LOS ANGELES COUNTY SHERIFF'S DEPARTMENT

LAW ENFORCEMENT VEHICLE TEST AND EVALUATION PROGRAM

VEHICLE MODEL YEAR 2007

LEROY D. BACA, SHERIFF

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2007 MODEL YEAR VEHICLE TEST

On October 24, 25 & 26, 2006, vehicle testing was performed at the Los Angeles County Sheriff's Department's Emergency Vehicle Operation Center in Pomona, California. Daimler Chrysler, General Motors, and Ford all submitted vehicles in the "Police Package" category. Police Package vehicles have been identified by the manufacturers as pursuit vehicles. Ford also submitted a vehicle in the "Special Service" category. Special Service vehicles are not rated as pursuit vehicles. All of the vehicles submitted, either as a police pursuit vehicle, or as a special service vehicle, completed the test satisfactorily, without incident.

Additionally, the Firestone P235/55R17 FIREHAWK GT Pursuit tire was evaluated. The tire was mounted on a 2006 Crown Victoria Police Interceptor with the 3.27 differential. This tire completed the test satisfactorily, without incident.

The vehicles submitted for evaluation were all 2007 model years, and are identified below.

HIGH SPEED POLICE PACKAGE VEHICLE CATEGORY:

Chevrolet Impala:	Full size, 4 door sedan, front wheel drive, 3.9 liter V-6 engine, a 4 Speed automatic transmission with overdrive, and a 3.29 axle ratio.
Chevrolet Tahoe:	Full size, 4 door sport utility, rear wheel drive, 5.3 liter V-8 engine, a 4 speed automatic transmission with overdrive, and a 3.73 axle ratio.
Chevrolet Tahoe E-85:	Full size, 4 door sport utility, rear wheel drive, 5.3 liter V-8 engine, a 4 speed automatic transmission with overdrive, and a 3.73 axle ratio.
Dodge Charger V-6:	Full size, 4 door sedan, rear wheel drive, 3.5 liter V-6 engine, a 5 speed automatic electronic transmission and a 2.87 axle ratio.
Dodge Charger V-8:	Full size, 4 door sedan, rear wheel drive, 5.7 liter V-8 Hemi engine, a 5 speed automatic electronic transmission and a 2.82 axle ratio.
Dodge Magnum V-6:	Full size, 4 door wagon, rear wheel drive, 3.5 liter V-6 engine, a 5 speed automatic electronic transmission and a 2.87 axle ratio.

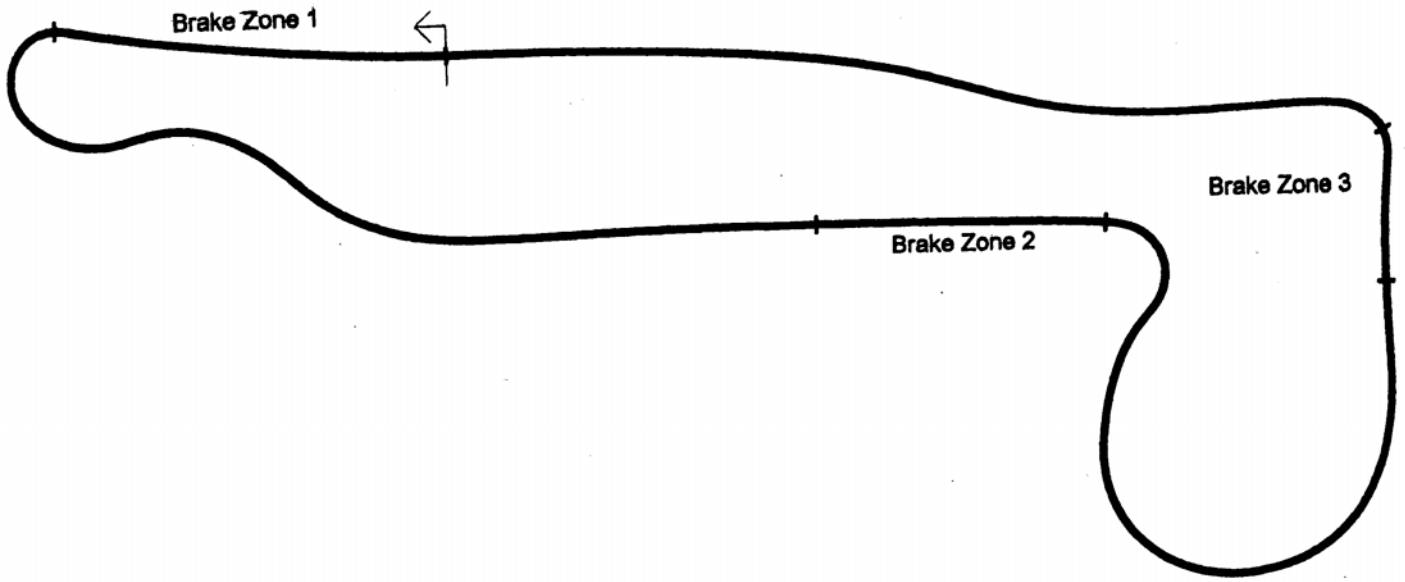
CONTINUED - HIGH SPEED POLICE PACKAGE VEHICLE CATEGORY:

Dodge Magnum V-8:	Full size, 4 door wagon, rear wheel drive, 5.7 liter V-8 Hemi engine, a 5 speed automatic electronic transmission and a 2.82 axle ratio.
Ford CVPI - 3.27:	Full size, 4 door sedan, rear wheel drive, 4.6 Liter V-8 engine, a 4 speed automatic transmission with overdrive, and a 3.27 axle ratio.
Ford CVPI – 3.55:	Full size, 4 door sedan, rear wheel drive, 4.6 Liter V-8 engine, a 4 speed automatic transmission with overdrive, and a 3.55 axle ratio.

SPECIAL SERVICE VEHICLE CATEGORY:

Ford Expedition	Full size, 4 door sport utility, rear wheel drive, 5.4 liter V-8 engine, a 4 speed automatic transmission with overdrive, and a 3.73 axle ratio

HIGH SPEED DRIVING COURSE
TRACK LENGTH 1.57 MILES



HIGH SPEED DRIVING COURSE (1) LAP = 1.57 MILES

CITY STREET PURSUIT COURSE
TWO LAPS 2.45 MILES

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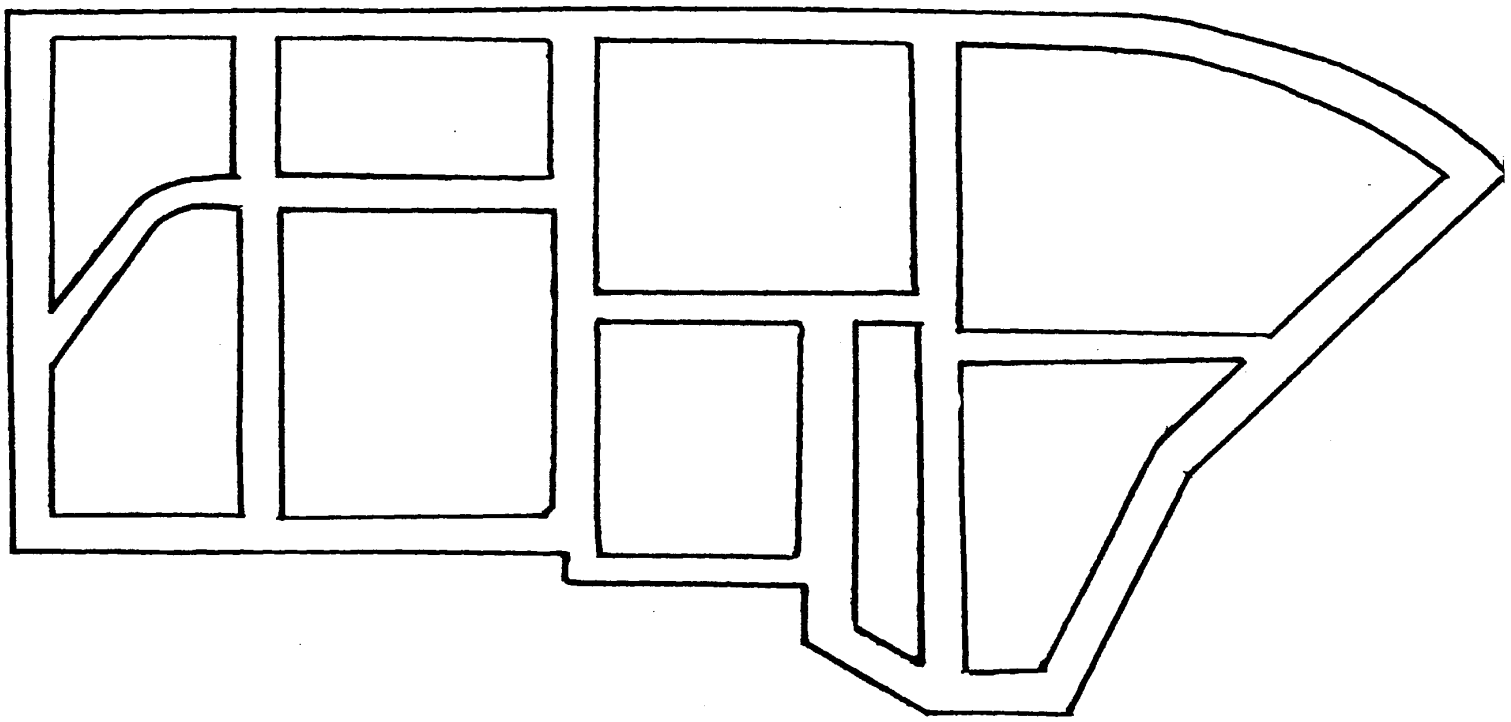

CITY STREET PURSUIT COURSE (2) LAPS = 2.45 MILES

VEHICLE SPECIFICATIONS

VEHICLE SPECIFICATIONS
2007 CHEVROLET IMPALA

Vehicle Description:	Full size, 4 door sedan, front wheel drive, Police Package vehicle		
Engine:	3.9L / V-6		
Horsepower:	240 @ 5200 RPM		
Torque :	245 @ 4800 RPM		
Axle Ratio:	3.29		
Curb Weight:	3588 lbs		
Alternator Output:	150 Amp		
Battery:	750 CCA		
Transmission:	4 Speed automatic with overdrive		
Suspension,			
Front:	Independent McPherson strut, coil spring, stabilizer bar		
Rear:	Independent tri-link, coil spring over strut, and stabilizer bar		
Brakes,			
Front:	11.9 inch vented disc		
Rear:	10.9 inch solid disc		
Tires:	Pirelli P225/60R16 AL3		
Wheels:	16 x 6.5 inch steel		
Fuel Tank Capacity:	17 gallons		
EPA Fuel Mileage:	City - 19 mpg	Highway - 27 mpg	
Seats,			
Front:	High density foam bucket, 6 way power, manual lumbar		
Rear:	Vinyl with high density foam bench		
Exterior Dimension:	Length 16.7 feet	Width 6.07 feet	Height 4.89 feet
Head Room:	Front - 39.4 inches	Rear - 37.8 inches	
Hip Room:	Front - 56.4 inches	Rear - 57.2 inches	
Leg Room:	Front - 42.3 inches	Rear - 37.6 inches	
Trunk:	18.6 cubic feet		

VEHICLE SPECIFICATIONS
2007 CHEVROLET TAHOE

Vehicle Description:	Full size, 4 door sport utility, rear wheel drive, Police Package vehicle		
Engine:	5.3L / V-8		
Horsepower:	320 @ 5200 RPM		
Torque :	340 @ 4000 RPM		
Axle Ratio:	3.73		
Curb Weight:	5265 lbs		
Alternator Output:	160 Amp		
Battery:	730 CCA		
Transmission:	4 Speed automatic with overdrive		
Suspension,			
Front:	Independent, coil over shock with stabilizer bar		
Rear:	Multi link, coil spring, and stabilizer bar		
Brakes,			
Front:	14.0 inch vented disc		
Rear:	13.0 inch solid disc		
Tires:	Goodyear P265/60R17H rated Police Radial		
Wheels:	17 x 7.5 steel		
Fuel Tank Capacity:	26 gallons		
EPA Fuel Mileage:	City - 16 mpg	Highway - 22 mpg	
Seats,			
Front:	Front heavy duty cloth bucket, high back with inboard arm rest		
Rear:	Rear vinyl with high-density foam bench		
Exterior Dimension:	Length 16.83 feet	Width 6.58 feet	Height 6.15 feet
Head Room:	Front 40.3 inches	Rear 39.2 inches	
Hip Room:	Front 64.4 inches	Rear 60.6 inches	
Leg Room:	Front 41.3 inches	Rear 39.0 inches	
Rear Cargo:	108.9 cubic feet w/2nd row seat folded down		

VEHICLE SPECIFICATIONS
2007 CHEVROLET TAHOE - E85

Vehicle Description:	Full size, 4 door sport utility, rear wheel drive, Police Package vehicle		
Engine:	5.3L / V-8		
Horsepower:	295 @ 5200 RPM		
Torque :	335 @ 4000 RPM		
Axle Ratio:	3.73		
Curb Weight:	5007 lbs		
Alternator Output:	160 Amp		
Battery:	770 CCA		
Transmission:	4 Speed automatic with overdrive		
Suspension,			
Front:	Independent, single lower A-arm torsion bar, and stabilizer bar		
Rear:	Multi link, coil spring, and stabilizer bar		
Brakes,			
Front:	12 inch vented disc		
Rear:	13 inch vented disc		
Tires:	General P255/70R16 Police radial		
Wheels:	16 x 6.5 steel		
Fuel Tank Capacity:	26 gallons		
EPA Fuel Mileage:	City - 15 mpg	Highway - 20 mpg	
Seats,			
Front:	Front heavy duty cloth bucket, high back with inboard arm rest		
Rear:	Rear vinyl with high density foam bench		
Exterior Dimension:	Length 16.56 feet	Width 6.56 feet	Height 6.00 feet
Head Room:	Front 40.7 inches	Rear 39.4 inches	
Hip Room:	Front 61.4 inches	Rear 61.3 inches	
Leg Room:	Front 41.3 inches	Rear 38.6 inches	
Rear Cargo:	63.6 cubic feet		

VEHICLE SPECIFICATIONS
2007 DODGE CHARGER V-6

Vehicle Description:	Full size, 4 door sedan, rear wheel drive, Police Package vehicle		
Engine:	3.5L / V-6		
Horsepower:	250 @ 6400 RPM		
Torque:	250 @ 3800 RPM		
Axle Ratio:	2.87		
Curb Weight:	4007 lbs		
Alternator Output:	160 Amp		
Battery:	800 CCA		
Transmission:	5 Speed electronic automatic		
Suspension,			
Front:	Independent high arm SLA with dual ball joint lower, coil spring, and sway bar		
Rear:	Independent multi-link, coil spring, and sway bar		
Brakes,			
Front:	13.6 inch vented disc		
Rear:	13.8 inch vented disc		
Tires:	Continental P225/60R18 99V Pro Contact		
Wheels:	18 x 7.5 inch steel		
Fuel Tank Capacity:	19 gallons		
EPA Fuel Mileage:	City - 19 mpg	Highway - 27 mpg	
Seats,			
Front:	Heavy duty cloth bucket		
Rear:	Vinyl bench		
Exterior Dimension:	Length - 16.68 feet	Width 6.21 feet	Height 4.85 feet
Head Room:	Front - 38.7 inches	Rear- 36.2 inches	
Hip Room:	Front - 56.2 inches	Rear - 55.5 inches	
Leg Room:	Front - 41.8 inches	Rear - 40.2 inches	
Trunk:	16.2 cubic feet		

VEHICLE SPECIFICATIONS
2007 DODGE CHARGER V-8

Vehicle Description:	Full size, 4 door sedan, rear wheel drive, Police Package vehicle		
Engine:	5.7L / V-8		
Horsepower:	340 @ 5000 RPM		
Torque :	390 @ 4000 RPM		
Axle Ratio:	2.82		
Curb Weight:	4257 lbs		
Alternator Output:	160 Amp		
Battery:	800 CCA		
Transmission:	5 Speed electronic automatic		
Suspension,			
Front:	Independent high arm SLA with dual ball joint lower, coil spring, and sway bar		
Rear:	Independent multi-link, coil spring, and sway bar		
Brakes,			
Front:	13.6 inch vented disc		
Rear:	13.8 inch vented disc		
Tires:	Continental P225/60R18 99V Pro Contact		
Wheels:	18 x 7.5 inch steel		
Fuel Tank Capacity:	19 gallons		
EPA Fuel Mileage:	City - 17 mpg	Highway - 25 mpg	
Seats,			
Front:	Front heavy duty cloth bucket		
Rear:	Rear vinyl bench		
Exterior Dimension:	Length - 16.68 feet	Width 6.21 feet	Height 4.85 feet
Head Room:	Front - 38.7 inches	Rear- 36.2 inches	
Hip Room:	Front - 56.2 inches	Rear - 55.5 inches	
Leg Room:	Front - 41.8 inches	Rear - 40.2 inches	
Trunk:	16.2 cubic feet		

VEHICLE SPECIFICATIONS
2007 DODGE MAGNUM V-6

Vehicle Description:	Full size, 4 door wagon, rear wheel drive, Police Package vehicle		
Engine:	3.5L / V-6		
Horsepower:	250 @ 6400 RPM		
Torque :	250 @ 3800 RPM		
Axle Ratio:	2.87		
Curb Weight:	4093 lbs		
Alternator Output:	160 Amp		
Battery:	800 CCA		
Transmission:	5 speed electronic automatic		
Suspension,			
Front:	Independent high arm SLA with dual ball joint lower, coil spring, and sway bar		
Rear:	Independent multi-link, coil spring, and sway bar		
Brakes,			
Front:	13.6 inch vented disc		
Rear:	13.8 inch vented disc		
Tires:	Continental P225/60R18 99V Pro Contact		
Wheels:	18 x 7.5 inch steel		
Fuel Tank Capacity:	19 gallons		
EPA Fuel Mileage:	City - 19 mpg	Highway - 27 mpg	
Seats,			
Front:	Heavy duty cloth bucket		
Rear:	Vinyl bench		
Exterior Dimension:	Length 16.48 feet	Width 6.18 feet	Height 4.86 feet
Head Room:	Front 38.7 inches	Rear 38.1 inches	
Hip Room:	Front 56.2 inches	Rear 56.1 inches	
Leg Room:	41.8 inches	Rear 40.2 inches	
Rear Cargo:	27.3 cubic feet		

VEHICLE SPECIFICATIONS
2007 DODGE MAGNUM V-8

Vehicle Description:	Full size, 4 door wagon, rear wheel drive, Police Package vehicle		
Engine:	5.7L / V-8		
Horsepower:	340 @ 5000 RPM		
Torque :	390 @ 4000 RPM		
Axle Ratio:	2.82		
Curb Weight:	4272 lbs		
Alternator Output:	160 Amp		
Battery:	800 CCA		
Transmission:	5 speed electronic automatic		
Suspension,			
Front:	Independent high arm SLA with dual ball joint lower, coil spring, and sway bar		
Rear:	Independent multi-link, coil spring, and sway bar		
Brakes,			
Front:	13.6 inch vented disc		
Rear:	13.8 inch vented disc		
Tires:	Continental P225/60R18 99V Pro Contact		
Wheels:	18 x 7.5 inch steel		
Fuel Tank Capacity:	19 gallons		
EPA Fuel Mileage:	City - 17 mpg	Highway - 25 mpg	
Seats,			
Front:	Heavy duty cloth bucket		
Rear:	Vinyl bench		
Exterior Dimension:	Length 16.48 feet	Width 6.18 feet	Height 4.86 feet
Head Room:	Front 38.7 inches	Rear 38.1 inches	
Hip Room:	Front 56.2 inches	Rear 56.1 inches	
Leg Room:	41.8 inches	Rear 40.2 inches	
Rear Cargo:	27.3 cubic feet		

VEHICLE SPECIFICATIONS
2007 FORD CVPI - 3.27

Vehicle Description:	Full size, 4 door sedan, rear wheel drive, Police Package vehicle		
Engine:	4.6L / V-8		
Horsepower:	250 @ 5000 RPM		
Torque :	297 @ 4000 RPM		
Axle Ratio:	3.27		
Curb Weight:	3964 lbs		
Alternator Output:	200 Amp		
Battery:	750 CCA		
Transmission:	4 Speed automatic with overdrive		
Suspension,			
Front:	Independent, SLA w/ball joint and coil spring, monotube shock		
Rear:	4 bar link, w/Watt's linkage, coil spring, monotube shock		
Brakes,			
Front:	12.01 inch vented disc		
Rear:	11.61 inch vented disc		
Tires:	Goodyear P235/55R17 Eagle RS-A Plus		
Wheels:	17 x 7.5 inch steel		
Fuel Tank Capacity:	19 gallons		
EPA Fuel Mileage:	City - 16 mpg	Highway - 23 mpg	
Seats,			
Front:	Front heavy duty cloth bucket, w/power lumbar driver's seat		
Rear:	Rear vinyl bench		
Exterior Dimension:	Length - 17.66 feet	Width - 6.51 feet	Height - 4.73 feet
Head Room:	Front - 39.4 inches	Rear - 38 inches	
Hip Room:	Front - 57.1 inches	Rear - 59 inches	
Leg Room:	Front - 42.5 inches	Rear - 39.6 inches	
Trunk:	20.6 cubic feet		

VEHICLE SPECIFICATIONS
2007 FORD CVPI - 3.55

Vehicle Description:	Full size, 4 door sedan, rear wheel drive, Police Package vehicle		
Engine:	4.6L / V-8		
Horsepower:	250 @ 5000 RPM		
Torque :	297 @ 4000 RPM		
Axle Ratio:	3.55		
Curb Weight:	3964 lbs		
Alternator Output:	200 Amp		
Battery:	750 CCA		
Transmission:	4 Speed automatic with overdrive		
Suspension,			
Front:	Independent, SLA w/ball joint and coil spring, monotube shock		
Rear:	4 bar link, w/Watt's linkage, coil spring, monotube shock		
Brakes,			
Front:	12.01 inch vented disc		
Rear:	11.61 inch vented disc		
Tires:	Goodyear P235/55R17 Eagle RS-A Plus		
Wheels:	17 x 7.5 inch steel		
Fuel Tank Capacity:	19 gallons		
EPA Fuel Mileage:	City - 16 mpg	Highway - 23 mpg	
Seats,			
Front:	Front heavy duty cloth bucket, w/power lumbar driver's seat		
Rear:	Rear vinyl bench		
Exterior Dimension:	Length - 17.66 feet	Width - 6.51 feet	Height - 4.73 feet
Head Room:	Front - 39.4 inches	Rear - 38 inches	
Hip Room:	Front - 57.1 inches	Rear - 59 inches	
Leg Room:	Front - 42.5 inches	Rear - 39.6 inches	
Trunk:	20.6 cubic feet		

32 LAP HIGH SPEED VEHICLE EVALUATION RESULTS

This test is conducted on a high speed driving course. It is designed to evaluate, identify and eliminate the obvious unacceptable vehicles (i.e., those vehicles that are demonstrably unstable or otherwise exhibit unsafe characteristics).

For this test, four drivers are utilized for each vehicle. Each driver completes eight laps around our 1.57 mile test track at the Los Angeles County Fairplex in Pomona, for a total of 32 timed laps. Lap timing is via a "HOT LAP," digital-infrared timing device, mounted in the vehicle. The fastest and the slowest lap times are eliminated, the remaining 6 lap times are averaged. The average time and speed are recorded next to the driver's name.

Four Emergency Vehicle Operations Center driver training instructors, two each from the Los Angeles County Sheriff's Department and Los Angeles Police Department share the driving and evaluation of these vehicles.

At the conclusion of the preliminary handling portion of the test, each driver completes a "Drivers Subjective Evaluation" form. If the test vehicle is judged unacceptable in this preliminary review, it is rejected and not subject to further testing and evaluation.

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 CHEVROLET IMPALA

DRIVER	LAP 1	LAP 2	LAP 3	LAP 4	LAP 5	LAP 6	LAP 7	LAP 8	AVG TIME	AVG SPEED
Goedhart, LASD	1:28.28	1:25.12	1:24.60	1:24.60	1:24.79	1:25.19	1:25.35	1:25.18	1:25.03	66.47
Hemsworth, LAPD	1:28.35	1:24.81	1:24.61	1:24.55	1:24.24	1:24.39	1:24.43	1:24.29	1:24.51	66.87
Robinson, LASD	1:28.98	1:25.81	1:25.85	1:25.31	1:25.98	1:27.09	1:25.66	1:28.33	1:26.45	65.37
Organ, LAPD	1:28.61	1:25.25	1:24.96	1:24.64	1:24.85	1:25.59	1:24.48	1:24.47	1:24.96	66.52

DRIVER	TIME TEST STARTED	AIR TEMPERATURE
Deputy H. Goedhart, LASD	8:55 A.M.	58 F
Officer M. Hemsworth, LAPD	9:17 A.M.	60 F
Deputy R. Robinson, LASD	9:37 A.M.	60 F
Officer B. Organ, LAPD	9:57 A.M.	62 F

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 CHEVROLET IMPALA

ITEM	RATING **
Steering	7.25
Body Lean	6
Bounce	5.75
Brake Fade	5.25
Brake Pull	6.25
ABS Operation	6.5

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes – Good braking laps 1 thru 6 with a consistent pedal travel and rate of deceleration. On laps 7 and 8 I noticed a slight fade with a 2-3 inch drop in pedal travel was correctable with an earlier braking point (1-2 car lengths). Cornering/Handling – The vehicle displayed moderate understeer characteristics especially in the 180° turn and "S turn" was easily corrected by backing out of the gas. Transmission (Shifting Points) – Shifting points were a little off, it needed a little lower gear coming out of the turns. There was a slight lag until it would shift into a good gear. Engine – Needs a little more power. Other - Top speed long straight 104-105 mph. Top speed short straight 90-91 mph.
Officer M. Hemsworth - Brakes – Consistent brake power with only slight drop off (with fade) into laps 7 and 8. Onset progressive and controllable. Easy to modulate application and release. Cornering/Handling – Mild to moderate understeer, mild in slow and medium, moderate in fast turn. Easy enough to control with throttle, just hurts exit speed from turns. Steering light and quick. I liked it but some may think it makes car darty. Transmission (Shifting Points) – Overall function good, but inconsistent downshifts exiting slow turns. Ratio spread is good.

Engine - Surprisingly powerful engine, willing to pull hard when transmission downshifts as expected, smooth power delivery. Saw relatively high straight-line speeds on radar units.

Deputy R. Robinson -

Brakes – I experienced brake fade starting on laps 5 and 6. The fade was minimal to moderate and manageable with increased braking distances. I did not experience any significant pull.

Cornering/Handling – The steering on this car is very quick but is easily adjusted to the car displays minimal to moderate understeer characteristics in all turns. This is manageable with corrected throttle inputs. Body lean and bounce were also minimal to moderate as expected.

Transmission (Shifting Points) - The transmission performed well shifting at the correct places to keep the engine in its power band.

Engine – This engine made very good power for all eight laps. It is very responsive to throttle inputs. The car was quicker than expected.

Officer B. Organ -

Brakes – Some minor brake fade very good pedal travel the bit of fade that I felt did not seem to get worse as I got into the later laps.

Cornering/Handling – Moderate understeer characteristic. As I would experience understeer and came out of throttle the vehicle snapped into some oversteer. Not manageable but at first took me by surprise.

Transmission (Shifting Points) - All in all good shifting points and consistent with the exception of lap 1 (possibly 5th lap) the vehicle did not downshift exiting north turn causing poor exit speed.

Engine – Good power. Good top speed at end of straight a ways.

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 CHEVROLET TAHOE

DRIVER	LAP 1	LAP 2	LAP 3	LAP 4	LAP 5	LAP 6	LAP 7	LAP 8	AVG TIME	AVG SPEED
Goedhart, LASD	1:30.58	1:27.53	1:26.91	1:27.10	1:27.15	1:26.69	1:27.08	1:27.01	1:27.13	64.86
Hemsworth, LAPD	1:30.31	1:26.63	1:26.84	1:26.98	1:26.52	1:26.91	1:26.78	1:27.25	1:26.89	65.04
Robinson, LASD	1:31.70	1:27.46	1:27.08	1:27.83	1:27.99	1:28.28	1:28.29	1:30.44	1:28.38	63.95
Organ, LAPD	1:31.76	1:27.53	1:27.46	1:27.71	1:28.09	1:27.90	1:27.89	1:28.53	1:27.94	64.27

DRIVER	TIME TEST STARTED	AIR TEMPERATURE
Deputy H. Goedhart, LASD	10:58 A.M.	68 F
Officer M. Hemsworth, LAPD	11:18 A.M.	69 F
Deputy R. Robinson, LASD	11:37 A.M.	72 F
Officer B. Organ, LAPD	11:55 A.M.	74 F

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 CHEVROLET TAHOE

ITEM	RATING **
Steering	5.5
Body Lean	4.5
Bounce	4.25
Brake Fade	5.75
Brake Pull	6.75
ABS Operation	9.33

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes - Good brakes throughout all eight laps with very minimal pedal travel and loss of deceleration. Cornering/Handling – Slight to moderate body lean but corrected itself very quickly also a moderate spring loading thru the "180° turn" and "S turn" but it corrected itself quickly. Transmission (Shifting Points) – Shifting points were good on most of the track. There was some slight to moderate searching of gears thru the 180° turn.
Officer M. Hemsworth - Brakes – Consistent deceleration values thru test but pedal was at floor by lap 7. Still stopped but field officers would confuse longer pedal travel with brake fade. Cornering/Handling - Vehicle weight makes its presence known. Significant rear axle bounce but no loss of traction or control, bouncy ride in rear, had one big bounce when vehicle went into oversteer over bump in 180° turn but vehicle recovered without further incident. Transmission (Shifting Points) – Good function thru test. Engine – Good power, willing to rev. best power in mid and upper ranges. Other - Noticed some inside right rear wheel spin exiting right turn in south "S" turn – no control issue but it was present.

Deputy R. Robinson -

Brakes – Starting on lap 3 I noticed the ABS warning light on the dash was on so I became very conservative with my braking distances to avoid potential lock up. I did go deep into the brakes on Lap 6 and did not feel ABS or lock up. There was no noticeable pull. Fade occurred only at the south turn on lap #6. Pedal feel and travel were good with the travel increasing only on Lap 6.

Cornering/Handling – This vehicle displayed minimal oversteer in turns. It was very predictable and manageable with throttle control/counter steering when necessary. There was noticeable body lean and bounce but both usually corrected themselves with little input from me.

Transmission (Shifting Points) – The transmission was good throughout all eight laps. The shift points were good and kept the engine in its power band. I did not notice it hunting for the correct gear at all.

Engine – The engine made good power during all eight laps. It was responsive to different throttle inputs.

Officer B. Organ -

Brakes – I was the fourth driver and experienced some "minor" brake fade. It did not get any worse in the later laps. Good brake travel.

Cornering/Handling – The vehicle definitely has oversteer under trail braking. I thought the vehicle handled well. Consistent and predictable although I felt considerable bounce in 180° turn.

Transmission (Shifting Points) – Fairly smooth predictable and consistent shifting. Shifting points were appropriate.

Engine - Good power, very good low-end torque, good top speed.

Other - The bounce in 180° turn is a bit unnerving.

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 CHEVROLET TAHOE E-85

DRIVER	LAP 1	LAP 2	LAP 3	LAP 4	LAP 5	LAP 6	LAP 7	LAP 8	AVG TIME	AVG SPEED
Goedhart, LASD	1:30.21	1:26.98	1:27.06	1:26.53	1:26.85	1:27.07	1:27.67	1:26.95	1:27.09	64.89
Hemsworth, LAPD	1:31.04	1:26.61	1:27.47	1:26.41	1:27.18	1:26.58	1:26.40	1:26.46	1:26.78	65.13
Robinson, LASD	1:30.88	1:27.39	1:27.39	1:27.64	1:27.45	1:27.36	1:27.48	1:27.67	1:27.50	64.59
Organ, LAPD	1:31.57	1:27.94	1:27.51	1:27.26	1:27.54	1:27.50	1:27.76	1:26.99	1:27.54	64.56

DRIVER	TIME TEST STARTED	AIR TEMPERATURE
Deputy H. Goedhart, LASD	12:15 P.M.	76 F
Officer M. Hemsworth, LAPD	12:35 P.M.	74 F
Deputy R. Robinson, LASD	12:57 P.M.	74 F
Officer B. Organ, LAPD	1:17 P.M.	78 F

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 CHEVROLET TAHOE E-85

ITEM	RATING **
Steering	5.75
Body Lean	4.25
Bounce	3.75
Brake Fade	4.75
Brake Pull	6.5
ABS Operation	7.75

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes – Were good laps 1-6 with good rate of deceleration and minimal pedal travel. On lap 7 I experienced slight to moderate pedal travel and decrease in deceleration. On lap 8 the pedal traveled 3-4 inches and quite bit more loss of deceleration. Cornering/Handling – Slight body lean but was predictable and manageable. Slight to moderate bounce in the "S" turn and 180° turn. Transmission (Shifting Points) – Were good but a little lag out of "north turn" and little gear searching through the 180° turn. Engine – Good balance of power.
Officer M. Hemsworth - Brakes – Deceleration power consistent thru lap 8, long pedal but consistent power. Cornering/Handling – Medium understeer is predominant characteristic. Occasionally able toinduce throttle oversteer out of slow turns. Significant bounce induced by bumps, controllable but not confident inspiring. Transmission (Shifting Points) – Shift ratio gaps so large they pull engine out of power band. Engine – Good power in mid to upper RPM range however more torque would be appreciated at low RPM's.

Deputy R. Robinson -

Brakes – I experienced a little bit of fade starting on lap 4. The fade was very manageable with a slight increase in braking distance. The brakes remained consistent after the one adjustment. I did not notice any pull.

Cornering/Handling – There was a little bounce but it was not excessive. There was minimal but predictable understeer in the 180° sweeper.

Transmission (Shifting Points) – The transmission seemed to hunt for the correct gear, although it worked fine and had good shift points.

Officer B. Organ -

Brakes – Some slight brake fade from 1st to 8th lap. Slight change in braking points. Good pedal travel.

Cornering/Handling – Excessive bounce in "S" and 180° turn. This bounce created an uneasy feeling and impacted performance of vehicle.

Transmission (Shifting Points) – At times the transmission felt as if it was searching for correct gear. For example: downshifting, up shifting then downshifting under acceleration exiting turn.

Engine – Good power, good low torque when shifting properly.

Other – I found the bounce of the vehicle made it a bit hard to drive.

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 DODGE CHARGER - 6 CYLINDER

DRIVER	LAP 1	LAP 2	LAP 3	LAP 4	LAP 5	LAP 6	LAP 7	LAP 8	AVG TIME	AVG SPEED
Goedhart, LASD	1:28.59	1:24.34	1:24.37	1:25.07	1:24.48	1:24.75	1:25.44	1:25.05	1:24.86	66.60
Hemsworth, LAPD	1:28.46	1:24.23	1:23.86	1:24.08	1:24.11	1:23.93	1:24.08	1:23.83	1:24.00	67.28
Robinson, LASD	1:30.00	1:24.69	1:24.53	1:26.00	1:24.89	1:25.04	1:25.12	1:24.84	1:25.09	66.42
Organ, LAPD	1:29.40	1:24.88	1:25.13	1:24.62	1:25.17	1:25.50	1:25.00	1:24.31	1:25.05	66.45

DRIVER	TIME TEST STARTED	AIR TEMPERATURE
Deputy H. Goedhart, LASD	12:57 P.M.	75 F
Officer M. Hemsworth, LAPD	13:17 P.M.	78 F
Deputy R. Robinson, LASD	13:40 P.M.	84 F
Officer B. Organ, LAPD	14:00 P.M.	80 F

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 DODGE CHARGER - 6 CYLINDER

ITEM	RATING **
Steering	7
Body Lean	7
Bounce	7.25
Brake Fade	8.75
Brake Pull	8.25
ABS Operation	9

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes – Were very strong all eight laps with no noticeable loss of deceleration or pedal travel. Cornering/Handling – This vehicle displayed very slight understeer characteristics but was predictable and manageable with minimal effort very stable vehicle. Transmission (Shifting Points) – Good shifting points but was a little slow exiting turns. Needs to shift into a lower gear to prevent lag. Engine – Good power on straight a-ways.
Officer M. Hemsworth - Brakes – Firm, consistent pedal from beginning to end of session. Best brakes on production police vehicle to date. Cornering/Handling – Minor understeer in slow turns. Minor to medium understeer in fast turns. Onset of understeer easy to control, equally smooth on recovery. Very confidence inspiring. Transmission (Shifting Points) – Transmission worked without incident. Engine – Good power at mid and high RPM's, low end okay, but not great. Other - Very easy and confidence inspiring to drive.
Deputy R. Robinson -

Brakes – The brakes performed very well throughout all eight laps. The initial bite was very good and the rate of deceleration was very linear. Pedal feel and travel were also very good.

Cornering/Handling – The car has minimal to moderate understeer in medium fast to very fast turns. Body lean and bounce were minimal. The understeer was manageable and predictable.

Transmission (Shifting Points) - The trans performed well. It kept the engine in its power band and did not hunt for the correct gear.

Officer B. Organ -

Brakes – Brakes were outstanding from beginning to end. Great slowing power, great bite, great consistency.

Cornering/Handling – The vehicle displays a slight understeer. Any loss of traction happens slowly and predictable. Tires grip well under braking and cornering.

Transmission (Shifting Points) – Good shifting points smooth transitions consistent.

Engine – Considering this is a 6 cylinder this vehicle has quite a bit of power “even at low end”.

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 DODGE CHARGER - HEMI

DRIVER	LAP 1	LAP 2	LAP 3	LAP 4	LAP 5	LAP 6	LAP 7	LAP 8	AVG TIME	AVG SPEED
Goedhart, LASD	1:24.82	1:20.63	1:20.35	1:20.30	1:20.74	1:21.07	1:21.68	1:20.62	1:20.84	69.91
Hemsworth, LAPD	1:24.13	1:20.22	1:19.69	1:20.22	1:20.19	1:19.70	1:20.11	1:19.72	1:20.02	70.63
Robinson, LASD	1:25.84	1:21.00	1:22.26	1:21.18	1:22.59	1:20.63	1:20.83	1:20.86	1:21.45	69.39
Organ, LAPD	1:25.88	1:20.56	1:20.93	1:20.29	1:20.80	1:20.78	1:20.78	1:21.17	1:20.87	69.88

DRIVER	TIME TEST STARTED	AIR TEMPERATURE
Deputy H. Goedhart, LASD	9:39 A.M.	60 F
Officer M. Hemsworth, LAPD	9:55 A.M.	62 F
Deputy R. Robinson, LASD	10:17 A.M.	65 F
Officer B. Organ, LAPD	10:36 A.M.	67 F

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 DODGE CHARGER - HEMI

ITEM	RATING **
Steering	6.75
Body Lean	7.25
Bounce	6.75
Brake Fade	8
Brake Pull	7.25
ABS Operation	8.75

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes – Were very strong laps #1 and #2. On laps #3 and #8 had a very slight decrease in rate of deceleration. After made a slight adjustment in braking points (earlier) it was very consistent. It was probably due to the excessive speed it generated 118-119 mph. Cornering/Handling – The vehicle displayed neutral characteristics but understeer and oversteer was easily induced and was very predictable and manageable with minimal steering effort. Transmission (Shifting Points) – Transmission was very strong with good shifting points
Officer M. Hemsworth - Brakes – Good power consistent with only minor decrease in deceleration into laps 7 and 8. Pedal feel good, easy to modulate on application and release. Cornering/Handling – Mild to medium understeer, most apparent in 180° turn (long high speed turn). Mild understeer in slow/medium turns, easily made to oversteer with throttle application. Transition to throttle oversteer smooth and predictable. Bounce and lean well controlled. Transmission (Shifting Points) – Basic operation invisible. Only flaw was trans shift point would up shift half way thru long 180° turn, limiting available power at exit, not control issue just reduced potential exit speed. Engine – Outstanding power, smooth, progressive delivery of power made for smooth transitions from understeer to oversteer.

Other – Excellent engine makes whole package work. Complimented by brakes adequate for the car.

Deputy R. Robinson -

Brakes – The brakes performed very well. I did not notice any noticeable fade or pull. I did get into ABS on one lap into the south turn and the ABS worked well. The rate of deceleration was consistent and linear throughout all eight laps.

Cornering/Handling – This car displayed neutral to moderate understeer handling characteristics. However, oversteer could easily be induced with the throttle in a high-speed turn. Body lean and bounce were minimal as well.

Transmission (Shifting Points) – The transmission worked fairly well. At times it did let the engine get out of its power band by not downshifting.

Engine – This engine makes big power! Good throttle control is ABSolutely necessary when exiting turns.

Officer B. Organ -

Brakes – I was the fourth driver and did not experience any feel of brake fade. The vehicle is very fast and clearly I needed to brake early, but the brakes had great feel. Very consistent.

Cornering/Handling – The vehicle has an understeer characteristic. The tires break loose slowly and very predictable. Consistent and predictable body lean. No excessive bounce.

Transmission (Shifting Points) – Very good shifting points. As long as I drove the same, the shifts took place at the same time.

Engine – Great power great torque exiting turns very good acceleration (great top speed).

Other – As much power as this vehicle has I found it fairly easy to drive. This vehicle was consistent!

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 DODGE MAGNUM - 6 CYLINDER

DRIVER	LAP 1	LAP 2	LAP 3	LAP 4	LAP 5	LAP 6	LAP 7	LAP 8	AVG TIME	AVG SPEED
Goedhart, LASD	1:28.83	1:23.94	1:23.92	1:24.27	1:24.05	1:23.68	1:23.57	1:23.66	1:23.92	67.34
Hemsworth, LAPD	1:28.55	1:23.59	1:23.55	1:23.19	1:23.84	1:23.35	1:23.25	1:23.46	1:23.50	67.68
Robinson, LASD	1:28.40	1:25.62	1:24.42	1:24.26	1:24.03	1:24.26	1:24.65	1:24.67	1:24.64	66.77
Organ, LAPD	1:29.77	1:25.33	1:25.29	1:24.97	1:24.89	1:24.72	1:24.89	1:24.53	1:25.01	66.48

DRIVER	TIME TEST STARTED	AIR TEMPERATURE
Deputy H. Goedhart, LASD	7:42 A.M.	50 F
Officer M. Hemsworth, LAPD	8:00 A.M.	52 F
Deputy R. Robinson, LASD	8:17 A.M.	52 F
Officer B. Organ, LAPD	8:37 A.M.	56 F

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 DODGE MAGNUM - 6 CYLINDER

ITEM	RATING **
Steering	7
Body Lean	7.5
Bounce	7
Brake Fade	10
Brake Pull	9
ABS Operation	9.25

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes – Were very strong throughout all eight laps. I was able to brake a little later (1-2 car lengths) than normal. Cornering/Handling – This vehicle displayed a slight understeer characteristic but was very predictable and manageable. Very good adhesion to road surface throughout whole course. Transmission (Shifting Points) – Shifting points were good but there was a little bit of a delay coming out of the "north turn" and "decreasing turn" probably due to it being "V-6". Engine – Good strong engine for a V-6.
Officer M. Hemsworth - Brakes – Spectacular – very powerful for entire session with no evidence of fade. Easy to modulate on application and release, able to brake very late with confidence. Cornering/Handling – Mild understeer is dominant characteristic, easily controlled and modulated with throttle input. Inspires confidence. Transmission (Shifting Points) –Functioned fine. Ratio spread just a little wide. Consistent thru test cycle. Engine – Good power overall. Acceleration dips as vehicle shifts to higher gear. Other – Extremely consistent thru test. Easy to drive quickly.

Deputy R. Robinson -

Brakes – The brakes on this car were very confidence inspiring. I did not experience any fade at all. The initial bite was very good and positive. As I increased pedal pressure the rate of deceleration was progressive and linear.

Cornering/Handling – This vehicle displayed minimal understeer handling characteristics in turns. It was manageable and predictable. Body lean was also minimal, as was bounce. There was slight wobble during high speed brake applications.

Transmission (Shifting Points) – The transmission was good, giving consistent positive shifts, the shifts seemed to be in the correct place and the trans never hunted for the correct gear.

Engine – The engine made good power throughout the power band. It was very responsive to throttle input.

Officer B. Organ -

Brakes – Very good pedal travel, outstanding consistency and slowing. I was the fourth driver and experienced no brake fade at all. I felt I could have gone deeper into turns if I continued lapping.

Cornering/Handling – Slight understeer characteristic. Easy to manage. Tires had good grip again very predictable.

Transmission (Shifting Points) – The vehicle appeared to shift appropriately, smooth predictable shifting.

Engine – Good power for 6-cylinder vehicle some delay in acceleration exiting turns.

Other – Relative good power and fair torque for 6-cylinder vehicle.

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 DODGE MAGNUM - HEMI

DRIVER	LAP 1	LAP 2	LAP 3	LAP 4	LAP 5	LAP 6	LAP 7	LAP 8	AVG TIME	AVG SPEED
Goedhart, LASD	1:25.13	1:21.13	1:21.32	1:21.51	1:20.92	1:21.39	1:21.18	1:21.75	1:21.38	69.45
Hemsworth, LAPD	1:24.94	1:20.49	1:20.71	1:20.65	1:20.70	1:20.44	1:20.71	1:20.62	1:20.64	70.08
Robinson, LASD	1:25.25	1:21.15	1:21.17	1:20.95	1:21.27	1:21.72	1:22.10	1:21.78	1:21.49	69.35
Organ, LAPD	1:25.36	1:20.95	1:21.36	1:21.29	1:21.37	1:21.33	1:21.18	1:21.11	1:21.27	69.54

DRIVER	TIME TEST STARTED	AIR TEMPERATURE
Deputy H. Goedhart, LASD	11:37 A.M.	73 F
Officer M. Hemsworth, LAPD	11:55 A.M.	74 F
Deputy R. Robinson, LASD	12:14 P.M.	76 F
Officer B. Organ, LAPD	12:35 P.M.	76 F

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 DODGE MAGNUM - HEMI

ITEM	RATING **
Steering	6
Body Lean	6.25
Bounce	6.25
Brake Fade	8.25
Brake Pull	6.5
ABS Operation	8.5

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes – Were very strong all eight laps with minimal pedal travel and no noticeable fade or loss of deceleration. Cornering/Handling – This vehicle displayed slight to understeer to neutral characteristics but was easily induced into an oversteer with a little throttle. Transmission (Shifting Points) – Very strong transmission with good shifting points. There was a little lag coming out of the 180° turn, but was predictable. Engine – Very strong motor with excessive power at times but was easily manageable.
Officer M. Hemsworth - Brakes – No noticeable fade throughout 8 laps. Pedal travel long but consistent. Feel was okay but not crisp. Cornering/Handling – Mild to moderate understeer is predominant characteristic, can be coaxed to oversteer in slow corners with throttle application. Steering okay but had occasional harsh feedBack over bumps, noticeable bounce and roll, most noticeable in quick transitions. Transmission (Shifting Points) – Function was without problem, shift from 3 to 4 ratio little large, engine doesn't bog but noticeable lessening in acceleration rate. Engine – Excellent power, easy to modulate. Only hampered by awkward shift point.

Deputy R. Robinson -

Brakes – The brakes performed well. I did not experience any noticeable fade or pull. I activated the ABS one time into the south turn and they performed well.

Cornering/Handling – This car displayed neutral to minimal understeer but oversteer could be induced with the throttle. There was more body lean than in the Charger but it was not an issue.

Transmission (Shifting Points) - The transmission performed well during all eight laps, keeping the engine in its power band.

Engine – The engine made very good power throughout all eight laps. It was also very responsive to various throttle inputs.

Officer B. Organ -

Brakes – Outstanding consistent brake. Slight brake fade in 7^{th} and 8^{th} lap.

Cornering/Handling – Slight understeer characteristic (very predictable, very manageable) fast car but easy to drive. Suspension transfers weight smoothly and predictably.

Transmission (Shifting Points) – Good shifting points and consistent.

Engine – Lots of power, great low end torque, very good top speed.

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 FORD CVPI – 3.27 DIFFERENTIAL

DRIVER	LAP 1	LAP 2	LAP 3	LAP 4	LAP 5	LAP 6	LAP 7	LAP 8	AVG TIME	AVG SPEED
Goedhart, LASD	1:27.60	1:23.92	1:24.04	1:24.12	1:23.78	1:23.64	1:23.73	1:24.16	1:23.95	67.32
Hemsworth, LAPD	1:27.7	1:23.26	1:23.68	1:23.47	1:23.21	1:23.63	1:23.47	1:23.35	1:23.47	67.71
Robinson, LASD	1:27.38	1:24.00	1:24.15	1:24.56	1:24.22	1:24.37	1:24.63	1:24.56	1:24.41	66.95
Organ, LAPD	1:29.23	1:25.03	1:24.99	1:24.67	1:24.58	1:25.10	1:25.02	1:24.47	1:24.89	66.58

DRIVER	TIME TEST STARTED	AIR TEMPERATURE
Deputy H. Goedhart, LASD	8:18 A.M.	54 F
Officer M. Hemsworth, LAPD	8:38 A.M.	56 F
Deputy R. Robinson, LASD	8:55 A.M.	58 F
Officer B. Organ, LAPD	9:14 A.M.	60 F

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 FORD CVPI - 3.27 DIFFERENTIAL

ITEM	RATING **
Steering	6
Body Lean	6.5
Bounce	6
Brake Fade	5.75
Brake Pull	7
ABS Operation	8.33

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes - Were very strong 1 thru 3 laps with consistent braking points. On lap 4 at the south turn the brakes seemed to seed in a little and the rate of deceleration decreased about a car length. After adjusting my braking points a car length they were consistent laps 4 thru 8. Cornering/Handling – The first 4 laps the vehicle displayed a very slight understeer characteristics partly due to a slight loss of adhesion from the tires getting scrubbed in. Laps 5 thru 8 the vehicle then displayed a very slight oversteer with very good adhesion to the road surface. It was very predictable and manageable. Transmission (Shifting Points) – Very good shifting points throughout all turns. Engine – Good strong engine throughout whole course.
Officer M. Hemsworth - Brakes – Long pedal travel but fairly consistent deceleration values. Easy to modulate on application and release. Very minor onset of fade into laps 7 and 8 but not unexpected. Cornering/Handling – Mild understeer in medium and fast turns with smooth onset and recovery. Able to induce throttle oversteer exiting slow turns. Damping rates good, bounce well controlled. Firm ride. Transmission (Shifting Points) - Other than inconsistent down shifts (or no downshifts) exiting in turn onto long straight, trans operation no issue, worked okay. Engine - Good power, pulls well from mid to high RPM.

Deputy R. Robinson -

Brakes - I experienced some brake fade starting on lap 3. The fade was manageable with an increase in braking distances. There was no noticeable pull.

Cornering/Handling - This vehicle displayed minimal understeer handling characteristics. The understeer was manageable and predictable. Body lean was also minimal, as was bounce.

Transmission (Shifting Points) – The transmission performed well. It shifted positively and in the correct place in the power band. It did not seem to hunt for the correct gear at any time.

Engine – The engine made good power throughout all eight laps. The engine was responsive to throttle inputs.

Officer B. Organ -

Brakes – I was the fourth driver and experienced some brake fade. As I was driving my later laps (5 thru 8) I had to go to the brake earlier. (Later laps it did not inspire confidence under brake application).

Cornering/Handling – Neutral to slight understeer characteristic. Good grip and predictability from tires. Very manageable.

Transmission (Shifting Points) – Shift points seemed to change in later laps, and shifting appeared to be a bit harsher.

Engine – Good power and good response exiting turns.

Other - The steering effort felt a bit light.

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 FORD CVPI – 3.55 DIFFERENTIAL

DRIVER	LAP 1	LAP 2	LAP 3	LAP 4	LAP 5	LAP 6	LAP 7	LAP 8	AVG TIME	AVG SPEED
Goedhart, LASD	1:28.33	1:24.14	1:24.43	1:24.43	1:24.23	1:24.68	1:24.55	1:24.99	1:24.55	66.84
Hemsworth, LAPD	1:28.34	1:23.82	1:23.93	1:23.48	1:23.53	1:23.54	1:23.35	1:24.01	1:23.69	67.53
Robinson, LASD	1:29.00	1:24.29	1:24.30	1:24.50	1:23.93	1:24.66	1:25.18	1:24.35	1:24.54	66.85
Organ, LAPD	1:29.38	1:25.03	1:24.93	1:25.68	1:24.81	1:24.93	1:25.13	1:25.28	1:25.16	66.36

DRIVER	TIME TEST STARTED	AIR TEMPERATURE
Deputy H. Goedhart, LASD	10:17 A.M.	66 F
Officer M. Hemsworth, LAPD	10:36 A.M.	67 F
Deputy R. Robinson, LASD	10:58 A.M.	68 F
Officer B. Organ, LAPD	11:17 A.M.	68 F

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 FORD CVPI - 3.55 DIFFERENTIAL

ITEM	RATING **
Steering	6.25
Body Lean	5.75
Bounce	6
Brake Fade	5.75
Brake Pull	6.75
ABS Operation	7.5

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes – Were consistent laps 1 thru 6 with consistent pedal travel and good rate of deceleration. On laps 7 and especially 8, the pedal traveled 1-3 inches and a slight decrease in rate of deceleration. This was easily corrected by using an earlier braking point (1-2 cars) Cornering/Handling – This vehicle displayed neutral to slight oversteer characteristics but was very predictable and manageable with minimal steering effort. Transmission (Shifting Points) – The vehicle constantly would search for the proper gear going thru the 180° turn all of the other turn shifting points were good! Engine - Very strong engine.
Officer M. Hemsworth - Brakes – Brakes consistent thru all 8 laps. Pedal travel long but did not change. Deceleration value was virtually constant start to end. Cornering/Handling – Neutral to mild oversteer when present easily controlled, noticeably rear end roll in left/right transition, felt like shocks were one step softer than usual, somewhat more bounce and weight transition than expected. Soft, compliant ride over bumps Transmission (Shifting Points) – No unwanted up and down shifting in long turns, transmission performed exactly as wanted. Engine – Good power from mid RPM's up.

Deputy R. Robinson -

Brakes - The brakes performed well with very little noticeable fade. There was no pull at all. The fade I experienced was manageable with a slight adjustment in braking distances.

Cornering/Handling – This vehicle displayed neutral to minimal oversteer handling characteristics. The oversteer was easily manageable and normally only occurred in the 180° sweeping turn. There was a little more body lean in the "S" turns than I normally experience but his did not affect the handling.

Transmission (Shifting Points) - The transmission was good. The shift points kept the engine in the power band at all times. The trans never had to hunt for the correct gear.

Engine - The engine made good power throughout all eight laps. It was very easy to modulate engine speed with throttle modulation.

Officer B. Organ -

Brakes – I was the 4th driver and the brakes faded progressively during the later laps. The fade never was so severe it became dangerous, but it was significant.

Cornering/Handling – (This vehicle felt neutral) Understeer or oversteer was dependant on weight transfer or throttle. Vehicle had a consistent body lean some very minor bounce in 180° turn.

Transmission (Shifting Points) – Good predicable shifts very consistent down shifts no noticeable problems.

Engine – Good power, fair to good low end torque, good top speed

Other - Easy to drive – I felt very good about placing the car where I wanted. Lap times increased as brakes decreased.

PURSUIT COURSE EVALUATION RESULTS

This test is for those vehicles equipped with a factory installed "POLICE PACKAGE" and identified by the manufacturer as pursuit vehicles. This test is conducted on a closed 2.45 mile city street course which closely represents the environment most urban law enforcement emergency response vehicles must contend with. The course has virtually no straight-a-ways and consists of right and left hand turns and obstacles in the road way.

This is the final test during our "road" certification and the manufacturers, if they so choose, are allowed to rebuild the vehicle's brake system prior to this test.

For this test, two drivers are utilized for each vehicle. Each driver completes two laps around the city or "pursuit" course. Lap timing is via a "HOT LAP," digital-infrared timing device, mounted in the car. The combined times of the two laps are recorded next to the driver's name.

If the test vehicle is unable to complete the course in less than 4 minutes and 45 seconds, it is judged unacceptable for high speed law enforcement use.

PURSUIT COURSE TEST RESULTS

CHEVROLET IMPALA				
DRIVER	**LAP 1 TIME**	**LAP 2 TIME**	**TOTAL TIME**	**AVERAGE SPEED**
Officer B. Organ, LAPD	2:07.72	2:06.21	4:13.93	34.73
Deputy R. Robinson, LASD	2:07.63	2:07.70	4:15.33	34.54

CHEVROLET TAHOE				
DRIVER	**LAP 1 TIME**	**LAP 2 TIME**	**TOTAL TIME**	**AVERAGE SPEED**
Officer B. Organ, LAPD	2:14.71	2:11.49	4:11.72	35.03
Deputy R. Robinson, LASD	2:12.31	2:09.60	4:21.91	33.67

CHEVROLET TAHOE E-85				
DRIVER	**LAP 1 TIME**	**LAP 2 TIME**	**TOTAL TIME**	**AVERAGE SPEED**
Officer B. Organ, LAPD	2:13.69	2:10.90	4:24.59	33.33
Deputy R. Robinson, LASD	2:10.78	2:09.11	4:19.89	33.93

DODGE CHARGER - 6 CYLINDER				
DRIVER	**LAP 1 TIME**	**LAP 2 TIME**	**TOTAL TIME**	**AVERAGE SPEED**
Officer B. Organ, LAPD	2:06.93	2:05.34	4:12.27	34.99
Deputy R. Robinson, LASD	2:05.80	2:04.01	4:09.84	35.30

DODGE CHARGER - HEMI				
DRIVER	**LAP 1 TIME**	**LAP 2 TIME**	**TOTAL TIME**	**AVERAGE SPEED**
Deputy H. Goedhart, LASD	2:08.70	2:06.80	4:15.50	34.52
Officer M. Hemsworth, LAPD	2:04.89	2:04.13	4:09.02	35.41

DODGE MAGNUM - 6 CYLINDER				
DRIVER	**LAP 1 TIME**	**LAP 2 TIME**	**TOTAL TIME**	**AVERAGE SPEED**
Deputy H. Goedhart, LASD	2:08.15	2:06.01	4:14.16	34.70
Officer M. Hemsworth, LAPD	2:06.35	2:05.56	4:11.91	35.01

PURSUIT COURSE TEST RESULTS

DODGE MAGNUM – HEMI				
DRIVER	**LAP 1 TIME**	**LAP 2 TIME**	**TOTAL TIME**	**AVERAGE SPEED**
Deputy H. Goedhart, LASD	2:06.47	2:05.25	4:11.72	35.03
Officer M. Hemsworth, LAPD	2:06.65	2:04.66	4:11.31	35.09

FORD CVPI - 3.27 DIFFERENTIAL				
DRIVER	**LAP 1 TIME**	**LAP 2 TIME**	**TOTAL TIME**	**AVERAGE SPEED**
Deputy H. Goedhart, LASD	2:07.50	2:06.66	4:14.16	34.70
Officer M. Hemsworth, LAPD	2:10.07	2:07.13	4:17.20	34.29

FORD CVPI - 3.55 DIFFERENTIAL				
DRIVER	**LAP 1 TIME**	**LAP 2 TIME**	**TOTAL TIME**	**AVERAGE SPEED**
Deputy H. Goedhart, LASD	2:08.72	2:06.97	4:15.69	34.49
Officer M. Hemsworth, LAPD	2:08.64	2:06.54	4:15.18	34.49

PURSUIT COURSE
VEHICLE DYNAMICS EVALUATION

2007 CHEVROLET IMPALA

ITEM	RATING **
Steering	6.5
Body Lean	6
Bounce	5.5
Brake Fade	7.5
Brake Pull	7.5
ABS Operation	7.5

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Officer M. Hemsworth - Brakes – No fade detected. Onset of ABS not intrusive. Cornering/Handling – Minimal understeer, little bouncy, more so when under heavy throttle on road irregularities. Very easy to spin inside front tire exiting corners. Transmission (Shifting Points) – No trans issues. Engine – Responsive with good power, power delivery limited by spinning of inside front tire.
Deputy R. Robinson - Brakes – The brakes performed well. I did not experience any fade or pull on either lap. Cornering/Handling – This car displayed minimal to moderate understeer in all turns. The understeer was predictable and controllable with throttle modulation. Body lean and bounce were good. Transmission (Shifting Points) – The trans worked well and maintained good shift points on both laps. Engine – The engine maintained good power on both laps.

PURSUIT COURSE
VEHICLE DYNAMICS EVALUATION

2007 CHEVROLET TAHOE

ITEM	RATING **
Steering	5.5
Body Lean	4.5
Bounce	5
Brake Fade	6.5
Brake Pull	6
ABS Operation	6.5

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy R. Robinson - Brakes – The brakes were good on both laps. There was no noticeable fade or pull either lap. Cornering/Handling – There was a lot of body lean in all turns. This would unload the suspension on the inside rear tire and cause it to spin excessive at the exit to turns. This happened even with throttle modulation. The truck did remain mostly neutral though. Transmission (Shifting Points) – Due to the tire spin, the trans hunted for the correct gear at the exit to turns. Engine – Engine made good power but was slow to respond to throttle input.
Officer B. Organ - Brakes – Good consistent brakes, no fade, good pedal Cornering/Handling – Quite a bit of oversteer. The pursuit course is quite busy with harsh weight shifts. The oversteer was significant but expected and manageable. Transmission (Shifting Points) – Good shift points the vehicle did not seem to bog down. Engine – Good power, good low end, hard not to spin tires exiting turns (not much weight on inside rear) Other – Some significant body roll through some turns.

PURSUIT COURSE
VEHICLE DYNAMICS EVALUATION

2007 CHEVROLET TAHOE E-85

ITEM	RATING **
Steering	5.5
Body Lean	5
Bounce	5.5
Brake Fade	6.5
Brake Pull	6
ABS Operation	6.5

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy R. Robinson - Brakes – The brakes performed well during both laps. I did not experience any fade or pull either lap. Cornering/Handling – There was not significant wheel spin exiting turns. Body lean and bounce were good. Transmission (Shifting Points) – The transmission performed well keeping the engine in its power band. Engine – The engine made good power both laps.
Officer B. Organ - Brakes – Good consistent brakes, no sign of fade, good pedal travel Cornering/Handling – The vehicle has quite a bit of body roll, but tires adhered to the road well. I experienced minor oversteer exiting turns, which was expected because of severe weight transfer. Transmission (Shifting Points) – The transmission was searching for the correct gear exiting many of the turns on the course. It felt a bit unpredictable. Engine – Appropriately powered, fair low end torque.

PURSUIT COURSE
VEHICLE DYNAMICS EVALUATION

2007 DODGE CHARGER – 6 CYLINDER

ITEM	RATING **
Steering	7.5
Body Lean	7
Bounce	7.5
Brake Fade	10
Brake Pull	10
ABS Operation	10

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes – Very good brakes throughout both laps. No noticeable loss of deceleration or pedal travel. Cornering/Handling – Very well balanced vehicle and displayed neutral characteristics. Very stable and easy to drive with minimal steering effort. Transmission (Shifting Points) – Excellent shifting points with good acceleration exiting the turns. Engine – Very good balance of power.
Officer M. Hemsworth - Brakes – Outstanding – No fade or lengthening of pedal travel noted during pursuit. Light effort yet easy to modulate. Cornering/Handling – Steering ratio and effort ideally suited to urban type pursuits. Transmission (Shifting Points) – Transmission operation is without fault. Engine – Little short on torque exiting slow corners but picks up speed quickly. Low torque makes full throttle exits safe and easy for driver. Other – Very well suited for urban pursuits.

PURSUIT COURSE
VEHICLE DYNAMICS EVALUATION

2007 DODGE CHARGER - HEMI

ITEM	RATING **
Steering	6.5
Body Lean	6.5
Bounce	7
Brake Fade	8
Brake Pull	7.5
ABS Operation	7.5

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy R. Robinson - Brakes - The brakes performed very well with very good initial bite and a linear rate of deceleration. There was no fade or pull. Cornering/Handling - The car displayed neutral to minimal understeer in turns. It was very manageable at all times. Transmission (Shifting Points) – The transmission was good on both laps and kept the car close to its power band at all times. Engine – The engine made lots of power and torque necessitating good throttle control.
Officer B. Organ - Brakes – The brakes are appropriate for the power of the vehicle. Great bite, very consistent, nice pedal travel. I experienced no fade. Cornering/Handling – The tires gripped well. The vehicle was very easy to control on a very busy course. I experienced some oversteer in and out of turns due to trail braking and acceleration exiting turn although it was not a problem. Transmission (Shifting Points) – Outstanding shifting points smooth and appropriate. Engine – Lot of power yet easy to drive Other – This is a well balanced and engineered vehicle. The engine, transmission, suspension and braking fit!

PURSUIT COURSE
VEHICLE DYNAMICS EVALUATION

2007 DODGE MAGNUM - 6 CYLINDER

ITEM	RATING **
Steering	7.5
Body Lean	7
Bounce	7
Brake Fade	8
Brake Pull	8
ABS Operation	10

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes – Brakes were very strong throughout both laps no noticeable pedal travel or loss of deceleration. Cornering/Handling – Very well balanced vehicle, a very slight understeer characteristics but was predictable and manageable with a little steering effort. Transmission (Shifting Points) – Good shifting points but it would be nice to get a little more power or lower gear coming out of the turns. Engine – Good strong engine.
Officer M. Hemsworth - Brakes – Outstanding – No evidence of fade or extended pedal travel. This is the benchmark for pursuit brakes. Cornering/Handling – Stable handling – quick to change direction but not "darty". Very well suited to urban pursuits. Transmission (Shifting Points) – Worked seamlessly – no issues. Engine – Little short on low end torque, displacement related, but good power when engine spins up. Other – Very forgiving – good car for urban setting.

PURSUIT COURSE
VEHICLE DYNAMICS EVALUATION

2007 DODGE MAGNUM - HEMI

ITEM	RATING **
Steering	7
Body Lean	7
Bounce	7
Brake Fade	8.5
Brake Pull	10
ABS Operation	10

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes – Very good brakes throughout both laps with excellent rate of deceleration and no noticeable pedal travel. Cornering/Handling – Slight understeer characteristics but very predictable and manageable. An oversteer can be easily induced if you don't modulate the throttle. Good adhesion to the road surface. Transmission (Shifting Points) – Very good shifting points throughout course. Engine – Very strong motor. I had to modulate throttle to avoid spinning tires.
Officer M. Hemsworth - Brakes – Outstanding – easy to modulate on application and release. Exceptionally powerful, no evidence of fade detected. Cornering/Handling – Neutral unless throttle used to provoke oversteer. Transition to throttle oversteer predictable and easily controlled, steering effort and ration appropriate. Transmission (Shifting Points) - No trans issues, just worked well. Engine – Excellent, smooth, linear power delivery makes vehicle very easy to drive. Other – Biggest problem is remembering to brake early and use engine's abundant torque to pull car out of corners.

PURSUIT COURSE
VEHICLE DYNAMICS EVALUATION

2007 FORD CVPI - 3.27 DIFFERENTIAL

ITEM	RATING **
Steering	6.5
Body Lean	7
Bounce	7
Brake Fade	7.5
Brake Pull	7.5
ABS Operation	9.5

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes - Very good brakes throughout both laps. No noticeable fade or pedal travel. Cornering/Handling – Very balanced and stable vehicle. Transmission (Shifting Points) – Good shifting points throughout. Engine – Good power balance.
Officer B. Organ - Brakes – Good braking, consistent throughout. I did not experience fade. Good consistent pedal. Cornering/Handling – Experienced oversteer due to some severe weight transfer and some over acceleration exiting turns. Tire broke loose in a slow predictable manner. Transmission (Shifting Points) – Generally good shift points some harsh shifting. Engine – Good power, good low end torque, top speed not a big consideration on pursuit course

PURSUIT COURSE
VEHICLE DYNAMICS EVALUATION

2007 FORD CVPI - 3.55 DIFFERENTIAL

ITEM	RATING **
Steering	7.5
Body Lean	7
Bounce	7
Brake Fade	8.5
Brake Pull	10
ABS Operation	10

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes – Very strong brakes throughout both laps with no noticeable loss of deceleration and no pedal travel. Cornering/Handling – Very neutral and well balanced vehicle. Very easy and stable to drive with minimal steering effort. Transmission (Shifting Points) – Excellent shifting points with no gear searching. Engine – Well balanced power, I could get maximum performance without losing traction.
Officer M. Hemsworth - Brakes – Strong and consistent throughout. No fade and minimal if any change in pedal travel. Exceptionally stable under hard braking. Cornering/Handling – Smooth and predictable, notable lack of lean and good damping/bounce control, steering ratio and effort just right for this type of pursuit. Good road feel without excessive feedBack. Transmission (Shifting Points) – Worked fine – no issues. Engine – Good power with excellent throttle response. Made driving easy and low effort. Other – Well suited to urban pursuits;

BRAKE EVALUATION RESULTS

This test procedure measures the braking response and efficiency of the vehicle.

The test is conducted immediately following the preliminary handling test (32 laps). This ensures that the brakes are tested after being driven at high speeds, thus simulating the actual operating conditions experienced by the officer in the field.

The test is conducted by first accelerating the vehicle to 80 MPH, then decelerating to a stop, maintaining an average deceleration rate of 22 feet per second. This procedure is repeated three additional times. At this point, a five minute stationary cool down period occurs. The vehicle is then accelerated to a speed of 60 MPH and decelerated at the maximum deceleration rate attainable before the onset of ABS. After a two minute delay, the 60 MPH procedure is repeated again. As soon as the vehicle has stopped, it is immediately accelerated to 60 MPH and then stopped as quickly as possible, simulating a panic stop. That stopping distance is measured and recorded, utilizing a "VBOX Datalogger". The "Datalogger" is a GPS based measuring device. If a brake malfunction is experienced (i.e., severe fading or inability to stop in a straight line,) an effort is made to detect the cause of the brake failure. If it is decided that the failure is inherent in the engineering of the brake system of the vehicle, the test is discontinued and the vehicle is disqualified from further testing. If the failure is associated with a correctable situation, it is corrected and the test is rerun. The defect and any remedial action taken are noted in the test results.

BRAKE TEST RESULTS
PANIC STOP FROM 60 MPH TO ZERO

VEHICLE	STOPPING DISTANCE IN FEET
Chevrolet Impala	159.63 Feet @ 61.55 MPH
Chevrolet Tahoe	160.13 Feet @ 59.50 MPH
Chevrolet Tahoe E-85	163.48 Feet @ 61.70 MPH
Dodge Charger - 6 Cylinder	146.94 Feet @ 61.92 MPH
Dodge Charger – Hemi	151.48 Feet @ 62.69 MPH
Dodge Magnum - 6 cylinder	156.73 Feet @ 62.12 MPH **
Dodge Magnum - Hemi	149.39 Feet @ 63.58 MPH
Ford CVPI - 3.27 Differential	168 Feet @ 62.8MPH
Ford CVPI - 3.55 Differential	161.28 Feet @ 62.37 MPH

Comments:

** There was a problem with the testing equipment that required a second run.

ACCELERATION EVALUATI0N RESULTS

This test is designed to measure vehicle performance in terms of acceleration, including speed and time elapsed at the quarter mile. Although the top speed is not recorded, a minimum of 100 MPH is generally obtained to satisfy the requirements for high speed law enforcement patrol.

All of the information gathered during the acceleration and subsequent brake test is gathered using a "VBOX Datalogger". The "Datalogger" is a GPS based measuring device.

ACCELERATION RESULTS

SPEED	FORD CVP1 3.27	FORD CVPI 3.55	CHEVY IMPALA	CHEVY TAHOE	CHEVY TAHOE E-85	DODGE CHARGER 6 CYL	DODGE CHARGER HEMI	DODGE MAGNUM 6 CYL	DODGE MAGNUM HEMI
0-20	1.83	1.79	2.20	2.15	1.96	2.00	1.82	2.35	1.58
0-30	3.14	2.99	3.64	3.43	3.19	3.28	2.78	3.66	2.58
0-40	4.44	4.34	5.11	4.69	4.39	4.64	3.76	5.10	3.56
0-50	6.20	6.15	6.78	6.50	6.15	6.37	5.13	6.81	4.91
0-60	8.33	8.14	8.96	8.68	8.26	8.56	6.59	8.98	6.42
0-70	10.58	10.57	11.27	11.02	10.49	11.10	8.24	11.49	8.08
0-80	13.36	13.65	13.83	14.02	13.33	13.93	10.55	14.43	10.48
0-90	17.14	17.59	17.19	18.49	17.54	17.88	12.95	18.70	13.03
0-100	21.87	22.25	21.79	23.59	22.40	22.65	15.64	23.92	15.89
30-60	5.71	6.25	5.59	5.83	5.63	6.08	4.12	6.21	4.20
60-90	13.79	13.64	13.12	14.97	14.60	13.82	9.11	15.52	9.36
¼ Mile Time	16.31	16.31	16.77	16.66	16.31	16.58	15.03	16.96	14.90
¼ Mile Speed	88.09	86.79	88.93	85.94	86.99	86.77	97.92	86.11	96.73

HEAT EVALUATION RESULTS

Today's modern exhaust emission and computer monitored automobile is designed to operate at much higher temperatures than vehicles from the 1970's and 1980's. Scientific breakthroughs in metallurgy and lubrication compositions allow the modern engine to operate at temperatures formerly thought to be detrimental. A vehicle from the 1970 era usually exceeded 180 degrees' temperature under normal driving conditions and generally overheated at 212 degrees. Today, modern engines operate safely between 200 to 260 degrees. Our heat testing is a "PASS-FAIL" scenario and is based on manufacturer's allowable operating temperatures.

Heat from each engine component is measured by means of a digital thermometer. A bi-metallic probe from the thermometer is inserted into the component fluids at the conclusion of the 32 high speed laps. This process is accomplished in the following manner:

1. Transmission Fluid	**The probe is inserted into the transmission via the dip stick hole, or in the case of the Dodge test vehicles, the measurement is taken from the vehicle's sensors via the ALDL connector.**
2. Engine Oil	**The probe is inserted into the oil pan via the dip stick hole.**
3. Power Steering	**The probe is inserted into the pump reservoir fluid.**
4. Radiator Coolant	**Due to newer vehicles having closed coolant systems, the coolant temperatures are taken from the vehicle's sensors through the ALDL connector.**
5. Outside Air	**Temperature is measured away from the vehicle and in direct sunlight.**

VEHICLE HEAT EVALUATION

CHEVROLET IMPALA

	ENGINE OIL	TRANSMISSION OIL	POWER STEERING	RADIATOR
MANUFACTURER'S RECOMMENDATION	302º F	248º F	302º F	262º F
TESTED AT	215º F	224º F	217º F	210º F

CHEVROLET TAHOE

	ENGINE OIL	TRANSMISSION OIL	POWER STEERING	RADIATOR
MANUFACTURER'S RECOMMENDATION	320º F	298º F	302º F	262º F
TESTED AT	229º F	199º F	213º F	195º F

CHEVROLET TAHOE E-85

	ENGINE OIL	TRANSMISSION OIL	POWER STEERING	RADIATOR
MANUFACTURER'S RECOMMENDATION	320º F	298º F	302º F	262º F
TESTED AT	233º F	204º F	221º F	195º F

DODGE CHARGER - 6 CYLINDER

	ENGINE OIL	TRANSMISSION OIL	POWER STEERING	RADIATOR
MANUFACTURER'S RECOMMENDATION	300º F	275º F	275º F	260º F
TESTED AT	211º F	229º F	150º F	210º F

DODGE CHARGER - HEMI

	ENGINE OIL	TRANSMISSION OIL	POWER STEERING	RADIATOR
MANUFACTURER'S RECOMMENDATION	300º F	275º F	275º F	260º F
TESTED AT	229º F	227º F	157º F	215º F

DODGE MAGNUM - 6 CYLINDER

	ENGINE OIL	TRANSMISSION OIL	POWER STEERING	RADIATOR
MANUFACTURER'S RECOMMENDATION	300º F	275º F	275º F	260º F
TESTED AT	199º F	221º F	130º F	199º F

DODGE MAGNUM - HEMI

	ENGINE OIL	TRANSMISSION OIL	POWER STEERING	RADIATOR
MANUFACTURER'S RECOMMENDATION	300º F	275º F	275º F	260º F
TESTED AT	212º F	225º F	160º F	217º F

FORD CVPI - 3.27 DIFFERENTIAL

	ENGINE OIL	TRANSMISSION OIL	POWER STEERING	RADIATOR
MANUFACTURER'S RECOMMENDATION	300ºF	275ºF	250ºF	260ºF
TESTED AT	206º F	215º F	143º F	196º F

FORD CVPI - 3.55 DIFFERENTIAL

	ENGINE OIL	TRANSMISSION OIL	POWER STEERING	RADIATOR
MANUFACTURER'S RECOMMENDATION	300ºF	275ºF	250ºF	260ºF
TESTED AT	208º F	229º F	151º F	191º F

MECHANICAL EVALUATION RESULTS

The mechanical evaluation (performed by mechanics employed by the Sheriff's Department's fleet maintenance contractor) evaluates the day to day serviceability and maintenance of the vehicle.

Major consideration is given toward the accessibility and ease of repair of component parts for the purpose of obtaining a predictive evaluation of the time, ease, and cost of major repairs. The specific factors considered in evaluating each component are enumerated on the Mechanical Evaluation form.

MECHANICAL EVALUATION

2007 CHEVROLET IMPALA

ELECTRICAL SYSTEM	CONSIDERATIONS	RATING *
Battery	Accessibility, Group, Size	3.5
Alternator	Accessibility, Amperage	5
Starter	Accessibility, Power	3.5
Ignition	Accessibility	4
Spark Plugs	Accessibility	4.5
Lights	Ease of Replacement & Headlight Adjustment	5.5
Fuse Box	Accessibility, Serviceability	6
FUEL SYSTEM	**CONSIDERATIONS**	**RATING ***
Fuel Injection	Accessibility, Serviceability	3
Fuel Pump	Accessibility, Serviceability	5
Fuel Filter	Accessibility, Serviceability	1
Fuel Tank / Lines	Accessibility, Puncture Resistant	5
COOLING SYSTEM	**CONSIDERATIONS**	**RATING ***
Radiator	Accessibility, Protection, Size	5
Heater Core	Accessibility	2
Water Pump	Accessibility, Belt Arrangement	2.5
Thermostat	Accessibility	2.5
Hoses	Accessibility	5.5
Coolant Recovery	Accessibility, Capacity	5.5
SUSPENSION & STEERING	**CONSIDERATIONS**	**RATING ***
Front	Accessibility, Serviceability	4
Rear	Accessibility, Serviceability	4
Shock ABSorbers – Front	Accessibility, Serviceability	4
Shock ABSorbers – Rear	Accessibility, Serviceability	4
Front End Alignments	Accessibility, Serviceability	4
Steering Gear Box	Accessibility, Serviceability	N/A
Rack & Pinion Assembly	Accessibility, Serviceability	4.5
Control Arms – Front	Accessibility, Serviceability	5.5
Control Arms - Rear	Accessibility, Serviceability	6
EXHAUST SYSTEM	**CONSIDERATIONS**	**RATING ***
Catalytic Converter	Accessibility, Protection	5
Muffler	Accessibility	6
Pipes	Accessibility, Support	5
Manifold	Accessibility	1.5

* 1 – Poor 5 – Average 10 - Outstanding

IMPALA – Continued

ENGINE & ACCESSORIES	CONSIDERATIONS	RATING *
Engine Removal	Accessibility, Ease of Removal	2.5
Cylinder Head Removal	Accessibility, Ease of Removal	2.5
Valve Covers	Accessibility, Valve Train Serviceability	2.5
Timing Cover	Accessibility	1
Oil Pan	Accessibility, Ease of Removal	3
Drain Plug	Accessibility, Ease of Removal	6.5
Dip Stick	Accessibility, Night Usability	7
Oil Filter	Accessibility, Ease of Removal	7
Power Steering Pump	Accessibility, Serviceability	3.5
Engine Mounts	Accessibility	4
A/C Compressor	Accessibility, Serviceability	2.5
Evaporator	Accessibility, Ease of Removal	2
A/C Condenser	Accessibility, Ease of Removal	5
Oil Cooler(s)	Accessibility, Ease of Removal	4.5
TRANSMISSION	**CONSIDERATIONS**	**RATING ***
Transmission	Ease Of Removal, Serviceability	1.5
Pan & Drain Plug	Accessibility, Ease of Removal	6.5
Dip Stick	Accessibility	3.5
Filter	Accessibility	6.5
Cooler	Accessibility, Ease of Removal	4
BRAKES	**CONSIDERATIONS**	**RATING ***
Master Cylinder	Accessibility, Serviceability	4.5
Power Brake Booster	Accessibility, Serviceability	3.5
Front Wheel Brakes	Accessibility	5.5
Rear Wheel Brakes	Accessibility	5.5
ABS System	Accessibility, Serviceability	5
REAR AXLE DRIVE SHAFT	**CONSIDERATIONS**	**RATING ***
Differential Removal	Accessibility, Serviceability	N/A
Differential Service	Accessibility	N/A
Axle Bearings & Seals	Accessibility, Serviceability	N/A
Drive Shaft	Accessibility, Serviceability	N/A
Universal Joints	Accessibility, Serviceability	N/A
C.V. Joints	Accessibility, Serviceability	5

* 1 – Poor 5 – Average 10 - Outstanding

IMPALA – Continued

BODY	CONSIDERATIONS	RATING *
Windshield	Tinted	4.5
Door Glass	Framed	4.5
Heater	Accessibility, Serviceability	6
Door Pillars	Adequacy, Ease of Barrier Installation	5
Patrol Equipment – Outfitting	Ease of Outfitting, Emergency Lights	5
Instrument Panel	Accessibility, Serviceability	5
Body Wiring	Accessibility, Serviceability	5
Seat Belts	Accessibility, Serviceability	5
Shotgun Rack	Ease of Installation, Ease of Shotgun Removal	5
Air Bag Location	Accessibility, Serviceability	4.5

* 1 – Poor 5 – Average 10 - Outstanding

2007 CHEVROLET TAHOE

ELECTRICAL SYSTEM	CONSIDERATIONS	RATING *
Battery	Accessibility, Group, Size	3.5
Alternator	Accessibility, Amperage	7.5
Starter	Accessibility, Power	7
Ignition	Accessibility	6
Spark Plugs	Accessibility	5.5
Lights	Ease of Replacement & Headlight Adjustment	4.5
Fuse Box	Accessibility, Serviceability	7
FUEL SYSTEM	**CONSIDERATIONS**	**RATING ***
Fuel Injection	Accessibility, Serviceability	1.5
Fuel Pump	Accessibility, Serviceability	3
Fuel Filter	Accessibility, Serviceability	1
Fuel Tank / Lines	Accessibility, Puncture Resistant	3
COOLING SYSTEM	**CONSIDERATIONS**	**RATING ***
Radiator	Accessibility, Protection, Size	5
Heater Core	Accessibility	4
Water Pump	Accessibility, Belt Arrangement	5.5
Thermostat	Accessibility	5
Hoses	Accessibility	5
Coolant Recovery	Accessibility, Capacity	5.5
SUSPENSION & STEERING	**CONSIDERATIONS**	**RATING ***
Front	Accessibility, Serviceability	7.5
Rear	Accessibility, Serviceability	7.5
Shock ABSorbers – Front	Accessibility, Serviceability	5
Shock ABSorbers – Rear	Accessibility, Serviceability	7.5
Front End Alignments	Accessibility, Serviceability	7.5
Steering Gear Box	Accessibility, Serviceability	N/A
Rack & Pinion Assembly	Accessibility, Serviceability	8
Control Arms – Front	Accessibility, Serviceability	7.5
Control Arms - Rear	Accessibility, Serviceability	7.5
EXHAUST SYSTEM	**CONSIDERATIONS**	**RATING ***
Catalytic Converter	Accessibility, Protection	4.5
Muffler	Accessibility	5
Pipes	Accessibility, Support	5.5
Manifold	Accessibility	5

* 1 – Poor 5 – Average 10 – Outstanding

TAHOE – Continued

ENGINE & ACCESSORIES	CONSIDERATIONS	RATING *
Engine Removal	Accessibility, Ease of Removal	6.5
Cylinder Head Removal	Accessibility, Ease of Removal	6.5
Valve Covers	Accessibility, Valve Train Serviceability	6.5
Timing Cover	Accessibility	3
Oil Pan	Accessibility, Ease of Removal	7
Drain Plug	Accessibility, Ease of Removal	6.5
Dip Stick	Accessibility, Night Usability	7
Oil Filter	Accessibility, Ease of Removal	6.5
Power Steering Pump	Accessibility, Serviceability	4.5
Engine Mounts	Accessibility	6
A/C Compressor	Accessibility, Serviceability	4
Evaporator	Accessibility, Ease of Removal	4
A/C Condenser	Accessibility, Ease of Removal	4.5
Oil Cooler(s)	Accessibility, Ease of Removal	4
TRANSMISSION	**CONSIDERATIONS**	**RATING ***
Transmission	Ease Of Removal, Serviceability	5.5
Pan & Drain Plug	Accessibility, Ease of Removal	5.5
Dip Stick	Accessibility	6.5
Filter	Accessibility	5.5
Cooler	Accessibility, Ease of Removal	4.5
BRAKES	**CONSIDERATIONS**	**RATING ***
Master Cylinder	Accessibility, Serviceability	8
Power Brake Booster	Accessibility, Serviceability	7.5
Front Wheel Brakes	Accessibility	6
Rear Wheel Brakes	Accessibility	6
ABS System	Accessibility, Serviceability	7
REAR AXLE DRIVE SHAFT	**CONSIDERATIONS**	**RATING ***
Differential Removal	Accessibility, Serviceability	5.5
Differential Service	Accessibility	4
Axle Bearings & Seals	Accessibility, Serviceability	5.5
Drive Shaft	Accessibility, Serviceability	6
Universal Joints	Accessibility, Serviceability	6
C.V. Joints	Accessibility, Serviceability	N/A

* 1 – Poor 5 – Average 10 – Outstanding

TAHOE – Continued

BODY	CONSIDERATIONS	RATING *
Windshield	Tinted	5.5
Door Glass	Framed	6
Heater	Accessibility, Serviceability	6
Door Pillars	Adequacy, Ease of Barrier Installation	4.5
Patrol Equipment – Outfitting	Ease of Outfitting, Emergency Lights	5.5
Instrument Panel	Accessibility, Serviceability	5.5
Body Wiring	Accessibility, Serviceability	5
Seat Belts	Accessibility, Serviceability	5
Shotgun Rack	Ease of Installation, Ease of Shotgun Removal	6.5
Air Bag Location	Accessibility, Serviceability	5

* 1 – Poor 5 – Average 10 - Outstanding

2007 DODGE CHARGER – 6 CYLINDER

ELECTRICAL SYSTEM	CONSIDERATIONS	RATING *
Battery	Accessibility, Group, Size	5.5
Alternator	Accessibility, Amperage	3
Starter	Accessibility, Power	6.5
Ignition	Accessibility	3.5
Spark Plugs	Accessibility	2.5
Lights	Ease of Replacement & Headlight Adjustment	2
Fuse Box	Accessibility, Serviceability	5.5
FUEL SYSTEM	**CONSIDERATIONS**	**RATING ***
Fuel Injection	Accessibility, Serviceability	2.5
Fuel Pump	Accessibility, Serviceability	1.5
Fuel Filter	Accessibility, Serviceability	1
Fuel Tank / Lines	Accessibility, Puncture Resistant	2
COOLING SYSTEM	**CONSIDERATIONS**	**RATING ***
Radiator	Accessibility, Protection, Size	3
Heater Core	Accessibility	1
Water Pump	Accessibility, Belt Arrangement	1
Thermostat	Accessibility	1.5
Hoses	Accessibility	5
Coolant Recovery	Accessibility, Capacity	4.5
SUSPENSION & STEERING	**CONSIDERATIONS**	**RATING ***
Front	Accessibility, Serviceability	6
Rear	Accessibility, Serviceability	6
Shock ABSorbers – Front	Accessibility, Serviceability	6
Shock ABSorbers – Rear	Accessibility, Serviceability	5
Front End Alignments	Accessibility, Serviceability	5
Steering Gear Box	Accessibility, Serviceability	N/A
Rack & Pinion Assembly	Accessibility, Serviceability	7
Control Arms – Front	Accessibility, Serviceability	6.5
Control Arms - Rear	Accessibility, Serviceability	6.5
EXHAUST SYSTEM	**CONSIDERATIONS**	**RATING ***
Catalytic Converter	Accessibility, Protection	3.5
Muffler	Accessibility	5
Pipes	Accessibility, Support	5
Manifold	Accessibility	3.5

* 1 – Poor 5 – Average 10 – Outstanding

CHARGER 6 CYLINDER -Continued

ENGINE & ACCESSORIES	CONSIDERATIONS	RATING *
Engine Removal	Accessibility, Ease of Removal	5
Cylinder Head Removal	Accessibility, Ease of Removal	5
Valve Covers	Accessibility, Valve Train Serviceability	2
Timing Cover	Accessibility	5.5
Oil Pan	Accessibility, Ease of Removal	4
Drain Plug	Accessibility, Ease of Removal	5.5
Dip Stick	Accessibility, Night Usability	6
Oil Filter	Accessibility, Ease of Removal	6.5
Power Steering Pump	Accessibility, Serviceability	5.5
Engine Mounts	Accessibility	4.5
A/C Compressor	Accessibility, Serviceability	5
Evaporator	Accessibility, Ease of Removal	1.5
A/C Condenser	Accessibility, Ease of Removal	2
Oil Cooler(s)	Accessibility, Ease of Removal	2
TRANSMISSION	**CONSIDERATIONS**	**RATING ***
Transmission	Ease Of Removal, Serviceability	6
Pan & Drain Plug	Accessibility, Ease of Removal	N/A
Dip Stick	Accessibility	N/A
Filter	Accessibility	N/A
Cooler	Accessibility, Ease of Removal	3
BRAKES	**CONSIDERATIONS**	**RATING ***
Master Cylinder	Accessibility, Serviceability	2.5
Power Brake Booster	Accessibility, Serviceability	2.5
Front Wheel Brakes	Accessibility	5.5
Rear Wheel Brakes	Accessibility	5.5
ABS System	Accessibility, Serviceability	6.5
REAR AXLE DRIVE SHAFT	**CONSIDERATIONS**	**RATING ***
Differential Removal	Accessibility, Serviceability	2
Differential Service	Accessibility	6.5
Axle Bearings & Seals	Accessibility, Serviceability	N/A
Drive Shaft	Accessibility, Serviceability	3.5
Universal Joints	Accessibility, Serviceability	N/A
C.V. Joints	Accessibility, Serviceability	5.5

* 1 – Poor 5 – Average 10 - Outstanding

CHARGER – 6 CYLINDER - Continued

BODY	CONSIDERATIONS	RATING *
Windshield	Tinted	4
Door Glass	Framed	6
Heater	Accessibility, Serviceability	7
Door Pillars	Adequacy, Ease of Barrier Installation	4
Patrol Equipment – Outfitting	Ease of Outfitting, Emergency Lights	4.5
Instrument Panel	Accessibility, Serviceability	5
Body Wiring	Accessibility, Serviceability	5
Seat Belts	Accessibility, Serviceability	5
Shotgun Rack	Ease of Installation, Ease of Shotgun Removal	5
Air Bag Location	Accessibility, Serviceability	4

* 1 – Poor 5 – Average 10 - Outstanding

2007 DODGE CHARGER – HEMI

ELECTRICAL SYSTEM	CONSIDERATIONS	RATING *
Battery	Accessibility, Group, Size	5.5
Alternator	Accessibility, Amperage	2.5
Starter	Accessibility, Power	6.5
Ignition	Accessibility	6
Spark Plugs	Accessibility	6
Lights	Ease of Replacement & Headlight Adjustment	2
Fuse Box	Accessibility, Serviceability	5.5
FUEL SYSTEM	**CONSIDERATIONS**	**RATING ***
Fuel Injection	Accessibility, Serviceability	6.5
Fuel Pump	Accessibility, Serviceability	1.5
Fuel Filter	Accessibility, Serviceability	1
Fuel Tank / Lines	Accessibility, Puncture Resistant	2
COOLING SYSTEM	**CONSIDERATIONS**	**RATING ***
Radiator	Accessibility, Protection, Size	3
Heater Core	Accessibility	1
Water Pump	Accessibility, Belt Arrangement	4
Thermostat	Accessibility	6.5
Hoses	Accessibility	5
Coolant Recovery	Accessibility, Capacity	4.5
SUSPENSION & STEERING	**CONSIDERATIONS**	**RATING ***
Front	Accessibility, Serviceability	6
Rear	Accessibility, Serviceability	6
Shock ABSorbers – Front	Accessibility, Serviceability	6
Shock ABSorbers – Rear	Accessibility, Serviceability	5
Front End Alignments	Accessibility, Serviceability	5
Steering Gear Box	Accessibility, Serviceability	N/A
Rack & Pinion Assembly	Accessibility, Serviceability	7
Control Arms – Front	Accessibility, Serviceability	6.5
Control Arms - Rear	Accessibility, Serviceability	6.5
EXHAUST SYSTEM	**CONSIDERATIONS**	**RATING ***
Catalytic Converter	Accessibility, Protection	2.5
Muffler	Accessibility	4.5
Pipes	Accessibility, Support	5
Manifold	Accessibility	3

* 1 – Poor 5 – Average 10 – Outstanding

CHARGER – HEMI - Continued

ENGINE & ACCESSORIES	CONSIDERATIONS	RATING *
Engine Removal	Accessibility, Ease of Removal	4
Cylinder Head Removal	Accessibility, Ease of Removal	4
Valve Covers	Accessibility, Valve Train Serviceability	4
Timing Cover	Accessibility	3
Oil Pan	Accessibility, Ease of Removal	5
Drain Plug	Accessibility, Ease of Removal	5.5
Dip Stick	Accessibility, Night Usability	6
Oil Filter	Accessibility, Ease of Removal	6.5
Power Steering Pump	Accessibility, Serviceability	7
Engine Mounts	Accessibility	4.5
A/C Compressor	Accessibility, Serviceability	5
Evaporator	Accessibility, Ease of Removal	1.5
A/C Condenser	Accessibility, Ease of Removal	2
Oil Cooler(s)	Accessibility, Ease of Removal	2
TRANSMISSION	**CONSIDERATIONS**	**RATING ***
Transmission	Ease Of Removal, Serviceability	6
Pan & Drain Plug	Accessibility, Ease of Removal	NA
Dip Stick	Accessibility	N/A
Filter	Accessibility	N/A
Cooler	Accessibility, Ease of Removal	3
BRAKES	**CONSIDERATIONS**	**RATING ***
Master Cylinder	Accessibility, Serviceability	2.5
Power Brake Booster	Accessibility, Serviceability	2.5
Front Wheel Brakes	Accessibility	5.5
Rear Wheel Brakes	Accessibility	5.5
ABS System	Accessibility, Serviceability	6.5
REAR AXLE DRIVE SHAFT	**CONSIDERATIONS**	**RATING ***
Differential Removal	Accessibility, Serviceability	2
Differential Service	Accessibility	6.5
Axle Bearings & Seals	Accessibility, Serviceability	N/A
Drive Shaft	Accessibility, Serviceability	3.5
Universal Joints	Accessibility, Serviceability	N/A
C.V. Joints	Accessibility, Serviceability	3

* 1 – Poor 5 – Average 10 – Outstanding

CHARGER – HEMI - Continued

BODY	CONSIDERATIONS	RATING *
Windshield	Tinted	4
Door Glass	Framed	6
Heater	Accessibility, Serviceability	7
Door Pillars	Adequacy, Ease of Barrier Installation	4
Patrol Equipment – Outfitting	Ease of Outfitting, Emergency Lights	4.5
Instrument Panel	Accessibility, Serviceability	5
Body Wiring	Accessibility, Serviceability	5
Seat Belts	Accessibility, Serviceability	5
Shotgun Rack	Ease of Installation, Ease of Shotgun Removal	5
Air Bag Location	Accessibility, Serviceability	4

* 1 – Poor 5 – Average 10 - Outstanding

2007 DODGE MAGNUM – 6 CYLINDER

ELECTRICAL SYSTEM	CONSIDERATIONS	RATING *
Battery	Accessibility, Group, Size	5.5
Alternator	Accessibility, Amperage	2.5
Starter	Accessibility, Power	6.5
Ignition	Accessibility	3.5
Spark Plugs	Accessibility	2.5
Lights	Ease of Replacement & Headlight Adjustment	2.5
Fuse Box	Accessibility, Serviceability	5.5
FUEL SYSTEM	**CONSIDERATIONS**	**RATING ***
Fuel Injection	Accessibility, Serviceability	2.5
Fuel Pump	Accessibility, Serviceability	1.5
Fuel Filter	Accessibility, Serviceability	1
Fuel Tank / Lines	Accessibility, Puncture Resistant	2
COOLING SYSTEM	**CONSIDERATIONS**	**RATING ***
Radiator	Accessibility, Protection, Size	3
Heater Core	Accessibility	1
Water Pump	Accessibility, Belt Arrangement	1
Thermostat	Accessibility	1.5
Hoses	Accessibility	5
Coolant Recovery	Accessibility, Capacity	4.5
SUSPENSION & STEERING	**CONSIDERATIONS**	**RATING ***
Front	Accessibility, Serviceability	6
Rear	Accessibility, Serviceability	6
Shock ABSorbers – Front	Accessibility, Serviceability	6
Shock ABSorbers – Rear	Accessibility, Serviceability	5
Front End Alignments	Accessibility, Serviceability	5
Steering Gear Box	Accessibility, Serviceability	N/A
Rack & Pinion Assembly	Accessibility, Serviceability	7
Control Arms – Front	Accessibility, Serviceability	6.5
Control Arms - Rear	Accessibility, Serviceability	6.5
EXHAUST SYSTEM	**CONSIDERATIONS**	**RATING ***
Catalytic Converter	Accessibility, Protection	3.5
Muffler	Accessibility	5
Pipes	Accessibility, Support	5
Manifold	Accessibility	3.4

* 1 – Poor 5 – Average 10 – Outstanding

MAGNUM – 6 CYLINDER - Continued

ENGINE & ACCESSORIES	CONSIDERATIONS	RATING *
Engine Removal	Accessibility, Ease of Removal	5
Cylinder Head Removal	Accessibility, Ease of Removal	5
Valve Covers	Accessibility, Valve Train Serviceability	2
Timing Cover	Accessibility	5.5
Oil Pan	Accessibility, Ease of Removal	4
Drain Plug	Accessibility, Ease of Removal	5.5
Dip Stick	Accessibility, Night Usability	6
Oil Filter	Accessibility, Ease of Removal	6.5
Power Steering Pump	Accessibility, Serviceability	5.5
Engine Mounts	Accessibility	4.5
A/C Compressor	Accessibility, Serviceability	5
Evaporator	Accessibility, Ease of Removal	1.5
A/C Condenser	Accessibility, Ease of Removal	2
Oil Cooler(s)	Accessibility, Ease of Removal	2
TRANSMISSION	**CONSIDERATIONS**	**RATING ***
Transmission	Ease Of Removal, Serviceability	6
Pan & Drain Plug	Accessibility, Ease of Removal	N/A
Dip Stick	Accessibility	N/A
Filter	Accessibility	N/A
Cooler	Accessibility, Ease of Removal	3
BRAKES	**CONSIDERATIONS**	**RATING ***
Master Cylinder	Accessibility, Serviceability	2.5
Power Brake Booster	Accessibility, Serviceability	2.5
Front Wheel Brakes	Accessibility	5.5
Rear Wheel Brakes	Accessibility	5.5
ABS System	Accessibility, Serviceability	6.5
REAR AXLE DRIVE SHAFT	**CONSIDERATIONS**	**RATING ***
Differential Removal	Accessibility, Serviceability	2
Differential Service	Accessibility	6.5
Axle Bearings & Seals	Accessibility, Serviceability	N/A
Drive Shaft	Accessibility, Serviceability	3.5
Universal Joints	Accessibility, Serviceability	N/A
C.V. Joints	Accessibility, Serviceability	5.5

* 1 – Poor 5 – Average 10 - Outstanding

MAGNUM – 6 CYLINDER - Continued

BODY	CONSIDERATIONS	RATING *
Windshield	Tinted	4
Door Glass	Framed	6
Heater	Accessibility, Serviceability	7
Door Pillars	Adequacy, Ease of Barrier Installation	4
Patrol Equipment – Outfitting	Ease of Outfitting, Emergency Lights	4.5
Instrument Panel	Accessibility, Serviceability	5
Body Wiring	Accessibility, Serviceability	5
Seat Belts	Accessibility, Serviceability	5
Shotgun Rack	Ease of Installation, Ease of Shotgun Removal	5
Air Bag Location	Accessibility, Serviceability	4

* 1 – Poor 5 – Average 10 - Outstanding

2007 DODGE MAGNUM – HEMI

ELECTRICAL SYSTEM	CONSIDERATIONS	RATING *
Battery	Accessibility, Group, Size	5.5
Alternator	Accessibility, Amperage	2.5
Starter	Accessibility, Power	6.5
Ignition	Accessibility	6
Spark Plugs	Accessibility	6
Lights	Ease of Replacement & Headlight Adjustment	2.5
Fuse Box	Accessibility, Serviceability	5.5
FUEL SYSTEM	**CONSIDERATIONS**	**RATING ***
Fuel Injection	Accessibility, Serviceability	6.5
Fuel Pump	Accessibility, Serviceability	1.5
Fuel Filter	Accessibility, Serviceability	1
Fuel Tank / Lines	Accessibility, Puncture Resistant	2.5
COOLING SYSTEM	**CONSIDERATIONS**	**RATING ***
Radiator	Accessibility, Protection, Size	3
Heater Core	Accessibility	1
Water Pump	Accessibility, Belt Arrangement	4
Thermostat	Accessibility	6.5
Hoses	Accessibility	5
Coolant Recovery	Accessibility, Capacity	4.5
SUSPENSION & STEERING	**CONSIDERATIONS**	**RATING ***
Front	Accessibility, Serviceability	6
Rear	Accessibility, Serviceability	6
Shock ABSorbers – Front	Accessibility, Serviceability	6
Shock ABSorbers – Rear	Accessibility, Serviceability	5
Front End Alignments	Accessibility, Serviceability	5
Steering Gear Box	Accessibility, Serviceability	N/A
Rack & Pinion Assembly	Accessibility, Serviceability	7
Control Arms – Front	Accessibility, Serviceability	6.5
Control Arms - Rear	Accessibility, Serviceability	6.5
EXHAUST SYSTEM	**CONSIDERATIONS**	**RATING ***
Catalytic Converter	Accessibility, Protection	2.5
Muffler	Accessibility	4.5
Pipes	Accessibility, Support	5
Manifold	Accessibility	3

* 1 – Poor 5 – Average 10 – Outstanding

MAGNUM – HEMI - Continued

ENGINE & ACCESSORIES	CONSIDERATIONS	RATING *
Engine Removal	Accessibility, Ease of Removal	4
Cylinder Head Removal	Accessibility, Ease of Removal	4
Valve Covers	Accessibility, Valve Train Serviceability	4
Timing Cover	Accessibility	3
Oil Pan	Accessibility, Ease of Removal	5
Drain Plug	Accessibility, Ease of Removal	5.5
Dip Stick	Accessibility, Night Usability	6
Oil Filter	Accessibility, Ease of Removal	6.5
Power Steering Pump	Accessibility, Serviceability	7
Engine Mounts	Accessibility	4.5
A/C Compressor	Accessibility, Serviceability	5
Evaporator	Accessibility, Ease of Removal	1.5
A/C Condenser	Accessibility, Ease of Removal	2
Oil Cooler(s)	Accessibility, Ease of Removal	2
TRANSMISSION	**CONSIDERATIONS**	**RATING ***
Transmission	Ease Of Removal, Serviceability	6
Pan & Drain Plug	Accessibility, Ease of Removal	N/A
Dip Stick	Accessibility	N/A
Filter	Accessibility	N/A
Cooler	Accessibility, Ease of Removal	2
BRAKES	**CONSIDERATIONS**	**RATING ***
Master Cylinder	Accessibility, Serviceability	2.5
Power Brake Booster	Accessibility, Serviceability	2.5
Front Wheel Brakes	Accessibility	5.5
Rear Wheel Brakes	Accessibility	5.5
ABS System	Accessibility, Serviceability	6.5
REAR AXLE DRIVE SHAFT	**CONSIDERATIONS**	**RATING ***
Differential Removal	Accessibility, Serviceability	2
Differential Service	Accessibility	6.5
Axle Bearings & Seals	Accessibility, Serviceability	N/A
Drive Shaft	Accessibility, Serviceability	3.5
Universal Joints	Accessibility, Serviceability	N/A
C.V. Joints	Accessibility, Serviceability	5.5

* 1 – Poor 5 – Average 10 - Outstanding

MAGNUM – HEMI - Continued

BODY	CONSIDERATIONS	RATING *
Windshield	Tinted	4
Door Glass	Framed	6
Heater	Accessibility, Serviceability	7
Door Pillars	Adequacy, Ease of Barrier Installation	4
Patrol Equipment – Outfitting	Ease of Outfitting, Emergency Lights	4.5
Instrument Panel	Accessibility, Serviceability	5
Body Wiring	Accessibility, Serviceability	5
Seat Belts	Accessibility, Serviceability	5
Shotgun Rack	Ease of Installation, Ease of Shotgun Removal	5
Air Bag Location	Accessibility, Serviceability	4

* 1 – Poor 5 – Average 10 - Outstanding

2007 FORD CVPI

ELECTRICAL SYSTEM	CONSIDERATIONS	RATING *
Battery	Accessibility, Group, Size	5.5
Alternator	Accessibility, Amperage	6.5
Starter	Accessibility, Power	6.5
Ignition	Accessibility	5.5
Spark Plugs	Accessibility	6.5
Lights	Ease of Replacement & Headlight Adjustment	5.5
Fuse Box	Accessibility, Serviceability	5.5
FUEL SYSTEM	**CONSIDERATIONS**	**RATING ***
Fuel Injection	Accessibility, Serviceability	7
Fuel Pump	Accessibility, Serviceability	6
Fuel Filter	Accessibility, Serviceability	6.5
Fuel Tank / Lines	Accessibility, Puncture Resistant	4.5
COOLING SYSTEM	**CONSIDERATIONS**	**RATING ***
Radiator	Accessibility, Protection, Size	5.5
Heater Core	Accessibility	1.5
Water Pump	Accessibility, Belt Arrangement	7
Thermostat	Accessibility	7.5
Hoses	Accessibility	6.5
Coolant Recovery	Accessibility, Capacity	7
SUSPENSION & STEERING	**CONSIDERATIONS**	**RATING ***
Front	Accessibility, Serviceability	5.5
Rear	Accessibility, Serviceability	7
Shock ABSorbers – Front	Accessibility, Serviceability	4
Shock ABSorbers – Rear	Accessibility, Serviceability	7
Front End Alignments	Accessibility, Serviceability	6.5
Steering Gear Box	Accessibility, Serviceability	N/A
Rack & Pinion Assembly	Accessibility, Serviceability	7.5
Control Arms – Front	Accessibility, Serviceability	6
Control Arms - Rear	Accessibility, Serviceability	6.5
EXHAUST SYSTEM	**CONSIDERATIONS**	**RATING ***
Catalytic Converter	Accessibility, Protection	6
Muffler	Accessibility	6
Pipes	Accessibility, Support	6
Manifold	Accessibility	5

* 1 – Poor 5 – Average 10 – Outstanding

CVPI - Continued

ENGINE & ACCESSORIES	CONSIDERATIONS	RATING *
Engine Removal	Accessibility, Ease of Removal	6
Cylinder Head Removal	Accessibility, Ease of Removal	5
Valve Covers	Accessibility, Valve Train Serviceability	5
Timing Cover	Accessibility	6.5
Oil Pan	Accessibility, Ease of Removal	1.5
Drain Plug	Accessibility, Ease of Removal	6.5
Dip Stick	Accessibility, Night Usability	6
Oil Filter	Accessibility, Ease of Removal	4.5
Power Steering Pump	Accessibility, Serviceability	5
Engine Mounts	Accessibility	4
A/C Compressor	Accessibility, Serviceability	4.5
Evaporator	Accessibility, Ease of Removal	6
A/C Condenser	Accessibility, Ease of Removal	6
Oil Cooler(s)	Accessibility, Ease of Removal	4.5
TRANSMISSION	**CONSIDERATIONS**	**RATING ***
Transmission	Ease Of Removal, Serviceability	5.5
Pan & Drain Plug	Accessibility, Ease of Removal	7
Dip Stick	Accessibility	6
Filter	Accessibility	7
Cooler	Accessibility, Ease of Removal	4.5
BRAKES	**CONSIDERATIONS**	**RATING ***
Master Cylinder	Accessibility, Serviceability	7.5
Power Brake Booster	Accessibility, Serviceability	7.5
Front Wheel Brakes	Accessibility	7
Rear Wheel Brakes	Accessibility	6.5
ABS System	Accessibility, Serviceability	7
REAR AXLE DRIVE SHAFT	**CONSIDERATIONS**	**RATING ***
Differential Removal	Accessibility, Serviceability	6.5
Differential Service	Accessibility	7
Axle Bearings & Seals	Accessibility, Serviceability	6.5
Drive Shaft	Accessibility, Serviceability	6.5
Universal Joints	Accessibility, Serviceability	6
C.V. Joints	Accessibility, Serviceability	N/A

* 1 – Poor 5 – Average 10 - Outstanding

CVPI - Continued

BODY	CONSIDERATIONS	RATING *
Windshield	Tinted	5
Door Glass	Framed	6.5
Heater	Accessibility, Serviceability	7
Door Pillars	Adequacy, Ease of Barrier Installation	7
Patrol Equipment – Outfitting	Ease of Outfitting, Emergency Lights	7
Instrument Panel	Accessibility, Serviceability	6
Body Wiring	Accessibility, Serviceability	6
Seat Belts	Accessibility, Serviceability	5.5
Shotgun Rack	Ease of Installation, Ease of Shotgun Removal	7
Air Bag Location	Accessibility, Serviceability	6

* 1 – Poor 5 – Average 10 - Outstanding

COMMUNICATIONS EVALUATION RESULTS

The communications evaluation of each vehicle is conducted by technicians assigned to the Los Angeles County Sheriff's Department's Communications and Fleet Management Bureau. This evaluation concerns itself with the radio installation, the effect of radio operation on vehicle performance and the affect of the vehicle on radio performance.

The Electromagnetic Interference Susceptibility test is intended for use in the presence of electromagnetic fields resulting from use of public safety two-way radios.

Vehicle performance must not be affected in any way by transmissions from a radio and antenna installed in the vehicle and operating in any of the frequency ranges of 30 to 50 MHz, 450 to 512 MHz, and 800 to 900 MHz, and having a radio frequency output no less than 100 watts. Vehicle performance shall not be affected by the presence of another vehicle equipped with the above described radio and operated next to the subject vehicle.

Radiated and conducted electromagnetic interference vehicle systems and accessories shall be designed to reduce interference with the use of public safety radio receivers or electronic sirens or sound amplifiers. The effective sensitivity of a receiver installed in the vehicle shall not be reduced by more than the amount tabulated below for each frequency band:

FREQUENCY BAND	ALLOWABLE DEGRADATION
30 to 50 MHz	15 dB
150 to 174 MHz	5 dB
450 to 512 MHz	3 dB
800 to 900 MHz	3 dB

Degradation is the difference in effective receiver sensitivity measured with the vehicle engine and accessories turned off as compared to that measured with the engine and accessories turned on.

Sensitivity is measured in terms of the 12 dB Sinad signal as defined in EIA Standard RS-204. To determine effective sensitivity, the receiver is connected to the antenna through an isolating tee connector which allows introduction of the signal generator through the isolated port. Comparative signal strength readings are then taken with and without the interference present.

COMMUNICATION NOISE EVALUATION

2007 CHEVROLET IMPALA

RADIO MAKE	MODEL NO.	ANTENNA TYPE	LOCATION
Motorola XTL-5000	M20SSS9PW1AN	5dB Gain Whip	Roof

FREQUENCY: 482.8375 MHz

WITH ANTENNA	12 dB SINAD	20 dB QUIETING	DESENS dB
Engine Off	13 uV	12.5 uV	3 dB
Engine Idle (No Acc)	13 uV	12.5 uV	3 dB
Engine High RPM (No Acc)	13 uV	12.5 uV	3 dB
Engine Idle W/Air	13 uV	12.5 uV	3 dB
Engine Idle W/ Lights	13 uV	12.5 uV	3 dB
Engine Idle W/Heater	13 uV	12.5 uV	3 dB
Engine Idle W/All Acc	13 uV	12.5 uV	3 dB
Engine High RPM W/All Acc	13 uV	12.5 uV	3 dB

Also Tested:

Monitored approximately 284 frequencies between 453 and 508 MHZ using Motorola XTS-5000 portable radio. No spurious signals detected.

COMMUNICATION NOISE EVALUATION - Continued

2007 CHEVROLET IMPALA

Glove Compartment Accessibility – (Undercover Use)	Rating **
Control Head	4
Microphone	7
Electronic Siren	5
Dashboard Accessibility	
Radio Control Head	5
Siren Console	7
Mobile Digital Terminal/Computer	5
Speakers	5
Microphones	7
Trunk Accessibility	
Factory Power Terminal in Trunk	7
One Radio Installation	8
Two Radio Installation	6
Antenna Installation	5
Computer Installation	5
Engine Accessibility	
Battery Terminal Connection	7
Accommodation for Cables	5
Hidden Siren Installation	5
Ignition Fuse Terminal Block	
Clip – on Connections for Accessories	4

** 1 – Poor 5 – Average 10 - Outstanding

COMMUNICATION NOISE EVALUATION

2007 CHEVROLET TAHOE

RADIO MAKE	MODEL NO.	ANTENNA TYPE	LOCATION
Motorola XTL-5000	M20SSS9PW1AN	5dB Gain Whip	Roof

FREQUENCY: 482.8375 MHz

WITH ANTENNA	12 dB SINAD	20 dB QUIETING	DESENS dB
Engine Off	12 uV	12 uV	2 dB
Engine Idle (No Acc)	12.5 uV	12.5 uV	3 dB
Engine High RPM (No Acc)	12.5 uV	12.5 uV	3 dB
Engine Idle W/Air	12.5 uV	12.5 uV	3 dB
Engine Idle W/ Lights	12.5 uV	12.5 uV	3 dB
Engine Idle W/Heater	12.5 uV	12.5 uV	3 dB
Engine Idle W/All Acc	12.5 uV	12.5 uV	3 dB
Engine High RPM W/All Acc	12.5 uV	12.5 uV	3 dB

Also Tested:

Monitored approximately 284 frequencies between 453 and 508 MHZ using Motorola XTS-5000 portable radio. Interference detected on channel 483.7625 MHZ when squelch in radio is wide open and held near vehicle dashboard, but signal lacks sufficient strength to open squelch in radio. No interference detected in mobile radio.

COMMUNICATION NOISE EVALUATION - Continued

2007 CHEVROLET TAHOE

Glove Compartment Accessibility – (Undercover Use)	Rating **
Control Head	5
Microphone	7
Electronic Siren	5
Dashboard Accessibility	
Radio Control Head	7
Siren Console	7
Mobile Digital Terminal/Computer	7
Speakers	7
Microphones	7
Trunk Accessibility	
Factory Power Terminal in Trunk	6
One Radio Installation	9
Two Radio Installation	9
Antenna Installation	5
Computer Installation	7
Engine Accessibility	
Battery Terminal Connection	5
Accommodation for Cables	5
Hidden Siren Installation	5
Ignition Fuse Terminal Block	
Clip – on Connections for Accessories	5

** 1 – Poor 5 – Average 10 - Outstanding

COMMUNICATION NOISE EVALUATION

2007 DODGE CHARGER - 6 CYLINDER

RADIO MAKE	MODEL NO.	ANTENNA TYPE	LOCATION
Motorola XTL-5000	M20SSS9PW1AN	5dB Gain Whip	Roof

FREQUENCY: 482.8375 MHz

WITH ANTENNA	12 dB SINAD	20 dB QUIETING	DESENS dB
Engine Off	12.5 uV	12 uV	2 dB
Engine Idle (No Acc)	12.5 uV	12 uV	2 dB
Engine High RPM (No Acc)	12.5 uV	12.5 uV	2 dB
Engine Idle W/Air	12.5 uV	12.5 uV	2 dB
Engine Idle W/ Lights	12.5 uV	12.5 uV	2 dB
Engine Idle W/Heater	12.5 uV	12.5 uV	2 dB
Engine Idle W/All Acc	12.5 uV	12.5 uV	2 dB
Engine High RPM W/All Acc	12.5 uV	12.5 uV	2 dB

Also Tested:

Monitored approximately 284 frequencies between 453 and 508 MHZ using Motorola XTS-5000 portable radio. Found interference causing undesirable operation on channel 483.9875 MHZ. Spurious signal seems to be radiating from unknown source behind center of dashboard and is causing squelch to open in radio at a maximum distance of approximately 12 inches. Also found interference on 483.7625 MHZ radiating from same location out to a maximum distance of approximately 24 inches. No interference was detected in mobile radio on same frequency.

COMMUNICATION NOISE EVALUATION - Continued

2007 DODGE CHARGER - 6 CYLINDER

Glove Compartment Accessibility – (Undercover Use)	Rating **
Control Head	3
Microphone	4
Electronic Siren	5
Dashboard Accessibility	
Radio Control Head	6
Siren Console	6
Mobile Digital Terminal/Computer	5
Speakers	5
Microphones	5
Trunk Accessibility	
Factory Power Terminal in Trunk	8
One Radio Installation	6
Two Radio Installation	6
Antenna Installation	5
Computer Installation	5
Engine Accessibility	
Battery Terminal Connection	6
Accommodation for Cables	6
Hidden Siren Installation	6
Ignition Fuse Terminal Block	
Clip – on Connections for Accessories	5

** 1 – Poor 5 – Average 10 - Outstanding

COMMUNICATION NOISE EVALUATION

2007 DODGE CHARGER - HEMI

RADIO MAKE	MODEL NO.	ANTENNA TYPE	LOCATION
Motorola XTL-5000	M20SSS9PW1AN	5dB Gain Whip	Roof

FREQUENCY: 482.8375 MHz

WITH ANTENNA	12 dB SINAD	20 dB QUIETING	DESENS dB
Engine Off	12.5 uV	12.5 uV	3 dB
Engine Idle (No Acc)	12.5 uV	12.5 uV	3 dB
Engine High RPM (No Acc)	12.5 uV	12.5 uV	3 dB
Engine Idle W/Air	12.5 uV	12.5 uV	3 dB
Engine Idle W/ Lights	12.5 uV	12.5 uV	3 dB
Engine Idle W/Heater	12.5 uV	12.5 uV	3 dB
Engine Idle W/All Acc	12.5 uV	12.5 uV	3 dB
Engine High RPM W/All Acc	12.5 uV	13 uV	3 dB

Also Tested:

Monitored approximately 284 frequencies between 453 and 508 MHZ using Motorola XTS-5000 portable radio. Found interference causing undesirable operation on channel 483.9875 MHZ. Spurious signal seems to be radiating from unknown source behind center of dashboard and is causing squelch to open in radio at a maximum distance of approximately 12 inches. Also, found interference on channel 483.6375 MHZ radiating from the same location out to a maximum distance of approximately 36 inches. No interference was detected in mobile radio on same frequencies.

COMMUNICATION NOISE EVALUATION - Continued

2007 DODGE CHARGER - HEMI

Glove Compartment Accessibility – (Undercover Use)	Rating **
Control Head	3
Microphone	4
Electronic Siren	5
Dashboard Accessibility	
Radio Control Head	6
Siren Console	6
Mobile Digital Terminal/Computer	5
Speakers	5
Microphones	5
Trunk Accessibility	
Factory Power Terminal in Trunk	8
One Radio Installation	6
Two Radio Installation	6
Antenna Installation	5
Computer Installation	5
Engine Accessibility	
Battery Terminal Connection	6
Accommodation for Cables	6
Hidden Siren Installation	6
Ignition Fuse Terminal Block	
Clip – on Connections for Accessories	5

** 1 – Poor 5 – Average 10 - Outstanding

COMMUNICATION NOISE EVALUATION

2007 DODGE MAGNUM - 6 CYLINDER

RADIO MAKE	MODEL NO.	ANTENNA TYPE	LOCATION
Motorola XTL-5000	M20SSS9PW1AN	5dB Gain Whip	Roof

FREQUENCY: 482.8375 MHz

WITH ANTENNA	12 dB SINAD	20 dB QUIETING	DESENS dB
Engine Off	10 uV	10 uV	1 dB
Engine Idle (No Acc)	10 uV	10 uV	1 dB
Engine High RPM (No Acc)	10 uV	10 uV	1 dB
Engine Idle W/Air	10 uV	10 uV	1 dB
Engine Idle W/ Lights	10 uV	10 uV	1 dB
Engine Idle W/Heater	10 uV	10 uV	1 dB
Engine Idle W/All Acc	10 uV	10 uV	1 dB
Engine High RPM W/All Acc	11 uV	10 uV	1 dB

Also Tested:

Monitored approximately 284 frequencies between 453 and 508 MHZ using Motorola XTS-5000 portable radio. Found interference causing undesirable operation on channel 483.9875 MHZ. Spurious signal seems to be radiating from unknown source behind center of dashboard and is causing squelch to open in radio at a maximum distance of approximately 12 inches. No interference was detected in mobile radio on same frequency.

COMMUNICATION NOISE EVALUATION - Continued

2007 DODGE MAGNUM - 6 CYLINDER

Glove Compartment Accessibility – (Undercover Use)	Rating **
Control Head	3
Microphone	4
Electronic Siren	5
Dashboard Accessibility	
Radio Control Head	6
Siren Console	6
Mobile Digital Terminal/Computer	5
Speakers	5
Microphones	5
Trunk Accessibility	
Factory Power Terminal in Trunk	8
One Radio Installation	9
Two Radio Installation	9
Antenna Installation	6
Computer Installation	5
Engine Accessibility	
Battery Terminal Connection	6
Accommodation for Cables	6
Hidden Siren Installation	6
Ignition Fuse Terminal Block	
Clip – on Connections for Accessories	5

** 1 – Poor 5 – Average 10 - Outstanding

COMMUNICATION NOISE EVALUATION

2007 DODGE MAGNUM - HEMI

RADIO MAKE	MODEL NO.	ANTENNA TYPE	LOCATION
Motorola XTL-5000	M20SSS9PW1AN	5dB Gain Whip	Roof

FREQUENCY: 482.8375 MHz

WITH ANTENNA	12 dB SINAD	20 dB QUIETING	DESENS dB
Engine Off	12 uV	12 uV	2 dB
Engine Idle (No Acc)	12 uV	12 uV	2 dB
Engine High RPM (No Acc)	12 uV	12 uV	2 dB
Engine Idle W/Air	12 uV	12 uV	2 dB
Engine Idle W/ Lights	12 uV	12 uV	2 dB
Engine Idle W/Heater	12 uV	12 uV	2 dB
Engine Idle W/All Acc	12 uV	12 uV	2 dB
Engine High RPM W/All Acc	12 uV	12 uV	2 dB

Also Tested:

Monitored approximately 284 frequencies between 453 and 508 MHZ using Motorola XTS-5000 portable radio. Found interference causing undesirable operation on channel 483.9875 MHZ. Spurious signal seems to be radiating from unknown source behind center of dashboard and is causing squelch to open in radio at a maximum distance of approximately 12 inches. Also, found interference on 483.9125 MHZ radiating from the same location out to a maximum distance of approximately 36 inches. No interference was detected in mobile radio on same frequency.

COMMUNICATION NOISE EVALUATION - Continued

2007 DODGE MAGNUM - HEMI

Glove Compartment Accessibility – (Undercover Use)	Rating **
Control Head	3
Microphone	4
Electronic Siren	5
Dashboard Accessibility	
Radio Control Head	6
Siren Console	6
Mobile Digital Terminal/Computer	5
Speakers	5
Microphones	5
Trunk Accessibility	
Factory Power Terminal in Trunk	8
One Radio Installation	9
Two Radio Installation	9
Antenna Installation	6
Computer Installation	5
Engine Accessibility	
Battery Terminal Connection	6
Accommodation for Cables	6
Hidden Siren Installation	6
Ignition Fuse Terminal Block	
Clip – on Connections for Accessories	5

** 1 – Poor 5 – Average 10 - Outstanding

COMMUNICATION NOISE EVALUATION

2007 FORD CVPI - 3.27 DIFFERENTIAL

RADIO MAKE	MODEL NO.	ANTENNA TYPE	LOCATION
Motorola XTL-5000	M20SSS9PW1AN	5dB Gain Whip	Roof

FREQUENCY: 482.8375 MHz

WITH ANTENNA	12 dB SINAD	20 dB QUIETING	DESENS dB
Engine Off	12.5 uV	12 uV	3 dB
Engine Idle (No Acc)	12.5 uV	12 uV	3 dB
Engine High RPM (No Acc)	12.5 uV	12 uV	3 dB
Engine Idle W/Air	12 uV	12 uV	3 dB
Engine Idle W/ Lights	12 uV	12 uV	3 dB
Engine Idle W/Heater	12 uV	12 uV	3 dB
Engine Idle W/All Acc	12 uV	12 uV	3 dB
Engine High RPM W/All Acc	12 uV	12 uV	3 dB

Also Tested:

Monitored approximately 284 frequencies between 453 and 508 MHZ using Motorola XTS-5000 portable radio. No spurious signals detected.

COMMUNICATION NOISE EVALUATION - Continued

2007 FORD CVPI - 3.27 DIFFERENTIAL

Glove Compartment Accessibility – (Undercover Use)	Rating **
Control Head	5
Microphone	5
Electronic Siren	5
Dashboard Accessibility	
Radio Control Head	8
Siren Console	7
Mobile Digital Terminal/Computer	7
Speakers	6
Microphones	6
Trunk Accessibility	
Factory Power Terminal in Trunk	6
One Radio Installation	7
Two Radio Installation	7
Antenna Installation	5
Computer Installation	5
Engine Accessibility	
Battery Terminal Connection	5
Accommodation for Cables	5
Hidden Siren Installation	6
Ignition Fuse Terminal Block	
Clip – on Connections for Accessories	5

** 1 – Poor 5 – Average 10 - Outstanding

ERGONOMICS

This subjective evaluation is a rating of human factors and space utilization done individually and independently by four patrol trained Deputy Sheriffs from this Department. Each vehicle is driven through a 100 mile loop four times, each time by a different driver. The loop is divided equally into urban, suburban, and freeway driving conditions. The vehicle is operated with the air conditioner and headlights "turned on" and with the transmission selector in the "overdrive" position. No attempt is made to "baby" the vehicle through the loop, but hard acceleration starts are avoided. The ratings are averaged to minimize personal prejudices that individuals may have for, or against, any given vehicle.

Statements in the "drivers comment" section of the evaluation reflect a consensus of their individual comments.

Additionally, during the Ergonomics evaluation, fuel efficiency is also recorded. While EPA mileage estimates may be helpful for comparative purposes, they are based on simulated driving conditions. The fuel efficiency evaluation is an attempt to estimate MPG (miles per gallon) based on actual driving conditions.

The test results are averaged between the four drivers and recorded.

ERGONOMICS EVALUATION
2007 CHEVROLET IMPALA

VISIBILITY	CONSIDERATIONS	RATING
Overall Foreword Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	7.5
DRIVER COMMENTS		
The front windshield together with the driver and passenger windows are large. More than adequate. The pillar placements are good and don't obstruct any views. The rear view mirror is placed in a good position and doesn't hinder your view.		

VISIBILITY	RATING USING MIRRORS	RATING NOT USING MIRRORS
3 O'clock Position	0	4.75
4 O'clock Position	5.5	4.25
5 O'clock Position	6.25	3.5
6 O'clock Position	7	3.5
7 O'clock Position	6.25	3.5
8 O'clock Position	4.5	4.75
9 O'clock Position	0	3.75
DRIVER COMMENTS		
Good peripheral vision around car. The blind areas are usual for most cars. No problems looking out through the mirrors while driving. There was no real blind spot or interference with any headrests. There is a small window in the rear to view from.		

FRONT SEAT	CONSIDERATIONS	RATING
Seat Comfort	Overall Seat Comfort, Hip/Shoulder Room	3.5
Seat Position	Range of Adjustment	3.5
Seat Compatibility to Sam Brown	Comfort, Seatbelt Interference	4.25
Seat to Controls	Steering Wheel, Pedals, Dashboard	4.75
Headrest Position: With Hat/Helmet	Adequacy	3.75
Headrest Position: Without Hat/Helmet	Adequacy	6.25
Headroom	Adequacy	4.5
Legroom	Adequacy	3.5
Seatbelt	Ease of Hook-Up/Release	5
Shoulder Strap	Interference with gear	5
DRIVER COMMENTS		
All the instruments were very accessible with little to no movement to reach them. Seat is too rigid and narrow. Head room is less then average. Leg room area too narrow.		

INSTRUMENT PANEL	CONSIDERATIONS	RATING
Instrument Placement	Ease of Viewing, Are They Obstructed by the Steering Wheel or Other Components	5.25
Instrument Visibility	Can You See Them	5.75
Instrument Legibility	Can You Read Them	5.75
DRIVER COMMENTS		
With the steering wheel in the down position (all the way), ½ of all the instruments on the panel were blocked. In direct sunlight, the L.E.D.'s are hard to read.		

CONTROLS	CONSIDERATIONS	RATING
Steering Wheel	Size, Position	5.5
Shift Lever	Accessibility, Indicator Visibility	6.5
Knobs & Switches	Location, Visibility, Markings, Arrangement	5.75
Pedals	Location	4.75
Pedals	Size	5
Pedals	Spacing (Do you hit more than one pedal with boots on?)	4.5
Parking Brake	Location	5.5
Parking Brake	Method of Release.	5.5
DRIVER COMMENTS		
Easy access to all levers and switches. Good pedal separation.		

MIRRORS	CONSIDERATIONS	RATING
Rearview Mirror	Placement	5
Rearview Mirror	Size	5
Rearview Mirror	Ease of Adjustment	5
Rearview Mirror	Distortion	5
Driver Side Mirror	Placement	4.5
Driver Side Mirror	Size	4.5
Driver Side Mirror	Ease of Adjustment	5
Driver Side Mirror	Distortion	4.5
Passenger Side Mirror	Placement	4.5
Passenger Side Mirror	Size	4.5
Passenger Side Mirror	Ease of Adjustment	5
Passenger Side Mirror	Distortion	4.5
DRIVER COMMENTS		
Two of the drivers had no issue in this area, and two reported that they are a little small making viewing difficult.		

DOORS	CONSIDERATIONS	RATING
Front Door	Ease of Ingress/Egress	4.5
Rear Door	Ease of Ingress/Egress	4
Window & Door Handles	Accessibility, Ease of Operation	4.5
DRIVER COMMENTS		
The doors are easily accessible to enter / exit with gear. The door/window controls are not an issue.		

REAR SEAT	CONSIDERATIONS	RATING
Seat Comfort	Overall Seat Comfort, Hip/Shoulder Room	4
Headroom	Adequacy	4
Legroom	Adequacy	2.5
Seatbelt	Ease of Hook-Up/Release	4.25
DRIVER COMMENTS		
Rear seat is hard to get into and out of. Poor leg room, especially for a person with long legs. Head room is adequate.		

TRUNK	CONSIDERATIONS	RATING
Lid	Ease of Opening	5
Lid	Size of Opening	4.25
Compartment	Ease of Loading/Unloading	4.25
DRIVER COMMENTS		
The trunk size is more than adequate to carry equipment. The lip of the trunk is low enough, making it easy to load and unload.		

SLALOM	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

PARRALLEL PARK - LEVEL	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

PARRALLEL PARK - INCLINE	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

PARRALLEL PARK - DECLINE	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

REAR 3 POINT TURN	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

ERGONOMICS EVALUATION
2007 CHEVROLET TAHOE

VISIBILITY	CONSIDERATIONS	RATING
Overall Foreword Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	7.75
DRIVER COMMENTS		
There where no problems with overall forward visibility. The windshield is large enough to see everything you need to. No obstructions and no distortion.		

VISIBILITY	RATING USING MIRRORS	RATING NOT USING MIRRORS
3 O'clock Position	0	6.25
4 O'clock Position	6.5	6.5
5 O'clock Position	7.5	3.5
6 O'clock Position	7.5	2.5
7 O'clock Position	7.5	3.75
8 O'clock Position	6	6.25
9 O'clock Position	0	6.5
DRIVER COMMENTS		
There is some obstruction with out mirrors at the 5 and 7 o'clock positions due to the rear end design and the right rear headrest obstructing the view. Using mirrors at those angles helped.		

FRONT SEAT	CONSIDERATIONS	RATING
Seat Comfort	Overall Seat Comfort, Hip/Shoulder Room	7
Seat Position	Range of Adjustment	7
Seat Compatibility to Sam Brown	Comfort, Seatbelt Interference	7.5
Seat to Controls	Steering Wheel, Pedals, Dashboard	6
Headrest Position: With Hat/Helmet	Adequacy	4.5
Headrest Position: Without Hat/Helmet	Adequacy	6.5
Headroom	Adequacy	7.5
Legroom	Adequacy	7.25
Seatbelt	Ease of Hook-Up/Release	7
Shoulder Strap	Interference with gear	6.66
DRIVER COMMENTS		
The seat and the range of position is good. The layout of the controls made them easy to reach and read. Good illumination. Headrest and headroom is better than most vehicles. Head rests may interfere with brims of some hats.		

INSTRUMENT PANEL	CONSIDERATIONS	RATING
Instrument Placement	Ease of Viewing, Are They Obstructed by the Steering Wheel or Other Components	5.5
Instrument Visibility	Can You See Them	6.25
Instrument Legibility	Can You Read Them	6.25
DRIVER COMMENTS		
Depending upon the steering wheel placement selected by each driver, some placements obstruct the instrument panel. This happened for two of the four drivers.		

CONTROLS	CONSIDERATIONS	RATING
Steering Wheel	Size, Position	6
Shift Lever	Accessibility, Indicator Visibility	6.25
Knobs & Switches	Location, Visibility, Markings, Arrangement	5.25
Pedals	Location	5
Pedals	Size	5
Pedals	Spacing (Do you hit more than one pedal with boots on?)	4.75
Parking Brake	Location	5.5
Parking Brake	Method of Release.	5.5
DRIVER COMMENTS		
Easy access to all levers and switches. Good pedal separation.		

MIRRORS	CONSIDERATIONS	RATING
Rearview Mirror	Placement	6.75
Rearview Mirror	Size	6
Rearview Mirror	Ease of Adjustment	6
Rearview Mirror	Distortion	6
Driver Side Mirror	Placement	6
Driver Side Mirror	Size	6
Driver Side Mirror	Ease of Adjustment	6
Driver Side Mirror	Distortion	6
Passenger Side Mirror	Placement	6
Passenger Side Mirror	Size	6
Passenger Side Mirror	Ease of Adjustment	6
Passenger Side Mirror	Distortion	6
DRIVER COMMENTS		
The mirrors are large enough to see most everything. There is no distortion with any mirrors.		

DOORS	CONSIDERATIONS	RATING
Front Door	Ease of Ingress/Egress	8.25
Rear Door	Ease of Ingress/Egress	7.5
Window & Door Handles	Accessibility, Ease of Operation	5.5
DRIVER COMMENTS		
The wide, large doors make entry into this vehicle very easy. There are no problems getting in or out and there are no problems of hitting your head due to the large/wide doors.		

REAR SEAT	CONSIDERATIONS	RATING
Seat Comfort	Overall Seat Comfort, Hip/Shoulder Room	6.75
Headroom	Adequacy	6.5
Legroom	Adequacy	5.75
Seatbelt	Ease of Hook-Up/Release	4.5
DRIVER COMMENTS		
The wide, large doors make entry into this vehicle very easy. There are no problems getting in or out and there are no problems of hitting your head due to the large/wide doors. The seats are comfortable and the headroom/legroom is impressive.		

TRUNK	CONSIDERATIONS	RATING
Lid	Ease of Opening	6
Lid	Size of Opening	8
Compartment	Ease of Loading/Unloading	6.75
DRIVER COMMENTS		
The trunk size is more than adequate to carry equipment. The lip of the trunk is low enough, making it easy to load and unload.		

SLALOM	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

PARRALLEL PARK - LEVEL	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

PARRALLEL PARK - INCLINE	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

PARRALLEL PARK - DECLINE	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

REAR 3 POINT TURN	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

ERGONOMICS EVALUATION
2007 DODGE CHARGER

VISIBILITY	CONSIDERATIONS	RATING
Overall Foreword Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5
DRIVER COMMENTS		
Because of the down angle of the windshield, my field of vision is reduced. Many blind spots from the pillars. Drivers had a hard time seeing the pedestrians that would be crossing from their right side or coming off the curb at intersections. They had a hard time seeing the rear sides as well to change lanes when even when they turned their heads. When stopped at traffic lights, if they were one of the first 3 cars at the limit line, they could not see the over hanging traffic lights. They had to drop their heads forward to be able to confirm the lights color/status. The "A" pillars on both sides seem too wide and also contribute in reducing their field of vision. Headliner too low along with the visor and dome light. They didn't like the circular dome light in front of them. The ceiling of car too low when wearing helmet/hat.		

VISIBILITY	RATING USING MIRRORS	RATING NOT USING MIRRORS
3 O'clock Position	0	6.75
4 O'clock Position	5	4
5 O'clock Position	3.5	2.75
6 O'clock Position	6.5	2.5
7 O'clock Position	3.25	2
8 O'clock Position	4	3.25
9 O'clock Position	0	6.75
DRIVER COMMENTS		
Difficult to adjust the rear view mirror, as the mounted light by the windshield was blocking where your hand would go to adjust the rear view mirror. There is a huge blind spot on both sides of the car at the 4 and 8 o'clock positions.		

FRONT SEAT	CONSIDERATIONS	RATING
Seat Comfort	Overall Seat Comfort, Hip/Shoulder Room	7
Seat Position	Range of Adjustment	8
Seat Compatibility to Sam Brown	Comfort, Seatbelt Interference	5.5
Seat to Controls	Steering Wheel, Pedals, Dashboard	6.6
Headrest Position: With Hat/Helmet	Adequacy	1.5
Headrest Position: Without Hat/Helmet	Adequacy	5.25
Headroom	Adequacy	5.25
Legroom	Adequacy	6.5
Seatbelt	Ease of Hook-Up/Release	5.5
Shoulder Strap	Interference with gear	5.5
DRIVER COMMENTS		
My ammo pouch got hung up in the seat belt every time I took off the belt either 1 or both opened, but at least always one. My magazine pouches are for the Berretta 9 MM , 2 magazine pouch style, with openings on top. With the driver seat all the way to the back, I had plenty of leg room. I had a very hard time getting to my radio on my belt to adjust the volume and channels, as I kept hitting the center pillar. I had to move forward to get close to being able to control the radio. My radio is located on my left side, with controls on top of the radio. With a helmet on, I found it very hard to keep head straight. My helmet was against the head rest. With the Campaign type hat, I could not even operate this car in a safe manner. I could not turn my head or see with it on. I found this hat within this car UNUSABLE to me. The head rest is too far forward for the use of this hat. Getting both in and out of the vehicle with both the helmet and hat, I hit the frame of the car. I found the seat to be comfortable. The only thing I did find with the seat was that I would find myself slipping from my original position, as if the seats were slippery. ROOF TOO LOW.		

INSTRUMENT PANEL	CONSIDERATIONS	RATING
Instrument Placement	Ease of Viewing, Are They Obstructed by the Steering Wheel or Other Components	4.75
Instrument Visibility	Can You See Them	6
Instrument Legibility	Can You Read Them	6.75
DRIVER COMMENTS		
With the steering wheel adjusted all the way down it blocked ½ of all the instruments in the dash, including the speedometer/tachometer/oil pressure and gas gauges. If the wheel was adjusted up the gauges were easily visible.		

CONTROLS	CONSIDERATIONS	RATING
Steering Wheel	Size, Position	6
Shift Lever	Accessibility, Indicator Visibility	5.5
Knobs & Switches	Location, Visibility, Markings, Arrangement	5.25
Pedals	Location	6.25
Pedals	Size	6.25
Pedals	Spacing (Do you hit more than one pedal with boots on?)	6.25
Parking Brake	Location	6.5
Parking Brake	Method of Release.	6.5
DRIVER COMMENTS		
Two of the drivers had a problem using the shift lever claiming that it was in a bad position to start with and even worse as they drove. It seemed to stick out to the radio area and cover the panel.		

MIRRORS	CONSIDERATIONS	RATING
Rearview Mirror	Placement	5.25
Rearview Mirror	Size	6.25
Rearview Mirror	Ease of Adjustment	3.75
Rearview Mirror	Distortion	6.25
Driver Side Mirror	Placement	6.25
Driver Side Mirror	Size	6
Driver Side Mirror	Ease of Adjustment	6.25
Driver Side Mirror	Distortion	6.25
Passenger Side Mirror	Placement	6.25
Passenger Side Mirror	Size	7.75
Passenger Side Mirror	Ease of Adjustment	6.25
Passenger Side Mirror	Distortion	6.25
DRIVER COMMENTS		
The rear view mirror is difficult to adjust. The lights/sunglass compartment is so close to the mirror you can barley get your hand up to adjust the mirror. The placement of the side mirrors is adequate.		

DOORS	CONSIDERATIONS	RATING
Front Door	Ease of Ingress/Egress	5.5
Rear Door	Ease of Ingress/Egress	5
Window & Door Handles	Accessibility, Ease of Operation	6.5
DRIVER COMMENTS		
Larger/taller drivers found this vehicle hard to get into and out of and worse if they were in a hurry.		

REAR SEAT	CONSIDERATIONS	RATING
Seat Comfort	Overall Seat Comfort, Hip/Shoulder Room	N/A
Headroom	Adequacy	N/A
Legroom	Adequacy	N/A
Seatbelt	Ease of Hook-Up/Release	N/A
DRIVER COMMENTS		
Due to a roll bar inside the vehicle, this category was unable to evaluate.		

TRUNK	CONSIDERATIONS	RATING
Lid	Ease of Opening	6.25
Lid	Size of Opening	6.25
Compartment	Ease of Loading/Unloading	5.25
DRIVER COMMENTS		
Small trunk, narrow opening.		

SLALOM	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	4
DRIVER COMMENTS		
Poor visibility. Design of the vehicle makes it difficult to see to the rear.		

PARRALLEL PARK - LEVEL	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	3.6
DRIVER COMMENTS		
Poor visibility. Design of the vehicle makes it difficult to see to the rear.		

PARRALLEL PARK - INCLINE	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	3.6
DRIVER COMMENTS		
Poor visibility. Design of the vehicle makes it difficult to see to the rear.		

PARRALLEL PARK - DECLINE	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	3.6
DRIVER COMMENTS		
Poor visibility. Design of the vehicle makes it difficult to see to the rear.		

REAR 3 POINT TURN	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	3.6
DRIVER COMMENTS		
Poor visibility. Design of the vehicle makes it difficult to see to the rear.		

ERGONOMICS EVALUATION
2007 DODGE MAGNUM

VISIBILITY	CONSIDERATIONS	RATING
Overall Foreword Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	4.75
DRIVER COMMENTS		
Foreword visibility poor. It is hard to see how close you are to the car in front of you at stop lights. Many blind spots due to pillar size and placement. Rear view mirror placement blocks 1 o'clock field of vision causing difficulty seeing the pedestrians that would be crossing from the right side or coming off the curb at intersections. When stopped at traffic lights, if you are one of the first 3 cars at the limit line, it is difficult to see the over hanging traffic lights. The driver must drop his head forward to be able to confirm the lights color/status.		

VISIBILITY	RATING USING MIRRORS	RATING NOT USING MIRRORS
3 O'clock Position	0	6.75
4 O'clock Position	1.5	3.75
5 O'clock Position	4.75	2.75
6 O'clock Position	6.5	2.5
7 O'clock Position	5.25	2
8 O'clock Position	2	3.25
9 O'clock Position	0	6.75
DRIVER COMMENTS		
Difficult to adjust the rear view mirror, as the mounted light by the windshield was blocking where your hand would go to adjust the rear view mirror. Difficult looking out the window at the 4 o'clock position as the head rest blocks your view. There is a huge blind spot on both sides of the car at the 4 and 8 o'clock positions.		

FRONT SEAT	CONSIDERATIONS	RATING
Seat Comfort	Overall Seat Comfort, Hip/Shoulder Room	6.75
Seat Position	Range of Adjustment	7.75
Seat Compatibility to Sam Brown	Comfort, Seatbelt Interference	5
Seat to Controls	Steering Wheel, Pedals, Dashboard	7
Headrest Position: With Hat/Helmet	Adequacy	1.75
Headrest Position: Without Hat/Helmet	Adequacy	6
Headroom	Adequacy	5
Legroom	Adequacy	6.5
Seatbelt	Ease of Hook-Up/Release	4.75
Shoulder Strap	Interference with gear	5
DRIVER COMMENTS		
My ammo pouch got hung up in the seat belt every time I took off the belt either 1 or both opened, but at least always one. My magazine pouches are for the Berretta 9 MM , 2 magazine pouch style, with openings on top. With the driver seat all the way to the back, I had plenty of leg room. I had a very hard time getting to my radio on my belt to adjust the volume and channels, as I kept hitting the center pillar. I had to move forward to get close to being able to control the radio. My radio is located on my left side, with controls on top of the radio. With a helmet on, I found it very hard to keep head straight. My helmet was against the head rest. With the Campaign type hat, I could not even operate this car in a safe manner. I could not turn my head or see with it on. I found this hat within this car UNUSABLE to me. The head rest is too far forward for the use of this hat. Getting both in and out of the vehicle with both the helmet and hat, I hit the frame of the car. I found the seat to be comfortable. The only thing I did find with the seat was that I would find myself slipping from my original position, as if the seats were slippery.		

INSTRUMENT PANEL	CONSIDERATIONS	RATING
Instrument Placement	Ease of Viewing, Are They Obstructed by the Steering Wheel or Other Components	4.5
Instrument Visibility	Can You See Them	5.5
Instrument Legibility	Can You Read Them	6.75
DRIVER COMMENTS		
Dep. Brink, With the steering wheel adjusted to its lowest position, it blocked ½ of all the instruments in the dash, the speedometer, tachometer, oil pressure and gas gauges. With the wheel up, you can see the gauges fine. The white back drop with black lettering is good for reading instruments.		

CONTROLS	CONSIDERATIONS	RATING
Steering Wheel	Size, Position	6.25
Shift Lever	Accessibility, Indicator Visibility	4.25
Knobs & Switches	Location, Visibility, Markings, Arrangement	4.5
Pedals	Location	6
Pedals	Size	6
Pedals	Spacing (Do you hit more than one pedal with boots on?)	6
Parking Brake	Location	6.5
Parking Brake	Method of Release.	6.5
DRIVER COMMENTS		
The tilt steering wheel release lever had to be pushed back in to lock the wheel into place after adjustment. The drivers accidentally hit the Cruise control a number of times, when they were trying to use the turn signals. The shift lever is hard to manipulate, you have to pay attention when putting the car into "drive". It is too easy to place the car in another gear other than "D" when you want to drive. Shift lever does obstruct some instrument when in the 'Park' position.		

MIRRORS	CONSIDERATIONS	RATING
Rearview Mirror	Placement	4.5
Rearview Mirror	Size	6.25
Rearview Mirror	Ease of Adjustment	4
Rearview Mirror	Distortion	6.25
Driver Side Mirror	Placement	7.25
Driver Side Mirror	Size	6
Driver Side Mirror	Ease of Adjustment	6.25
Driver Side Mirror	Distortion	6.25
Passenger Side Mirror	Placement	7.25
Passenger Side Mirror	Size	5.75
Passenger Side Mirror	Ease of Adjustment	6.25
Passenger Side Mirror	Distortion	6.25
DRIVER COMMENTS		
The rear view mirror is difficult to adjust. The lights/sunglass compartment is so close to the mirror you can barley get your hand up to adjust the mirror. The placement of the side mirrors is adequate.		

DOORS	CONSIDERATIONS	RATING
Front Door	Ease of Ingress/Egress	5
Rear Door	Ease of Ingress/Egress	4.66
Window & Door Handles	Accessibility, Ease of Operation	6.5
DRIVER COMMENTS		
Larger/taller drivers found this vehicle hard to get into and out of.		

REAR SEAT	CONSIDERATIONS	RATING
Seat Comfort	Overall Seat Comfort, Hip/Shoulder Room	N/A
Headroom	Adequacy	N/A
Legroom	Adequacy	N/A
Seatbelt	Ease of Hook-Up/Release	N/A
DRIVER COMMENTS		
This area was unable to be evaluated due to a roll bar being in the vehicle.		

TRUNK	CONSIDERATIONS	RATING
Lid	Ease of Opening	6.25
Lid	Size of Opening	6.25
Compartment	Ease of Loading/Unloading	5.75
DRIVER COMMENTS		
The cargo area is large and easy to access.		

SLALOM	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	3.6
DRIVER COMMENTS		
Pillar placement and small rear window make it difficult to see out the rear. Difficult to tell where the rear of the car actually is. You have to anticipate its location.		

PARRALLEL PARK - LEVEL	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	3.6
DRIVER COMMENTS		
Pillar placement and small rear window make it difficult to see out the rear.		

PARRALLEL PARK - INCLINE	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	3
DRIVER COMMENTS		
Pillar placement and small rear window make it difficult to see out the rear.		

PARRALLEL PARK – DECLINE	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	3.3
DRIVER COMMENTS		
Pillar placement and small rear window make it difficult to see out the rear.		

REAR 3 POINT TURN	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	3.3
DRIVER COMMENTS		
Pillar placement and small rear window make it difficult to see out the rear.		

ERGONOMICS EVALUATION
2007 FORD CVPI

VISIBILITY	CONSIDERATIONS	RATING
Overall Foreword Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	7.75
DRIVER COMMENTS		
The front windshield together with the driver and passenger windows are large. More than adequate. The pillar placements were good and didn't obstruct any views. The rear view mirror does block the 1 o'clock position from the driver's seat.		

VISIBILITY	RATING USING MIRRORS	RATING NOT USING MIRRORS
3 O'clock Position	0	7.25
4 O'clock Position	6.5	5.5
5 O'clock Position	7.25	3.75
6 O'clock Position	7.25	3.5
7 O'clock Position	7.25	4
8 O'clock Position	6	5.5
9 O'clock Position	0	7.250
DRIVER COMMENTS		
Between using the mirrors and turning your head, there are no blind spots in this vehicle. All fields of view are good.		

FRONT SEAT	CONSIDERATIONS	RATING
Seat Comfort	Overall Seat Comfort, Hip/Shoulder Room	4.75
Seat Position	Range of Adjustment	5.25
Seat Compatibility to Sam Brown	Comfort, Seatbelt Interference	5
Seat to Controls	Steering Wheel, Pedals, Dashboard	5.5
Headrest Position: With Hat/Helmet	Adequacy	3.5
Headrest Position: Without Hat/Helmet	Adequacy	6
Headroom	Adequacy	5.75
Legroom	Adequacy	5
Seatbelt	Ease of Hook-Up/Release	6
Shoulder Strap	Interference with gear	5.25
DRIVER COMMENTS		
The seat belt is a one hand operation. Wearing a Campaign hat was difficult with the headrest. There is headrest clearance for a helmet. The seat is a bit bigger than an average seat and that contributes to the overall comfort. Leg room is more than average. All the instruments are very accessible with little or no movement by the driver.		

INSTRUMENT PANEL	CONSIDERATIONS	RATING
Instrument Placement	Ease of Viewing, Are They Obstructed by the Steering Wheel or Other Components	5.25
Instrument Visibility	Can You See Them	5.25
Instrument Legibility	Can You Read Them	5.25
DRIVER COMMENTS		
With the steering wheel in the all the way down position there is a loss of vision to the top half of the instrument panel speedometer and tachometer. The Fuel gauge and temperature gauge are visible in all positions of the steering wheel. Instrument cluster well illuminated.		

CONTROLS	CONSIDERATIONS	RATING
Steering Wheel	Size, Position	5.75
Shift Lever	Accessibility, Indicator Visibility	6
Knobs & Switches	Location, Visibility, Markings, Arrangement	5.5
Pedals	Location	5.5
Pedals	Size	5.75
Pedals	Spacing (Do you hit more than one pedal with boots on?)	5
Parking Brake	Location	5.25
Parking Brake	Method of Release.	4.25
DRIVER COMMENTS		
Everything is where it should have been and what it should have looked like. Nothing stood out. Everything in this category was where it should have been.		

MIRRORS	CONSIDERATIONS	RATING
Rearview Mirror	Placement	3.75
Rearview Mirror	Size	5.5
Rearview Mirror	Ease of Adjustment	6
Rearview Mirror	Distortion	6
Driver Side Mirror	Placement	6
Driver Side Mirror	Size	6
Driver Side Mirror	Ease of Adjustment	5.75
Driver Side Mirror	Distortion	5.75
Passenger Side Mirror	Placement	5.75
Passenger Side Mirror	Size	5.75
Passenger Side Mirror	Ease of Adjustment	5.75
Passenger Side Mirror	Distortion	5.75
DRIVER COMMENTS		
The rear view mirror blocked the entire 1 o'clock position. This makes it hard to see pedestrians coming off the curb on the right. Overall, good mirror placement on this vehicle.		

DOORS	CONSIDERATIONS	RATING
Front Door	Ease of Ingress/Egress	5.75
Rear Door	Ease of Ingress/Egress	4.5
Window & Door Handles	Accessibility, Ease of Operation	6
DRIVER COMMENTS		
Front doors are wide enough to allow easy ingress/egress for larger than average personnel.		

REAR SEAT	CONSIDERATIONS	RATING
Seat Comfort	Overall Seat Comfort, Hip/Shoulder Room	4
Headroom	Adequacy	3.75
Legroom	Adequacy	3.5
Seatbelt	Ease of Hook-Up/Release	3.75
DRIVER COMMENTS		
For a person with very long legs, the rear seats are hard to get into and out of. There is no leg room if the driver's seat is all the way back. The ceiling of this vehicle is too low causing you to hit your head.		

TRUNK	CONSIDERATIONS	RATING
Lid	Ease of Opening	6.25
Lid	Size of Opening	6.75
Compartment	Ease of Loading/Unloading	6.25
DRIVER COMMENTS		
Larger than normal trunk size and opening. Easy to put gear into the trunk.		

SLALOM	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
No blind spots while backing using mirrors and as well as no mirrors.		

PARRALLEL PARK - LEVEL	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
No blind spots while backing using mirrors and as well as no mirrors.		

PARRALLEL PARK - INCLINE	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
No blind spots while backing using mirrors and as well as no mirrors.		

PARRALLEL PARK - DECLINE	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
No blind spots while backing using mirrors or with no mirrors.		

REAR 3 POINT TURN	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.5
DRIVER COMMENTS		
No blind spots while backing using mirrors or with no mirrors.		

FUEL EFFICIENCY RESULTS

VEHICLE	ACTUAL MILEAGE	RATING *
Chevrolet Impala	16.53 MPG	Good
Chevrolet Tahoe	12.70 MPG	Poor
Chevrolet Tahoe E-85	Not Tested	N/A
Dodge Charger - 6 Cylinder	16.69 MPG	Good
Dodge Charger – Hemi	14.13 MPG	Poor
Dodge Magnum - 6 cylinder	16.15 MPG	Good
Dodge Magnum - Hemi	14.30 MPG	Poor
Ford CVPI - 3.27 Differential	14.39 MPG	Poor
Ford CVPI - 3.55 Differential	Not Tested	N/A

EFFICIENCY RATINGS:

Very Poor	10 MPG or Less
Poor	11 - 15 MPG
Good	16 - 20 MPG
Very Good	21 - 25 MPG
Excellent	25 - MPG +

2007
FORD
EXPEDITION

SPECIAL SERVICE
PACKAGE

VEHICLE SPECIFICATIONS
2007 FORD EXPEDITION

Vehicle Description:	Full size, 4 door sport utility, rear wheel drive, "Special Service" vehicle		
Engine:	**5.4**L / V-8		
Horsepower:	300 @ 5000 RPM		
Torque :	365 @ 3750 RPM		
Axle Ratio:	3.73		
Curb Weight:	5324 lbs		
Alternator Output:	130 Amp		
Battery:	650 CCA		
Transmission:	4 Speed automatic with overdrive		
Suspension,			
Front:	Double wishbone SLA coil-over shock, gas filled		
Rear:	Independent double wishbone SLA coil-over shock, gas filled		
Brakes,			
Front:	**13** inch vented disc		
Rear:	13.5 inch vented disc		
Tires:	Continental P265/70R17 Conti Trac Tr		
Wheels:	17 x 7.5 inch steel		
Fuel Tank Capacity:	28 gallons		
EPA Fuel Mileage:	City - 14 mpg	Highway - 19 mpg	
Seats,			
Front:	Captain's chairs with power driver's side adjustments		
Rear:	40/20/40 split vinyl bench		
Exterior Dimension:	Length - 17.15 feet	Width - 6.56 feet	Height – 6.39 feet
Head Room:	Front - 39.7 inches	Rear – 39.8 inches	
Hip Room:	Front - 63 inches	Rear – 62.4 inches	
Leg Room:	Front – 41.2 inches	Rear – 38.7 inches	
Trunk:	49.6 cubic feet		

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 FORD EXPEDITION

DRIVER	LAP 1	LAP 2	LAP 3	LAP 4	LAP 5	LAP 6	LAP 7	LAP 8	AVG TIME	AVG SPEED
Goedhart, LASD	1.34.82	1.28.33	1.28.07	1.27.75	1.28.30	1.28.16	1.28.99	1.28.92	1.28.46	63.89
Hemsworth, LAPD	1.35.84	1.29.73	1.28.45	1.28.29	1.27.97	1.27.87	1.27.90	1.27.77	1.28.36	63.96
Robinson, LASD	1.43.83	1.30.20	1.29.06	1.28.26	1.28.73	1.28.23	1.27.54	1.27.72	1.28.70	63.72
Organ, LAPD	1.33.32	1.28.56	1.27.67	1.27.75	1.27.63	1.27.72	1.27.80	1.27.25	1.27.85	64.33

32 LAP HIGH SPEED COURSE
VEHICLE DYNAMICS EVALUATION

2007 FORD EXPEDITION

ITEM	RATING **
Steering	8.25
Body Lean	8.25
Bounce	9.25
Brake Fade	8.5
Brake Pull	10
ABS Operation	9.75

** 1 – Poor 5 – Average 10 – Outstanding

DRIVER COMMENTS
Deputy H. Goedhart - Brakes – The brakes were very strong laps 1 thru 4. On laps 5 and 6 I experienced a slight fade but it was predictable and manageable with an earlier braking point (1-car length). On laps 7 and 8 I experienced a little more fade but it was manageable by braking 2-3 car lengths sooner. Cornering/Handling – This vehicle displayed slight oversteer characteristics but it was very predictable and manageable with minimal steering effort. Minimal body lean. Max speed 99 mph. Transmission (Shifting Points) – Shifting points were good. On the 180° turn it would search up and down but not excessively. Engine – Good power.
Officer M. Hemsworth - Brakes – Long pedal travel in last half of session though only minor loss of deceleration power. Easy to modulate. Cornering/Handling – Vehicle displayed mild oversteer in low medium and high-speed corners. On set was slow and predictable. Vehicle would bog down somewhat when in a slide and the loss of power delayed recovery at times. Slow weight transfer caused onset of oversteer and following recovery were delayed relative to usual sedan feel. Transmission (Shifting Points) – Functioned well, but would up shift during oversteer event, pulling engine out of optimum RPM range.

Engine – Good power, response only slow due to slow transmission shift.

Other – Serviceable package but makes its mass felt.

Deputy R. Robinson -

Brakes – The brakes performed well. There was very minimal fade which was easily adjusted to. There was no noticeable pull. Pedal feel and travel also remained consistent throughout all eight laps.

Cornering/Handling – This vehicle displayed minimal to moderate oversteer handling characteristics. The on-set of the oversteer was slow and linear. The steering feel was good, but I would have liked a little quicker steering.

Transmission (Shifting Points) – The transmission overall was good but had a tendency to search for the correct gear through the 180° turn with consistent up shifts and downshifts.

Engine – The engine made good power throughout all eight laps.

Officer B. Organ -

Brakes – I was the fourth driver and the brakes were consistent throughout. I never felt a need to change my braking points. The brake pedal had long travel. No problem, just took getting used to.

Cornering/Handling – Some moderate oversteer, very predictable. Weight seemed to transfer slowly.

Transmission (Shifting Points) – Vehicle appeared to bog down exiting turns. It almost felt similar to a traction control activation.

Engine – Good feel - Vehicle appeared to bog down exiting turns. It almost felt similar to a traction control activation.

Other - Very good feel in 180° turn (virtually no bounce)

BRAKE TEST RESULTS
PANIC STOP FROM 60 MPG TO ZERO

VEHICLE	STOPPING DISTANCE IN FEET
Ford Expedition	159.73 Feet @ 62.8MPH

ACCELERATION RESULTS

SPEED	FORD EXPEDITION
0-20	1.84 Sec.
0-30	3.24 Sec.
0-40	4.85 Sec.
0-50	7.83 Sec.
0-60	9.91 Sec.
0-70	12.05 Sec.
0-80	15.82 Sec.
0-90	21.14 Sec.
0-100	25.24 Sec.
30-60	8.83 Sec.
60-90	19.62 Sec.
¼ Mile Time	17.22 Sec.
¼ Mile Speed	83.7 MPH

FUEL EFFICIENCY RESULTS

VEHICLE	ACTUAL MILEAGE	RATING
Ford Expedition	12.92	Poor

VEHICLE HEAT EVALUATION

	ENGINE OIL	TRANSMISSION OIL	POWER STEERING	RADIATOR
MANUFACTURERS RECOMMENDATION	300° F	220° F	220° F	255° F
TESTED AT	262° F	176° F	155° F	

ERGONOMICS EVALUATION
2007 FORD EXPEDITION

VISIBILITY	CONSIDERATIONS	RATING
Overall Foreword Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	7.75
DRIVER COMMENTS		
All four drivers reported that there where no problems with overall forward visibility. The windshield is large enough to see everything you need to. No obstructions and no distortion		

VISIBILITY	RATING USING MIRRORS	RATING NOT USING MIRRORS
3 O'clock Position	0	6.25
4 O'clock Position	7.5	6.25
5 O'clock Position	7.75	3.75
6 O'clock Position	7.25	2.5
7 O'clock Position	7.5	3.75
8 O'clock Position	7.5	5.75
9 O'clock Position	0	6.75
DRIVER COMMENTS		
The mirrors were big enough to see things. There is some obstruction without mirrors at the 5 and 7 o'clock positions due to the headrests and rear end design. Mirrors helped those angles. The mirrors were large and fit the SUV.		

FRONT SEAT	CONSIDERATIONS	RATING
Seat Comfort	Overall Seat Comfort, Hip/Shoulder Room	4
Seat Position	Range of Adjustment	4.25
Seat Compatibility to Sam Brown	Comfort, Seatbelt Interference	3
Seat to Controls	Steering Wheel, Pedals, Dashboard	6.25
Headrest Position: With Hat/Helmet	Adequacy	4.25
Headrest Position: Without Hat/Helmet	Adequacy	5.75
Headroom	Adequacy	6.75
Legroom	Adequacy	6.75
Seatbelt	Ease of Hook-Up/Release	6.5
Shoulder Strap	Interference with gear	5.5
DRIVER COMMENTS		
The drivers universally complained that this seat, for anyone with any equipment on their belts, is very uncomfortable. The "Wings" of the seat push on anything on your side and belt area, causing extreme discomfort. One driver complained that he had to massage his hip and lower back, and that his right leg that went numb. Without a hat on, there is more than enough headroom and leg room for anyone. When wearing a campaign hat, the campaign hat hits roof, there is no room for it. The helmet and hat both rub against headrest. The seatbelt does clear gun for drawing, and the "Wings" in the seat make if very difficult to remove gun.		

INSTRUMENT PANEL	CONSIDERATIONS	RATING
Instrument Placement	Ease of Viewing, Are They Obstructed by the Steering Wheel or Other Components	5.75
Instrument Visibility	Can You See Them	5.75
Instrument Legibility	Can You Read Them	6
DRIVER COMMENTS		
Dep. Brink, With the steering wheel in the down position (all the way) it blocks ½ of all the instruments on the panel. The white background with black numbers made it very easy to see at anytime of day or night.		

CONTROLS	CONSIDERATIONS	RATING
Steering Wheel	Size, Position	5.25
Shift Lever	Accessibility, Indicator Visibility	6.5
Knobs & Switches	Location, Visibility, Markings, Arrangement	5.5
Pedals	Location	5.25
Pedals	Size	5.25
Pedals	Spacing (Do you hit more than one pedal with boots on?)	5
Parking Brake	Location	5.75
Parking Brake	Method of Release.	5.75
DRIVER COMMENTS		
Good feel of the steering wheel. Shift lever was easy to manipulate and get to the right gear Everything was within arms reach and accessible.		

MIRRORS	CONSIDERATIONS	RATING
Rearview Mirror	Placement	5.75
Rearview Mirror	Size	5.25
Rearview Mirror	Ease of Adjustment	5.25
Rearview Mirror	Distortion	5.25
Driver Side Mirror	Placement	5
Driver Side Mirror	Size	6.25
Driver Side Mirror	Ease of Adjustment	5.25
Driver Side Mirror	Distortion	5.25
Passenger Side Mirror	Placement	5
Passenger Side Mirror	Size	6.25
Passenger Side Mirror	Ease of Adjustment	5.25
Passenger Side Mirror	Distortion	5.25
DRIVER COMMENTS		
The drivers reported that the mirrors were large enough to see most everything. There was no distortion with any mirrors.		

DOORS	CONSIDERATIONS	RATING
Front Door	Ease of Ingress/Egress	6.75
Rear Door	Ease of Ingress/Egress	6.5
Window & Door Handles	Accessibility, Ease of Operation	5.5
DRIVER COMMENTS		
Three of the drivers reported that the bigger doors eased ingress and egress, particularly for bigger men. One driver reported that the “Wings” on the driver’s seat made it more difficult to get in and out , as his equipment got hung up there.		

REAR SEAT	CONSIDERATIONS	RATING
Seat Comfort	Overall Seat Comfort, Hip/Shoulder Room	5.75
Headroom	Adequacy	6
Legroom	Adequacy	5.75
Seatbelt	Ease of Hook-Up/Release	4.75
DRIVER COMMENTS		
The wide, large doors made entry into this vehicle very easily accessible. There were no problems getting in or out and there were no worries of hitting your head due to the large/wide doors the seats were comfortable and the headroom/legroom was impressive, with no cage.		

TRUNK	CONSIDERATIONS	RATING
Lid	Ease of Opening	5.5
Lid	Size of Opening	6
Compartment	Ease of Loading/Unloading	5
DRIVER COMMENTS		
The rear door was easily accessible and easy to open. The door size and height of rear compartment minimizes bending over while placing and removing equipment bags.		

SLALOM	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.25
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

PARRALLEL PARK - LEVEL	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.25
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

PARRALLEL PARK - INCLINE	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.25
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

PARRALLEL PARK - DECLINE	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.25
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

REAR 3 POINT TURN	CONSIDERATIONS	RATING
Overall Backing Visibility	Ceiling Height, Dash Height, Pillar Placement, Windshield Size & Distortion	5.25
DRIVER COMMENTS		
The drivers had no problems using the mirrors and backing w/o mirrors. No problems seeing any of the cones. Maneuvered easily. Side windows on vehicle assist in increasing the view while backing.		

MECHANICAL EVALUATION

2007 FORD EXPEDITION

ELECTRICAL SYSTEM	CONSIDERATIONS	RATING *
Battery	Accessibility, Group, Size	6
Alternator	Accessibility, Amperage	4
Starter	Accessibility, Power	4.5
Ignition	Accessibility	4.5
Spark Plugs	Accessibility	4.5
Lights	Ease of Replacement & Headlight Adjustment	5.5
Fuse Box	Accessibility, Serviceability	6
FUEL SYSTEM	**CONSIDERATIONS**	**RATING ***
Fuel Injection	Accessibility, Serviceability	5.5
Fuel Pump	Accessibility, Serviceability	3.5
Fuel Filter	Accessibility, Serviceability	5.5
Fuel Tank / Lines	Accessibility, Puncture Resistant	3.5
COOLING SYSTEM	**CONSIDERATIONS**	**RATING ***
Radiator	Accessibility, Protection, Size	5
Heater Core	Accessibility	4
Water Pump	Accessibility, Belt Arrangement	4
Thermostat	Accessibility	4.5
Hoses	Accessibility	3.5
Coolant Recovery	Accessibility, Capacity	5.5
SUSPENSION & STEERING	**CONSIDERATIONS**	**RATING ***
Front	Accessibility, Serviceability	5
Rear	Accessibility, Serviceability	5
Shock ABSorbers – Front	Accessibility, Serviceability	5.5
Shock ABSorbers – Rear	Accessibility, Serviceability	5.5
Front End Alignments	Accessibility, Serviceability	5.5
Steering Gear Box	Accessibility, Serviceability	N/A
Rack & Pinion Assembly	Accessibility, Serviceability	6
Control Arms – Front	Accessibility, Serviceability	6
Control Arms - Rear	Accessibility, Serviceability	6
EXHAUST SYSTEM	**CONSIDERATIONS**	**RATING ***
Catalytic Converter	Accessibility, Protection	5
Muffler	Accessibility	6
Pipes	Accessibility, Support	6
Manifold	Accessibility	3.5

** 1 – Poor 5 – Average 10 – Outstanding

EXPEDITION - CONTINUED

ENGINE & ACCESSORIES	CONSIDERATIONS	RATING *
Engine Removal	Accessibility, Ease of Removal	2.5
Cylinder Head Removal	Accessibility, Ease of Removal	3
Valve Covers	Accessibility, Valve Train Serviceability	5
Timing Cover	Accessibility	2
Oil Pan	Accessibility, Ease of Removal	2
Drain Plug	Accessibility, Ease of Removal	6
Dip Stick	Accessibility, Night Usability	5
Oil Filter	Accessibility, Ease of Removal	5.5
Power Steering Pump	Accessibility, Serviceability	3
Engine Mounts	Accessibility	4
A/C Compressor	Accessibility, Serviceability	4
Evaporator	Accessibility, Ease of Removal	2.5
A/C Condenser	Accessibility, Ease of Removal	4.5
Oil Cooler(s)	Accessibility, Ease of Removal	4.5
TRANSMISSION	**CONSIDERATIONS**	**RATING ***
Transmission	Ease Of Removal, Serviceability	5.5
Pan & Drain Plug	Accessibility, Ease of Removal	N/A
Dip Stick	Accessibility	N/A
Filter	Accessibility	N/A
Cooler	Accessibility, Ease of Removal	4.5
BRAKES	**CONSIDERATIONS**	**RATING ***
Master Cylinder	Accessibility, Serviceability	4.5
Power Brake Booster	Accessibility, Serviceability	4.5
Front Wheel Brakes	Accessibility	6.5
Rear Wheel Brakes	Accessibility	6.5
ABS System	Accessibility, Serviceability	4
REAR AXLE DRIVE SHAFT	**CONSIDERATIONS**	**RATING ***
Differential Removal	Accessibility, Serviceability	3
Differential Service	Accessibility	5
Axle Bearings & Seals	Accessibility, Serviceability	NA
Drive Shaft	Accessibility, Serviceability	5.5
Universal Joints	Accessibility, Serviceability	5.5
C.V. Joints	Accessibility, Serviceability	5.5

** 1 – Poor 5 – Average 10 - Outstanding

EXPEDITION - CONTINUED

BODY	CONSIDERATIONS	RATING *
Windshield	Tinted	5
Door Glass	Framed	5.5
Heater	Accessibility, Serviceability	5.5
Door Pillars	Adequacy, Ease of Barrier Installation	4
Patrol Equipment – Outfitting	Ease of Outfitting, Emergency Lights	5
Instrument Panel	Accessibility, Serviceability	4.5
Body Wiring	Accessibility, Serviceability	4.5
Seat Belts	Accessibility, Serviceability	5
Shotgun Rack	Ease of Installation, Ease of Shotgun Removal	6
Air Bag Location	Accessibility, Serviceability	5

** 1 – Poor 5 – Average 10 - Outstanding

COMMUNICATION NOISE EVALUATION

2007 FORD EXPEDITION

RADIO MAKE	MODEL NO.	ANTENNA TYPE	LOCATION
Motorola XTL-5000	M20SSS9PW1AN	5dB Gain Whip	Roof

FREQUENCY: 482.8375 MHz

WITH ANTENNA	12 dB SINAD	20 dB QUIETING	DESENS dB
Engine Off	15 uV	15 uV	3 dB
Engine Idle (No Acc)	15 uV	15 uV	3 dB
Engine High RPM (No Acc)	15 uV	15 uV	3 dB
Engine Idle W/Air	15 uV	15 uV	3 dB
Engine Idle W/ Lights	15 uV	15 uV	3 dB
Engine Idle W/Heater	15 uV	15 uV	3 dB
Engine Idle W/All Acc	15 uV	15 uV	3 dB
Engine High RPM W/All Acc	15 uV	15 uV	3 dB

Also Tested:

Monitored approximately 284 frequencies between 453 and 508 MHZ using Motorola XTS-5000 portable radio. Detected interference on channel 483.0875 MHZ radiating from location near center console out to a maximum distance of approximately 12 inches. Also, found interference on channel 483.7625 MHZ radiating from location above glove compartment on passenger side of vehicle out to a maximum distance of approximately 18 inches. No interference detected in mobile radio.

COMMUNICATION NOISE EVALUATION - Continued

2007 FORD EXPEDITION

Glove Compartment Accessibility – (Undercover Use)	Rating **
Control Head	3
Microphone	3
Electronic Siren	4
Dashboard Accessibility	
Radio Control Head	6
Siren Console	6
Mobile Digital Terminal/Computer	8
Speakers	8
Microphones	7
Trunk Accessibility	
Factory Power Terminal in Trunk	5
One Radio Installation	9
Two Radio Installation	9
Antenna Installation	5
Computer Installation	7
Engine Accessibility	
Battery Terminal Connection	5
Accommodation for Cables	6
Hidden Siren Installation	5
Ignition Fuse Terminal Block	
Clip – on Connections for Accessories	4

** 1 – Poor 5 – Average 10 – Outstanding

TIRE TEST

Each of our structured high speed test procedures are performed with factory equipped speed rated tires. We recognize the need for an alternative tire for standard patrol duty and for special conditions caused by terrain and weather. During our tire test phase we evaluate the construction, design, road handling abilities, wear patterns and durability of tires submitted for testing by the vehicle manufacturers.

For a tire to be accepted for high speed law enforcement use it must successfully perform through 32 laps of high speed driving on our 1.57 mile road course, a non-recorded Brake Test and finally two laps through our high speed Pursuit Course.

This year, the Firestone P235/55R17 FIREHAWK GT Pursuit tire was evaluated. The tire was mounted on a 2006 Crown Victoria Police Interceptor with the 3.27 differential. This tire completed the test satisfactorily, without incident.

TIRE EVALUATION
32 LAP HIGH SPEED COURSE

FIRESTONE P 235/55R17 FIREHAWK GT PURSUIT TIRES

DRIVER COMMENTS
Deputy H. Goedhart - Tire Handling – The tires had great adhesion to the road surface on all eight laps. It cornered very well with a slight understeer. Slight wear on the outside right front tire on the outside 1st tread pattern. It looked like several mini divots like on a golf ball.
Officer M. Hemsworth - Tire Handling - Tires displayed very good grip level, no loss of grip in later laps. Balance of car was dead neutral, giving confidence inspiring handling. No detectable wiggle or pull under hard braking. Tire gave good road feel and did not "go off" or get "greasy".
Deputy R. Robinson – Tire Handling - The vehicle displayed neutral handling characteristics throughout all eight laps. The tires performed very well maintaining grip in all corners and under braking as well. Turn in was good and all aspects of handling remained consistent.
Officer B. Organ - Tire Handling – I was the 4th driver. The tires displayed good grip and were very predictable. No abnormal pull during braking. The vehicle felt "very" neutral.

TIRE EVALUATION
PURSUIT COURSE

FIRESTONE P 235/55R17 FIREHAWK GT PURSUIT TIRES

DRIVER COMMENTS
Deputy R. Robinson - Tire Handling – The tires provided very good grip in all turns and under severe brake applications. They remained consistent throughout both laps in their handling.
Officer M. Hemsworth - Tire Handling – Displayed very good grip level – consistent throughout pursuit run. Smooth transition to throttle induced oversteer, responded quickly to steering inputs, most obvious when inputting steering correction for oversteer. Very stabile under braking. Good tire inspires confidence.