Troll will not communicate

Determine if equipment is customer owned or a rental.

- Customer owned → Troubleshoot
- Rental → Determine if rental is through TMC or another rental company
  - TMC → Troubleshoot
  - Other rental company → It is our ploicy that repair issues be handled by the company that owns the equipment.

Troubleshoot → **Step 1: Hardware Check**

Step 1: Hardware Check → Step Two → **Step 2: Computer Check** → Step Three → **Step 3: Troll Check**

Step 1: Hardware Check

Does the customer have more than one unit?
- No → Check hardware set up, including RS 485/232 converter on miniTroll. Were any changes needed?
  - No → (to Retry)
  - Yes → Retry. Does unit communicate now?
- Yes → Are any of the units communicating?

Are any of the units communicating?
- No → Try another comm cable if possible → Retry. Does unit communicate now?
- Yes → Switch to submersible and communication cable from working unit.

Retry. Does unit communicate now?
- No → (to step)
- Yes → Done

Switch to submersible and communication cable from working unit.
- Does not communicate → Proceed to Troll check (Step Three)
- Communicates → Have customer visually inspect cables that are not working. Issue RMA for cable or quote price for replacement. Send out replacement cable for TMC if needed and adjust rent.

Step 2: Computer Check

Check software and firmware version (from old data file). Upgrade if necessary
- Laptop → Remove or disable any modem, PCMCIA card, ethernet card. Disable IR port and extra COM ports. Reboot.
- Desktop → Is the computer in a network?
  - Yes → Restart computer without logging on to the network
  - No → (to Does it work now?)

Does it work now?
- Yes → Done
- No → Try all available COM ports with each COM port choice in Win-Situ software. Do any of the combinations work?
  - Yes → Done
  - No → Proceed to Troll check (Step Three)

Step 3: Troll Check

Use serial number to get RMA history. Ask about batteries possibly being dead. Is unit a Troll 4000/Troll 8000, or a miniTroll?
- Troll 4000/8000 → Try connecting to external power if possible. If the unit works on external power, the batteries are dead. Sell new batteries (alkaline only), or issue RMA for replacement (alkaline or lithium). If batteries OK or no external power available, issue RMA
- miniTroll → Have customer take miniTroll apart, **carefully.** Is there any water visible inside the backshell?
  - Yes → Flooded Troll
  - No → Examine elastomer. Is there any sign of wear?
    - Yes → Order new elastomer or send miniTroll in for service.
    - No → Flip elastomer. Does the miniTroll now communicate?
      - Yes → Order new elastomer or send miniTroll in for service.
      - No → Remove and check batteries. Are they wet or corroded?
        - Yes → Flooded Troll
        - No → Check flex circuit. Is it damaged?
          - Yes → Issue RMA. For TMC customers, send out a replacement and stop billing for non-working unit.
          - No → Replace batteries with new ones and re-assemble miniTroll. Does the unit now communicate?
            - Yes → Done
            - No → Issue RMA. For TMC customers, send out a replacement and stop billing for non-working unit.

Flooded Troll → Issue RMA. For TMC customers, send out a replacement and stop billing for non-working unit.