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U.S. Department of Transportation
Federal Highway Administration

400 Seventh St., S.W.
Washington, D.C. 20590

MAR 14 1988

REFER TO:
HNG-14

Ray C. Minor, P. E.
Manager of Engineering
Hapco Division
P.O. Box 547
Abingdon, Virginia 24210

Dear Mr. Minor:

This is in response to your February 20 letter to Mr. Thomas O. Willett requesting the Federal Highway Administration (FHWA) acceptance of your company's number 69338-002 Cast Aluminum Transformer Base and your number 67238 Impact Safety Coupling. Submitted with your letter was a report by the Southwest Research Institute, "Pendulum Test Report of Lighting Support Pole Tests H-1, H-2, and H-3."

The information provided for the transformer base is insufficient to document its design. We will need complete dimensional details for the tested base before we can complete our review. Therefore, we will suspend our review of the transformer base until this information is submitted.

Four Impact Safety Couplings mounted under a 556-pound aluminum luminaire support system with a 15-foot mast arm and a 54-foot mounting height were tested at 20 m.p.h. Impact was with an 1,800-pound pendulum with a crushable nose simulating the front end of a mini-compact automobile (test H-3). The change in velocity was 5.0 feet-per-second. The calculated velocity change for a 60 m.p.h. test was 9.6 feet-per-second. The coupling is shown on the enclosed Drawing Number B 67238 "Impact Safety Coupling."

This information shows that the actual test and calculated changes in vehicle velocity and pole stub height for the Impact Safety Coupling meet the provisions of Section 7 of the 1985 American Association of State Highway and Transportation Officials "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals."

Therefore, the tested Impact Safety Coupling No. 67238 will be acceptable for use on Federal-aid projects, within the range of conditions tested, if proposed by a State. One of the test conditions was that the test pole was 10 inches in diameter and had a 1/4-inch wall thickness. Our acceptance does not extend to poles with greater base diameters or thinner walls.

This acceptance is limited to breakaway characteristics of the couplings and does not cover their structural features. Presumably, you will supply potential users with sufficient information on structural design and installation requirements to ensure proper base performance. We anticipate that the States will require certification from Hapco that couplings furnished

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CONT

have essentially the same chemistry, mechanical properties, and geometry as those used in the tests and that poles mounted on the couplings will meet the FHWA breakaway requirements.

Sincerely yours,

L. A. Staron

L. A. Staron
Federal-Aid and Design Division

Enclosure

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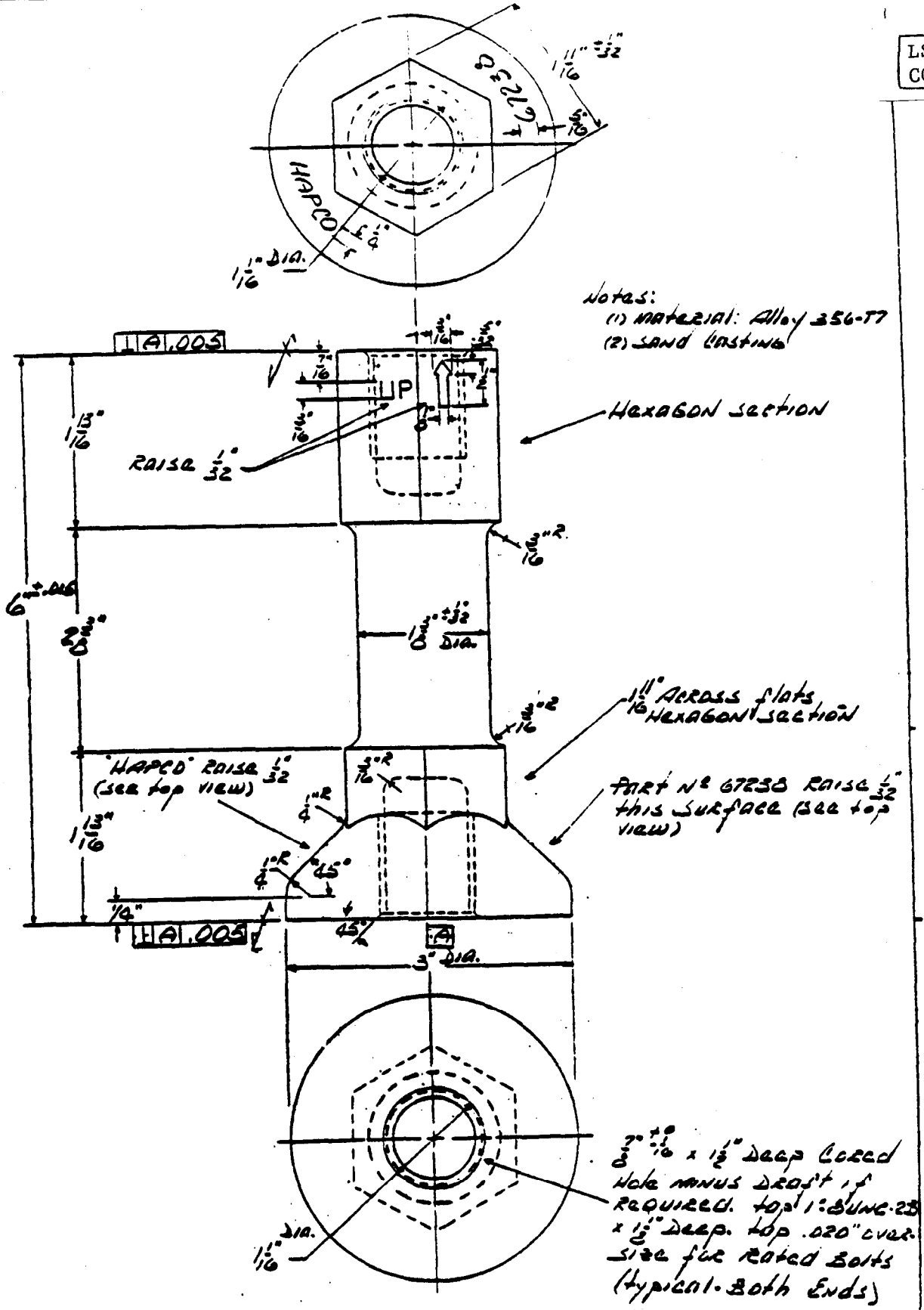
CONT



NO.	REVISIONS	DATE

WARNING: Do Not Install Lighting Poles without Luminaires

hapco

TITLE	Impact Safety Coupling
CUSTOMER	
SCALE Full	DATE 1.22.85
BY L.W.	DWG. NO.
CHK'D	867238