CAD FILE	RMA 3.5.idw	TOLERANCES UNLESS OTHERWISE NOTED:		LOVESHAW an ITW Company RT. 296, SOUTH CANAAN, PA.	
NOTED	STD	PLOT DATE	8/31/2012	X = ±.050 INCH XX = ±.015 ANGLES ± 1/2°		TITLE	
ST. ST.	N/A	DRAWN DATE	8/31/2012	.XXX = ±.005 X = ±1.0mm MACH. FINISH METRIC XX = ±.3mm XXX = ±.1mm		REAR MINOR ASSIST 3.5 WIDE ANVIL	
STAINLESS : NO FINISH				DO NOT SCALE PRINT		DWG NO RMA 3.5	
THIS DRAWING AND SUBJECT MATTER THEREON IS THE EXCLUSIVE PROPERTY OF LOVESHAW-ITW AND IS TO BE TREATED BY YOU AS CONFIDENTIAL PROPRIETARY INFORMATION. THIS DRAWING OR SUBJECT MATTER THEREOF SHALL NOT BE REPRODUCED OTHER THAN FOR YOUR OWN USE OR TO BE DISCLOSED TO OTHER PERSONS WITHOUT THE WRITTEN CONSENT OF LOVESHAW-ITW AND WILL BE RETURNED TO LOVESHAW-ITW UPON REQUEST.				FRACTIONS ± 1/64		SCALE N/A	
						MATERIAL NOTED	
						DRAWN TONY'S	
						CHECKED	
						APPROVED TONY'S	



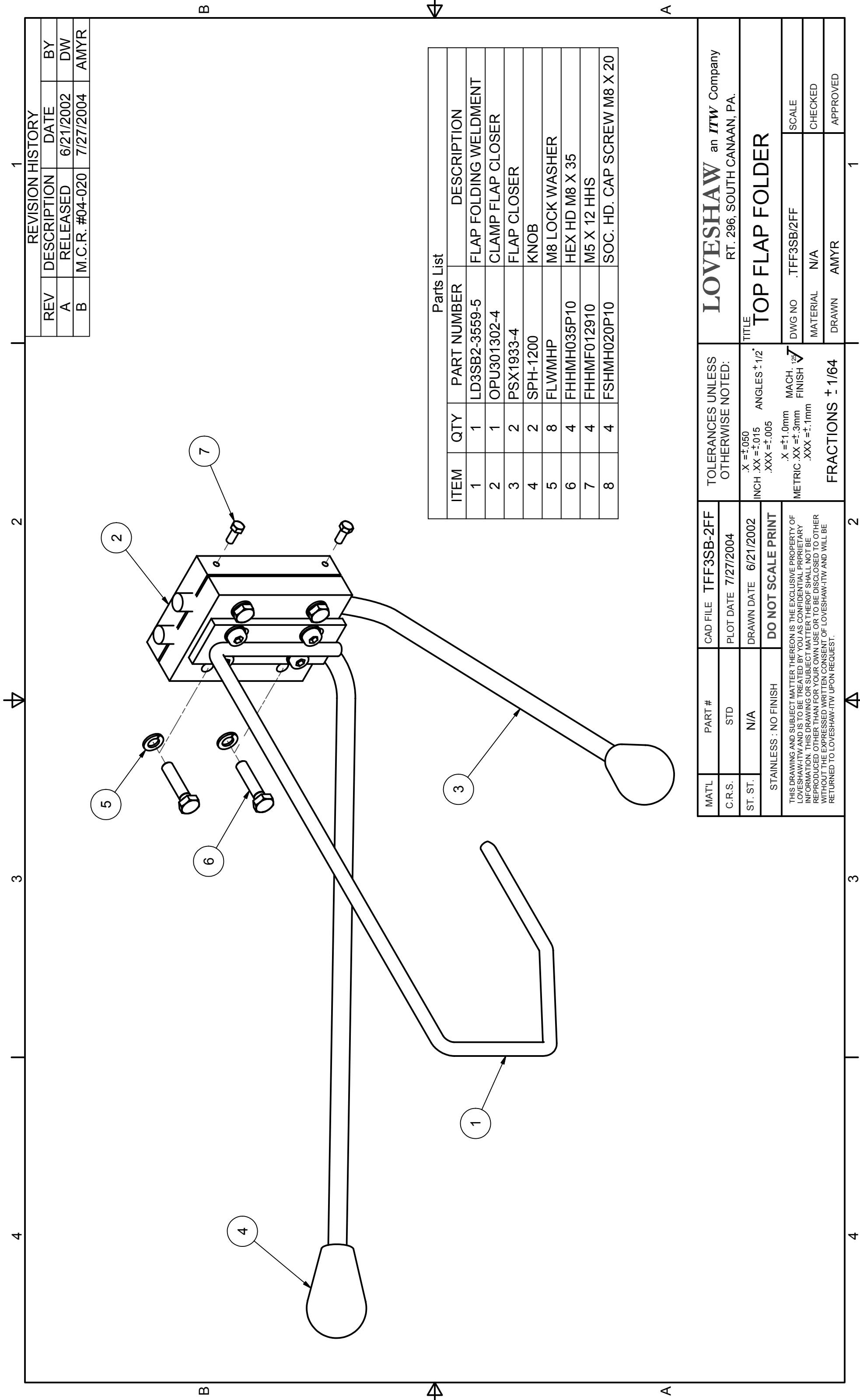
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	OPU19/AS-6	INFEED TABLE W/ AIR SWITCH CUTOUT
2	1	OPU20-4	PACK TABLE TOP

MATT'L		PART #	CAD FILE	ITA100	TOLERANCES UNLESS OTHERWISE NOTED:	LOVESHAW an ITW Company RT. 296, SOUTH CANAAN, PA.
C.R.S.		STD	PLOT DATE 7/25/2003			
ST. ST.		N/A	DRAWN DATE 7/25/2003			
STAINLESS : NO FINISH					DO NOT SCALE PRINT	
THIS DRAWING AND SUBJECT MATTER THEREON IS THE EXCLUSIVE PROPERTY OF LOVESHAW-ITW AND IS TO BE TREATED BY YOU AS CONFIDENTIAL PROPRIETARY INFORMATION. THIS DRAWING OR SUBJECT MATTER THEREOF SHALL NOT BE REPRODUCED OTHER THAN FOR YOUR OWN USE OR TO BE DISCLOSED TO OTHER WITHOUT THE EXPRESSED WRITTEN CONSENT OF LOVESHAW-ITW AND WILL BE RETURNED TO LOVESHAW-ITW UPON REQUEST.						
TITLE						INFEED TABLE ASSEMBLY
.X = ±.050 INCH .XX = ±.015 .XXX = ±.005						ANGLES ± 1/2°
.X = ±1.0mm METRIC .XX = ±.3mm .XXX = ±.1mm						MACH. ¹²⁵ FINISH ✓
FRACTIONS ± 1/64						DWG NO .ITA100 SCALE N/A MATERIAL N/A DRAWN AMYR APPROVED



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	16	50299-001	PUSH NUT
2	16	50299-029	ROLLER END PLUG
3	8	1417-01-322C	ROLLER SHAFT
4	8	1417-01-321C	ROLLER
5	1	PSC102245-4	TIE BAR
6	1	PSC301934L-5	INFEED TABLE LEFT SIDE
7	1	PSC301934R-5	INFEED TABLE RIGHT SIDE

MAT'L		PART #	CAD FILE	ITA-RB	TOLERANCES UNLESS OTHERWISE NOTED:	LOVESHAW an ITW Company RT. 296, SOUTH CANAAN, PA.							
C.R.S.		STD	PLOT DATE 4/27/2005			TITLE INFEED PACK TABLE-ROLLER BED (FOR 3SB, 3E, 2TB)	DWG NO	.ITA-RB	SCALE	N/A			
ST. ST.		N/A	DRAWN DATE 6/5/2003				MATERIAL	N/A	CHECKED				
		STAINLESS : NO FINISH				.X = ±.050 INCH .XX = ±.015 .XXX = ±.005	ANGLES ± 1/2°						
		DO NOT SCALE PRINT				X = ±1.0mm METRIC .XX = ±.3mm .XXX = ±.1mm							
THIS DRAWING AND SUBJECT MATTER THEREON IS THE EXCLUSIVE PROPERTY OF LOVESHAW-ITW AND IS TO BE TREATED BY YOU AS CONFIDENTIAL PPRIETARY INFORMATION. THIS DRAWING OR SUBJECT MATTER THEREOF SHALL NOT BE REPRODUCED OTHER THAN FOR YOUR OWN USE OR TO BE DISCLOSED TO OTHER WITHOUT THE EXPRESSED WRITTEN CONSENT OF LOVESHAW-ITW AND WILL BE RETURNED TO LOVESHAW-ITW UPON REQUEST.						MACH. 125° FINISH							
					FRACTIONS ± 1/64								
										DRAWN	AMYR		APPROVED

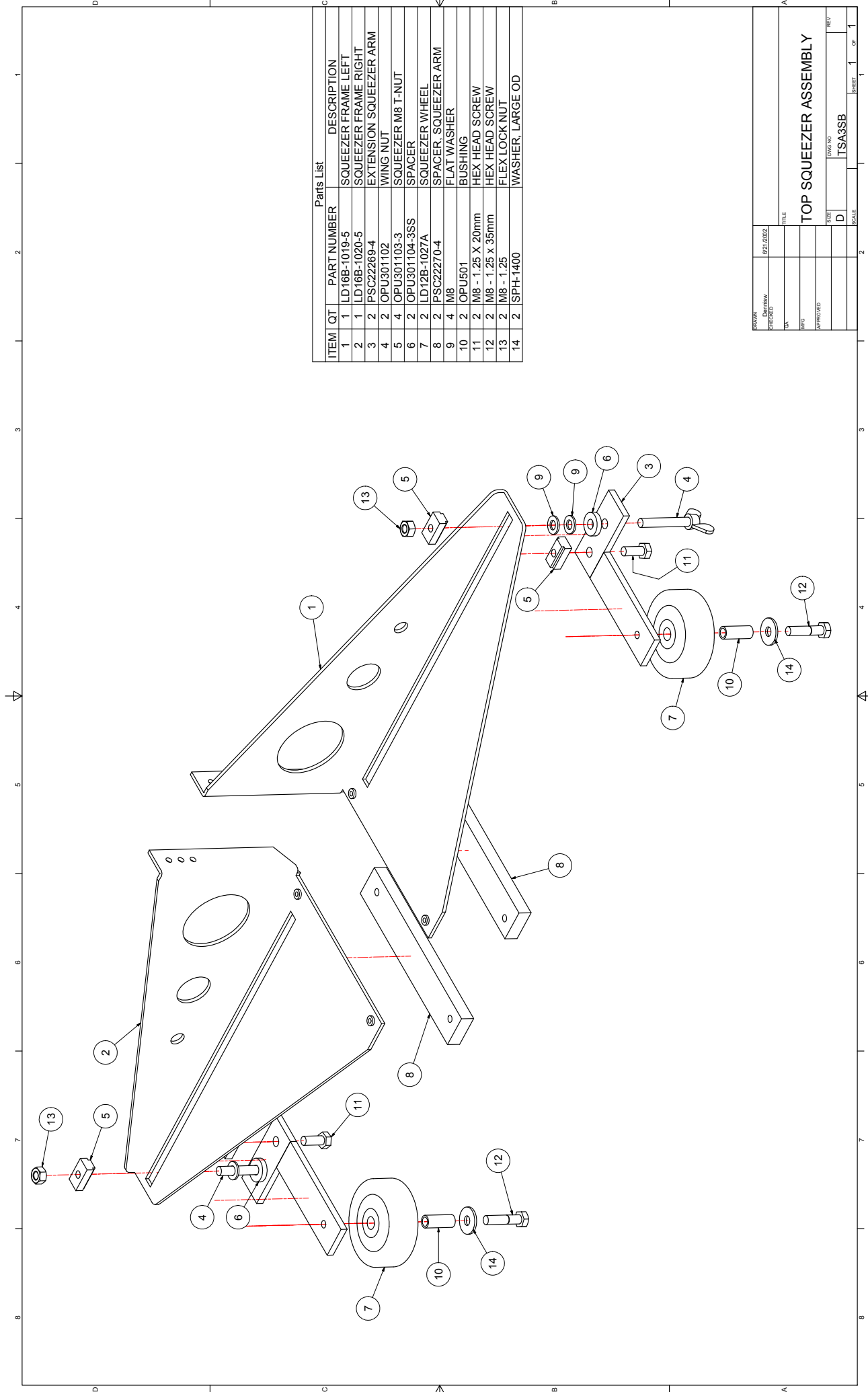


REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	6/21/2002	DW
B	M.C.R. #04-020	7/27/2004	AMYR

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LD3SB2-3559-5	FLAP FOLDING WELDMENT
2	1	OPU301302-4	CLAMP FLAP CLOSER
3	2	PSX1933-4	FLAP CLOSER
4	2	SPH-1200	KNOB
5	8	FLWMHP	M8 LOCK WASHER
6	4	FHHMH035P10	HEX HD M8 X 35
7	4	FHHMF012910	M5 X 12 HHS
8	4	FSHMH020P10	SOC. HD. CAP SCREW M8 X 20

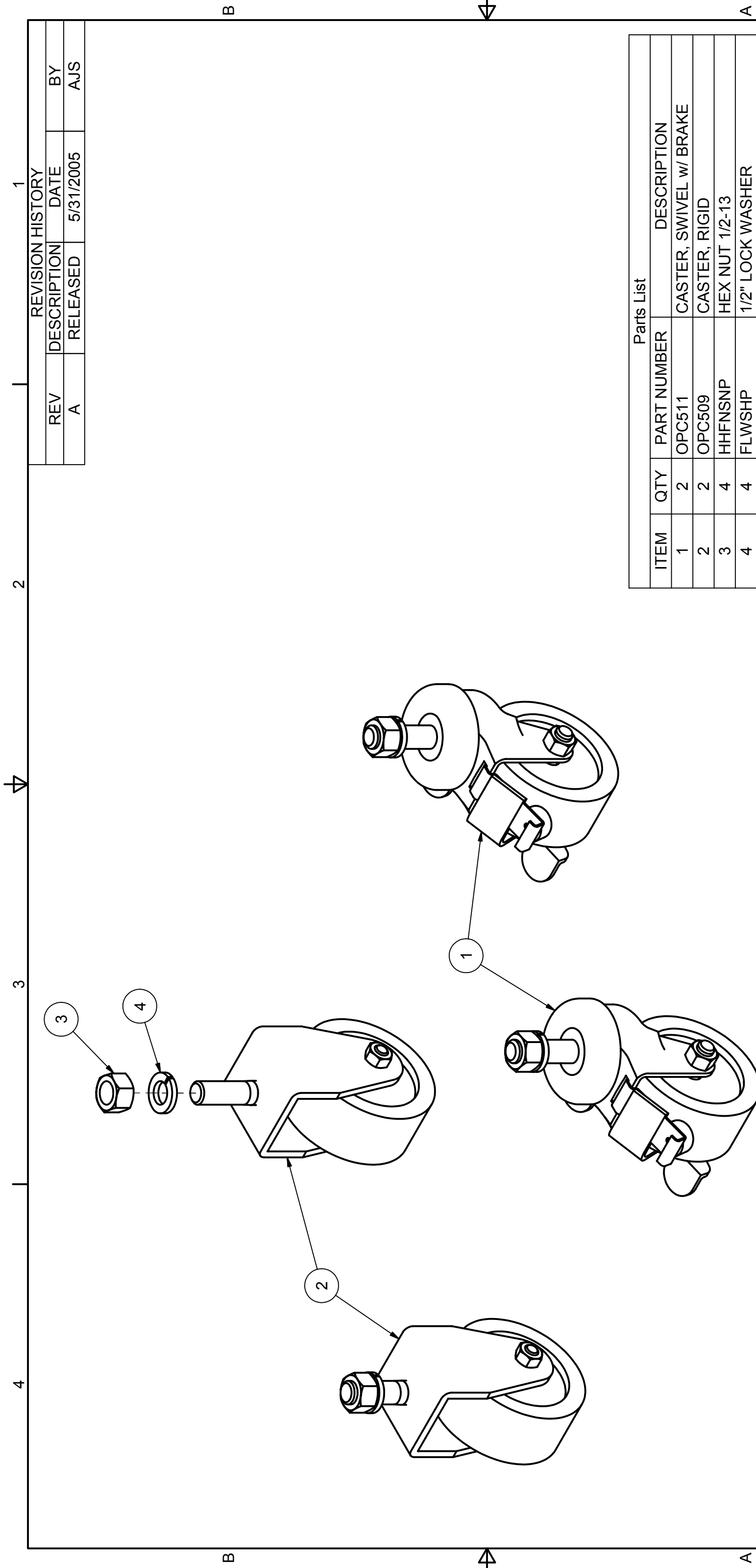
TOLERANCES UNLESS OTHERWISE NOTED:		TITLE		LOVESHAW [®] an ITW [®] Company RT. 296, SOUTH CANAAN, PA.	
.X = ±.050 INCH .XX = ±.015 .XXX = ±.005		ANGLES ± 1/2°		TOP FLAP FOLDER	
.X = ±1.0mm METRIC .XX = ±.3mm .XXX = ±.1mm		MACH. ¹²⁵ FINISH ✓		DWG NO	.TFF3SB/2FF
FRACTIONS ± 1/64				MATERIAL	N/A
				DRAWN	AMYR
				APPROVED	

MAT'L	PART #	CAD FILE	TFF3SB-2FF
C.R.S.	STD	PLOT DATE	7/27/2004
ST. ST.	N/A	DRAWN DATE	6/21/2002
STAINLESS : NO FINISH		DO NOT SCALE PRINT	
THIS DRAWING AND SUBJECT MATTER THEREON IS THE EXCLUSIVE PROPERTY OF LOVESHAW-ITW AND IS TO BE TREATED BY YOU AS CONFIDENTIAL PPRIETARY INFORMATION. THIS DRAWING OR SUBJECT MATTER THEROF SHALL NOT BE REPRODUCED OTHER THAN FOR YOUR OWN USE OR TO BE DISCLOSED TO OTHER WITHOUT THE EXPRESSED WRITTEN CONSENT OF LOVESHAW-ITW AND WILL BE RETURNED TO LOVESHAW-ITW UPON REQUEST.			



Parts List			
ITEM	QT	PART NUMBER	DESCRIPTION
1	1	LD16B-1019-5	SQUEEZER FRAME LEFT
2	1	LD16B-1020-5	SQUEEZER FRAME RIGHT
3	2	PSC22269-4	EXTENSION SQUEEZER ARM
4	2	OPU301102	WING NUT
5	4	OPU301103-3	SQUEEZER M8 T-NUT
6	2	OPU301104-3SS	SPACER
7	2	LD12B-1027A	SQUEEZER WHEEL
8	2	PSC22270-4	SPACER SQUEEZER ARM
9	4	M8	FLAT WASHER
10	2	OPU501	BUSHING
11	2	M8 - 1.25 X 20mm	HEX HEAD SCREW
12	2	M8 - 1.25 x 35mm	HEX HEAD SCREW
13	2	M8 - 1.25	FLEX LOCK NUT
14	2	SPH-1400	WASHER, LARGE OD

REVISED	DATE	BY	CHKD	FILE
001	02/1/2002			
TOP SQUEEZER ASSEMBLY				
APPROVED	DATE	BY	CHKD	FILE
TSA3SB				
SCALE	1	OF	1	1



REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	5/31/2005	AJS

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	OPC511	CASTER, SWIVEL w/ BRAKE
2	2	OPC509	CASTER, RIGID
3	4	HHFNSNP	HEX NUT 1/2-13
4	4	FLWSHP	1/2" LOCK WASHER

TOLERANCES UNLESS OTHERWISE NOTED:		TITLE			
.X = $\pm$.050 INCH .XX = $\pm$.015 .XXX = $\pm$.005		LIGHT DUTY CASTER ASSY.			
.X = $\pm$ 1.0mm METRIC .XX = $\pm$.3mm .XXX = $\pm$.1mm		DWG NO	.LDC302	SCALE	N/A
FRACTIONS $\pm$ 1/64		MATERIAL	NOTED	CHECKED	
		DRAWN	tonys	APPROVED	