



U.S. Department
of Transportation

Federal Highway
Administration

AUG 30 1995

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

Refer to: HNG-14

Mr. C. Richard Briden
Engineering Manager
P&K Pole Products
84 Foundry Street
Newark, New Jersey 07105

Dear Mr. Briden:

Thank you for your April 25 letter requesting Federal Highway Administration's (FHWA) acceptance of your company's aluminum breakaway bases. Your letter was accompanied by seven test reports by the Southwest Research Institute dated February or March 1995, and video documentation on each test. Additional information was submitted on June 12 and August 8 in response to our requests.

Pendulum testing was conducted to assess the breakaway performance of the bases. Requirements for breakaway supports are found in the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. Testing guidelines are found in the National Cooperative Highway Research Program Report 350, "Recommended Procedures for the Safety Performance Evaluation of Highway Features." Both have been adopted by the FHWA.

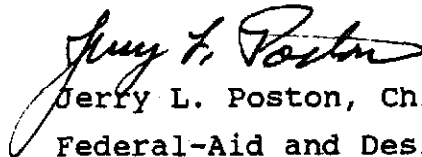
You requested individual acceptance letters for each base. This letter is for the hardware tested in PK-107, dated February 1995. A summary of the test data is shown below, and drawings of the cast aluminum transformer base are enclosed.

Test Number	PK-107
Support Pole Wall Thickness, mm (in)	Aluminum Shaft 6.35 (0.250)
Base Designation P&K Drawing No.	TB-2A Transformer Base G-80292
Bolt Circle Diameter, mm (in) Test Article Mass, kg (wt, lbs)	381 (15) 248 (548)
Mounting Height, m (ft) Vehicle Mass, kg (weight, lbs)	15.9 (52.2) 820 (1808)
Test Speed, km/h (mph)	35.28 (21.9)
Occupant Imp. Speed m/s (fps) Estimated 100 km/h Occup. Imp. Speed	2.1 (6.9) (@0.50 sec) 3.1 (10.1)
Stub Height, mm (in)	38 (1.5)

The results of this test and the high-speed extrapolation meet the change in velocity and stub height requirements adopted by AASHTO and the FHWA. Therefore, the tested aluminum breakaway base described above is acceptable for use on Federal-aid highway projects, within the range of conditions tested, if proposed by a State.

Our acceptance is limited to the breakaway characteristics of the system and does not cover its structural features. Presumably, you will supply potential users with sufficient information on structural design and installation requirements to ensure proper performance. We anticipate that the States will require certification from P&K Pole Products that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as those used in the tests, and that they will meet the FHWA change in velocity requirements.

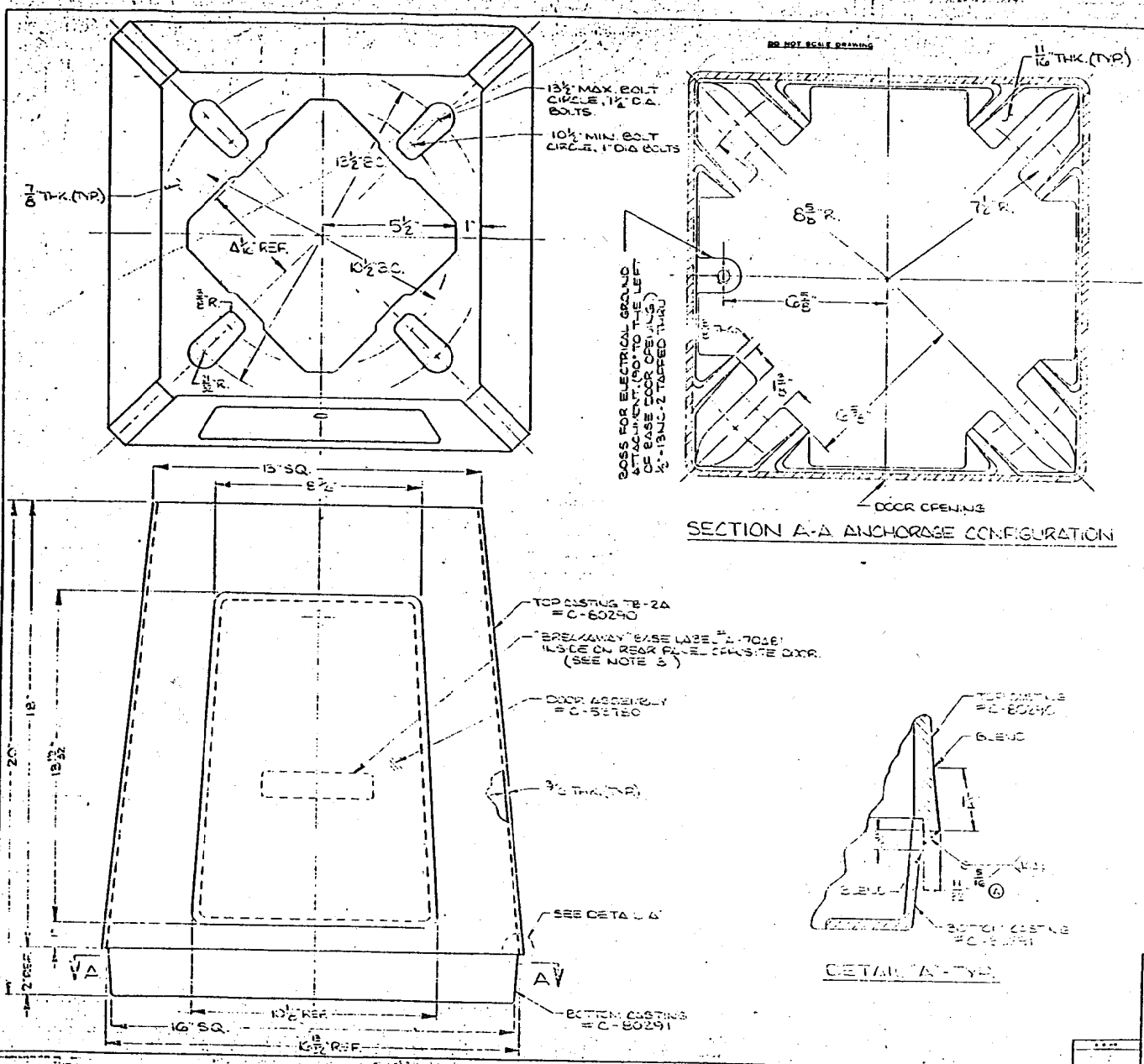
Sincerely yours,



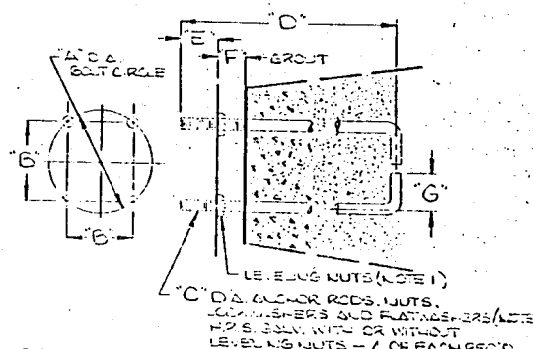
Jerry L. Poston, Chief
Federal-Aid and Design Division

Enclosure

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BOLT CIRCLE	A	B	C	D	E	F	G
MINIMUM	15	10 5/8	1	36	2 1/2	2	4
MAXIMUM	17 1/2	12 1/2	1 1/4	48	3	2 1/2	6



- NOTES:
1. LEVELING NUTS ARE RECOMMENDED BUT OPTIONAL.
 2. RODS ARE SPECIAL FLATWASHERS 2" O.D. X 1/2" THK.
 3. APPLY BREAKAWAY LABEL AS SHOWN.
 4. HEAT TREAT 1) TO TG TEMPER. AFTER WELDING.

BREAKAWAY LABEL		PAK POLE PRODUCTS	
A-BE-04-A-10		84 Foundry St., Newark, N.J.	
PER ONE		TYPE TB-2A	
TG SEE NOTE 4		TRANSFORMER	
REV	DATE	BY	CHK

Figure 2. Manufacturer's Drawing of Test Article (Continued)

