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U.S. ARMY ABERDEEN TEST CENTER
ABERDEEN PROVING GROUND, MARYLAND 21005-5059
TEST RECORD

ATEC Project No.: 2007-DT-ATC-AFSPT-D2979
Test Type and Title: Armored Vehicle Roll-Over
Test

121 MAY 2007
Dates of Test: 13 November 2006
through 1 March 2007

Authority: ATEC Decision Support
System 14 September 2006

Test Record No.: AD-V-25-07

TEST ITEM

One Ballistic Engineered Armored Response Counter Attack Truck (BearCat), vehicle identification number (VIN) 1FDA57P76EC11173, was provided by Lenco Industries of Pittsfield, Massachusetts, for testing at the U.S. Army Aberdeen Test Center (ATC), Aberdeen Proving Ground (APG), Maryland.

The Lenco BearCat is an armored personnel carrier constructed on a commercially available Ford Motor Company F-550 Chassis with modifications by Lenco Industries providing seating capacity for ten passengers. Modifications include a shortened wheelbase, a one-piece armor hull constructed of 1.27 centimeter (cm) (0.5 inches (in.)) thick high-hard certified ballistic steel, ballistic glass, nine gunports and a myriad of other available options. The U.S. Air Force Space Command, Directorate of Security Forces, intends to utilize the BearCat as a standardized security vehicle at Peterson Air Force Base, Colorado, in replacement of their current High Mobility Multi-purpose Wheeled Vehicle (HMMWV) fleet.

SUPPORTING FACILITIES AND INSTRUMENTATION

a. Facilities

- (1) ATC Engineering Test Facility (Building 436)
- (2) ATC Tilt Table
- (3) ATC Munson Test Area (MTA)
- (4) ATC Perryman Test Area (PTA)
- (5) ATC Churchville Test Area (CTA)
- (6) Philips Army Airfield (PAAF)

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TABLE 9. AVERAGE MAXIMUM EFFORT BRAKE STOP RESULTS OF THE BEARCAT AT GCW, PAVED SURFACE

Speed at Brake Apply		Normalized Measurement			
		Stopping Distance		Deceleration	
kph	mph	m	ft	m/sec ²	ft/sec ²
32	20	8.2	27.1	4.9	16.0
48	30	15.5	50.7	5.8	19.1
64	40	29.6	97.1	5.4	17.7
80	50	43.7	143.3	5.7	18.8
97	60	70.1	229.9	5.2	17.0
113	70	102.0	334.8	4.8	15.8

(2) Secondary Road. Additional brake testing was conducted at PTA "A" course, an improved secondary road, in order to assess the braking ability and vehicle stability while operating on secondary roads. The braking capabilities of the BearCat were determined by measuring the distance required to stop from road speeds of 32 kph (20 mph) to a maximum speed of 56 kph (35 mph) using maximum pedal effort to apply the service brakes. The results of the secondary road brake testing are presented in Table 10.

TABLE 10. AVERAGE MAXIMUM EFFORT BRAKE STOP RESULTS OF THE BEARCAT AT GCW, SECONDARY ROAD

Speed at Brake Apply		Normalized Measurement			
		Stopping Distance		Deceleration	
kph	mph	m	ft	m/sec ²	ft/sec ²
32	20	8.2	27.1	4.9	16.0
48	30	15.5	50.7	5.8	19.1
56	35	25.2	82.7	4.9	15.9

I. Steering and Handling. TOP 2-2-609, Steering, was used as a general guide for determining the steering and handling characteristics of the BearCat.

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Enclosure 2

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