



#### D. PROCEDURE FOR CALIBRATION

1. Stop the turntable rotation during the compaction operation and place the steel plate and rubber disc on the turntable. Place the load indicating device on the rubber disc. Ensure that it is centered under the compactor foot.
2. Start the compactor, turn on the recorder and adjust the compactor foot pressure to an indicated 2.41 or 3.45 MPa on the chart. Ensure that the shape of the curve (Figure 2) is free of "chatter" or evidence of impact associated changes in slope and adjust to achieve the following: (Note the chart speed when determining times.)
  - a. The time required to increase the foot pressure from 0.24 to 2.07 MPa shall be not less than 0.07 s nor more than 0.20 s for the 2.41 MPa foot pressure setting.
  - b. The time required to increase the foot pressure from 0.34 to 2.93 MPa for the 3.45 MPa foot pressure setting shall be not less than 0.07 s nor more than 0.25 s.
  - c. The tamper foot shall produce a dwell of not less than 0.15 s or more than 0.45 s. The dwell time is the time interval during which the tamper foot is delivering 2.07 MPa or more to a soil or aggregate specimen or 2.93 MPa or more to a bituminous mix specimen.
  - d. The pressure release time shall not be greater than 0.60 s.
  - e. The time interval between tamp initiation shall be 2 s.
  - f. After adjusting the time sequences, obtain recorder traces for the 2.41 MPa and the 3.45 MPa (4980 and 7120 N, respectively) foot pressures for the calibration records.
  - g. If the dial reading does not agree with the strip chart, remove the glass cover from the pressure gage and adjust the needle (or record the gage reading on the calibration report).
  - h. Place the spring deflection device under the compactor foot and note the deflection readings for 4980 N and 7120 N and record these values on the calibration report. This device can be used to check the calibration of the compactor later if the calibration becomes questionable.
  - i. After removing all calibration equipment from the turntable, start the compactor and adjust the

turntable movement to  $6 \pm 1$  tamps per revolution.

#### E. HAZARDS

Caution must be exercised when operating the compactor since the compactor foot can cause severe injury if the operator's hand is caught between the compactor foot and the load-indicating device. A clear plastic guard should be installed on the compactor and then used as an aid in safeguarding against this hazard.

#### F. SAFETY AND HEALTH

Prior to handling, testing or disposing of any waste materials, Caltrans testers are required to read: Part A (Section 5.0), Part B (Sections: 5.0, 6.0 and 10.0) and Part C (Section 1.0) of Caltrans Laboratory Safety Manual. Users of this method do so at their own risk.

#### REFERENCES:

California Tests 301, 304, 373, 375, 377 and 378

End of Text (California Test 104 contains 4 pages)

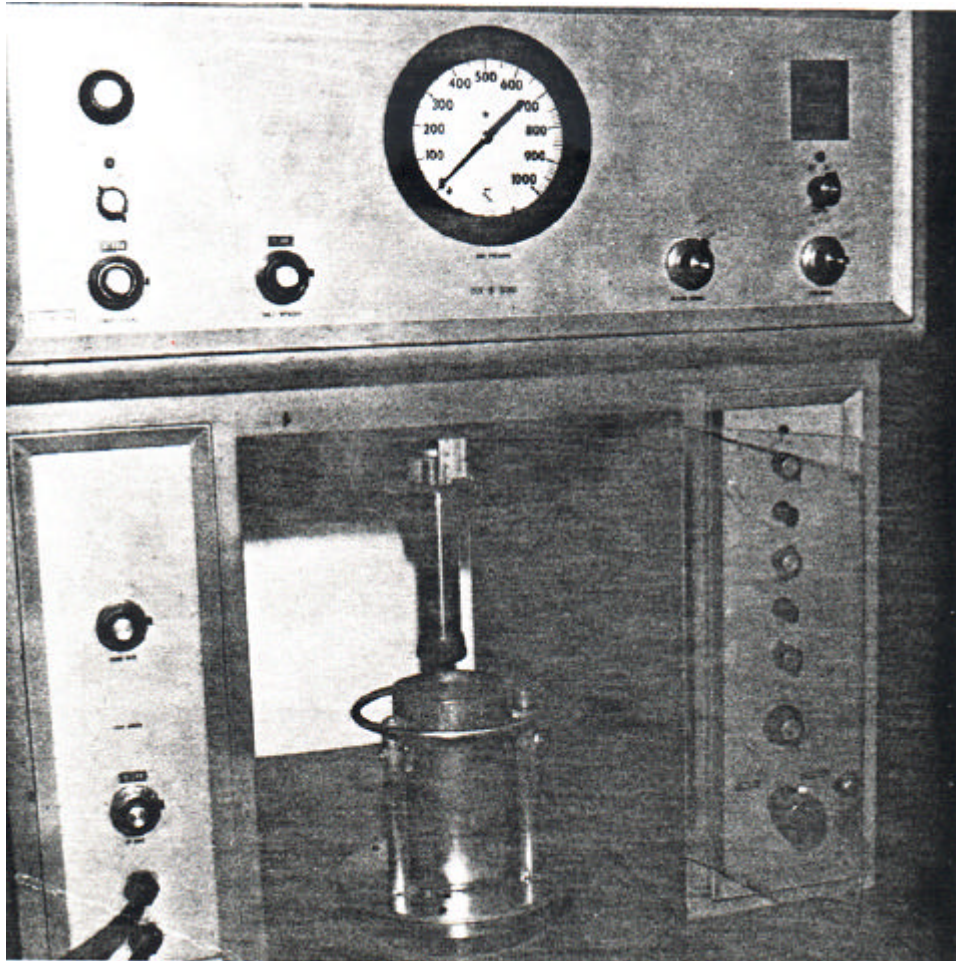


FIGURE 1 - COMPACTION MOLD IN KNEADING COMPACTOR

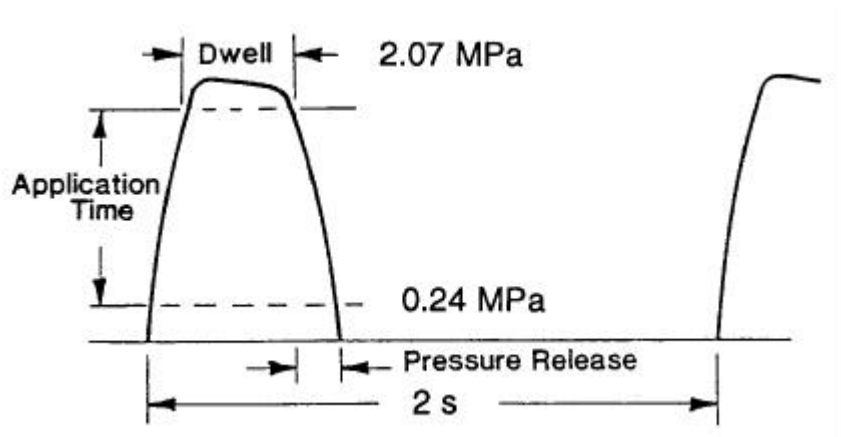


FIGURE 2 - TYPICAL TIME-LOAD CURVE

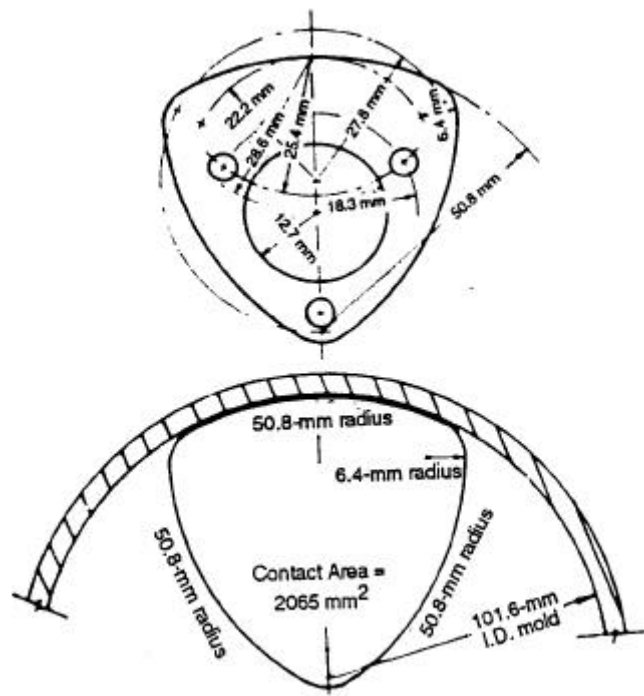


FIGURE 3 - TAMPER SHOE FOR THE MECHANICAL COMPACTOR

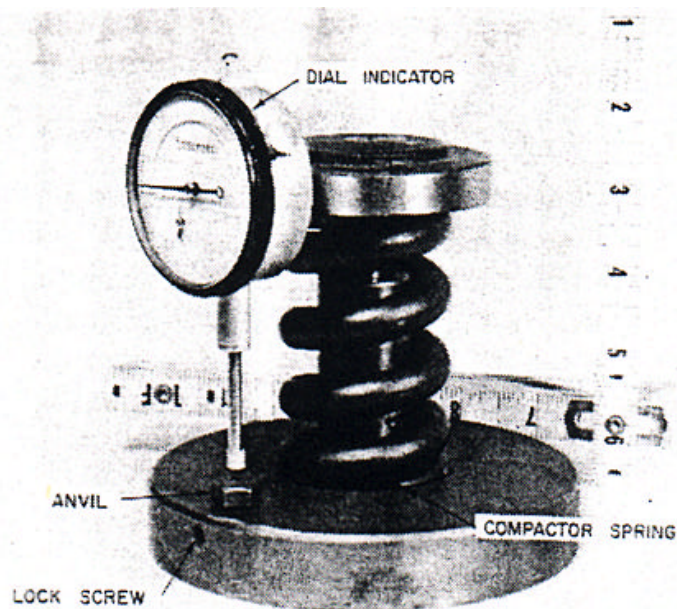


FIGURE 4 - SPRING DEFLECTION DEVICE FOR CALIBRATING THE COMPACTOR