

EQUIPMENT VERIFICATION PROCEDURE

MOTORIZED SAND EQUIVALENT SHAKER

I. EQUIPMENT

- A. Hand-Operated Counting Mechanism
- B. Stop Watch, reading to 1 second
- C. Caliper or ruler, min. 250mm in length, readable to 1 mm
- D. Stand, capable of holding Counting Mechanism in such a manner as to remain stationary while in use
- E. Motorized Sand Equivalent Shaker

II. PROCEDURE

- A. Identification
 1. Verify and Record the DOTD Property Control Number of the shaker.
- B. Stroke Length
 1. Position Cylinder Holder at either end of the limit of travel of a stroke.
 2. Mark this position on the shaft upon which the Cylinder Holder travels with a pencil.
 3. Repeat for the other limit of travel.
 4. To verify these locations, turn on the machine. The Cylinder Holder travel should just barely touch the pencil marks. If not correct, repeat the marking steps.
 6. Turn off the machine and allow all motion to stop. Measure and record the distance between the two marks as the Gross Stroke Length, to the nearest millimeter.
 7. Measure and record the length of the base of the cylinder holder at the point where it made contact with the shaft to the nearest millimeter.
- C. Cycle Rate
 1. Advance the Cylinder Holder to the limit of travel at the end of the machine where the Counting Mechanism will be placed.
 2. Position the Stand with the Counting Mechanism installed in such a manner as to activate the Counting Mechanism with the end of the Cylinder Holder, without causing movement of the base of the Stand.
 3. Verify that the Counting Mechanism will be activated properly without movement of the Base of the stand or restriction of the travel of the Cylinder Holder while the machine is running.
 4. Reset the Counting Mechanism and the Stopwatch to zero.

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II. PROCEDURE (CONTINUED)

5. Set the Machine to run continuously for more than one minute.
6. Simultaneously start the Machine and the Stopwatch.
7. Read and record the number of strokes indicated on the Counting Mechanism 60 seconds after starting the Machine.
8. Repeat steps 4. through 7.

III. CALCULATIONS

A. Stroke Length

1. Subtract the measurement of the base of the Cylinder Holder from the measurement of the Gross Stroke Travel, to obtain the Net Stroke Length.

B. Cycle Rate

1. Add the two stroke counts recorded and divide the sum by two to obtain the Average Stroke Count per Minute.

IV. REPORT

- A. Report the Net Stroke Length in inches, to the nearest millimeter.
- B. Report the Cycle Rate in strokes per minute.
- C. Report the DOTD Property Control Number.

**STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT**

**VERIFICATION OF
MOTORIZED SAND EQUIVALENT SHAKER**
verification procedure used: DOTD A21

Verification frequency: 12 months Previous verification date: _____

Date of verification: _____ Next verification due: _____

Identification no.: _____ Mfg./distributor: _____

Verified by: _____ Verification equipment used: _____

STROKE LENGTH		
Gross stroke travel (mm)		(D _g)
Base of cylinder holder (mm)		(D _b)
Net stroke length (mm)		(D _g - D _b)

CYCLE RATE		
Number of strokes for first determination		(S ₁)
Number of strokes for second determination		(S ₂)
Total strokes		(S _t) = S ₁ + S ₂
Average cycle rate per minute (R)		R = S _t / 2

Recommended action: repair _____ replace _____ other _____ none _____

Comments: _____