LITTLE DAVID

OWNERS MANUAL

CF5/C/E

THE LOVESHAW CORPORATION
2206 EASTON TURNPIKE, BOX 83
SOUTH CANAAN, PA 18459

TEL: (570) 937-4921
FAX: (570) 937-4370

P/N: PM-CF5/EV

LOVESHAW - EUROPE
UNIT 1, NEWTON PARK
W. PORTWAY INDUSTRIAL ESTATE
ANDOVER, HAMPSHIRE SP103SH
ENGLAND

TEL: 44-264-3575-11

P/N: PM-CF5/EV

Valid from 08/17
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GENERAL SAFETY PRECAUTIONS

BEFORE INSTALLING, OPERATING, OR SERVICING THIS EQUIPMENT, READ THE FOLLOWING PRECAUTIONS CAREFULLY:

1. THIS MACHINE IS EQUIPPED WITH MOVING PARTS. DO NOT PLACE HANDS IN THE MACHINE WHEN PARTS ARE MOVING.

2. DO NOT BYPASS ANY DESIGNED-IN SAFETY FEATURES SUCH AS INTERLOCKS, GUARDS OR SHIELDS.

3. DO NOT PLACE HANDS OR BODY INSIDE CONFINES OF MACHINE WHILE IT IS RUNNING.

4. SAFETY GLASSES SHOULD BE WORN WHEN WORKING ON OR AROUND MACHINE.
MACHINE SPECIFICATIONS

MACHINE MODEL: CF5

INFEED/OUTFEED HEIGHT:
MINIMUM: 22 1/4”
MAXIMUM: 30 1/4”

BOX CAPACITY:
LENGTH: 8” (203 mm)
WIDTH: 6” (152 mm)
HEIGHT: 3.5” (89 mm)

MINIMUM: 26 1/2” (672 mm)
MAXIMUM: unlimited

MACHINE SPEED:
UP TO 15 BOXES PER/MIN., DEPENDING ON BOX SIZE AND OPERATOR’S DEXTERITY.

MACHINE SIZE:
LENGTH: 37.5” (953 mm)
WIDTH: 26” (660 mm)
HEIGHT: 22” (559 mm)

AIR REQUIREMENTS:
3 SCFM @ 40 - 50 PSI

CF5 FEATURES:

* ERECTS BOXES WITHOUT USING ANVIL PLATE
* ERECTED BOXES ARE POSITIONED ON ROLLER BED FOR EASY TRANSFER TO CASE SEALER
* THREE POINT SAFETY SWITCH ACTUATION PROTECTS AGAINST ACCIDENTAL STARTING
* ONE MINUTE BOX SIZE CHANGE-OVER
* FLAP FOLDING SYSTEM POWER FOLDS ALL BOTTOM FLAPS
* MAJOR FLAPS, KEEP BOTTOM FLAPS OF BOX ALIGNED FOR HASSLE FREE FOLDING
* MECHANICAL BOX HOLD DOWN, KEEPS BOX IN PLACE FOR HANDS FREE BOX LOADING
* CAN BE EASILY INCORPORATED WITH ANY CASE SEALER IN THE INDUSTRY
* STAINLESS STEEL COVERS
* CORROSION RESISTANT CONSTRUCTION
* WELDED FRAME
* POWDER COAT FINISH
* SLIDE AND LOCK LEGS
* ARTICULATING SIDE ROLLER DESIGN FOR EASE OF LOADING
* PROGRAMMABLE LOGIC CONTROL SEQUENCE
INSTALLATION PROCEDURE

EXERCISE CARE WHEN HANDLING THIS MACHINE, A SUDDEN JOLT OR JAR MAY CAUSE SERIOUS DAMAGE.

DO NOT REMOVE THE SHIPPING SKID UNTIL MACHINE HAS BEEN MOVED TO A POINT OF INSTALLATION. THE SKID IS DESIGNED FOR EASY AND SAFE HANDLING OF YOUR MACHINE. UNPACK MACHINE AND REMOVE ANY MATERIALS USED TO PROTECT COMPONENTS DURING SHIPPING.

IF MACHINE IS PLACED DIRECTLY ON FLOOR, FRAME BASE MUST BE LEVEL TO ENSURE PERSONAL SAFETY, PREVENT UNDO STRESS TO THE FRAME, AND MAXIMUM PERFORMANCE.

THE CF5 IS INTENDED TO OPERATE IN A HORIZONTAL POSITION. DO NOT ATTEMPT TO TILT THE CF5 TOWARD THE OPERATOR, THIS WILL CAUSE EXCESSIVE WEAR ON THE BOX WIDTH ADJUSTMENT ASSEMBLY AND MAY CAUSE IT TO JAM OR EVEN DAMAGE THE WIDTH ADJUSTMENT SCREW.

THE CF5 SHOULD BE SECURELY MOUNTED IN-LINE WITH ADJOINING EQUIPMENT TO PREVENT IT FROM MOVING AS IT OPERATES.

AIR SUPPLY MAY COME FROM EITHER A SEPARATE SOURCE OR BY TAPPING OFF THE SUPPLY OF AN ADJOINING CASE SEALER. THE AIR SUPPLY TO THE MACHINE SHOULD BE CLEAN AND DRY, AS THE FILTER IS ONLY MEANT TO REMOVE MINOR PARTICLES OR SLIGHT AMOUNTS OF MOISTURE IN THE AIR LINE. DIRT OR MOISTURE CAN CAUSE THE ERRATIC OPERATION OF CONTROL VALVES.

AIR SHOULD BE SET AT 50 PSI, WITH A MINIMUM OF 40 PSI AND A MAXIMUM OF 60 PSI.
MACHINE ADJUSTMENTS

CAUTION:
BEFORE MAKING ANY CHANGES OR ADJUSTMENTS, SWITCH OFF OR DISCONNECT ELECTRICAL AND AIR
SUPPLY TO THE MACHINE (*). FOLLOW OSHA LOCK OUT / TAG OUT PROCEDURE.

MACHINE SET UP:
SET-UP FOR THE CF5 CONSISTS OF THREE SEPARATE ADJUSTMENTS:

- BOX WIDTH (*)
- BOX LENGTH
- POSITION OF MAJOR FLAP FOLDER PLATES (**)

(*) THIS ADJUSTMENT REQUIRES MACHINE TO BE TURNED ON.

(**) AFTER INITIAL SET-UP, THIS ADJUSTMENT IS REQUIRED ONLY WHEN THERE IS A LARGE DIFFERENCE IN
BOX SIZE.

BOX WIDTH (1):

1. ATTACH THE HAND CRANK (SUPPLIED WITH THE MACHINE) ON THE SQUARE SHAFT THAT EXTENDS
FROM EITHER SIDE OF THE FRAME. OPEN THE FRAME WIDER THAN THE BOX.

2. TURN MACHINE ON. THIS MOVES ROLLER PLATES AND ROLLERS OUT OF THE WAY SO OPERATOR
CAN MAKE AN EASY AND PROPER ADJUSTMENT.

3. OPEN A BLANK BOX AND INSERT IT INTO THE MACHINE.
4. **USING THE HAND CRANK, TURN WIDTH ADJUSTMENT UNTIL THE BOX HOLD-DOWN ROLLERS ARE LIGHTLY GRIPPING THE SIDES OF THE BOX. IT SHOULD BE EASY TO INSERT THE BOX WITHOUT FORCE.**

**BOX LENGTH (2):**

1. **REMOVE BOX. LOOSEN THE CLAMP AT THE BASE OF THE FRONT MINOR FLAP FOLDING ASSEMBLY.**

MAJOR FLAP FOLDER PLATES (3):

THERE ARE TWO MAJOR FOLDER PLATES ON EACH SIDE OF THE MACHINE, ONE SMALLER AND ONE LARGER THAT ARE ADJUSTED INDIVIDUALLY.

THE MAJOR FLAP FOLDING PLATES AND WHEELS MAY BE EXTENDED TO PROVIDE ADDITIONAL SUPPORT FOR WIDE HEAVY BOXES OR RETRACTED FOR NARROW BOXES.

CAUTION:

DO NOT SET MAJOR FLAP FOLDING PLATES IN THE EXTENDED POSITION WHILE RUNNING VERY NARROW BOXES. THIS WILL CAUSE THE MAJOR FLAP FOLDING WHEELS TO CONTACT THE MINOR FLAP FOLDING ASSEMBLY AND WEDGE AGAINST THE BOTTOM CONTROL/FLAP OPENER BRACKET. IF FORCED, EITHER OF THESE CONDITIONS CAN DAMAGE MACHINE COMPONENTS.
1. ON EACH SIDE, LOOSEN THE FOUR SOCKET HEAD CAP SCREWS THAT HOLD THE FOLDER PLATES IN PLACE. SLIDE THE FRONT (LARGER) MAJOR FOLDER PLATE TO DESIRED POSITION AND RETIGHTEN THE SCREWS. REPEAT PROCEDURE FOR THE REAR (SMALLER) FOLDER PLATE.

**CAUTION:**

FOR VERY WIDE BOXES, THE SMALLER FOLDER PLATE WILL NOT BE ABLE TO BE EXTENDED AS FAR AS THE LARGER PLATE.
MACHINE OPERATION

BEFORE STARTING MACHINE, DISCONNECT COMPRESSED AIR AND ELECTRICAL POWER TO THE UNIT. ACTUATE ALL MOVING PARTS BY HAND TO CHECK ADJUSTMENTS FOR ANY MECHANICAL OBSTRUCTION. RECONNECT UTILITIES AND TURN ON MACHINE. KEEP HANDS CLEAR OF MOVING PARTS.

ERECTING A BOX:

1. OPEN AND SQUARE OFF BOX.

2. PLACE BOX, BOTTOM OPEN, INTO CF5. PUSH THE BOX DOWN UNTIL IT MAKES CONTACT WITH THE TWO BOTTOM PHOTO EYES.

3. THE MACHINE WILL FOLD THE FRONT AND REAR MINOR FLAPS FIRST, AND THEN THE TWO SIDE MAJOR FLAPS. THE BOX IS HELD IN PLACE AND IS READY TO FILL, IF DESIRED.

4. WHEN THE BOX IS ERECTED (AND FILLED), PUSH IT OUT OF THE CF5 FOR THE NEXT OPERATION.

5. AS THE TRAILING END OF THE BOX BREAKS CONTACT WITH THE PHOTO EYE, THE CF5 WILL AUTOMATICALLY RESET FOR THE NEXT BOX.
OPERATING CYCLE:

1. THERE ARE THREE PHOTO EYES THAT MUST BE ACTUATED FOR THE MACHINE CYCLE TO START. THE TWO PHOTO EYES (NOT SHOWN) ACTUATED BY THE BOTTOM EDGES OF THE MAJOR FLAPS, AND THE SIDE PHOTO EYE (NOT SHOWN) ACTUATED BY THE SIDE OF THE BOX.

2. THE TWO SMALL LEVERS OF THE MAJOR FLAP OPENERS TEMPORARILY OPEN THE MAJOR FLAPS AS THE MINOR FLAPS ARE FOLDED.
3. THE MINOR FLAP FOLDERS FOLD BOTH END FLAPS ON THE BOTTOM OF THE BOX AND THEN RETRACT.
4. The major flap folders then fold both side flaps on the bottom of the box and stay in position to support the box for filling. The hold down rollers then extend outward to hold the box in position.

![Diagram of Major Flap Folders and Wheels](image)

(MAJOR FLAP FOLDERS)

5. As the operator pushes the box out of the machine, the wheeled body switch resets and the machine is ready for the next box.
PREVENTATIVE MAINTENANCE SCHEDULE

EVERY SHIFT

1. WIPE ANY DUST OFF THE PHOTO EYES WITH A RAG.

DAILY

1. BLOW ANY DUST, DIRT, OR DEBRIS OFF THE MACHINE USING COMPRESSED AIR.

WEEKLY

1. CHECK AND CLEAN THE AIR FILTER.
TROUBLESHOOTING GUIDE

A. DURING FOLDING OR FILLING CYCLE, BOX RELEASES, ALL FLAPS DROP. CONTACTS

1. CHECK TO SEE IF WIDTH ADJUSTMENT IS CORRECT. IF IT IS TOO WIDE, THE PHOTO EYE THAT THE SIDE OF THE BOX WILL RESET AND CAUSE THE MACHINE TO RETURN TO THE START POSITION.

2. SHAKING THE BOX TO LEVEL THE CONTENTS CAN CAUSE THE PHOTO EYE TO RESET.

B. MAJOR FLAPS HAVE PROBLEMS FOLDING AND CAUSE INNER EDGES OF MINOR FLAPS TO BE FOLDED OVER.

1. MAKE SURE THE MAJOR FLAP OPENERS ARE SET CORRECTLY SO THEY TEMPORARILY OPEN THE MAJOR FLAPS WIDER AND ALLOW THE MINOR FLAPS TO CLEAR THE INSIDE OF THE MAJOR FLAPS BEFORE RELEASING.

2. CHECK THAT AIR PRESSURE IS ADEQUATE AND THAT AIR PRESSURE DOES NOT DROP DURING THE CYCLE.

C. DURING MINOR FLAP FOLDING, BACK OR FRONT OF BOX COLLAPSES INWARD.

1. BE SURE THAT THE BOX WIDTH SETTING DOES NOT HOLD BOX TOO TIGHTLY.

2. CHECK THE AIR PRESSURE SETTING.

3. CHECK THAT THE SCORING ON THE BOX IS ADEQUATE AND PROMOTES FOLDING.

D. BOX TRANSFER FROM CF5 INTO CASE SEALER IS NOT SMOOTH.


2. CHECK THE ALIGNMENT OF THE MACHINES TO EACH OTHER. MAKE SURE THE WORKING SURFACE (HEIGHT) OF BOTH MACHINES ARE CO-PLANAR.
WARNING:

ALTHOUGH THE CF5 CAN BE USED WITH COMPETITIVE CASE SEALER/TAPERS, LOVESHAW ASSUMES NO RESPONSIBILITY FOR SAFETY ISSUES RESULTING FROM THESE APPLICATIONS. WE DO NOT RECOMMEND USING THE CF5 IN CLOSE PROXIMITY WITH CONVENTIONAL KICKERS AND/OR THREE FLAP FOLDERS.

CAUTION:

BEFORE CONNECTING THE AIR SUPPLY TO THE MACHINE, BE SURE THAT THE MAIN ON/OFF AT THE AIR CONNECTION IS SHUT OFF AND THAT THE RED EMERGENCY STOP BUTTON IS PUSHED DOWN. FOLLOW OSHA LOCK OUT / TAG OUT PROCEDURES.

BEFORE DOING ANY MAINTENANCE OR SERVICE, BE SURE THAT THE MACHINE IS DISCONNECTED FROM THE AIR SOURCE AND ELECTRICAL POWER. THIS WILL PREVENT ACCIDENTAL MACHINE MOVEMENTS THAT COULD RESULT IN PERSONAL INJURY.

NEVER LEAVE THE MACHINE UNATTENDED WHILE THE MACHINE IS TURNED ON.

MACHINE SHOULD ONLY BE OPERATED BY QUALIFIED PERSONNEL!!!!!!!
**Little David® Warranty**

**For:** CASE FORMER MODELS
CF20-T, CF30-T, CF40-T, CF40T-XL MODELS

1 YEAR WARRANTY ON DRIVE MOTOR
1 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 ALL OTHER PARTS

*(EXCEPT FOR WEAR AND MOVING PARTS.)*

**For:** CASE FORMER MODEL
CF5

1 YEAR ON PLC
1 YEAR ALL OTHER PARTS

*(EXCEPT FOR WEAR AND MOVING PARTS.)*

*LIMITED WARRANTY – LOVESHAW 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:

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<tr>
<td>PLC</td>
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<tr>
<td>ALL OTHER PARTS</td>
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*(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.)*

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 REPLACEMENTS AND REPAIRS MUST BE MADE BY LOVESHAW OR A LOVESHAW 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 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 COMPANY**
2206 EASTON TURNPIKE, BOX 83  SOUTH CANAAN, PA  18459
TEL: 570.937.4921 - 800.572.3434 - FAX: 570.937.3229
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LOVESHAW
Parts List

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<td>90 ELBOW SWIVEL, FITTING, 1/4 BSPT X 10mm OD</td>
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<td>PLUG, FITTING, INTERNAL HEX 1/4 BSPT</td>
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MATL  PART #  CAD FILE  PNEUCF5
ST. ST.  N/A  DRAWN DATE  5/31/2005

TOLERANCES UNLESS OTHERWISE NOTED:
X = ±0.050
INCH  XX = ±0.16  ANGLES ±1/2
X = ±0.050
METRIC  XX = ±.025  XXX = ±.1mm
MACH FINISH

FRACTIONS 1/64

LOVESHAWS
RT. 296, SOUTH CANAAN, PA.

REV DESCRIPTION DATE BY
A RELEASED 3/4/2011 BJF
KEY | PART NUMBER | PART DESCRIPTION
--- | --- | ---
1 | A100N-1210P | ELECTRICAL PANEL
2 | A125BH-AB-DIN | FUSE HOLDER
3 | A128B-AB16 | FUSE HOLDER BARRIER
4 | A125SB-2-326 | FUSE 2 AMP
5 | A125SB-1.5-326 | FUSE 1.5 AMP
6 | A209-AB-2 | DIN RAIL
7 | A241AB-830-1 | PLC
8 | A128-AB-ERL35 | TERMINAL ANCHOR
9 | A124-AB-JG4 | GROUND TERMINAL
10 | A124-AB-J3 | TERMINAL BLOCK
11 | A124-AB-CJ10 | TERM. LINK BAR 10 POLE
12 | A128-AB-PP3 | TERMINAL SEPARATOR
13 | A124-AB-MARK-ST | TERMINAL MARKER CARD
14 | A241AB-830-PS | POWER SUPPLY
LADDER LOGIC

FILENAME: CF5
Controller.Micro830.Micro830.START

THE START LATCH IS ENERGIZED AFTER THE TIMER REACHES ITS PRESET VALUE. THE AIR DUMP VALVE AND THE RUN PILOT LIGHT TURN ON IF BUTTON IS PRESSED. THE TIME ALLOWS AIR TO FILL ALL THE CYLINDERS BEFORE THE MACHINE CYCLE STARTS.
STEP 6 OF THE SEQUENCER DETECTS THAT THE MAJOR FLAP FOLDERS ARE IN THEIR HOME POSITION.

STEP 7 OF THE SEQUENCER RE-STARTS THE MACHINE CYCLE SEQUENCER.
**Controller.Micro830.Micro830.OUTPUTS**

The output is energized to spread out the major flaps prior to folding the minor flaps.

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The output is energized to fold up the minor flaps.

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The output is energized to fold the major flaps.

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