Curtis 1206sx

This sheet is provided to aid in the installation of your remanufactured CURTIS controller. Upon installation, you may encounter problems that may, or may not, be due to a faulty controller. The following steps must be taken to help diagnose a possible cart fault or faulty controller. An analog or digital volt ohm meter (VOM) will be needed to perform these checks.

WARRANTY WILL BE VOID

STEPS TO PERFORM BEFORE CONTROL INSTALLATION

CHECK MOTOR WINDINGS:

- \Box Set your VOM to RESISTANCE (Ω).
- \Box With your motor disconnected, measure A1 to A2. This <u>must</u> measure BETWEEN .2 Ω and 1 Ω .
- \Box With your motor disconnected, measure F1 to F2. This <u>must</u> measure BETWEEN 1 Ω and 2 Ω .
- □ With your motor disconnected, measure A1 to F1. This <u>must</u> measure OPEN.
- \Box With your motor disconnected, measure F1 to motor case. This <u>must</u> measure greater than 5 M Ω .

CHECK MAIN SOLENOID:

- □ Disconnect all wires from the main solenoid.
- \Box Set your VOM to RESISTANCE (Ω).
- \Box Measure the solenoid coil. This <u>must</u> measure NO LESS than 100 Ω .
- Connect VOM leads to the main solenoid lugs.
- Attach jumpers from main battery positive and negative to the coil (small terminals).
- \Box Meter <u>must</u> jump from infinity to LESS THAN .3 Ω .
- □ Remove jumpers and reconnect solenoid wiring from the harness. (If suppression diode is present, The non-banded side must go to the blue wire pin 7 from the controller.)

CHECK COTHERM:

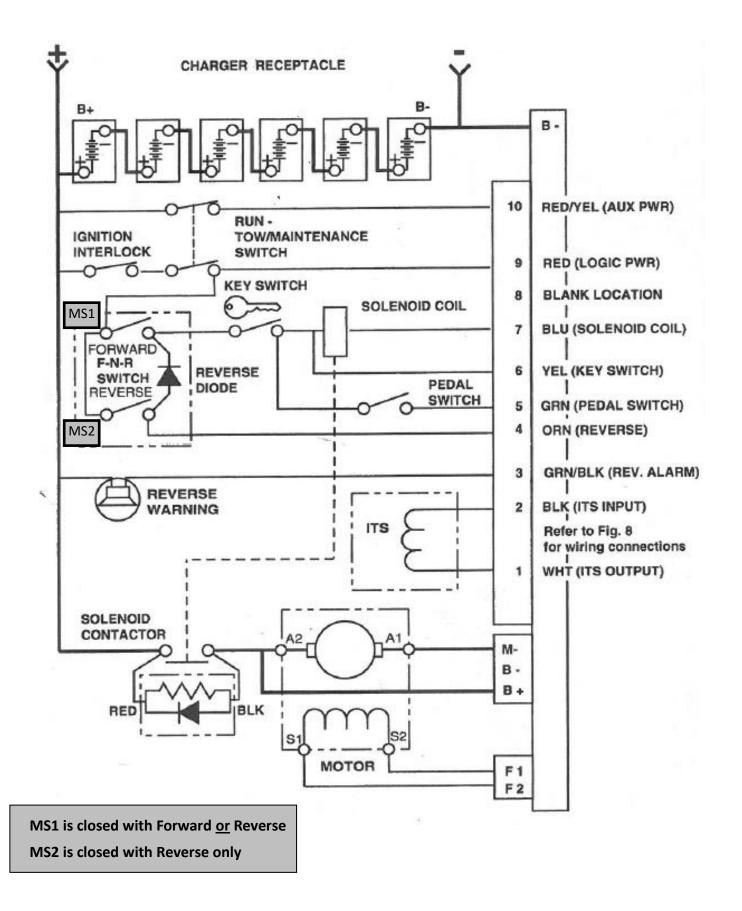
Inspect the cotherm (insulating material) mounted to the heat sink for holes, debris, and tears.
 Repair or replace, if necessary.

CHECK THE CART WIRE HARNESS:

- Check the connectors on the wire harness for corrosion, loose, broken, burnt or missing pins.
- □ Repair or replace pins as necessary.

IF ANY OF THE ABOVE ITEMS ARE NOT WITHIN THE SPECIFICED RANGES THE CONTROLLER WILL FAIL. THESE ITEMS MUST BE CORRECTED BEFORE THE CONTROLLER IS INSTALLED OR WARRANTY WILL BE VOID.

It is recommended to replace your solenoid at the time of controller replacement. FSIP now stocks popular replacement White Rodgers solenoids for your convenience.



DCS Troubleshooting Sequence

FOR SAFETY, ALWAYS LIFT THE DRIVE WHEELS OFF THE GROUND WHEN TROUBLESHOOTING!

ALL TESTS ARE CONDUCTED WITH RUN-TOW/MAINTENANCE SWITCH IN THE RUN POSITION AND WITH A GOOD BATTERY PACK VOLTAGE MEASUREMENT. ALSO, THE CONNECTOR MUST BE ATTACHED TO THE CONTROLLER WHEN MAKING THESE CHECKS. YOU WILL NEED TO 'BACK PROBE' THE PINS FROM THE WIRE SIDE OF THE CONNECTOR. USE A PAPERCLIP IF NECESSARY.

Attach voltmeter negative (-) lead to main battery - for the following tests

Use the following sequence when checking individual pins (don't skip steps unless instructed to do so). If you find a fault, do not move on to the next step until the fault is corrected:

Measure	the voltage at the main battery positive post (let's call it Pack Voltage)
Pin 10	With Run-Tow/Maintenance Switch to Run, must equal Pack Voltage - If not Pack Voltage, check wiring and Run-Tow/Maintenance switch
Pin 9	 With Run-Tow/Maintenance Switch to Run, must equal Pack Voltage If not Pack Voltage, check wiring, Run-Tow/Maintenance switch and charger Interlock Switch (broken Reed Switch in charge receptacle is common)
Pin 6	 With Key On, and Forward or Reverse selected, must equal Pack Voltage If not Pack Voltage, check wiring, F/R Switch and Key Switch
Pin 4	 With Forward selected, must equal 0V If not 0V, check wiring and MS2 Micro Switch for being damaged (shorted)
Pin 4	 With Reverse selected, must equal Pack Voltage If not Pack Voltage, check wiring and MS2 Micro Switch for being damaged (open)
Pin 3	With Forward selected, must equal Pack Voltage - If not Pack Voltage, check wiring or for an open/missing Reverse Beeper
Pin 3	 With Reverse selected, must equal about 0V If not about 0V, check wiring
Pin 5	 With Pedal Down, must equal Pack Voltage If not Pack Voltage, check wiring and Pedal Switch With pedal depressed, if solenoid <u>clicks</u> go to pins 2 With pedal depressed, if solenoid <u>does not click</u>, go to pin 7
Pin 7	With key switch on, accelerator pedal not pressed and F or R selected, must equal Pack Voltage - If not Pack Voltage, check wiring and for an open Solenoid Coil
Pin 2	Must equal 14 to 15 VDC - If not 14 to 15 VDC, remove the black wire from the ITS Sensor. If pin 2 voltage goes to 14 to 15 volts, replace ITS Sensor, if pin 2 remains low with ITS disconnected, replace controller

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- Pin 1 With Pedal Up, must equal approximately .4 VDC
 - If not within the stated range, check wiring and replace ITS Sensor as necessary
- Pin 1 With Pedal all the way Down, must equal approximately 1.5 VDC
 If not within the stated range, check wiring and replace ITS Sensor as necessary

Helpful Hints

- □ If vehicle does not have walk away feature or operates after approximately a 10 second delay, replace the diode/resistor module at the solenoid.
- □ DO NOT UNDER ESTIMATE THE IMPORTANCE OF MOTOR RESISTANCE CHECKS AND MAIN SOLENOID CHECKS. MANY CART ISSUES ARE CAUSED BY BURNT/DAMAGED BRUSHES THAT WILL BE FOUND AS PART OF THE ARMATURE RESISTANCE CHECK. ALSO A SHORTED ARMATURE AND FIELD WITHIN THE MOTOR <u>WILL</u> DAMAGE THIS CONTROLLER.

Flight Systems Industrial Products also offers the following Technical Support options ...



Troubleshooting Manuals / Codes www.fsip.biz/TroubleshootingManuals.html

Live Tech Support Chat www.fsip.biz





Technical Support Forum <u>fsip.websitetoolbox.com</u>

Frequently Asked Questions www.fsip.biz/FAQ.html



Phone Support 1-800-333-1194 (Option 4)

