

LOVESHAW

Little David™ Case Sealer

LD3SBF

Side Belt Drive Uniform Case Sealer



Version: C

Operator's Manual

LITTLE DAVID™ CASE SEALER

LD3SBF Operation

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Friday, January 25, 2013

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Introduction

Thank you for purchasing the Little David™ case sealer, the LD3SBF. The LD3SBF is uniform side belt drive case sealer. The LD3SBF 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 LD3SBF 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.

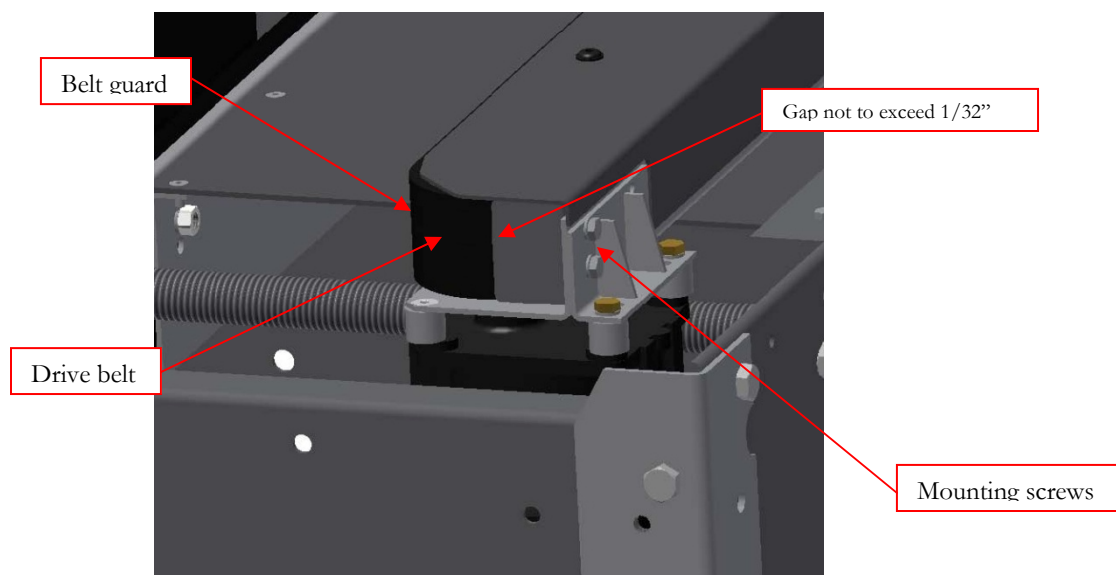
Caution: Never pull the machine by its pack table or side rails.

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:

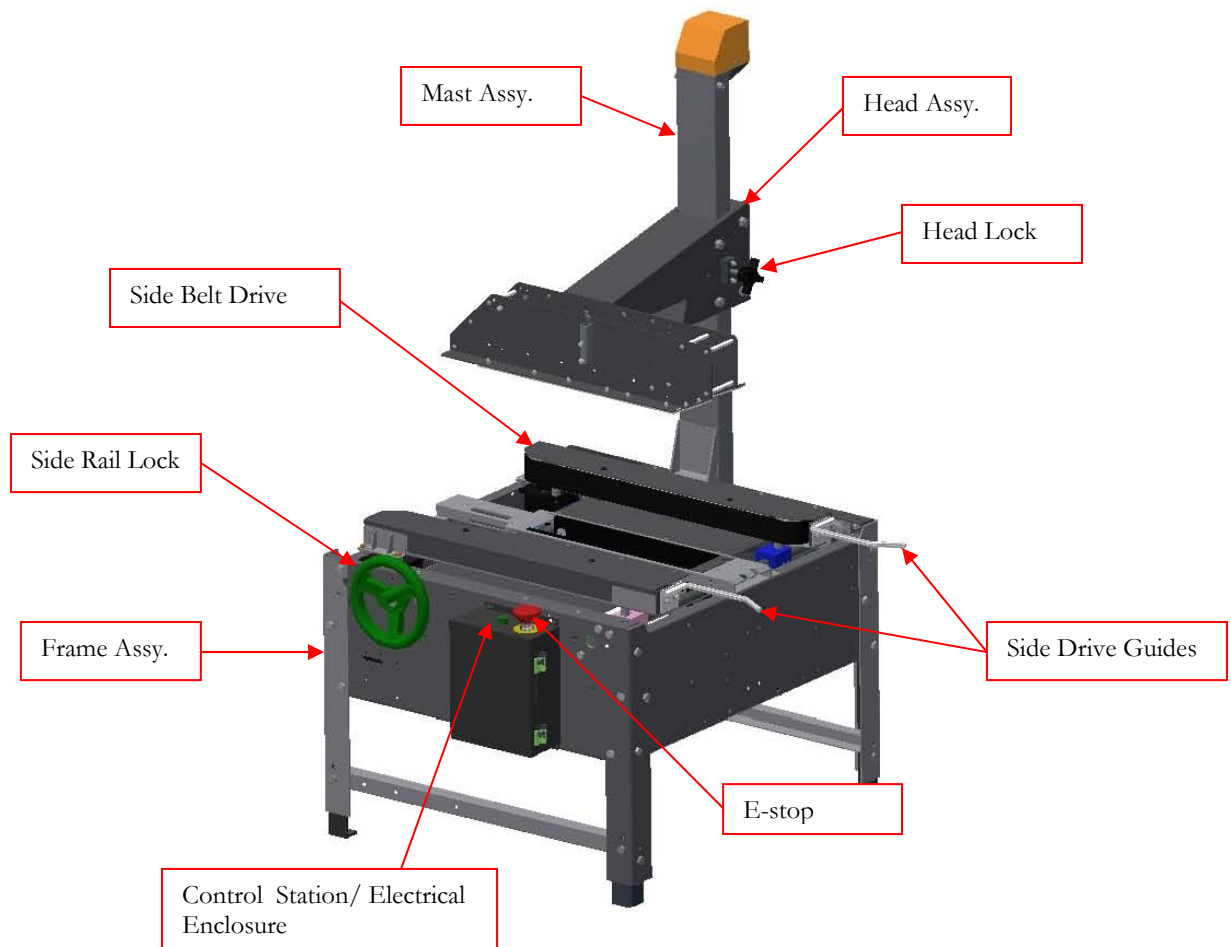
The side drive assembly incorporates adjustable side belt guard. The guard are made adjustable to maintain 1/32" gap between the top of the belt and the guard itself. This eliminates a pinch point between the guard and the belt. The guards are located at the rear of the machine where the belt wraps around 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.



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: 60.81" @ 22.25" conveyor height
- Width: 42.08"
- Length: 31.77"
- Conveyor height: 22.25" to 30.25" – Standard

Electrical Requirements:

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

Operating speed:

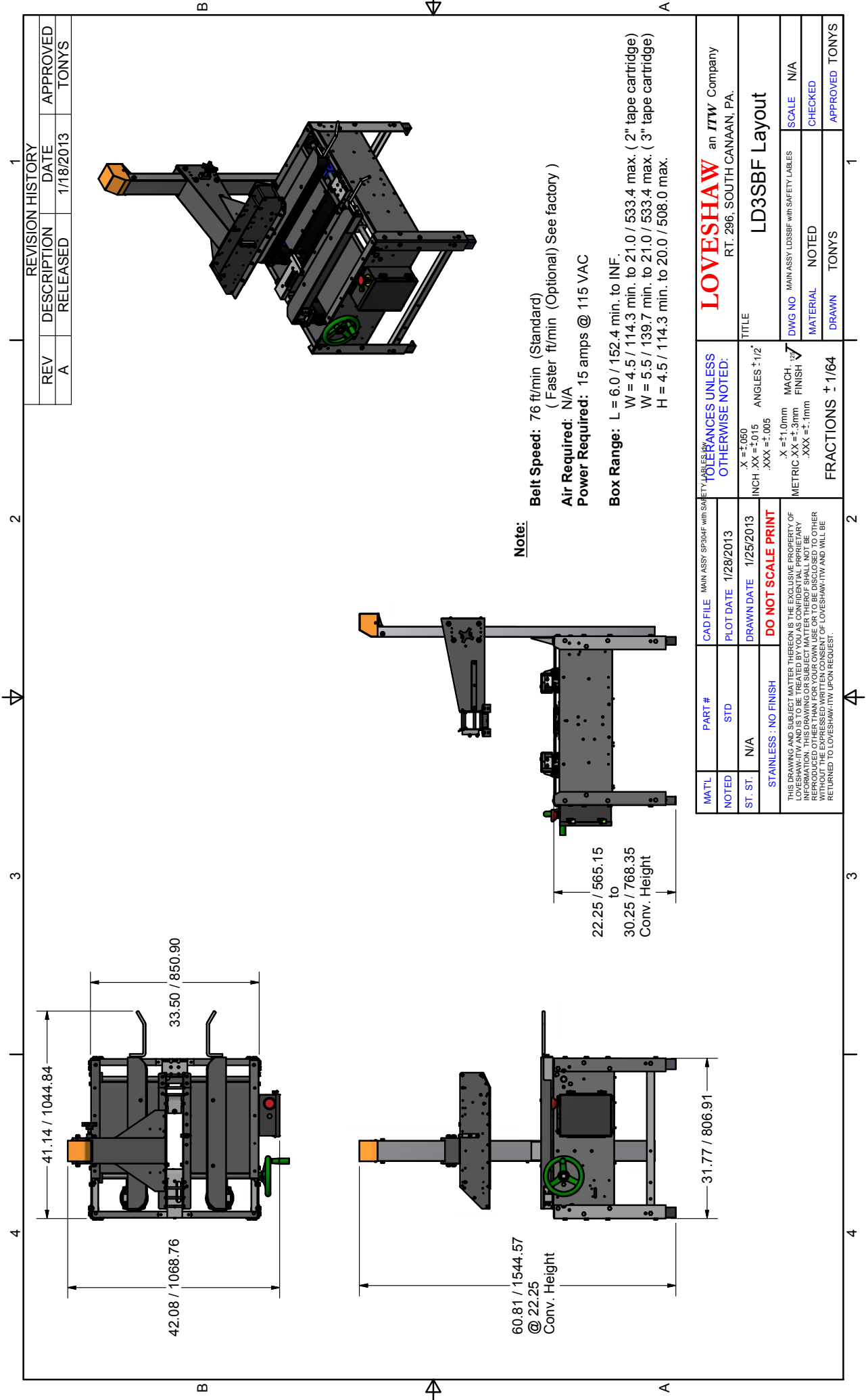
- Standard belt speed: 76 ft/min
-

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 230 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

LD3SBF

The LD3SBF 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 LD3SBF is a uniform manual adjusted side belt case sealer with counter balanced head assembly.

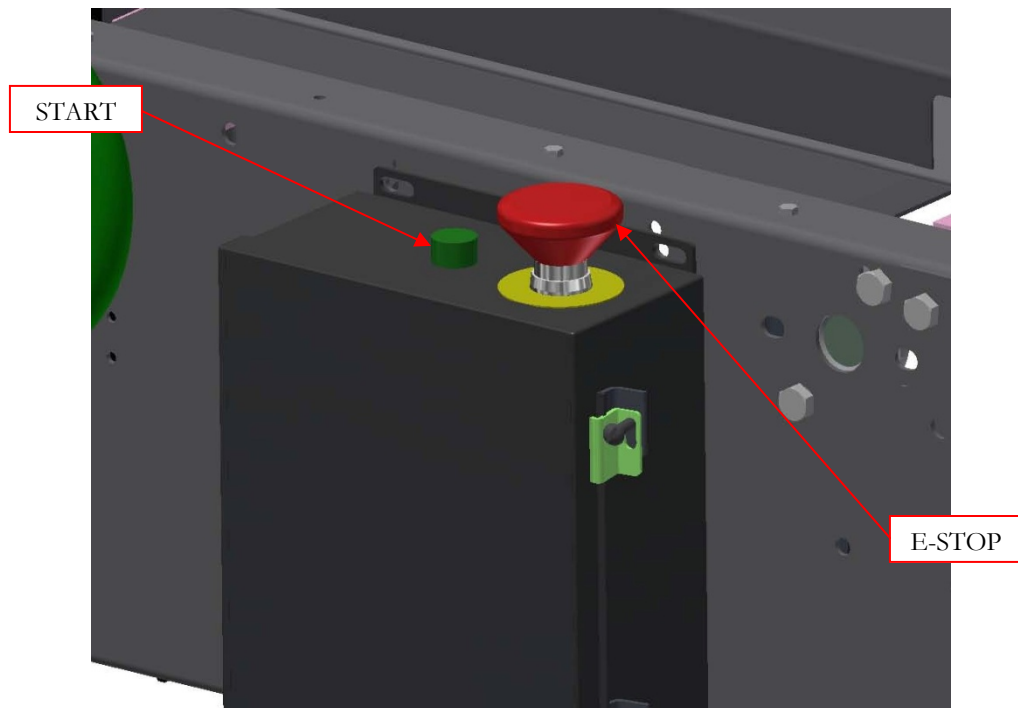
Some of the key features are.

- Self tracking industrial grade endless belts.
 - 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

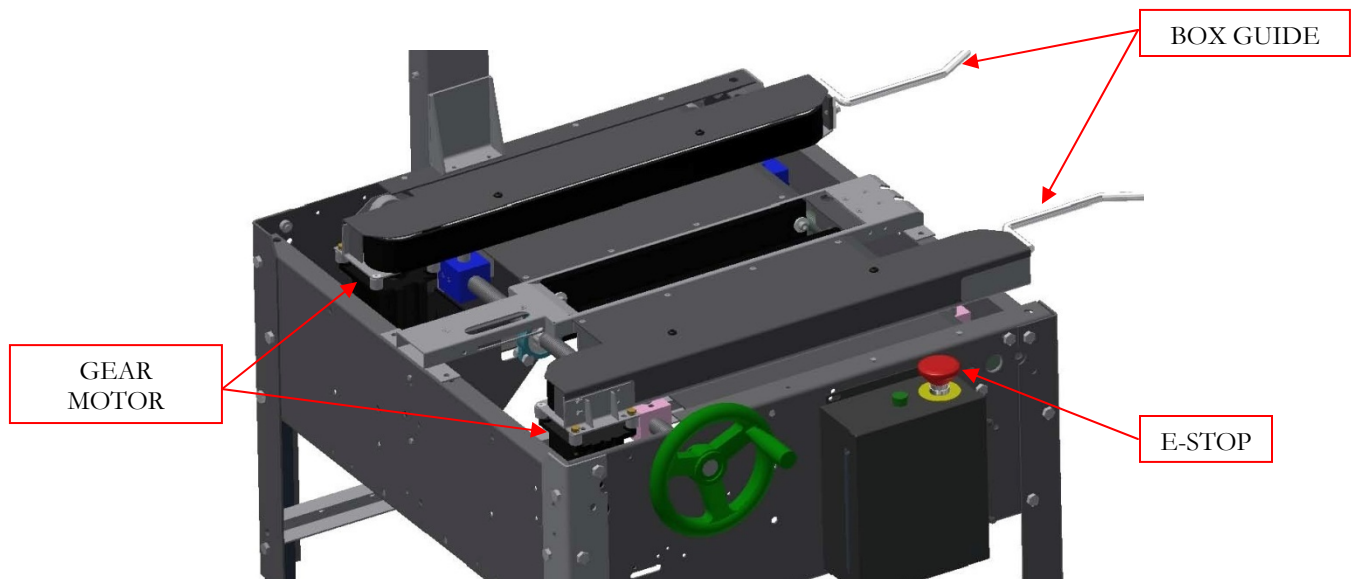
Control Station / Electrical Enclosure

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.

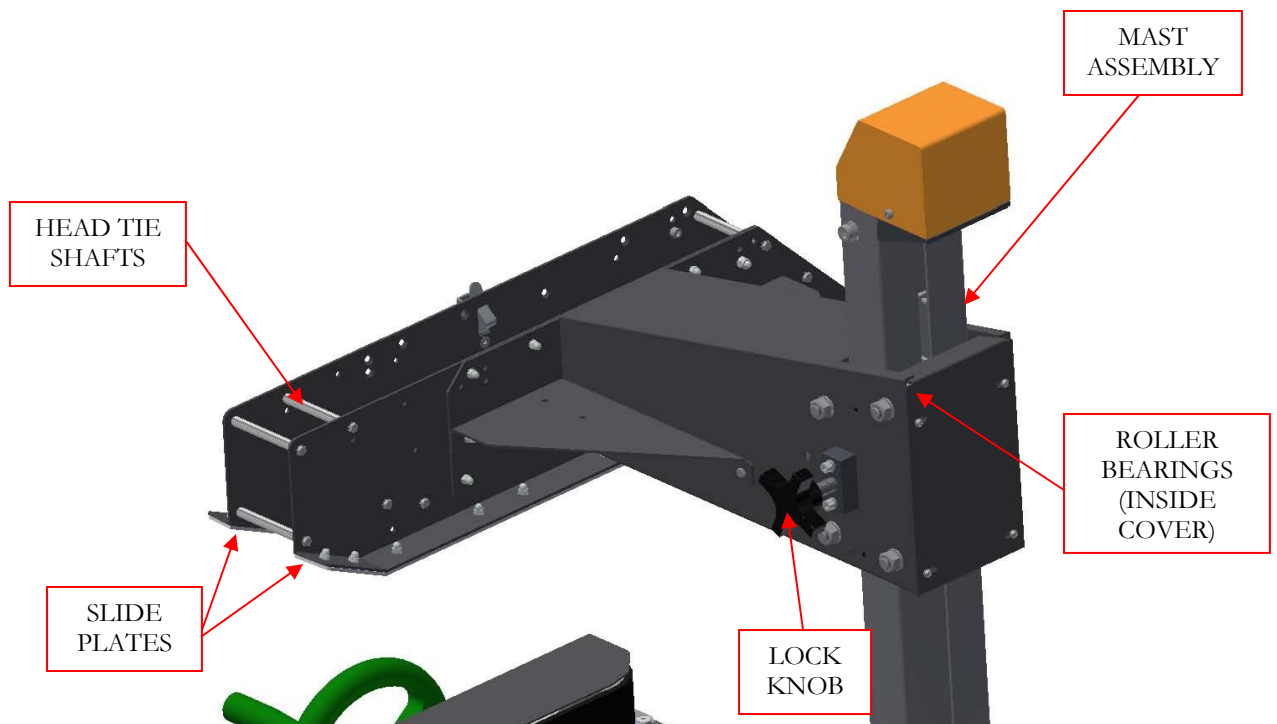


Head Weldment & Mast Assembly

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.



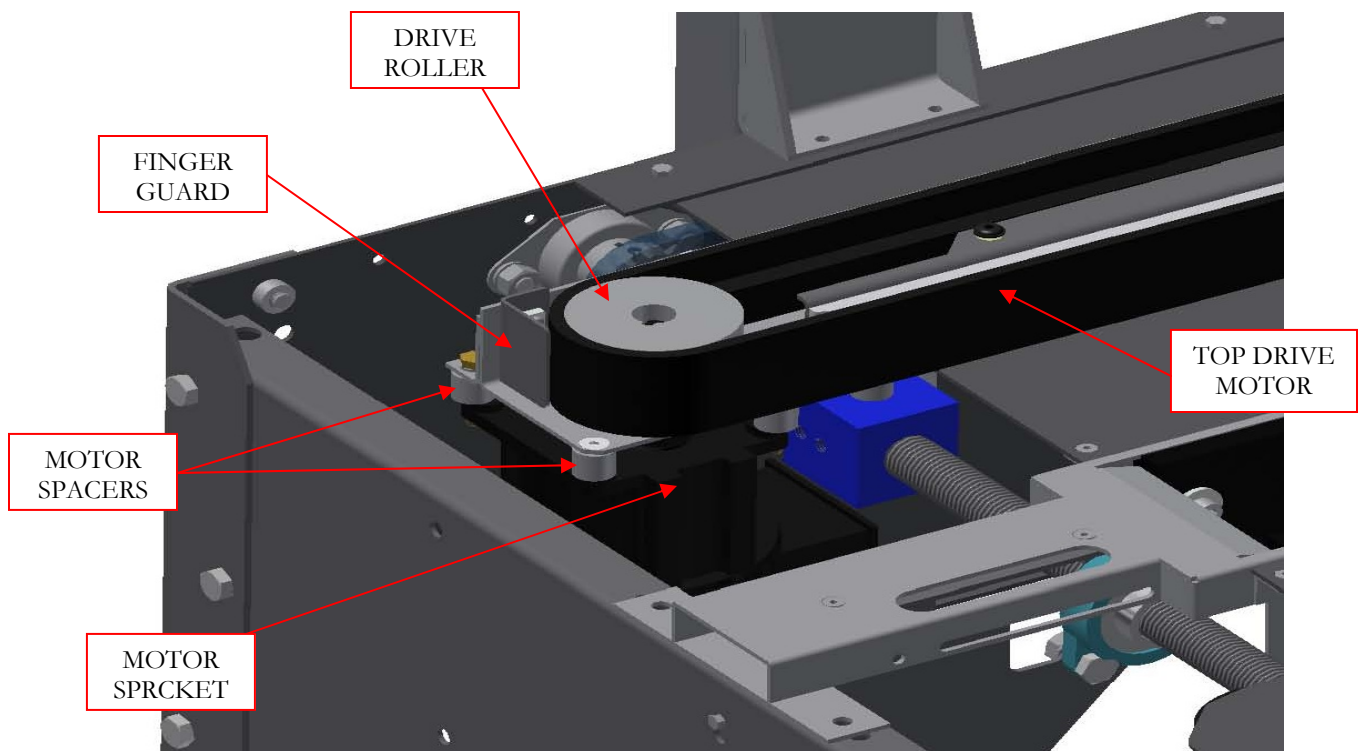
Maintenance

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.

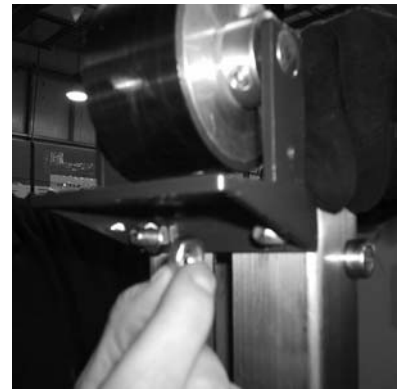


Figure 2:
Loosen and remove
hardware holding
spring cover.
(1) located near side
(1) located far side

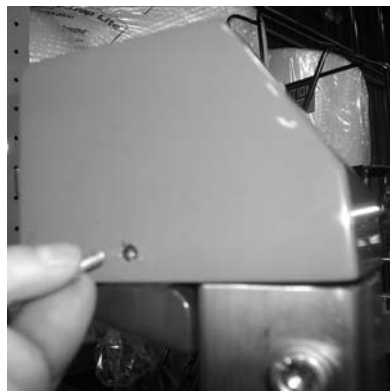


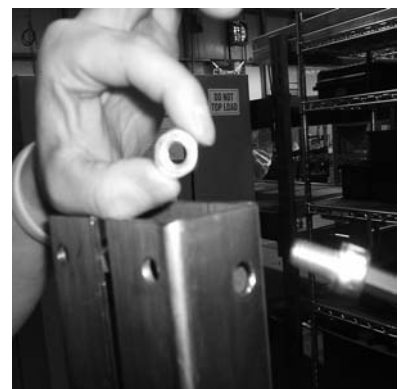
Figure 5:
Remove spring
bracket assembly
from top of mast.



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

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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.

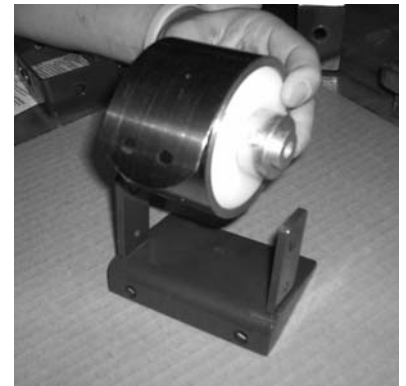


Figure 9:
Remove hardware
that holds spring
in place.

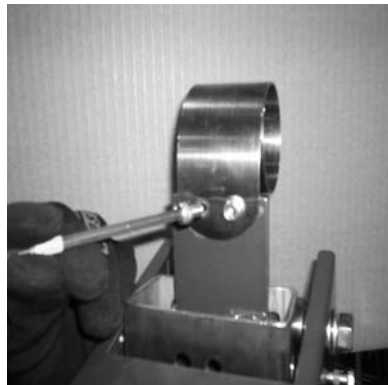


Figure 13:
Insert constant force
spring assembly into
spring bracket.
The spring should be
facing the rear of
the bracket as shown.



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

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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.

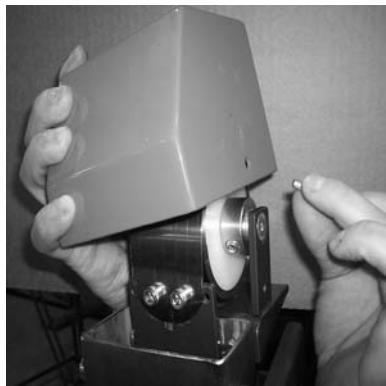


Figure 18:

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.

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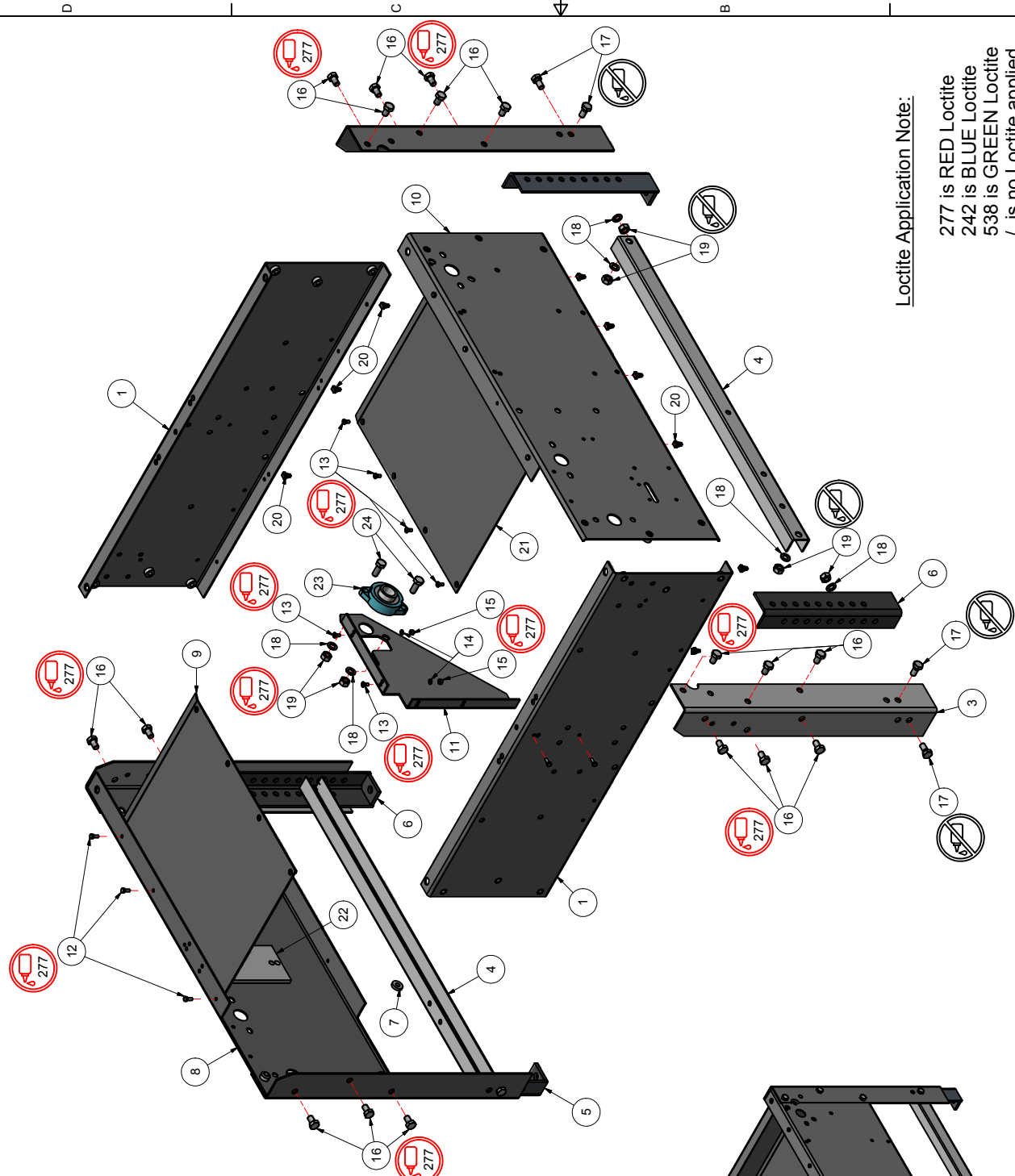
an **ITW** Company
2206 Easton Turnpike, South Canaan,, PA 18459
570.937.4921 - 800.572.3434 - FAX 570.937.3229

ASSEMBLY DRAWINGS AND SCHEMATICS

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED
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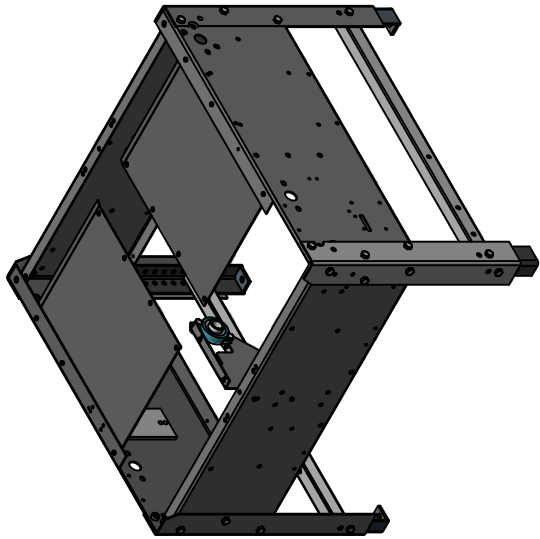
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1	2	LD3SB2-1001-6	FRAME PANEL LEFT/RIGHT
2	2	LD3SB2-1004-6	UPRIGHT RIGHT
3	2	LD3SB2-1005-6	UPRIGHT LEFT
4	2	LD3SB2-1010-4	TIE BAR - MAST
5	2	PSC37L-5	AUXILIARY LEG LEFT
6	2	PSC37R-5	AUXILIARY LEG RIGHT
7	1	OPU301104-3	SPACER
8	1	LD3SB2-1003-6	FRAME MAST SIDE
9	1	3SB2-2187LA-5	FRAME COVER
10	1	LD3SB2-1002E-6	FRAME OPERATOR SIDE
11	1	3SB2-3446-4	LEAD SCREW SUPPORT
12	8	FHMF012P10	HHCS M5 X 12
13	10	FFHMF012P10	FHCS M5 X 0.8 X 12 LG.
14	4	FLWMFP	LOCK WASHER M5
15	4	FHFNMF	HEX NUT M5
16	24	FHHM016P10	HHCS M10 X 16
17	8	FHHM020P88	HHCS M10 X 20
18	10	FLWMIP	LOCK WASHER M10
19	10	FHFNMP	HEX NUT M10
20	9	SPH-1420	CABLE TIE HOLDER (PUSH STYLE)
21	1	3SB2-2187RA-5	FRAME COVER
22	1	PSC302213/A-4	MAST STRAP - FRAME BEARING
23	1	ld3sb2-2025M	
24	2	FHHM025P88	HHCS M10 X 25

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	LD3SB2-1001-6	FRAME PANEL LEFT/RIGHT
2	2	LD3SB2-1004-6	UPRIGHT RIGHT
3	2	LD3SB2-1005-6	UPRIGHT LEFT
4	2	LD3SB2-1010-4	TIE BAR - MAST
5	2	PSC37L-5	AUXILIARY LEG LEFT
6	2	PSC37R-5	AUXILIARY LEG RIGHT
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19	10	FHFNMP	HEX NUT M10
20	9	SPH-1420	CABLE TIE HOLDER (PUSH STYLE)
21	1	3SB2-2187RA-5	FRAME COVER
22	1	PSC302213/A-4	MAST STRAP - FRAME BEARING
23	1	ld3sb2-2025M	
24	2	FHHM025P88	HHCS M10 X 25

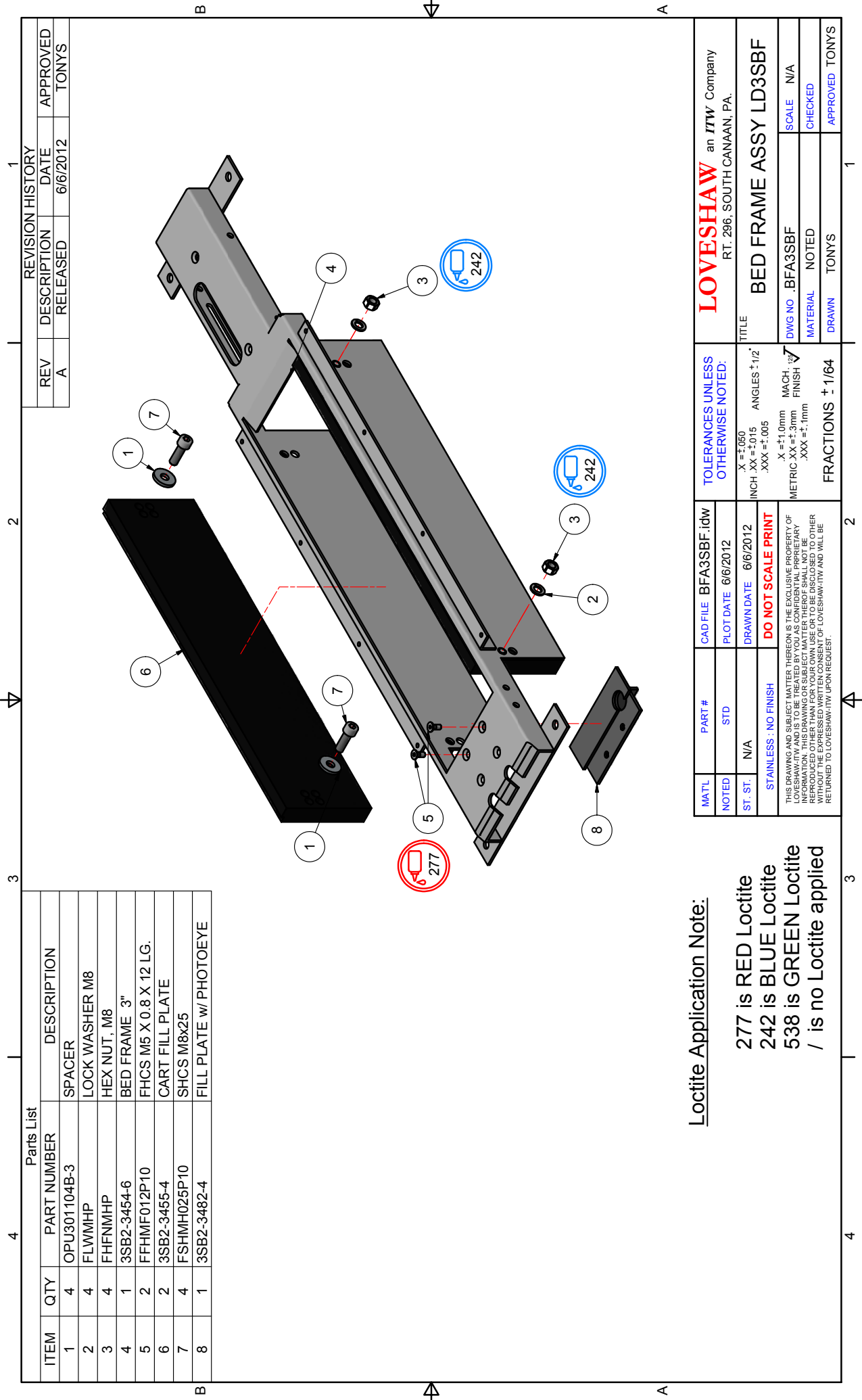


Loctite Application Note:

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



MATL	PART #	CAD FILE	FRA3SBF.idw
NOTED	STD	PLOT DATE	11/19/2007
ST. ST.	N/A	DRAWN DATE	12/6/2012
DO NOT SCALE PRINT THIS DRAWING IS THE PROPERTY OF LOVESHAW. IT IS TO BE USED FOR THE MANUFACTURE OF THE PARTS AND ASSEMBLY ONLY. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE EXPRESSED WRITTEN CONSENT OF LOVESHAW. ITY AND VALUE RETURNED TO LOVESHAW. ITY UPON REQUEST.			
TOLERANCES UNLESS OTHERWISE NOTED: X ±.050 INCH XX ±.015 ANGLES ±1/2° X ±1.0mm METRIC XX ±.3mm FINISH .XXX ±.1mm			
FRACTIONS ± 1/64			
TITLE FRAME ASSY. . FRA3SBF			
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LOVESHAW an ITW Company RT. 296, SOUTH CANAAN, PA.			

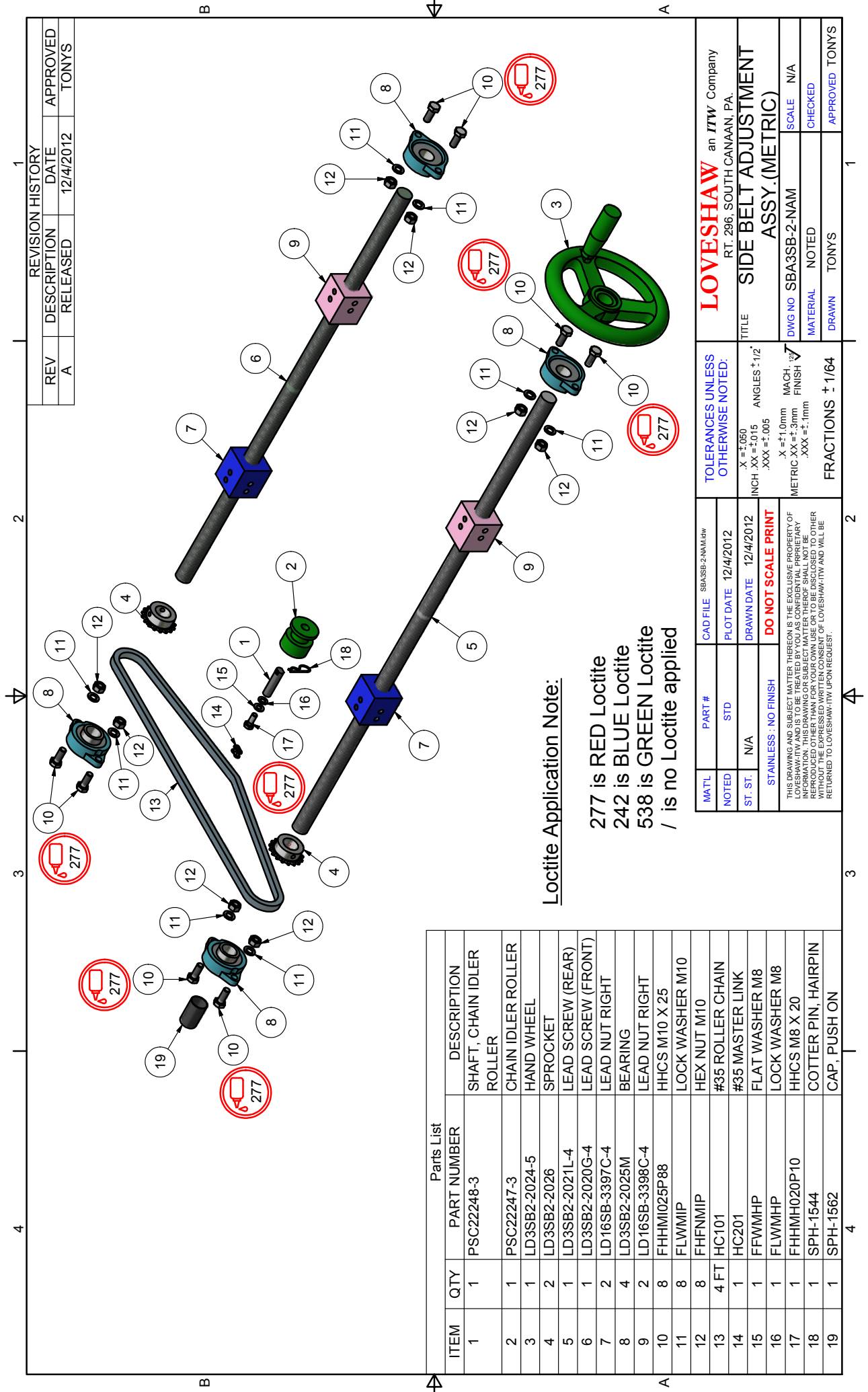


Parts List			REVISION HISTORY		
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2	4	FLWMHP	LOCK WASHER M8		6/6/2012
3	4	FHFNHMP	HEX NUT, M8		TONYS
4	1	3SB2-3454-6	BED FRAME 3"		
5	2	FFHMF012P10	FHCS M5 X 0.8 X 12 LG.		
6	2	3SB2-3455-4	CART FILL PLATE		
7	4	FSHMH025P10	SHCS M8x25		
8	1	3SB2-3482-4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

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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ST. ST.	N/A	DRAWN DATE	6/6/2012	X = ±.050 INCH XX = ±.015 .XXX = ±.005	TITLE
STAINLESS - NO FINISH			DO NOT SCALE PRINT	X = ±1.0mm MACH. FINISH METRIC XX = ±.3mm .XXX = ±.1mm	BED FRAME ASSY LD3SBF
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 EXPRESSED WRITTEN CONSENT OF LOVESHAW-ITW AND WILL BE RETURNED TO LOVESHAW-ITW UPON REQUEST.				FRACTIONS ± 1/64	
				DRAWN	TONY'S
				MATERIAL	NOTED
				DWG NO.	BFA3SBF
				SCALE	N/A
				CHECKED	
				APPROVED	TONY'S



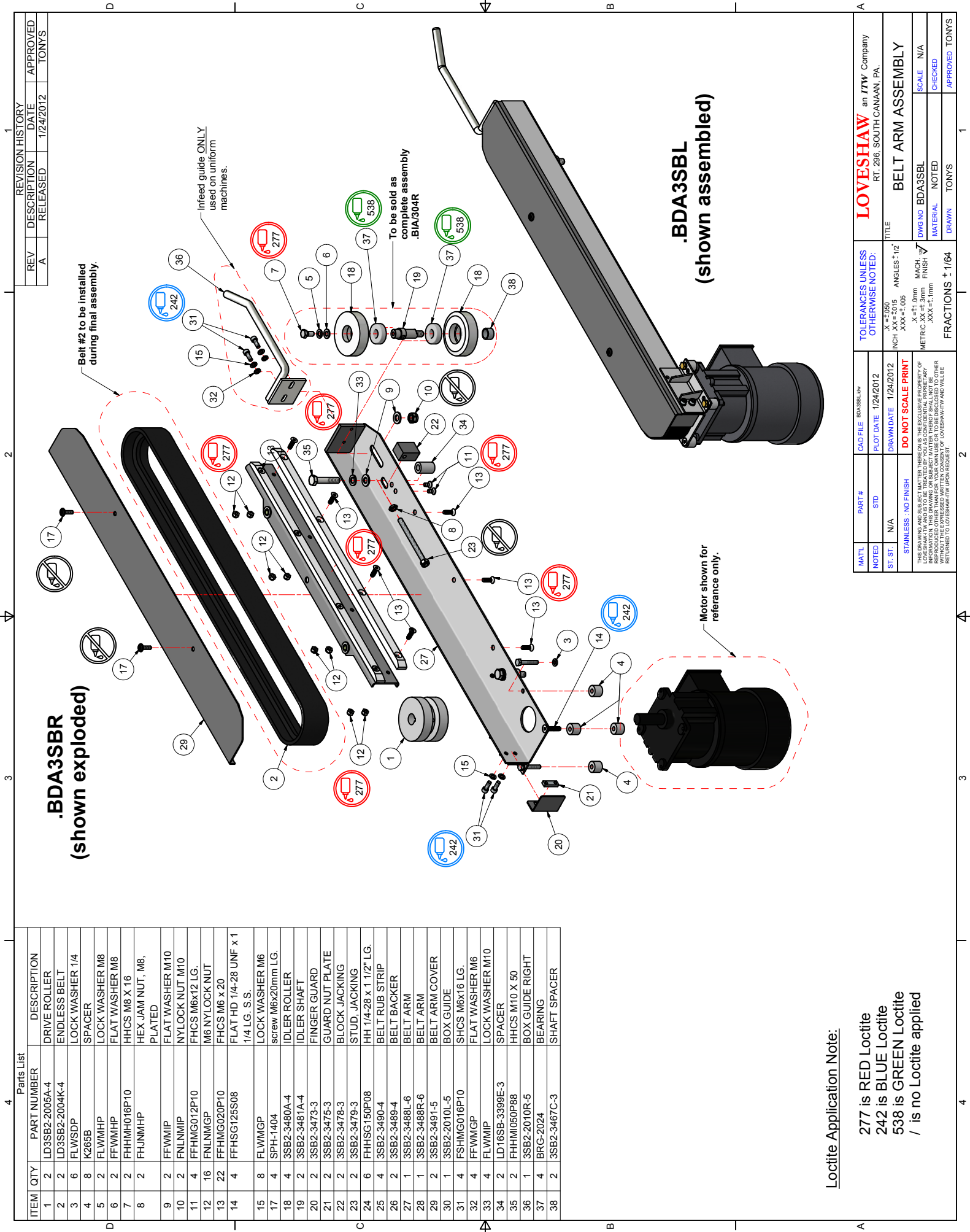
Loctite Application Note:

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

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	PSC22248-3	SHAFT, CHAIN IDLER ROLLER
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			
REV	DESCRIPTION	DATE	APPROVED
A	RELEASED	12/4/2012	TONYS

LOVESHAW an ITW Company RT. 296, SOUTH CANAAN, PA.		TOLERANCES UNLESS OTHERWISE NOTED:	
TITLE SIDE BELT ADJUSTMENT ASSY.(METRIC)		X = ±.050 INCH XX = ±.015 ANGLES ±1/2° .XXX = ±.005	
DWG NO SBA3SB-2-NAM		X = ±1.0mm MACH. FINISH METRIC XX = ±.3mm .XXX = ±.1mm	
MATERIAL		NOTED	
DRAWN		TONYS	
CHECKED		TONYS	
APPROVED		TONYS	



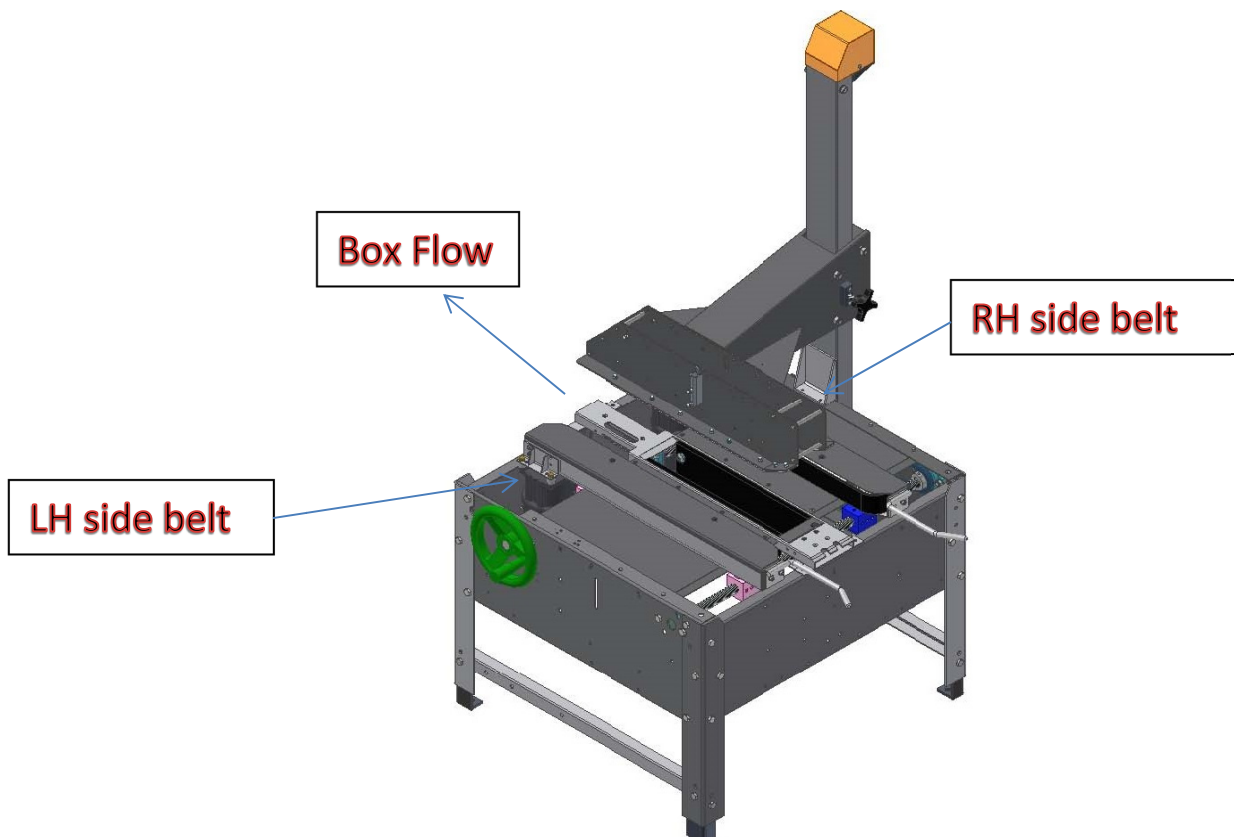
LD3SBF & SP304F Motor Selection Chart

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



Parts List			DESCRIPTION
ITEM	QTY	PART NUMBER	
1	1	3SB2-3509-5	HEAD WELDMENT
2	1	PSC22302-6	HEAD FRAME
3	1	PSC001331R-5	HOLD DOWN RAIL
4	1	PSC001331L-5	HOLD DOWN RAIL LEFT
5	1	PSC002308-4	HEAD COVER
6	2	PSC002306-4	SLIDE STRIP - RIGHT
7	1	PSC127B-4	DETENT PLATE
8	7	LD12B-1022-4	TIE BAR (2" HEAD)
9	7	LD12B-1012-3	TIE BAR (2" HEAD)
10	1	PSC001331R-5	HOLD DOWN RAIL
11	4	PSC001324-3	CLAMP NUT HEAD
12	8	PSC138-3	SPACER
13	1	PSC127A-3	DETENT PLATE COVER
14	4	PSC003313M	BALL BEARING (METRIC)
15	4	PSC001313	SPRING PIN
16	1	PSC001322	CLAMP SW. SCREW
17	2	PSC001322	CLAMP SW. SCREW
18	1	LDU-1308-5	SPRING/ACTUATOR BRACKET
19	4	FSHMG012P10	SHCS M6 X 1.0 X 12 LG.
20	4	FLVMGP	LOCK WASHER M6
21	20	FFHNMIP	HEX NUT M12
22	2	FFHMG03P10	FFHSC M6X5 LG.
23	51	FETLWHP	FLAT LOCK WASHER M4 X 8mm LG.
24	16	FHWMF01P10	HKCS M6 X 0.8 X 10 LG.
25	29	FHDNMP	HEX DOME NUT M5
26	4	FETLWGP	LOCK WASHER EXT. M6
27	4	FHDNMP	HEX DOME NUT M6
28	1	PSC2302M1-6	HEAD FRAME M1 X 10 LG.
29	13	FETLWGP	LOCK WASHER M12
30	8	FLWALP	FLAT WASHER M12
31	4	FFHMG00P10	M4 X 8mm LG.
32	4	FFWMEP	FW M4
33	4	FFWMEP	FLAT WASHER M6
34	2	FSHMG03P10	SHCS M6 X 30
35	16	FFHMF00P10	FFHSC M6 X 12
36	6	FFHMF02P10	FFHSC M6 X 20
37	4	FFHMF02P10	SET SCREW M4 X 20
38	4	FFWALP	FLAT WASHER M12
39	4	PSC19276RA-4	TOP LOAD BRKT.
40	1	PSC19276LA-4	TOP LOAD BRKT.
41	4	PSC001 M	BALL BEARING
42			

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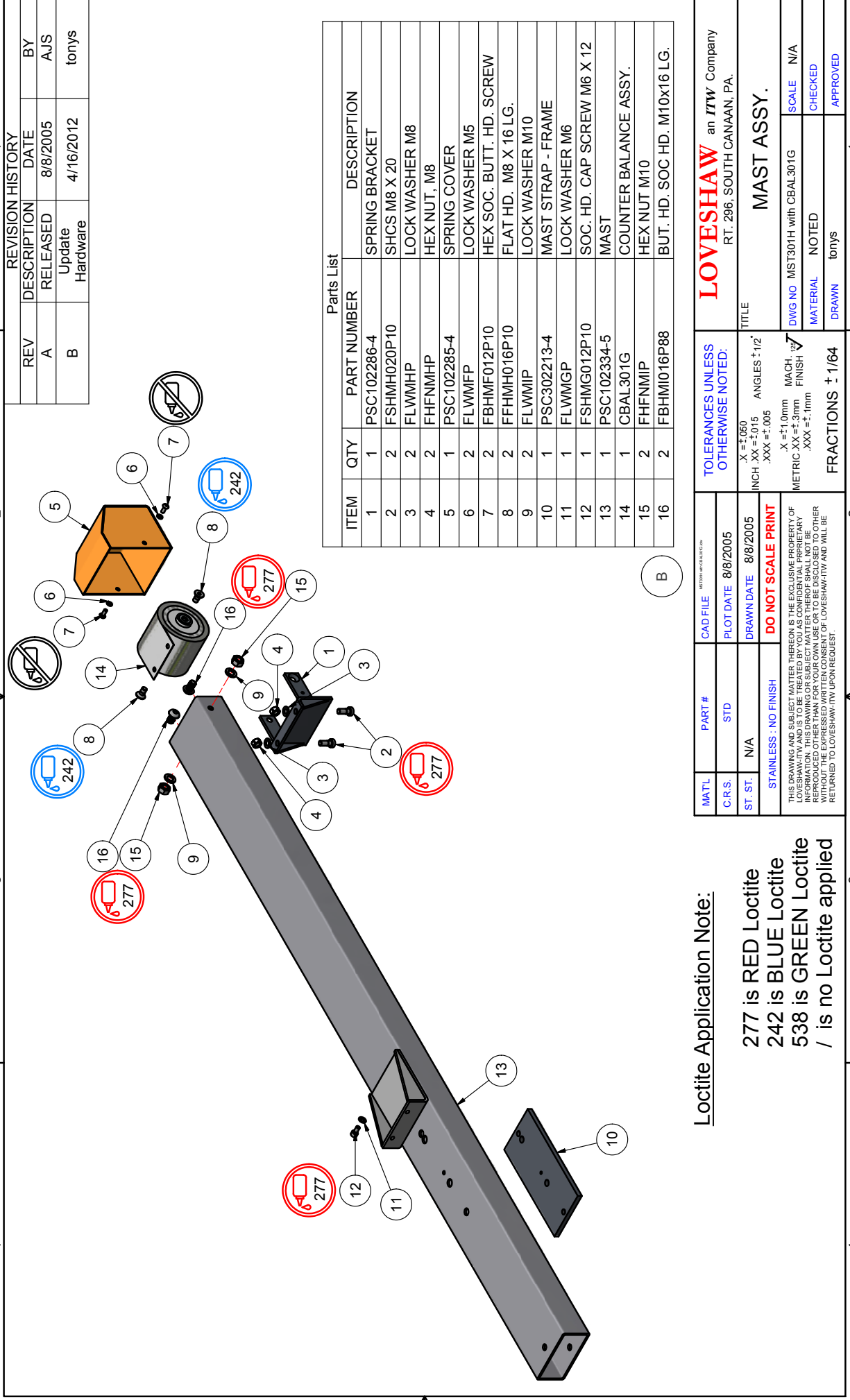
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REV	DESCRIPTION	DATE	TOWNS

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REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	8/8/2005	AJS
B	Update Hardware	4/16/2012	tonys



Parts List		
ITEM	QTY	PART NUMBER DESCRIPTION
1	1	PSC102286-4 SPRING BRACKET
2	2	FSHM020P10 SHCS M8 X 20
3	2	FLWMHP LOCK WASHER M8
4	2	FHFNHMP HEX NUT, M8
5	1	PSC102285-4 SPRING COVER
6	2	FLWMFP LOCK WASHER M5
7	2	FBHMF012P10 HEX SOC. BUTT. HD. SCREW
8	2	FFHM016P10 FLAT HD. M8 X 16 LG.
9	2	FLWMIP LOCK WASHER M10
10	1	PSC302213-4 MAST STRAP - FRAME
11	1	FLWMGP LOCK WASHER M6
12	1	FSHMG012P10 SOC. HD. CAP SCREW M6 X 12
13	1	PSC102334-5 MAST
14	1	CBAL301G COUNTER BALANCE ASSY.
15	2	FHFNMIP HEX NUT M10
16	2	FBHMI016P88 BUT. HD. SOC HD. M10x16 LG.

Loctite Application Note:

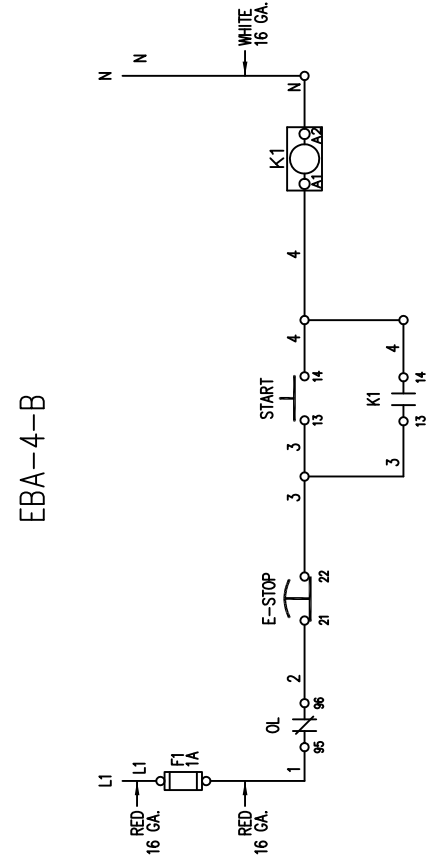
277 is RED Loctite
242 is BLUE Loctite
538 is GREEN Loctite
/ is no Loctite applied

MATL	PART #	CAD FILE	8/8/2005
C.R.S.	STD	PLOT DATE	8/8/2005
ST. ST.	N/A	DRAWN DATE	8/8/2005
STAINLESS : NO FINISH			
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.			
TOLERANCES UNLESS OTHERWISE NOTED:		TITLE	
INCH .XX = ±.015 ANGLES ±1/2°		MAST ASSY.	
X = ±1.0mm		DWG NO MST301H with CBAL301G	
METRIC .XX = ±.3mm		SCALE	
.XXX = ±.1mm		MATERIAL	
FRACTIONS ± 1/64		NOTED	
		DRAWN	
		tonys	
		CHECKED	
		APPROVED	

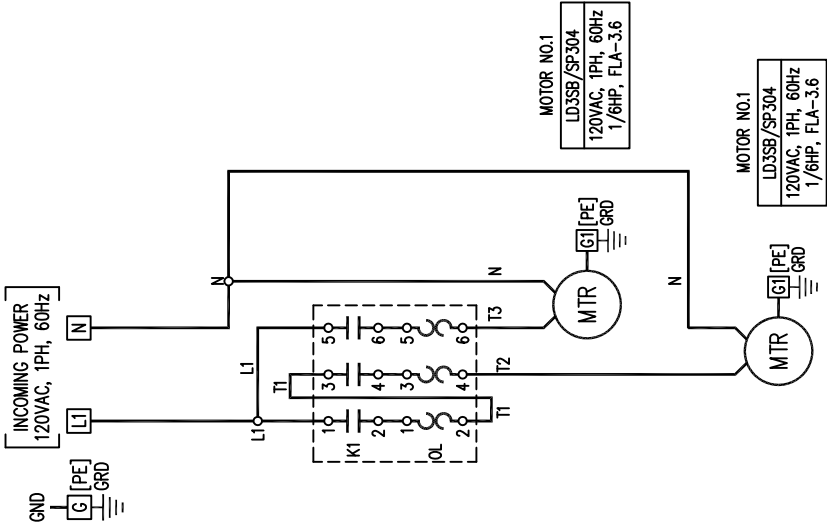
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REVISION RECORD				
REV	DESCRIPTION	DATE	ATH	DR
A	RELEASED	02/13		

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



EBA-4-B

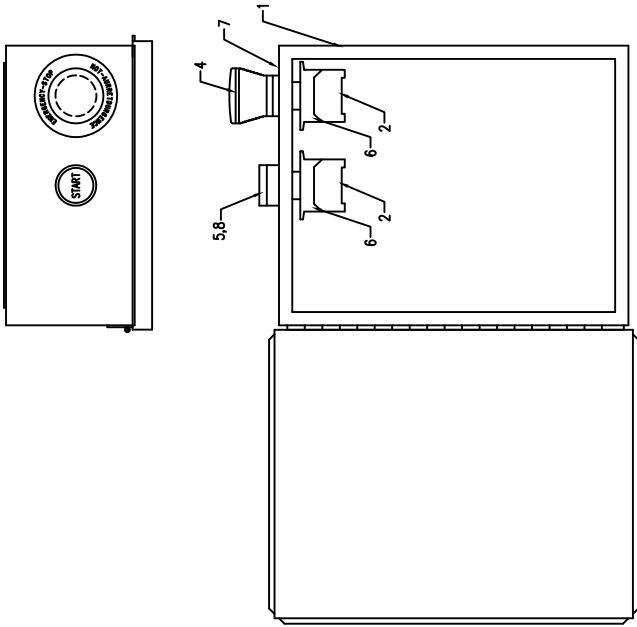


TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.			
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL SCHEMATIC EBA-4-B			
FRACTIONAL +/- 1/64	DWG. NO. ED2561		SCALE: N/A	
ANG. - 1/2°	MATERIAL: N/A		DATE: 2/1/13	
	DESIGNED: MENTA	DRAWN: WM	APPRVD: --	

REVISION RECORD

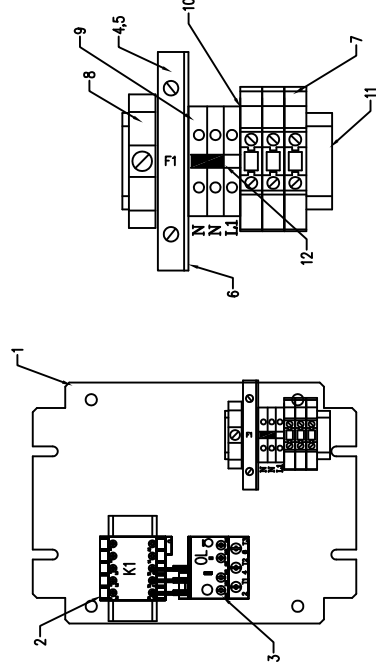
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A	RELEASED	02/13			

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

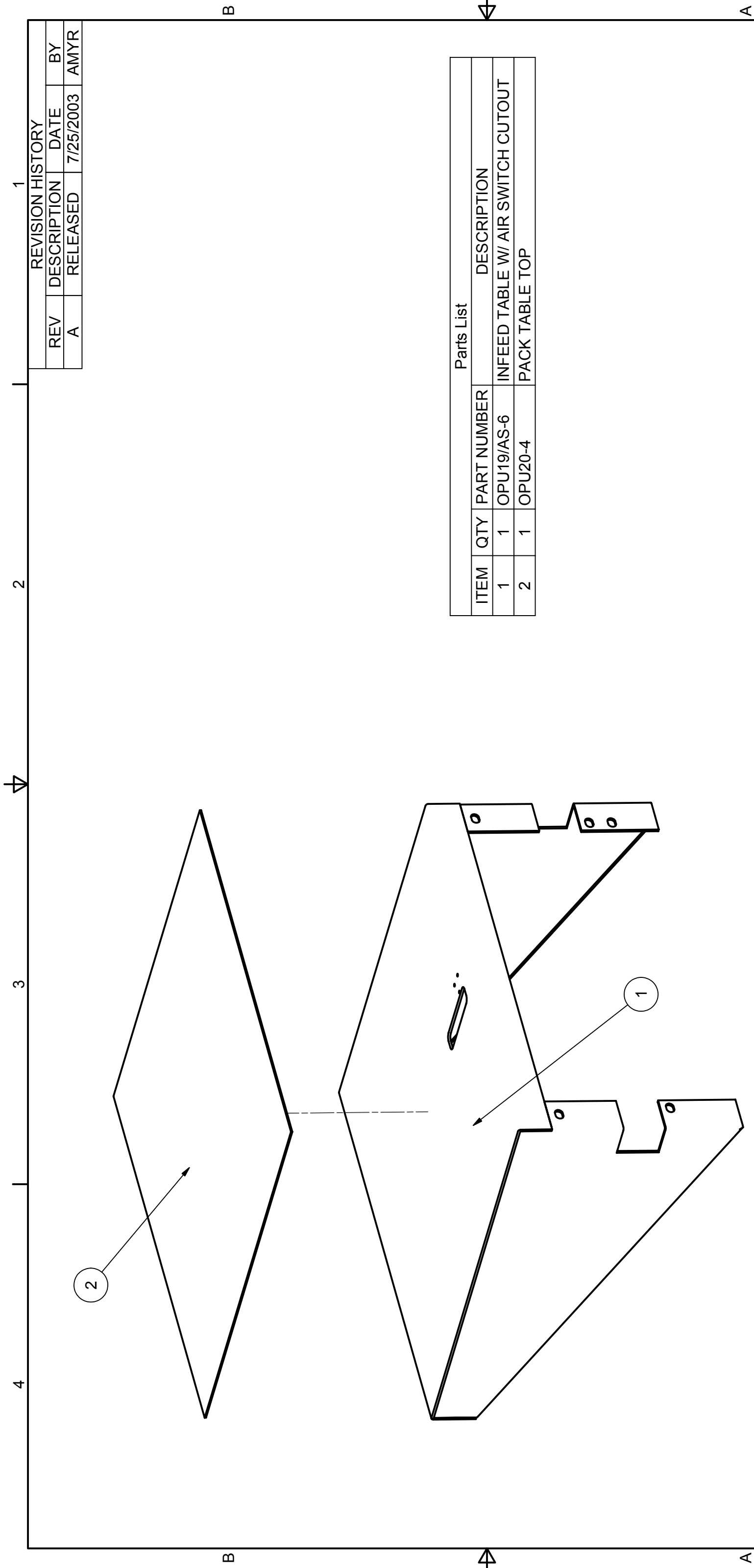
ENCLOSURE ASSEMBLY BILL OF MATERIAL		
KEY	PART NO.	DESCRIPTION
1	SS1-A-R	ENCLOSURE 10x8x4
2	SS8-A-D7	N.O. CONTACT BLOCK
3	SS8-B-D7	N.C. CONTACT BLOCK
4	SS8-C-D7	STOP 40mm PUSH-PULL OPERATOR
5	SS8-D-D7	START PB OPERATOR
6	SS8-E-D7	COUPLING PLATE
7	SS8-F-D7	60mm YELLOW RING, W/EMERG STOP
8	SS8-G-D7	START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

TOLERANCES
EXCEPT
AS NOTED

THE LOVESHAW CORPORATION
RT 296, SOUTH CANAAN, PA.

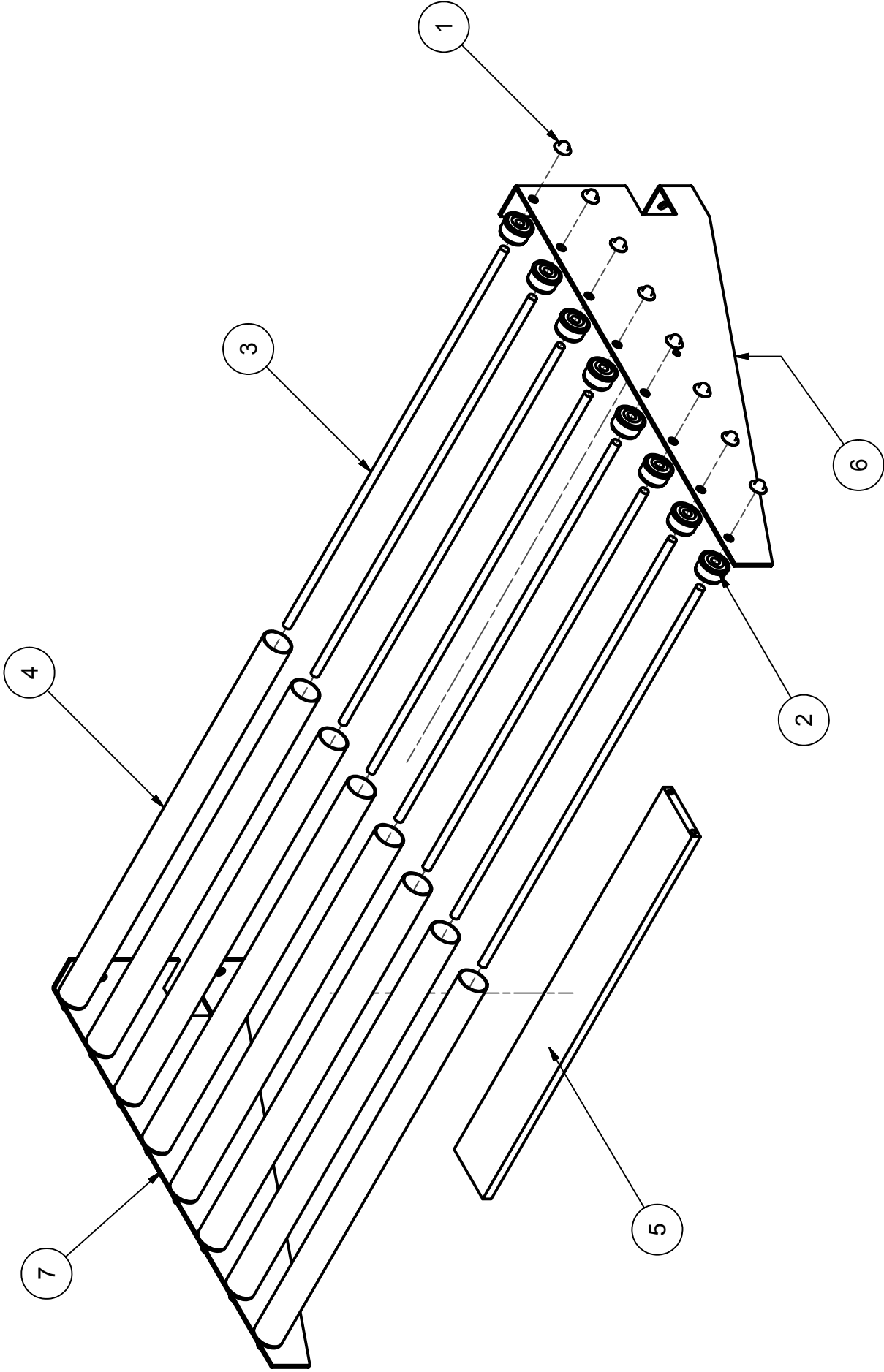
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL ASSEMBLY LD35B / SP304 - 120VAC	SCALE: N/A
FRACTIONAL +/- 1/64	DWG. NO. ED2560	DATE: 02/01/13
ANG. - 1/2°	MATERIAL: N/A	APPRVD: --
	DESIGNED: MENTA	DRAWN: WM

MACHINE AVAIAABLE SPECIAL OPTIONS



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

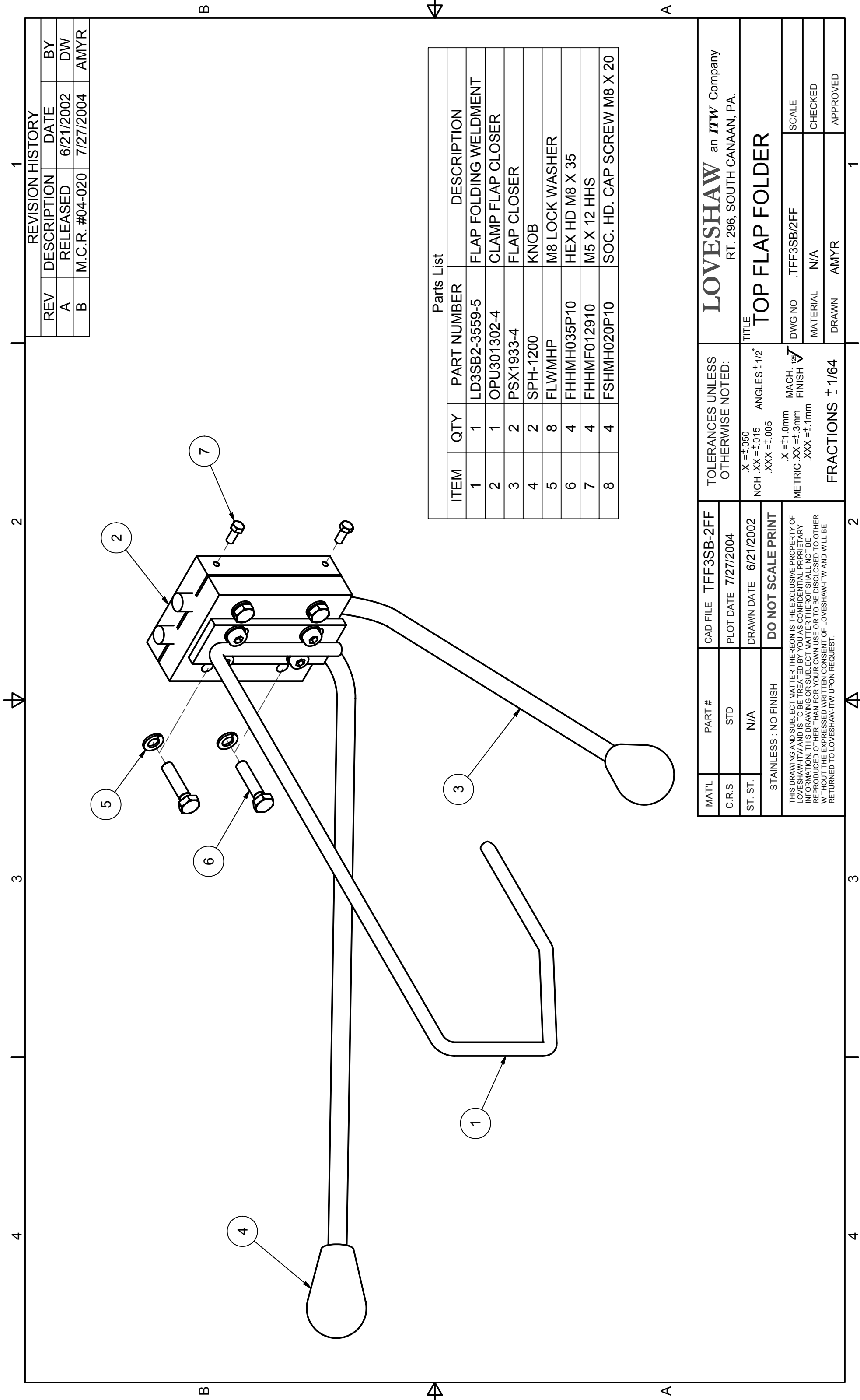
TOLERANCES UNLESS OTHERWISE NOTED:		TITLE		LOVESHAW an ITW Company RT. 296, SOUTH CANAAN, PA.	
.X = ±.050 INCH .XX = ±.015 .XXX = ±.005		ANGLES ± 1/2°		INFEED TABLE ASSEMBLY	
.X = ±1.0mm METRIC .XX = ±.3mm .XXX = ±.1mm		MACH. ¹²⁵ FINISH ✓		DWG NO .ITA100 SCALE N/A	
FRACTIONS ± 1/64				MATERIAL N/A SCALE CHECKED	
				DRAWN AMYR SCALE 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: X = ±.050 INCH .XX = ±.015 XXX = ±.005 ANGLES ± 1/2° X = ±1.0mm METRIC .XX = ±.3mm XXX = ±.1mm FRACTIONS ± 1/64	FINITE INFEED PACK TABLE-ROLLER BED (FOR 3SB, 3E, 2TB)	LOVESHAW an <i>ITW</i> Company RT. 296, SOUTH CANAAN, PA.
C.R.S.	STD	PLOT DATE	4/27/2005			
ST. ST.	N/A	DRAWN DATE	6/5/2003			
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.				DWG NO MATERIAL DRAWN	SCALE CHECKED APPROVED	ITA-RB N/A AMYP

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	6/5/2003	AMYR

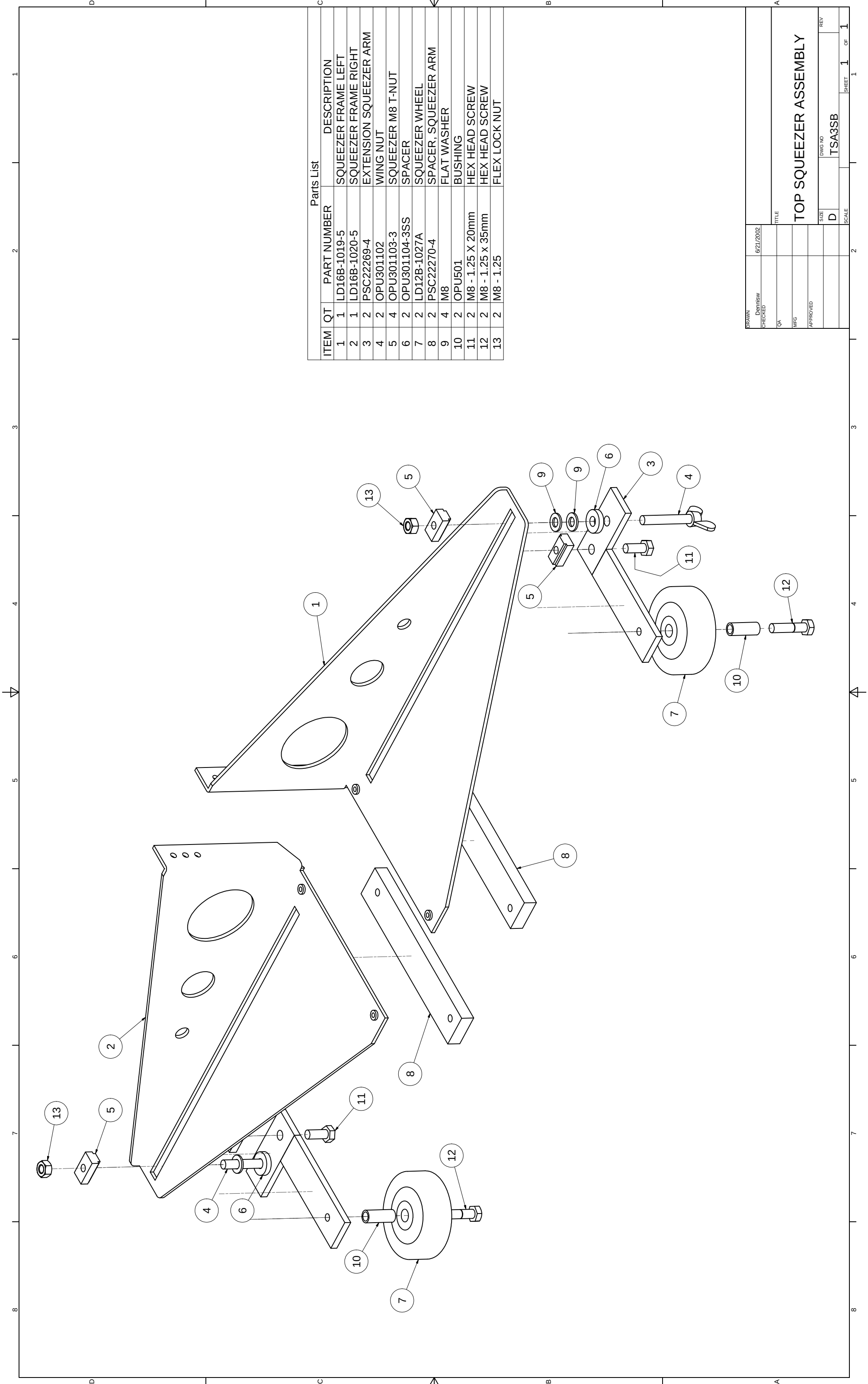


REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	6/21/2002	DW
B	M.C.R. #04-020	7/27/2004	AMYR

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

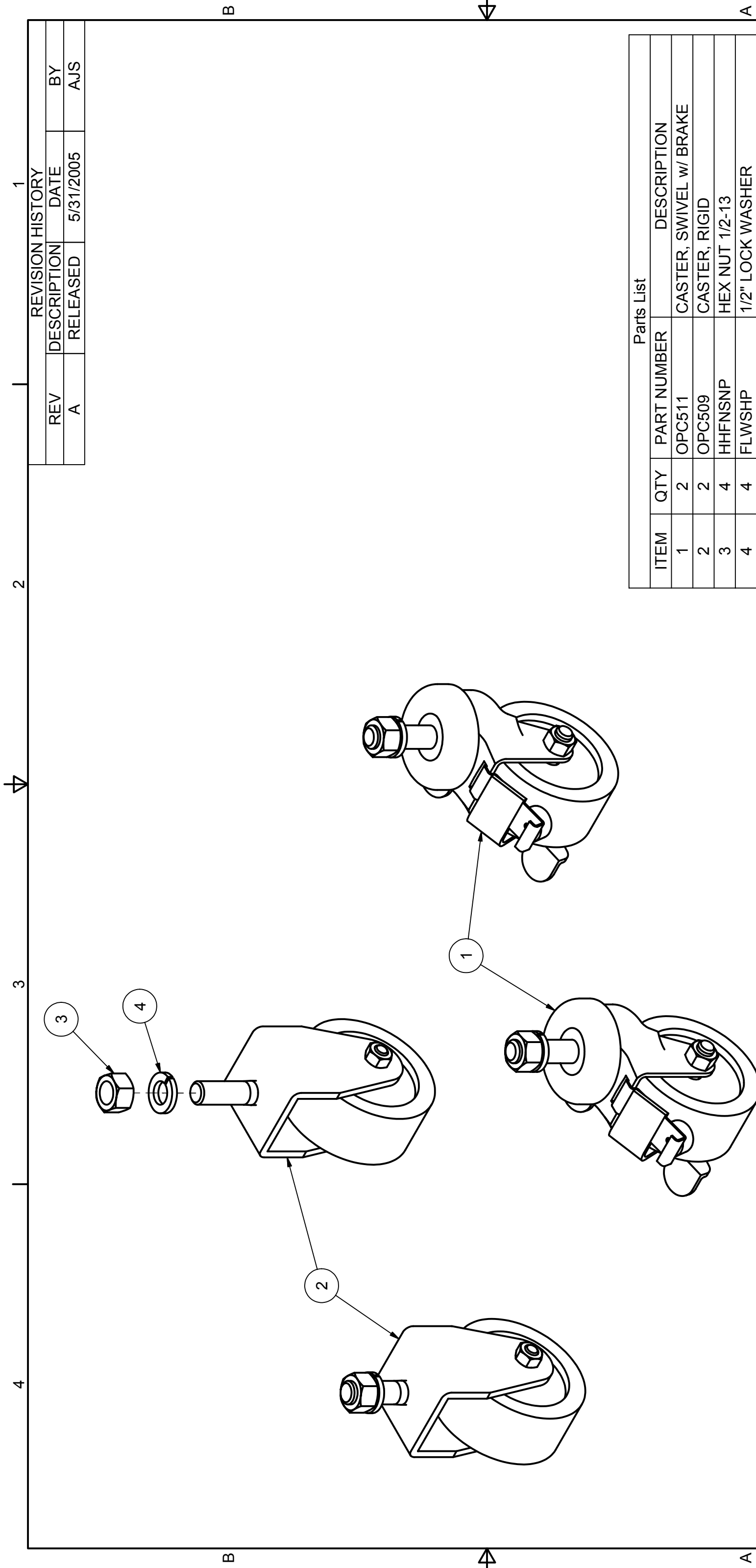
TOLERANCES UNLESS OTHERWISE NOTED:		TITLE	
.X = ±.050 INCH .XX = ±.015 .XXX = ±.005		TOP FLAP FOLDER	
ANGLES ± 1/2°		DWG NO	.TFF3SB/2FF
X = ±1.0mm MACH. ¹²⁵ FINISH		MATERIAL	N/A
.XXX = ±.1mm		DRAWN	AMYR
FRACTIONS ± 1/64		APPROVED	

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

DRAWN	Dentlsw	6/21/2002		
CHECKED				
QA			TITLE	
MFG			TOP SQUEEZER ASSEMBLY	
APPROVED				
			SIZE	REV
			D	TSA3SB
			SCALE	SHEET 1 OF 1



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

MAT'L		PART #	CAD FILE	LDC302.idw	TOLERANCES UNLESS OTHERWISE NOTED:	
NOTED		STD	PLOT DATE 5/31/2005			
ST. ST.		LDC302/SS	DRAWN DATE 5/31/2005			
		STAINLESS : NO FINISH				
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					TITLE LIGHT DUTY CASTER ASSY.	
					DWG NO .LDC302	SCALE N/A
					MATERIAL NOTED	CHECKED
					DRAWN tonys	APPROVED

LOVESHAW an *ITW* Company
RT. 296, SOUTH CANAAN, PA.

TITLE
LIGHT DUTY CASTER ASSY.

DWG NO	.LDC302	SCALE	N/A
MATERIAL	NOTED	CHECKED	
DRAWN	tonys	APPROVED	