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

If These Steps are Not Performed Before Installing The Control

STEPS TO PERFORM ***BEFORE*** CONTROL INSTALLATION

CHECK MOTOR WINDINGS:

☐ Set your VOM to RESISTANCE (Ω).
☐ With your motor disconnected, measure A1 to A2. This must measure BETWEEN .2Ω and 1Ω.
☐ With your motor disconnected, measure F1 to F2. This must measure BETWEEN 1Ω and 2Ω.
☐ With your motor disconnected, measure A1 to F1. This must measure OPEN.
☐ With your motor disconnected, measure F1 to motor case. This must measure greater than 5 MΩ.

CHECK MAIN SOLENOID:

☐ Disconnect all wires from the main solenoid.
☐ Set your VOM to RESISTANCE (Ω).
☐ Measure the solenoid coil. This must measure NO LESS than 100Ω.
☐ Connect VOM leads to the main solenoid lugs.
☐ Attach jumpers from main battery positive and negative to the coil (small terminals).
☐ Meter must jump from infinity to LESS THAN .3Ω.
☐ 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:

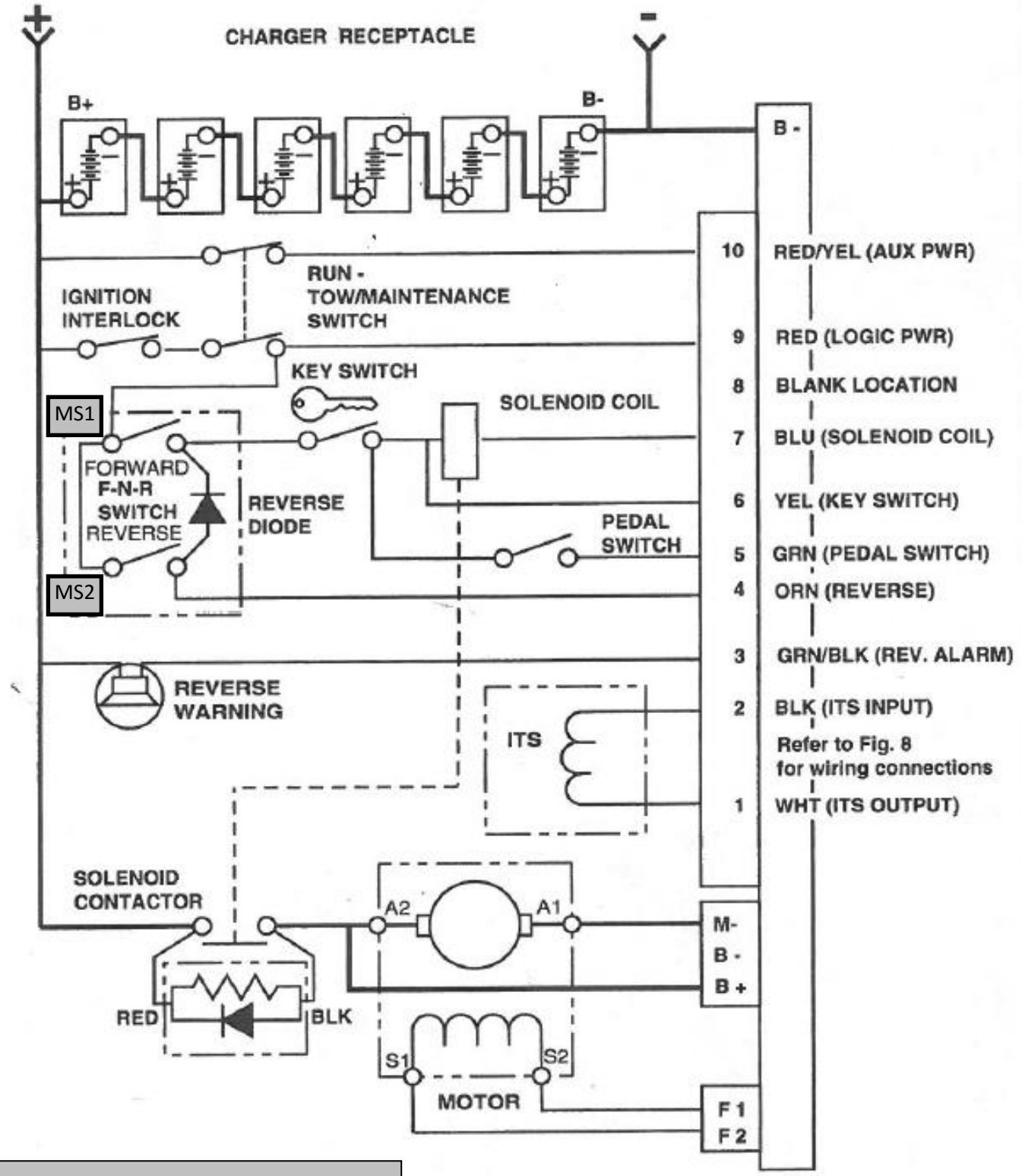
☐ Inspect the cotherm (insulating material) mounted to the heat sink for holes, debris, and tears.
☐ Repair or replace, if necessary.

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.



MS1 is closed with Forward or Reverse

MS2 is closed with Reverse only

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 clicks go to pins 2*
- *With pedal depressed, if solenoid does not click, 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 WILL 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
fsip.websitetoolbox.com

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

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

PRE-INSTALLATION INSTRUCTIONS MUST BE FOLLOWED OR WARRANTY WILL BE VOID

IMPORTANT! E-Z-GO DCS TROUBLESHOOTING INFORMATION INCLUDED IN THIS PACKET