



Delta Scientific Corporation  
40355 Delta Lane  
Palmdale, CA 93551  
Attention: Mr. David Dickinson

Date: 12/10/15

Mr. Dickinson,

Based upon the test performed on December 3, 2015 at KARCO Engineering, LLC., the as-tested configuration of the Delta Scientific HD2055 has received an impact rating of P1 at the M50 test level, based on the ASTM F 2656-07 standard test method. This test evaluated the HD2055 for an impact to the center wedge barrier unit.

The M50 test level of the ASTM F 2656-07 is evaluated using a 6,800 kg test vehicle traveling at a nominal velocity of 80 km/h. The P1 penetration rating is given when penetration beyond the protected side of the barrier is less than 1.0 m at the lower leading edge of the test vehicle's cargo bed. Penetration was measured from the vertical plane created by the back (non-impacted) side of the wedge barrier where the blocking member meets the roadway level.

The HD2055 completely disabled the test vehicle, causing severe damage to the engine, drivetrain, and occupant compartment. The engine and transmission was pushed downward and separated from the vehicle. The driveshaft was also broken and the vehicle was rendered inoperable. The maximum penetration recorded was -0.6 m measured on the passenger side of the vehicle.

Upon impact, the Delta Scientific HD2055 center unit top plate assembly bent downward. The six (6) chain hangers and three (3) chains remained intact on all three units. The two outer units experienced damage to front face plate and side panels.

Complete information relating to the test can be found in report number TR-P35137-01-NC and CD serial number 2015-3665 from KARCO Engineering, LLC., including test conditions, test vehicle information, test article specifications, manufacturer drawings and any deviations from the drawings in the as-tested configuration. This letter should not be considered complete documentation of this test without consideration of the test report and deliverable CD.

Sincerely yours,

A handwritten signature in black ink that reads "Frank D. Richardson".

Frank D. Richardson  
President  
KARCO Engineering, LLC.