

NAYADIC TROUBLE-SHOOTING CHECKLIST

PROBLEM/CONDITION OBSERVED

POSSIBLE CAUSE

CORRECTIVE ACTION

(IMPORTANT: Disconnect power to compressor or alarm before attempting repairs.)

I. COMPRESSOR

A. New compressor will not start but motor hums when power is turned on.	1. Rotary assembly is locked up due to prolonged storage time.	1. Remove internal filters, muffler box and head plate. Using the palm of your hand turn the rotary assembly until it moves freely. Replace head plate, muffler box and filters. If motor still does not run, return to factory (NAYADIC).
B. New compressor runs but provides insufficient air pressure.	1. Internal filters are not properly tightened. 2. Kinked or crushed airline. Check with air flow meter at compressor and at NAYADIC tank to detect pressure loss.	1. Tighten filters by hand. If this does not correct problem, return compressor to factory for repair or replacement. 2. Replace airline.
C. Compressor will not start (or hum) when power is turned on.	1. Breaker is tripped. 2. No power at electrical receptacle. 3. Wiring leads are not properly connected. 4. Power cord is cut or damaged.	1. Re-set breaker. Check for other appliances connected to breaker. 2. Check receptacle with voltage meter. If no voltage or low voltage, check with electrician. 3. Check and reconnect if necessary. 4. Inspect cord for cut and test with meter for continuity. Replace if necessary.
D. Used compressor does not run but motor hums.	1. Rotary assembly is locked up. This may occur if compressor is not in use for	1. Remove internal filters, muffler box and head plate. Check carbon

NAYADIC TROUBLE-SHOOTING CHECKLIST

<i>PROBLEM/CONDITION OBSERVED</i>	<i>POSSIBLE CAUSE</i>	<i>CORRECTIVE ACTION</i>
	<p>several days.</p> <p>2. Rotary assembly is locked up. Compressor shows evidence of being exposed to excessive moisture or flooding.</p>	<p>blades to see if they move freely. If not, clean blade path; check for broken carbon blades. If necessary replace using repair kit (N6508 or N6510).</p> <p>2. Remove internal filters, muffler box and head plate. Remove 2 allen bolts from cylinder and remove cylinder shield. Clean rusted parts with light grit sand paper. Replace cylinder shield. Install repair kit (N6508 or N6510) If compressor still does not run, return to factory (NAYADIC). CAUTION: Locate compressor in area protected from flooding.</p>
E. Used compressor runs but provides insufficient air pressure. (Check with air gauge).	<p>1. Filters are clogged.</p> <p>2. Internal filters are not properly tightened.</p> <p>3. Internal filter o-ring hard or cut.</p> <p>4. Muffler box loose.</p> <p>5. Head plate loose.</p>	<p>1. Remove and check both external and internal filters. Clean or replace, if necessary. Provide protective enclosure around compressor to protect from dust if located in an exposed area.</p> <p>2. Tighten by hand.</p> <p>3. Replace.</p> <p>4. Tighten bolts</p> <p>5. Remove internal filters and muffler box. Tighten head plate bolts and reassemble</p>

NAYADIC TROUBLE-SHOOTING CHECKLIST

<i>PROBLEM/CONDITION OBSERVED</i>	<i>POSSIBLE CAUSE</i>	<i>CORRECTIVE ACTION</i>
	6. Worn or broken blades in rotory assembly.	6. Disassemble and install repair kit (N6508 or N6510). If compressor still provides insufficient air pressure, return to factory for repair.
F. Compressor with old style alarm does not run.	1. ON/OFF switch of the alarm is in the "off" position.	1. Turn switch to "on" position. Re-set "test" button.
II. ALARM (New Installation)		
A. Light and buzzer do not come on when pressing test button.	1. Alarm is not properly energized	1. Check to make sure power cable is plugged into 115 vac outlet.
B. Alarm remains activated after TEST button is pressed. Compressor is running properly.	1. Float activated. 2. Faulty float. 3. Pressure switch. 4. Faulty pressure switch. 5. Alarm is faulty.	1. Make sure float is in down position. 2. Replace float. 3. Check wiring, making sure connecting wires are on terminal #'s 1 & 2. 4. Replace pressure switch. 5. Replace alarm.
C. Alarm is not activated when float is raised.	1. Float is not properly wired in alarm system. 2. Wiring connections are loose. 3. Float is faulty.	1. Check wiring diagram provided and reconnect if necessary. 2. Tighten all wiring connections. 3. Replace float.
D. Alarm is activated, but the compressor is operating properly and the water level is normal.	1. Float is set too low in NAYADIC .	1. Raise float (alarm) so that it is at or slightly above the normal water level.
E. (Old Style Alarm) Alarm remains activated after TEST/RESET button	1. Alarm is improperly wired. Black wires marked "To 115 vac" and "To Compressor"	1. Rewire alarm so that the black wire from the 115 vac is connected to the

NAYADIC TROUBLE-SHOOTING CHECKLIST

<i>PROBLEM/CONDITION OBSERVED</i>	<i>POSSIBLE CAUSE</i>	<i>CORRECTIVE ACTION</i>
is pressed. Compressor is running properly.	are reversed.	ON/OFF switch. The black wire from the compressor should be connected to the TEST/RESET button.
F. (Old Style Alarm) Light does not come on when pressing test button.	1. Alarm is not properly energized.	1. Turn ON/OFF switch to "on" position.
G. (Old Style Alarm) Compressor shuts off when float (in pump tank) is raised.	1. Float is improperly wired to black wires in alarm box.	1. Rewire float so that one wire from float is connected to white (neutral) wire; and the second wire from the float is connected to the red wire.
 III. AERATION CHAMBER (Inner Tank)		
A. Compressor is running but little or no turbulence is observed in aeration chamber. Aeration contents have greyish (dishwater) appearance. Noticeable odor. Poor effluent quality.	1. Insufficient air supply due to compressor failure, Check with air flow meter. 2. Plugged diffuser. 3. Loose connections on airline. Leakage of air at these locations is reducing air to plant. 4. Damaged airline. To determine, check with air flow meter at compressor and at plant for a drop in cfm.	1. Refer to Trouble-Shooting Checklist, Section I: A-E. 2. Disconnect union on airline and remove lower airline with diffuser. Clean or replace diffuser. 3. Check and tighten all airline connections, including union and connections at the compressor and tank. 4. Expose airline and replace damaged or crushed sections.
B. Aeration chamber contents has a greyish-brown to black appearance. Slight to strong septic odor observed. Compressor is running and good turbulence is noted. Poor quality	1. Heavy hydraulic surge flows due to excessive grey water discharges from laundry or kitchen activities. Generally this problem observed only on commercial applications.	1. For commercial applications, provide surge tank to eliminate surge flows. Residential systems may improve operation by reducing frequency of laundry to 1-2 loads per day.

NAYADIC TROUBLE-SHOOTING CHECKLIST

<i>PROBLEM/CONDITION OBSERVED</i>	<i>POSSIBLE CAUSE</i>	<i>CORRECTIVE ACTION</i>
effluent has a grey color.	Residential systems will usually be characterized by light or sporadic usage comprised mostly of laundry.	NOTE: The use of a large pre-tank may increase the severity of the problem because of the shock load caused by heavy short-term water usage (ie., laundry).
C. Aeration chamber has a clear appearance with very few solids (MLSS<5%). Effluent is clear, no odor. White suds observed in aeration chamber.	1. Light loading to NAYADIC resulting in complete oxidation (digestion) of solids in plant.	1. No action required if effluent is clear. Typical of intermittent use. (See also Section III - D).
D. Aeration chamber has the same appearance as III-C (above). However, the effluent is somewhat turbid. Settleable solids test indicates <5% solids with very fine suspended particles in supernatant.	1. Excessive aeration due to light loading of plant. Turbidity in effluent due to "ash" particles that settle very slowly.	1. Reduce air by providing timer on compressor. Settings should cause the compressor to run 2 hours and be off for 2 hours. Contact factory before making this change.
E. Aeration chamber has greyish appearance with a slightly septic odor. Systems has been in use for less than 6 months.	1. Oversized septic tank preceding the NAYADIC causing slow start-up. This problem is more noticeable during cold weather.	1. Seed plant with 100 gal. of fresh activated sludge to help initiate start-up.
	2. Excessive surge flows (grey water) due to heavy laundry activities. (Problem is worse when NAYADIC is preceded by a large septic tank).	2. Spread out laundry and limit to 2-3 loads/day. Once the plant achieves normal operation, the laundry usage may be increased somewhat. Extreme condition (or commercial application) may require flow equalization.
F. Aeration chamber has a grey, dishwater appearance. Effluent has a grey septic odor. Accumulation	1. Organic overload due to excessive use of garbage disposal (See also cause #3 below).	1. Eliminate discharge of food scrap, grease, oil, etc. into garbage disposal.

NAYADIC TROUBLE-SHOOTING CHECKLIST

<i>PROBLEM/CONDITION OBSERVED</i>	<i>POSSIBLE CAUSE</i>	<i>CORRECTIVE ACTION</i>
of grease balls are observed.	<ol style="list-style-type: none"> 2. Excessive laundry usage. 3. Insufficient air being supplied. The minimum air flow on all models except the M2000A should be at least 5.0 cfm. NOTE: Older M6A plants may have a Gast 323 compressor which would have a minimum air flow of 3.0 cfm. 	<ol style="list-style-type: none"> 2. See Section III-E corrective action. 3. Check airflow (cfm) at compressor and at NAYADIC. If appropriate for specific Model, check dissolved oxygen in aeration tank. Shut off compressor 10-15 minutes before test. If DO is less than 1.0 ppm during peak usage period, contact factory for assistance.
IV. CLARIFIER (Settling Chamber)		
A. (Start-up) Effluent is slightly turbid or cloudy. Slight odor detected. Plant is in the first 3 months of operation. Excessive amount of white suds in aeration chamber.	<ol style="list-style-type: none"> 1. Normal start-up period of 6-8 weeks is required to attain sufficient numbers of bacteria. During this period treatment efficiency may not be at its highest, especially during periods of hydraulic surge loading, (ie. laundry periods). 2. Septic tank is installed prior to the NAYADIC. This problem is usually apparent when the daily flow is light or when excessive laundry usage occurs. 	<ol style="list-style-type: none"> 1. No major action is required. Reducing the frequency of laundry will help. Re-check plant in 4-6 months unless other problems develop sooner. 2. Reduce frequency of laundry until plant achieves normal operation (6-8 weeks). Seeding the NAYADIC with 100 gallons of fresh "activated" sludge may reduce start-up period. Extreme cases may require the removal of septic tank.
B. Effluent has very fine suspended particles which settle slowly leaving a clear supernatant.	<ol style="list-style-type: none"> 1. Over-aeration 	<ol style="list-style-type: none"> 1. Refer to Section III-D.

NAYADIC TROUBLE-SHOOTING CHECKLIST

<i>PROBLEM/CONDITION OBSERVED</i>	<i>POSSIBLE CAUSE</i>	<i>CORRECTIVE ACTION</i>
C. Effluent contains brown suspended solids. Condition is more noticeable during periods of heavy water usage. System has not been pumped in 2-3 years. Settleable solids test indicates sludge volume > 50%.	1. Heavy build-up of MLSS (mixed liquor suspended solids) due to normal, long-term usage.	1. Pump NAYADIC . Refer to "Maintenance Procedures: Pumping (wasting) sludge".
D. Excessive (>5 inches) of scum has accumulated in 6-12 months of use. Grease balls may be observed in aeration chamber. System requires pumping on a frequent basis.	1. Over-use (or abuse) of garbage disposal. 2. Excessive use of powdered laundry detergent.	1. Discontinue dumping grease, food scraps, etc. into the disposal. This material should be put in garbage can. 2. Use liquid detergent or the "concentrated" powders.
E. Excessive (>5") of scum has accumulated in 6 – 12 months of use. Noticeable odor from scum layer. Aeration chamber has very low suspended solids (MLSS).	1. Settled sludge or inorganic solids (i.e., paper, trash, etc) may be restricting return of solids into aeration chamber. This may be caused by the draft tube being too close to the bottom of the tank.	1. Contact the factory for advice and the proper equipment to shorten the draft tube. This can be done without pumping the tank.
F. Excessive solids carry-over with effluent aeration chamber has normal color but sludge (MLSS) settles slowly, forming a light floc that does not compact. Most common with commercial (especially food service) facilities.	1. Overabundance of "filamentous" micro-organisms that prevent compaction and settling of sludge. The presence of these organisms should be confirmed by laboratory (micro-biological) examination.	1. Contact the factory for specific recommendations.