

# EMERGENCY SERVICES DIVISION

## PROCEDURE

### BROOKHAVEN NATIONAL LABORATORY

Procedure No. FR-EMS-3.0.6

Revision No. 3

Page 1 of 3

Procedure Title: INSPECTION OF MICHIGAN INSTRUMENTS CPR THUMPER

1.0 **PURPOSE/SCOPE:**

- 1.1 The purpose/scope of this procedure is to provide a uniform method of Inspection of the CPR Thumper.
- 1.2 The scope of this procedure will cover the monthly and after each use inspection.

2.0 **RESPONSIBILITIES:**

- 2.1 The Duty Fire Officers are responsible to the Fire Chief for implementing this procedure and ensuring that it is carried out.
- 2.2 The Fire Captain who is the Coordinator for EMS Operation will ensure the CPR Thumper is properly maintained.
- 2.3 The Training Officer will instruct all Firefighter EMT's on this procedure.

3.0 **DEFINITIONS:**

- 3.1 CPR Thumper is a pneumatic, mechanical device for Cardiac Compression and timed ventilations for a non breathing pulseless patient.

4.0 **PROCEDURE:**

- 4.1 A complete functional inspection of the CPR Thumper will be made once a month and after each use, using a CPR mannequin.

**PREPARED BY:**

C. LaSalla

\_\_\_\_\_  
Author/Date

Filing Code:

DM5020.00

**REVIEWED BY:**

M. Carroll

\_\_\_\_\_  
Chief/Date

J. Vaz

\_\_\_\_\_  
Division QAO/Date

**APPROVED BY:**

F. Marotta

\_\_\_\_\_  
Division Head/Date

**EFFECTIVE DATE:**

**LAST REVIEW DATE:**

05/01/00

<b>EMERGENCY SERVICES DIVISION PROCEDURE BROOKHAVEN NATIONAL LABORATORY</b>		Procedure No. FR-EMS-3.0.6
		Revision No. 3
Procedure Title:	INSPECTION OF MICHIGAN INSTRUMENTS CPR THUMPER	Page 2 of 3

- 4.2 Check the unit and all accessories for any worn, loose or damaged parts.
- 4.3 Set the unit up for operation, make sure all pneumatic connections are proper and tight, loose or leaking connection should be replaced.
- 4.4 Set the master control valve #1 to the OFF position, the cardiac compression control #2 OFF. The compression force control #3 timed to its maximum COUNTER CLOCKWISE position and the ventilation switch #4 OFF.
- 4.5 Push the piston fully up into the dome, it should slide easily with complete freedom. Release the piston, it should drop smoothly under its own weight. If the piston binds or does not work smoothly the unit will be placed out of service for further examination.
- 4.6 Check the arm lock and arm movement. Loosen the arm lock and raise and lower the arm on the column. It should move fully without chattering. Tighten the arm lock. The arm lock should remain in place. When unlocked it should again move fully.
- 4.7 With the piston in its fully extended position, turn the master control valve #1 to ON. The manual control knob in the base should now begin to move in and out. The acceptable cycle range is from 80-100 cycles per-minute, per AHA guidelines.

Note: Thumper is factory pre-set to 80 cycles per minute.

If the knob is moving faster or slower then it should be adjusted, listen to the rhythm of the cycles, the in/out time should be equal. Even a small discrepancy will be quite apparent.

- 4.8 Using the compression force control #3, set the force to 14-18 kg (30-40 lbs.) as indicated on the force gauge. Turn the cardiac compression control valve #2 to ON. A rhythmic exhaust of air from the exhaust valve beneath the base will be clearly heard.
- 4.9 Install the breathing hose in the ventilation outlet. Listen for any leaks from the O-rings at the base of the column. Hold the manual control knob in. If a leak exists, it will be clearly heard.
- 4.10 With the breathing hose in the ventilation outlet, turn the ventilation switch to ON. The ventilation should activate after every fifth compression cycle. The normal duration of ventilation is 1.25 seconds, plus or minus 10%.

Note: The timing is factory set and seldom need adjustment.

- 4.11 Turn the ventilation switch #4 to OFF. The compression switch #3 back to zero. (It's the maximum counter clockwise position.) The cardiac compression control #2 to OFF. The master control valve #1 to OFF. Cycling should stop and the oxygen reservoir will dump out of the master control port with a hissing sound.
- 4.12 Record all findings on the CPR Thumper inspection form and report your findings to the Duty Fire Officer. If the unit is to go out of service, it will be taken off the ambulance. The Duty Fire Officer will record in the Captains Log of its status and will become a roll call item. Arrangements for repair will be made by the coordinating Captain for EMS operation.

<b>EMERGENCY SERVICES DIVISION PROCEDURE BROOKHAVEN NATIONAL LABORATORY</b>	Procedure No. FR-EMS-3.0.6  Revision No. 3
Procedure Title:   INSPECTION OF MICHIGAN INSTRUMENTS CPR THUMPER	Page 3 of 3

5.0 **DOCUMENTATION:**

5.1 A work order for the monthly inspection will be generated in the Bar Code System.

6.0 **REFERENCES**

6.1 Instruction Manual, Michigan Instruments Inc., CPR Thumper Model 1005.