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TICKET STATION



**PLEASE READ FIRST BEFORE
PLUGGING IN MACHINE**

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54MAN-01-D



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Built for Reliability

The Benchmark Ticket Station is a compact ticket cash in machine that was engineered for reliability. Here are some of the key features you should be aware of:

1. Self Cleaning

- All of the opto sensors and barcode scanners are automatically cleaned with an air blast regularly

2. Independent Systems

- Each door contains a ticket taker system independent from one another. If there is a problem with one of the systems, the remaining systems will still operate

3. Redundant Power Supplies

- There are two power supplies in each ticket station.

4. Status Tower Light

- The ticket station features a tower light that will signal a printer problem (out of paper etc.), a ticket taker problem, and will let you know when the ticket bags are full

5. Low Dust Cutting

- The cutters in the Ticket Station are designed to cut the tickets like a pair of scissors for low dust creation, contributing to clean optos and barcode scanners.

1 to 4 Stations Field Expandable

Standard unit is complete and ready to add another station at any time. Just bolt the door on and plug it in.

Important Note:

Each of the access doors uses a power lockout switch. When the door is open, the ticket taker will not operate unless you manually pull the switch to turn it on. If you must activate the power while the door is open, use caution around the moving parts and belts in the ticket taker.

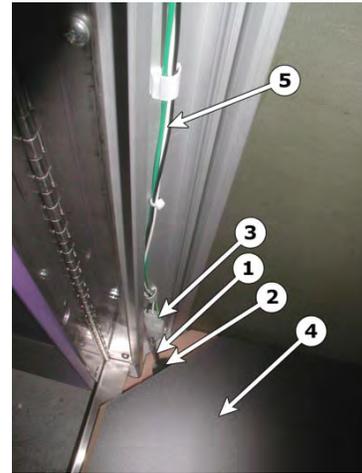
For more information and service details, please visit www.benchmarkgames.com.

Setup

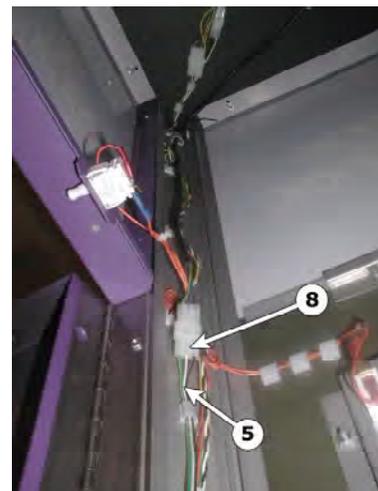
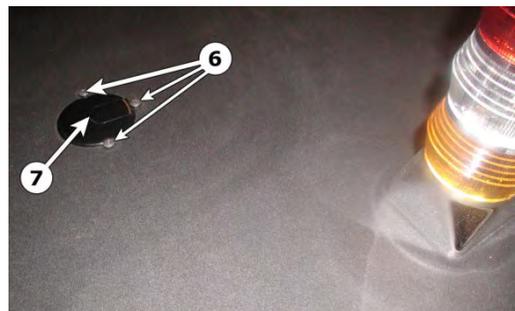
1. Install Power Cord

The power cord can be run down and out the bottom of the machine or up and out the top of the machine.

- To run the cord out the bottom of the machine:
 1. Feed the power cord① through the lower power cord hole② in the bottom of the machine.
 2. Connect power cord to the power connector③ at the main harness.
-Be sure to secure the wires tight along the inside corner away from the scale floor④
 3. Plug power cord into a power receptacle. If a floor receptacle is used, position machine over the top of it.
- To run the cord up and out the top of the machine:
 1. Detach the power wires⑤ from the wire clips on the inside left corner of machine
 2. Run power wires up inside corner attaching into wire clips
 3. Remove wire plate screws⑥ and wire plate⑦
 4. Connect power cord to power connector⑧ on the main harness.
 5. Run the power cord up and out the top of the machine securing with wire clips.
 6. Replace wire plate and reattach with screws.



View inside looking down

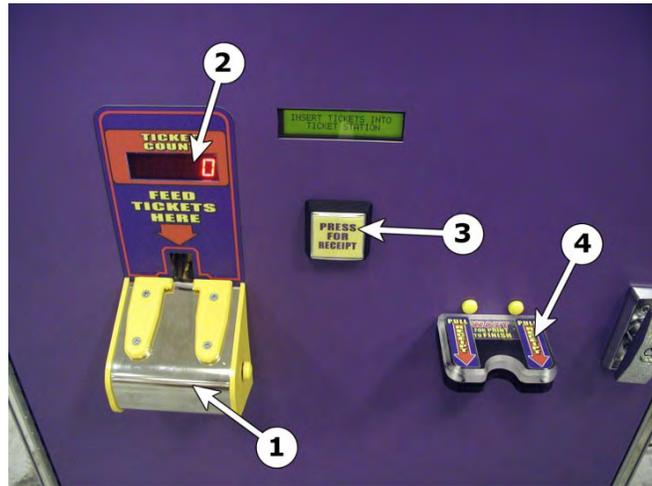


View inside looking up

2. **Install ticket bags** (see “Changing Ticket Bags” section of this manual).
3. **Program barcode, machine number, etc. as desired** (see “Programming section of this manual”).

General Operation

1. Insert tickets into the ticket taker using the easy load ticket ramp①. The LED display② will indicate the number of tickets counted and the Print Receipt Button③ will flash.
2. When all of the tickets have been fed into the machine, press the Print receipt button and wait for the printer to completely print the receipt. The receipt will feed to the front of the printer bezel④ and stop.
3. Pull the receipt straight out.
- 4.



Air Blast Cleaning System

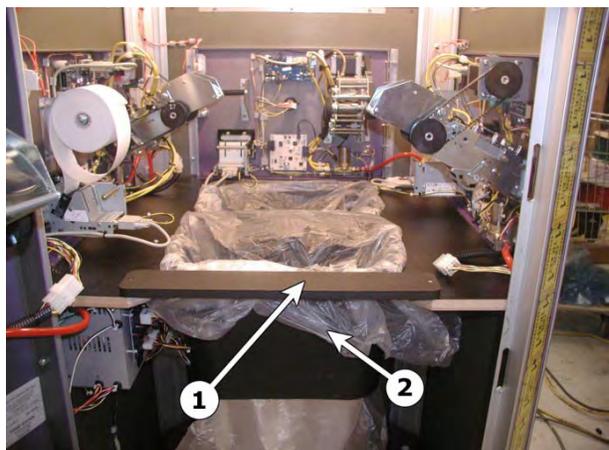
The Air blast cleaning system in the Ticket Station is comprised of an air pump, a relay, the main air hose plumbing, one air valve per ticket taker, and the local air hose plumbing that is distributed from a manifold after the air valve.

The cleaning cycle starts whenever any one of the ticket takers has taken 350 tickets. It restarts every 350 tickets thereafter.

At the beginning of the cleaning cycle, the pump runs for about 10 seconds to build pressure in the system. The air solenoid corresponding to the ticket taker that has taken the 350 tickets is then activated, releasing an air blast over the barcode scanners and opto sensors.

Changing Ticket Bags

1. Open front door.
2. Remove basket containment rail①.
3. Remove front ticket basket②, pull ticket bag through the bottom of the basket, and remove ticket bag.
4. Repeat step 3 for the rear ticket bag.
5. Replace ticket bags and basket containment rail.



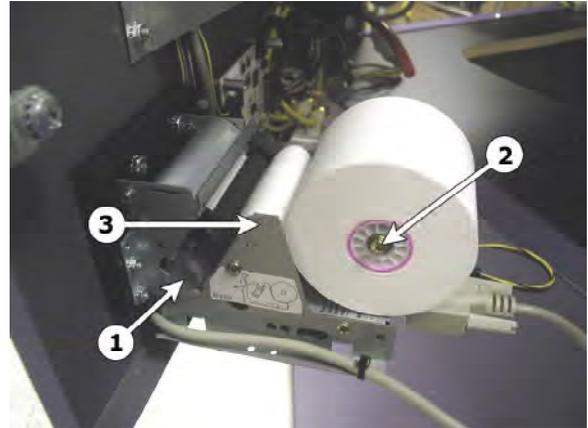
Loading Printer Paper

The printer will take different paper roll sizes. Small paper rolls (usually 7/16" diameter core) should be loaded on the small spindle② located on the printer assembly. The largest paper roll that can be used on the small spindle is 2-3/4" diameter. Large paper rolls (11/16" diameter core) are loaded on the large spindle④ located above the printer assembly on the door. The largest paper roll that can be used on the large spindle is 6".

Note: *The printer will only print on one side of the paper. Pay attention to the orientation of the paper roll when installing.*

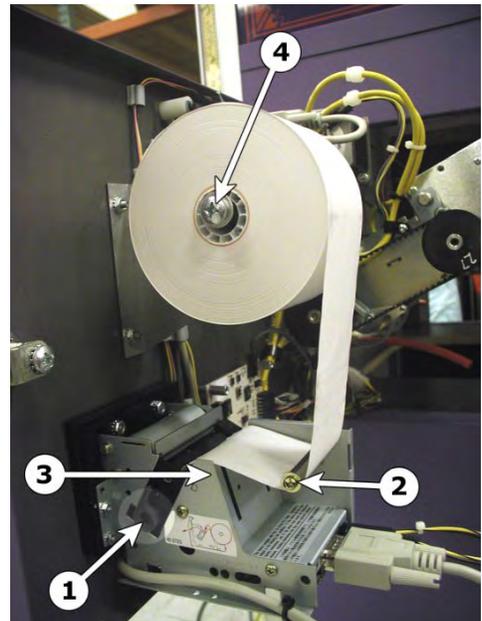
Loading Small Rolls

1. Turn the roller release handle① counter clockwise ¼ turn so that the paper will be allowed to feed into the printer.
2. Load the paper onto the small spindle② so that the free end is fed from the bottom of the roll and over the guide rail③.
3. Feed paper as shown in the picture on the side of the printer.
4. Turn the roller release handle① clockwise ¼ turn into the ready position. The printer will automatically feed.
5. Tear excess from bezel.



Loading Large Rolls

1. Turn the roller release handle① counter clockwise ¼ turn so that the paper will be allowed to feed into the printer.
2. Load the paper onto the large spindle④ with the free end of the paper facing down and away from the door.
3. Feed the paper under the small spindle②, over the ticket guide rail③ and into the printer.
4. Turn the roller release handle① clockwise ¼ turn into the ready position. The printer will automatically feed.
5. Tear excess from bezel.



Tower Light Status

The tower light located on the top of the Ticket Station will let you know from across the room if something in the machine needs attention. You can further narrow the location of the problem from outside the machine by looking at the LCD display on each door. The door with the problem will have an error code on it. Here is what the lights indicate:

White Light Flashing indicates power and is used as an attraction so customers can easily locate the machine

White Light Solid indicates that it is time to change the bag containing discarded tickets.

Red Light Solid indicates that there is a ticket taker problem. Refer to troubleshooting section of this manual.

Yellow Light Solid indicates that there is a problem with the printer. This is most often seen when a printer need paper. If the printers do not need paper, refer to the troubleshooting section of this manual.

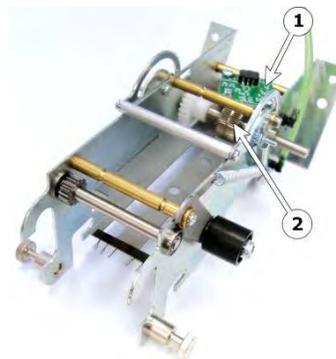
Ticket Taker General

Note: When a door is open for service, the lockout switch kills the 24V to the corresponding door. This keeps the ticket taker from operating for safety. If you must activate the power at the lockout switch for troubleshooting or programming, use caution around the ticket taker belts and cutters. ALWAYS STAY CLEAR OF THE TICKET CUTTERS.

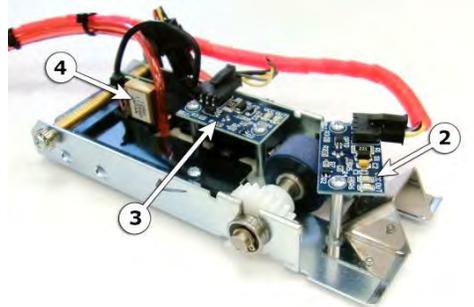
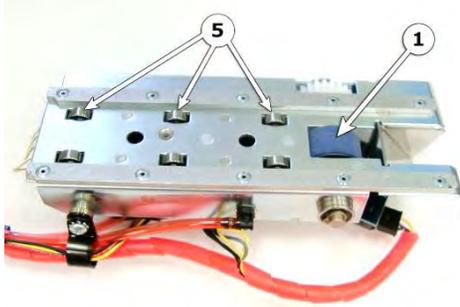
Ticket Taker Overview

The ticket takers are comprised of 4 main parts plus the drive motor:

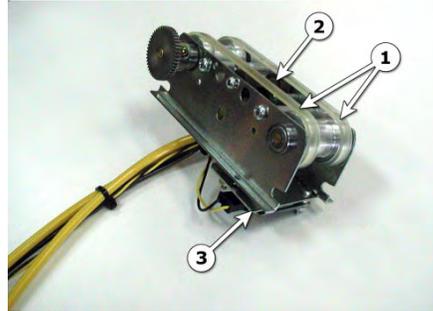
1. Ticket taker main body includes:
 - a. Ticket sense transmitter①
 - b. Lower steel roller②



2. Ticket taker top assembly includes:
- a. Upper urethane roller①
 - b. Ticket sense opto receiver②
 - c. Notch sense opto receiver③
 - d. Upper barcode scanner④
 - e. Rollers⑤



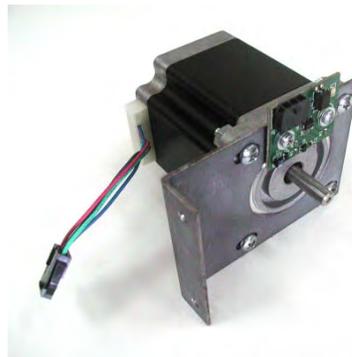
3. Ticket taker belt assembly includes:
- a. Ticket transport belts①
 - b. Lower barcode scanner②
 - c. Notch opto transmitter③



4. Ticket taker cutter assembly



5. Drive motor assembly includes:
- a. Stepper motor①
 - b. Hall effect sensor②

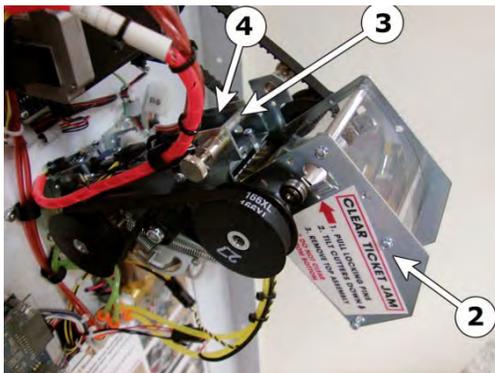
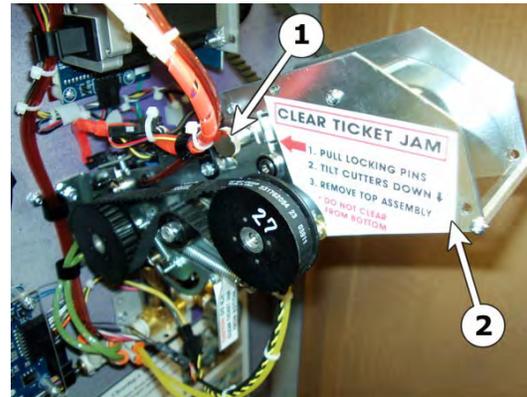


Ticket Taker Operation

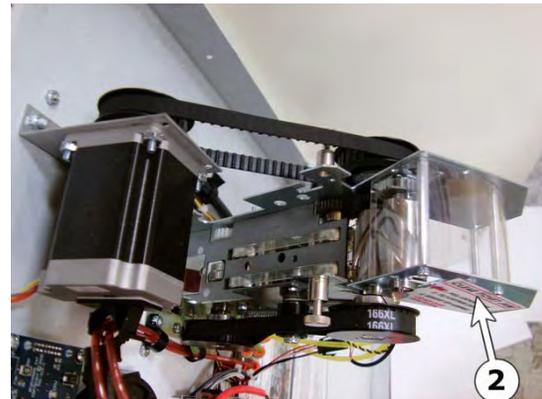
When ticket is inserted the ticket taker, the ticket sense opto is interrupted which starts the ticket taker drive motor. The upper and lower rollers take the ticket(s) to the transport belts which carry the ticket(s) to the cutters. There are blue flat springs in the top assembly that push down on the 6 steel rollers in the top assembly keeping the ticket down on the transport belts. During the ticket travel over the transport belts, the notch opto senses the center notch of the tickets and the upper and lower side of the ticket is scanned for a barcode. We sense that the motor is turning with a hall effect sensor which is activated by a magnet located in the motor pulley passing over the circuit board. If there is no signal pulsing from the hall effect sensor when the motor is supposed to be running, the power to the motor will be turned off.

Clearing a Ticket Jam

1. Pull Captive Pins① to unlock cutter assembly(1 each side)
 - a. Pins can be secured in the retracted position by turning them counterclockwise while pulling
2. Tilt cutter assembly② down
3. Use brass handle③ to pull top assembly④ back and up to remove.
4. Remove jammed tickets.
5. Carefully replace top assembly.
6. Tilt cutter assembly up and re-secure captive pins.



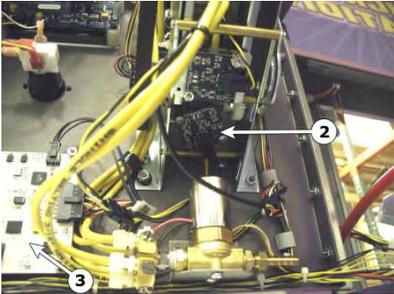
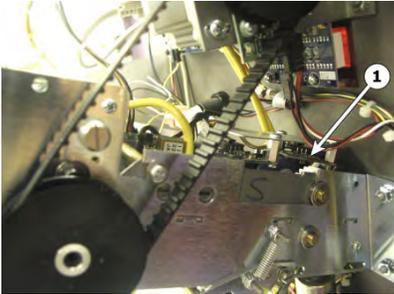
Cutter Assembly Shown Tilted Down



Top Assembly Shown Removed

Troubleshooting Guide

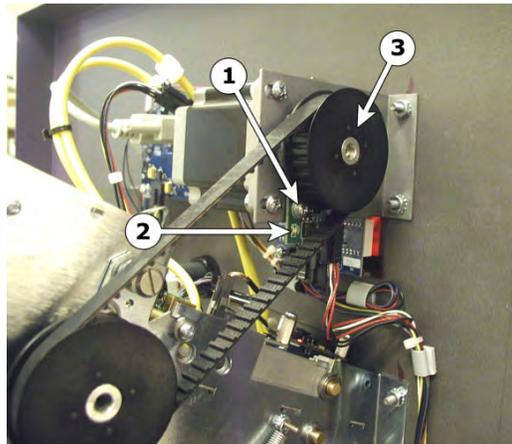
Note: There are (2) power distribution circuit boards mounted to the power supply housing. Each board holds (3) fuses, one 5V & two 12V. If there is a DC power problem, check these fuses.

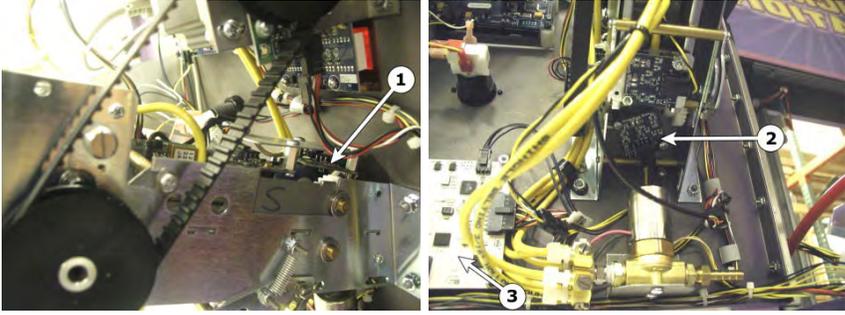
<p>Ticket Taker will not start</p>	<ol style="list-style-type: none"> 1. Check ticket sense opto pair. <u>LED</u> should come on and power output should pull to ground on <u>the ticket sense opto receiver</u>① when opto is blocked by ticket. Check for good power and ground to <u>ticket sense opto transmitter</u>② and <u>ticket sense opto receiver</u>①. 2. Check for good signal <u>to ticket eater pcb</u>③ input from <u>ticket sense opto receiver</u>① 3. Check all ticket eater motor connections <div style="display: flex; justify-content: space-around; align-items: center;">   </div>
<p>Ticket Taker runs continuously</p>	<ol style="list-style-type: none"> 1. Ticket sense opto path is blocked; check for ticket or debris. 2. Bad ticket sense opto receiver or transmitter.

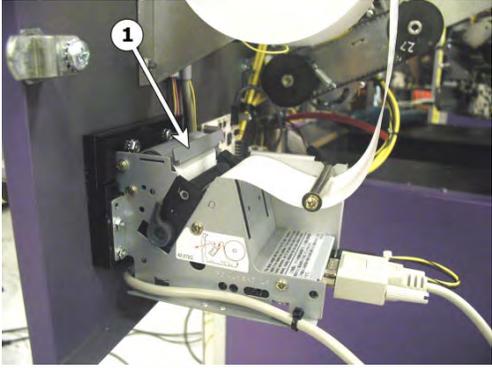
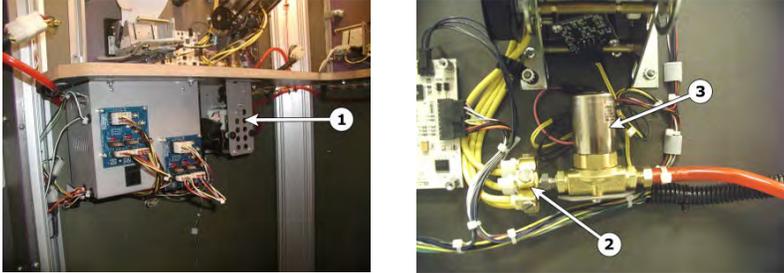
**Ticket Taker
runs slowly
then stops**

Hall effect pcb① output not getting to the ticket eater board.

1. Check that when the motor is running, the LED② on the hall effect pcb① is flashing at least one time per motor revolution. If the LED does not flash:
 - a. Check to see if the motor pulley③ is tight on the motor shaft.
 - b. Check the distance of the motor pulley from the hall effect sensor pcb. There is a magnet on the inside of the motor pulley that activates the sensor every revolution. If the pulley is located too far from the sensor pcb, the magnetic strength will be too weak to activate the sensor.
 - c. Check voltage to the hall effect pcb
- If the LED does flash, check the output of the hall effect sensor pcb all the way to the ticket eater pcb



<p>Ticket Taker will not count with Ticket inserted in any direction</p>	<ol style="list-style-type: none"> 1. Check notch count opto pair. <u>LED on notch opto receiver</u>① should flash as tickets are fed into ticket taker. <ol style="list-style-type: none"> a. If LED does not flash, check power to the <u>notch opto transmitter</u>② and notch opto receiver①. b. If LED is always on, something is blocking the opto path or the opto is dirty. 2. If LED does flash, check output of notch count opto all the way to the ticket eater pcb. 3. Check power to barcode pcb's and output all the way back to ticket eater pcb③. 
<p>Ticket Taker counts accurately with barcode only up or only down</p>	<ol style="list-style-type: none"> 1. Check power to and output from barcode scanner pcb corresponding to the side that does not work.
<p>Ticket count is intermittent</p>	<p>To help diagnose the problem, you can, through programming options, change the ticket verification to notch from barcode. If the ticket count becomes accurate, the problem is related to the barcode. If the count is still intermittent, the problem is probably related to the notch opto sensors.</p> <ol style="list-style-type: none"> 1. Bad tickets with poor printing or out of spec barcode. 2. Clean barcode scanner pcb's and opto notch transmitter and receivers (if this works check pump operation and pneumatic cleaning system for leaks). 3. Check for loose wire connections to barcode scanners or opto notch optos
<p>Single tickets do not count accurately</p>	<p>Check that tickets travel through the ticket taker at a consistent rate without stopping or slowing dramatically.</p> <ol style="list-style-type: none"> 1. Check for debris in ticket eater 2. Check for equal spring pressure from the flat springs, make sure they are not bent 3. Check ticket transport belts for tracking, breakage, stretch or extreme wear

<p>Printer does not print</p>	<ol style="list-style-type: none">1. Out of paper2. Paper installed backwards. The printer will only print on one side of the paper. See “Installing Printer Paper” section of this manual to verify correct installation.3. <u>Paper guide plate</u>① pushed up. This plate needs to be all the way in the down position in order for the printer to print. If you find this in the up position, check to be sure receipt path is clear and that paper can be fed freely through the door. 
<p>Sensors need cleaning often</p>	<ol style="list-style-type: none">1. Make sure the <u>air pump</u>① comes on every 350 tickets.2. Make sure there are no leaks in the main air plumbing3. Make sure there are no leaks in the local air plumbing at the doors. Check air hose connections at the <u>air valve manifolds</u>②. <p>Note: If the problem is most often with one particular ticket taker, it is most likely a leak in the air plumbing system local to the door with the problem after the <u>air valve</u>③.</p>  <p>Shown with ticket baskets removed</p>

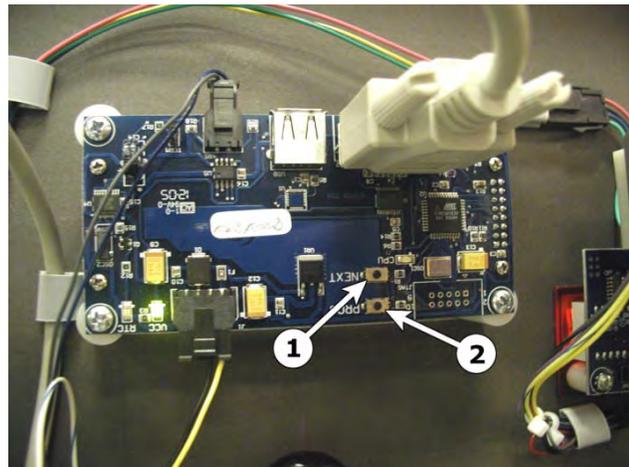
Programming

PLEASE NOTE: The lockout switch must be activated for all programming functions to work. Be sure to pull the plunger out to activate power to the ticket taker board before programming. Use caution as the ticket taker now has power.

If at any time the message “COMM. ERROR” is displayed, there is a problem with communications between the boards, and programming is not possible. If this condition occurs, check to be sure lockout switch is activated, or turn off the machine, check all harness connections, insure that the power switch is on to the Ticket Eater board, and turn on the machine.

1.) Entering Programming Mode

To enter program mode, press and hold the **PROGRAM button** ② located on the back of the Printer Interface Board (the board with the LCD display). After 2 seconds, “PROGRAM MODE” will appear on LCD Display. At this time, release button. Momentarily, “PLEASE WAIT” will appear while the Totals retrieved. At this time “TOTAL TICKETS” with the number of tickets taken in will be displayed.



the
the
are

2.) TOTAL TICKETS

The total tickets taken in are displayed. The total will rollover to zero when it reaches 10,000,000. Depressing the PROGRAM button will reset the count to zero, and depressing the **NEXT button** ① will display “LAST RECEIPT NUMBER”.

3.) LAST RECEIPT NUMBER

The last receipt number printed is displayed. This number automatically increments on every print, and rolls over to 1 after Receipt Number 9999. Depress the PROGRAM button to reset the receipt number, and depress the NEXT button to display “ENTER PROGRAM MODE?”

4.) “ENTER PROGRAM MODE?”

Depressing the PROGRAM button at this time will enter the area of Program Mode where parameters may be changed. Depressing the NEXT button will return the game to Run Mode.

5.) “DATE/TIME”

If Program Mode has been entered, the first setting is the Date and Time. The cursor will be flashing and at the Month position. Depressing the PROGRAM button will step through the month from 01 to 12. Depressing the NEXT button will move the cursor to the Day position. Enter the Day using the PROGRAM button. Depressing the NEXT button will move the cursor to the Year position. Depressing the PROGRAM button will increment the Year from 00 to 99. Depressing the NEXT button will move the Cursor the Hour position. The time is

set in 24-Hour format. Depressing the PROGRAM button will increment the Hour from 00 to 24 Hours. Depressing the NEXT button will move the cursor to the Minutes position. Depressing the PROGRAM button at this time will increment the minutes from 00 to 59. Depressing the NEXT button will go to the next option, “ENTER MACHINE NUMBER”

6.) “ENTER MACHINE NUMBER”

The machine number for each unit can be set from 0 to 99. Depressing the PROGRAM button will increment this value, and depressing the NEXT button will move to the next option, BarCode entry.

7.) “ENTER BARCODE?”

Depressing the PROGRAM button will allow for entry/editing of the 4-Digit Interleaved 2 of 5 barcode present on the ticket for ticket validation. Depressing the NEXT button will skip this step.

8.) “BARCODE: 0000”

This option sets the 4-Digit barcode. The flashing cursor will be over the first digit. Depressing the PROGRAM button will change the value of this digit from 0 to 9 then back to 0. Depressing the NEXT button will move the cursor to the next digit. Continue in this manner until the last digit is entered, then depressing the NEXT button will move to the next option, “TICKET SECURITY”.

9.) TICKET SECURITY

This option sets the Level of ticket barcode validation used. The PROGRAM button will change the value from 0 to 2, then back to 0, and the NEXT button will move to the next option, “SAFETY MODE”. The Three security levels are as follows:

- LEVEL 0 – Notch Only Validation, no Barcode required
- LEVEL 1 - Barcode Validation, Standard (Recommended)
- LEVEL 2 – Barcode Validation, HIGH Security

10.) SAFETY MODE

This option sets the Safety Level of the ticket eaters. Off is the normal mode and is recommended. ON lessens the power of the ticket eaters. Depressing the PROGRAM button changes the setting, and depressing the NEXT button moves to the next option, “TICKET VALUE”

11.) TICKET VALUE

This option sets the value of each ticket. The PROGRAM button will change the value from 1 to 5, then back to 1, and depressing the NEXT button moves to the next option, “RECEIPT CHECKDIGIT”

12.) RECEIPT CHECKDIGIT

This option turns the checkdigit added to the receipt barcode on or off. The PROGRAM button will change the setting, and depressing the NEXT button moves to the next option, “CARDSWIPE ENABLE”

13.) CARDSWIPE ENABLE

This option is selected if one of the many available cardswipe systems is interfaced with the Ticket Station. Depressing the PROGRAM button scrolls through the three options which are OFF (Normal Operation), PULSE, and SERIAL. Contact your cardswipe system supplier for more information. Depressing the NEXT button moves to the next option, “EDIT DISPLAY?”

14.) “EDIT DISPLAY?”

Depressing the PROGRAM button will allow for editing of the “WELCOME TO” message that is displayed on the machine. Depressing the NEXT button will skip this step and go to “EDIT RECEIPT?”. If the PROGRAM button is depressed, the display will show the current “WELCOME TO” message, and a flashing cursor will be at the beginning of the second line of the display, which is the only line that may be edited.

Editing the Display

Depressing the PROGRAM button will change the character at the flashing cursor. Every time the PROGRAM button is depressed, the next character in the list will be displayed. If the end of the list of characters is reached, the first in the list is displayed (refer to List of Characters at the end of this section). The line will appear exactly as it is edited, including leading and trailing spaces.

Depressing the NEXT button will move to the next character. If the flashing cursor is not at the beginning of the line and the BACK button is depressed, the flashing cursor will move to the previous character. Depressing the NEXT button when the flashing cursor is over the last character will save the displayed Welcome Message, and go to the next option, which is “EDIT RECEIPT?”

15.) “EDIT RECEIPT?”

Depressing the PROGRAM button will allow for editing of the first four lines of the receipt, as well as the line found after the ticket quantity is printed. Each of the five lines can be a maximum of 32 characters long, including spaces and punctuation.

Depressing the NEXT button will skip this step and go to “RE-ENTER PROGRAM MODE?”. If the PROGRAM button is depressed, the display will show the current first line of the receipt, and a flashing cursor will be at the beginning. The first twenty characters will be on the first line of the display, and the last twelve characters will be on the second line of the display. A black square will be displayed past the end of the 32 character line.

NOTE: If this option is selected, all 32 characters on all five lines must be stepped through to leave this option!

Editing the Receipt

All five lines on the receipt are edited in the same way. It is recommended that the information that is desired for the five lines be written out in advance to insure that the 32 character limit isn't exceeded. The lines should be edited with NO leading spaces. Each line will be automatically centered on the receipt when it is printed.

Depressing the PROGRAM button will change the character at the flashing cursor. Every time the PROGRAM button is depressed, the next character in the list will be displayed. If

the end of the list of characters is reached, the first in the list is displayed (refer to List of Characters at the end of this section).

Depressing the NEXT button will move to the next character. If the flashing cursor is not at the beginning of the line and the BACK button is depressed, the flashing cursor will move to the previous character. Depressing the NEXT button when the flashing cursor is to the left of the black square will save the line and the next line will be displayed for editing. If it is the fifth line, the next option will be shown, “RE-ENTER PROGRAM MODE?”

16.)RE-ENTER PROGRAM MODE?

This option gives you the opportunity to go through the programming settings again. Depressing the PROGRAM button will re-enter the Program Mode at the beginning, and depressing the NEXT button will leave Program Mode, and return to Run Mode.

CHARACTER LIST for DISPLAY and RECEIPT EDITING

[SPACE] ! “ # \$ % & ‘ () * + , - . / 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

ERROR CODES

The LCD Display on the Ticket Station will show common error codes to help in troubleshooting. There are two Types of errors; those associated with the Ticket Eater and those associated with the Printer. The LCD Display will show which type of error it is, “TICKET ERROR” or “PRINTER ERROR” along with the associated error number.

The Errors are as follows:

1.) Ticket Errors:

ERROR 1: Ticket Jam

2.) Printer Errors:

ERROR 1: Printer Platen Open

ERROR 2: Printer Out Of Paper

ERROR 3: Printer Head Temperature Abnormal

ERROR 4: Printer Cutter Cover Open (usually indicates a Paper Jam)

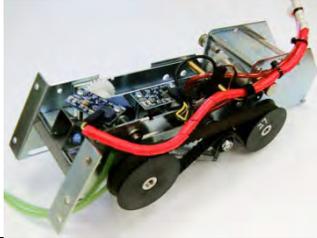
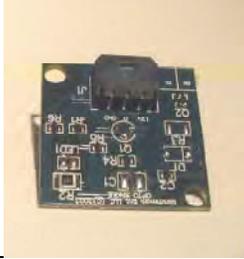
ERROR 5: Printer Communications Failure

NOTE:

If one of Errors 1 through 4 occur in the middle of a receipt print, the Printer may default to ERROR 5. Insure that all of the possible errors are checked before assuming a communications failure.

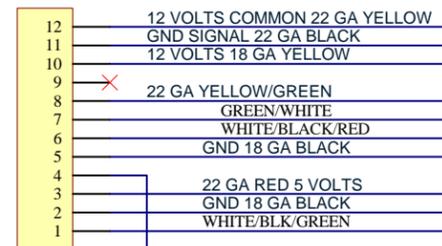
If the Printer is in the middle of printing the receipt and runs out of paper, it will retain the information for that receipt AS LONG AS POWER IS NOT TURNED OFF TO THE PRINTER. Reload the paper without turning the printer off and it will complete the printing of the last receipt.

Major Parts List

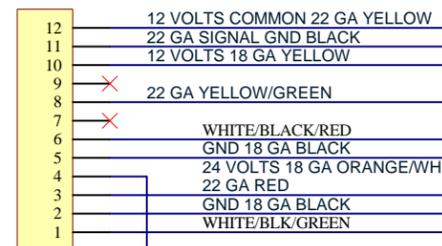
<p>87-ASM-24 Ticket Taker</p> 	<p>87-ASM-25 Ticket Taker Top</p> 
<p>87-ASM-26 Ticket Taker Belt Assy.</p> 	<p>87-ASM-27 Ticket Taker Body</p> 
<p>87-ASM-28 Ticket Cutter</p> 	<p>87-ASM-45 Ticket Taker Stepper Motor</p> 
<p>87-ASM-46 Solenoid Valve Assy.</p> 	<p>PCB-020 Opto Transmitter Single</p> 
<p>PCB-021 Opto Receiver Single</p> 	<p>PCB-022 Barcode Reader</p> 
<p>PCB-026 Hall Effect Sensor</p> 	<p>PCB-027 Printer Driver Board</p> 
<p>PCB-028 Stepper driver single white series</p> 	

<p>ELM-021 Lockout Switch</p> 	<p>ELM-022 Tower Light, 3 color</p> 
<p>PCB-029 5 digit led display</p> 	<p>ELM-023 Printer, Thermal</p> 
<p>MOT-004 Air Pump</p> 	

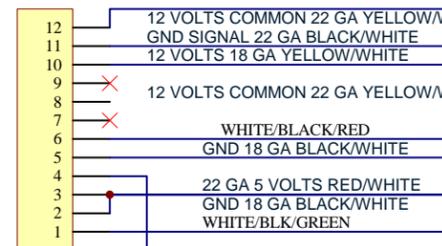
12 PIN CONNECTOR DOOR 1



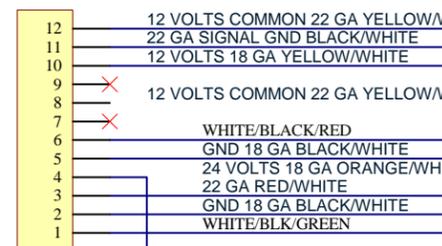
N CONNECTOR DOOR 2



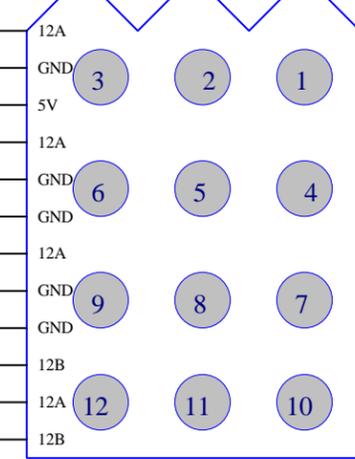
PIN CONNECTOR DOOR 3



12 PIN CONNECTOR DOOR 4



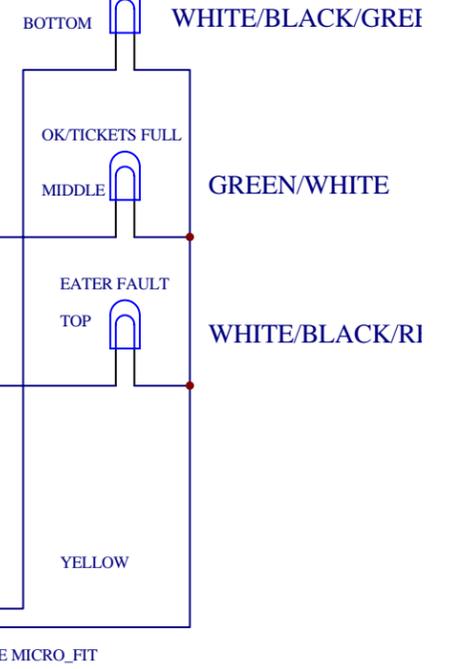
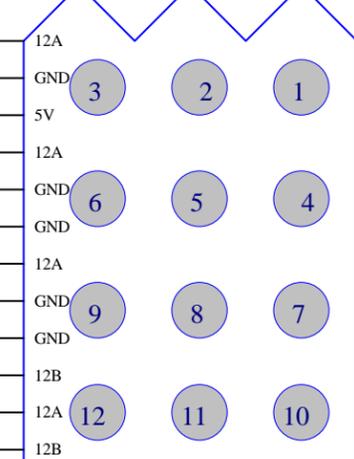
P1



4 PIN MOLEX FEMALE

24 VOLT POWER 1

P2

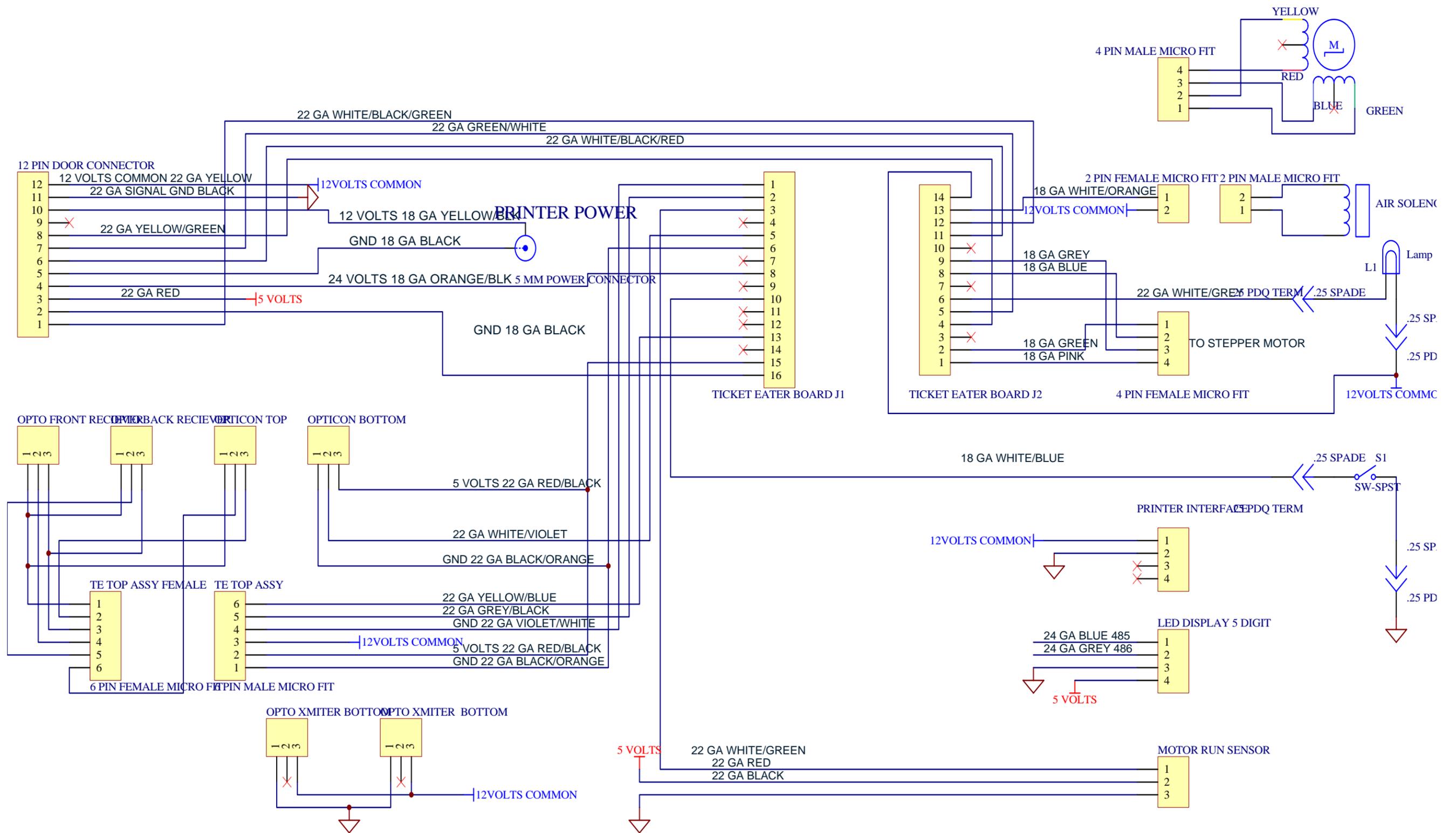


ORANGE

ORANGE/WHITE

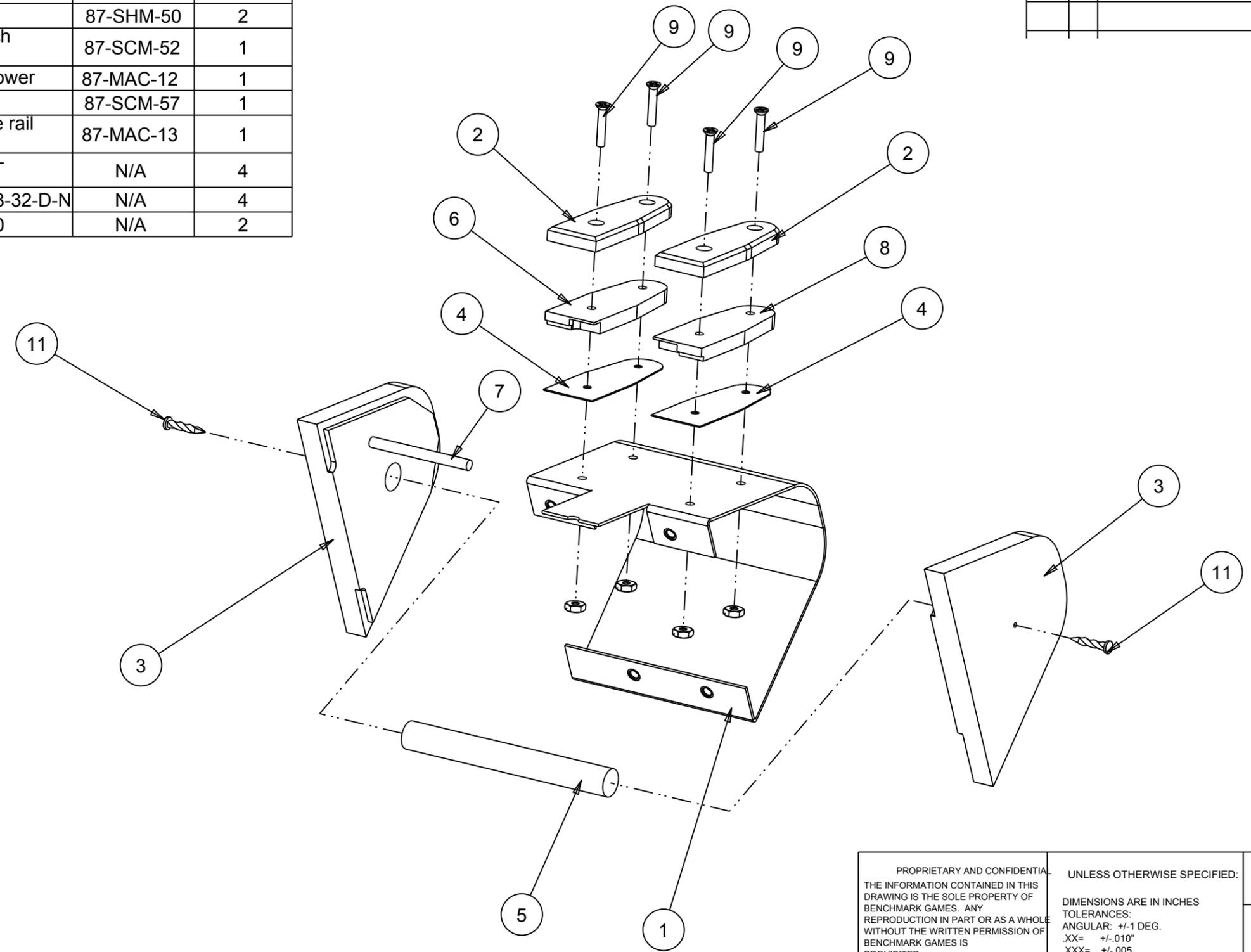
FULL TICKET BAG





ITEM NO.	Description	Part Number	QTY.
1	ticket guide bracket	87-SHM-25	1
2	ticket guide rail	87-MAC-04	2
3	ticket guide end plate	87-MAC-03	2
4	ticket guide shim	87-SHM-50	2
5	ticket guide attach rod	87-SCM-52	1
6	ticket guide rail lower	87-MAC-12	1
7	ticket guide rod	87-SCM-57	1
8	Mirrorticket guide rail lower	87-MAC-13	1
9	CR-FHMS 0.138-32x0.75x0.75-N	N/A	4
10	MSHXNUT 0.138-32-D-N	N/A	4
11	screwnail 13x750	N/A	2

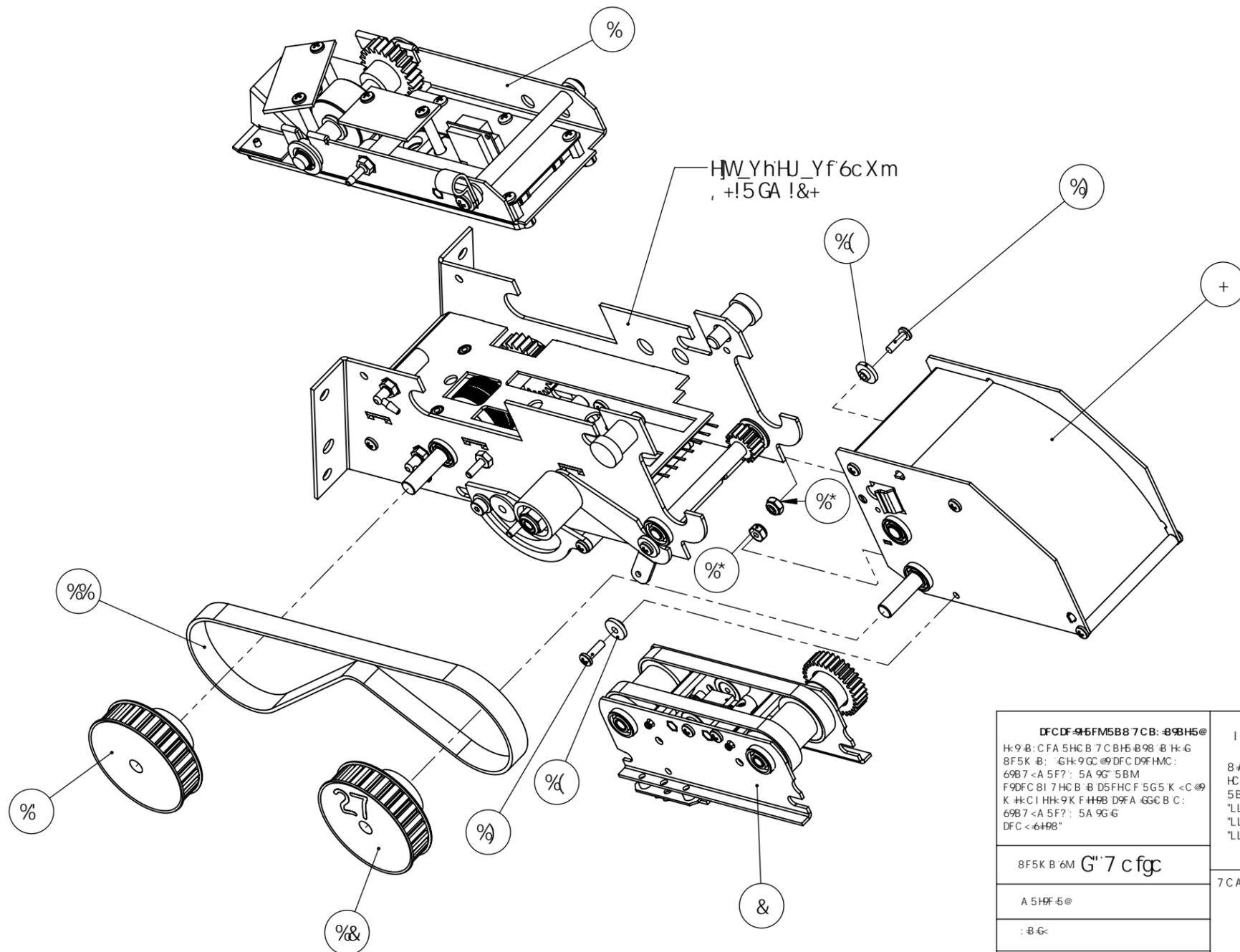
REVISIONS			
ZONE	REV	DESCRIPTION	DATE
	A	Release to Production	07/28/07



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	DRAWN BY: S. Corso	TITLE: ticket guide assembly	
MATERIAL	COMMENTS:	SIZE B	DWG. NO. 54-ASM-04
FINISH		SCALE: 1:2	WEIGHT:
		SHEET 1 OF 1	

#9A BC "	8YgMjdjcb	DUfhBi a VYf	E HM
%	hW_YhYUHfrcd	, +!5GA !&)	%
&	VY'hUggYa V`mhW_YhHJ_Yf	, +!5GA !&*	%
+	W hYfgYd`d]hX	, +!5GA !&,	%
%&	&+L@" +) `k]XY`hja]b[`VY`h	; 9F!\$%)	%
%	&-L@" +) `k]XY`hja]b[`VY`h	; 9F!\$(%
%d	g\ci `XYfk Ug_Yf. (Xl%)I' +)	, +!G7 A !)-	&
%d	7 F!D<A G"\$%&!(\$I \$" +)I \$" +)!B	B#5	&
%*	bi hZVYfcW_(((\$	B#5	&

F9J @C BG			
NC B9	F9J "	89G7 F`DHC B	85H9
	5	FY`YugY	\$+&* #S+
	6	I dXUH`dUfng	\$+&+#S+
	7	7\Ub[Y`fYW] Yfrc`fUbg`]Hfcb VY`hUggYa VmdU[Y	\$&#&) #9&



DFC DF-45FM5887CB: 89BH5@ H:9-B: CFA 5HC B7 C B H5 B98 `B H:G 8F5K `B: `6H:9GC @9DFC D9F HMC: 69B7 <A 5F?: 5A 9G` 5BM F9DFC B1 7HC B `B D5FHCF 5G5 K <C @ K H:C I H:K 9K F H:BB D9FA @GC B C: 69B7 <A 5F?: 5A 9G`G DFC <-6498*	I B @9GC H:9FK @9GD97 ≠ 98. 8-A 9BGC BG5F9-B `B7 <9G HC @9F5B7 9G 5B: I @5F. `Z#%89. "..... "LLL1" Z#"\$S" "LLLL1" Z#"\$S"	6YbW\ a Uf_ ; Ua Yg	
8F5K B 6M G`7 c fgc	7 C A A 9BHG	H# @. hW_YhYUHfVY`h 7 ca d`YH`	
A 5Hf-5@		GA9	F9J
: B G<		6	8K ; ""BC" , +!5GA !&(
		G7 5 @. %&	K 9≠ <H
			G<99H% C : *

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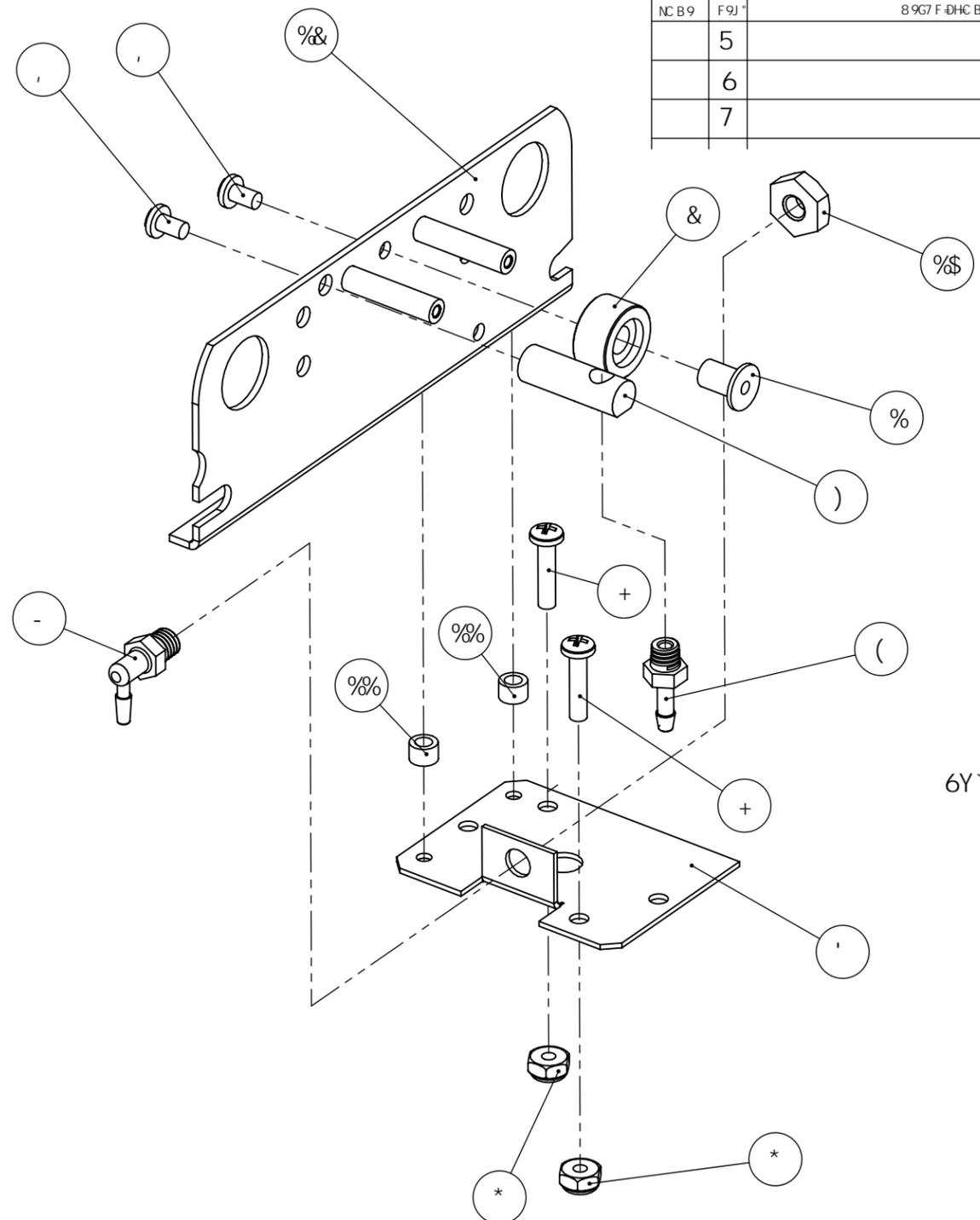
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&

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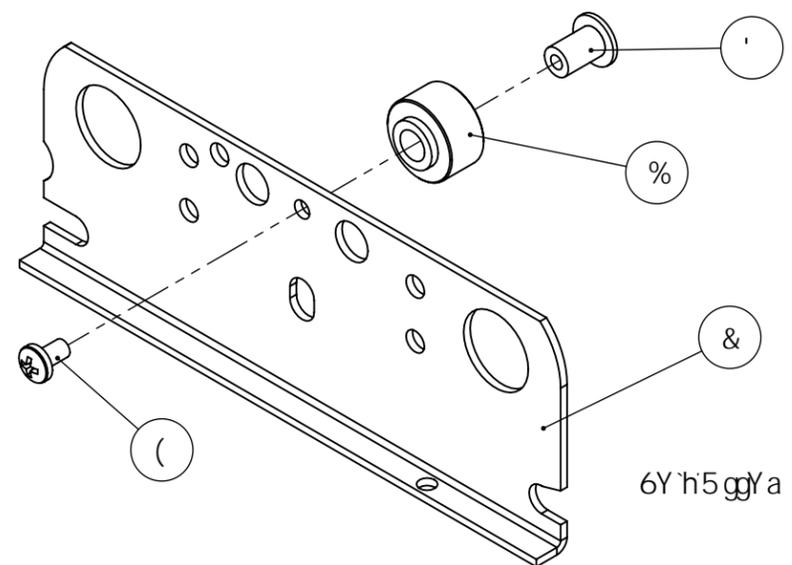
#PA BC "	D5FHBI A 69F	89G7 F DHC B	E HM
%	[X'Yf'di "Ym'd]b	, +!G7 A !&	%
&	[X'Yf'di "Ymk c ZUb[Yg	, +!G7 A !&	%
'	Wci bhcdhc a ci bh d`UH	, +!G<A !%	%
(9B\$%\$	9B!\$%\$	%
)	\$, +G7 A \$&(gdUWfVY'h UggYa V'mYh	%
*	bi hZVYfcW ((\$	B #5	&
+	7F!D<A G\$"%&! (\$!\$"!\$"!)B	B #5	&
'	7F!D<A G\$"%&! (\$!\$"%, !\$"%, !B	B #5	&
-	-\$XY[Z]h] '\$* &	; 9B!\$%(%
\$\$	A G<LBI H\$"% \$!&(G7	B #5	%
%%	gdUWf. (!% , cX! %&)@	B #5	&
%&	VY'hUggYa V'mWcj Yf f[\hgYa	, +!G<A !&	%

NCB9	F9J	89G7 F DHC B	85H9
	5		\$+ #&* #&+
	6		\$+ #&+ #&+
	7		\$&#&) #/%&



6Y'h5ggYa V'm7 cj Yf@Zh

#PA BC "	D5FHBI A 69F	89G7 F DHC B	E HM
%	[X'Yf'di "Ymk c ZUb[Yg	, +!G7 A !&	%
&	VY'hUggYa V'mWcj Yf	, +!G<A !&	%
'	[X'Yf'di "Ym'd]b	, +!G7 A !&	%
(7F!D<A G\$"%&! (\$!\$"%, !\$"%, !B	B #5	%

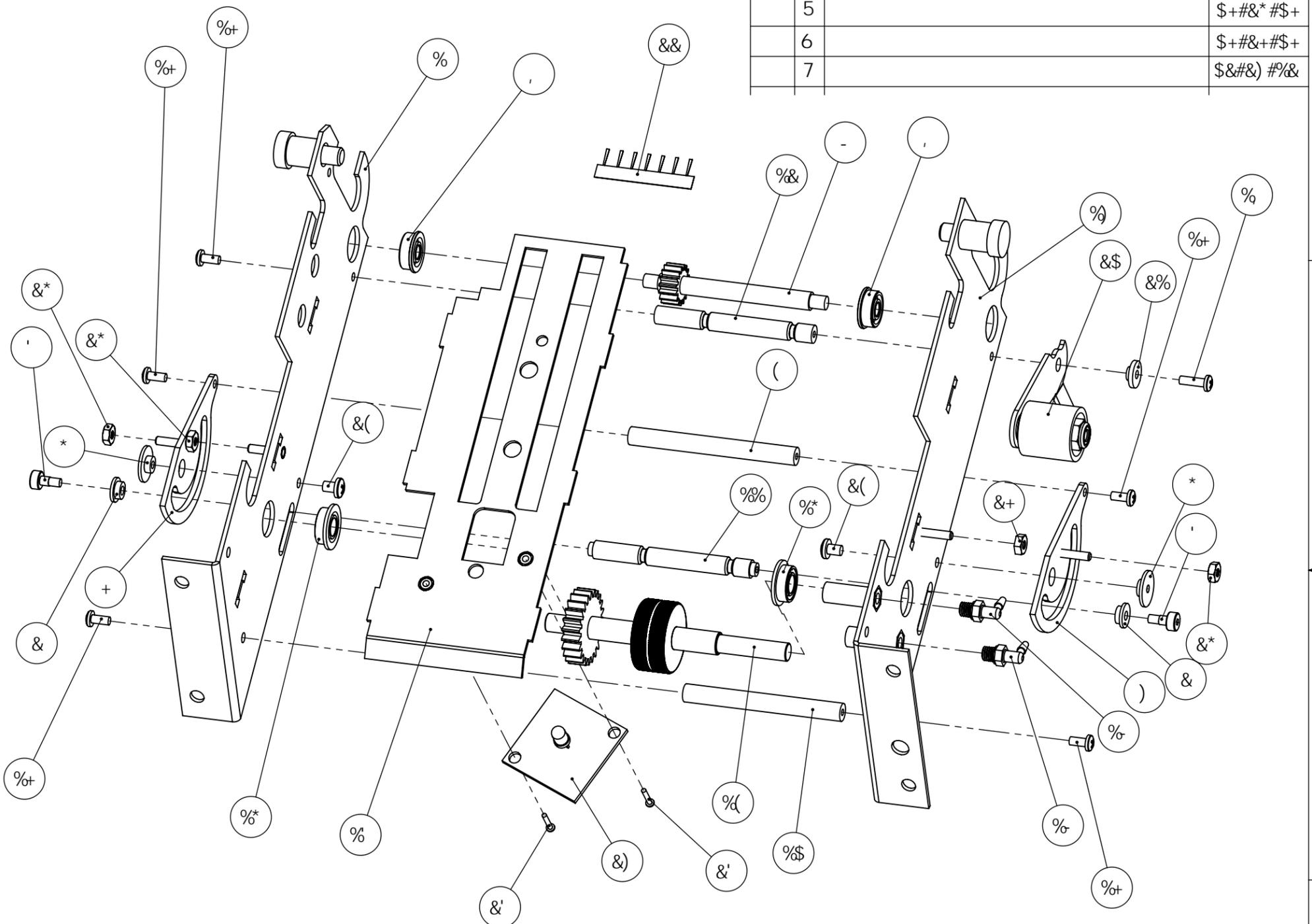


6Y'h5ggYa V'm7 cj Yf

<p>DFC DF 45FM5B87CB: 89B H5@</p> <p>H:9 B: CFA 5HC B 7 C B H5 B 98 B H:6</p> <p>8F5K B: 6H:9 CC @DFC D9F HMC:</p> <p>69B7 <A 5F?: 5A 9G" 5BM</p> <p>F9DFC B1 7 HC B B D5FHCF 5G5 K <C @</p> <p>K H:C I H:K 9K F H:8 D9FA 6GC B C:</p> <p>69B7 <A 5F?: 5A 9G-G</p> <p>DFC <64B8"</p>	<p>I B @GGC H:9FK @9 GD97 ≠ 98.</p> <p>8-A 9BGC BG5F9-B B7 <9G</p> <p>HC @9F5B7 9G</p> <p>5B: I @F. "Z#%89. ".....</p> <p>"LL1" "Z#" "\$%"</p> <p>"LLL1" "Z#" "\$%"</p> <p>"LLLL1" "Z#" "\$%"</p>	<p>6YbW@a Uf_; Ua Yg</p> <p>H#H@.</p> <p>hWYhYUHfVY'h</p> <p>6Y'h5ggYa V'm7 cj Yf fl +!5GA !*%&</p> <p>6Y'h5ggYa V'm7 cj Yf @Zh fl +!5GA !* &</p>
<p>8F5K B 6M G'7 c fgc</p> <p>A 5HF-5@</p> <p>: B G<</p>	<p>7 C A A 9BHG</p>	<p>GAN9</p> <p>6</p> <p>G7 5 @. %%</p>
		<p>8K ; "BC"</p> <p>F9J</p> <p>K 9≠ <H</p> <p>G<99H(C : *</p>

#PA BC "	8YgWfdhcb	DUfhBi a VYf	E HM
%	hW_YhYUHfrcd gXY gla	, +!G<A !%&	%
&	VYhUggYa V'mfYUgy WUa fc Yf	, +!G7 A !)%	&
.	g\ci XYfVc'h%&)'I %& I'(((\$	B #5	&
(VYhUggYa V'mfYUgy \UbXY	, +!G7 A !' \$	%
)	VYhUggYa V'mfYUgy WUa gla	, +!G<A !()	%
*	g\ci XYfk UgYf *I & \$I * &	, +!G7 A !)\$	&
+	VYhUggYa V'mfYUgy WUa f[\h	, +!G<A !+,	%
,	6F; \$\$\$	B #5	&
-	X YfgUZhUgmn	, +!5 GA !' &	%
\$\$	gdUWfrcd Uggya V'm gdUWfVYhUggYa V'm	, +!G7 A !\$,	%
%%	UHAX	, +!G7 A !*\$	%
%&	gdUWfVYhUggYa V'm a ci bh	, +!G7 A !\$+	%
%	hW_YhYUHfVchca Mcj Yf	, +!G<A !\$+	%
%&	fc YfgUZh'ck YfUgmn	, +!5 GA !' %	%
%&	hW_YhYUHfrcd gXY Yzh	, +!G<A !%\$	%
%*	5: 6A 5 %&'! "\$&) \$\$! \$) \$\$\$! "\$&) \$! %&Z# 7 Z&	B #5	&
%+	7 F!D<A G"\$%&! (\$! "\$&) ! "\$&) !B	B #5)
%	7 F!D<A G"\$%&! (\$! "\$" +) ! "\$" +) !B		%
%-	<5F\$\$\$- +	- \$XY[fYY Zrhb['\$\$!' & hc '\$- (\cgY	% \$
&\$	\$, +5GA \$(-	X YfUfa gXY VYh	%
&%	g\ci XYfk UgYf (X I %)' I' +)		%
&&	gUhWVfi g		%
&'	7 F!D<A G"\$%&! \$! "\$" +) ! "\$" +) !7		&
&(7 F!D<A G"\$%&! ' & "\$% , I "\$% , !B		&
&)	D7 6\$&\$	cdhc hfUbga hMYf ge i UfY	%
&*	A G<LBI H"\$%&!(\$!8!G		,
&+	A G<LBI H"\$%&!(\$!G!7		%

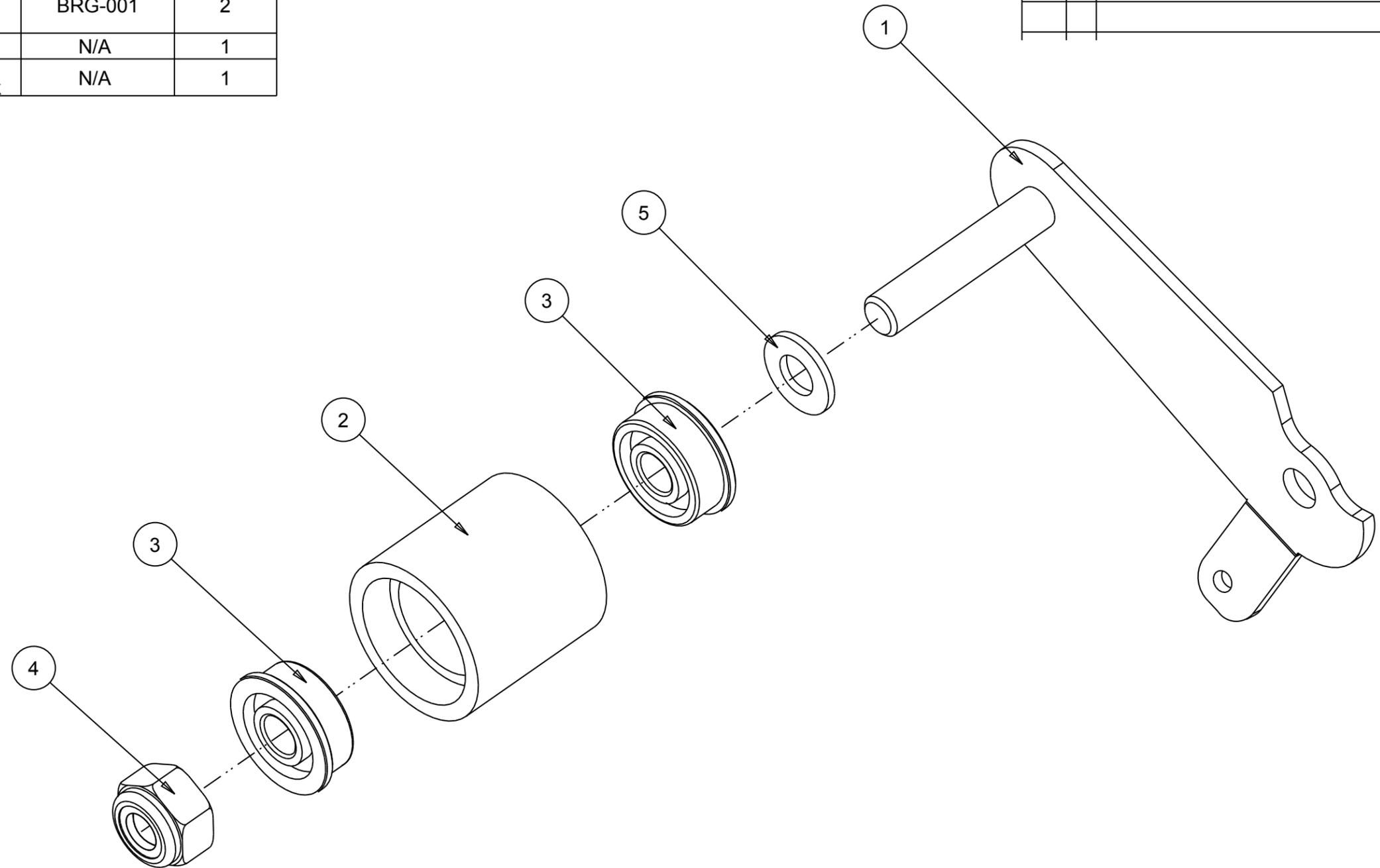
NCB9		F9J	89G7 F DHC B	85H9
		5		\$+ #&* # \$+
		6		\$+ #&+ # \$+
		7		\$&#&) # %&



<p>DFCFC-45FM5887CB-89B5@ H:9-B: CFA 5HC B 7 C B H 5 B 98 B H-6 8F5K-B: 6H-9CC @9DFC D9FHC: 69B7 <A 5F?: 5A 9G" 5BM F9DFC B1 7 HC B-B D5FHCF 5G5 K <C @ K H:C I H:K 9K F H:BB D9FA @GC B C: 69B7 <A 5F?: 5A 9G-6 DFC <-6498*</p>	<p>I B @9GC H:9FK @9GD97 =98. 8-A 9BGC BG5F9-B B7 <9G HC @9F5B7 9G 5B: I @5F. "Z#%89. "..... "LLL1" "Z#"\$%\$" "LLL1" "Z#"\$%\$" "LLLL1" "Z#"\$%\$"</p>	<p>6YbW\ a Uf_ ; Ua Yg</p> <p>H# @.</p> <p>hW_YhYUHfVYh 6cXm5ggYa V'mf] +!5GA !&+&</p>									
<p>8F5K B 6M G" 7 c fgc</p> <p>A 5Hf-5@</p> <p>: B G-</p>	<p>7 C A A 9BHG</p>	<table border="1"> <tr> <td>GN9</td> <td>8K ; "BC"</td> <td>F9J</td> </tr> <tr> <td>6</td> <td>, +!5GA !&(</td> <td></td> </tr> <tr> <td>G7 5 @. %%"*)</td> <td>K 9= <H</td> <td>G<99H) 'C : *</td> </tr> </table>	GN9	8K ; "BC"	F9J	6	, +!5GA !&(G7 5 @. %%"*)	K 9= <H	G<99H) 'C : *
GN9	8K ; "BC"	F9J									
6	, +!5GA !&(
G7 5 @. %%"*)	K 9= <H	G<99H) 'C : *									

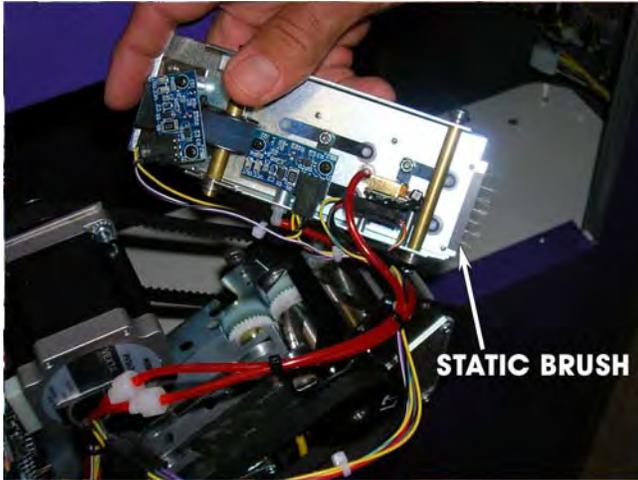
ITEM NO.	Description	Part Number	QTY.
1	idler arm side belt shm	87-SHM-85	1
2	idler arm roller	87-SCM-60	1
3	AFBMA 12.2 - 0.1875 - 0.5000 - 0.1960 - 8.SI.NC.8	BRG-001	2
4	nut fiberlock 1032	N/A	1
5	washer 10IDx375ODx036Thick	N/A	1

REVISIONS			
ZONE	REV	DESCRIPTION	DATE
	A	Release to Production	07/31/07

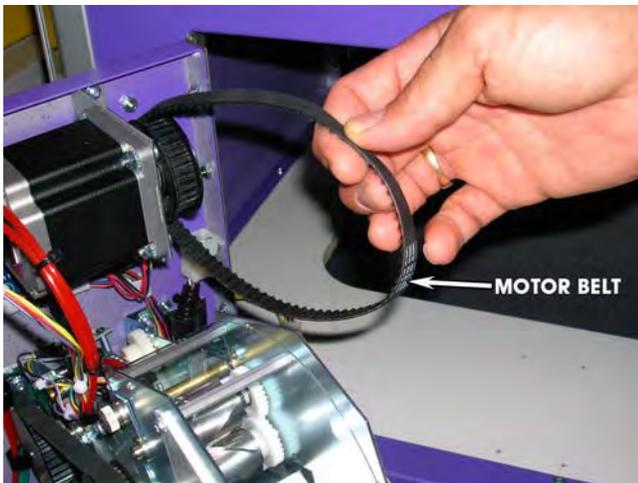


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	DRAWN BY: S. Corso	TITLE: idler arm side belt	
MATERIAL	COMMENTS:	SIZE B	DWG. NO. 87-ASM-49
FINISH		SCALE: 2:1	REV
		WEIGHT:	SHEET 1 OF 1

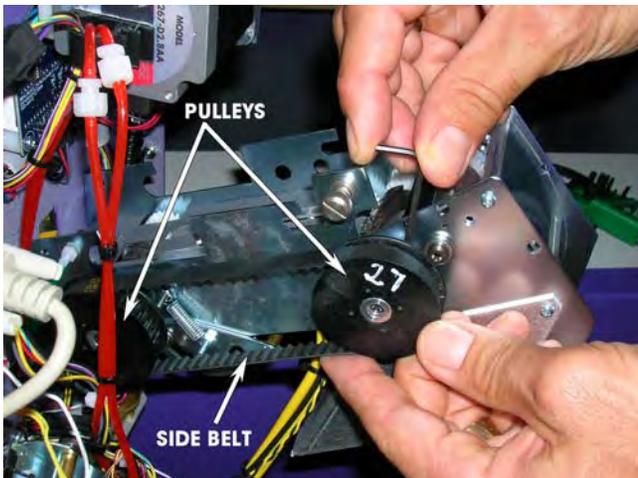
Static Brush Installation



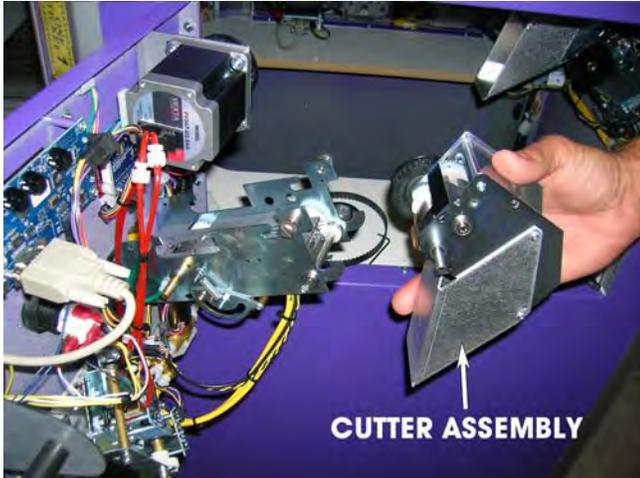
Remove Top Assembly
Clean rear top edge of sheet metal where static brush will mount.
Adhere static brush along back edge of top assembly between rivets as shown.
See manual or inside front door for instructions.



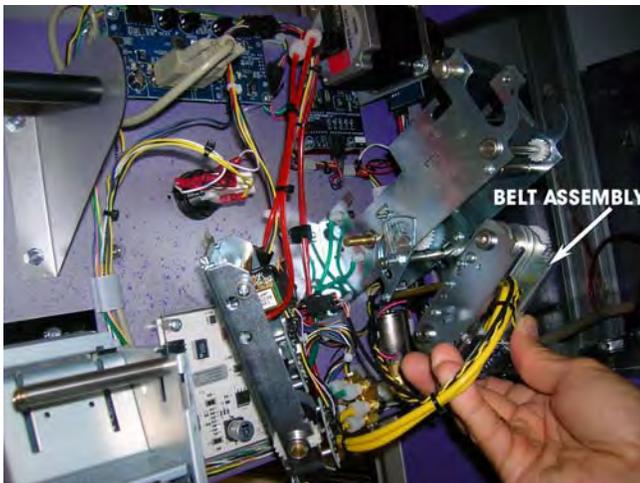
Remove Motor Belt



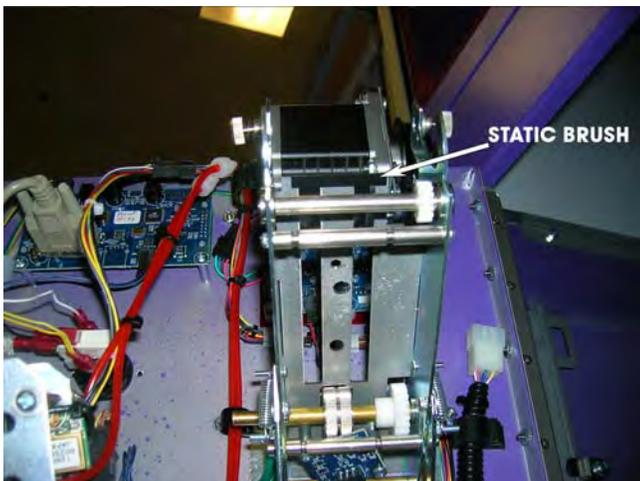
Remove side belt by loosening both pulley clamps and pulling both pulleys off of the shafts simultaneously.



Remove Cutter Assembly.



Remove Belt Assembly.
See manual or inside front door for instructions.



Clean sheet metal on bottom side of ticket taker at back edge where static brush will be installed.
Adhere static brush along back bottom edge of metal as shown.

Reassemble in reverse order.

***Important:** When reinstalling side belt and pulleys, be sure that the pulley marked "27" is mounted in the back on the cutter shaft as shown in the instructions above.

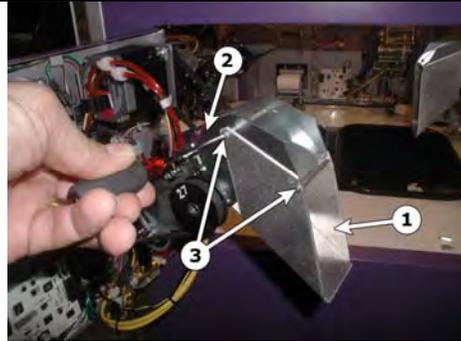
Ticket Chute Upgrade Instructions

The chute upgrade should solve problems associated with tickets backing up into the cutter and will also keep tickets from building up on and around the ticket baskets.

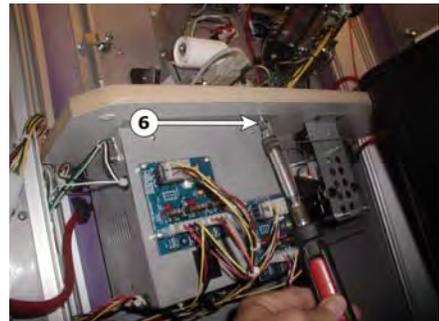
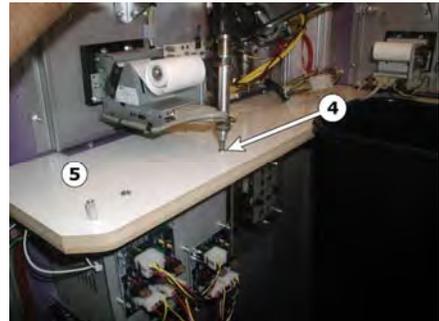
To upgrade your machine:

1. Remove the old chutes① from the cutter assembly② by removing the (4) chute mounting screws③.

Note: Older machines may not have these old chutes on them. If your machine does not have them, go to step 2.



2. Remove inside most power supply mount screw④ from the ticket basket plate⑤. Insert the supplied #12 x 5/8" screw⑥ in its place from the bottom.



3. Assemble new chute assembly⑦ using (8) supplied screws and nuts.



4. Place the new chute assembly ⑦ on the ticket basket plate ⑤ inside the machine. The chute should be approximately centered from left to right and from front to back. Use the ticket chute as a template to mark the ticket basket plate mount hole locations. Use the side doors for easier access.



5. Using the marks, pre-drill mount screw holes using a 1/8" drill bit.



6. Mount the chute using the supplied screws.



Cardswipe Options – Benchmark Ticket Station

There are two modes for interfacing cardswipe systems to the Benchmark Ticket Station. They are Serial Mode and Pulse Mode. Either mode can be selected in the field by entering the Ticket Station's programming mode and selecting the option that is desired.

Hardware Connections

There are 5 wires that are used (ALL TTL Levels).

Inputs (to Ticket Eater Board):

ENABLE

TRANSFER TICKETS/COMPLETE TRANSACTION

Outputs(From Ticket Eater Board):

BUSY/FAULT

DATA

CLOCK/PULSE

PLEASE NOTE: the outputs are open collector, so pull-up resistors will be required.

The connector that is in the Ticket Station harness is a Molex #19-09-1062, 6-pin male. The pinout, wire colors, and connections to the Ticket Eater Board are as follows:

Pin1 == Pink/White == CLOCK/PULSE == J2-3

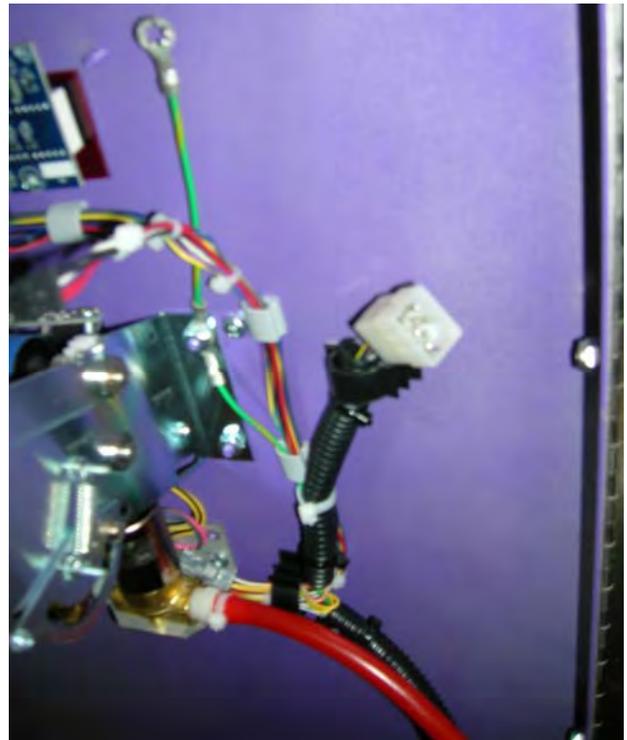
Pin2 == Blue/Yellow == BUSY/FAULT == J2-10

Pin3 == White/Black/Yellow == TRANSFER TICKETS/COMPLETE TRANSACTION == J1-11

Pin4 == White/Grey == DATA == J2-6

Pin5 == Grey/Red == ENABLE == J1-9

Pin6 == Not Used



Protocols:

Serial Mode:

The interfaced system must pull the ENABLE input low to enable the ticket eater. Whenever the card is swiped, the cardswipe system would call for a ticket count by pulling the TRANSFER TICKETS input low for a minimum of 30mS. Immediately following, the ticket eater board will transmit the amount in ASCII, MSB first, using the CLOCK and DATA lines. For example, the amount 54321 would be transmitted as 0x35,0x34,0x33,0x32,0x31. The ticket eater board will wait for 2.5 seconds. If your system needs a retransmission, it must pulse again within that 2.5 seconds and the amount will be retransmitted, otherwise the ticket eater board assumes that the transmission was successful and the ticket count is cleared. If this line is pulsed and there are no tickets, the ticket eater board will respond with 0x30,0x30,0x30,0x30,0x30. There is no "PRINT RECEIPT" button.

CLOCK and DATA:

Timings are:

Clock pulse width = 50us min

Clock period = 700us min

Data valid on falling clock edge

Most significant digit transferred first (10000's)

Least significant bit transferred first

Pulse Mode:

When the card is swiped, the cardswipe system pulls the ENABLE line low, which enables the Ticket Eater. After tickets are inserted, the pushbutton is depressed, (which is connected to the TRANSFER TICKETS/COMPLETE TRANSACTION Input). The Ticket Station responds by sending one 50mS Low pulse for each ticket on the CLOCK/PULSE output, and the ticket total is cleared. The pulse train is 50% duty cycle.

If the Ticket Station has faulted, the BUSY/FAULT output will be held low.

Air Reservoir Update

The Air Reservoir Update provides a more sustained air blast to clean the optics in the ticket taker.

Ticket taker controller pcb with revision of 7.5 or later is required for this update*.

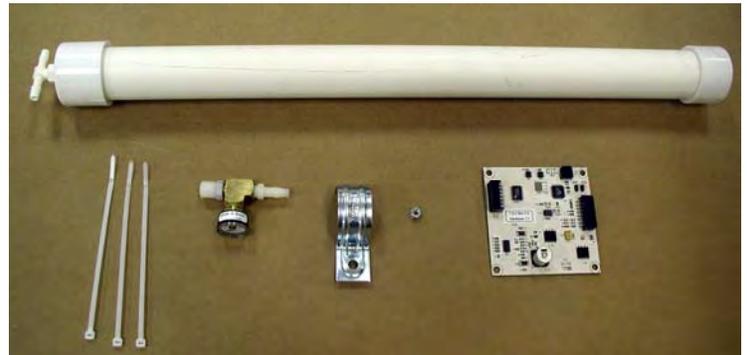
The software was revised so that the pump runs longer in order to build up full pressure since the reservoir adds significant volume to the system.

Note: It is important in systems that do not have a reservoir that pcb version 7.4 or earlier is used. Using version 7.5 or later without the reservoir will stress the air pump.

Note: There is an intentional orifice drilled into the reservoir to limit system pressure to less than 30 PSI.

Parts required:

Qty.	Description
1	reservoir
1	conduit clamp
1	#8-32 hex nut
1	Tee fitting/pressure gage assy.
3	cable ties
1 per door	ticket taker controller boards, version 7.5 or later

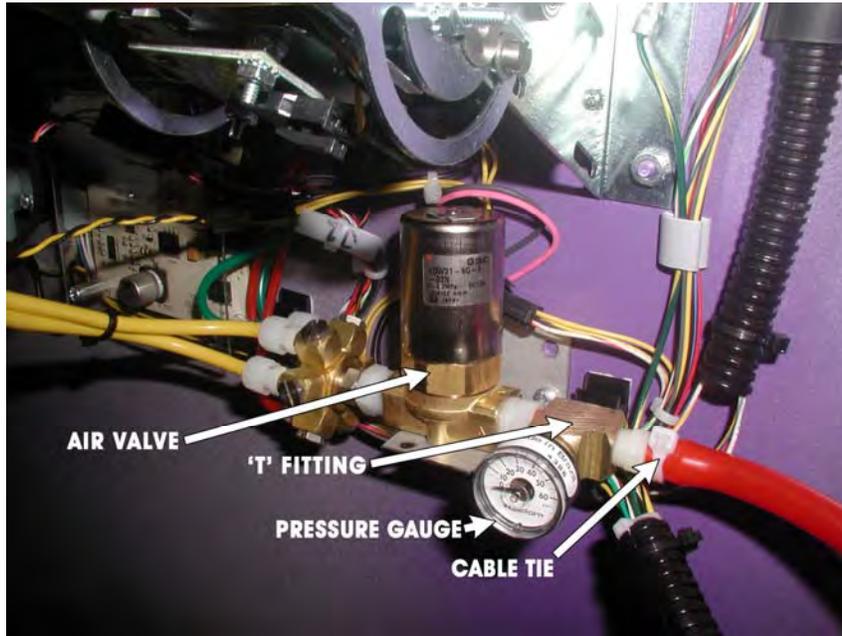


Installation Instructions:

1. Remove ticket bags and baskets from Ticket Station to allow access to the inside back panel of the machine.
2. Attach reservoir to back panel by mounting clamp using screw stud that is pressed into the metal and supplied nut.
3. Cut air line using the center of the "T" fitting as cut point.
4. Attach each cut end of the air line to the "T" fitting.
5. Use two cable ties to secure air line to "T" fitting as shown.



6. Remove air line from fitting at air valve on main front door. You may need to cut the line.
7. Remove air valve from bracket.
8. Install "T" fitting with pressure gage into air valve and remount air valve.
9. Attach air line to fitting.
10. Use cable tie to secure air line to fitting.



11. Replace ticket taker controller boards with version 7.5 or later.
12. Test:
 - a. Run enough tickets through the machine to start the pump cycle.
 - b. Watch the pressure gage. The pressure should build to no less than 25 PSI.
 - i. If the pressure does not reach 25 PSI before blowing off, the system has a leak somewhere. Check all connections throughout system before valves (red hose connections). Fix any leaks.
 - ii. If pressure builds to more than 25 PSI before blowing off, everything is working as it should.

Cutter Tilt Control Update

The Cutter Tilt Control Update keeps the cutter assembly from misalignment during ticket jam clearing procedure.

Parts required:

Qty.	Description
2	shoulder washers
2	#4-40 x 3/8" machine screws
2	#4-40 fiber lock nuts

Installation instructions:

Attach two shoulder washers to outside of ticket cutter side plates as shown. Screws are inserted through existing holes in the side of the cutter side plates.

