

# Detroit Testing Laboratory, Inc.



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REPORT NUMBER	CLIENT'S ORDER	DATE REC'D.	REPORT DATE
207210-I(A)	Verbal	July 12, 1982	July 21, 1982

REPORT FOR

ELECTRIC AUTO CORPORATION OF AMERICA  
29200 Southfield Road  
Southfield, MI 48076

Attn: John Shea, President

SUBJECT:

Report of test trip from Detroit to Chicago in Silver Volt Electric Car.

DESCRIPTION OF VEHICLE:

Silver Volt Model 105 Four Door Sedan with standard equipment fast charge batteries and auxiliary gasoline engine power unit.

PROCEDURE:

The test trip was started at the Kar Craft facility, 10611 Haggerty in Dearborn. It was driven through traffic to I 94 freeway on electric power only. On the freeway, the auxiliary power unit (APU) was turned on. The car was driven at approximately 50 MPH to Kalamazoo using the electric and auxiliary gasoline power.

While cruising at approximately 50 MPH on the freeway, checks were made periodically for speed, battery charge condition, volts and amperes and ambient temperature. Odometer readings were taken at freeway marker mile posts for 44 miles to obtain an odometer correction. It was found that the odometer shows 3.3% less miles than actually traveled. This correction was used for accurate trip mileage.

At the beginning of city traffic driving in Kalamazoo, the APU was shut off, continuing on electric only, to the stadium where the recharging was done. At this time, the gasoline tank was refilled taking 4.82 gallons by volume.\*

\* The gasoline to fill the tank was measured by volume without correction for temperature. It is not an exact laboratory figure.

Continued on page 2.

PROCEDURE CONTINUED:


After checking the battery temperatures and specific gravities, the Silver Volt was put on the charging unit at 200 amps at 10:07 P.M. It was charged for approximately two hours. At the end of the two hours the batteries were charged to full capacity as indicated on page 4. From this data on page 4 it can be seen that the batteries were not completely charged at the start of the test run. In our report # 007020-I, dated September 5, 1980, it was shown that an 80% charge was obtained in approximately 50 minutes with a starting current of 275 amperes. Only 200 amps were available at the Kalamazoo stop.

After the data was taken, the trip was continued on to Chicago under the same conditions as in the first leg of the trip, to the point where the APU fuel was used up on I 94 a few miles past the Chicago Loop area.

After refueling, we continued onto the finish at the Holiday Dan Inn in Skokie, Illinois, north of Chicago. Battery specific gravities were again taken here. Ambient temperatures on the trip were from 82<sup>o</sup>F to 62<sup>o</sup>F. Wind, South 7 MPH. The trip length was 301.55 miles. The driver was Bob Manion, Vice President, Engineering, Electric Auto Corporation of America. Passengers were Sir Jon Samuel, Chairman, Electric Auto Corporation (Bahamas) Ltd and Les Viland, Test Engineer, Detroit Testing Laboratory, Inc. The test was run on the night of July 13, 1982.

DETROIT TESTING LABORATORY, INC.

  
Les Viland,  
Test Engineer

  
William E. Kocsis, Manager  
Vibration, Shock & Electronics Testing

LV/WEK/dtm

TEST RESULTS:

First Leg - Detroit to Kalamazoo

Start	. . . 6:52 P.M.
Finish	. . . 9:42 P.M.
Elapsed Time	. . . 2.83 Hours
Miles Traveled	. . . 132.99
Average MPH	. . . 47.0 MPH
Freeway Average MPH	. . . 49.1 MPH
Fuel used in APU	. . . 4.82 gallons (by volume)
APU Miles per gallon	. . . 27.51 MPG

Second Leg - Kalamazoo through Chicago to Skokie, Illinois

Start	. . . 12:23 A.M.
Finish	. . . 4.09 A.M.
Elapsed Time	. . . 3 hours, 46 minutes
Driving Time	. . . 3.53 Hours
Miles Traveled	. . . 168.56
Average Speed	. . . 47.8 MPH
Freeway Average	. . . 49.0 MPH

Detroit through Chicago to Skokie, Illinois

Start	. . . 6:52 P.M.
Finish	. . . 4:09 A.M.
Driving Time	. . . 6 hours, 22 minutes (6.37 Hours)
Miles Traveled	. . . 301.55
Average Speed	. . . 47.3 MPH
Freeway Average Speed	. . . 49.1 MPH

TEST RESULTS CONTINUED:

BEFORE START - DETROIT:

Specific Gravity	RF	RR	LR	LF	1RF	1RR	7	8
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>		
	1280	1260	1280	1250	1285	1280		

KALAMAZOO - BEFORE CHARGE:

Specific Gravity	1130	1110	1150	1090	1125	1150		
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KALAMAZOO - AFTER CHARGE:

Specific Gravity	1275	1270	1300	1275	-	1290		
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AFTER FINISH - SKOKIE, ILLINOIS:

Specific Gravity	1090	1080	1110	1070	1110	1110	1080	1080
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