



U.S. Department
of Transportation
**Federal Highway
Administration**

1200 New Jersey Ave., S.E.
Washington, DC 20590

December 6, 2007

In Reply Refer To:
HSSD/WZ-263

Mr. Gerry Applebaum
JBC Safety Plastic Inc.
12245 Florence Avenue
Santa Fe Springs, CA 90670

Dear Mr. Applebaum:

In your November 9, 2007 letter you requested the Federal Highway Administration's (FHWA) acceptance of your company's retractable Cone-Bar delineation system as a crashworthy traffic control device for use in work zones on the National Highway System (NHS). Accompanying your letter was a video of the crash tests conducted and drawings of the Cone-Bars. You requested that we find these devices acceptable for use on the NHS under the provisions of the National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

The FHWA guidance on crash testing of work zone traffic control devices is contained in two memoranda. The first, dated July 25, 1997, titled "INFORMATION: Identifying Acceptable Highway Safety Features," established four categories of work zone devices: Category I devices were those lightweight devices which could be self-certified by the vendor, Category II devices were other lightweight devices which needed individual crash testing, Category III devices were barriers and other fixed or massive devices also needing crash testing, and Category IV devices were trailer mounted lighted signs, arrow panels, etc. The second guidance memorandum was issued on August 28, 1998, and is titled "INFORMATION: Crash Tested Work Zone Traffic Control Devices." This later memorandum lists devices that are acceptable under Categories I, II, and III.

The retractable Cone-Bar delineation system uses two cones and a retractable bar that comes in two lengths; one that adjusts from 3.8 feet to 6 feet (1.16 m to 1.83 m) and another that adjusts from 6 feet to 10 feet (1.83 m to 3 m). Since the Cone-Bar is loosely attached to the cones and provides some delineation between the cones up to a crash tested height of 33 inches (0.84 m), the device may be considered a Category II device. The Cone-Bar is made from commercial grade ABS plastic, has a diameter of 1.5 inches (39.6 mm) and weighs 1.35 pounds (0.61 kg). The rings at each end of the Cone-Bar provide the connection when set onto the top of the cones. Detailed drawings of the two lengths of Cone-Bars are enclosed.

In coordination with the FHWA you conducted two informal crash tests to verify the impact performance of your device at impact speeds of 45 mph (72 km/h) and 62 mph (99.8 km/h) using a 1991 Ford Ranger pickup truck. The vehicle speed at impact was verified by an off-duty police officer that is trained and certified in the use of radar speed detection equipment. Each crash test impacted a pair of the longer sized Cone-Bars placed at a height of 33 inches (0.84 m) and set onto 36 inch (0.91 m) tall cones. For each test, the first device was oriented across the path of the oncoming test vehicle and the second device was placed 20 feet (6 m) downstream of the first device and rotated 90 degrees. Each impact resulted in the Cone-Bar separating from the cones and subsequently was swept to the side of the impacting vehicle while showing very little potential to penetrate the occupant compartment. After each impact the Cone-Bars and cones were slightly damaged but could be reused.

Based on the information submitted we agree that the Cone-Bar delineation system as described above meets the appropriate evaluation criteria for NCHRP 350 Test Level 3 devices, and is accepted for use on the NHS when selected by a contracting authority, subject to the provisions of Title 23, Code of Federal Regulations, Section 635.411 as they pertain to proprietary devices. The height of the Cone-Bar is limited to 33 inches (0.84 m) when placed onto cones.

Please note the following standard provisions that apply to the FHWA letters of acceptance:

- This acceptance is limited to the crashworthiness characteristics of the devices and does not cover their structural features, nor conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may adversely influence the crashworthiness of the device will require a new acceptance letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals unacceptable safety problems, or that the device being marketed is significantly different from the version that was crash tested, it reserves the right to modify or revoke its acceptance.
- You will be expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.

You will be expected to certify to potential users that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that submitted for acceptance, and that they will meet the crashworthiness requirements of the FHWA and the NCHRP Report 350.

To prevent misunderstanding by others, this letter of acceptance, designated as number WZ-263 shall not be reproduced except in full. This letter, and the test documentation upon which this letter is based, is public information. All such letters and documentation may be reviewed at our office upon request.

- The JBC Retractable Cone-Bar is a patented product and considered proprietary. If proprietary devices are specified by a highway agency for use on Federal-aid projects, except exempt, non-NHS projects, they: (a) must be supplied through competitive bidding with equally suitable unpatented items; (b) the highway agency must certify that they are essential for synchronization with the existing highway facilities or that no equally suitable alternative

exists; or (c) they must be used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411.

- This acceptance letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented device for which the applicant is not the patent holder. The acceptance letter is limited to the crashworthiness characteristics of the candidate device, and the FHWA is neither prepared nor required to become involved in issues concerning patent law. Patent issues, if any, are to be resolved by the applicant.

Sincerely yours,



George E. Rice, Jr.
Acting Director, Office of Safety Design
Office of Safety

Enclosures

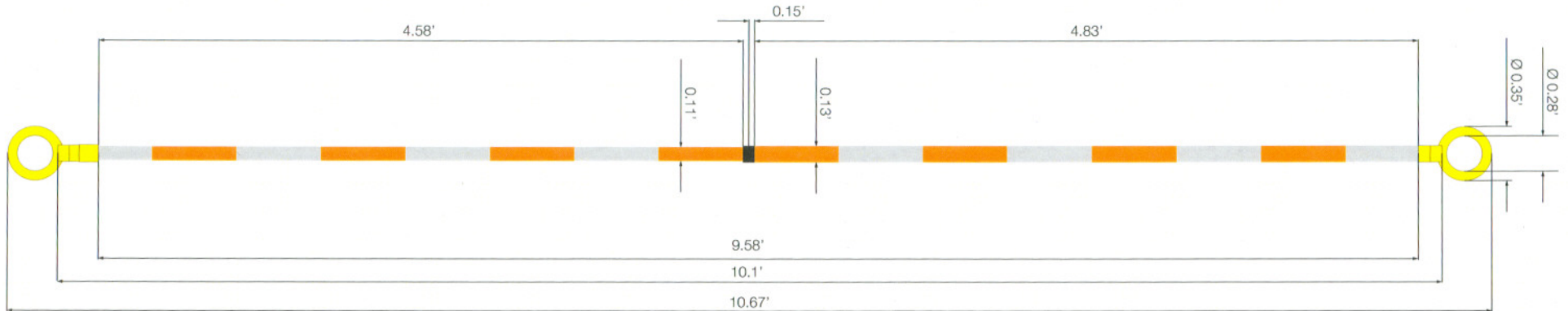
~~FHWA:HSSD:MLupes.tb.x66994.11/30/07~~

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~~cc: HSSD (Reader, HAS: Chron File, HSSD: M.Lupes, HSSD
M.Bloschock, HSSD, M.McDonough, HSSD)~~



JBC Retractable Cone-Bar Specification



1. Expanded Length



1. Original Length

All measurements in Feet'

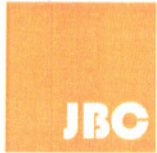
Total length(Before Expansion) : 6'

Total length(Expanded): 10.67'

Cone-Bar ring diameter: 0.28'

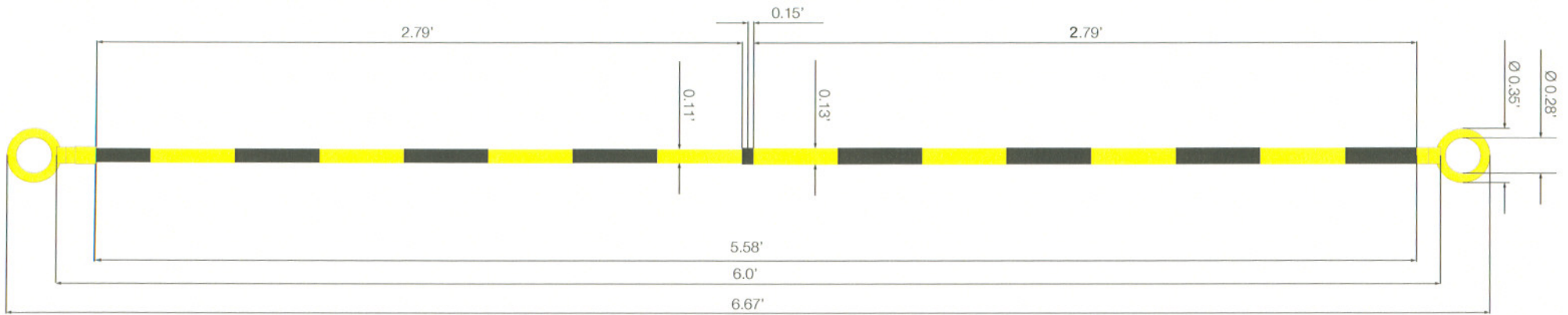
Net weight: 1.35lbs(including EG Tape)

Package: 20pcs / Carton

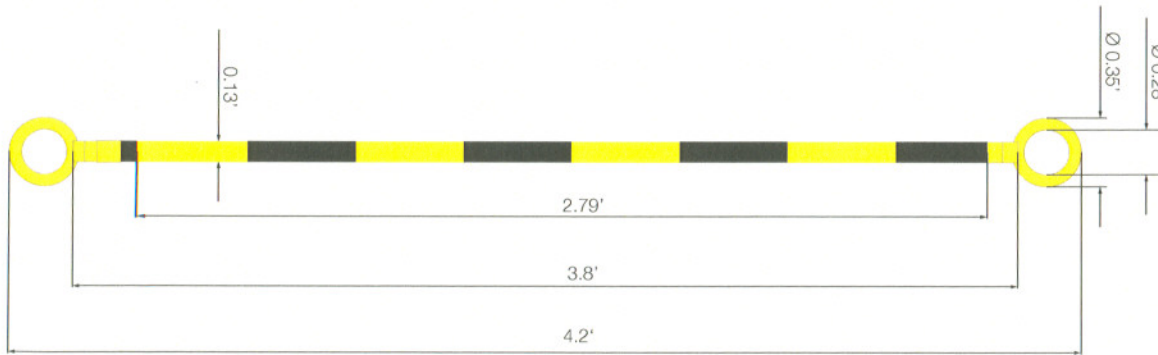


working together

JBC Retractable Cone-Bar Specification



1. Expanded Length



1. Original Length

All measurements in Feet'

Total length(Before Expansion) : 3.8'

Total length(Expanded): 6.67'

Cone-Bar ring diameter: 0.28'

Net weight: 1.35lbs(including EG Tape)

Package: 20pcs / Carton