LATERAL CHAIN FEEDER

Technical Manual

Materials Handling Solutions

LENT'S MACHINERY LLC

AfterMarket Parts
Custom Design Equipment
New & Used Equipment
Installation & Training

LENT'S MACHINERY LLC

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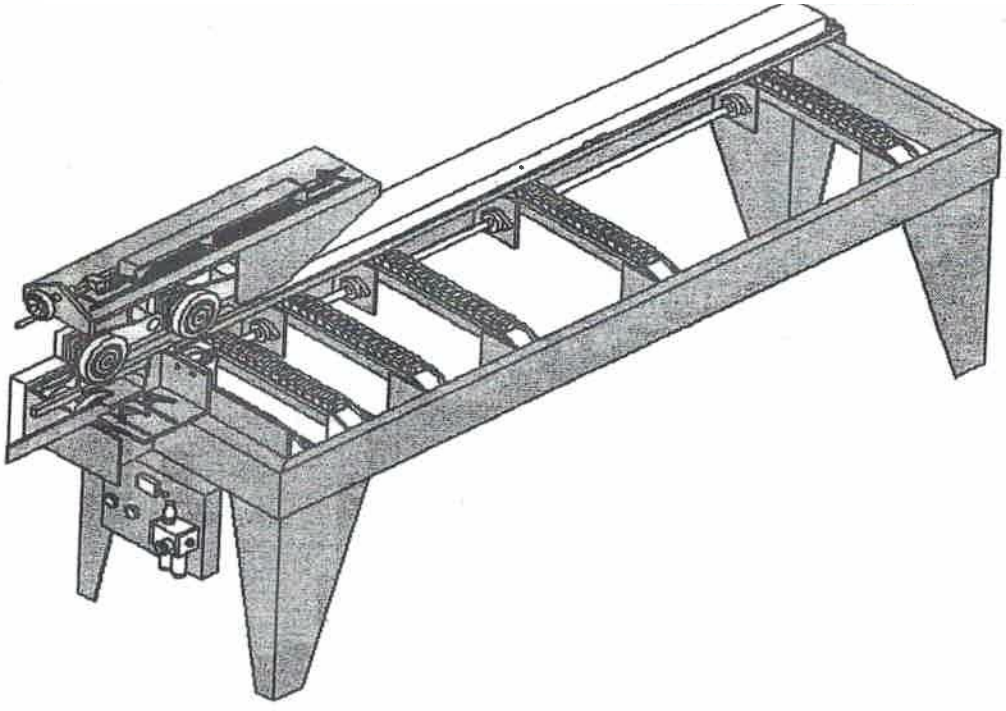

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INTRODUCTION

The Lateral Chain Feeder (L.C.F.) is a versatile machine which will increase production and quality of your product. Primarily the L.C.F. is used in conjunction with a moulder. However, the L.C.F. can be used to feed rip saws, automated gluing machines, and laminating machines. This manual gives installation instructions for L.C.F. to moulder applications. For other uses, consult the factory.

The L.C.F. was developed to assist in the delivery of boards to a moulder with the boards fed in an end-to-end fashion (butt-to-butt). The L.C.F. can be hand loaded or linked to an infeed chain of another piece of machinery (tenoners, sanders, etc.). The basic sequence of operation is as follows: A series of infeed chains convey the lumber to the back fence. Once against the fence and under the feed wheels, an electrical sensor sends a signal to a time-on delay. The time delay allows the board to settle against the fence before feeding into the moulder. After the time-on delay cycles, the solenoid valve is fired and lowers the primary feed wheel down and feeds the board forward under the secondary feed wheel and into the moulder. A signal is sent to a time-off delay. This is to ensure that the board has cleared the sensor and that it is not seeing an irregularity in the board. After the time-off delay cycles the solenoid valve is fired and raises the primary feed wheel. At this point the sequence repeats. By adjusting the feed wheel speed and time delays you can accommodate different moulder feed speeds.

This technical manual covers the "*Standard*" Lateral Chain Feeder. If your L.C.F. was purchased with some of our additional options please refer to Appendix C. The optional information that pertains to your specific application has been included.

Should any questions arise that have not been adequately covered in the instructions of this manual, please do not hesitate to contact our Technical Service Department. They will be happy to assist you.

WARNING

No person should be allowed to operate the machine, even for only a short time, without adequate training. Training can be obtained at your factory by our field service staff, at a qualified training institution, or at the WEINIG Training Center. If you wish to take part in a course at our Training Center, please write or call for an appointment.

Each operator shall have read this manual before he/she starts working with the machine. Make sure the manual is kept near the machine and thus always at hand for the operating personnel.

You, as the end user of this equipment, are obligated to comply with the following requirements. Failure to do so may negate your warranty.

1. ***PRIOR*** to installation you shall check all fasteners for tightness (sprockets, feed wheels, etc.) We at MSL have tried to ensure that all fasteners are tight (loctited where applicable) prior to shipment; however, your L.C.F. may have traveled up to 3000 miles via interstate trucking and during transport some fasteners may have loosened.

2. ***ALL*** individuals operating this machine shall read and understand this manual.

3. ***NEVER*** operate this machine without all guards in place on the machine.

4. ***BEFORE*** removing guards or working on this machine disconnect electrical power, compressed air, and follow all in-house lock out procedures that are applicable.

5. ***KEEP HANDS CLEAR*** of pinch points. This machine operates automatically.

1) SPECIFICATION and CAPABILITIES

1-1) Speed:

The L.C.F. allows you to run up to 250 lineal feet per minute. For speeds below 50 feet per minute, consult MSL's Technical Service Department.

1-2) Feeding Capacity:

Width:	1" to 9 ½"
Thickness:	¼" to 2 ½"
Minimum Length:	12"
Material:	Planed Wood (*Polyurethane Feed Rolls*)
	Rough Lumber (*Knurled Steel Feed Wheels*)
Cycles Per Minute:	Up to 60 standard

1-3) Machine Weight:

6' L.C.F.:	1,200 lbs.
8' L.C.F.:	1,500 lbs.
12' L.C.F.:	2,000 lbs.
16' L.C.F.:	2,500 lbs.
Hydraulic Unit:	400 lbs. (*empty*)

The hydraulic unit is shipped separately.

1-4) Handling Requirements:

The machine is easily handled with a forklift. To lift, place forks under 2 x 6 rectangular tube frame. The hydraulic unit should be lifted from under the skid base.

2) GENERAL and SAFETY RULES

Your L.C.F. has been built to the latest engineering standards and is safe and reliable if properly operated. Safety has been a major design consideration. However, your L.C.F. is a potential source of danger if improperly operated or operated outside the scope of the machines intended use. The manufacturer will not be liable for applications outside the scope of the machines intended use. The owner shall in such cases bear the sole responsibility for any resulting injuries or damage. Therefore, observe all instructions given in this manual and comply with all (national, local, in-house) safety and accident prevention rules and regulations.

- When operating or performing maintenance activities on this machine always wear eye protection (safety glasses and/or face shield).

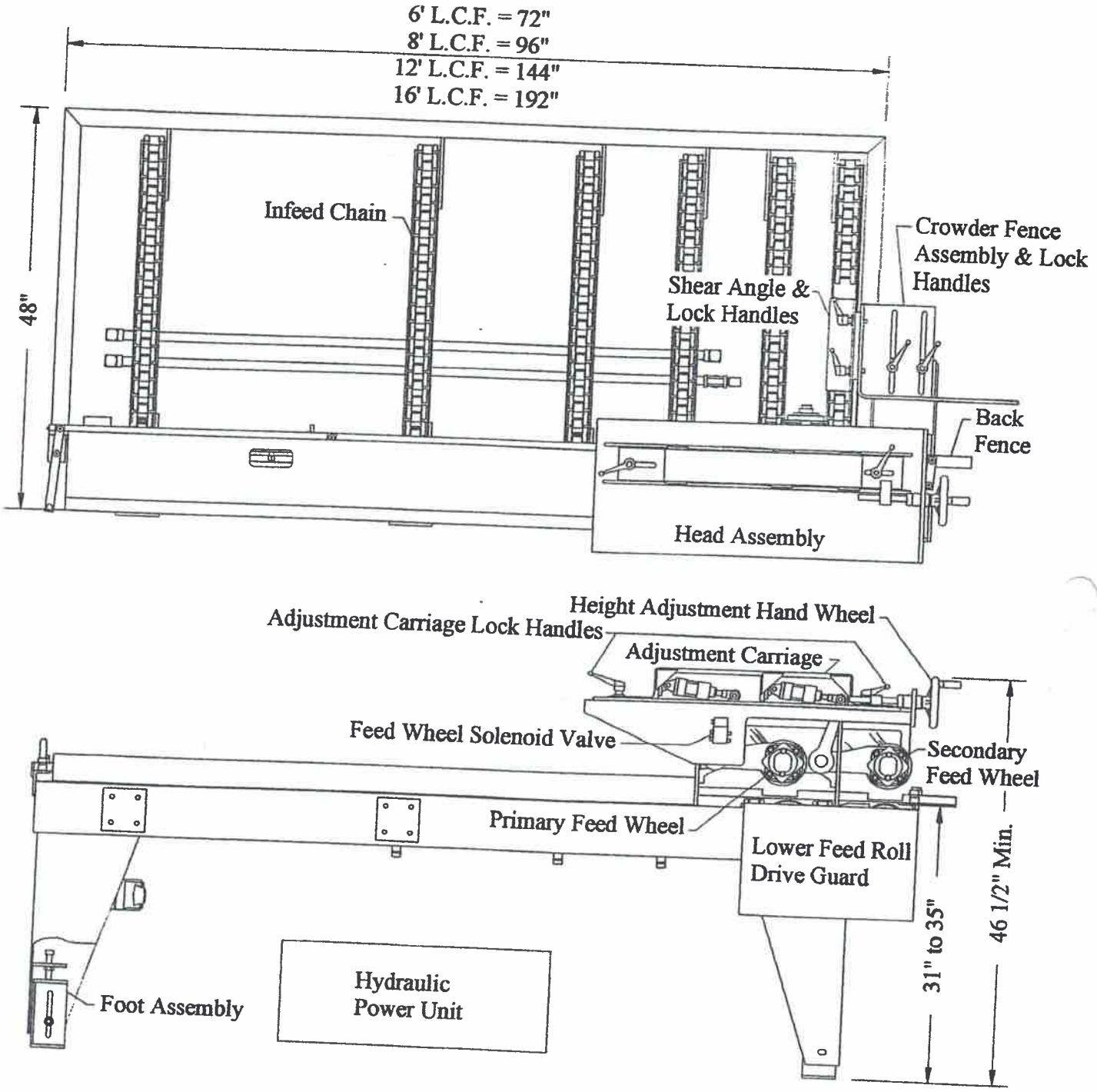
- When operating or performing maintenance activities on this machine do not wear loose clothing.
- When operating this machine always follow product manual and safety signs/decals.
- When operating this machine always keep hands clear of rotating parts (feed wheels, infeed chains) and pinch points.
- When operating this machine always have all guards in place.
- When operating this machine never stand behind a work piece being fed into the machine or raise the feed mechanism while work pieces are in the machine.
- Do not feed new work pieces into the machine when the infeed motion is blocked. Stop the machine, secure against accidental restart, wait for all rotating parts to come to a standstill, and follow all in-house lock out procedures prior to clearing the infeed.
- Prior to performing any maintenance activities always switch the machine off, secure against accidental restart, wait until all rotating parts have come to a complete standstill, and follow all in-house lock out procedures.
- After performing maintenance activities always make sure guards, enclosures, and safety devices removed for maintenance are refitted before restarting the machine.
- Only use original **WEINIG/MACHINE SYSTEMS L.L.C.** spare parts. We do not assume any liability for possible damage caused to the machine as a result of unauthorized parts, changes, or alterations.

After reviewing this manual please sign and date in the space provided below. Stating that you have read and understand this manual.

Signature *Date*

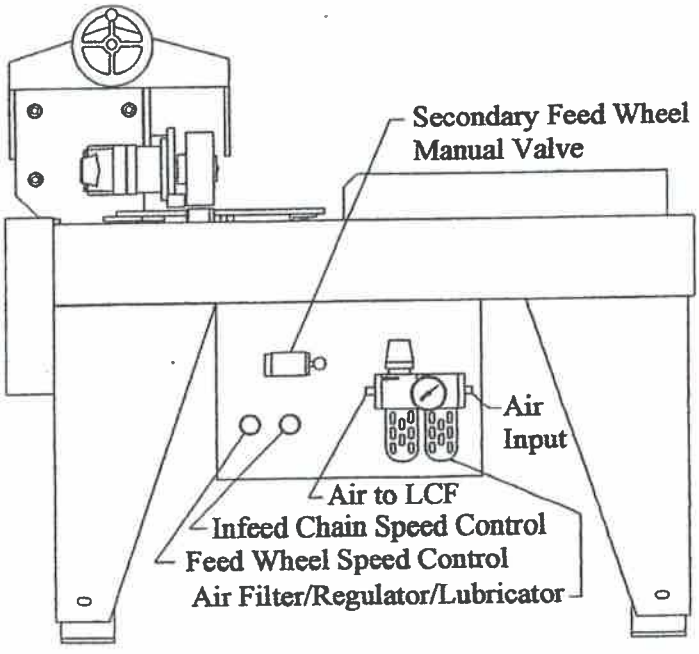
3) ILLUSTRATIONS

3-1) *Figure 1:* L.C.F. general information



3-2) *Figure 2:* L.C.F. controls

a) Control Panel
b) Electrical Box
c) Remote Control Stand



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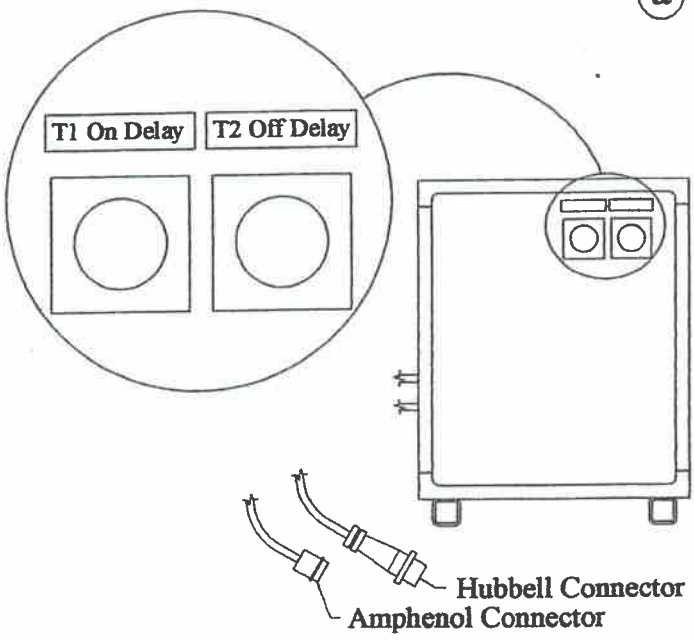

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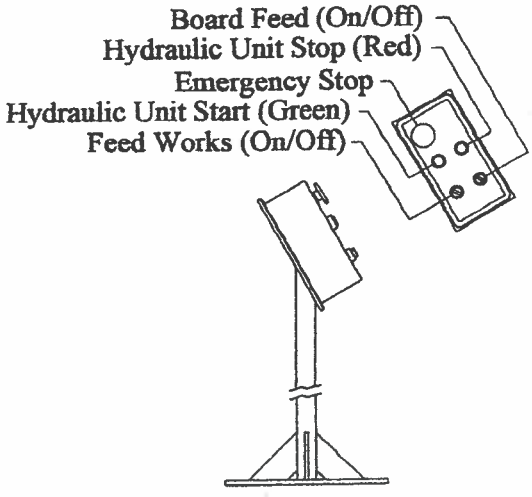


(c)

4) *INSTALLATION*

Proper installation should take 6 – 8 hours maximum. Following the steps/procedures below and referencing the schematic diagrams as needed, installation of the L.C.F. should be relatively easy.

4-1) Place the L.C.F. as close to the moulder as possible.
Note: It may be necessary to cut the L.C.F. fence ends to match the moulder.

4-2) *Leveling Procedure:* Level the L.C.F. by adjusting the jacking bolts (located inside the legs), position the infeed chains (top of chain) on an even plane with the bed of the moulder. When leveling with the moulder the moulder bed should be in the middle position **5mm**. The feed chains should be level within ± **1/16"**.

4-3) *Alignment Procedure:* Align the back fence of the L.C.F. with the fence in the moulder and using a straight edge, align the fences within ± **1/32"**.
Note: The moulder fence should be in the full forward position.

4-4) Anchor the L.C.F. with (4) 3/8" floor anchors.
Note: It is advisable to re-check levelness and alignment of the L.C.F.

4-5) The hydraulic power unit can either be located under the L.C.F. or toward the rear of the machine. Location should facilitate accessibility.
Note: If located under the machine, the fill spout should not be located directly under an infeed chain.

4-6) Level the hydraulic power unit.
Note: Use skid mounting pads to secure the hydraulic power unit.

4-7) The pressure and return lines on the hydraulic unit were disconnected for shipping. To connect these lines you will need to remove the caps from the hydraulic unit and hydraulic hoses. Refer to the hydraulic schematics for proper field connections.
Note: The return line is 3/4" ID nominal, the pressure line is 1/2" ID nominal.

4-8) ***Before operation,*** fill the hydraulic reservoir to the "*high*" designator on the sight gauge. Refer to the power unit ID tag for manufacturers recommended hydraulic fluid. If the hydraulic fluid the plant currently uses differs from the ID tag, a grade **AW46** hydraulic fluid from one of the following manufacturers is acceptable: (*Check the oil level through the site gauge located on the hydraulic unit*).

Arco – Duro AW
Texaco – Rando H.D. (*Heavy Duty*)
Gulf – Harmony
Union – AW
Shell – Telluf
Mobil – DTE
Exxon – Nuto H. (*Heavy*)
Chevron – AW machine oils

Warning: The oil in the hydraulic system has to be contaminant free (*dirt, etc.*). A small amount of contaminants in the system can damage the hydraulic motors and/or the hydraulic pump. If you think that the system is contaminated contact Machine Systems, L.L.C. for flushing instructions.

Note: One week after installation change the hydraulic return filter to remove any contaminants that may have been introduced into the system at installation.

4-9) Check the hydraulic unit suction ball valve to verify is in ***open*** position.
Note: This valve is locked in position with a bolt.

4-10) *Electrical Installation Requirements:* The L.C.F. requires (2) separate power sources. The machine comes equipped with both an amphenol and a hubbell plug to facilitate an interwired connection with the WEINIG moulder.

4-10.1) *Line Voltage (hubbell):* 440 vac 3 phase 60 hz or 220 vac 3 phase 60 hz.
Note: The L.C.F. has been factory set for either 440 vac or 220 vac power.
Warning: If required voltage differs from your voltage consult MSL.

4-10.2) *Control Voltage (amphenol):* 110 vac single phase 60 hz.

4-11) *Line Voltage Connection:* Connect the incoming power to terminals L1, L2, L3 on the motor starter (*located inside the electrical enclosure*).
Note: The electrical wiring is three phase. Therefore, after connecting the incoming power, test for correct motor rotation on the hydraulic pump to ensure connections are correct.
Rotation Test: To test for correct rotation, turn on the hydraulic pump briefly and look through the viewing window on the pump. If rotation is in opposite direction of rotation arrow, reverse L1 and L2 connections.

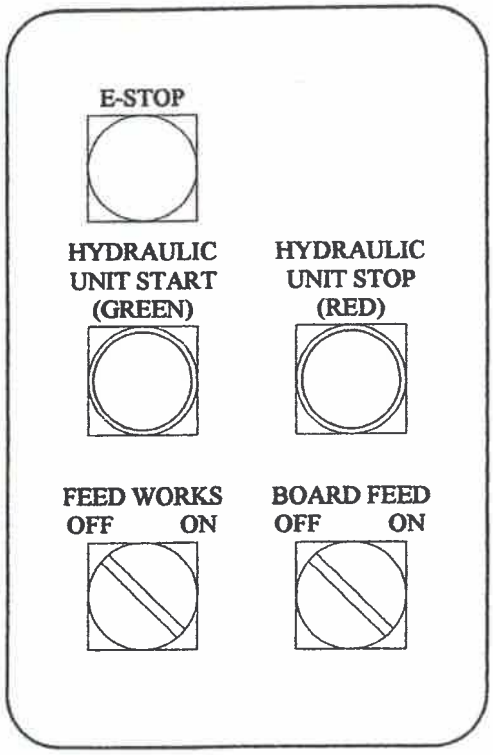
4-12) *Control Voltage Connection:* To connect the 110 vac power refer to Drawing D-29516 in the electrical schematic section of the manual.

4-13) Jog the hydraulic pump several times to ensure the pump is taking suction.

4-14) *Air Service Connection:* The air input is located next to the filter-regulator-lubricator.
Note: The L.C.F. requires 1 SCFM @ 40 PSI.

5) *THEORY of OPERATION*

The basic sequence of operation is as follows: A series of infeed chains convey the lumber to the back fence. Once against the fence and under the feed wheels, an electrical sensor sends a signal to a time-on delay. The time delay allows the board to settle against the fence before feeding into the moulder. After the time-on delay cycles, the solenoid valve is fired and lowers the primary feed wheel down and feeds the board forward under the secondary feed wheel and into the moulder. A signal is sent to a time-off delay. This is to ensure that the board has cleared the sensor and that it is not seeing an irregularity in the board. After the time-off delay cycles the solenoid valve is fired and raises the primary feed wheel. At this point the sequence repeats. By adjusting the feed wheel speed and time delays you can accommodate different moulder feed speeds.



REMOTE CONSOLE LAYOUT

E-Stop:	If the Emergency Stop is pushed in the L.C.F. will not operate. If the L.C.F. is interwired to the Moulder, it will also prevent the Moulder from operating.
Hydraulic Unit: Start (Green)	Starts the hydraulic unit pump.
Hydraulic Unit: Stop (Red)	Stops the hydraulic unit pump.
Feed Works: (On/Off)	Turns the feed wheel & infeed chain drive motors on & off.
Board Feed: (On/Off)	With the switch in the "On" position the primary feed wheel will cycle automatically. With switch in the "Off" position the primary feed wheel will only cycle when the solenoids manual override has been activated.

6) ***HEAD ASSEMBLY SETUP and ADJUSTMENT***

To start operating the L.C.F., first you need to adjust the head assembly for board thickness and width.

6-1) *Adjusting for Board Thickness:*

Note: For proper operation, boards must be within 3/32" of the thickness you set.

6-1.1) Disconnect the air supply to the L.C.F.

6-1.2) Place an average board on the chains next to the primary feed wheel and on top of the lower feed roll.

6-1.3) Loosen the adjustment carriage lock handles.

6-1.4) Turn the height adjustment hand wheel so that the primary feed wheel is adjusted **3/16" – 1/4"** below the top of the board.

6-1.5) Tighten the adjustment carriage lock handles.

6-1.6) Re-connect the air supply to the L.C.F. if this was the only adjustment required.

6-2) *Adjusting for Board Width:*

Note: The L.C.F. is designed to run boards that are the same width ± **1/8"**. If you need to feed random widths please contact our Technical Service Department.

6-2.1) Disconnect the air supply to the L.C.F.

6-2.2) Place a 24" to 36" long board against the back fence.
Note: The board needs to remain against the back fence throughout this adjustment procedure.

6-2.3) Push the board forward under the feed wheels (*primary & secondary*) and into the moulder as far as possible.

6-2.4) Loosen the crowder fence assembly lock handles.

6-2.5) Slide the crowder fence assembly tight against the board then slide the crowder fence assembly back to create a 1/4" clearance between the board and the adjustable fence.

Note: ***Step 6-2.5.a adjustment accommodates bowed boards.***

6-2.5.a) With crowder fence assembly set with 1/4" clearance at the secondary feed wheel, angle the crowder fence assembly toward the board to create a tapered clearance of **1/4" – 1/32"**.
Note: By tapering the clearance the board will be positioned against the back fence as it enters the moulder.

6-2.6) Tighten the crowder fence assembly lock handles.

6-2.7) Loosen the shear angle lock handles.

6-2.8) Slide the shear angle down on top of the board then slide the shear angle back up to create a **1/8"** clearance between the shear angle and the board.

6-2.9) Tighten the shear angle lock handles.

6-2.10) Re-connect the air supply to the L.C.F. if this was the only adjustment required.

7) ADJUSTING and SETTING SPEED

Setting the correct speed is a trial-and-error process. If the primary feed wheel is running to slow the boards will not run end to end through the moulder. Running the feed wheels too fast will cause excessive wear on the primary and secondary feed wheels, and can cause damage to the ends of the material.

Warning: After the initial setup, the machine should be checked periodically to assure the feed speed is correct. As the hydraulic oil changes temperatures the machine may speed up.

7-1) *Feed Wheel Speed:* To adjust the speed of the feed wheels, simply adjust the feed wheel speed control located on the control panel (turn clockwise to increase speed, turn counter-clockwise to decrease speed). Run the wheels fast enough to maintain butt-to-butt feeding of the moulder.

7-2) *Infeed Chain Speed:* To adjust the speed of the infeed chains, simply adjust the feed chain control located on the control panel (turn clockwise to increase speed, turn counter-clockwise to decrease speed).
Note: The infeed chains speed should be set so that it keeps a backlog of lumber against the back fence. Running the chains too fast will slow the feed wheels when running high speeds.

8) ***ADJUSTING and SETTING TIME DELAYS***

On the front of the electrical box are (2) timers. The following descriptions explain the functions of each timer. The timers are multi-function timers and need to be set correctly to function properly.

The "on" delay timer is labeled "*T1 On Delay*". This timer determines how much time elapses between the moment the photo eye senses the board and the moment the primary feed wheel comes down.

8-1) *Adjusting the "On Delay":* Watch the board as it is conveyed under the primary feed wheel. The delay should be sufficient for the board to settle against the back fence before the primary feed wheel comes down.
Note: To increase the duration of the delay turn the timer dial clockwise, to decrease the duration of the delay turn the timer dial counter-clockwise.

The "off" delay timer is labeled "*T2 Off Delay*". This timer determines how much time elapses between the moment the end of the board passes the photo eye and the moment the primary feed wheel lifts up.

8-2) *Adjusting the "Off Delay":* The off delay is factory set, you should not have to adjust this timer.
Note: To increase the duration of the delay turn the timer dial clockwise, to decrease the duration of delay turn the timer dial counter-clockwise.

8-3) *Factory Settings:*

T1 "On Delay"	T2 "Off Delay"
Mode = A	Mode = D
Time = Sec.	Time = Sec.
Duration = 0 – 3	Duration = 0 – 3
(Duration set @ 0.5 sec.)	(Duration set @ 0.5 sec.)

8-4) *Timer Testing:*

Display on timers with "*No Board Over Photo Eye*"
T1 On Delay / Power = Off / Out = Off T2 Off Delay / Power = On / Out = Off

Display on timers with "*Board Covering Photo Eye*"
T1 On Delay Power blinks until time out, then power on both timers turn off.

Display on timers when "*Board Is Removed From Photo Eye*"
T1 On Delay / Power = Off / Out = Off T2 Off Delay / Power blinks until timed out then power off

These are mechanical timers and will eventually need to be replaced. If your timers do not function as described above call Machine Systems, L.L.C. for a replacement timer(s).

9) ***OPERATION***

Note: Prior to placing the machine into a production mode you will need to set up the moulder.

9-1) ***Prior*** to placing the L.C.F. into service make sure all guards are in place, width & thickness settings of boards to be ran have been set, and that the operating personnel are cognizant of all safety issues.

9-2) Start the moulder spindles and feed works. ***Note:*** If any E-Stops are pushed on either the moulder or the L.C.F. neither piece of equipment will work.

9-3) Depress the Hydraulic Unit "*Start*" button on the remote control stand to start the hydraulic unit. ***Note:*** Make sure the hydraulic unit rotation has been checked.

9-4) The "*Feed Works*" selector switch starts and stops the hydraulic oil flow. Rotate the switch until the feed wheels and infeed chains begin to rotate.

9-5) Load boards onto the infeed chains *(kvp plastic chain)*.

9-6) Make sure the secondary feed wheel is down.

9-7) Turn the Board Feed switch to on.

9-8) Adjust feed wheel speed to maintain butt-to-butt feed.

10) MANUAL FEED of SINGLE BOARD for MOULDER SETUP

To set up the moulder, you will need to run a sample piece of wood through the moulder. The L.C.F. has a provision for jogging and stopping boards going through the moulder for set up.

10-1) Turn off continuous feed on moulder.

10-2) Start L.C.F. hydraulic power unit.

10-3) Turn on L.C.F. feed works.

10-4) With the "Feed Works" and "Board Feed" switches, on the remote control stand, in the "On" position, place the wood pieces to be fed on the infeed chains.

10-5) Once the moulder engages the board, turn the "Board Feed" switch to the "Off" position. Use the moulder jog to index the board through the moulder.

10-6) Set up the moulder.

11) MAINTENANCE

11-1) After One Week Break-In Period:

- Visually inspect all bolts for tightness.
- Remove guards and re-adjust infeed chain drive tension, and lower feed roll drive chain tension.
- Check feed wheel hub set screws, that are attaching the wheels to the hydraulic motor shafts, to ensure they are tight.
- Change hydraulic power unit filter.

11-2) Daily:

- Check that head assembly and photo eye are free of debris and moisture (*once per shift*).
- Check air pressure to ensure that it is set at 40 PSI (*once per shift*).
- Check hydraulic unit for leaks.
- Check return filter indicator (*gauge indicator arrow should run in the green with the unit in operation*).
- Check hydraulic power unit oil level sight glass, if low level indicated add oil.

  Note: When adding oil the preferred method is to pump the oil through a *10 micron* filter prior to it entering the hydraulic system. Make sure oil added to the system is added through the fill port on the top of the hydraulic unit. Check temperature gauge on the hydraulic power unit (normal temperature range 100° F. to 135° F.).

  Warning: If temperature exceeds 135° F. contact Machine Systems' Technical Service Department.
- Check hydraulic system pressure with system dead headed (*power unit on with infeed chains and feed wheels off*). System pressure factory set @ 850 PSI for 6' through 12' L.C.F.'s and 950 PSI for 14' through 20' L.C.F.'s.
- Check all safety features for proper functioning.

11-3) Weekly:

- Inspect and clean all safety signs/decals, replace if they no longer meet the legibility requirements for safe viewing at a distance.
- Check air line lubrication, if empty re-fill with Airline Lubrications compatible with Nitrile and Polyurethane seals. Analine Point Range 180° - 220° F., Viscosity at 100° F., 140 – 170 SUS.

11-4) Monthly:

- Service all grease fittings.
- Check chain tension.
- Check hydraulic return filter indicator and replace filter if indicated.
- Check feed wheels for cracks or excessive wear.

BRIDGE INSTALLATION

The following procedure applies to the installation of 13", 24" and 48" bridges. The bridge you have purchased may differ slightly in appearance from the bridge pictured below, but the installation procedure remains the same.

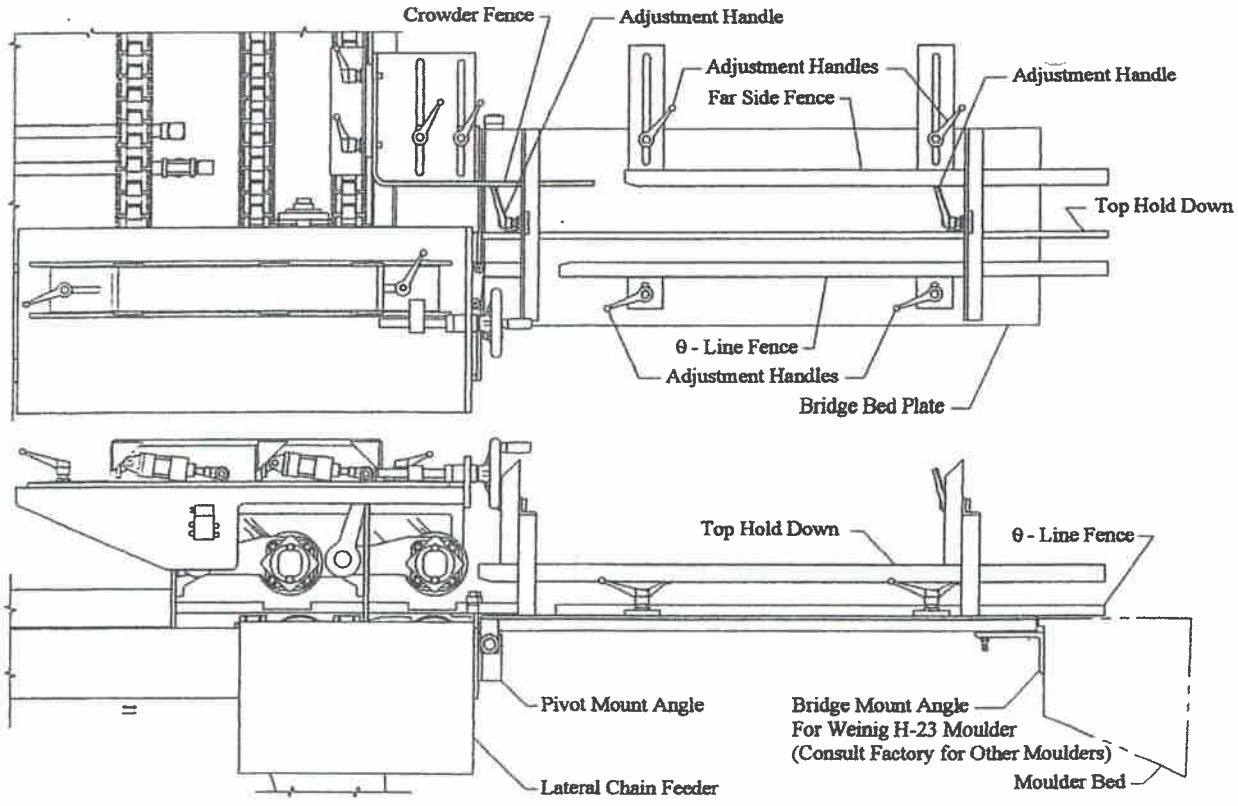
1) Align the slotted holes in the pivot mount angle with the tapped holes in the end plate of the Lateral Chain Feeder. Align the top of the bridge bed plate with the top of the L.C.F.'s bridge plate. Tighten the two mounting bolts.

2) If your moulder is a H-23 model connect the bridge mount angle *(supplied)* to the moulder bed. Adjust the jacking bolts until the top of the bridge bed plate is level with the top of the moulder. Tighten the lock nuts.

3) Loosen the adjustment handles on the θ-Line fence and align with the L.C.F.'s adjustable rear fence. Tighten the adjustment handles.

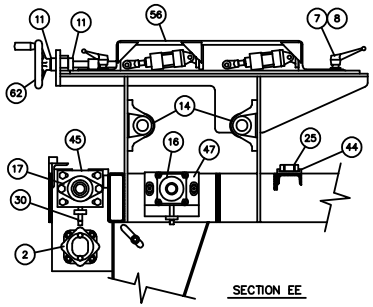
4) Loosen the adjustment handles on the far side fence and align with the L.C.F.'s crowder fence. Tighten the adjustment handles.

5) Loosen the adjustment handles on the top hold down and set the height 1/16" above the thickness of the material you are running through the L.C.F.. Tighten the adjustment handles.



RECOMMENDED SPARE PARTS LIST

Item Description	Quantity	MSL Part Number
Hydraulic Motor Seal Kit	2	H Seal Kit
Hydraulic Motor	1	4.13.8.1
Hydraulic Return Filter	2	4.22.9
Mechanical Timer	1	4.5.07.1
Photo Eye	1	4.5.08.1
KVP Plastic Chain (2" pitch)	2 ft.	4.3.8.1
¾" Polyurethane Feed Wheel (if applicable)	2	4.23.2.1.1
2" Polyurethane Feed Wheel (if applicable)	2	4.23.2.1



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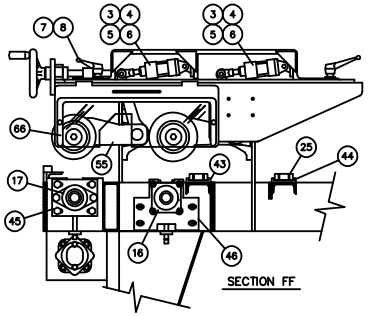

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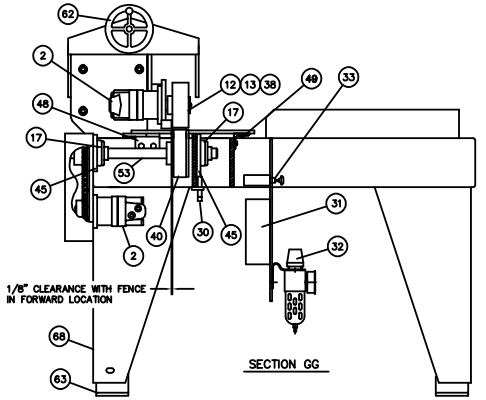
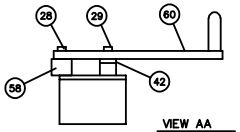
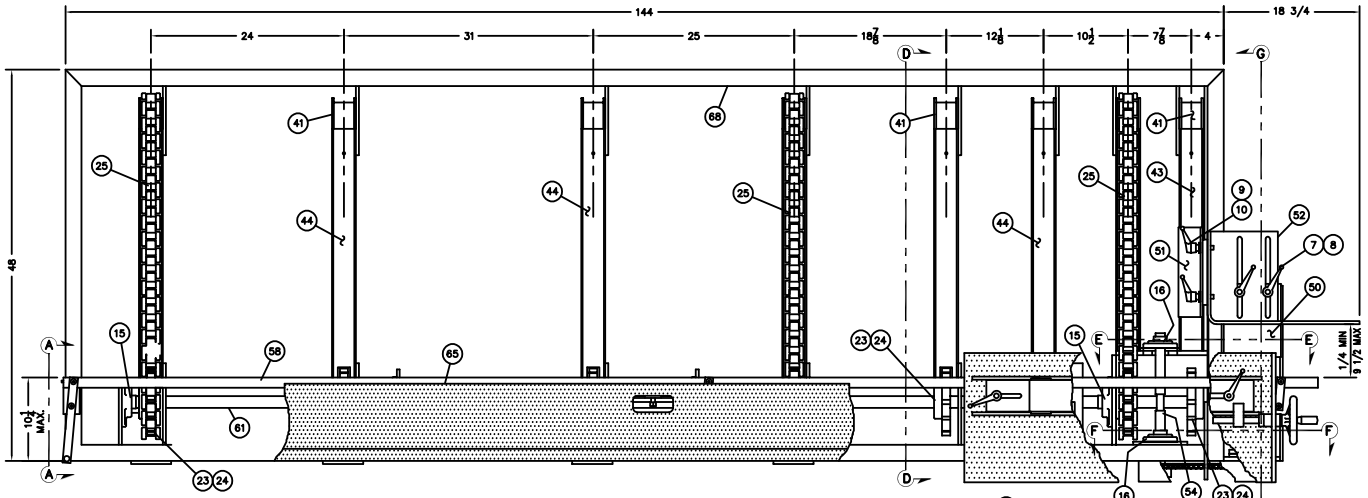


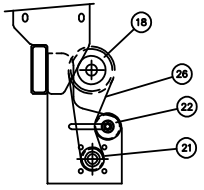
SECTION GG

ITEM	QTY	DESCRIPTION	ITEM	QTY	DESCRIPTION	ITEM	QTY	DESCRIPTION
1	1	HYDRAULIC UNIT, 10 hp, 11 gpm	20	1	SPROCKET, 50SH17	39		
2	4	MOTOR HYD,	21	1	SPROCKET, 50FB13 BORE 1 1/4"	40	2	LOWER FEED ROLLER B-16080
3	2	AIR CYLINDER, 1 1/2" BORE 1/2" STROKE	22	2	SPROCKET,IDLER 50BB15 BORE 5/8"	41	8	UHMW RETURN BOOT B-16011
4	2	CLEVIS BRACKET	23	8	SPROCKET, TYPE "A" KVP-12T W/HUB	42	3	UHMW SPACER B-16049
5	2	FEMALE ROD CLEVIS	24	8	READY-HUB BORE 1 7/16"	43	2	KVP SHORT RACEWAY B-16106-2
6	2	PIVOT PIN	25	8	CHAIN, KVP 2" PITCH	44	6	KVP LONG RACEWAY B-16114-1
7	4	ADJUSTMENT HANDLE 1/2-NC	26	1	CHAIN RC-50	45	2	BEARING MOUNT B-16076
8	4	HARD WASHER	27			46	1	LOWER FRONT BEARING PL B-16088
9	2	ADJUSTMENT HANDLE 3/8-NC	28	3	BOLTS, SHOULDER 1/2"ø X 1/2 lg	47	1	LOWER REAR BEARING PL B-16095
10	2	HARD WASHER	29	2	BOLTS, SHOULDER 1/2"ø X 3/4 lg	48	1	BRIDGE MOUNT ANGLE B-16085
11	2	SET COLLAR, 3/4" Id (SOLID)	30	4	BOLTS, JACKING 1/2-NC X 3	49	1	BRIDGE SUPPORT ANGLE B-16079
12	2	FEED WHEEL, 2" WIDE	31	2	HYD FLOW CONTROL MANIFOLD	50	1	BRIDGE PLATE B-16078
13	2	HUB, FEED WHEEL C-16135	32	1	FILTER,REGULATOR W/GAUGE	51	1	SHEAR ANGLE B-16090
14	4	BEARING, 2B PB BORE 1 7/16"	33	1	HAND VALVE	52	1	CROWDER FENCE C-16077
15	4	BEARING, 2 B FLG, BORE 1 7/16"	34	1	SOLENOID MANIFOLD	53	1	SECONDARY ROLL SHAFT B-16084
16	2	BEARING, 4 B FLG BORE 1 3/16"	35	1	HYD VALVE	54	1	PRIMARY ROLL SHAFT B-16091
17	2	BEARING, 2 B FLG BORE 1 3/16"	36			55	2	UPPER ARM WHEEL WELDMENT C-16082
18	1	SPROCKET, 50FB36 BORE 1 7/16"	37			56	1	ADJUSTMENT CARRIAGE C-16329
19	2	SPROCKET, 50SH18	38	2	FEED WHEEL WASHER	57		
						58	1	ADJUSTABLE BACK FENCE B-16117
						59	2	ADJUSTABLE FENCE PIVOT BAR B-16119
						60	1	ADJUSTABLE FENCE HANDLE B-16120
						61	1	FEED CHAIN DRIVE SHAFT B-16281-2
						62	1	CARRIAGE ADJUSTMENT HANDLE B-16124
						63	4	FOOT ASSEMBLY B-16105-1
						64	1	HEAD SHAFT DRIVE GUARD B-00987
						65	1	INFEED CHAIN SPROCKET GUARD B-16083
						66	1	HEAD ASSEMBLY GUARD C-16073
						67	1	FEED ROLL CHAIN GUARD B-16107
						68	1	TABLE FRAME WELDMENT D-16276
						69	2	PIPE, P.O.P. 3/4" SCH 40 X 117
						70	1	SPACER B-00226-1
						71		
						72		
						73		
						74		
						75		
						76	1	REMOTE STAND B-16074
						77	1	ELECTRICAL BOX STAND B-29567
						78		
						79		ELECTRICAL SCHEMATIC B-16151
						80		HYDRAULIC SCHEMATIC B-16003
						81		PNEUMATIC SCHEMATIC B-16004
						82		
						83		
						84		
						85		
						86		
						87		
						88		
						89		

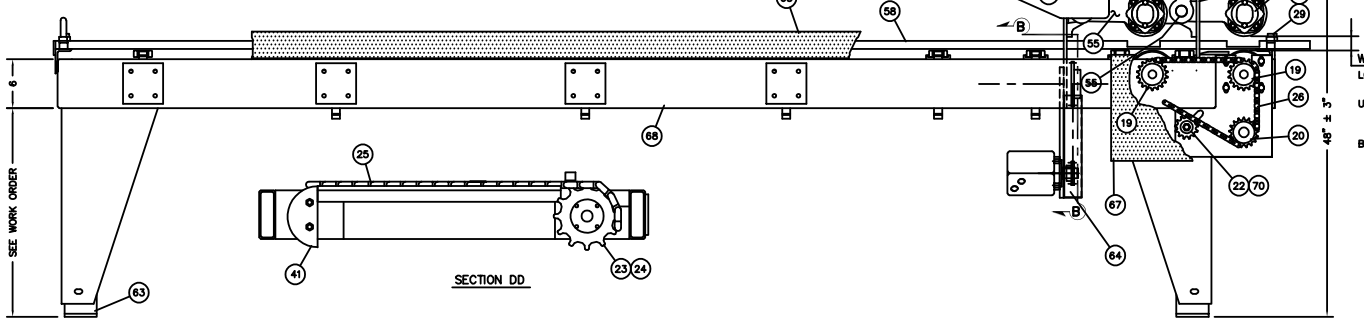


VIEW AA





SECTION BB



SECTION DD

WHEEL HEIGHT SETTINGS:

LOWER ROLL: TOP OF ROLL EVEN WITH CHAIN TOP ± 1/32"

UPPER ROLL: WHEN CYLINDERS ARE EXTENDED UPPER ROLLS TO ADJUST FROM 1/4" MIN TO 2 1/2" MAX

BED PLATE: ADJUST BED PLATE 3/32" BELOW TOP OF LOWER ROLLS

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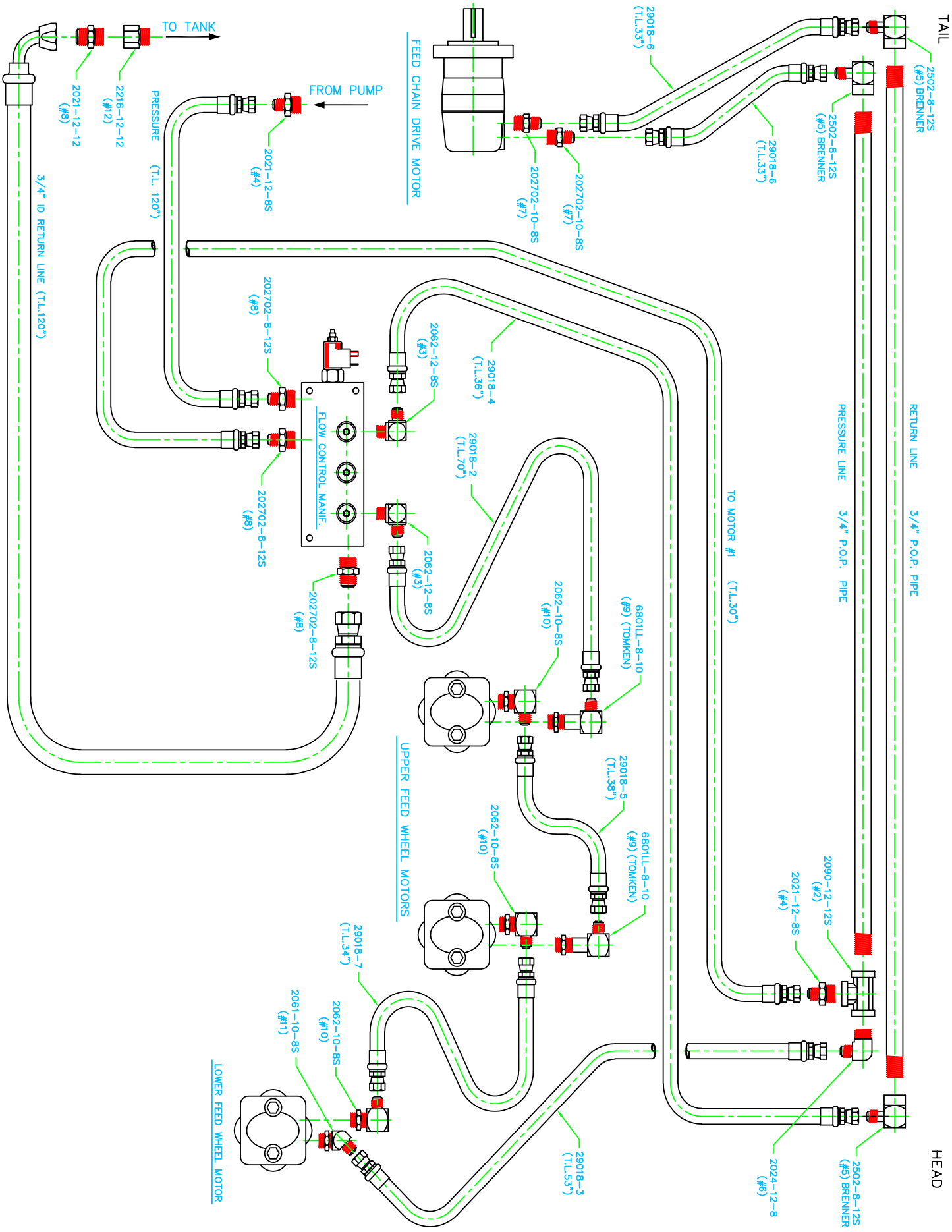
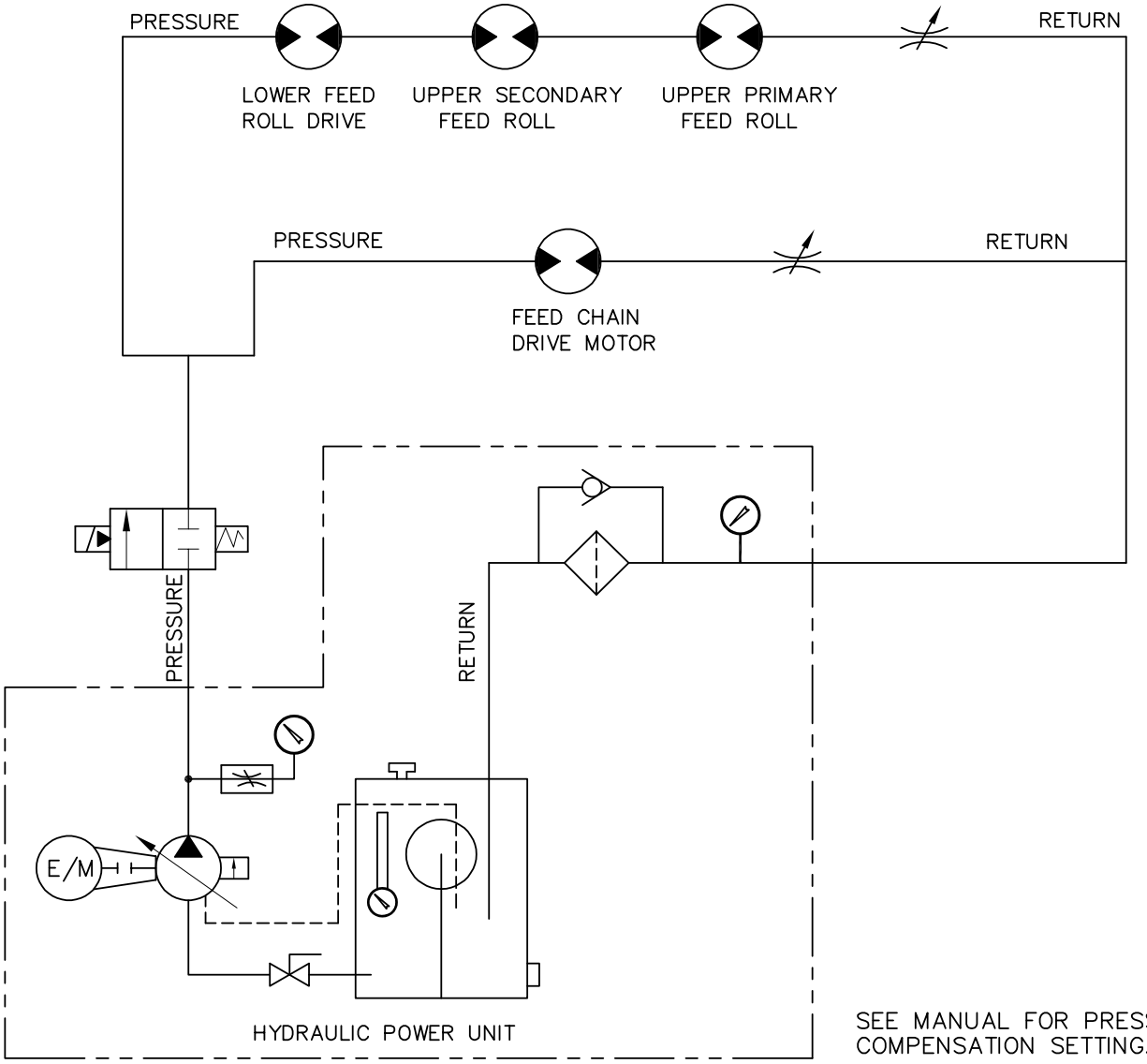
TITLE: 12 X 4 FOOT LATERAL CHAIN FEED ASSEMBLY

BY	DATE	DRAWING NUMBER	REV.
	10/13/99	D-16510	B

SCALE 1=8 W/O #



DRAWING TITLE: LATERAL CHAIN FEEDER HYDRAULIC LINE LAYOUT	GENERAL DRAWING TOLERANCES: FRACTIONAL – DECIMAL – ANGULAR –	Lent's Machinery PHONE (541)350-4967	REV NO.	DATE	COMMENTS / BY
SHEET NUMBER 1 OF 1 DRAWING NUMBER C-10082			A	12/6/99	ADDED NEW FLOW CONTROL
REV A	DRAWN BY	DATE 12/6/99	DRAWING SCALE 1=4		



SEE MANUAL FOR PRESSURE COMPENSATION SETTING.

REV.	DATE	DESCRIPION
B	2/02	FLOW CONT. WERE SHOWN AS PRES. COMP
A	12/98	REDRAWN

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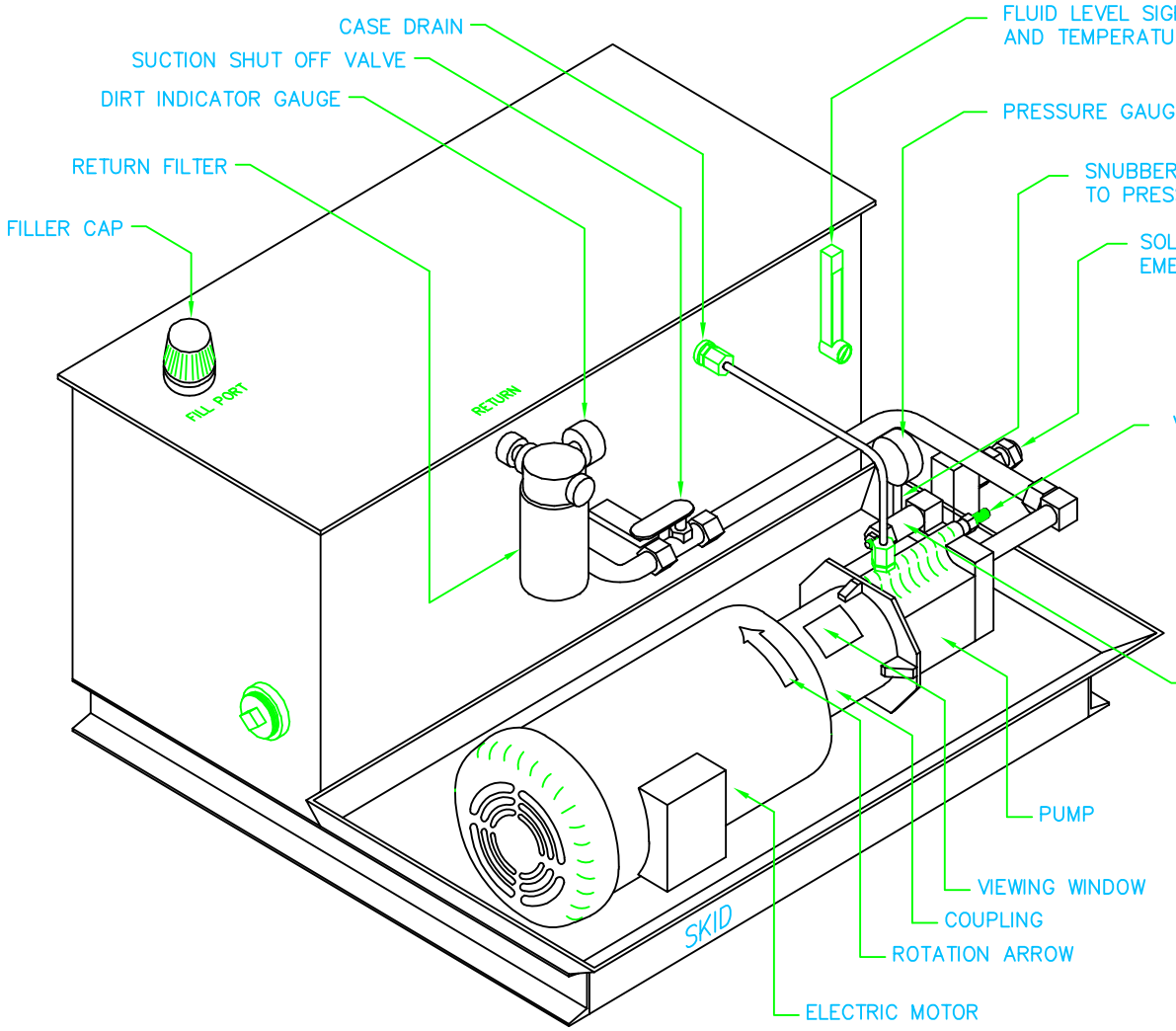
TITLE LATERAL CHAIN FEEDER HYDRAULIC SCHEMATIC

BY	DATE 2/15/94	DRAWING NUMBER B-16003
SCALE 1=1	W/O #	



FLUID LEVEL SIGHT GLASS AND TEMPERATURE GAUGE

PRESSURE GAUGE

SNUBBER VALVE TO PRESSURE GAUGE

SOLENOID EMERGENCY VALVE

VOLUME CONTROL

PRESSURE COMPENSATOR
- WITH UNIT RUNNING, SNUBBER VALVE ON GUAGE OPEN, AND SOLENOID VALVE DE-ENERGIZED.
- ADJUST SCREW CLOCKWISE TO INCREASE PRESSURE, COUNTER-CLOCKWISE TO DECREASE PRESSURE.
- CHECK SPECIFICATION SHEET FOR MAXIMUM PRESSURE (FACTORY SET AT MSL).

PUMP

VIEWING WINDOW

COUPLING

ROTATION ARROW

ELECTRIC MOTOR

PROCEDURE TO CHECK PUMP ROTATION:

1) BUMP HYDRAULIC "ON" BUTTON IN ONE SECOND INCREMENTS.
2) VIEW THE PUMP COUPLING THRU THE VIEWING WINDOW.
3) MAKE SURE COUPLING ROTATION AND ROTATION ARROW MATCH. IF ROTATION IS OPPOSITE REVERSE L1 & L3 WIRES ON MOTOR STARTER.

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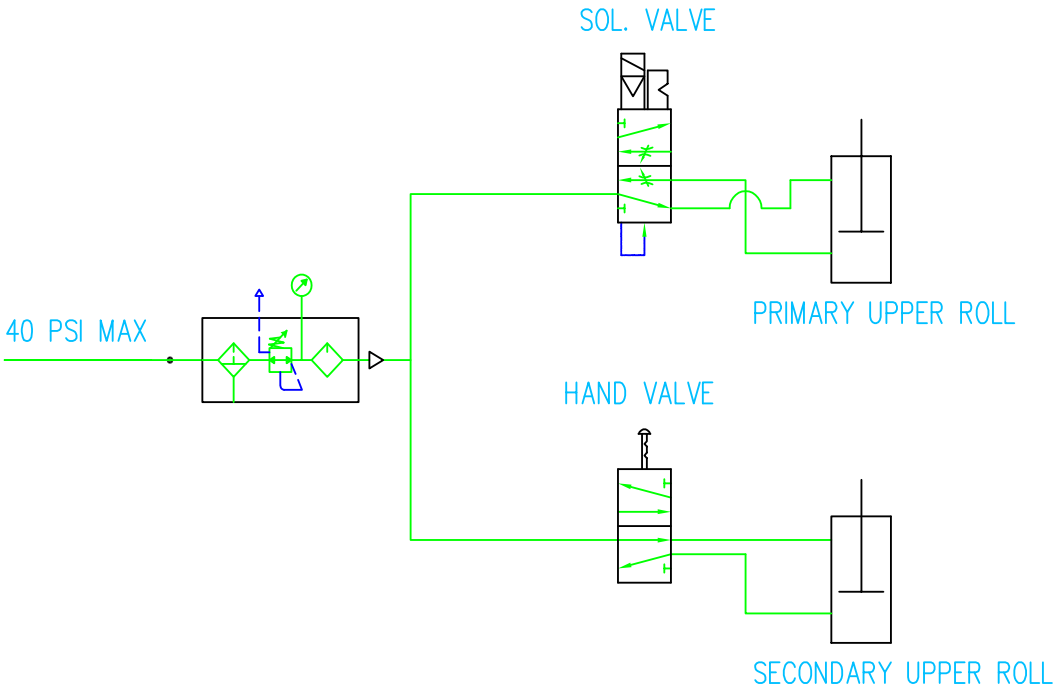
TITLE HYDRAULIC UNIT SETUP

BY	DATE	DRAWING NUMBER
S.W.S	6-21-95	B-29005
SCALE 1 1/2"=1'-0"	W/O #	

ITEM	QTY	DESCRIPTION



REV NO.	DATE	COMMENTS	BY
A	9-27-01	CORRECTED SOL VLV PATHS	RG

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MACHINERY MANUFACTURER
MATERIAL HANDLING EQUIPMENT & SYSTEMS

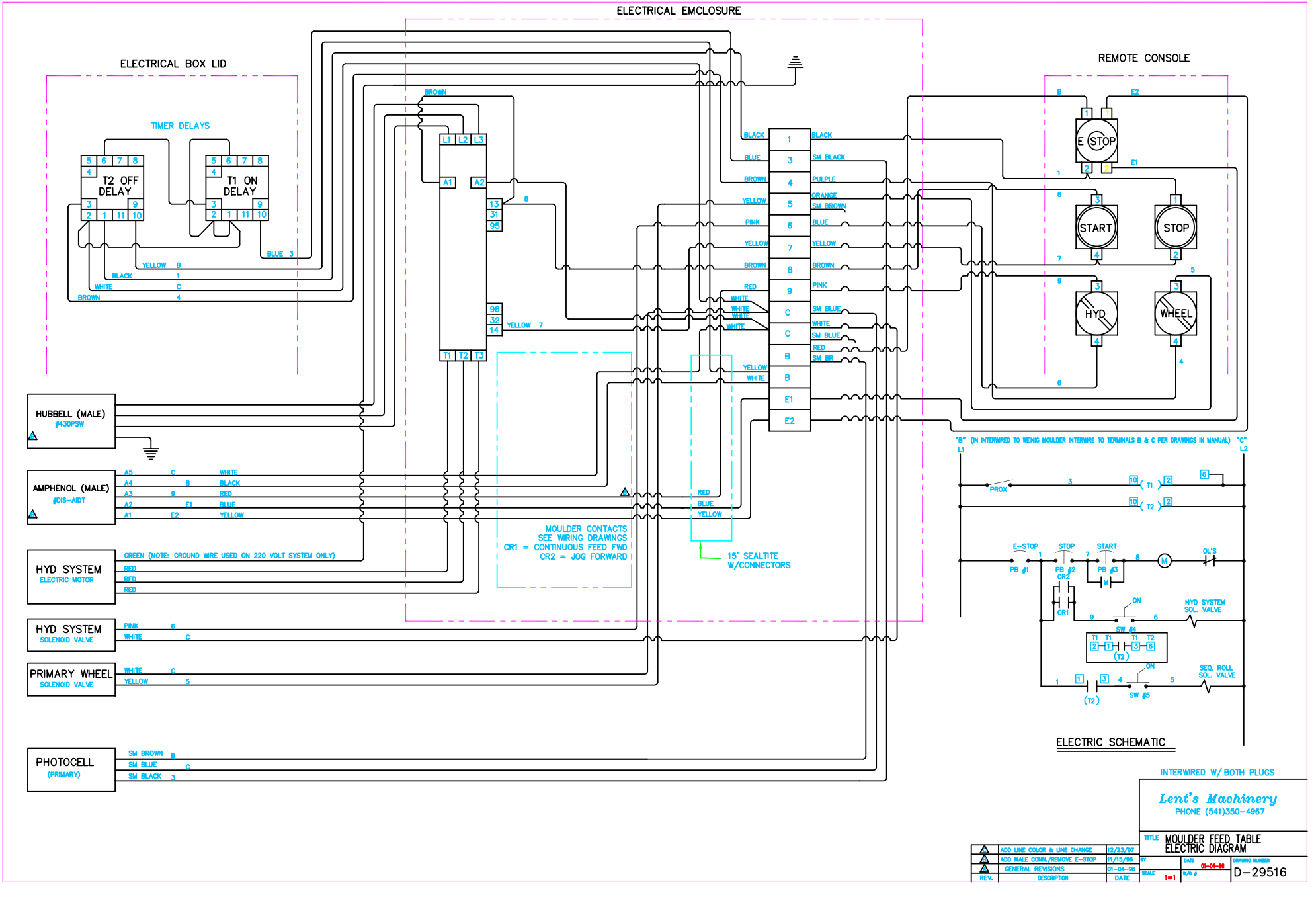
GENERAL DRAWING TOLERANCES

FRAC - ± 1/32
DEC. 0.X - ± 0.030
0.0X - ± 0.010
0.00X- ± 0.005
ANGULAR - ± 1°

DRAWING TITLE
LATERAL CHAIN FEEDER
PNEUMATIC SCHEMATIC

DRAWN BY	DATE	DRAWING SCALE	REV
SWS	02-15-94	NA	A

SHEET NUMBER 1 OF 1
DRAWING NUMBER B-16004



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REV.	DESCRIPTION	DATE
A	ADD LINE COLOR & LINE CHANGE	12/23/97
B	ADD MALE CONN./REMOVE E-STOP	11/15/96
C	GENERAL REVISIONS	01-04-96

TITLE: MOULDER FEED TABLE ELECTRIC DIAGRAM
BY:
DATE: 01-04-96
SCALE: 1=1
W/O #
DRAWING NUMBER: D-29516