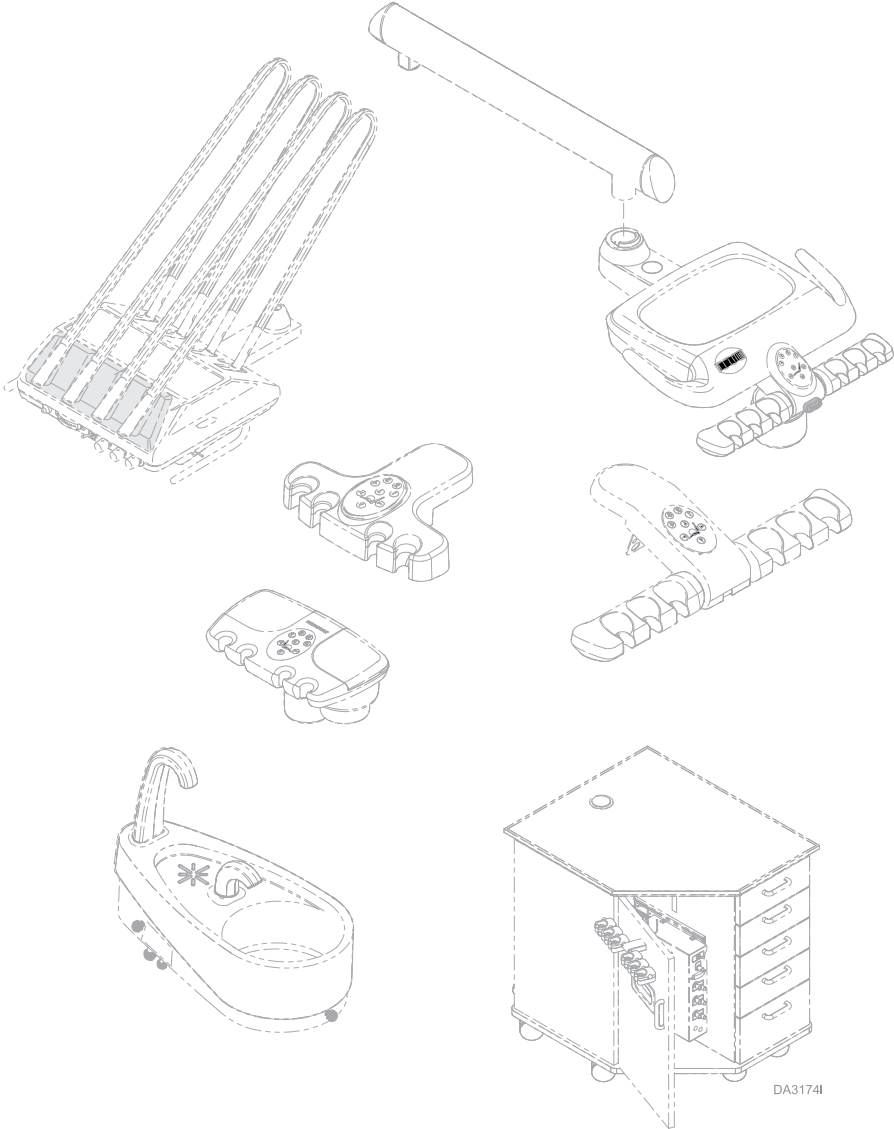


Procenter Delivery System* Troubleshooting Charts

* includes International (Whip) Units

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* International (Whip) Delivery Units may be used with Asepsis Delivery System components. For information on Asepsis consoles, assistant's units, etc, refer to: [Asepsis Delivery System](#)



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Troubleshooting Chart: Procenter / International (Whip) Delivery Units

Problem	Symptom	Probable Cause	Check	Solution
None of the handpieces or syringe(s) will function	There is no water or air present at any of the handpieces / syringe(s).	Master ON/OFF switch is turned OFF or malfunctioning.	Master ON / OFF switch must be ON.	Replace Master ON / OFF switch if necessary.
		Manual shutoff valve (in J-box) for AIR is turned OFF.	Manual shutoff valves must be ON.	Contact licensed plumber to replace manual shutoff valve.
		Air pilot shutoff valve is malfunctioning.	Disconnect 1/8" purple tubing from air pilot shutoff valve and check for air pressure.	If there no air pressure: Replace air pilot shutoff valve
Handpieces will not run.	Handpieces do not run or have water. Syringe works properly.	Throttle valve (in foot control) is malfunctioning - stuck closed.	Disconnect 1/4" clear tubing from 1/4" grey foot control tubing. Check for air pressure.	If there no air pressure: Replace throttle valve
	Handpieces do not run or have water. Syringe has water, but no air.	Tubing from air regulator damaged or disconnected.	Check 1/4" grey tubing w/ rib (from foot control) and 1/8" yellow tubing (from umbilical to delivery unit) for damage and proper connections.	Replace damaged tubing. Reconnect any disconnected tubing.
		Air regulator is set too low or malfunctioning.	Air regulator output pressure should be 80 PSI.	Adjust air regulator pressure to 80 PSI. Clean or replace air regulator if necessary.
	Handpieces have water, but do not run. Syringe works properly.	Damaged or disconnected drive air tubing to delivery unit.	Check 1/4" grey tubing w/o rib (from foot control) and 1/4" clear tubing (to handpiece supply drive air manifold) for damage and proper connections.	Replace damaged tubing. Reconnect any disconnected tubing.
One handpiece does not run; all other handpieces work properly.	One handpiece does not run or have water; all other handpieces work properly.	Handpiece holder valve is malfunctioning (stuck open) - keeping the kink valve "kinked".	Replace suspect valve with known working valve..	Replace handpiece holder valve.
		Kink valve is malfunctioning.	Watch kink valve when handpiece is removed from holder. (It should "unkink".)	If kink valve remains "kinked": Replace kink valve.
		Damaged or disconnected tubing in delivery unit.	Check 1/8" red tubing (between pilot air manifold and handpiece ON/OFF valve) and 1/8" purple tubing (between handpiece ON/OFF valve and kink valve) for damage and proper connections.	Replace damaged tubing. Reconnect any disconnected tubing.
	One handpiece does not run, but has water and coolant air; all other handpieces work properly.	Drive air adjustment valve set too low or malfunctioning.	Check drive air adjustment valve for malfunctioning handpiece.	Adjust drive air valve. Replace valve if necessary.
		Damaged or disconnected tubing in delivery unit.	Check 1/4" clear tubing (between drive air manifold and drive air adjustment valve) and 1/4" clear tubing (between drive air adjustment valve and kink valve) for damage and proper connections.	Replace damaged tubing. Reconnect any disconnected tubing.
No water to handpieces or syringe. Handpieces run properly.	With water selector valve (City / Bottle toggle switch) in either position, there is no water to handpieces or syringe.	Damaged or disconnected tubing.	Check 1/8" blue tubing (between water selector valve and water supply manifold in delivery head) for damage and proper connections.	Replace damaged tubing. Reconnect any disconnected tubing.
		Water selector valve malfunctioning	Disconnect "out-going" water line from water selector valve and check for water pressure.	If there is no water pressure: Clean or replace water selector valve.
		Water supply manifold (in delivery unit) malfunctioning.	Disconnect instrument water supply tubing (1/8" blue) from water supply manifold. Check for water pressure.	If there is water pressure: Clean or replace water selector valve.

Troubleshooting Chart: Procenter / International (Whip) Delivery Units - continued

Problem	Symptom	Probable Cause	Check	Solution	
No water to handpieces or syringe. Handpieces run properly. - continued	With water selector valve (City / Bottle toggle switch) in CITY position, there is no water to handpieces or syringe. BOTTLE position functions properly.	Water selector valve malfunctioning.	Disconnect incoming City water line from water selector valve and check for water pressure.	If there is water pressure: Clean or replace water selector valve.	
		Manual shutoff valve (in J-box) for WATER is turned OFF.	Manual shutoff valves must be ON.	Contact licensed plumber to replace manual shutoff valve.	
		Water regulator valve (in J-box) is set too low or malfunctioning.	Water regulator output pressure should be set to 30 PSI.	Adjust water regulator to 40 PSI. Clean or replace water regulator if necessary	
		Water pilot shutoff valve (in J-box) is malfunctioning.	Disconnect 1/8" blue tubing (from water pilot shutoff valve) and check for water pressure.	If there is no water pressure: Replace water pilot shutoff valve.	
		Damaged or disconnected tubing.	Check 1/8" blue tubing between water regulator (in J-box) and water selector valve for damage and proper connection.	Replace damaged tubing. Reconnect any disconnected tubing.	
	With water selector valve (City / Bottle toggle switch) in BOTTLE position, there is no water to handpieces or syringe. CITY position functions properly.	Water bottle is empty.	-	-	Fill water bottle.
		Water bottle gasket damaged or missing.	Check for air leaking from top of water bottle.	Replace water bottle gasket.	
		Water bottle air regulator (in J-box) set too low or malfunctioning.	Water bottle air regulator output pressure should be set to 30 PSI.	Adjust water bottle air regulator to 30 PSI. Clean or replace regulator if necessary	
		Water bottle air regulator (in console or L/R arm) is malfunctioning.	Water bottle air regulator output pressure should be 30 PSI.	Replace regulator if necessary.	
		Damaged or disconnected tubing.	Check 1/8" brown tubing (between water bottle air regulator in J-box and water bottle cap for damage and proper connection.	Replace damaged tubing. Reconnect any disconnected tubing.	
			Check 1/8" blue tubing (between water bottle cap and water selector valve) for damage and proper connection.	Replace damaged tubing. Reconnect any disconnected tubing.	
	Water selector valve malfunctioning.	Disconnect 1/8" blue tubing (from water bottle) from the water selector valve and check for water pressure.	If there is water pressure: Clean or replace water selector valve.		
	No water to handpiece(s). Syringe works properly.	All handpieces run and syringe works properly, but there is no water to <u>any</u> of the handpieces.	Toggle switch on foot control is turned OFF.	Check that toggle switch is turned ON.	Turn toggle switch ON.
			Toggle switch on foot control is malfunctioning.	Check water pressure at output of coolant water toggle valve.	Replace foot control. (valves are not replaceable)
Damaged or disconnected tubing.			Check 1/8" orange tubing (from umbilical) for damage and proper connection.	Replace damaged tubing. Reconnect any disconnected tubing.	
Handpiece runs, but there is n water to that handpiece. Other handpieces work properly.		(Procenter units) Coolant water adjustment valve is set too low or is malfunctioning.	Check coolant water adjustment valve for handpieces.	Adjust coolant water valve. Replace valve if necessary.	
		(Whip units) Coolant water control valve malfunctioning.	Disconnect 1/8" blue outlet line and check for water during operation.	Replace coolant water control valve. Refer to tubing diagrams.	
		Damaged or disconnected tubing.	Check 1/8" blue tubing (between water supply manifold and coolant water adjustment valve) and (between coolant water adjustment valve and kink valve of handpiece) for damage and proper connection.	Replace damaged tubing. Reconnect any disconnected tubing.	
			Check 1/8" white tubing (between coolant water adjustment valve) and (between kink valve and check valve)	Replace damaged tubing. Reconnect any disconnected tubing.	
Kink valve malfunctioning	-	Replace kink valve if necessary.			

Troubleshooting Chart: Procenter / International (Whip) Delivery Units - continued

Problem	Symptom	Probable Cause	Check	Solution
Water leaks from handpiece when removed from holder.	When any handpiece is removed from holder, water comes out without pressing foot control pedal.	Coolant water toggle valve is malfunctioning - bleed port is clogged, allowing pressure to remain in air line.	Disconnect orange signal line and check for residual air pressure (residual pressure indicates bleed port is not working)	Replace foot control.
		Coolant water flush valve is malfunctioning - stuck open.	-	Replace coolant water flush valve.
All handpieces run, but do not function properly.	Water sputters when handpiece is used.	Air in lines.	Check for air in coolant lines.	Press coolant water flush valve button and hold for 45 seconds.
	Water leaking into oil jar.	Handpiece is not sealing at hose connection point, causing water to leak into exhaust hole.	Check for damaged / missing gasket in handpiece.	Replace gasket(s).
	With water selector valve (City / Bottle toggle switch) in either position, water pressure is too low at all handpieces & syringe(s).	Twisted / damaged tubing.	Check 1/8" blue tubing (between water selector valve and water supply manifold in delivery unit) for damage, kinks, etc.	Replace damaged tubing. Reroute tubing if necessary.
		Water supply manifold (in delivery unit) is partially clogged.	Disconnect all tubing from manifold and inspect for proper air flow.	Clean / replace water supply manifold.
	With water selector valve (City / Bottle toggle switch) in CITY position, water pressure is too low at all handpieces & syringe(s). In BOTTLE position, water pressure is normal.	Water regulator setting is too low.	Water regulator output pressure should be set to 30 PSI.	Adjust water regulator to 30 PSI. Clean or replace regulator if necessary
		Twisted / damaged tubing.	Check 1/8" blue tubing (between selector valve and water regulator in J-box) for damage, kinks, etc.	Replace damaged tubing. Reroute tubing if necessary.
	With water selector valve (City / Bottle toggle switch) in BOTTLE position, water pressure is too low at all handpieces & syringe(s). In CITY position, water pressure is normal.	Water bottle air regulator setting is too low.	Water bottle air regulator output pressure should be set to 30 PSI.	Adjust water bottle air regulator to 30 PSI. Clean or replace regulator if necessary
		Water bottle air regulator (in console or L/R arm) is malfunctioning.	Water bottle air regulator output pressure should be 30 PSI.	Replace regulator if necessary.
		Twisted / damaged tubing.	Check 1/8" brown tubing (between water bottle air regulator in J-box and water selector valve) for damage, kinks, etc.	Replace damaged tubing. Reroute tubing if necessary.
			Check 1/8" blue tubing (between water bottle cap and water selector valve) for damage, kinks, etc.	Replace damaged tubing. Reroute tubing if necessary.
	Water bottle gasket leaking.	Check for air leaking from top of water bottle.	Replace water bottle gasket.	
	While one handpiece is in use, one or more additional handpieces run while in holders.	Handpiece is not stowed properly in holder.	Check kink valve. If it is "unkinked", make sure handpieces are fully stowed in holders.	-
		Handpiece ON/OFF valve is out of adjustment.	Check to see if handpiece ON/OFF valve is activated when handpiece is inserted in holder.	Adjust handpiece ON/OFF valve lever so it properly activates when handpiece is stowed in holder.
		Handpiece holder valve is malfunctioning - stuck closed.	Check to see if kink valve of unused handpiece is "unkinked" even though handpiece is in holder.	Replace handpiece holder valve.
Check valve of malfunctioning handpiece is defective - stuck open.		Inspect handpiece check valve (connected to 1/8" clear tubing for handpiece), to see if it is stuck open - or replace check valve with known working valve.	Replace handpiece check valve.	
Tube connector malfunctioning		Check for leaks at connection point between handpiece and tube connector.	Replace tube connector.	
Kink valve is malfunctioning.		Check to see if kink valve is working properly.	Adjust kink valve. Replace kink valve if necessary.	

Troubleshooting Chart: Procenter / International (Whip) Delivery Units- continued

Problem	Symptom	Probable Cause	Check	Solution
All handpieces run, but do not function properly. <i>- continued</i>	Handpiece runs momentarily after it is removed from the handpiece holder even though foot pedal is not pressed.	Drive air foot pedal valve is malfunctioning - bleed port is clogged, allowing pressure to remain in drive air line.	Disconnect 1/4" clear tubing from 1/4" grey foot control tubing (in J-box). Check for residual air pressure. (Residual air pressure indicates bleed port is not working).	<u>Replace foot control.</u>
	Master ON/OFF switch is turned OFF, but kink valves do not "unkink".	Drive air foot pedal valve is malfunctioning - bleed port is clogged allowing pressure to remain in drive air line.	Disconnect 1/4" clear tubing from 1/4" grey foot control tubing (in J-box). Check for residual air pressure. (Residual air pressure indicates bleed port is not working).	<u>Replace foot control.</u>
		Master ON/OFF valve malfunctioning - stuck open.	Replace suspect master ON/OFF switch valve with known working valve.	<u>Replace master ON/OFF valve.</u>
	Coolant air only is not working.	Coolant air adjustment valve (on delivery unit) adjusted too low or malfunctioning.	Check coolant air adjustment valve.	<u>Adjust / replace coolant air adjustment valve.</u>
		Damaged or disconnected tubing.	Check 1/8" tubing (between coolant air adjustment valve in delivery unit) and 1/8" green tubing (between coolant air adjustment valve and all handpieces) for damage and proper connection.	Replace damaged tubing. Reconnect tubing if necessary.
Handpieces work properly; Syringe has no air.	Syringe has no air.	Syringe air adjustment valve (<i>on Procenter unit</i>) or pinch valve (<i>on Whip units</i>) adjusted too low or malfunctioning.	Check setting of syringe air adjustment valve.	<u>Adjust / replace syringe air adjustment valve.</u>
		Damaged or disconnected tubing.	Check 1/8" yellow tubing (between syringe air adjustment valve in delivery unit and J-box and 1/8" yellow tubing (between syringe air adjustment valve and syringe) for damage and proper connection.	Replace damaged tubing. Reconnect tubing if necessary.

Troubleshooting Chart: Procenter Assistant's Units

Problem	Symptom	Probable Cause	Check	Solution	
No water to syringe or water quick connect.	With water selector valve (City/Bottle toggle switch) in either position, no water is present at syringe or water quick connect.	Water selector valve is malfunctioning.	Remove outgoing water line from water selector valve, and check if water is present.	If no water is present: Replace water selector valve.	
		Damaged or disconnected tubing.	Check 1/8" blue tubing (between water selector valve and syringe) and 1/4" blue tubing (to water quick connect) for damage and proper connections.	Replace damaged tubing. Reconnect tubing if necessary.	
	With water selector valve (City/Bottle toggle switch) in BOTTLE position, no water is present at syringe or water quick connect. In CITY position, water is present.	Water bottle is empty.	-	-	Fill water bottle with distilled water.
		Water bottle gasket is leaking.	Check for air leaking around bottle cap.	Replace water bottle gasket.	
		Water bottle air regulator is out of adjustment or malfunctioning.	Check air regulator pressure setting.	Adjust air regulator output pressure to 30 PSI. Clean / replace air regulator if necessary.	
		Water bottle air regulator (in console or L/R arm) is malfunctioning.	Water bottle air regulator output pressure should be 30 PSI.	Replace regulator if necessary.	
		Damaged or disconnected tubing.	Check 1/8" brown tubing (between water bottle air regulator in J-box and water bottle) for damage and proper connections.	Replace damaged tubing. Reconnect tubing if necessary.	
			Check 1/8" blue tubing (between water bottle and water selector valve) for damage and proper connection.	Replace damaged tubing. Reconnect tubing if necessary.	
	Water selector valve is malfunctioning.	Replace suspect valve with known working valve.	Replace water selector valve.		
	With water selector valve (City/Bottle toggle switch) in CITY position, no water is present at syringe or water quick connect. In BOTTLE position, water is present.	Water manual shut-off valve in J-box is turned off or malfunctioning.	Check that water manual shut-off valve is ON.	Contact licensed plumber to replace manual shut-off valve.	
Damaged or disconnected tubing.		Check 1/8" blue tubing (between air regulator in J-box and water selector valve) for damage and proper connections.	Replace damaged tubing. Reconnect tubing if necessary.		
Water selector valve is malfunctioning.		Replace suspect valve with known working valve.	Replace water selector valve.		
No water to syringe. Water quick connect works properly.	No water present at syringe. Water quick connect works properly.	Pinch valve (in assistant's unit) adjusted too tightly.	-	Loosen pinch valve.	
		Syringe valve is malfunctioning.	Replace suspect valve with known working valve.	Replace syringe button valve.	
No water to quick connect. Syringe works properly.	No water to quick connect port. Syringe works properly.	Water quick connect valve is malfunctioning.	Replace suspect valve with known working valve.	Replace water quick connect valve.	
No suction at saliva ejector or HVE.	With ON/OFF lever(s) open, there is insufficient suction at saliva ejector and HVE.	Central vacuum unit is OFF or malfunctioning.	Check central vacuum unit.	Contact service provider for central vacuum unit if necessary.	
		Damaged or disconnected tubing.	Check 5/8" grey vacuum tubing (between asst's unit and central vacuum connection in J-box) for damage and proper connections.	Replace damaged tubing. Reconnect tubing if necessary.	
		Hole plug(s) missing from solids collector	Check solids collector.	Replace hole plug(s) on solids collector.	

Troubleshooting Chart: Midmark Cuspidor

Problem	Symptom	Probable Cause	Check	Solution
No water at cup filler and bowl rinse.	Neither cup filler or bowl rinse have water. Handpieces & syringe work properly.	Damaged or disconnected tubing.	Check 1/4" blue tubing (between J-box and cuspidor) for damage and proper connections.	Replace damaged tubing. Reconnect tubing if necessary.
			Check 1/8" tubing [between cuspidor and console (connection box under seat on LR chair)] for damage and proper connections.	Replace damaged tubing. Reconnect tubing if necessary.
No water at cup filler.	When either cup filler button is pressed, no water comes out; Bowl rinse works properly.	Cup filler flow adjustment valve set too low.	-	Adjust cup filler flow adjustment knob.
		Cup fill push button valves malfunctioning.	Replace suspect cup fill push button valves with known working valves.	Replace cup fill push button valves.
		Cup fill (pilot / primary) air valve malfunctioning.	Replace suspect valve with known working valve.	Replace cup fill (pilot / primary) air valve.
		Cup fill water valve malfunctioning.	Replace cup fill water valve with known working valve.	Try to flush any debris out of valve. Replace cup fill water valve if necessary.
		Damaged or disconnected tubing.	Check 1/8" white tubing (between two cup filler push button valves and shuttle valve) and 1/8" white tubing (between shuttle valve and cup filler air timing valve) for damage and proper connections.	Replace damaged tubing. Reconnect tubing if necessary.
			Check 1/4" yellow tubing (between two cup filler air timing valves) for damage.	Replace damaged tubing. Reconnect tubing if necessary.
			Check 1/8" red tubing (between two cup filler air timing valves and cup fill water valve) for damage.	Replace damaged tubing. Reconnect tubing if necessary.
			Check 1/4" blue tubing (between two cup filler adjustment valve and cup fill water valve) for damage.	Replace damaged tubing. Reconnect tubing if necessary.
No water at bowl flush.	When bowl flush push button is pressed, no water comes out; cup filler works properly.	Bowl flush push button valve malfunctioning.	Replace push button valve with known working valve.	Replace bowl flush push button valve.
		Bowl flush control pinch valve adjusted too tightly.	Check adjustment of valve.	Adjust pinch valve.
		Bowl flush water valve is malfunctioning.	Replace suspect valve with known working valve.	Try to flush any debris out of valve. Replace bowl flush water valve if necessary.
		Damaged or disconnected tubing.	Check all 1/8" red tubing (between bowl flush push button valve, bowl flush solenoid, bowl flush air timing valve, and bowl flush water valve) for damage and proper connections.	Replace damaged tubing. Reconnect tubing if necessary.
			Check 1/4" blue tubing (between bowl flush pinch valve and bowl flush water valve) for damage and proper connections.	Replace damaged tubing. Reconnect tubing if necessary.
Water to bowl flush runs continuously.	Water to bowl flush runs continuously; Cup filler works properly.	Bowl flush push button valve malfunctioning.	Replace suspect valve with known working valve.	Replace bowl flush push button valve.
		Bowl flush water valve is malfunctioning.	Replace suspect valve with known working valve.	Try to flush any debris out of valve. Replace bowl flush water valve if necessary.
		Bowl flush solenoid is malfunctioning.	Check for voltage across solenoid.	If no voltage is present, replace bowl flush solenoid. If voltage is present, replace chair PC board. Refer to service information for dental chair.

Troubleshooting Chart: Midmark Cuspidor - continued

Problem	Symptom	Probable Cause	Check	Solution
Water to cup filler runs continuously.	Water to cup filler runs continuously; Bowl rinse works properly.	One of the cup filler push button valves stuck open.	Replace suspect valve with known working valve.	Replace cup filler push button valve.
Bowl flush works when button is pressed, but does not run for desired length of time.	Bowl flush stops immediately after button is released or does not run for desired length of time (too long / too short).	Bowl flush timing adjustment valve out of adjustment or malfunctioning.	Adjust bowl flush timing adjustment valve.	Replace bowl flush timing adjustment valve.
Cup fill works when button is pressed, but does not run for desired length of time.	Cup fill stops immediately after button is released or does not run for desired length of time (too long / too short).	Cup fill timing adjustment valve is out of adjustment or malfunctioning.	Adjust cup fill timing valve.	Replace cup fill timing adjustment valve.
Cuspidor will not drain.	Cuspidor bowl overflows.	Damaged drain line.	Check drain line for damage.	Replace drain line.
		Clogged drain line or facility drain.	Check drain line and facility drain for clogs.	Clear drain of any possible obstructions.

Troubleshooting Chart: Flex Arm

Problem	Symptom	Probable Cause	Check	Solution
Flex arm will not lock.	Flex arm will not lock.	Lock pawls damaged.	Inspect lock pawls for damage.	Replace lock pawls.
		Lock cylinder valve in flex arm is malfunctioning.	Remove 1/8" brown tubing from lock cylinder and check for residual air pressure. (Residual air pressure indicates bleed port is not working).	Replace lock cylinder.
		Unlock button valve(s) on delivery unit handles malfunctioning.	Without depressing unlock button(s), remove 1/8" brown tubing from unlock button valves and check for air pressure.	If air pressure is detected, Replace unlock button valve(s).
Flex arm will not unlock.	Lock cylinder energizes, but flex arm will not unlock.	Locking pawls in flex arm have become loose and slipped off of arm lock cylinder pin.	Check to see if pawls are installed on arm lock cylinder pin.	Re-install locking pawls back on arm lock cylinder pin then tighten mounting hardware.
	Lock cylinder does not energize.	Unlock button valve(s) on delivery unit handles malfunctioning.	While depressing unlock button(s), remove 1/8" brown tubing from unlock button valves and check for air pressure.	If air pressure is not detected, Replace unlock button valve(s).
		Lock cylinder valve in flex arm malfunctioning.	While depressing unlock button(s), remove 1/8" brown tubing from lock cylinder valve and check for air pressure.	If air pressure is detected, Replace lock cylinder valve.
Flex arm drifts.	Flex arm drifts down.	Spring tension jam nut in flex arm out of adjustment.	-	Tighten spring tension jam nut.
	Flex arm drifts up.	Spring tension jam nut in flex arm out of adjustment.	-	Loosen spring tension jam nut.
Excessive rotation.	Flex arm can be rotated more than 120°.	Rotation stop pins (on top of flex arm) missing or broken.	Check for missing stop pins.	Replace stop pins.
		Rotation stop screw (on top of flex arm) missing or broken.	Check for missing rotation stop screw.	Replace rotation stop screw.