



Manitoba EMS

Evaluation of Dodge Sprinter
Ambulance

Purpose of Trial

- The Manitoba Fleet Ambulance Program has purchased four Mercedes built, Dodge Sprinter ambulances for the purpose of evaluating the suitability of these units in Manitoba, as well as evaluating a range of new technologies to enhance the provinces EMS system.

Why are we taking this direction

- Safety
 - Patient
 - Crew
 - Public
- Environment
- Reliability
- Economy
- Comfort
 - Crew
 - Patient

What are the Safety Features?

- Adaptive Electronic Stability Program
- New ambulance markings/retro-reflectivity apply the latest research in vehicle conspicuity
- Latest technology in LED emergency vehicle lighting
- Heated windshield/wiper parking
- Headlight cornering technology
- Headlight Washers

Cont'd

- Access to switches/controls, common consumables, and defibrillator designed to be within arms reach of paramedic providing patient care allowing paramedic to remain seatbelted.
- Elimination of side facing seating (new seating can face patient for initial care and then rotate forward for optimum safe travel.)

Cont'd

- Lower loading height - no-lift stretcher technology (Provided with vehicle)
- Lower step height into vehicle.
- Reduced paramedic injuries handling oxygen tanks (maximum 22 – 25 lbs)
- Better avoidance of stationary rear end collisions due to “Traffic Advisor” built into rear lighting
- Backup camera for confined area reversing incorporated into touchscreen display

Cont'd

- Full Airbag protection (6 airbags) for both crew
 - Front
 - Side Curtain (head protection)
 - Side (Seat-thorax protection)
- Increased certification requirement for stretcher mounts and seats in patient compartment (10-12G rather than current approx 8G)
- All powder coated aluminum interior to reduce pathogens and make cleaning easier



Our Inspiration

Queensland Australia Sprinter Ambulance



Night time view showing retro-reflective markings

Manitoba Sprinter Ambulance





YSEA

Front & Rear Light Bars



Figure 2: Rear Light Pod installed



Figure 3: Front Light Pod with Lights

New Oxygen Tank System



Two M60 Aluminum tanks weighing 22-25 lbs each will replace single tank at 100 lbs with same oxygen capacity

New Stretcher Evaluation



Ferno Model 50 Cot with EFX Top

Features & Operation of New Cot







Comfort/Convenience

- Brighter more airy patient compartment for patient comfort due to large windows.
- Auxiliary heating in patient compartment
- Softer ride for patients and staff
- Quieter engine with less vibration than existing diesels.
- Elimination/reduction of “diesel odor”
- Comfort Seating (8 way adjustable) for both crew
- Greater maneuverability
- Incorporation of Garmin GPS technology in touchscreen display

Crew Comfort Seating



Reliability Features

- Sprinter is tried and tested world wide. Has a 500,000 km drive train reputation
- All ambulance lighting is LED to reduce electrical system demand, and downtime.
- All wiring is multiplexed with touchscreen controls to improve reliability
- Longer 160,000 km, 5 year drive train warranty will reduce maintenance costs.

Cab Interior





Weldon Multiplex touch screen showing GPS in cab and procedure timer function in patient compartment.

Economy

- Fuel – Current ambulance fleet avg fuel consumption 26 l/100 km.
- Sprinter is rated at 11 l/100 km. Using a conservative 14 l/100 would be a 46% improvement in fuel economy.
- Routine service is reduced from every 5-6000 km to every 16,000 with major service every 30-100,000 km.
- Reports from fleet operators such as DHL suggest lifetime operating costs @ 20-30% less than existing Ford or Chev Chassis.

Environmental Benefits

- Dodge Sprinter is currently the only full size diesel van available in North America that meets 2010 tailpipe emissions requirements.
- Greenhouse gas reduction: if entire provincial fleet was converted, could reduce consumption of fuel by 700,000 liters/year (46%) with associated greenhouse gas reductions.
- Eliminates diesel soot and other particulate emissions with particulate filter systems.

Patient Compartment Layout Features



Additional Features



Backup Camera with IR



Rear Touch Screen Multiplex

Tablet/Writing Drawer Concept

2 1/4 " Deep Drawer with Lexan Cover for Writing Surface



Slide out for Tracked Stair Chair and Kit Storage



Tray for “tracked stair chair” slides out for easier access to reduce injury risk to paramedic. Storage for 3 “D” cylinders with regulator, and two kit compartments accessible from inside vehicle.

Bright Patient Compartment with larger rear access doors



Backboard & Orthopedic Stretcher Storage on left, Misc Storage under seat. Vents on right for Espar Heater

Medical Control Area with Tip Out Storage Bins



L. Upper Storage compartment for KED and similar, as well as touch screen switch panel. R. Inverter panel, tip out storage and rear facing seat at head of cot.

New Console Design



Enclosed (latched) storage for miscellaneous crew items (Computer consoles mount easily on side of console).

Main Medic Seat

(Showing Storage Drawer & Waste Basket)



HOME

CONTACT US

ABOUT US

SEATS

ATTENDANT SEATS

CHILD SAFETY SEATS

MULTI-PATIENT
TRANSFER SEATS

SQUAD BENCH
CUSHIONS

WALL-MOUNTED
CPR CUSHION

DRIVER/PASSENGER
SEAT CUSHION

COLOR CHART

HARDWARE

PEDESTAL

SWIVEL BASE

CABINET BASES

ARMRESTS

BELTS

MESH POCKET



ATTENDANT SEATS

MULTI-PATIENT TRANSFER SEATS W/5 POINT BELT

Replace the Squad Bench with Two WM1805 Seat Assemblies & Two WM1612 Swivel Bases. This Transforms Your Ambulance from a Single Patient to a Double Patient Transport Unit.

- Quick release hinge allows seat back to fold forward
- Easy release on Swivel Base WM1612 allows seats to swivel inward
- Non-Skid surface on ABS back cap adds security when placing backboard on seats
- Backboard is secured by belts mounted in the rear wall
- The patient is secured by seat belts over the chest and leg area



SEAMLESS

WM1805 ATTENDANT SEAT
W/ FULL-FOLDING BACK W/3 POINT BELT

WM1866 CHILD SAFETY SEAT
W/ FULL-FOLDING BACK W/3 POINT BELT

WM1867 ABS BACK CAP
FOR SEATS W/ FOLDING BACK

REFER TO COLOR CHART FOR COLOR NUMBERS



New Diamondback Lighting



Custom built lightbar includes 3" x 7" red on ends, and 2" x 6" on front and angles. Also includes 3" x 7" LED scene lights.