Tecma Toilets- Testing the Macerator Pump, Controller and Water Solenoid

Before you begin testing your pump and controller on your toilet, you will first want to turn off your water supply to the toilet and empty your bowl. If your macerator pump is not working, you can try to pull down on your discharge tube or (J tube) which will create a siphoning effect to help empty your bowl. If this does not work, you should grab a bucket and extra towels before you disconnect your pump and hoses. A wet/dry vacuum is also very helpful in getting water out of the bowl and discharge tube.

- When testing your controller, you will want to start by testing the **Red** (+) and **Black** (-) wires from your coach or boat to the controller. You will be looking to get around 12 volts if installed in an RV and 12/24 volts depending on the voltage system in your boat. If it is lower than 10.5 volts/(20 volts for 24V)or is fluctuating/ dropping *when you flush*, you may have an issue with your battery source or wiring to the toilet.

- After you verify that your battery source is providing good voltage, you will test the voltage from your controller to your macerator pump. You can do this by disconnecting the **Brown** (+) and **Black** (-) wires from the controller to the pump and testing the voltage coming from your controller, *while you are flushing*. (The pump will not be connected when you do this test, so it will not run when you flush)
    - If you are still getting around 12 volts or above 10.5 volts but your pump is not operating at all, you may have a locked rotor or plug at the pump entrance. (It is rare for a pump/motor to fail.)
    - If your voltage is dropping below 10.5 volts or drops to 0 volts, you have a bad controller which is not sending the proper voltage to operate the pump.
    - **Observe the wall switch while flushing to see if the lights dim or flash as there are diagnostic codes for flashing.

- If your voltage to your pump is correct, and it is running (4-5 seconds), but your pump is not evacuating or fully evacuating waste from the bowl, you may also have a clog in the pump. The best way to start is to turn the toilet over and the clamp holding the discharge tube to the pump inlet is facing up. Loosen the clamp and push the discharge hose aside and you will be able to examine the inside of the pump and can remove most material blocking the pump entrance. If the blockage cannot be removed, then proceed to open up your pump by locating the 6 bolts that hold the face/ cover of the pump to the motor. It is necessary to remove the pump/motor by loosening the 8MM nuts on the pump bracket and removing pump. The pump area is actually very small and can get clogged by ***foreign objects***, ***bathroom hygiene products*** or ***non-RV or Marine toilet paper***.

  - When you remove the cover you will see the impeller and the blades mounted in the pump cover housing. Be careful of the blades. You will want to check the any foreign objects or hygiene products that could have wound around the blades.
    - If you have impeller damage you will need to replace the pump as the impeller is not a replaceable part.
    - If you had an object clogged in the discharge hoses or around the blades, you can remove the object and reinstall the pump, then test it by flushing.

- To test your Water Solenoid Valve, you will be testing your **Blue** and **Black** wires that lead from the controller to your solenoid valve. The solenoid is not polarity sensitive so the leads can go on either terminal. You again will want to *flush the toilet while you do this* to be sure the voltage is being sent to the valve and is not dropping out. You are looking to have about 12 volts and no less than 10.5 volts.
  - If you are getting the correct voltage and the valve is clicking open and closed but the valve is not adding water, you may have a clogged filter screen in solenoid valve. Disconnect the fitting at the inlet side of the water solenoid and you will see a screen that can be taken out, cleaned, and replaced. Reassemble the water solenoid, fittings, and retest.
  - If you cannot hear the clicking and you are getting less than the 10.5 volts or 0 volts, this is would indicate that your controller is not sending the correct voltage and the controller will need to be replaced.
  - If your issue is that your valve continues to leak into the bowl, you will also want to check to see if you continue to get voltage to your solenoid valve from your controller once the flush is over. Once the toilet is done flushing, the voltage drops and the valve should close. If the voltage does drop and the valve stays open, you will need a replacement solenoid valve. If your controller continues to send voltage after the flush, you have a bad controller.

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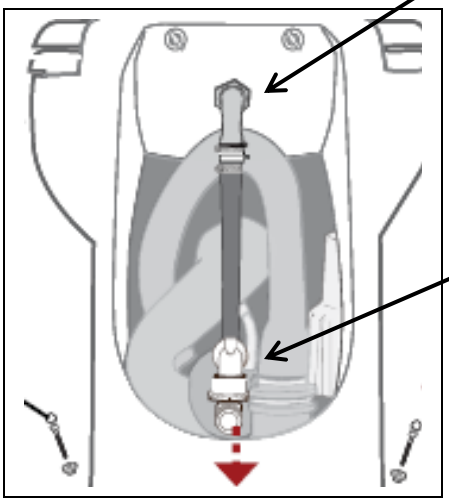

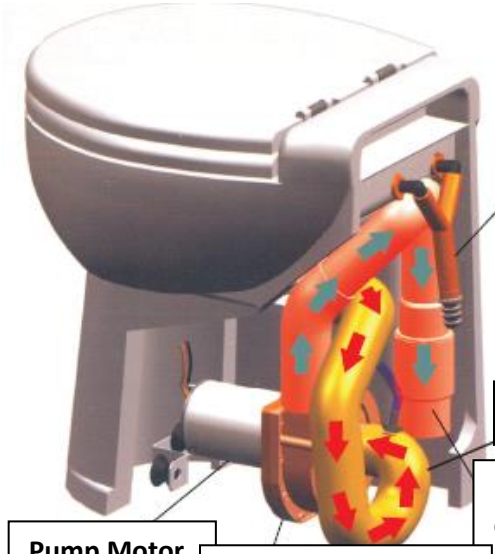

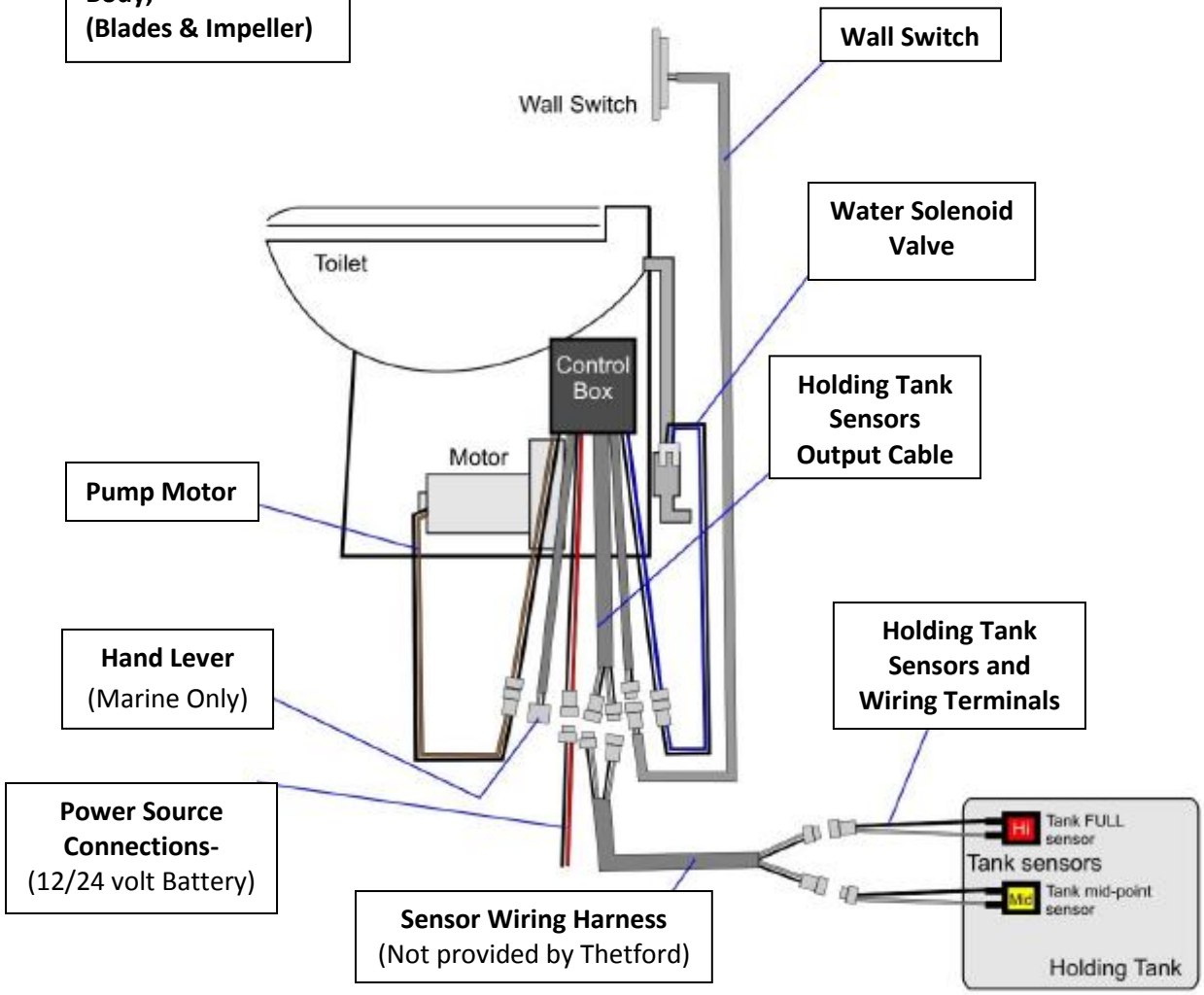

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