STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
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METHOD OF TEST FOR CALIBRATION OF CALIFORNIA PORTABLE SKID TESTER

A. SCOPE

This test method describes the procedure for the direct calibration of the California Portable Skid Tester, which is used in California Test 342.

B. REFERENCES

California Test 342 — Surface Skid Resistance with the California Portable Skid Tester

C. APPARATUS

Calibration plate, Grooved metal (Figure 1)

D. CALIBRATION PROCEDURE

1. Position the portable skid tester over the calibration plate.

2. Block up the large front casters and rear caster of the portable skid tester to the same elevation as the test plate surface. Ready the portable skid tester for testing per CT 342.

3. Coat the test plate and test tire with glycerine. Several warm up tests are recommended prior to recording data for calibration checks.

   NOTE: Temperatures near 40° F or less will yield low values because the glycerine loses fluidity.

4. Perform calibration test in both directions on the plate using the procedures in accordance with California Test 342. Perform the calibration with the cut (low end) first. The diagram (Figure 2) defines with and against the cut. Recoat the plate and tire with glycerine before each test. Values desired with the cut vary depending upon the plate used. The friction factor of Plate No.1 is 0.27, Plate No. 2 is 0.30 and Plate No. 3 is 0.32. The desired reading against the cut (high end) is 0.42 for all plates. The tolerance for all measurements is $\pm$ 0.02.

5. After completing the calibration, thoroughly wash the standard plate with warm water, (and, if available, dish washing soap) dry the plate and replace face down in the box. Light lubrication of the plate with WD-40 or LPS-1 will help prevent corrosion.

D. ADJUSTMENT PROCEDURE

1. Adjustments of approximately ± 0.02 can be made in the tension of the small coil springs.

2. Large adjustments may be corrected by adding or removing wheel weights.

3. If wheel weights are necessary, maintain a centrifugal balance by applying equal masses across the axle. Do not loosen more than one bolt at a time while changing weights.

   NOTE: Before making large adjustments, investigate the following common sources of problems: dirty vertical support rod; dirty sliding gauge indicators; speedometer error; improper tire pressure, 25 psi ± 2 psi; cold glycerine and corroded carriage bearings. Speedometer errors can also lead to large adjustments, but require that the portable skid tester be taken out of service for repair and/or calibration.

E. HEALTH AND SAFETY

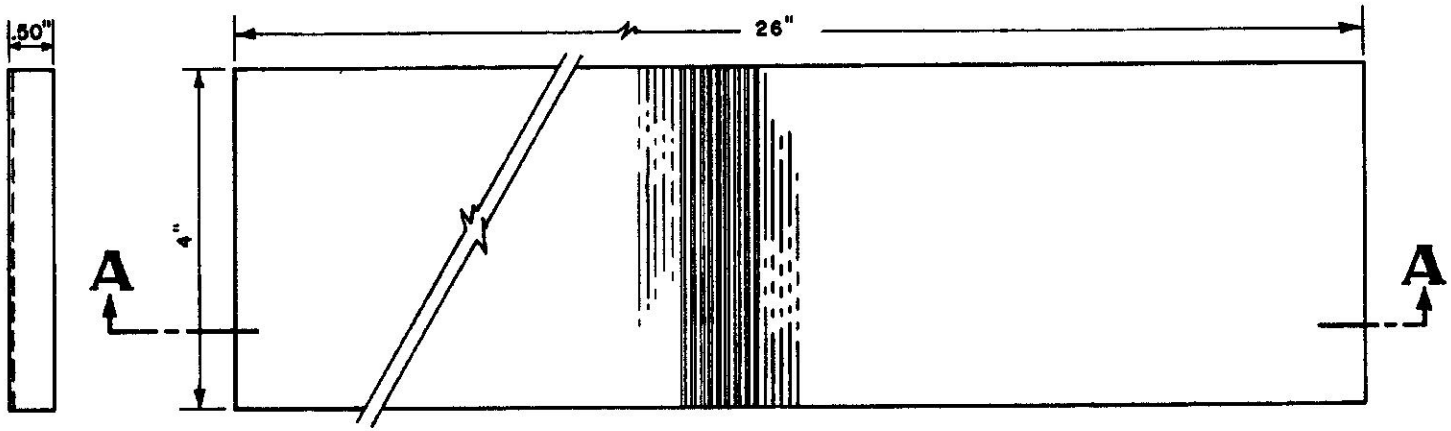
It is the responsibility of the user of this test method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Prior to handling, testing or disposing of any materials, testers must be knowledgeable about safe laboratory practices,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

Caltrans Laboratory Safety Manual is available at:

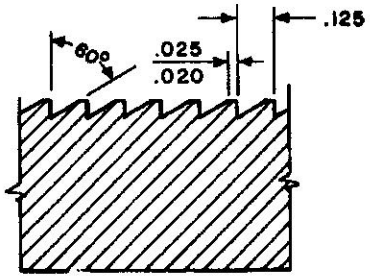
http://www.dot.ca.gov/hq/esc/ctms/pdf/lab_safety_manual.pdf

End of Text
(California Test 114 contains 4 pages)

REVISED 14 Aug 68 RAC
CHANGED LENGTH & MATL



60° MILL CUT
CONTINUOUS THIS SIDE
(SEE DETAIL)



SECTION A-A

MILL CUT DETAIL
SCALE - TWICE SIZE

NOTE: 1. MATL. - AIR HARDENING. PRECISION GRND. TOOL STL. - AISI - A2
2. HEAT TREAT - 55 - 59 R/C WITHOUT DISTORTION.
3. FINISH - REMOVE ALL BURRS BUT LEAVE ALL TOOTH EDGES SHARP.

SKID RESISTANCE STANDARD TEST SURFACES

SCALE - HALF & NOTED

FIGURE 1

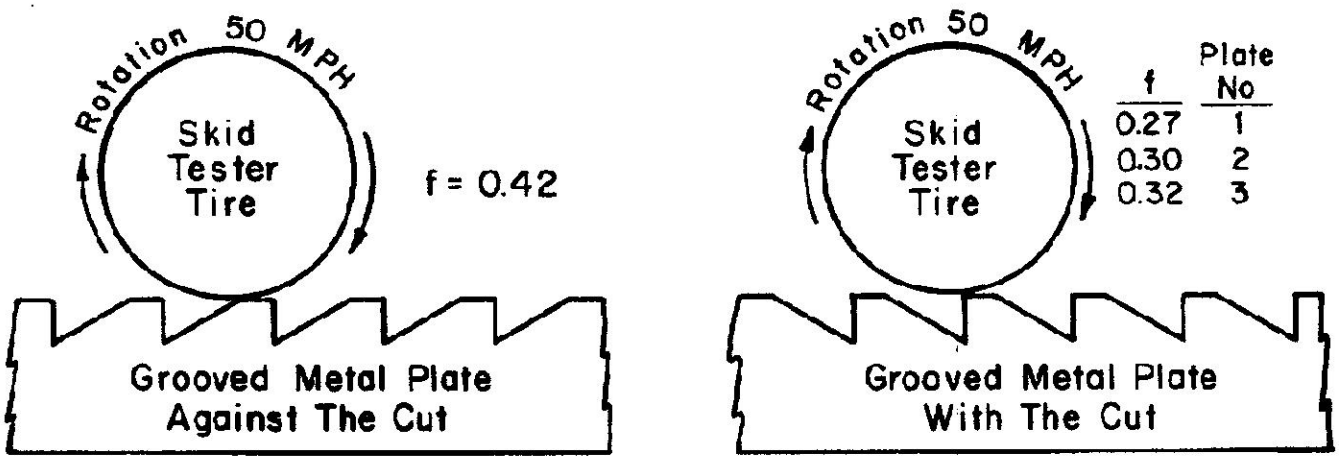

Rotation 50 MPH
Skid Tester Tire
f = 0.42
Grooved Metal Plate Against The Cut
Rotation 50 MPH
Skid Tester Tire
f
Plate No
0.27 1
0.30 2
0.32 3
Grooved Metal Plate With The Cut

Figure 2