SPECIAL SERVICE VEHICLES

The issue of what makes a police vehicle a “police package” is a matter that will be with us for some time. Many law enforcement agencies still require a police vehicle to be capable of participating in a pursuit and look to the manufacturers to put their engineering talents towards that goal. At the same time some law enforcement agencies need a vehicle that has cargo capacity and other attributes, but does not require pursuit capabilities. For this, the manufacturers offer “special service” vehicles.

The Michigan Department of State Police presents this information on “special service” vehicles with the caveat that the reader is aware that these vehicles are not engineered for high speed or pursuit driving. The vehicles were tested in all the categories except vehicle dynamics, which is high-speed handling and represents pursuit applications.

The special service vehicles were tested in the following: Acceleration, Top Speed, Braking, Fuel Economy, and Ergonomics & Communications.

SPECIAL SERVICE VEHICLES ARE NOT ENGINEERED FOR HIGH SPEED AND PURSUIT APPLICATIONS.

Chevrolet Tahoe
4WD 5.3L SPFI

TEST VEHICLE DESCRIPTION

MAKE Chevrolet	**MODEL** Tahoe 5.3L – 4WD		**SALES CODE NO.** CK10706
ENGINE DISPLACEMENT	**CUBIC INCHES** 325		**LITERS** 5.3
FUEL SYSTEM	Sequential Port Fuel Injection		**EXHAUST** Single
HORSEPOWER (SAE NET)	320 @ 5200 RPM		**ALTERNATOR** 160
TORQUE	340 ft-lbs @ 4000 RPM		**BATTERY** 730 CCA
COMPRESSION RATIO	9.5:1		
TRANSMISSION	**MODEL** 4L60E	**TYPE** 4 – Speed Automatic Overdrive	
	LOCKUP TORQUE CONVERTER? Yes		
	OVERDRIVE? Yes		
AXLE RATIO	3.73		
STEERING	Power – Rack & Pinion		
TURNING CIRCLE (CURB TO CURB)	39.0 ft.		
TIRE SIZE, LOAD & SPEED RATING	Goodyear Wrangler P265/70R17 113S		
SUSPENSION TYPE (FRONT)	Independent, single coil over shock w/ stabilizer bar		
SUSPENSION TYPE (REAR)	Multi-link with coil springs		
GROUND CLEARANCE, MINIMUM	9.1 in.	**LOCATION** Rear Axle	
BRAKE SYSTEM	Vacuum boost, power, anti-lock		
BRAKES, FRONT	**TYPE** Disc	**SWEPT AREA** 213 sq. in.	
BRAKES, REAR	**TYPE** Disc	**SWEPT AREA** 133 sq. in.	
FUEL CAPACITY	**GALLONS** 26.0	**LITERS** 98.4	
GENERAL MEASUREMENTS	**WHEELBASE** 116 in.	**LENGTH** 202.0 in.	
	TEST WEIGHT 5589	**HEIGHT** 76.9 in.	
HEADROOM	**FRONT** 40.3 in.	**REAR** 39.2 in.	
LEGROOM	**FRONT** 41.3 in.	**REAR** 39.0 in.	
SHOULDER ROOM	**FRONT** 65.3 in.	**REAR** 65.2 in.	
HIPROOM	**FRONT** 64.4 in.	**REAR** 60.6 in.	
INTERIOR VOLUME ***MAX. CARGO IS W/REAR SEATS FOLDED DOWN**	**FRONT** 62.9 cu. ft.	**REAR** 57.68 cu. ft.	
	COMB 120.58 cu. ft.	***MAX. CARGO** 108.9 cu. ft.	
EPA MILEAGE EST. (MPG)	**CITY** 14	**HIGHWAY** 19	**COMBINED** 16

Chevrolet Suburban

3/4Ton 4WD 6.0L SPFI

TEST VEHICLE DESCRIPTION

MAKE Chevrolet	**MODEL** Suburban 3/4 Ton		**SALES CODE NO.** CK20906		
ENGINE DISPLACEMENT	**CUBIC INCHES** 400		**LITERS** 6.0		
FUEL SYSTEM	Sequential Port Fuel Injection		**EXHAUST** Single		
HORSEPOWER (SAENET)	352		**ALTERNATOR** 160		
TORQUE	383		**BATTERY** 600 CCA		
COMPRESSION RATIO	9.6				
TRANSMISSION	**MODEL** 6L90E	**TYPE** 6 – Speed Hydromatic			
	LOCKUP TORQUE CONVERTER? Yes				
	OVERDRIVE? Yes				
AXLE RATIO	3.73				
STEERING	Recirculating Ball				
TURNING CIRCLE (CURB TO CURB)	45.3				
TIRE SIZE, LOAD & SPEED RATING	Bridgestone Duravis LT245/75R16 M773 II				
SUSPENSION TYPE (FRONT)	Standard long-and short arm independent front torsion bar suspension				
SUSPENSION TYPE (REAR)	Semi-elliptic 2-stage multileaf spring				
GROUND CLEARANCE, MINIMUM	9.1 in.	**LOCATION** Rear Axle			
BRAKE SYSTEM	Power-assisted, Hydroboost brake-apply system, 4-wheel disc, 4-wheel ABS				
BRAKES, FRONT	**TYPE** Disc		**SWEPT AREA** 233 sq. in.		
BRAKES, REAR	**TYPE** Disc		**SWEPT AREA** 133 sq. in.		
FUEL CAPACITY	**GALLONS** 39		**LITERS** 148		
GENERAL MEASUREMENTS	**WHEELBASE** 130.0 in.		**LENGTH** 222.4 in.		
	TEST WEIGHT 6342		**HEIGHT** 76.8 in.		
HEADROOM	**FRONT** 41.1 in		**REAR** 38.1 in.		
LEGROOM	**FRONT** 41.3 in.		**REAR** 34.9in.		
SHOULDER ROOM	**FRONT** 65.3 in.		**REAR** 64.7 in.		
HIPROOM	**FRONT** 64.4 in.		**REAR** 61.8 in.		
INTERIOR VOLUME ***MAX. CARGO IS W/REAR SEATS FOLDED DOWN**	**FRONT** 60.9 cu.ft.		**REAR** 56.28 cu.ft.		
	COMB 127.18 cu.ft.		***MAX. CARGO** 137.4 cu.ft.		
EPA MILEAGE EST. (MPG)	**CITY** Unregulated	**HIGHWAY** Unregulated		**COMBINED** Unregulated	

Trucks with Gross Vehicle Weight Ratings over 8,500 lbs are not included in the EPA fuel economy rating system. Fuel economy information on these models is generally not available because of wide variances in vehicle loading and operational conditions between various customer applications.

Ford Explorer
4.6L SMFI

TEST VEHICLE DESCRIPTION

MAKE Ford	**MODEL** Explorer 2WD		**SALES CODE NO.** U63
ENGINE DISPLACEMENT	**CUBIC INCHES** 281		**LITERS** 4.6
FUEL SYSTEM	Sequential Multiport Fuel Injection		**EXHAUST** Single
HORSEPOWER (SAE NET)	292@ 5750 RPM		**ALTERNATOR** 130 amp.
TORQUE	300 lb-ft @ 3950 RPM		**BATTERY** 650 CCA
COMPRESSION RATIO	9.3:1		
TRANSMISSION	**MODEL** 5R55	**TYPE** 6-Speed Automatic Overdrive	
	LOCKUP TORQUE CONVERTER? Yes		
	OVERDRIVE? Yes		
AXLE RATIO	3.55		
STEERING	Power rack and pinion		
TURNING CIRCLE (CURB TO CURB)	36.8 ft.		
TIRE SIZE, LOAD & SPEED RATING	Goodyear Fortera P235/70R16 104S		
SUSPENSION TYPE (FRONT)	Independent SLA with coil spring		
SUSPENSION TYPE (REAR)	Independent SLA with coil spring		
GROUND CLEARANCE, MINIMUM	8.5 in.	**LOCATION** Transmission crossmember	
BRAKE SYSTEM	Power disc w/ 4-wheel ABS		
BRAKES, FRONT	**TYPE** Disc		**SWEPT AREA** 293.3sq. in.
BRAKES, REAR	**TYPE** Disc		**SWEPT AREA** 217.3 sq. in.
FUEL CAPACITY	**GALLONS** 22.5		**LITERS** 85.1
GENERAL MEASUREMENTS	**WHEELBASE** 113.7 in.		**LENGTH** 193.4 in.
	TEST WEIGHT 4711		**HEIGHT** 72.2 in.
HEADROOM	**FRONT** 39.8 in.		**REAR** 38.7 in.
LEGROOM	**FRONT** 42.4 in.		**REAR** 36.9 in.
SHOULDER ROOM	**FRONT** 59.0 in.		**REAR** 58.9 in.
HIPROOM	**FRONT** 55.4 in.		**REAR** 55.5 cu. ft.
INTERIOR VOLUME ***MAX. CARGO IS W/REAR SEATS FOLDED DOWN**	**FRONT** 57.6 cu. ft.		**REAR** 48.7 cu. ft.
	COMB 106.3 cu. ft.		***MAX. CARGO** 83.7 cu. ft.
EPA MILEAGE EST. (MPG)	**CITY** 13	**HIGHWAY** 20	**COMBINED** 16

Ford Expedition
5.4L 3V SMFI

TEST VEHICLE DESCRIPTION

MAKE Ford	**MODEL** Expedition 2WD		**SALES CODE NO.** U15		
ENGINE DISPLACEMENT	**CUBIC INCHES** 330		**LITERS** 5.4		
FUEL SYSTEM	Sequential Multiport Fuel Injection		**EXHAUST** Single		
HORSEPOWER (SAE NET)	300 @ 5000 RPM		**ALTERNATOR** 150 amp.		
TORQUE	365 ft-lbs @ 3750 RPM		**BATTERY** 650 CCA		
COMPRESSION RATIO	9.8:1				
TRANSMISSION	**MODEL** 6R75	**TYPE** 6-Speed Automatic			
	LOCKUP TORQUE CONVERTER? Yes				
	OVERDRIVE? Yes				
AXLE RATIO	3.31 standard				
STEERING	Low-friction rack and pinion with power assist				
TURNING CIRCLE (CURB TO CURB)	40.8 ft.				
TIRE SIZE, LOAD & SPEED RATING	Continental ContiTrac SUV P265/70R17 113S				
SUSPENSION TYPE (FRONT)	Independent, double-wishbone, short- and long-arms (SLA) design with coil-over shocks, 36 mm stabilizer bar				
SUSPENSION TYPE (REAR)	Independent, multilink design with coil-over shocks. 18mm, 19mm or 21mm stabilizer bar				
GROUND CLEARANCE, MINIMUM	8.7 in.	**LOCATION** Rear differential			
BRAKE SYSTEM	Four wheel power disc brakes with standard 4 sensor, 4 channel anti-lock braking system (ABS) and AdvanceTrac® with Roll Stability Control				
BRAKES, FRONT	**TYPE** Disc		**SWEPT AREA** 283.6 sq. in.		
BRAKES, REAR	**TYPE** Disc		**SWEPT AREA** 159.0 sq. in.		
FUEL CAPACITY	**GALLONS** 28.0		**LITERS** 106.0		
GENERAL MEASUREMENTS	**WHEELBASE** 119.0 in.		**LENGTH** 205.8 in.		
	TEST WEIGHT 5598		**HEIGHT** 76.7 in.		
HEADROOM	**FRONT** 39.6 in.		**REAR** 39.8 in.		
LEGROOM	**FRONT** 41.2 in.		**REAR** 39.1 in.		
SHOULDER ROOM	**FRONT** 63.2 in.		**REAR** 63.7 in.		
HIPROOM	**FRONT** 60.2 in.		**REAR** 59.1 in.		
INTERIOR VOLUME ***MAX. CARGO IS W/REAR SEATS FOLDED DOWN**	**FRONT** 59.6 cu. ft.		**REAR** 57.3 cu. ft.		
	COMB 116.9 cu. ft.		***MAX. CARGO** 108.3 cu. ft.		
EPA MILEAGE EST. (MPG)	**CITY** 12	**HIGHWAY** 18	**COMBINED** 14		

Ford F150 Super Crew
2WD 5.4L EFI

TEST VEHICLE DESCRIPTION

MAKE Ford	**MODEL** F150 SuperCrew XL 4x2 Styleside		**SALES CODE NO.** W12		
ENGINE DISPLACEMENT	**CUBIC INCHES** 330		**LITERS** 5.4L		
FUEL SYSTEM	EFI		**EXHAUST** Single		
HORSEPOWER (SAE NET)	300 @ 5000		**ALTERNATOR** 110 amp		
TORQUE	365 @ 3750		**BATTERY** 540 CCA		
COMPRESSION RATIO	9:8:1				
TRANSMISSION	**MODEL** 4R75E	**TYPE** 4 Speed Electronic Automatic			
	LOCKUP TORQUE CONVERTER? Yes				
	OVERDRIVE? Yes				
AXLE RATIO	3.55 limited slip				
STEERING	Power; rack and pinion				
TURNING CIRCLE (CURB TO CURB)	45.1 ft.				
TIRE SIZE, LOAD & SPEED RATING	BF Goodrich Radial LongTrail T/A P265/60R18				
SUSPENSION TYPE (FRONT)	Coil, computer selected				
SUSPENSION TYPE (REAR)	Leaf, two-stage variable rate, computer selected				
GROUND CLEARANCE, MINIMUM	14.1	**LOCATION** Rear Axle			
BRAKE SYSTEM	4-wheel disc with ABS				
BRAKES, FRONT	**TYPE** Disc.		**SWEPT AREA** 297.5 sq. in.		
BRAKES, REAR	**TYPE** Disc.		**SWEPT AREA** 255.7 sq. in.		
FUEL CAPACITY	**GALLONS** 30.0		**LITERS** 114.0		
GENERAL MEASUREMENTS	**WHEELBASE** 139.0 in.		**LENGTH** 223.8 in.		
	TEST WEIGHT 5326		**HEIGHT** 73.4 in.		
HEADROOM	**FRONT** 40.1 in.		**REAR** 39.6 in.		
LEGROOM	**FRONT** 41.3 in.		**REAR** 39.0 in.		
SHOULDER ROOM	**FRONT** 65.8 in.		**REAR** 65.8 in.		
HIPROOM	**FRONT** 63.8 in.		**REAR** 63.1 in.		
INTERIOR VOLUME ***MAX. CARGO IS W/REAR SEATS FOLDED DOWN**	**FRONT** 63.1 cu. ft..		**REAR** 58.7 cu. ft.		
	COMB 121.8 cu. ft.		***MAX. CARGO** 49.5 cu. ft.		
EPA MILEAGE EST. (MPG)	**CITY** 13	**HIGHWAY** 17	**COMBINED** 14		

TEST VEHICLE DESCRIPTION SUMMARY

	Chevrolet Tahoe 4WD	Ford Explorer	Ford Expedition
ENGINE DISPLACEMENT – CU. IN.	325	281	330
ENGINE DISPLACEMENT – LITERS	5.3	4.6	5.4
ENGINE FUEL SYSTEM	SPFI	SMFI	SMFI
HORSEPOWER (SAE NET)	320	292	300
TORQUE (FT. LBS.)	340	300	365
COMPRESSION RATIO	9.5:1	9.3:1	9.8:1
AXLE RATIO	3.73	3.55	3.31
TURNING CIRCLE – FT. CURB TO CURB	39.0	36.8	40.8
TRANSMISSION	4 Speed auto	6 Speed Auto	6 Speed Auto
TRANSMISSION MODEL NUMBER	4L60E	5R55	6R75
LOCKUP TORQUE CONVERTER	Yes	Yes	Yes
TRANSMISSION OVERDRIVE	Yes	Yes	Yes
TIRE SIZE	265/70R	P235/70R	P265/70R
WHEEL RIM SIZE – INCHES	17	16	17
GROUND CLEARANCE – INCHES	9.1	8.5	8.7
BRAKE SYSTEM	Power, ABS	Power, ABS	Power, ABS
BRAKES – FRONT TYPE	Disc	Disc	Disc
BRAKES – REAR TYPE	Disc	Disc	Disc
FUEL CAPACITY – GALLONS	26	22.5	28
FUEL CAPACITY – LITERS	98.4	85.1	106
OVERALL LENGTH – INCHES	202.0	193.4	205.8
OVERALL HEIGHT – INCHES	76.9	72.2	76.7
TEST WEIGHT – LBS.	5589	4711	5598
WHEELBASE – INCHES	116	113.7	119
HEADROOM FRONT – INCHES	40.3	39.8	39.6
HEADROOM REAR – INCHES	39.2	38.7	39.8
LEGROOM FRONT – INCHES	41.3	42.4	41.2
LEGROOM REAR – INCHES	39.0	36.9	39.1
SHOULDER ROOM FRONT – INCHES	65.3	59.0	63.2
SHOULDER ROOM REAR – INCHES	65.2	58.9	63.7
HIPROOM FRONT – INCHES	64.4	55.4	60.2
HIPROOM REAR – INCHES	60.6	55.5	59.1
INTERIOR VOLUME FRONT – CU. FT.	62.9	57.6	59.6
INTERIOR VOLUME REAR – CU. FT.	57.68	48.7	57.3
INTERIOR VOLUME COMB. – CU. FT.	120.58	106.3	116.9
REAR MAXIMUM CARGO – CU. FT.	108.9	83.7	108.3
EPA MILEAGE – CITY – MPG	14	13	12
EPA MILEAGE – HIGHWAY – MPG	19	20	18
EPA MILEAGE – COMBINED – MPG	16	16	14

TEST VEHICLE DESCRIPTION SUMMARY

	Ford F-150 2WD	Chev Suburban 3/4 Ton
ENGINE DISPLACEMENT – CU. IN.	330	400
ENGINE DISPLACEMENT – LITERS	5.4	6.0
ENGINE FUEL SYSTEM	EFI	SPFI
HORSEPOWER (SAE NET)	300	352
TORQUE (FT. LBS.)	300	383
COMPRESSION RATIO	9.8:1	9.6:1
AXLE RATIO	3.55	3.73
TURNING CIRCLE – FT. CURB TO CURB	45.1	45.3
TRANSMISSION	4 Speed Auto	6 Speed Auto
TRANSMISSION MODEL NUMBER	4R75E	6L90E
LOCKUP TORQUE CONVERTER	Yes	Yes
TRANSMISSION OVERDRIVE	Yes	Yes
TIRE SIZE	P265/60R	LT245/75R
WHEEL RIM SIZE – INCHES	18	16
GROUND CLEARANCE – INCHES	14.1	8.7
BRAKE SYSTEM	Power, ABS	Power, ABS
BRAKES – FRONT TYPE	Disc	Disc
BRAKES – REAR TYPE	Disc	Disc
FUEL CAPACITY – GALLONS	30	39.0
FUEL CAPACITY – LITERS	114	148
OVERALL LENGTH – INCHES	223.8	222.4
OVERALL HEIGHT – INCHES	73.4	76.8
TEST WEIGHT – LBS.	5326	6342
WHEELBASE – INCHES	139.0	130.0
HEADROOM FRONT – INCHES	40.1	41.1
HEADROOM REAR – INCHES	39.6	38.1
LEGROOM FRONT – INCHES	41.3	41.3
LEGROOM REAR – INCHES	39.0	34.9
SHOULDER ROOM FRONT – INCHES	65.8	65.3
SHOULDER ROOM REAR – INCHES	65.8	64.7
HIPROOM FRONT – INCHES	63.8	64.4
HIPROOM REAR – INCHES	63.1	61.8
INTERIOR VOLUME FRONT – CU. FT.	63.1	60.9
INTERIOR VOLUME REAR – CU. FT.	58.7	56.28
INTERIOR VOLUME COMB. – CU. FT.	121.8	127.18
REAR MAXIMUM CARGO – CU. FT.	49.5	137.4
EPA MILEAGE – CITY – MPG	13	*N/A
EPA MILEAGE – HIGHWAY – MPG	17	*N/A
EPA MILEAGE – COMBINED – MPG	14	*N/A

SUMMARY OF ACCELERATION AND TOP SPEED

ACCELERATION*		Chevrolet Tahoe 4WD 5.3L SPFI	Ford Explorer 2WD 4.6L SMFI	Ford Expedition 2WD 5.4L SMFI	Ford F-150 2WD Super Crew 5.4L SMFI	Chevy Suburban ¾ Ton 4WD 6.0L SPFI
0 – 20 mph	(sec.)	2.20	1.88	1.83	2.01	2.21
0 – 30 mph	(sec.)	3.52	3.01	3.08	3.39	3.29
0 – 40 mph	(sec.)	4.81	4.53	4.62	4.76	4.81
0 – 50 mph	(sec.)	6.77	6.14	6.39	6.78	6.49
0 – 60 mph	(sec.)	9.14	8.19	8.81	9.12	8.75
0 – 70 mph	(sec.)	11.61	10.74	11.41	11.64	11.32
0 – 80 mph	(sec.)	14.71	13.59	14.65	14.86	14.19
0 – 90 mph	(sec.)	20.19	17.23	18.88	20.03	18.36
0 – 100 mph	(sec.)		22.17	24.12		
TOP SPEED	**(mph)**	97	104	105	95	97
QUARTER MILE						
Time	(sec.)	16.96	16.39	16.70	16.92	16.75
Speed	(miles)	84.20	87.88	85.08	84.05	86.28

BRAKE TESTING

TEST LOCATION: Chrysler Proving Grounds **DATE:** September 17, 2007

BEGINNING Time: 12:45 p.m. **TEMPERATURE:** 54.8°F

MAKE & MODEL: Ford Explorer 4.6L 2WD **BRAKE SYSTEM:** Anti-lock

Phase I

BRAKE HEAT-UP: (Two 90 –0 mph decelerations @ 22 ft.sec.[2])
TEST: (Six 60 – mph impending skid (ABS) maximum deceleration rate stops)

	Initial Velocity	Stopping Distance	Deceleration Rate
Stop #1	59.8 mph	161.4 feet	23.82 ft/s^2
Stop #2	60.5 mph	163.5 feet	24.07 ft/s^2
Stop #3	61.3 mph	165.0 feet	24.47 ft/s^2
Stop #4	59.3 mph	151.7 feet	24.91 ft/s^2
Stop #5	59.8 mph	150.6 feet	25.53 ft/s^2
Stop #6	58.8 mph	147.8 feet	25.14 ft/s^2

AVERAGE DECELERATION RATE 24.66 ft/s^2

HEAT SOAK (4 minutes)

Phase II

BRAKE HEAT-UP: (Two 90 –0 mph decelerations @ 22 ft.sec.[2])
TEST: (Six 60 – mph impending skid (ABS) maximum deceleration rate stops)

	Initial Velocity	Stopping Distance	Deceleration Rate
Stop #1	60.4 mph	156.1 feet	25.11 ft/s^2
Stop #2	59.8 mph	152.0 feet	25.27 ft/s^2
Stop #3	60.6 mph	168.0 feet	23.49 ft/s^2
Stop #4	60.4 mph	155.2 feet	25.26 ft/s^2
Stop #5	60.1 mph	155.3 feet	24.98 ft/s^2
Stop #6	60.5 mph	158.3 feet	24.86 ft/s^2

AVERAGE DECELERATION RATE 24.83 ft/s^2

Phase III

	Yes/No
Evidence of severe fading?	No
Vehicle stopped in straight line?	Yes
Vehicle stopped within correct lane?	Yes

OVERALL AVERAGE DECEL. RATE: 24.74 ft/s^2

Projected Stopping Distance from 60.0 mph 156.5

BRAKE TESTING

TEST LOCATION: Chrysler Proving Grounds **DATE:** September 17, 2007

BEGINNING Time: 10:46 a.m. **TEMPERATURE:** 51.9°F

MAKE & MODEL: Ford Expedition 5.4L 3V 2WD **BRAKE SYSTEM:** Anti-lock

Phase I

BRAKE HEAT-UP: (Two 90 –0 mph decelerations @ 22 ft.sec.[2])
TEST: (Six 60 – mph impending skid (ABS) maximum deceleration rate stops)

	Initial Velocity	Stopping Distance	Deceleration Rate
Stop #1	61.0 mph	159.5 feet	25.09 ft/s^2
Stop #2	61.2 mph	161.8 feet	24.87 ft/s^2
Stop #3	60.4 mph	157.8 feet	24.90 ft/s^2
Stop #4	60.3 mph	159.5 feet	24.50 ft/s^2
Stop #5	60.4 mph	155.9 feet	25.20 ft/s^2
Stop #6	60.9 mph	160.2 feet	24.90 ft/s^2

AVERAGE DECELERATION RATE 24.91 ft/s^2

HEAT SOAK (4 minutes)

Phase II

BRAKE HEAT-UP: (Two 90 –0 mph decelerations @ 22 ft.sec.[2])
TEST: (Six 60 – mph impending skid (ABS) maximum deceleration rate stops)

	Initial Velocity	Stopping Distance	Deceleration Rate
Stop #1	60.6 mph	157.1 feet	25.11 ft/s^2
Stop #2	60.4 mph	160.7 feet	24.45 ft/s^2
Stop #3	61.1 mph	151.8 feet	26.41 ft/s^2
Stop #4	60.4 mph	163.0 feet	24.04 ft/s^2
Stop #5	60.6 mph	165.0 feet	23.93 ft/s^2
Stop #6	60.3 mph	170.9 feet	22.90 ft/s^2

AVERAGE DECELERATION RATE 24.47 ft/s^2

Phase III

	Yes/No
Evidence of severe fading?	No
Vehicle stopped in straight line?	Yes
Vehicle stopped within correct lane?	Yes

OVERALL AVERAGE DECEL. RATE: 24.69 ft/s^2

Projected Stopping Distance from 60.0 mph 156.8

BRAKE TESTING

TEST LOCATION: Chrysler Proving Grounds **DATE:** September 17, 2007

BEGINNING Time: 8:30 a.m. **TEMPERATURE:** 43.3°F

MAKE & MODEL: Chevy Suburban ¾ Ton 4WD 6.0L SPFI **BRAKE SYSTEM:** Anti-lock

Phase I

BRAKE HEAT-UP: (Two 90 –0 mph decelerations @ 22 ft.sec.[2])
TEST: (Six 60 – mph impending skid (ABS) maximum deceleration rate stops)

	Initial Velocity	Stopping Distance	Deceleration Rate
Stop #1	60.3 mph	157.1 feet	24.88 ft/s^2
Stop #2	60.3 mph	159.5 feet	24.56 ft/s^2
Stop #3	60.2 mph	157.4 feet	24.73 ft/s^2
Stop #4	60.3 mph	156.9 feet	24.94 ft/s^2
Stop #5	59.9 mph	155.7 feet	24.81 ft/s^2
Stop #6	60.1 mph	156.8 feet	24.81 ft/s^2

AVERAGE DECELERATION RATE 24.79 ft/s^2

HEAT SOAK (4 minutes)

Phase II

BRAKE HEAT-UP: (Two 90 –0 mph decelerations @ 22 ft.sec.[2])
TEST: (Six 60 – mph impending skid (ABS) maximum deceleration rate stops)

	Initial Velocity	Stopping Distance	Deceleration Rate
Stop #1	59.7 mph	155.2 feet	24.73 ft/s^2
Stop #2	59.9 mph	157.7 feet	24.46 ft/s^2
Stop #3	60.3 mph	154.8 feet	25.30 ft/s^2
Stop #4	60.1 mph	160.5 feet	24.18 ft/s^2
Stop #5	60.3 mph	157.5 feet	24.81 ft/s^2
Stop #6	60.4 mph	157.9 feet	24.85 ft/s^2

AVERAGE DECELERATION RATE 24.72 ft/s^2

Phase III

	Yes/No
Evidence of severe fading?	No
Vehicle stopped in straight line?	Yes
Vehicle stopped within correct lane?	Yes

OVERALL AVERAGE DECEL. RATE: 24.76 ft/s^2

Projected Stopping Distance from 60.0 mph 156.4

BRAKE TESTING

TEST LOCATION: Chrysler Proving Grounds **DATE:** September 17, 2007

BEGINNING Time: 7:30 a.m. **TEMPERATURE:** 40.1°F

MAKE & MODEL: Chevrolet Tahoe 5.3L 4WD **BRAKE SYSTEM:** Anti-lock

Phase I

BRAKE HEAT-UP: (Two 90 –0 mph decelerations @ 22 ft.sec.[2])
TEST: (Six 60 – mph impending skid (ABS) maximum deceleration rate stops)

	Initial Velocity	Stopping Distance	Deceleration Rate
Stop #1	60.7 mph	166.7 feet	23.77 ft/s^2
Stop #2	61.2 mph	166.5 feet	24.16 ft/s^2
Stop #3	61.2 mph	161.5 feet	24.94 ft/s^2
Stop #4	60.6 mph	158.1 feet	24.98 ft/s^2
Stop #5	59.9 mph	156.1 feet	24.73 ft/s^2
Stop #6	61.1 mph	172.3 feet	23.31 ft/s^2

AVERAGE DECELERATION RATE 24.32 ft/s^2

HEAT SOAK (4 minutes)

Phase II

BRAKE HEAT-UP: (Two 90 –0 mph decelerations @ 22 ft.sec.[2])
TEST: (Six 60 – mph impending skid (ABS) maximum deceleration rate stops)

	Initial Velocity	Stopping Distance	Deceleration Rate
Stop #1	60.4 mph	187.1 feet	20.97 ft/s^2
Stop #2	60.8 mph	192.0 feet	20.69 ft/s^2
Stop #3	60.4 mph	186.7 feet	21.02 ft/s^2
Stop #4	60.3 mph	188.9 feet	20.70 ft/s^2
Stop #5	60.3 mph	204.0 feet	19.17 ft/s^2
Stop #6	60.3 mph	205.0 feet	19.08 ft/s^2

AVERAGE DECELERATION RATE 20.27 ft/s^2

Phase III

	Yes/No
Evidence of severe fading?	Yes
Vehicle stopped in straight line?	Yes
Vehicle stopped within correct lane?	Yes

OVERALL AVERAGE DECEL. RATE: 22.29 ft/s^2

Projected Stopping Distance from 60.0 mph 173.7

BRAKE TESTING

TEST LOCATION: Chrysler Proving Grounds **DATE:** September 17, 2007

BEGINNING Time: 7:50 a.m. **TEMPERATURE:** 40.4°F

MAKE & MODEL: Ford F-150 Super Crew **BRAKE SYSTEM:** Anti-lock

Phase I

BRAKE HEAT-UP: (Two 90 –0 mph decelerations @ 22 ft.sec.$^{2)}$
TEST: (Six 60 – mph impending skid (ABS) maximum deceleration rate stops)

	Initial Velocity	Stopping Distance	Deceleration Rate
Stop #1	60.1 mph	149.3 feet	26.03 ft/s^2
Stop #2	60.2 mph	148.5 feet	26.25 ft/s^2
Stop #3	60.3 mph	151.4 feet	25.79 ft/s^2
Stop #4	61.5 mph	156.0 feet	26.10 ft/s^2
Stop #5	61.1 mph	157.6 feet	25.48 ft/s^2
Stop #6	60.7 mph	148.5 feet	26.69 ft/s^2

AVERAGE DECELERATION RATE 26.06 ft/s^2

HEAT SOAK (4 minutes)

Phase II

BRAKE HEAT-UP: (Two 90 –0 mph decelerations @ 22 ft.sec.$^{2)}$
TEST: (Six 60 – mph impending skid (ABS) maximum deceleration rate stops)

	Initial Velocity	Stopping Distance	Deceleration Rate
Stop #1	60.4 mph	147.9 feet	26.53 ft/s^2
Stop #2	60.4 mph	148.6 feet	26.41 ft/s^2
Stop #3	60.3 mph	147.1 feet	26.59 ft/s^2
Stop #4	60.5 mph	149.2 feet	26.40 ft/s^2
Stop #5	59.8 mph	145.6 feet	26.42 ft/s^2
Stop #6	61.1 mph	150.5 feet	26.68 ft/s^2

AVERAGE DECELERATION RATE 26.50 ft/s^2

Phase III

	Yes/No
Evidence of severe fading?	No
Vehicle stopped in straight line?	Yes
Vehicle stopped within correct lane?	Yes

OVERALL AVERAGE DECEL. RATE: 26.28 ft/s^2

Projected Stopping Distance from 60.0 mph 147.3

ERGONOMICS AND COMMUNICATIONS

ERGONOMICS	Ford Explorer	Ford Expedition	Chevrolet Tahoe 4WD	Ford F-150 2WD	Chev Suburban ¾ Ton 4WD
FRONT SEAT					
Padding	5.60	5.90	7.00	6.30	7.00
Depth of Bucket Seat	5.40	5.50	6.10	5.90	6.10
Adjustability – Front to Rear	5.90	6.50	6.60	6.90	6.80
Upholstery	6.30	6.70	6.40	7.20	6.50
Bucket Seat Design	5.60	6.50	6.40	6.40	6.40
Headroom	6.70	7.60	8.20	7.30	8.30
Seatbelts	5.00	7.56	6.40	5.80	6.20
Ease of Entry and Exit	5.80	6.90	7.00	6.80	7.30
Overall Comfort Rating	5.90	6.50	7.80	6.50	7.40
REAR SEAT					
Leg room – Front seat back	4.80	7.00	7.20	7.00	7.70
Ease of Entry and Exit	5.10	6.90	6.50	6.90	6.90
INSTRUMENTATION					
Clarity	5.50	5.90	7.30	7.70	6.90
Placement	5.20	5.60	6.10	7.90	6.50
VEHICLE CONTROLS					
Pedals, Size and Position	6.50	6.80	6.70	7.40	6.40
Power Window Switch	6.80	6.50	7.20	6.90	7.10
Inside Door Lock Switch	5.50	5.80	6.00	7.10	6.00
Automatic Door Lock Switch	7.10	6.20	6.30	6.40	6.30
Outside Mirror Controls	5.20	6.50	6.70	7.10	6.80
Steering Wheel, Size, Tilt Release, and Surface	5.40	6.60	7.40	6.50	7.30
Heat/AC Vent Placement and Adjustability	6.00	6.60	6.40	6.80	6.40
VISIBILITY					
Front (Windshield)	6.70	7.20	7.50	7.60	7.60
Rear (Back Window)	5.60	6.10	5.50	6.60	5.50
Left Rear Quarter	5.70	5.50	5.20	6.90	5.50
Right Rear Quarter	4.50	5.10	4.90	6.90	5.80
Outside Rear View Mirrors	5.90	6.80	7.30	8.10	7.50
COMMUNICATIONS					
Dashboard Accessibility	6.33	6.92	6.33	3.83	6.83
Trunk Accessibility	7.10	7.10	6.90	3.90	6.90
Engine Compartment	7.33	7.00	8.00	5.33	8.17
TOTAL SCORES	**164.46**	**181.78**	**187.33**	**185.96**	**190.10**