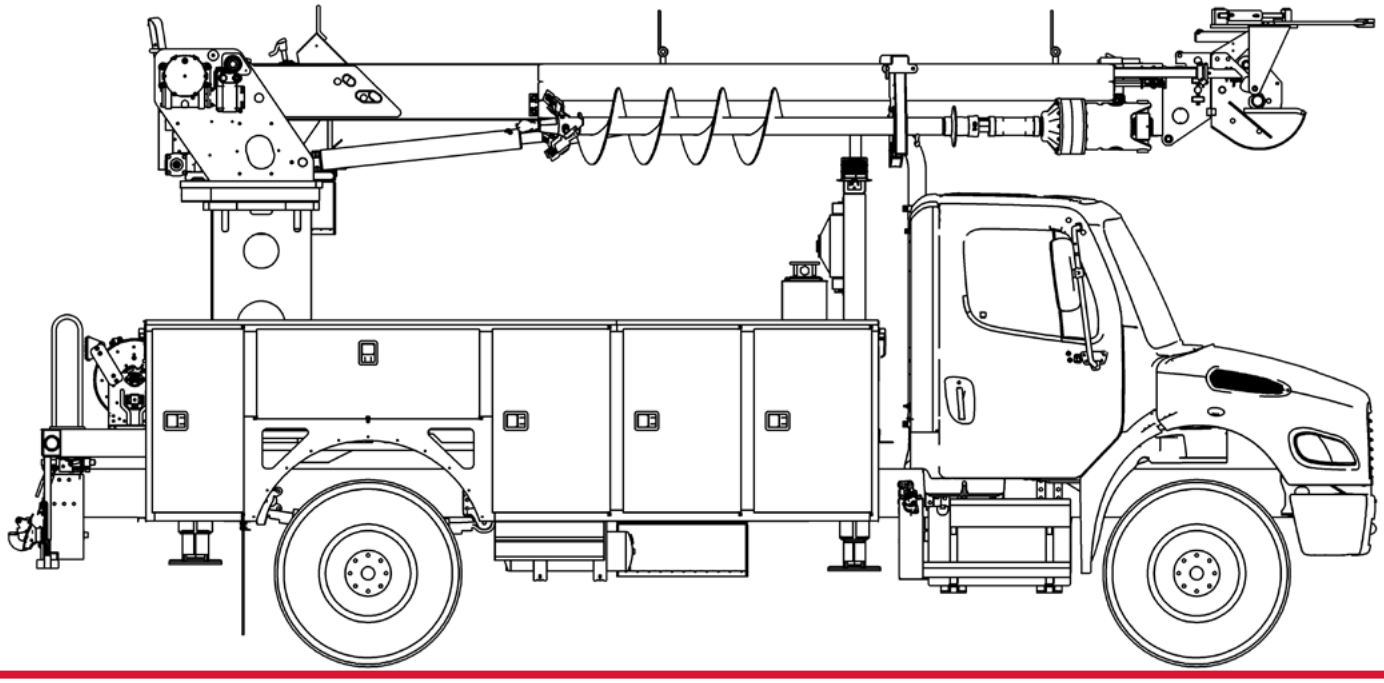
TEREX

TECH TIPS

TROUBLESHOOTING THE FIRST GENERATION TEREX CHASSIS CONTROLLER

NO. 41



SERVICE CALL:

TROUBLESHOOTING THE FIRST GENERATION TEREX CHASSIS CONTROLLER

MODEL(S):

ALL TEREX UNITS WITH THE FIRST GEN CHASSIS CONTROLLER "IFM CONTROLLER"

TOOLS NEEDED:

BASIC HAND TOOLS
INCANDESCENT TEST LIGHT
DIGITAL MULTIMETER
CHASSIS CONTROLLER MANUAL
ELECTRICAL SCHEMATIC

TEREX UTILITIES TECHNICAL SUPPORT TEAM

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DANGER

Failure to obey the instructions and safety rules in the appropriate Operator's Manual and Service Manual for your machine will result in death or serious injury.

Many of the hazards identified in the Operator's Manual are also safety hazards when maintenance and repair procedures are performed.

DO NOT PERFORM MAINTENANCE UNLESS:

√ You are trained and qualified to perform maintenance on this machine.

√ You read, understand and obey:

- manufacturer's instructions and safety rules
- employer's safety rules and worksite regulations
- applicable governmental regulations

√ You have the appropriate tools, lifting equipment and a suitable workshop.

The information contained in this Tech Tip is a supplement to the Service Manual. Consult the appropriate Service Manual of your machine for safety rules and hazards.

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INTRODUCTION

Chassis Controller Manual: can be found with Unit Maintenance Manual or in the kitsheet portion of the CD supplied with unit.

Unit Specific Electrical Schematic

- A copy of the unit specific Electrical Schematic is provided with the final paperwork when the unit is shipped
- Contact your authorized Terex Utilities Branch or Dealer for replacement schematics

Reference Tech-tip #39 to determine which chassis controller is installed on your unit.

STEP 1

Locate the Terex Chassis Controller manual for your unit. This is an appendix to the unit Maintenance Manual.

STEP 2

Refer to the electrical schematic specific to your unit.

STEP 3

Engage the Park Brake and turn the ignition key to the ON position (Do not start the chassis engine).

STEP 4

The DIA LED on the IFM controller should be Green and flashing at 2Hz. **FIGURE 1** If the LED is not flashing, check the following:

- Verify 12V power on Pin 1 of P/N 1 connector.
- Verify Ground on Pin 2 of P/N 1 connector.

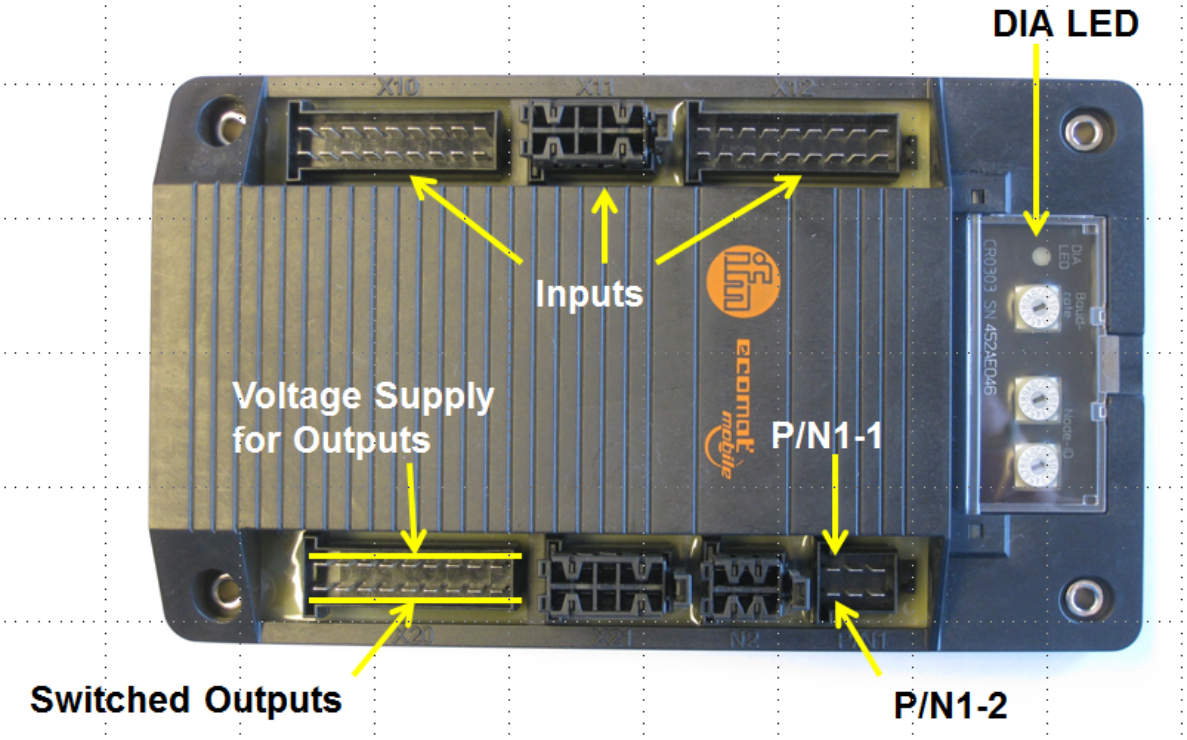


FIGURE 1

STEP 5

The display on the switch panel should be showing Engine Hours and/or PTO Hours depending on features enabled in system.

STEP 5 (CONTINUED)

If there are alternating bars showing, power is being supplied to the display but does not have communication with the controller. Check cables, connections between display and controller.

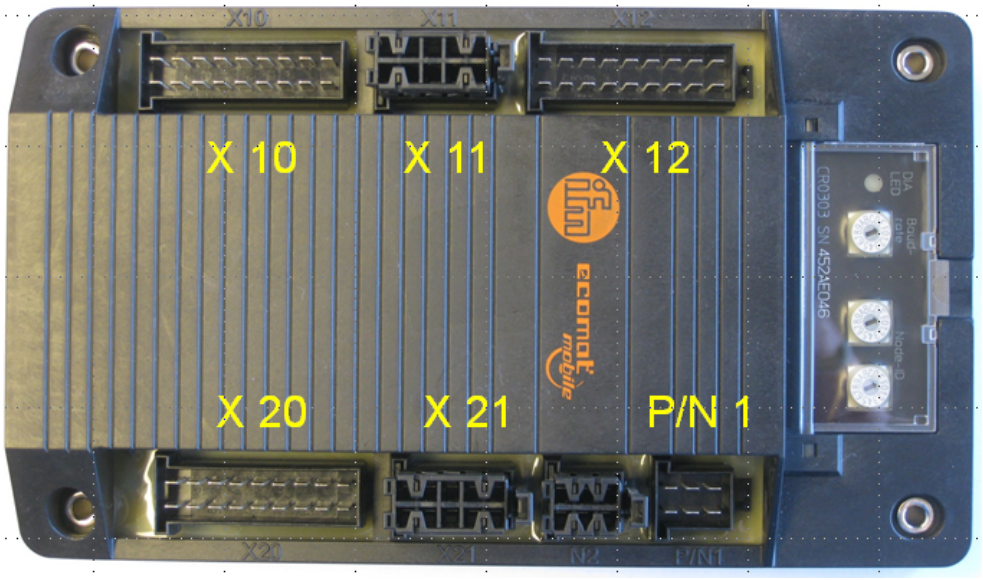
STEP 6

If the Engine Hour value is zero, check the communication cable and connections between the chassis and the controller.

STEP 7

Most of the upper row of pins coming in X20 (X20-1, X20-3, etc) is the power supply for separate functions controlled by the controller. Pins X20-15 and 17 are low current (4 amp) outputs.

The lower row of pins in from X20 (X20-2, X20-4, etc) is the outputs controlled by the controller.



STEP 8

Turn on the PTO/Master switch. Power is at X20-1 if the fuse for this function is good, if conditions are met, such as the Park Brake being set, the controller will turn on power at X20-2.

STEP 9

As outlined in the Chassis Controller Manual, access the desired input and output screen by pushing and holding to two lower right buttons simultaneously.

STEP 10

Input 10 shows 1, meaning “On”. This shows that Ignition On is being registered by the controller. On the correct screen, Input 12 should also be 1, or On, this the Park Brake input. Output 9 should show 1, meaning that the signal is being sent to turn on the PTO. The legend for this example is FIGURE 7 and 8, depending on features and options, your Inputs and Output may be different. Use the drawing for you particular chassis by unit serial number.

INPUT	FUNCTION	WIRE COLOR	PIN	CONNECTOR	SIGNAL
IN00	NA	NA	02	X12	+12V
IN01	NA	NA	04	X12	+12V
IN02	NA	NA	06	X12	+12V
IN03	NA	NA	08	X12	+12V
IN04	NA	NA	12	X12	+12V
IN05	NA	NA	14	X12	+12V
IN06	NA	NA	16	X12	+12V
IN07	NA	NA	18	X12	+12V
IN08	NA	NA	02	X10	+12V
IN09	NA	NA	04	X10	+12V
IN10	IGNITION ON	ORG	06	X10	+12V
IN11	NA	NA	08	X10	+12V
IN12	PARK BRAKE	WHT/ORG	12	X10	GROUND/+12V
IN13	STOP/START	WHT/BLU	14	X10	GROUND/+12V
IN14	TWO SPEED	WHT/YEL	16	X10	GROUND/+12V
IN15	PTO PRESSURE SWITCH	GRY/RED	18	X10	GROUND/+12V
IN16	WILLIAMS CONTROL (SIGNAL)	BLK	01	X11	ANALOGUE
IN17	NA	NA	02	X11	ANALOGUE
IN18	NA	NA	03	X11	ANALOGUE
IN19	NA	NA	04	X11	ANALOGUE
IN20	NA	NA	07	X11	ANALOGUE
IN21	NA	NA	08	X11	ANALOGUE
IN22	NA	NA	09	X11	ANALOGUE
IN23	NA	NA	10	X11	ANALOGUE

FIGURE 7 - INPUTS

OUTPUT	FUNCTION	WIRE COLOR	PIN	CONNECTOR
OUT00	NA	NA	01	X21
OUT01	NA	NA	02	X21
OUT02	NA	NA	03	X21
OUT03	NA	NA	04	X21
OUT04	NA	NA	06	X21
OUT05	NA	NA	07	X21
OUT06	NA	NA	08	X21
OUT07	NA	NA	09	X21
OUT08	IGNITION RELAY	BRN	15	X20
OUT09	PTO SOLENOID	WHT/RED	16	X20
OUT10	STARTER	ORG/BLK	17	X20
OUT11	NA	NA	18	X20
OUT12	MASTER POWER	RED/WHT	02	X20
OUT13	STROBE LIGHTS	BRN/YEL	04	X20
OUT14	SPARE#1	NA	06	X20
OUT15	SPARE#2	NA	08	X20
OUT16	SPARE#3	NA	10	X20
OUT17	SPARE#4	NA	12	X20
VBB STAB	5 VOLT REF:	RED	14	X20

FIGURE 8 - OUTPUTS

STEP 11

When the PTO Pressure Switch closes, this would be shown by Input 15. If the signal is not received, the LED indicator in the PTO switch on the display panel would be flashing.

STEP 12

If you are seeing an output as “On” on the display, but no output at the terminal strip or appropriate pin at X20, check the supply fuse for that function. Also, remove the wire going to the output at the terminal strip, turn the Chassis Controller off and then back on. If you now have an output at the terminal strip, the load was greater than the panel is rated for and has now reset. Trace circuit to find excessive load.

STEP 13

Continue the troubleshooting process using this Tech Tip and the Terex Chassis Control Manual troubleshooting guide.

FOR FURTHER ASSISTANCE,
CONTACT THE TEREX UTILITIES TECHNICAL SUPPORT TEAM
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