

Operator's Manual

TDC NOTCHER



CINCINNATI PRECISION 513-860-4133



LOCKFORMER

WARRANTY

Our guarantee on the products we manufacture is limited to repair or replacement without charge, of any part found to be defective in materials or workmanship. This guarantee is for a period of one year (unless otherwise specified) from the date of shipment from our factory, for all mechanical features of the machine, except purchased components that carry the warranty of the original manufacturer.

Warranty parts and components will be shipped freight collect from Lisle, Illinois. If the defective part has not been received by Lockformer within 15 working days after receiving the replacement part, your company will be responsible for the cost of replacement.

The warranty provided in this clause is in lieu of all other warranties, express or implied, arising by law or otherwise, including the implied warranties of merchantability and fitness for a particular purpose which are hereby disclaimed by Lockformer and excluded from this agreement. This warranty shall not be modified for any reason. In no event shall Lockformer be liable for consequential or incidental damages.

The information in this document has been reviewed and is believed to be completely accurate. However, no responsibility is assumed for inaccuracies. Furthermore, the LOCKFORMER COMPANY reserves the right to make changes to any products herein, at any time, to improve reliability, function, or design. The LOCKFORMER COMPANY does not assume any liabilities arising out of any use of any product described herein, neither does not convey any license under its patent rights nor the rights of others.



SAFETY GUIDELINES

You are not ready to operate this equipment if you have not read and understood the safety information in this manual.



WARNING:

Only one person should control the machine(s). Never allow anyone to operate the controls while you are working on this equipment. In addition to disconnecting power **always use lock outs and tagouts** to prevent accidental start-up when performing maintenance procedures.

Do not wear loose clothing, neckties, improper gloves, or jewelry while operating this machine. If long sleeves must be worn, avoid loose cuffs or buttons. Tie back or contain long hair.

Wear proper gloves to prevent lacerations caused by sharp edges of stock.

Be alert for loose, worn, or broken parts. Never operate this equipment unless it is in good working condition.

Keep hands clear of all pinch points AND CUTTING AREAS. **KEEP ALL COVERS IN PLACE WHEN OPERATING THIS MACHINE.**

Disconnect the main air supply and bleed pressure from the lines to prevent cycling on retained pressure when performing maintenance procedures.

Always shut off the power at the main disconnect switch before entering the electrical control box.

Remember that the information contained in this manual is only a portion of an adequate training program. It must be coupled with specific instructions for your application along with full information of national and local safety regulations that may apply.

CAUTION!

RESERVOIR HAS BEEN EMPTIED FOR SHIPPING

FILL WITH HYDRAULIC FLUID BEFORE OPERATING

REFER TO THE HYDRAULIC POWER UNIT INSTRUCTION BOOKLET FOR DETAILS.

OPERATION OF THE TDC NOTCHER

The TDC Notcher is used to prepare a sheet (18 -24 Gauge C.R.S.) that is to be formed in a Lockformer TDC machine. The notcher must be used to cut all four corners before rollforming. After notching is completed, the Pittsburgh lock and flange must be formed before the TDC flange has been formed.

INSTALLATION - Uncrate unit and locate to area of operation. Unbind the foot switch and cord. The notcher is equipped with a 3hp, 230 volt, 3 phase, 60 hz, motor that should be wired to the in-plant current specified on customer's order.

The notcher is shipped without oil in the hydraulic unit reservoir and this must be added before the machine is used. Fill the reservoir with commercial hydraulic oil having a viscosity of 150 SSU at 100 degrees F. We recommend the use of Mobil #26 Anti-Wear Hydraulic Oil, or equivalent. This fluid should be kept as clean and uncontaminated as possible and should be replaced approximately once a year or more often if frequent notcher use necessitates it. The hydraulic unit is preset and should remain set to approximately 1600 psi.

When starting the unit, check to see whether the motor and pump rotation conforms to the direction of the arrows on motor and pump body. (Pulse Jog the to determine motor rotation). If rotation is wrong reverse the two power leads. Severe damage to pump will result if run opposite to rotation shown.

Activate the hydraulic shearing mechanisms of each head to be used by turning the top valve clockwise as far as it will go. Place the sheet edge under the heads, butted up against the stops and step on the foot control pedal to shear notches (release pedal immediately). Notching stock thicker than 18 ga. is not recommended, as this may damage the punches or dies.

Apply a thin coat of light oil to the surfaces of the punches and dies often to prolong their life, retard rust, and aid cutting action.

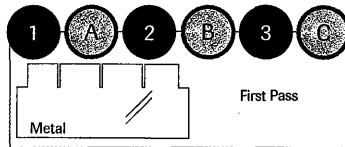
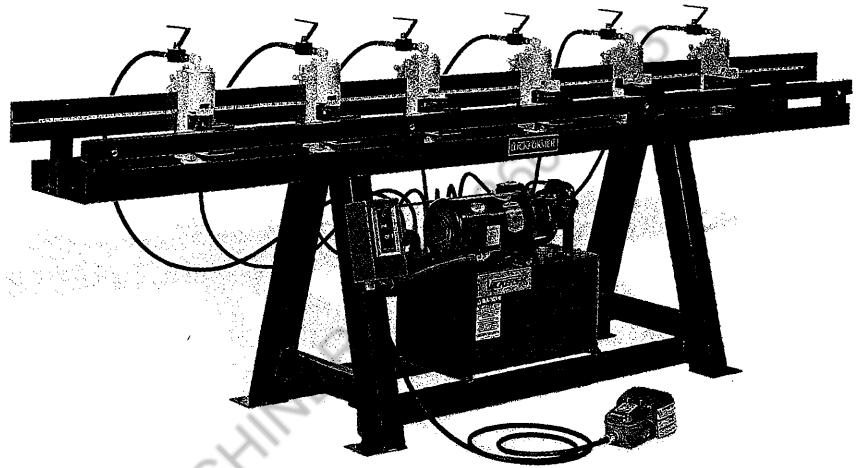
NOTE: The punch and die have been factory set to a precise clearance. If they are ever replaced, this clearance should be maintained at no more than .003". Loosen the lower die and remove it from unit. Depress foot pedal and when the punch is at the bottom of its stroke, place a wooden wedge above it in its open cylinder orifice to hold it all the way down. Place appropriate shims on top of the die (a .0025" to .003" spacer shim placed on (both) flat surfaces of the cutting dies) and reinsert die in place beneath punch. Stop relationship has been restored. .002" shims are used on the sides of both corner notches, the and .003" are used on their front edges.

After the above procedure has been completed, replace spring and lower bottom cap, tighten and reassemble to machine.

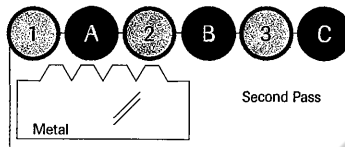
TDC Notcher

Shown as combination, 3 heads TDC and 3 heads drive cleat

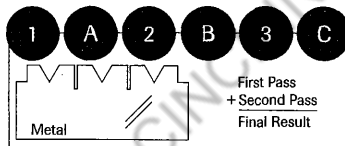
With the Notcher, you can gang-notch sheet metal hydraulically up to 600% faster than by hand. Hydraulic shut-off valves provide quick, individual notching head control; a measuring tape set in the back gauge bar allows instant locating of the heads; and a locking handle aids in the adjusting of the notch depth.



First pass uses combination heads TDC 1, 2 & 3.



Second pass uses combination cleat heads drive A, B & C.



Final result is a combination of using 3 heads TDC and 3 heads drive cleat through two passes.

The dark gray circle represents the combination of heads being used.

TDC NOTCHER	PART NO.	PRICE
3 Heads		
5 Heads		
6 Heads (Combination 3 TDC heads and 3 Speednotch heads)		
Additional head with hose, less dies		
TDC NOTCHER-PUNCH AND DIES	PART NO.	PRICE
Right Hand Punch	22246	
Right Hand Die	22247	
Complete Right Hand Set	370404	
Left Hand Punch	22248	
Left Hand Die	22249	
Complete Left Hand Set	370504	
Inner (slot) Punch	22250	
Inner (slot) Die	22251	
Complete Inner Set	370604	

MODEL	PRICE	CAPACITY	DEPTH OF POCKET/SIZE	MOTOR
TDC NOTCHER	For pricing information, see chart above.	16 gauge Mild steel 10 feet	1-1/2" for "V" notch 2-7/10" for TDC notch	3 H.P., 230/460 volts, 60 Hz., 3 phase, 1,600 RPM.

TDC NOTCHER Parts Lists

(braund) 12/17/2004

BOM OR WHERE USED FOR 370111

UM: EA I/T: 0 DESCRIPTION: STAND

STOCK NUMBER	I/T	UM	COMPONENT DESCRIPTION	QTY USED
51490	2	EA	STAND WELDMENT	1.00
56364	0	EA	GENERAL ASSEMBLY	0.00
56534	2	EA	WK GUIDE ASSY	1.00
60871	4	EA	BOLT,CARRDG,5/16-18X3/4	1.00
61122	4	EA	NUT,HEX,3/8-16,FINISHED	4.00
62026	4	EA	SHIM,3/8,3/4,.052	4.00
62363	4	EA	WSHR,LOCK,3/8,MED	4.00
85140	4	EA	TAPE,CHROM,SATIN,LVS30CI-60	(MORE) 1.00
85156	4	EA	NAMEPLT,LOCKFORMER CAPACITY GA	(MORE) 1.00
9000267	4	FT	3M #4932(3/8X3/8)DOUBLE BACK	(MORE) 10.00

(braund) 12/17/2004

BOM OR WHERE USED FOR 370302

UM: EA I/T: 0 DESCRIPTION: HEAD ASSEM

STOCK NUMBER	I/T	UM	COMPONENT DESCRIPTION	QTY USED
14516	2	EA	SPRG GUIDE	1.00
14626	2	EA	GUIDE WSHR	1.00
14845	2	EA	STUD	1.00
15121	2	EA	PISTON	1.00
15127	2	EA	CYL HD	1.00
15130	2	EA	BTM CAP	1.00
21509	2	EA	GUIDE PLT	1.00
21576	2	EA	GIB RT	1.00
21577	2	EA	GIB LFT	1.00
40455	2	EA	CYL BDY MACH.89109	1.00
40460	2	EA	HANDLE 88460	1.00
40490	2	EA	CYL CLAMP 8849/	1.00
59081	0	EA	GENERAL ASSM DRWG	0.00
60001	4	EA	HHCS,1/4-28,1/2,SAE	2.00
60301	4	EA	SHCS,1/4-28X3/8	4.00
60303	4	EA	SHCS,1/4-20X3/4	12.00
60609	4	EA	SSS,1/4-28X5/16(1/2 DG POINT)	4.00
61203	4	EA	NUT,5/8-11,FINISHED,(15/16AF)	1.00
62365	4	EA	WSHR,LOCK,5/8,MED	1.00
62714	4	EA	PIN,ROLL,3/16X1.59-040-187-100	1.00
65001	4	EA	NPL,1/4X1" CLOSE EXTRA HVY,BLK	1.00
65176	4	EA	ELBW,ST,1/4,3000#,FORGD STL,	(MORE) 1.00
65645	4	EA	O-RING,N21972326,1-5/8,2,3/16T	(MORE) 2.00
71002	4	EA	SPRG,COMP,#MHC38,R38	(MORE) 1.00

(braund) 12/17/2004

BOM OR WHERE USED FOR 370309

UM: EA I/T: 0 DESCRIPTION: SINGLE TDC HD ASSY

STOCK NUMBER	I/T	UM	COMPONENT DESCRIPTION	QTY USED
14516	2	EA	SPRG GUIDE	1.00
14626	2	EA	GUIDE WSHR	1.00
14845	2	EA	STUD	1.00
15121	2	EA	PISTON	1.00
15127	2	EA	CYL HD	1.00
15130	2	EA	BTM CAP	1.00
21509	2	EA	GUIDE PLT	1.00
21576	2	EA	GIB RT	1.00
21577	2	EA	GIB LFT	1.00
40455	2	EA	CYL BDY MACH.89109	1.00
40460	2	EA	HANDLE 88460	1.00
40490	2	EA	CYL CLAMP 8849/	1.00
58199	0	EA	NOTCHR CYL HD ASSY	0.00
60001	4	EA	HHCS,1/4-28,1/2,SAE	2.00
60301	4	EA	SHCS,1/4-28X3/8	4.00
60303	4	EA	SHCS,1/4-20X3/4	12.00
60609	4	EA	SSS,1/4-28X5/16(1/2 DG POINT)	4.00
61203	4	EA	NUT,5/8-11,FINISHED,(15/16AF)	1.00
62365	4	EA	WSHR,LOCK,5/8,MED	1.00
62714	4	EA	PIN,ROLL,3/16X1.59-040-187-100	1.00
65001	4	EA	NPL,1/4X1" CLOSE EXTRA HVY,BLK	1.00
65176	4	EA	ELBW,ST,1/4,3000#,FORGD STL,	(MORE) 1.00
65645	4	EA	O-RING,N21972326,1-5/8,2,3/16T	(MORE) 2.00
71002	4	EA	SPRG,COMP,#MHC38,R38	(MORE) 1.00

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BOM OR WHERE USED FOR 370401

UM: EA I/T: 0 DESCRIPTION: DIES STD C RHT HND

STOCK NUMBER	I/T	UM	COMPONENT DESCRIPTION	QTY USED
21751	2	EA	BKG PLT LFT	1.00
22305	2	EA	PUNCH RT	1.00
22306	2	EA	DIE RT	1.00
36980	2	EA	NOTCHER DIE GUARD - RH	1.00
42514	2	EA	GAUGE STEP PIN	1.00
60401	4	EA	SHCS.3/8-16X3/4	3.00

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BOM OR WHERE USED FOR 370404

UM: EA I/T: 0 DESCRIPTION: TDC DIES-STD-R.H.

STOCK NUMBER	I/T	UM	COMPONENT DESCRIPTION	QTY USED
21778	2	EA	PUNCH BACKING PLT	1.00
22246	2	EA	RT HAND PUNCH	1.00
22247	2	EA	RT HAND DIE	1.00
36980	2	EA	NOTCHER DIE GUARD - RH	1.00
56365	0	EA	MATERIAL LAYOUT	0.00
60002	4	EA	HHCS.1/4-20.1	2.00
60304	4	EA	SHCS.1/4-20X1	2.00
60393	4	EA	SHCS.3/8-16X1-NYLOCK	3.00
62000	4	EA	WSHR-FLAT.281 ID X .625 OD X (MORE)	2.00
62360	4	EA	WSHR-LOCK.#10 MED	2.00
62370	4	EA	WSHR-LOCK.1/4.MED	2.00
62615	4	EA	PIN-DWL.1/4X1-1/2	1.00
AA25895	2	EA	DOWEL PIN MTG. BAR	1.00
AA60350	4	EA	SHCS.10-24.7/8 (MORE)	2.00

(braund) 12/17/2004

BOM OR WHERE USED FOR 370501

UM: EA I/T: 0 DESCRIPTION: DIES STD C LFT HND

STOCK NUMBER	I/T	UM	COMPONENT DESCRIPTION	QTY USED
21751	2	EA	BKG PLT LFT	1.00
22303	2	EA	PUNCH LFT HAND	1.00
22304	2	EA	DIE LFT	1.00
36979	2	EA	NOTCHER DIE GUARD - LH	1.00
42514	2	EA	GAUGE STEP PIN	1.00
60401	4	EA	SHCS.3/8-16X3/4	3.00

(braund) 12/17/2004

BOM OR WHERE USED FOR 370504

UM: EA I/T: 0 DESCRIPTION: TDC DIES-STD L.H.

STOCK NUMBER	I/T	UM	COMPONENT DESCRIPTION	QTY USED
21778	2	EA	PUNCH BACKING PLT	1.00
22248	2	EA	LT HD PUNCH	1.00
22249	2	EA	LT HAND DIE	1.00
36979	2	EA	NOTCHER DIE GUARD - LH	1.00
56365	0	EA	MATERIAL LAYOUT	0.00
60002	4	EA	HHCS.1/4-20.1	6.00
60304	4	EA	SHCS.1/4-20X1	6.00
60393	4	EA	SHCS.3/8-16X1-NYLOCK	3.00
62000	4	EA	WSHR-FLAT.281 ID X .625 OD X (MORE)	4.00
62360	4	EA	WSHR-LOCK.#10 MED	4.00
62370	4	EA	WSHR-LOCK.1/4.MED	6.00
62615	4	EA	PIN-DWL.1/4X1-1/2	2.00
AA25895	2	EA	DOWEL PIN MTG. BAR	2.00
AA60350	4	EA	SHCS.10-24.7/8 (MORE)	4.00

(braund) 12/17/2004 BOM OR WHERE USED FOR 370602
 UM: EA I/T: 0 DESCRIPTION: DIES VEE

STOCK NUMBER	I/T	UM	COMPONENT DESCRIPTION	QTY USED
21750	2	EA	BKG PLT	1.00
22301	2	EA	PUNCH	1.00
22302	2	EA	DIE VEE	1.00
60401	4	EA	SHCS,3/8-16X3/4	4.00
AA36029	2	EA	NOTCHER DIE GUARD	1.00

(braund) 12/17/2004 BOM OR WHERE USED FOR 370604
 UM: EA I/T: 0 DESCRIPTION: TDC DIES

STOCK NUMBER	I/T	UM	COMPONENT DESCRIPTION	QTY USED
21778	2	EA	PUNCH BACKING PLT	1.00
22250	2	EA	INNER PUNCH	1.00
22251	2	EA	INNER DIE	1.00
33326	2	EA	STRIPPER PLATE (REPLACES 51634 (MORE)	1.00
56365	0	EA	MATERIAL LAYOUT	0.00
60000	4	EA	HHCS,1/4-20,1/2	2.00
60304	4	EA	SHCS,1/4-20X1	4.00
60393	4	EA	SHCS,3/8-16X1, NYLOCK	4.00
62000	4	EA	WSHR,FLAT,281 ID X .625 OD X (MORE)	4.00
62370	4	EA	WSHR,LOCK,1/4,MED	4.00

(braund) 12/17/2004 BOM OR WHERE USED FOR 370808
 UM: EA I/T: 0 DESCRIPTION: HOSE KIT-HYDRADYNE UNIT ASSY/ (M

STOCK NUMBER	I/T	UM	COMPONENT DESCRIPTION	QTY USED
61991	4	EA	HOSE KIT ASSY/HYDRODYNE(SEE (MORE)	1.00

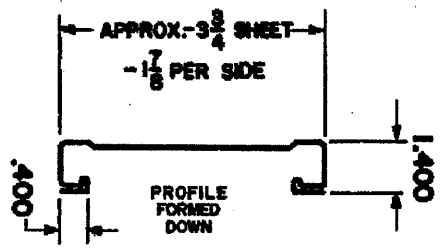
CINCINNATI PRECISION MANUFACTURING 513-260-4133

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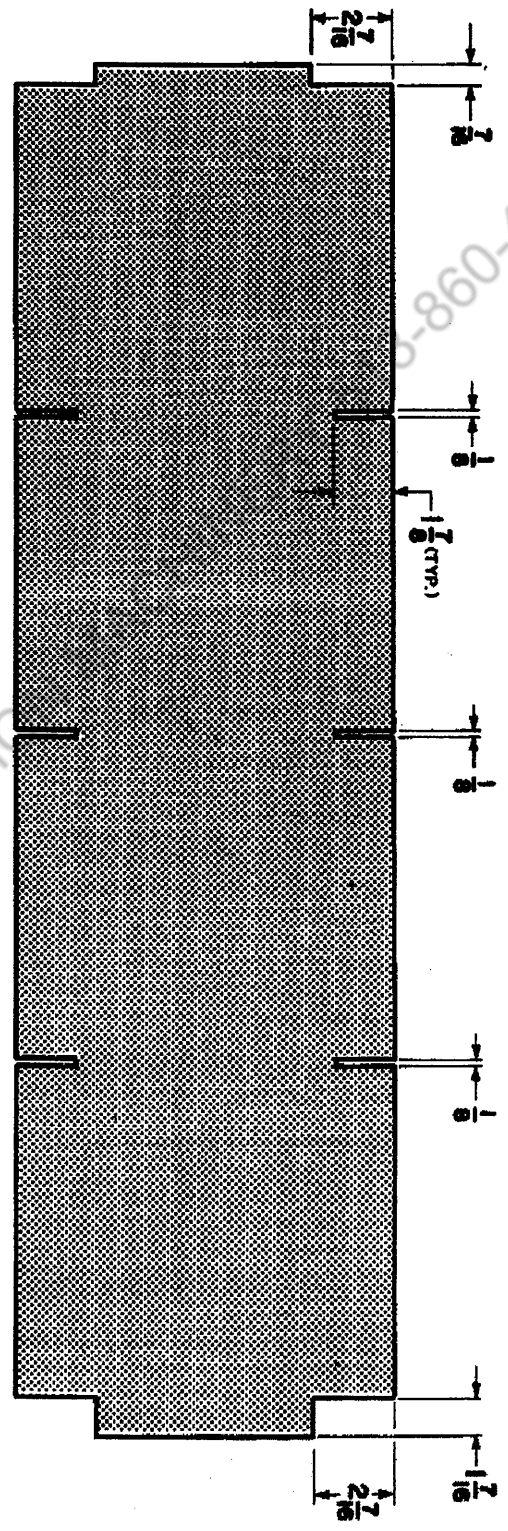
BOM OR WHERE USED FOR 371210

UM: EA I/T: 0 DESCRIPTION: 3HP ELECT AB PKG W/O VAR 230/ (MC

STOCK NUMBER	I/T	UM	COMPONENT DESCRIPTION	QTY USED
33010	2	EA	GUARD BASE	1.00
33011	2	EA	FT PEDAL GUARD	1.00
60834	4	EA	STS,4-40 X 3/8 FLAT HEAD	2.00
65422	4	EA	POWER UNIT,3HP,230/460,110 SOL (MORE)	1.00
80209	4	EA	SWITCH,FOOT,4913C36 (MORE)	1.00
80441	4	IN	CABLE,LIQUITITE,1/2",500' (MORE)	8.00
80487	4	EA	CONN,#5252,1/2",90DEG (MORE)	1.00
80492	4	EA	CONN,ELBW,#5242,1/2",45DEG (MORE)	1.00
80602	4	EA	BLK,RING TONGUE,B14-10 (MORE)	12.00
80709	4	IN	WIRE,BLACK,14GA,MTW,500'ROLL (MORE)	25.00
80968	4	EA	PLT,MTG,TYRAP,TC-5342-A	3.00
80969	4	EA	TIES,CABLE,STRAP, PANDUIT OR (MORE)	2.00
81488	4	EA	HOLD,FUSE,BM6033M,3POLE,500V	1.00
81600	4	IN	WIRE,MTW,14GA,WHITE,500'	20.00
81601	4	IN	WIRE,MTW,14GA,RED,500'	25.00
81686	4	EA	FUSE,FN2-1 (MORE)	2.00
81816	4	IN	SPRIAL WRAP	14.00
82061	4	EA	CABLE TIES,5-5/8"LG,*RT-550BK	10.00
82062	4	EA	CABLE TIES,3-7/8"LG,*RT-350	12.00
82106	4	IN	WIRE,14 GA,MTW,GREEN/YELLOW	48.00
82122	4	EA	CONNECTOR,90 DEGREE,0.25-0.375 (MORE)	1.00
82143	4	EA	LOCKNUT,REVERE PART NO:BL50 (MORE)	1.00
82216	4	EA	MARKER,#539-0080, ALLIED	10.00
84296	4	EA	TERM,RING RB14-10,18-14GA (MORE)	6.00
84298	4	EA	TERM BLK,END SECT 118368.16 (MORE)	1.00
84314	4	EA	REDUCING WASHER,0.75"-0.50" (MORE)	2.00
84340	4	EA	SEALING RING 1/2" REVERE PN:52 (MORE)	3.00
84413	4	EA	TERM,BLK ENTRELEC 22-10GA M4/6 (MORE)	4.00
84415	4	EA	BLK,GROUND,ENTRELEC M4/6.P (MORE)	1.00
84425	4	EA	JUMPER, M-4/4, ENTRELEC (MORE)	1.00
84429	4	EA	TERM END STOP #19940802 (MORE)	1.00
84645	4	EA	FUSE,FN2R-6/10,TIME DELAY (MORE)	1.00
84712	4	EA	TRANSFORMER,#FS-3-50, 50VA CE	1.00
84940	4	IN	1/2" NON METALLIC LIQUID TIGHT (MORE)	48.00
84963	4	EA	3 HP ELECT PNL 230/3/60-115/60 (MORE)	1.00
85228	4	EA	DECAL,CAUTION SHOCK HAZARD (MORE)	1.00
85244	4	EA	LABEL RISK OF ELECTRICAL (MORE)	1.00
85326	4	EA	NAMEPLT,DISCONNECT ALL POWER	1.00
AA23134	0	EA	CONDUIT/CORD/ENCLOSURE LAYOUT	0.00
AA80777	4	EA	CONN,90 DEG., 1/2",LT950M,TB	1.00
AA80779	4	EA	CONN,ST,1/2",LT50M,T&B	1.00



FLANGE SIDE

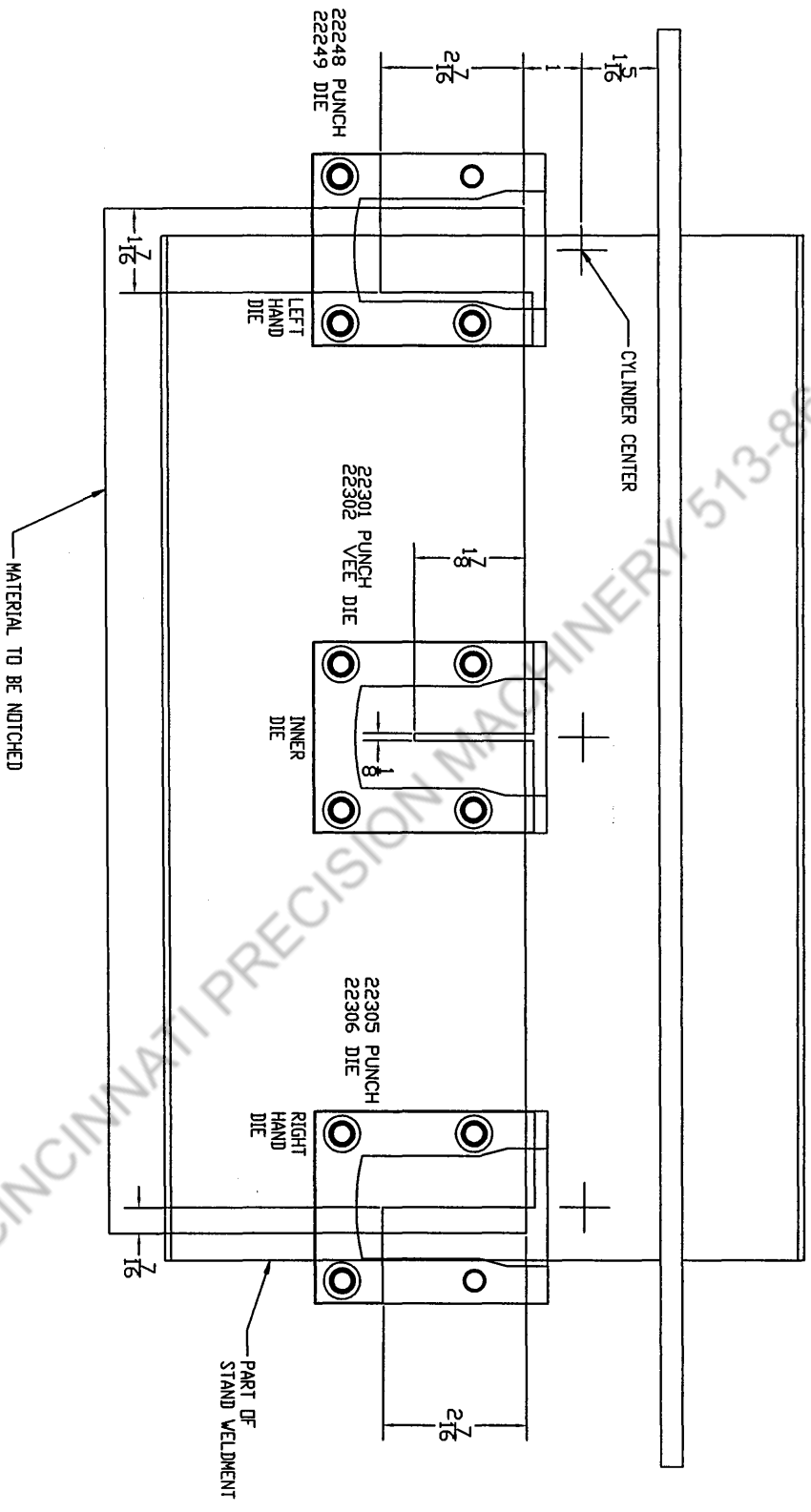


PITTSBURGH SIDE

TDC NOTCH PATTERN

CINCINNATI PRECISION 1-860-4133

56365



THE LOCKFORMER		CO.	6
711 DODDEN AVE.		LISLE, ILLINOIS 60532	5
MACHINE	TDC NOTCHER	PART NUMBER	4
PART NAME	MATERIAL LAYOUT		3
MATERIAL	HEAT TREAT	SCALE	2
DRAWN BY	CHECKED BY	DATE	REVISIONS
ASHOK		2/23/05	

Due to continuous improvements, Lockformer reserves the right to modify the product design and specifications contained herein without notice. Please contact your Lockformer sales representative for the most current specification information.

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