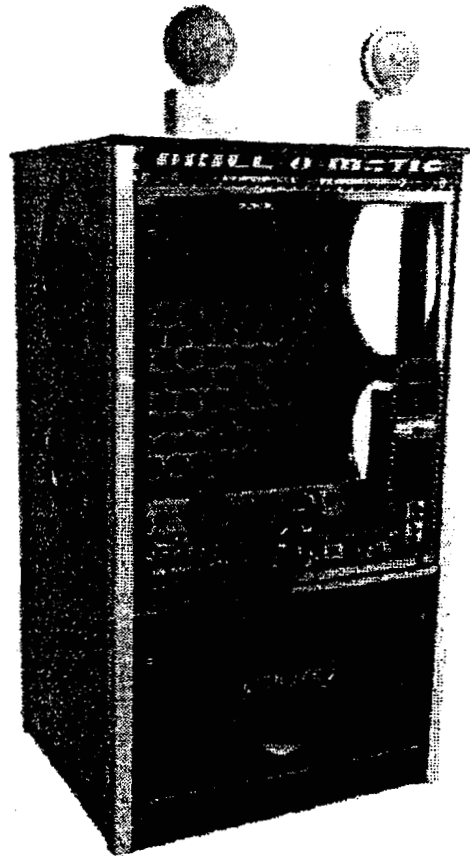




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OWNER'S MANUAL BENCHMARK GAMES, INC

PLEASE
READ
FIRST
BEFORE
PLUGGING
IN MACHINE



BENCHMARK GAMES, INC.
51 Hypoluxo Road, Hypoluxo, FL 33462
FOR SERVICE PLEASE CALL: **IN U.S.A.: 1-888-538-1000**
OUTSIDE U.S.A. 561-588-5200
FAXES-MAIN: 561-493-2999, PARTS:2990
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alkress@benchmarkgames.com

BENCHMARK GAMES, INC.
51 HYPOLUXO RD.
HYPOLUXO, FL. 33462
Phone 561-588-5200
1-888-538-1000
Faxes Main 561-493-2999
Parts 561-493-2990

Dear Customer:

Thank you for purchasing a Drill-O-Matic game.

Because of the different needs of every location, you may need to fine tune the machine in the future. We strongly suggest that you leave the machine at factory settings for at least 2 weeks. If you then find your payout too low or too high, then make the proper adjustments. Start first with the difficulty level adjustments Function 39, 40 and 41 (these are the "over travel adjustments") found on page 11.

You will find enclosed in the manual a full set of instructions on how to program your machine. PLEASE READ THE MANUAL BEFORE YOU CALL US FOR ANY INFORMATION.

"PLUS" MODEL GAMES ◀

You will find instructions for the Plus model on pages 47, 48 and 49.

MOST IMPORTANT

THE EARNING POWER OF THIS GAME IS IN DIRECT PROPORTION TO THE VALUE OF THE PRIZES YOU USE. THE HIGHER THE VALUE OF THE PRIZES, THE MORE MONEY THE MACHINE WILL GROSS. IF YOU USE LOW-COST PRIZES THE INCOME WILL DROP CONSIDERABLY.

DRILL-O-MATIC CHECKLIST

DATE _____

SN#

VERSION

COINS PER PLAY

POWER SECTION:

POWER SUPPLY SETTING:

12VDC

5VDC

FUSES

TICKET METER

COIN METER

SOUND LEVEL

Z OPTO POWER

LIGHT BAR POWER

LOW TICKET LIGHT

LOW TICKET SWITCH

TICKET DISPENSER

115 VOLT LIGHTS(4)

TIMER LED

CREDIT LED

BELT ADJUSTMENTS:

BELTS

Z BELTS(2)

Y BELTS(2)

X BELT(1)

X MOTOR BELT

Y MOTOR BELT

MECHANICAL ADJUSTMENTS:

BOTTOM SHAFT

TOP SHAFT

SHAFT COLLARS

GEARS

Z SHAFT OILERS

X ROLLERS(3)

Y CAM ROLLERS(2)

TOP CLEARANCE(SIDES)&TIGHT

LIGHT BAR BUTTONS

PLEXIGLASS DOOR

PLAY:

Z MOTOR INITIALIZE

X MOTOR INITIALIZE

Y MOTOR INITIALIZE

COIN MECH

START BUTTON

SOUND LEVEL

JOYSTICK MOVEMENT

MISS OPTO FLAG

HOME OPTO FLAG

PRIZE CHUTE

TILT DOOR & SOUND

REVOLVING LIGHT

OTHER:

HARNESS

DOLLAR BILL ACCEPTOR

COMPUTER DIPSWITCH

POWER SUPPLY

MANUAL & KEYS

YELLOW GEAR OFF

CHECKED BY _____

WARNING:

**DO NOT TURN GAME ON UNTIL YOU
HAVE READ THE FOLLOWING**

**FACTORY PRECAUTIONS MUST BE IN PLACE TO
PREVENT ELECTRICAL SHOCK HAZARD TO PLAYERS.
ALWAYS REMEMBER TO DISCONNECT POWER BEFORE
ATTEMPTING ANY REPAIRS.**

**THIS GAME SHOULD BE PLUGGED INTO A 3 WIRE
GROUNDING OUTLET 115 VOLTS 60Hz. UNLESS
OTHERWISE SPECIFIED.**

FCC PART 15 RULE

**THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO
COMPLY WITH THE LIMITS FOR A CLASS A COMPUTING
DEVICE PURSUANT TO SUBPART J OF PART 15 OF FCC
RULES.**

ELECTRICAL SPECIFICATIONS

**POWER CONSUMPTION..... 2 AMP. 200 WATT
LINE VOLTAGE.....100-130 VAC 60 Hz
CIRCUIT BREAKER.....15 AMP**

*** REPLACE WITH SAME TYPE FUSES ONLY.**

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Table of Contents

Game Setup	4
Game Play	7
Security System	7
Game Programming	8
Bill of Materials	12
Mechanical Adjustments	35
Schematics	38
<i>Drill Plus</i> Features	47

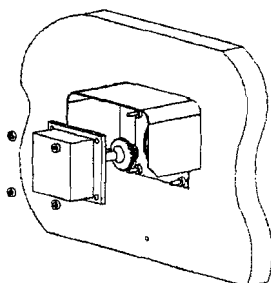
GAME SETUP

Note: the following must be done before game can be played.



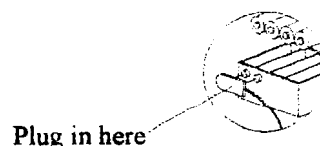
1) Install 2 construction lights on top of game.

2) Install joystick



Onto plexiglass door.

3) Plug in battery pack. Connectors
will be on left side of game inside door.



4) Adjust coin mech:

****IMPORTANT: COIN MECH ACCEPTS ANY FORM OF COIN/token****

Coin Setup:

- 1) Slide coin sensor in direction of arrow as shown in diagram on next page.
- 2) Place coin or token in slot.
- 3) Release coin sensor.

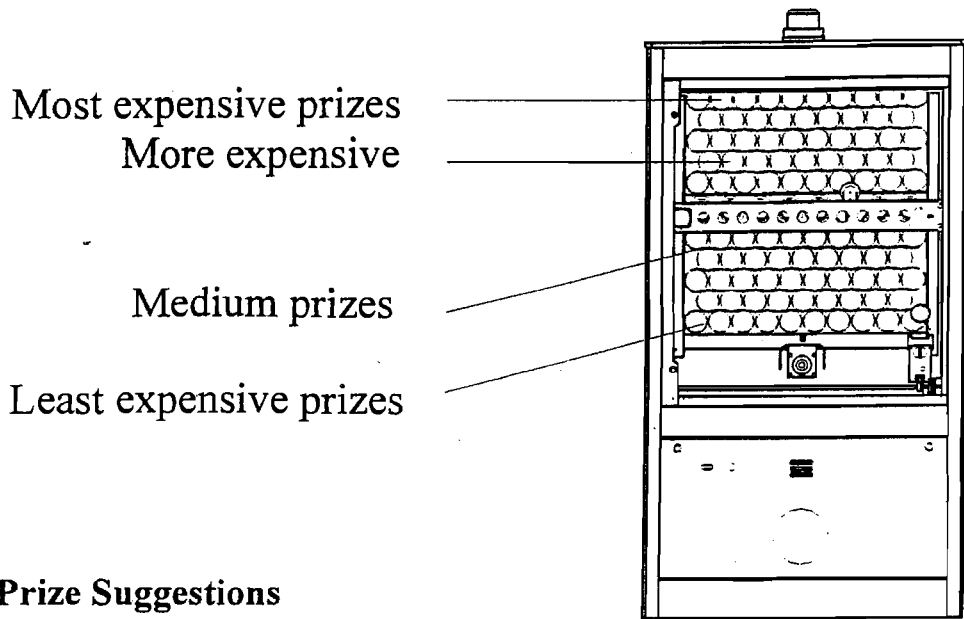
Note: Coin/token should now be held between the coin sensor and coin mech body.

Sensitivity Adjustment:

The coin mech's sensitivity can be adjusted to accept or reject coins depending on the variation of the coin.

- 1) To set coin mech to be more sensitive, turn adjustment screw to "strict"
- 2) To set coin mech less sensitive, turn adjustment screw to "slack"

may be used if they are kept in their boxes or are upside down.



Prize Suggestions

The following is a list of prizes which have given great results.

- Candy bars – 2 or 3 per tube (Make sure they are not in the sun.)
- Keychains – Southpark, Disney, Peanuts
- Sunglasses
- Watches
- Packs of hard candy
- Plush toys – small
- Small water pistols
- **Bundled Tickets**
- Trading Cards
- Coupons
- Belt Buckles
- Fishing Lures
- Golf Balls – pack of 3
- Golf tees

- 7) Plug in game. Turn power on, If audible alarm sounds, level game and check tilt mech located inside bottom door on left.
Note: Game can be turned ON/OFF from inside or outside of game.

GAMEPLAY

Objective:

The objective of the game is to get the “drill” into one of the prize tubes. If the drill goes into the prize tube, the drill will push the prize out the back side of the tube. The prize will fall down the prize chute where it can be collected by the player. Note: On Arcade version tickets will be dispensed when ticket buttons are “drilled”. On Street version Free games will accrue when free game buttons are “drilled”.

To play:

- 1) Insert coin(s), (depending on operator setup), into coin acceptor.
- 2) Press the START button next to the coin acceptor. The drill will move to a random position.
- 3) Use the joystick to move the position of the drill. Try to align the drill with the prize tubes or buttons.
- 4) Press the red button on the joystick. This will move the drill forward into the prize tubes or buttons.
- 5) After each play, the game resets itself.

Security System

This game is equipped with an anti-tilt/anti-vibration device which prevents the game from dispensing prizes if the game is tipped.

How system works:

If the game is tilted slightly, the audible alarm will sound for a period of 20 seconds. After 20 seconds, the alarm will stop.

If the game is tilted aggressively, a trap door will close the prize chute and the alarm will sound.

Also an audible sound saying “GET ATTENDANT” will be heard.

To reset game:

- 1) Turn power switch to **OFF**
- 2) Open game.
- 3) Reset trap door.
- 4) Close game.
- 5) Turn game ON.

*******IMPORTANT*******

Security system has a battery back-up. Security system can be activated when power is off.

Programming Variables

Programming variable are accomplished using the pushbutton and joystick. Call for updates.

DIP Switch Settings

To-adjust coins per play: NOTE: ONE DOLLAR BILL EQUALS 4 COINS

Dip Switch Setting	Switch 1	Switch 2	Switch 3	Switch 4
1 coins per play	OFF	OFF	OFF	OFF
2 Coins per play	ON	OFF	OFF	OFF
3 Coins per play	OFF	ON	OFF	OFF
4 Coins per play	ON	ON	OFF	OFF
5 Coins per play	OFF	OFF	ON	OFF
6 Coins per play	ON	OFF	ON	OFF
7 Coins per play	OFF	ON	ON	OFF
8 Coins per play	ON	ON	ON	OFF
9 coins per play	OFF	OFF	OFF	ON
10 Coins per play	ON	OFF	OFF	ON
11 Coins per play	OFF	ON	OFF	ON
12 Coins per play	ON	ON	OFF	ON
13 Coins per play	OFF	OFF	ON	ON
14 Coins per play	ON	OFF	ON	ON
15 Coins per play	OFF	ON	ON	ON
16Coins per play	ON	ON	ON	ON

Mercy Ticket:

Dip Switch Setting	Switch 5
1 Ticket	ON
No Ticket	OFF

Attract Mode:

Dip Switch Setting	Switch 6
Attract Mode ON	ON
Attract Mode OFF	OFF

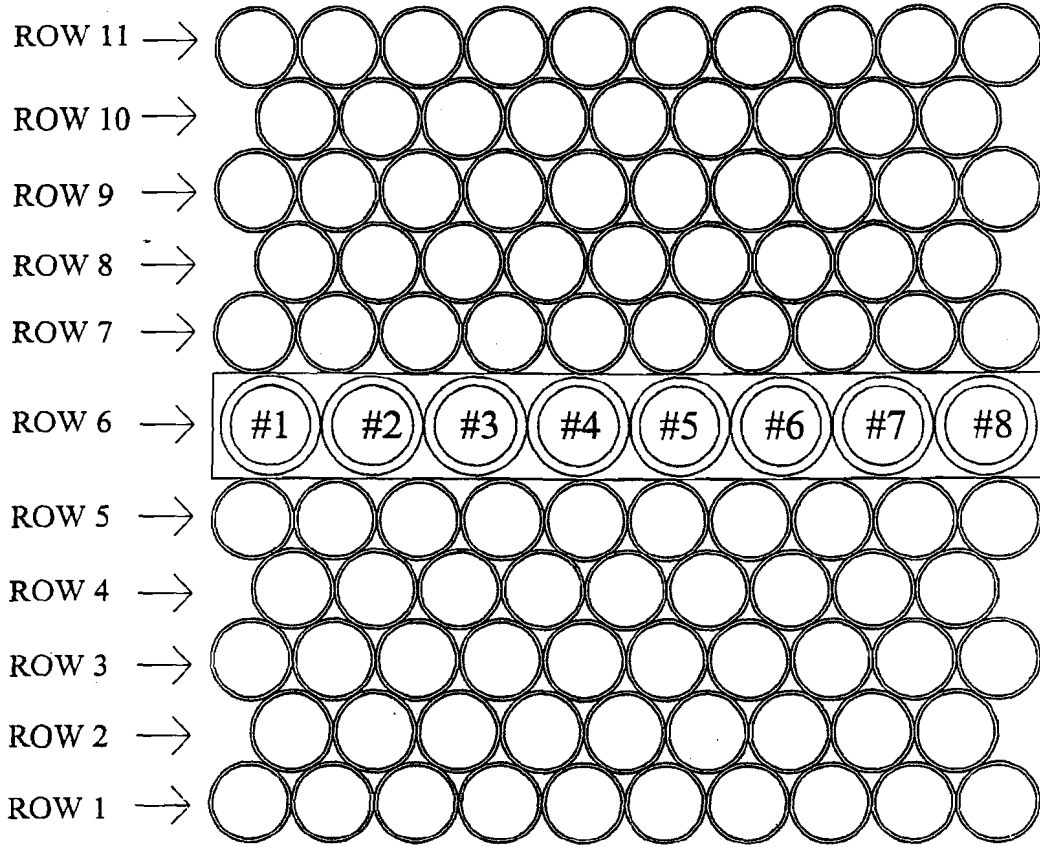
Tube Size: (Contact Manufacturer service dept. before changing)

Dip Switch Setting	Switch 7
SMALL TUBE	ON
LARGE TUBE	OFF

Drill-Plus option

Dip Switch Setting	Switch 8
regular	Drill-Plus

JOYSTICK PROGRAMMING INSTRUCTIONS FOR THE DRILL-O-MATIC

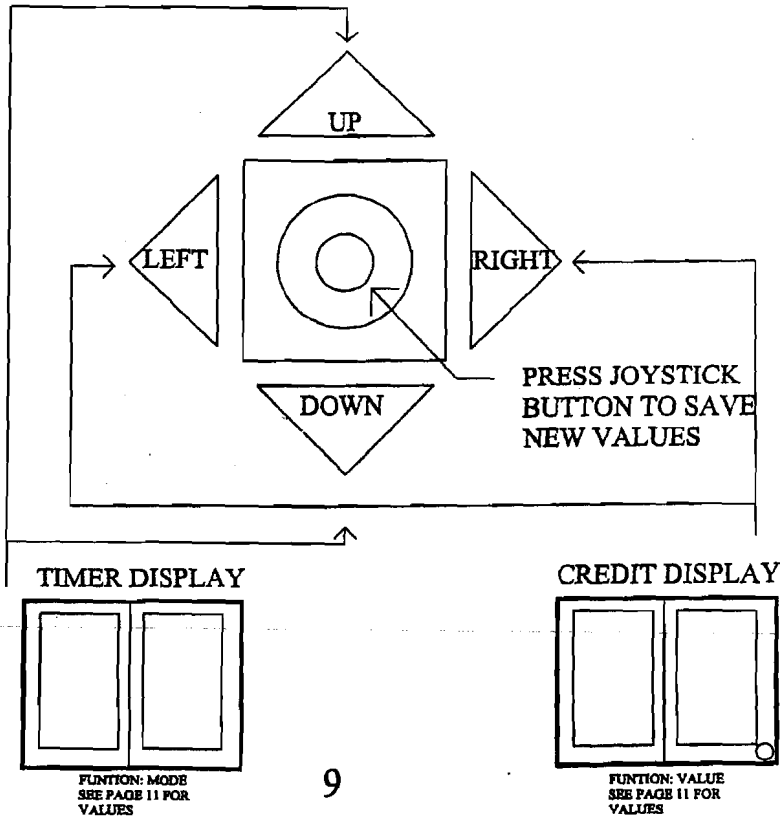


NOTE:
ON STANDARD
MODEL ROWS
11 & 12 ARE
PROGRAMMED
THE SAME.

BUTTON ROW

PLEASE NOTE THE NUMBERING SYSTEM OF THE "ROWS". THESE NUMBERS WILL BE USED THROUGHOUT THE PROGRAMMING INSTRUCTIONS.

USE JOYSTICK TO PROGRAM GAME SETUP AS SHOWN BELOW



NOTE: IF THE DECIMAL
* IS LIT, VALUE IS
+ 100

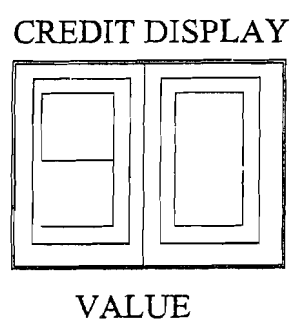
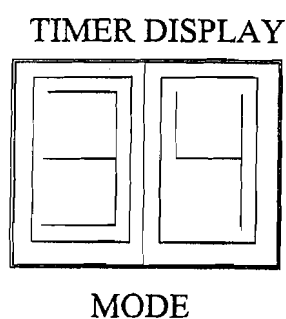
THIS IS AN EXAMPLE OF HOW TO CHANGE THE GAME
CLOCK TIMER TO A VALUE OF 90.

STEP 1: OPEN THE LOWER FRONT OF THE CABINET. PRESS THE
PROGRAMING BUTTON ONCE.

STEP 2: MOVE THE JOYSTICK UP 34 TIMES TO MODE 34 (GAME CLOCK TIME)
(AS SHOWN BELOW)

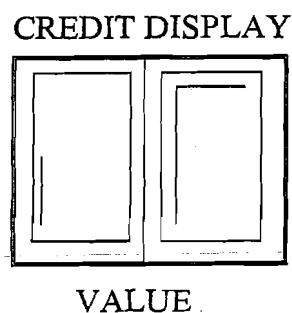
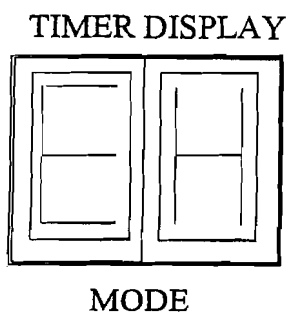
STEP 3: MOVE THE JOYSTICK TO THE LEFT OR RIGHT UNTIL A VALUE OF
90 IS SHOWN ON THE CREDIT DISPLAY. (AS SHOWN BELOW)

STEP 4: PRESS THE RED JOYSTICK BUTTON TO SAVE THE NEW VALUE.



IMPORTANT:

STEP 5: MOVE THE JOYSTICK UP TO THE 67TH MODE (EXIT MODE).
(AS SHOWN BELOW).
PRESS RED JOYSTICK BUTTON TO RESET GAME FOR PLAY.



DRILL-O-MATIC MODES AND VALUES

NOTE: A DECIMAL POINT IN THE VALUE INDICATES NUMBERS OVER 100.

FUNCTION#	DESCRIPTION:	VALUE RANGE:	FACTORY DEFAULT:
BOOKKEEPING			
01-11	% OF WINS ON ROW	0-99	0
12-22	% GAMES PLAYED ON EACH ROW	0-99	0
23-33	% OVERALL PAYOUT ON EACH ROW (ON THAT ROW)	0-99	0
PROGRAMMING			
34	GAME CLOCK TIME	40-99	99
35	TIME RATE DIFFICULTY (ROW 1-5)	HARDER 11-15 EASIER	12
36	NOT USED		
37	TIME RATE DIFFICULTY (BUTTON ROW)	HARDER 7-14 EASIER	7
38	TIME RATE DIFFICULTY (ROW 7-9)	HARDER 7-14 EASIER	12
39	NOT USED		0
40	NOT USED		0
41	NOT USED		0
42-48	NOT USED		
49++	SEE BELOW++ERASE ALL BOOKKEEPING	2=RESET	
50++	SEE BELOW++ERASE ALL PROGRAMMED VALUES	2=RESET	
Rows 51-66 are for the Arcade Version of Drill-O-Matic			
51	#1 BUTTON TICKET VALUE	0-150 IN MULTIPLES OF 5	4
52	#2 BUTTON TICKET VALUE	0-150 IN MULTIPLES OF 5	50
53	#3 BUTTON TICKET VALUE	0-150 IN MULTIPLES OF 5	20
54	#4 BUTTON TICKET VALUE	0-150 IN MULTIPLES OF 5	100
55	#5 BUTTON TICKET VALUE	0-150 IN MULTIPLES OF 5	70
56	#6 BUTTON TICKET VALUE	0-150 IN MULTIPLES OF 5	0
57	#7 BUTTON TICKET VALUE	0-150 IN MULTIPLES OF 5	15
58	#8 BUTTON TICKET VALUE	0-150 IN MULTIPLES OF 5	10
59	#1 BUTTON GAME CREDIT VALUE	0-7	0
60	#2 BUTTON GAME CREDIT VALUE	0-7	0
61	#3 BUTTON GAME CREDIT VALUE	0-7	0
62	#4 BUTTON GAME CREDIT VALUE	0-7	0
63	#5 BUTTON GAME CREDIT VALUE	0-7	0
64	#6 BUTTON GAME CREDIT VALUE	0-7	4
65	#7 BUTTON GAME CREDIT VALUE	0-7	0
66	#8 BUTTON GAME CREDIT VALUE	0-7	0
68	ROW 1 DRILL HEAD DIFFICULTY	HARDER 10-100 EASIER	50
69	ROW 2 DRILL HEAD DIFFICULTY	HARDER 10-100 EASIER	50
70	ROW 3 DRILL HEAD DIFFICULTY	HARDER 10-100 EASIER	40
71	ROW 4 DRILL HEAD DIFFICULTY	HARDER 10-100 EASIER	40
72	ROW 5 DRILL HEAD DIFFICULTY	HARDER 10-100 EASIER	33
73	ROW 6 DRILL HEAD DIFFICULTY	HARDER 10-100 EASIER	55
74	ROW 7 DRILL HEAD DIFFICULTY	HARDER 10-100 EASIER	25
75	ROW 8 DRILL HEAD DIFFICULTY	HARDER 10-100 EASIER	20
76	ROW 9 DRILL HEAD DIFFICULTY	HARDER 10-100 EASIER	20
77	ROW 10 DRILL HEAD DIFFICULTY	HARDER 10-100 EASIER	
78	ROW 11 & 12 DRILL HEAD DIFFICULTY	HARDER 10-100 EASIER	
79	ROW 1 DIFFICULTY	EASIER 0-50 HARDER	0
80	ROW 2 DIFFICULTY	EASIER 0-50 HARDER	0

REVISED 11JULY '00

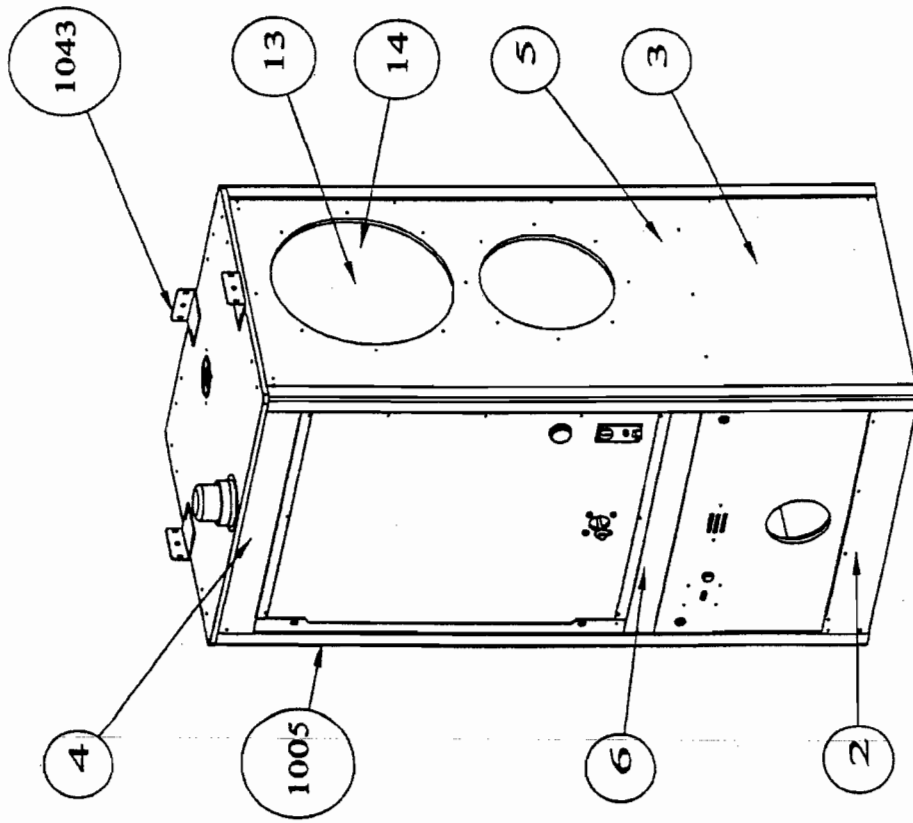
DRILL-O-MATIC MODES AND VALUES PAGE2

NOTE: A DECIMAL POINT IN THE VALUE INDICATES NUMBERS OVER 100.

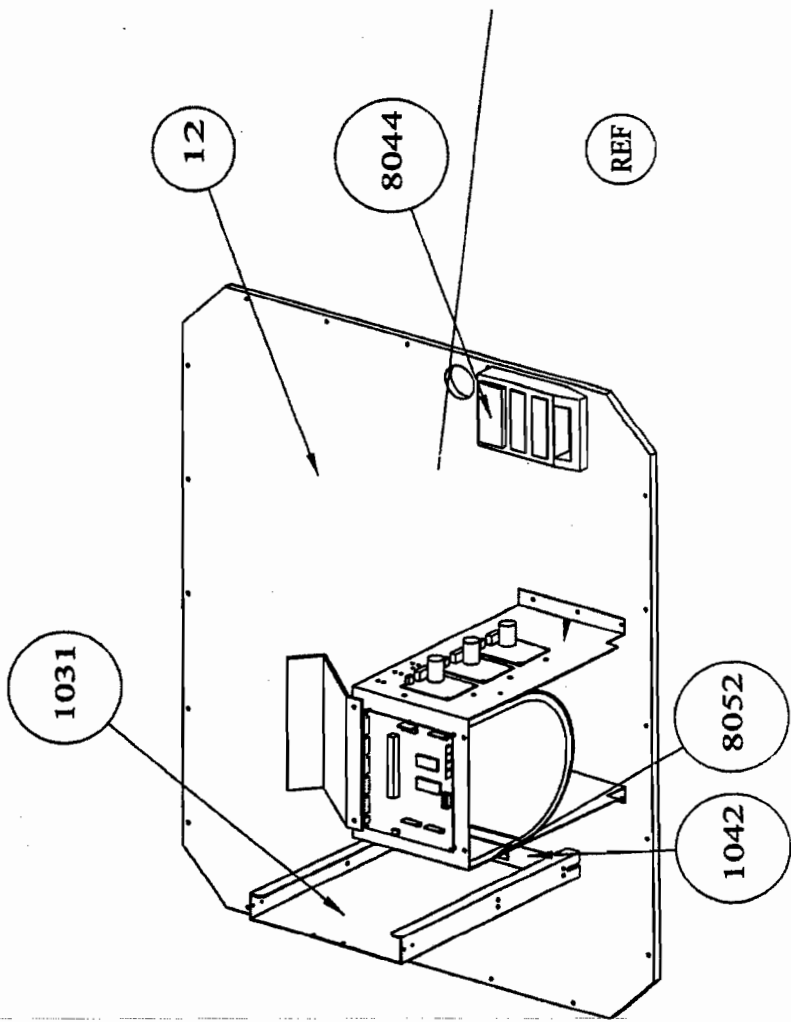
FUNCTION#	DESCRIPTION:	VALUE RANGE:	FACTORY DEFAULT:
81	ROW 3 DIFFICULTY	EASIER 0-50 HARDER	0
82	ROW 4 DIFFICULTY	EASIER 0-50 HARDER	0
83	ROW 5 DIFFICULTY	EASIER 0-50 HARDER	0
84	ROW 6 DIFFICULTY	EASIER 0-50 HARDER	0
85	ROW 7 DIFFICULTY	EASIER 0-50 HARDER	0
86	ROW 8 DIFFICULTY	EASIER 0-50 HARDER	0
87	ROW 9 DIFFICULTY	EASIER 0-50 HARDER	0
88	ROW 10 DIFFICULTY	EASIER 0-50 HARDER	0
89	ROW 11 &12 DIFFICULTY	EASIER 0-50 HARDER	
90	NOT USED		
91	Z-EXTEND	HARDER 1-10 EASIER	3
92	****PRESS JOYSTICK BUTTON TO**** ****EXIT PROGRAMMING MODE AND RESET GAME****		
REVISED 11JULY '00			

BILL OF MATERIALS

NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
2	1	BOOTOM(FRONT)	07-CAB-03	
3	2	SIDES	07-CAB-04	
4	1	FRONT(TOP)	07-CAB-05	
5	1	BACK	07-CAB-10	
6	1	FRONT(MIDDLE)	07-CAB-21	
13	2	SIDE WINDOW	07-CAB-26	
14	1	PAT.12 MIRROR ACRY	07-CAB-27	
1005	4	CABINET CORNER	07-SHM-07	
1043	2	WALL MNT BRACKET	07-SHM-43	
	1	BOTTOM COVER	BOTTOM	
	1	FRONT DOOR	DOOR	
	1	LOWER DOOR	DOOR2	
	1	MAIN GANTRY	MECHI	
	1	PRIZE TUBES	PRIZE	
	1	TOP COVER	TOP	



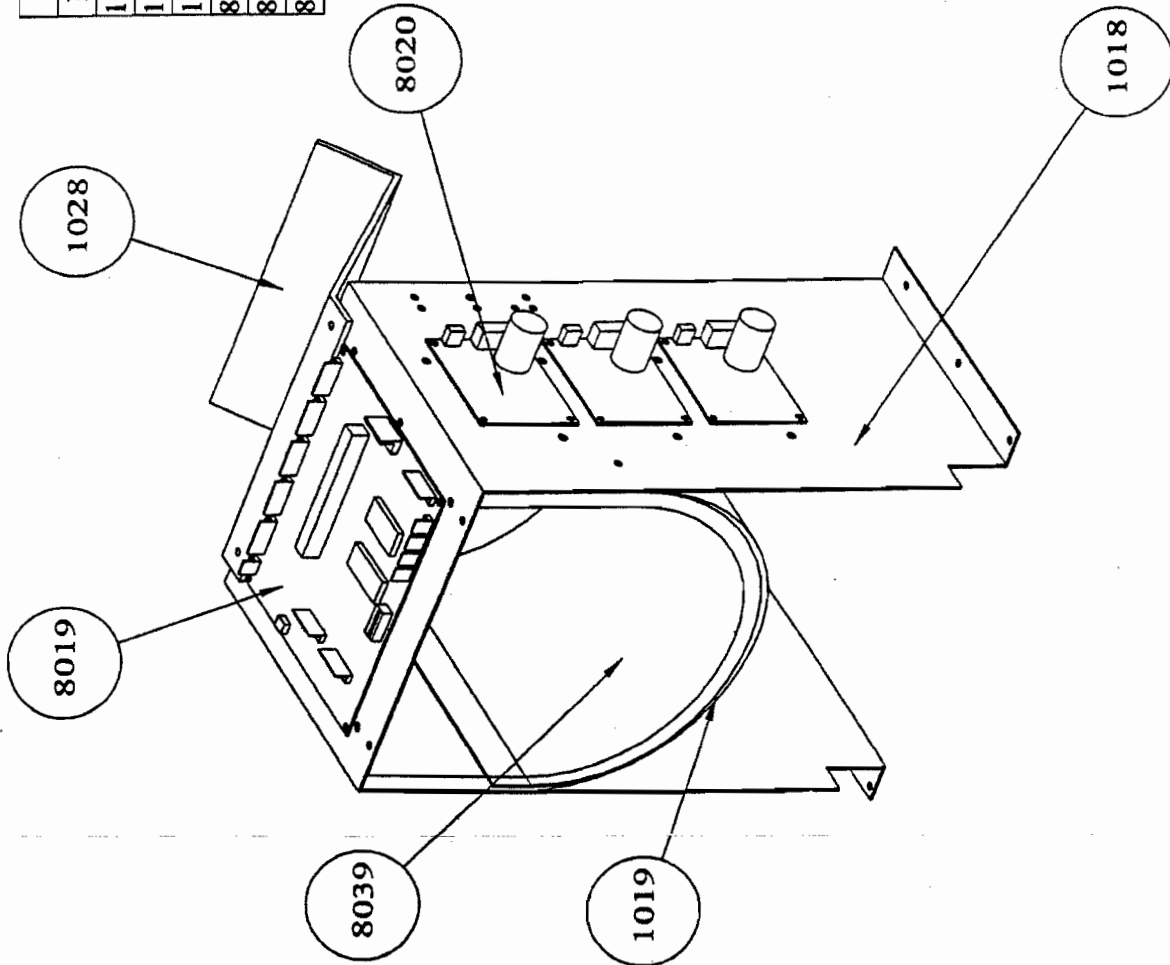
BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
12	1	BOTTOM	07-CAB-25	
1031	1	TICKET HOLDER	07-SHM-33	
1042	1	TICKET HOLDER BOTTOM	07-SHM-48	
8044	1	POWER STRIP	07-OEM-45	
8052	1	LOW TICKET SWITCH	07-OEM-52	
REF	1	ELECTRONICS ASM	ELECTRONICS	

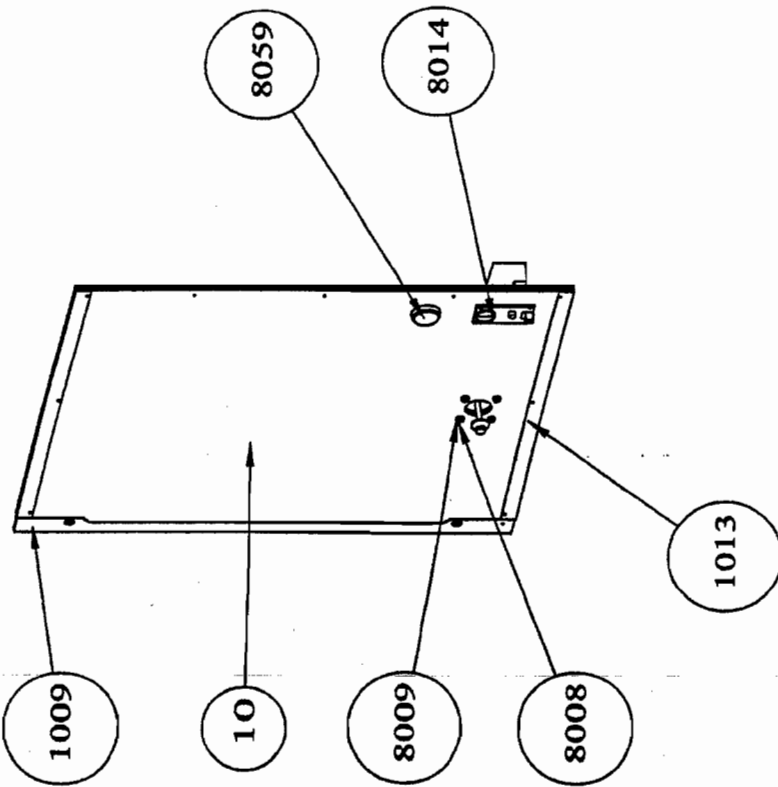
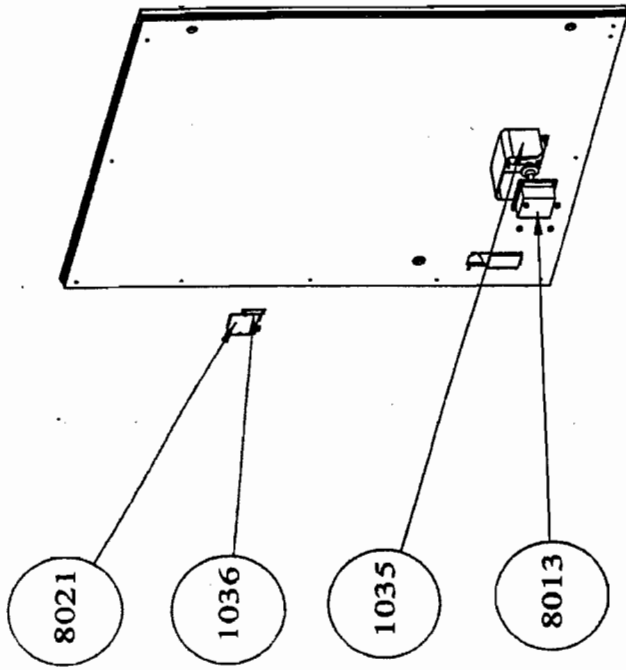


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DATE	15 OCTOBER 1998
PROJECT	DRILL-O-MATIC

BILL OF MATERIALS

NO	QTY	DESCRIPTION	DWG/PART NO.	MANUFACTURER
1018	1	PRIZE RETURN	07-SHM-20	
1019	1	LOWER PRIZE CATCH	07-SHM-21	
1028	1	PRIZE ANTI-THEFT BRACKET	07-SHM-50	
8019	1	MAIN PC BOARD	07-OEM-20	
8020	3	STEPPER MOTOR CONTROLLER	07-OEM-21	
8039	1	PRIZE FOAM	07-OEM-40	

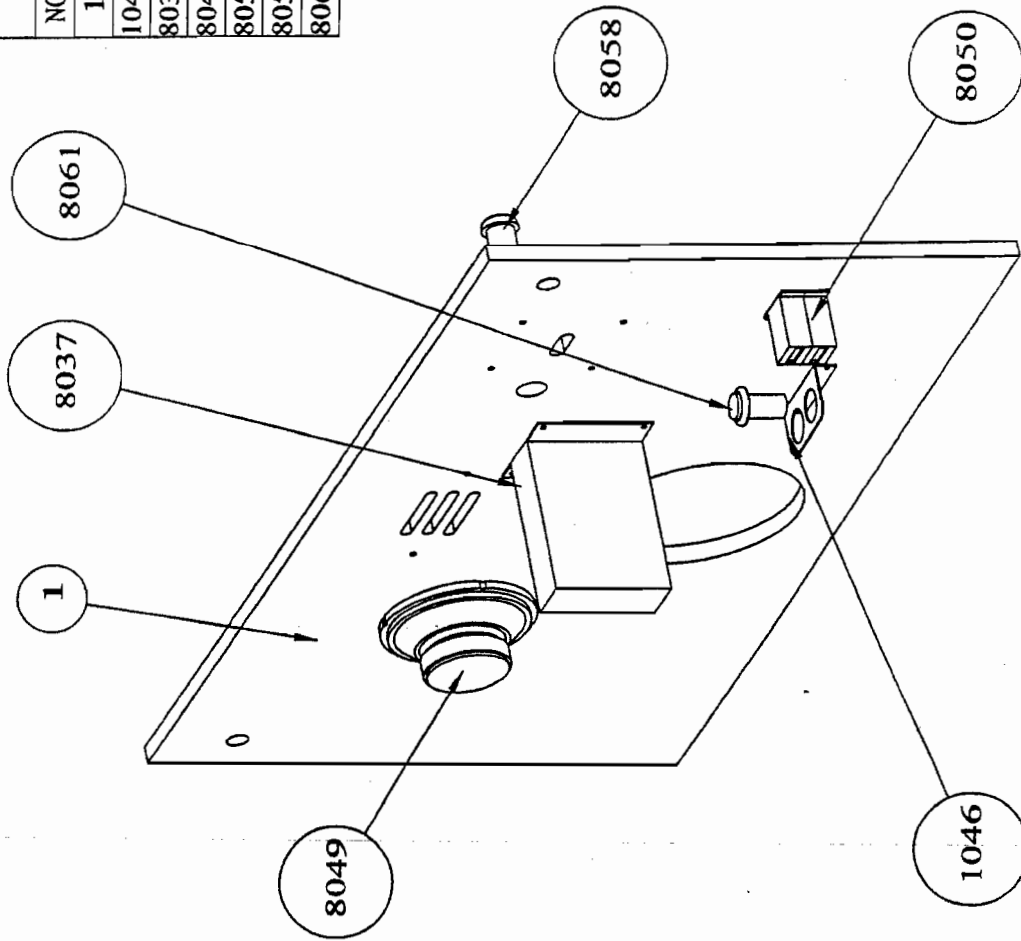




BILL OF MATERIALS

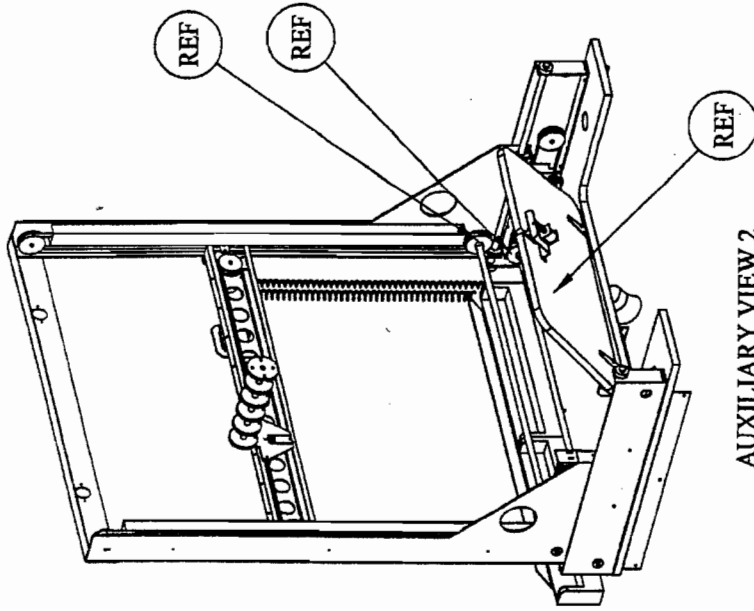
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
10	2	MAIN DOOR	07-CAB-01	
1009	1	MAIN DOOR TRIM	07-SHM-11	
1013	2	END DOOR TRIM	07-SHM-15	
1035	1	JOYSTICK COVER	07-SHM-37	
1036	1	DISPLAY CREDIT MOUNT	07-SHM-38	
8008	4	#4 SCREW COVER	07-OEM-09	
8009	4	#4 SCREW BASE PAN HEAD	07-OEM-10	
8013	1	JOYSTICK 4-WAY	07-OEM-14	
8014	1	COIN MECH	07-OEM-15	
8021	1	2 DIGIT LED	07-OEM-22	
8059	1	LARGE PUSH BUTTON ASM	07-OEM-59	
	4	FASTENER	8-32X125	
	8	FASTENER	8NUT	

BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
1	1	LOWER DOOR	07-CAB-02	
1046	1	MENU SWITCH BRK	07-SHM-47	
8037	1	TICKET MECH	07-OEM-38	
8049	1	SPEAKER	6IN-SPEAKER	
8050	2	COIN METER 12V	07-OEM-50	
8058	1	LOW TICKET LAMP ASSY	07-OEM-58	
8061	1	RED PUSHBUTTON ADJUST	07-OEM-61	

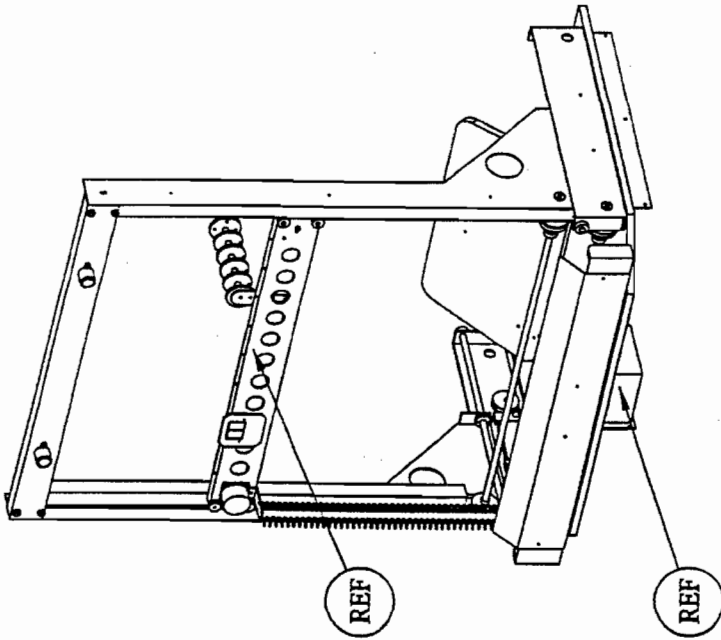


BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
8	1	PLAYFIELD	07-CAB-20	
1002	2	XYZ SUPPORT	07-SHM-03	
1003	1	VERTICAL SIDE LEFT	07-SHM-04L	
1003	1	VERTICAL SIDE RIGHT	07-SHM-04R	
1004	1	TOP BRACE	07-SHM-05	
1006	4	Y-DIR CONT WEIGHT	07-SHM-08	
1008	2	COUNTER WEIGHT CVR	07-SHM-10	
1015	1	Y-MOTOR MOUNT	07-SHM-17	
1016	2	OPTO SHUTTER	07-SHM-18	
1017	1	Z-MOTOR MOUNT	07-SHM-19	
1020	2	PLAYFIELD SUPPORT	07-SHM-22	
1029	2	Z BELT CLAMP	07-SHM-31	
1045	1	PLAYFIELD LIGHT COVER	07-SHM-46	
1048	1	OPTO MNT BRACKET	09-SHM-76	
1050	1	TILT END STRCK BRK	07-SHM-53	
6004	2	Y-DIR PLY BRG	07-SCM-03	
6010	4	Z-TRAVEL BRG	07-SCM-09	
6014	2	Z-TRAVEL BRG	07-SCM-13	
8000	2	XL 188 94 GROOVE BELT	07-OEM-01	
8001	2	165 GROOVE 3/8 W/NEO	07-OEM-02	
8002	2	414 GROOVE 3/8 W/NEO	07-OEM-03	
8004	4	1/2IN COLLAR 1C-050	07-OEM-05	
8005	4	BALL BRG #SSRF280ZZ	07-OEM-06	
8008	4	#4 SCREW COVER	07-OEM-09	
8009	4	#4 SCREW BASE PAN HEAD	07-OEM-10	
8012	1	ALARM SIREN	07-OEM-13	
8015	2	STEPPER 23LY-C205V	07-OEM-16	
8024	1	16 GROOVE 6H3-16DF3708	07-OEM-25	
8027	1	14 GROOVE 6H3-14DF3708	07-OEM-28	
8030	4	PULLY 30XL037	07-OEM-30	
8034	1	RETRACK CORD 4 CON 24IN	07-OEM-35	
8035	1	RETRACK CORD 6 CON 24IN.	07-OEM-36	
8038	2	FLOURESENT LIGHT FIXTURE	07-OEM-39	
8040	2	.5IN X 24IN HARD SHFT	07-OEM-41	
8043	4	FELT OILER	07-OEM-44	
8046	1	OPTO SENSOR FOR Z	07-OEM-31	
8047	2	PURPLE COVER TOP BAR	07-OEM-60	
8053	1	TILT END OF STROKE SWITCH	07-OEM-53	
REF	1	TRAP DOOR	TRAP DOOR	
REF	1		DRIVE1	
REF	1		DRIVE2	
REF	1		POWER	
REF	1		Y-AXIS	
	4	FASTENER	10-32X50	

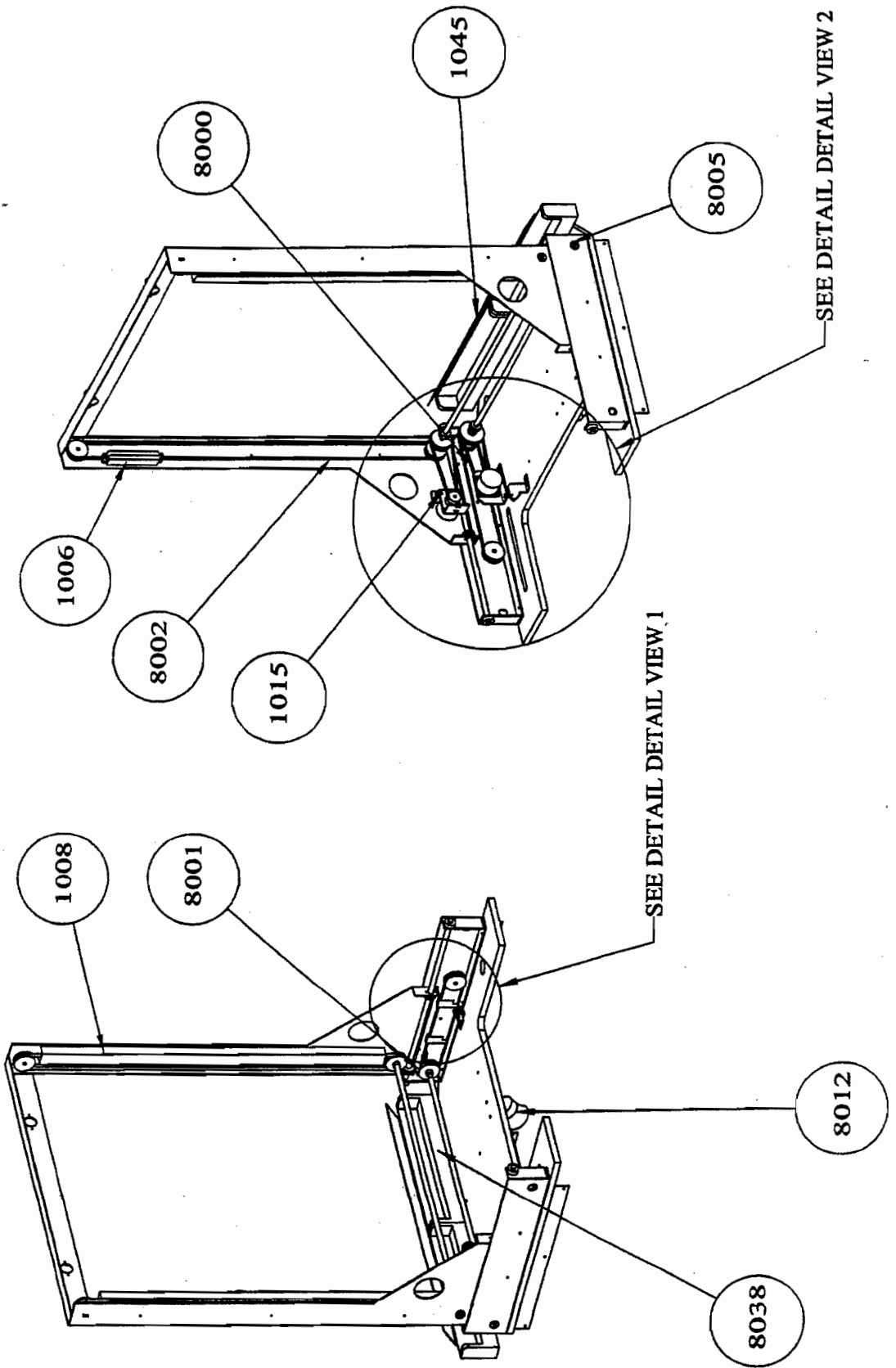
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DATE	15 OCTOBER 1998
PROJECT	DRILL-O-MATIC
ASSFMR Y NAME	MECH 1

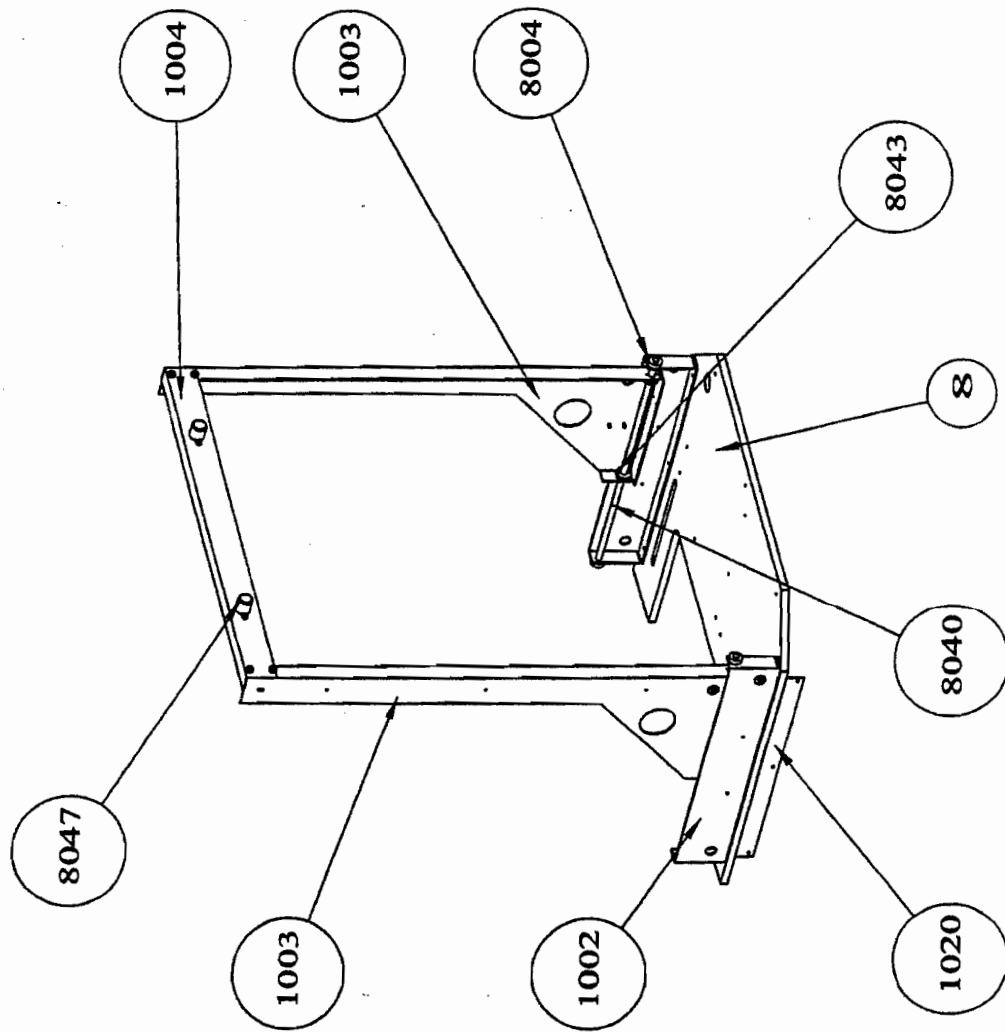


AUXILIARY VIEW 2
SUB-ASSEMBLY 2



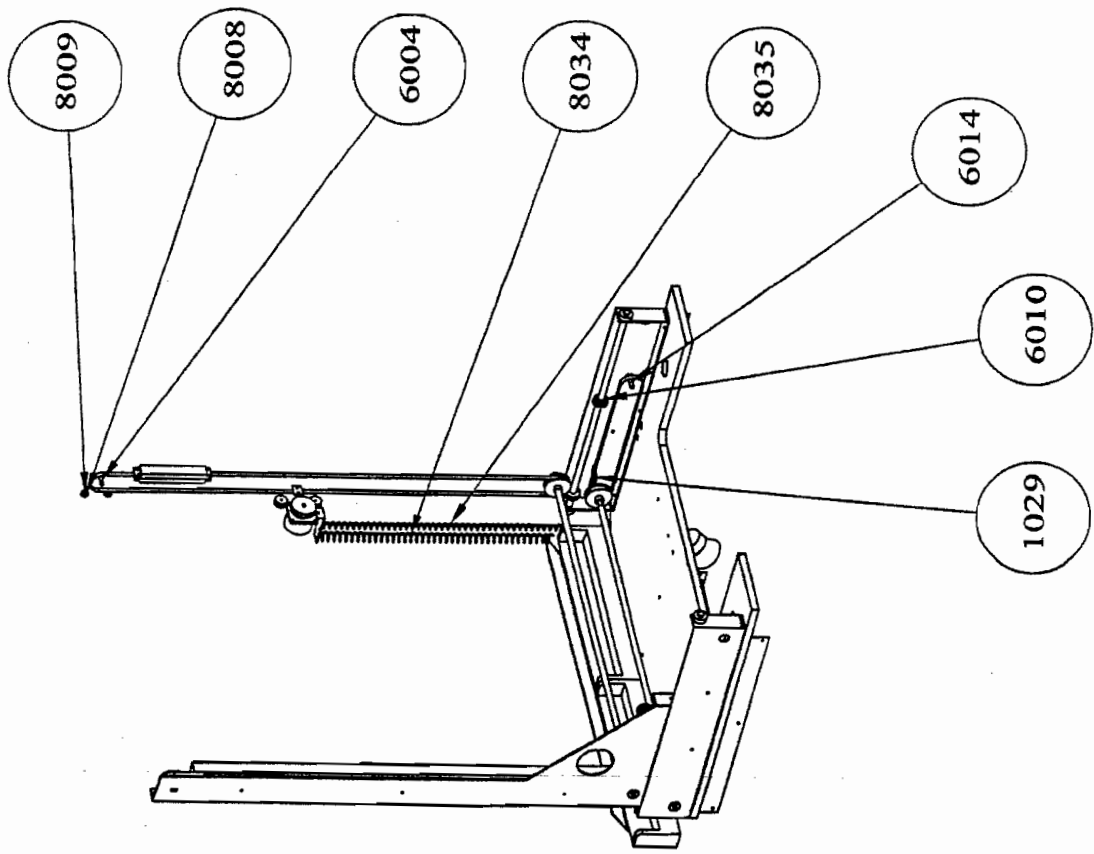
AUXILIARY VIEW 1
SUB-ASSEMBLY 1

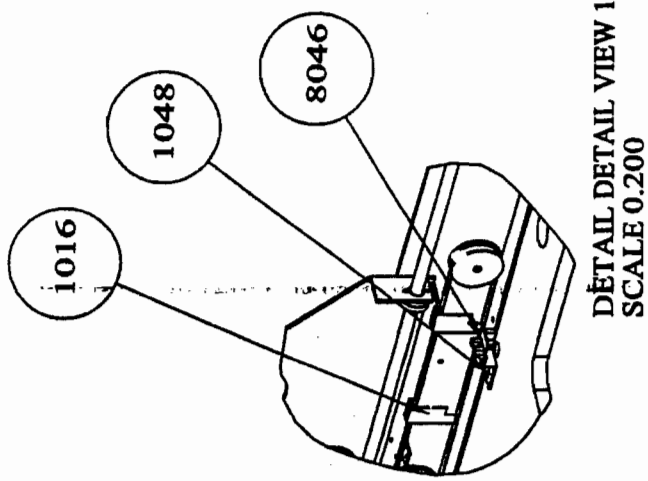
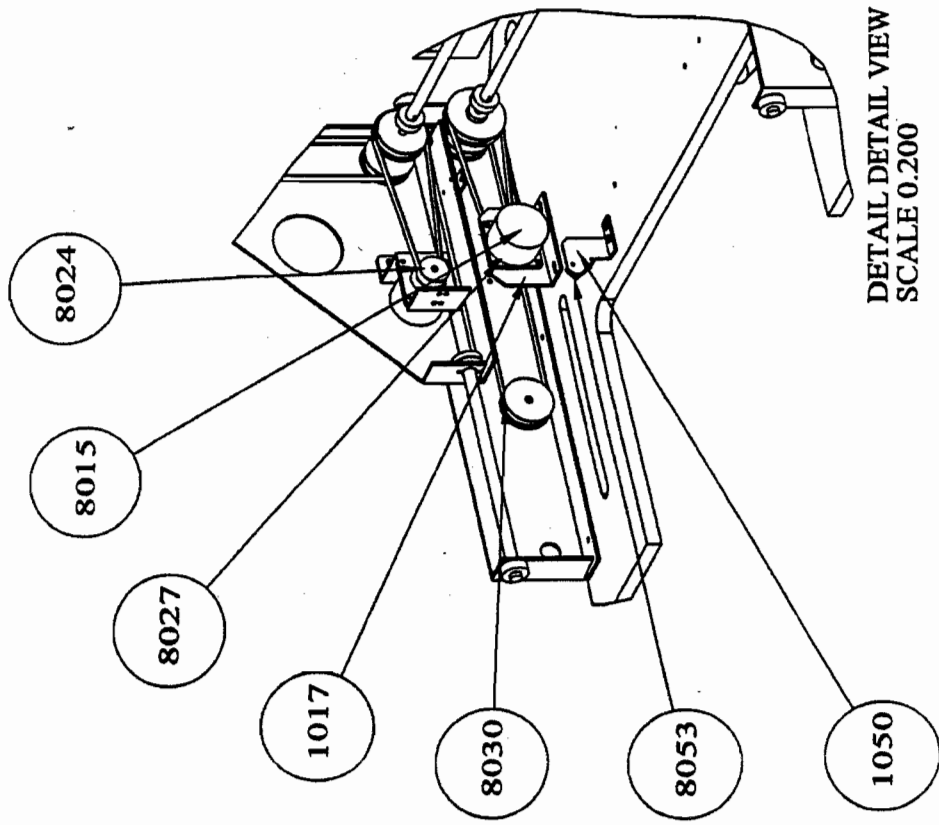


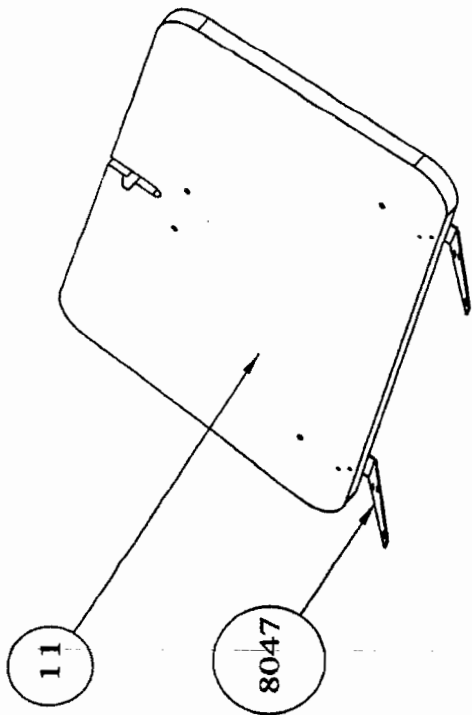


AUXILIARY VIEW 3
SUPPORT HARDWARE

BENCHMARK ENTERTAINMENT	
DATE	15 OCTOBER 1998
PROJECT	DRILL-O-MATIC

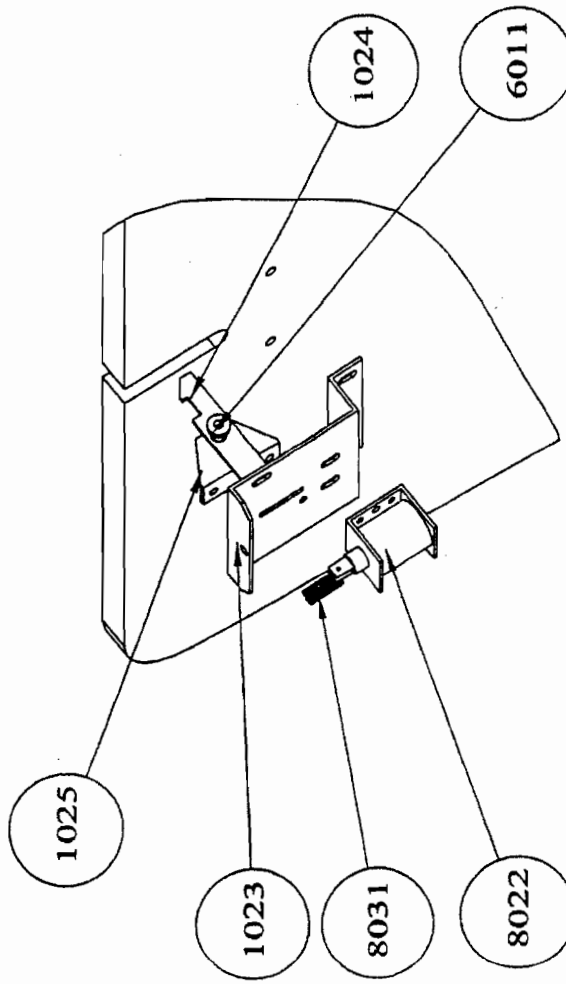




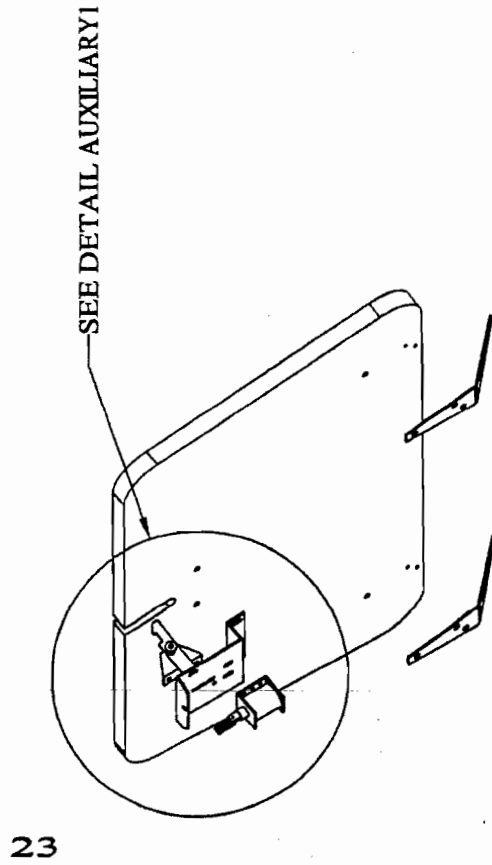


BILL OF MATERIALS

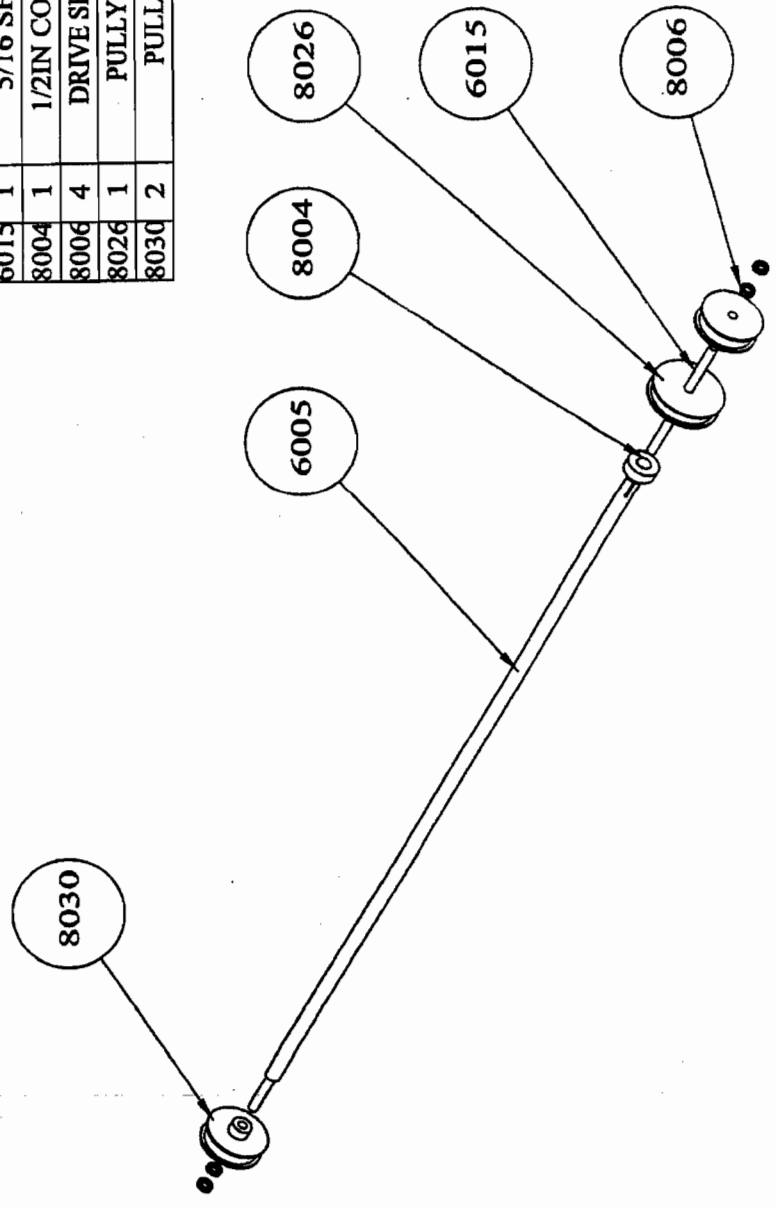
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
11	1	TILT TRAP DOOR	07-CAB-24	
1023	1	SOLENOID MNT PLATE	07-SHM-25	
1024	1	TILT LATCH	07-SHM-26	
1025	1	TILT LATCH PIVOT	07-SHM-27	
6011	1	TILT LATCH BRG	07-SCM-10	
8022	1	SOLENOID 135950	07-OEM-23	
8031	1	SPRING FOR TILT LATCH	07-OEM-32	
8047	2	3IN HINGE	07-OEM-49	



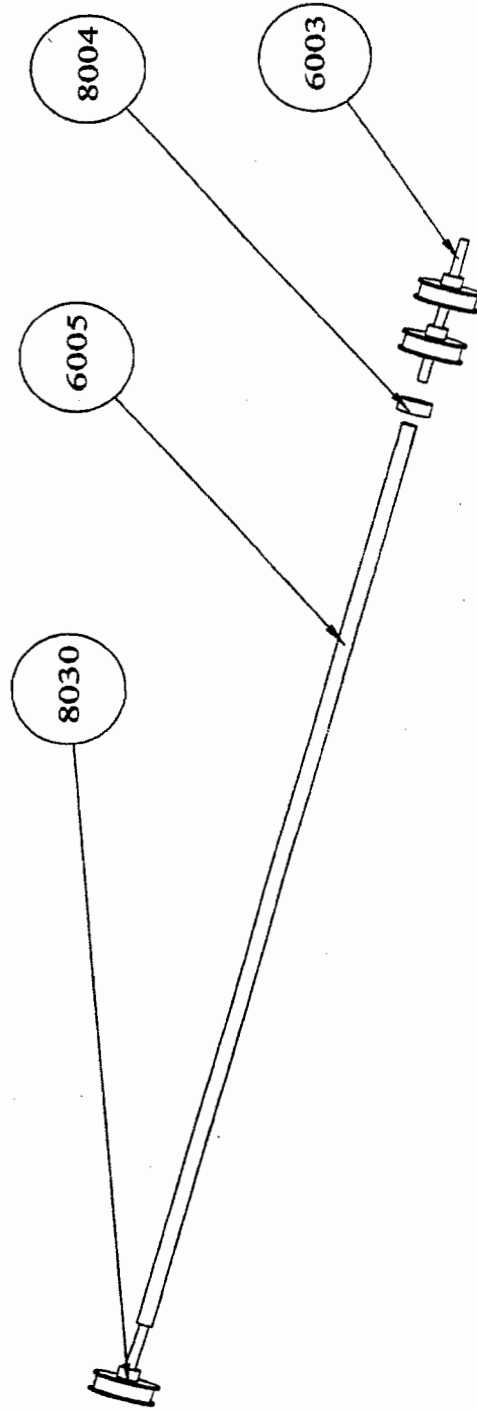
DETAIL AUXILIARY1
SCALE 0.500



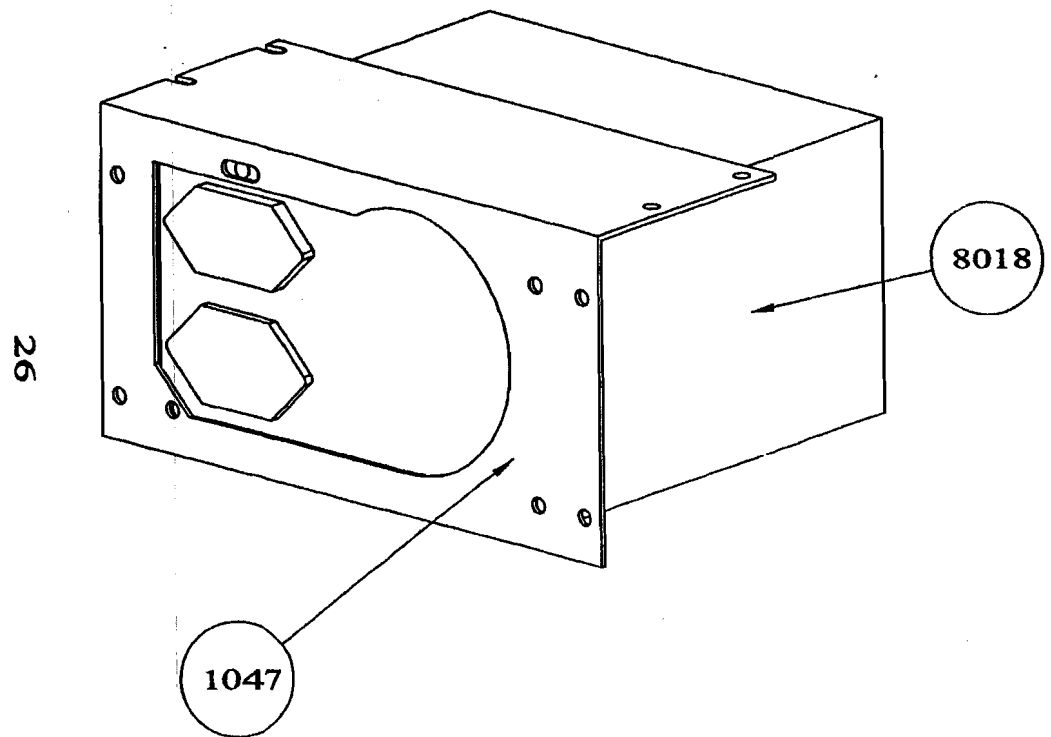
BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
6005	1	DRIVE SHAFT	07-SCM-04	
6015	1	5/16 SHAFT 5.5IN	07-SCM-14	
8004	1	1/2IN COLLAR 1C-050	07-OEM-05	
8006	4	DRIVE SHAFT SPACER	07-OEM-07	
8026	1	PULLY 36 GROOVE	07-OEM-27	
8030	2	PULLY 30XL037	07-OEM-30	



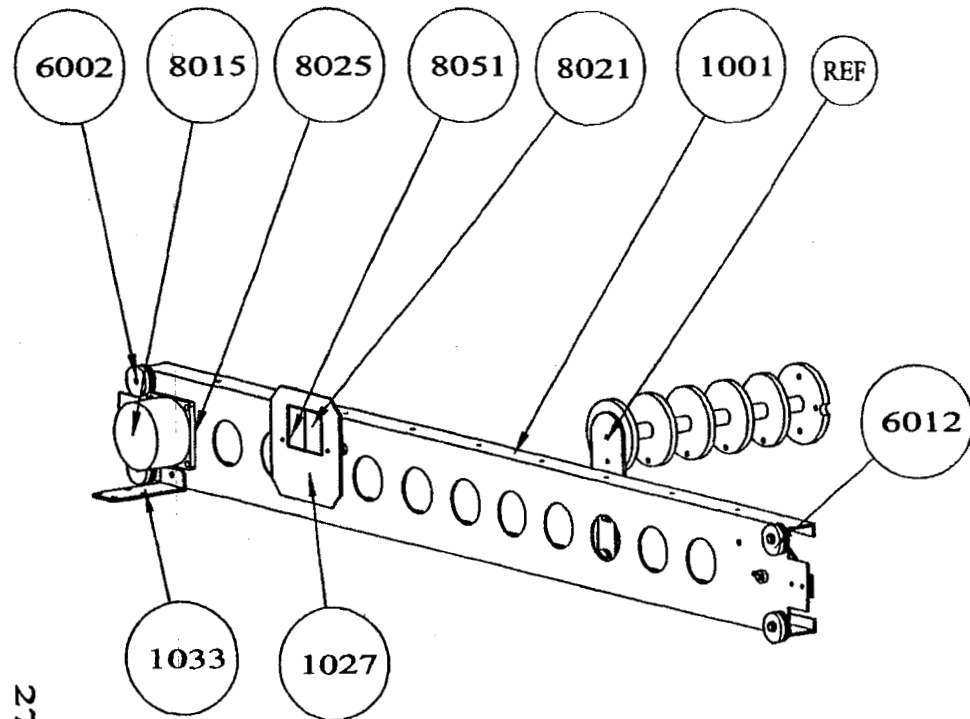
BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
6003	1	5/16 EXT SHAFT 5IN	07-SCM-02	
6005	1	DRIVE SHAFT	07-SCM-04	
8004	1	1/2IN COLLAR 1C-050	07-OEM-05	
8030	3	PULLY 30XL037	07-OEM-30	



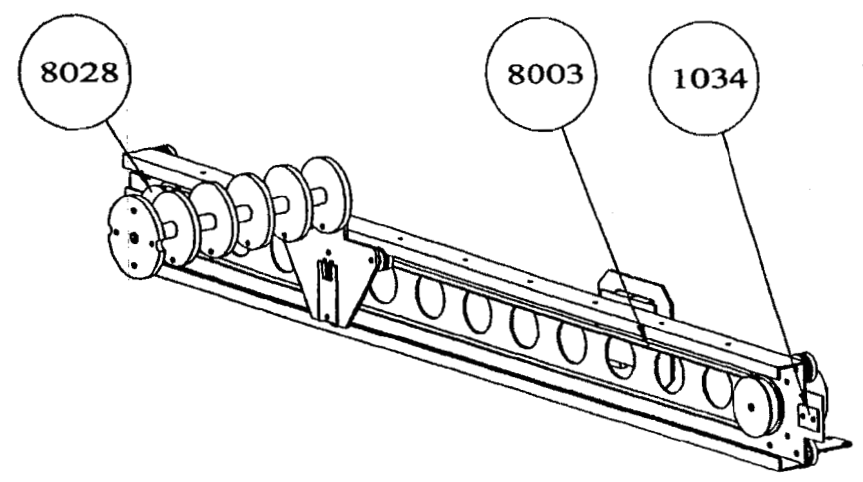
BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
1047	1	POWER SUPPLY MNT	09-SHM-27	
8018	1	POWER SUPPLY	07-OEM-19	



BENCHMARK ENTERTAINMENT	
DATE	15 OCTOBER 1998
PROJECT	DRILL-O-MATIC

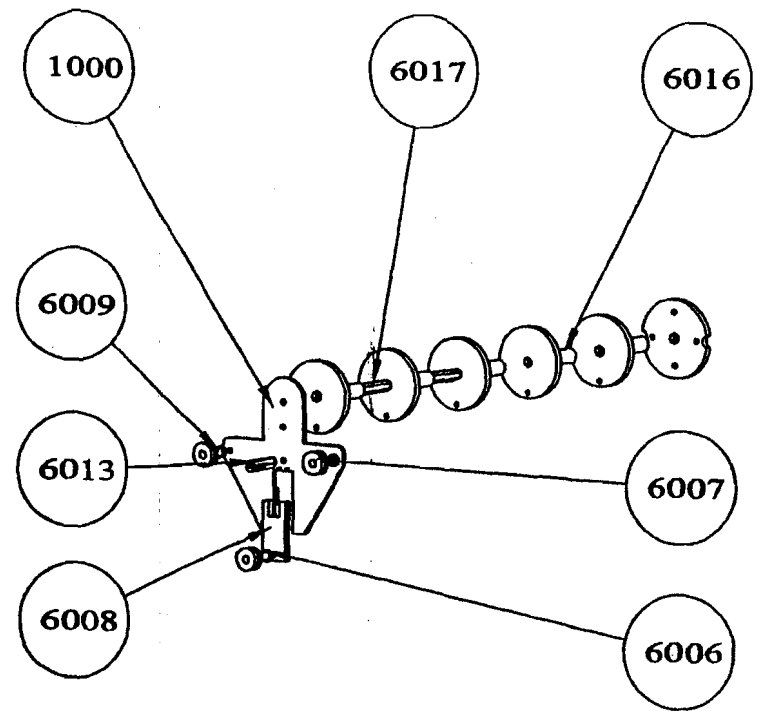


27



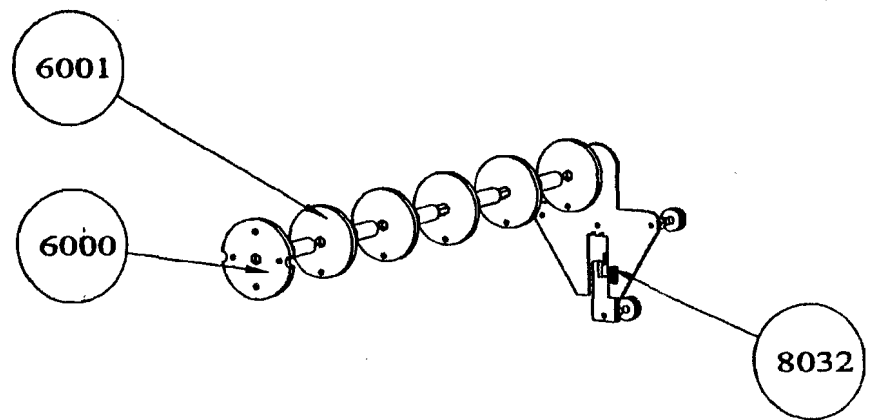
BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
1001	1	Y-DIRECTION BEAM	07-SHM-02	
1027	1	TIMER COVER	07-SHM-29	
1033	1	X-CABLE SUPPORT	07-SHM-35	
1034	2	Y-BELT CLAMP	07-SHM-36	
6002	2	X-TRAVEL BRG	07-SCM-01	
6012	2	X-TRAVEL BRG	07-SCM-11	
8003	1	336 GROOVE 3/8 W/NEO	07-OEM-04	
8015	1	STEPPER 23LY-C205V	07-OEM-16	
8021	1	2 DIGIT LED	07-OEM-22	
8025	1	28 GROOVE 6H3-28DF3708	07-OEM-26	
8028	1	PULLY 28XL037	07-OEM-29	
8051	6	TIMER DISPLAY SPACERS	07-OEM-51	
REF	1		DRILL	
	1	FASTENER	10-24_NUT	
	1	FASTENER	25-1-SB	
	2	FASTENER	8-32X75	
	2	FASTENER	8-32_NUT	

BENCHMARK ENTERTAINMENT	
DATE	15 OCTOBER 1998
PROJECT	DRILL-O-MATIC

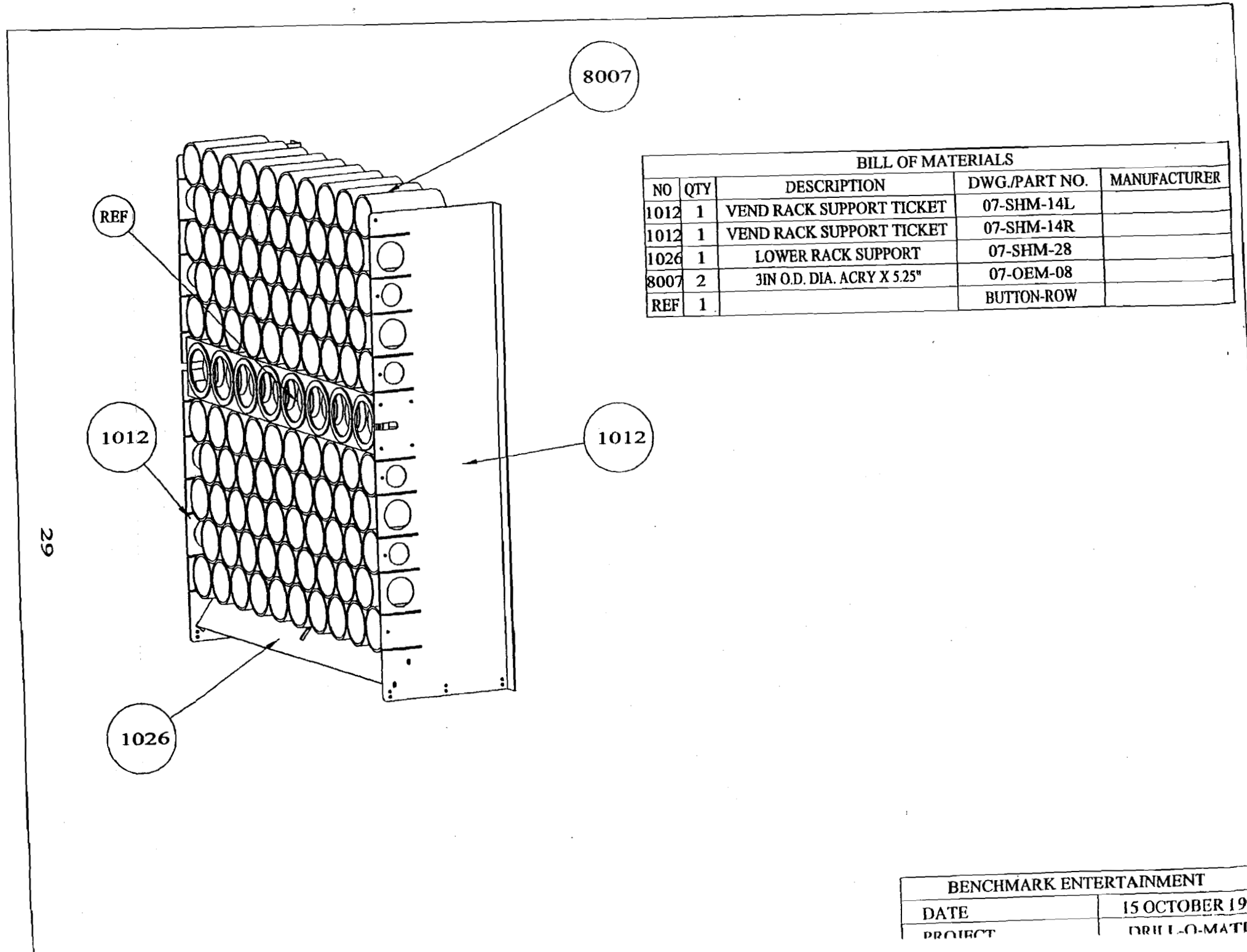


BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
1000	1	DRILL MOUNT	07-SHM-01	
6000	1	DRILL FRONT	07-PLA-02	
6001	5	DRILL FINES	07-PLA-03	
6006	1	Y-BRG BOTTOM	07-SCM-05	
6007	3	Y-BRG TOP	07-SCM-06	
6008	1	DRILL SLIDE	07-SCM-07	
6009	2	Y-BRG TOP BRS	07-SCM-08	
6013	1	BELT CLAMP X	07-SCM-12	
6016	5	DRILL SPACER	07-SCM-15	
6017	1	DRILL ARBOR	07-SCM-16	
8032	1	SPRING FOR X TRAVEL	07-OEM-33	
	1	FASTENER	RP-40	

28



BENCHMARK ENTERTAINMENT	
DATE	15 OCTOBER 1998
PROJECT	DRILL-O-MATIC

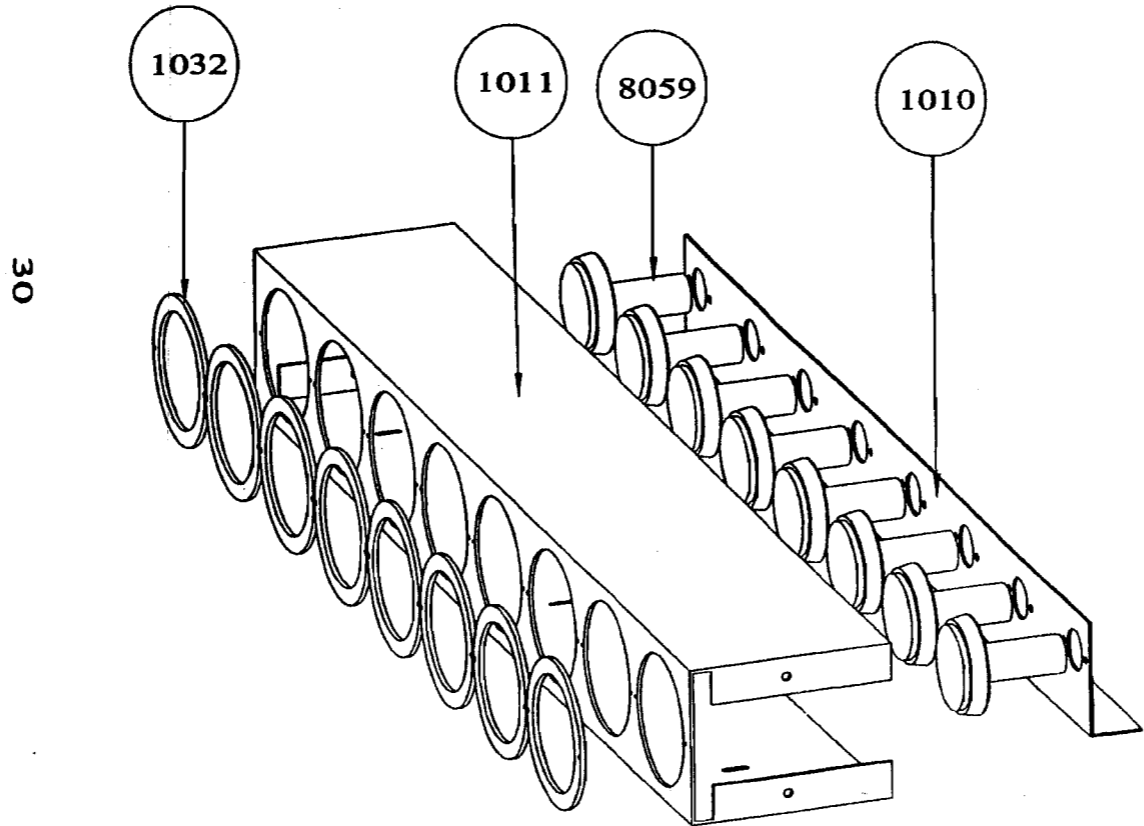


BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
1012	1	VEND RACK SUPPORT TICKET	07-SHM-14L	
1012	1	VEND RACK SUPPORT TICKET	07-SHM-14R	
1026	1	LOWER RACK SUPPORT	07-SHM-28	
8007	2	3IN O.D. DIA. ACRY X 5.25"	07-OEM-08	
REF	1		BUTTON-ROW	

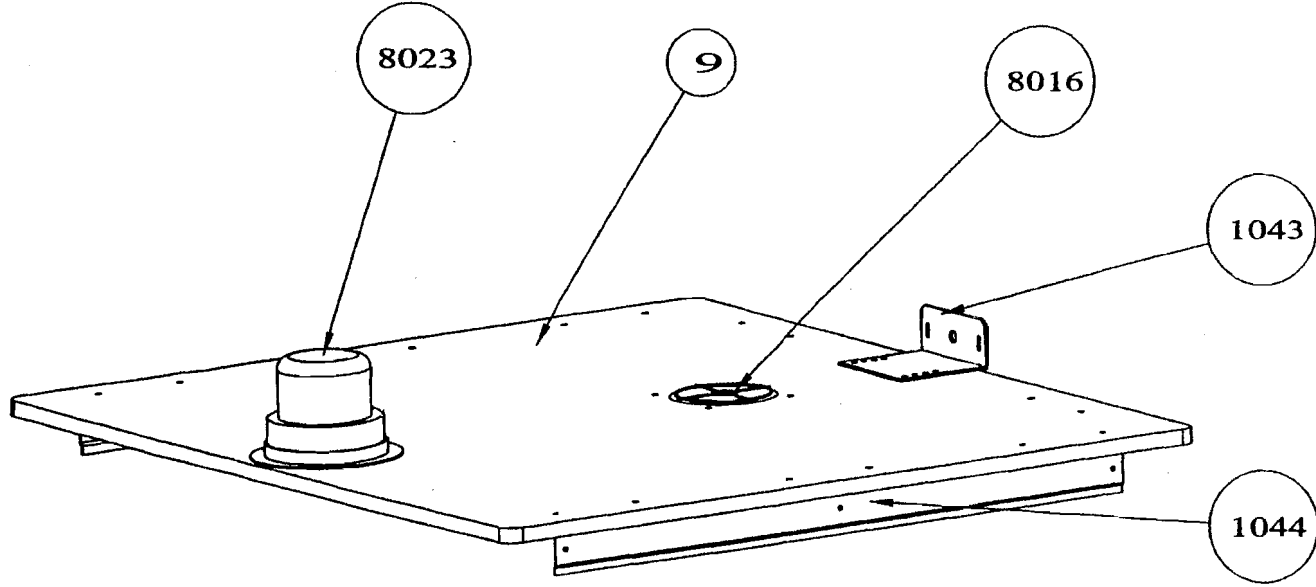
29

BENCHMARK ENTERTAINMENT	
DATE	15 OCTOBER 1998
PROJECT	DRILL-O-MATIC

BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
1010	1	TCK SWITCH MNT	07-SHM-12	
1011	1	TICKETS TARGET BRK	07-SHM-13	
1032	8	TICKET PECENT PLATE	07-SHM-34	
8059	8	LARGE PUSH BUTTON ASM	07-OEM-59	



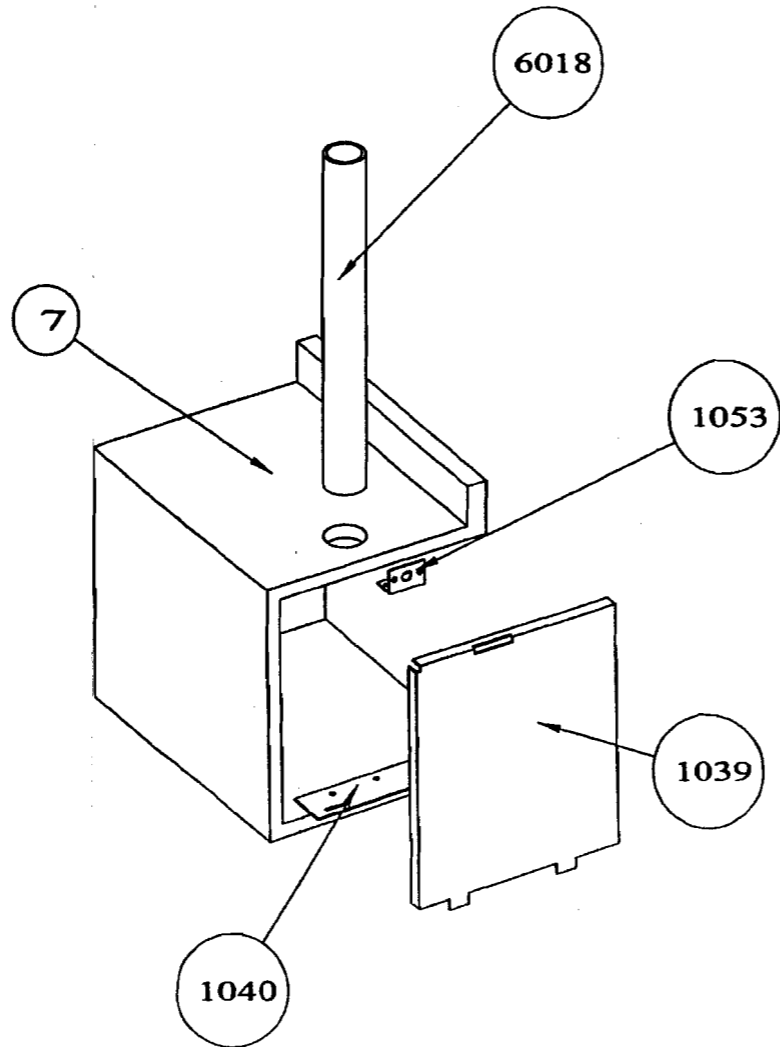
BENCHMARK ENTERTAINMENT	
DATE	15 OCTOBER 1998
PROJECT	DRILL-O-MATIC



31

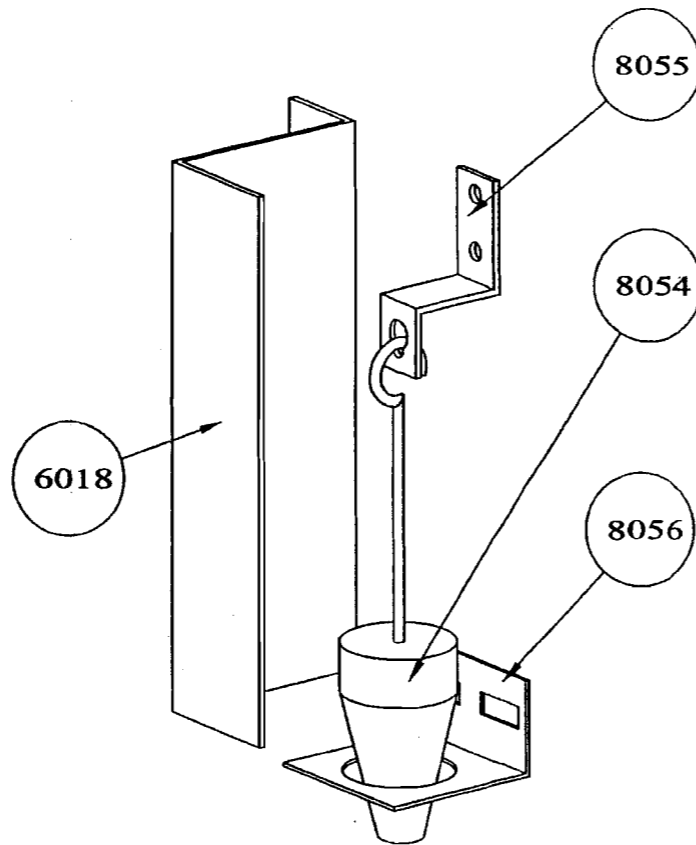
BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
9	1	TOP	07-CAB-06	
1043	1	WALL MNT BRACKET	07-SHM-43	
1044	3	CABINET ANCHOR	07-SHM-45	
8016	1	4.68 FAN GRILLE	07-OEM-17	
8023	1	ROTATING LIGHT RED	07-OEM-24	
	1		80-0006-2	

32



BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
7	1	CASH BOX COVER	07-CAB-22	
1039	1	CASH DOOR XYZ	07-SHM-39	
1040	1	CASH LOWER LATCH	07-SHM-40	
1053	1	UPPER LATCH	21-SHM-18	
6018	1	COIN TUBE	07-PLA-06	

BENCHMARK ENTERTAINMENT	
DATE	15 OCTOBER 1998
PROJECT	DRILL-O-MATIC

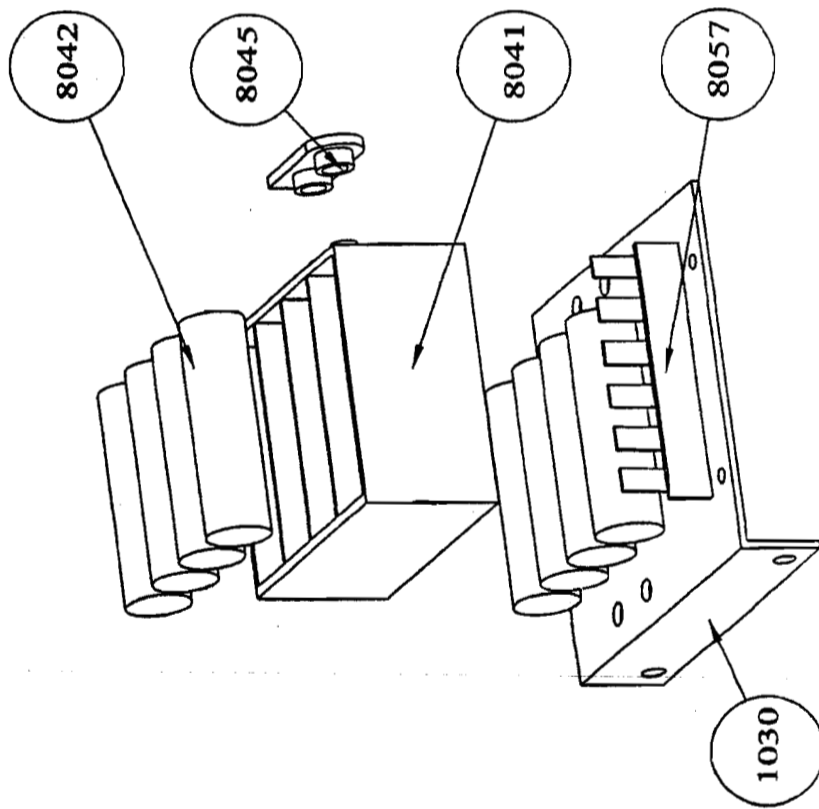


33

BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
6018	1	TILT UNIT COVER	07-PLA-05	
8054	1	TILT PLUM BOB	07-OEM-54	
8055	1	TILT TOP BRACKET	07-OEM-55	
8056	1	TILT BOTTOM BRACKET	07-OEM-56	

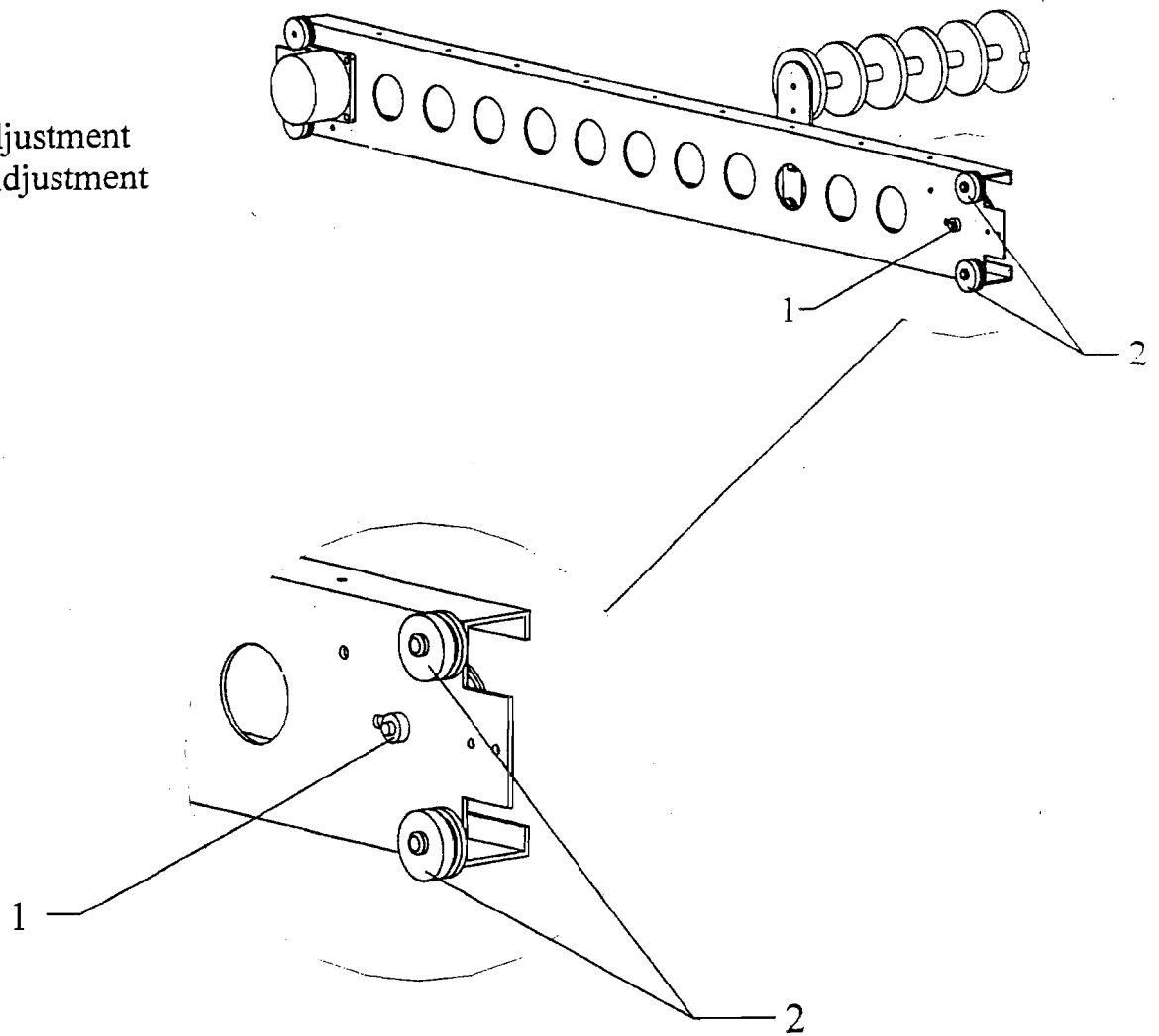
BENCHMARK ENTERTAINMENT	
DATE	15 OCTOBER 1998
PROJECT	DWELL O MAREO

BILL OF MATERIALS				
NO	QTY	DESCRIPTION	DWG./PART NO.	MANUFACTURER
1030	1	BATTERY PACK MNT	07-SHM-51	
8041	1	BATTERY HOLDER	07-OEM-42	
8042	8	AA BATTERY	07-OEM-43	
8045	1	BATTERY SNAP	07-OEM-46	
8057	1	TERMINAL STRIP 6 LUG	07-OEM-57	



III. Adjustments (X-Axis)

- 1) Belt Adjustment
- 2) Slide Adjustment



To adjust belt:

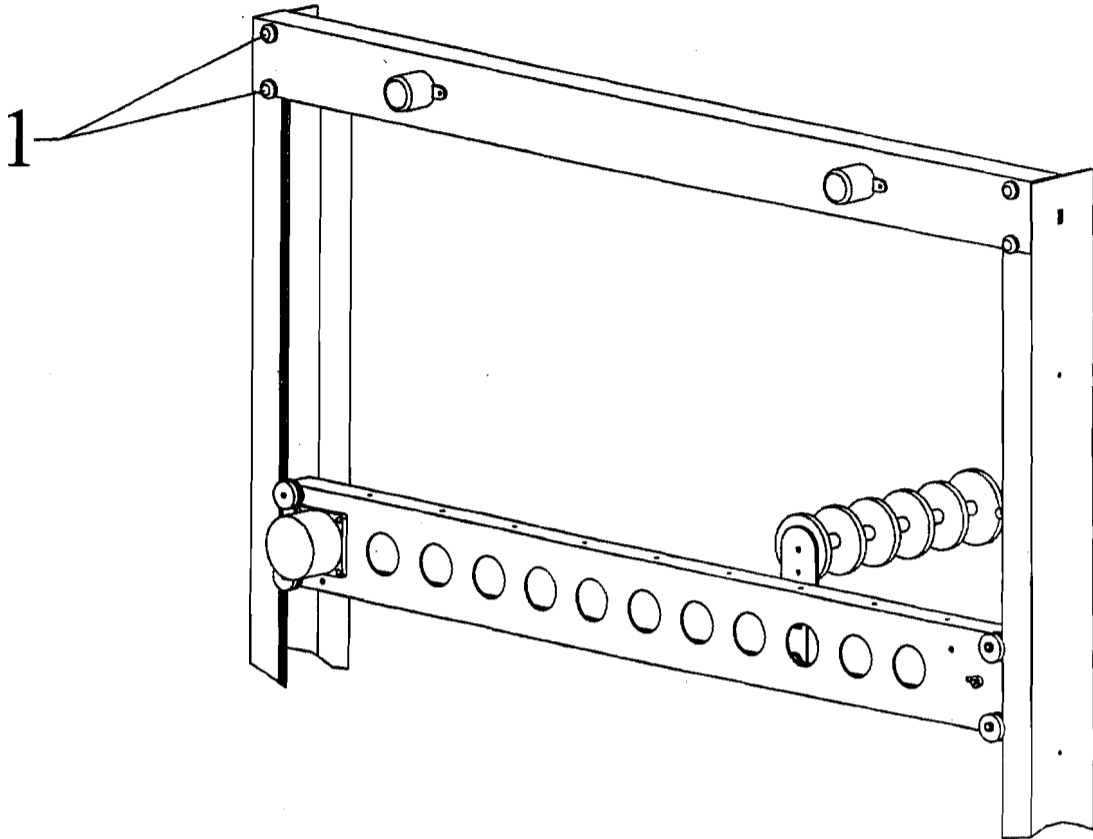
- 1) Loosen nut (1).
- 2) Slide pulley to the right to tighten. Slide pulley to the left to loosen.
- 3) Tighten nut.

Note: Do not overtighten belt.

To adjust rollers:

- 1) Loosen bolts (2)
- 2) Turn rollers left or right until bar slides smoothly.
- 3) Tighten bolts.

III. Adjustments (Y-Axis)



To adjust slide mechanism:

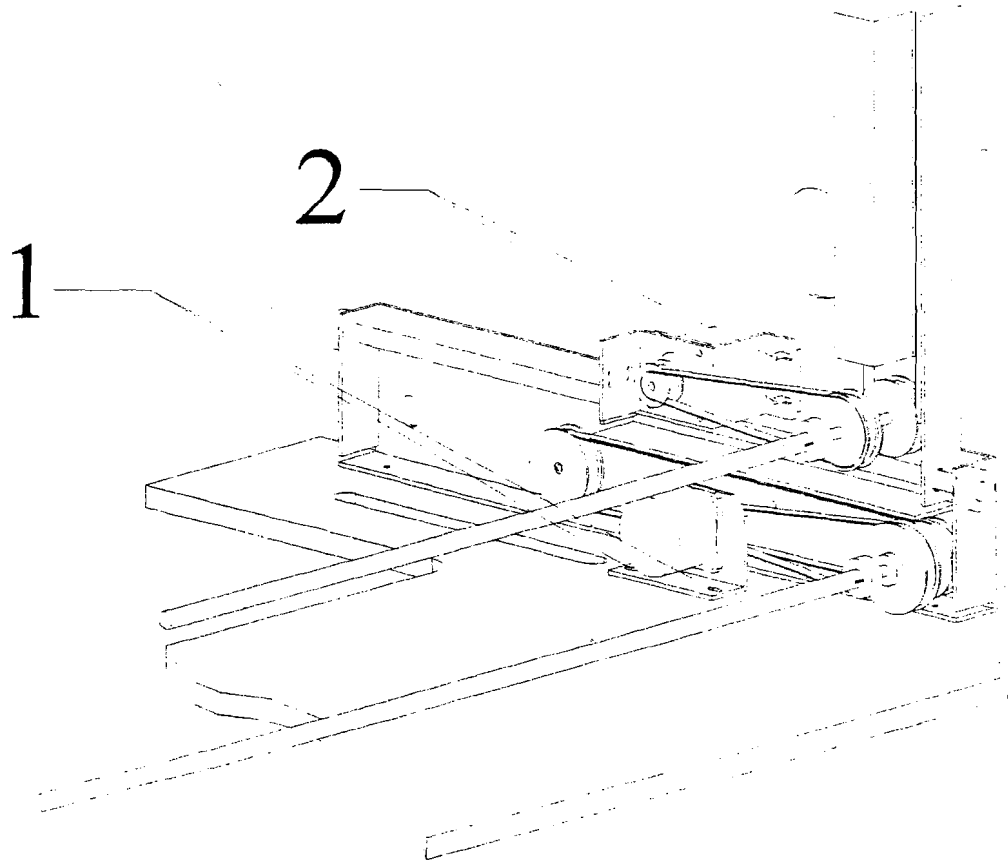
The frame of the mechanism must be square in order for the game to function properly. To adjust frame, follow directions below.

- 1) Remove red plastic caps. (1)
- 2) Loosen screws on left side of game only. (1)
- 3) Using tape measure, measure distance between sides at the top and bottom.
- 4) Adjust game until distance between sides is the same at top and bottom.
- 5) Tighten screws.
- 6) Replace red cap.

Note:

After adjusting top, adjustment of X-bar may be necessary.

III. Adjustments (Y and Z Axis Belts)



To Tighten Belts:

- 1) Loosen nuts in marked locations. (1) and (2)
- 2) Slide mounting bracket back until belt is properly adjusted.
- 3) Tighten nuts.

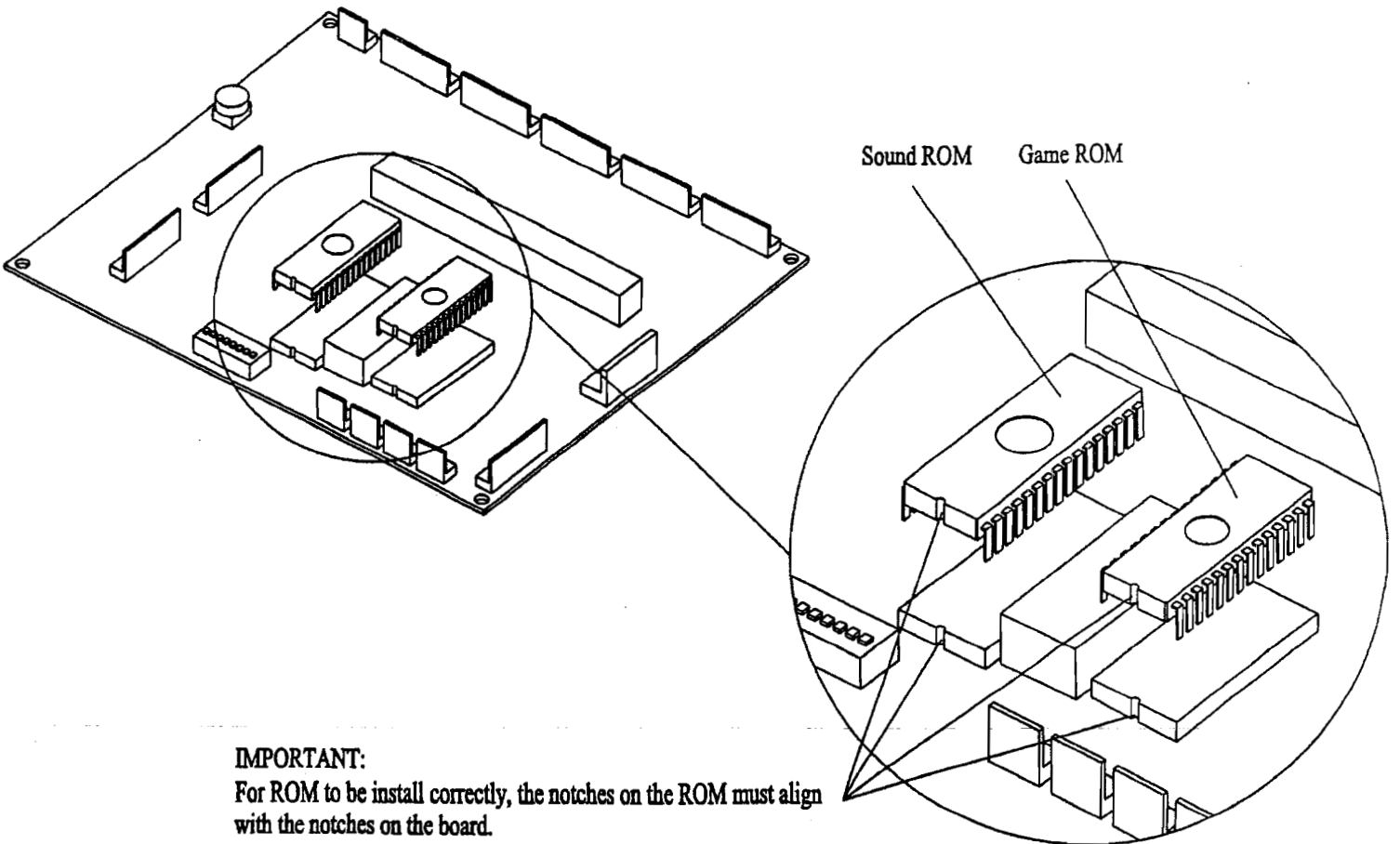
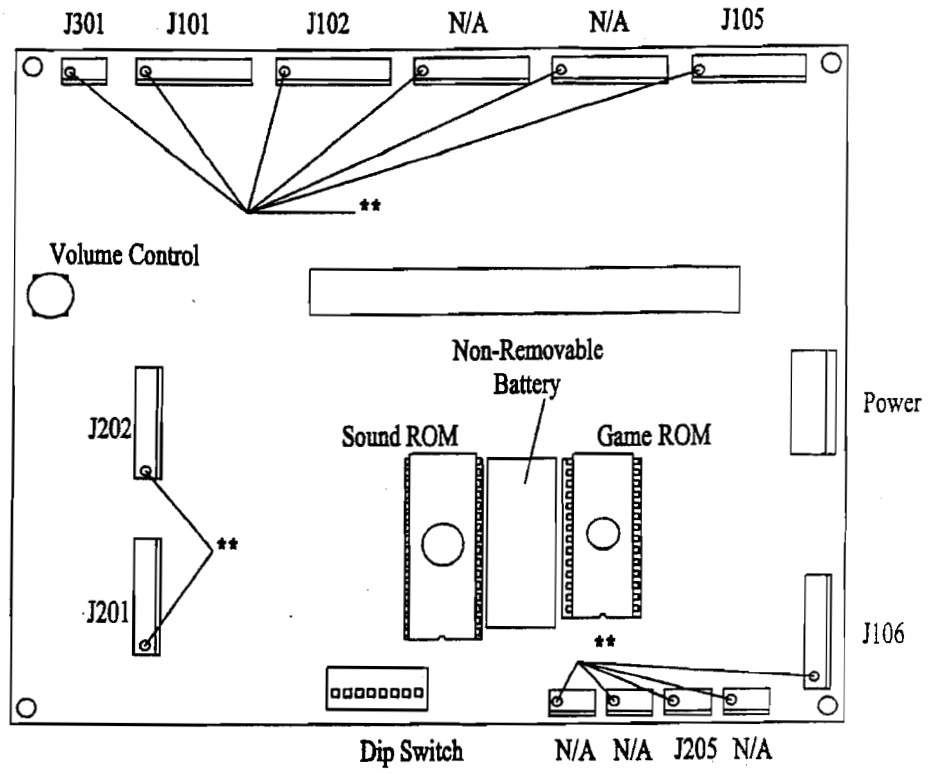
Note:

All belts should have about 1/2" of deflection.

Main Board Information

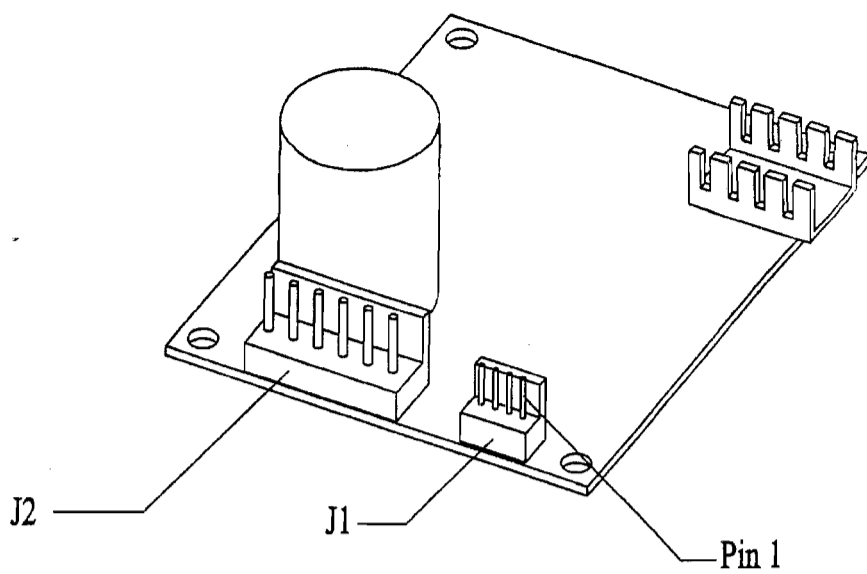
Main Board Information

IMPORTANT
 (**) shows Pin 1 location

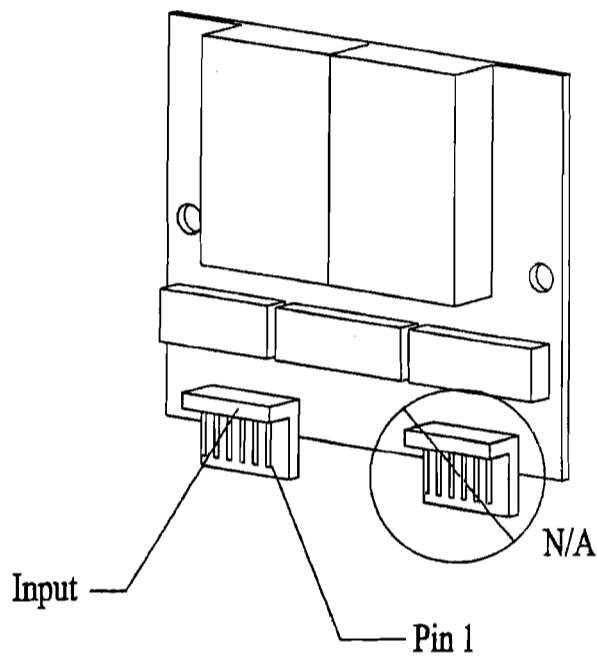


IMPORTANT:
 For ROM to be install correctly, the notches on the ROM must align with the notches on the board.

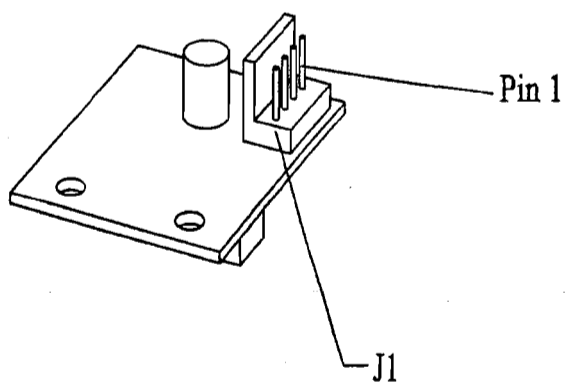
Stepper Controller Information



2 Digit LED Information

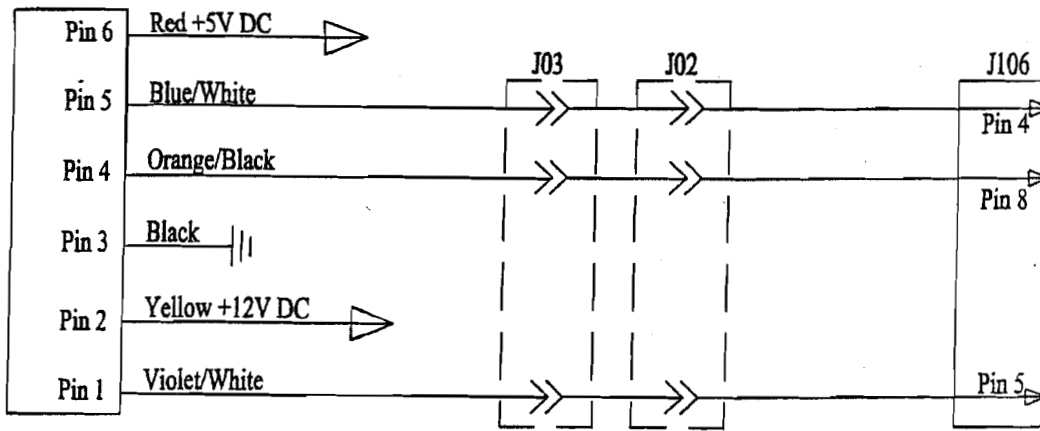


Opto Information

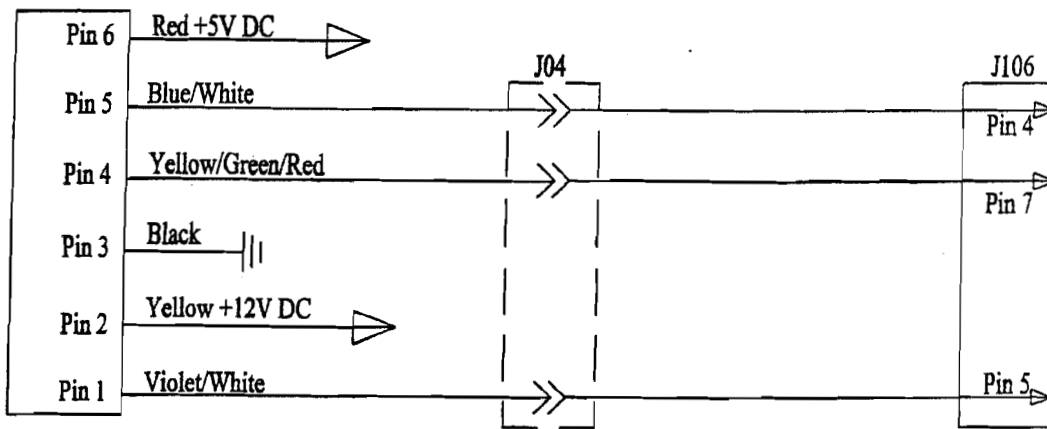


2 Digit LED

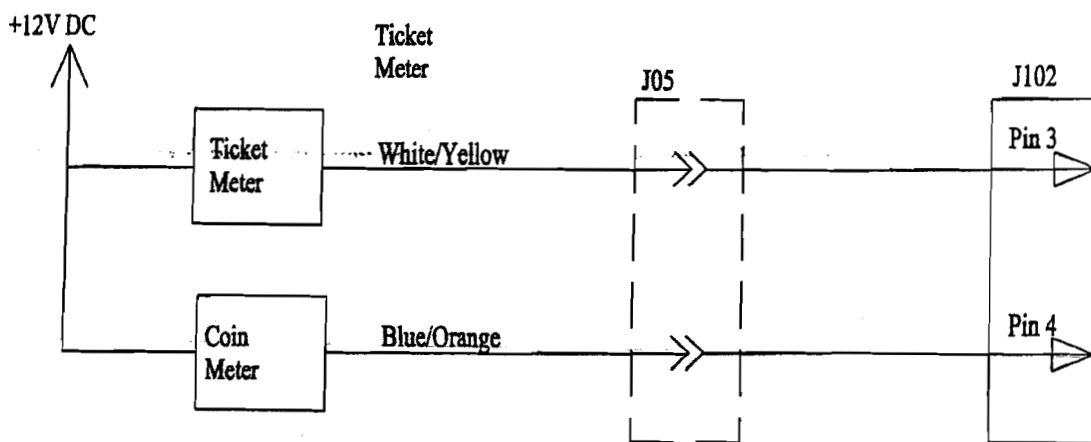
X Bar LED

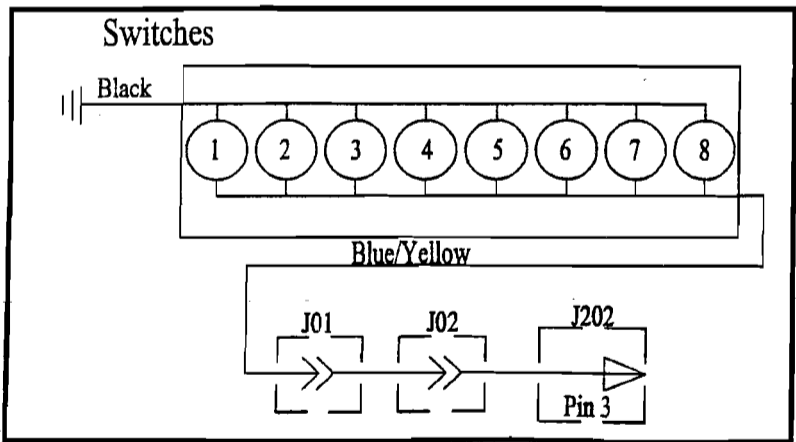
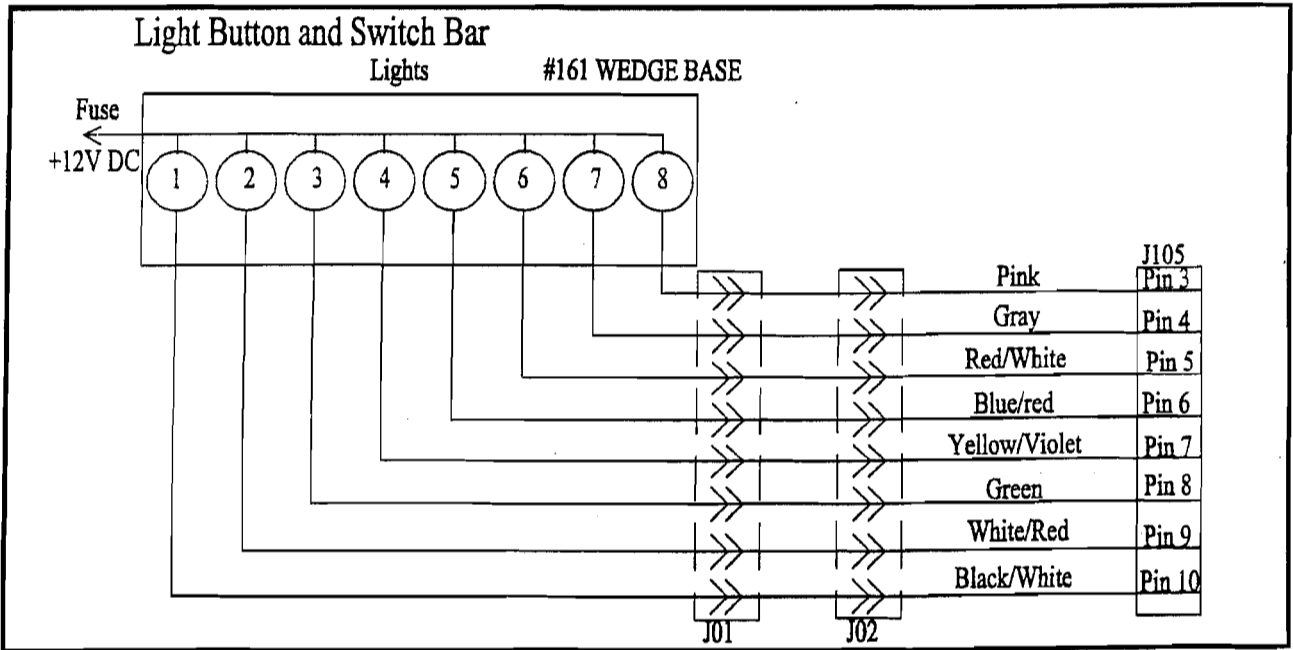
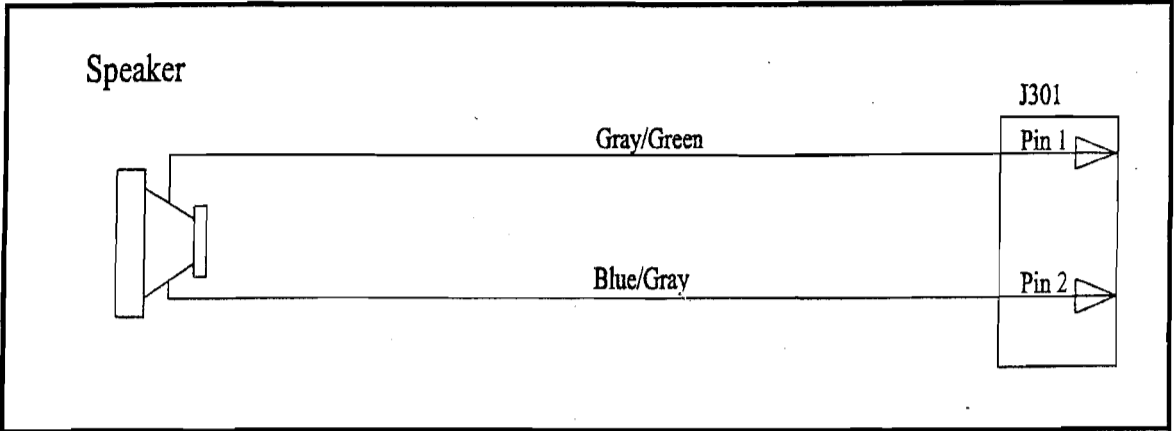
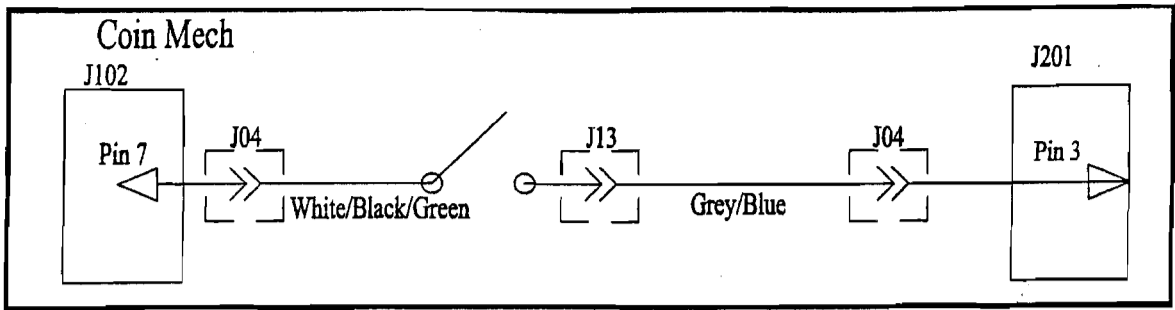


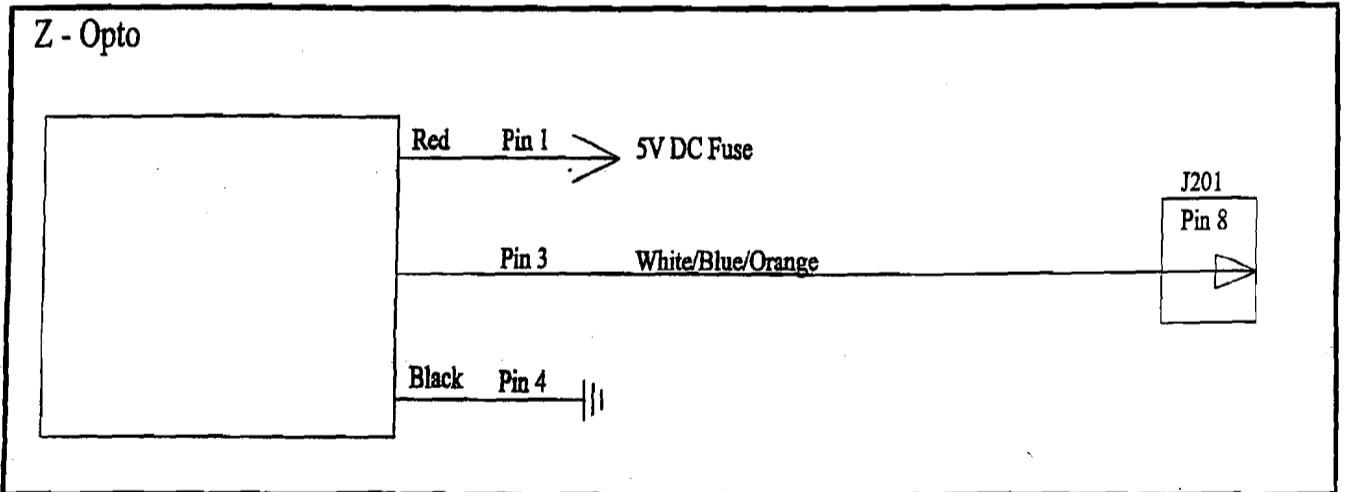
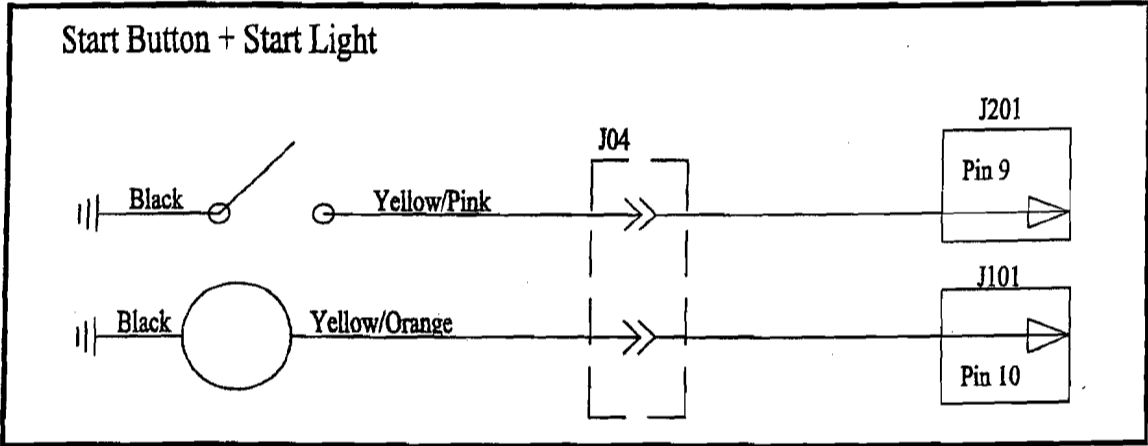
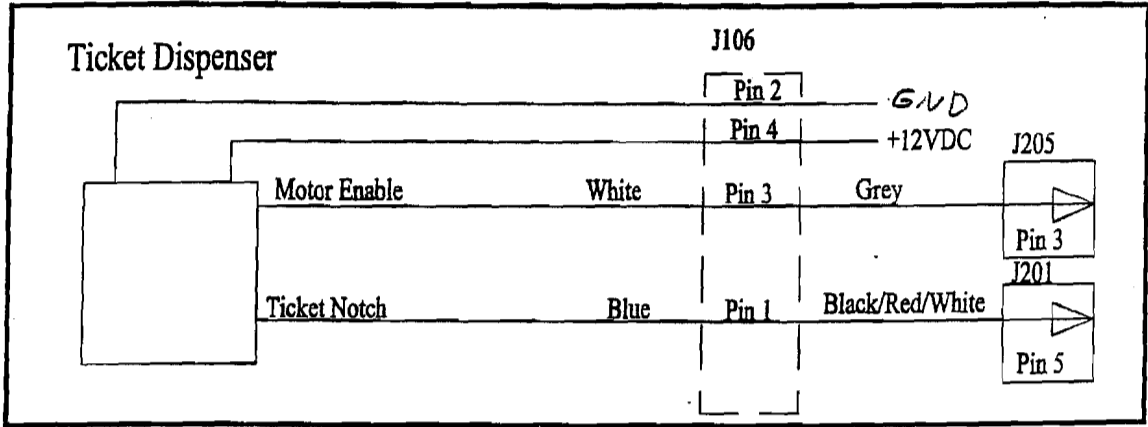
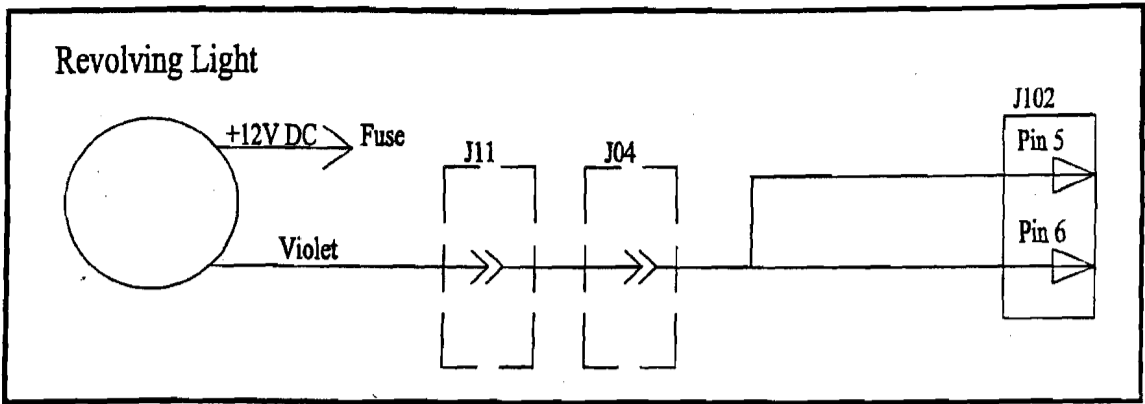
Credit LED



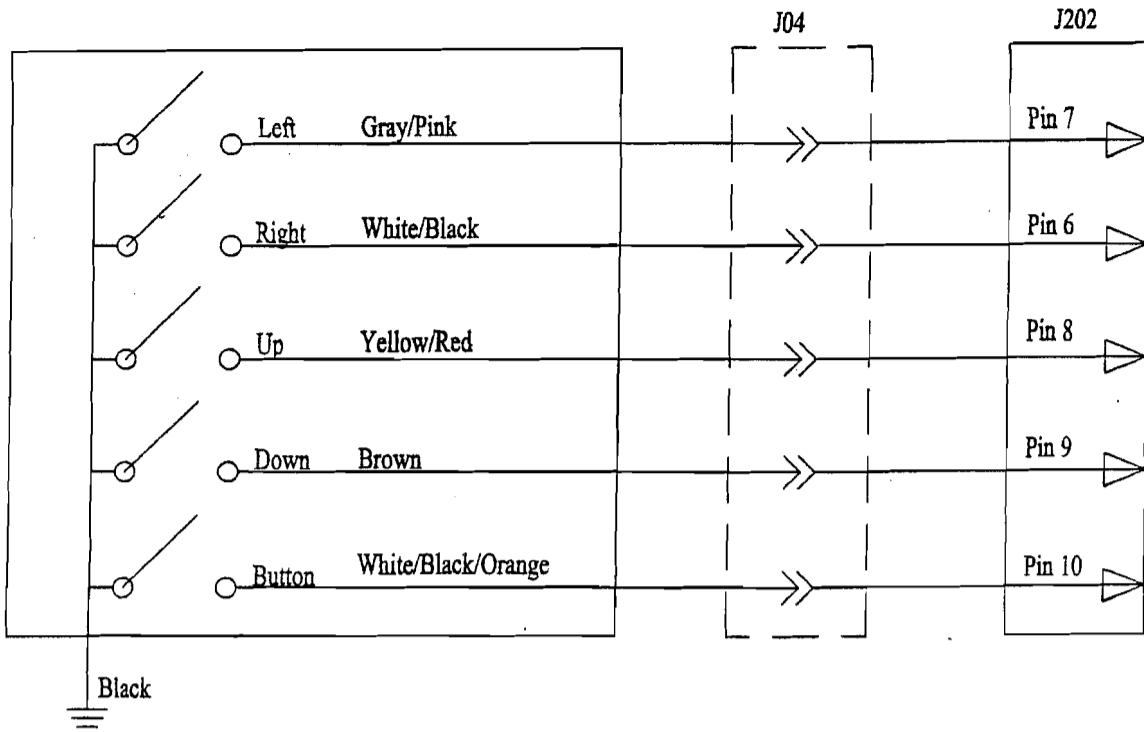
Meters



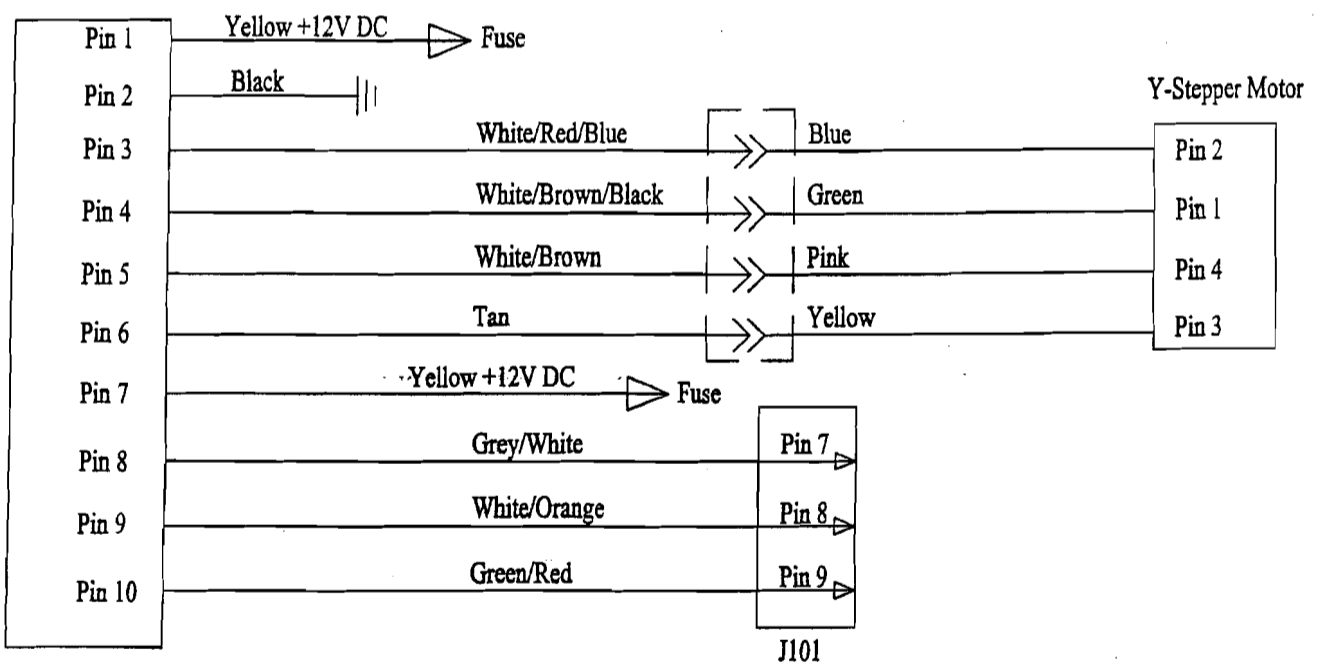




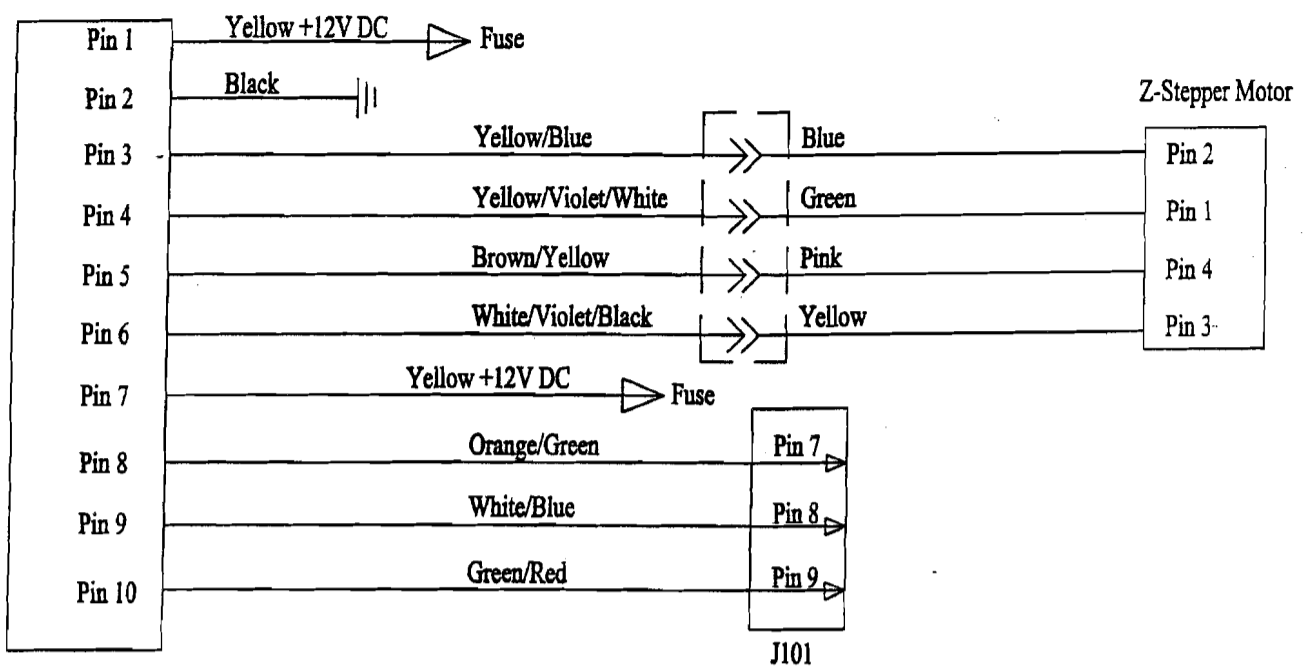
Joystick



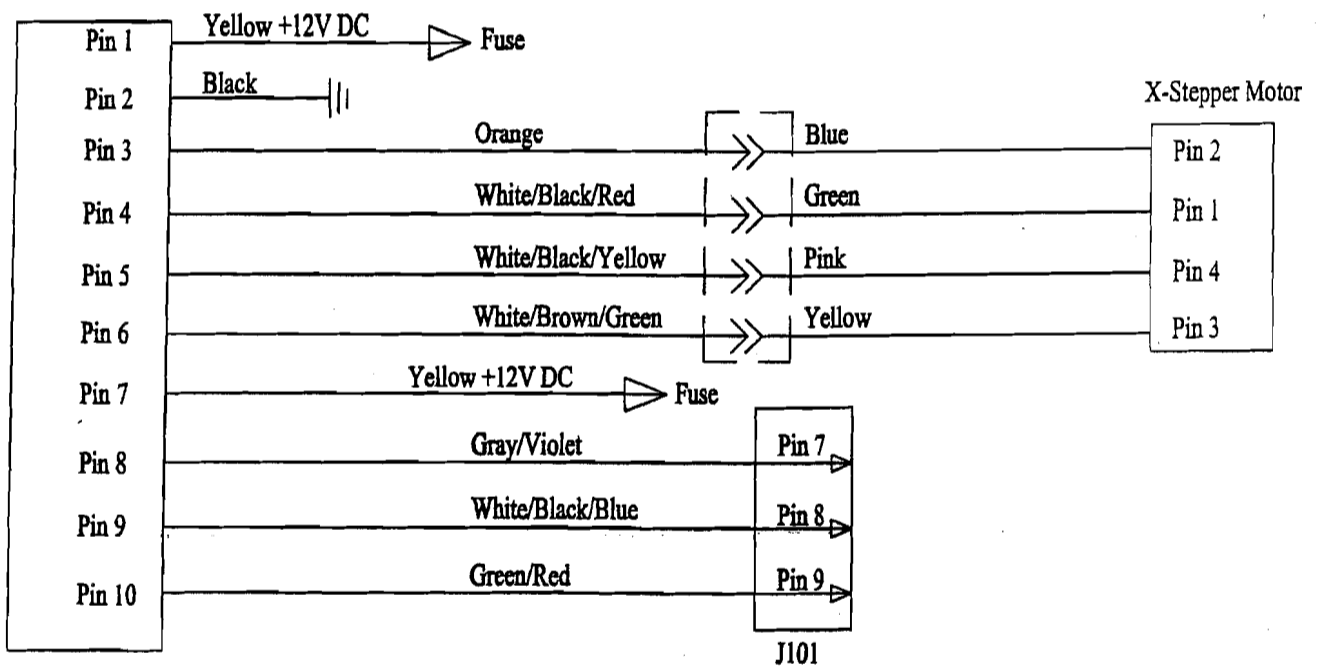
Y Stepper Controller



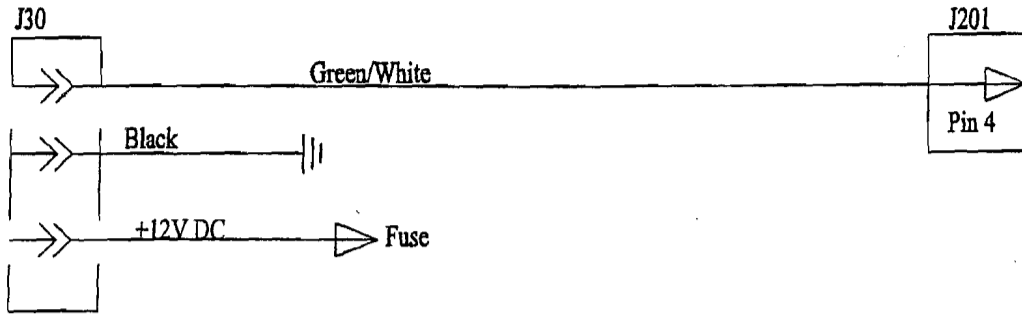
Z Stepper Controller



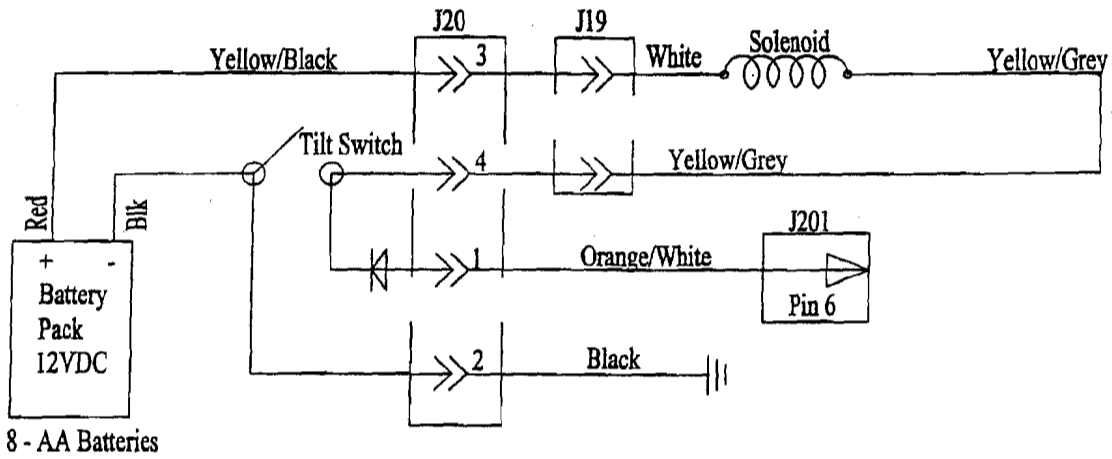
X Stepper Controller



Dollar Bill Acceptor (Optional)



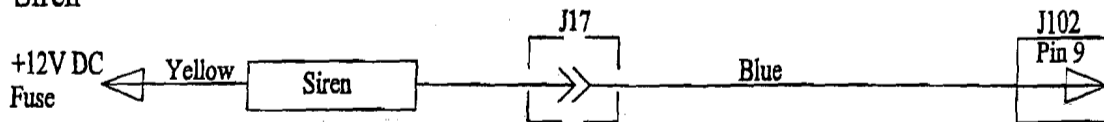
Solenoid Security System



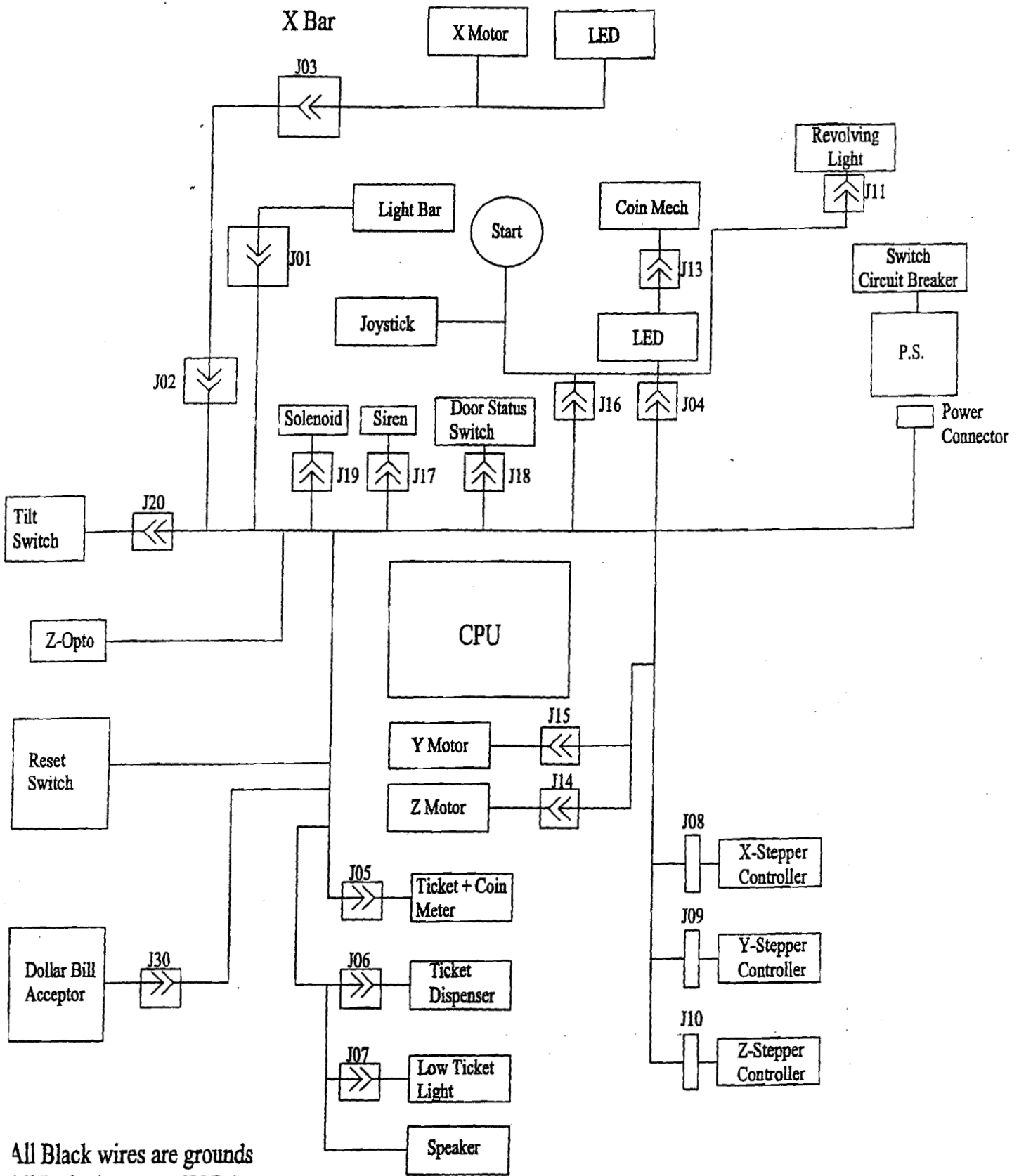
Door Status Switch



Siren

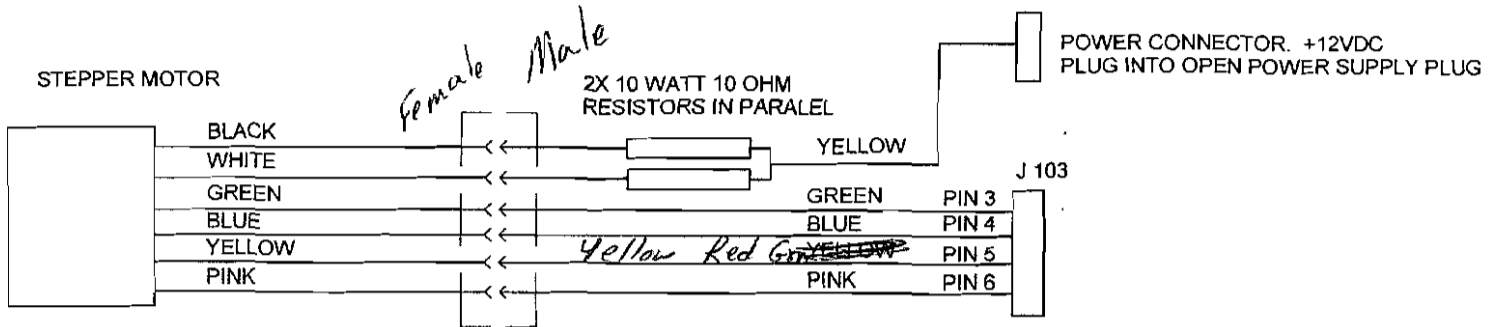


Block Wiring Diagram



All Black wires are grounds
 All Red wires are +5V DC
 All Yellow wires are +12V DC (except yellow wires on motors)

SCHEMATICS FOR POWER DOOR TILT



NOTE: SOME STEPPER MOTORS MAY HAVE DIFFERENT
COLOR CODINGS.
 THESE ARE THE EQUIVALENT COLORS.
 BLACK = BLACK
 WHITE = WHITE
 GREEN = GREEN
 BLUE = WHITE/GREEN
 YELLOW = WHITE/RED
 RED = RED