

DEPARTMENT OF TRANSPORTATION
ENGINEERING SERVICE CENTER
 Transportation Laboratory
 5900 Folsom Blvd
 Sacramento, California 95819-4612



METHOD FOR CALIBRATION OF CALIFORNIA PORTABLE SKID TESTER

CAUTION: Prior to handling test materials, performing equipment setups, and/or conducting this method, testers are required to read "**SAFETY AND HEALTH**" in Section E of this method. It is the responsibility of the user of this method to consult and use departmental safety and health practices and determine the applicability of regulatory limitations before any testing is performed.

A. SCOPE

The Procedure for the direct calibration of the California Portable Skid Tester, which is used in California Test 342, is described in this method.

B. APPARATUS

1. Calibration plate, Grooved metal (Figure 1)
2. Holding plate (Figure 2)

C. CALIBRATION PROCEDURE

1. Anchor the holding plate with hardened nails on a level surface such as an AC driveway.
2. Position the tester over the calibration plate.
3. Block up the large front casters of the tester to the same elevation as the test plate surface.
4. Coat the test plate and test tire with glycerine.

Note: Temperatures near 4.4° C or less will yield low values because the glycerine loses fluidity.

5. Perform test in both directions on the plate using the procedures outlined in California Test 342. Recoat the plate and tire with glycerine before each test. The desired reading against the cut is $0.42 \pm .02$ for all plates. Values desired with the cut vary depending upon the plate used. The friction factor of Plate No.1 (Districts 07 and 11) is 0.27, Plate No. 2 (District 04 and the Transportation Laboratory) is 0.30 and Plate No. 3 (Branch Laboratory in Los Angeles) is

0.32. The diagram (Figure 1a) defines with and against the cut.

6. After completing the tester calibration, thoroughly wash the standard plate with warm water and detergent, dry the plate and replace face down in the box.

D. ADJUSTMENT PROCEDURE

1. Adjustments can be made in the tension of the small coil springs.
2. Large discrepancies 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, 1.73 kPa (25 psi \pm 2 psi); cold glycerine and corroded carriage bearings.

E. SAFETY AND HEALTH

Testers are required to wear face protection due to the presence of glycerin mist, and also to read Chapter 12.15 (Face and Eye Protection) and Chapter 15 (Respiratory Protection) of Caltrans Employee Safety Manual.

REFERENCES

California Test 342
End of Text (4 pages) on Calif. 114

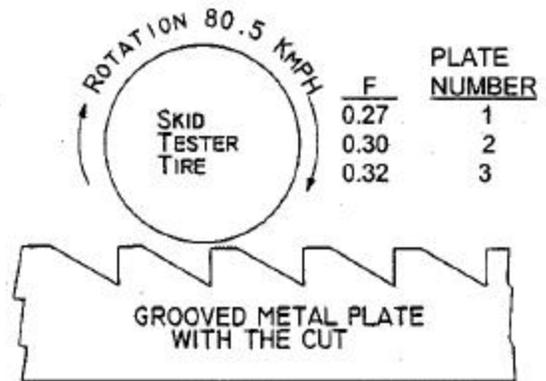
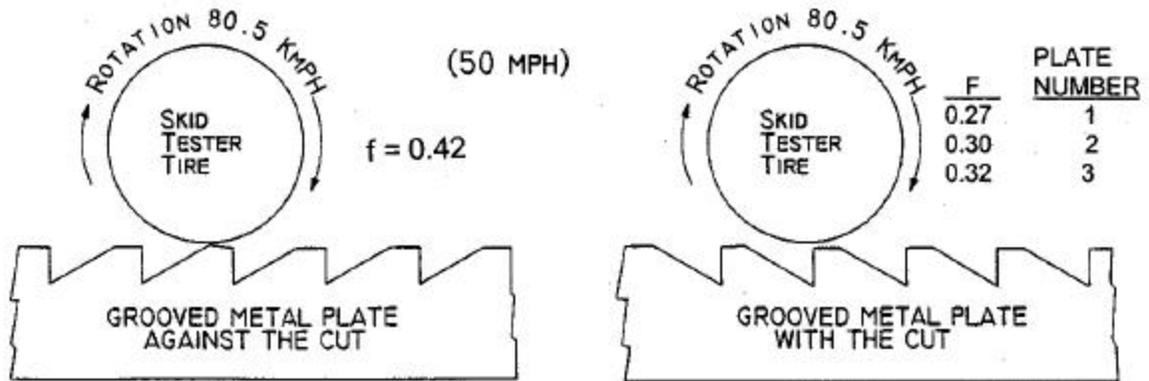
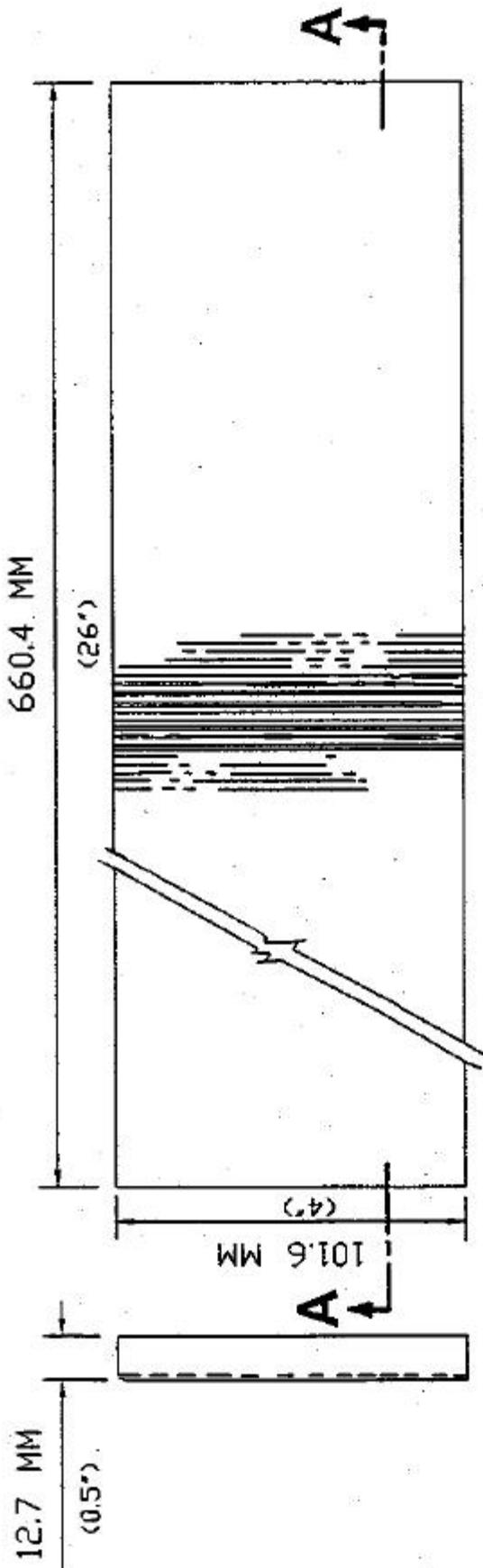
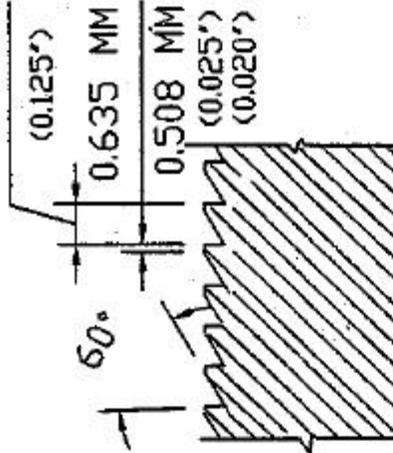


Figure 1a



60° MILL CUT
CONTINUOUS THIS SIDE
(SEE DETAIL) A

3.175 MM



NOTES: 1. MATL. - AIR HARDENING PRECISION GRND

TOOL STL. - AISI - A2

2. HEAT TREAT - 55 - 59 R/C WITHOUT
DISTORTION

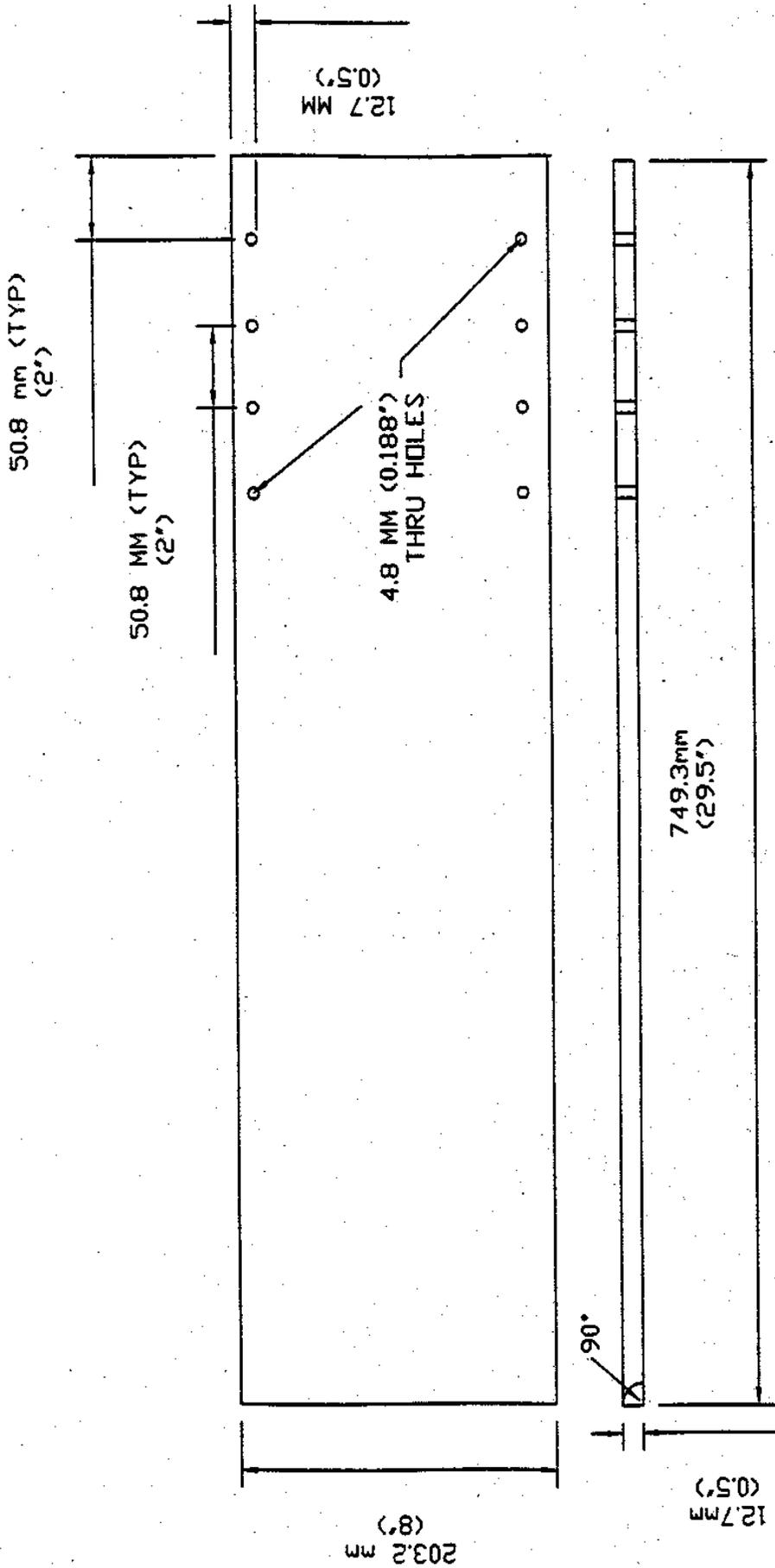
3. FINISH - REMOVE ALL BURRS BUT LEAVE
ALL TOOTH EDGES SHARP.

SKID RESISTANCE STANDARD TEST SURFACES

SCALE - HALF & NOTED

SECTION A-A
MILL CUT DETAIL
SCALE - TWICE SIZE

FIGURE 1



NOTE: MATERIALS - 17 GAUGE,
GALVANIZED METAL

**HOLDING PLATE FOR
SKID RESISTANCE
STANDARD TEST SURFACES**

SCALE 1:4 (1/4" = 1")

FIGURE 2