



## STATE OF CALIFORNIA

### Bid Specification

#### REAR-WHEEL-DRIVE FORD CROWN VICTORIA LAW ENFORCEMENT SEDAN

##### 1.0 SCOPE:

This specification describes the State of California minimum requirements for an automobile to be used in high speed highway traffic and general law enforcement work. The vehicle will at times be operated at speeds in excess of 100 miles per hour for both short and long durations. It will be driven on all types of roads, and road surfaces and at altitudes ranging from approximately 200 feet below sea level to 10,000 feet above sea level. Ambient temperatures to which the vehicle will be exposed will range from approximately 0°F to 120°F.

The manufacturer shall use components, materials and design practices that are the best available in the industry for the type of operational conditions to which the vehicle will be subjected. Engine, transmission, driveline, differential, brake, suspension, wheel, tire and other component parts of the vehicle shall be selected to give maximum performance, service life, as well as safety and not merely meet the minimum requirements of this specification. Where necessary, the component parts shall exceed the usual quantity, quality, or capacity generally supplied with standard production vehicles in order to withstand the unusual strain, exposure, temperature, wear and use required for a police application.

##### 2.0 RULES AND REGULATIONS:

Vehicles shall comply with all applicable California Vehicle Code (CVC), Code of Federal Regulations, Title 49, "Federal Motor Vehicle Safety Standard" (FMVSS) and California Code of Regulations, Title 13, "Motor Vehicles" rules and regulations for authorized emergency vehicles. Vehicles shall also comply with Society of Automotive Engineers (SAE) J 1100, "Motor Vehicle Dimensions" in addition to all other applicable SAE standards. In addition, all vehicles shall comply with all other Federal and State rules, regulations and safety standards applicable to the vehicle type in effect on the date of the opening of the invitation for bid. Vehicles shall meet 50 State emissions requirements that allow the resale of these vehicles to the general public as originally equipped upon emergency vehicle "service life" completion.

##### 3.0 VEHICLE SPECIFICATION:

All vehicles shall be certified by the vehicle manufacturer as "Police Package", "Police Interceptor", "Police Pursuit" or "Suitable for Law Enforcement Service". All vehicles shall meet the following minimum specifications:

##### 4.0 REQUIREMENTS

- 4.1 General:** Each vehicle shall be new (unused), current model year production. Each vehicle shall be supplied with all equipment and accessories indicated as standard equipment in the manufacturer's

published literature unless specifically deleted as stated in this specification. Optional equipment necessary to meet the requirements of this specification shall also be installed.

- 4.2 Engine:** The engine shall be equipped with altitude compensating electronic fuel injection. The engine shall be a V-8 Flexible Fuel Vehicle (E-85) configuration, with displacement to be determined by the manufacturer so that all performance requirements described in Section 1.0 Scope are achieved.

The engine shall be designed to operate knock free at all engine and vehicle speeds on unleaded fuel with a minimum octane rating of 87 (RM + MM ÷ 2).

- 4.3 Engine Oil Cooler:** An auxiliary engine oil cooler shall be installed as necessary to maintain oil operating temperatures not to exceed 300°F, maximum.

- 4.4 Fuel Supply System:** The fuel supply system shall be of such a design to eliminate vapor lock when the engine is operating in high ambient temperatures or during periods of extended idling.

- 4.5 Cooling System:** The cooling system shall be liquid pressurized, forced circulation type. The manufacturer shall provide the heaviest duty cooling system components and recovery system applicable to the model offered. The cooling system design and capacity shall maintain the engine at optimum temperature, under all operating conditions specified, without any loss of coolant or overheating of engine and components. The cooling system shall be free of contaminants that may affect cooling system component longevity and performance. Optimum engine temperature shall be maintained with the vehicle loaded to the vehicle manufacturer's published maximum gross vehicle weight rating (GVWR) and continually operated in all operating environments described within the scope of this specification.

The coolant recovery system shall be of a closed design to prevent air from entering the radiator. The coolant recovery tank shall be of sufficient capacity to prevent loss of fluid from the coolant recovery tank and/or entry of air into the cooling system under all operating conditions. The coolant recovery tank shall be a vented unbreakable translucent reservoir with visible fill level indicator markings.

All radiator, bypass and heater hoses shall be made of ethylene propylene rubber (EPDM) or reinforced silicone rubber. Hoses shall not collapse under any operating condition. The hose clamps on the engine cooling and vehicle heating system hoses shall be the steel metal band type.

- 4.6 Electrical System:** The electrical system shall be 12 volt negative ground. All wiring shall include weather proof connectors. The electronic fuel management/ignition system shall be designed as to not be affected by a 100 watt, 35-50 MHz, or a 450 milliwatt, 150-174 MHz radio system installed in the vehicle or a 6 watt, 138-174 MHz portable radio in the immediate vicinity and in the transmit mode.

The vehicle battery shall be the optional heaviest duty type available, compatible with the vehicle charging system and intended for police service. The vehicle battery shall have a minimum of 750 cold cranking amps, with a manufacturing date not exceeding six (6) months prior to vehicle delivery. Vehicles will not be accepted with batteries exhibiting less than 90 percent of full charge at time of delivery.

The generator/alternator shall be the highest capacity optional generator/alternator listed in the manufacturer's current police package brochure applicable to the vehicle bid. It shall have a minimum 200 amp output.

The accessory drive shall be a serpentine type with a self-adjusting tensioner that will drive all accessories with one belt.

- 4.7 Transmission:** The transmission shall be fully automatic transmission equipped with auxiliary transmission fluid coolers, if necessary, to maintain oil operating temperatures not to exceed 275°F, maximum.
- 4.8 Steering:** The steering shall be power assisted. The power steering system shall be equipped with a fluid cooler, if necessary, to maintain power steering fluid operating temperatures not to exceed 300°F, maximum.
- 4.9 Brakes:** The brakes shall be power assisted and feature an anti-lock brake system (ABS). All four wheels shall be equipped with disc brakes. Friction material shall be designed for police applications.
- 4.10 Wheels and Tires:** Each vehicle shall be supplied with five (5) matching wheels and tires. One (1) of the five (5) shall be a matching full size wheel and spare tire. A space saver type spare tire is not acceptable. The wheels shall have a safety ridge rolled into the rim or otherwise designed to prevent the tire from separating from the wheel in the event of a flat. Wheels shall be steel or aluminum alloy designed for police applications. Lug nuts shall be covered with a center cap or small hub cap. Manufacturer's standard Tire Pressure Monitoring System shall be supplied.

The vehicle manufacturer shall test and certify tires as acceptable for original equipment and replacement installation on the police package vehicle specified in this invitation for bid. It is recommended that the vehicle manufacturer certify as many tire brands as possible to be compatible with their vehicle.

The tires installed on the vehicle (including spare) shall meet the requirements listed in the Code of Federal Regulations (CFR), Title 49, Chapter V, Part 575.104, Uniform Tire Quality Grading Standards.

- 4.11 Wheelbase:** The minimum wheelbase shall be 114".
- 4.12 Suspension:** The front and rear suspension including shock absorbers shall be designed for police work. Front and rear stabilizer bars are required. The State will mount a push bumper weighing approximately 52 pounds on the front of the car and approximately 200 lbs. of equipment will be carried in the trunk at all times.
- 4.13 Differential:** The differential shall be the conventional type, ring and pinion gears, with a ratio designed to give the best overall performance for the transmission and tire size installed on vehicle. The gear ratio shall be the same on all vehicles.
- 4.14 Fuel Tank:** The fuel tank furnished shall be the largest capacity available.
- 4.15 Radio Suppression:** All electrical equipment shall be shielded to minimize radio interference in the 35 to 50 megahertz range and the 138 to 174 megahertz ranges.

The entire electrical system shall be designed so that not more than 2.5 microvolt input to the receiver will be required to produce at least 20dB quieting at the receiver, when tested in accordance with Exhibit A, Figures 1 and 2, for all engine speeds from idle to full throttle and with the radio and antenna

mounted and in service. This requirement shall be met without the use of any receiver extender, noise blanker or impulse noise suppression type circuitry.

With the engine stopped, the radio receiver shall require not more than 0.35 microvolt for 20dB quieting measured as shown on Exhibit A, Figure 1, Step 1.

Past experience has shown that the following ground straps are required, at a minimum, to meet the requirements of this specification:

- 2 - Rear bumper to frame or body
- 2 - Hood to body
- 2 - Trunk lid to body
- 2 - Frame to body if frame and body construction
- 1 - From each exhaust pipe to body or frame at rear
- 2 - Engine to frame
- 1 - Frame to body at front if frame and body construction

- 4.16 Body:** The body shall be a four door sedan with center post. A vinyl type protective side molding shall be installed on the vehicle except on the front doors if the trim interferes with the installation of the Agency insignia (33" long by 20" high). The wheel wells shall be so constructed that SAE Class "S" style tire chains may be installed in a conventional manner, without clearance problems and without causing body or structural damage to the vehicle (SAE specification J1232).

Rear deck lid emblems and trim shall be removed to permit the installation of Agency decals if requested by the Agency at the time of the purchase order. All emblems and trim removed shall be furnished to the Agency in bulk pack.

The front door side molding(s) shall be supplied with mounting hardware for installation by the Agency when the vehicle is taken out of service.

- 4.17 Exterior Color:** Manufacturer's published listing of factory available paint colors and paint schemes shall be made available to the ordering agency at the time of the purchase order. The agency will identify the paint color and scheme on the purchase order.
- 4.18 Interior/Seat Upholstery:** Front seats shall be bucket type accommodating a center console. A 60/40 split bench / bucket type seat is not acceptable. The driver's seat shall be power adjustable and shall be designed for maximum comfort, support and durability. Manufacturer's standard cloth bucket seats and vinyl rear seat shall be provided.
- 4.19 Steering Wheel:** A tilt steering wheel is required.
- 4.20 Speedometer:** The vehicle described in this specification will be used in law enforcement and speedometer accuracy is essential. The speedometer shall be calibrated and be accurate within two (2) miles per hour at speeds from 15 to 100 miles per hour of the true vehicle speed, within the environmental operating conditions specified in Section 1.0 Scope. The dial face shall be marked up to a minimum of 140 miles per hour. The design of the speedometer shall be such to insure accuracy throughout the life of the vehicle. The face markings shall be in increments no greater than two (2) miles per hour. The face shall contain the wording "Certified Speedometer," or other wording to indicate that speedometer accuracy is certified, or a letter of certification of accuracy shall be provided with each unit.

The bidder shall specify the size, brand and model of tires for which the speedometer is certified. The speed indicator pointer shall not cover more than a two mile per hour section of the scale.

- 4.21 Radio:** Am / FM radio shall be installed.
- 4.22 Spotlights:** The vehicle shall be supplied with a factory installed spotlight accommodation package for each side of the vehicle including predrilled "A" pillar posts and any required door/door weather-strip modifications.
- 4.23 Floor Covering:** The floor covering of the front and rear floor shall be manufacturer's standard rubber.
- 4.24 Hood Latch Release:** The hood latch release shall be mounted inside the front passenger compartment so that the hood can not be readily opened from outside the vehicle. The release shall be readily accessible to the seated driver.
- 4.25 Rear Deck Lid Release:** The rear deck lid release shall be mounted in a location readily accessible to the driver. Dealer modification to meet the requirement for a rear deck lid release in a location readily accessible to the driver is acceptable however no holes may be left as a result of the modification.
- 4.26 Trunk Compartment:** The trunk compartment shall have a minimum usable luggage capacity of 20 cubic feet.
- 4.27 Radio Speaker:** Vehicle shall be factory equipped with at least two (2) front mounted radio speakers.
- 4.28 Miscellaneous Equipment:** The vehicle shall be equipped with the following miscellaneous equipment:
- Fresh air type heater and defroster. Refrigeration air conditioning of a size and type recommended and installed by the manufacturer of the vehicle. Vehicle air conditioning system shall include any components required to protect the compressor from excessively high head pressure.
  - Intermittent windshield wiper system.
  - Fuel level and water temperature indicator gauges.
  - 12-volt DC power outlet in front compartment.
  - Dual electric horns or dual note horn.
  - Halogen headlamps, high and low beam.
  - Map/dome/courtesy light(s) which provide the following functions:
    - When vehicle front doors are opened, none of the interior map/dome/courtesy light(s) shall illuminate automatically.
    - At least one map/dome/courtesy light shall be manually operated by the driver to illuminate the lap of the seated driver.
  - Quick release style driver's side inside door handle to allow the driver's door to be unlocked by pulling on the inside handle.
  - Driver and front passenger front impact air bag.
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  - All four (4) doors shall contain power locking and unlocking mechanisms controlled by switches located on the driver's side door control panel.
  - All four windows shall be power actuated and controlled from the driver's side door control panel with a lockout feature to prevent other windows from being operated when locked out by the driver.
  - Rear window defogger/defroster on a separate switch.

- The vehicle shall use the same single key for ignition, door, trunk and glove box (if vehicle includes). A set of four (4) total keys shall be supplied for each vehicle. Each vehicle shall be keyed individually.
- Arm rests on each of the four (4) doors (arm rests in rear passenger compartment may be mounted on other than the door if vehicle is so designed).
- Left and right remote control outside mirrors. Similar in appearance and mounted on left and right front doors. Both mirrors shall be controllable from the driver's seat.
- Two coat hooks installed in rear compartment.
- Windshield and all windows shall feature tinted glass.
- Light in trunk with trunk lid actuated switch.
- Standard tool kit including wheel changing tools and jack adequate to safely lift the vehicle.