

Chapter 6

Preventive Maintenance/ Total Service Call

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WARNING !

Tools must be decontaminated before and after servicing the analyzer. Tools must be decontaminated before they are returned to the tool kit.

WARNING !

Procedures in this chapter require following biohazard, electrical hazard, and electrostatic discharge precautions.



WARNING !

You must perform [VP-60: Decontamination](#) before and after servicing the analyzer.

CHAPTER OVERVIEW

This chapter contains:

- the Preventive Maintenance (PM)/Total Service Call Procedure, and
- a PM/Total Call Report (checklist) for the LCx® Analyzer.

These procedures ensure that all applicable diagnostic tests have been performed to verify proper analyzer operation.

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PM/TOTAL SERVICE CALL PROCEDURE (pg 1 of 3)

1. Perform [VP-60: Decontamination](#).
2. Verify proper TSB level.
3. Obtain printout of System Parameters 1, 2, 3, 30, 31, and System Log.
(Press [SYSTEM], [FILES], [1] [PRINT].)
Repeat for each file, store with system.
4. Verify correct serial number in [Parameter 1.3](#) (see printout from step 3).
5. Verify that MEIA Lamp Ref. [parameter 31.25](#) is not 1 (see printout).
NOTE: If parameters 1.3 and 31.25 are 1, a Factory Set has occurred. Perform [VP-53](#).
6. Check Maintenance Log for possible problems. Verify that customer is performing daily, weekly, and monthly maintenance.
7. Check Power Supply voltages ([VP-1](#)).
8. Clean Air Heater and Thermistor with compressed air:
 - a. Remove left VDE Cover ([PL-10.2](#)).
 - b. Remove Reagent Shroud Assembly ([RR-2.3](#)).
 - c. Remove Amplification Vial Retainer ([RR-2.11](#)).
 - d. Raise Display ([RR-8.1.1](#)).
 - e. Remove Protective Wire Cover ([RR-2.7](#)).

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PM/Total Service Call Procedure (pg 2 of 3)

8. (cont)
 - f. Remove Air Duct Cover (RR-2.8).
 - g. Clean dust from heater coils and thermistor with compressed air.
9. Clean instrument base and covers:
 - a. Wipe analyzer base and covers with 95% ethanol or methanol.
 - b. Reinstall Air Duct Cover (RR-2.8).
 - c. Reinstall Amplification Vial Retainer (RR-2.11).
 - d. Reinstall Reagent Shroud Assembly (RR-2.3).
9. (cont)
 - e. Install left VDE Cover (PL-10.2).
 - f. Install Protective Wire Cover (RR-2.7).
 - g. Reposition and secure Display Assembly (RR-8.1.1).
10. Clean MEIA Lens:
 - a. Clean lens with 95% ethanol or methanol and a lint-free tissue.
 - b. Dry with lint-free tissue.
11. Inspect accessories for wear and leakage. Prime both diluents 5 times, watching for leaks in tubing or Multivalve Block.

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PM/Total Service Call Procedure (pg 3 of 3)

12. *PM only* Replace these:
 - a. [RR-5.3](#) Multivalve Block
 - b. [RR-3.5](#) Probe Assembly
 - c. [RR-5.10/5.12](#) Syringes
 - d. [RR-4.11](#) MEIA Lamp
13. Perform MEIA Carousel Calibration ([VP-30](#)).
14. Realign Amplification Vial Retainer ([VP-64](#)).
15. Perform Boom Check ([VP-7](#)). Perform Boom Calibration ([VP-8](#)) as needed.
16. Verify Bar Code operation [Bar Code Check ([VP-4](#))].
17. Perform Dispense Check ([VP-13](#)).
18. Perform diagnostic board tests:
 - a. Printer Test ([VP-41](#))
 - b. Keyboard Test ([VP-42](#))
 - c. Display Test ([VP-43](#))
 - d. RS-232 COM Port Test ([VP-44](#))
19. Perform MEIA Lamp Adjustment ([VP-22](#)).
20. Perform MEIA Photodiode Check ([VP-25](#)).
21. Perform MEIA PMT Check ([VP-24](#)).
22. Perform MEIA Temperature Check ([VP-28](#)).
23. Verify Matrix counting operation [Matrix Count Check ([VP-31](#))].
24. Perform MEIA Performance Panel Run ([VP-47](#)).

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PM/TOTAL SERVICE CALL REPORT

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TC	PM	Procedure	TC	PM	Procedure
___	___	Perform VP-60: Decontamination .	___	___	Verify that MEIA Lamp Ref. Parameter 31.25 is not set to 1.
___	___	Check Modification Status for proper TSB level (TSB Modification Index).	___	___	Check Maintenance Log for possible problems.
___	___	Print System Parameters 1, 2, 3, 30, 31 and System Log.	___	___	Power Supply Check (VP-1)
___	___	Verify that serial number is correct in Parameter 1.3 .	___	___	Clean Air Heater and Thermistor with compressed air.
			___	___	Clean analyzer base and covers.

PM/Total Service Call Report (pg 2 of 3)

TC	PM	Procedure	TC	PM	Procedure
___	___	Clean MEIA Optical Lens.	___	___	Amplification Vial Retainer Alignment (VP-64)
___	___	Inspect accessories for wear and leakage.	___	___	Boom Check (VP-7)
	___	Replace these:	___	___	Boom Calibration (VP-8) (as required)
		Multivalve Block (RR-5.3)			Bar Code Check (VP-4)
		Probe (RR-3.5)	___	___	Dispense Check (VP-13)
		Syringes (RR-5.10/5.12)	___	___	Diagnostic board tests: (VP-41, VP-42, VP-43, VP-44)
		Lamp (RR-4.11)			
___	___	MEIA Carousel Calibration (VP-30)			

PM/Total Service Call Report (pg 3 of 3)

TC	PM	Procedure
___	___	MEIA Lamp Adjustment (VP-22)
___	___	MEIA Photodiode Check (VP-25)
___	___	MEIA PMT Check (VP-24)
___	___	MEIA Temperature Check (VP-28)
___	___	Verify Matrix counting operation [Matrix Count Check (VP-31)].
___	___	MEIA Performance Panel Run (VP-47)