Little David™ Case Sealer

LD3SBF
Side Belt Drive Uniform Case Sealer

Version: C

Operator’s Manual
LITTLE DAVID™ CASE SEALER

LD3SBF  Operation

Copyright © Loveshaw
Loveshaw, Inc.
2206 Easton Turnpike, PO. Box 83
South Canaan, PA 18459
Tel: 1-800-962-2633 • 570-937-4921
Fax: 570-937-4016

www.loveshaw.com

ITW PADLOCKER, LTD.
Unit 9 Brunel Gate
West Portway Industrial Estate
Andover, Hampshire SP10 3SL
ENGLAND
Tel: 264-357511
Fax: 264-355964

Friday, January 25, 2013
# Table of Contents

Chapter 1: Introduction

Chapter 2: Operating Safety

Chapter 3: Overview

Chapter 4: Installation

Chapter 5: Theory of Operation

Chapter 6: Machine Components

Chapter 7: Maintenance
Introduction

Thank you for purchasing the Little David™ case sealer, the LD3SBF. The LD3SBF is a robust, built 24/7 case sealer constructed of quality materials, bearings, 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.
Great Diagrams Below

- **SL-0003**: Pinch Point Squeezer Label
- **PM911**: Direction Label
- **PM931**: Blank Machine I.D. Tag
- **PM944-4**: Little David Label
- **SL-0002**: Understand Manual Label
- **SL-0003**: Pinch Point Squeezer Label
- **SL-0006**: Entanglement Hazard Label
- **SL-0004**: Pinch Point Roller Label
- **SL-0001**: Blade Hazard Label
- **SL-0021**: Arc Flash Hazard Label
- **SL-0017**: 80/20 Machine Part Label
- **ST-01**: Understood Manual Label

**Revision History**

<table>
<thead>
<tr>
<th>REV</th>
<th>DESCRIPTION</th>
<th>DATE</th>
<th>APPROVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Released 12/12/2013</td>
<td>TONYS</td>
<td></td>
</tr>
</tbody>
</table>
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 loosing 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
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 2:**
Loosen and remove hardware holding spring cover. (1) located near side (1) located far side.

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

**Figure 4:**
Loosen and remove spring bracket hardware.

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

**Figure 6:**
Remove head stop hardware from mast. (1) located near side (1) located far side.
Figure 7: Slide head upward until spring is forced outside of mast.

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

Figure 9: Remove hardware that holds spring in place.

Figure 10: Remove spring from spring/actuator bracket.

Figure 11: Reassemble new constant force spring assembly.

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

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

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

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

CASE SEALER, CUSTOM & SPECIAL APPLICATIONS

*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 WORKMANSIP, UNDER PROPER AND NORMAL USE AND MAINTENANCE, 

AS FOLLOWS:

- **DRIVE MOTOR** - 2 YEARS
- **GEAR REDUCER** - 2 YEARS
- **GEAR MOTOR** - 2 YEARS (THIS APPLIES TO SIDE BELTS ONLY)
- **TAPE CARTRIDGE** - 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 
WORKMANSIP);
- **PLC** - 1 YEAR
- **SERVO DRIVE** - 1 YEAR
- **ALL OTHER PARTS** - 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 WORKMANSIP).

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.
ASSEMBLY DRAWINGS AND SCHEMATICS
Parts List

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>LD3SB2-1001-6</td>
<td>FRAME PANEL LEFT/RIGHT</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>LD3SB2-1004-6</td>
<td>UPRIGHT RIGHT</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>LG4SB2-1005-6</td>
<td>UPRIGHT LEFT</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>LD3SB2-1010-4</td>
<td>TIE BAR - MAST</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>PSC37L-5</td>
<td>AUXILIARY LEG LEFT</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>PSC37R-5</td>
<td>AUXILIARY LEG RIGHT</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>OPU01104-3</td>
<td>SPACER</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>LD3SB2-1003-6</td>
<td>FRAME MAST SIDE</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>3SB2-2187LA-5</td>
<td>FRAME COVER</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>LD3SB2-1002E-6</td>
<td>FRAME OPERATOR SIDE</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>3SB2-3446-4</td>
<td>LEAD SCREW SUPPORT</td>
</tr>
<tr>
<td>12</td>
<td>8</td>
<td>FHHM010P10</td>
<td>FHCS M5 X 0.8 X 12 LG</td>
</tr>
<tr>
<td>13</td>
<td>10</td>
<td>FHHM010P10</td>
<td>FHCS M5 X 0.8 X 12 LG</td>
</tr>
<tr>
<td>14</td>
<td>4</td>
<td>FHLMF012P10</td>
<td>LOCK WASHER M8</td>
</tr>
<tr>
<td>15</td>
<td>4</td>
<td>FHHNMF012P10</td>
<td>HEX NUT M5</td>
</tr>
<tr>
<td>16</td>
<td>24</td>
<td>FHHM020P88</td>
<td>FHCS M10 X 20 X 16</td>
</tr>
<tr>
<td>17</td>
<td>8</td>
<td>FHHM020P88</td>
<td>FHCS M10 X 20 X 16</td>
</tr>
<tr>
<td>18</td>
<td>10</td>
<td>FHLMF012P10</td>
<td>LOCK WASHER M10</td>
</tr>
<tr>
<td>19</td>
<td>10</td>
<td>FHHNMF012P10</td>
<td>HEX NUT M10</td>
</tr>
<tr>
<td>20</td>
<td>9</td>
<td>SPH14-20</td>
<td>CABLE TIE HOLDER (PUSH STYLE)</td>
</tr>
<tr>
<td>21</td>
<td>1</td>
<td>3SB2-2187RA-5</td>
<td>FRAME COVER</td>
</tr>
<tr>
<td>22</td>
<td>1</td>
<td>PSC302213A-4</td>
<td>MAST STRAP - FRAME</td>
</tr>
<tr>
<td>23</td>
<td>1</td>
<td>LD3SB2-2025M</td>
<td>BEARING</td>
</tr>
<tr>
<td>24</td>
<td>2</td>
<td>FHHM020P88</td>
<td>FHCS M10 X 25</td>
</tr>
</tbody>
</table>

Revisions:

- A: RELEASED 12/6/2012 TONYS

Loctite Application Note:

277 is RED Loctite
242 is BLUE Loctite
538 is GREEN Loctite
I is no Loctite applied
Loctite Application Note:

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

Parts List

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>OPU3011048-3</td>
<td>SPACER</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>FLWMHP</td>
<td>LOCK WASHER M8</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>FHFNMP</td>
<td>HEX NUT, M8</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>3SB2-3454-6</td>
<td>BED FRAME 3&quot;</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>FFHF012P10</td>
<td>FHCS M5 X 0.8 X 12 LG.</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>3SB2-3455-4</td>
<td>CART FILL PLATE</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>FSHMF025P10</td>
<td>SHCS M8X25</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>3SB2-3482-4</td>
<td>FILL PLATE w/ PHOTOEYE</td>
</tr>
</tbody>
</table>

REVISION HISTORY

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

LOVESHW an ITW Company
RT. 236, SOUTH CANAAN, P.A.

MATL. PART # CAD FILE BFA3SBF.idw
NOTED STD PLOT DATE 6/6/2012
ST. ST. N/A DRAWN DATE 6/6/2012
STAINLESS: NO FINISH

DO NOT SCALE PRINT

TOLERANCES UNLESS OTHERWISE NOTED:

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>PART #</th>
<th>CAD FILE</th>
<th>SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAINLESS</td>
<td>N/A</td>
<td>BFA3SBF.idw</td>
<td>N/A</td>
</tr>
</tbody>
</table>

FRACTIONS ±1/64
Parts List

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>PSC22248-3</td>
<td>SHAFT, CHAIN IDLER ROLLER</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>PSC22247-3</td>
<td>CHAIN IDLER ROLLER</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>LD3SB2-2024-5</td>
<td>HAND WHEEL</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>LD3SB2-2026</td>
<td>SPROCKET</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>LD3SB2-2021L-4</td>
<td>LEAD SCREW (REAR)</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>LD3SB2-2020G-4</td>
<td>LEAD SCREW (FRONT)</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>LD16SB-3397C-4</td>
<td>LEAD NUT RIGHT</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>LD3SB2-2025M</td>
<td>BEARING</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>LD16SB-3398C-4</td>
<td>LEAD NUT RIGHT</td>
</tr>
<tr>
<td>10</td>
<td>8</td>
<td>FHHM025P88</td>
<td>HHCS M10 X 25</td>
</tr>
<tr>
<td>11</td>
<td>8</td>
<td>FLWMP</td>
<td>LOCK WASHER M10</td>
</tr>
<tr>
<td>12</td>
<td>8</td>
<td>FHHNMIP</td>
<td>HEX N M10</td>
</tr>
<tr>
<td>13</td>
<td>4</td>
<td>HC101</td>
<td>#35 ROLLER CHAIN</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>HC201</td>
<td>#35 MASTER LINK</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>FFWMHP</td>
<td>FLAT WASHER M8</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>FLWMP</td>
<td>LOCK WASHER M8</td>
</tr>
<tr>
<td>17</td>
<td>1</td>
<td>FHHM1020P10</td>
<td>HHCS M8 X 20</td>
</tr>
<tr>
<td>18</td>
<td>1</td>
<td>SPH-1544</td>
<td>COTTER PIN, HAIRPIN</td>
</tr>
<tr>
<td>19</td>
<td>1</td>
<td>SPH-1562</td>
<td>CAP, PUSH ON</td>
</tr>
</tbody>
</table>

Loctite Application Note:

277 is RED Loctite
242 is BLUE Loctite
538 is GREEN Loctite

This drawing and subject matter, the use and/or disclosure of which is exclusively the property of LoveShaw ITW and is to be treated by you as confidential proprietary information. The copying or reproduction in whole or in part of either the drawing or subject matter without the written consent of LoveShaw ITW will be deemed an infringement and will be subject to legal measures.
Loctite Application Note:

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

<table>
<thead>
<tr>
<th>Motor Part #</th>
<th>Description</th>
<th>Voltage / Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>50100-042R</td>
<td>Gear Motor RH</td>
<td>120/1/60</td>
</tr>
<tr>
<td>50100-042L</td>
<td>Gear Motor LH</td>
<td>120/1/60</td>
</tr>
<tr>
<td>50100-053</td>
<td>Gear Motor</td>
<td>240/1/50</td>
</tr>
<tr>
<td>50100-068</td>
<td>Gear Motor</td>
<td>220-440/3/50-60</td>
</tr>
</tbody>
</table>
Parts List

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>PSC102286-4</td>
<td>SPRING BRACKET</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>FSHM020P10</td>
<td>SHCS M8 X 20</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>FLWMHP</td>
<td>LOCK WASHER M8</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>FHFNMHP</td>
<td>HEX NUT, M8</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>PSC102285-4</td>
<td>SPRING COVER</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>FLWMFP</td>
<td>LOCK WASHER M5</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>FBHM012P10</td>
<td>HEX SOC. BUTT. HD. SCREW</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>FFHFM016P10</td>
<td>FLAT HD. M8 X 16 LG</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>FLWMIP</td>
<td>LOCK WASHER M10</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>PSC02213-4</td>
<td>MAST STRAP - FRAME</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>FLWMGP</td>
<td>LOCK WASHER M6</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>FSHMG012P10</td>
<td>SOC. HD. CAP SCREW M6 X 12</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>PSC02334-5</td>
<td>MAST</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>CBAL301G</td>
<td>COUNTER BALANCE ASSY.</td>
</tr>
<tr>
<td>15</td>
<td>2</td>
<td>FHFNMIP</td>
<td>HEX NUT M10</td>
</tr>
<tr>
<td>16</td>
<td>2</td>
<td>FBHM016P88</td>
<td>BUT. HD. SOC HD. M10x16 LG.</td>
</tr>
</tbody>
</table>

Loctite Application Note:
277 is RED Loctite
242 is BLUE Loctite
538 is GREEN Loctite
/ is no Loctite applied
MACHINE AVAILABLE SPECIAL OPTIONS
## Parts List

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>OPU19/AS-6</td>
<td>INFEED TABLE W/ AIR SWITCH CUTOUT</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>OPU20-4</td>
<td>PACK TABLE TOP</td>
</tr>
</tbody>
</table>

## Tolerances Unless Otherwise Noted:

- **Inch**: 
  - .050
  - .015
  - .005
- **Metric**: 
  - 1.0mm
  - .3mm
  - .1mm

## Fractions: 1/64+--

## Angles: 1/2

## Mach. Finish: 125

---

**LOVESHW** an **ITW** Company

**RT. 296, SOUTH CANAAN, PA.**

---

**TITLE**

**INFEED TABLE ASSEMBLY**

---

**LOVESHW AS A COMPANY**

**DRAWN DATE**: 7/25/2003

**DRAWN**: AMYR

**CHECKED**: AMYR

**APPROVED**: AMYR

---

**ITW MATERIAL**

**TOLERANCES UNLESS OTHERWISE NOTED**:

- **Inch**: 
  - .050
  - .015
  - .005
- **Metric**: 
  - 1.0mm
  - .3mm
  - .1mm

**Fractions**: 1/64+

**Angles**: 1/2

**Mach. Finish**: 125

---

**Parts List**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>OPU19/AS-6</td>
<td>INFEED TABLE W/ AIR SWITCH CUTOUT</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>OPU20-4</td>
<td>PACK TABLE TOP</td>
</tr>
</tbody>
</table>
**Title**

**Drawing No.**

**Scale**

**Drawn**

**Checked**

**Approved**

**Company**

**Address**

**Material**

**CAD File**

**Plot Date**

**Drawn Date**

**Revised**

**Description**

**Date**

**By**

** Issued**

**Date**

**By**

**Contact**

**Revision History**

**Description**

**Date**

**By**

**Parts List**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
<td>50299-001</td>
<td>PUSH NUT</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>50299-029</td>
<td>ROLLER END PLUG</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>1417-01-322C</td>
<td>ROLLER SHAFT</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
<td>1417-01-321C</td>
<td>ROLLER</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>PSC102245-4</td>
<td>TIE BAR</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>PSC301934L-5</td>
<td>INFEED TABLE LEFT SIDE</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>PSC301934R-5</td>
<td>INFEED TABLE RIGHT SIDE</td>
</tr>
</tbody>
</table>

**Tolerances Unless Otherwise Noted:**

- Inch: ±0.050
- Metric: ±1.0 mm
- Angles: +/−1/2°
- Finish: Machined

**Fractions** 1/64

**ITW - LOVESHAW**

**RT. 296, SOUTH CANAAN, PA.**

**Infeed Pack Table-Roller Bed**

**FOR 3SB, 3E, 2TB**

**Parts**

- Push Nut
- Roller End Plug
- Roller Shaft
- Roller
- Tie Bar
- Infeed Table Left Side
- Infeed Table Right Side

**Drawing Information**

- MATL: C.R.S.
- C.R.S.: STD
- ST. ST.: N/A
- CAD FILE: ITA-RB
- PLOT DATE: 4/27/2005
- REV: A
- DESCRIPTION: RELEASED
- DATE: 6/5/2003
- BY: AMYR

**Reproduction Notice**

- This drawing and subject matter thereof is the exclusive property of Loveshaw-ITW and is to be treated by you as confidential proprietary information. The drawing or subject matter thereof shall not be reproduced other than for your own use or be disclosed to others without the expressed written consent of Loveshaw-ITW and will be returned to Loveshaw-ITW upon request.
There is no natural text representation provided for the image contents.
Parts List

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QT</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>LD16B-1019-5</td>
<td>SQUEEZER FRAME LEFT</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>LD16B-1020-5</td>
<td>SQUEEZER FRAME RIGHT</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>PSC22069-4</td>
<td>EXTENSION SQUEEZER ARM</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>OP0301102</td>
<td>WING NUT</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>OP0301103-3</td>
<td>SQUEEZER M8 T-NUT</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>OP0301104-3S</td>
<td>SPACER</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>LD128-1027A</td>
<td>SQUEEZER WHEEL</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>PSC22770-4</td>
<td>SPACER, SQUEEZER ARM</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>M8</td>
<td>FLAT WASHER</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>OP501</td>
<td>BUSHING</td>
</tr>
<tr>
<td>11</td>
<td>2</td>
<td>M8 - 1.25 X 20mm</td>
<td>HEX HEAD SCREW</td>
</tr>
<tr>
<td>12</td>
<td>2</td>
<td>M8 - 1.25 x 30mm</td>
<td>HEX HEAD SCREW</td>
</tr>
<tr>
<td>13</td>
<td>2</td>
<td>M8 - 1.25</td>
<td>FLEX LOCK NUT</td>
</tr>
</tbody>
</table>