

# **Optional — Ten Person Crew Carrier Chassis Only Specification**

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## Record of Revisions

### Date

February 2012

February 2016

### Revision Summary

- Initial Release
- Added table of contents
- Updated format
- Revised fuel tank specification
- Added DEF tank specification
- Added after frame dimensions
- Removed item specific dimensions for side mirrors
- Added RBM frame rail requirement
- This space reserved for future revisions

### Future Revisions

## **1 — General**

### **1.1 General**

1.1.1 The intent of this specification is to provide a 33,000 GVWR two-door, standard cab chassis; Severe Service; two-wheel drive with a set-back axle. This specification is intended to be used with “USDA Forest Service, Ten Person Crew Carrier, Apparatus Body Only Specification.”

1.1.2 The chassis shall include the following features:

### **1.2 Wheelbase**

1.2.1 165 inches

### **1.3 Cab to Axle**

1.3.1 98 inches

### **1.4 After Frame**

1.4.1 74 inches

### **1.5 Tow Hooks**

1.5.1 Front, two; inside rail; frame mounted

### **1.6 Frame Rails**

1.6.1 Heat treated alloy steel; Minimum resistance bending moment (RBM) of 1,400,000 Inch-Pounds; 120,000 pounds per square inch yield

### **1.7 Bumper, Front**

1.7.1 Steel; swept back; powder coated Argent Gray

### **1.8 Axle, Front, Non-Driving**

1.8.1 10,000 pound capacity; Meritor MFS-10-143A, or equivalent

### **1.9 Suspension, Front**

1.9.1 Spring; taper leaf; parabolic; 10,000 pound capacity; with shock absorbers

### **1.10 Brake System, Dual Air**

1.10.1 Front brakes: 16.5 inches by 5 inches; S-Cam type; long stroke brake chambers

1.10.2 Rear brakes: 16.5 inches by 7 inches; with long stroke brake chamber and heavy duty spring actuated parking brake

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- 1.10.3 Dust shields; front and rear axles
- 1.10.4 Slack adjusters; front and rear; automatic
- 1.10.5 Drain valve; twist type Drain valve (Berg™, or equivalent); manual; with chain
- 1.10.6 Gauges; located in cab instrument panel; “Air 1” and “Air 2”
- 1.10.7 Air dryer (Bendix™ AD-IP, or equivalent); with heater
- 1.10.8 Brake lines; color and size coded nylon
- 1.10.9 Parking brake valve; with yellow knob; located on cab instrument panel
- 1.10.10 Air Brake ABS: Full vehicle wheel control system (4-channel) (Bendix™ Antilock Brake System, or equivalent)
- 1.10.11 Air compressor (Bendix™ Tu-Flo 550, or equivalent); 13.2 cubic feet per minute capacity
- 1.10.12 Spring brake modulator valve

**1.11 Steering Column**

- 1.11.1 Tilting

**1.12 Steering Wheel**

- 1.12.1 2-spoke; 18-inch diameter; black

**1.13 Steering Gear**

- 1.13.1 Power (Sheppard™ M-100, or equivalent)

**1.14 Exhaust System**

- 1.14.1 Single, horizontal; with after treatment device

**1.15 Electrical System**

- 1.15.1 12-volt

- 1.15.2 Includes:

- 1.15.2.1 Headlights; two; halogen
- 1.15.2.2 Horn; electric; single
- 1.15.2.3 Horn; air accommodation package; less horn
- 1.15.2.4 Electronic cruise control, controls integral to steering wheel

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- 1.15.2.5 Starter switch; electric; key operated
- 1.15.2.6 Headlight dimmer switch integral with turn signal lever
- 1.15.2.7 Turn signal switch; self-canceling
- 1.15.2.8 Windshield wiper; 2-speed; integral with turn signal switch; with wash/intermittent feature
- 1.15.2.9 Circuit breakers; manual reset; replaces all fuses except for 5A
- 1.15.2.10 Wiring; chassis; color coded and continuously numbered
- 1.15.2.11 Bumper-mounted fog lights. Fog lights shall only turn on when the fog light switch is turned on, the ignition key switch is in the "Ignition" or "Start" position and the headlights are on low-beam mode

**1.16 Alternator**

- 1.16.1 12-volt direct current; 220 amp capacity (Leece-Neville™ 14923PA, or equivalent)

**1.17 Battery System**

- 1.17.1 Three batteries; 1950 cold cranking amps; maintenance-free
- 1.17.2 Jump start stud; remote mounted

**1.18 Radio**

- 1.18.1 AM/FM stereo with CD player and Weatherband; two coaxial speakers

**1.19 Starter**

- 1.19.1 12-volt direct current (Leece-Neville™ M130D, or equivalent); with thermal over-crank protection

**1.20 Grille**

- 1.20.1 Stationary; chrome

**1.21 Front End**

- 1.21.1 Tilting, fiberglass; with rubber fender extensions

**1.22 Engine**

- 1.22.1 Diesel; 50 State, 330 horsepower; 950 pound foot torque minimum
- 1.22.2 Includes:
  - 1.22.2.1 Air cleaner; dual element, standard with inter-cone

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- 1.22.2.2 Throttle; hand control; stationary; mounted on steering wheel
- 1.22.2.3 Fuel/water separator and fuel filter in a single assembly, with water-in-fuel sensor and heater
- 1.22.2.4 Block heater; 120 volt/1250 watt (Phillips™, or equivalent)
- 1.22.2.5 Fan drive (Horton™ Drivemaster®, or equivalent); two speed; direct-drive; manual fan drive override
- 1.22.2.6 Indicator; low coolant level with audible alarm
- 1.22.2.7 Grille; ember screen; engine air intake system; hood-mounted
- 1.22.2.8 Bug screen, mounted behind grill
- 1.22.2.9 Diamond Logic® combined engine and exhaust brake; latched mode
- 1.22.2.10 Expanded engine temperature effects to allow higher engine temperature operating range
- 1.22.2.11 Coolant protection down to minus 50 degrees Celsius (minus 60 degrees Fahrenheit)

### **1.23 Radiator**

- 1.23.1 The chassis cooling system shall be capable of maintaining normal engine operating temperature range at full engine load at 0 mph

### **1.24 Transmission, Automatic**

- 1.24.1 Allison 3500 EVS; wide ratio; 6 speed; with double overdrive; with oil level sensor; less PTO provision; less retarder

### **1.25 Transmission Controls**

- 1.25.1 T-bar type; for Allison 3000 and 4000 transmissions

### **1.26 Axle, Rear**

- 1.26.1 Single; 23,000 pound capacity; Meritor RS-23-160, or equivalent
- 1.26.2 Includes:
  - 1.26.2.1 Differential; locking, driver-controlled
  - 1.26.2.2 Drain plug, magnetic, for single rear axle
  - 1.26.2.3 Gearing for 70 miles per hour maximum

- 1.26.2.4 When the apparatus is driven over 15 miles per hour, the driver-controlled rear locking differential shall automatically disengage and shall not automatically re-engage when driven below 15 miles per hour

## **1.27 Suspension, Rear**

- 1.27.1 23,000 pound capacity; Hendrickson™ PRIMAAX® EX air spring suspension, or equivalent
- 1.27.2 Suspension air control valve pressure release control in cab

## **1.28 Fuel Tank**

- 1.28.1 Capacity: 70-gallons; aluminum; D style; top draw; mounted on driver's side under cab; maximum ground clearance possible

## **1.29 Diesel Exhaust Fluid Tank**

- 1.29.1 Capacity: a diesel exhaust fluid (DEF) tank will be provided in a storage capacity ratio to meet the requirements for the provided fuel tank; mounted under the cab; maximum ground clearance possible

## **1.30 Cab**

- 1.30.1 Conventional standard cab
- 1.30.2 Includes:
- 1.30.2.1 Clearance lights; five; flush mounted
- 1.30.2.2 Exterior grab handles; two; aft of cab doors; with rubber insert
- 1.30.2.3 Interior grab handles; three
- 1.30.2.4 Exterior cab steps; four; two steps per cab door
- 1.30.2.5 Mirrors; exterior; two; rectangular; with integral convex; with breakaway type mounting brackets; heated heads thermostatically controlled, power both sides with L.E.D. clearance lights
- 1.30.2.6 Gauge cluster; English: with electronic speedometer; tachometer; oil pressure; coolant temperature; fuel level; voltmeter; washer fluid level
- 1.30.2.7 Warning system: low fuel level; low oil pressure; high coolant temperature; low voltage
- 1.30.2.8 Gauge; transmission temperature
- 1.30.2.9 Gauge; applied air



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- 1.30.2.10 Gauge; air cleaner restriction
- 1.30.2.11 Seat, driver's; National™ 2000, or equivalent; high back; vinyl; air suspension; air lumbar; arm rest on inboard side
- 1.30.2.12 Seat, passenger's; National™ 2000, or equivalent; high back; vinyl; air suspension; air lumbar; arm rest on inboard side
- 1.30.2.13 Seat Belts: Red or orange in color; 3-point style
- 1.30.2.14 Air conditioner; with integral heater and defroster
- 1.30.2.15 Fresh air filter for HVAC; protected by ember guard
- 1.30.2.16 Tinted glass
- 1.30.2.17 Dome light with automatic dimming, door activated and push ON/OFF
- 1.30.2.18 Overhead storage console with nets, CB pocket, Pearl Gray interior
- 1.30.2.19 Deluxe cab interior trim
- 1.30.2.20 Molded plastic door trim panels
- 1.30.2.21 Molded plastic storage pocket; driver's and passenger's front cab doors
- 1.30.2.22 Padded cloth headliner
- 1.30.2.23 Black rubber floor covering
- 1.30.2.24 Vinyl sun visors
- 1.30.2.25 Cab suspension; air bag type
- 1.30.2.26 Single color cab exterior finish paint, 5032 Forest Service Green

**1.31 Tires and Wheels**

- 1.31.1 Steel disc wheels; painted white; with 10-stud pattern; 8.25-inch by 22.5-inch DC rims; hub piloted
- 1.31.2 Tires Front: 11R22.5 Michelin™ XZE2, or equivalent; load range H; 16 ply
- 1.31.3 Tires Rear: 11R22.5 Michelin™ XDE M/S, or equivalent; load range H; 16 ply
- 1.31.4 Included with Chassis Order: One spare wheel and one spare tire matching the wheels and front tires, delivered affixed to the cab and chassis