TROUBLESHOOTING

4

After reading this chapter you should be able to:

Diagnose problems which arise during the use of the pinsetter.

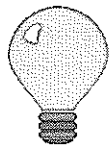
Effectively use the Magnet 2001 Controller to locate electronic related problems.

Use the charts at the end of this chapter to compile problems which arise in order to effectively follow-up on your maintenance program.

Troubleshooting the Mendes MM-2001 Pinsetter is a task which has been rendered almost effortless. The Magnet 2001 Controller keeps your Magnet pinsetter under constant surveillance. When a problem is diagnosed by the controller, it will turn the appropriate pinsetter's fluorescent light OFF, simultaneously flash its TROUBLE light (ball 1 and ball 2 lights also if version 1.14 or later), and display a short message on the controller's corresponding pinsetter display window.

If you have a problem, always verify the following points before replacing system components as indicated on the following pages.

- Check that you have electrical power to the system; a glance at the fuse box could save you a lot of precious time.
- Make sure that the LED on the ball detector is green.
- Check that LEDs LD301, LD302, LD303 and LD304 are flashing inside your electronic power box. If not, reset it using the RESET button located on the main circuit board.
- Reset the player's console if you have automatic scoring.
- Simulate a power failure.
- Verify the relative humidity in your center. When humidity levels get too low, static electricity transported by people can build up to enormous levels. These levels can be so large that even good grounds will not stop the destruction of these static discharges. Be advised that the recommended relative humidity level for a bowling center is between 40 and 50 percent.
- Retrace the ground wire installed with your equipment all the way to the building's main ground. Never depend upon the ground installed with your outlets, since many electricians do not reliably install these grounds. ***If your equipment is not properly grounded the CPU's can literally blow their electronic chips when they receive a static electricity discharge, be it from the players or a defective part.***
- Check that all four of the pinsetter's grounding mechanisms are securely in place. The grounding mechanisms are part numbers 302-1630-00, EC-2001-G, and both S-080 (one on the pit table and one in the kickback assembly).



There are only two possible solutions to cabling problems. First, any one of the connectors used with the cable assembly may have become loose due to the constant vibration present in bowling facilities. Secondly, a cable may be cut or have been pinched by a foreign object. The solutions are simple, ensure that all connectors are well positioned and push down on each one to ensure its proper contact. If this fails to resolve your problem, use a multimeter to verify the cable assembly's continuity. In both cases, the schematic diagrams will be of great assistance to you in locating all the connectors concerned with the different cable assemblies and also the beginning and ending of all electric and electronic circuits.

Regarding all problems pertaining to the carrousel's solenoids and the drawer obstruction detector, it is possible to continue with the pinsetter's normal cycle or abort the cycle. Dip switches SW301-3 and SW301-4 on the main circuit board determine how the controller will react under each situation.

Displayed Problems

Listed on the following pages, in alphabetical order, are the various "TROUBLE!" messages along with the reason for the displayed message. Following the "TROUBLE!" messages are pointers which should be verified in order to rectify the situation and return the pinsetter to its normal working condition. This section does not specify how to make adjustments or change components, but indicates what components you should verify, adjust or replace if defective. Refer to the Adjustments section in this manual if you are not familiar with its necessary adjustment(s).

Any trouble causing a pinsetter or pinsetters to shutdown is indicated with an asterisk (*) followed by "SHUTDOWN". Due to the fact that the pinsetter is controlled electronically, it must always be kept in synchronization with the electronics. After having resolved the problem which caused the shutdown, the pinsetter(s) must be turned back ON and its synchronization re-established. Make sure the drawer is completely empty and perform a cold open command from the Magnet 2001 Controller.

The problems indicated with "SHUTDOWN" will cause the software to de-activate the necessary pinsetter components in order to rectify the situation. When this happens, the pinsetter's corresponding circuit breaker on the electronic power box must be manually opened before locating and clearing the cause of the jam. If the jam is corrected without opening the circuit breaker, the pinsetter could possibly start to cycle and might result in personal injury.

The problems listed in this section which are not indicated by "SHUTDOWN" do not cause the software to de-activate the necessary pinsetter components. The user must press B on the Magnet 2001 Controller and wait for the main motor to stop before opening the pinsetter's circuit breaker.

The door to the ball accelerator is malfunctioning. Remedy the situation and then press 1 on the Magnet 2001 Controller to resume play.

```
Ball JAM! Repair
And Hit Key '1'
```

- Pin(s) may be obstructing the door.
- Ball ready optical transmitter or reflector may be misaligned, disconnected, soiled or defective (adjustment 3A).
- Ball door optical sensor or reflector may be misaligned, disconnected, soiled or defective (adjustment 4F).
- Ball door clutch may be defective or need maintenance (adjustment 3E).
- Check the ball door adjustments (4D and 4E).
- Belt used to power the ball door may need adjusting or replacing (adjustment 4B).
- 90-volt circuit board (E-MD92-90) may be defective.

The ball ready optical transmitter used to detect a ball at the ball accelerator door has been ON for over two minutes. Remedy the situation and then press 1 on the Magnet 2001 Controller to resume play.

```
Ball Reflector
Repair & Hit '1'
```

- Ball ready optical transmitter or reflector may be misaligned, disconnected, soiled or defective (adjustment 3A).
- Object may be impeding the ball's passage.
- Input circuit board (E-MD92-24) may be defective.

***Shutdown! The pinsetter's breaker located on the electronic power box has been manually opened.** *Introduced with version 1.18.*

```
BREAKER SET OFF
Run OPEN after!
```

- Turn the breaker back on and then perform an open command accordingly.

***SHUTDOWN! A carrousel coded response to the main circuit board was lost due to a communication problem between the main circuit board and the carrousel's circuit board.**

```
Carrou Answer
TROUBLE!
```

- Verify all cabling and connections between the carrousel controller and the electronic power box followed by a reset on the main circuit board (E-MD92-92).

During a start-up procedure, the optical sensors used to control the carrousel's movements were checked and found to be not correctly functioning.

```
CARR.CS/SS/PD...
Repair & Hit '1'
```

- Check all of the carrousel's optical sensors (CS, SS, & PD). Make sure that each opto is correctly activated by its actuator (adjustments 6A, 6B and 6C).

***SHUTDOWN! The carrousel's circuit board is no longer able to send return coded messages to the main circuit board.**

```
Carrou NACK
TROUBLE!
```

- Carrousel circuit board (E-MD92-81) is defective or its identification connector is misplaced.
- Main circuit board (E-MD92-92) may be defective or need to be reset.

```
Carrou Reset
TROUBLE!
```

***SHUTDOWN! A RESET has been detected through the carousel's reset circuit, probably caused by a loss of electrical power to the carrousel's circuit board.**

- Verify all cabling and connections between the carrousel controller and the electronic power box followed by a reset on the main circuit board (E-MD92-92).

```
Carr SCI TROUBLE
Check cabling
```

***SHUTDOWN! The main circuit board has not received a coded message in over 30 seconds from the carrousel's serial communication interface.**

- Check the carrousel controller's heartbeat LED, if non-functional, RESET the carrousel controller.
- Carrousel cable assembly may be cut or unplugged from the main circuit board (E-MD92-92).

```
Deck-Drawer PH
TROUBLE-PSUPPLY
```

***SHUTDOWN! The AC drive circuit boards or one of their components has an electrical power supply problem.**

- Verify the pinsetter's circuit breaker and the motor's overload.
- One or both of the drive circuit board assemblies may be defective.

```
DECK      ID:BAD
DRAWER    ID:BAD
```

An identification error was detected on the deck's DC drive or the drawer's DC drive during power up of the main circuit board.

- Verify that the cabling and the drive circuit board assemblies are intact and in their correct positions (sometimes when changing drive circuit board assemblies, they are inverted - drawer in deck's place, etc.).

```
Deck Jam
TROUBLE!
```

***SHUTDOWN! The deck is not moving according to the commands sent to it by the software.**

- An object is physically impeding the deck's movement.
- If the deck is moving correctly, the deck's motor encoder is defective.

```
Deck Phase
TROUBLE!
```

***SHUTDOWN! The deck's DC drive experienced an electrical power shortage for at least two consecutive seconds.**

- Deck's circuit overload.
- Deck's drive circuit board assembly or cabling.

***SHUTDOWN! The deck's DC drive or one of its components is not functioning normally.**

Deck TROUBLE!

- Deck's circuit overload.
- Deck upper limit optical sensor (check its adjustment and cabling).
- Deck lower limit optical sensor (check its adjustment and cabling).
- Check the motor encoder and its cabling. The encoder could be loose on the motor's shaft and is not rotating at the same speed as the motor itself or the cabling could be loose or disconnected.
- Check the detection plate foams (304-1590-00). If they have absorbed deck fluid which has leaked, they will constantly signal the deck to stop on its way down. The electronics will not have the time to read an out of range, and it will display a "Deck Trouble".

***SHUTDOWN! The deck's DC drive experienced a communication problem or glitch with the electronic power box.**

Deck TROUBLE!
(Spi Comm.)

- There is nothing physically wrong with the pinsetter or its components, but you should advise Mendes or one of its accredited distributors of the situation.

***SHUTDOWN! The drawer was unable to detect its front limit optical sensor.**

Drawer No Front
TROUBLE!

- Check the optical sensor's adjustment and cabling. (adjustment 8F)
- Check the optical sensor's actuator to ensure that it is not bent out of shape.

***SHUTDOWN! A pin remained in the drawer after having loaded the deck and was detected by the drawer obstruction optical transmitter & drawer obstruction optical receiver. Once the deck is loaded and the drawer returns to its REAR position it should always be empty.** *This message will only appear if dip switch 301-4 is ON.*

Drawer Obstruct
TROUBLE!

- If there are no pins located in the drawer, verify the drawer obstruction transmitter and receiver along with its cabling. (adjustment 8H)
- If there are pins in the drawer, check that the pins in question have no defaults which would cause them to stay stuck in the pin cups.
- Check the deck height adjustment (9A) and make sure that none of the wires have frayed or broken.

***SHUTDOWN! The drawer's DC drive experienced an electrical power shortage for at least two consecutive seconds.**

Drawer Phase
TROUBLE!

- Drawer's circuit overload.
- Reset the main circuit board (E-MD92-92).
- Drawer's drive circuit board assembly or cabling.

```
Drawer Pin Jam
TROUBLE!
```

***SHUTDOWN! The drawer is not moving according to the commands sent to it by the software.**

- An object is physically impeding the drawer's movement.
- Check the motor encoder and its cabling. The encoder could be loose on the motor's shaft and is not rotating at the same speed as the motor itself or the cabling could be loose or disconnected.

```
Drawer TROUBLE!
```

***SHUTDOWN! The drawer's DC drive or one of its components is not functioning normally.**

- Drawer's circuit overload.
- Drawer back limit optical sensor (adjustment 8G) and cabling.
- Drawer front limit optical sensor (adjustment 8F) and cabling.
- Check the motor encoder and its cabling. The encoder could be loose on the motor's shaft and is not rotating at the same speed as the motor itself or the cabling could be loose or disconnected.
- Reset the main circuit board (E-MD92-92).
- Drawer's drive circuit board assembly or cabling.

```
Drawer TROUBLE!
(Spi Comm.)
```

***SHUTDOWN! The drawer's DC drive experienced a communication problem or glitch with the electronic power box.**

- There is nothing physically wrong with the pinsetter or its components, but you should advise Mendes or one of its accredited distributors of the situation.

```
DW OBST   2)Stop
Move PIN &->1)Go
```

***SHUTDOWN! A pin remained in the drawer after having loaded the deck and was detected by the drawer obstruction optical transmitter & drawer obstruction optical receiver. Once the deck is loaded and the drawer returns to its REAR position it should always be empty.** *This message will only appear if dip switch 301-4 is OFF.*

- Remove the pins from the drawer and press **1** on the Magnet 2001 Controller. ***OR***
- Press **2** on the Magnet 2001 Controller and refer to "Drawer Obstruct TROUBLE!".
- If there are no pins located in the drawer, verify the drawer obstruction transmitter and receiver (adjustment 8H) along with its cabling.
- If there are pins in the drawer, check that the pins in question have no defaults which would cause them to stay stuck in the pin cups.

```
Elevator JAM!
1)Go      2)Stop
```

The pin elevator is no longer able to move. Remedy the situation and then press 1 **on the Magnet 2001 Controller to resume play. If more than thirty seconds pass before** 1 **is pressed, the main motor will be powered off.** *Introduced with version 1.16 in order to reduce the number of pins being chewed up by the conveyor belt's constant movement, this message will only appear if dip switch 301-5 is OFF.*

- Pin(s) may be obstructing its movement.
- Pin elevator's optical sensor may be misaligned or defective. (adjustment 5H)
- Pin elevator's clutch may be defective or need maintenance. (adjustment 5G)
- Check all of the pin elevator's adjustments.
- Output circuit board (E-MD92-90) may be defective.

```
Elev.JAM! Repair
And Hit Key '1'
```

The pin elevator is no longer able to move. Remedy the situation and then press 1 **on the Magnet 2001 Controller to resume play.** *Beginning with version 1.16, this message will only appear if dip switch 301-5 is ON.*

- Pin(s) may be obstructing its movement.
- Pin elevator's optical sensor may be misaligned or defective. (adjustment 5H)
- Pin elevator's clutch may be defective or need maintenance. (adjustment 5G)
- Check all of the pin elevator's adjustments.
- Output circuit board (E-MD92-90) may be defective.

```
Main Motor Flag
Call Down...
```

***SHUTDOWN! The pinsetter's motor was shut off and the sweep moved without the pinsetter's motor being on. This error should never occur unless there is a conflict between simultaneous commands sent through the Mendes Automatic Scoring Player Console and the Magnet 2001 Controller.**

- Do not send commands to the pinsetter through the Magnet 2001 Controller if the pinsetter is operating normally under regular bowling conditions.

```
OOR:PIN IN DECK?
Yes)1(dump) No)2
```

The out of range detector has determined that one or more pins are out of range. The operator must signal to the Magnet 2001 Controller whether or not one or more pins have been picked up by the deck. After having done this, the following will be displayed:

```
OUT OF RANGE
1)PSET    2)FSET
```

One or more pins are out of range, the operator is presented two choices:

- Remove all deadwood from the pin deck and then press **1** on the Magnet 2001 Controller (the "Move Sweep Up" display will appear asking you to lift the sweep and then press "1" to resume play) .

```
Move Sweep UP
And Hit Key '1'
```

OR

- Press **2** on the Magnet 2001 Controller in order to have the pinsetter perform a FULL SET.
- If no pins are out of range, check that the detector is functioning normally and that its cabling circuit is complete.
- Check the insulation foams (304-1590-00) to make sure that they are in place and have not been altered or deteriorated.
- Verify the brass screws (7316-422520-050) which make contact with the detection plate to ensure that they have not come loose.
- Check the fluid level in the pin centering dish. (adjustment 9E)

```
OPEN TROUBLE
(Pins in Drawer)
```

***SHUTDOWN! During an OPEN cycle, one or more pins were detected in the drawer's row of 7.** *This message will only appear if the version on the E-MD92-92 circuit board is older than 1.16.*

- Check the drawer to ensure that it is closed (in its rear position).

```
Pin Elev.JAM!
1)Go      2)Stop
```

For some reason, the carrousel is unable to pick up pins from the elevator. Remedy the situation and then press 1 on the Magnet 2001 Controller to resume play. If more than thirty seconds pass before 1 is pressed, the main motor will be powered off. *Introduced with version 1.16 in order to reduce the number of pins being chewed up by the conveyor belt's constant movement, this message will only appear if dip switch 301-5 is OFF.*

- Make sure that all of the pins have a magnet in their head.
- Verify all of the carrousel's adjustments (6A to 6I).

```
Pin Elev! Repair
And Hit Key '1'
```

For some reason, the carrousel is unable to pick up pins from the elevator. Remedy the situation and then press 1 on the Magnet 2001 Controller to resume play. *Beginning with version 1.16, this message will only appear if dip switch 301-5 is ON*

- Make sure that all of the pins have a magnet in their head.
- Verify all of the carrousel's adjustments (6A to 6I).

```
Power Failure
DETECTION
```

***SHUTDOWN! During the pinsetter's normal operation, a power failure occurred.**

- There is no problem, this message is used for your information only so as not to waste time looking for a problem when there is none.

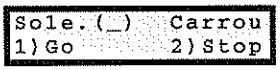
```
Remove DRAW.Pin
Move Draw.BACK!
```

***SHUTDOWN! During an OPEN cycle, one or more pins were detected in the drawer's row of 7.** *This message will only appear if the version on the E-MD92-92 circuit board is 1.16 or later. This new version obliges the user to place the drawer in its back limit optical sensor in order to clear the trouble message.*

- Check the drawer to ensure that it is closed (in its rear position).
- Reset the main circuit board (E-MD92-92).

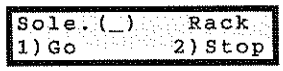
The following four (4) troubleshooting messages pertaining to the solenoids may be caused by physically removing pins from the magazine while the pinsetter is running. NEVER REMOVE PINS FROM THE MAGAZINE WHILE THE

PINSETTER IS RUNNING. ***Version 1.17 introduced the possibility of removing pins from the magazine when the pinsetter is turned OFF, but when the pinsetter is running the same rule of not removing pins from the magazine remains.***



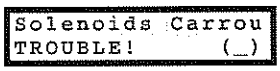
***SHUTDOWN! One of the solenoids used to deposit the pins from the carrousel into the magazine is not functioning correctly. (the number of the defective solenoid will appear between the parentheses).** *This message will only appear if dip switch 301-3 is OFF.*

- Press **1** on the Magnet 2001 Controller in order to continue the cycle. ***OR***
- Press **2** on the Magnet 2001 Controller in order to stop the cycle. Doing so will display the "Solenoids Carrou TROUBLE!" message.



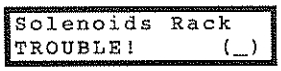
***SHUTDOWN! One of the solenoids used to deposit the pins from the magazine into the drawer is not functioning correctly. (the number of the defective solenoid will appear between the parentheses).** *This message will only appear if dip switch 301-3 is OFF.*

- Press **1** on the Magnet 2001 Controller in order to continue the cycle. ***OR***
- Press **2** on the Magnet 2001 Controller in order to stop the cycle. Doing so will display the "Solenoids Rack TROUBLE!" message.



***SHUTDOWN! One of the solenoids used to deposit the pins from the carrousel into the magazine is not functioning correctly. (the number of the defective solenoid will appear between the parentheses).**

- Defective solenoid.
- Solenoid cam adjustment (6E).
- Check the cable connectors on the carrousel controller.
- Detection bar assembly may have a defective reed switch or may need adjusting (7D).
- Check all carrousel mechanical adjustments. (6A to 6I)
- Check all of the pin loaders (302-5130-00) to make sure that none of them are defective.
- Check the corresponding magazine station assembly to ensure that it is functioning correctly (adjustments 7A and 7B).
- Defective carrousel controller circuit board (E-MD92-81).



***SHUTDOWN! One of the solenoids used to deposit the pins from the magazine into the drawer is not functioning correctly. (the number of the defective solenoid will appear between the parentheses).**

- If the pin is still present in the magazine, the solenoid or the mechanics used to deposit the pin is (are) defective (adjustments 7A and 7B).
- If there is no pin in the magazine, the reed switch is defective or the mechanical procedure of dumping is taking too long for the electronics (this is usually caused by a weak solenoid). Refer to adjustment 7D.
- Check all remaining carrousel mechanical adjustments.

Sweep Jam TROUBLE!

***SHUTDOWN! The sweep is taking more than 5 seconds to perform a front to back movement or a back to front movement.**

- Object(s) may be obstructing its movement (check also the other components such as the carrousel and pin elevator since they are all powered by the same motor and pulley system - one blockage could cause another).
- Sweep's magnetic clutch is slipping or defective (adjustment 2J).
- Check the sweep's torque adjustment (adjustment 2K).
- Sweep's forward position optical sensor is misaligned or defective (adjustment 2H).
- Sweep's up position optical sensor is misaligned or defective (adjustment 2I).
- Check all remaining sweep mechanical adjustments.

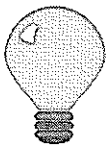
USER TROUBLE Source!

***SHUTDOWN! Message which appears when the B button is pressed on the Magnet 2001 Controller by the operator signaling a forced stoppage.**

- Restart the pinsetter when desired using a COLD OPEN.

Non-Displayed Problems

There are a few problems, which due to their nature, are impossible for the Magnet 2001 Controller to diagnose. These problems are listed on the following pages and should be read thoroughly in order to fully understand the importance of a regular maintenance program. The order in which solutions are listed is the order in which they should be performed.



Although the Magnet 2001 Controller does not detect the problems listed below, it may still be used to help locate the problem. By sending a command to the component, the electronics may be verified through the various LEDs located on the electronic circuit boards. If the electronics is functioning, the component or its wiring is defective. If the electronics is not functioning, replace the necessary circuit board.

There is no display on the Magnet 2001 Controller.

- Check the main service circuit breaker and the electronic power box circuit breakers and overloads to ensure that they are ON.
- Check the cabling which connects the Magnet 2001 Controller to the electronic power box.
- Reset the main circuit board (E-MD92-92).
- Replace the Magnet 2001 Controller.

The pinsetter doesn't react to a ball rolled down the lane.

- Check the ball detector's adjustment.
- Check the camera assembly cabling which includes the ball detectors.
- Reset the main circuit board (E-MD92-92).
- Replace the 24-volt output circuit board (E-MD92-24).

A non-signaled elevator jam occurs immediately following a power on.

- Check the pin elevator running optical sensor. It may be improperly aligned with the wheel actuator, disconnected or defective.

The carrousel does not drop its pins into the drawer's magazine.

- Check all of the carrousel's optical sensors (CS, SS, & PD). Make sure that each opto is correctly activated by its actuator (adjustments 6A, 6B and 6C)

The sweep performs the wrong motions at the wrong time such as sweeping pins when it should simply move to its upper position.

- The sweep's optical sensor's actuators need adjusting (adjustments 2H and 2I).

The pinsetter cycles when it shouldn't.

- Check the ball detector's adjustment.
- Check the camera assembly cabling which includes the ball detectors.
- Reset the main circuit board (E-MD92-92), if this does not rectify the problem, replace the main circuit board.

The pinsetter re-spots ten new pins when it should spot the remaining pins for a second ball situation.

- Perform the camera adjustment if you are equipped with the SB-6400 model Cameras.
- Reset the main circuit board (E-MD92-92), if this does not rectify the problem, replace the main circuit board.

The camera misreads or misses the 7-pin on lane #1 or the 10-pin on lane #2. This problem will only arise with the SB-6400 model camera.

- Perform the camera adjustment.
- Replace the camera circuit board (E-MD3-60).

Camera never seems to stay adjusted very long.

- Make sure that the camera is sturdily anchored to the capping.

Ball Accelerator Motor is not functioning

- Check the circuit's overload on the front of the electronic power box.
- Check that the LED on the AC Drive Circuit board (E-MD92-01) is ON. If it is OFF, replace the board, if it is ON, plug the motor directly into a 220VAC electrical outlet to verify it. If the motor functions, verify all wiring from the electronic power box, if the motor does not function, replace it.

Fluorescent light does not turn on.

- Check the circuit's overload on the front of the electronic power box.
- Replace the fluorescent tube.
- Replace the ballast.
- Check the fluorescent light cable assembly.
- Replace the 90-volt output circuit board (E-MD92-90) if your fluorescent lights are controlled through this board (North American market).

Ball 1 and/or ball 2 signal lights do not turn on.

- Check the circuit's overload on the front of the electronic power box.
- Replace the ball 1/2 light bulb(s).
- Check the ball 1/2 cable assembly.
- Replace the 24-volt output circuit board (E-MD92-24).

Trouble light does not turn on.

- Check the circuit's overload on the front of the electronic power box.
- Replace the trouble light bulb.
- Check the trouble light cable assembly.
- Replace the 24-volt output circuit board (E-MD92-24).

Ball return's power lift isn't functioning.

- Check the main service circuit breaker to ensure that it is ON. Don't forget that the ball lift motor does not receive its electrical power from the same source as the pinsetter but is on another circuit breaker.
- Check the circuit's overload on the front of the electronic power box.
- Check the 24-volt relay located inside the ball return's power box.
- Check the ball return cable assembly.
- Replace the 24-volt output circuit board (E-MD92-24).

The following problems regarding the foul lights should be considered only if you are **not** equipped with automatic scoring. If you are equipped with automatic scoring, refer to your automatic scoring manual.

The foul light does not signal a foul when it should.

- Check the foul light's adjustment.
- Check the foul light assembly's cabling.
- Replace the foul light circuit board (E-MD92-50).
- Replace the main circuit board (E-MD92-92).

The foul light constantly signals a foul.

- Check the foul light's adjustment.
- Foul light castings are misplaced or need cleaning.
- Check the foul light assembly's cabling.
- Replace the foul light circuit board (E-MD92-50).
- Replace the main circuit board (E-MD92-92).

Troubleshooting Notes

MENDES MM-2001 PINSETTER

MECHANIC'S TROUBLESHOOTING REPORT

Bowling Center:____ **Lane Number:**________

Date	Displayed Problems	Other Problems	Solutions

MENDES MM-2001 PINSETTER

MANAGER'S MONTHLY TROUBLESHOOTING COMPILATION REPORT

Bowling Center:_____ **Month Ending:**_____

Displayed Problems	Total	Comments
Ball JAM!		
Ball Reflector		
BREAKER SET OFF		
Carrou Answer TROUBLE!		
CARR.CS/SS/PD...		
Carrou NACK TROUBLE!		
Carrou Reset TROUBLE!		
Carr SCI TROUBLE!		
Deck-Drawer PH TROUBLE-PSUPPLY		
DECK/DRAWER ID:BAD		
Deck Jam TROUBLE!		
Deck Phase TROUBLE!		
Deck TROUBLE!		
Deck TROUBLE SPI COM		
Drawer No Front TROUBLE!		
Drawer Phase TROUBLE!		
Drawer Pin Jam TROUBLE!		
Drawer TROUBLE!		
Drawer TROUBLE SPI COM		
DW OBST		
Elevator JAM!		
Main Motor Flag Call Down...		
OOR : PIN IN DECK?		
OPEN TROUBLE!		
Pin Elev.JAM!		
Power Failure DETECTION		
Remove DRAW.Pin		
Sole.(1) Carrou		
Sole.(2) Carrou		
Sole.(3) Carrou		
Sole.(4) Carrou		
Sole.(5) Carrou		
Sole.(6) Carrou		
Sole.(7) Carrou		
Sole.(1) Rack		
Sole.(2) Rack		
Sole.(3) Rack		
Sole.(4) Rack		
Sole.(5) Rack		
Sole.(6) Rack		
Sole.(7) Rack		
Sweep Jam TROUBLE!		