



Wonder Wheel

Troubleshooting Guide

IMPORTANT NOTICE:

THERE ARE MANY DIFFERENT VERSIONS OF THIS GAME

- 1.) BAYTEK VERSION: MAIN BOARD IN FRONT OF CABINET** Page 2
- 2.) SEIDEL VERSION: MAIN BOARD IN BACK OF CABINET** Page 6
- 3.) CONVEYOR PROBLEMS** Page 9
- 4.) RAINBOW WHEEL PROBLEMS** Page 13

**PLEASE MAKE SURE THAT YOU ARE USING THE CORRECT VERSION
FOR YOUR TROUBLESHOOTING**

GEN 5 VERSION TROUBLESHOOTING

Troubleshooting Strategy

Use common sense and a systematic method of troubleshooting to determine the exact problem, probable cause and remedy. Use the process of elimination to find the faulty component. Always check for the simple and obvious causes first such as unplugged, loose or broken wires and bad sensors, bent, pinched, stuck or jammed components.

Troubleshooting Chart		
Problem	Probable Cause	Remedy
No power to the game.	<ul style="list-style-type: none"> a. Unplugged. b. Blown Fuse. c. Circuit breaker tripped. d. Power strip faulty. e. Faulty power supply. 	<ul style="list-style-type: none"> a. Check wall outlet. b. Check transformer fuse (220v applications only 7 amp fast burn). c. Reset power strip breaker switch or building circuit breaker. d. Change plug position, replace if needed. e. See power supply diagnostic. Replace if faulty. (A5PS1001)
No Audio	<ul style="list-style-type: none"> a. Volume too low. b. Loose wire. c. Defective potentiometer. d. Main circuit board malfunction. 	<ul style="list-style-type: none"> a. Increase the volume at the volume control at the inside of the front door panel. b. Check audio cable connections to speaker, volume control and main circuit board. Check continuity. c. Replace pot. (A5PO1K) d. Replace main board with board from another Gen 5 game if possible to isolate the problem to the main circuit board.
Conveyor Lighting not functioning properly.	<ul style="list-style-type: none"> a. Cable problem. b. Static problem. 	<ul style="list-style-type: none"> a. Check for proper connection to main board. Check phone cable connections. b. See “Conveyor Static Problem” section on page 4.
Fluorescent Lighting not functioning properly.	<ul style="list-style-type: none"> a. Fixture unplugged. b. Lamp out. c. Fixture Faulty 	<ul style="list-style-type: none"> a. Plug power cable into power strip. b. Replace fluorescent tube. c. Replace entire fixture.

Troubleshooting Chart

Problem	Probable Cause	Remedy	
Display boards not functioning properly.	One display has problem.	<ul style="list-style-type: none"> a. Cable problem. b. Circuit board faulty. 	<ul style="list-style-type: none"> a. Check for proper connection from “Ticket Multiplier Board” to “Tickets Owed Board” displays to main board. Clean cables and sockets. b. Replace faulty board.
	Both displays have problems.	<ul style="list-style-type: none"> a. Cable problem. b. Faulty “Tickets Owed” Display Board. c. Main circuit board malfunction. 	<ul style="list-style-type: none"> a. Check for proper connection from “Ticket Multiplier Board” to “Tickets Owed Board” displays to main board. Clean cables and sockets. b. Replace faulty board. (AABD2603) c. Replace main board with a spare Gen 5 board if possible to isolate the problem to the main circuit board.
Upper backlighting not functioning properly.	<ul style="list-style-type: none"> a. Cable problem. b. Lamp out. c. Lamp circuit board faulty. d. Main circuit board malfunction. 	<ul style="list-style-type: none"> a. Check for proper connection to main board. Check continuity. Clean sockets and connectors. b. Replace burned out lamps. (A5LA5020) c. Replace lamp board. (AABD2705) d. Replace main board with a spare Gen 5 board if possible to isolate the problem to the main circuit board. 	
LO on display.	<ul style="list-style-type: none"> a. Stack of tickets not resting properly on low ticket switch. b. Faulty switch. c. Faulty wire or connection. 	<ul style="list-style-type: none"> a. Adjust stack of tickets so the hold the switch actuator down. b. Replace low ticket switch. (AASW200) c. Check for proper connection from switch to main board. Check continuity. 	
Conveyor belt problem.	There are 3 different versions of the conveyor system.	<ul style="list-style-type: none"> a. Refer to “Conveyor Belt Problems” section on page 9. 	
Rainbow Wheel problem.	<ul style="list-style-type: none"> a. Static problem. b. There are 3 different versions of the rainbow wheel system. 	<ul style="list-style-type: none"> a. See “Conveyor Static Problem” section on page 4. b. Refer to “Rainbow Wheel Problems” section on page 13. 	

Troubleshooting Chart			
Problem		Probable Cause	Remedy
Game doesn't score.		<ul style="list-style-type: none"> a. Loose or broken wiring to the coin cup sensor. b. Coin not tripping switch in coin mechanism. c. Faulty wires from coin switch to main board. d. Faulty coin cup sensor. 	<ul style="list-style-type: none"> a. Check for loose or broken wiring at connectors. Check continuity. b. Check operation of the coin mechanism and switch. Ensure game makes "Zoom" sound when triggered. Replace if necessary. (A5SW4000) c. Check cable from coin switch, through connector, to main board. d. Replace coin cup. (AACC5020)
Tickets do not dispense or Wrong amount dispensed. Check for the correct amount of tickets adding up on Tickets Owed Display	Tickets Owed Display is adding up correct	<ul style="list-style-type: none"> a. Disconnected, loose or broken wires. b. Opto Sensor on ticket dispenser dirty. c. Faulty ticket dispenser. d. Notch on tickets cut too shallow. 	<ul style="list-style-type: none"> a. Check connectors. Check for continuity. b. Blow dust from sensor and clean with isopropyl alcohol. c. Replace with working dispenser to isolate the problem. d. Flip tickets and load upside-down to have large cut notch toward opto sensor.
	Tickets Owed Display is not adding correctly	<ul style="list-style-type: none"> a. Incorrect dipswitch settings. b. Game is scoring too soon – before coin reaches coin cup. 	<ul style="list-style-type: none"> a. Check settings on main Gen 5 board. b. Coin cup sensor is bad – Align/clean sensors, replace sensor. (AACC5020)

Conveyor static problem

Symptom: Every 20 minutes or so, the rainbow wheel stops, rope lights would freeze, and sometimes display would shut off.

Diagnosis: The conveyor belt builds up a static charge, and if that jumps to a signal line it will zap the main board.

Solution: Check the ground wire on the coin switch bracket.

Purchase a static brush - It actually mounts to the underside of the conveyor and pulls static and grounds it to the motor housing. Part # AABR5021

Diagnose Power Supply

Use the following procedure to check the power supply for Gen 5 games.

Check the small green LED light on the power supply circuit board. If the light is out there is a short somewhere. If the light dims, there is an overload in one of the circuits such as a bad motor.

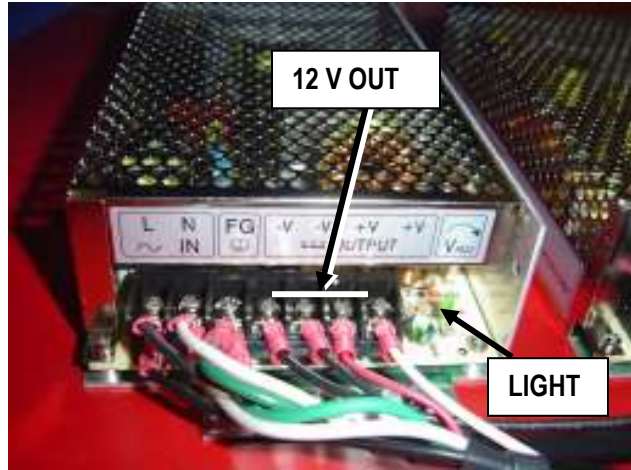
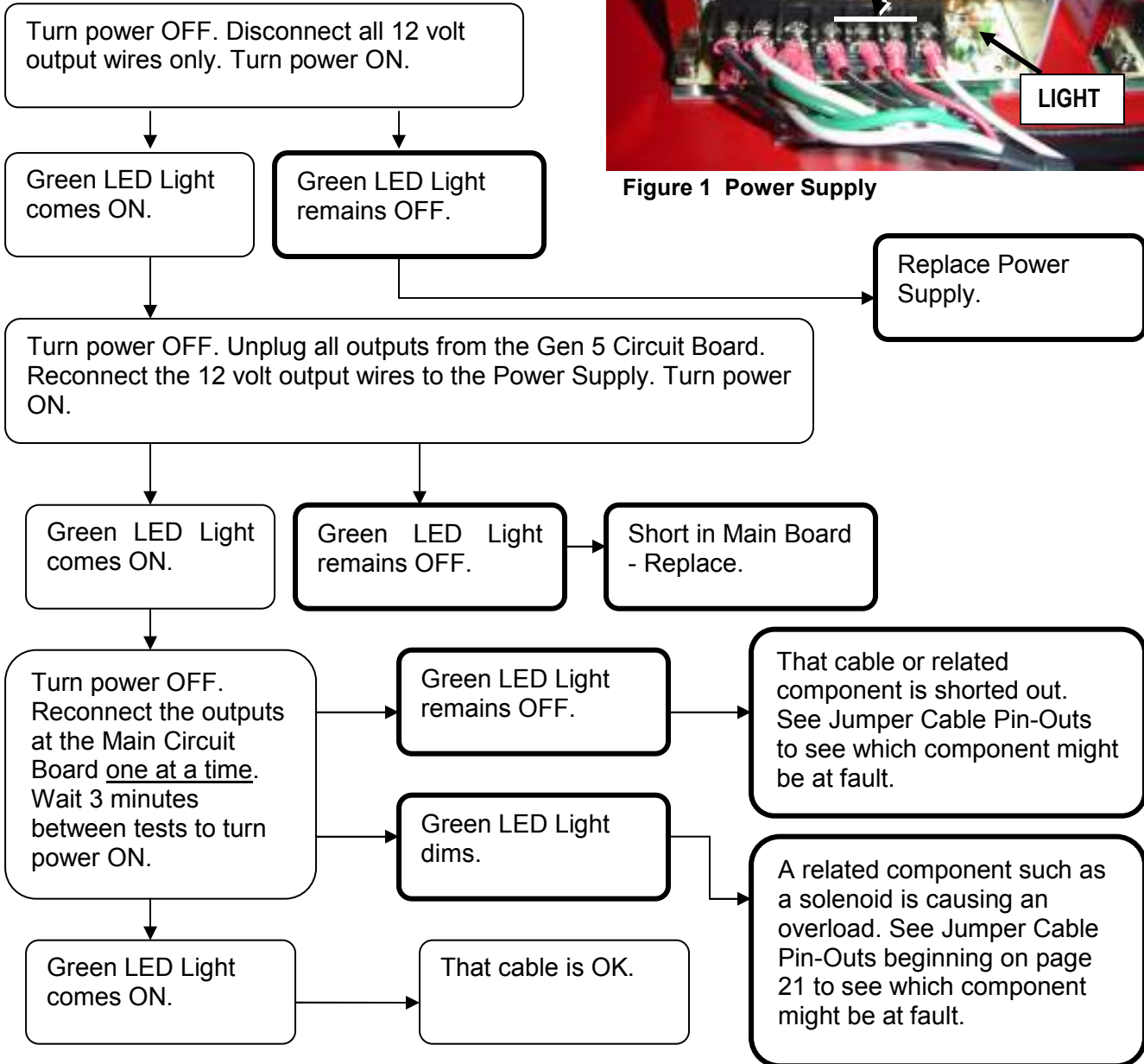


Figure 1 Power Supply



SEIDEL VERSION TROUBLESHOOTING

Troubleshooting Strategy

Use common sense and a systematic method of troubleshooting to determine the exact problem, probable cause and remedy. Use the process of elimination to find the faulty component. Always check for the simple and obvious causes first such as unplugged, loose or broken wires and bad sensors, bent, pinched, stuck or jammed components.

Troubleshooting Chart – Seidel Version		
Problem	Probable Cause	Remedy
Power to Conveyor – No Power to rest of game.	<ul style="list-style-type: none"> a. 5 Amp fuse on top of power supply is blown. b. If game has an updated 12 Volt switching power supply - 	<ul style="list-style-type: none"> a. Replace fuse. b. Go to “Diagnose Power Supply” section on page 5.
5 Amp fuse continues to blow.	<ul style="list-style-type: none"> a. Filter board in front of game is faulty. b. Light bulbs or sockets failed. c. Loose or broken wires. 	<ul style="list-style-type: none"> a. Replace diodes on board. Replace board – AABD5024. b. Remove bulbs to test. Replace bulbs (A5LA5020) if needed. c. Check for loose or broken wiring at connectors for motor and main circuit board. Check continuity from plug to crimped ends.
No Audio	<ul style="list-style-type: none"> a. Volume too low. b. Loose wire at control or speaker. c. Faulty main board. 	<ul style="list-style-type: none"> a. Increase or decrease the volume with the 2 black buttons inside front door. b. Check audio cable connections to speaker and main circuit board. Check continuity. c. Send main board in the repair.
Fluorescent Lighting not functioning properly.	<ul style="list-style-type: none"> a. Fixture unplugged. b. Lamp out. c. Fixture faulty. 	<ul style="list-style-type: none"> a. Plug power cable into top of power supply. b. Replace burned fluorescent tube. c. Replace entire fixture.

Troubleshooting Chart – Seidel Version

Problem		Probable Cause	Remedy
Display boards not functioning properly.	One display has problem.	<ul style="list-style-type: none"> a. Cable problem. b. Display board faulty. 	<ul style="list-style-type: none"> a. Check for proper connection from “Ticket Multiplier Board” to “Tickets Owed Board” displays to main board. b. Replace faulty board.
	Both displays have problems.	<ul style="list-style-type: none"> a. Cable problem. b. Faulty “Tickets Owed” Display Board. c. Signal cable from main board. d. Main circuit board malfunction. 	<ul style="list-style-type: none"> a. Check for proper connection from “Ticket Multiplier Board” to “Tickets Owed Board” displays to main board. b. Replace faulty board. (AADB2700) c. Check the J6 connector. Ensure continuity to display board. d. Replace main board with a spare Gen 5 board if possible to isolate the problem to the main circuit board.
Conveyor belt problem.		There are 3 different versions of the conveyor system.	<ul style="list-style-type: none"> a. Refer to “Conveyor Belt Problems” section on page 9.
Rainbow Wheel problem.		<ul style="list-style-type: none"> a. Static problem. b. There are 3 different versions of the rainbow wheel system. 	<ul style="list-style-type: none"> a. See “Conveyor Static Problem” section on page 8. b. Refer to “Rainbow Wheel Problems” section on page 13.
Game doesn’t score.		<ul style="list-style-type: none"> a. Loose or broken wiring to the coin cup sensor. b. Coin not tripping switch in coin mechanism. c. Faulty wires from coin switch to main board. d. Faulty coin cup sensor. 	<ul style="list-style-type: none"> a. Check for loose or broken wiring at connectors. Check continuity. b. Check operation of the coin mechanism and switch. Ensure game makes “Zoom” sound when triggered. Replace if necessary. (A5SW4000) c. Check cable from coin switch, through connector, to main board. d. Replace coin cup. (AACC5020)

Troubleshooting Chart – Seidel Version

Problem		Probable Cause	Remedy
Game scores wrong values		<ul style="list-style-type: none"> a. Game is scoring too soon – before coin reaches Coin Cup. b. Weak power supply. c. Wrong version eeprom on main board. Check for version WW1.08.11 or WW1.09.02 – These are the newest versions. 	<ul style="list-style-type: none"> a. Coin Cup sensor is bad – Align/clean sensors, replace sensor. (AACC5020) b. Check for minimum of 10.5 volts on power supply. If not – replace with new style power supply kit. (AAKIT-WW) c. Replace eeprom with these new versions.
Tickets do not dispense or Wrong amount dispensed. Check for the correct amount of tickets adding up on Tickets Owed Display	Tickets Owed Display is adding up correct	<ul style="list-style-type: none"> a. Disconnected, loose or broken wires. b. Opto Sensor on ticket dispenser dirty. c. Faulty ticket dispenser. d. Notch on tickets cut too shallow. e. Door Interlock switch is not actuating against door. f. No 12 Volt power to ticket dispenser. Power goes through a filter board in front of cabinet near ticket counter. g. Faulty main board. 	<ul style="list-style-type: none"> a. Check connectors. Check for continuity. b. Blow dust from sensor and clean with isopropyl alcohol. c. Replace with working dispenser to isolate the problem. d. Flip tickets and load upside-down to have large cut notch toward opto sensor. e. Check operation, replace if needed – A5SW5020. f. Replace diodes on filter board. Replace filter board. (AABD5024) g. Replace main board.
	Tickets Owed Display is not adding correctly	<ul style="list-style-type: none"> a. Incorrect dipswitch settings. b. Game is scoring too soon – before coin reaches Coin Cup. 	<ul style="list-style-type: none"> a. Check settings on main board. b. Coin Cup sensor is bad – Align/clean sensors, replace sensor. (AACC5020)

Conveyor static problem

Symptom: Every 20 minutes or so, the rainbow wheel stops, rope lights would freeze, and sometimes display would shut off.

Diagnosis: The conveyor belt builds up a static charge, and if that jumps to a signal line it will zap the main board.

Solution: Check the ground wire on the coin switch bracket.

Purchase a static brush - It actually mounts to the underside of the conveyor and pulls static and grounds it to the motor housing. Part # AABR5020

CONVEYOR TROUBLESHOOTING

There are 3 different types of conveyor systems in use:

1.) Green Belt drive: (Page 10) This is the original Seidel version. It consists of the white conveyor belt being driven by a green belt.

Important parts and part numbers:

A5BE5021 – Green drive belt

A5MO5022 – Large AC drive motor.

AARE5020 – Repair kit (Includes bushings, green belt, shafts, super lube)

A5BU5020 – Bushing, plastic

A5RO5020 – Shaft on conveyor closest to front of game.

Conveyor Bracket – The tray that holds the conveyor has 2 different versions:

Similar brackets with a 2 inch gap between them – Part # A5BK5029 for either bracket.

Overlapping brackets with a spring underneath – Part # A5BK5028 bracket which is closest to player.

A5BK5027 for the bracket farthest from player

2.) Thick cogged black belt with large AC drive motor: (Page 11) For all games with serial numbers between # 726 and 1245, this version has different drive belt, fuse, bushings, rollers, pulleys, and brackets.

Important parts and part numbers:

A5BE5025 – Thick cogged black drive belt

A5MO5022 – Large AC drive motor.

A5FUSE8 – Fuse for motor.

A5SH5021 – Shaft with white roller. Farthest from player.

A5SH5022 – Shaft with white roller. Closest to player.

A5BR6100 – Bushing bearings, spyraflo

A5BR5027 – Upper bracket for conveyor tray.

A5BR5028 - Adjuster brackets for conveyor tray. 2 per game.

A5PU5029 – Small pulley for motor

A5PU5030 – Large pulley for conveyor

3.) Thick cogged black belt with small AC drive motor: (Page 12) For games starting with serial # 1246, this version has different motor, fuse, and pulleys.

Important parts and part numbers:

A5MOID010 – Small AC drive motor.

A5FUTL010 – Fuse for motor.

A5PUAL010 – Pulley for motor.

A5PU5031 – Pulley for conveyor. (A5PUAL020 for 220 Volt conveyors)

A5GU5026 – Belt guard.

A5BRME010 – Mounting bracket for new motor.

GREEN BELT DRIVE CONVEYOR

Troubleshooting Chart		
Problem	Probable Cause	Remedy
Conveyor not turning.	<ul style="list-style-type: none"> a. Unplugged. b. Blown Fuse. c. Faulty wiring to conveyor motor. d. Green belt broken. e. Faulty motor. 	<ul style="list-style-type: none"> a. Power supply in bottom rear of game has outlet that it plugs into. b. Check 5 Amp fuse screwed into top of power supply. c. Check for 110 Volts AC at motor. d. Replace green belt. (A5BE5021) e. Replace motor. (A5MO5022) or update to new style conveyor.
Conveyor chase lights not functioning properly.	<ul style="list-style-type: none"> a. Cable problem. b. Static problem. 	<ul style="list-style-type: none"> a. Check for proper connection to main board. b. See “Conveyor Static Problem” section on page 8.
Conveyor squeaking, making too much noise	<ul style="list-style-type: none"> a. Needs lubrication. b. Drive belt loose or broken. c. Conveyor belt jammed with coins/debris. d. Bushing wore out. 	<ul style="list-style-type: none"> a. Drop a few drops of super lube (A5LU5020) on all 4 of the plastic bushings. b. Tension green belt or replace if broken. (A5BE5021) c. Remove coins. See “Coins getting jammed under white belt” section. d. Inspect and replace bushing. (A5BU5020) Also inspect bracket for signs of wear and replace if wore too big. (A5BK5029 or A5BK5028)
Conveyor wobbles or slides over to one side.	<ul style="list-style-type: none"> a. Bushing is worn out on that side. b. Rollers incorrectly installed. Rollers have a slight slant which will center white belt. 	<ul style="list-style-type: none"> a. Inspect and replace bushing. (A5BU5020) Also inspect bracket for signs of wear and replace if wore too big. (A5BK5029 or A5BK5028) b. Install rollers so that set screw is in center of the white belt.
Coins getting jammed under white belt.	<ul style="list-style-type: none"> a. White belt is shaking or wobbling. b. Coin is not coming off coin slide smooth and flat. c. Coin is missing coin mech. 	<ul style="list-style-type: none"> a. Refer to “Conveyor wobbles or slides over to one side” section. b. Ensure wood plate where coin mech mounts is straight. Replace if needed. (AACM5020/S) c. Ensure funnel is mounted to top of coin mech. (A5FU0001)

THICK COGGED BLACK BELT WITH LARGE AC DRIVE MOTOR CONVEYOR

Troubleshooting Chart		
Problem	Probable Cause	Remedy
Conveyor not turning.	<ul style="list-style-type: none"> a. Unplugged. b. Blown Fuse. c. Faulty wiring to conveyor motor. d. Faulty motor. 	<ul style="list-style-type: none"> a. Check outlet strip. Replace if needed. b. Check special 8 Amp fuse screwed in-line to motor. Replace if needed.(A5FUSE8) c. Check for 110 Volts AC at motor. d. Replace motor. (A5MO5022) or update to new style conveyor.
Conveyor chase lights not functioning properly.	<ul style="list-style-type: none"> a. Cable problem. b. Static problem. 	<ul style="list-style-type: none"> a. Check for proper connection to main board. Check phone cable connections. b. See “Conveyor Static Problem” section on page 4.
Conveyor squeaking, making too much noise	<ul style="list-style-type: none"> a. Drive belt loose or broken. b. Conveyor belt jammed with coins/debris. c. White rollers slipping on shaft. d. Bushing wore out. 	<ul style="list-style-type: none"> a. Tension black belt or replace if broken. (A5BE5025) Adjust using special tension tool. (A5TT5000) b. Remove coins. See “Coins getting jammed under white belt” section. c. Replace shafts. (A5SH5021 and A5SH5022) d. Inspect and replace bushing. (A5BR6100). Do not oil.
Conveyor wobbles or slides over to one side.	<ul style="list-style-type: none"> a. Bushing is worn out on that side. b. White rollers slipping on shaft. c. Improper tension on white belt. 	<ul style="list-style-type: none"> a. Inspect and replace bushing. (A5BR6100). Do not oil. b. Replace shafts. (A5SH5021 and A5SH5022) c. Adjust using special tension kit. (AAKIT-WW/TENSION)
Coins getting jammed under white belt.	<ul style="list-style-type: none"> a. White belt is shaking or wobbling. b. Coin is not coming off coin slide smooth and flat. c. Coin is missing coin mech. 	<ul style="list-style-type: none"> a. Refer to “Conveyor wobbles or slides over to one side” section. b. Ensure wood plate where coin mech mounts is straight. Replace if needed. (AACM5020/S) c. Ensure funnel is mounted to top of coin mech. (A5FU0001)

THICK COGGED BLACK BELT WITH SMALL AC DRIVE MOTOR CONVEYOR

Troubleshooting Chart		
Problem	Probable Cause	Remedy
Conveyor not turning.	<ul style="list-style-type: none"> a. Unplugged. b. Blown Fuse. c. Faulty wiring to conveyor motor. d. Faulty motor. 	<ul style="list-style-type: none"> a. Check outlet strip. Replace if needed. b. Check special 8 Amp fuse screwed in-line to motor. Replace if needed. (A5FUTL010) c. Check for 110 Volts AC at motor. d. Replace motor. (A5MOID010)
Conveyor chase lights not functioning properly.	<ul style="list-style-type: none"> a. Cable problem. b. Static problem. 	<ul style="list-style-type: none"> a. Check for proper connection to main board. Check phone cable connections. b. See “Conveyor Static Problem” section on page 4.
Conveyor squeaking, making too much noise	<ul style="list-style-type: none"> a. Drive belt loose or broken. b. Conveyor belt jammed with coins/debris. c. White rollers slipping on shaft. d. Bushing wore out. 	<ul style="list-style-type: none"> a. Tension black belt or replace if broken. (A5BE5025) Adjust using special tension tool. (A5TT5000) b. Remove coins. See “Coins getting jammed under white belt” section. c. Replace shafts. (A5SH5021 and A5SH5022) d. Inspect and replace bushing. (A5BR6100). Do not oil.
Conveyor wobbles or slides over to one side.	<ul style="list-style-type: none"> a. Bushing is worn out on that side. b. White rollers slipping on shaft. c. Improper tension on white belt. 	<ul style="list-style-type: none"> a. Inspect and replace bushing. (A5BR6100). Do not oil. b. Replace shafts. (A5SH5021 and A5SH5022) c. Adjust using special tension kit. (AAKIT-WW/TENSION)
Coins getting jammed under white belt.	<ul style="list-style-type: none"> a. White belt is shaking or wobbling. b. Coin is not coming off coin slide smooth and flat. c. Coin is missing coin mech. 	<ul style="list-style-type: none"> a. Refer to “Conveyor wobbles or slides over to one side” section. b. Ensure wood plate where coin mech mounts is straight. Replace if needed. (AACM5020/S) c. Ensure funnel is mounted to top of coin mech. (A5FU0001)

RAINBOW WHEEL TROUBLESHOOTING

There are 3 different types of rainbow wheel systems in use:

1.) Gear to Gear drive: (Page 14) - This is the original version and it is only used on Seidel games.
(Main board in back of game)

Important parts and part numbers:

A5GR4021 – Small press on gear for motor

A5GR4020 – Large gear for wheel

2.) Thin cogged black belt drive: (Page 15) - This was used on Seidel games and also games built by Baytek up to serial # 482. It has different belt and pulleys.

Important parts and part numbers:

A5BE5020 – Thin cogged black drive belt

A5PU5021 – Small pulley on motor

A5PU5022 – Large pulley on wheel

3.) Thick cogged black belt drive: (Page 16) - For games starting with serial # 483, this version has different belt and pulleys.

Important parts and part numbers:

A5BE5024 – Thick cogged black drive belt

A5PU5028 – Small pulley on motor

A5PU5120 – Large pulley on wheel

GEAR TO GEAR DRIVE RAINBOW WHEEL

Troubleshooting Chart		
Problem	Probable Cause	Remedy
Wheel turning backwards.	a. Incorrect software on main board in back of game.	a. For gear to gear wheels the eprom should be WW1.09.02 (only use WW1.08.11 for belt drive wheels)
Wheel not rotating at all.	a. Gear teeth missing or loose on motor shaft. b. Filter Board in front of cabinet faulty. c. 12 Volts not getting to Filter Board. d. Loose or broken wires on main board. e. Faulty main circuit board. f. Faulty motor.	a. Replace gear. (A5GR4021) b. Replace filter board. (AABD5024) c. Check for 12 Volts from P3 connector. d. Check wires at connectors for motor and main circuit board. Check continuity from plug to crimped ends. e. Send main board in for repair, or replace with working board. f. Replace motor. (AAMO5020)
Wheel starting and stopping over and over. Wheel position sensor not being seen.	a. Sensor dirty. b. Silver tab dirty. c. Sensor too far away. Measure voltage between the white and yellow wires d. Faulty sensor e. Loose or broken wires. f. Wheel rubbing on back plexi that wraps under wheel. g. Wheel rubbing on coin cup in center of wheel. h. Power supply voltage is less than 10 ½ Volts DC	a. Clean sensor mounted above motor on right side of wheel. b. Clean silver tab that the sensor reflects from. c. Adjust position of sensor so that the 5 volts drops to 0.3 volts when the silver tab is in front of sensor. d. Replace sensor. (AASE4020) e. Check wires at connectors from sensor to main circuit board. Check continuity from plug to crimped ends. f. Remove plexi to test if wheel spins correctly. g. Adjust coin cup so that it is center of wheel. h. Replace power supply with new kit. (AAKIT-WW)
Wheel only shakes or stutters.	a. Loose or broken wires on main board. b. Bad transistors on main board. c. Faulty main circuit board.	a. Check wires at connectors for motor and main circuit board. Check continuity from plug to crimped ends. b. Replace Q1, Q2, Q5, and Q6. c. Send main board in for repair.
Wheel stops after about 20 minutes. Reset game, and is fine again for another 20 minutes.	a. Static problem.	a. See “Conveyor Static Problem” section on page 8.

THIN BLACK DRIVE RAINBOW WHEEL

Troubleshooting Chart		
Problem	Probable Cause	Remedy
Wheel turning backwards. For Seidel main boards only. Main board in back of game.	a. Incorrect software on main board in back of game.	a. For belt drive wheels the eeprom should be WW1.08.11. (only use WW1.09.02 for gear to gear drive wheels)
Wheel not rotating at all.	a. Drive belt loose or broken. b. Seidel Version: Filter Board in front of cabinet faulty. c. Seidel Version: 12 Volts not getting to Filter Board. d. Loose or broken wires on main board. e. Faulty main circuit board. f. Faulty motor.	a. Replace belt. (A5BE5020) b. Seidel Version: Replace filter board. (AABD5024) c. Seidel Version: Check for 12 Volts from P3 connector. d. Check wires at connectors for motor and main circuit board. Check continuity from plug to crimped ends. e. Send main board in for repair, or replace with working board. f. Replace motor. (AAMO5020)
Wheel starting and stopping over and over. Wheel position sensor not being seen.	a. Sensor dirty. b. Silver tab dirty. c. Sensor too far away. Measure voltage between the white and yellow wires d. Faulty sensor e. Loose or broken wires. f. Wheel rubbing on back plexi that wraps under wheel. g. Wheel rubbing on coin cup in center of wheel. h. Power supply voltage is less than 10 ½ Volts DC	a. Clean sensor mounted above motor on right side of wheel. b. Clean silver tab that the sensor reflects from. c. Adjust position of sensor so that the 5 volts drops to 0.3 volts when the silver tab is in front of sensor. d. Replace sensor. (AASE4020) e. Check wires at connectors from sensor to main circuit board. Check continuity from plug to crimped ends. f. Remove plexi to test if wheel spins correctly. g. Adjust coin cup so that it is center of wheel. h. Replace power supply with new kit. (AAKIT-WW)
Wheel only shakes or stutters.	a. Loose or broken wires on main board. b. Seidel Version: Bad transistors on main board. c. Faulty main circuit board.	a. Check wires at connectors for motor and main circuit board. Check continuity from plug to crimped ends. b. Seidel Version: Replace Q1, Q2, Q5, and Q6. c. Send main board in for repair.
Wheel stops after about 20 minutes. Reset game, and is fine again for another 20 minutes.	a. Static problem.	a. See “Conveyor Static Problem” section on page 8.

THICK BLACK DRIVE RAINBOW WHEEL

Troubleshooting Chart		
Problem	Probable Cause	Remedy
Wheel not rotating at all.	<ul style="list-style-type: none"> a. Drive belt loose or broken. b. Loose or broken wires on main board. c. Faulty main circuit board. d. Faulty motor. 	<ul style="list-style-type: none"> a. Replace belt. (A5BE5024) b. Check wires at connectors for motor and main circuit board. Check continuity from plug to crimped ends. c. Send main board in for repair, or replace with working board. d. Replace motor. (AAMO5021)
Wheel starting and stopping over and over. Wheel position sensor not being seen.	<ul style="list-style-type: none"> a. Sensor dirty. b. Silver tab dirty. c. Sensor too far away. Measure voltage between the white and yellow wires d. Faulty sensor e. Loose or broken wires. f. Wheel rubbing on back plexi that wraps under wheel. g. Wheel rubbing on coin cup in center of wheel. h. Faulty main circuit board. 	<ul style="list-style-type: none"> a. Clean sensor mounted above motor on right side of wheel. b. Clean silver tab that the sensor reflects from. c. Adjust position of sensor so that the 5 volts drops to 0.3 volts when the silver tab is in front of sensor. d. Replace sensor. (AASE4020) e. Check wires at connectors from sensor to main circuit board. Check continuity from plug to crimped ends. f. Remove plexi to test if wheel spins correctly. g. Adjust coin cup so that it is center of wheel. h. Send main board in for repair, or replace with working board.
Wheel stops right before metal tab, then starts up again, then stops before metal tab again and again.	<ul style="list-style-type: none"> a. Wheel rubbing on back plexi that wraps under wheel. b. Wheel rubbing on coin cup in center of wheel. c. Faulty motor. 	<ul style="list-style-type: none"> a. Remove plexi to test if wheel spins correctly. b. Adjust coin cup so that it is center of wheel. c. Replace motor. (AAMO5021)
Wheel only shakes or stutters.	<ul style="list-style-type: none"> a. Loose or broken wires from motor to main board. b. Faulty main circuit board c. Faulty motor. 	<ul style="list-style-type: none"> a. Check wires at connectors for motor and main circuit board. Check continuity from plug to crimped ends. b. Send main board in for repair, or replace with working board. c. Replace motor. (AAMO5021)
Wheel stops after about 20 minutes. Reset game, and is fine again for another 20 minutes.	<ul style="list-style-type: none"> a. Static problem. 	<ul style="list-style-type: none"> a. See “Conveyor Static Problem” section on page 4.