Syndicate Printers

# SMART TICKET CENTER™

***Notch Counter***

# MANUAL


*SMART*

INDUSTRIES CORP., MFG.

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(515) 265-9900 ▪ (800) 553-2442 ▪ FAX (515) 265-3148
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Manual P/N 13456


# WARRANTY

Smart Industries Corp., Mfg. warrants this product against defects in material and workmanship, as follows:

For a period of ninety (90) days from the date of retail purchase by the original owner, Smart Industries Corp., Mfg., at its sole and absolute option, may either repair the defective product or replace the defective product with the same model or its equivalent model at no charge through a Smart Industries Distributor.

To obtain warranty service, you must take the product or deliver the product prepaid, to one of the Srnart Industries Distributors. Proof of purchase, in the form of a bill of sale or receipt invoice, which shows that the product is within the warranty Period, may be required to obtain warranty service.

This warranty does not cover cosmetic damage, or damage to any part of the product, which results from acts of God, accident, misuse, abuse, improper maintenance, or connection to an improper voltage supply. All Smart Industries Corp., Mfg. equipment is intended for indoor use only, installing the unit in an outdoor environment also makes this warranty null and void.

This warranty is only valid if the serial number is on the product.
In no event shall Seller be liable for loss of profits, loss of use, incidental or consequential damages.

EXCEPT FOR ANY EXPRESS WARRANTY SET FORTH IN WRITTEN CONTRACT BETWEEN SELLER AND BUYER WHICH CONTRACT SUPERSEDES THE TERMS OF THIS ORDER, THIS WARRANTY IS EXPRESSED IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE SELLERS PART, AND IT NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR THE SELLER ANY OTHER LIABILITIES IN CONNECTION WITH THE SALE OF IT PRODUCTS.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

For your convenience, Smart Industries Corp., Mfg. has established a Technical Service Center to supply you with product or service information.

Smart Industries Technical Service Department
(In Iowa) I-515-265-9900
(Out of Iowa) I-800-553-2442
(Fax) I-515-265-3148

or write to:

Smart Industries Corp., Mfg.
Technical Service Department
1626 Delaware Avenue
Des Moines, Iowa 50317-2938

Smart Ticket Center ™ Manual

Part Number 13458 I Rev. A

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# SECTION ONE:

# GAME SETUP AND INSTALLATION

## WARNING: SHOCK HAZARD

Connect this unit only to a grounded 3 wire outlet. If you have only a 2 wire outlet, we recommend you hire a licensed electrician to install a grounded outlet. Players may receive an electric shock if this unit is not properly grounded! This unit is designed for indoor use only.

## GAME INSPECTION

Your careful inspection is needed to supply the final touch of quality control. Please follow these steps to help us insure that your new unit was delivered to you in good condition.

NOTE: Do not plug unit in yet:

1. Examine the exterior of the unit cabinet for dents, chips, or broken parts,
2. Unlock and open the doors, inspect the interior of the unit as follows:

Check that all plug-in connector (on the unit harness) are firmly seated. Re-plug any connector found unplugged. Don't force connector together. The connector are keyed so they only go on in the proper orientation. A reversed edge connector will damage a PCB and will void your warranty. Check that all plug-in integrated circuits on the unit PCB are firmly seated in their sockets. Check the cord for any cuts or dents in the insulation.

## INSTALLATION REQUIREMENTS

| | |
|---|---|
| Foreign: | 200 to 240 VAC @ 50 Hz ( Transformer Option Required ) |
| Domestic: | 110-120 VAC @ 60 Hz |
| Temperature: | 32 (F to 100 (F (0( C to 38 (C) |
| Humidity: | Not over 95% relative |

# REGULATIONS ▪ YOUR RESPONSIBILITY

Your game has been carefully designed and manufactured. Our factory is capable of designing unique features or controls should your jurisdiction regulations require it. The set-up and the daily operation of your unit greatly influence the legal acceptance of your redemption business.

Your responsibilities include:

1. Not to alter or tamper with any factory settings, circuitry or programs without factory authorization. Doing so will null and void your warranty and may be criminal.

2. Checking with the jurisdiction authorities where you are operating, as to any required business license, units license or regulations. (You may also do this through your business legal advisor).

3 Inspect your unit daily to ascertain all mechanisms are properly functioning. All decal's and signs are posted. This will increase the use of the unit.

4. Your fair consideration with the customers is your best long-term repeat business.

# GAME CONTROL LOCATIONS

## Power Switch

The power switch is located on the left inside wall of the upper section.

## Main Fuse

The main fuse is located above the power switch on the left side of the upper section. In the event that this fuse blows, unplug the unit and replace with a 5 Amp, 250 Volt, fast blow fuse. If this blows repeatedly, the unit may have a problem and should be serviced by a qualified technician.

## Trash Can Overflow and Shredder Shutdown

This TRC is equipped with an interlock switch that is designed to stop shredder operation when the trash can is full. The shredder operation stops to prevent tickets from overflowing into the top portion of the TRC. The operation is as follows: When the trash can becomes full the tickets have a tendency to be directed towards the top of the plastic ticket guide. When enough tickets hit this guide, it forces it to rotate on its hinge. When the ticket guide rotates it pushes the roller microswitch, removing power from the shredder reader board. To reset the TRC simply empty the trash can and flip the ticket guide to its normal position. If the shredder happens to shut down with tickets in the mouth, after resetting guide simply press the motor run button located on the left front of the reader board. Credits will remain on the display and will not be lost, although a receipt may print automatically depending on the tarry time-out setting (default 30 seconds).

## Shredder Fuse

The shredder fuse is located in the upper left side cabinet, approximately 8 inches behind the main fuse holder. In the event that this fuse blows, unplug the unit and replace with a 1 Amp, 250 Volt, slow blow fuse. If this fuse blows repeatedly, the shredder may have a problem and should be serviced by a qualified technician.

## Safety Interlock Switch

The Ticket Center is equipped with a switch to switch off power to the unit when the main door is opened. This switch is located on the left side of the upper section. During service operations, it may be necessary to have power on while the door is opened. In this case the switch can be overridden by pulling out on the actuator. The safety interlock switch should only be overridden during service operations and only by qualified technicians.

## Volume Control

The volume control is a small blue knob located near the center of the sound board. Turn clockwise to increase the volume. See " Component Board Assembly" in Section Five for location.

## Service Mode.

Press the red button, located above the power switch and main fuse, to enter into service mode. The machine should respond "select". This is your prompt to select one of the service functions that will be scrolling across the display. I the keypad to make selections, Once you select one of these functions you may be prompted to make another selection. The entire service mode is menu-driven, allowing you to access all machine information without a manual, if necessary Section three contains an outline of the service mode menu, and examples of hard copy reports.

# SECTION TWO:

# THEORY OF OPERATION

# COMPONENT OVERVIEW

## Game Overview

The Smart Ticket Center ™ is a high volume ticket acceptor/shredder that allows a customer to tally redemption tickets and receives a receipt to redeem for prizes at the redemption counter. A double coin mechanism ( or optional dollar bill acceptor) allows the customer to purchase additional credits, The unit features a bar code reader for identifying ticket value and location using a bar code printed on the redemption ticket. The center also features voice messaging, a complete bookkeeping mode, and program.

## Shredder Overview

The heart of the Smart Ticket Center ™ is the ticket shredder, located in the upper cabinet of the unit. The shredder will accept, slice, and separate tickets while scanning information off of the bar coded tickets. Photo-eyes located in the front of the shredder unit activate the shredders motor. These photo-eyes sense the shape and presence of the tickets. The shredder accepts tickets and moves them through a set of feeder belts. The ticket is detected by an optical notch counter, then scanned by a bar code reader. This information is then processed by the ticket reader board, and credits are communicated to the main control board. The tickets are then sliced lengthwise by two rotating cutter blades, then separated from adjacent tickets by a set of rip rollers, after which, the ticket waste falls into a garbage can that can be easily removed and emptied.

## Printer Overview

The printer installed in the Smart Ticket Center ™ is an IPI Model 70. This printer is of the dot matrix type with a cartridge ribbon. The printer has an automatic cutter and presenter. Communication to the main board is connected through a parallel interface.

A service manual for the printer is provided with the game which describes routine maintenance. Replacement printer parts should be ordered directly from IPI.

Paper size is as follows: Up to 6" diameter. rolls and 3 1/4" wide( #16 White). Smart Industries recommends that you use paper that has a trade mark or logo pre-printed with fade-out blue color. This inhibits customers from copying receipts.

The printer has a separate power switch and internal fuse. A LED on the right side indicates an error. A low paper detector on the left side of the printer will take the printer off-line if the printer paper is low.

The Smart Ticket Center ™ is supplied with 1 roll of paper, pre-printed with Smart Industries' logo. Additional rolls of this paper are available through Smart Industries Parts Department. For custom receipt paper orders we suggest:

Printing Technologies
4653 Oakwood Lane
Nazareth, PA 18064
Phone: 610-759-2979
Fax: 61 O-746-4732
Attn.: Mark Rubin

Globe Ticket & Label Co.
3435 Empire Blvd. SW
Atlanta, GA. 30354
Phone: 800-525-5968
Fax: 404-762-9260

They require a lead time of up to 20 (twenty) working days from the receipt of camera ready artwork. It is to your advantage to insure the printing be done with a 20% screen with light blue (non-copyable) ink. This will prevent the possibility of duplicating a receipt and using it more than once.

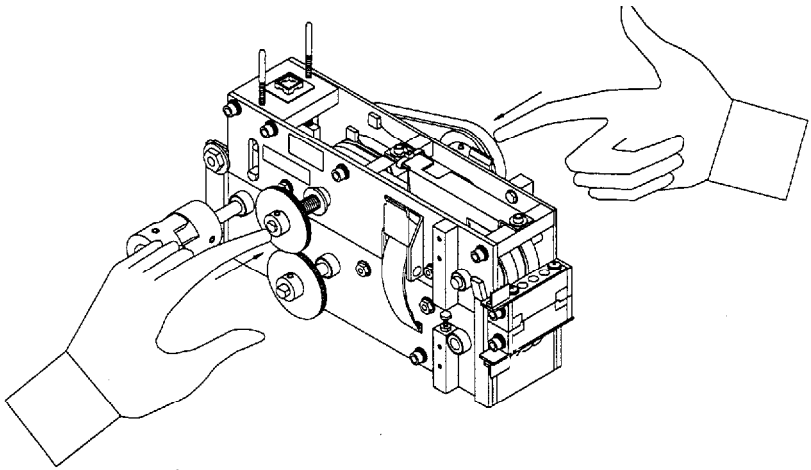
## OPERATING HINTS

1. You must always press inward on shredder gear/pulley to separate the blades when closing the ticket shredder after maintenance. See ***diagram below.***

CAUTION:

>>>PRESS INWARD<<<

ON TOP LEFT GEAR AND RIGHT SIDE LARGE PULLEY



DO NOT SLAM THE TOP DOWN

BLADE ALIGNMENT CRITICAL

2. All optical eye devices should be cleaned and blown-out of all ticket dust and build-up on a regular or daily basis.

3. Empty the trash can anytime it becomes over two-thirds full or on a daily basis. This prevents tickets from backing up into the cabinet.

4. Do not try to lubricate the ticket shredder. All bearings are sealed and permanently lubricated.



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# SECTION THREE:

# GAME ADJUSTMENTS

# SERVICE MENU OUTLINE: Software Version 4.6

The service menu is accessed by pressing the red button above the main power switch. The ticket center will respond by saying "Select." Take the keypad off of the inside wall and hold it while viewing the display on the front door.

PRESS THE STAR BUTTON • TO RETURN FROM MENUS AND TO ENTER VALUES.

## A TEST MENU

| | | |
|---|---|---|
| 1 | *PRINTER* | Prints out a test receipt. Press 1 for another receipt. |
| 2 | *LAMPS* | Lights the lamps in the buttons. |
| 3 | *SWITCHES* | Pressed buttons will be shown on the display.<br>Service Button: Changes display from ***** to _****<br>Receipt Button: Changes display from ***** to ● *_**<br>Coin SW1: Changes display from ***** to ● **_*<br>Coin SW2: Changes display from ***** to ****_ |
| 4 | *READ TICKETS* | Tests ticket counting and shredding at the current ticket security level. The display will show "0 0 0." The left number is the total of tickets accepted as valid tickets. The middle number is the count of ticket strings fed to the shredder, |

## B CREDIT MENU

| | | | |
|---|---|---|---|
| 1 | COIN | | Enter number of credits per coin input. Default is 4. |
| 2 | *BILL* | | Enter number of credits per bill input. |
| | A | $1 .00 | Default is 16. |
| | B | $2.00 | Default is 32. |
| | C | $5.00 | Default is 80. |
| | D | $10.00 | Default is 160. |
| | E | $20.00 | Default is 320. |
| 3 | BONUS | | For A consecutive coins add Y credits. |
| | A | Coins | Number of consecutive coins required for bonus credits. Default is 0. |
| | B | Credits | Number of bonus tickets given for coin bonus. Default is 0. |
| 4 | *TICKET VALUE* | | Enter credit value for each type of ticket. Default is 1. |
| | G - Generic | | Smart Industries bar coded tickets, Set to 0 to turn generic tickets off. |
| | 1 - 9 | | Ticket values 1 through 9 represent the bar code(s) programmed for specific location. The ticket values can be seen on the settings print out, Menu C - 2. |
| 5 | *RECEIPT M/N/MUM* | | Enter the minimum credits required to print a receipt. Default is 0. |

## CONTINUED.....SERVICE MENU OUTLINE: Software Version 4.6

C SETUP MENU

1 PREFERENCES

| | | |
|---|---|---|
| 1 | ATTRACT | Turn the Attract Mode ON or OFF. Default is ON. |
| 2 | TARRY | Set amount of time (SECONDS) for the machine to wait with credits before it automatically prints a receipt, Default is 30. |
| 3 | TICKET SECURITY | Set ticket security to 0 or 1. Security level 0 uses ticket hole sensors only. Level 1 uses ticket hole and ticket bar-code. Default is 1. |
| 4 | SERVICE CREDITS | Turn the service credits ON or OFF. Default is ON. |
| 5 | PRINT BAR BAR | Turn the printing of the receipt barcode ON or OFF. Default is OFF. |
| 6 | BAR CODE | Select the type of bar-code to print on the receipt. 1 is bar-code type 2 or 5. 2 is bar-code type 2 of 5 with check digit. Default is 1. |

NOTE: The 14 digit 2 of 5 bar-code is broken down into 5 parts.
XXX XXX x xxx XXXX
( ( ( ( (
( ( ( ( Number of tickets
( ( ( Receipt Number
( ( Second Digit of Year
( Day of the year counting from 1 to 365. January 1 is 1.
Last three digits of Machine ID#

NOTE: The 14 digit 2 of 5 bar-code with check digit is broken down into 6 parts.
xx XXX X xxx XxXxX
( ( ( ( ( (
( ( ( ( ( Check digit
( ( ( ( Number of tickets
( ( ( Receipt Number
( ( Second Digit of Year
( Day of the year counting from 1 to 365. January 1 is 1.
Last three digits of Machine ID#

| | | |
|---|---|---|
| 7 | VOICE | Select type of voice. 1 is FEMALE and 0 is MALE. Default is MALE. Note: This also requires a chip change on the printed circuit board. For the MALE voice, use chips with check sum numbers 3485 and ECAO for ROM 0 and ROM 1, respectively. For the FEMALE voice, use chips with check sum numbers 7888 and 6553 for ROM 0 and ROM 1, respectively. After this setting has been changed, power cycle the TRC to reset the sound microprocessor. |
| 8 | PRINTER | 1 is New Printer. 2 is Old Printer. Default is 1. (Use old printer option only if new printer option does not print the barcode. This option only affects the barcode on the receiplt.) |

2 PRINT SETTINGS — Prints a list of all of the current Ticket Center settings,
3 RESET — Resets all of the Ticket Center settings to the default values
4 CLOCK
  1 Date: Enter in Month/Day/Year format.
  2 Time: Enter in Hours/ Minutes military format.

**D** AUDIT MENU
1 PRINT — Prints an Audit Report on collection and pay-out,
2 CLEAR — Resets non-permanent audit information to 0.

**E** ADD SERVICE CREDITS — Operator may place credits on the display to reimburse customer

**F** EDIT TEXT
1 RECEIPT — Edits twelve lines of text at the top of the receipt.
2 VALUE — Turns the dollar format ON or OFF. Default is OFF.
3 NAME — Turns Name line on the receipt ON or OFF. Default is OFF.
4 BIRTHDAY — Turns Birthday line on the receipt ON or OFF. Default is OFF.
5 ADDRESS — Turns Address line on the receipt ON or OFF. Default is OFF.
6 PHONE — Turns Phone line on the receipt ON or OFF. Default is OFF.
7 D/SPLAY — Edits message that scrolls across the display.
8 PRINT HELP — Prints out the instructions for editing text with the keypad.

**P** FACTORY MENU
1 INITIALIZE — WARNING: This resets all memory. Press C to Confirm initialization.
2' ID — Enter Machine Identification Number.
3 TICKET CODE — Allows Ticket Center to Read Your Custom Ticket Bar-Code. First, the number of different ticket codes will appear. Press the number 1 through 9 to change that particular code. Press • to confirm the codes that wont be changed. When you get to the ticket number you want to change, Enter the 4 digit ticket code. Press * to confirm the new code.

# TEXT EDITOR

The following is a list of characters available in the text editor:

SP ! " # $ % & ' ( ) * + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ^ _ `
a b c d e f g h i j k l m n o p q r s t u v w x y z { | } ~

*( SP is displayed on the screen as _ )*

The above list can be used to personalize the receipt and/or the display. Note that only upper case letters can be used for the display so when editing the text message one must keep track of which set of alpha characters are in use: upper or lower case. (i.e. lower case letters always appear as upper case on the display even though they will print as lower case on the receipt.)

The following are text editor commands:

A Moves the cursor to the left one position. The cursor will not move any further when it reaches the start of a line.

B Moves the cursor to the right one position. The cursor will not move any further when it reaches the end of a line.

C Scrolls backward through the above list of characters starting from the underlined character on the display.

D Scrolls forward through the above list starting from the underlined character.

E Moves the cursor to the beginning of the previous line.

F Moves the cursor to the beginning of the next line.

G Erases the underlined character on to the end of line.

H Deletes the underlined character.

I Inserts space (SP) in the underlined position which then can be changed to the desired character by using command C or D.

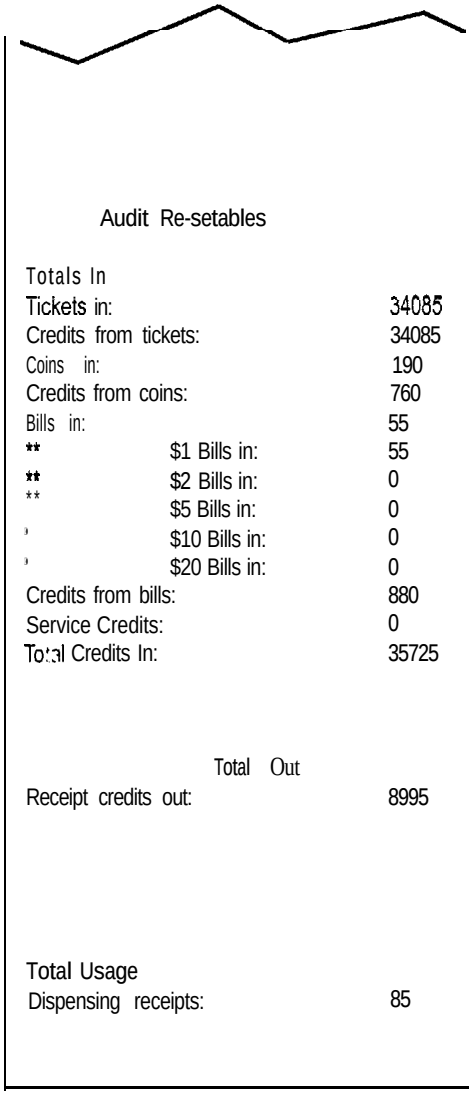
K inserts an upper case M in the underlined position which then can be changed to the desired uppercase letter by using command C or D.

L Inserts a lower case m in the underlined position which then can be changed to the desired lower case letter by using command C or D.

• ***Return to main menu***

## IN/OUT TOTALS HARD COPY EXAMPLE

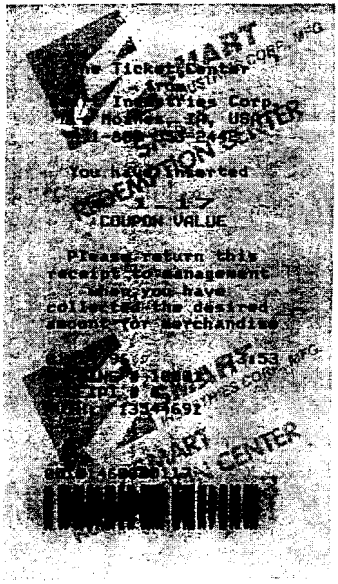
| | | | |
|---|---|---|---|
| AUDIT RECORD # 12 | | | Report number |
| MACHINE | # 2039801 | | Machine ID Number |
| DATE | 1/1/95 | | Date of report |
| TIME | 15:08 | | Time of report ( 24 Hour Clock ) |
| | Audit Non-Re-setables | | Non-re-setable section |
| Totals In | | | Totals into machine |
| Tickets in: | | 408975 | Total tickets |
| Credits from tickets: | | 408975 | Credits given for tickets |
| Coins in: | | 570 | Total coins |
| Credits from coins: | | 2280 | Credits given for coins |
| ** | $1 Bills in: | 400 | Number of one dollar bills entered |
| * | $2 Bills in: | 150 | Number of two dollar bills entered |
| * | $5 Bills in: | 125 | Number of five dollar bills entered |
| ** | $10 Bills in: | 50 | Number of ten dollar bills entered |
| * | $20 Bills in: | 25 | Number of twenty dollar bills entered |
| Total Bills in: | | 750 | Total bills |
| Credits from bills: | | 16500 | Credits given for bills |
| Service credits: | | 0 | |
| Total Credits in: | | 427755 | |
| Totals Out | | | Totals out of machine |
| Receipt credits out: | | 107900 | Total credits given on receipts |
| Total Usage | | | |
| Dispensing receipts: | | 1025 | Usage per device |
| | | | Number of customers receipts printed |



| Audit Re-setables | | | Re-setable section |
|---|---|---|---|
| Totals In | | | Totals into machine |
| Tickets in: | | 34085 | Total tickets |
| Credits from tickets: | | 34085 | Credits given for tickets(Tickets x Multiple) |
| Coins in: | | 190 | Total coins |
| Credits from coins: | | 760 | Credits given for coins(Coins x Multiplier) |
| Bills in: | | 55 | Total bills |
| ** | $1 Bills in: | 55 | Number of one dollar bills entered |
| ** | $2 Bills in: | 0 | Number of two dollar bills entered |
| ** | $5 Bills in: | 0 | Number of five dollar bills entered |
| ** | $10 Bills in: | 0 | Number of ten dollar bills entered |
| ** | $20 Bills in: | 0 | Number of twenty dollar bills entered |
| Credits from bills: | | 880 | Credits given for Bills |
| Service Credits: | | 0 | Credits given by service attendant |
| Total Credits In: | | 35725 | Total number of credits given |
| Total Out | | | Totals out of machine |
| Receipt credits out: | | 8995 | Total credits given on receipts |
| Total Usage | | | Usage per device |
| Dispensing receipts: | | 85 | Number of customers receipts printed |

** These *Audits only* print out for non-zero *bill* values

# RECEIPT EXAMPLE




Operator Programmable Text

Description of Receipt Valve
(Integer / Dollar Format)

Operator Programmable Text
Date / Time (24 Hour Clock)
Machine ID Number
Receipts Given from machine
Code for Receipt Verification

Numeration for Ear Code
(See Setup C.I-5)

2 of 5 Interleaved Bar Code


Operator Programmable Text

Description of Receipt Valve
(Integer / Dollar Format)

Operator Programmable Text
Date I Time (24 Hour Clock)
Machine ID Number
Receipts Given from machine
Code for Receipt Verification

Optional Line for Name

Optional Line for Birthday

Optional Lines for Address

Optional Line for Phone

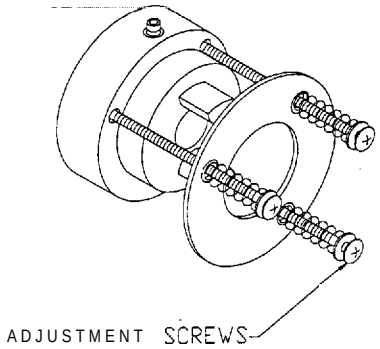
Numeration for Bar Code
(See Setup C.1-5)

2 of 5 Interleaved Bar Code

# CLUTCH ADJUSTMENT

1. Insert a ticket folded to double thickness into the Shredder with the motor on.

2. If the clutch slips easily (indicating the clutch is too loose), or if the drive belt slips instead of the clutch (indicating the clutch is too tight), adjust the screws on the clutch assembly accordingly.




CLUTCH ASSEMBLY

# BELT REPLACEMENT AND ADJUSTMENT

1. If removing the scanner assembly (7179), carefully mark the position of the scanner bracket on the stabilizer bars (7159) with a fine pen or scribe. This must be re-assembled in the same position (FIG. 1).

2. Note the position of the front and rear stabilizer bars relative to the side plates. Both bars should be the same, in one of three positions: flush, low, or high (FIG. 1).

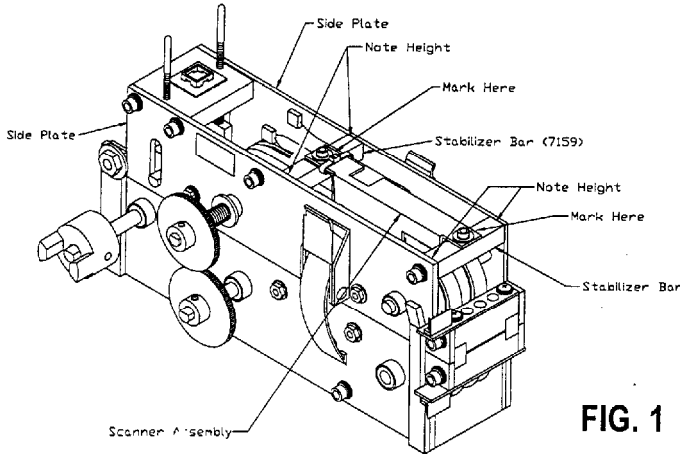



FIG. 1

3. Separate the lower assembly (11579) from the upper assembly (11578) by unhooking the latches and then removing the hinge fasteners (FIG. 2).

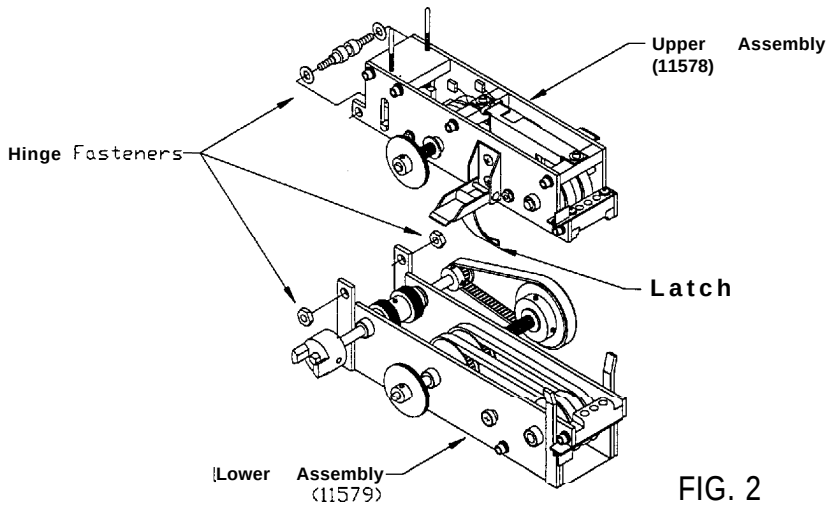



FIG. 2

4. For both the top and bottom assembly, remove gears, pulleys and coupler from ONE side (FIG. 4). Then remove socket-head bolts (FIG. 5), and pull off the side plate assembly (FIG. 6).

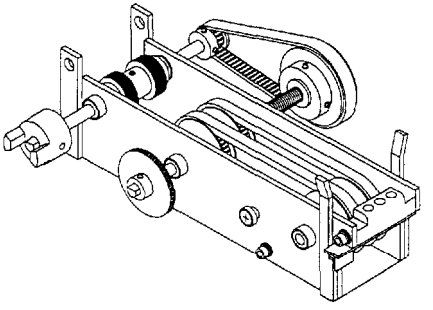


FIG. 3

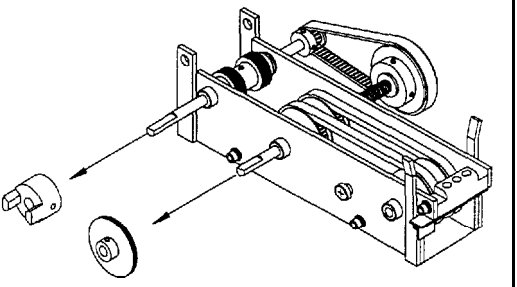


FIG. 4

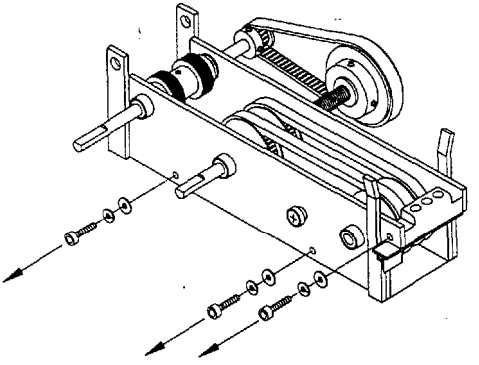


FIG. 5

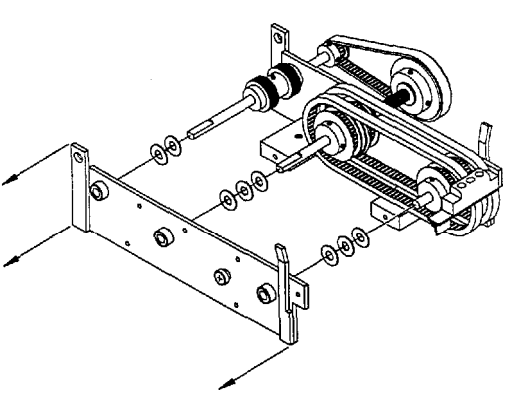


FIG. 6

5. Check thoroughly for worn parts and remove belts. Make sure the proper number of nylon washers is used for each side of each shaft (FIGS. 7 & 8). This is critical to the proper functioning of the shredder.

UPPER ASSEMBLY (11578)

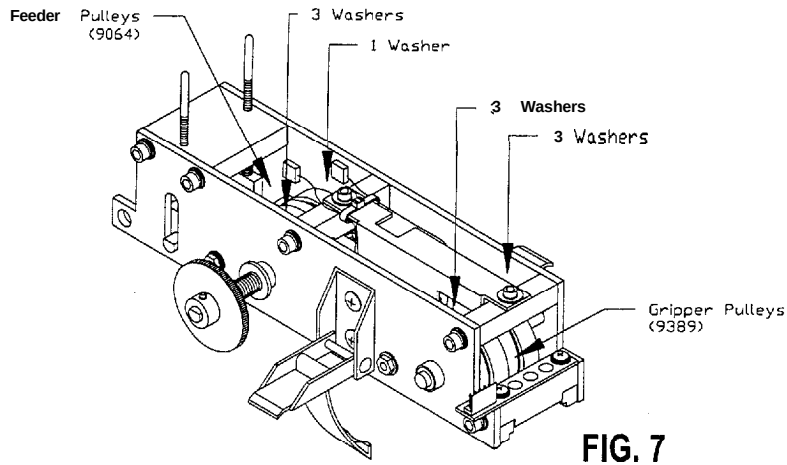



FIG. 7

LOWER ASSEMBLY (11579)

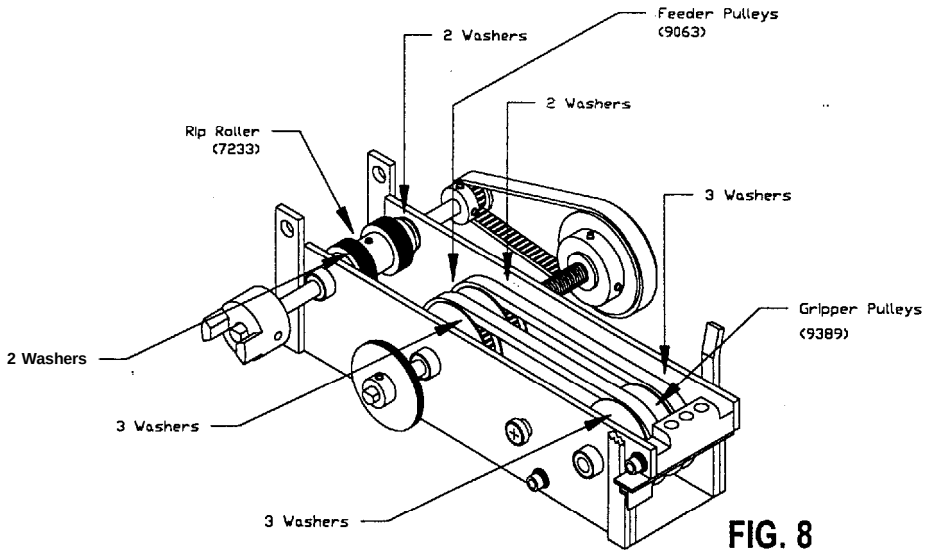



FIG. 8

6. Put new belts on, put the side plate back into position and tighten socket-head bolts SNUG, not tight.

7. Tighten belts by spreading pulleys apart with your fingers. Assure both belts have SAME tension. A quick, easy way to even out the tension is to feed a small wire tie through the tight belt. This moves it just enough to get the two of them even (FIG. 9).

8. Tighten the socket-head bolts, Be very careful not to strip the bolts for the guide/PCB. These should be torqued much less than the others.

Feeding a wire tie through the tighter belt

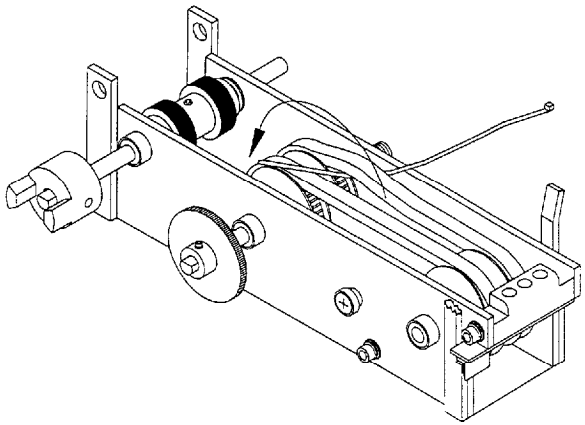


FIG. 9

9. Reattach the top and bottom assemblies. Tighten the hinge bolt so the top assembly holds itself up and allows pivoting by hand.

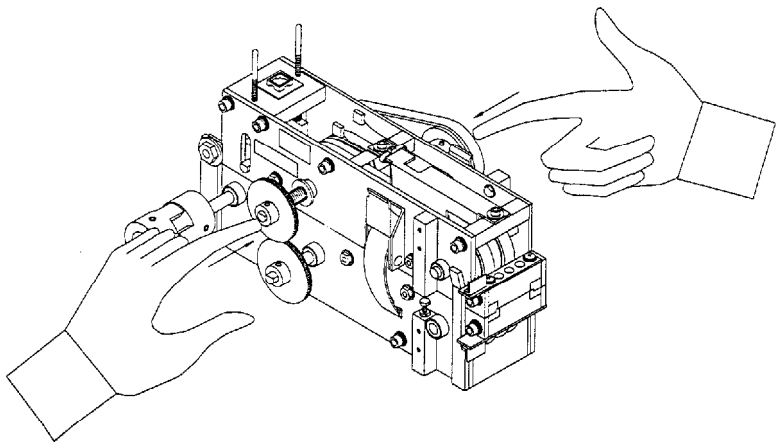
10. PROPERLY close the shredder. If the shredder is not closed properly, it will not function correctly and damage will occur. Care must be taken to align the blades as the top and bottom assemblies are brought together. To close the shredder, push in on the top gear on the left while pushing in on the larger pulley on the bottom right, compressing the springs. Move the top down while squeezing. Once the top is down and the blades are aligned, close the latches (FIG. **10**).

Properly closing the shredder

CAUTION:

>>>PRESS INWARD<<<

ON TOP LEFT GEAR AND RIGHT SIDE LARGE PULLEY



DO NOT SLAM THE TOP DOWN

BLADE ALIGNMENT CRITICAL

FIG.10

11. True up the Shredder: Loosen all the socket-head plate fasteners. Then starting at the back end of the shredder, tighten each socket-head bolt, first on the left, then the corresponding bolt on the right. Work your way up bolt-by-bolt. Do the Guide/PCB last. Remember not to tighten that one too much. If using a power screw driver, set the clutch on the first setting.

12. With the Shredder closed, use a feeler gauge to adjust the gap in the Guide/PCB. The gap should be .025" (FIG. 11).

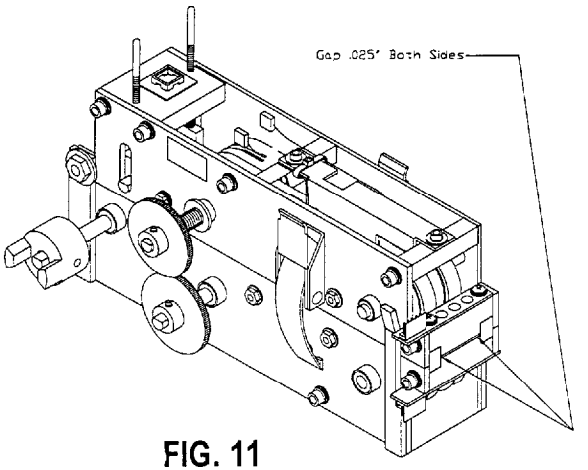
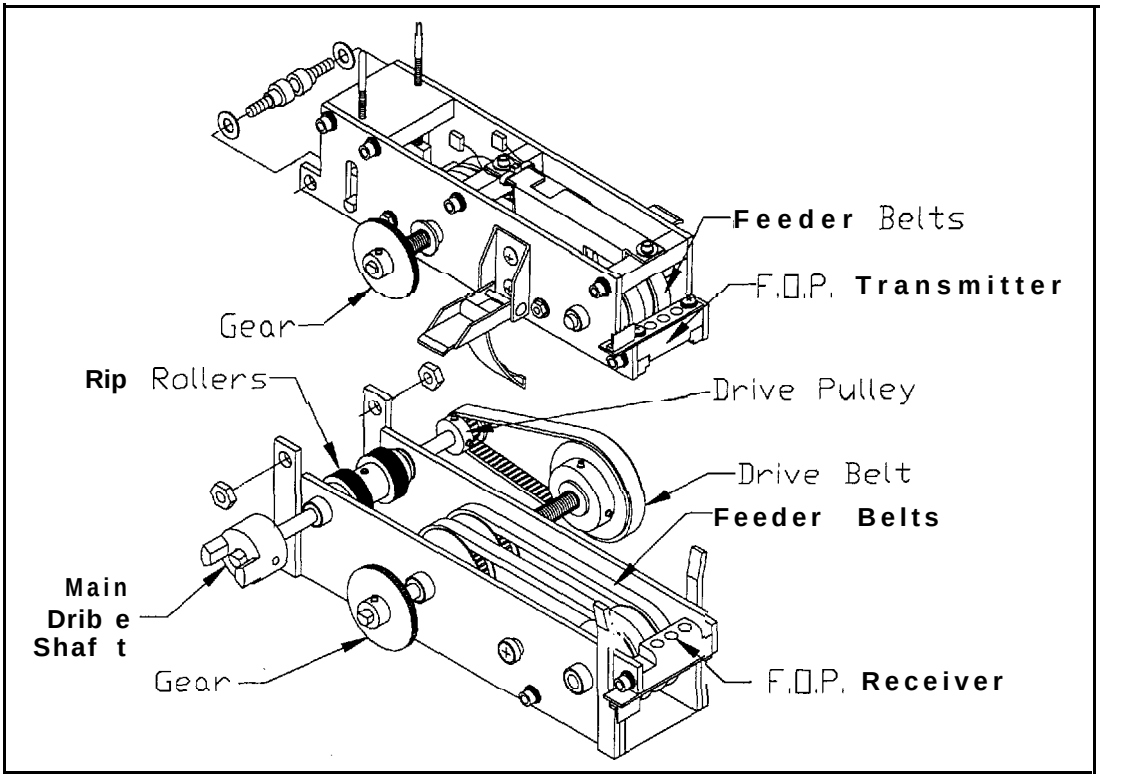



FIG. 11

# SECTION FOUR:

# TROUBLESHOOTING




As with any mechanical device, scheduled maintenance for the Shredder is required. The bearings are self-lubricating and do not require oil. The gear case on the motor does not need any lubrication or maintenance.

The two most important shredder components are the feeder belts and the drive belt. The feeder belts are the belts found inside the shredder and actually come in direct contact with the tickets, The drive belt is the thin black belt on the right side of the shredder that drives the feeding system off of the rip roller shaft. These belts should be inspected for wear and dirt build-up, and should be cleaned or replaced as necessary. The rip rollers are the pair of opposing knurled wheels in the back of the shredder. They operate at a higher rate of speed and separate the tickets. The rip roller in the bottom half of the shredder is attached to the shaft with a roll pin and is driven directly off of the motor. The upper rip roller is an idler that freely spins on a fixed shaft.

When servicing the shredder, it is critical to open and close it properly. If the shredder is not closed correctly **it will not function properly and damage will occur.** Open the shredder by releasing the latches on the sides and pivoting up the top. When closing the shredder, be sure to align the blades! Push the top shaft with the white gear to the right, compressing the spring, and push the lower shaft with the larger belt pulley to the left, compressing the spring, while pivoting the top section down. Once the top section is down in the correct position and the blades are aligned, fasten the latches. (Refer to page 15, Figure 10.)

The cleaner the shredder is, the better it will perform and the longer it will last. To clean, open the side latches and pivot the top section up. Use a small soft bristle brush to sweep the paper particles out of the shredder and into the trash can. Be sure to dust off the bar code read head and the ticket notch counter. Then properly close the shredder following the process as described above. Dust out the shredder every time the trash can is emptied, or even more frequently.

If the shredder becomes jammed with a ticket or foreign object , disconnect the power to the shredder unit. Clear the foreign material from the shredder, check things over, and make sure that no damage occurred. Then properly close the shredder and reestablish power to the shredder unit.

If processed tickets are not sliced, the blades were not aligned the last time the shredder was closed. The shredder needs to be opened and closed again following the proper procedure.

If the shredder is not separating adjacent tickets, or is leaving strings of two or three tickets, the O-Rings *on* the cutter hubs are worn and should be replaced when the shredder is torn down for maintenance. If the shredder is leaving strings of 4 or more tickets, the tickets are slipping at the front gripper wheel or at the rip rollers. First verify the shredder is closed properly and the front gripper wheels are functioning properly by inserting tickets into the shredder and pulling them back out. After verifying the front gripper wheels are functioning property, check the rear rip rollers. If the rip rollers are slipping and leaving long strings of tickets, the rip rollers and I or tensioning springs should be replaced.

If the ticket counting is inaccurate, maintenance is required. First, dust out the shredder as described above. Then, if the shredder is still not counting correctly, check position of the scanner. The distance from the back bar to the back edge of the scanner bracket should be 21/32" (17 mm). The sensor window should be 15/64" (6 mm) up from the bottom edge of the top set of belts. If ticket counting is still not accurate, see page 20 for troubleshooting guide.

# GENERAL TROUBLESHOOTING

## Shredder makes loud clicking noise when feeder motor runs:

1. Verify Shredder has been closed properly. See pages 15 and 19.
2. Check to see if the two plastic gears are lined up properly and teeth are clean.
   *If Not:*
   Loosen set screw and adjust gear horizontally; clean teeth
3. Look for free movement of shafts within bushing.
   *If so:*
   Replace side assembly

## Tickets are jamming:

1. Verify Shredder has been closed properly. See pages 15 and 19.
2. Check to see if front closure of shredder even across entry. Verify a 0.025 inch gap, using feeler gauge on left and right side of the entry.
   *If Not:*
   Adjust equally in small increments.
3. Verify gears and pulleys DO NOT have free movement around the shaft.
   *If so:*
   Tighten set screws or replace shafts or pulleys/gears.
4. Assure upper rip roller tension springs force roller outward. Assure rip rollers are free of ticket debris.

## Tickets do not feed:

1. Press **SW1** on Reader Board briefly. (Approximately 2 Seconds) Does Motor run ?
   YES: Go to next step
   NO: Check shredder fuse. Check AC Harness to J3 pin 1 and 3 to shredder AC input.
   If harnesses check O.K. replace reader board.
2. Verify ticket sensors at entry are operational. See next section for test procedures.
3. Does small drive pulley turn when motor is running ?
   NO: Verify pulley set screw is tight and that pulley is attached to shaft.
   YES: Drive shaft may be broken. Replace rip roller drive shaft.

## Shredder runs continuously:

1. Verify FOP connection. ( Foreign Object Protector )
2. Check for dust in front of the shredder and around the FOP.
3. Press the Reset Button to verify motor operation.

# COUNTING ACCURACY TROUBLESHOOTING

## 1. 1st level evaluation (Visual inspection - Software modes)

### 1.1 Check shredder performance with strings of tickets on software security levels 0 and 1.

(Security level 0 uses hole counter only, security level 1 uses hole counter to count tickets and bar code reader for verification.

If your result is: Accurate on security level 0. Miscounts or not counting on security level 1.

Indicates a problem in the barcode reader or harness. (Miscounting due to a bad barcode read head will typically be more pronounced with single tickets than strings.)
- Replace barcode read head (PIN 6753 ) and/or harness (P/N 7261) or see test procedure for barcode read head for further evaluation.

If your result is: Miscounts or not counting on both security levels 0 and 1.

Indicates a problem in the notch counter.
- Verify that notch counter sensor is dust-free with no visible problems. Test with single tickets as follows:

### 1.2 When above test indicates a problem with the hole counter, test shredder performance with single tickets on security level 0.

If your result is: Accurate with single tickets (and miscounts strings) on security level 0.

Indicates a problem with hole counter alignment to the hole in the ticket.
- Check centering of the hole counter. Open shredder and check with a caliper or check by placing two tickets in the upper ticket guides with the hole over the sensor and visually inspect centering. Adjust scanner bracket if necessary. (A misaligned sensor can also be identified by holding stings of tickets first to one side of the shredder then the other side.)
- Check upper ticket guides for wear in the area of the hole counter. Replace ticket guides if wear is evident.
- Check ticket width. Tickets less than 1 1/8" may result in misreads

If your result is: Miscounts single tickets (and strings) on security level 0.

Indicates a problem with the hole counter sensor or harness.
- Replace hole counter sensor (P/N 8131) or see test procedure for hole counter sensor for further evaluation.

## 2. 2nd level evaluation (Multi-meter, logic probe)

Reader Board Voltage Check

- LM7805 regulator ——————> 11.5 - 12 volts input, 5+/- .3 volts output.

### Hole Counter Sensor

Analog output [as measured with respect to J2 pin 14 ground)
On J2 114 oin connector) on the shredder reader board
Pin 11 (red wire), Infrared LED ——> approximately 4 Volts
Pin 12 (white wire), Output ——> no ticket 4.5 - 5 Volts, w/ticket .5 - .7 Volts typical (or U4 pin 12)
Pin 13 (key)
Pin 14 (black & green wires), Ground

Digital output (as measured with respect to J2 pin 14 ground)
On U4 (14 pin IC)
Pin 11, ——————> No ticket < .7 Volts, w/ticket 4.5 - 5 Volts
(or pin 10 of microprocessor)

### Barcode Read Head

On J2 (14 oin connector) on the shredder reader board
Pin 10 (green wire) ——> Digital output - An oscilloscope is needed to evaluate this signal.
Pin 4 (red wire) ——> LED - approximately 4 Volts (as measured w/respect to J2 pin 14 ground)

## 3. 3rd level evaluation (Oscilloscope required)

### Hole Counter Sensor

Check analog and digital signals at the points indicated above. Look for uniform signal from ticket to ticket. A non-uniform signal indicates: the hole counter sensor needs adjustment, excessive wear on the ticket guides, or the tickets are too narrow (< 1 1/8 inch). An intermittent or erratic signal would indicate a problem with the harness or sensor.

The printed areas on the tickets should not be very noticeable in the analog signal. If this is a problem consult the factory for changing the sensitivity of the hole counter.

### Barcode Read Head

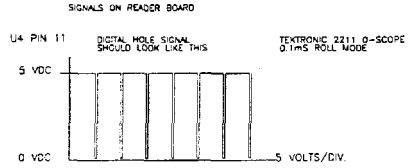
On J2 (14 pin connector) on the shredder reader board
Pin 10 ——> Digital output - Nom-rally low, with transitions high for black bars in the barcode and end of data pulse. (As measured with respect to J2 pin 14 ground)

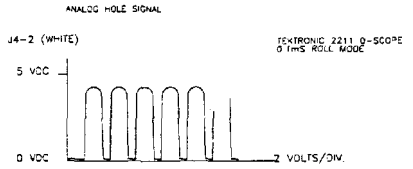
# TROUBLESHOOTING

You should see one digital pulse for each analog peak. If you see extra digital pulses, raise hole counter optic, loosen mounting screw and slide upward. The following are examples of signals received from the reader board where the volts/division is 1 Volt and Roll Mode is set 0.1 mS. When troubleshooting the shredder, the shredder can be pulsed by pushing the yellow button on the shredder control board.

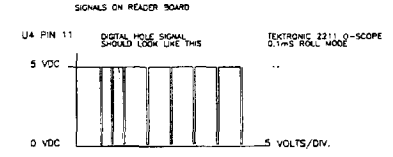
Note: These pulses occur at a rate of 175-200 ms depending on motor speed, operating voltage and frequency.

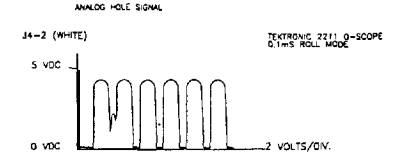
## CORRECT



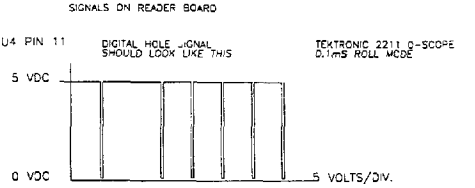

## TOO FAR

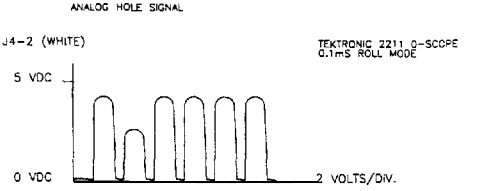



If you observe extra digital pulses, it does not indicate you will have extra counts. Your counts should be lower due to software preventing reading of less than ½ tickets

## TOO CLOSE




This type of signal may be caused by off center hole counter (narrow tickets).

# TEST PROCEDURES FOR TICKET SENSORS BOARDS

These procedures will guide you through each step to test the following:

| | |
|---|---|
| Ticket Sensor Emitter | Part No. 6740 |
| Ticket Sensor Receiver | Part No. 6749 |

1. Ticket Emitter (top 3 LED's of shredder ticket entry)
Note: Some models are infrared and are therefore are invisible. Call for replacement.

Are all three LED's lit.
YES: Emitter is good
NO: 1. If at least one led is lit but not all three, replace emitter.

Check for 5VDC across orange and white wires to emitter connector.
YES: Replace Emitter
NO: Check for 5VDC across pins 1 & 2 of J2 on reader board

YES: Wiring to Emitter is bad, Repair or Replace Harness
NO: Replace Reader Board

2.. Ticket Sense Receiver Board (Bottom 3 of shredder ticket entry)

Pass a lit flashlight over the receiver board and as light passes receiver look for the following changes in voltage. If any of these fail to change, Replace receiver.
A. Pin 6 of J2 to ground 5 VDC falls to near 0 VDC
B. Pin 7 of J2 to ground 5 VDC falls to near 0 VDC
C. Pin 8 of J2 to ground 5 VDC falls to near 0 VDC

If all changes in Voltage are present receiver is good.

# REPLENISHMENT AND MAINTENANCE GUIDE FOR THE IPI SERIES 70 PRINTER

This guide provides simple instructions for replenishing and maintaining the IPI Series 70 Printer. Although you will find the printer easy to maintain, be sure to follow the instructions carefully. They are designed in easy-to-follow steps witt detailed illustrations that will help you perform your job quickly and efficiently.

The EPI Series 70 Printer is a nine-pin impact printer designed for video lottery systems. It prints customer receipts and is capable of providing a journal record of each transaction on 2-ply paper.

The printer service manual (part number 11139) is provided with the game. The manual provides detail information for maintaining and servicing the printer. Some general information is provided on the following pages.

---

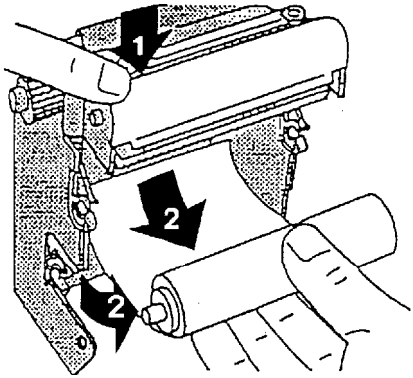
## ORDERING SUPPLIES

Order supplies by calling your distributor. The parts you can order are listed below.

| Description | Part Number |
|---|---|
| 6 inch Roll Security ( Smart Logo ) | 90535 |
| Ribbon Cassette (black or dark purple) | 90277 |
| Supply Roll Spindle | |
| Large Diameter | 90635 |
| Small Diameter | 90636 |
| Power Cord | |
| Fuses | |
| 1.0 Amp, 125 Volt | |
| 1.5 Amp, 125 Volt | |
| Print head | |
| Print head Clamp | |

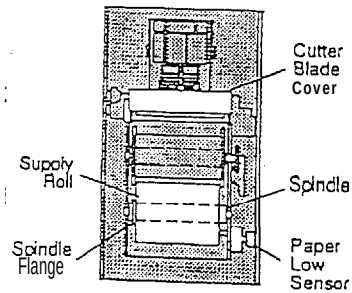
Order replacement parts for the IPI model 70 printer directly from Ithaca Peripherals, Inc. Their Parts Department and Technical Support can be contacted at (607) 257-8901.

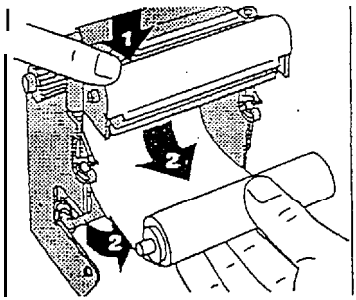
## CLEARING PAPER JAMS

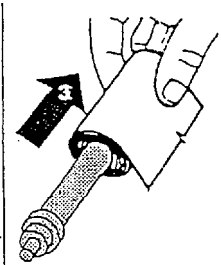



1. Hold down the cutter blade cover from either side.
2. Pull the supply roll out, pulling the remaining paper out of the printer.
   Clean any remaining pieces of paper out of the printer

## REMOVE THE USED SUPPLY ROLL

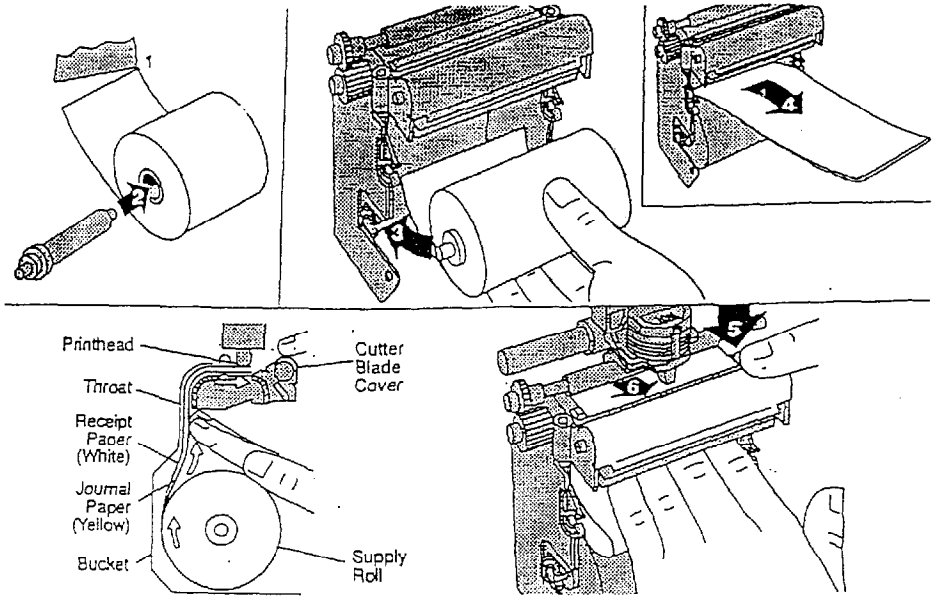



1. Hold down the cutter blade cover from either side.
2. Pull the used supply roll out, pulling the remaining paper out of the printer.
3. Remove the used supply roll from the spindle.
   Set the spindle aside. Don't throw it away.

# PUT IN THE NEW SUPPLY ROLL




Note Be sure the ribbon cassette has been removed. Follow the instructions in the section "Changing the Ribbon Cassette."

1. Tear the paper off the new supply roll to get rid of excess glue and to create a clean,straight edge, Use the edge of a table or other flat surface to tear the paper.

2. Put the spindle in the new supply roll with the flange on the left side.
Do not force the cardboard core out of the roll, as it may cause the paper to jam in the printer.
The receipt paper (white paper) should be on the outside of the roll.

3. Put the supply roll in the lower set of snaps in the bucket.
Be sure the flange (of the spindle) is on the left side, opposite the paper low sensor,

4. Pull out several inches of paper and don't separate the plies.

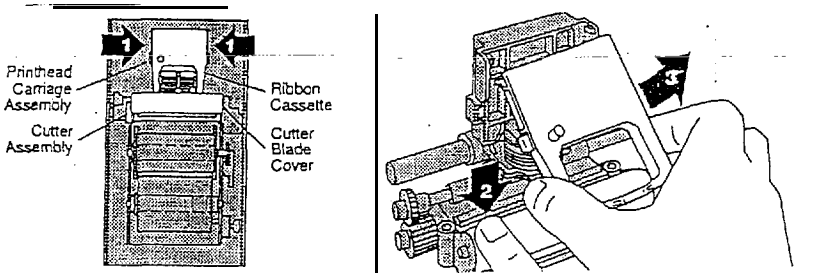
5. Hold down the cutter blade cover from either side.

6. Push the paper up through the throat in the back of the bucket until it comes out past the print head.

## CHANGING THE RIBBON CASSETTE

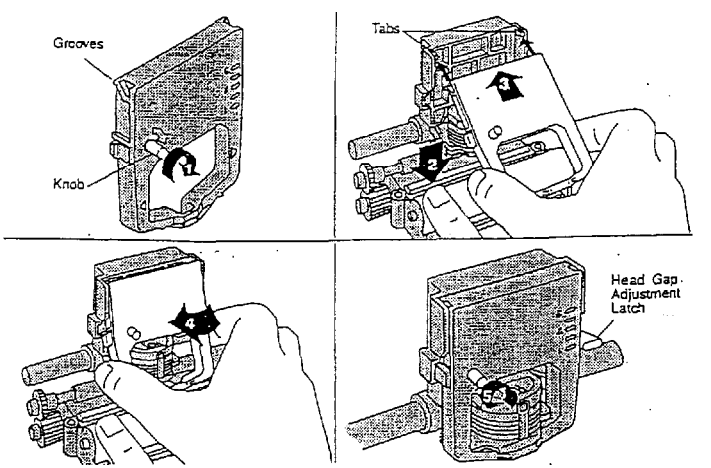
Change the ribbon cassette when the print becomes faded If the ribbon cassette is left in too long, the print may be too fight for some people to read and the ribbon itself may become so warm !hat it may tear.

## REMOVE THE USED CASSETTE




1. Slide the print head carriage assembly to the middle.
2. Hold down the cutter blade cover from either side.
3. Grasp the bottom of the ribbon cassette at the arrows and puff out.

## PUT IN THE NEW CASSETTE




1. Tighten the ribbon by tuning the knob on the cassette clockwise.
2. Hold down the cutter blade cover from either' side.
3. Line up the grooves at the top of the cassette with the tabs on the print head carriage assembly.
4. Swing the ribbon cassette into the print head carriage assembly until it snaps into place
5. Tighten the ribbon by turning the knob on the cassette clockwise.

# SECTION FIVE:

# PARTS LISTS

Spare Parts for SIC

## Maintenance Spare Parts

| Part Number | Description |
|---|---|
| 60864 | Belts, Drive 103 Tooth |
| 60988 | Belt, Feeder 2nd Generation (qty. of 4 per unit) |
| 09008 | O-Ring, Gripper Wheel (qty. of 2 per unit) |
| 11268 | Assembly, Rip Roller, Driven (upper, qty of 2 per unit) |
| 07233 | Assembly, Rip Roller / Drive Shaft (lower) |
| 90535 | Roll of Paper |
| 90277 | Printer Ribbon |

## Recommended Spare Parts

| Part Number | Description |
|---|---|
| 06753 | PCB Assembly, Bar Code Read Head |
| 1 3 2 7 1 | Assembly, Receiver/PCB, Notch Counter |
| 13272 | Assembly, Emitter/PCB, Notch Counter |
| 06752 | PCB Assembly, Ticket Reader Control |
| 07182 | Ticket Scanner Emitter Assembly (upper) |
| 07181 | Ticket Scanner Receiver Assembly (lower) |
| 50252 | Fuse, 5A 250V 3AG Fast |
| 50962 | Fuse, IA 250V 3AG Slow |

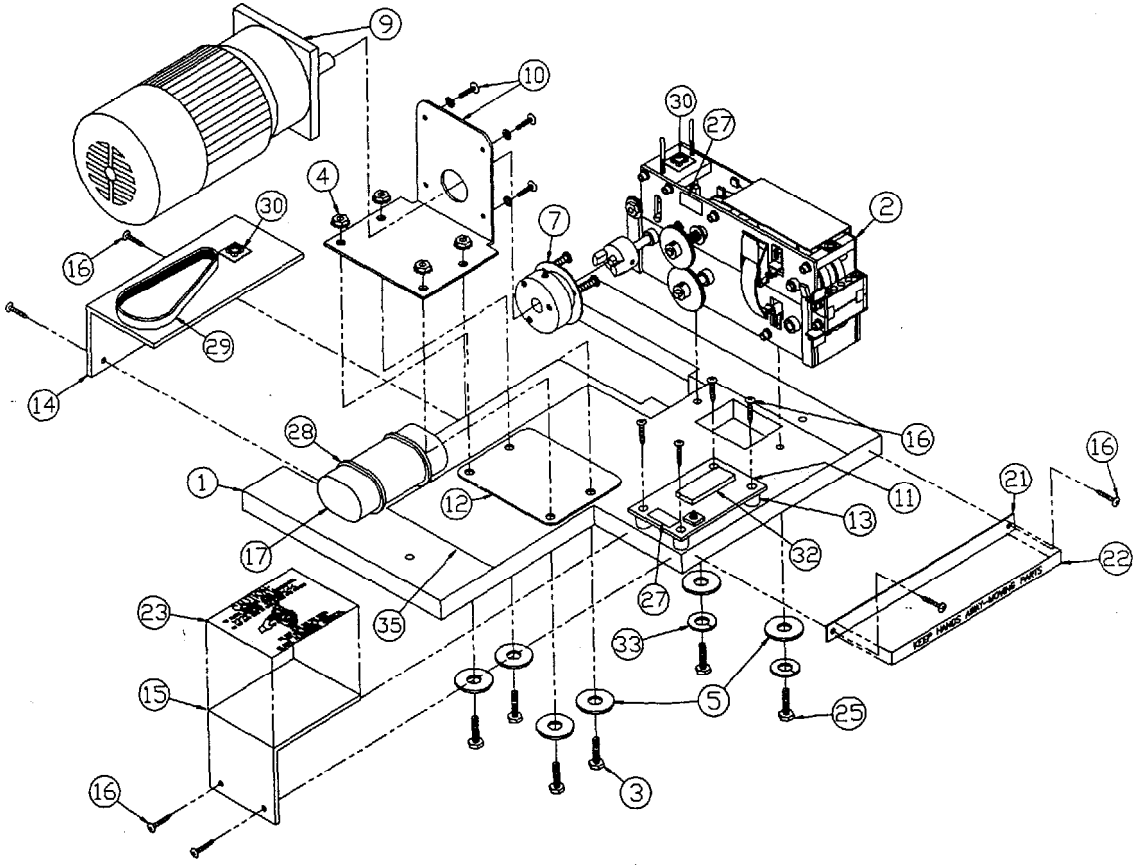
## Recommended for high volume users

| Part Number | Description |
|---|---|
| 13287 | Shredder Drawer Assembly |
| 07792 | Printer Assembly |

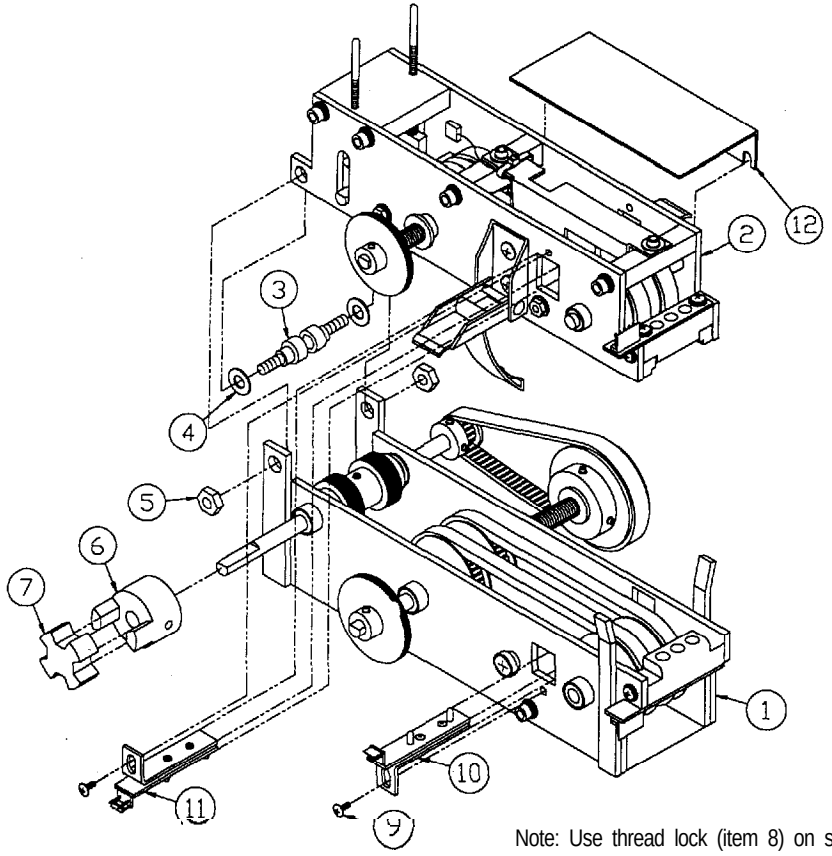
# SHREDDER DRAWER ASSEMBLY
# PART NO. 13287

| Item | Part Number | Description |
|---|---|---|
| | 07300 | Drawer, Shredder Mount |
| 2 | 13286 | Assembly, Ticket Shredder Notch Counter |
| 3 | 60265 | Bolt, Hex HD ¼-20 x 1¼ Zinc |
| 4 | 60080 | Nut, Whiz Flat ¼-20 Zinc |
| 5 | 60981 | Washer, Fender ¼ x 1 x 0.080 |
| | 12909 | Assy, Clutch Shredder |
| 9 | 07193 | Assembly, Motor w/Connector Ticket Reader |
| 10 | 07357 | Bracket, Motor Mounting |
| 11 | 13273 | PCB Assembly, Ticket Counter Decoder PCB for Notch Sensor |
| 12 | 09022 | Plate, Motor Mounting |
| 13 | 60956 | Standoff, 3116 ID x ½ OD ¼ Nylon White |
| 14 | 07470 | Cover, Capacitor Ticket Shredder |
| 15 | 07471 | Cover, PCB Ticket Shredder |
| 16 | 60624 | Screw, PPH #8 x 5/8 PB Zinc |
| 17 | 51081 | Capacitor, 10UF 370 VAC Oval Motor Run |
| 18 | 07191 | Assembly, Harness Ticket Reader Motor |
| 19 | 07192 | Assembly, Harness Ticket Reader Control |
| 20 | 07245 | Assembly, Harness Ticket Reader |
| 21 | 07405 | Plate, Warning Tag |
| 22 | 07530 | Decal, "Keep Hands Away..." |
| 23 | 07745 | Decal, Caution Shredder |
| 24 | 90569 | Loctite, Purple Label Thread locker 222 |
| 25 | 60708 | Bolt, Hex HD ¼-20 x 1 Grade 5 Zinc |
| 27 | 90582 | Decal, Serial Number -Warranty Parts |
| 28 | 60101 | Wire Tie 11" |
| 29 | 60864 | Belt Feeder Shredder 103 Tooth |
| 30 | 60351 | Mount Wire Tie |
| 31 | 60057 | Wire Tie 4" |
| 32 | 51211 | IC, MC68HC705CBCP Programmable Processor |
| 33 | 60019 | Washer, Lock ¼ Split Zinc |
| 34 | 51235 | Connector, Z-Position Shunt |
| 35 | 11150 | Plate, Grounding |
| 36 | 13248 | Assembly, Harness Ticket Notch Sensor |

SHREDDER DRAWER ASSEMBLY
PART NO. 13287



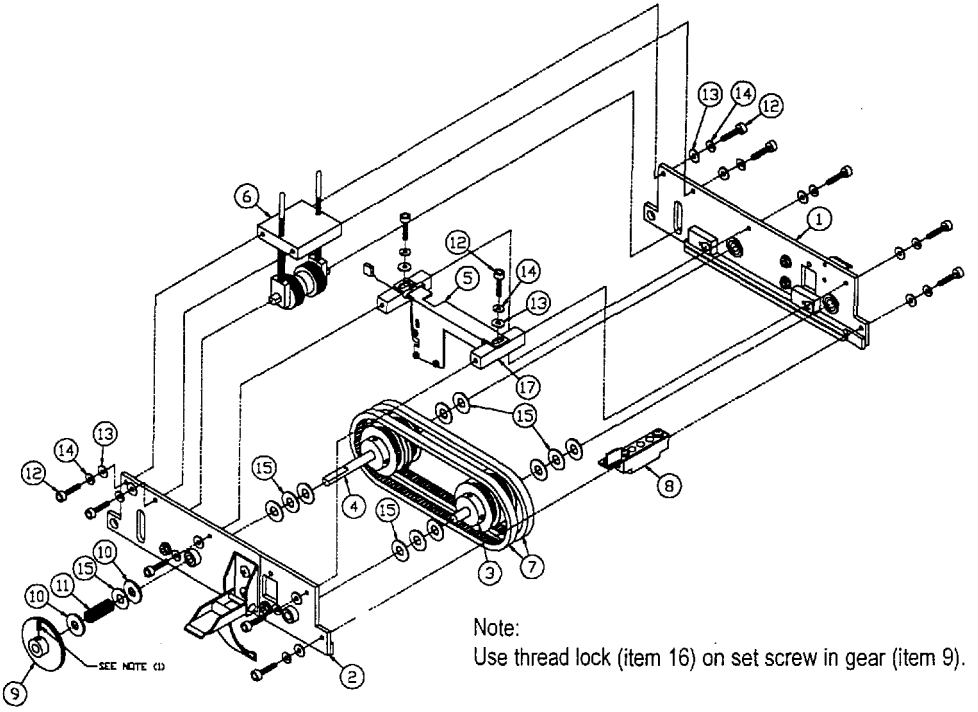
# SHREDDER TICKET ASSEMBLY
# PART NO. 13286




Note: Use thread lock (item 8) on set screw in coupler (item 6).

| item | Part Number | Description |
|---|---|---|
| 1 | 13285 | Assembly, Shredder Lower Notch Counter |
| 2 | 13284 | Assembly, Shredder Upper Notch Counter |
| 3 | 60882 | Screw, Socket HD Shoulder ¼ x ¼ Alloy |
| 4 | 60819 | Washer, Nylon ¼ ID x ½ OD x 1/32 Thick |
| 5 | 60147 | Nut, Lock #10-24 Nylon insert |
| 6 | 60816 | Coupler, Flexible 114 Dia. Shaft |
| 7 | 60818 | Coupler, Flexible Spider |
| 8 | 90569 | Adhesive, Loctite Purple Label Thread Locker 222 |
| 9 | 60156 | Screw, MS Phil Pan H, 8-32 X 114 Zinc |
| 10 | 13272 | Assembly, Emitter/PCB Notch Counter |
| 11 | 13271 | Assembly, Receiver/PCB Notch Counter |
| 12 | 13420 | Cover, Shredder, Ambient Light |

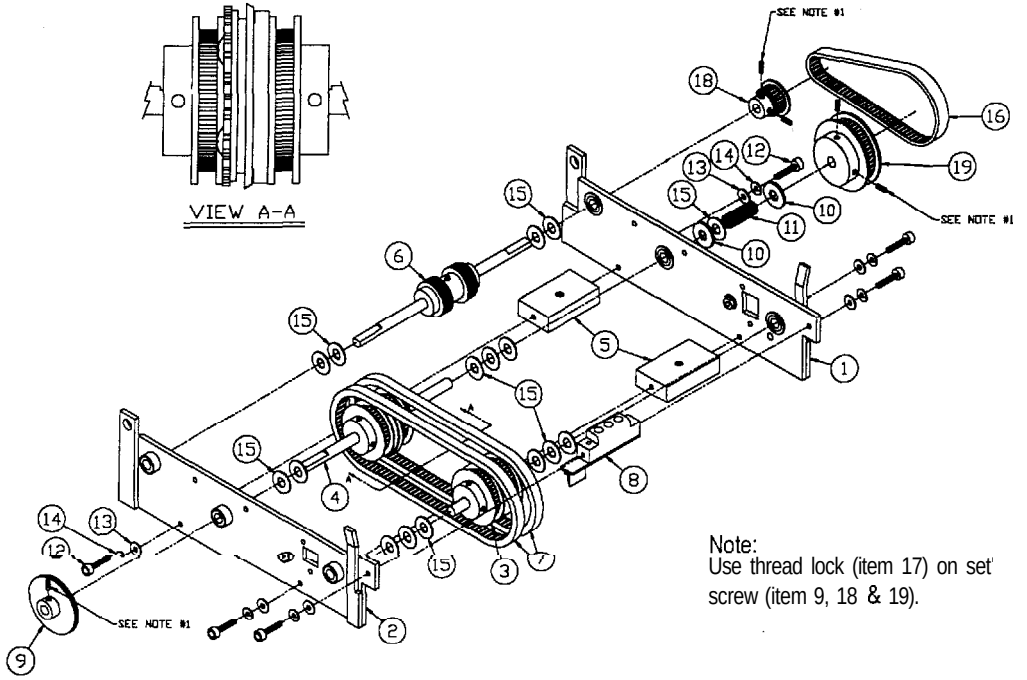
# UPPER TICKET SHREDDER ASSEMBLY
# PART NO. 13284




Note:
Use thread lock (item 16) on set screw in gear (item 9).

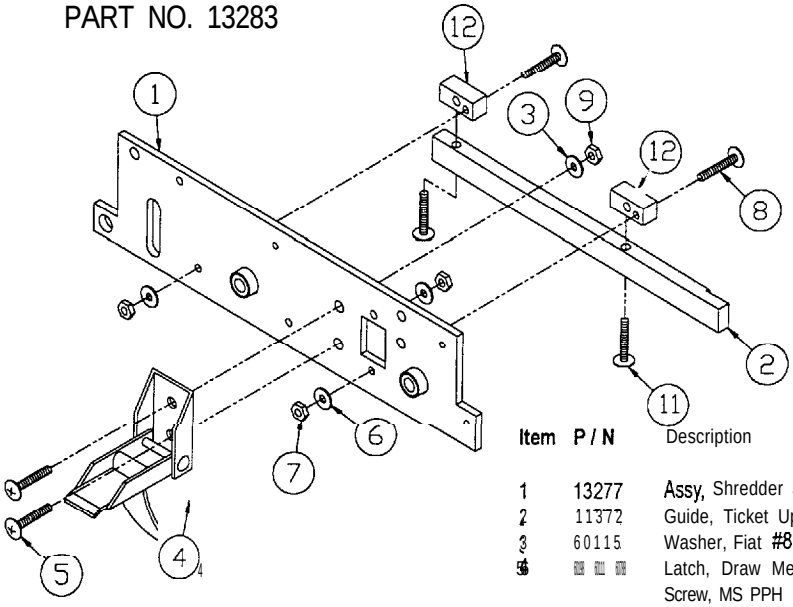
| Item | Part Number | Description |
|---|---|---|
| 1 | 13282 | Assembly, Shredder Side, Upper Right Notch Sensor |
| 2 | 13283 | Assembly, Shredder Side, Upper Left Notch Sensor |
| 3 | 09389 | Assembly, Shaft Knurled Gripper Pulley |
| 4 | 09064 | Assembly, Shaft/Feeder Belt Driven Pulley |
| 5 | 13265 | Assembly, ScannerNotch Sensor |
| 6 | 07177 | Assembly, Rip Roller / Spring Tower |
| | 60988 | Belt, Feeder 2nd Generation |
| 8 | 07182 | Assembly, Guide / PCB Emitter |
| 9 | 61145 | Gear, Spur 24 Pitch 35 Teeth Delrin W/Insert |
| 10 | 60071 | Washer, Flat ¼ Zinc |
| 11 | 60802 | Spring, Compression ,360 Dia. X .938 x .032 Wire |
| 12 | 60778 | Bolt, Socket Head #6-32 x ½ Long |
| 13 | 60312 | Washer, Flat #6 Zinc |
| 14 | 60813 | Washer, Lock #6 Split Zinc |
| 15 | 60819 | Washer, Nylon ¼ ID x ½ OD 1/32 Thick |
| 16 | 90569 | Loctite, Purple Label Thread Locker 222 |
| 17 | 07159 | Block, Stability Front |
| 18 | 60116 | Screw, Set 10-32 x 1/4 Knurl PT |

# LOWER TICKET SHREDDER ASSEMBLY
# PART NO. 13285



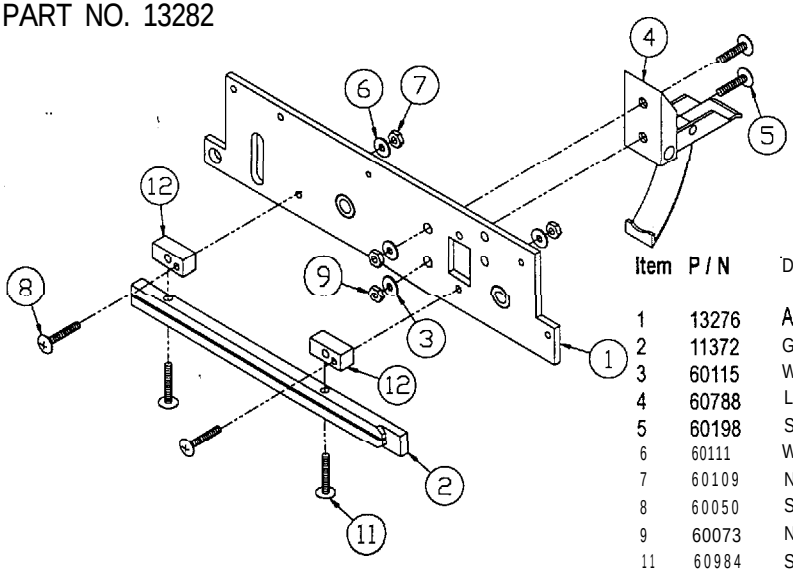

| Item | Part Number | Description |
|---|---|---|
| | 13280 | Assembly, Shredder Side Lower Right Notch Counter |
| 2 | 13281 | Assembly, Shredder Side Lower Left Notch Counter |
| 3 | 09389 | Assembly, Shaft Knurled Gripper Pulley |
| 4 | 09063 | Assembly, Shaft / Feeder Belt Drive Pulley |
| 5 | 07169 | Block, Stability Bottom |
| 6 | 07233 | Assembly, Rip Roller / Drive Shaft |
| | 60988 | Belt, Feeder 2nd Generation |
| 8 | 07181 | Assembly, Guide / PCB Receiver |
| 9 | 61145 | Gear, Spur 24 Pitch 35 Teeth Delrin W/Insert |
| 10 | 60071 | Washer, Flat ¼ Zinc |
| 11 | 60802 | Spring, Compression ,360 Dia. X ,938 .032 Wire |
| 12 | 60778 | Bolt, Socket Head #6-32 ½ Long |
| 13 | 60312 | Washer, Flat #6 Zinc |
| 14 | 60813 | Washer, Lock #6 Split Zinc |
| 15 | 60819 | Washer, Flat ¼ nylon 1116 Thick |
| 16 | 60864 | Belt, Feeder Shredder 103 Tooth |
| 17 | 90569 | Loctite, Purple Label Thread-locker 222 |
| 18 | 07452 | Pulley, Timing .080 Pitch 30 Tooth ¼ Aluminum |
| 19 | 07188 | Pulley, Timing ,080 Pitch 60 Tooth ¼ Face |
| 20 | 60116 | Screw, Set 10-32 x 1/4 Knurl PT |

## UPPER LEFT SHREDDER SIDE ASSEMBLY
## PART NO. 13283



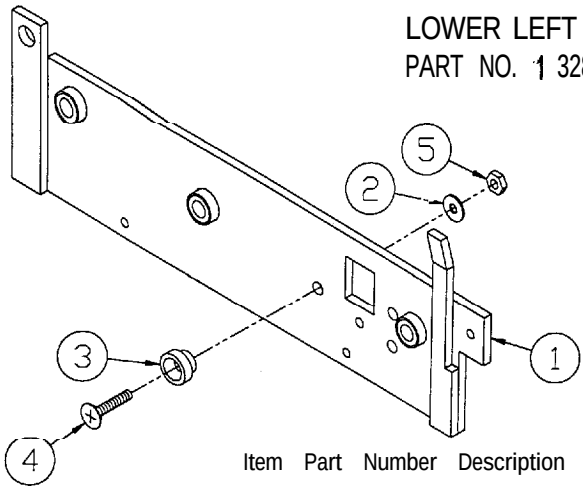

| Item | P / N | Description |
|---|---|---|
| 1 | 13277 | Assy, Shredder Side Upper Left Notch Counter |
| 2 | 11372 | Guide, Ticket Upper Left |
| 3 | 60115 | Washer, Fiat #8 Zinc |
| 4 | 60788 | Latch, Draw Medium |
| 5 | 60198 | Screw, MS PPH #8-32 x ½ Zinc |
| 6 | 60111 | Washer, Flat #4 Zinc |
| 7 | 60109 | Nut, Lock #4-40 Nylon Insert |
| 8 | 60050 | Screw, MS PPH #4-40 x ¾ Zinc |
| 9 | 60073 | Nut, Lock #8-32 Nylon Insert |
| 11 | 60984 | Screw, 4-40 x 5/8 |
| 12 | 13264 | Bracket, Ticket Guide Notch Counter |

## UPPER RIGHT SHREDDER SIDE ASSEMBLY
## PART NO. 13282



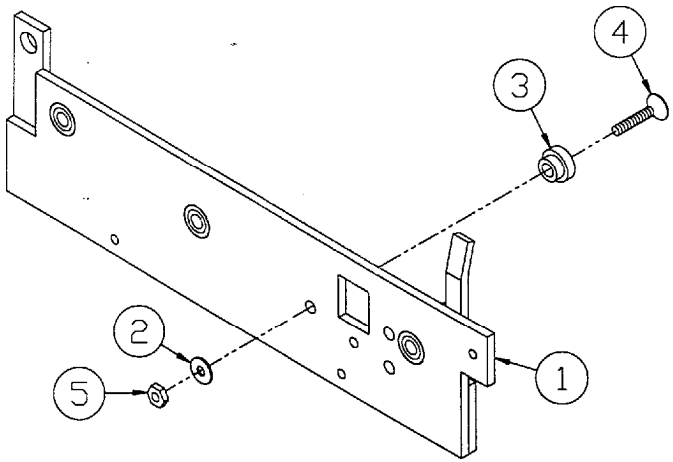

| Item | P / N | Description |
|---|---|---|
| 1 | 13276 | Assy, Shredder Side Upper Right N.C. |
| 2 | 11372 | Guide, Ticket Upper Right |
| 3 | 60115 | Washer, Flat #8 Zinc |
| 4 | 60788 | Latch, Draw Medium |
| 5 | 60198 | Screw, MS PPH #8-32 x ½ Zinc |
| 6 | 60111 | Washer, Flat #4 Zinc |
| 7 | 60109 | Nut, Lock #4-40 Nylon insert |
| 8 | 60050 | Screw, MS PPH #4-40 x ¾ Zinc |
| 9 | 60073 | Nut, Lock #8-32 Nylon Insert |
| 11 | 60984 | Screw, 4-40 x 5/8 |
| 12 | 13264 | Bracket, Ticket Guide Notch Counter |

## LOWER LEFT SHREDDER SIDE ASSEMBLY
PART NO. 13281



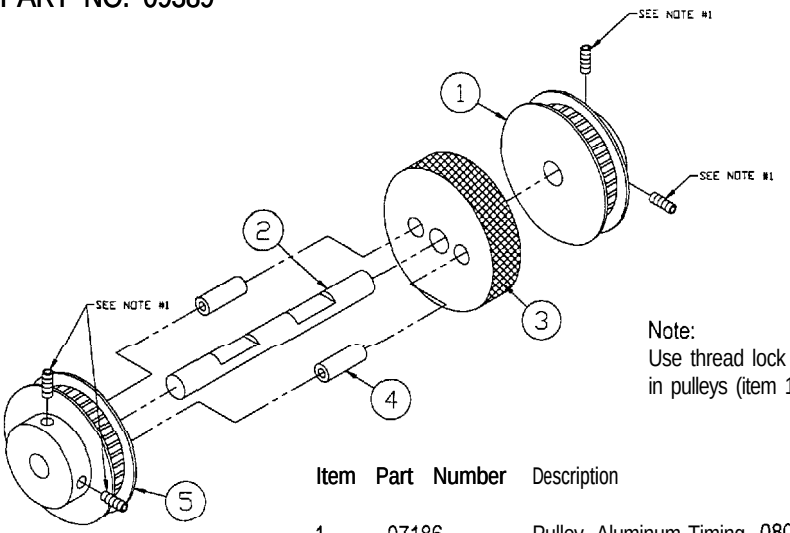

| Item | Part Number | Description |
|---|---|---|
| 1 | 13279 | Assembly, Shredder Side Plate Lower Left Notch Counter |
| 2 | 60115 | Washer, Flat #8 Zinc |
| 3 | 60962 | Keeper, Draw Latch |
| 4 | 60963 | Screw, MS PFH #8-32 x ¾ Zinc |
| 5 | 60073 | Nut, Lock #8 Nylon Insert |

## LOWER RIGHT SHREDDER SIDE ASSEMBLY
PART NO. 13280




| item | Part Number | Description |
|---|---|---|
| 1 | 13278 | Assy, Shredder Side Plate Lower Right Notch Counter |
| 2 | 60115 | Washer, Flat #8 Zinc |
| 3 | 60962 | Keeper, Draw Latch |
| 4 | 60963 | Screw, MS PFH #8-32 x ¾ Zinc |
| 5 | 60073 | Nut, Lock #8 Nylon Insert |

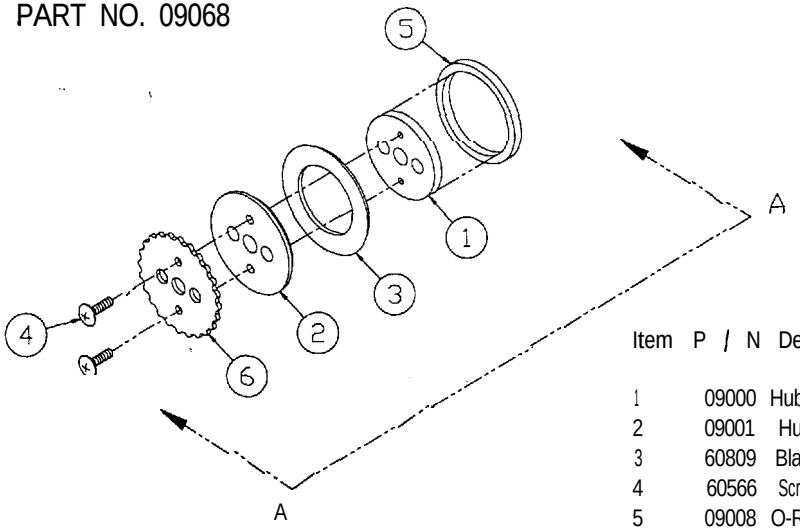
## SHAFT I KNURLED GRIPPER PULLEY ASSEMBLY
## PART NO. 09389




Note:
Use thread lock (item 6) on set screws in pulleys (item 1 and item 5).

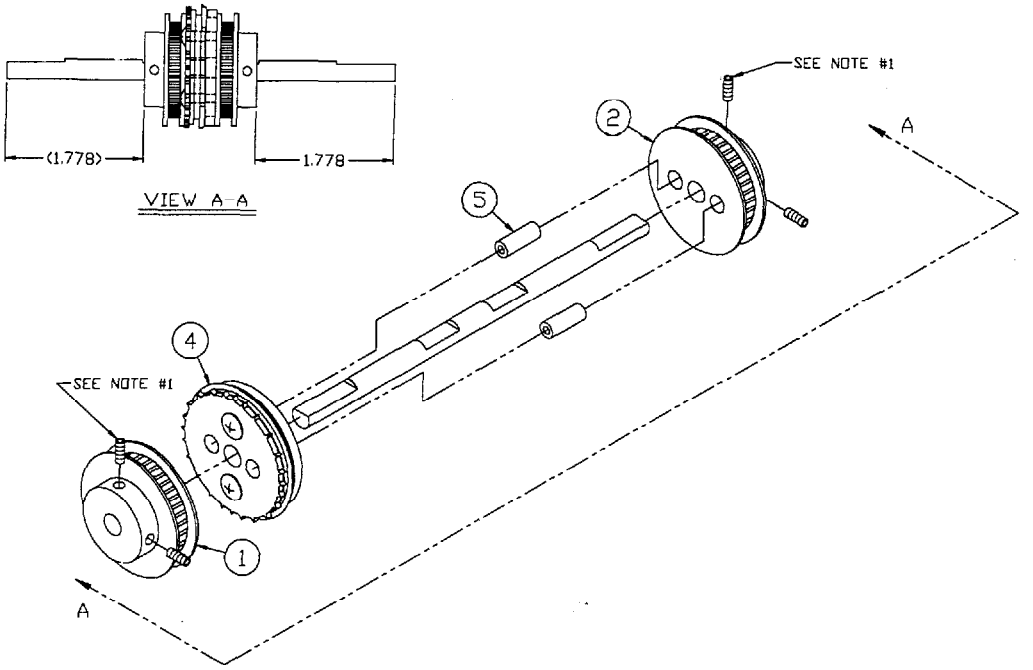
| Item | Part Number | Description |
|---|---|---|
| 1 | 07186 | Pulley, Aluminum Timing .080 Pitch 48 Tooth |
| 2 | 07147 | Shaft, Roller Shredder |
| 3 | 09335 | Hub, Front Gripper Wheel |
| 4 | 60806 | Pin, Roll 3116 x 1/2 |
| 5 | 07197 | Pulley, Shredder Blade Drive .080 Pitch 48 |
| 6 | 90569 | Adhesive, Loctite Purple Label Thread-Locker #222 |

## BLADE AND TOOTH SHREDDER HUB ASSEMBLY
## PART NO. 09068




| Item | P / N | Description |
|---|---|---|
| 1 | 09000 | Hub, Shredder Gripper Wheel |
| 2 | 09001 | Hub, Shredder Cutter Blade |
| 3 | 60809 | Blade, Shredder |
| 4 | 60566 | Screw, MS PPH #4-40 x 318 Zinc |
| 5 | 09008 | O-Ring, Gripper Wheel |
| 6 | 09224 | Hub, Shredder |

# SHAFT / FEEDER BELT DRIVE PULLEY ASSEMBLY
# PART NO. 09063

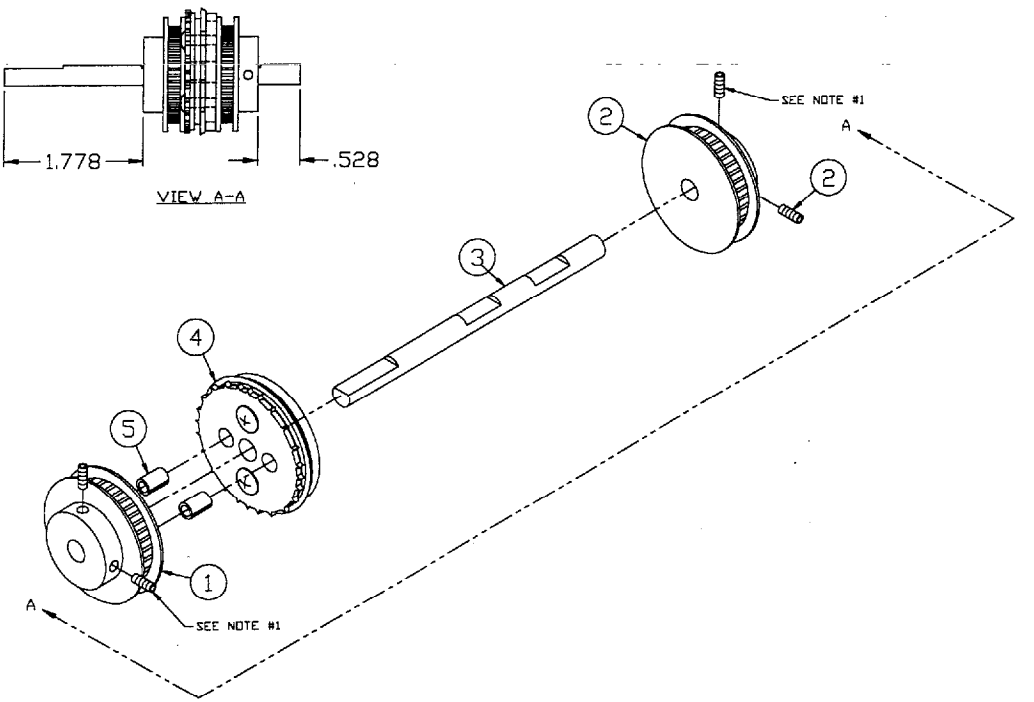



| Item | Part Number | Description |
|---|---|---|
| 1 | 07186 | Pulley, Aluminum Timing ,080 Pitch 48 Tooth 1/4 |
| 2 | 07197 | Pulley, Shredder Blade Drive .080 Pitch 48 Tooth |
| 3 | 07183 | Shaft, Feeder Belt, Drive |
| 4 | 09068 | Assembly, Blade & Tooth Shredder Hub |
| 5 | 60806 | Pin, Roll 3116 x 1/2 |
| 6 | 90569 | Adhesive Loctite purple label Thread-locker #222 |

Note:

1) Use thread lock on (item #6) on set screws in pulleys (item #1 and item #2)

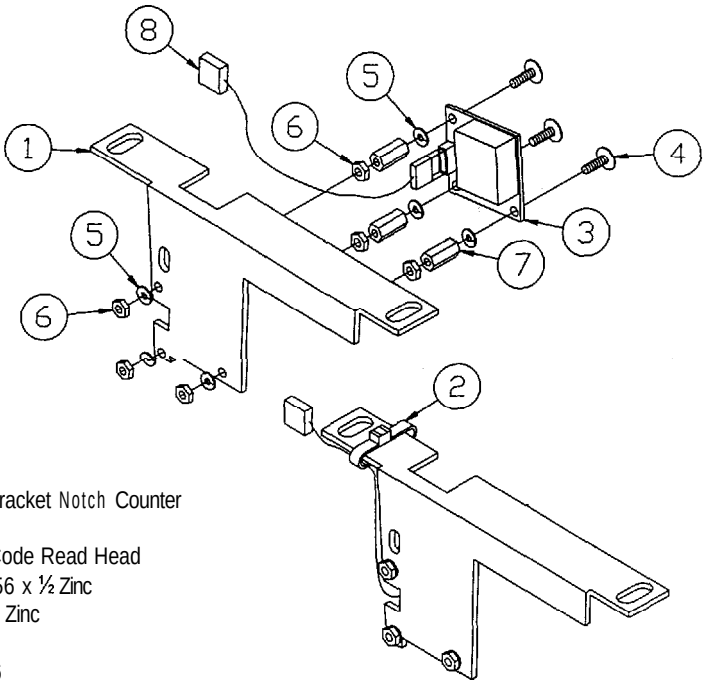
# SHAFT / FEEDER BELT DRIVEN PULLEY ASSEMBLY
# PART NO. 09064




| Item | Part Number | Description |
|---|---|---|
| 1 | 07197 | Pulley, Shredder Blade Drive .080 Pitch 48 Tooth |
| 2 | 07186 | Pulley, Aluminum Tlming ,080 Pitch 48 Tooth |
| 3 | 07156 | Shaft, Feeder Belt, Drive |
| 4 | 09068 | Assembly, Blade & Tooth Shredder Hub |
| 5 | 60806 | Pin, Roll 3116 x 1/2 |
| 6 | 90562 | Thread Lock, Medium Strength |

Note:

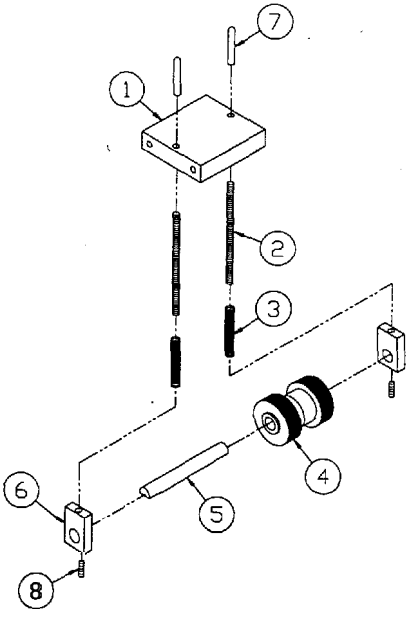
1) Use thread lock on (item #6) on set screws in pulleys (item #1 and item #2)




## SCANNER ASSEMBLY
## PART NO. 07179

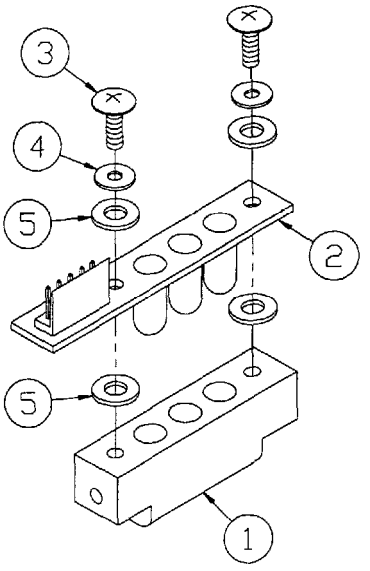
| Item | P / N | Description |
|---|---|---|
| 1 | 13267 | Assembly, Scanner Bracket Notch Counter |
| 2 | 60057 | Wire Tie 4" |
| 3 | 06753 | PCB Assembly, Bar Code Read Head |
| 4 | 60879 | Screw, MS PPH #2-56 x ½ Zinc |
| 5 | 60815 | Washer, Lock #2 Split Zinc |
| 6 | 60880 | Nut, Hex #2-56 Zinc |
| 7 | 60804 | Standoff, #2-56 x 3116 |
| 8 | 37261 | Assembly, Harness Bar Code Read Head |

ASSEMBLED VIEW



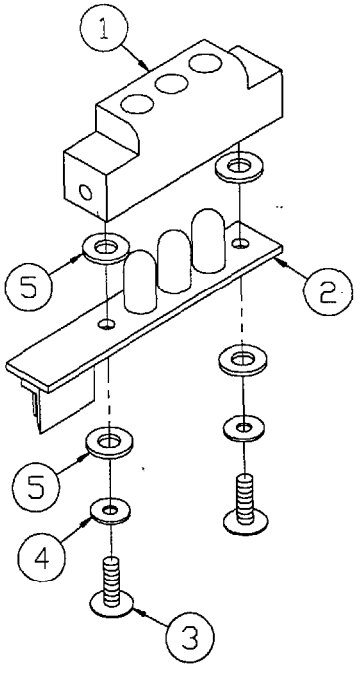

## RIP ROLLER I SPRING TOWER ASSEMBLY
## PART NO. 07177

| Item | P I N | Description |
|---|---|---|
| 1 | 07152 | Block, Stability, Back |
| 2 | 07184 | Rod, Spring Retaining |
| 3 | 60803 | Spring, Compression ,240 Dia x 1" .042 Wire |
| 4 | 11268 | Assembly, Rip Roller, Driven |
| 5 | 07154 | Shaft, Rip Roller, Driven |
| 6 | 07153 | Block, Spring Retaining |
| 7 | 60810 | Cap, Plastic .125 ID x 1/2 Long |
| 8 | 60041 | Screw, Set #6-32 x 3116 Knurl PNT |




## TICKET SCANNER EMITTER ASSEMBLY
## PART NO. 07182

| Item | Part Number | Description |
|---|---|---|
| 1 | 07161 | Guide, Ticket Center |
| 2 | 06748 | PCB Assembly, Ticket Sensor Emitter |
| 3 | 60180 | Screw, MS PPH #4-40 x ¼ Zinc |
| 4 | 60111 | Washer, Flat #4 Zinc |
| 5 | 60674 | Washer, #10 x 5116 Flat Nylon |



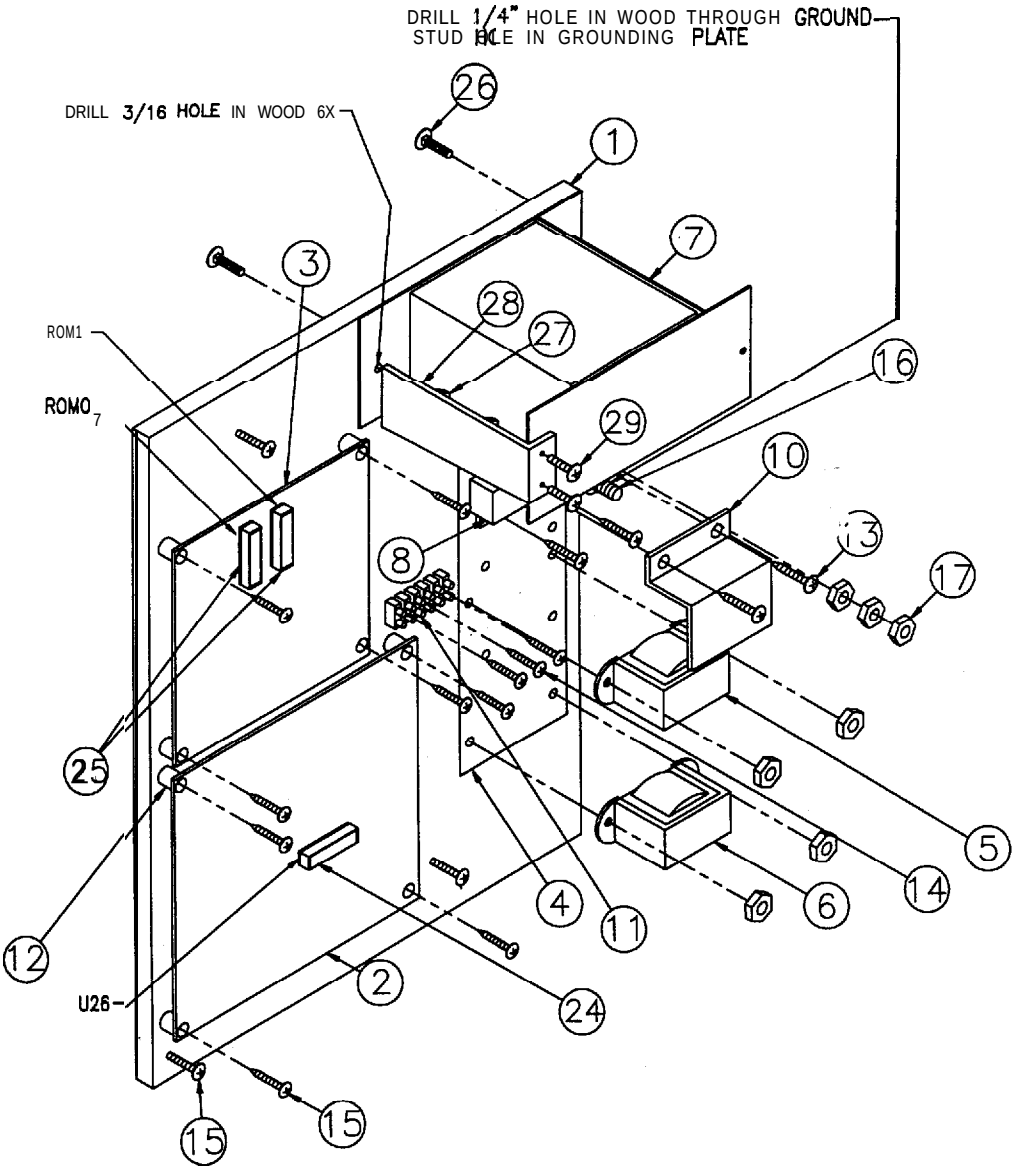

## TICKET SCANNER RECEIVER ASSEMBLY
## PART NO. 07181

| Item | Part Number | Description |
|---|---|---|
| 1 | 07161 | Guide, Ticket Front |
| 2 | 06749 | PCB Assembly, Ticket Sensor Receiver |
| 3 | 60180 | Screw, MS PPH #4-40 x ¼ Zinc |
| 4 | 60111 | Washer, Flat #4 Zinc |
| 5 | 60674 | Washer, #10 x 5116 Flat Nylon |

# COMPONENT BOARD ASSEMBLY
# PART NO. 07563

| Item | Part Number | Description |
|---|---|---|
| | 07332 | Board, Component Electronics Mounting |
| 2 | 07498 | PCB Assembly, Main Controller |
| 3 | 06751 | PCB Assembly, Sound / Voice |
| 4 | 07345 | Plate, Grounding |
| 5 | 50319 | Transformer, 12.6 VAC 3.0 Amp Sec |
| 6 | 51079 | Transformer, 8 VAC / 16 VAC Sec |
| 7 | 11539 | Assembly, Power Supply Entropy |
| a | 50065 | EMI Filter |
| 9 | 50066 | Diode, Transient Surge Bulk |
| 10 | 01667 | Cover, EMI Filter |
| 11 | 50006 | Terminal, Block 6 Position |
| 12 | 60062 | Standoff, ½ x ½ Nylon |
| 13 | 60016 | Screw, PPH 8 x ½ PB Zinc |
| 14 | 60157 | Screw, PPH 6 x ¾ Zinc |
| 15 | 60052 | Screw, PPH 6 x 1 Zinc |
| 16 | 60093 | Bolt, Carr ¼-20 x I- ¾ Zinc |
| 17 | 60018 | Nut, Hex ¼ - 20 Zinc |
| 18 | 07225 | Assembly, Harness maxi-bezel Component |
| 19 | 07243 | Assembly, Harness Ticket Reader Component |
| 20 | 07251 | Assembly, Harness Sound Board Power |
| 21 | 07252 | Assembly, Harness Sound Board Data |
| 22 | 07262 | Assembly, Harness Component AC |
| 23 | 07557 | Assembly, Harness Speaker / Coin Component |
| 24 | 50608 | IC, EPROM 512 K |
| 25 | 50932 | IC, EPROM 4M |
| 26 | 60861 | Bolt, Carr #8-32 x 1 Zinc |
| 27 | 61035 | Nut, Keps #8-32 |
| 28 | 04465 | Shield, Power Supply |
| 29 | 60198 | Screw, MS PPH 8-32 x 1/2 Zinc |

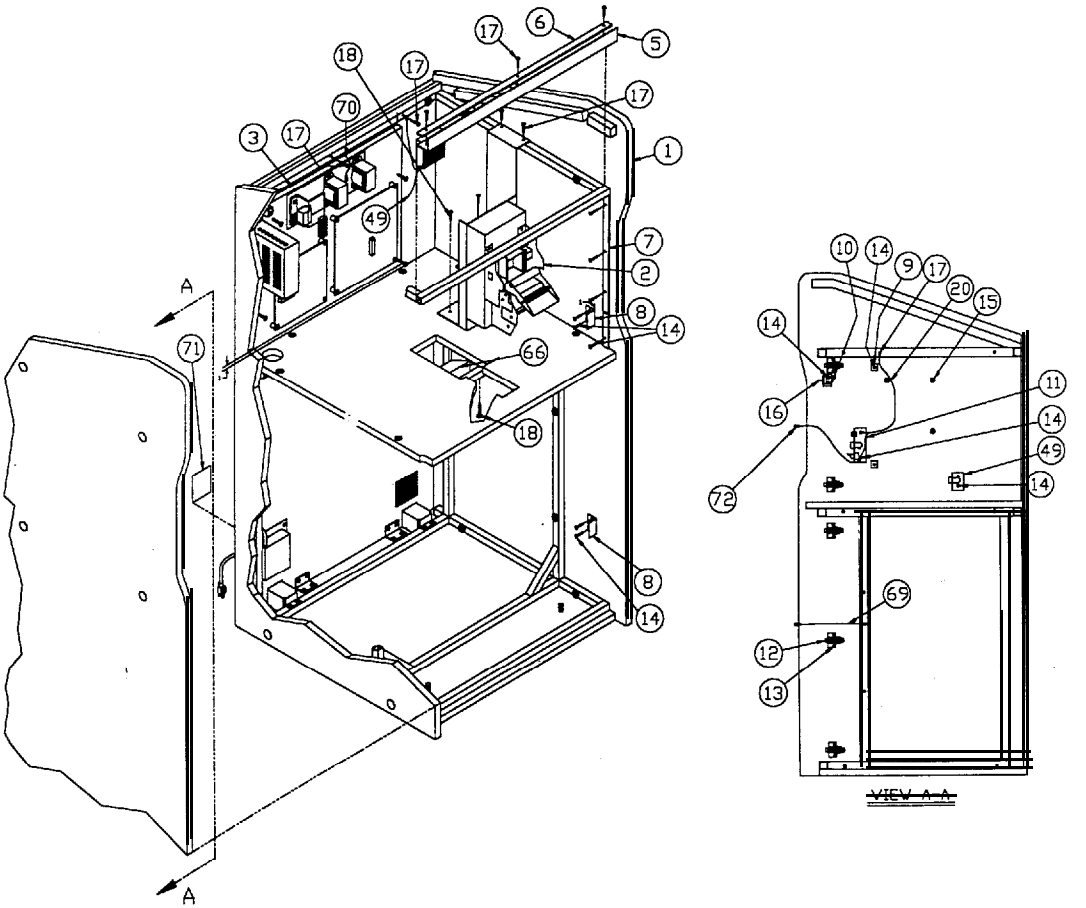
COMPONENT BOARD ASSEMBLY
PART NO. 07563



# FINAL ASSEMBLY
# PART NO. TC SHEET 1 OF 2

| Item | Part Number | Description |
|---|---|---|
| 1 | 07406 | Assembly, Cabinet |
| 2 | 07792 | Assembly, Printer |
| 3 | 07563 | Assembly, Component Board TRC |
| 4 | 07780 | Stop, Top Cabinet |
| 5 | 07420 | Angie, Top Door |
| 6 | 07779 | Stop, Marquee |
| 7 | 07781 | Anti-wire, Top Door |
| 8 | 00348 | Latch, Coin Mech. Double |
| 9 | 60997 | Cable Tie, Twist Lock 3/4" |
| 10 | 07352 | Bracket, Switch Mounting Interlock |
| 11 | 07604 | Assembly, Fuse / Switch with Harness |
| 12 | 60063 | Hinge, Mounting Plate Mepla |
| 13 | 60862 | Screw, PFH #8 x ¾ PB Black |
| 14 | 60016 | Screw, PPH #8 x ½ PB Zinc |
| 15 | 60787 | Screw, Double HD #10 - ½ Wood |
| 16 | 51035 | Switch, Safety Interlock Cheat |
| 17 | 60007 | Screw, PPH #8 x ½ Self Drill Zinc Tek #2 |
| 18 | 60624 | Screw, PPH #8 x 5/8 PB Zinc |
| 20 | 10353 | Assembly, Harness Switch-Frame Ground |
| 21 | 13458 | Manual, TC |
| 22 | 07517 | Decal, Number with Adhesive |
| 24 | 90535 | Paper, 6" Roll for Printer |
| 25 | 90434 | Staple, Britewire 1 ¼ x ¼ Senco |
| 49 | 07562 | Assembly, Harness AC Interconnect |
| 66 | 09102 | Chute, Ticket |
| 69 | 09475 | Assembly, Harness Coin Mech Door Ground |
| 70 | 10354 | Assembly, Harness Comp. Board-Frame Ground |
| 71 | 10311 | Decal, Warning Shock Hazard |
| 72 | 09474 | Assembly, Harness Top Door Ground |

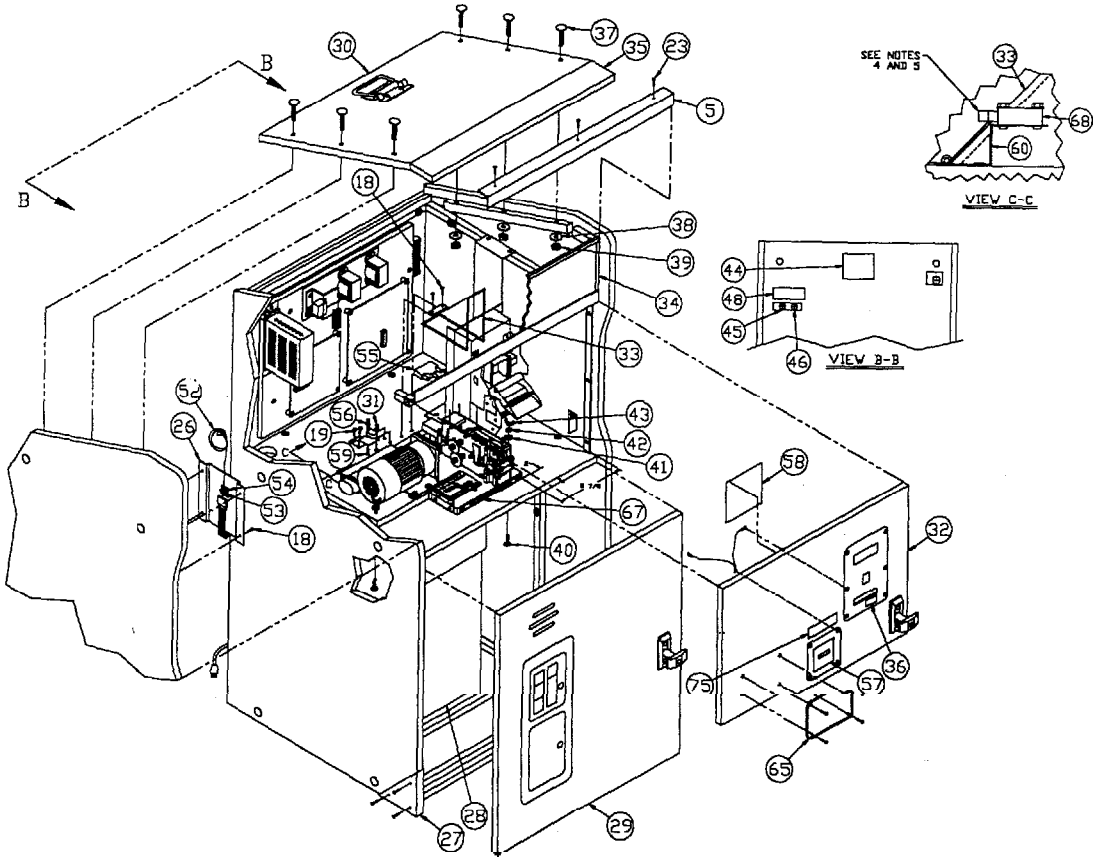
FINAL ASSEMBLY
PART NO. TC SHEET 1 OF 2



# FINAL ASSEMBLY
# PART NO. TC SHEET 2 OF 2

| Item | Part Number | Description |
|---|---|---|
| 5 | 07420 | Angle, Top Frame |
| 18 | 60624 | Screw, PPH #8 x 5/8 PB Zinc |
| 19 | 60021 | Screw, PFH #6 x 5/8 PB Zinc |
| 23 | 60863 | Screw, PPH #8 x-¾ PB Zinc |
| 25 | 90434 | Staple, Bntewire r 1/ x ¼ Senco |
| 26 | 07595 | Assembly, Mount and Keypad |
| 27 | 07513 | Protector, Comer |
| 28 | 90554 | Trash Can, 15 ¾ x 21 ½ x 28 Tall 30 Gallon |
| 29 | 07423 | Assembly, Coin Mech. Door |
| 30 | 07410 | Assembly, Top |
| 31 | 60109 | Nut, Lock 4-40 Nylon Insert |
| 32 | 07428 | Assembly, Top Door |
| 33 | 07851 | Assembly, Deflector Ticket |
| 34 | 07432 | Assembly, Marquee |
| 35 | 07411 | Top, Cabinet |
| 36 | 08217 | Decal, Warning Disconnect Power Before Service |
| 37 | 60872 | Bolt, Carr #10-24 x 2 Black |
| 38 | 60043 | Washer, Flat #10 Zinc |
| 39 | 60106 | Nut, Hex #10-24 Zinc |
| 40 | 60215 | Bolt, Carr ¼ -20 x 2 Zinc |
| 41 | 60071 | Washer, Flat ¼ Zinc |
| 42 | 60019 | Washer, Lock ¼ Split Zinc |
| 43 | 60070 | Nut, Wing ¼-20 Zinc |
| 44 | 02889 | Decal, Logo 'S" Red 518 x 3-¾ |
| 45 | 8309-029 | Label, U.L. listed |
| 46 | 60363 | Screw, Wood 4 x ½ PPH |
| 47 | 90631 | Adhesive, Loctite |
| 48 | 90541 | Label, Inspected Green (QC) |
| 50 | 07558 | Assembly, harness Speaker / Coin Interconnect |
| 51 | 11138 | Assembly, Harness Ticket Reader Shutdown |
| 52 | 07555 | Assembly, Harness Upper Door Interconnect |
| 5 3 | 60057 | Tie, Wire 4" Natural Nylon |
| 54 | 60351 | Mount, Wire Tie Adhesive Back |
| 55 | 51073 | Wire, Parallel Printer Cable 10' |
| 56 | 60111 | Washer, Flat #4 Zinc |
| 57 | 07790 | Decal, Insert Tickets 3 ¼ x 4 |
| 58 | 08715 | Decal, Operating Hints |
| 59 | 60050 | Screw, MS PPH 4-40 X 3/4 Zinc |
| 60 | 11131 | Bracket, Microswitch Trash Can Overflow |
| 61 | 60652 | Bolt, Hex HD LAG 5116 x 3 ½ |
| 62 | 90559 | Pallet |
| 63 | '90423 | Carton, Top |
| 64 | 90422 | Carton, Tube |
| 65 | 09180 | Cover, Credit Decal. |
| 67 | 13287 | Assembly, Shredder Drawer, Notch Counter |
| 68 | 50142 | Switch, Micro W/Roller Actuator |
| 73 | 11139 | Manual, Maintenance ITHICA Model 70 |
| 74 | 50443 | Terminal, Spare Female Red .I87 x .020 |
| 75 | 12535 | Decal, Warning Keep Hair and Loose Clothing Away |

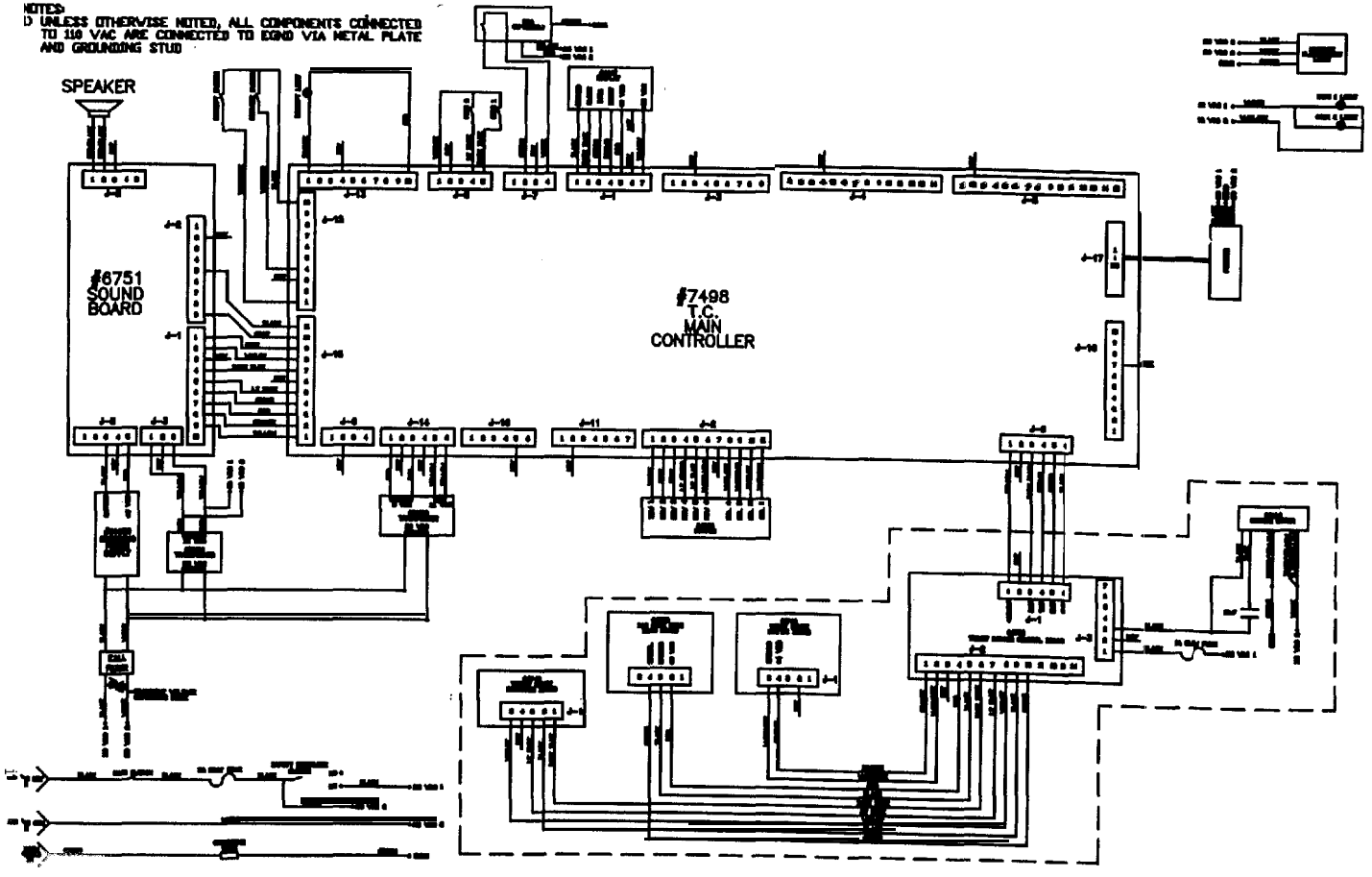
FINAL ASSEMBLY
PART NO. TC SHEET 2 OF 2



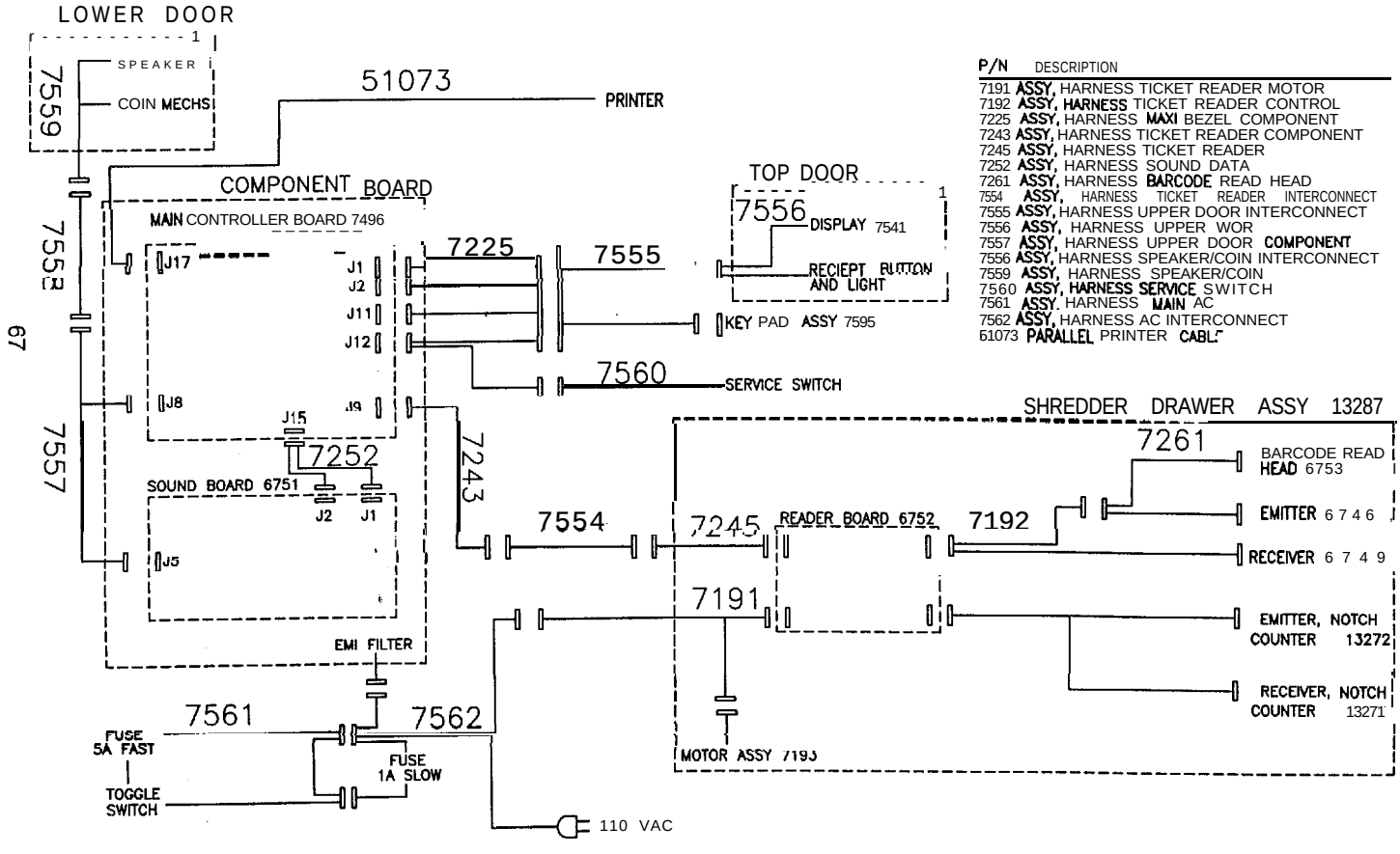
# SECTION SIX:

# WIRING DIAGRAMS AND SCHEMATIC

# BLOCK WIRING DIAGRAM

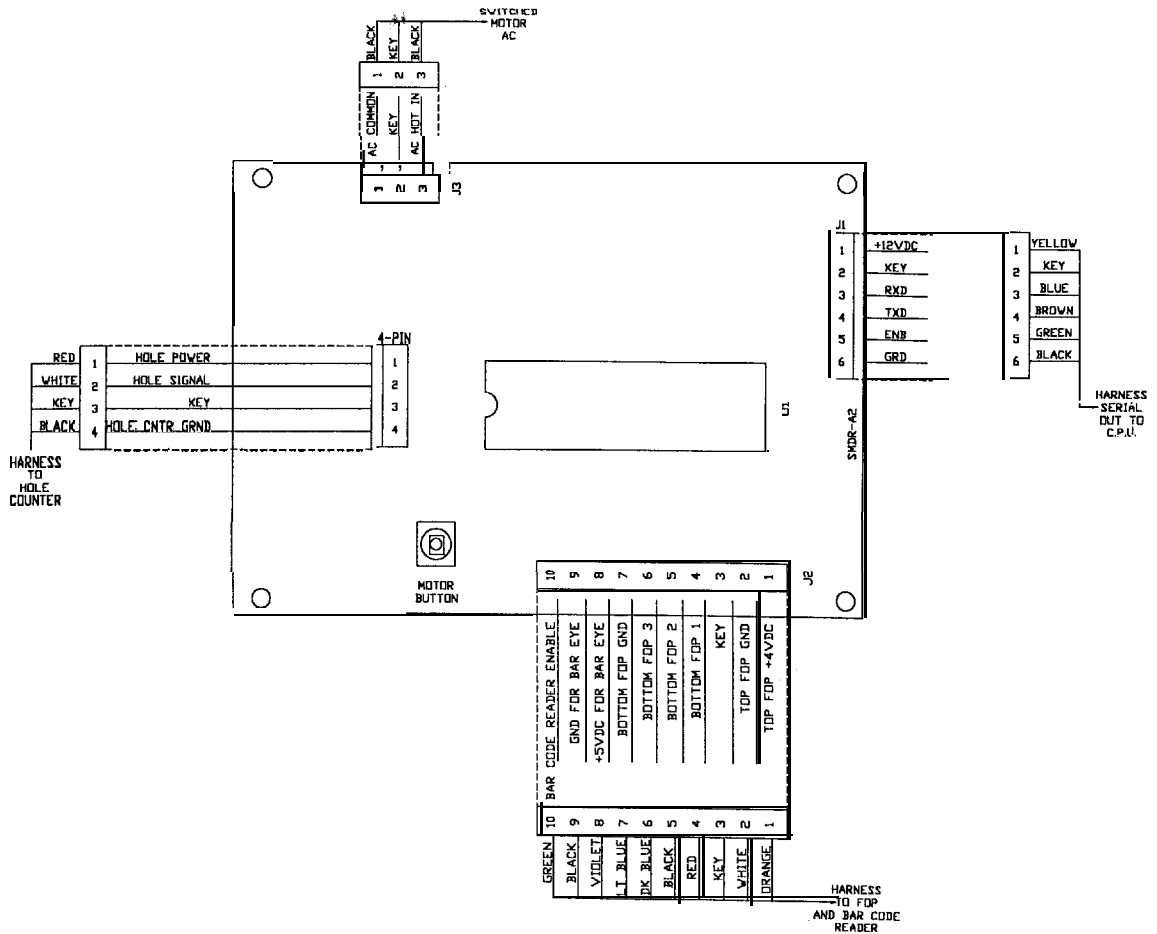


# HARNESS IDENTIFICATION
# DRAWING NO. 11140



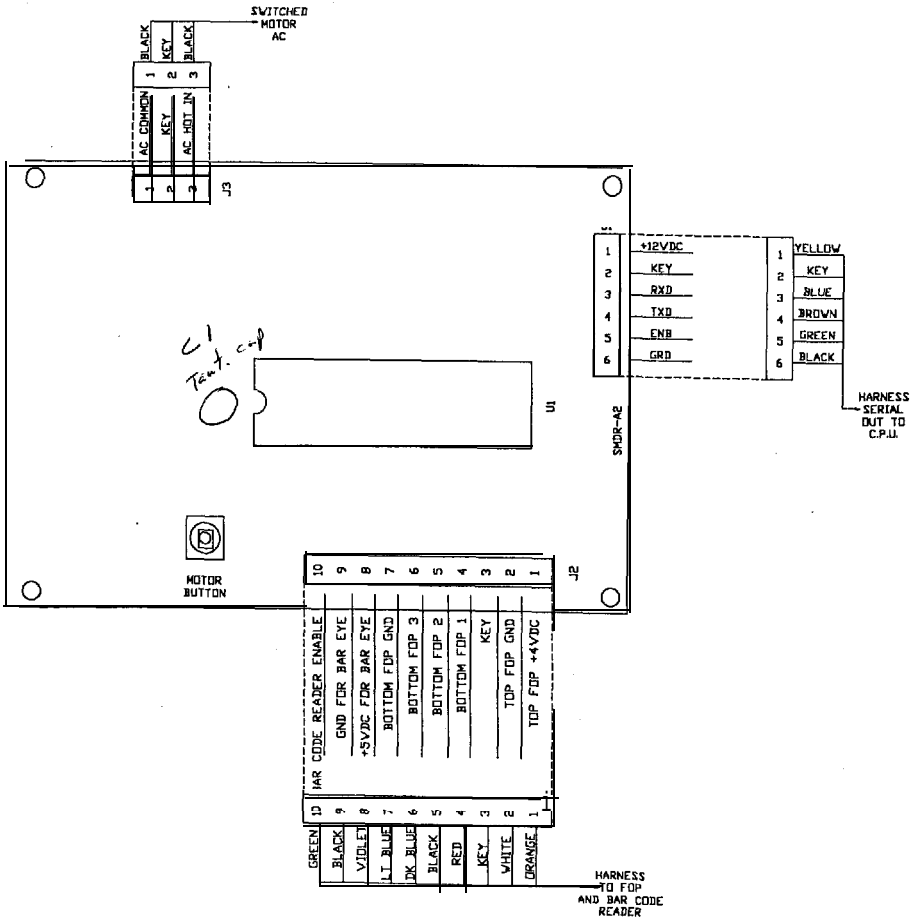

| P/N | DESCRIPTION |
|---|---|
| 7191 | ASSY, HARNESS TICKET READER MOTOR |
| 7192 | ASSY, HARNESS TICKET READER CONTROL |
| 7225 | ASSY, HARNESS MAXI BEZEL COMPONENT |
| 7243 | ASSY, HARNESS TICKET READER COMPONENT |
| 7245 | ASSY, HARNESS TICKET READER |
| 7252 | ASSY, HARNESS SOUND DATA |
| 7261 | ASSY, HARNESS BARCODE READ HEAD |
| 7554 | ASSY, HARNESS TICKET READER INTERCONNECT |
| 7555 | ASSY, HARNESS UPPER DOOR INTERCONNECT |
| 7556 | ASSY, HARNESS UPPER WOR |
| 7557 | ASSY, HARNESS UPPER DOOR COMPONENT |
| 7556 | ASSY, HARNESS SPEAKER/COIN INTERCONNECT |
| 7559 | ASSY, HARNESS SPEAKER/COIN |
| 7560 | ASSY, HARNESS SERVICE SWITCH |
| 7561 | ASSY. HARNESS MAIN AC |
| 7562 | ASSY, HARNESS AC INTERCONNECT |
| 61073 | PARALLEL PRINTER CABLE |

PCB ASSEMBLY, TICKET COUNTER DECODER
SHREDDER ASSEMBLY SMDR-A3 6752-C



# PCB ASSEMBLY, TICKET COUNTER DECODER
## SHREDDER ASSEMBLY SMDR-A3 6752-B

IF BOARD WILL NOT RUN MOTOR EVEN IF "MOTOR BUTTON" IS DEPRESSED - CHECK VISUAL AND TRY REPLACING C1 (TANT CAP.) (swap with same value C4)



# PCB ASSEMBLY, TICKET COUNTER DECODER
# SHREDDER ASSEMBLY SMDR-A2 6752-A