

FAULT DIAGNOSTIC PROCEDURES

Faults in the RCI-500 System are detected at start-up with an automatic self-test that lasts about 2-3 seconds. This self-test is activated each time the system is switched on. During normal operation, a self-test can be initiated at any time by pressing and holding the red TEST button on the right of the display.

Fault conditions in external sensors are detected without the need for a system self-test.

Faults detected in the system during a self-test, are identified on the display as follows:

- The word "FAULT" will appear in the information area.
- The RED LAMP will illuminate.
- The AUDIBLE ALARM will sound.

Faults occurring in the system can be diagnosed using the display.

1. PRESS and HOLD the TEST button to initiate the self-test and to identify any faults.

2. Continue to PRESS the TEST button.

NOTE: Following the self-test, faults found will be identified on the display screen and will remain visible as long as the operator continues to press the TEST button.

3. Fault information will appear on the screen in the following four groups.

- Group A Sensor Faults
- Group B I/O Faults
- Group C Memory Faults
- Group D General Faults

FAULT CODES

GROUP "A" – ANALOG SENSORS

CODE

AAA		
000		NO FAULTS
001	AIN0	PISTON PRESSURE TRANSDUCER
002	AIN1	ROD PRESSURE TRANSDUCER
004	AIN2	EXTENSION SENSOR
008	AIN3	BOOM ANGLE SENSOR
016	AIN4	NOT USED
032	AIN5	SWING POTENTIOMETER "A"
064	AIN6	SWING POTENTIOMETER "B"

GROUP "B" – INPUTS AND OUTPUTS

CODE

BB		
00		NO FAULTS
01	1	DIGITAL INPUT AND OUTPUT
02	2	ANALOG INPUT AND OUTPUT
04	4	DISPLAY UNIT

GROUP "C" – MEMORY

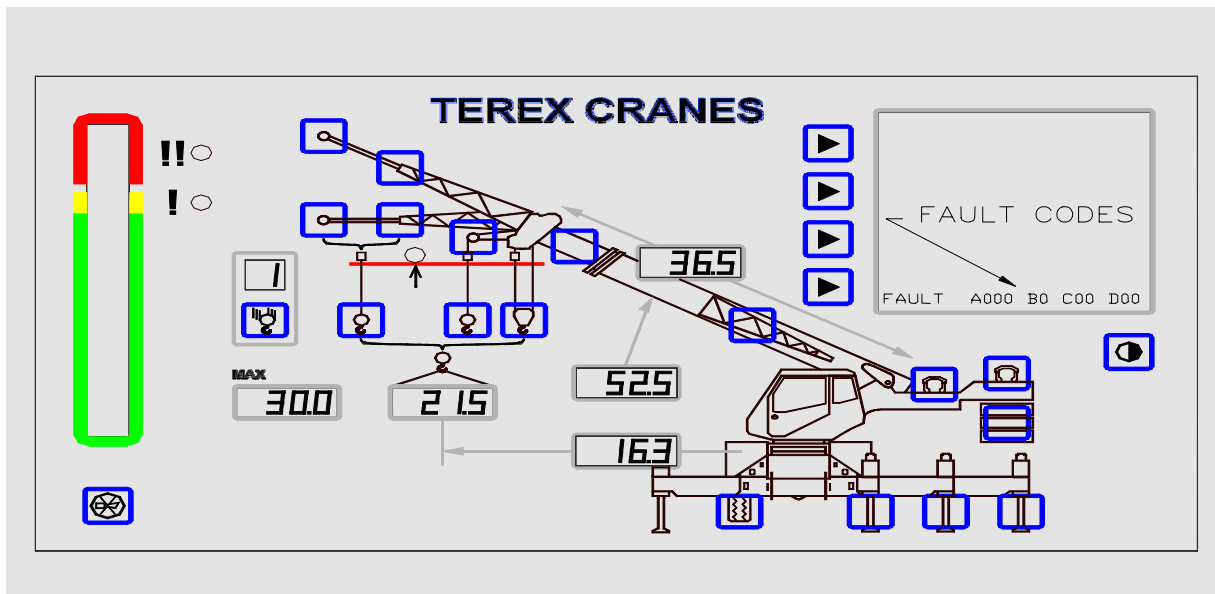
CODE

CC		
00		NO FAULTS
01	1	EXECUTIVE ROM
02	2	DUTY ROM
04	4	SCRATCHPAD RAM
08	8	PERSONALITY ROM

GROUP "D" – GENERAL

CODE

DD		
00		NO FAULTS
01	1	NO DUTY FOUND
02	2	CURRENT DUTY BAD
04	4	CONFIGURATION UNCALIBRATED



GROUP 'A' FAULT CODES

When a fault is detected by the system, a number will appear under one or more of the four group headings A through D, shown on the previous page. This number will correspond to one or more fault diagnostic numbers. The meaning of these numbers can be determined by looking at the appropriate code in the fault interpretation table.

Fault codes in Group A relate to analog sensors. Each sensor is allocated a number. This number is also the number of the channel to which it is connected in the system.

- Sensor 0 Piston Pressure
- Sensor 1 Rod Pressure
- Sensor 2 Extension Sensor
- Sensor 3 Boom Angle
- Sensor 4 Not Used
- Sensor 5 Swing Pot'r "A"
- Sensor 6 Swing Pot'r "B"

Each sensor is allocated a FAULT CODE. This code number appears under the group heading in the fault code display.

001	Sensor 0	Piston Pressure
002	Sensor 1	Rod Pressure
004	Sensor 2	Extension Sensor
008	Sensor 3	Boom Angle
032	Sensor 5	Swing Pot'r "A"
064	Sensor 6	Swing Pot'r "B"

When no faults are detected in the system, '000' will appear under all group headings.

When there are faults in only one sensor, one of the above codes will be listed.

When there are faults in more than one sensor, the codes indicated will be the sum of the fault codes.

EXAMPLES OF FAULT CODES:**Fault 0**

AAA	B	CC	DD
000	0	00	00

No faults detected.

Fault 1

AAA	B	CC	DD
001	0	00	00

Piston pressure transducer.

Fault 2

AAA	B	CC	DD
002	0	00	00

Rod pressure transducer

Fault 3

AAA	B	CC	DD
003	0	00	00

Piston pressure transducer

Rod pressure transducer

Fault 4

AAA	B	CC	DD
004	0	00	00

Extension Sensor

Fault 5

AAA	B	CC	DD
005	0	00	00

Piston pressure transducer

Extension sensor

Fault 6

AAA	B	CC	DD
006	0	00	00

Rod pressure transducer

Extension sensor

Rod pressure transducer

Fault 7

AAA	B	CC	DD
007	0	00	00

Piston pressure transducer

Rod pressure transducer

Extension sensor

Fault 8

AAA	B	CC	DD
008	0	00	00

Boom angle sensor

Fault 9

AAA	B	CC	DD
009	0	00	00

Piston pressure transducer

Boom angle sensor

Fault 10

AAA	B	CC	DD
010	0	00	00

Boom angle sensor

Rod pressure transducer

Fault 11

AAA	B	CC	DD
011	0	00	00

Boom angle sensor

Piston pressure transducer

Rod pressure transducer

Fault 32

AAA	B	CC	DD
032	0	00	00

Swing potentiometer "A"

Fault 64

AAA	B	CC	DD
064	0	00	00

Swing potentiometer "B"

Fault 96

AAA	B	CC	DD
096	0	00	00

Swing potentiometer "A"

Swing potentiometer "B"

This sequence continues up to the maximum fault code of 127, which is the sum of all "GROUP A" fault codes.

Fault 127

AAA	B	CC	DD
127	0	00	00

All analog sensors.

This fault condition is seldom caused by the simultaneous failure of all sensors. It is usually the result of the failure of the analog drive voltage, which supplies the voltage for all sensors. This power supply fault may be due to the failure of the power supply or may be due to damage to the cable that connects the sensor to the computer.

When this fault occurs, carry out Power Supply Voltage checks before checking individual sensors.