GENERAL SAFETY PRECAUTIONS

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

* THIS MACHINE IS EQUIPPED WITH MOVING BELTS. DO NOT PLACE HANDS NEAR THE REAR OF THIS MACHINE WHEN BELTS ARE MOVING, AS FINGERS MAY BE PINCHED WHERE BELTS ENTER FRAME. ALWAYS USE A ROLLER TYPE EXIT CONVEYOR AND ALWAYS REMOVE THE BOXES AFTER THEY CLEAR THE EXIT END OF THE MACHINE.

* OBSERVE CAUTION WHEN NEAR CARTRIDGE KNIFE OR WHEN THREADING TAPE. KNIFE IS VERY SHARP, AUTOMATICALLY OPERATED AND IS LINKED TO THE WIPE DOWN ROLLERS.

* DO NOT ATTEMPT TO OPEN OR WORK ON ELECTRICAL BOX, JUNCTION BOXES, OR OTHER ELECTRICAL COMPONENTS WITHOUT FIRST DISCONNECTING POWER TO THE MACHINE. SHOCK HAZARD EXISTS IF POWER IS NOT DISCONNECTED.

* DO NOT BY-PASS ANY DESIGNED-IN SAFETY FEATURES SUCH AS INTERLOCKS, GUARDS OR SHIELDS.

* FULLY AUTOMATIC MACHINES ARE EQUIPPED WITH A REAR FLAP KICKER. DO NOT PLACE ANY PART OF THE BODY NEAR THIS AREA WITHOUT FIRST DISCONNECTING POWER AND AIR SUPPLY.

* DO NOT PLACE HANDS OR BODY INSIDE CONFINES OF RANDOM TYPE MACHINES. THE SIDE RAILS AND HEAD OPERATE AUTOMATICALLY.

* DO NOT PLACE HANDS OR BODY INSIDE CONFINES OF UNIFORM TYPE MACHINES UNLESS HEAD IS SECURELY LOCKED AND POWER AND AIR ARE DISCONNECTED.

* ALWAYS DISCONNECT POWER AND AIR SUPPLY (IF APPLICABLE) BEFORE SERVICING MACHINE.

* WHEN OPERATING A SEMI-AUTOMATIC MACHINE, HOLD BOX FLAPS DOWN AT THE TRAILING EDGE OF THE BOX. RELEASE HANDS AS SOON AS THE BELTS TAKE THE BOX.

* DO NOT WEAR JEWELRY, LOOSE CLOTHING, SUCH AS TIES, SCARVES, ETC., AND LONG HAIR SHOULD BE PULLED BACK WHEN OPERATING THE MACHINE.

* SAFETY GLASSES SHOULD BE WORN WHEN WORKING WITH OR AROUND MACHINE.
ARRIVAL INSPECTION

****NOTE***

WHEN UNCRATING MACHINE, CHECK FOR ANY PHYSICAL DAMAGE.

IF ANY DAMAGE HAS OCCURRED, NOTIFY SHIPPING COMPANY IMMEDIATELY.
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INTRODUCTION

THE LD16A TAPING MACHINE HAS BEEN CUSTOM MANUFACTURED FOR YOUR SPECIFIC PACKAGING REQUIREMENTS. A GREAT DEAL OF CARE HAS BEEN EXERCISED BY OUR DESIGN AND ENGINEERING GROUP IN THE CONSTRUCTION OF YOUR HIGHLY EFFICIENT LD16A MACHINE. THE HIGHEST QUALITY MATERIALS HAVE BEEN USED FOR ALL PARTS AND COMPONENTS IN THE FABRICATION OF YOUR LD16A.

UNDERSTANDABLY, A MACHINE AS SOPHISTICATED AS THE LD16A MAY REQUIRE SOME ADJUSTMENTS FROM TIME TO TIME. IF ADJUSTMENTS ARE NECESSARY, YOU WILL FIND SIMPLE INSTRUCTIONS OUTLINED IN THIS MANUAL.

IF YOU ARE IN DOUBT ABOUT ANY ADJUSTMENT, OR IF A PROBLEM OCCURS WHICH IS NOT COVERED IN THIS MANUAL, PLEASE TELEPHONE OUR SERVICE DEPARTMENT. IT IS IMPORTANT TO BE ABLE TO DESCRIBE THE PROBLEM IN FULL DETAIL. MOST PROBLEMS CAN BE CORRECTED THROUGH A TELEPHONE CONVERSATION. SHOULD IT BE A MORE SERIOUS PROBLEM, WE MAY BE ABLE TO OFFER A TEMPORARY SOLUTION UNTIL OUR FIELD SERVICEMAN CAN GET TO YOUR PLANT.

IF IN THE UNITED STATES:

LOVESHAW CORPORATION
2206 EASTON TURNPIKE, BOX 83
SOUTH CANAAN, PA 18459
TEL: 1-800-962-2633 / 570-937-4921
FAX: 570-937-4370

IF IN EUROPE:

LOVESHAW - EUROPE
UNIT 9 BRUNEL GATE
WEST PORTWAY INDUSTRIAL ESTATE
ANDOVER HAMPSHIRE SP10 3SL
ENGLAND
TEL: (0264) 357511
FAX: (0264) 355964
MACHINE SPECIFICATIONS

MACHINE DIMENSIONS:

HEIGHT: 70"  1778 mm
WIDTH: 35"  890 mm
LENGTH: 77"  1956 mm

INFEED HEIGHT:

22 ¼”  565 mm  STANDARD - OPTIONAL DIMENSIONS ON REQUEST.

ELECTRICAL:

STANDARD: 115V/220V - 1 PH - 60 CYCLES
220V - 3 PH - 60 CYCLES
OPTIONAL: 240V - 1 PH - 50 CYCLES
380V - 3 PH - 50 CYCLES
440V - 3 PH - 50 CYCLES
440V - 3 PH - 60 CYCLES
575V - 3 PH - 60 CYCLES

BOX CAPACITY:

LENGTH: 8 ¼” min. to 24” max.  206 mm to 610 mm
WIDTH: 4 ½” min. to 20” max.  114 mm to 508 mm
HEIGHT: 4 ½” min. to 20” max.  114 mm to 508 mm

OPERATING SPEED:

BELT SPEED: 80 ft/min  24.4 m/min.
NUMBER OF BOXES PER MIN.: up to 14 depending on box dimension

CLOSURE MATERIAL: PRESSURE SENSITIVE TAPE

WIDTH: 1 ½” to 2”  38 mm to 50 mm
MAX. ROLL DIAMETER: 15”  380 mm

WEIGHT: (UNCRAF TED) 650 lbs.  302 kg.

AIR REQUIREMENTS:

0.15 cf. free air per cycle at 75 psi  4.2 liter free air at 5.3 kg per sq. cm.

NOTE: THE MACHINE SPECIFICATIONS LISTED ABOVE ARE FOR STANDARD LD16A TAPING MACHINES. IF ORDERING A SPECIAL LD16A MACHINE, THE SPECIFICATIONS WILL CHANGE DEPENDING ON EACH INDIVIDUAL CUSTOMER APPLICATION.
# Maximum Box Size Specifications

<table>
<thead>
<tr>
<th>LENGTH</th>
<th>WIDTH</th>
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<tbody>
<tr>
<td>34 IN</td>
<td>20 IN (508 MM)</td>
</tr>
<tr>
<td>33 IN</td>
<td>18 IN (457 MM)</td>
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<tr>
<td>32 IN</td>
<td>16 IN (406 MM)</td>
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<tr>
<td>31 IN</td>
<td>14 IN (356 MM)</td>
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<tr>
<td>30 IN</td>
<td>12 IN (305 MM)</td>
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<tr>
<td>29 IN</td>
<td>10 IN (254 MM)</td>
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<tr>
<td>28 IN</td>
<td>8 IN (203 MM)</td>
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<tr>
<td>27 IN</td>
<td>6 IN (152 MM)</td>
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<tr>
<td>26 IN</td>
<td>0</td>
</tr>
<tr>
<td>25 IN</td>
<td>22 IN (560 MM)</td>
</tr>
<tr>
<td>24 IN</td>
<td>24 IN (610 MM)</td>
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Note: The chart provides the maximum box size specifications in both inches and millimeters.
**INSTALLATION**

THE LD16A MACHINE IS SHIPPED COMPLETELY ASSEMBLED.

TO UNPACK MACHINE, LIFT OFF THE UPPER CRATE, THEN UNFASTEN SKID. LIFT MACHINE FROM SKID AND PULL SKID AWAY. REMOVE ALL PACKING MATERIAL THAT IS USED TO SECURE THE HEAD AND CARTRIDGE.

THE BED HEIGHT OF THE MACHINE SHOULD BE ALIGNED WITH THE ROLLER HEIGHT OF THE CONVEYOR. THE MACHINE SHOULD BE CENTERED ON THE INFEED CONVEYOR ROLLER. THE MACHINE SHOULD THEN BE LEVELED. THE STRIPPER PLATE SHOULD BE USED TO ADJUST ANY MINOR HEIGHT DIFFERENCES.

AFTER THE MACHINE IS IN PLACE AND LEVEL, CONNECT THE MACHINE TO AN APPROPRIATE GROUNDED ELECTRICAL CONNECTION, (SEE MACHINE SPECIFICATION LABEL FOR VOLTAGE). CONNECT THE AIR SUPPLY TO AN AIR SOURCE. MINIMUM LINE PRESSURE - 70 LBS. (5 kg/cm²).

TO START MACHINE, LOAD THE TAPE CARTRIDGES WITH TAPE AND THREAD THE TAPE. SEE TAPE THREADING DIAGRAM.

THE MACHINE IS NOW READY FOR OPERATION. PLEASE NOTE THAT IN ORDER TO START THE MACHINE, THE SAFETY GATES MUST BE CLOSED. WHEN THE SAFETY GATES ARE OPENED, THE MACHINE WILL AUTOMATICALLY SHUT DOWN.
MACHINE PREPARATION

CONVEYOR ALIGNMENT

IMPORTANT

ELEVATIONS OF CONVEYOR ROLLERS, STRIPPER PLATE, GATE ROLLER IN "DOWN" POSITION & BELT SHOULD PROVIDE A SMOOTH BOX FLOW INTO THE MACHINE.

BOX PREPARATION

NOTE: MAJOR FLAPS SHOULD NOT BE INSIDE MINOR FLAPS OR BENT OUTWARD FAR ENOUGH TO MISS THE FLAP FOLDERS. MINOR FLAPS SHOULD BE VERTICAL OR SLIGHTLY INWARDS IN THE CASE OF DOUBLE WALL BOXES. MINOR FLAP SCORE LINES MUST BE BROKEN.
START-UP

1. CHECK TO SEE THAT ELECTRICITY AND AIR ARE CONNECTED TO THE LD16A.
2. CLOSE SAFETY GATES. (MACHINE WILL NOT OPERATE IF SAFETY GATES ARE OPEN).
3. DEPRESS “START” BUTTON. DRIVE MOTORS SHOULD RUN/DRIVE BELTS SHOULD MOVE.

THE LD16A SHOULD NOW CYCLE AUTOMATICALLY WHEN A BOX ENTERS THE MACHINE.

CAUTION: KEEP CLEAR OF MACHINE. DO NOT ALLOW ANY PART OF YOUR BODY TO REACH INTO MACHINE AS YOU MAY INADVERTENTLY TRIGGER SOME AUTOMATIC ACTION.

NOTE: IF THIS MACHINE IS EQUIPPED WITH A 3-PH MOTOR, CHECK TRAVEL DIRECTION OF BELTS - THEY SHOULD MOVE FROM INFEED END TO EXIT END OF MACHINE. IF THE DIRECTION IS REVERSED, STOP MACHINE. HAVE A LICENSED ELECTRICIAN REVERSE TWO WIRES ON THE MAIN CIRCUIT BREAKER.

SEQUENCE OF OPERATION


STEP 1: BOX ENTERS MACHINE

A. (1) LIMIT SWITCH LD-1 IS DEPRESSED.
B. (2) SV-1 IS DE-ENERGIZED.
   KICKER VALVE BRINGS KICKER UP.
   GATE CYLINDER SOLENOID VALVE SV-2 IS DE-ENERGIZED BRINGING GATE UP.

STEP 2: BOX DEPRESSES LIMIT SWITCH LS-2

NO ACTION.
STEP 3: BOX RELEASES LS-1 (LS-2 IS STILL DEPRESSED)

A. (1) KICKER SOLENOID VALVE SV-2 IS ACTIVATED.
   KICKER COMES DOWN.
   GATE IS STILL UP.

STEP 4: BOX RELEASES LS-2

A. (1) GATE CYLINDER SOLENOID VALVE SV-2 IS ENERGIZED BRINGING
   GATE DOWN.

THE SAFETY GATE SWITCHES, LS-3, LS-4, LD-5, LS-6, DE-ACTIVATE THE "E"-STOP CIRCUIT
BY OPENING ANY ONE OF THE FOUR SAFETY GATES. THIS WILL STOP THE MACHINE AND
DE-ACTIVATE THE MAIN AIR DUMP VALVE. TO RE-START THE MACHINE, SAFETY GATES MUST
FIRST BE CLOSED AND THE "E"-STOP PUSH BUTTON MUST BE FULLY EXTENDED, THEN THE
"START" PUSH BUTTON ON THE CONTROL STATION IS Pressed.

INFEED GATE

THE INFEED GATE WHEN ITS "UP" POSITION, PREVENTS BOXES FROM ENTERING THE MACHINE;
AND IN ITS "DOWN" POSITION, ALLOWS BOX TO ENTER. THE INFEED GATE DROPS DOWN WHEN
THE BOX RELEASES LS-2.

SIDE RAILS

THE SIDE RAILS KEEP A BOX CENTERED IN THE MACHINE AS IT IS BEING PROCESSED. THE SIDE
RAIL SYSTEM CONSISTS OF TWO STAINLESS STEEL TUBES MOUNTED TO A SET OF PIVOTING ARMS
WHICH ARE INTERCONNECTED AND MANUALLY ADJUSTED. TO ADJUST THE SIDE RAILS, TURN THE
HAND KNOB COUNTERCLOCKWISE AND PLACE A SAMPLE SIZE BOX TO BE SEALED ON THE BED OF
THE MACHINE. PUSH THE SIDE RAILS IN UNTIL THEY ARE SNUG AGAINST THE BOX; RE-TIGHTEN THE
HAND KNOB. THE SIDE RAILS WILL STAY IN THIS POSITION UNTIL THEY ARE CHANGED.

BELT DRIVE SYSTEM - STANDARD

THE TWO DRIVE BELTS ARE DIRECTLY DRIVEN BY ONE DRIVE WHEEL EACH THAT IS MOUNTED
TO THE GEAR REDUCER OUTPUT SHAFT. THE FRONT END OF THE BELT RUNS OVER A TENSION
ROLLER. THE TENSION ROLLER BRACKET HOLDS TWO GUIDE ROLLERS THAT AUTOMATICALLY
CENTER THE BELTS. THE BELTS THEN RUN OVER THE IDLER ROLLER ONTO THE PLASTIC ANTI-
FRiction CARRIER ATTACHED TO THE SHEET METAL BELT CARRIER.
THE TWO BELT TENSIONING BRACKETS ARE SPRING LOADED WITH TWO TENSION SPRINGS ON EACH. CARE SHOULD BE TAKEN TO INSURE THAT THESE SPRINGS ARE ATTACHED TO THE TENSION ROLLER BRACKET AFTER THE BELTS HAVE BEEN REPLACED.

TO REPLACE A BELT, BRING THE BELT LACING TO THE TOP AND PULL THE LACING PIN. REPLACE WITH NEW BELT. ONLY FACTORY SUPPLIED BELTS SHOULD BE USED TO AVOID MOTOR FAILURE DUE TO EXCESSIVE FRICTION. EACH BELT IS REPLACED SEPARATELY, HOWEVER, IT IS ADVISABLE TO REPLACE BOTH BELTS AT THE SAME TIME.

IF ONE OR BOTH BELTS AT THE EXIT END OF THE MACHINE TRAVEL TO THE LEFT OR RIGHT, THE BELT LAGGING ON THE DRIVE ROLLERS MUST BE REPLACED.

TO REPLACE THE BELT LAGGING, FIRST REMOVE THE BELT THAT IS TRAVELING OUT OF LINE. TURN MACHINE ON AND WITH A UTILITY KNIFE, CUT ABOUT 1/8" OFF THE BELT LAGGING WITH THE POINT OF THE KNIFE WHILE THE DRIVE ROLLER IS TURNING. BE SURE TO PLACE THE KNIFE ON THE ROLLER SO THAT THE ROLLER IS MOVING AWAY FROM THE POINT OF THE KNIFE, LIFT UP A SECTION OF THE CUT LAGGING AND PULL OFF UNTIL IT IS REMOVED FROM THE DRIVE ROLLER COMPLETELY. THIS CAN BE DONE BY JOGGING THE MACHINE ON AND OFF WHILE PULLING THE CUT STRIP OF LAGGING. ATTACH NEW BELT LAGGING. REPLACE THE BELT AND CHECK ALIGNMENT. THE BELT WILL HAVE MOVED TO THE OPPOSITE SIDE THAT WAS CUT. THIS PROCEDURE MAY HAVE TO BE REPEATED UNTIL THE BELTS ARE CENTERED.

BELT DRIVE SYSTEM - HEAVY DUTY

THE TWO BELTS ARE DRIVEN BY A BELT PULLEY SYSTEM CONNECTED TO THE GEAR REDUCER THROUGH A CHAIN DRIVE SYSTEM. IF THE CHAIN BECOMES LOOSE, LOOSEN FOUR REDUCER BRACKET SCREWS AND DROP REDUCER DOWN UNTIL CHAIN BECOMES TIGHT. TIGHTEN SCREWS WHEN ADJUSTMENTS HAVE BEEN MADE.


THE TWO BELT TENSIONING BRACKETS ARE SPRING LOADED WITH TWO TENSION SPRINGS ON EACH. CARE SHOULD BE TAKEN TO INSURE THAT THESE SPRINGS ARE ATTACHED TO THE TENSION ROLLER BRACKET AFTER THE BELTS HAVE BEEN REPLACED.

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PNEUMATIC SYSTEM

THE PNEUMATIC SYSTEM CONSISTS OF THE FILTER/REGULATOR, TWO SOLENOID VALVES, ONE KICKER VALVE, THE GATE CYLINDER AND THE KICKER CYLINDER.

THE SPEED CONTROLS FOR THE KICKER ARE LOCATED ON THE KICKER VALVE MANIFOLD. CUSHION ADJUSTMENTS ARE LOCATED ON THE KICKER CYLINDER. THE GATE SPEED IS CONTROLLED BY THE FLOW CONTROL LOCATED ON THE MAIN PNEUMATIC ASSEMBLY. THE FILTER IS SELF-DRAINING. THE MAIN REGULATOR SETTING SHOULD BE SET AT 70-75 PSI (4.9 to 5.3 kg/cm²). A LOCKOUT VALVE ON THE MAIN PNEUMATIC ASSEMBLY IS USED TO PREVENT UNDESIRED ACTIVATION OF THE PNEUMATIC SYSTEM.
LOCATION OF LIMIT SWITCHES AND SOLENOID VALVES

LOVESHWAY an ITW COMPANY
KICKER ADJUSTMENTS SHOULD ONLY BE DONE BY PROPERLY TRAINED PERSONS.

BEFORE MAKING ANY KICKER ADJUSTMENT, SHUT POWER OFF TO THE MACHINE AND REMOVE ALL COMPRESSED AIR FROM THE PNEUMATIC SYSTEM. HOLD KICKER SO THAT THE CYLINDER IS IN ITS RETRACTED POSITION. GAP “A” SHOULD BE APPROXIMATELY ½”. TO ADJUST GAP “A”, LOOSEN LOCK NUT AND THEN TURN CYLINDER ROD EITHER CLOCKWISE OR COUNTERCLOCKWISE AS REQUIRED, UNTIL THE CORRECT POSITION HAS BEEN REACHED. TIGHTEN LOCK NUT WHEN ADJUSTMENT HAS BEEN MADE.

GAP “B” SHOULD BE APPROXIMATELY 1/8”. TO ADJUST GAP “B”, LOOSEN ADJUSTING SCREW “C”, THEN RAISE OR LOWER KICKER UNTIL THE CORRECT POSITION HAS BEEN REACHED. TIGHTEN ADJUSTING SCREWS WHEN ADJUSTMENT HAS BEEN MADE.


IF KICKER HITS SOLIDLY OR BOUNCES AT EITHER END OF THE STROKE, THE KICKER CYLINDER MAY REQUIRE AN ADJUSTMENT OF ITS PNEUMATIC CUSHIONS.

IF SOLID HITTING OCCURS IN THE “UP” POSITION, LOOSEN LOCK NUT AND ADJUST CUSHION SCREW “A” ON THE ROD END OF THE CYLINDER USING AN ALLEN WRENCH. TURN CUSHION ADJUSTING SCREW “A” CLOCKWISE TO INCREASE THE CUSHION EFFECT. TIGHTEN LOCK NUT.


TO REDUCE AN EXCESS CUSHION, WHICH IS INDICATED BY THE BOUNCING OF THE KICKER, TURN CUSHION ADJUSTING SCREW CLOCKWISE.
FRONT SUPPRESSOR

THE FRONT SUPPRESSOR IS DESIGNED TO KEEP THE BOX FIRMLY PRESSED AGAINST THE DRIVE ROLLERS DURING THE FLAP FOLDING OPERATION. THE DOWNWARD PRESSURE CAN BE ADJUSTED BY MOVING THE COLLAR ON THE SPRING HOLDING SHAFT.

SQUEEzers

THE SQUEEZERS ARE USED TO SQUARE UP THE TOP OF THE BOX AND TO INSURE THE PROPER BUTTING OF THE FLAPS IN PREPARATION OF THE TAPE.

TO ADJUST THE SQUEEZERS, START A SEALED BOX THROUGH THE MACHINE AND PRESS THE “STOP” BUTTON WHEN THE BOX IS BETWEEN THE TWO SQUEEZER WHEELS. THEN PUSH EACH SQUEEZER WHEEL SNUG AGAINST THE BOX. TIGHTEN THE M8 T-NUTS. THE MACHINE IS NOW READY TO PROCESS THIS SIZE BOX. IF A DIFFERENT SIZE BOX MUST BE SEALED, THE SQUEEZER WHEELS MUST BE RESET.

Note: Kicker graphics may not be exact.
TAPE CARTRIDGE

TAPE TENSION ROLLER:

This roller is used to maintain constant tension on the tape throughout the life of the tape roll. Turning the knurled nut clockwise will increase the tension; turning it counterclockwise will decrease the tension.

WIPE DOWN ROLLERS:

These rubber rollers wipe down the tape as the box passes through the machine. The pressure exerted by the rollers is adjusted by changing the main spring to a different hole in the connecting link.

TAPE GUIDE PLATE:

The tape guide plate, along with the finger plate, is used to force the tape to “stand up” for proper application. The tape guide plate moves which forms a corner as the box depresses the wipe down roller arm. This insures a smooth tight tape application on the leading corner of the box.

The flat surface of the tape guide plate must be tangent with the rubber roller for proper operation. To make adjustments, rotate the eccentric stop that it bears against.

FINGER PLATE:

The fingers of the finger plate force the tape to take the shape of the tape guide plate. The fingers should just make contact with the guide plate (test this by moving the tape guide plate - the fingers should not move with it). The fingers should be away from the tape guide plate approximately 1/8”.

KNIFE ARM:

The knife arm is mounted at an angle to cut the tape like a scissors. A stud is located on the mounting block to prevent incorrect replacement of knife. The knife should be cleaned periodically using a rag and cleaning fluid. Do not use a wire brush or other abrasive device. The knife arm should be adjusted so that the tips of the knife arm are 2 ½” from the cartridge frame. This can be adjusted by loosening the small nut on the knife arm stud and rotating the stud until the large nut contacts the bumper at the desired setting. The knife arm tension is controlled by the compression spring on the stud. Tighten the nylok nut for greater tension. Always power down first.
LOADING TAPE:

TOP TAPE:

1. RETRACT DETENT WITH RIGHT HAND.
2. WITH LEFT HAND, GRAB CARTRIDGE NEAR TAPE CORE AND ROTATE UP/BACK UNTIL CARTRIDGE RESTS AGAINST STOP.
3. LOAD TAPE ON TAPE CORE.
4. FOLD TAPE ON ITSELF TO PREVENT ADHESIVE FROM GRABBING CARTRIDGE (ABOUT 1 FT.)
5. THREAD AS PER DIAGRAM.
6. ROTATE REAR ROLLER ARM TO EXPOSE KNIFE.
7. PULL EXCESS TAPE ACROSS KNIFE TO CUT OFF FOLDED TAPE.
8. RELEASE REAR ROLLER ARM.
9. GRAB TAPE ROLL WITH LEFT HAND AND ROTATE CARTRIDGE UNTIL IT CONTACTS DETENT. MAINTAIN GRIP OF TAPE ROLL WITH LEFT HAND WHILE RETRACTING DETENT WITH RIGHT HAND. LOWER CARTRIDGE INTO PLACE AND RELEASE DETENT.

BOTTOM TAPE:

1. GRAB REAR ROLLERS
2. GRAB FRONT SHAFT OF CARTRIDGE.
3. RAISE REAR OF CARTRIDGE AND MOVE CARTRIDGE UP AND OUT OF MACHINE.
4. THREADING IS SAME AS TOP CARTRIDGE.
5. GRAB THE CARTRIDGE BY REAR ROLLER AND FRONT SHAFT, ANGLE FRONT OF CARTRIDGE ONTO MOUNTING BOLTS AND THEN LOWER REAR OF CARTRIDGE.

BEFORE DOING ANY OF THE FOLLOWING, TURN POWER OFF TO THE MACHINE. SAFETY GATES MUST BE OPEN.

IMMEDIATELY BEFORE A ROLL OF TAPE HAS RUN OUT, A NEW ROLL OF TAPE SHOULD BE SPLICED ON. THE SPLICING METHOD DESCRIBED HERE IS PREFERABLE AND MUCH SIMPLER.

SPLICING PROCEDURE:

1. WITH A PAIR OF SCISSORS, CUT TAPE ON EXPIRING ROLL. REMOVE BUTT ROLL OF TAPE FROM TAPE CORE.
2. REMOVE CARTRIDGE FROM HEAD.
3. INSTALL A NEW ROLL OF TAPE ON TAPE CORE WITH TAPE FEEDING CLOCKWISE.
4. SPLICE A ½” LAP TO CUT END WITH TRAILING EDGE OF OLD TAPE ON TOP.
5. PULL SPLICE COMPLETELY THROUGH CARTRIDGE; CUT SPLICE OFF.
6. REPLACE CARTRIDGE.
RELOADING OF TAPE

1. PUSH TAPE ROLL ONTO TAPE CORE WITH TAPE FEEDING COUNTERCLOCKWISE. TAPE ROLL SHOULD BE Pushed TO THE BACK OF THE TAPE CORE.

2. FOLD BACK ABOUT 12" (304 mm) OF TAPE AND STICK IT TO ITSELF TO FORM A LEADER. THREAD TAPE AS SHOWN IN TAPE THREADING DIAGRAM. THERE IS ALSO A THREADING DECAL LOCATED ON THE FRAMES OF THE TOP AND BOTTOM CARTRIDGES.

TO TENSION TAPE:

1. USE A SMALL ROLL OF TAPE TO SET TENSION.

2. SET TENSION ON TAPE CORE TO THE LATEST AMOUNT REQUIRED. THE KNURLED NUT SHOULD JUST TOUCH THE COMPRESSION SPRING.

3. ADJUST TENSION ON ONE-WAY CLUTCH ROLLER UNTIL OPTIMUM TAPING IS ACHieved. USE NYLOK NUT TO ADJUST TENSION.

4. THE CARTRIDGE IS SET TO USE A 15" DIAMETER TAPE ROLL (MAXIMUM). WHEN USING A LARGER ROLL, IT MAY BE NECESSARY TO SLIGHTLY INCREASE TAPE CORE TENSION TO ELIMINATE TAPE OVER-RUN.

LUBRICATION

BEARINGS USED IN THE IDLER ROLLERS ARE PERMANENTLY LUBRICATED AND SEALED.

BEARING BLOCKS, CHAINS, SPROCKETS AND THREADED SHAFTS SHOULD BE GREASED REGULARLY TO ENSURE FREE MOVEMENTS.

THE MASTS SHOULD BE CLEANED AND SPRAYED WITH A SILICONE LUBRICANT - THIS SHOULD BE DONE ON A WEEKLY BASIS TO ENSURE FREE MOVEMENT OF THE HEAD.
TROUBLE SHOOTING

A. TAPING DIFFICULTIES:

1. TAPE DOES NOT ADHERE WELL TO BOX:
   A. CHECK THAT BOX IS NOT WAXY OR OILY.
   B. CHECK THAT BOX IS PROPERLY CUT AND SCORED SO THAT THE FLAPS DO NOT OVERLAP. IF THE TAPE ADHERES TO THE TOP AND BOTTOM BUT NOT TO THE END PANELS, BRING IT TO THE ATTENTION OF YOUR BOX SUPPLIER.
   C. CHECK THE PRESSURE ON THE WIPE DOWN ROLLERS. IF NECESSARY, INCREASE THE MAIN SPRING PRESSURE. CHECK THAT THE SPRING IS NOT BROKEN.

2. TAPE END STICKS TO ITSELF OR MECHANISM:
   A. CHECK THAT THERE IS NOT TOO MUCH DRAG ON THE TAPE CAUSING STRETCHING AND SNAP BACK AT CUT OFF. REDUCE THE TAPE CORE DRAG SETTING.
   B. CHECK THE TAPE THREADING PATH. SEE TAPE THREADING DIAGRAM.
   C. CHECK FOR DEFECTIVE TAPE ROLL BY PULLING TAPE OFF MANUALLY. THE PULL SHOULD BE EVEN AND SHOULD NOT VARY SUDDENLY.
   D. CHECK TAPE GUIDE PLATE SETTING AND FREEDOM OF MOVEMENT.
   E. CHECK ROLLERS FOR BINDING.

3. TAPE BREAKS OR JAMS:
   A. CHECK THE TAPE ROLL BY PULLING TAPE OFF MANUALLY. THE PULL SHOULD BE EVEN AND SHOULD NOT VARY SUDDENLY.
   B. CHECK THE TAPE CORE DRAG SETTING.
   C. CHECK THE TAPE THREADING PATH. SEE TAPE THREADING DIAGRAM.
   D. CHECK FOR NICKS IN EDGE OF TAPE ROLL. PULL OFF DAMAGED TAPE.
   E. TAPE TENSION SET TOO HIGH.

4. TAPE WRINKLES:
   A. CHECK THE TAPE ROLL BY PULLING TAPE OFF MANUALLY. THE PULL SHOULD BE EVEN AND SHOULD NOT VARY SUDDENLY.
   B. CHECK THE PRESSURE OF THE WIPE DOWN ROLLERS. TOO MUCH / NO PRESSURE MAY CAUSE WRINKLES. PRESSURE THAT IS TOO GREAT MAY DEPRESS THE FLAPS CAUSING PROBLEMS. IF NECESSARY, RE-ADJUST THE PRESSURE.
   C. CHECK THAT ALL THE ROLLERS TURN FREELY ON THEIR SHAFTS.
   D. CHECK THE BOX CONTENTS. PARTIALLY FULL BOXES OR VERY COMPRESSIBLE CONTENTS MAY ALLOW FLAPS TO DEPRESS EXCESSIVELY CAUSING WRINKLES.
E. CHECK THE DRAG OF THE TAPE. TOO MUCH DRAG MAY CAUSE OVERRUNNING OF THE TAPE ROLL. ADJUST THE TAPE CORE SETTING.
F. TAPE TENSION SET TOO HIGH.
G. CHECK ROLLER STOP INSIDE CARTRIDGE.
H. CHECK THAT TAPE IS PROPERLY THREADED AND THAT TAPE CORE IS PROPERLY CENTERED.
J. CHECK THAT THE BELTS ARE NOT SLIPPING.
K. CHECK ADJUSTMENT OF THE GUIDE PLATE AND FINGER PLATE.

5. SHORT TAPE TAB ON BOX:
A. CHECK TAPE TENSION.
B. CHECK ROLLERS FOR BINDING.

6. TAPE NOT BEING WIPED ON BOTTOM OF BOX:
A. THERE ARE LARGE ECCENTRIC STOPS THAT ARE FACTORY SET TO INSURE FRONT ROLLER ARM CANNOT BE DEPRESSED BELOW BOX HEIGHT. THEY ARE LOCATED INSIDE CARTRIDGE ON BOTH SIDES. WHEN FULLY DEPRESSED, THE FRONT WIPE ROLLER SHOULD PROTRUDE 3/32" ABOVE CARTRIDGE FRAME. IF THIS NEEDS ADJUSTING, ROTATE ECCENTRIC STOPS. USE BOTH STOPs AND MAKE SURE ROLLER ARM CONTACTS FLAT SURFACES. WHEN PROCESSING BOXES LESS THAN 5" HIGH, THE ECCENTRIC STOPS MUST BE MOVED TO THE OPPOSITE HOLE IN THE CARTRIDGE FRAME. THE FRONT ROLLER SHOULD THEN PROTRUDE TO BELT LEVEL.

7. TAPE NOT CUTTING:
A. CHECK KNIFE ARM FOR MECHANICAL BINDING.
B. CHECK THAT KNIFE IS NOT DULL.
C. CHECK SPRINGS ON KNIFE STUDS
D. CHECK BUSHINGS IN KNIFE STUDS.
E. IF KNIFE STOP BLOCK IS CAUSING FRICTION ON KNIFE ARM STUDS, ROTATE UNTIL FREE.
F. TAPE TENSION IS SET TOO LOW.

8. TAPE NOT CENTERED ON BOX:
A. USE SCREW IN CENTER OF TAPE CORE TO RE-ALIGN.
9. TAPE NOT BEING WIPED:
   A. CHECK MAIN SPRING.
   B. TAPE TENSION IS SET TOO HIGH.

B. BOXES JAMMING IN MACHINE:

1. JAM CLEARING PROCEDURE:
   A. STOP MACHINE.
   B. OPEN SAFETY GATES AND RAISE HEAD.
   C. REMOVE BOX. RETHREAD AND CUT TAPE FLUSH WITH END OF THE ROLLER.
   D. CLOSE SAFETY GATES.
   E. PRESS “START” BUTTON.

2. INCORRECT BOX SIZE OR SHAPE:
   A. CHECK BOXES TO MAKE SURE THE SIZE FALLS WITHIN THE MINIMUM / MAXIMUM LIMITS OF THE MACHINE.
   B. MACHINE WILL NOT PROCESS UNSTABLE BOXES.

3. CONTENTS BULGING THROUGH TOP OF BOX:
   A. CHECK TO BE SURE THAT THE BOX IS NOT OVERFILLED WITH CONTENTS.

4. BOX SLIPPING AGAINST BELTS:
   A. INCREASE THE DOWN PRESSURE BY ADJUSTING THE FRONT SUPPRESSOR.

5. HEAD PRESSURE TOO HIGH:
   A. RAISE HEAD SLIGHTLY. ADJUST FRONT SUPPRESSOR HEIGHT.
C. **BELT DRIVE PROBLEMS:**

1. **BELTS DO NOT MOVE:**
   A. CHECK THAT MACHINE IS CONNECTED TO A LIVE ELECTRICAL CIRCUIT.

2. **BELTS SLIP:**
   A. CHECK TENSION OF BELTS AND ADJUST IDLER ROLLERS.

3. **BOX SLIPS AGAINST BELTS:**
   A. INCREASE TENSION ON BELT DRIVE SYSTEM.

D. **BOX DOES NOT ENTER MACHINE:**
   A. CHECK MOUNTING HEIGHT OF INFEED CONVEYOR. TOP OF INFEED CONVEYOR ROLLER MUST BE IN-LINE WITH INFEED GATE ROLLER WHEN GATE IS DOWN.
   B. CHECK THAT GATE IS “DOWN”. IF NECESSARY, CHECK PNEUMATIC CIRCUIT.

E. **FRONT SUPPRESSOR DOES NOT COMPRESS PROPERLY:**
   A. CHECK SENSING HEIGHT.
   B. ADJUST HEAD HEIGHT PROPERLY.

F. **TAPING HEAD ADJUSTMENT MALFUNCTION:**
   A. CHECK THE CHAINS ON BOTH IDLER SPROCKETS ON BOTH SIDES OF MACHINE.
   B. CHECK THAT DRIVE WHEEL IS TIGHT ON SHAFT.

G. **TAPING HEAD CRUSHES BOX:**
   A. CHECK HEAD HEIGHT, ADJUST IF NECESSARY.

H. **KICKER DOES NOT CLOSE REAR FLAP:**
   A. CHECK IF KICKER CLOSES TOO EARLY OR TOO LATE - ADJUST ACCORDINGLY.
   B. CHECK SWITCH ARM ADJUSTMENT.
**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 MATERIALS AND WORKMANSHIP.)

**1 YEAR ON PLC**
**1 YEAR ON SERVO DRIVE**
**1 YEAR ALL OTHER PART**

(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:

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(THIS APPLIES TO SIDE BELT MACHINES ONLY.)

(EXCEPT FOR MOVING PARTS THAT ARE SUBJECT TO NORMAL WEAR, TEAR AND REPLACEMENT, WHICH ARE WARRANTED ONLY TO BE FREE FROM DEFECTS IN MATERIALS 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/OR 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 FACILITY WITHOUT 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, BOX 83  SOUTH CANAAN, PA 18459  
TEL: 570.937.4921 – 800.572.3434 – FAX: 570.937.3229
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TAPE CARTRIDGE

PNEUMATIC SCHEMATIC

ELECTRICAL DRAWINGS
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RT. 296, SOUTH CANAAN, PA.

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