

Deltronic Labs Inc.



TICKET EATER®

**MODELS
DL-5000 & DL-6000**

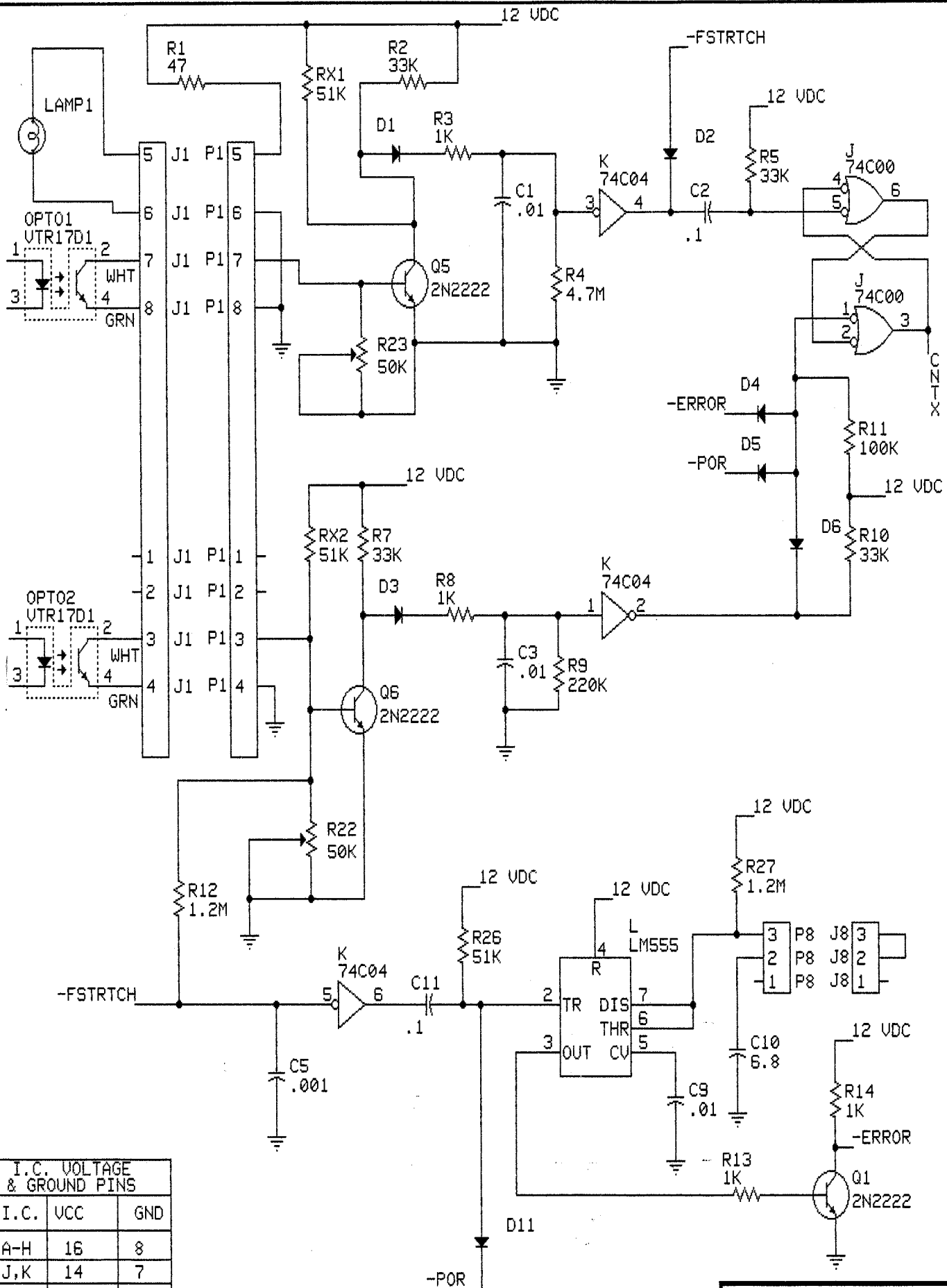
MANUAL

***INCLUDING:*
Troubleshooting Guide
Parts List & Diagram**



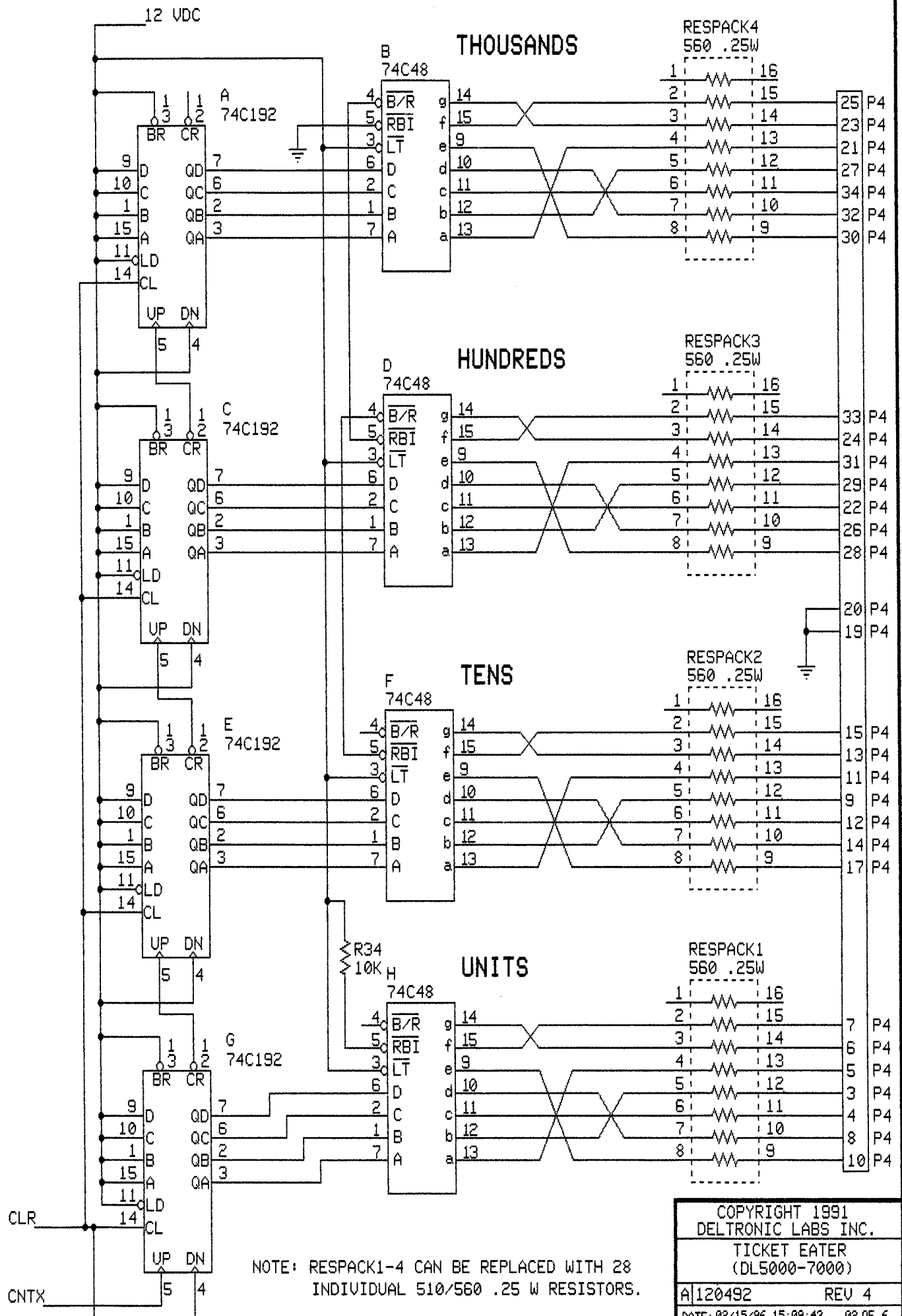
Please do not hesitate to contact us with questions.

Date of last revision: 1/25/01



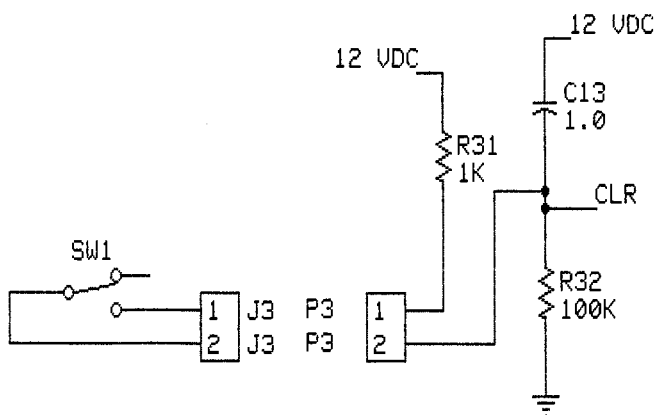
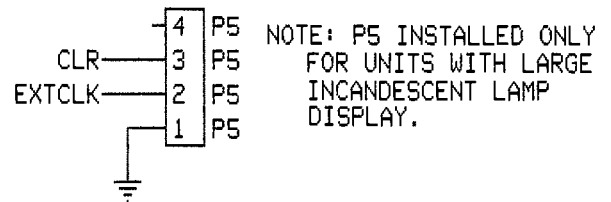
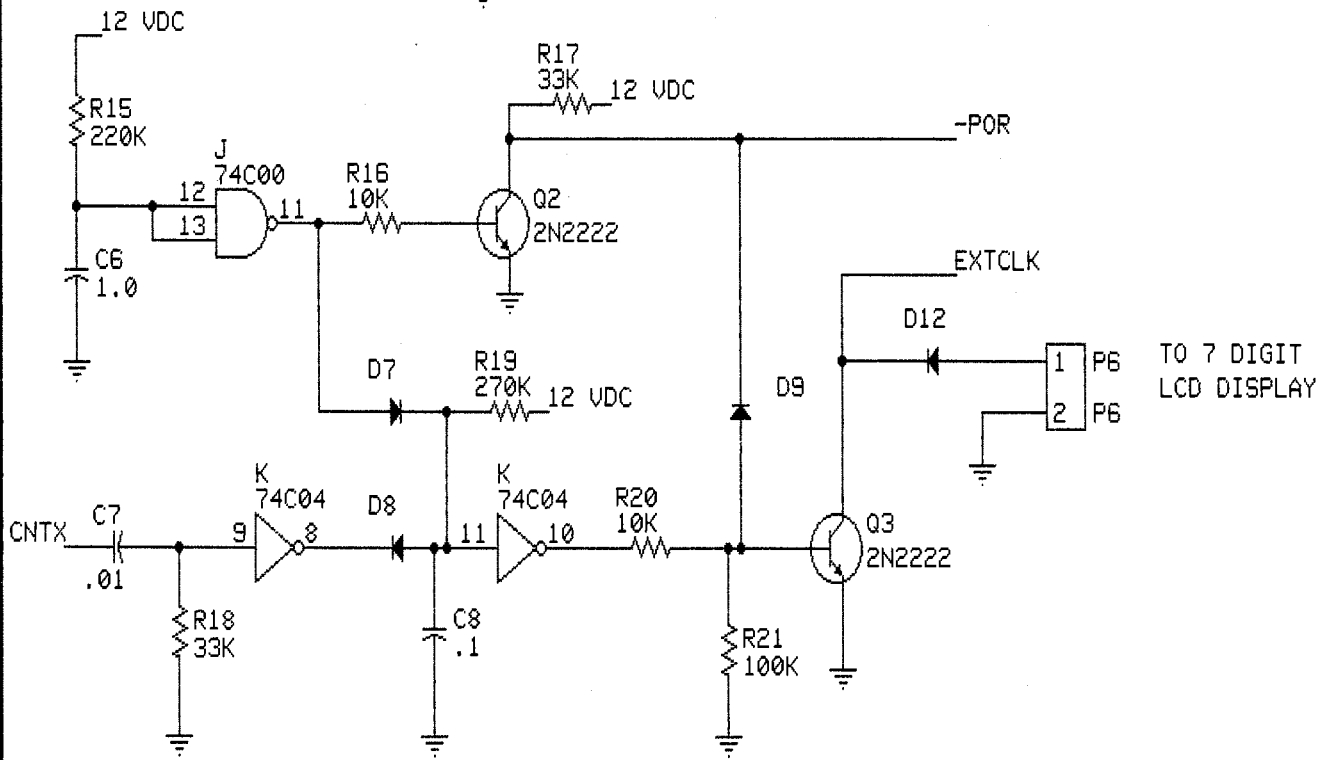
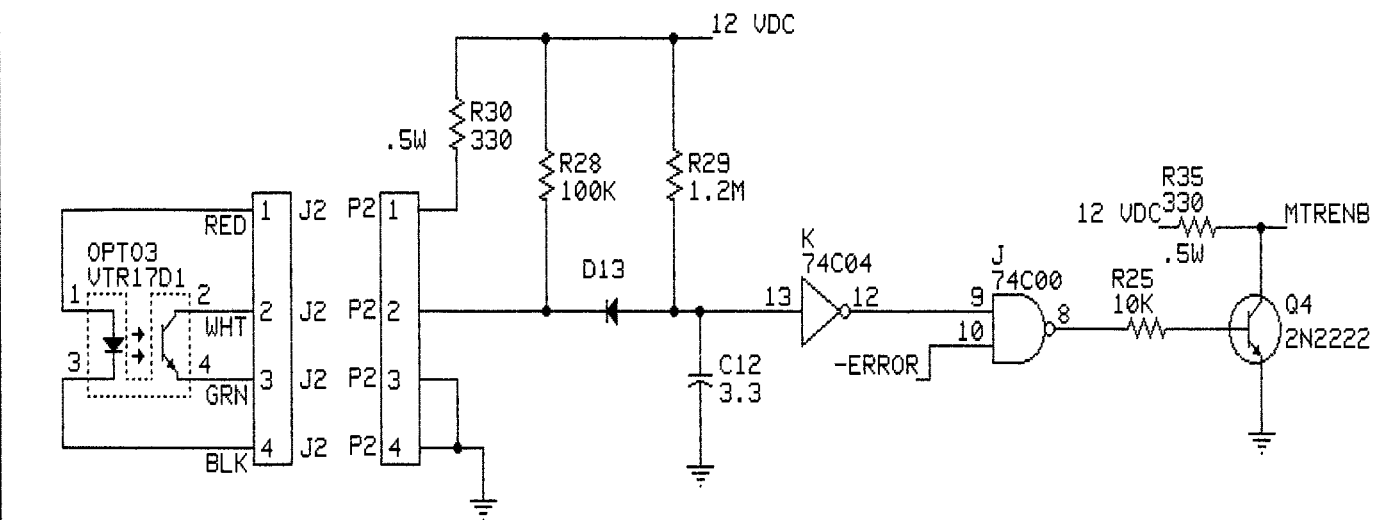
I.C. VOLTAGE & GROUND PINS		
I.C.	VCC	GND
A-H	16	8
J,K	14	7
L	8	1

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 TICKET EATER
 (DL5000-7000)
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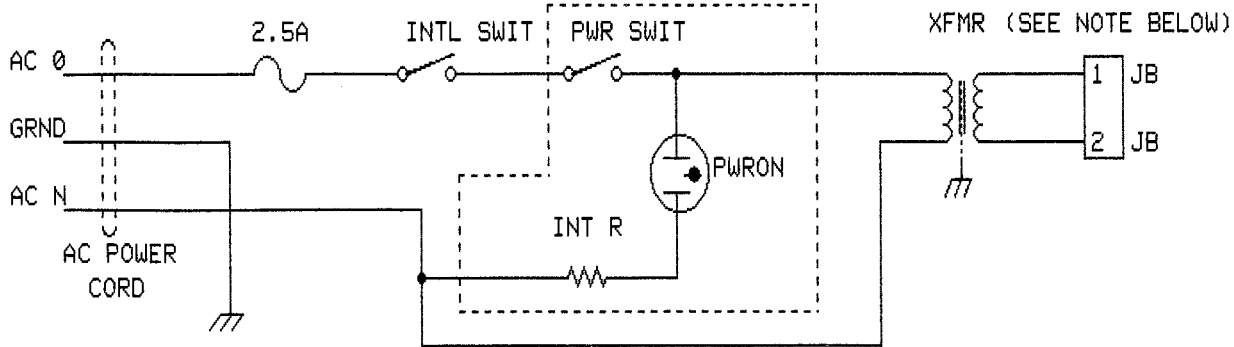


NOTE: RESPACK1-4 CAN BE REPLACED WITH 28 INDIVIDUAL 510/560 .25 W RESISTORS.

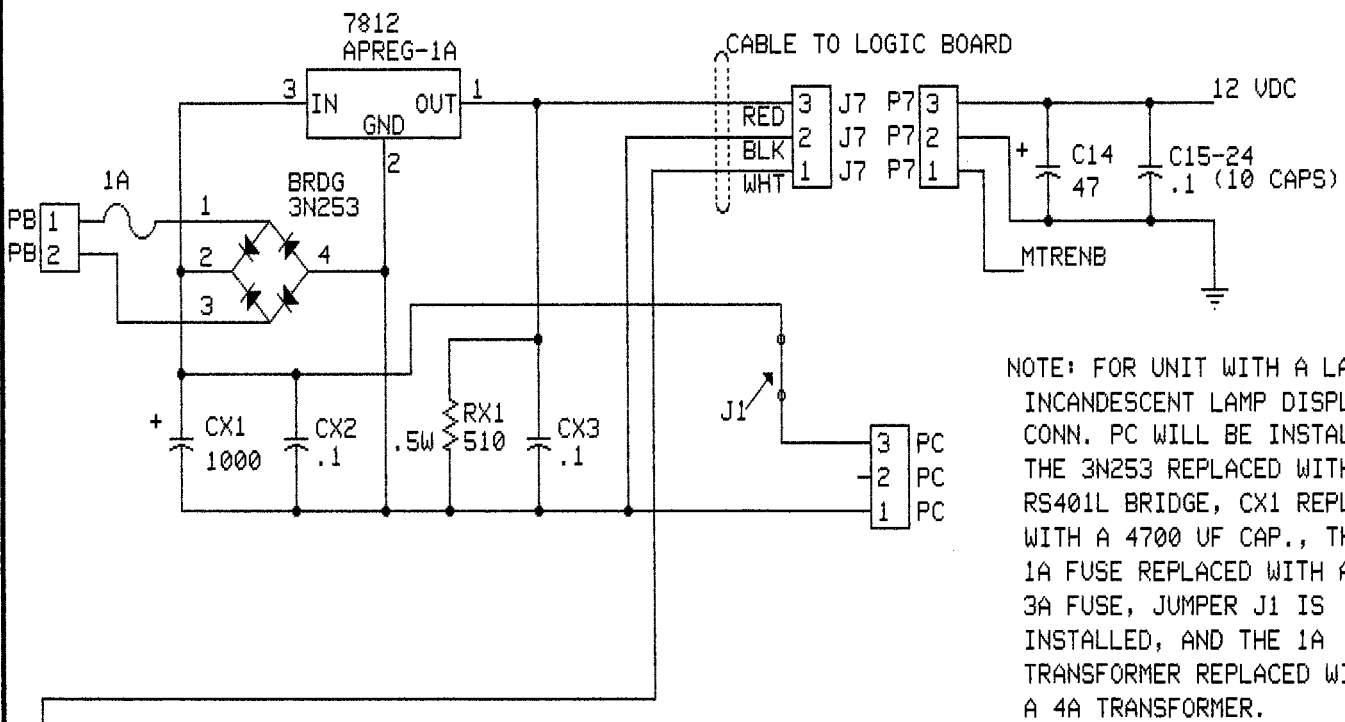
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AC POWER IN CIRCUIT



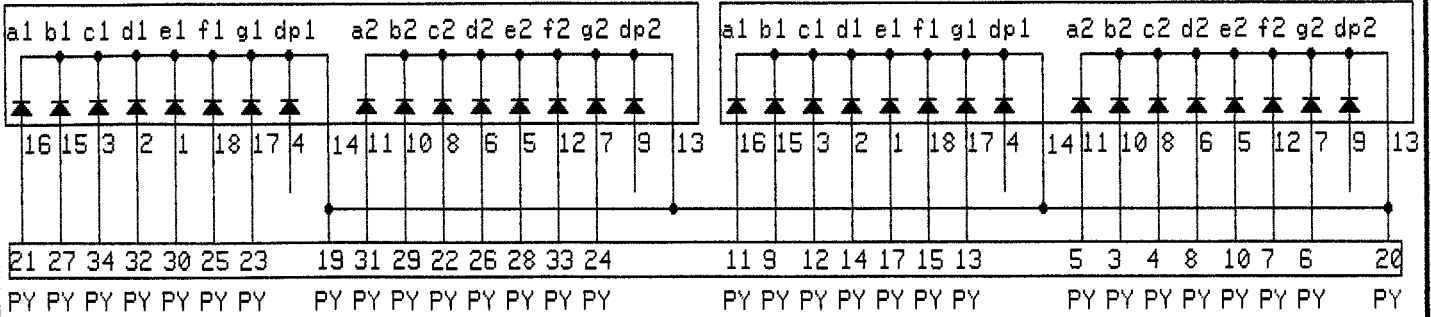
NOTE: FOR UNIT WITH A LARGE INCANDESCENT LAMP DISPLAY, CONN. PC WILL BE INSTALLED, THE 3N253 REPLACED WITH A RS401L BRIDGE, CX1 REPLACED WITH A 4700 UF CAP., THE 1A FUSE REPLACED WITH A 3A FUSE, JUMPER J1 IS INSTALLED, AND THE 1A TRANSFORMER REPLACED WITH A 4A TRANSFORMER.

DC POWER SUPPLY AND TRIAC DRIVER CIRCUITS

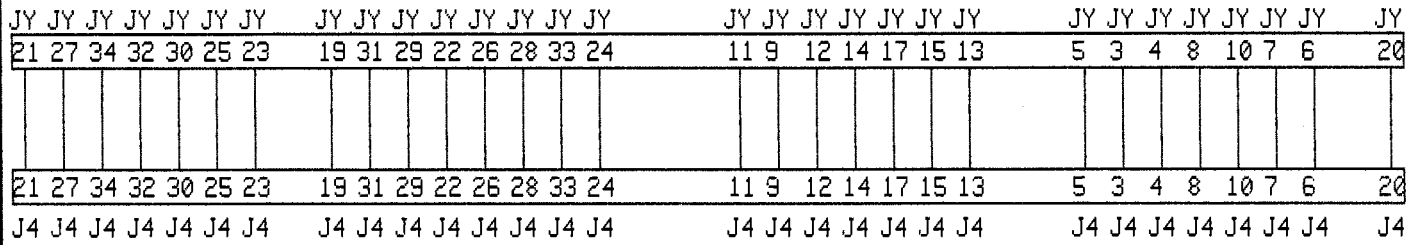
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DSPB

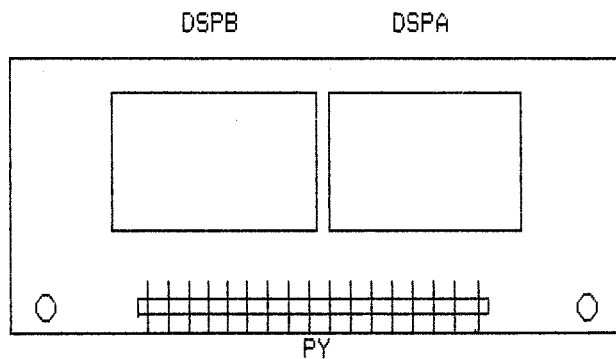
DSPA



FOUR DIGIT LED DISPLAY SCHEMATIC

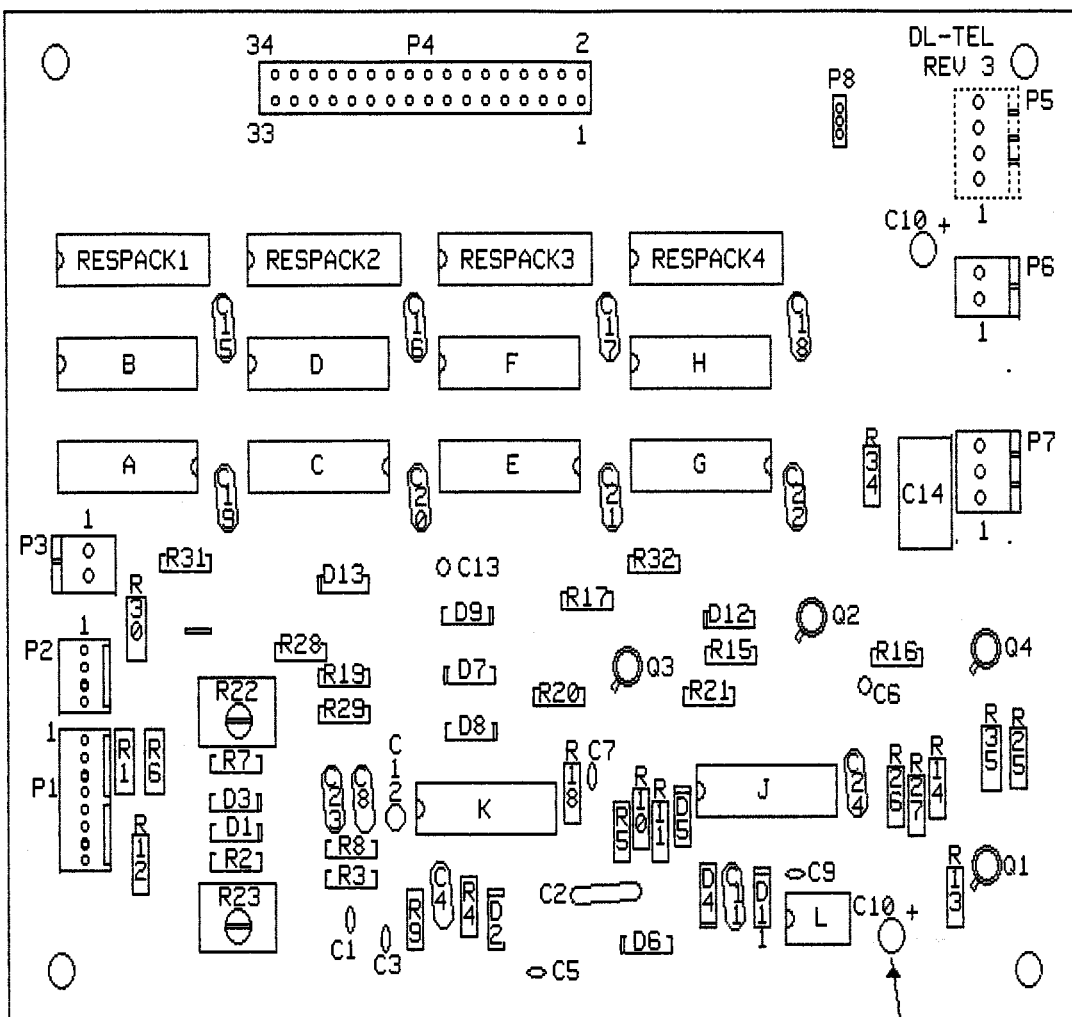


RIBBON CABLE, LOGIC BOARD TO LED DISPLAY



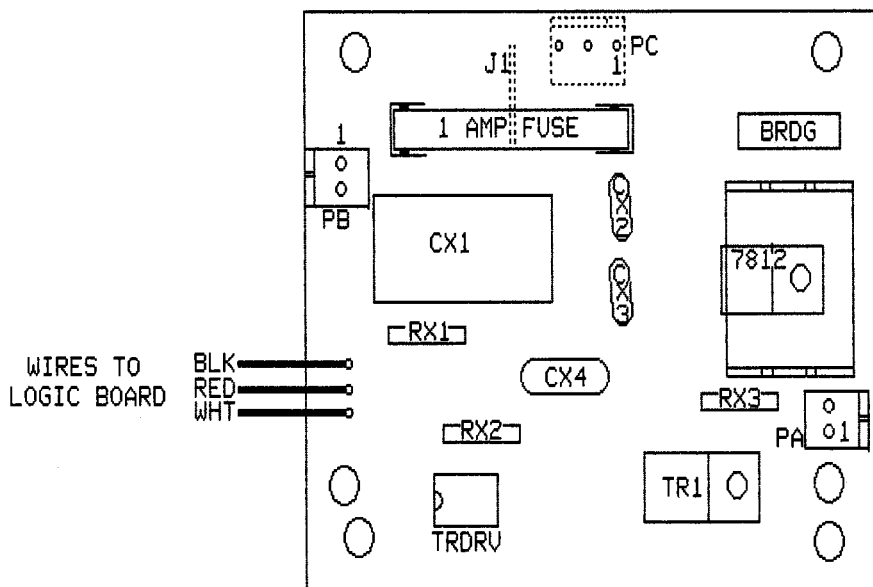
FOUR DIGIT DISPLAY BOARD LAYOUT

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 (DL5000-7000)
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LOGIC BOARD LAYOUT

NOTE: C10 LOCATED HERE FOR REV. 1 & 2



POWER SUPPLY BOARD LAYOUT

NOTE: FOR UNIT WITH A LARGE INCANDESCENT LAMP DISPLAY, CONN. PC WILL BE INSTALLED, ON THE POWER SUPPLY PCB, THE 3N253 REPLACED WITH A RS401L BRIDGE, CX1 REPLACED WITH A 4700 UF CAP., THE 1 AMP FUSE CHANGED TO 3 AMPS, JUMPER J1 INSTALLED. CONN. P5 WILL BE INSTALLED ON THE LOGIC PCB, AND THE 1 AMP TRANSFORMER REPLACED WITH A 4 AMP TRANSFORMER.

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TICKET EATER (DL5000-7000)	
A120492	REV 3
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TICKET EATER ® Error Detect Switch

The DELTRONIC LABS, TICKET EATER ® includes an error detect circuit which, for the convenience of the customer, can be enabled or disabled. This circuit works by detecting the speed and direction of the tickets going through the unit. This circuit was designed into the unit on the belief that the only reason an operator would hold onto the tickets and pull them backwards was to cheat the unit and get a false count. Therefore, if this circuit is enabled and the tickets go through the unit too slowly or backwards then the circuit is triggered which shuts down the motor and disables the unit for about ten seconds. This will discourage any cheating.

However, in many instances (especially when first receiving a ticket eater), the operator may trigger this circuit accidentally from lack of experience. Therefore the unit is shipped with this circuit disabled (ERROR DETECT Switch in the OUT position). A customer, after his operators have adjusted to the method of feeding tickets, can enable this function by simply placing the ERROR DETECT switch in the IN position.

Referring to the "LOGIC BOARD LAYOUT" drawing, the OUT position is with the two pin jumper plugged into the top two pins of P8, where as the IN position is with the jumper plugged into the bottom two pins of P8. If you have any questions or comments on this modification, please don't hesitate to contact us at **DELTRONIC LABS at 215-997-8616.**



Ticket Eater (DL-5000 thru DL-7000) Troubleshooting Guide) REV.4

1. Unit runs constantly.

Disconnect the single optocoupler from the logic board via the four pin connector (P2) If the unit connector (P2) If the unit continues to run then return for repair. If the unit turns off then the problem is probably due to sensing of external lighting. In this case, try the following:

- A. Somehow shade the unit from the light.
- B. Decrease the light from over the unit.
- C. Reposition or relocate the unit.
- D. Change the sensitivity resistor of the ticket detect optocoupler on the unit's logic board (R28 in diagram). Lower the value of this resistor to 51K to decrease the unit's sensitivity to external lighting by a factor of two.
- E. If problem persists, then the optocoupler may be defective and require replacement.

2. Unit doesn't start.

- A. Check fuses and AC plug.
- B. Unit has an error detect circuit which (if enabled) disables the motor from turning on for about 10`seconds..Ensure that enough time is being allowed before trying to insert tickets. Also, try disabling this circuit by placing the ERROR DETECT CIRCUIT JUMPER in the OUT position. (See ERROR DETECT SWITCH sheet).
- C. Increase ticket detect optocoupler's sensitivity to the ticket by increasing the circuits sensitivity resistor to 150K (R28 in diagram). This also increases the units sensitivity to external lighting (see 1D) above.

3. Unit doesn't count properly.

- A. Ensure that the tickets being used are of the proper width (1 5/32"). If not, then return the unit along with samples of the tickets being used for proper width adjustment.
- B. Ensure that the dual optocoupler's tabs are centered on the bracket's mounting slot. Also, ensure that the two couplers are in line with each other.
- C. Clean ticket eater of dust and debris. Check unit for any obvious mechanical problems. Check that all thumbscrews are tightened properly. This procedure should also be done on a periodic basis (e.g., once per week).
- D. If method A thru C don't apply, then adjust the sensitivity of the dual counting optocouplers using the following method:
 - I. Disconnect the two spade lugs connected to the the motor.

CAUTION: SINCE ONE OF THESE LEADS IS CONNECTED TO 110 VAC, FIRST UNPLUG UNIT, THEN DISCONNECT LEAD AND SECURE IN A SAFE POSITION, AND THEN PLUG IN UNIT.

- II. Slide logic board up as far as wires allow. Plug in AC cord and hold interlock switch.
- III. Turn R22 fully CCW. Connect a voltmeter's (on 20 VDC range) positive lead to left side of R7, and negative lead to ground (- side of 47uf capacitor -C14). Insert tickets to block the optocoupler. Meter should read about 12 VDC. Turn R22 SLOWLY CW until meter reading changes to almost 0 volts. Turn R22 CW about 10 degrees more.
- IV. Repeat step 2 using left side of R2 and adjusting R23.

- V. Remove tickets and reconnect motor (SEE CAUTION ABOVE).
- VI. If unit still counts incorrectly, try turning R22 & R23 CW a slight amount more. Repeat as necessary until R22 & R23 are fully CW. If unit still mis-counts, return to factory for repair.

4. Unit doesn't count at all.

Check that incandescent lamp under the internal mechanism lights up properly.

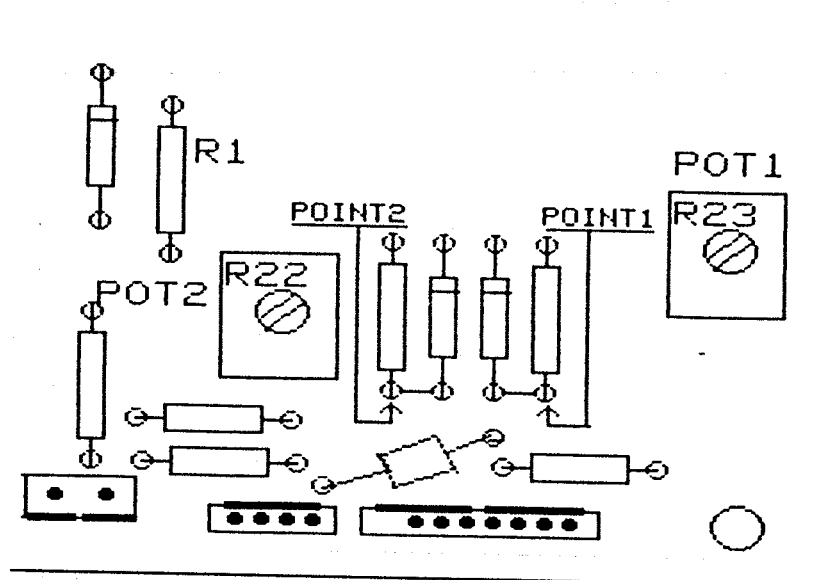
5. Unit stops before reaching the last ticket.

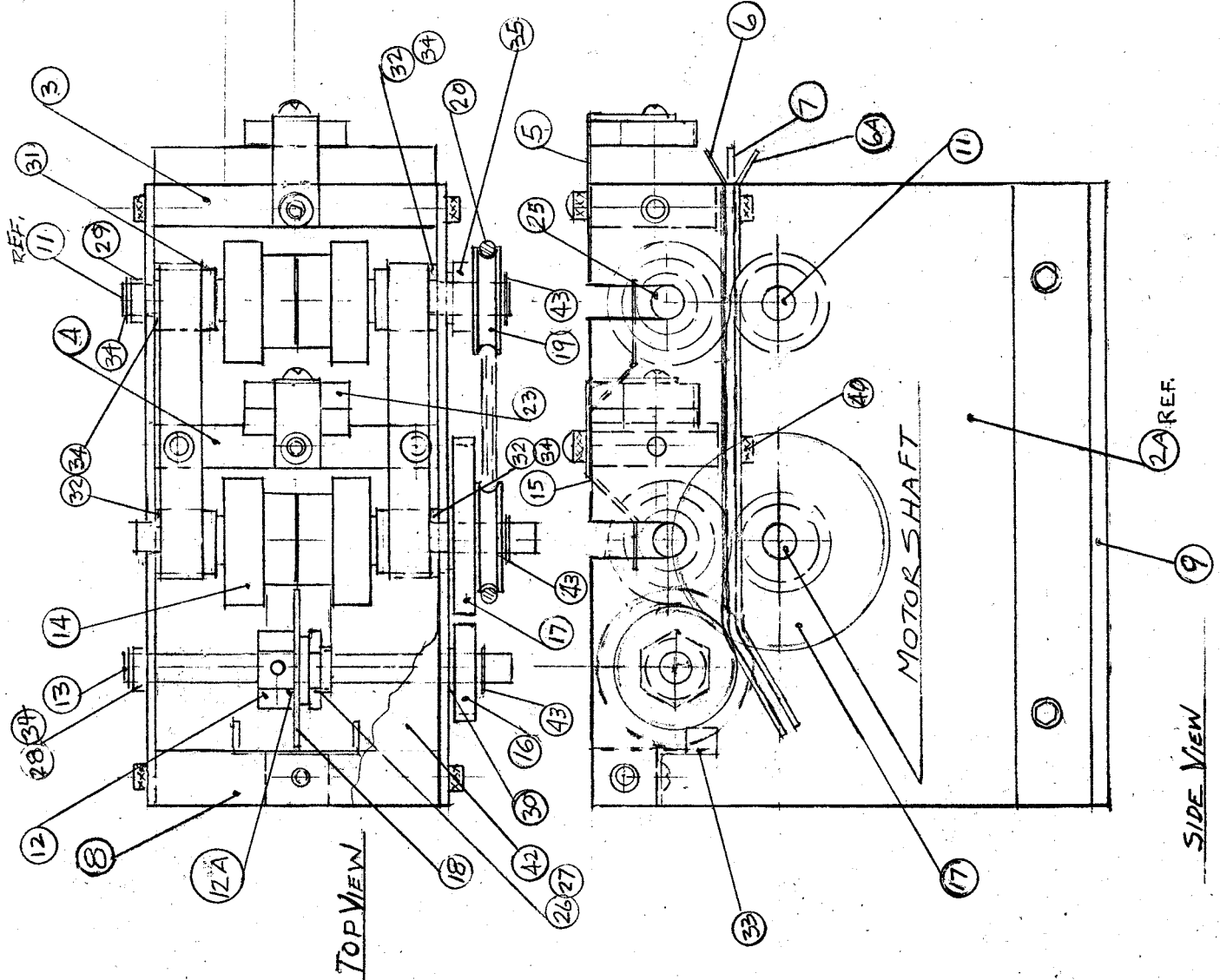
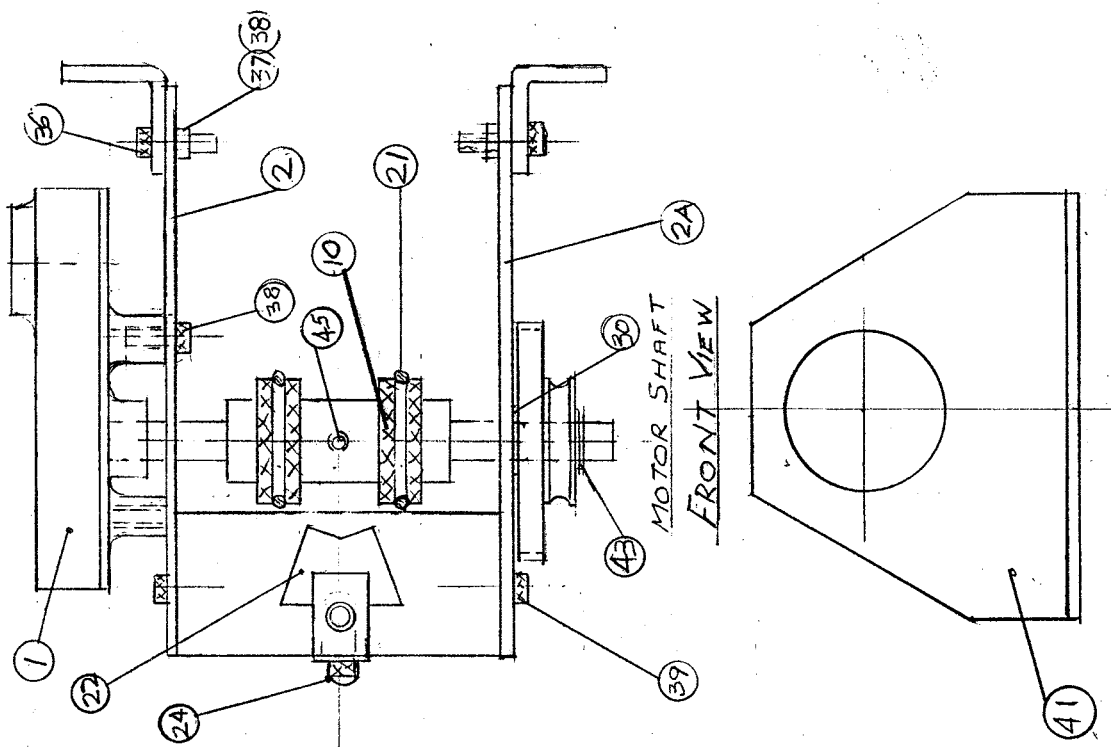
This can be caused by the same conditions as problem #3, so check for those conditions. In addition, the unit will stop if tickets go through the unit too slowly or in reverse. This will only occur if the error circuit is enabled (ERROR DETECT CIRCUIT JUMPER in the IN position). Try setting the ERROR DETECT CIRCUIT JUMPER in the OUT position and run the unit. If the unit now counts properly, then this is the problem. If desired, place the ERROR DETECT CIRCUIT JUMPER back in the IN position and try the following.

- A. Check that the tension springs that push down on the rollers are adjusted properly.
- B. Ensure that the operator is loading the tickets into the unit properly. As soon as the ticket eater takes up the first ticket, the operator must release the tickets and not restrict ticket flow in any way, or the tickets may go through the unit too slowly.

6. Unit jams with tickets.

- A. Check that the exit path after the blade and into the trash bin is free and clear of any obstacles. Any restrictions will cause a jam because of the high speed of the tickets.
- B. Ensure that the receptacle is large enough to accept the tickets exiting in the rear. Again, the speed of the tickets contributes to this problem since too small a container will not allow the tickets to press down properly.
- C. The ticket guides that the tickets run through have a slight bend at the rear end (near the blade). If this bend is too small, the tickets do not exit at the proper angle. Therefore, ensure that the guides are bent properly and, if necessary, increase the bend slightly.





DELTRONIC FABRS, INC. 120 Liberty Lane CHALFOUNT, PENNSYLVANIA 18914 APPROVED BY: [Signature]		DRAWN BY JW REVISED
SCALE: 1:1 DATE: 7-22-95	TICKET EATER PARTS, TICKET FEED AND CUTTER MECHANISM, ASSY.	
		DRAWING NUMBER



TICKET EATER PARTS

9-1-99

<u>ITEM</u>	<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	1	MOTR - /TE/	MOTOR TICKET EATER
2	1	RM - SDPLLT /TE/ REV4	SIDE PLATE LEFT MOTOR SIDE
2A	1	RM - SDPLRT /TE/ REV4	SIDE PLATE RIGHT GEAR SIDE
3	1	BLOK - FRONT /TE/	FRONT END BLOCK SPACER
4	1	BLOK - CENTER /TE/	CENTER SPACER
5	2	BRKT - SENSOR /TE/	SENSOR BRACKET
6	1	GUID - TOP /TE/ MET	TICKET GUIDES
6A	1	GUID - BOTTOM /TE/ MET	TICKET GUIDES
7	2	RM - SPACER /TE/ REV4	TICKET SPACERS
8	1	BLOK - REAR /TE/	REAR SPACER
9	2	RM - BKTMNT /TE/ ANGL	MOUNTING BRACKET
10	2	ROLR - DRIVE /TE/	DRIVE ROLLER
11	1	SHFT - DRVRLR /TE/	DRIVE ROLLER SHAFT
12	1	RM - ARBORB /TE/	SAW ARBOR -ONLY-
12A	1	BLAD - SAW /TE/ ARBOR	BLADE ASSEMBLY W/ARBOR, 8-31SET SCREW, SAW BLADE, NUT, WASHER.
13	1	SHFT - CUTTER /TE/ REV3	CUTTER SHAFT
14	2	ROLR - IDLER /TE/	IDLE ROLLERS
15	2	SPRG - ROLLER /TE/	ROLLER SPRINGS
16	1	GEAR 32.219 /TE/ SM	GEAR NYLON (SMALL)
17	1	GEAR 52.219 /TE/ LRG	GEAR NYLON (LARGE)
18	1	BLAD - SAW /TE/	SAW BLADE
19	2	GEAR - 219 /TE/	PULLEY NYLON





20	1	BELT - DRIVE /TE/	DRIVE BELT
21	4	RING - O /TE/	"O" RING DRIVE ROLLER
22	1	SENS - SINGLE /TE/ OPTO	SINGLE SENSOR
23	1	**SENS - DUAL /TE/ OPTO **SENS - DUAL /TE/ 3376	SENSOR USED BEFORE SN. 3376 SENSOR USED AFTER SN. 3376
24	5	SCRW - THUMB /TE/ RED	6 -32X3/8 RED CAP THUMBSCREWS
25	2	SHFT - IDLRLR /TE/	IDLE ROLLER SHAFT
26	1	RM - NUTARB /TE/ 5 - 9M	1/2 - 20 X 1/8 NUT
27	1	RM - WASHER /TE/ BLAD	1/2 X 3/4 X .06 NYLON WASHER
28	1	SPAC - 093 /TT/ WSHR	1/4 X 1/2 X .090 NYLON WASHER
29	1	SPAC - 032 /TT/ WSHR	1/4 X 1/2 X .032 NYLON WASHER
30	1	SPAC - 032 /TT/ WSHR	1/4 X 1/2 X .032 NYLON WASHER
31	4	SPAC - 232 /TE/ IDLR	1/4 X 1/2 X 7/16 NYLON SPACER
32	8	SPAC - 032 /TT/ WSHR	1/4 X 1/2 X .032 NYLON SPACER
33	1	RM - BKTTAB /TE/ BEAU	CUTTER GUARD BEAU
34	6	RING - E25RET /TT/	RETAINING RINGS
35	1	PULY - SP212 /TE/ NYL N	1/4 X 1/2 X 3/16 NYLON SPACER
36	4	RM - #8 - 32C /TE/ 1/2	8 - 32 X 1/2 CAP SCREWS
37	4	RM - #8 - 32 /TE/ NUT	8 - 32 HEX NUT
38	4	RM - #8SPSW / TE/	#8 LOCK WASHER
39	6	RM - #6 - 32C /TE/ 3/8	6 - 32 X 3/8 CAP SCREWS
40	6	RM - #6 - 32C /TE/ 1/2	6-32 X 1/2 CAP SCREWS
41	1	RM - BKTMTTR /TE/ SUPP	MOTOR SUPPORT BRACKET
42	1	COVR - CUTTER /TE/ REV2	CUTTER COVER
43	3	RING - SHF - 25 /TE/ 1/4"	RETAINING RING 1/4" SHF - 25
45	2	SCRW - SET /TT/	8 - 32 X 3/16 SET SCREWS

***Serial # and model # **REQUIRED** when purchasing dual sensors





TICKET EATER PARTS 9-1-99

<u>PART NUMBER</u>	<u>DESCRIPTION</u>
SWCH - INLOCK /TE/ CHRY	INTERLOCK SWITCH
CABL - RIBBON /TE/	RIBBON CABLE ONLY
LENS - 2" 4 DIG /TE/ 5 - 7	RED 2" 4 DIGIT FILTER
BLAD - MTRFAN /TE/	MOTOR FAN BLADE
LOCK - /TE/	LOCK 5/8" CAM & KEY
DISP - LED /TE/ 2DGT	2 DIGIT (LED) RO
CHIP - NE555 /YB/	IC CHIP 555
CHIP - 74C04 /TE/ HEX	IC CHIP 74C04
CHIP - 74C48 /TE/	IC CHIP 74C48
CHIP 74C192 /TE/	IC CHIP 74C192
CHIP - 74C00N /TE/	IC CHIP 74C00N
FUSE -3 AG /TE/ 1 AMP	FUSE BAG 1 AMP
FUSE - 3 AG /TE/ 2.5 A	FUSE BAG 2.5 AMP
PCBD - LOGIC /TE/ REV 4	T/E LOGIC PCB R. 4
PCBD - PWRSUP /TE/	T/E POWER SUPPLY PCB
TRF4 - 1FG010 /TE/ 1 AMP	TRANSFORM 41FG010
RM - CNTKTR /TE/	INTERNAL TICKET COUNTER
PCBD - TEDCBL /TE/ 5&6M	4 DIGIT 1" DISPLAY / CABLE
SWCH - RESET /TE/ NUT	SWITCH RESET WITH NUT DL - 5000
BUTN - RESET /TE/ CAP	RESET BUTTON CAP ONLY DL - 5000
SWCH - ALCO /TE/ ONOF	SWITCH POWER / ON





TICKET EATER PARTS
9-1-99

<u>PART NUMBER</u>	<u>DESCRIPTION</u>
TRF - P8641 /AD/	TRANSFRM P8641 (6000, 7000)
RM - TKTSHF /TE/	TICKET SHELF
CHUT - TICKET /TE/ 5 - 7 M	TICKET CHUTE 5000
RM - TKTCHU / TE/ 8 - 9 M	TICKET CHUTE (8000, 9000)
COVR - TKCHUT /TE/	TICKET CHUTE COVER
RM - CNTCOV /TE/ REV2	DISPLAY CASE 5000
RM - POWCOR /TE/ 8'	LINE CORD 5 - 7000
RM - POWCOR /DC/ 9000	LINE CORD 8 - 9000
RM - CASE + C /TE/ D2 - 4	DISPLAY CASE - 9000
TKET - 9000 /TE/ D2 - 4	4" DISPLAY WITH CABLE - 9000
LENS - 2' 4 DIG /TE/ 8 - 9 M	2' 4 DIGIT FILTER LENS (RED)
RM - SWIBUT /TE/ BIK	PRINT BUTTON DL - 9000
RM - SWIBUT /TE/ RED	RESET BUTTON DL - 9000
KEY - SET /TT/	SET OF 2 KEYS
LAMP - 73	1 BULB IN TE LIGHT KIT DL-5000 & 6000
LAMP - 73	DL - 9000 DISPLAY (20 PER DISPLAY)
LAMP - 74	DL - 6000 DISPLAY D2 - 4 (20 PER DISPLAY)





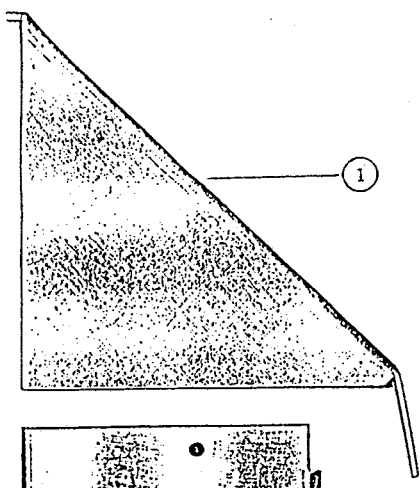
- #1 COVR-TKCHUT /TE/ TE TICKET CHUTE COVER REV5
- #2 COVR-CUTTER /TE/ REV2 CUTTER COVER REV2
- #3 CHUT-TICKET /TE/ 5-7M TICKET CHUTE TE5000 REV1
- #4 RM-SDPLRT /TE/ REV4 SIDE PLATE RIGHT REV4 (GEAR SIDE)
- #5 RM-SDPLLT /TE/ REV4 SIDE PLATE LEFT REV4 (MOTOR SIDE)
- #6 BRKT-MOTGER /TT/ ANGL LEFT SIDE MOTOR MOUNTING BRACKET
- #6 BRKT-MOTSID /TT/ ANGL RIGHT MOTOR SIDE MOUNTING BRACKET
- #7 GUID-BOTTOM /TE/ MET TE BOTTOM TICKET GUIDE
- #7 GUID-TOP /TE/ MET TE TOP TICKET GUIDE
- #8 RM-SPACER /TE/ REV5 TICKET SPACER
- #9 BLOK-REAR /TE/ TE REAR SPACER BLOCK
- #10 BLOK-CENTER /TE/ TE CENTER SPACER BLOCK
- #11 BLOK-FRONT /TE/ TE FRONT END SPACER BLOCK
- #12 ROLR-ASSMBY /TE/ IDLR TE IDLER ROLLER ASSEMBLY
- #13 ROLR-DRIVE /TE/ TE DRIVE ROLLER
- #14 BELT - DRIVE /TE/ TE DRIVE BELT
- #15 SCRW - THUMB /TE/ RED TE THUMB SCREW RED
- #16 RM-#8-32C /TE/ 1/2 #8-32 x 1/2 CAP SCREW
- #17 RM-#8-32C /TE/ 3/8 #8-32 x3/8 CAP SCREW BLACK
- #18 RM-#6-32C /TE/ 1/2 #6-32 x 1/2 CAP SCREW BLACK
- #19 RM-#8 FLTW /TE/ #8 FLAT WASHER



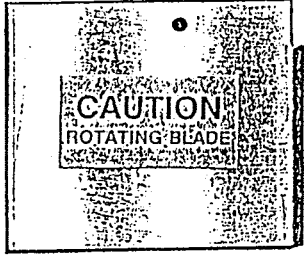


#20	RM-#8 SPSW /TE/	#8 SPLIT LOCK WASHER
#21	RM-#6 LOCW /AD/	#6 LOCK WASHER
#22	RM-#8-32 /TE/ NUT	#8-32 HEX NUT
#23	GEAR - .219 /TE/	PULLEY GEAR .219
#24	GEAR - 32.219 /TE/ SM	SMALL SPUR GEAR 32.219
#25	GEAR - 52.219 /TE/ LRG	LARGE SPUR GEAR 52.219
#26	RING-E25RET /TT/	RETAINING RING E-25
#27	SPAC-093 /TT/ WSHR	SPACER WASHER 093
#28	SPAC-032 /TT/ WSHR	SPACER WASHER 032
#29	RING-SHF-25 /TE/ 1/4	RETAINING RING 1/4" SHF-25
#30	SPRG-ROLLER /TE/	ROLLER SPRING REV4
#31	BLAD-MTRFAN /TE/	TE MOTOR FAN BLADE
#32	SHFT-CUTTER /TE/ REV3	CUTTER SHAFT REV3
#33	SHFT-DRVRLR /TE/	TE DRIVE ROLLER SHAFT REV2
#34	RM-ARBORB /TE/	BLADE ARBOR ONLY
#35	BLAD-SAW /TE/	SAW BLADE ONLY
#36	RM-WASHER /TE/ BLAD	WASHER (PLASTIC) FOR BLADE ASSE.
#37	RM-NUTARB /TE/ 5-9M	HEX NUT 1/2"-20 5/8"x 1/8"

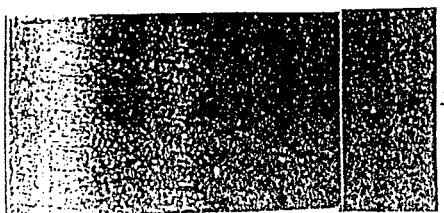




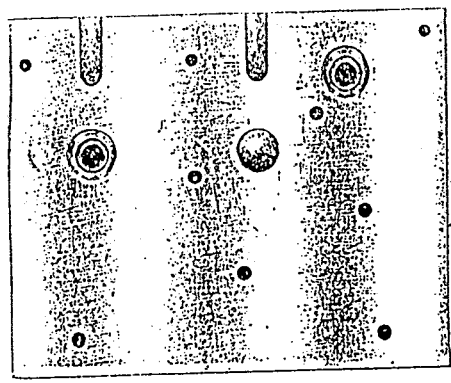
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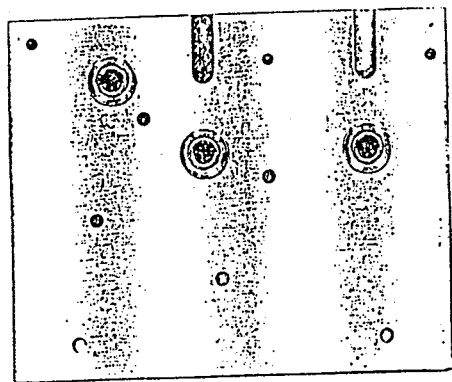


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4

MOTOR SIDE

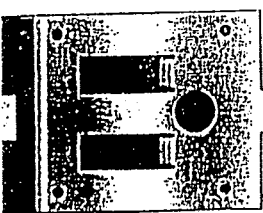


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GEAR SIDE



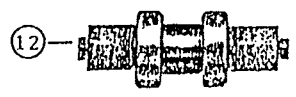
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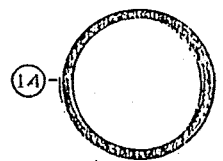
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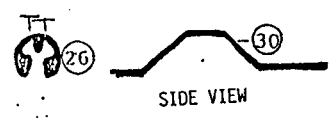
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13



14



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SIDE VIEW



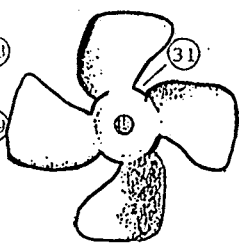
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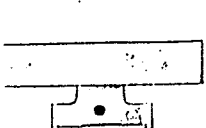
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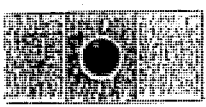
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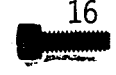
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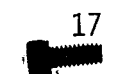
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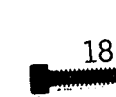
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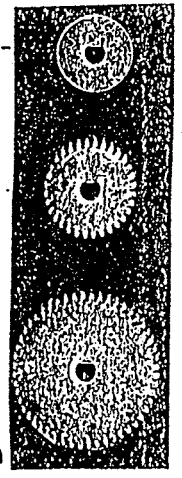
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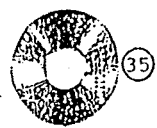
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