



4. PERFORMANCE

4-I. TEST OBJECTIVE

The objective of this test is to determine the acceleration, gradeability, and top speed capabilities of the bus.

4-II. TEST DESCRIPTION

In this test, the bus will be operated at SLW on the skid pad at the PSBRTF. The bus will be accelerated at full throttle from a standstill to a maximum "geared" or "safe" speed as determined by the test driver. The vehicle speed is measured using a Correvit non-contacting speed sensor. The times to reach speed between ten mile per hour increments are measured and recorded using a stopwatch with a lap timer. The time to speed data will be recorded on the Performance Data Form and later used to generate a speed vs. time plot and gradeability calculations.

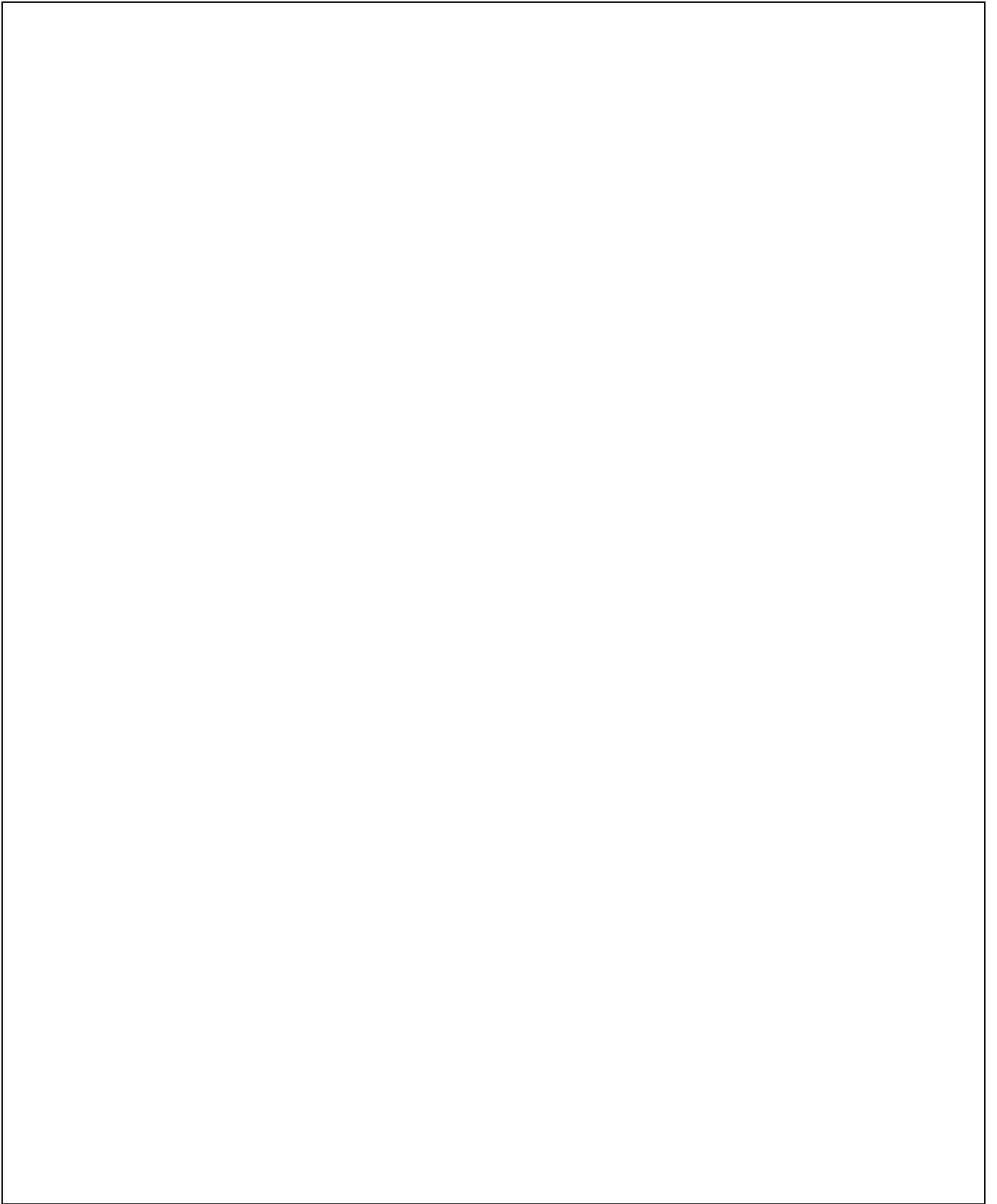
4-III. DISCUSSION

This test consists of three runs in both the clockwise and counterclockwise directions on the Test Track. Velocity versus time data is obtained for each run and results are averaged together to minimize any test variability which might be introduced by wind or other external factors. The test was performed up to a maximum speed of 50 mph. The fitted curve of velocity vs. time is attached, followed by the calculated gradeability results. The average time to obtain 50 mph was 20.95 seconds.

PERFORMANCE DATA FORM

Bus Number: 0706	Date: 8-29-07
Personnel: B.S., S.C. & T.S.	
Temperature (°F): 68	Humidity (%): 100
Wind Direction: Calm	Wind Speed (mph): Calm

Barometric Pressure (in.Hg): 30.15			
Air Conditioning compressor-OFF		✓ Checked	
Ventilation fans-ON HIGH		✓ Checked	
Heater pump motor-Off		✓ Checked	
Defroster-OFF		✓ Checked	
Exterior and interior lights-ON		✓ Checked	
Windows and doors-CLOSED		✓ Checked	
ACCELERATION, GRADEABILITY, TOP SPEED			
Counter Clockwise Recorded Interval Times			
Speed	Run 1	Run 2	Run 3
10 mph	2.85	3.20	3.17
20 mph	5.66	5.54	5.29
30 mph	9.16	9.08	9.11
40 mph	13.91	14.45	14.29
Top Test Speed(mph) 50	21.85	21.73	21.39
Clockwise Recorded Interval Times			
Speed	Run 1	Run 2	Run 3
10 mph	3.20	3.01	3.26
20 mph	5.73	5.57	5.82
30 mph	9.11	8.88	8.89
40 mph	13.82	13.85	13.61
Top Test Speed(mph) 50	20.39	20.29	20.07



Velocity vs. Time
Dallas Smith #0706

