



CRESTLINE – DEMERS AMBULANCE

Fleet Assessment

The attached report provides a comparison between the Crestline and Demers Ambulance. It was conducted for the City of Hamilton, specifically the Hamilton Paramedic Service, an evaluation between the Crestline and Demers ambulance platform was carried out from August to October, 2016. Both vehicles were checked for roadworthiness, safety, stability, and general condition of all metals, connections and drive train including suspension components and fixed on board equipment, patient care components and related ancillary equipment. This review was conducted by Robert Kay an independent consultant who holds multiple applicable trade certificates, the report was commissioned by the Hamilton Paramedic Service and is hereby submitted for review.

Kay Fire Apparatus Advisory Service

Robert .J. Kay R.S.E. E.V.T.

9/10/2016

Standard Features on the Demers Ambulance that are not offered on the Crestline Ambulance.

1	Specifically designed storage space for the paramedic's personal safety gear which resolves related health and safety issues.
2	More head room and a wider patient compartment provide for safer patient care
3	The patient aluminium body structure is powder coated before primer and paint are applied, the process reduces aluminium oxide formation, body corrosion and dissimilar metal reaction, providing an extended in service life expectancy.
4	Intersection clear/Red LED lights with turning priority
5	Four corner emergency lights activate when the vehicle is reversing
6	Two electric door lock/unlock switch located near side/rear right door
7	Zero to 15-minute programmable timer on LCD display for halogen dome lights
8	Flip up window frame on medical cabinet that allows for more thorough cleaning of the cabinets and ease in restocking
9	Improved lighting in the patient compartment to better assess the patient's overall condition
10	Rear air conditioning/heating speed and temperature control with automatic mode, these controls are multiplexed offering more precise and accurate temperature control in the patient compartment.
11	Innovative Multiplex controlled electrical systems that improve the speed and accuracy when Emergency Vehicle Technicians are diagnosing complex electrical problems. Current electrical technology, fewer switching relays and out dated electrical controls, makes for a more dependable and reliable ambulance.
12	Digital chassis voltmeter, radio voltmeter, conversion amp meter and voltmeter

13	Parts and warranty services are located within 45 minutes of Hamilton - crucial for EMS operations (Crestline is located in Saskatoon, Tristar in Nova Scotia)
14	Full-length stainless steel piano style door hinges fastened with stainless steel rivets in combination with the powder coat isolation acting as a barrier compound will prevent a dissimilar metal reaction.
15	Drivers and passenger doors are equipped with door stays, to prevent the doors from being sprung on windy days eliminating down time and costly body shop repairs.

In addition, standardising the ambulance fleet reduces the ongoing training demands for Emergency Vehicle Technicians (Mechanics) and paramedics; this further limits the risk of paramedics not being intimately familiar with a vehicle that they have to operate under emergency driving conditions and locate equipment. Standardising allows for the fleet to have the ability to rotate every two years without requiring additional training and no adverse impact on the ambulance service. Rotating of the fleet from busy to slow call volume area's with in the City dramatically reduce the life cycle cost per Ambulance. Considering all factors, standardising with Demers would be in the best interest of the City and the Hamilton Paramedic Service.

1. Reduce staff time for the EMS Division and the Procurement Section when purchasing Ambulances.
2. Reduce or at a minimum, address some of the paramedic health and safety vehicle concerns.
3. Reduce mechanical staff training requirements to maintain multiple vehicle types.
4. Reduce Paramedic staff training requirement on multiple vehicle types.
5. Reduce parts inventory requirements for multiple vehicle types.
6. The Hamilton Fire Department Mechanical Division has 16 years' of experience with the Crestline and Demers ambulances. To revert to the Crestline Ambulance would be a step backwards and will only serve to increase the life cycle costs and out of service hours over the 6-year depreciation life.

Compliance:

With Demers Ambulance Manufacturer Inc. being a vendor of record with the MOHLTC, the Municipality will be assured that the Demers Ambulance complies with MOHLTC regulations as well as the National Fire Protection Association Standards N.F.P.A. 1917 pertaining to Ambulance conversions.

AMBULANCE MARKET ACROSS CANADA

In the Province of Ontario, Demers Ambulance supplies approximately 68% of the current Ambulance market.

Provincially and throughout Canada, Demers Ambulances are purchased by the following listed Municipalities, regions and Counties.

- County of Brant
- County of Bruce
- County of Chatham-Kent
- County of Dufferin
- County of Grey
- County of Haldimand
- County of Huron
- County of Lambton
- County of Middlesex
- County of Muskoka
- County of Norfolk
- County of Perth
- County of Prescott & Russell
- County of Renfrew
- County of Simcoe
- County of Wellington
- City of Hamilton
- City of Ottawa
- City of Greater Sudbury
- Durham Region
- Halton Region
- Peel Region
- Waterloo Region
- York Region
- District of Manitoulin / Sudbury
- District of Nipissing
- Moosonee
- Rama
- Beausoleil First Nations
- Six Nations

British Columbia – Is operated solely by the Province Demers has 100% market share and operates on a long-term contract / agreement.

Alberta – Is operated by the Province Alberta Health Services and Private Contractors Demers has 70% of the market share and is Demers largest customer.

Saskatchewan – Is governed by the Province and is operated by Private Contractors, Demers has 40% market.

Manitoba – Is governed by the Province and Municipally – Demers has no market share

Quebec – Is governed by Province operated both municipally and by private contractors, Demers has 95% of the market.

New Brunswick – Is governed by the Province operated by private contractor – Demers has no market share.

Prince Edward Island – Is governed by Province operated by a private contractor Demers has 100% of the market.

Nova Scotia - Is governed by Province and operated by a private contractor, Demers has no market.

Newfoundland – This province has minimal provincial government interaction and is mostly locally operated, most of the Ambulances purchased as used vehicles, Demers has a small market.

RECOMMENDATIONS

It is recommended that the City endorse a recommendation to standardise with the Demers Ambulance for a period of six (6) years.

It is recommended that the current Granning air ride suspension is discontinued and that the standard parabolic spring suspension is utilised. The frequency of component failures and break downs associated with the Granning air ride suspension is unacceptable.

It is anticipated that the ambulance fleet standardisation will allow the fleet of ambulances to be rotated between stations within the City to reduce the life cycle costs per vehicle when moving from busy to slow.

Mechanical break downs and out of service maintenance data supports that historically the Demers ambulance has proven to be more reliable than the Crestline ambulance. The reliability and superior engineering qualities of the Demers ambulance allow the units to be in service longer and reduces the man hours required to carry out scheduled maintenance.

Completed by: Kay Fire Apparatus Advisory Service

Robert J. Kay R.S.E. E.V.T.

QUALIFICATION SUMMARY:

- 46 Years Mechanical Trade Experience
- 13 Years Stelco heavy equipment mechanic
- 32 Years experience Fire / Ambulance emergency vehicles.
- 25 Years as Chief Mechanical Officer (City of Hamilton)
- Managed a 1.4 million dollar annual operating budget.
- Supervised 13 mechanical and technical staff
- Responsible for a Fleet of 206 Vehicles.
- 28 years as Chairman of the Technical sub- committee for (U.L.C.) Underwriters Laboratories of Canada.

TRADE CERTIFICATES:

- 310-S Automotive Service Technician Inter-provincial
- 310-T Truck and Coach Technician Inter-provincial
- 13 Years Heavy Equipment Mechanic
- Emergency Vehicle Technician E.V.T.
- Alternate fuel licenses (certified fitter and inspector)
- Licensed Restricted Operator's Certificate (Maritime)
- Licensed – Maritime Training for the Fire Service MED A 3 & SVOP (Special Vessel Operators Proficiency Permit)
- Licensed Registrar of Imported Vehicles ON-909P
- Commercial Vehicle Wheel Service
- Ontario Ozone Depletion

PROFESSIONAL MEMBERSHIPS:

- Member A.S.M. International the Materials Information Society (materials engineering)
- Secretary-Treasurer of the Emergency Vehicle Technicians Association of Ontario (E.V.T.O.A). Chartered organization that works under the auspices of the Ontario Fire Chiefs Association (www.evtao.ca).
- Member of the National Institute of Emergency Vehicle Safety (E.V.S.)
- Member of the Executive for National Association of Emergency Vehicle Technicians.
- Founding Member of the Automotive Transportation Service Superintendents Association.