Salmon in the Classroom Aquarium:
Equipment Maintenance

These instructions deal with maintenance of the hardware associated with the aquariums used in the Salmon in the Classroom project. Some instructions contained herein will duplicate those provided in the "Instructions for Aquarium Preparation and Maintenance". However, additional instructions are contained herein pertaining to aquarium hardware not discussed elsewhere. It is recommended that work be done in the sequence below for efficiency.

Tools: Flashlight
2 to 4" paint brush
1 or 2 sheets of newspaper
Small slot head screwdriver
Scrub brush
Bleach
Sponge or rags
Medium grit sandpaper
"Plasti Dip" flexible rubber coating - Get from Kiwanis if necessary.
Small mirror
½" disposable acid brush for "Plasti Dip"

Note: Disconnect the aquarium from all power sources prior to performing the following actions.

Cleaning: Using the scrub brush, scrub the interior of aquarium with a solution of bleach and water. Rinse out bleach cleaning solution completely. If no further maintenance is needed inside the aquarium, wipe out interior with a sponge or rags to remove any debris.

Cooling Tube (In tank): Check that black coating on cooling tube is intact and no copper is visible. If coating is damaged, lightly sand off loose coating, wipe out dust and debris using damp sponge or rag, and recoat cooling tube with Plasti Dip. Caution: Plasti Dip gives off strong vapor odor. Avoid breathing to the extent practicable. Allow Plasti Dip to dry for 30 minutes between coats and four hour minimum before filling aquarium with water.

Cooling Compressor (In bottom back of tank): Slide the newspaper under the aquarium. Using the paint brush, brush off the fins of the heat exchanger, fan, motor, and tubing to remove dust and lint. Remove and dispose of newspaper with dust contained. A Shop Vac may be used as well.

Air Tube Anti Siphoning Check Valve: In the air hose that goes between the air pump at the bottom rear of the aquarium and the air stone inside the aquarium there is an anti siphoning check valve. Observe the orientation of the check valve. Remove the check valve from the hose and blow through it in both directions. You should be able to blow through it in the direction air normally flows. You should not be able to blow through it in the direction opposite of air flow. If you can, replace the check valve. Get new valve from Bruce. If anti siphoning valve functions

properly, reinstall it in the air hose. Orient so that the end you could not blow through goes to the air stone in the aquarium. To get a tight fit of the air hose to the anti siphoning valve it may be necessary to cut a small amount off the ends of the hoses.

Operational Check: If you have had to recoat the cooling tube with Plasti Dip, wait a minimum of four hours before performing the following checks.

Restore power to the aquarium by plugging power cord into a 120VACoutlet. The cooling compressor and the air pump should start running immediately . Within five to ten minutes you should be able to feel the cooling tube in the aquarium begin to cool· down. If the cooling tube does not begin to. cool, disconnect power and contact your Kiwanis Coordinator. If cooling tube does begin to cool, disconnect power and cover aquarium until ready to activate in preparation for egg delivery.

Aquarium Activation: Aquarium activation should take place two to three days prior to egg delivery. After the rocks and egg tray have been installed and the aquarium filled with water as detailed in other instructions, restore power to the aquarium. The cooling compressor and air pump should start running immediately.

Air Pump and Air Stone: Proper function of the air pump can be seen as evidenced by bubbles exiting the air stone in the bottom of the aquarium. The air stone should be positioned beneath the cooling tube so the air bubbles rise to the water surface around the cooling tube. The air bubbles prevent the cooling tube from icing up. If no air bubbles are coming from the air stone, check that the air pump is running and see that hoses between the air pump and air stone are properly connected. Verify the check valve is oriented properly as described elsewhere in this instruction. If after these checks, air is still not coming from the air stone, contact your Kiwanis Coordinator for a new air pump.

Cooling Compressor: After the aquarium has been in operation for at least 24 hours check that the water temperature is between 42 and 48 degrees Fahrenheit. If so, the tank is ready to receive eggs. If the temperature is too high, be sure the compressor is running. If so, check that the cooling tube is not icing up. If these conditions are okay, use the small screw driver and make a very slight adjustment to. The thermostat located in the lower back compartment of the aquarium. When adjusting the thermostat, use the flashlight to try to see the proper direction to make the adjustment. If unable to view the thermostat adequately to make the: adjustment, turn the adjusting screw clockwise a small amount and see if the compressor starts. If not, turn the adjusting screw counter clockwise to its previous position and slightly beyond to see if the compressor starts. When the compressor starts let it run for up to 24 hours to see if the water cools to the required temperature.

If the water temperature is too low, adjust the thermostat so that the compressor doesn't run as much, thus allowing the temperature to rise. Note: Thermostat adjustments should be very small adjustments. If these adjustments do not achieve the desired results, contact your Kiwanis

Coordinator. Thank you for volunteering to help on the Salmon in the Classroom project. Please feel free to contact your Kiwanis Coordinator if you have questions or problems.
1