 <b>GE Industrial Systems</b>	<b>Test and Operating Procedure</b>	
	DATE :	PAGE 1 of 9
QUALITY REP:		
TITLE: <i>Lod Trak III</i>		PROCEDURE: LOU - GE-DS3845LT3A

## **1. INTRODUCTORY DESCRIPTION**

- A. This procedure establishes the methods for testing a.
- B. Environmental ranges: 70 +/- 10 Deg. F. with 20-75% R.H.
- C. Unit warm-up/stabilization period requirement: \_\_\_\_\_
- D. Personnel using this procedure are expected to have a high degree of confidence and expertise in related testing and calibration procedures.
- E. Procedures not explained here are considered to be understood as common practice.

## **2. TEST EQUIPMENT VERIFICATION**

- A. Verify the accuracy of the standard(s) used in the repair/calibration process by evidence of recent calibration labeling affixed to the test equipment.
- B. All measurement standards used in this procedure shall be traceable to the NATIONAL INSTITUTE of STANDARDS and TECHNOLOGY (N.I.S.T.) and shall have the accuracy, stability, range and resolution required for the intended use.
- C. Unless otherwise specified, the collective uncertainty of the Measurement Standard(s) shall not exceed twenty five percent of the acceptable tolerance for each characteristic being calibrated.
- D. All deviations shall be documented.


## **3. EQUIPMENT CLEANING**

- A. All equipment clean will be performed as instructed in the GE T&IC SOP Sec. 14.0


## **4. EQUIPMENT INSPECTION**

- A. The following criteria should be used as a guideline or basis for the inspection process of the this unit:
  - 1. Wires broken or cracked.
  - 2. Terminal strips / connectors broken or cracked.
  - 3. Loose wires.
  - 4. Components visually damaged.
  - 5. Capacitors leaking.
  - 6. Solder joint, cold or otherwise inadequate.
  - 7. Circuit board discolored or burned.
  - 8. Printed wire runs burned or damaged.

## **5. REVISION HISTORY**

 <b>GE Industrial Systems</b>	<b>Test and Operating Procedure</b>	
	DATE :	PAGE 7 of 9
QUALITY REP:		
TITLE: <i>LodTak III</i>		PROCEDURE: LOU - GE-DS3845 LT3A

Revision	Date	Initials	Reason for Revision
A			Initial Procedure - After Verification
B			
C			
D			
E			
F			
G			
H			
I			
J			
K			

 <b>GE Industrial Systems</b>	<b>Test and Operating Procedure</b>	
	DATE :	PAGE 3 of 9
QUALITY REP:		
TITLE: <u>LodTrak III</u>		PROCEDURE: LOU - GE-DS3845 LT3A

## 6. REFERENCE DOCUMENTATION

- Reference: ~~GEK~~ GEH 5200
- Factory Procedure # \_\_\_\_\_
- Original test-derived from DS305MLTA1 (Lodtrak II) and modified
- Accompanying data sheet (made from label from inside of lexan cover)
- LodTrak III 3 ring binder

## 7. THEORY OF OPERATION

- Reference: ~~GEK~~ GEH-5200

• \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_


\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_


## 8. TEST EQUIPMENT TO BE USED

- (8) Pots & (8) Jumper wires specially modified to fit LodTrak III, a in a black drawer labeled "Lodtrak III"
- Power Cord, 110 single phase
- 3 phase, Y ground, transformer board, HØ33951
- Fluke DVOM, Model 85, 87, or 87 mk II

 <b>GE Industrial Systems</b>	<b>Test and Operating Procedure</b>	
	DATE :	PAGE 4 of 4
QUALITY REP:		
TITLE: <u>LodTrak III</u>		PROCEDURE: <u>LOU - GE - DS3845LT3A</u>

## 9. FINAL TEST AND OPERATION PROCESS

- Connections 1. Hook up 8 resistors & jumpers to TB1 & TB2 according to labeling on rear cover. Set to Value stated on "RTD Type" label on steel backing plate of DS3810LCMI sub assembly (hinged part with 2 cords & keypad). Pg. 46 of GEH-5200 will give you an understanding of the resistance values.
2. Apply 115V power to AWPR & BWPR of TB4. See label on Rear Cover.
- Programming 3. Enter new values for functions 15 thru 28 by using the following procedure: Press the Function Key, then input the number of the location to be programmed. Next, press the Value Key, then the amount required. Save it by first pressing the white dot next to the "Power Okay" LED, and while holding that, press STORE. The values are as follows:
- |   |         |
|---|---------|
| 14 = 001 (if 14 is left 999, it disables trips) |         |
| 15 = 6  | 22 = 7  |
| 16 = 2  | 23 = 30 |
| 17 = 130  | 24 = 25 |
| 18 = 130  | 25 = 99 |
| 19 = 2.3  | 26 = .2 |
| 20 = 6  | 27 = 1  |
| 21 = 10   | 28 = 85 |
- 4 see pg. 28 of GEH-5200

 <b>GE Industrial Systems</b>	<b>Test and Operating Procedure</b>	
	DATE :	PAGE 5 of 9
QUALITY REP:		
TITLE: <u>Lod Trak III</u>		PROCEDURE: LOU - GE DS3845LT3A


3 (cont). If, during this programming, you see "Logic OK" flashing, then function 33 has been changed automatically to 0. Change it back to 51. You should again hear relay click.

Scan Values  
&  
Test Relay  
contacts

4. Press [Scan]. This will display values for functions 1-12. Functions 1-8 are for the pots on TB1 & TB2. If value A10 is given, then system reads that to be open. Adjust pots (the top pot corresponds to function 1, and so on) until all 8 read 88°. Make sure Alarm relay is picked up and Trip relay is dropped out. This can be done by setting function 33 to 51, and pressing manual reset button on Rear of unit (this forces trip relay to drop out, if it isn't already). Verify contact resistance at TB4 using label on rear cover. All closed contacts should be less than 1.0. All open contacts should read infinity. If not, replace the offending relay. You will check the remaining contacts of these relays in the next step of this test.

Overload LED  
test  
&  
more Testing of  
Relay contacts  
(uses RTD pots  
to trip Alarm)

5. Starting with Function 1, adjust pot so temp. reading rises. Do this until it causes the Alarm relay to click. "Overload" LED should light, and shortly thereafter the Trip relay should click. At this time, verify resistance of remaining contacts that weren't tested in step 4. Using the same specifications,

 <b>GE Industrial Systems</b>	<b>Test and Operating Procedure</b>	
	DATE:	PAGE 6 of 9
QUALITY REP:		
TITLE:	PROCEDURE:	
Lod Trak III	LOU - GE-DS3845LT3A	

5 (cont). Evaluate and/or replace relays as needed. Reset Relays & Function 2 pot to 88°. Adjust pots for functions 2-8 one at a time to make sure each one will trip unit when temp. is too high, just like step 4. Remember to reset relays after each function has been set back to 88°.

RTD's 1-6 for "Overload"

RTD's 7-8 for "Bearing Overtemp"


Bearing Overtemp  
Led test

(uses setting to trip alarm)


• When performing this test, be mindful that when "Logic Okay" Led is flashing that Function 33 needs to be returned to 51. Confirm that function 18 is at 001. Change Function 18 to 50. You should hear the Alarm relay click and "Logic Okay" LED will flash. Restore 33 to 51. You will see "Logic Okay" LED go solid on, and Trip relay will click. "Bearing Overtemp" LED will come on solid. Change func. 18 to 130. "Logic Okay" LED will flash. Change 33 to 51. "Logic Okay" will go solid. Push [Reset] button. "Bearing Overtemp" will go out, and Alarm relay will click. At this time, push the manual reset button at rear of unit to reset Trip relay.

overload "LED  
Test

• This step is similar to step 6. Change 17 to 50. "Logic Okay" will flash, and Alarm relay will click. Change 33 to 51. "Logic Okay" will go solid, "Overload" LED will come on solid, and Trip relay will click. Change 17 to 130. "Logic Okay" will flash. Change 33 to 51. "Logic Okay" will go solid.


 <b>GE Industrial Systems</b>	<b>Test and Operating Procedure</b>	
	DATE:	PAGE 7 of 9
QUALITY REP:		
TITLE:	PROCEDURE:	
Lod Trak III	LOU - GE-DS3895LT3A	

- 7 (cont'd). Push **[Reset]** button. "Overload" will go out, and Alarm relay will click. You must then push the main reset button at rear of unit to reset Trip relay.
- More Connections 8. Hook up test fixture H033951 transformer board to TB3. Connections are labelled on board and should match those on TB3 label on rear cover. Small red loose wire should connect to ground fault transformer should not be connected yet.
- Reading Values 9. Plug 3 phase 250V power cord in (if there is an E-stop available for the outlet, turn it on). Caution: There are three 10W resistors that need to be kept cool. If you do not have a small fan <sup>blowing</sup> on the fixture, then limit On time to two-minute period. Press **[SCAN]** and observe functions 9-12. If func. 20 is set to 6, then 9-11 should read 1. 12 should read 0. Try setting 20 to 10. 9 thru 11 should then read 2. When you change func. 20, Func. 33 will trip and need to be changed back to 51. Next Try setting 20 to 20. 9-11 should read 4. Function 12 should stay on 0 regardless. Reset func. 20 to 6.
- "Phase Unbalance" LED Test 10. Remove Phase 1 (do this with 250V off.) Power 250V up. After a ~~start~~ period of time, the Alarm relay should click and "Phase Unbalance" LED should flash. Shortly thereafter, Trip Relay will click, and "Phase Unbalance" LED will go solid. Remove 250V power, restore Phase connection, and Push **[Reset]**, and Alarm Relay should
- Two 250V buttons

 <b>GE Industrial Systems</b>	<b>Test and Operating Procedure</b>	
	DATE:	PAGE 8 of 9
QUALITY REP:		
TITLE: <u>Lod Trak III</u>	PROCEDURE: <u>LOU - GE-M53895LT3A</u>	

- 10 (cont.) click. Push manual reset button at rear of unit to reset Trip relay. (you may need to call up func. 33 for reset to work)
11. Repeat step 10 with phases 2 & 3. Remember to reset func. 33 to 51 if "Logic DKey" LED flashes.
- "Phase Reversal" LED Test 12. Switch A & B of Phase 1. Apply 250V power. "Phase Reversal" LED should come on, and both relays should click. Remove 250V power, and push Reset and Alarm relay should reset. Push manual reset button at rear of unit, and Trip relay should reset. Correct the phase connections to Phase 1.
13. Repeat step 12 for Phases 2 & 3. (many units only catch on phase 1 for some reason)
- "Ground Fault" LED Test 14. With 250V power off, take loose red wire connected to Ground fault transformer and connect it to phase 3 of 250V power cord connection. Power up 250V and Ground fault should kick in immediately. "Ground Fault" LED should come on solid, and both relays should click. If this does not happen, try setting function 25 to 10, and test again. It should set a ground fault then. Remove 250V power, disconnect red wire from Phase 3, and push Reset button. Also push reset button at rear of unit to reset Trip relay. You are Finished.
- Function 25 sets the threshold for this trip. Watch function 12 to see the actual value.



 <b>GE Industrial Systems</b>	<b>Test and Operating Procedure</b>	
	DATE:	PAGE 9089
QUALITY REP:		
TITLE: <u>LodTrak III</u>		PROCEDURE: <u>LOU - GE-DS3845LT3A</u>

**10. SPECIAL INFORMATION**

1. If numerical LED test are old & weak, replace all 5 of them with TIL311's
2. "Key OK" yellow LED should light whenever any key except the white one is pressed. If it doesn't, then keypad may need to be replaced.
3. Function "00" gives you the highest reading of RTD's 1-8. Whichever is highest that's the one "00" gives you
4. Whenever any alarm LED is still flashing, and condition that caused it to flash is restored to normal before LED goes solid, then alarm will cancel itself out before setting relays.

TEST WRITTEN BY:

JLM

DATE:

6-12-02

TEST VERIFIED BY:

DATE:

"Overload" & "Bearing Overtemp"  
 Alarm values are set by functions  
 17 & 18. RTD's 1-6 are  
 for Winding Temp, and when they  
 exceed value set in function 18,  
 the "Overload" Led lights and  
 Alarm & trip relays set, as per test  
 Procedure. RTD's 7 & 8 are for  
 the Bearing Temp, and when they  
 exceed the value set in function 17,  
 the "Bearing Overtemp" LED lights  
 and Alarm & trip relays set. If,  
 While led is flashing, RTD value  
 is turned back down below  
 threshold value, Alarm will be →

Test needs to  
 Be developed for  
 "Inst. Over-curr."  
 LED.

Cancelled before relay  
 can set.

This relates to  
 Steps 5-7  
 of the current  
 test procedure

If after doing a  
 trip test, and unit  
 won't reset after  
 condition is corrected, try  
 pushing reset and the  
 white dot (some are used for storing  
 values) simultaneously.  
 Then hit reset again  
 and push manual reset  
 on trip relay in Bear of unit