AutoFish Maintenance

Need help? If you have questions, problems, or comments about this note, call us at +1 (360) 764-8850 or email office@nmt.us.

This note describes critical daily, weekly, annual and periodic maintenance to help keep an AutoFish System running smoothly.

Daily Maintenance

1. At the end of each workday, thoroughly rinse the marking and tagging lines to remove silt and fin buildup. The camera is the only equipment that must not be directly rinsed with the hose, even with the camera cover in place. Pay particular attention to the head mold, clamping area, nets, and reject buckets. Hang the nets to airdry overnight.

   The underside of the adjustable gate channel wall is especially susceptible to silt accumulation. To clean this area, direct the hose through the small openings at the top of the gate channel top while working the width adjustment back and forth.

2. Clean the Injector cutter, needle, and drive rollers at the end of every workday. The procedure is as follows:
   a. Remove cutter and clean thoroughly using alcohol and a small brush. Store the pin and sleeve separated in an alcohol filled jar. Do not mix cutter parts as each pin is designed for a specific sleeve. Scotch Brite may be used to remove any corrosion from the cutter parts.
   b. Clean the inside of the cutter block with alcohol and the brush.
   c. Clean the needle and needle carrier with alcohol, paying particular attention to the area where the needle carrier and cutter block mate. Always reseat the needle after removing.
   d. Clean the magnetizer face and opening with alcohol and either the brush or a wooden handle cotton tipped swab.
   e. Clean the driver rollers with alcohol and a paper towel or wooden handle cotton tipped swab.
   f. Leave the drive rollers disengaged when the injector is not in use.
   g. Leave cover open to dry injector.

3. Turn off the air compressor and open the drain valve to allow excess moisture to escape.

4. Pull booster pump filter from main trough, rinse it clean, and reinstall by screwing in a couple of threads deep. Do not tighten.

5. Turn on heaters and open windows slightly to allow moisture to escape.

Winter Daily Maintenance

Additional care is necessary when shutting down the trailer in cold weather to avoid damage from freezing.

1. If power or heat is not available, open all valves and drain all the water from the plumbing.

2. Remove the pump hose from the trailer and from the Flygt pump, then drain the hose. If the temperature may drop below freezing, you must leave the Flygt pump submerged in the pond to protect the internal structure.

3. Drain water from the booster pumps, the fish pump, and the high-pressure system plumbing, including the bypass valve behind line 1.

Weekly Maintenance

The following are required at the end of each work week:

1. The shafts of the XY clipper table accumulate a black coating of debris and old grease. At least once a week (more if necessary), clean them thoroughly with alcohol. When dry, use only SuperLube grease to lightly coat the shafts. Power off the line and move the marker carrier back and forth and up and down several times to distribute the grease evenly. Then use a paper towel to remove the excess grease, leaving a very thin layer on the shafts. Excess grease may cause increased wear on the marker bearings.

2. Clean and lubricate the holder mechanism shafts as described above.

3. Remove and clean all strainers. This includes the main strainer under the main trough (older trailers) or outside the trailer under the nose (newer trailers), and if present, the booster pump strainers. Strainers may need cleaning more often depending on the debris in the water system.

4. Sorter cylinder life can be prolonged by oiling them weekly. Place a single drop of food grade air tool oil on each shaft and inside each air hose fitting. Ensure air hose fittings and wedges are tightened properly.

Annual Maintenance

Perform this maintenance list annually along with the daily and weekly maintenance tasks. Repair and replace parts as needed.

Software

Ensure the sorter and lines computers are running on the newest version of software and the tablets and line controller boards are updated.

Lines

1. Replace clipper cables and clipper anvils.
2. Remove the shields, spinners, and spinner plates from the camera on each line. Clean with a soft cloth and replace any damaged parts.
3. Check all screws for adequate tightness. Replace any damaged or stripped screws.
4. Remove top gate channel cover and clean gate channel. Check all components within the channel to ensure proper operation.
5. Apply some SuperLube grease to the height and width adjustment pinions (the 'toothed' shaft near the adjustment wheels) and move the mechanisms to distribute the grease.
6. Clean and adjust timing of channel gates as needed. Check springs for proper resistance.
7. Check that clippers are in good working order. Remove and clean all clipper components and check belts, cables, couplers, and shafts for damage and proper tightness.
8. Check the home position of mechanisms.
9. Check all cables and wires on and around the lines for wear or damage.
10. Drain all water from lines.
11. Inspect all cable connections.
12. Break down and clean solenoids. Disconnect the water hoses from the solenoid and open it in the tablet and flush with water and/or air.
13. Inspect flow meters for proper function.

Adapter Plate Inventory

1. Check each set of plates for completeness.
2. Check that all head molds are securely attached to the head mold base.
3. Check and replace any stripped screws.

Sorter

1. Clean the sorter mirrors with a 100% cotton cloth.
2. Inspect backlight chutes for possible leakage and/or bad LEDs.
3. Check all cylinders, wedges and mounts and replace if necessary.
4. Inspect and lubricate all air cylinders on diverter gate system.
5. Check Booster Pump operation (noisy bearings).
6. Check condition of filters/strainers.
7. Inspect flow meters for proper function.
8. Break down and clean solenoids. Disconnect the water hoses from the solenoid and activate it in the tablet and flush with water and/or air.
9. Check adjustable apertures for missing parts and bent wires.
10. Check Sorter frame, piping and adjustable mounts.
11. Breakdown, clean, and inspect diverters for proper operation and excessive wear.
12. Ensure distribution piping secured properly.
13. Check function of air compressor.
14. Drain all moisture from pneumatic system.

Fish Lift

1. Check for belt wear.
2. Ensure free operation of valve.
3. Clear pump of debris. Flush pump by running it in cleanout with the fish supply hose disconnected.
4. Inspect hose and fittings for any damage.
5. Check and clean dewatering device

Trailer Shell and Components

1. Check tool and spare parts inventory and restock.
2. Scrub inside and outside of trailer. Turn on heaters to dry trailer before storage.
3. Check power cords for defective sheaths.
4. Lube all tongue and stabilizer jacks.
5. Check all tires for defects, nails, or foreign objects.
6. Check all tires for proper air pressure.
7. Fill propane bottles if present.

Recommended Periodic Maintenance

During Storage (14 days or longer)

Whenever the trailer will be unused for more than two weeks (or, if rocks, gravel or other material is suspected of being in the pump) the internal fish pump under the main trough should be flushed out well to remove accumulated debris and prevent the pump from seizing up.

To properly flush the pump:

1. attach a garden hose from an external water supply to the drain valve on the fish pump
2. disconnect the fish supply hose that feeds the de-watering device and lay it on the floor of the trailer
3. open the drain valve on the fish pump
4. fully open water flow to the garden hose that is now feeding the lower end of the fish pump
5. place the fish pump in the Clean Out flow speed in the 'Lift Control' window of the sorter software.
6. run the pump until the water from the fish supply hose runs clear and free of debris

Every 3 to 5 years

1. Marker Assembly Replacement. This mechanism has many bearings, bushings, shafts and belts that wear and can contribute to diminished clip consistency and motor stalls.

2. Holder Assembly Rebuild. Longevity of the holder motors and shafts can be increased by having the holder assembly disassembled, old grease removed and packed with fresh grease, and new seals and bushings installed.

3. Clipper Mechanism Replacement. The clipper contains many bearings and bushings and as they wear over time it negatively impacts the ability of the blade and anvil to consistently come together as designed.

Every 5 years

1. Diverter Assembly Rebuild. The diverter is a complex, high-speed, high-pressure mechanism with many moving parts and very tight tolerances for optimum performance. The diverter contains many bearings and bushings that wear and lead to increased drag and deterioration of the components.

2. Channel Gate Rebuild. Bushings and springs in the gates should be replaced due to wear and reduced function.