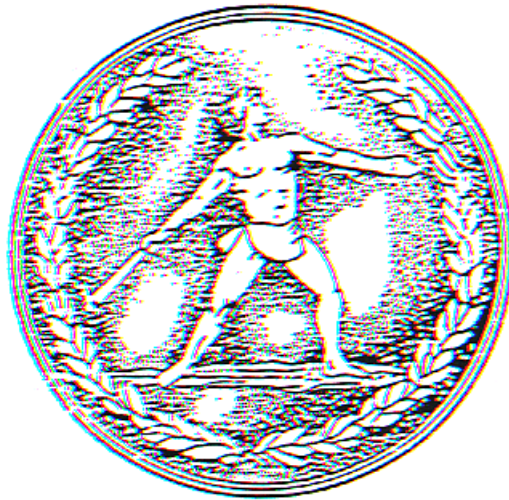


LITTLE DAVID

OWNERS MANUAL



LEGEND

2" AND 3" CARTRIDGES

THE LOVESHAW CORPORATION
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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 BOXES AFTER THEY CLEAR THE EXIT END OF THE MACHINE.
- * FINGER GUARDS ARE PROVIDED TO PREVENT A PINCH-POINT. THEY SHOULD ALWAYS BE IN PLACE WHEN RUNNING 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 BYPASS ANY DESIGNED-IN SAFETY FEATURES SUCH AS INTERLOCKS, GUARDS, OR SHIELDS.
- * DO NOT PLACE HANDS OR BODY INSIDE CONFINES OF UNIFORM TYPE MACHINES UNLESS HEAD IS SECURELY LOCKED AND POWER IS DISCONNECTED.
- * ALWAYS DISCONNECT POWER SOURCE BEFORE SERVICING MACHINE.
- * WHEN OPERATING A SEMI-AUTOMATIC MACHINE, HOLD BOX FLAPS DOWN AT THE 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.

ARRIVAL INSPECTION

**** NOTE ****

WHEN UNCRATING MACHINE, CHECK FOR ANY PHYSICAL DAMAGE.

IF ANY DAMAGE HAS OCCURRED, NOTIFY COMPANY IMMEDIATELY.

LOVESHAW

MACHINE SPECIFICATIONS

MACHINE DIMENSIONS:

HEIGHT:	61 3/16 inches	1554 mm
WIDTH:	30 13/16 inches	783 mm
LENGTH: (without rails)	40 inches	1016 mm
(with rails)	52 1/8 inches	1324 mm

TABLE HEIGHT (adjustable):

MINIMUM:	22 1/4 inches	565 mm
MAXIMUM:	32 1/4 inches	819 mm

ELECTRICAL:

STANDARD: 115V/1/60

OPTIONAL: 220V/1/50,60
220V/3/50,60
240V/1/50
380V/3/50
440V/3/50
440V/3/60

BOX CAPACITY:

LENGTH:	4.5 inches to unlimited max.	114 mm to unlimited max.
WIDTH:	4.5 inches to 20 inches	114 mm to 559 mm
HEIGHT:	2 inches to 24 inches	51 mm to 609 mm

OPERATING SPEED:

BELT SPEED:	80 ft./min.	18m/min.
NUMBER OF BOXES/MIN.	VARIES WITH BOX SIZE	

CLOSURE MATERIAL - PRESSURE SENSITIVE TAPE

WIDTH:	1.5 inches 2 inches	38 mm to 50 mm
MAX. ROLL DIAMETER:	15 inches	380 mm
WEIGHT: (uncrated)	203 LBS.	104 KG.

INTRODUCTION

THE LITTLE DAVID LDU UNIFORM PRESSURE SENSITIVE TAPER IS DESIGNED TO TAPE THE TOP AND BOTTOM FLAPS OF A WIDE VARIETY OF BOX SIZES. AFTER MANUALLY ADJUSTING THE MACHINE FOR THE BOX SIZE, THE OPERATOR ONLY HAS TO FOLD THE FLAPS AND PUSH THE BOX INTO THE MACHINE AFTER WHICH THE MACHINE WILL TAPE THE TOP AND BOTTOM FLAPS AND DISCHARGE THE BOX.

THE SIMPLE BUT SOPHISTICATED DESIGN INSURES A MINIMUM OF MAINTENANCE PROBLEMS, AND THE MACHINE CAN BE EASILY OPERATED BY UNSKILLED OPERATORS. DUE TO ITS SMALL SIZE AND SIMPLE PLUG-IN CONNECTION, IT CAN BE QUICKLY MOVED TO THE AREA WHERE IT IS NEEDED. IT MAY STAND ALONE OR IF DESIRED, BE INCORPORATED IN A CONVEYOR SYSTEM.

THE FINEST MATERIALS AND WORKMANSHIP HAVE BEEN EMPLOYED TO INSURE SATISFACTION. IF ADJUSTMENTS OR REPAIRS BECOME NECESSARY YOU WILL FIND SIMPLE INSTRUCTIONS OUTLINED IN THIS MANUAL. IF A PROBLEM OCCURS WHICH IS NOT COVERED IN THE MANUAL, PLEASE TELEPHONE OUR SERVICE DEPARTMENT AT:

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ANDOVER, HAMPSHIRE SP10 3SL
ENGLAND

OR YOUR NEAREST LITTLE DAVID DISTRIBUTOR

LOVESHAW

INSTALLATION

FOR DOMESTIC CUSTOMERS ONLY - THE LITTLE DAVID IS SHIPPED COMPLETELY ASSEMBLED.

THE LITTLE DAVID IS READY FOR OPERATION AFTER PLUGGING IT INTO AN APPROPRIATE GROUNDED ELECTRICAL OUTLET. THE CONNECTION CABLE IS LOCATED ON THE OPERATOR SIDE OF THE MACHINE.

THE HEIGHT OF THE MACHINE CAN BE ADJUSTED FROM 22 ¼ " TO 33 ¼" (565 mm to 844 mm) IN ANY INCREMENT BY ADJUSTING THE HEIGHT OF THE LEG EXTENSIONS.

THE MACHINE SHOULD BE PLACED ON A FLAT LEVEL FLOOR SO THAT IT DOES NOT ROCK. DUE TO ITS PORTABILITY AND EASY PLUG-IN CONNECTION, THE MACHINE MAY BE QUICKLY MOVED TO VARIOUS LOCATIONS AS THE NEED ARISES. OPTIONAL CASTERS ARE AVAILABLE, IF REQUIRED. THERE ARE HOLES PROVIDED IN THE LEG EXTENSIONS FOR LEVELING BOLTS, IF REQUIRED.

AN OPTIONAL INFEED TABLE CAN BE INSTALLED AT THE INFEED END OF THE MACHINE, HOWEVER, A CONVEYOR MAY BE USED INSTEAD. THE INFEED TABLE CAN BE USED SO THAT THE PACKER CAN FILL THE BOXES AND CLOSE THE FLAPS PRIOR TO FEEDING THE BOXES INTO THE MACHINE. A CONVEYOR SHOULD BE PROVIDED AT THE OUTFEED END OF THE MACHINE TO RECEIVE THE BOXES AS THEY ARE DISCHARGED FROM THE MACHINE. **IMPORTANT: BE SURE THE TABLE AND CONVEYOR ARE ¼" (6 mm) BELOW THE MACHINE BELT HEIGHT.**

INSTALLATION AND ADJUSTMENT OF DRIVE COMPONENTS

THE MACHINE CONVEYOR SYSTEM CONSISTS OF (4) KEY COMPONENTS.

1. MOTOR / GEARBOX SYSTEM
2. DRIVE ROLLERS
3. BELTS
4. FRONT BELT TENSIONER AND GUIDES

MOTOR / GEARBOX SYSTEM:

THE MOTOR AND GEARBOX SYSTEM IS LOCATED IN THE REAR OF THE MACHINE TUCKED UNDER THE FRAME. SEE ASSEMBLY FOR INDIVIDUAL PART NUMBERS. THE SYSTEM CAN BE REMOVED FOR INSPECTION AND REPLACEMENTS BY FOLLOWING THIS PROCEDURE.

1. DISCONNECT POWER FROM MACHINE AND LOCK OUT POWER USING LOCKOUT BRACKET ON STARTER SWITCH.
2. LOOSEN THE (4) MOUNTING BOLTS AT THE GEARBOX SLIDE BRACKET. THEN SLIDE THE MOTOR AND GEARBOX ASSEMBLY UP TOWARDS THE FRAME. THIS WILL REMOVE THE TENSION FROM THE DRIVE CHAIN AND ALLOW THE DRIVE CHAIN TO BE REMOVED FROM THE ASSEMBLY.
3. THE POWER SUPPLY CORD MUST BE REMOVED FROM MOTOR FOR REMOVAL FROM MACHINE.
4. THEN REMOVE THE (4) MOUNTING BOLTS WHILE SUPPORTING THE MOTOR AND GEARBOX ASSEMBLY THEM REMOVE FROM THE MACHINE.
5. THE MOTOR MAY BE REMOVED FROM GEARBOX ASSEMBLY BY REMOVING THE (4) MOUNTING BOLTS ON THE GEARBOX FLANGE.
6. THE PROCESS SHOULD BE REVERSED TO REASSEMBLE THE SYSTEM.

DRIVE ROLLERS ADJUSTMENT AND BELT REPLACEMENT:

THE DRIVE ROLLERS ARE LOCATED ON THE DRIVE SHAFT AT THE REAR OF THE MACHINE. THEY TRANSFER POWER FROM THE GEARBOX ASSEMBLY TO THE BELTS. THE ADJUSTMENT FOR THE DRIVE ROLLERS IS AS FOLLOWS. EACH BELT IS REPLACED SEPARATELY; HOWEVER, IT IS RECOMMENDED THAT BOTH BELTS BE REPLACED AT THE SAME TIME. IT IS IMPORTANT THAT FACTORY SUPPLIED BELTS BE USED SINCE THEY ARE OF SPECIAL CONSTRUCTION. TO REPLACE BELTS FOLLOW INSTRUCTIONS #1 AND #2 LISTED BELOW.

1. TURN ON MACHINE UNTIL THE LACED PORTION OF THE BELT IS SHOWING THEN STOP THE MACHINE. (USE EXTREME CAUTION WHEN WORKING ON THE MACHINE WHILE POWER IS CONNECTED.) PULL UPWARD ON THE BELT TO COLLAPSE THE SELF-TENSIONING ASSEMBLY AT THE FRONT END OF THE MACHINE. PLACE A WEDGE (EXAMPLE: SCREWDRIVER HANDLE) BETWEEN THE FRAME AND BELT TO KEEP THE SELF-TENSIONING ASSEMBLY COLLAPSED. THIS WILL ALLOW THE REMOVAL OF THE PIN IN THE LACED PORTION OF THE BELT.
2. SLIDE THE BELT OUT OF THE MACHINE AND REPEAT FOR THE OTHER BELT.
3. THE PROCESS SHOULD BE REVERSED TO REASSEMBLE THE SYSTEM.

FRONT BELT TENSIONER ASSEMBLIES AND GUIDE ADJUSTMENT:

THE FRONT BELT TENSIONER ASSEMBLIES ARE LOCATED AT THE FRONT END OF THE MACHINE TUCKED INSIDE THE FRAME. THIS IS A SELF-TENSIONING SYSTEM THAT CONSTANTLY PLACES FORCE ON THE BELT TO TAKE UP ANY ADJUSTMENT IN LENGTH. THEY CONSIST OF (3) ITEMS - A TENSION ROLLER BRACKET WITH ROLLER, (2) GUIDE ROLLERS, AND (2) COMPRESSION SPRINGS. EACH TENSIONER CAN BE MOVED INDEPENDENTLY IN ORDER TO ACCOMMODATE THE 2" OR 3" TAPE CARTRIDGES. SEE ASSEMBLY FOR INDIVIDUAL PART NUMBERS. THE ADJUSTMENT OF THE FRONT BELT TENSIONER IS AS FOLLOWS.

1. DISCONNECT POWER FROM MACHINE AND LOCK OUT POWER USING LOCKOUT BRACKET ON STARTER SWITCH.
2. REFER TO ASSEMBLY FOR DIMENSIONS TO LOCATE THE POSITION OF THE TENSIONER.
3. THERE ARE SPLIT SHAFT COLLARS LOCATED ON EACH SIDE OF THE TENSIONER ASSEMBLY. LOOSEN THE COLLARS AND SLIDE TENSIONER INTO POSITION.
4. TIGHTEN COLLARS AFTER IN POSITION AND RESTORE POWER TO MACHINE.

ADJUSTMENT OF LEG EXTENSIONS

LEG EXTENSION ADJUSTMENT

THE LEG EXTENSIONS ARE LOCATED ON THE INSIDE OF THE (4) LEGS OF THE MACHINE. THEY HAVE THE ABILITY TO BE ADJUSTED INFINITELY IN THEIR RANGE. SEE ASSEMBLY FOR INDIVIDUAL PART NUMBERS. THE PROCEDURE FOR ADJUSTING IS AS FOLLOWS.

1. DISCONNECT POWER FROM MACHINE AND LOCK OUT POWER USING LOCKOUT BRACKET ON STARTER SWITCH.
2. REMOVE WEIGHT OFF MACHINE LEG.
3. LOOSEN THE 12 mm LOCKING BOLT LOCATED ON THE INSIDE OF THE MACHINE LEG. THIS WILL ALLOW THE LEG EXTENSION TO SLIDE FREELY TO PROPER HEIGHT.
4. TIGHTEN THE LOCKING BOLT SECURELY ENOUGH TO ENSURE PROPER CLAMPING.
5. REPEAT PROCESS ON ALL LEGS UNTIL THE DESIRED MACHINE HEIGHT IS OBTAINED.

OPERATION

AFTER THE TAPE CARTRIDGES ARE LOADED, THE MACHINE IS READY TO SEAL BOXES. PLACE A SAMPLE BOX OF THE SIZE TO BE SEALED ON THE INFEED TABLE, FOLD THE FLAPS AND PUT JUST IN FRONT OF THE TOP TAPE CARTRIDGE. RELEASE THE SIDE RAILS BY TURNING THE SIDE RAIL LOCK HAND WHEEL COUNTERCLOCKWISE AND MOVE SIDE RAILS IN UNTIL BOTH RAILS ARE IN CONTACT WITH THE BOX. LOCK THE SIDE RAILS BY TURNING THE HAND WHEEL CLOCKWISE. RELEASE THE HEAD BY TURNING THE HEAD LOCK HAND WHEEL COUNTERCLOCKWISE. LOWER THE HEAD UNTIL IT MAKES CONTACT WITH THE BOX; THEN PUT A SLIGHT ADDITIONAL PRESSURE ON THE BOX. LOCK THE HEAD BY TURNING THE HEAD LOCK HAND WHEEL CLOCKWISE.

START THE MACHINE WITH START SWITCH LOCATED ON THE OPERATOR SIDE OF THE MACHINE. SAMPLE BOX WILL BE TAPED AND DISCHARGED. MACHINE IS NOW READY TO PROCESS BOXES.

THE OPERATOR SHOULD FOLD THE BOX FLAPS IN THE NORMAL MANNER. WHILE HOLDING THE FLAPS CLOSED ON THE REAR OF THE BOX, THE OPERATOR SHOULD FEED THE BOX INTO THE MACHINE UNTIL THE BELTS TAKE IT. THE MACHINE WILL SEAL THE TOP AND BOTTOM FLAPS AND DISCHARGE THE BOX TO THE OUTFEED CONVEYOR AUTOMATICALLY.

Machine Maintenance:

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

Inspect bottom belt drives.

Weekly---- Check belt tensioner

Inspect area around motor & gearbox

Inspect belt idlers

Adjust finger guards for belts (as required)

Inspect / Lubricate drive chain

Inspect / lubricate drive roller bearings

Monthly---- Check / Adjust head wear pads

Check drive roller belt lagging.

Cartridge Maintenance: Refer to cartridge area of manual

MAIN FRAME

STARTER SWITCH:

THE STARTER SWITCH IS MOUNTED ON THE OPERATOR SIDE OF THE MACHINE. TO REPLACE THIS SWITCH, FIRST DISCONNECT THE MACHINE FROM THE ELECTRICAL SUPPLY. REMOVE THE SWITCH BY LOOSENING THE TWO FASTENING SCREW AND PULL SWITCH FROM THE ELECTRICAL BOX. REMOVE THE WIRES AFTER FIRST NOTING THEIR CONNECTION TO THE SWITCH.

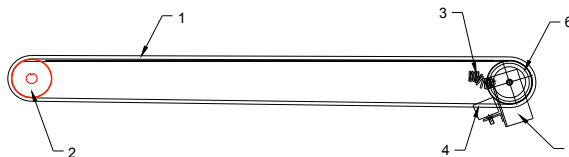
TO REPLACE THE STARTER SWITCH, REVERSE THE ABOVE PROCEDURE.

SIDE RAILS:

THE SIDE RAILS CENTER AND ALIGN THE BOX AS IT IS BEING PROCESSED. THEY ARE MANUALLY SET BY LOOSENING THE SIDE RAIL LOCK HAND WHEEL COUNTERCLOCKWISE. MOVE THE SIDE RAILS IN UNTIL BOTH SIDE RAILS COME IN CONTACT WITH THE BOX. RE-LOCK THE SIDE RAILS BY TURNING THE SIDE RAIL LOCK HAND WHEEL CLOCKWISE.

BELT THREADING DIAGRAM

KEY	PART NUMBER	DESCRIPTION
1	LDU-1128A-4	BELT
2	LDU-1064-5	DRIVE ROLLER
3	SPR-1016	BELT TENSIONING SPRING
4	K286	GUIDE ROLLER
5	LDU-1335-5	CONV. ROLLER BRACKET
6	PSC196-4	ROLLER



HEAD

THE HEAD TROLLEY ASSEMBLY TRAVELS ALONG THE MAST ON CAM BEARINGS AND UHMW WEAR PADS. THE HEIGHT OF THE HEAD IS ADJUSTED BY TURNING THE LOCK HAND KNOB COUNTERCLOCKWISE TO RELEASE THE HEAD. TURNING THE HAND WHEEL CLOCKWISE WILL LOCK THE HEAD IN THE DESIRED POSITION.

ADJUSTMENT OF HEAD ASSEMBLY

HEAD TROLLEY WEAR PAD ADJUSTMENT

SEE ASSEMBLY FOR INDIVIDUAL PART NUMBERS. THE ADJUSTMENT OF THE TROLLEY ASSEMBLY IS AS FOLLOWS.

1. DISCONNECT POWER FROM MACHINE AND LOCK OUT POWER USING LOCKOUT BRACKET ON STARTER SWITCH.
2. THERE ARE (4) NYLON PATCHED SET SCREWS LOCATED ON THE LOCK SIDE OF THE TROLLEY BLOCK. BY ADJUSTING THESE SET SCREWS INWARD THEY WILL REDUCE THE CLEARANCE BETWEEN THE WEAR PAD AND THE MAST. ADJUSTMENT OF THE PAD MUST BE UNIFORM ON ALL (4) SCREWS TO INSURE THAT PAD IS PARALLEL TO THE MAST. THE RECOMMENDED CLEARANCE IS APPROXIMATELY .020" OR .5 mm.
3. DURING THE ADJUSTMENT PROCESS SLIDE THE HEAD UP AND DOWN TO INSURE A SMOOTH MOVEMENT.

HEAD TROLLEY CAM BEARING ADJUSTMENT

THERE ARE (2) SETS OF CAM BEARINGS LOCATED IN THE TROLLEY ASSEMBLY. THE FIRST SET IS LOCATED IN THE FRONT OF THE HEAD LIFTING TROLLEY ASSEMBLY AND IS FIXED. THE SECOND SET IS LOCATED AT THE REAR OF THE ASSEMBLY AND IS MOVABLE. THE ADJUSTMENT OF THE REAR CAM BEARING ASSEMBLY IS AS FOLLOWS.

1. DISCONNECT POWER FROM MACHINE AND LOCK OUT POWER USING LOCKOUT BRACKET ON STARTER SWITCH.
2. REMOVE FRONT SPRING GUARD BY REMOVING THE (2) MOUNTING SCREWS LOCATED AT THE TOP OF THE GUARD.
3. THEN REMOVE THE MAST GUARD BY REMOVING ITS (8) MOUNTING SCREWS. THERE ARE (4) SCREWS LOCATED ON EACH SIDE OF THE GUARD JUST ABOVE AND BELOW THE SIDE CUT OUT. WITH THESE REMOVED THE GUARD WILL LIFT OFF.
4. ON THE TROLLEY ASSEMBLY THERE ARE (4) SET SCREWS. EACH SET SCREW PUSHES ON A TEE NUT THAT HOUSES THE CAM BAR SUPPORT. BY TURNING THE SET SCREW IN, THIS WILL DECREASE THE DISTANCE BETWEEN THE CAM BEARING AND THE MAST.
5. DURING THE ADJUSTMENT PROCESS SLIDE THE HEAD UP AND DOWN TO INSURE A SMOOTH MOVEMENT.

ELECTRICAL SYSTEM

THE ELECTRICAL SYSTEM CONSISTS OF THE DRIVE MOTOR WHICH INCORPORATES A FRACTIONAL HP A.C. MOTOR AND THE STARTER SWITCH. THE MOTOR AND FRAME ARE GROUNDED THROUGH THE STARTER SWITCH. THE STARTER SWITCH IS FASTENED TO THE MACHINE' S FRAME.

THE MOTOR STARTERS OVERLOAD RELAY IS FACTORY SET. IF IT TRIPS, A QUALIFIED ELECTRICIAN SHOULD CHECK THE ELECTRICAL SYSTEM, THEN RESET THE OVERLOAD RELAY.

THE BELTS ARE DRIVEN BY THE DRIVE MOTOR ON THE DISCHARGE END OF THE MACHINE. THE MOTOR IS CONTROLLED BY THE STARTER SWITCH IN WHICH THE HEATER IS FACTORY SET TO THE PROPER TRIP SETTING TO PROTECT THE MOTOR.

IF TROUBLE IS BEING EXPERIENCED WITH THE DRIVE MOTOR, A QUALIFIED ELECTRICIAN SHOULD FIRST CHECK THE STARTER SWITCH, THEN THE ELECTRICAL SYSTEM.

TO REPLACE THE DRIVE MOTOR, PROCEED AS FOLLOWS:

- DISCONNECT THE ELECTRICAL CONNECTIONS.
- REMOVE MOTOR FROM GEAR REDUCER, REPLACE MOTOR.
- TO CONNECT MOTOR, REFER TO WIRING DIAGRAM IN MOTOR JUNCTION BOX.
- CHECK MOTOR FOR PROPER ROTATION.

LUBRICATION

TAPE CARTRIDGE:

ALL MECHANICAL PARTS ON THE LITTLE DAVID ARE PERMANENTLY LUBRICATED AND SEALED BEARINGS ARE USED THROUGHOUT.

MACHINE DRIVE SYSTEM:

IN ORDER TO GET THE MAXIMUM LIFE, COMPONENTS SHOULD HAVE CONSTANT LUBRICATION

SPROCKETS & CHAIN:

PERIODIC LUBRICATION USING HIGH QUALITY CHAIN LUBE IS REQUIRED

DRIVE SHAFT BEARING:

GREASE BEARINGS AT SAME INTERVAL AS SPROCKET & CHAIN

THE REDUCER HAS BEEN PRE-CHARGED AT THE FACTORY WITH SYNTHETIC LUBRICANT.

THE MAST 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

TAPING DIFFICULTIES:

<u>PROBLEM:</u>	<u>SOLUTION:</u>
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, THE BOX MAY BE SKEWED FORMING A PARALLELOGRAM. IF THIS CONDITION EXISTS, BRING IT TO THE ATTENTION OF YOUR BOX SUPPLIER. C. CHECK THE PRESSURE ON THE WIPE DOWN ROLLERS. IF NECESSARY, INCREASE MAIN SPRING PRESSURE. D. CHECK THAT THE SPRING IS NOT BROKEN.
2. TAPE END STICKS TO ITSELF OR MECHANISM:	A. CHECK THAT THERE IS NO 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. C. CHECK FOR DEFECTIVE TAPE ROLL BY PULLING TAPE OFF MANUALLY. THE PULL SHOULD BE EVEN AND NOT VARY SUDDENLY. D. CHECK TAPE GUIDE PLATE SETTING AND FREEDOM OF MOVEMENT. E. CHECK 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. 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 OR 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 THE FLAPS TO EXCESSIVELY DEPRESS CAUSING WRINKLES.
 - E. CHECK THE DRAG OF THE TAPE. TOO MUCH DRAG MAY CAUSE OVERRUNNING OF THE TAPE ROLL. ADJUST THE TAPE CORE DRAG 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.
 - I. CHECK THE PRESSURE OF THE HEAD AGAINST THE BELTS AND HESITATE AS IT IS BEING FED THROUGH THE MACHINE. ADJUST THE HEIGHT.
 - 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.

THERE ARE LARGE ECCENTRIC STOPS THAT ARE FACTORY SET TO INSURE THAT THE 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 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.

BOX PROBLEMS:

1. JAM CLEARING PROCEDURE:
- A. STOP MACHINE.
 - B. OPEN SIDE RAILS AND RAISE HEAD.
 - C. REMOVE JAMMED BOX. CUT TAPE FLUSH WITH END OF WIPE ROLLER.
 - D. RESET HEAD/SIDE RAILS TO A SAMPLE SIZE BOX.
 - E. START MACHINE. MACHINE IS NOW READY TO PROCESS THE NEXT BOX.
2. INCORRECT BOX SIZE OR SHAPE:
- A. CHECK BOXES TO MAKE SURE THE SIZE FALLS WITHIN THE LIMITS OF THE MACHINE.
 - B. MACHINE WILL NOT PROCESS UNSTABLE BOXES.
3. CONTENTS BULGING THROUGH TOP OF BOX:
- A. CHECK TO BE SURE BOX IS NOT OVERFILLED WITH CONTENTS.
4. BOX SLIPPING AGAINST BELTS:
- A. INCREASE HEAD PRESSURE.
5. SIDE RAIL PRESSURE TOO HIGH:
- A. OPEN SIDE RAILS SLIGHTLY.

6. HEAD PRESSURE TOO HIGH: A. RAISE HEAD SLIGHTLY.

BELT DRIVE PROBLEMS:

CHECK THAT MACHINE IS CONNECTED TO A LIVE ELECTRICAL SOURCE.

1. BELTS SLIP. A. RAISE HEAD SLIGHTLY.

B. REPLACE IS MISSING OR BROKEN.

2. BOX SLIPS AGAINST BELTS: A. LOWER HEAD SLIGHTLY TO INCREASE PRESSURE ON BOX.

3. BELTS RUB AGAINST FRAME: A. CHECK THAT BELTS ARE POSITIONED CORRECTLY IN BETWEEN THE BELT GUIDE ROLLERS.

B. CHECK FOR MISSING OR BROKEN BELT TENSIONING SPRINGS.

TAPE CARTRIDGE

TAPE TENSION ROLLER:

THE TAPE TENSION ROLLER MAINTAINS CONSTANT TENSION THROUGHOUT THE LIFE OF THE TAPE ROLL. IT HAS A ONE WAY CLUTCH TO PREVENT PULL BACK ON TAPE. TURNING THE NYLOK NUT CLOCKWISE INCREASES TENSION. COUNTERCLOCKWISE DECREASES TENSION. TOO MUCH TENSION WILL CAUSE PROBLEMS.

WIPE DOWN ROLLERS:

THE RUBBER WIPE DOWN ROLLERS WIPE THE TAPE ONTO THE BOX AS IT PASSES THROUGH THE MACHINE. THE FRONT ROLLER HAS A ONE WAY CLUTCH TO PREVENT KICKBACK OF TAPE. THE PRESSURE EXERTED BY THE ROLLERS IS ADJUSTABLE BY CHANGING THE POSITION OF THE MAIN SPRING TO A DIFFERENT HOLE ON THE MAIN TIE BAR. THE PRESSURE SHOULD BE SUFFICIENT TO OBTAIN A GOOD WIPE. TOO MUCH PRESSURE CAN CAUSE PREMATURE WEAR. PRESSURE SHOULD BE REDUCED FOR BOXES WITH UNDERFILL OR COMPRESSIBLE CONTENTS.

TAPE GUIDE PLATE:

THE TAPE IS GUIDED TO THE FRONT ROLLER BY THE TAPE GUIDE PLATE. THE FLAT PORTION OF THIS PLATE MUST BE TANGENT TO THE RUBBER ROLLER FOR PROPER FUNCTION. THIS IS ADJUSTABLE BY ROTATING THE ECCENTRIC STOP IT BEARS AGAINST. THE TAPE GUIDE PLATE IN CONJUNCTION WITH THE FINGER PLATE FORM THE TAPE WHICH ALLOWS IT TO STAND UP. THE TAPE GUIDE PLATE MOVES AS THE BOX PASSES, TO FORM A CORNER. THIS ENSURES SMOOTH TIGHT TAPE APPLICABLE TO THE LEADING CORNER OF THE BOX.

FINGER PLATE:

THE FINGER PLATE PRESSES AGAINST THE ADHESIVE SIDE OF THE TAPE AND FORCES THE TAPE TO TAKE THE SHAPE OF THE TAPE GUIDE PLATE. IT IS IMPORTANT THAT THE FINGERS JUST MAKE CONTACT WITH THE TAPE GUIDE PLATE, WHEN THERE IS NO TAPE IN CARTRIDGE. IF ADJUSTMENTS ARE NECESSARY,, GENTLY BEND THE FINGERS NEAR THE TIPS. ONLY BEND A SMALL AMOUNT, THEN CHECK. FINGERS MUST CONTACT PLATE. WHEN THE TAPE GUIDE PLATE IS MOVED THE FINGERS SHOULD NOT FOLLOW. **NOTE:** FINGERS SHOULD BE ABLE TO MOVE 1/8" AWAY FROM PLATE.

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 DEVICES. THE KNIFE ARM SHOULD BE ADJUSTED SO THAT THE TIPS OF THE KNIFE ARE 2 ½" FROM THE CARTRIDGE FRAME. (SEE ASSEMBLY DRAWING). 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. KNIFE ARM TENSION IS CONTROLLED BY THE COMPRESSION SPRING ON THE STUD. TIGHTEN THE NYLOK NUT FOR GREATER TENSION. ALWAYS POWER DOWN MACHINE FIRST.

LOADING TAPE: PROCEDURE (TOP AND BOTTOM)

TOP TAPE:

1. REMOVE EXPIRED TAPE ROLL BY SLIDING IT OFF TAPE CORE ON MILL STAND, PULLING IT TOWARD THE REAR OF THE CARTRIDGE.
2. LOAD NEW ROLL OF TAPE ON TAPE CORE.
3. WITH LEFT HAND, GRAB CARTRIDGE NEAR TAPE CORE AND ROTATE UP/BACK UNTIL CARTRIDGE RESTS AGAINST STOP.
4. FOLD TAPE ON ITSELF TO PREVENT ADHESIVE FROM GRABBING CARTRIDGE (ABOUT 1 FT. IN LENGTH).
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 SETS ON TOP LOAD BRACKET IN HEAD FRAME.

BOTTOM TAPE:

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

ILLUSTRATED ASSEMBLY DRAWINGS
TABLE OF CONTENTS

BASE FRAME ASSEMBLY

DRIVE ASSEMBLY - STANDARD

BELT DRIVE ASSEMBLY

DRIVE/MOTOR ASSEMBLY

HEAD ASSEMBLY

SIDE RAIL ASSEMBLY

MAST AND TROLLEY ASSEMBLY

TROLLEY ASSEMBLY

INFEEED TABLE ASSEMBLY

INFEEED ROLLER BED TABLE ASSEMBLY

LITTLE DAVID CASE SEALER LIMITED WARRANTY

AS THE LOVESHAW CORPORATION (HEREAFTER "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 FOLLOWS:

DRIVE MOTOR:	1 YEAR	
GEAR REDUCER: 2	YEARS	
TAPE CARTRIDGE:	3 YEARS	(EXCEPT FOR MOVING PARTS WHICH ARE SUBJECT TO NORMAL WEAR, TEAR AND REPLACEMENT WHICH ARE WARRANTED ONLY TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP).
ALL OTHER PARTS:	1 YEAR	(EXCEPT FOR MOVING 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 TEN 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 INCIDENTS, 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 BY A LOVESHAW DEALER AUTHORIZED TO HANDLE THE GOODS COVERED BY THIS WARRANTY. ANY OUTSIDE WORK OR ALTERNATIONS 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 WORK WITHOUT ITS PRIOR WRITTEN CONSENT. THIS WARRANTY SHALL NOT APPLY TO ANY ITEM WHICH 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, 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 MERCHANTABILITY WARRANTY AS WELL AS THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY EXCLUDED.

UNIT
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LOVESHAW - EUROPE
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PORTWAY INDUSTRIAL ESTATE
HAMPSHIRE SP10 3SL

ENGLAND
EL: (0264) 357511
AX: (0264) 355964

LOVESHAW

MACHINE OPTIONAL ASSEMBLIES

<u>OPTIONS</u>	<u>ASSEMBLY NUMBER</u>
CASTERS	.LDC302
PACK TABLE	.ITA/LDU
PACK TABLE (ROLLER)	.ITA/RB/LDU
PACK TABLE (15 STYLE)	.ITA/LDU/15
THREE FLAP FOLDER	.TFF/LDU
CARTRIDGE WIPE BRUSH	.CWB/LDU
TOP SQUEEZER	.TSA/LDU
HIGH MAST	.HMTA/LDU
LEG EXTENSIONS (TO 36")	LDU-1015A-4
CASTERS (HEAVY DUTY)	.HDC100B/LDU
JET PRINTER BRACKET	
MOTOR KITS	
NEMA 4	
NEMA 7	
NEMA 12	



LOVESHAW

Constant force spring removal and installation

procedure for LDU case sealer.

5/5/2016 Rev. 1 (1 of 2)

Special Note: Follow lock out/tag out procedures and use proper PPE (personal protection equipment) Safety glasses & gloves.

Figure 1

Tools required
Loctite 277 & Hammer
Hex Tee handle M3,4 & 5
Ratchet & 13mm socket
13mm wrench
Spring hook *

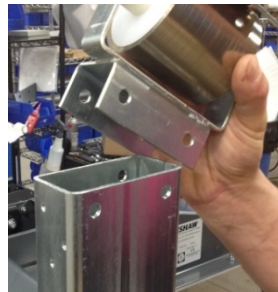


Figure 5

Loosen and remove spring holder. (full replacement)
Spring only loosen flat head screws and then remove shaft and spring assembly. (heat required)

Figure 2

Raise head assembly to highest setting.
Lock hand knob.



Figure 6

Replace with new spring holder and new constant force spring assembly.

Figure 3

Remove mast cover.
Using Hex Tee wrench
(4) screws at top
(4) screws at bottom



Figure 7

Clean and then Loctite all hardware with #277.

Figure 4

Remove only one screw from spring on trolley.
Using spring hook, hold spring securely as second screw is removed. Release spring pressure.

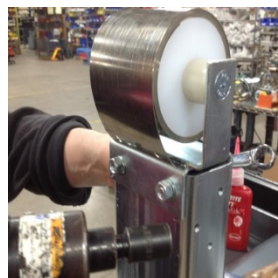


Figure 8

Tighten all hardware.

Figure 9

Using spring hook insert in hole (LH) hole.
Apply Loctite to screws.
Using hex Tee handle hold screw in (RH) hole.



Figure 12

Replace cover and adjust machine as normal.

Figure 10

Pull down spring till it is in line with trolley mounting holes.
Insert screw but do not tighten completely.



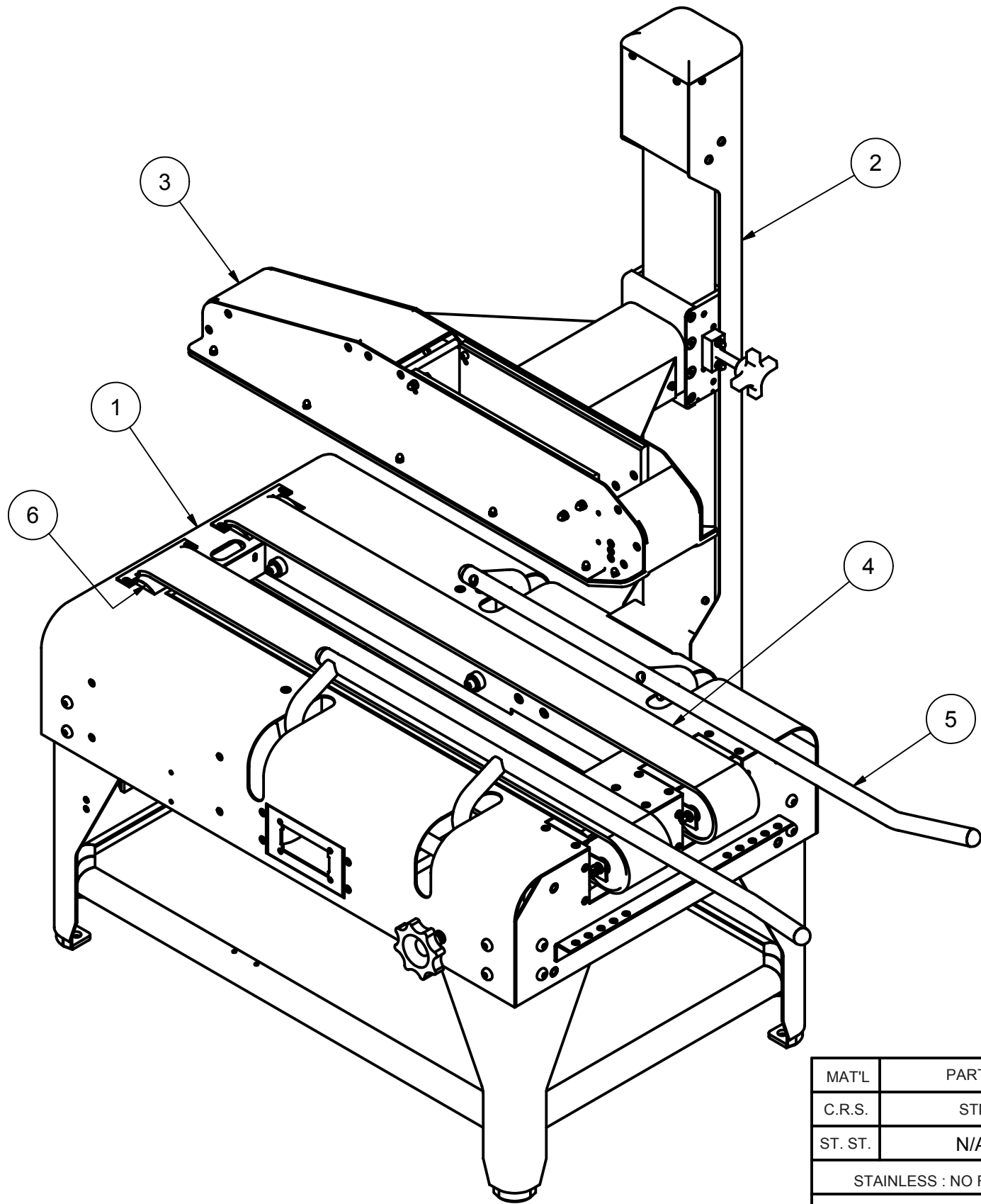
Figure 11

Apply light pressure to flatten out spring before fully tightening screws.
Repeat on other side.



(*) Spring hook is for single use only. Can be purchased at [www. juddracing.com](http://www.juddracing.com) part number SP001

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	4/24/2006	AMYR



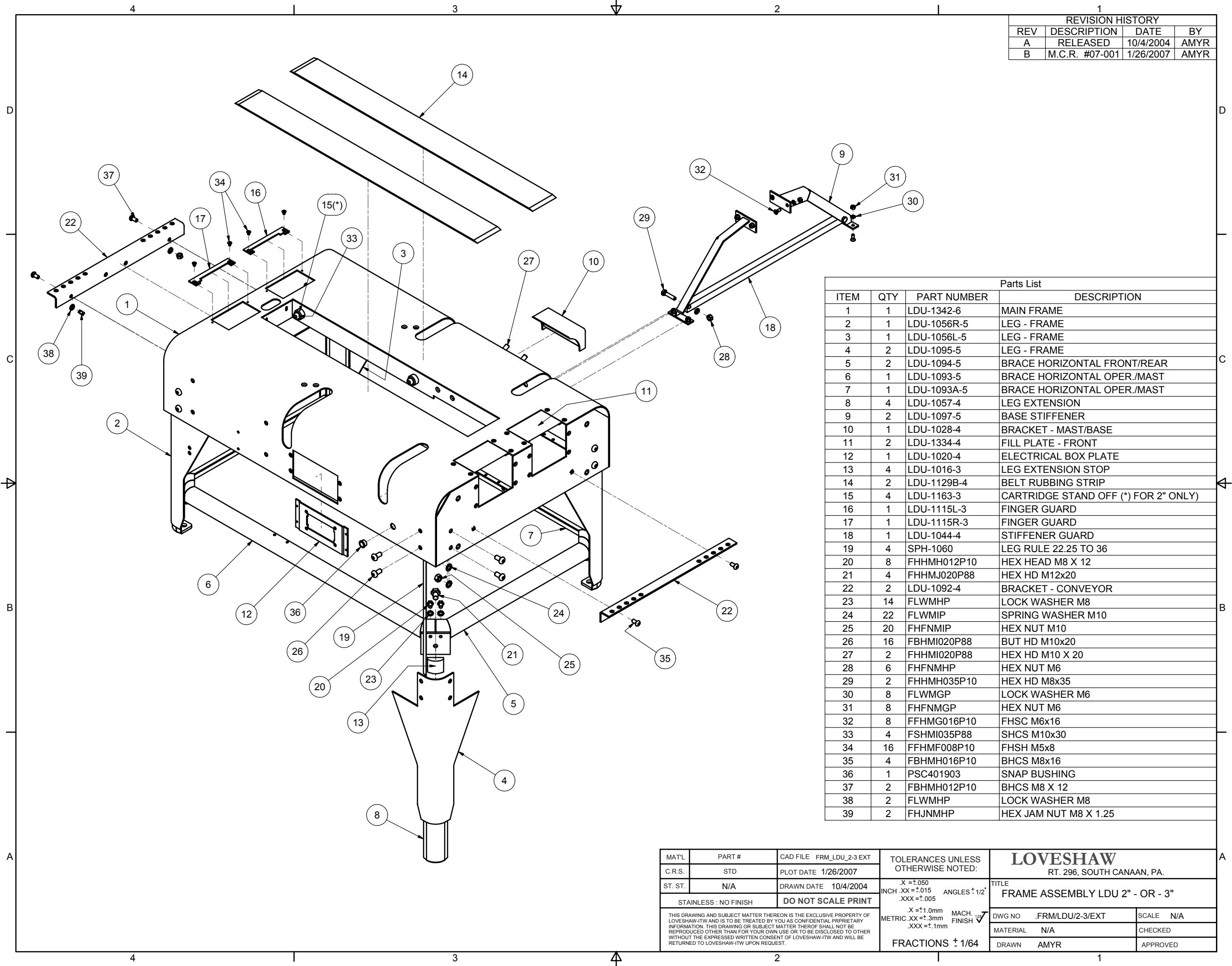
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	.FRM/LDU/2-3EXT	BASE FRAME ASSEMBLY
2	1	.MTA/LDU/D	MAST AND TROLLEY ASSEMBLY
3	1	.HDA/LDU/2	HEAD ASSEMBLY
4	1	.BDA/LDU/EXT	BELT DRIVE ASSEMBLY
5	1	.SRA/LDU/EXT18	SIDE RAIL ASSEMBLY
6	1	.LDU/DRIVE/STD	DRIVE ASSEMBLY
N/S	1	.ITA/RB/LDU/2/ED	PACK TABLE ASSEMBLY
N/S	2	.CAC50	CARTRIDGE ASSEMBLY 2"
OR	2	.CAC51	CARTRIDGE ASSEMBLY 3"
N/S	OPT.	.ITA/LDU/ED	INFEED TABLE ASSEMBLY
N/S	OPT.	.TSA/LDU	TOP SQUEEZER ASSEMBLY

MAT'L	PART #	CAD FILE	LDU MAIN ASSY EXT DRIVE
C.R.S.	STD	PLOT DATE	4/24/2006
ST. ST.	N/A	DRAWN DATE	4/24/2006
STAINLESS : NO FINISH		DO NOT SCALE PRINT	
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 .XXX = ±.005
 .X = ±1.0mm MACH. FINISH ✓
 METRIC .XX = ±.3mm
 .XXX = ±.1mm
 FRACTIONS ± 1/64

LOVESHAW RT. 296, SOUTH CANAAN, PA.	
TITLE LEGEND OVERVIEW	
DWG NO	.LDU/2 -OR- .LDU/3
MATERIAL	N/A
DRAWN	AMYR
SCALE	N/A
CHECKED	
APPROVED	

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	10/4/2004	AMYR
B	M.C.R. #07-001	1/26/2007	AMYR



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LDU-1342-6	MAIN FRAME
2	1	LDU-1056R-5	LEG - FRAME
3	1	LDU-1056L-5	LEG - FRAME
4	2	LDU-1095-5	LEG - FRAME
5	2	LDU-1094-5	BRACE HORIZONTAL FRONT/REAR
6	1	LDU-1093-5	BRACE HORIZONTAL OPER./MAST
7	1	LDU-1093A-5	BRACE HORIZONTAL OPER./MAST
8	4	LDU-1057-4	LEG EXTENSION
9	2	LDU-1097-5	BASE STIFFENER
10	1	LDU-1028-4	BRACKET - MAST/BASE
11	2	LDU-1334-4	FILL PLATE - FRONT
12	1	LDU-1020-4	ELECTRICAL BOX PLATE
13	4	LDU-1016-3	LEG EXTENSION STOP
14	2	LDU-1129B-4	BELT RUBBING STRIP
15	4	LDU-1163-3	CARTRIDGE STAND OFF (*) FOR 2" ONLY
16	1	LDU-1115L-3	FINGER GUARD
17	1	LDU-1115R-3	FINGER GUARD
18	1	LDU-1044-4	STIFFENER GUARD
19	4	SPH-1060	LEG RULE 22.25 TO 36
20	8	FHHMH012P10	HEX HEAD M8 X 12
21	4	FHHMJ020P88	HEX HD M12x20
22	2	LDU-1092-4	BRACKET - CONVEYOR
23	14	FLWMHP	LOCK WASHER M8
24	22	FLWMIP	SPRING WASHER M10
25	20	FHFNMIP	HEX NUT M10
26	16	FBHMI020P88	BUT HD M10x20
27	2	FHHMI020P88	HEX HD M10 X 20
28	6	FHFNMHP	HEX NUT M6
29	2	FHHMH035P10	HEX HD M8x35
30	8	FLWMGP	LOCK WASHER M6
31	8	FHFNMG	HEX NUT M6
32	8	FFHMG016P10	FHSC M6x16
33	4	FSHMI035P88	SHCS M10x30
34	16	FFHMF008P10	FHSH M5x8
35	4	FBHMH016P10	BHCS M8x16
36	1	PSC401903	SNAP BUSHING
37	2	FBHMH012P10	BHCS M8 X 12
38	2	FLWMHP	LOCK WASHER M8
39	2	FHJNMHP	HEX JAM NUT M8 X 1.25

MATL	PART #	CAD FILE FRM_LDU_2-3 EXT	TOLERANCES UNLESS OTHERWISE NOTED:	LOVESHAW RT. 296, SOUTH CANAAN, PA.
C.R.S.	STD	PLOT DATE 1/26/2007	.X = ±.050 INCH .XX = ±.015 ANGLS ± 1/2° .XXX = ±.005	
ST. ST.	N/A	DRAWN DATE 10/4/2004	.X = ±1.0mm METRIC .XX = ±.3mm MACH. FINISH ✓ .XXX = ±.1mm	TITLE FRAME ASSEMBLY LDU 2" - OR - 3"
STAINLESS : NO FINISH		DO NOT SCALE PRINT	FRACTIONS ± 1/64	DWG NO .FRM/LDU/2-3/EXT
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				MATERIAL N/A
				DRAWN AMYR
				APPROVED

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	4/14/2004	AMYR
B	M.C.R. #08-008	10/15/2008	AMYR

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LDU-1126-5	BRACKET, GEAR BOX MOUNT
2	1	LDU-1127-5	BRACKET, GEAR BOX SLIDE
3	1	LDU-1051-5	BRACE, BOTTOM MOTOR
4	1	LDU-1052-5	BRACE, MOTOR
5	1	LDU-1064-5	ROLLER, DRIVE
6	1	LDU-1080-3	KEY, DRIVE SHAFT HUB
7	2	LDU-1062-4	BRACKET, BEARING
8	1	SPK-0050	SPROCKET
9	1	SEE CHART	SPROCKET
10	1	LDU-1116-4	GUARD, CHAIN
11	2	BRG-1019A	BEARING
12	2	BSG-1041	PLANE BEARING
14	2	LP09-056	BELT LAGGING
15	2	FLWMFP	LOCK WASHER M5
16	2	FBHMF010P10	BUTTON HEAD SCREW M5 X 10
17	6	FFWMHP	FLAT WASHER M8
18	4	FHHMH016P10	HEX HEAD SCREW M8x16 LG.
19	6	FLWMHP	LOCK WASHER M8
21	2	FHHMH020P10	HEX HEAD SCREW M8x20
22	4	FHSH100P08	HH 5/16-18 x 1 LG.
23	4	FLWSEP	LOCK WASHER 5/16
24	4	FHHMH035P10	HEX HEAD M8x35
25	2	SP-12-F	COLLAR
26	2	FHFNMHP	HEX NUT, M8

ASSY. NUMBER	SPROCKET	GEAR BOX	FT./MIN.
.LDUC110	SPK-0023	RED-1001	80
.LDUC110A	SPK-0049	RED-1005	60

MAT'L	PART #	CAD FILE	ldu drive std
C.R.S.	STD	PLOT DATE	10/15/2008
ST. ST.	N/A	DRAWN DATE	4/14/2004
STAINLESS : NO FINISH		DO NOT SCALE PRINT	
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 INCH .XX = ±.015
 .XXX = ±.005

ANGLES ± 1/2°

.X = ±1.0mm
 METRIC .XX = ±.3mm
 .XXX = ±.1mm

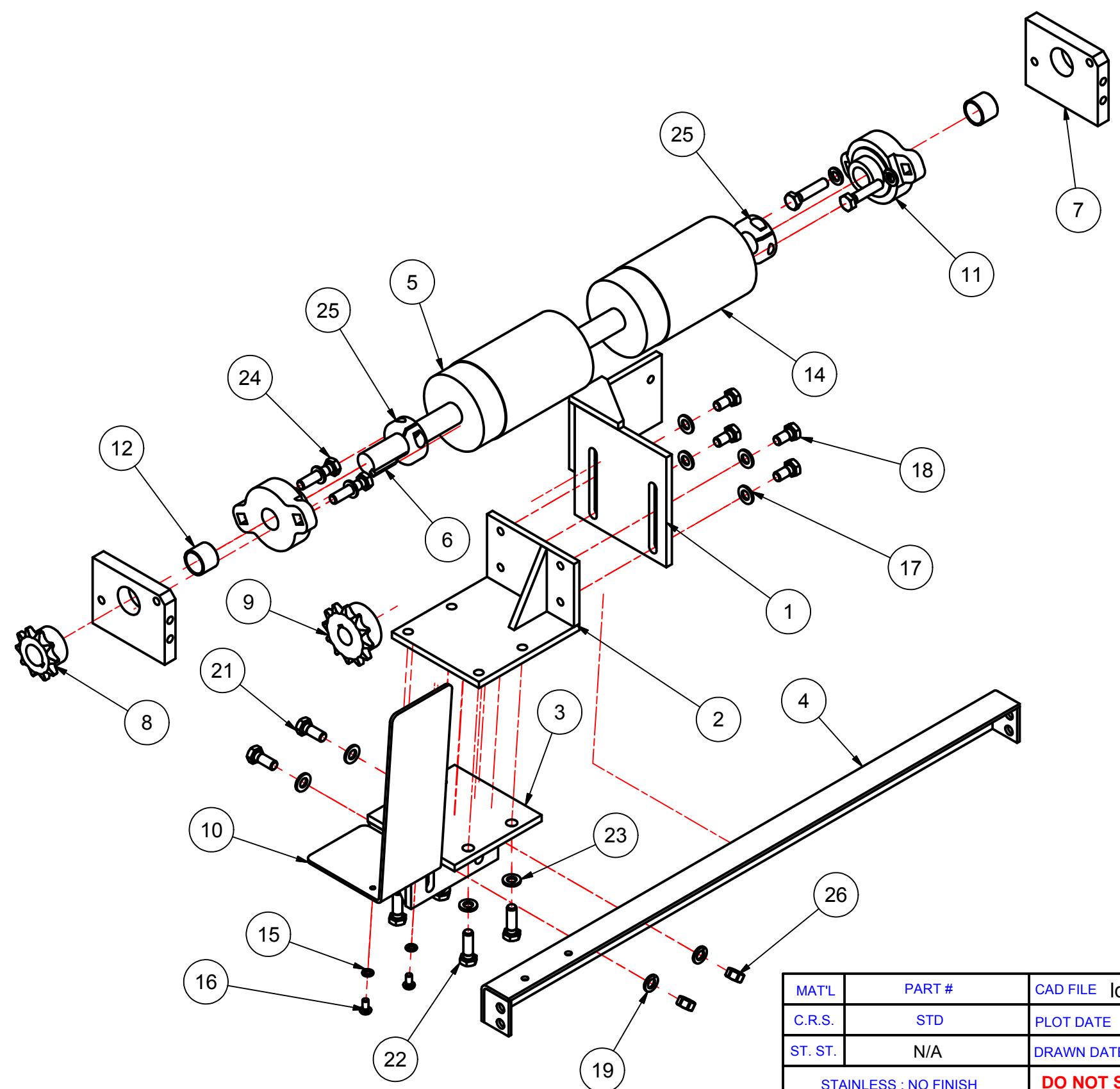
MACH. FINISH

FRACTIONS ± 1/64

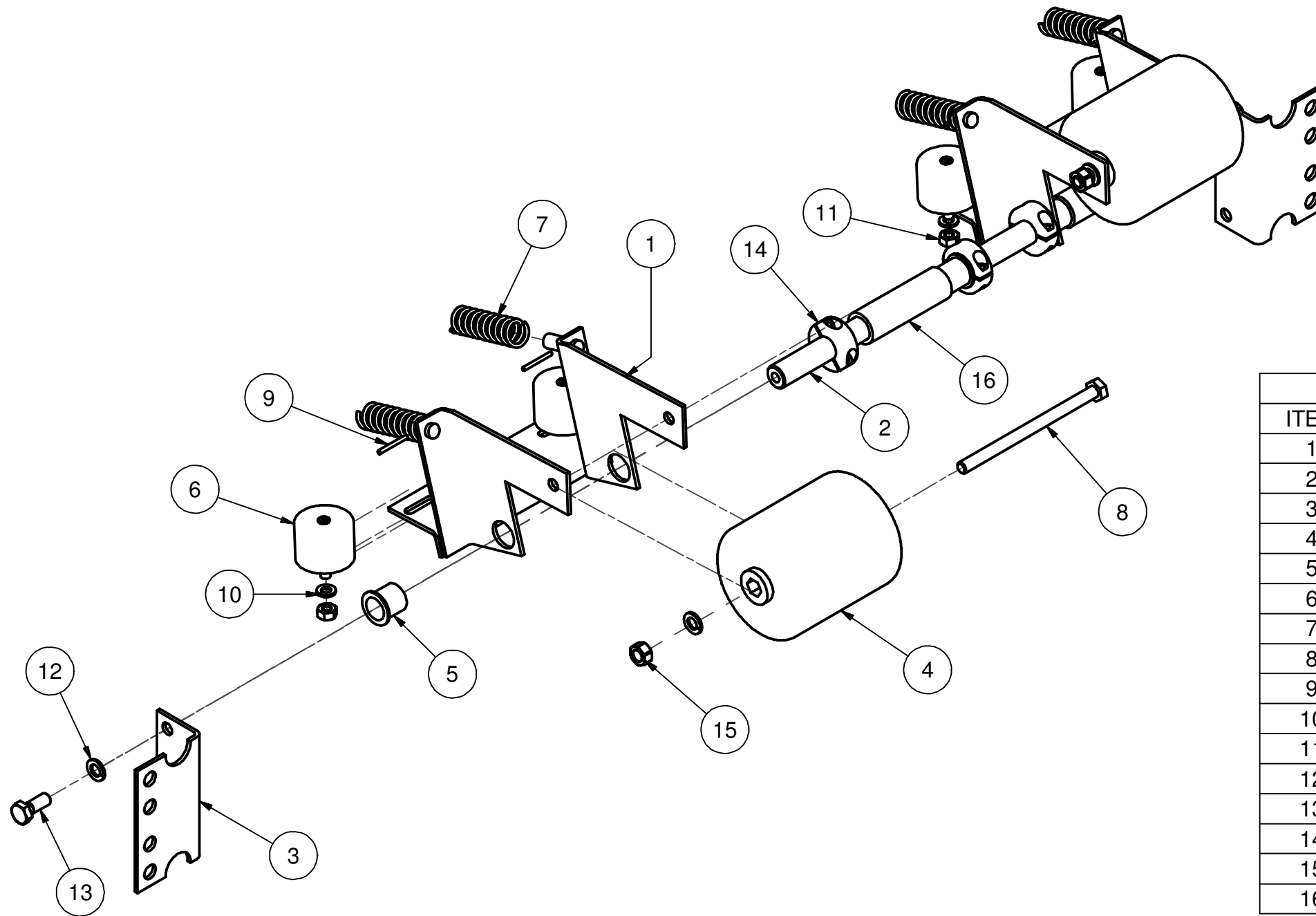
LOVESHAW Company
 RT. 296, SOUTH CANAAN, PA.

TITLE
DRIVE ASSEMBLY LDU

DWG NO	.LDU/DRIVE/STD	SCALE	N/A
MATERIAL	N/A	CHECKED	
DRAWN	AMYR	APPROVED	



REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	5/6/2004	AMYR
B	M.C.R. #04-035	12/14/2004	AMYR
C	ADDED ITEM #16	2/24/2009	AMYR

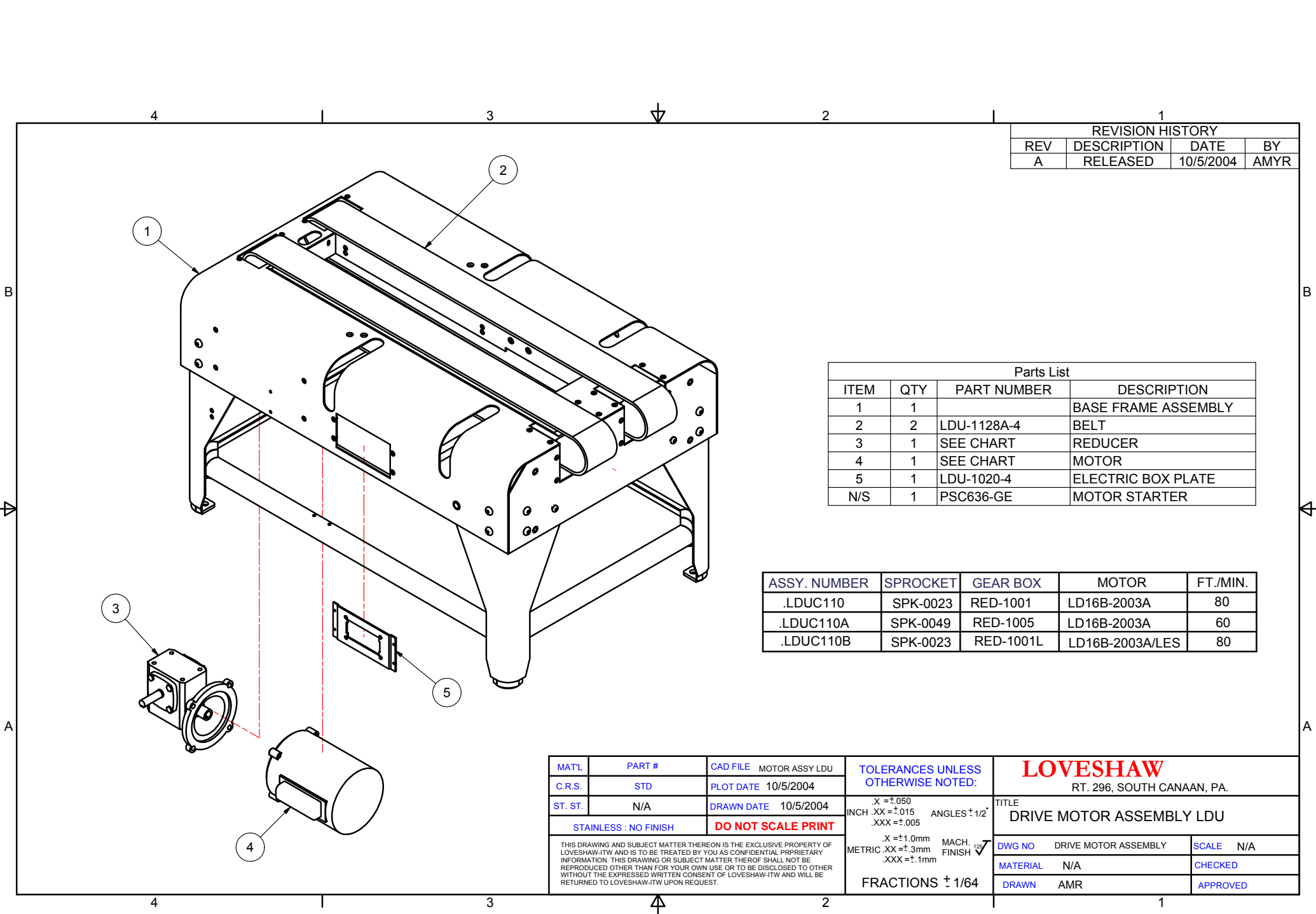


Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	LDU-1335-5	TENSION ROLLER BRACKET
2	1	LDU-1098-4	BAR - BELT TENSIONER
3	2	LDU-1099-4	BRACKET - TENSIONER BAR
4	2	PSC196-4	INFEED ROLLER - LARGE
5	4	PSC301224	BUSHING
6	4	K286D	ROLLER
7	4	SPR-1016	COMPRESSION SPRING
8	2	FHHMH120P10	HEX HD M8 x 120
9	4	PSR609	ROLL PIN
10	4	FLWSDP	LOCK WASHER 1/4
11	4	FHFNSEP	HEX NUT 1/4-20
12	4	FLWMHP	LOCK WASHER M8
13	2	FHHMH020P10	HHCS M8x20
14	4	SPC-1001	SPLIT COLLAR 5/8"
15	2	FHFNMHP	HEX NUT, M8
16	2	LDU-1549-3	BELT ROLLER

MAT'L	PART #	CAD FILE bda_ldu_ext
C.R.S.	STD	PLOT DATE 2/24/2009
ST. ST.	N/A	DRAWN DATE 5/6/2004
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INCH .XX = ±.015	
.XXX = ±.005	
.X = ±1.0mm	MACH. FINISH <input checked="" type="checkbox"/>
METRIC .XX = ±.3mm	
.XXX = ±.1mm	
FRACTIONS ± 1/64	

LOVESHAW	
RT. 296, SOUTH CANAAN, PA.	
TITLE BELT DRIVE ASSEMBLY	
DWG NO .BDA/LDU/EXT	SCALE N/A
MATERIAL N/A	CHECKED
DRAWN AMYR	APPROVED



REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	10/5/2004	AMR

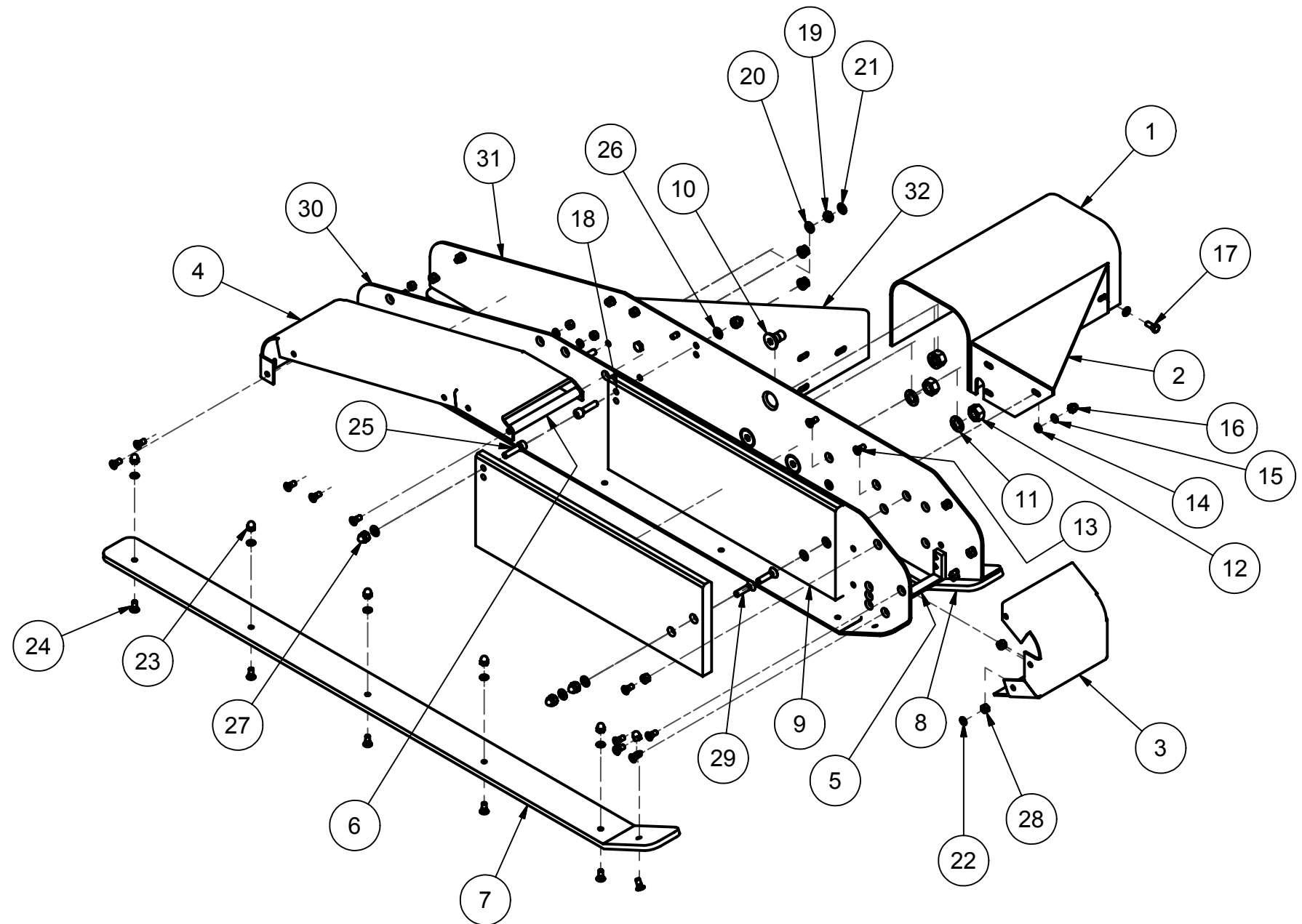
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1		BASE FRAME ASSEMBLY
2	2	LDU-1128A-4	BELT
3	1	SEE CHART	REDUCER
4	1	SEE CHART	MOTOR
5	1	LDU-1020-4	ELECTRIC BOX PLATE
N/S	1	PSC636-GE	MOTOR STARTER

ASSY. NUMBER	SPROCKET	GEAR BOX	MOTOR	FT./MIN.
.LDUC110	SPK-0023	RED-1001	LD16B-2003A	80
.LDUC110A	SPK-0049	RED-1005	LD16B-2003A	60
.LDUC110B	SPK-0023	RED-1001L	LD16B-2003A/LES	80

MATL	PART #	CAD FILE	MOTOR ASSY LDU	TOLERANCES UNLESS OTHERWISE NOTED: X = ±.050 INCH .XX = ±.015 ANGLES ± 1/2' .XXX = ±.005 X = ±1.0mm MACH. FINISH METRIC .XX = ±.3mm .XXX = ±.1mm FRACTIONS ± 1/64	LOVESHAW RT. 296, SOUTH CANAAN, PA.			
C.R.S.	STD	PLOT DATE	10/5/2004					
ST. ST.	N/A	DRAWN DATE	10/5/2004					
STAINLESS : NO FINISH		DO NOT SCALE PRINT		TITLE DRIVE MOTOR ASSEMBLY LDU				
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					MATERIAL	N/A	CHECKED	
					DRAWN	AMR	APPROVED	

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	1/5/2005	AMYR

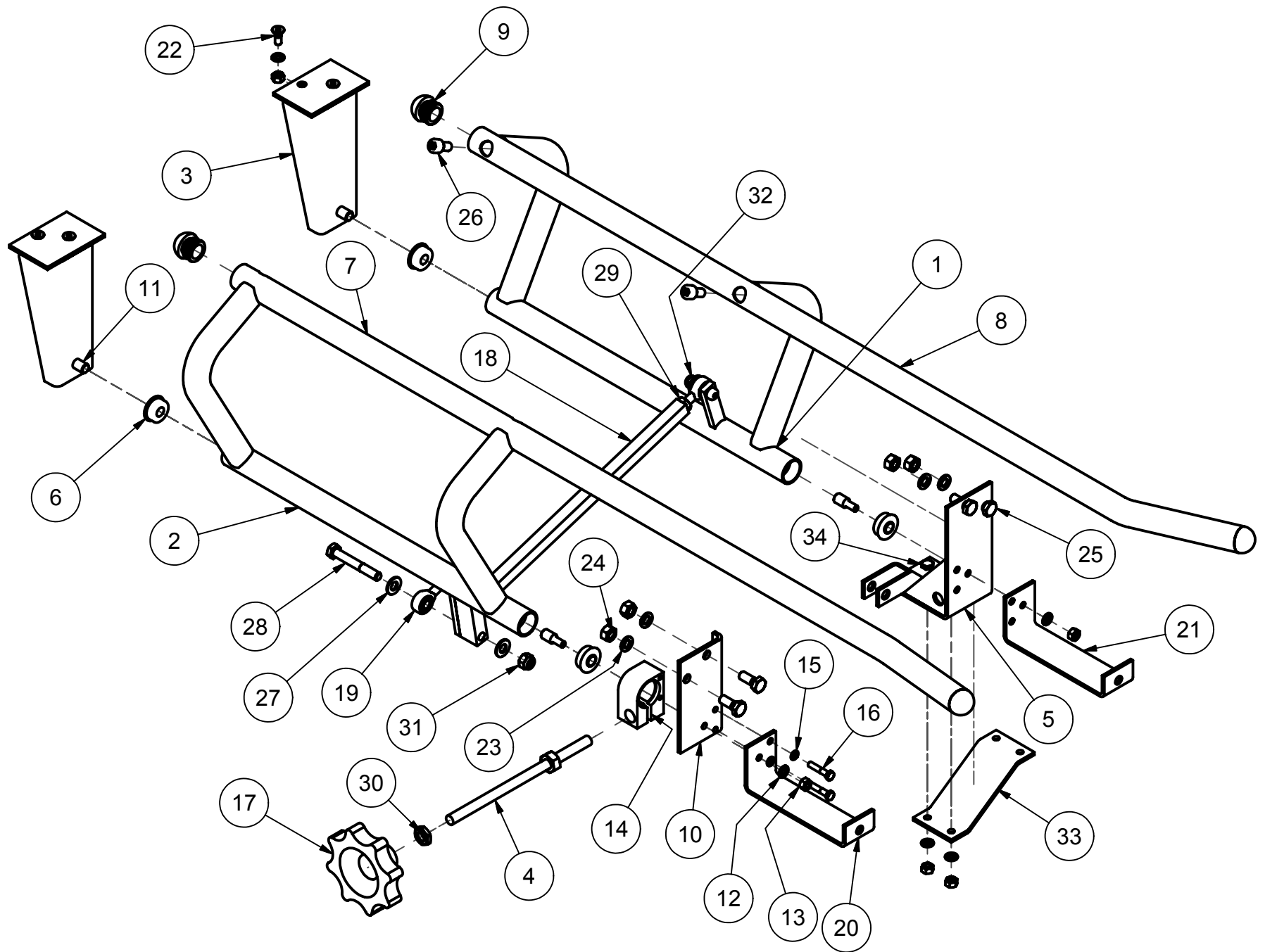
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LDU-1157-5	HEAD NECK
2	1	LDU-1047-4	STIFFENER - HEAD NECK
3	1	LDU-1067-4	HEAD GUARD - FRONT
4	1	LDU-1151-5	HEAD GUARD - REAR
5	1	LDU-1152-4	TOP LOAD BRACKET
6	1	LDU-1153-3	SHAFT - CARTRIDGE STOP
7	1	LDU-1161L-4	WEAR STRIP LEFT
8	1	LDU-1161R-4	WEAR STRIP RIGHT
9	2	LDU-1284-4	SPACER - HEAD L/R
10	3	FFHMI020P88	FL. HD. SOC. CAP SCREW M10 X 20
11	3	FLWMIP	LOCK WASHER M10
12	3	FHFNMIP	HEX NUT M10
13	3	FFHMF012P10	FL. HD. SOC. CAP SCREW M5 X 12
14	6	FFWMFP	FLAT WASHER M5
15	6	FFWMFP	FLAT WASHER M5
16	3	FHDNMFP	HEX DOME NUT M5
17	3	FHHMF012P10	HEX HEAD SCREW M5 X 12
18	6	FHHMG016P10	HEX HEAD SCREW M6 X 16
19	3	FHFNMG	HEX HEAD NUT M6
20	6	FFWMGP	WASHER M6
21	6	FLWMGP	LOCK WASHER M6
22	26	FLWMFP	LOCK WASHER M5
23	12	FHDNMFP	HEX DOME NUT M5
24	32	FFHF012P10	FLAT HEAD M5 X 12 LG.
25	2	FSHMG025P10	SOC. HD. CAP SCREW M6 X 25
26	6	FLWMGP	LOCK WASHER M6
27	6	FHDNMGP	HEX DOME NUT M6
28	14	FHFNMFP	HEX FLAT NUT M5
29	4	FFHMG025P10	FLAT HEAD SCREW M6 X 25
30	1	LDU-1155-6	PLATE, HEAD LH
31	1	LDU-1154-6	PLATE, HEAD RH
32	1	LDU-1055-5	BRACE, HEAD NECK



MAT'L	PART #	CAD FILE HDA LDU 2	TOLERANCES UNLESS OTHERWISE NOTED: .X = ±.050 INCH .XX = ±.015 .XXX = ±.005 ANGLES ± 1/2°	LOVESHAW RT. 296, SOUTH CANAAN, PA. TITLE HEAD ASSEMBLY	
C.R.S.	STD	PLOT DATE 1/5/2005			
ST. ST.	N/A	DRAWN DATE 10/25/2004	.METRIC .X = ±1.0mm .XX = ±.3mm .XXX = ±.1mm MACH. FINISH 125 ✓ FRACTIONS ± 1/64	DWG NO .HDA/LDU/2	SCALE N/A
STAINLESS : NO FINISH DO NOT SCALE PRINT				MATERIAL N/A	CHECKED
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.				DRAWN AMYR	APPROVED

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	10/4/2004	AMYR

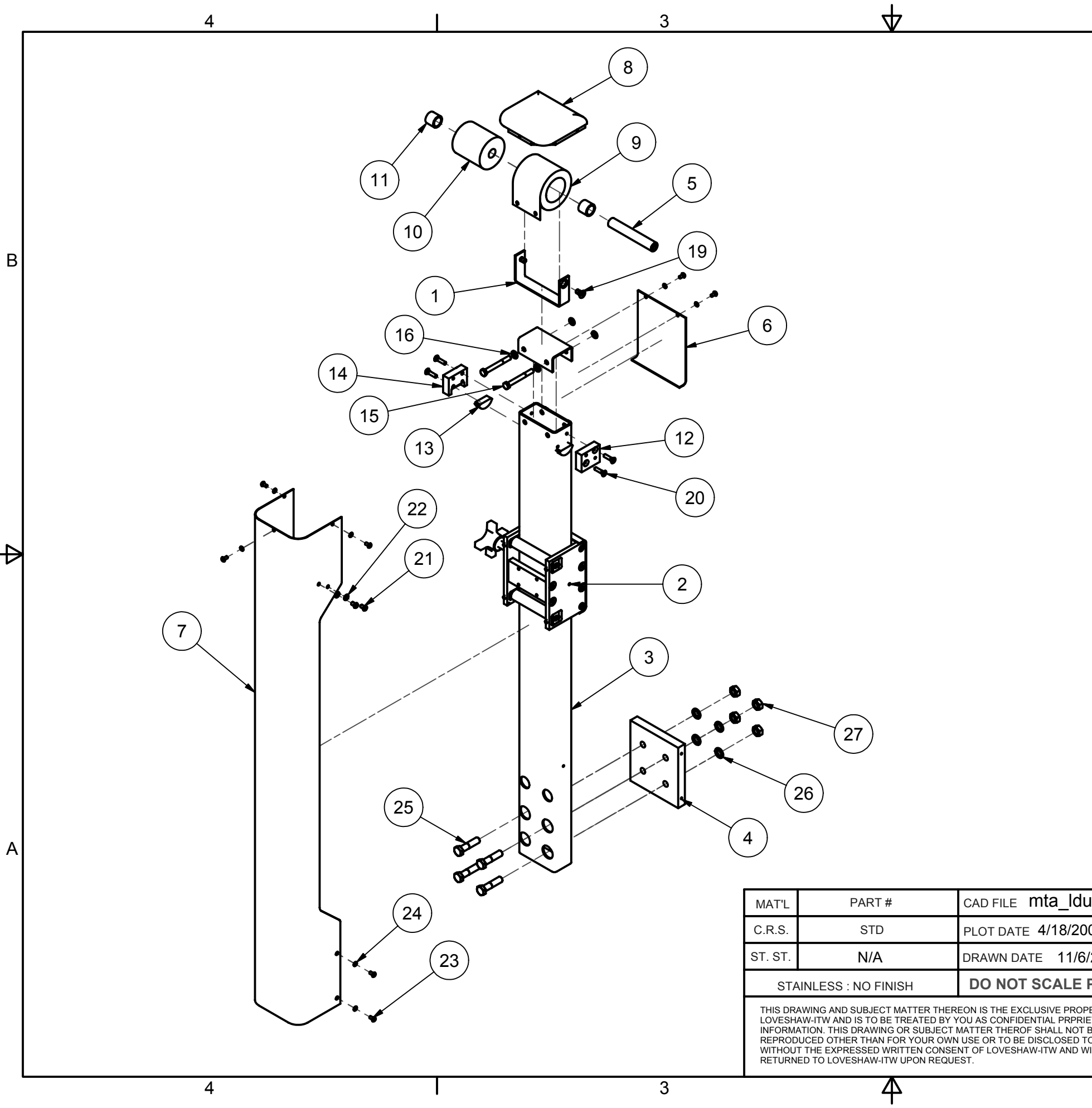
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LDU-1104-5	SIDE RAIL (RH) SIDE
2	1	LDU-1203-5	SIDE RAIL (LH) SIDE PNEU.
3	2	LDU-1032-4	SIDE RAIL BRACKET REAR
4	1	LDU-1043-4	LOCK ROD
5	1	LDU-1084-5	SIDE RAIL BRACKET (PNEU)
6	4	BRG-1012	BEARING
7	1	LDU-1167LE-5	SIDE RAIL TUBE EXT (18") LH
8	1	LDU-1167RE-5	SIDE RAIL TUBE EXT (18") RH
9	4	PSC511A	SIDE RAIL CAP
10	1	LDU-1031L-4	SIDE RAIL BRACKET FRONT
11	4	LDU-1107-3	SIDE RAIL SUPPORT STUD
12	10	FLWMGP	LOCK WASHER M6
13	10	FHFNMGP	HEX NUT M6
14	1	LDU-1042-4	LOCK BLOCK
15	2	FLWMFP	LOCK WASHER M5
16	2	FHHMF025P10	HEX HD M5x25
17	1	PSU166-4	SIDE RAIL HAND KNOB
18	1	LDU-1240-4	LINK BAR - SIDE RAILS RANDOM
19	2	PSC552	SPHERICAL ALIGN BEARING
20	1	LDU-1059L-4	SIDE RAIL BRACE LEFT
21	1	LDU-1059R-4	SIDE RAIL BRACE RIGHT
22	4	FFHMG016P10	FHSC M6x16
23	4	FLWMHP	LOCK WASHER M8
24	4	FHFNMHP	HEX NUT M8
25	4	FHHMH020P10	HEX HD M8x20
26	4	FSHMH016P10	SHCS M8x16
27	3	FFWSEP	FW 5/16
28	1	FHHSH225P08	HEX HEAD 5/16-18 X 2 1/4 LG.
29	2	FHJNSIP	HJN 5/16-24
30	1	FHJNMIP	M10 HJN
31	1	FNLNSHP	5/16 Std NC Nylock Nut
32	1	FNLNSEP	1/4 Std NC Nylock Nut
33	1	LDU-1258-4	SIDE RAIL BRACE
34	2	FHHMG016P10	HEX HEAD SCREW M6 X 16



MAT'L	PART #	CAD FILE sra_ldu_ext18	TOLERANCES UNLESS OTHERWISE NOTED: .X = ±.050 INCH .XX = ±.015 ANGLES ± 1/2° .XXX = ±.005 .X = ±1.0mm METRIC .XX = ±.3mm MACH. FINISH ✓ .XXX = ±.1mm FRACTIONS ± 1/64	LOVESHAW RT. 296, SOUTH CANAAN, PA. TITLE SIDE RAIL ASSEMBLY	
C.R.S.	STD	PLOT DATE 10/4/2004			
ST. ST.	N/A	DRAWN DATE 10/4/2004		CHECKED	
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.			DRAWN AMYR		
			APPROVED		

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	4/18/2006	AMYR

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LDU-1135-5	SPRING HOLDER
2	1	TROLLEY ASSY.	SEE NEXT PAGE
3	1	LDU-1130-6	MAST
4	1	LDU-1132-4	MAST SPACER
5	1	LDU-1133-3	SPRING SHAFT
6	1	LDU-1143-4	SPRING GUARD
7	1	LDU-1144-5	MAST GUARD
8	1	LDU-1145-4	MAST CAP
9	1	LDU-1026-4	CONSTANT FORCE SPRING
10	1	LDU-1027-4	SPRING HUB
11	2	LDU-1134-3	SPRING SHAFT SPACER
12	1	LDU-1323LA-4	STOP BUMPER HOLDER LEFT
13	2	LDU-1322-3	STOP BUMPER
14	1	LDU-1323RA-4	STOP BUMPER HOLDER RIGHT
15	2	FHHMH070P10	HEX HD. M8 X 70mm LG.
16	2	FFWMHP	FLAT WASHER M8
17	2	FLWMHP	LOCK WASHER M8
19	2	FFHMH016P10	FL. HEAD M8 X 16 LG.
20	4	FFHMG025P10	FLAT HEAD SCREW M6 X 25
21	4	FBHMG010P10	BUTT. HD. CAP SCERW M6 X 10 LG.
22	4	FLWMGP	LOCK WASHER M6
23	9	FBHMF010P10	BUTT. HD. SCREW M5 X 10
24	10	FLWMFP	LOCK WASHER M5
25	4	FHHMJ050P88	HEX HEAD M12 X 50 LG.
26	4	FLWMJP	LOCK WASHER M12
27	4	FHFNMJP	HEX NUT M12
28	1	FSHMF012P10	SOC. HD. CAP SCREW M5 X 12 LG.



MAT'L	PART #	CAD FILE	mta_ldu_d
C.R.S.	STD	PLOT DATE	4/18/2006
ST. ST.	N/A	DRAWN DATE	11/6/2004
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.			

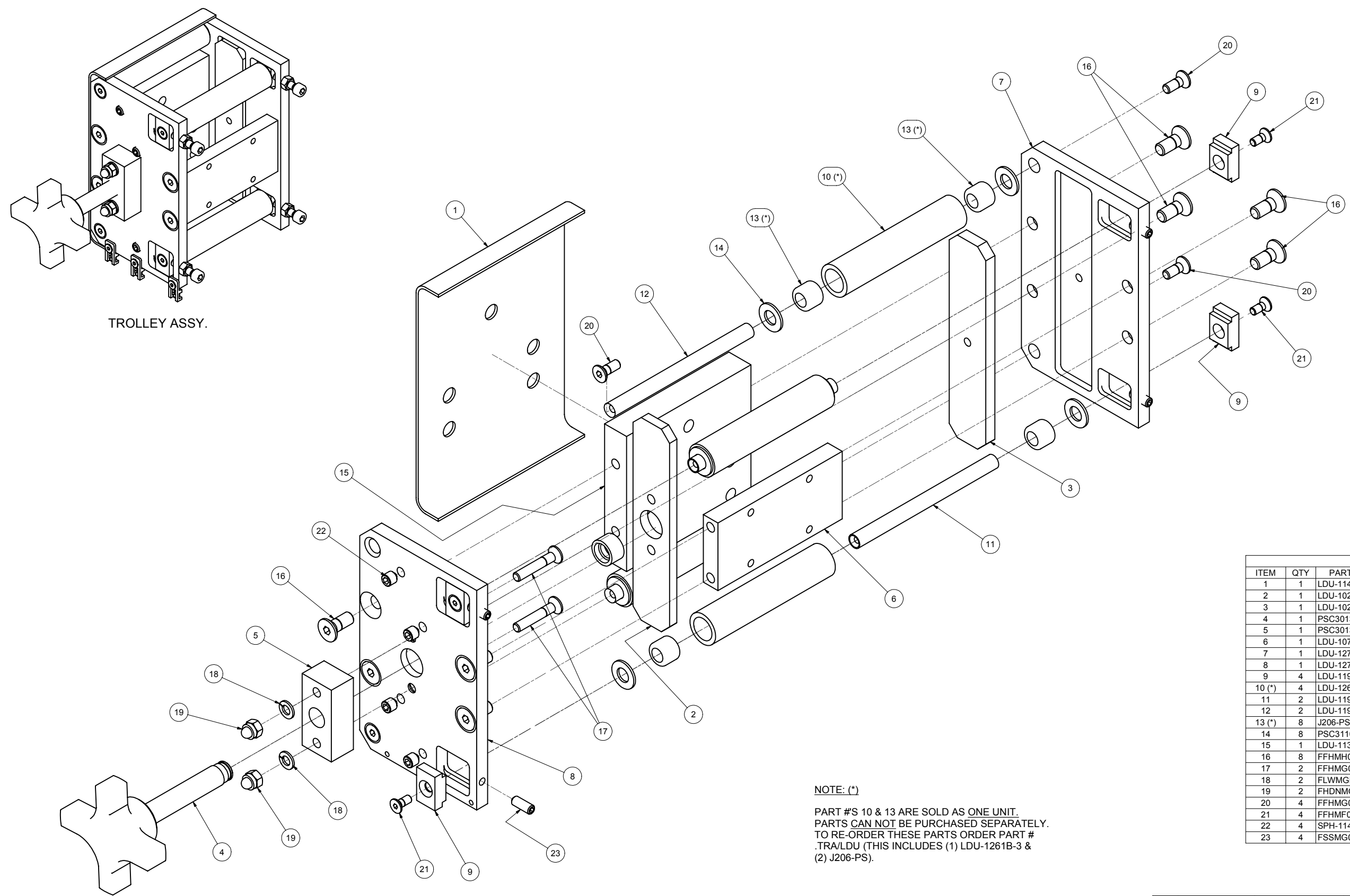
TOLERANCES UNLESS OTHERWISE NOTED:
 .X = ±.050
 INCH .XX = ±.015 ANGLES ± 1/2°
 .XXX = ±.005
 .X = ±1.0mm MACH. FINISH ✓
 METRIC .XX = ±.3mm
 .XXX = ±.1mm
 FRACTIONS ± 1/64

LOVESHAW
 RT. 296, SOUTH CANAAN, PA.

TITLE
MAST AND TROLLEY ASSEMBLY

DWG NO	.MTA/LDU/D	SCALE	N/A
MATERIAL	N/A	CHECKED	
DRAWN	AMYR	APPROVED	

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	4/18/2006	AMYR



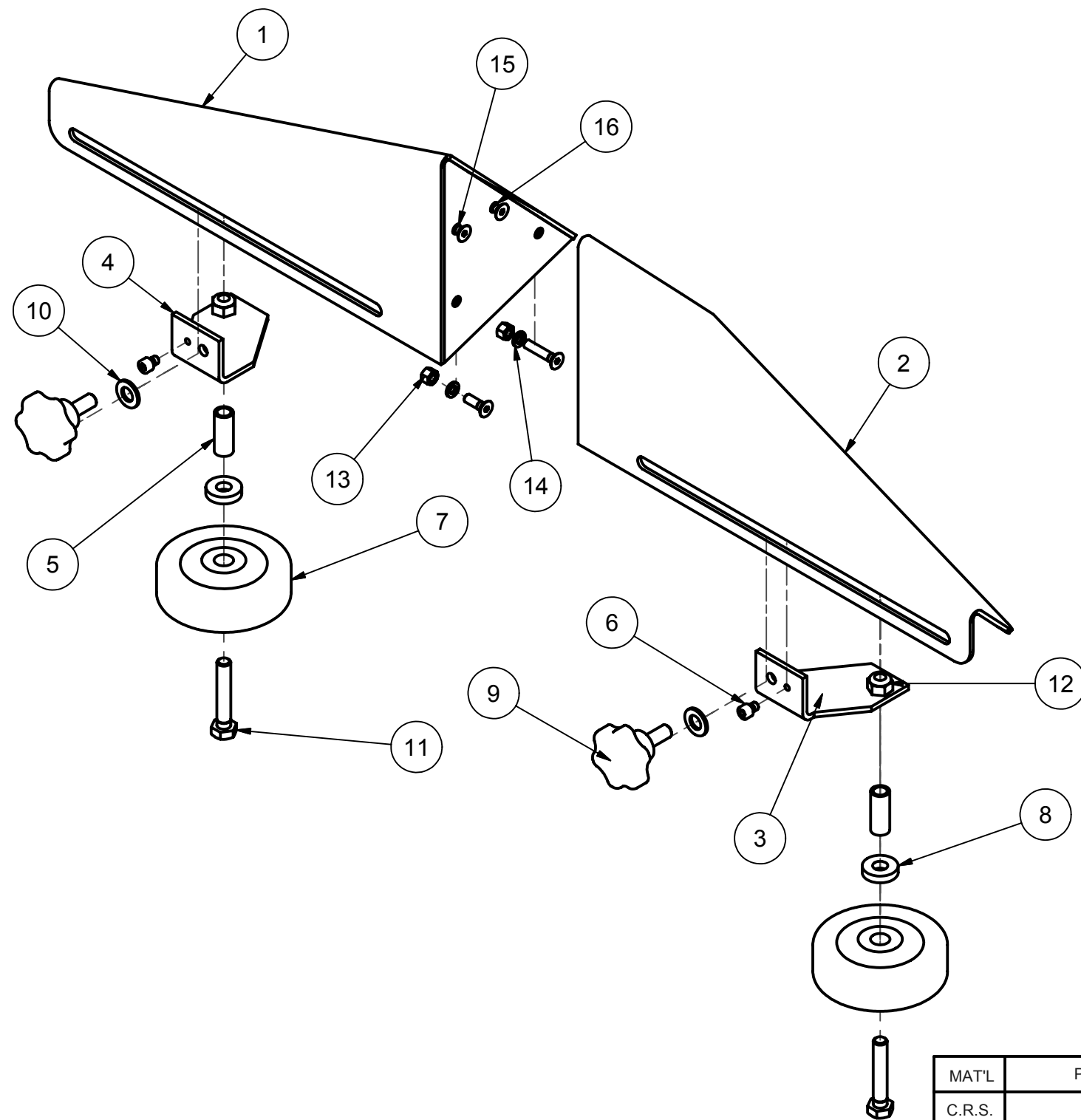
TROLLEY ASSY.

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LDU-1142-4	TROLLEY GUARD
2	1	LDU-1023-3	WEAR STRIP (LOCK SIDE)
3	1	LDU-1025-3	STRIP, WEAR (FIXED SIDE)
4	1	PSC301322	CLAMP SW. SCREW
5	1	PSC301324-3	CLAMP NUT HEAD
6	1	LDU-1073-4	SPRING BLOCK
7	1	LDU-1276-5	TROLLEY PLATE (FIXED SIDE)
8	1	LDU-1275-5	PLATE, TROLLEY (LOCK SIDE)
9	4	LDU-1190-3	T-NUT
10 (*)	4	LDU-1261B-3	ROLLER, ST. STEEL
11	2	LDU-1191-3	SHAFT, SUPPORT
12	2	LDU-1191A-3	SHAFT, SUPPORT
13 (*)	8	J206-PS	BEARING
14	8	PSC311013	THRUST BEARING
15	1	LDU-1139-4	TROLLEY PLATE FRONT
16	8	FFHM020P10	FLAT HEAD CAP SCREW M8 X 20 LG.
17	2	FFHMG035P10	FHSC M6x35 LG.
18	2	FLWMGP	LOCK WASHER M6
19	2	FHDNMGP	HEX DOME NUT M6
20	4	FFHMG016P10	FLAT HD. CAP SCREW M6 X 16
21	4	FFHMF012P10	FLAT HD. M5 X 12 LG.
22	4	SPH-1146	SET SCREW 5/16-18 x 5/16LG.
23	4	FSSMG016B10	SET SCREW M6 X 16 LG.

NOTE: (*)
 PART #S 10 & 13 ARE SOLD AS ONE UNIT.
 PARTS CAN NOT BE PURCHASED SEPARATELY.
 TO RE-ORDER THESE PARTS ORDER PART #
 .TRA/LDU (THIS INCLUDES (1) LDU-1261B-3 &
 (2) J206-PS).

MATL	PART #	CAD FILE	trolley assy ldu_d	TOLERANCES UNLESS OTHERWISE NOTED:	LOVESHAW RT. 296, SOUTH CANAAN, PA.
C.R.S.	STD	PLOT DATE	4/18/2006	X = ±.050 INCH XX = ±.015 ANGLS ±.1/2° XXX = ±.005	
ST. ST.	N/A	DRAWN DATE	4/18/2006	X = ±1.0mm MACH. FINISH METRIC XX = ±.3mm XXX = ±.1mm	TITLE TROLLEY ASSEMBLY LDU/D
STAINLESS - NO FINISH DO NOT SCALE PRINT				FRACTIONS ± 1/64	DWG NO trolley assy ldu/d SCALE N/A
THIS DRAWING AND SUBJECT MATTER THEREON IS THE EXCLUSIVE PROPERTY OF LOVESHAW ITW AND IS TO BE TREATED BY YOU AS CONFIDENTIAL PROPRIETARY INFORMATION. THIS DRAWING OR SUBJECT MATTER THEREON 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.					CHECKED
					DRAWN AMYR APPROVED

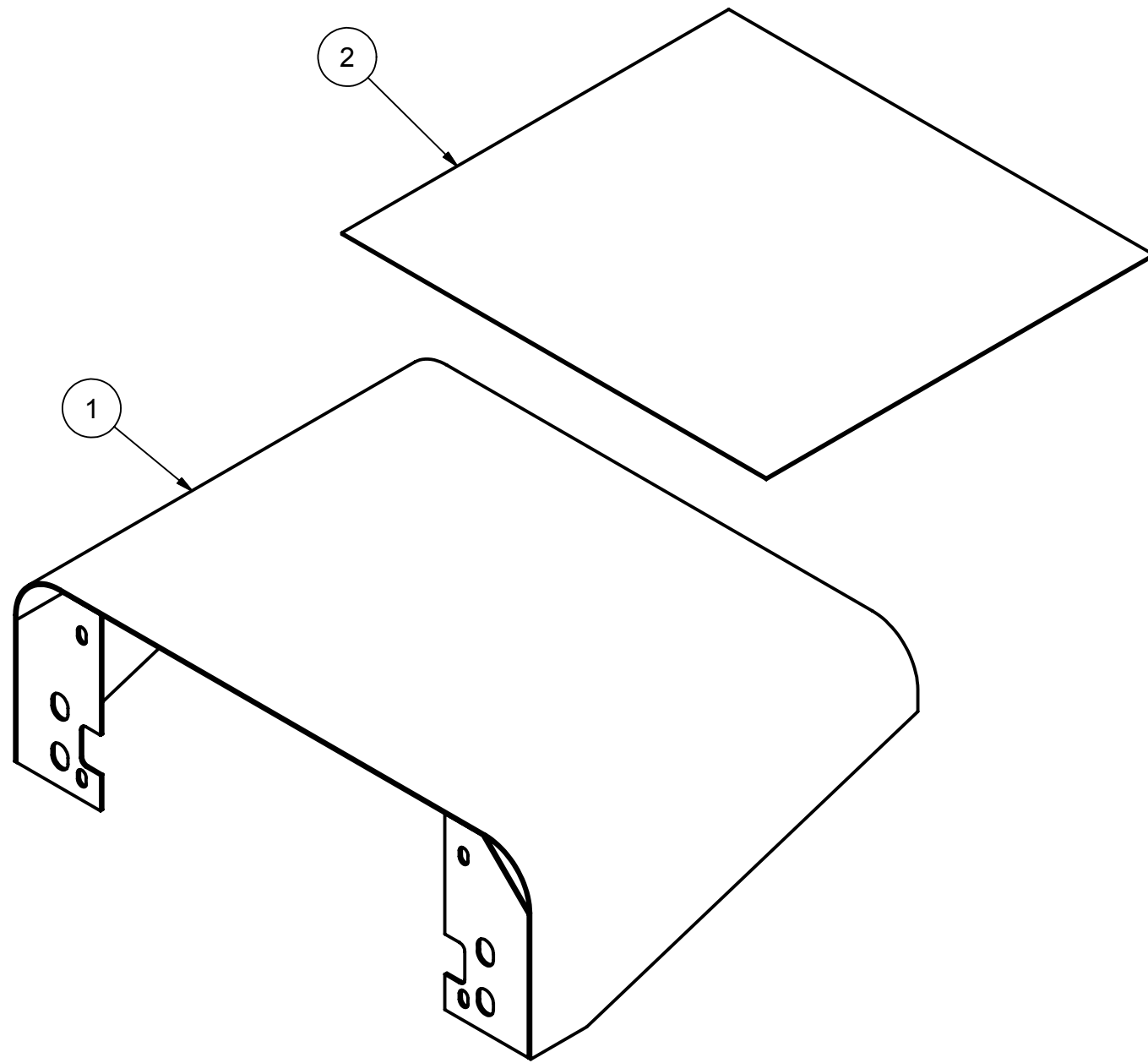
REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	8/13/2003	AMYR



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LDU-1011L-5	SQUEEZER BRACKET LEFT
2	1	LDU-1011R-5	SQUEEZER BRACKET RIGHT
3	1	LDU-1012L-4	SQUEEZER WHEEL BRACKET LEFT
4	1	LDU-1012R-4	SQUEEZER WHEEL BRACKET RIGHT
5	2	OPU501	BUSHING
6	2	SPH-1054	HEX. SOC. HD. CAP SCREW
7	2	LD12B-1027A	SQUEEZER WHEEL
8	2	OPU301104-3	SPACER
9	2	HC-1015	HAND KNOB
10	2		WASHER
11	2	M8 X 45	HEX HEAD BOLT
12	2	M8 X 1.25	NYLOCK HEX NUT
13	8	M5	HEX NUT
14	8		SPRING WASHER
15	4	M5 X 16	COUNTERSUNK SCREW
16	4	M5 X 25	COUNTERSUNK SCREW

MAT'L	PART #	CAD FILE TSA-LDU	TOLERANCES UNLESS OTHERWISE NOTED: .X = ±.050 INCH .XX = ±.015 ANGLES ± 1/2° .XXX = ±.005 .X = ±1.0mm METRIC .XX = ±.3mm MACH. FINISH ✓ .XXX = ±.1mm	LOVESHAW RT. 296, SOUTH CANAAN, PA. TITLE TOP SQUEEZER ASSEMBLY LDU	
C.R.S.	STD	PLOT DATE 8/7/2006			
ST. ST.	N/A	DRAWN DATE 8/13/2003		DWG NO .TSA/LDU SCALE N/A	
STAINLESS : NO FINISH		DO NOT SCALE PRINT		MATERIAL --OPTIONAL-- CHECKED	
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.			FRACTIONS ± 1/64		DRAWN AMYR APPROVED

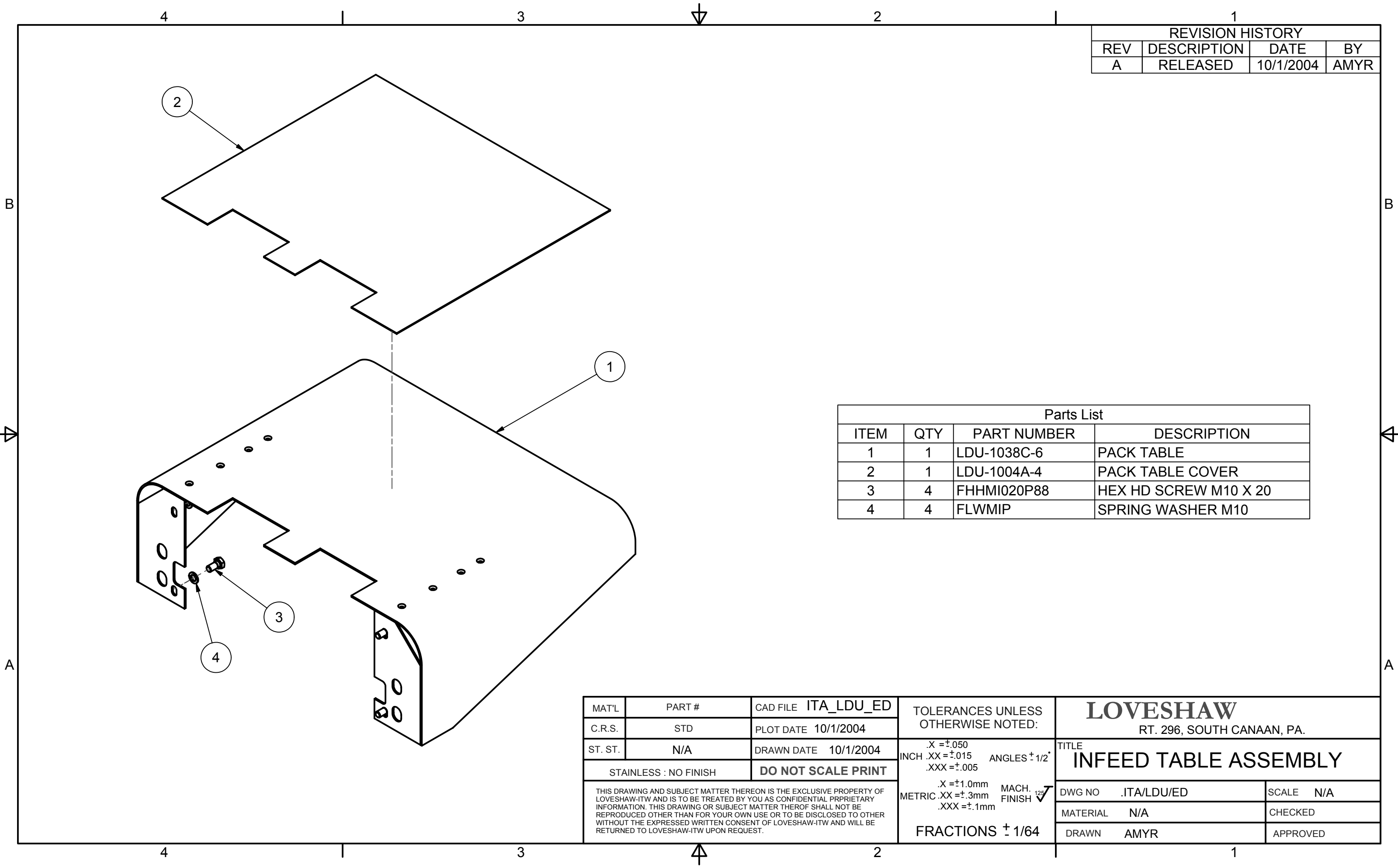
REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	3/15/2005	AJS



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LDU-1038-6	TABLE, PACK
2	1	LDU-1004-4	COVER, PACK TABLE

MAT'L	PART #	CAD FILE ITA LDU.idw	TOLERANCES UNLESS OTHERWISE NOTED:	LOVESHAW RT. 296, SOUTH CANAAN, PA.		
	STD	PLOT DATE 3/15/2005				
ST. ST.	N/A	DRAWN DATE 3/15/2005	.X = ±.050 INCH .XX = ±.015 .XXX = ±.005	TITLE INFEEED TABLE ASSY. LDU		
STAINLESS : NO FINISH		DO NOT SCALE PRINT	ANGLES ± 1/2°			
THIS DRAWING AND SUBJECT MATTER THEREON IS THE EXCLUSIVE PROPERTY OF LOVESHAW-ITW AND IS TO BE TREATED BY YOU AS CONFIDENTIAL PRPRIETARY INFORMATION. THIS DRAWING OR SUBJECT MATTER THEROF SHALL NOT BE REPRODUCED OTHER THAN FOR YOUR OWN USE OR TO BE DISCLOSED TO OTHER WITHOUT THE EXPRESSED WRITTEN CONSENT OF LOVESHAW-ITW AND WILL BE RETURNED TO LOVESHAW-ITW UPON REQUEST.			.X = ±1.0mm METRIC .XX = ±.3mm .XXX = ±.1mm	MACH. FINISH <input checked="" type="checkbox"/>	DWG NO ITA LDU	SCALE N/A
			FRACTIONS ± 1/64		MATERIAL NOTED	CHECKED
					DRAWN tonys	APPROVED

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	10/1/2004	AMYR

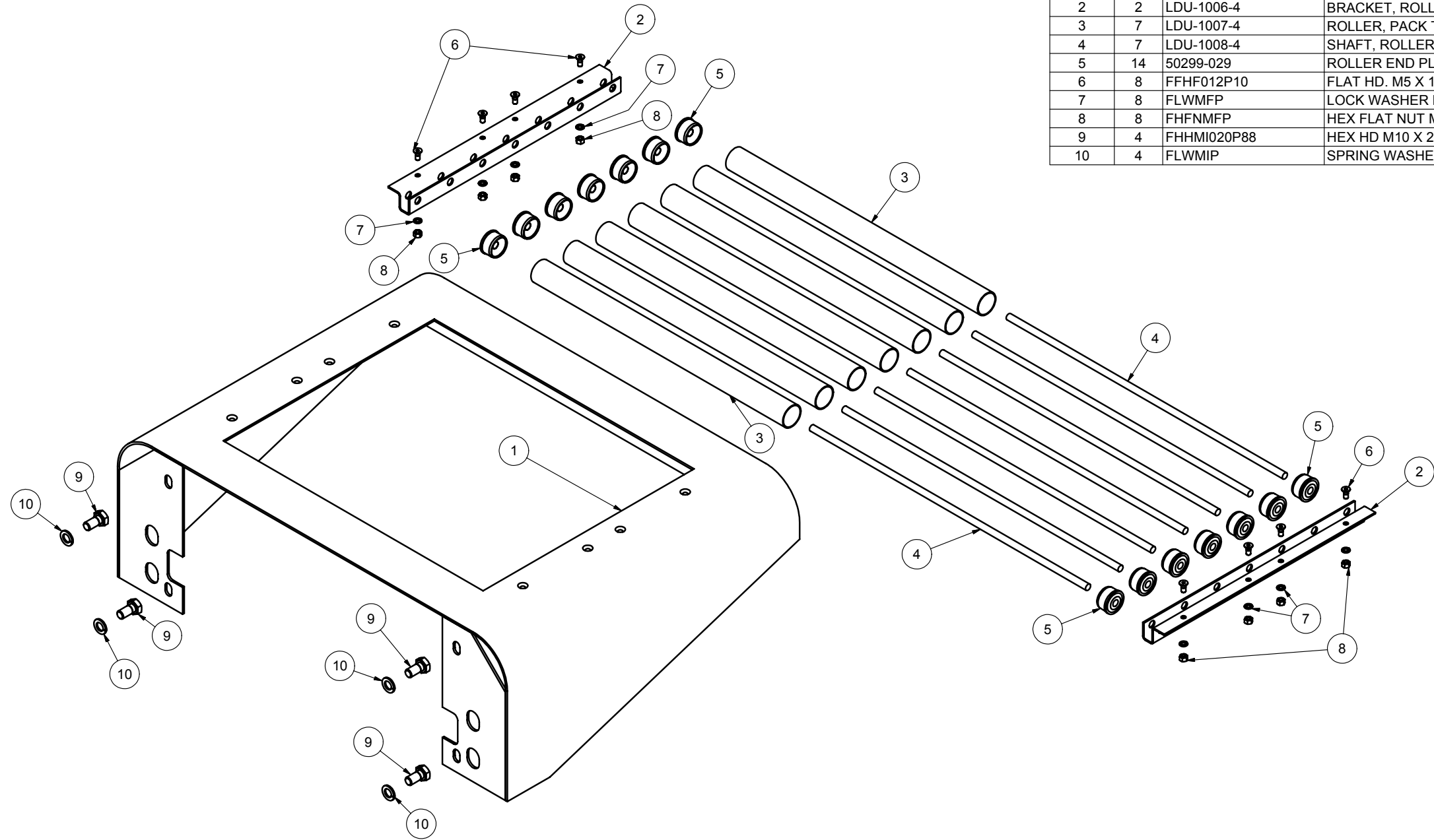


Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LDU-1038C-6	PACK TABLE
2	1	LDU-1004A-4	PACK TABLE COVER
3	4	FHHMI020P88	HEX HD SCREW M10 X 20
4	4	FLWMIP	SPRING WASHER M10

MAT'L	PART #	CAD FILE	ITA_LDU_ED	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	LOVESHAW RT. 296, SOUTH CANAAN, PA. TITLE INFEEED TABLE ASSEMBLY	
C.R.S.	STD	PLOT DATE	10/1/2004			
ST. ST.	N/A	DRAWN DATE	10/1/2004			
STAINLESS : NO FINISH		DO NOT SCALE PRINT		MACH. FINISH <input checked="" type="checkbox"/>	DWG NO .ITA/LDU/ED	
THIS DRAWING AND SUBJECT MATTER THEREON IS THE EXCLUSIVE PROPERTY OF LOVESHAW-ITW AND IS TO BE TREATED BY YOU AS CONFIDENTIAL PRPRIETARY INFORMATION. THIS DRAWING OR SUBJECT MATTER THEROF SHALL NOT BE REPRODUCED OTHER THAN FOR YOUR OWN USE OR TO BE DISCLOSED TO OTHER WITHOUT THE EXPRESSED WRITTEN CONSENT OF LOVESHAW-ITW AND WILL BE RETURNED TO LOVESHAW-ITW UPON REQUEST.					SCALE N/A	
						CHECKED
						APPROVED

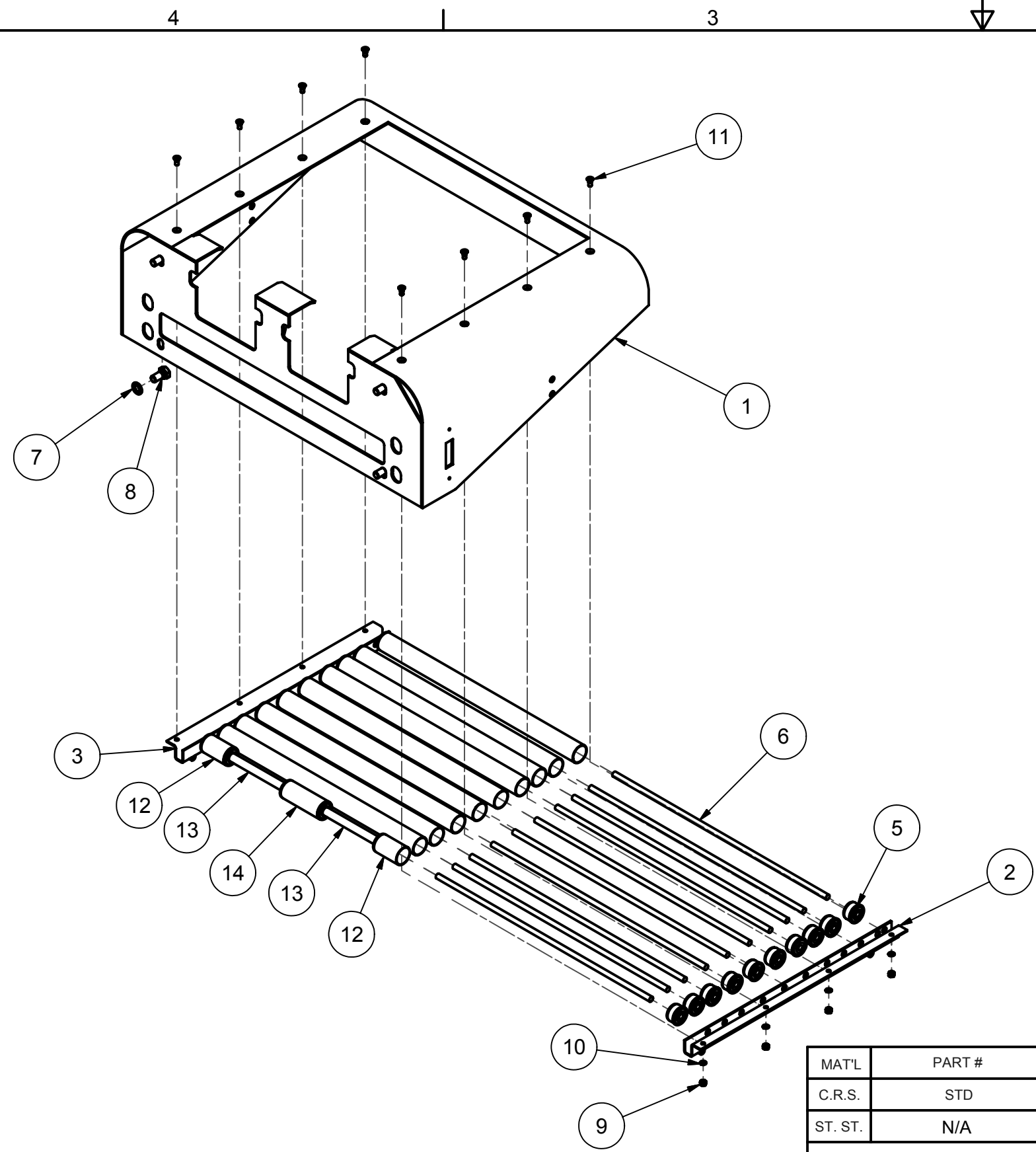
REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	3/15/2005	AJS

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LDU-1037-6	TABLE, PACK (ROLLER)
2	2	LDU-1006-4	BRACKET, ROLLER SUPPORT
3	7	LDU-1007-4	ROLLER, PACK TABLE
4	7	LDU-1008-4	SHAFT, ROLLER
5	14	50299-029	ROLLER END PLUG
6	8	FFHF012P10	FLAT HD. M5 X 12 LG.
7	8	FLWMFP	LOCK WASHER M5
8	8	FHFNMF	HEX FLAT NUT M5
9	4	FHHM1020P88	HEX HD M10 X 20
10	4	FLWMIP	SPRING WASHER M10



MATL	PART #	CAD FILE ITA RB LDU.idw	TOLERANCES UNLESS OTHERWISE NOTED:	LOVESHAW RT. 296, SOUTH CANAAN, PA.
	STD	PLOT DATE 3/15/2005		
ST. ST.	N/A	DRAWN DATE 3/15/2005	.X = ±.050 INCH .XX = ±.015 ANGLS ± 1/2° .XXX = ±.005	TITLE
STAINLESS : NO FINISH		DO NOT SCALE PRINT	.X = ±1.0mm METRIC .XX = ±.3mm MACH. FINISH ✓ .XXX = ±.1mm	INFEED TABLE (ROLLER) LDU
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.			FRACTIONS ± 1/64	DWG NO ITA RB LDU
				SCALE N/A
				MATERIAL NOTED
				CHECKED
				DRAWN tonys
				APPROVED

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	3/28/2005	AMYR



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LDU-1336-6	PACK TABLE (ROLLER) EXT. DR
2	1	LDU-1345L-4	BRKT. ROLLER SUPPORT (DUAL)
3	1	LDU-1345R-4	BRKT. ROLLER SUPPORT (DUAL)
4	9	LDU-1007-4	ROLLER, PACK TABLE
5	24	50299-029	ROLLER END PLUG
6	10	LDU-1008-4	SHAFT, ROLLER
7	4	FLWMIP	SPRING WASHER M10
8	4	FHHMI020P88	HHCS M10 X 20
9	8	FHFNMFP	HEX FLAT NUT M5
10	8	FLWMFP	LOCK WASHER M5
11	8	FFHMF012P10	FLAT HEAD M5 X 12 LG.
12	2	LDU-1007C-4	ROLLER, PACK TABLE
13	2	LDU-1354-3	ROLLER SPACER
14	1	LDU-1007D-4	ROLLER, PACK TABLE

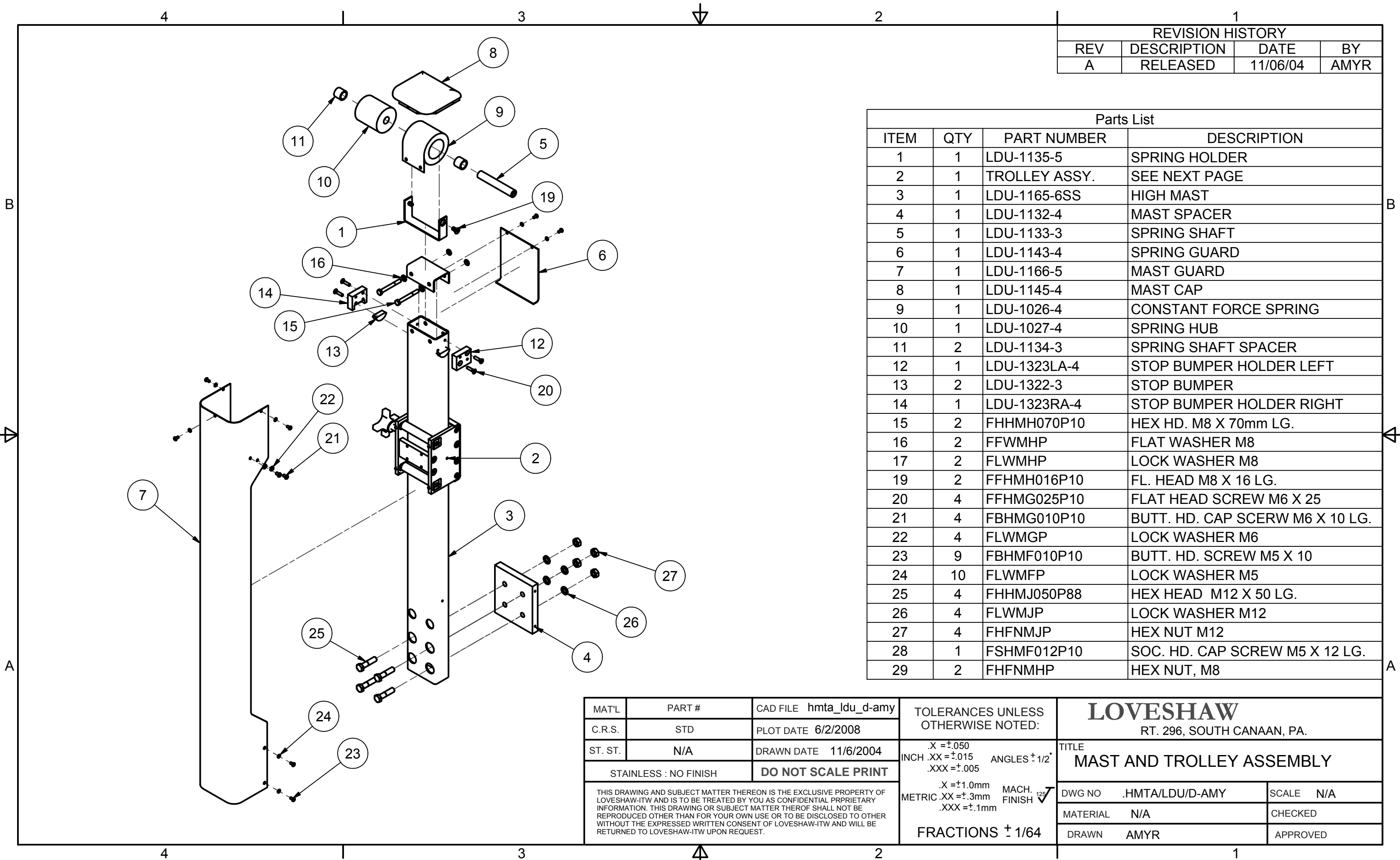
MAT'L	PART #	CAD FILE ita rb ldu ed
C.R.S.	STD	PLOT DATE 3/28/2005
ST. ST.	N/A	DRAWN DATE 3/28/2005
STAINLESS : NO FINISH		DO NOT SCALE PRINT
<small>THIS DRAWING AND SUBJECT MATTER THEREON IS THE EXCLUSIVE PROPERTY OF LOVESHAW-ITW AND IS TO BE TREATED BY YOU AS CONFIDENTIAL PROPRIETARY INFORMATION. THIS 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.</small>		

TOLERANCES UNLESS OTHERWISE NOTED:
 .X = ±.050
 INCH .XX = ±.015 ANGLES ± 1/2°
 .XXX = ±.005
 .X = ±1.0mm
 METRIC .XX = ±.3mm MACH. FINISH ✓
 .XXX = ±.1mm
 FRACTIONS ± 1/64

LOVESHAW
 RT. 296, SOUTH CANAAN, PA.

TITLE
INFEEED ROLLER BED TABLE ASSEMBLY

DWG NO	.ITA/RB/LDU/ED	SCALE	N/A
MATERIAL	N/A	CHECKED	
DRAWN	AMYR	APPROVED	



REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	RELEASED	11/06/04	AMYR

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LDU-1135-5	SPRING HOLDER
2	1	TROLLEY ASSY.	SEE NEXT PAGE
3	1	LDU-1165-6SS	HIGH MAST
4	1	LDU-1132-4	MAST SPACER
5	1	LDU-1133-3	SPRING SHAFT
6	1	LDU-1143-4	SPRING GUARD
7	1	LDU-1166-5	MAST GUARD
8	1	LDU-1145-4	MAST CAP
9	1	LDU-1026-4	CONSTANT FORCE SPRING
10	1	LDU-1027-4	SPRING HUB
11	2	LDU-1134-3	SPRING SHAFT SPACER
12	1	LDU-1323LA-4	STOP BUMPER HOLDER LEFT
13	2	LDU-1322-3	STOP BUMPER
14	1	LDU-1323RA-4	STOP BUMPER HOLDER RIGHT
15	2	FHHMH070P10	HEX HD. M8 X 70mm LG.
16	2	FFWMHP	FLAT WASHER M8
17	2	FLWMHP	LOCK WASHER M8
19	2	FFHMH016P10	FL. HEAD M8 X 16 LG.
20	4	FFHMG025P10	FLAT HEAD SCREW M6 X 25
21	4	FBHMG010P10	BUTT. HD. CAP SCERW M6 X 10 LG.
22	4	FLWMGP	LOCK WASHER M6
23	9	FBHMF010P10	BUTT. HD. SCREW M5 X 10
24	10	FLWMFP	LOCK WASHER M5
25	4	FHHMJ050P88	HEX HEAD M12 X 50 LG.
26	4	FLWMJP	LOCK WASHER M12
27	4	FHFNMJP	HEX NUT M12
28	1	FSHMF012P10	SOC. HD. CAP SCREW M5 X 12 LG.
29	2	FHFNMHP	HEX NUT, M8

MAT'L	PART #	CAD FILE hmta_ldu_d-amy
C.R.S.	STD	PLOT DATE 6/2/2008
ST. ST.	N/A	DRAWN DATE 11/6/2004
STAINLESS : NO FINISH		DO NOT SCALE PRINT
<small>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.</small>		

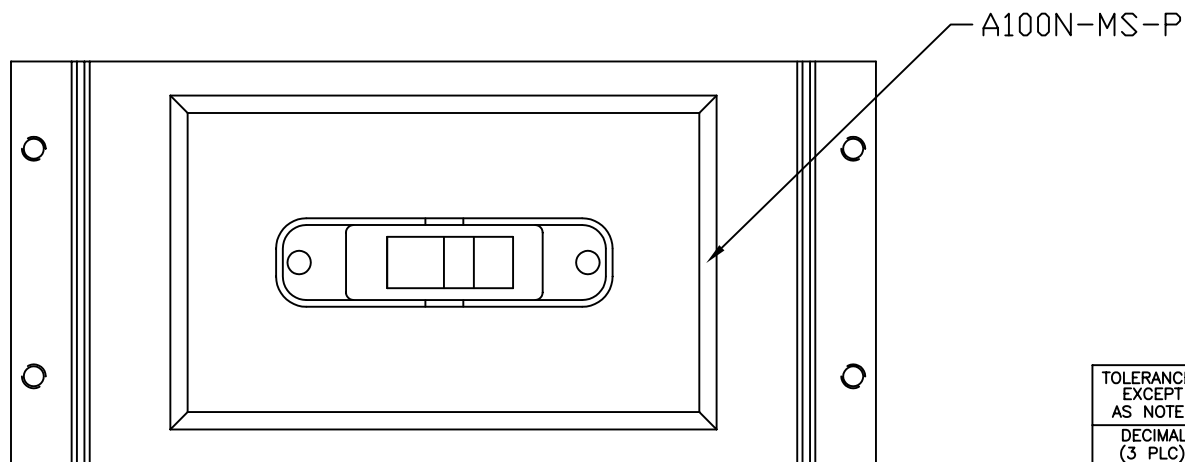
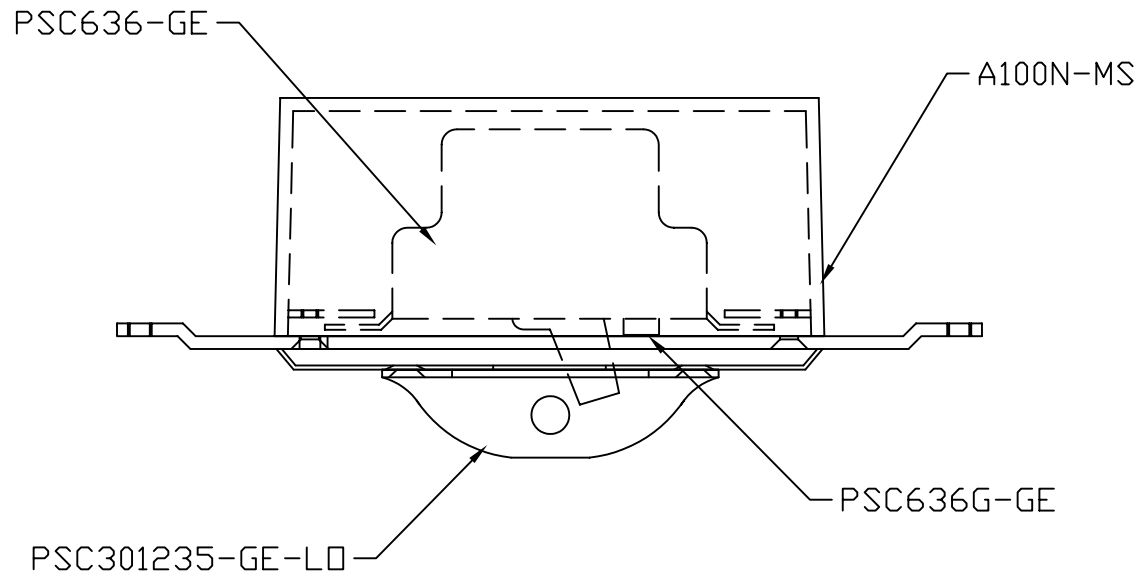
TOLERANCES UNLESS OTHERWISE NOTED:
 .X = ±.050
 INCH .XX = ±.015 ANGLES ± 1/2°
 .XXX = ±.005
 .X = ±1.0mm MACH. FINISH ✓
 METRIC .XX = ±.3mm
 .XXX = ±.1mm
 FRACTIONS ± 1/64

LOVESHAW
 RT. 296, SOUTH CANAAN, PA.

TITLE
MAST AND TROLLEY ASSEMBLY

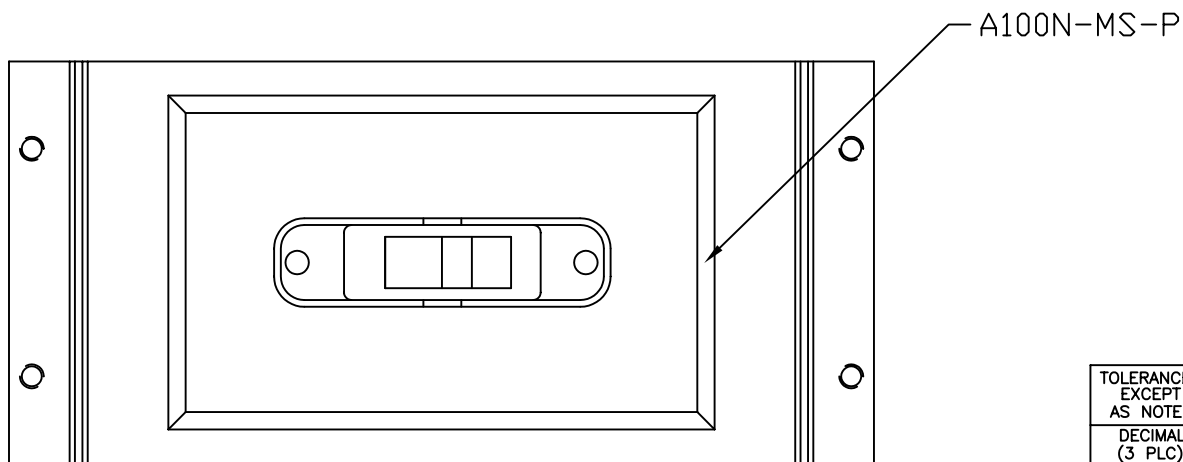
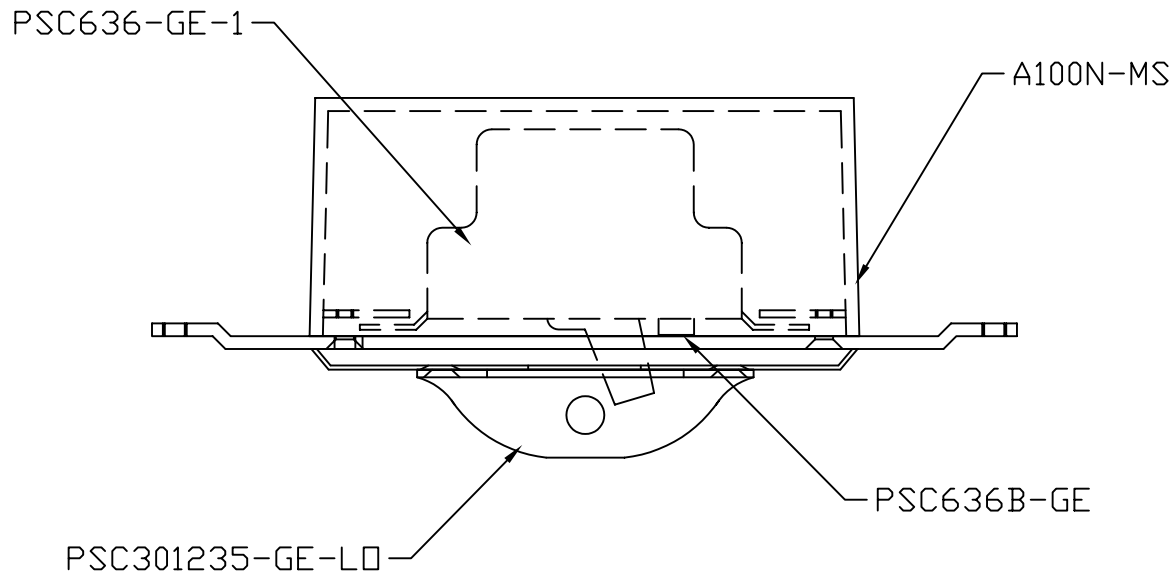
DWG NO	.HMTA/LDU/D-AMY	SCALE	N/A
MATERIAL	N/A	CHECKED	
DRAWN	AMYR	APPROVED	

REVISION RECORD					
REV	DESCRIPTION	DATE	ATH	DR	CK



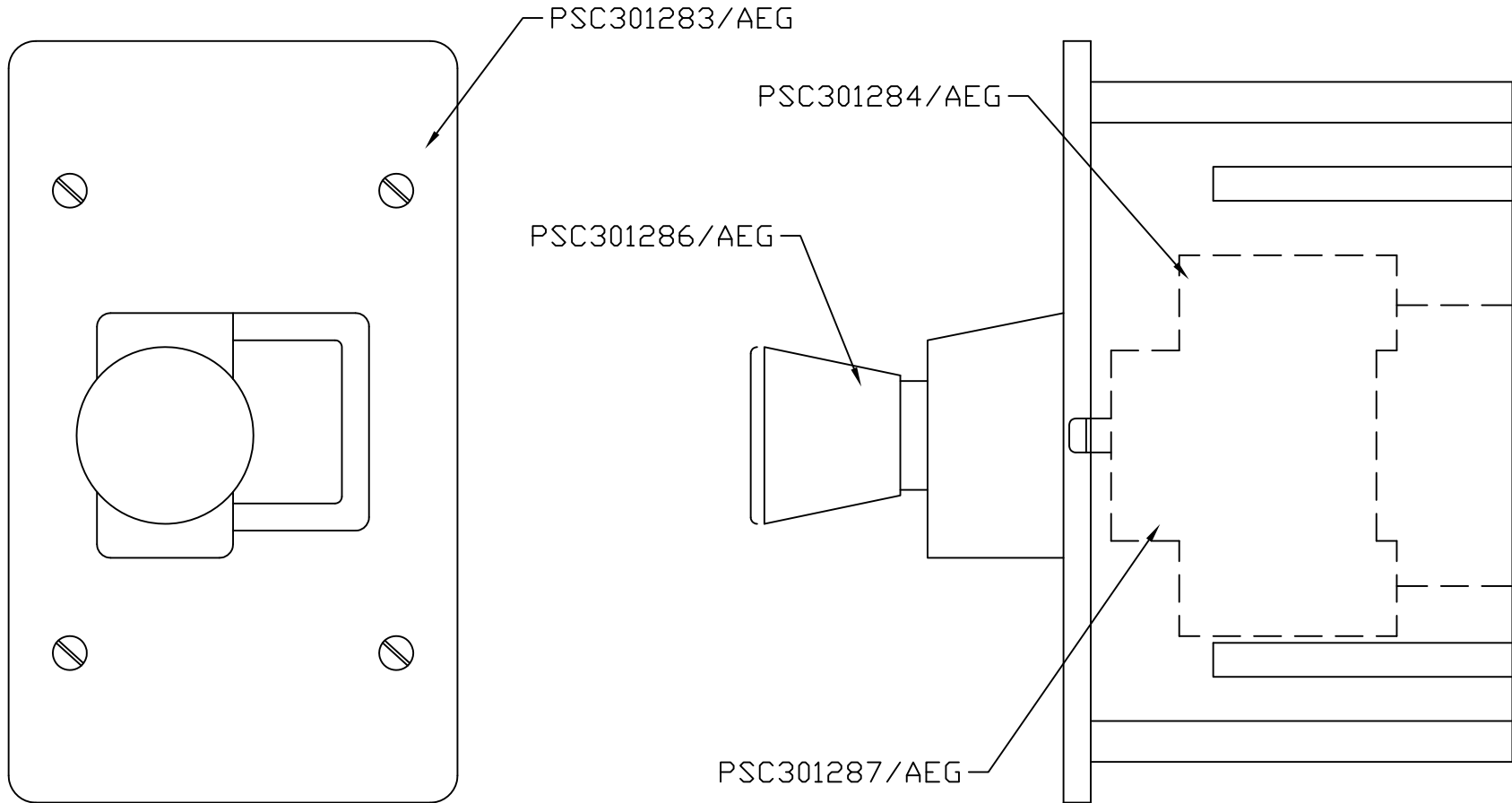
TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.	
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL ASSEMBLY LDU - 115/1/60	SCALE: 1 : 1
FRACTIONAL +/- 1/64	DWG. NO. ED833	DATE: 11/03/99
ANG. - 1/2°	MATERIAL: N/A	DESIGNED: MENTA
	DRAWN: WM	APPRVD: --

REVISION RECORD					
REV	DESCRIPTION	DATE	ATH	DR	CK



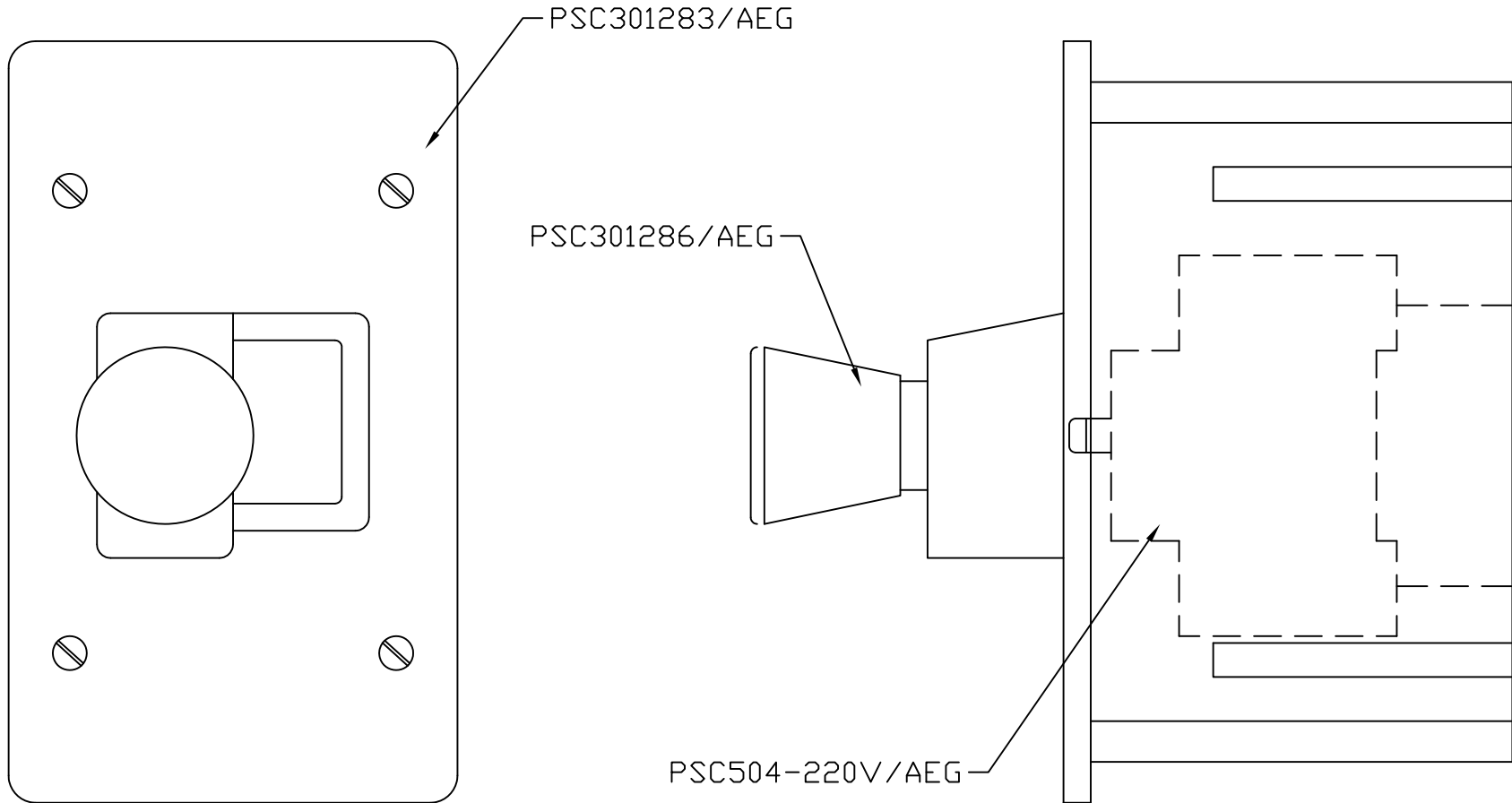
TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.	
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL ASSEMBLY LDU - 220/1/60	SCALE: 1 : 1
FRACTIONAL +/- 1/64	DWG. NO. ED834	DATE: 11/03/99
ANG. - 1/2°	MATERIAL: N/A	DESIGNED: MENTA
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REVISION RECORD					
REV	DESCRIPTION	DATE	ATH	DR	CK



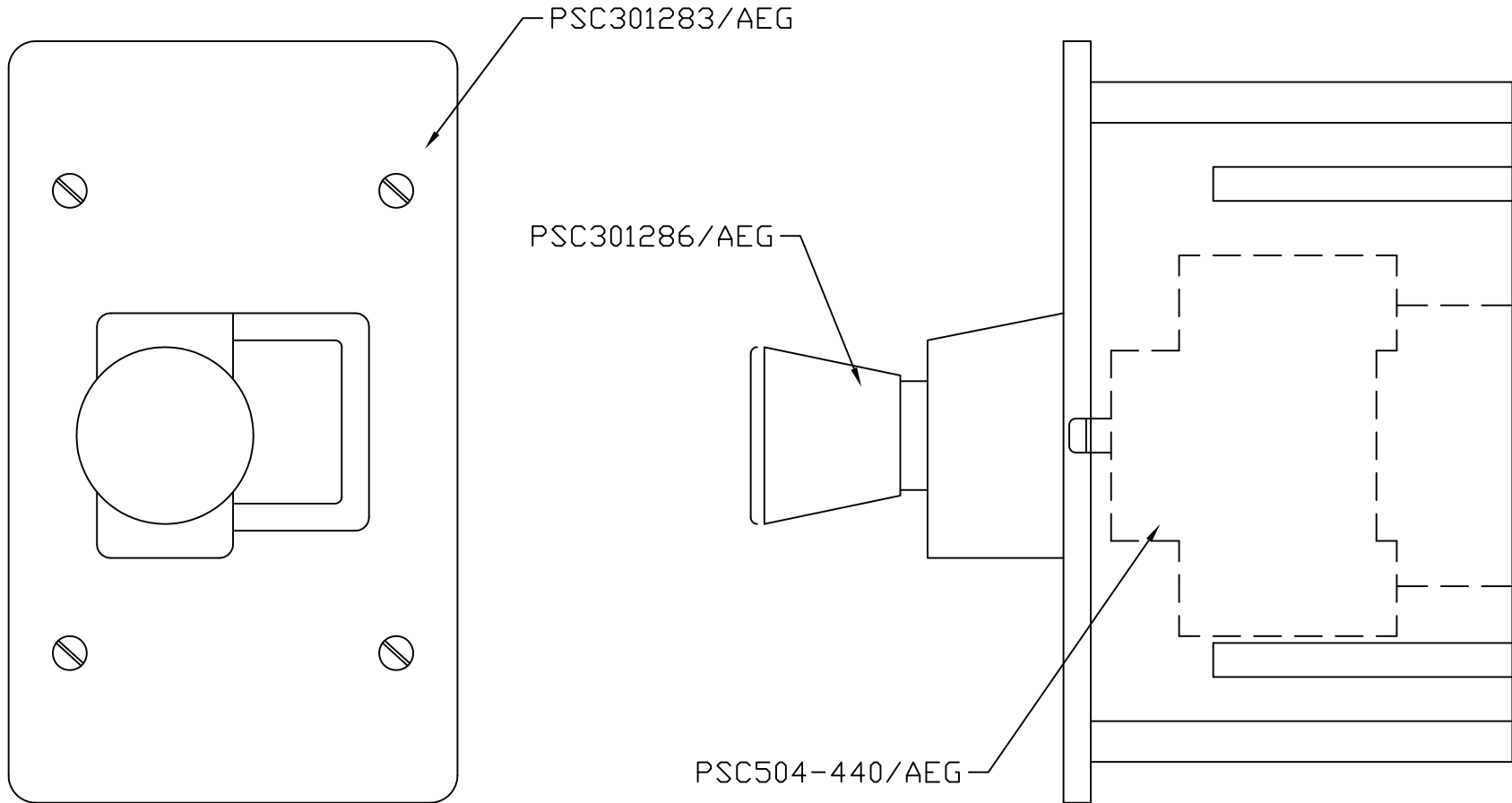
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FRACTIONAL +/- 1/64	DWG. NO. ED835	DATE: 11/03/99	
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REVISION RECORD				
REV	DESCRIPTION	DATE	ATH	DR CK



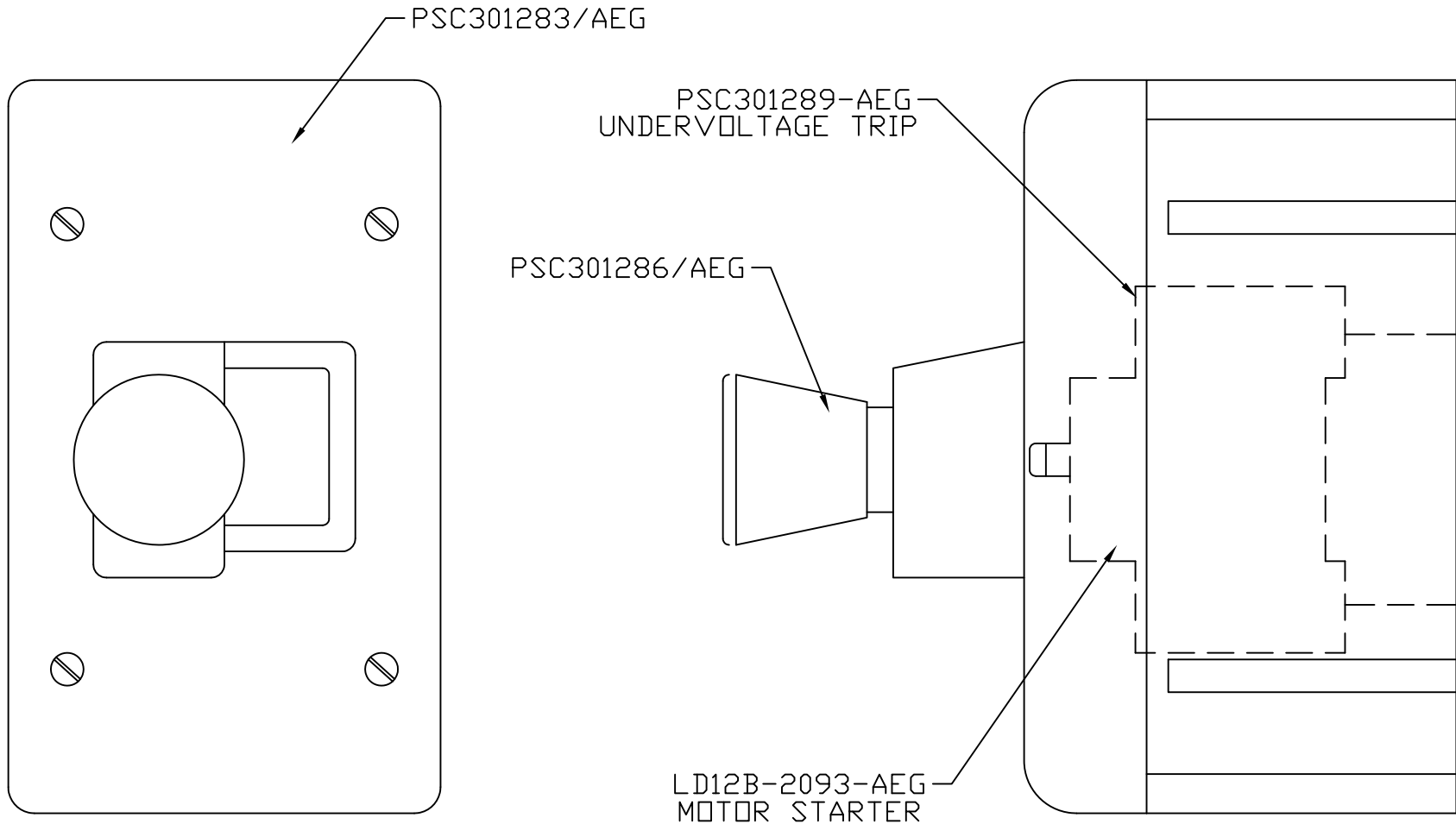
TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.	
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL ASSEMBLY LDU - 220/3/60	
FRACTIONAL +/- 1/64	DWG. NO. ED836	SCALE: 1 : 1
ANG. - 1/2°	MATERIAL: N/A	DATE: 11/03/99
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		APPRVD: --

REVISION RECORD					
REV	DESCRIPTION	DATE	ATH	DR	CK



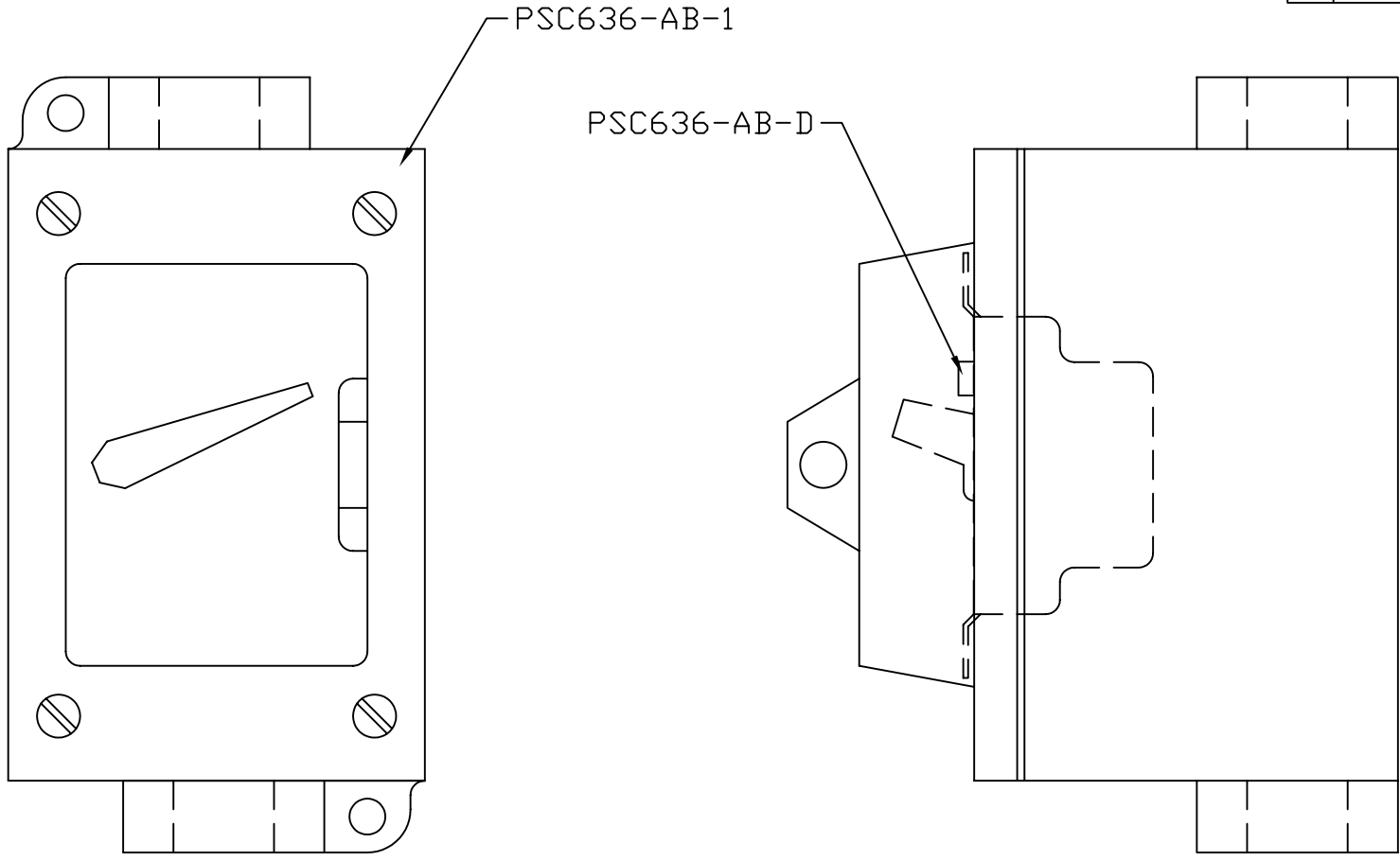
TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.		
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL ASSEMBLY LDU - 440/3/60		SCALE: 1 : 1
FRACTIONAL +/- 1/64	DWG. NO. ED837	DATE: 11/03/99	
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REVISION RECORD					
REV	DESCRIPTION	DATE	ATH	DR	CK



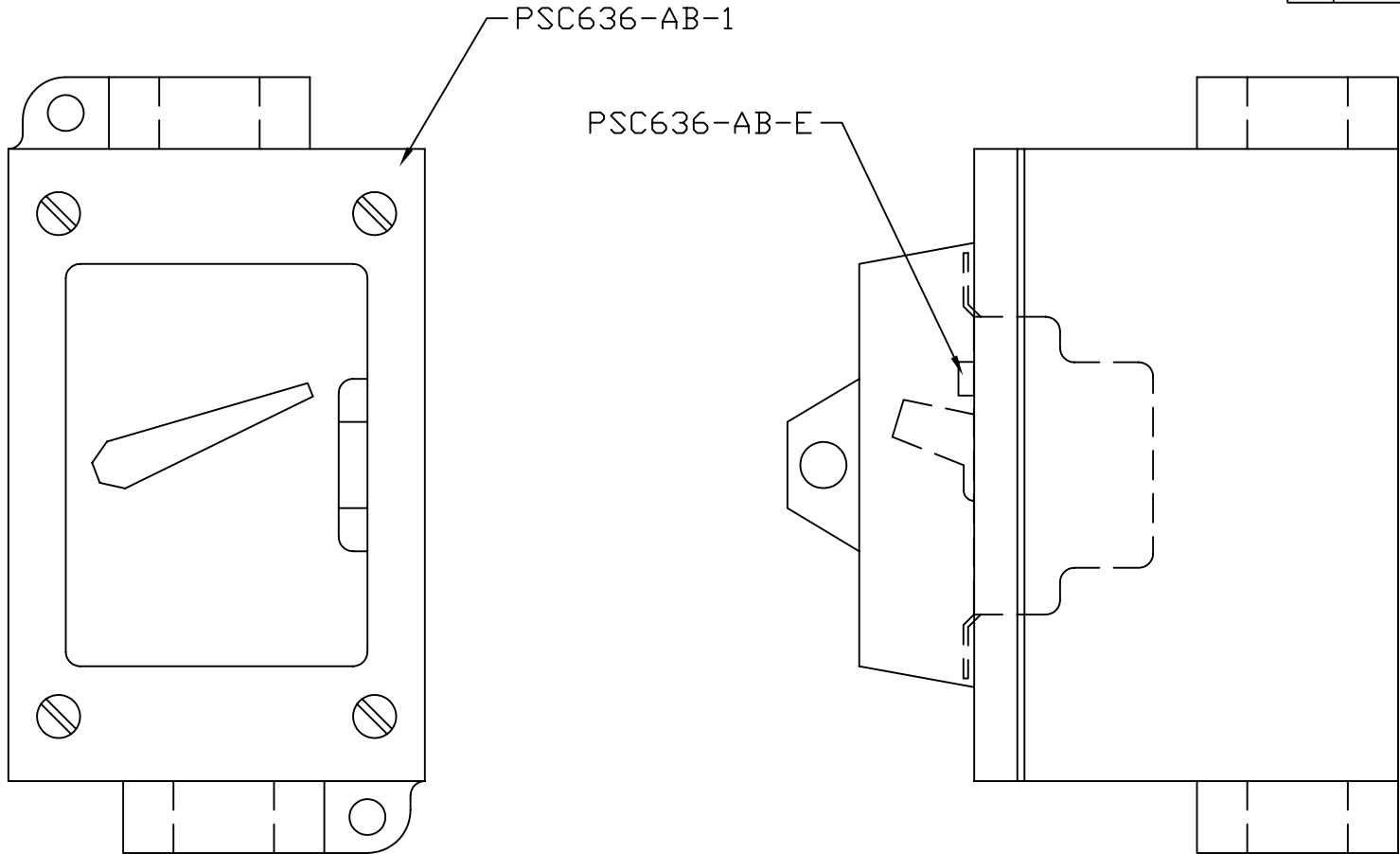
TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.	
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL ASSEMBLY LDU - 120/1/60	
FRACTIONAL +/- 1/64	DWG. NO. ED2879	SCALE: 1 : 1
ANG. - 1/2°	MATERIAL: N/A	DATE: 07/08/15
	DESIGNED: MENTA	DRAWN: WM
		APPRVD: --

REVISION RECORD					
REV	DESCRIPTION	DATE	ATH	DR	CK



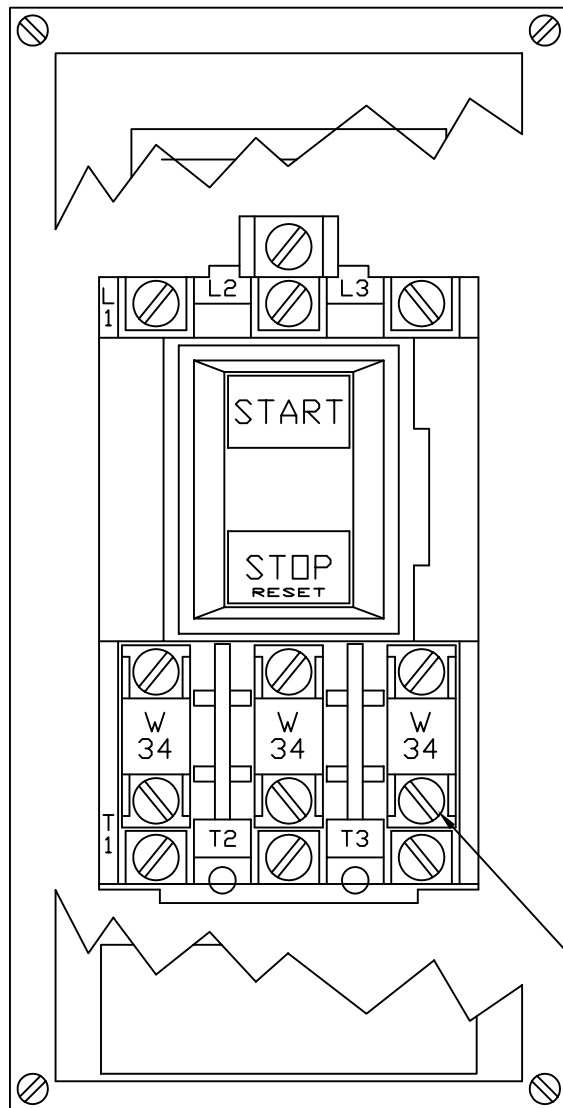
TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.	
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL ASSEMBLY LDU - 120/1/60 - NEMA 4	SCALE: 1 : 1
FRACTIONAL +/- 1/64	DWG. NO. ED838	DATE: 11/03/99
ANG. - 1/2°	MATERIAL: N/A	DESIGNED: MENTA
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REVISION RECORD					
REV	DESCRIPTION	DATE	ATH	DR	CK

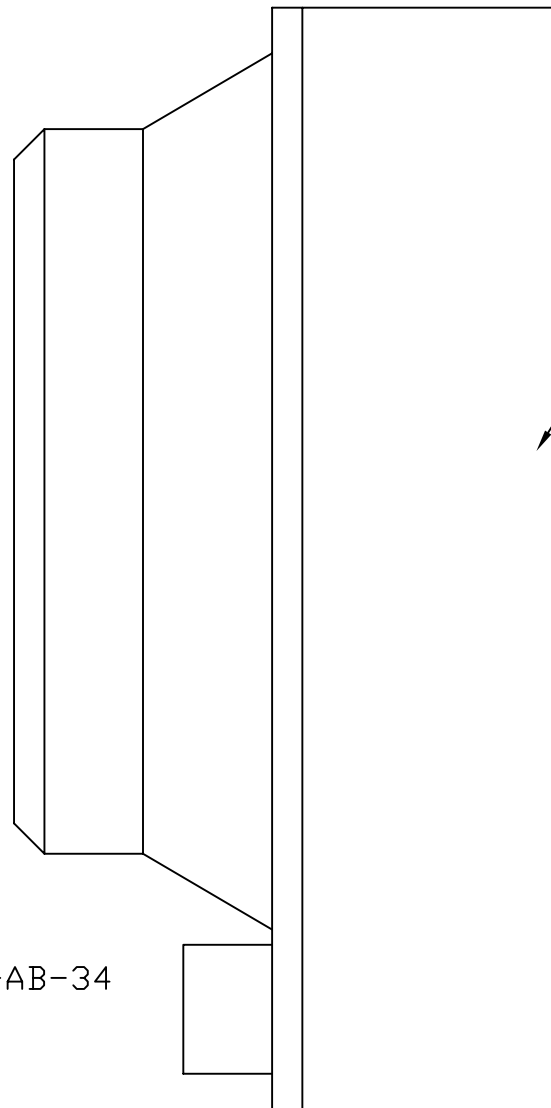


TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.	
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL ASSEMBLY LDU - 220/1/60 - NEMA 4	
FRACTIONAL +/- 1/64	DWG. NO. ED839	SCALE: 1 : 1
ANG. - 1/2°	MATERIAL: N/A	DATE: 11/03/99
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REVISION RECORD					
REV	DESCRIPTION	DATE	ATH	DR	CK



A106-AB-34

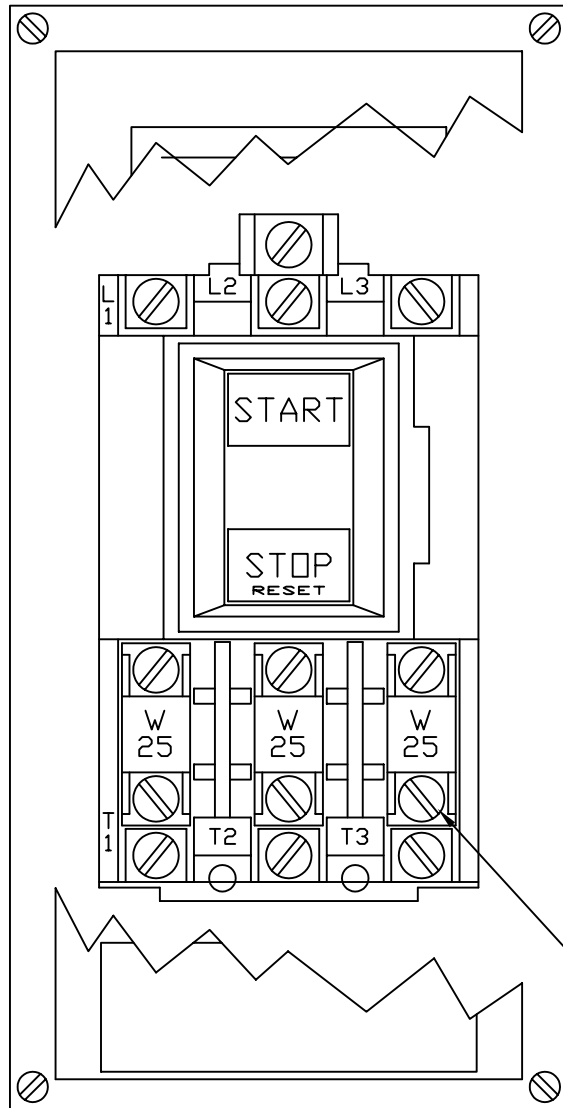


A106-AB-12-N4

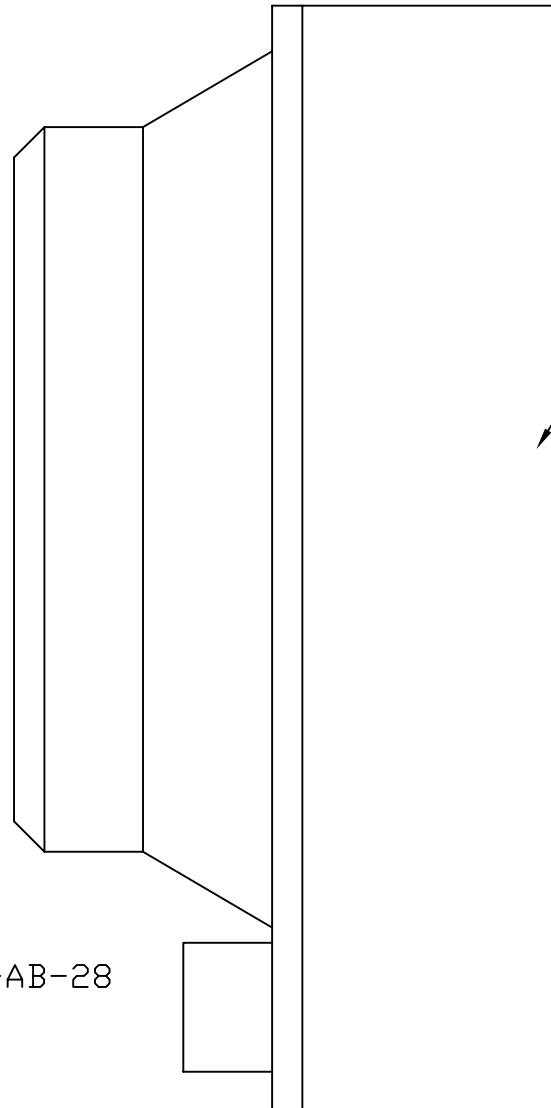
* COVER CUT AWAY FOR CLARITY

TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.	
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL ASSEMBLY LDU - 220/3/60 - NEMA 4	SCALE: 1 : 1
FRACTIONAL +/- 1/64	DWG. NO. ED840	DATE: 11/03/99
ANG. - 1/2°	MATERIAL: N/A	DESIGNED: MENTA
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REVISION RECORD					
REV	DESCRIPTION	DATE	ATH	DR	CK



A106-AB-28

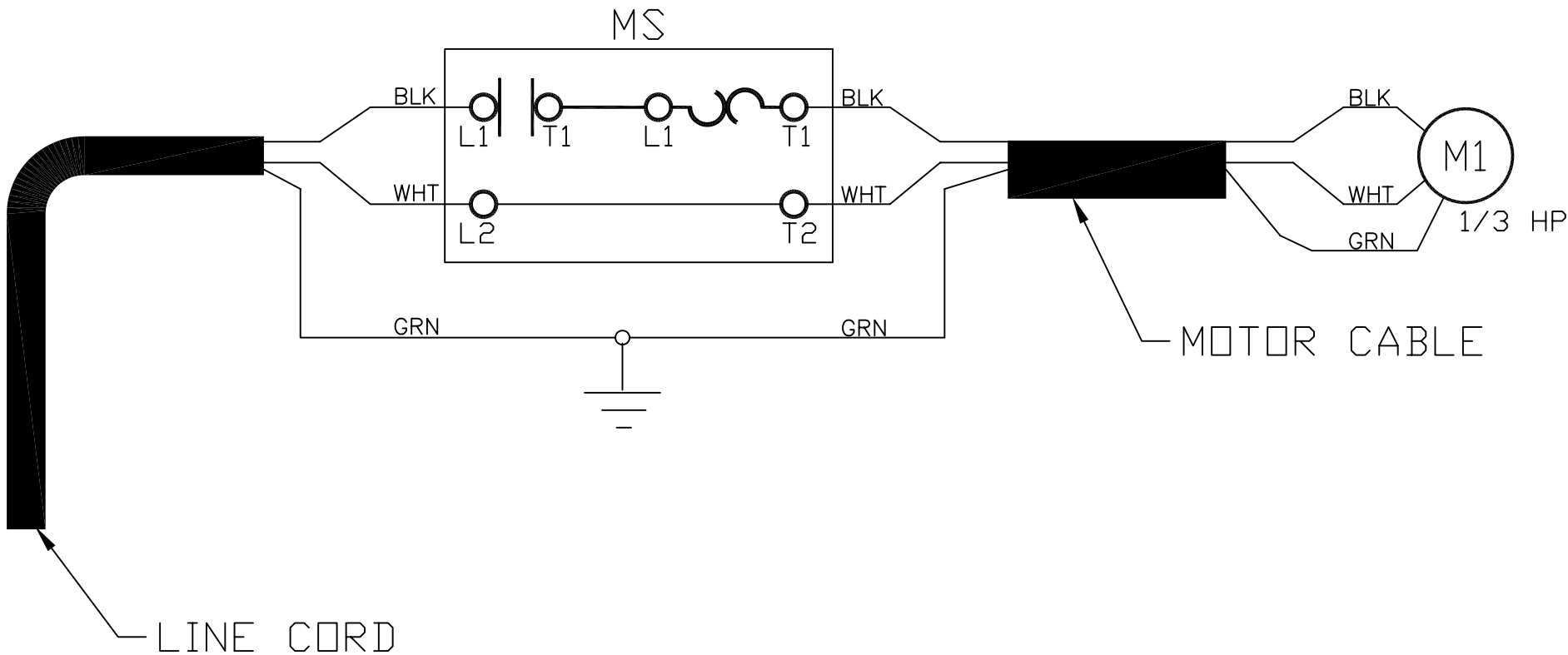


A106-AB-12-N4

* COVER CUT AWAY FOR CLARITY

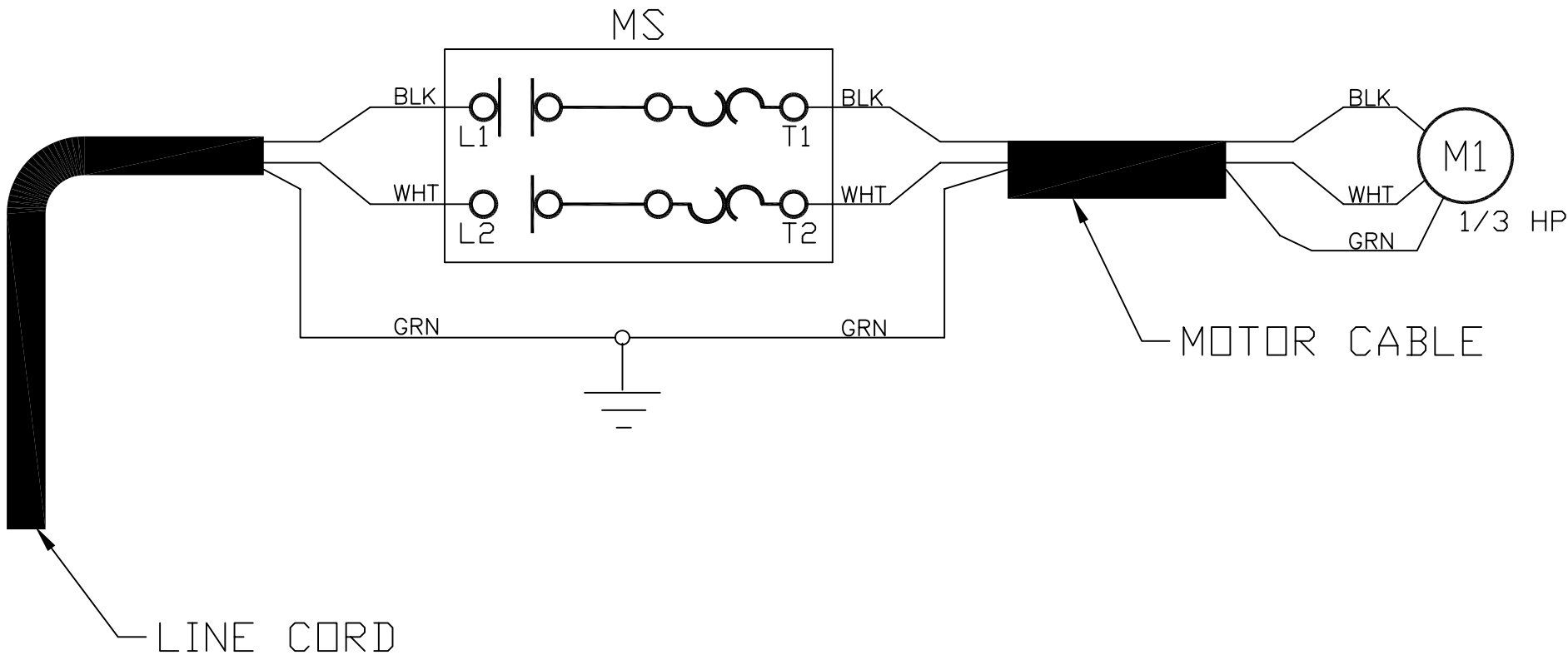
TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.	
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL ASSEMBLY LDU - 440/3/60 - NEMA 4	SCALE: 1 : 1
FRACTIONAL +/- 1/64	DWG. NO. ED841	DATE: 11/03/99
ANG. - 1/2°	MATERIAL: N/A	DESIGNED: MENTA
	DRAWN: WM	APPRVD: --

REVISION RECORD					
REV	DESCRIPTION	DATE	ATH	DR	CK



TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.		
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL SCHEMATIC LDU - 120/1/60		
FRACTIONAL +/- 1/64	DWG. NO. ED842	SCALE: N/A	
ANG. - 1/2°	MATERIAL: N/A	DATE: 11/03/99	
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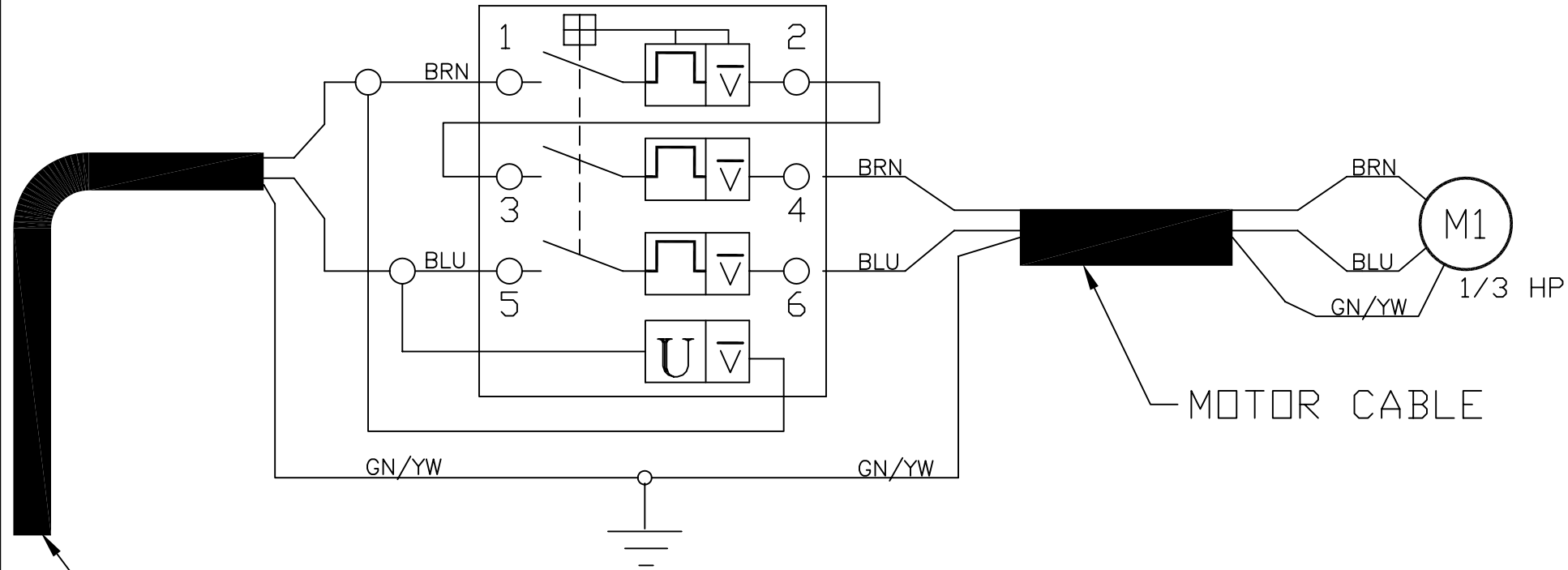
REVISION RECORD					
REV	DESCRIPTION	DATE	ATH	DR	CK



TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.		
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL SCHEMATIC LDU - 220/1/60		
FRACTIONAL +/- 1/64	DWG. NO. ED843	SCALE: N/A	
ANG. - 1/2°	MATERIAL: N/A	DATE: 11/03/99	APPRVD: --
	DESIGNED: MENTA	DRAWN: WM	

REVISION RECORD					
REV	DESCRIPTION	DATE	ATH	DR	CK

ECP1



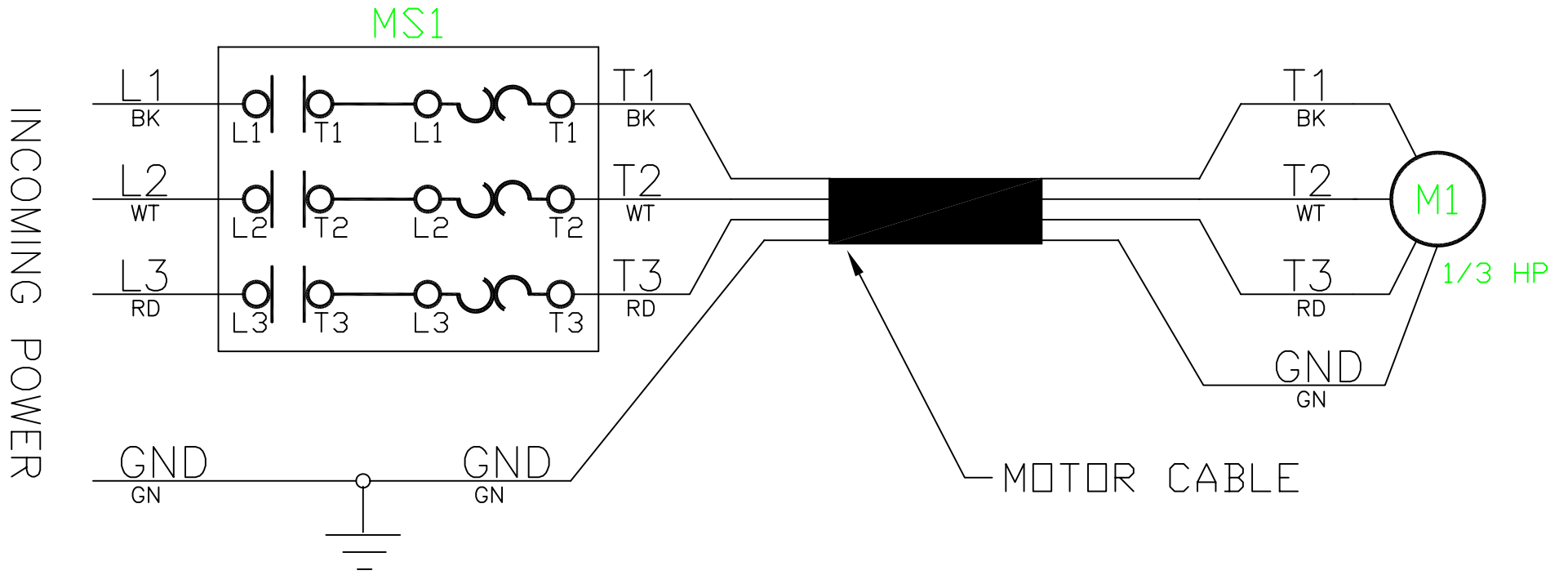
LINE CORD

MOTOR CABLE

TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.		
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL SCHEMATIC LDU - 220/1/50		
FRACTIONAL +/- 1/64	DWG. NO. ED844	SCALE: N/A	
ANG. - 1/2°	MATERIAL: N/A	DATE: 11/03/99	
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REVISION RECORD

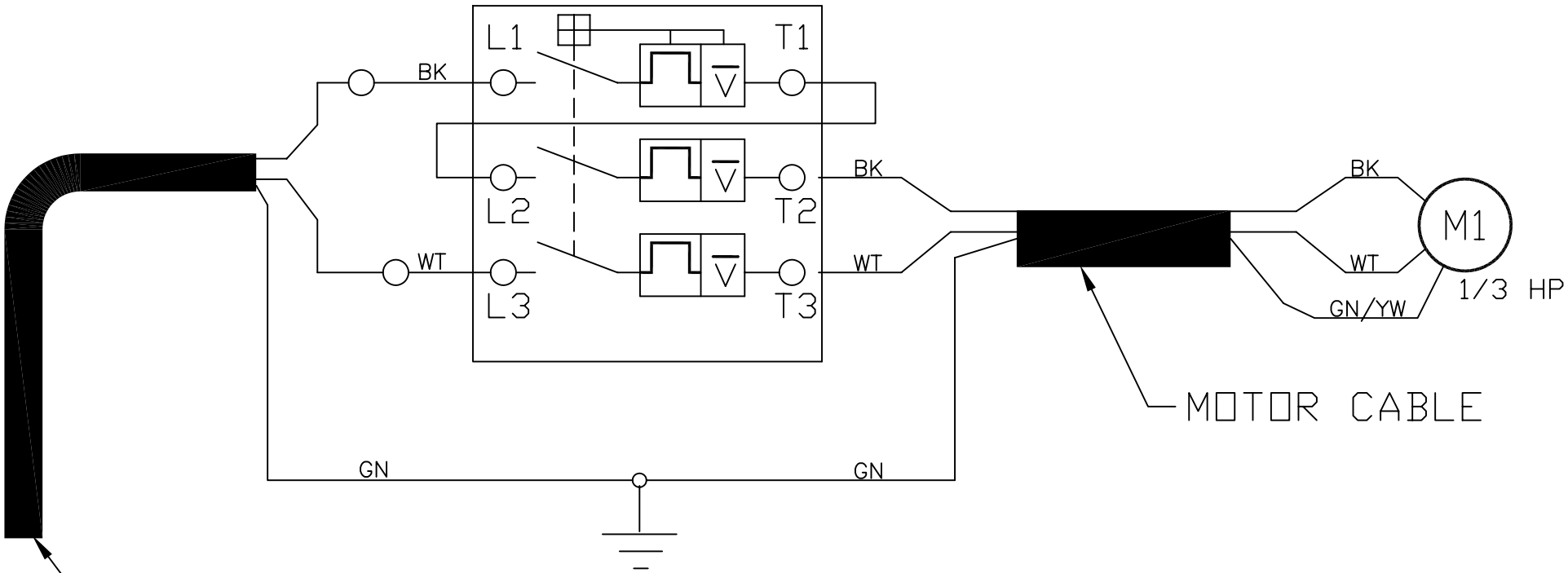
REV	DESCRIPTION	DATE	ATH	DR	CK
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TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.		
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL SCHEMATIC LDU - 220-440/3/60		
FRACTIONAL +/- 1/64	DWG. NO. ED845	SCALE: N/A	
ANG. - 1/2°	MATERIAL: N/A	DATE: 11/03/99	
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REVISION RECORD					
REV	DESCRIPTION	DATE	ATH	DR	CK

ECP1

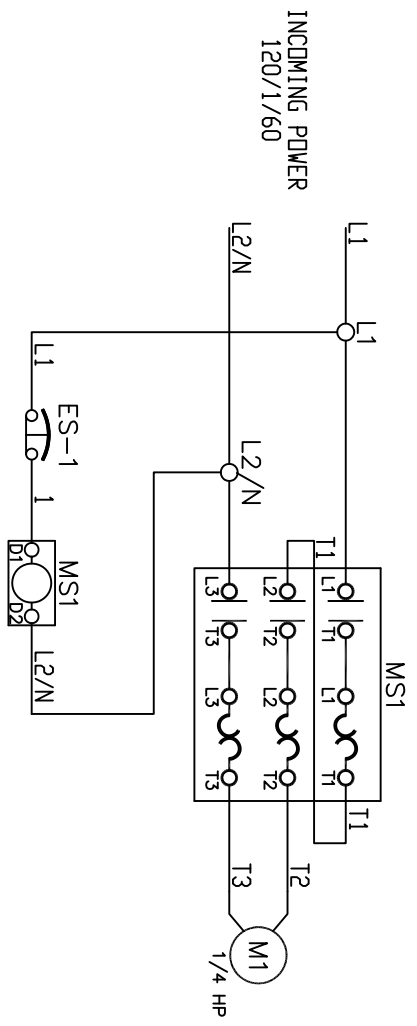


LINE CORD

MOTOR CABLE

TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION RT 296, SOUTH CANAAN, PA.		
DECIMAL (3 PLC) +/- .005	TITLE: ELECTRICAL SCHEMATIC LDU - 120/1/60 - CANADA		
FRACTIONAL +/- 1/64	DWG. NO. ED1610		SCALE: N/A
ANG. - 1/2°	MATERIAL: N/A		DATE: 07/25/05
	DESIGNED: MENTA	DRAWN: WM	APPRVD: --

REVISION RECORD				
REV	DESCRIPTION	DATE	ATH	DR CK



TOLERANCES EXCEPT AS NOTED	THE LOVESHAW CORPORATION			
RT 296, SOUTH CANAAN, PA.	TITLE: ELECTRICAL SCHEMATIC			
DECIMAL (3 PLC) +/- .005	LD7 W/ SECONDARY STOP			
FRACTIONAL +/- 1/64	DWG. NO. ED779	SCALE: N/A	DATE: 05/25/99	
MATERIAL: N/A	DESIGNED: MENTA	DRAWN: WM	APPRVD: --	
ANG. - 1/2°				