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METHOD OF TEST FOR FRACTURE AND DEFLECTION OF METAL TRAFFIC SIGNAL SECTION HOUSING

A. SCOPE

This method covers the procedure for evaluating the ability of a metal traffic section to resist failure due to a simulated wind loading.

B. DEFINITIONS

The following definitions shall apply to all California Test Methods that relate to Traffic Signal Heads.

1. A Standard Signal Face is composed of all 8 in. or all 12 in. sections.

2. A Combination Signal Face is composed of 8 in. and 12 in. sections.

3. A Signal Lens is that part of the optical unit which redirects the light coming directly from the light source and its reflector.

4. A Signal Face is an arrangement of signal sections which controls one or more traffic movements in a single direction.

5. A Signal Head is an assembly of one or more signal faces.

6. A Signal Section is a single light unit consisting of a housing, reflector, lamp receptacle, lamp, lens, door and visor.

C. APPARATUS

1. Two 24 in. long sections of 1.5 in. diameter standard steel pipe with 4 in. of thread at one end of each pipe.

2. Four lock nuts (type used for signal face mounting).

3. One 4 in. x 6 in. x .5 in. structural steel plate with a 2 in. diameter hole in its center.

4. A rigid clamping device.

5. A loading device.

6. Deflection measuring apparatus (0.1 in. resolution).

D. TEST PROCEDURE

1. Assemble a single section, without the optical unit, as shown in Figure 1.

2. Slowly apply test load at point indicated on Figure 1.

$$\text{Test Load} = [(25\ \text{lb/ft}^2)\cdot(A)\cdot(d)]/30\ \text{in.}$$

A = Projected area normal to the direction of loading of the complete signal face housing, including backplate and hood(s) (ft^2).

d = Distance from centroid of projected area to the connection (in).

3. Under the test load, observe and record any fracture in the housing and measure the deflection at the point of load.

E. REPORTING OF RESULTS

Report test results on Form TL-6039.

F. SAFETY AND HEALTH

It is the responsibility of the user of this test method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Prior to handling, testing or disposing of any materials, testers must be knowledgeable about safe laboratory practices, hazards and exposure, chemical procurement and storage, and personal protective apparel and equipment.

Caltrans Laboratory Safety Manual is available at:

http://www.dot.ca.gov/hq/esc/ctms/pdf/lab_safety_manual.pdf

Users of this method do so at their own risk.

End of Text
(California Test 666 contains 3 pages)

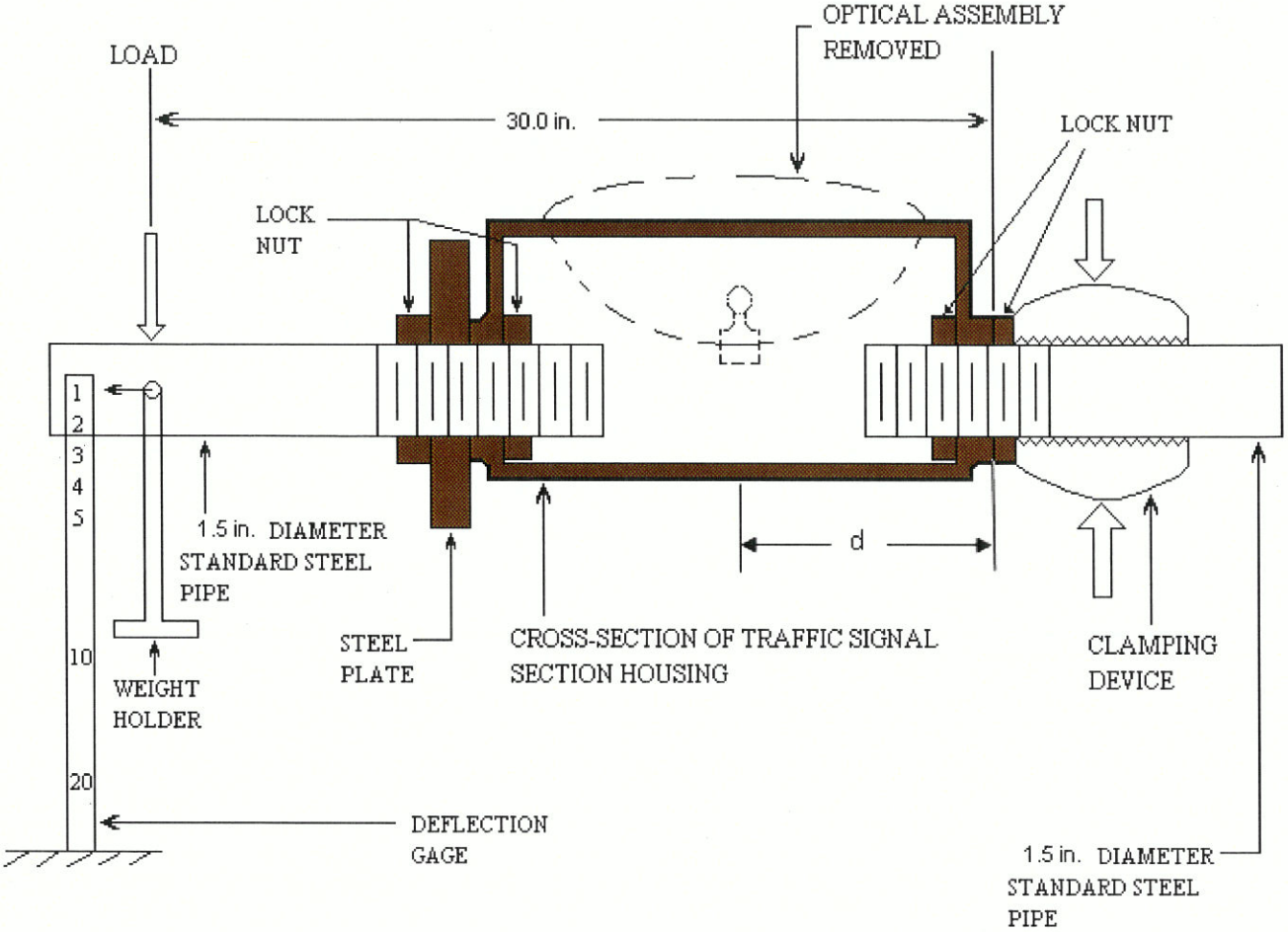

FIGURE 1. Side View