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FEDERAL STANDARD

TRUCKS: LIGHT, COMMERCIAL, 4x2 and 4x4
1,800kg (4,000 lbs) to 9,000kg (19,999 lbs) GVWR

1. SCOPE AND CLASSIFICATION

1.1 SCOPE

This document covers commercially available, two and four wheel driven, light trucks of less than 9,000 kg (20,000 lb) GVWR and associated optional equipment. Types include pickup trucks, sport utility vehicles, passenger, cargo, and delivery vans. Also included are chassis and cab, and trucks equipped with service/utility, stake, and dump bodies.

1.2 PURPOSE

The purpose of this document is to achieve a practical degree of standardization within the Federal Government's automotive fleet and to simplify competitive procurement of vehicles. This Standard establishes various types and sizes of trucks, and general equipment requirements. Purchasers should also review the information under Section 6 - Notes.

1.3 COVERAGE

This Federal Standard covers only those vehicles generally acquired competitively by the Federal Government and does not include all the varieties of the commodity indicated by the title.

Additional requirements and deviations for special purpose vehicles may be submitted in accordance with Sections 6.3 and 6.4. Approved modifications will be included in the solicitations for offers, contract, or amendments. All vehicle procurements must comply with the Federal Property Management Regulations (FPMR) and the Federal Acquisition Regulations (FAR). The vehicles covered by this standard are listed by standard item numbers.

The item descriptions, minimums, options and manufacturer data can be viewed in Autochoice.

1.4 CLASSIFICATION

The vehicle's characteristics, components, equipment, and options shall be based upon the chassis manufacturer's make and model offered, and shall be verifiable in the vehicle's and body/equipment manufacturer's publications, and data that is required by the U.S. Environmental Protection Agency (EPA), Department of Energy (DOE), and other applicable regulatory agencies.

1.5 FUEL ECONOMY

Agencies are encouraged to use fuel mileage ratings as a factor in the selection of their vehicles. Miles per gallon ratings for all vehicles of less than 3,864 kg (8,500 lb) GVWR are available in AUTOCHOICE under the OTHER FEATURES tab or on the EPA website at www.fueleconomy.gov.

1.6 METRICATION

Federal Agencies, to the extent economically feasible, use the metric system of measurement in procurements and other business related activities. Specifications and standards are developed in metric when metric is the accepted industry system. In this document, metric is used with the exception of items covered by Federal Regulations and items built to inch measurements for interchangeability such as wheel diameters. Metric and U.S. standard equivalent measurements are provided to facilitate the use of this document.

2. APPLICABLE DOCUMENTS

2.1 APPLICABLE REFERENCES

When published references are stated they shall be of the issue in effect on the date of the solicitation for offers or request for proposals. Military Handbooks:

- MIL-HDBK-1223 - Nontactical Wheeled Vehicles Treatment, Painting, Identification Marking, and Data Plate Standard.

2.1.1 ORDER OF PRECEDENCE

In the event of a conflict between this standard and an applicable reference, this standard shall take precedence.

2.2 ABBREVIATIONS AND DEFINITIONS

The following are the abbreviations and their meanings, as they appear in this standard:

AbbreviationDefinition

A.....	Available/Option Available
ABS.....	Antilock Braking System
ALT	Alternate/Alternative
AREQ.....	Additional Requirements
AS	All Season (Tire Tread)
AMP	Ampere
AT	All Terrain (Tire Tread)
AUTO.....	Automatic
BAT	Battery
CA.....	Cab to Axle Dimension
CAP	Capacity
CCA	Cold Cranking Amps
CD.....	Engine Cubic Displacement in Liters
cfm	Cubic Feet per Minute
cm	Centimeters
CNG	Compressed Natural Gas
CNG2.....	Bi-Fuel Compressed Natural Gas or Gasoline
CYL.....	Cylinders
D	Daimler Chrysler
dia.	Diameter
DR.....	Door
ENG	Engine
F.....	Ford
FC	Forward Control
FL.....	Freightliner
FMVSS	Federal Motor Vehicle Safety Standard(s)
FPMR.....	Federal Property Management Regulation(s)
ft.....	Foot or Feet
FWD.....	Front Wheel Drive
G	General Motors
GAL.....	Gallons
GAWR.....	Gross Axle Weight Rating
GCWR	Gross Combined Weight Rating
GVWR.....	Gross Vehicle Weight Rating

HD.....	Heavy Duty
HDA	Heaviest Duty Available
HP	Horsepower
HWY	Highway
in	Inches
kg	Kilograms
KPH	Kilometers Per Hour
L.....	Liters
Lb.....	Pounds
lb-ft.....	pound-feet of torque
LT.....	Left
MAN	Manual
MAX	Maximum
m.....	Meters
MFR	Manufacturer(s)
MIN	Minimum
mm.....	Millimeters
MPG	Miles Per Gallon
MPH	Miles Per Hour
n/a.....	Not Applicable or Not Available
OEM.....	Original Equipment Manufacturer(s)
OO	On-Off Road (Tire Tread)
OPT	Option - Optional
PASS	Passengers
PTO	Power Take Off
psi	Pounds per Square Inch
R	Radial (Tire)
RT	Right
reqd.....	Required
RWD	Rear Wheel Drive
spd	Speed
S and std.....	Standard
SAE.....	Society of Automotive Engineers
TRANS.....	Transmission
V	V-type (Engine)
W	Workhorse
w/	With
w/o	Without
WB	Wheel Base Dimension
-.....	Not Required, No Option Offered
/.....	And, And/Or
4x2	Two Wheel Drive
4x4	Four Wheel Drive

3. REQUIREMENTS

3.1 DESIGN

3.1.1 DESIGN

The vehicles and the related equipment furnished under this document shall be the vehicle manufacturer's current production. The vehicle(s) offered shall be as shown under the Federal Standard "Item Number." Vehicle(s) shall be complete with all the necessary operating components and accessories customarily furnished to the general public, whether stipulated herein or not, together with such modifications and accessories as may be necessary or are specified herein to enable the vehicle to function reliably and efficiently in sustained operation. The term "heavy-duty" (h.d.), as used to describe an item, shall mean in excess of the usual quantity, quality, or capacity that is normally supplied with the standard production vehicle or component. When a heaviest duty available (h.d.a.) component is specified, the supplier may provide a vehicle with the standard component(s) when no OEM heavy-duty component is offered for the model specified. OEM refers to the chassis manufacturer.

3.1.2 VEHICLE EQUIPMENT AND ACCESSORIES

The vehicle, components, assemblies, and accessories to be delivered under the contract shall be standard or optional commercial products that meet or exceed the requirements specified. They shall comply with all Federal Motor Vehicle Safety Standards (FMVSS), EPA regulations, and state and local regulations applicable to the specified vehicle on the date of manufacture. In addition, the vehicle(s) shall be furnished with the equipment, systems, and accessories as specified by the option codes.. Option codes are defined in the text of the standard, or are self-explanatory, as generally used in the automotive industry. All components and optional items shall be as represented in the manufacturer's current technical data. Technical data shall be limited to specifications and technical material identical to that furnished to the authorized company representatives for selection of vehicle models and components, and shall be on file in appropriate offices of the procuring activity. When a specified component or accessory is available in the chassis manufacturer's sales/engineering data, the vehicle shall be so equipped with the OEM item. The OEM component parts of the vehicle need not be the products of the same manufacturer. Optional and standard equipment ordered shall be installed, serviced, and ready for use.

3.1.3 RECOVERED MATERIALS/REGULATORY REQUIREMENTS

In accordance with section 23.403 of the Federal Acquisition Regulations (FAR), the Government's policy is to acquire items composed of the highest percentage of recovered materials practical, consistent with maintaining a satisfactory level of competition without adversely affecting performance requirements or exposing suppliers' employees to undue hazards from the recovered materials. The term "recovered materials" means materials that have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. None of the above shall be interpreted to mean that the use of used or rebuilt products is allowed under this document. The use of re-refined oil shall not be prohibited. This does not prohibit chassis manufacturers from using performance criteria for acceptable oil. Any re-refined oil product shall meet the performance criteria of the vehicle and component manufacturers.

3.2 VEHICLE, COMPONENTS, AND SYSTEMS

3.2.1 CURB WEIGHT

The curb weight of the vehicle is defined as the weight of the complete vehicle without payload. Curb weight shall include the chassis, cab and body, all attached devices, equipment, and a full complement of fuel, lubricants, and coolants.

3.2.2 PAYLOAD CAPACITY

The payload specified for each Item Number is defined as the minimum net weight for occupants and body/cargo carrying capacity, with the minimum equipment as specified, it does not include optional equipment that may be ordered. The ordering agency is responsible for loading the vehicle so that the front axle weight, rear axle weight and GVWR are not exceeded. Occupant weight shall be calculated at 68 kg (150 lb) each. The payload shall be evenly distributed in accordance with the vehicle design and intended use.

NOTE: PAYLOAD IS REDUCED BY THE WEIGHT OF EACH ADDED OPTION!!!

3.2.3 GROSS VEHICLE WEIGHT RATING (GVWR)

The gross vehicle weight rating is the maximum, fully loaded weight of a vehicle. The minimum GVWR of a vehicle furnished shall comply with payload shown for each Item Number, and shall be at least the sum of the curb weight and the payload capacity specified. Manufacturers shall provide a rating label showing the actual GVWR of the vehicle furnished. The chassis manufacturer's maximum GVWR, shown on the certification label, shall not be increased.

3.2.5 WHEELBASE

Unless specified or required by the CA dimension, the wheelbase shall be the chassis manufacturer's shortest for the type and model specified.

3.2.6 SPEED AND GRADEABILITY

The vehicle shall maintain a speed of 105 kph (65 mph) on a smooth, hard-surfaced, and level road. From a standing start the vehicle shall ascend a 20 percent grade. The vehicle shall perform as stated when equipped with all specified options and loaded to the GVWR, and the air conditioner compressor is engaged. These requirements are in addition to the minimum engine size and transmission type shown.

3.2.7 EMISSION CONTROL SYSTEM.

Vehicles destined for all states shall comply with Environmental Protection Agency (EPA) Regulations governing Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines in effect on the date of manufacture and with state requirements for which the vehicles are destined.

3.2.8 FUEL SYSTEM

The fuel tank(s) shall be protected by a metal shield, or be located in an area which will be free from hazards of off-road operation. (Example: tanks located between frame rails or more than 38 cm (15 in) ground clearance.) The fuel fill pipe shall be protected against deformation by body or component installation. When more than one fuel tank is furnished, the tanks shall be interconnected. A fuel gauge shall be provided which accurately indicates total remaining fuel.

3.2.9 COOLING SYSTEM

A coolant overflow recovery tank and compensating system shall be furnished. The cooling system shall be protected with an OEM solution of extended life antifreeze/coolant. The antifreeze/coolant shall comply with ASTM standard D3306 or D6210 (diesel engines) as required. The cooling system shall be filled with a 50% concentration of glycol-base antifreeze coolant. The supplier shall provide the OEM maximum size cooling system for the engine provided.

3.2.10 BRAKE SYSTEM

All vehicles furnished shall be equipped with the OEM power assisted, self-adjusting, front and rear wheels, antilock braking system (ABS).

3.3 DRIVETRAIN**3.3.1 ENGINE**

The engine furnished shall have the minimum horsepower and torque specified. When specified that the vehicle(s) will be exported, the engine shall also comply with 3.8.6, Overseas Vehicle Requirements.

3.3.2 TRANSMISSION**3.3.2.1 CODE "T2" AUTOMATIC TRANSMISSION**

The OEM standard production automatic transmission shall be provided.

3.3.2.1.1 AUTOMATIC TRANSMISSION FLUID COOLER

The OEM standard automatic transmission fluid cooler shall be provided.

3.3.2.2 MANUAL TRANSMISSION

When specified by code T5 or T6, a manual transmission shall be provided. The number in the code represents the number of forward transmission gears.

3.3.2.2.1 CLUTCH

Vehicles equipped with a manual transmission shall be furnished with the OEM heaviest duty available clutch assembly offered for the model furnished.

3.3.3 TRANSFER CASE

The transfer case shall be of the two-speed type that will provide a part-time (selective) four-wheel drive system. Protective skid plates or shields shall be provided on all 4X4 vehicles and when specified (code SP), or when ground clearance is 38 cm (15 in) or less.

3.3.4 DRIVE HUBS, FRONT WHEELS

The OEM heaviest duty available 4x4 full time or front wheel locking system engaged from the cab shall be furnished.

Vehicles with a GVWR of 14,000 or less shall have automatic locking hubs.

3.4 SUSPENSION SYSTEM**3.4.1 SUSPENSION**

The vehicle shall be equipped with a suspension system (axles, springs, wheels and tires) having a rated capacity equal to or in excess of the GVWR. The chassis shall not be modified above chassis manufacturer's maximum GAWR as shown on the certification label. All vehicles shall be furnished with OEM heaviest duty available springs, shock absorbers, and stabilizer device(s).

3.4.2 SPRING STOPS

The spring and/or axle stops furnished shall prevent the axle and other suspension components from striking any part of the chassis or body.

3.4.3 WHEELS AND TIRES

The minimum wheel and tire size shall be furnished as specified. A spare assembly (a tire mounted on a wheel) shall be furnished. Wheels and tires, including the spare assembly, shall be of the identical size, type, brand, and load range. All tires shall have radial construction.

Spare tire assemblies may be space saver type if the OEM does not offer a full size spare.

Spare tire assemblies for systems with tire pressure monitoring may not have monitoring devices if the OEM does not offer them.

3.5 ELECTRICAL

3.5.2 ALTERNATOR AND BATTERY

When additional electrical power consuming equipment is furnished, the chassis manufacturer shall provide a generating system capable of supplying the total continuous electrical load at normal engine idle for the equipment furnished with the completed vehicle. Intermittent loads such as winches, lift gates, and dump hoists are not included as continuous electrical load. The supplier shall furnish the vehicle with OEM component(s) available for the model (item) having ratings of not less than as specified. Batteries furnished shall be of the maintenance-free type.

3.5.3 LIGHTING

Halogen headlamps shall be provided. Lights and reflectors shall not be mounted on vertical surface of rub rails, or mounted on vehicle bumpers, or in any manner to increase vehicle width. Rear lights, with the exception of license plate lights, shall be installed flush with, or forward of, the rear of the body. Two backup lights shall be furnished. Interior lighting shall be provided in all vehicles, and applicable closed bodies.

3.5.4 RADIO INTERFERENCE SUPPRESSION

Non-OEM electrical equipment and devices used and installed on these vehicles shall be suppressed to the limitations of SAE J551.

3.6 CAB/BODY, EQUIPMENT AND ACCESSORIES

3.6.1 CAB AND CAB/BODY

Cabs shall be of the conventional type. The cab, or the cab/body, shall be equipped with, but not limited to, the following: front doors with crank-operated windows; rear doors and cargo doors, as applicable, with checks or door stops; all latches, with exception of lift gates and end gates, operable from the inside and outside; both front side doors equipped with external key locks; two sets of keys; upholstery and floor covering, as indicated, of the chassis manufacturer's standard color shades or mixtures compatible with exterior color; seating capacity as stated with the first row being a full width adjustable bench seat is required unless otherwise stated; tinted glass on all windows, where available from the OEM; chassis manufacturer's standard insulation and sound deadening materials; license plate brackets, front and rear; and glove (dispatch) compartment.

3.6.2 CONTROLS AND OPERATING MECHANISMS

Controls and operating mechanisms shall be located for left-hand drive. Equipment controls shall be complete and conveniently located for the driver. Lever controls for specified equipment shall be designed and located to permit easy entrance and of the driver's compartment. Instruments and controls shall be identified as to their function and installed in a manner to facilitate removal and servicing.

3.6.3 ACCESSORIES, CAB/BODY

The accessories, convenience items, and devices furnished for each vehicle shall include, but not be limited to:

1. electric power point

2. gauges
3. dome light(s)
4. fresh air type heater with dual defroster
5. A/C
6. dual sun visors
7. armrests
8. dual windshield wipers/washer
9. signal lights
10. inside rear view mirror (not required on dump trucks, cargo vans and multistop vans)
11. dual outside rear view mirrors
12. electric horn
13. keyed door locks (where available)
14. outside clearance reflectors when required
15. tire/wheel changing tools and jack as furnished by the OEM.
16. Hub caps shall be furnished if available from the OEM.
17. Daytime Running Lights

Vehicles having capacities of 6-15 passengers shall be provided with dual evaporator systems and outlets, and with an auxiliary heater located in the rear passenger carrying section.

3.6.6 PAINT, FINISH, OR COLOR

The civilian agencies' vehicle(s) exterior will be selected from the manufacturer's standard colors offered in AUTOCHOICE. Where available under contract, military agencies' vehicle(s) exterior color may be in accordance with MIL-HDBK-1223. The interior finish shall be manufacturer's standard compatible color with the exterior.

3.6.7 MIRRORS, OUTSIDE

Dual OEM outside rearview mirrors shall be provided, one on each side of the vehicle. Only rearview mirrors with a foldaway feature shall be provided. When low mount mirrors are specified, low-mounted or sail-mounted style mirrors with minimum 230 sq cm (36 sq in) each shall be provided.

3.7 VEHICLE OPTION CODES

The following Option Code detailed requirements are offered for selected options. All other option codes are defined in AutoChoice.

Option codes apply only as indicated in AutoChoice. Not all option codes apply to all vehicles.

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3.7.1.1 CODE “DALT” DUAL ALTERNATORS

When code DALT is specified, the vehicle shall be equipped with the chassis manufacturer's dual alternator system.

3.7.1.2 CODE “AC” AIR CONDITIONING AND CODE “AC2” - AUXILIARY REAR AIR CONDITIONING

When code AC is specified, the vehicle shall be equipped with the chassis manufacturer's standard dehumidifying/all weather air conditioner. The air conditioning system shall include, but shall not be limited to increased engine cooling capacity, alternator and battery capacities, and insulation (headliner, firewalls, and side panels) as available for the model furnished.

Vehicles having capacities of 6-15 passengers shall be provided with dual evaporator systems and outlets, and with an auxiliary heater located in the rear passenger carrying section.

When code AC2 is specified, the OEM auxiliary rear compartment air conditioning system, shall be furnished.

3.7.1.3 CODE “AH” AUXILIARY HEATER

When code AH is specified, in addition to the standard in-cab heater, an auxiliary heater with two speed or variable speed blower shall be furnished for the passenger compartment. The auxiliary heater shall be installed under the rear seat, if possible without raising the seat, or on the sidewall or behind the rear seat or under the front seat with protection, in crew cabs, and under the intermediate seat on other types of vehicles with airflow directed toward the rear seat(s). On van-wagon vehicles, the OEM auxiliary heater shall be installed. Rated air flow shall be not less than 5240 cu l (185 cu ft) per minute and heater rated output shall be not less than 4,410 kg-calories (17,500 BTU) at 66° C (150°F) water over air differential. The heater controls shall be located convenient to the driver.

3.7.1.5 CODE “AP” ADJUSTABLE PEDALS

When code AP is specified, adjustable pedals shall be furnished.

3.7.1.6 CODES “AS”, “AT”, “LT”, “OO” AND “TT” TIRE TYPE

When code AS, AT, LT, OO or TT are specified, the corresponding type tires, of the minimum size specified shall be provided.

Code AS - all season; Code AT - all terrain; Code LT - light truck; Code OO – on/off road; Code TT – Traction Tread Rear Tires.

When code TT is specified, traction tread tires shall be furnished on the rear wheels.

3.7.1.7 CODE “ATC” AUTOMATIC TRACTION CONTROL

When ATC is specified, an OEM automatic traction control system, functioning through the vehicle brake and/or engine systems, shall be furnished.

3.7.1.8 CODE “AWD” OEM ALL WHEEL DRIVE

When code AWD is specified, the OEM all wheel drive system with a single speed transfer case shall be furnished.

3.7.1.15 CODE “BF” BENCH FRONT SEAT

When code BF is specified, a front solid bench seat shall be furnished.

3.7.1.18 CODE “BL” BED LINER

When code BL is specified, an OEM protective cargo bed liner shall be furnished.

3.7.1.24 CODE “BUA” BACKUP ALARM

When code BUA is specified, an OEM backup alarm conforming to SAE J994 shall be furnished which provides an audible warning whenever the ignition switch is “on” and the vehicle transmission control is in reverse.

3.7.1.26 CODES “CA1, CA3, CA4, CA5, CA6, AND CA8” CAB TO AXLE LENGTH

When specified;

code CA1 requires a cab to axle length of 275 cm (108 in),
 code CA3 requires a cab to axle length of 350 cm (138 in),
 code CA4 requires a cab to axle length of 305 cm (120 in),
 code CA5 requires a cab to axle length of 320 cm (126 in),
 code CA6 requires a cab to axle length of 152 cm (60 in),
 code CA8 requires a cab to axle length of 213 cm (84 in)
 code CA56 requires a cab to axle length of 142 cm (56 in).

3.7.1.27 CODE “HEAN” HYBRID ENERGY AUDIO & NAVIGATION SYSTEM

When code HEAN is specified, the following shall be furnished:

1. Hybrid Energy Flow Graphic
2. Fuel Economy Display
3. AM/FM Audio Radio with 6 CDDJ under passenger seat & 4 speakers
4. Navigation capability (Full map, turn by turn, voice direction, point of interest)
5. Single CD for regional U.S. coverage

3.7.1.28 CODE “CBE” CARGO BED EXTENDER

When code CBE is specified, the OEM cargo bed extender shall be provided.

3.7.1.29 CODE “DBS” REAR BENCH SEAT DELETE

When Option DBS is specified, the rear bench seat shall be deleted from the extended cab pickup.

3.7.1.30 CODE “SURC” REAR CARGO STORAGE UNIT

When Code SURC is specified, a black, floor mounted, 6” deep storage unit, for loose cargo items, extending the width of the cab in the area behind the front seats, shall be furnished in regular cab pickups.

3.7.1.31 CODE “CM” CARPETED FLOOR COVERING

When code CM is specified, carpeted floor covering shall be provided in all seating areas at a minimum.

3.7.1.32 CODES “CNG AND CNG2” COMPRESSED NATURAL GAS

When code CNG is specified, an OEM compressed natural gas alternative fuel system of the type specified shall be provided. When code CNG2 is specified, OEM dual fuel natural gas/gasoline alternative fuel system shall be provided.

3.7.1.33 CODE “CNS” CONSIGNEE DELIVERY

When consignee (direct) delivery code CNS, is specified, the contractor shall deliver the vehicle to the consignee delivery address designated on the motor vehicle delivery order. The consignee is responsible for:

1. The predelivery inspection and servicing normally provided by the dealer during the standard dealer delivery process.
2. Notifying the contractor of the delayed delivery date and the in-transit mileage accumulation if applicable.
3. In the presence of the delivering driver, immediately inspecting the vehicle for damage, abuse, loss or theft that may have occurred during transit. Any such findings should be accurately described on the delivery receipt the driver presents for signature. If the vehicle(s) are covered with snow, ice or dirt so as to prevent a complete inspection at the time of delivery, this is to be noted on the delivery receipt. The driver is required to acknowledge any notification on the delivery receipt by signature.
4. Notifying the contractor of any damages or shortages found within 24 hours.
5. Obtaining local safety and emission testing that may be required.

Items normally installed by the dealer as part of the predelivery servicing shall be shipped in the vehicle. The consignee will be responsible for installing these items.

The fuel tank(s) shall be filled with a minimum of 12 l (3 gal) of fuel.

The vehicle(s) must be accepted wheels on ground.

3.7.1.35 CODE "CRTS" CRUISE CONTROL AND TILT STEERING

When code CRTS is specified, the chassis manufacturer's cruise control and tilt steering wheel shall be furnished.

3.7.1.36 CODE "CU" CLOTH UPHOLSTERY

When code CU is specified, the OEM standard cloth interior upholstery shall be provided.

3.7.1.37 CODE "D3" SPECIAL TRACTION

When code D3 is specified, the vehicle shall be provided with a positive-traction, automatic locking differential.

3.7.1.38 CODE "D7" TOWING/MOUNTAIN RATIO

When code D7 is specified, it shall indicate that the vehicle will be used for trailering (towing), or operating in mountainous terrain. The supplier shall furnish the vehicle with the OEM higher than standard numerical axle ratio that is compatible with the required equipment.

3.7.1.39 CODE "DA" DELETE AIR CONDITIONING

When code DA is specified, the vehicle supplier shall furnish the vehicle without air-conditioning components.

3.7.1.40 CODE "HCAB" Head/Curtain Air Bag

When code HCAB is specified, "combination" type side-impact air bags that are inflatable devices designed to protect the head and chest (torso) of front seat, adult passengers shall be furnished.

HCABs typically deploy from the side of the seat or any combination of roof rail, seat, or door mounting locations. This option may require an upgrade of the OEM's base package vehicle offerings.

3.7.1.41 CODE LHFM FRONT MANUAL LOCKING HUBS

When code LHFM is specified, the OEM front manual locking hubs shall be furnished in lieu of the automatic hubs.

3.7.1.45 Code "EOF" EXTREME OFF ROAD FEATURE :

1. Bed Length: 6 $\frac{3}{4}$ '.
2. Front/Rear axle differential – Torque biasing limited slip front differential and rear automatic locking differential (includes 4.10 axle ratio).
3. Axle/trans. vent system – Breather kit and trans/starter incremental silicone sealing for 30" fording capability.
4. ABS lockout – Prevents ABS activation in 4L T-case position.
5. Suspension Upgrades – R9 shocks front/rear w/ remote reservoirs and in-cab adjustable damping, special use front/rear springs, steering damper, improved front stabilizer bar link, front rebound straps.
6. Underbody protection – production skid plates for transfer case and fuel tanks with addition of rocker protection bars.
7. 2-piece bead lock rims.
8. Tires: MT/R LT285/70R17.
9. Manual compressor system – Onboard tire inflation pump with hose.

3.7.1.47 CODE "DST" DELETE SPARE TIRE (SUPPLY WHEEL)

When code DST is specified, a spare wheel shall be furnished without a tire.

3.7.1.48 CODE "DSTD" DELETE SPARE TIRE CARRIER

When code DSTD is specified, the spare tire carrier shall not be furnished.

3.7.1.49 CODE "DTG" DARK TINTED GLASS

When code DTG is specified, OEM dark tinted glass on all windows behind the front seat shall be furnished.

3.7.1.59 CODES "E1, E2, E3, E4, AND E5" ENGINES

When code E1 is specified, the OEM applicable four cylinder engine shall be provided.

When code E2 is specified, the OEM applicable five/six cylinder engine shall be provided.

When code E3 is specified, OEM applicable V8 engine shall be furnished.

When code E4 is specified, an OEM 8 cylinder engine with additional power as specified shall be provided.

When code E5 is specified, the OEM extra power V8 or 10 cylinder engine as specified shall be provided.

3.7.1.60 CODE "EMP" Enhanced Mobility Package

Provides special off road capability.

Ordering Notes: EMP is not compatible with tire chains or other similar belt / strap traction systems.

When code EMP is specified, it shall provide secondary supplemental suspension modifications specially engineered for severe service on & off road. The system shall be comprised (4) specially designed and critically damped hydro / pneumatic jounce shocks in parallel with the vehicles primary suspension for increased energy dissipation and greatly enhanced all terrain capability.

The EMP package shall provide:

1. Off-road radial tires mounted on a 2-piece cast aluminum bead-lock wheels. Goodyear LT285/75R16 MT/R or equivalent.
2. Transfer case & differential vent filtration. Rear axle must be equipped with Code D3, limited slip differential.
3. Underbody protection provided by a severe off-road skid plate system.
4. Special instrumentation to monitor engine induction air filter restriction status, tire pressure, and temperature.
5. Spare tire stowage is standard in the pickup box. In cabin spare tire stowage is available on extended cab models only. When in-cab spare tire stowage is specified, (AREQ), by the ordering agency, the rear seat is deleted. When EMP is ordered with MCTL and/or ELFS of FPUC the spare tire will be mounted on a swing out spare tire carrier attached to the rear bumper of the truck
6. Special purpose front bumper, painted black, with integral brush guard and standard OEM gray rear step bumper must be equipped with a and class IV hitch (RH3, RH4).
7. Supplemental EMP operator's manual, service manual and specific parts catalog.
8. Fording capability of 22 inches.

3.7.1.61 CODE "EH" ENGINE BLOCK HEATER

Ordering Note: When Code "YD" is specified, "EH" shall be furnished.

When code EH is specified, the OEM engine highest wattage block heater(s) shall be furnished.

3.7.1.62 CODE "ELFS" FOLD UP TROOP SEATS

Ordering Note: MILITARY USE ONLY. The Code MCTL is required with this option and must be specified by the ordering agency.

When code ELFS is specified, six (6) short bed or eight (8) long bed, longitudinal fold up type troop seats will be furnished. The seat shall be manufactured from fiberglass reinforced composite material. The troop seats shall be mounted in the pickup. A pickup bed canvas cover and bow shall be furnished in body color.

3.7.1.63 CODE "FG" FIBERGLASS BODY

When code FG is specified, fiberglass, having strength equal to that of steel, shall be furnished in lieu of the specified material.

3.7.1.65 CODE "FPUC" FIBERGLASS PICKUP CAP

Ordering Notes: The Code MCTL is required with this option and must be specified by the ordering agency. This option is not compatible with Options "ELFS". This option is available in both 6 & 8 ft bed size.

When Code FPUC is specified, a fiberglass pickup cap shall be furnished. The cap shall have dark tinted glass, locking left and right side windows, and a swing up rear access door with dark tinted glass. A white interior illumination light with an on/off switch located both in the cap interior and in cab and shall be furnished. The cap shall be equipped with a high mounted rear brake light and painted body color.

3.7.1.66 CODE "FTH" FRONT TOW HOOKS

When code FTH is specified, the chassis manufacturer's front recovery hooks shall be frame mounted on the front of the vehicle. The chassis manufacturer's front recovery hooks shall be provided on all 4X4 vehicles.

3.7.1.67 CODE "E85" ETHANOL FLEXIBLE FUEL

When code E85 is specified, the engine shall be capable of normal operation on gasoline fuel containing up to 85 percent ethanol.

3.7.1.70 CODE "L6" SHORT BED PICKUP BODY

When code L6 is specified, the truck body furnished shall have an overall interior length of 1.8 to 2 m (6 to 6.7 ft).

3.7.1.71 CODE "LB" LONG BED PICKUP BODY

When code LB is specified, the body furnished shall have a minimum overall interior load length with tailgate closed of 244 cm (8 ft).

3.7.1.72 CODE "LD" LEFT DOOR

When code LD is specified, a left side, swing out, 60/40 passenger/cargo door shall be furnished.

3.7.1.73 CODE "RX2" ROOF WIRING

When code RX2 is specified, a circuit containing a minimum of two 10-gage wires shall be furnished to the forward center of the roof area. The headliner shall be removable in this area for easy access. No hole shall be made in the roof.

3.7.1.75 CODE "OEMC" OEM CONSOLE

When code OEMC is specified, the OEM console shall be installed in between the driver's and front passenger's seats.

3.7.1.76 CODES "LPG AND LPG2" LIQUIFIED PETROLEUM GAS

When code LPG is specified, the OEM's liquefied petroleum gas alternative fuel engine shall be provided. When code LPG2 is specified, the OEM's bi-fuel engine shall be furnished. This engine shall be capable of normal operation LPG or gasoline.

3.7.1.77 CODE "LR" LUGGAGE RACK

When code LR is specified, an OEM, roof mounted luggage rack shall be provided.

3.7.1.78 CODE "MBG" FRONT BRUSH GUARD

When code MBG is specified, the vehicle shall be equipped with a radiator and headlamp brush guard.

3.7.1.79 CODE "TC" OEM Throttle Control

When code TC is specified, the vehicle shall be furnished with a throttle control that increases the engine-idling RPMs to a set working-RPM level and maintains this level regardless of work load. It can only be used when the vehicle is stationary, the parking brake is engaged and the gear selector level is in position "P".

NOTE: The throttle control will automatically switch off when the parking brake is released, the vehicle is in motion or the control unit detects a malfunction. The throttle control will also automatically switch off when you depress the brake pedal. In this case it will automatically switch on again as soon as you release the brake pedal.

3.7.1.80 CODE “CTB” OEM Trailer Brake Controller

When code CTB is specified, the vehicle shall be furnished with an integrated electronic device that controls electrical power to trailer braking system and provides ideally matched braking force between tow vehicle and trailer.

CODE “CTBP” OEM Trailer Brake Controller Pre-Wiring

When code CTBP is specified, the vehicle shall be furnished with a 4 way brake wiring connector or access to brake wiring located under the instrument panel. This connector or wiring access shall contain the following circuits:

- Battery Ground
- Battery Positive
- Stop Lamp Switch
- Electric Brake Feed

3.7.1.81 CODE “MCTL” Military Package

Ordering Notes: MILITARY USE ONLY. Special Military lighting and switches added in this package will conflict with Federal Motor Vehicle Safety Standards (FMVSS). Ordering this package will render the vehicle to be non-compliant, in part with sections of FMVSS codes. By selecting this option the Ordering agency / Operator is exercising Governmental Privilege to exempt vehicles equipped with this military equipment package from full FMVSS compliance. Paint color is to be specified by the ordering agency.

Vehicles will be finished with non-gloss paint colors sand: (code NGDS) and forest greenⓈcode NGFG).

When code MCTL is specified, the following shall be furnished:

1. Special in cab instrumentation to monitor engine induction air filter status.
2. Transfer case & axle differential vent filtration. Rear axle must be equipped with Code D3, limited slip differential.
3. Protective, color-coordinated seat covers installed over standard vinyl seats.
4. Vertical in cab stowage of for two (2) M16 rifles.
5. A “Pioneer” tool kit including a sheathed axe with polyglass handle, shovel, broad pick, mattock, rake-hoe attachments and fasteners & locking pins.
6. Special electrical provisions for 24V military equipment and include a military blackout (B/O) lighting package to include 2-front & 2-rear L.E.D. convoy lamps and one front drive lamp. This system shall provide an in cab master switch to disable standard vehicle lighting when B/O lighting is in use.
7. Front Bumper mounted 24V NATO polarized slave start receptacle to be used in conjunction with standard vehicle 12V starting motor. MCTL shall also provide a 24V generator, separate fused 24V / 25Amp Auxiliary power lead, in-cab battery disconnect switch, 24V- analog voltmeter, 24V trailer power lead, and three (3) – 12V Absorbent Glass Mat (AGM) batteries (750 Minimum CCA).

8. A special purpose military-specific front bumper, painted in body color, with integral front brush guard, Class IV winch receiver and electric winch power receptacle.
9. A special purpose military-specific rear bumper painted body color with integral pre-wired electric winch receptacle.
10. Each bumper provides two (2) Ea. pivoting tie down "D rings" for tie down transport per MIL-STD-209J (Lifting Provisions Excluded). Shipping plates provided in accordance with standard.
11. Class IV rear trailer hitch, 8 pin commercial, 12 pin military trailer receptacle. A combination pintle and ball tow hook is provided.
12. Rear License plate mounting kit with illumination for rear license plate.
13. Supplemental MCTL operator's manual, service manual and parts catalog.
14. A fording capability of 20 inches. (When MCTL is specified in conjunction with EMP, fording capability increases to 22 inches.)
15. When "MCTL" is ordered with "EMP" and "ELFS" or "FPUC" the spare tire will be mounted on a swing out spare tire carrier attached to the rear bumper of the truck.

3.7.1.83 CODE "MF" FLOOR MATS

When code MF is specified, floor mats shall be provided.

3.7.1.84 CODE "MAV" 24VDC INVERTER SYSTEM

When option MAV is specified, rear bumper & dash mounted 24V NATO connectors shall be furnished .

3.7.1.86 CODE "MIL" MILITARY MARKINGS AND DATA PLATES

When code MIL is specified, the following shall be furnished:

1. Data Plate. A data plate only shall be furnished. No other exterior military markings shall be furnished.

At a minimum, the Data Plate shall be as follows:

NOMENCLATURE	
MAKE AND MODEL	
CHASSIS SERIAL NUMBER (VIN)	
VEHICLE CURB WEIGHT:	KG (LBS)
PAYLOAD, MAXIMUM:	KG (LBS)
GROSS VEHICLE WEIGHT RATING, MAX.	KG (LBS)
GROSS COMBINATION WEIGHT RATING, MAX.	KG (LBS)
DATE OF DELIVERY:	MONTH YEAR
WARRANTY:	MO. KM (MILES)
CONTRACT NUMBER	
RPN NUMBER	
US PROPERTY	

2. A DD FORM 250 (MATERIAL INSPECTION AND RECEIVING REPORT) shall be furnished in lieu of a GSA form 308.

3.7.1.91 CODE "EMP1" Enhanced Mobility Package SUV

When code EMP1 is specified, the following shall be furnished

1. Driver selectable full locking rear differential
2. On road/off road light truck tires, 285/75/R16
3. Two (2) speed specially tuned shocks

3.7.1.92 CODE "SU4" OEM Upfitter Switches, 4

When code SU4 is specified, the vehicle shall be furnished with 4 integrated upfitter switches in the dash. The switches shall be backed by relays, through which the actual current will flow. Switches are operative in Ignition/Run mode; 2 switches are 10 amp, 2 are 30 amp.

3.7.1.95 CODE “OS” ONSTAR SYSTEM

When code OS is specified, OnStar system hardware and a subscription for three years from the date of delivery shall be provided. Option is available only in the 48 contiguous states. Remote system services shall include automatic notification of airbag deployment, stolen vehicle tracking, emergency services, roadside assistance, door unlock, horn and lights, and vehicle diagnosis.

3.7.1.96 CODE “PRS” PASSENGER RESTRAINT SYSTEM

When code PRS is specified, an OEM right front passenger air bag supplemental restraint system shall be provided.

3.7.1.97 CODE “PSM & PSME” PARTS AND SERVICE MANUALS

When PSM or PSME is specified, the contractor shall furnish all parts lists and service publications for the vehicle and all equipment furnished.

When PSM is specified, the publications furnished shall be printed documents.

When PSME is specified, the publications shall be electronic (CD or web-based)

NOTE: The publications will be shipped separately from the vehicle. The publications will be shipped to the consignee mailing address as shown on the MVDO.

3.7.1.98 CODE “PT” POWER TAKEOFF OPENING

When code PT is specified, the designated transmission or transfer case shall be provided with a usable PTO opening. When a PTO unit is provided on a vehicle, a caution plate or decal reading, “Do not operate vehicle at highway speeds with PTO engaged,” shall be installed in the cab, readily visible to the driver. Controls to operate the power takeoff shall be located in the truck cab accessible to the seated driver. The PTO unit shall have a rated capacity to operate the provided equipment.

3.7.1.99 CODE “PWL” POWER WINDOWS AND LOCKS

When code PWL is specified, the OEM power windows and power locks option shall be provided.

3.7.1.100 CODES “RA, RAD & RACD”

When code RA is specified, the OEM AM/FM radio with integrated clock shall be provided.

When code RAD is specified, the OEM AM/FM/clock radio with integrated compact disc player shall be provided.

When code RACD is specified, the OEM AM/FM/clock radio with integrated compact disc and cassette player shall be provided.

3.7.1.101 CODE “NAX” NARROW TRACK REAR AXLE

When code NAX is specified, the chassis manufacturer’s narrow track rear axle shall be furnished providing a nominal overall rear axle width of 213 cm (84 in).

3.7.1.102 CODE “SRO” OEM Reverse Obstacle Sensor

When code SRO is specified, the vehicle shall be furnished with a sensor system that is installed on the bumper of the vehicle and detects the proximity of objects and transmits an audible signal to the driver. A switch may be provided that allows the driver to turn this device on/off.

3.7.1.103 CODE “RB” RUNNING BOARD

When code RB is specified, OEM running boards shall be furnished.

3.7.1.104 CODE “RD” REAR ELECTRIC DEFROSTER

When code RD is specified, the OEM rear window electric defogger/defroster shall be furnished.

3.7.1.105 CODE “LBO” BLACK-OUT LIGHTING SYSTEM

When Code “LBO” is specified, black-out lighting to provide deactivation of exterior and interior lighting (odometer remains dim) through the use of a dash mounted switch shall be furnished. Integrated black-out drive lamps (convoy lamps) are NOT provided. Black-out lighting will conflict with Federal Motor Vehicle Safety Standards (FMVSS). By selecting this option the Ordering agency/Operator is exercising Governmental Privilege to exempt vehicles from full FMVSS compliance.

3.7.1.106 CODE “RF” RUBBER FLOOR COVERING

When code RF is specified, a rubber or vinyl floor cover shall be provided.

3.7.1.107 CODES “RH1, RH2, RH3 AND RH4” OEM TRAILER TOWING PROVISIONS

The trailer towing provisions furnished by the OEM's are rated according to the SAE J684 standard. This standard also defines the weight classifications for trailering. The classifications are as follows:

- **Class 1** All types of trailers with a trailer Gross Vehicle Weight Rating (GVWR) (trailer weight including its load) not to exceed 2000 lb.
- **Class 2** All types of trailers with a trailer GVWR of over 2000 lb and not to exceed 3500 lb GVWR.
- **Class 3** All types of trailers with a trailer GVWR of over 3500 lb and not to exceed 5000 lb GVWR.
- **Class 4** All types of trailers with a trailer GVWR of over 5000 lb and not to exceed 10000 lb GVWR.

The codes RH1, RH2, RH3 & RH4 correspond directly to the trailer classes. As an example, for a class 3 trailer, you need to order RH3 towing provisions.

All OEM towing provisions include:

- A trailer lighting package
- The OEM's standard electrical connector
- Performance based on weight carrying capacity for RH1
- Performance based on weight distributing capacity for RH2, RH3 & RH4

The ordering agency will be responsible for obtaining the proper hitch ball, ball mounting device and the associated equipment (such as weight distributing devices) required to tow the trailer and its load.

It is imperative that agencies follow the OEM's towing guidelines to select the appropriate type of vehicle to perform their trailer towing operations.

3.7.1.108 CODE “RKE” REMOTE KEYLESS ENTRY

When code RKE is specified, the OEM optional remote keyless entry system shall be furnished.

3.7.1.109 CODE “RL” REAR LINING, CARGO VAN

When code RL is specified, the rear compartment shall be lined with the OEM van-wagon panels.

3.7.1.110 CODE “RM” EXTRA WIDE MIRRORS

When code RM is specified, OEM dual swing away/adjustable combination (flat and convex) style mirrors, shall be furnished. This mirror system shall provide an adequate view to the rear with a body that is 96 inches wide as a minimum. For consignee (Option Code CNS) delivery, large style mirrors may be shipped dismounted within the vehicle.

3.7.1.111 CODE “RS” RECLINING BUCKET/CAPTAIN’S CHAIRS

When code RS is specified, reclining bucket/captain’s chairs shall be furnished.

3.7.1.113 CODE “S5” FIVE PASSENGER SEATING

When code S5 is specified, 5 passenger seating shall be furnished and the rear AC/heat unit may be deleted.

3.7.1.114 CODES “S6, S7, S8, S9, AND S12” PASSENGER SEATING

When code S6, S7, S8, S9, or S12 is specified, seating for 6, 7, 8, 9, or 12, respectively, passengers shall be provided. Provisions for ease of ingress and egress to the rear seating positions shall be provided. Center and rear seats shall be of the removable or foldaway type.

3.7.1.115 CODE “TSD” DELETE TAIL GATE AND SIDES

Ordering Note: This option is only available on Item 110D

When code TSD is specified, the OEM pickup body tailgate and sides shall be deleted.

3.7.1.116 CODE “SCC” VAN INDIVIDUAL SEATING

When code SCC is specified, individual high back seats shall be provided in the first and second row (minimum capacity remains at seven passengers).

3.7.1.117 CODE “SE” SLIDING TYPE SIDE DOOR

When code SE is specified, the OEM sliding type side door shall be furnished.

CODE “DPS” POWER SLIDING DOOR

When code DPS is specified, the OEM POWER sliding type side door shall be furnished.

3.7.1.118 CODE “EOFE” EXTREME OFF ROAD FEATURE EXPORT

1. When Code EOFE is specified, the following shall be furnished for export vehicles only
2. Underbody protection group-front skid plate, powertrain/transfer “T” skid plate, rocker protection bars.
3. Front driver and passenger air bag delete
4. Two piece bead-lock, aluminum wheels with run-flat insert; MT/R LT 285/70Rx17 tires
5. Off-road front and rear bumpers with supplemental front and rear high power lights (non convoy lighting).

3.7.1.119 CODE “SF” SPLIT FRONT BENCH SEAT

When code SF is specified, a split front bench seat shall be furnished.

3.7.1.120 CODE “SK” METRIC ODOMETER

When code SK is specified, the odometer shall show cumulative distance in kilometers.

3.7.1.121 CODE “SP” SKID PLATES

When code SP is specified, protective plates, or shields, shall be provided. The OEM skid plate(s) shall provide protection for at least the transfer case. The skid plates shall be demountable for service of the components they protect. Sufficient openings shall be provided to enable draining of transmission and servicing the underside of the engine.

3.7.1.122 CODE “SZ” SNOW PLOW PREP PACKAGE

When code SZ is specified, the vehicle requires the OEM snowplow preparation package or OEM recommended snowplow preparation equipment if an option is not available. This shall include option “D3”, the positive-traction automatic locking differential that the OEM offers. When electro hydraulically raised plow is furnished, chassis manufacturer’s optional heaviest duty capacity alternator and battery shall be furnished.

3.7.1.123 CODE “OPW” OPAQUE GLASS

Ordering Note: This option is only available on Items 30 & 30B

When code OPW is specified, the OEM’s opaque glass and/or panels shall be furnished behind pillar B.

3.7.1.124 CODE “SRG” SLIDING REAR WINDOW

When code SRG is specified, the OEM sliding rear glass window shall be furnished.

3.7.1.125 CODE “SRS” DRIVER RESTRAINT SYSTEM

When code SRS is specified, the OEM driver’s side air bag supplemental restraint system shall be furnished.

3.7.1.126 CODE “CR” CRUISE CONTROL

When code CR is specified, the chassis manufacturer’s cruise control shall be furnished.

3.7.1.127 CODE “TC” HARD TONNEAU COVER

When code TC is specified, an OEM lockable, weather resistant, hard tonneau pickup bed cover shall be furnished.

3.7.1.128 CODES “T5”, AND “T6”, FIVE, AND SIX SPEED MANUAL TRANSMISSION

When code T5, or T6 is specified, a five, or six speed manual transmission, respectively, shall be furnished. The transmission shall be furnished with a PTO opening(s) in accordance with SAE J704, unless an exception is noted under the code.

3.7.1.129 CODE “TD” DELETE SPARE TIRE ASSEMBLY

When code TD is specified, the spare tire assembly shall not be furnished.

3.7.1.130 CODE “EHM” ENGINE HOUR METER

When code EHM is specified, an engine hour meter shall be provided. The meter shall have a totalizing mechanism of not less than 9,999 hours for the chassis engine to register accurately the number of hours of operating time. The meter shall be of rugged construction to ensure continuous trouble-free performance under severe operating conditions. The meter shall be

mounted on the cab instrument panel or in the engine compartment in a readable location.

3.7.1.131 CODE “WR” INCREASED GVWR

When code WR is specified, the GVWR shall be increased by the OEM to the maximum level available.

3.7.1.136 CODE “AVSC” AUTOMATIC VEHICLE STABILITY CONTROL

When code AVSC is specified, the OEM's integrated vehicle stability enhancement system shall be furnished. AVSC will help the driver control the vehicle on a variety of road surfaces, in inclement weather, and in avoidance maneuvers.

3.7.1.142 CODE “VU” VINYL INTERIOR

When Code VU is specified, chassis manufacturer's optional vinyl interior shall be furnished.

3.7.1.143 CODE “VUR” VINYL REAR SEAT

When Code VUR is specified, a vinyl rear seat shall be furnished.

3.7.1.144 CODE “VDD” VARIABLE DISPLACEMENT ON DEMAND

When Code VDD is specified, the chassis manufacturer's system that deactivates cylinders for improved fuel economy and automatically reactivates cylinders for performance shall be furnished.

3.7.1.145 CODE “WD” SIDE CARGO DOOR WINDOWS

When code WD is specified, window(s) shall be furnished in the curb side cargo door(s).

3.7.1.148 CODE “WY” WINDOWS, ALL SIDES

When code WY is specified, OEM windows shall be provided on all sides of the vehicle.

3.7.1.149 CODE “XL” EXTRA LONG BODY

When code XL is specified, the OEM extra long body shall be furnished.

3.7.1.150 CODE “XS” SHORT BODY VAN

When code XS is specified, the OEM shortest van body shall be furnished.

3.7.1.151 CODE “RKS” REMOTE KEYLESS START

When code RKS is specified, the OEM optional remote keyless start system shall be furnished.

3.7.1.152 CODE “YD” DIESEL ENGINE

When code YD is specified, OEM maximum power diesel engine available for the specified application shall be furnished. This shall include option “EH” all other cold weather operation equipment that the OEM offers. All diesel engines shall be approved for operation on JP-8.

3.7.1.153 CODE “HEV” HYBRID ELECTRIC VEHICLE

When code HEV is specified, the OEM's hybrid electric propulsion system shall be provided.

3.7.1.154 CODE “DRB” DELETE RUNNING BOARDS

When code DRB is specified, the OEM's standard running boards shall be deleted.

3.7.1.155 CODE “SIAB” SIDE IMPACT AIR BAGS

When code SIAB is specified, inflatable devices designed to protect the head or chest (torso) of adult passengers shall be furnished. Protection is provided for front seat passengers and may

provide for rear seat passenger protection. Head type bags typically deploy from the roof rail above the side windows. Chest type bags are mounted in the side of the seat or in the door.

3.7.1.156 CODE “OLS” Oil Life System

When code OLS is specified, the vehicle shall be furnished with an integrated predictive measurement of engine oil life based on engine RPM and coolant temperature. The system will visually indicate that an engine oil change is necessary when it calculates that the engine oil life has been diminished. The system requires manual reset every time oil is changed.

3.7.1.157 CODE “WB” Wheel Base

When specified;

code WB38 requires a nominal wheel base length of 351 cm (138 in),
code WB59 requires a nominal wheel base length of 401 cm (158 in),
code WB66 requires a nominal wheel base length of 422 cm (166 in),
code WB76 requires a nominal wheel base length of 447 cm (176 in),
code WB83 requires a nominal wheel base length of 465 cm (183 in),
code WB95 requires a nominal wheel base length of 495 cm (195 in).

3.7.1.158 CODE “BTPP” Brush Truck Prep Package

When code BTPP is specified, the following 4 items shall be furnished:

1. Ford order code 47A, Ambulance Prep Package
2. Ford order code 413, Transfer case skid plates (when available)
3. Ford order code 62R, Transmission power take off provisions
4. Ford order code T9C, 225/70Rx19.5F BSW Max Traction (4x4) – (Continental) (incl. 4 traction tires on the rear & 2 traction tires on the front. Not recommended for over the road applications; could incur irregular front tire wear and/or NVH. Traction tire spare w/opt. T9C Max Traction Tire)

3.7.1.159 CODE “EOP” Extreme Off Road Capability

When EOP code is specified it shall provide driveline and suspension modifications specially engineered for extreme off road as well as on road all terrain capacities. The system shall be comprised of front and rear electrically activated locking differentials with a 4.56 axle ratio. The suspension shall provide electronically disconnecting front stabilizer bars with increased ride height.

The EOP package shall provide:

1. 4.56 axle ratio
2. Front open & rear anti-spin locking differentials – electrically activated lockers
3. Modified electronic throttle calibration (for 4 LO only)
4. GVW rating of 8510 lbs
5. 17 x 8.0 polished forged aluminum wheels with LT285/70R17D all terrain tires
6. Electronically disconnecting front stabilizer bar
7. Front electric winch
8. 160 amp alternator & 750 CCA battery
9. Increased front & rear springs rates, increased ride height (35 mm front & 25 mm rear)
10. Monotube front & rear shocks

11. Fore and aft rails
12. Fuel tank, transfer case, and steering damper skid plates
13. Black grained front & rear fender flares, upper fascia, and bodyside molding
14. Trailer tow group (RH3) with front tow hooks
15. Fog lamps
16. Clearance lamps
17. Fording capability of 30 inches.

3.7.1.160 CODE "PSMA" PARTS AND SERVICE MANUALS, 2 Sets, Ship To WR ALC/LEET

When code PSMA is specified, 2 sets of parts & service manuals shall be sent to Warner Robins Air Force Base as detailed in the vehicle vendor's contract. Each set of manuals shall contain a DD250.

3.7.1.161 CODE "1611" OEM EXPORT DOCUMENT FEE

When code 1611 is specified, A GSA Form 1611 shall be completed and submitted by the contractor per the instructions on the form.

3. REQUIREMENTS, ADDITIONAL (PERTAINING TO VOCATIONAL BODY TRUCKS ONLY)

3.2.4 CAB-TO-AXLE (CA) AND WHEEL BASE (WB) DIMENSIONS

For vocational body vehicles the dimension provided shall accommodate an excess of 50 percent of the outside body length forward of the rear axle centerline

3.4.3 WHEELS AND TIRES

The tire assembly shall be mounted in a bulkhead or side wall carrier, or in a spare tire compartment. On a chassis and cab the spare assembly may be shipped strapped to the frame if a carrier is not available.

3.5.1 ELECTRICAL SYSTEM

The electrical systems, equipment, and components furnished on the specified bodies, devices, and equipment shall comply with all the applicable SAE recommended standards and practices. All van cab and body wiring, except for the engine compartment, shall be concealed behind paneling, headliners, or protected in flexible conduit, except for terminal ends. Passage through bulkheads/structural members shall be protected with grommets or equivalent. Exposed fuse boxes shall be provided with a non-conductive cover. All added wiring, for bodies, shall have SXL or GXL insulation and be mounted in a minimum 150°C (300°F) rated wire loom. Wiring shall be routed to avoid movement and high temperature components, and positively secured every 46 cm (18 in) maximum with clamps and/or clips. Plastic ties may be used to form wiring bundles, but shall not be used to secure wiring bundles to the vehicle. Wiring shall not be secured to brake lines and/or fuel lines.

3.5.3 LIGHTING

The tail lights, stop lights, backup lights and rear turn signals shall be located to avoid obstruction by the rear doors when the doors are in fully opened position. On utility bodies, recessed lights and their electrical connections shall be provided, with guarding to prevent interior damage from shifting loads/cargo.

3.6.4 TRUCK BODY DESIGN

Each truck body furnished shall be designed and mounted to fit the vehicle chassis specified, shall provide the proper weight distribution for steering and balance, and present a satisfactory appearance. Body widths shall be a maximum of 96 inches and not less than the overall width of the rear tires, or more than 5 cm (2 in) greater than the overall width of the rear tires per side. Bodies designed with wheel openings shall have the vehicle's wheels centered within the wheel opening ± 5 cm (2 in) longitudinally and ± 1.3 cm (0.5 in) laterally. Wheel housing envelopes shall be of a size to provide snow chain clearance as determined by SAE J1232. Materials used in the fabrication of bodies, if not specifically described, shall be not less in quality and strength than those materials normally used by body manufacturer. Wherever dissimilar metals are used they shall be insulated against corrosion.

3.6.4.1 BODY MOUNTING

Bodies, other than OEM standard production bodies, shall have at least three (3) Grade 5, 16 mm (5/8 inch bolts), or equivalent, to attach each body bracket to the frame/chassis, mounted so as to minimize any lateral or longitudinal movement of the body relative to the frame. The body shall be mounted in accordance with the body and chassis manufacturer's recommendations. Body mounting crashworthiness shall not be compromised from that mandated by FMVSS crash test requirements. Body mounting and installation of fuel filler pipe and vent shall be in accordance with chassis and body manufacturer's recommended procedures to retain the certifications for all applicable FMVSS. Reinforcement or filler blocks shall be used where mounting device(s) may

deform frame flanges. Mounting devices shall be locked units which will minimize loosening, but which may be tightened if necessary. Modular bodies shall not be welded to the frame at any point, and be interchangeable with other chassis of the manufacturer's having a similar cab to axle (CA) dimension. The fuel tank filler pipe shall be installed and vented in a manner to permit refueling at normal fuel pump delivery rates without regurgitation of fuel. The installed body shall not be in contact with any part of the exhaust system. Rear impact guards (underride protection) and rear end protection shall be furnished conforming to FMCSR 393.86 where necessary and shall be painted black.

3.6.4.2 Additional Requirements for Utility Service Trucks; Regular, Extended, and Crew Cab, 4x2 and 4x4

The truck specified shall be furnished with an open (without roof) utility service body with applicable equipment. The body and cabinetry shall be constructed of corrosion resistant A40 galvaneel minimum, or other specified material such as all fiberglass (code FG), or all aluminum (code AL), each constructed with strength equal to steel. Units other than steel shall generally conform to the dimensional, layout, performance, and design specified herein, with the exception of basic body material used to accomplish the objectives (e.g. safety tread steel plate floor or equal, etc.). The body shall have a center load compartment with cabinets on each side. Service bodies shall be a body manufacturer's commercial model as represented in the manufacturer's current technical data and as required herein. The body shall include, but not be limited to, the body manufacturer's furnished locks, latches, hinges, wiring harnesses, flush mounted lights, all mounting hardware and components. Items normally furnished by the chassis manufacturer, such as but not limited to fuel system fill components, shall be used for integrating the body with the chassis. Body installers shall fully conform to body and chassis manufacturer's instructions and recommendations.

Load compartment floor thickness shall be of not less than 12 gage (2.7 mm (0.1046 in)) galvaneel safety tread steel plate. Bulkhead shall be constructed to a minimum height of 48 cm (19 in) above the load space floor, and shall be not less than 16 gage (1.5 mm (0.0598 in)) galvaneel, reinforced for rigidity. When body is made of aluminum, the minimum strengths shall be furnished and the floor shall be a minimum of 3.2 mm (0.125 in) 5086-H34 and bulkhead shall be a minimum of 2 mm (0.080 in) 5052-H32 aluminum and including reinforcement for rigidity. When a telescoping roof is specified (code UTR) the bulkhead shall be constructed to full height of cabinets. The bulkhead shall be capable of withstanding a horizontal static load equal to 1/2 the payload capacity of the vehicle without permanent distortion. On fiberglass bodies the cab guard shall be steel or aluminum. The guard shall be at least the width of the load space and the height of the cab and include openings for rear visibility.

Tailgate shall be constructed of not less than 16 gage (1.5 mm (0.0598 in)) double paneled or 14 gage (1.9 mm (0.0747 in)) single panel galvaneel, reinforced for rigidity. Tailgate shall be hinged and equipped with supports for retention in horizontal position and when in the horizontal position shall be aligned flush or slightly lower than floor level. Tailgate shall be minimum 23 cm (9 in) high. Aluminum tailgates shall be double paneled construction from a minimum 2 mm (0.080 in) material or single panel 2.3 mm (0.090), reinforced for rigidity.

Cabinet headers shall be not less than 14 gage (1.9 mm (0.0747 in)) galvaneel. Cabinet backs and partitions shall be of not less than 16 gage (1.5 mm (0.0598 in)) galvaneel steel. Cabinet shelves shall be capable of supporting a minimum of 91 kg (200 lb) each when supported no more than 10 cm (4 in) in from each end of the shelf. Cabinet doors shall be double panel constructed from not less than 20 gage (0.9 mm (0.0359 in)) galvaneel, with reinforcement. Aluminum doors shall be double panel construction from a minimum 1.6 mm (0.063 in), 5052 H32 material. Aluminum and fiberglass body shall have cabinet material and construction of the same material(s) as the rest of the body. Strength of finished cabinets shall be at least equal to that of steel construction. The steel cabinet interior shall be prepared, primed, and painted with a light colored semi-gloss or flat finish paint (not a primer finish), except that galvanized coated steel shelves need not be painted.

Cabinet arrangement shall include two vertical cabinets and one horizontal cabinet on each side of the body as follows:

- (A) One full height vertical cabinet with not less than two removable shelves on each side of body front.
- (B) One horizontal cabinet with a minimum of five adjustable partitions to form small bins on the curbside of the body. If a single shelf is used, it shall be full width.
- (C) One horizontal cabinet with not less than one full length tray on the street side of the body.
- (D) A full height vertical cabinet to the rear of the wheel housing on each side of the body with a minimum of one adjustable shelf.

Cabinet doors shall provide access to all portions of each cabinet, and door closures shall be weatherproof incorporating an automotive tubular type neoprene sealing system. Doors shall have full length continuous rod or hem type heavy-duty hinges, with stainless steel hinge pins or stainless steel, bronze, or nylon insert sockets. Latches shall have recessed handles. All doors shall be provided with cylinder type locks, operable from the same key but having various combinations of cylinder locks, as available, between vehicles on multi-unit contracts. Moving parts of latches and locks shall be constructed of, or plated with corrosion-resistant material. All vertical doors shall be furnished with double spring loaded stays to facilitate both hold open and closing, and doors shall not interfere with each other when open. Horizontal doors shall have two (2) removable pivoting supports to hold open in the 90 degree position and be reinforced so as to permit their use as a shelf. Latches, hinges, and striker plates shall be non-welded, easily replaced, and striker plates shall be readily adjustable. Fiberglass bodies shall be reinforced in the latch and hinge hardware areas.

TABLE A
Low Profile Utility Service Body
Minimum Dimensions cm (in)

COMPONENT	SINGLE REAR WHEELS	DUAL REAR WHEELS
Cab to axle as specified (see 3.6.4.1)		
Overall body width, min/max (3.6.4)	193 (76)/203 (80)	218 (86)/228 (90.5) on narrow axle (optional) 235 (92)/244 (96) on wide axle (standard)
Load space:		
Width (excluding wheel housing), min	123 (48.4)	127 (50), opt. 123 (48.4) code NAX
Height, min./max	48 (19)/62 (24.5)	48 (19)/62 (24.5)
Cabinet space:		
Height at front, min/max	89 (33)/99 (39)	89 (35)/99 (39)
Height at rear, min/max	79 (31)/99 (39)	79 (31)/99 (39)
Depth,* min	35 (14)	46 (18)
*Excluding structural cutouts		

TABLE B
Utility Service Body with Superstructure

MINIMUM DIMENSIONS cm (in)

Rear-of-cab to rear-axle dimension	Std
Overall length of body	as specified
Overall width of body	as specified (see 3.6.4)
Load space:	
Width (exclusive of wheel wells)	127 (50) opt. 123 (48.4) code NAX
Height	137(54) single 152 (60) dual
Extra height	180 (70) Opt USS2
Cabinet space:	
Height at front	99 (39)
Height at rear	89 (35)
Width	36 (14) single 46 (18) dual
Volume, side, m ³ (in ³)	.65 (40,000)
Racks over cabinets:	
Height	56 (22)
Width	19 (7.5)
Door opening at rear:	
Height	132 (52) single 140 (55) dual
Width	122 (48)

3.6.5 PREPARATION FOR PAINTING

The furnished bodies and the associated finished equipment surfaces, concealed or exposed, except polished metal parts, shall be cleaned, treated, and coated with a firm primer and preservative with rust inhibiting properties in accordance with MIL-HDBK-1223 (see 4.2.3.3).

Subsequent finishes shall be industry's standard practice. MIL-HDBK-1223 does not apply to OEM provided cab and chassis.

3.6.6 PAINT, FINISH, OR COLOR

The vocational body shall be the same gloss automotive paint color as the cab. Vocational bodies shall be painted in acrylic composition urethane or polyurethane paint. The final stage manufacturer's painted components shall have a paint film not less than 1.8 mils. thick and a minimum total thickness of 2.6 mils., including primers. After application of the final film of paint, the surfaces shall be smooth and uniform and shall be virtually free from grit, seeds, orange peel, fish eyes, streaks, running, sagging, wrinkles, pin holes, craters and nonuniformity of specified color. Auxiliary or fiberglass hard tops may be furnished in manufacturer's standard color. Pintles, towing devices, winches, exterior mounted equipment and bumpers may be manufacturer's standard finish or color.

3.7 ADDITIONAL VEHICLE OPTION CODES

The following Additional Option Codes are offered for selected vocational body vehicle applications **ONLY**. Detailed requirements for these codes follow this Index. Not all option codes apply to all vehicles. The Code only applies if listed in the Optional Equipment section of autochoice.

3.7.1.3 CODE "AHV" AUXILIARY HEATER

When code AHV is specified, in addition to the standard in-cab heater, an auxiliary heater with two speed or variable speed blower shall be furnished for the cargo compartment. Rated air flow shall be not less than 5240 cu l (185 cu ft) per minute and heater rated output shall be not less than 4,410 kg-calories (17,500 BTU) at 66° C (150°F) water over air differential. The heater controls shall be located convenient to the driver.

3.7.1.4 CODE "AL" ALUMINUM BODY

When code AL is specified, the utility service body shall be constructed of aluminum.

3.7.1.9 CODE "AWDC" FOUR WHEEL DRIVE (4x4) CONVERSION (Non-OEM-Dealers Only)

When code AWDC is specified, an OEM pass through four wheel drive conversion shall be furnished. The conversion (4x4) shall be a professionally engineered conversion from a two wheel drive (4x2) to a four wheel drive (4x4) meeting or exceeding all applicable requirements herein. All workmanship, welding, mechanical fit, grade and quality of components and materials used in conversion(s) shall be equal to or greater than the chassis manufacturer's production of other vehicles in the same weight class that are available as factory assembled 4x4 units. Conversion components shall not interfere with other body, chassis, or mechanical parts through the complete range of suspension and wheel angle travel and allow proper alignment of axles. The tracking and wheelbase of the front/rear axles shall be identical on both sides of the vehicle. When available, the chassis manufacturer's original equipment components for 4x4 units shall be furnished, including but not limited to: spring hangers, shackles, drive axle, integral transmission/transfer case, universal joints, steering linkage, stabilizer bars, radius and torque rods, transfer case shift linkage, brake calipers, pads, rotors, shock absorbers, and springs. The chassis manufacturer's guidelines/requirements for 4x4 conversions shall be followed. The conversion shall, at a minimum, maintain the payload as required for the Standard Item number furnished. The furnished axle ratings, as a minimum, shall provide the original or greater GAWR and GVWR. The design of the 4x4 conversion shall not raise the vehicle's center of gravity over that of the original vehicle, and chassis height shall not be raised more than 12 cm (5 in). The transfer case selector shall have a readily visible shift diagram and a position indicator. A yellow, dash mounted 4 wheel drive warning light shall be provided in close proximity to permanent warning decal or metal plate advising conditions under which 4 wheel drive shall not be used. A

dash mounted metal plate or permanent decal indicating the proper procedure for engaging and disengaging the 4 wheel drive shall be provided. The ratio of the front drive axle shall be identical +/- 1% of that furnished in the rear axle. The front drive axle hubs shall be manually engaged. Each vehicle's rear axle shall be furnished with chassis manufacturer's special traction differential (option code D3) when available. Contractor shall furnish FMVSS re-certification of the complete fuel system should the original fuel system be modified in any manner. The 4x4 converter shall furnish a completed applicable FMVSS certification label as required for an Alterer, Intermediate, or Final Stage manufacturer. In addition to the required OEM manuals, the vehicle shall be provided with operation, maintenance, and 4x4 system specifications information.

The 4x4 converter shall provide to the purchaser a full parts and labor warranty covering all added 4x4 parts and materials, including workmanship and design. The warranty shall also cover all OEM components affected or modified by the conversion process. This warranty shall be at least equivalent, in mileage and time, to the chassis manufacturer's original warranty, including any extended warranties required or furnished.

3.7.1.10. CODE "BBM" BULKHEAD, UTILITY SERVICE BODY

When code BBM is specified, the body manufacturer's steel cab guard shall be provided at the front bulkhead, and when an aluminum body is furnished the cab guard shall be aluminum. On fiberglass bodies, the cab guard shall be steel or aluminum. The guard shall be at least the width of the load space and the height of the cab and include openings for rear visibility.

3.7.1.11 CODE "BBS" BULKHEAD, STAKE BODY

When code BBS is specified, an all steel, solid front bulkhead with a screen opening behind the cab window shall be provided in lieu of the front end rack.

3.7.1.12 CODE "BC" DUMP BODY COVER

When code BC is specified, a permanently mounted, retractable, mechanical cargo cover of vinyl-coated nylon material shall be furnished.

3.7.1.13 CODE "BDF" DIAMOND TREAD STEEL FLOOR

When code BDF is specified, a diamond tread steel plate, 3.2 mm (1/8 in.) thick, shall be furnished over the standard stake/ platform wood floor.

3.7.1.14 CODE "BDS" DUMP STAKE BODY

When code BDS is specified, a NTEA class B dump hoist shall be provided for 8 and 9 ft bodies, and a NTEA class C for 12 and 14 ft bodies. The vehicle shall be equipped with a hoist having a minimum lifting capacity rating of 2727 kg (6,000 lb) in accordance with the National Truck Equipment Association Hoist Classification chart. The system shall be provided with a relief valve to protect against overloading of the hoisting mechanism at 125% of rated capacity. Hoist shall lift the body to a minimum angle of 45 degrees; controls shall be located in the cab. Hydraulic lines and hoses shall be secured in a protected position, and shall not hang below the chassis frame. Dump stake bodies shall incorporate structural steel channel long sills. Wiring harness for the body shall have overload protection and be enclosed in conduit or plastic loom, except at terminal ends, and shall be secured by hangers to the underbody on not more than 46 cm (18 in) centers. The front rack section shall be capable of withstanding a horizontal static load equal to one-half the payload capacity of the load space without permanent distortion of the rack section or its mounting.

3.7.1.16 CODE "BH" INTERIOR BULKHEAD

When code BH is specified, an interior bulkhead shall be constructed of not less than 17 gauge steel with a rigid center section door and side panels, which shall be located between the driver and cargo areas. The door shall have openings in the upper and lower halves separated by a solid area. The openings shall be open mesh covered or perforated type with diamond-shaped or

round holes contained within the open area and shall have an outside perimeter of not less than 43 cm (17 in) high for standard vans or 38 cm (15 in) high by 38 cm (15 in) wide for compact vans, with the solid separation between openings of not less than 9 cm (3.5 in). The upper edge of the upper opening shall be 2.5 to 13 cm (1 to 5 in) from the top of the bulkhead. The openings shall be hinged to swing into the cargo area. Bulkhead shall be secured to the body interior with easily removable, corrosion resistant fasteners. Provision shall be made on cargo side of bulkhead for relocation of spare tire assembly to left or right side panel(s) or under frame.

3.7.1.17 CODE "BHP" HIGH PROFILE MAINTENANCE BODY

When code BHP is specified, a high profile utility maintenance body shall be supplied. Minimum cabinet height (front and rear) shall be 99 cm (39 in) and minimum load space height shall be 61 cm (24 in).

3.7.1.19 CODE "BPC" BODY PAINT COLOR

When code BPC is specified, the body color shall be a ordering agency specified color other than the standard white.

3.7.1.20 CODE "BR" TRANSLUCENT ROOF

When code BR is specified, the roof panel over the cargo section of Vocational Bodies shall be translucent white, fiberglass reinforced, polyester material, min. (0.060") thick.

3.7.1.21 CODE "BRH" STAKE RACKS, 100 CM (40 IN)

When code BRH is specified, the rack sections shall be minimum 100 cm (40 in) high.

3.7.1.22 CODE "BRT" INTERIOR ROPE TIES

When code BRT is specified, the body side lining (panels) shall be furnished with tie rings for cargo securing. The tie rings shall be recessed and shall be located on each vertical post, and 76 cm (30 in) above the floor line plus or minus 5 cm (2 in). Tie rings are not required on the bulkhead.

3.7.1.23 CODE "BSF" SMOOTH STEEL FLOOR

When code BSF is specified, a smooth steel plate 3.2 mm (1/8 in) thick shall be provided for the stake platform floor.

3.7.1.24 CODE "BUAV" BACKUP ALARM

When code BUAV is specified, a backup alarm conforming to SAE J994 shall be furnished by the vocational body contractor which provides an audible warning whenever the ignition switch is "on" and the vehicle transmission control is in reverse.

3.7.1.25 CODES "BXX" BODY LENGTH

These codes describe the length of truck bodies:

Code B08 requires a 8 ft body length

Code B09 requires a 9 ft body length

Code B10 requires a 10 ft body length
 Code B11 requires a 11 ft body length
 Code B12 requires a 12 ft body length
 Code B14 requires a 14 ft body length
 Code B16 requires a 16 ft body length
 Code B18 requires a 18 ft body length
 Code B20 requires a 20 ft body length
 Code B22 requires a 22 ft body length
 Code B24 requires a 24 ft body length

3.7.1.34 CODE “CRT” CARGO RESTRAINING TRACK

When code CRT is specified, one cargo restraining track shall be installed on each interior side wall at the manufacturer's standard height, unless a specific height is specified. One cross bar and hardware for insertion into the tracks shall be furnished per set of tracks.

3.7.1.42 CODE “DDS” DROP SIDE DUMP BODY

When code DDS is specified, the supplier shall furnish the dump body with left and right (single or double) drop side style body.

3.7.1.43 CODE “DPA” SCREEN TYPE INTERIOR PARTITION AND CODE “DPB” SOLID TYPE INTERIOR PARTITION

When code DPA or DPB is specified, a steel, FRP or aluminum bulkhead with a sliding-type entry door and fixed side panels shall be furnished between the driver's area and the cargo space. The door shall slide on the front side of the partition, and be furnished with a securing device. On cutaway cab vehicles the door shall slide to the curb side. The partition shall be capable of withstanding a horizontal static load equal to payload capacity of the vehicle without permanent distortion. When code DPA is specified, a screen type interior partition with door shall be installed. When code DPB is specified, a solid type partition with door shall be installed. The location of the partition shall allow for full seat travel with the seat back at a 23-degree angle from the vertical. Partition door shall be operable from both sides, with provisions for locking from the front. When the partition is installed, the load space may be reduced by up to 13 cm (5 in). The load space shall be measured from the rearmost intrusion of the partition. When a recess in the partition is used to accommodate the back of the reclined seat it shall also provide additional clearance for the driver's and passenger's head. The recess width shall be at least as wide as the seat. The recess height shall come to within 6 mm (0.25 in) of the cab/body mounting flange.

3.7.1.44 CODE “DPW” PARTITION DOOR WINDOW

Note: Bulkhead may reduce load space length by up to 13 cm (5 in).

When code DPW is specified, a bulkhead door with a framed clear plastic 3 mm (0.125 in) thick upper half shall be provided allowing unrestricted sight line from the driver's seated eye level through the rear door(s) and window(s).

3.7.1.50 CODE “DVAL” DELIVERY VAN BODY, ALUMINUM SIDES

When code DVAL is specified, the body sides shall be made of aluminum in lieu of FRP. The aluminum body sides shall be a minimum 0.040 in. As a minimum, vertical posts shall be aluminum or galvaneel on 24 in centers for bodies less than 16 feet in length. Bodies 16 feet and over shall have the vertical posts on 16 in centers. All body seams shall be sealed and weatherproofed. Rub rails permanently attached to the body exterior shall be positioned to ensure proper body protection.

3.7.1.51 CODE “DVC” ROLLUP REAR DOORS

When code DVC is specified, a full width, roll-up, overhead rear door shall be provided. The door shall be of the sectional type, having not less than five sections and a minimum of 183 cm (72 in) wide if dual wheel body style, and a minimum 168 cm (66 in) if single wheel body. The door sections shall incorporate joints of the tapered tongue and groove or shiplap type. The door shall be (3/4 in) marine plywood construction. Door section corrosion-resistant hinges shall be mounted on the inside of the door, one at each end of each section joint. The door track shall be manufacturer's standard corrosion-resistant type equipped with a positive stop at the end of the track. Door rollers, counter-balance units, and cables of corrosion-resistant construction shall be provided. The door shall be weather tight. A heavy-duty, corrosion-resistant slam or cam-operated lever-type lock shall be provided with provisions for key or padlock locking. One heavy-duty, corrosion-resistant grab handle, closed type, shall be provided on the inside bottom of the door. One nylon, double loop pull-down strap not less than 3.8 cm (1.5 in) wide and 30 cm (12 in) length shall be provided outside the door and located adjacent to the door lock. When roll-up rear door is furnished, loadspace may be reduced to accommodate clearance required for rear door hardware.

3.7.1.52 CODE "DVD" DUAL REAR DOORS

When code DVD is specified, two side-hinged, full width rear doors both with inner stops shall be provided. Rear doors shall have door operating handles inside and outside. Rear doors shall be provided with door checks to hold doors in full open position. In addition to the door operating handles, grab handles to assist in closing the doors shall be provided on inside of rear doors.

3.7.1.53 CODE "DVE" AND CODE "DVE1" EXTRA HEIGHT - INTERIOR

When code DVE is specified, a load space height of a 78 in nominal shall be furnished. When code DVE1 is specified, a load height space of a 84 in nominal shall be furnished.

3.7.1.54 CODE "DVF" WOOD FLOOR

When code DVF is specified, a wood floor, a minimum of 2 cm (0.75 in), shall be furnished.

3.7.1.55 CODE "FRP" FIBERGLASS DELIVERY VAN BODY

The body side walls and bulkhead shall be constructed using fiberglass-reinforced panels. These fiberglass-reinforced panels shall have a minimum core thickness as specified.

3.7.1.56 CODE "DVG" DRIVER'S FAN

When code DVG is specified, a driver's fan shall be provided that furnishes a minimum of 250 CFM. The fan shall have a protective grill that covers the fan blades. There shall be a speed control rheostat on the fan.

3.7.1.57 CODE "DVS" UTILITY SERVICE BODY ON A CUTAWAY CAB

When code DVS is specified, the truck shall be of the size specified, having a body manufacturer's standard commercial utility service body for a cutaway cab type chassis. Nominal body lengths shall be 3.4 m (11 ft) for cutaway chassis with 203 cm (80 in) CA; and 4 m (13 ft) for a 300 cm (118 in) CA. The body interior height shall be nominally 188 cm (74 in). The body shall comply with the requirements stated in 3.6.4.2, code USS and Code USS2. A door integrated in the bulkhead shall be furnished to allow for entry and exit to the body from the cab. The body shall provide space for the full range of travel for both the driver and passenger seats.

3.7.1.58 CODE "DVW" CURB SIDE WINDOWS

When code DVW is specified, the side panels on the curbside in the cargo area shall be provided with window(s). The window(s) shall be a minimum 107 cm (42 in) long centered in the side panel area, and extend from near the bottom of the roof cap rail approximately 61 cm (24 in) down to the belt line. When more than one window is furnished, dividers between the windows shall not reduce the total side glass area more than 10 percent.

3.7.1.64 CODE "FLFL" FLAT CARGO FLOOR

When code FLFL is specified, a flat cargo floor shall be furnished.

3.7.1.68 CODES "HTG", "HTGR", "HTGU", AND "HTP" HYDRAULIC LIFT GATE, RAIL TYPE LIFT GATE, FOLD UNDER TAIL GATE, AND POWER CLOSE TAIL GATE

Note: Vehicle payload will be reduced by the weight of the lift gate assembly

A rear bumper may be required to comply with FMVSS regulations.

When code HTG is specified, the vehicle shall be equipped with a power elevating and manual folding type tailgate lift.

When code HTGR is specified, the vehicle shall be equipped with a power rail type elevating and manual folding type tailgate lift.

When code HTGU is specified, the vehicle shall be equipped with a power type fold under tailgate.

When code HTP is specified, the powered tailgate lift shall be as specified for code HTG or HTGR, with the addition of a powered folding type platform.

The lift gate shall be hydraulic type with a rated lift capacity of not less than 363 kg (800 lb) when furnished on vehicles with single rear wheels. Lift gate capacity shall be 454 kg (1,000 lb) on vehicles with dual rear wheels.

Hoisting operations shall be accomplished hydraulically, powered from the truck's PTO or electrical system. Controls for operation of the lift shall be mounted outside of the body. Opening of the platform shall be power assisted. Closing of the platform shall be manual, or power assisted when code HTP is specified. The vehicle's spare tire assembly may be mounted on a secured carrier in the load space. When the tailgate lift is supplied on a stake body truck, the two removable rack sections across the rear of the truck bed will be required.

The tailgate platform shall be non-skid, full width of body interior less 5 cm (2 in), and shall have a depth of not less than 64 cm (25 in), exclusive of ramp. The top of the rear edge shall come to within 1.3 cm (0.50 in) of the ground. The tailgate shall fold vertically against the rear of the vehicle for traveling and shall have a continuous toe clearance between rear edge of the floor and the tailgate platform, latches to hold the tailgate at floor level, if available, and devices to prevent movement due to road shock. When the tailgate is in line with the floor of the vehicle, the distance between rear edge of the floor and the tailgate shall be not more than 2.5 cm (1 in).

3.7.1.69 CODE "J560" SEVEN CONDUCTOR ELECTRICAL CONNECTOR

When code J560 is specified, a 7 conductor electrical connector receptacle, meeting SAE J560 requirements, shall be furnished.

3.7.1.74 CODE "LED" LIGHT EMITTING DIODES

When code LED is specified, all added stop/tail, directional, and marker lights shall be light emitting diodes. LED lights shall be installed with tamper resistant hardware.

3.7.1.82 CODES "MEW" ELECTRIC WINCH

When code MEW is specified, an electrically driven commercially available, non-hoisting, front mount, self-recovery winch assembly with fairlead shall be provided. The winch shall permit not

less than a 23-degree angle of approach, unless the vehicle is also equipped with a snowplow mount, and suitable for assisting the vehicle in negotiating difficult terrain. The winch shall be supplied with the manufacturer's standard length and diameter of galvanized aircraft or equal wire rope with minimum breaking strength exceeding the maximum single line pull rating of the winch and minimum requirements for single line pull rating, length, and diameter shown below. Winch assemblies shall include the winch manufacturer's recommended standard mount(s) providing for transfer of winching forces to the vehicle frame and shall place the winch as close to vehicle frame as practical. Acceptable mounts will include grill/brush guard type, heavy-duty bumper type, or behind the bumper type. Wire rope shall include replaceable clevis hook. Inside the cab winch controls shall be provided for hydraulically driven winches. Minimum 3 m (10 ft) remote controls removable for security and storage and permitting in-cab operation of the winch shall be provided. Winches shall have forward and reverse drum drive and free spooling. The vehicle shall be furnished with the OEM heaviest duty capacity optional battery and alternator for model truck specified.

Winch Application

Vehicle GVWR	Single Line Pull Rating (min)	Length Wire Rope (min)	Wire Rope Diameter (min)
kg (lb)	Kg (lb)	M (ft)	Mm (in)
Under 3855 (8500)	3636 (8000)	25 (80)	8 (5/16)
3855-4536 (8500 / 10,000)	4318 (9500)	30 (100)	10 (3/8)
Over 4536 (10,000)	5455 (12,000)	30 (100)	10 (3/8)

3.7.1.85 CODE "MHP" PIPE AND CONDUIT HOLDER

When code MHP is specified, the overhead ladder racks shall include a minimum 3 m (10 ft) pipe and conduit holder. The pipe and conduit holder shall be a minimum of 15 cm (6 in) in diameter with and have end closures. This unit may be shipped separate from the vehicle.

3.7.1.87 CODE "MPS" SNOW PLOW, REVERSIBLE

Ordering Note: The Code SZ is furnished with this option and should not be additionally specified by the ordering agency.

When code MPS is specified, a snowplow with an electro-hydraulic or mechanical-hydraulic raising and angling mechanism and auxiliary lights shall be installed on the vehicle. The snowplow, when fully angled, shall equal the widest part of the truck excluding mirrors and hubcaps. It shall be frame mounted with quick disconnect locking fasteners and shall be capable of angling at least 30° to each side. Hydraulic lines shall be the quick disconnecting type. The weight of the total snowplow assembly shall not cause the chassis manufacturer's front axle rating to be exceeded. The plow shall be shipped in the load space and lights shall be shipped within the cab when possible. Brackets and connections shall be installed on all vehicles to enable ready installation of the lights and snowplow at the destination. Snowplow and lights shall be installed on the first vehicle to ensure proper operation, and they may be removed for shipment after Government inspection. Height of moldboard shall be a minimum of 68 cm (27 in) on vehicles over 3,864 kg (8500) GVWR.

3.7.1.89 CODE "MRS, MRR, MRB" STROBE TYPE WARNING LIGHT

A strobe type, 360° warning light shall be furnished and mounted with reinforcement at point of attachment, on vehicle centerline on top of the cab or driver's compartment. The light shall be operated by means of a separate switch with an amber indicator light located on the instrument

panel and marked to indicate function of the switch. The warning light shall be an integral solid-state unit, having a minimum of 15 joules per main flash, with a double flash rate of 90 plus or minus 15 flashes per minute. The strobe light unit shall include an optic lens/cover mounted in a weatherproof housing with a corrosion resistant metal base. Housing shall be no larger than 22 cm (8.5 in) high by 23 cm (8-75 in) base diameter. At the option of the manufacturer or when specified, the warning light shall be removed for shipment. When removed, the light shall be stowed within the vehicle or may be shipped separately, and the roof opening shall be provided with a weather-tight cover. Provisions for reinstalling the light, including access to the light wiring and mounting devices from inside the vehicle, shall be provided.

When code MRS is specified, the light shall be amber.

When code MRR is specified, the light shall be red.

When code MRB is specified, the light shall be blue.

3.7.1.90 CODE “MSC” INCREASED ELECTRICAL PACKAGE

When code “MSC” is specified, chassis manufacturer supplied equipment meeting the following requirements shall be furnished: chassis manufacturer's highest capacity engine block heater; largest alternator; largest CCA single battery for gasoline-powered units or largest CCA dual batteries for diesel-powered units.

3.7.1.93 CODE “ORM” OFF ROAD BODY MOUNTING

When code ORM is specified for a utility body an off-road mounting system shall be provided that will allow flexing of the truck frame independent of the utility body.

3.7.1.94 CODE “PCI” COMPARTMENT INTERIOR PAINT

When code PCI is specified, all cabinet and door interiors shall be completely prepared, primed, and finished painted with the same finish paint as the exterior of the body.

3.7.1.103 CODE “RBV” RUNNING BOARD

When code RBV is specified, OEM running boards (Code RB) or vocational body contractor running boards shall be furnished. The vocational body contractor running boards shall be securely mounted to the frame of the vehicle to prevent flexing when used by vehicle occupants during entry and exit.

3.7.1.107 CODES “RH2V, RH3V AND RH4V” VOCATIONAL BODY CONTRACTOR TRAILER TOWING PROVISIONS

The trailer towing provisions furnished by the VBC's are rated according to the SAE J684 standard. This standard also defines the weight classifications for trailering. The classifications are as follows:

- **Class 2** All types of trailers with a trailer GVWR of over 2000 lb and not to exceed 3500 lb GVWR.
- **Class 3** All types of trailers with a trailer GVWR of over 3500 lb and not to exceed 5000 lb GVWR.
- **Class 4** All types of trailers with a trailer GVWR of over 5000 lb and not to exceed 10000 lb GVWR.

The codes RH2V, RH3V & RH4V correspond directly to the trailer classes. As an example, for a class 3 trailer, you need to order RH3V towing provisions.

All VBC towing provisions include:

- A trailer lighting package
- A four conductor connector that complies with SAE Std J1239
- Performance based on weight distributing capacity for RH2, RH3 & RH4

The ordering agency will be responsible for obtaining the proper hitch ball, ball mounting device and the associated equipment (such as weight distributing devices) required to tow the trailer and its load.

It is imperative that agencies follow the OEM's towing guidelines to select the appropriate type of vehicle to perform their trailer towing operations.

3.7.1.112 CODE “CMS” CROSSVIEW MIRROR SYSTEM

When code CMS is specified, a crossview mirror system shall be furnished to allow the viewing of the bumper area by looking into the mirror system.

3.7.1.132 CODE “UFT” TOP OPENING COMPARTMENTS

When code UFT is specified, a body with added top opening compartments shall be provided. Top opening lids shall be full length and nominal width of the compartment tops and supported by gas springs, minimum one at each end of door lid. Top opening compartment shall be provided with a minimum of 15 adjustable dividers per side. The maximum height in Table A may be increased by up to 4 cm (1.5 in).

3.7.1.133 CODE “UOR” AND CODE “USM” OVERHEAD RACKS WITH LADDER CLAMPS AND SIDE LADDER RACK FOR SUPERSTRUCTURE BODY

When code UOR is specified, removable overhead racks with adjustable brackets for transportation only of ladder(s) shall be provided. When code USM is specified, side mounted ladder racks shall be provided. Code USM requires code USS or USS2. All ladder racks shall be equipped with adjustable chain or spring hold down devices.

3.7.1.134 CODE “UPR” PIPE RACKS

When code UPR is specified, a pipe rack mounted on top of the curbside cabinet shall be furnished. The front of the rack shall permit the pipes to clear the cab door. The rack shall be equipped with adjustable chain or spring hold down devices.

3.7.1.135 CODE “URH” ROPE HOOKS

When code URH is specified, a minimum of four rope hooks, in lieu of adjustable shelves, shall be furnished inside a vertical cabinet.

3.7.1.137 CODE “USS” AND “USS2” SUPERSTRUCTURE BODY AND SUPERSTRUCTURE BODY WITH EXTRA INTERIOR LOADSPACE HEIGHT

Ordering Note: The Code BHP is required with this option.

When code USS or USS2 is specified, the utility body shall have a center load space; cabinets on each side of the body, with doors opening from the outside; equipment racks above the cabinets, with openings to the inside of the body; a fixed weather tight roof (superstructure) over the load space; and double doors at the rear. The body shall conform to Table B dimensions. A bulkhead fixed safety glass window shall be provided and aligned with the rear cab window.

Double rear doors hinged at the sides shall be provided and shall completely enclose the body interior. The doors shall be equipped with safety glass windows in the upper section, door locks with cylinder locks, and retainers for keeping the doors in open position. The doors shall be equipped with seals to prevent the entry of dust and water. The center load space shall be painted the manufacturer's standard color.

3.7.1.138 CODE "UTC" SPARE TIRE CARRIER IN LOAD SPACE

When code UTC is specified, a vertically mounted tire assembly on a carrier shall be furnished located in the front end of the load space behind the cab. When a load space roof prevents vertical mounting, the tire assembly may be secured horizontally in the load space.

3.7.1.139 CODE "UTR" TELESCOPING ROOF

When code UTR is specified, a telescoping roof and end gate enclosure shall be furnished. The telescoping roof shall be provided with automatic catches that lock the roof in full open and full closed positions. The roof shall be constructed to ensure proper roof drainage. The end gate or door enclosure shall have side opening style doors, or two part folding, or single type that can be swung up without interference, and laid on the roof. A single handle, with key lock, that operates two latches, one on each side, shall be furnished on the end gate enclosure. The load area shall be painted the manufacturer's standard color.

3.7.1.140 CODE "UVB" VICE BRACKET AND PIPE REST

When code UVB is specified, a removable pipe vise bracket and pipe rest shall be furnished on the right side cabinets at rear. The vise plate shall be horizontal, attached to a sliding bar and locked in place by a vertical pin.

3.7.1.141 CODE "VR and VRS" ROOF VENTILATORS

When code VR is specified, two roof type, ventilators shall be furnished having controls for opening and closing on the inside of the van body. Roof vents shall be on center at the front and rear of cargo box.

When code VRS is specified a static ventilator shall be furnished having controls for opening and closing on the inside of the van body. Roof vent shall be at the upper rear of cargo box.

7.7.1.146 CODE "MFO" METAL FLOOR OVERLAY

When code MFO is specified, a one or two piece aluminum (min. thickness 0.280 cm (0.100 in)) overlay shall be furnished over the wood floor. If the overlay is made of two pieces, the seam shall be welded.

3.7.1.147 CODE "ULCL AND ULCR" LONG HORIZONTAL COMPARTMENT

A horizontal compartment that runs from behind the front vertical cabinet to the rear of the body and one vertical cabinet located to the rear of the wheel housing and below the horizontal compartment shall be supplied. When code ULCL is specified, the horizontal compartment shall be located on the left (street) side of the body. When code ULCR is specified, the horizontal compartment shall be located on the right (curb) side of the body.

3.7.1.172 CODE "TLR" LOADING RAMPS

When code TLR is specified, a hide-away low mount aluminum loading ramp shall be furnished. The ramp shall be stored in the rail pocket area. The ramp shall have the following:

- Non-Skid Surface
- 900 lb minimum capacity
- Nominal length of 2 feet shorter than body length

- Designed for 1 person operation

3.7.1.173 CODE “BDK” DOCK BUMPER

When code BDK is specified, dock bumpers shall be furnished for liftgate protection.

3.7.1.162 CODE “SOC” STORAGE OVER CAB

When code SOC is specified, the body shall be extended over the cab by a minimum of 36” to provide additional storage.

3.7.1.163 CODE “RCA” CARGO RAILS

When code RCA is specified, the manufacturer’s standard hard wood cargo rail shall be furnished on each side of the delivery van body.

3.7.1.164 CODE “DOM” 2 CEILING DOME LIGHTS

When code DOM is specified, a minimum of 2 ceiling mounted cargo dome lights shall be furnished. The lights shall be controlled by a switch in the cab.

3.7.1.165 CODE “IR4” INSULATION, CARGO BODY

When code IR4 is specified, the side walls of the delivery van body shall be insulated to a minimum of R4 before the lining is installed.

3.7.1.166 CODE “ILF” INTERIOR LINING

When code ILF is specified, side lining shall be 3/16 in minimum exterior grade plywood. The interior body sides shall be smooth or ribbed with no other protrusions except fasteners and corner posts. When steel/aluminum materials are used in combination, these dissimilar metals shall be provided with galvanic insulation at all points of contact. These side liners are to cover side walls from floor to roof rail, with no exposed wiring or struts. All wall liners shall be smoothly fitted with no separation or protrusion between liners. The fasteners shall project no more than 2.8 mm (7/64 in) into the interior and shall be blended and smooth. Side lining panels furnished shall be securely fastened and completely line the body without gaps between panels. All interior panels shall be removable to facilitate body repair. Each plywood side lining panel shall be free of defects, sanded smooth and flush with adjacent panels.

3.7.1.167 CODE “ILH” PARTIAL INTERIOR LINING

When code ILH is specified, the lining required by ILF shall be reduced to 48 inches high.

3.7.1.168 CODE “DSR” ROLL UP SIDE DOOR

When code DSR is specified, the delivery van body shall have the manufacturer’s standard roll up curbside door installed. The door shall be a nominal width of 40 inches.

3.1.1.169 CODE “DSH” HINGED SIDE DOOR

When code DSH is specified, the delivery van body shall have the manufacturer’s standard hinged curbside door installed. The door shall be a nominal width of 40 inches.

3.7.1.170 CODE “SSD” SIDE DOOR STEPS

When code SSD is specified, the delivery van body shall have the manufacturer's standard recessed steps for a curbside door installed. The steps shall have a minimum tread depth of 6 inches.

3.7.1.171 CODE “LEDV” BODY EXTERIOR DOT LIGHTING, LED

When code LEDV is specified, the exterior DOT lighting furnished shall be all LED. The lighting system shall include sealed wiring harness, return ground wiring and a lifetime warranty. LED lights shall be installed with tamper resistant hardware.

3.7.1.172 CODE “HSC” CENTRAL HYDRAULIC SYSTEM

When specified, an expandable hydraulic system (min 3 port) shall be furnished. The ordering agency must specify which accessories shall be powered by the system. The system shall be constructed as follows:

A. Drive systems.

Hydraulic pumps shall be driven by one of the following:

1. Engine or transmission mounted PTO. Pumps shall be flange mounted to the PTO. Belt drives of any type are not acceptable and shall not be used. Drive shafts from the PTO to the pump are not acceptable.
2. Electric motor driven. (Authorized for hydraulic tailgates only.) Pumps shall be flange mounted to the electric motor.
3. Engine crankshaft front PTO driven. Only OEM integral frame extensions and OEM approved and furnished chassis for front PTO shall be used.
4. Pump support brackets shall be installed from the transmission to support the pump(s) if the combined weight of the pump(s), hoses, and fittings exceed 40 lbs., or if the combined length of the PTO and pump(s) exceeds 18 inches measured from the center-line of the PTO to the end of the pump(s).
5. PTO's shall be rated at a minimum of 150% of the maximum horsepower requirement of the hydraulic system. The minimum PTO horsepower rating shall be calculated by the following formula:

$$\frac{PV \times 1.50}{1714 \times .85} = \text{Minimum PTO HP Rating}$$

Where **P** = max working pressure in PSI
and **V** = max flow in GPM

6. PTO's shall be compatible with and certified for use by power shift PTO's engaged by an electric-over-hydraulic actuator. Overspeed engagement protection shall be furnished with power shift PTO's. Power shift PTO's installed on automatic or manual shift transmissions shall disengage when the pre-set engine RPM is reached.

7. The torque or horsepower required of the hydraulic drive PTO shall not exceed the maximum torque or horsepower rating of the PTO opening on the transmission or PTO drive pad on the engine or engine crankshaft.
8. All PTO's shall be installed within the backlash recommendations of the PTO manufacturer.

B. Hydraulic system hoses, fittings, pressures, and flow rates.

1. Hydraulic hoses shall be rubber covered double wire braid reinforced and comply with SAE 100R2, type A or AT, or 100R9, type A or AT, of SAE J517. The working pressure of the hose shall exceed the pressure setting of the relief valve. Hoses shall be sized such that the maximum velocity of hydraulic fluid in the hose does not exceed the following:
 - A. Fluid velocity in suction lines shall not exceed 4 ft./sec.
 - B. Fluid velocity in discharge lines shall not exceed 25 ft./sec
2. All hoses shall be installed in accordance with the requirements and recommendations of SAE J1273
3. System working pressures shall not exceed 3500 PSI.
4. Hydraulically actuated implements, such as snowplows, which are deployed while the vehicle is moving, shall be furnished with mechanical stops that prevent hydraulic shock if the implement strikes an obstruction while roading.
5. Hydraulic hose fittings shall comply with the requirements of SAE J516 for permanently attached (crimped) fittings with JIC 37° flare. Field replaceable type fittings are not acceptable. Forged steel hydraulic adapters shall be used. Cast steel fittings are not acceptable.

C. Pressure protection:

All hydraulic systems shall be furnished with either a spring or pilot actuated pressure relief valve. The relief valve shall be used for overpressure protection only and shall not be used for any flow control purpose. In no case shall a relief valve be set at a pressure higher than the lowest working pressure rated component (hose, coupler, adapter, cylinder, etc.) in the system.

D. Flow control valves.

Flow control valves shall be of a type (such as open-center valves) that assures that hydraulic fluid is never deadheaded and forced to flow over the relief valve. Flow control valves may be stacked to control multiple devices, either in parallel or in series. Series designed systems shall not exceed the maximum working pressure of any component in the series.

E. Fluid filtration.

A return line hydraulic filter shall be furnished having a minimum efficiency rating of 99% down to 10-micron size particles and meet or exceed the filtration requirements of the pump, motor, or driven device manufacturer. The filter shall be furnished with a pressure differential type service gauge or service indicator.

F. Hydraulic system cooling.

Hydraulic systems shall be designed to operate in ambient temperatures ranging from –20 deg F to +120 deg F.

The hydraulic system shall be designed such that the maximum hydraulic oil temperature does not exceed 200 deg. F. For continuously driven devices, such as spreaders and other motor driven applications, auxiliary cooling, such as air-to-oil coolers or water-to-oil coolers, shall be furnished if required to meet the maximum oil temperature requirement. The government reserves the right to request and be furnished test documents showing maximum stabilized temperatures of hydraulic systems.

G. Hydraulic reservoirs.

A stainless steel, aluminum (6061-T6 or 5086-H32 construction only), or other non-corroding type hydraulic reservoir shall be furnished and sized such that the reservoir working volume is a minimum of 150% of the maximum hydraulic flow rate. The reservoir shall be furnished with the following:

1. The reservoir shall be furnished with a baffle separating the suction from the return flow.
2. The reservoir shall be furnished with minimum $\frac{3}{4}$ in. air filtration type breather or combination breather cap with not greater than 10 micron air born particle rating.
3. The reservoir shall be furnished with a sump and valve for draining water from the bottom of the tank and for draining oil.
4. The reservoir shall be furnished with a metal enclosed and protected sight glass for observing oil level.
5. The reservoir shall be furnished with a maximum 300 mesh (50 micron) fill strainer.
6. The reservoir shall incorporate a return tube that discharges return oil below the surface of the reservoir oil.

H. Oil pressure and temperature gauges.

An oil pressure gauge shall be installed at the operator's control station on central hydraulic systems.

Hydraulic oil.

Hydraulic oils shall meet the minimum requirements of the hydraulic pump or other critical component manufacturer(s). Water based hydraulic fluids shall not be used. A nameplate shall be affixed near the fill cap on the reservoir indicating the type of oil to be used.

J. Installation and workmanship.

The hydraulic system shall be comply with the following requirements:

1. All tapered threaded fittings shall be installed using an anti-seize thread sealing compound. Teflon tape is not acceptable.
2. Hoses shall be routed for easy tracing of hoses and shall be protected with grommets when passing through bulkheads. Hoses shall be protected from abrasion when routed over or through bare metal

edges.

3. Hydraulic hoses shall be supported with metal hose clamps that provide protection for the hose from the metal portion of the clamp. Hoses shall not be allowed to droop or to be entangled with other hoses or lines. The clamps shall be spaced not more than 18 in. apart.
4. Overhanging weight of fittings, hoses, valves, or piping shall be supported from the reservoir to eliminate flexing of sidewalls.
5. All hoses shall be routed and installed in accordance with the requirements and recommendations of SAE J1273. Special attention to routing and installation shall be given to avoid the following:
 - A. Tensile loads on the hose
 - B. Side loads
 - C. Flattening
 - D. Kinking
 - E. Thread damage
 - F. Damage to sealing surfaces
 - G. Abrasion
 - H. Twisting
 - I. Exceeding minimum hose bend radius

K. Operational Test

The hydraulic system and hydraulically driven components shall be operated and checked for leaks and proper operation. The operational test shall include the maximum requirements (height, extension, speed, etc.) of the driven devices under no-load conditions. No leakage is permitted beyond a class "1" leak in accordance with SAE J1176-External Leakage Classifications for Hydraulic Systems.

3.8 STANDARD AND ADDITIONAL REQUIREMENTS

3.8.1 MARKINGS, DATA PLATES, AND INFORMATION

Caution, instructional, and informational plates/decals/labels shall be conspicuously installed for all equipment requiring such notices. Each vehicle shall be provided with a copy of all applicable warranty documents in the cab compartment.

3.8.2 OPERATOR'S, SERVICING, AND PARTS MANUALS

The contractor shall furnish with the vehicle at least one copy of all warranty information and handbooks for:

- The vehicle
- Any special equipment furnished with, or as a part of the vehicle

The handbooks shall include as a minimum:

- Vehicle operator's manual
- Vehicle maintenance handbook
- Special equipment handbook

3.8.3 PREDELIVERY INSPECTION AND SERVICING

Prior to the acceptance of the vehicle(s), the contractor, at their plant and at the chassis manufacturer's authorized dealership of the same make, shall perform final predelivery inspection. This inspection shall include the predelivery servicing, lubricating, adjustments, appearance cleaning, and everything necessary to make ready to use and operate the vehicle and the furnished contracted equipment. The predelivery servicing shall be performed in accordance with the equipment and chassis manufacturer's prescribed form. Servicing shall comply to the ambient temperatures and conditions applicable with the route of transport and the consignee's ultimate destination and area of operation. All vehicle cooling systems shall be protected per 3.2.9. Dealer or installer shall not affix any decals, plates, logos, or other dealer or installer identification to the vehicle.

3.8.4 DELIVERY

The vehicle shall be processed for shipment from the manufacturer's plant to the initial receiving activity, in accordance with the manufacturer's standard commercial practice.

The method of delivery shall be as follows:

1. Vehicles furnished directly by the OEM's with a GVWR of 14,000 lbs or less shall be delivered to the dealer wheels-off-ground per 3.8.4.3.
2. Vehicles furnished by the OEM's with a GVWR over 14,000 lbs and all vehicles furnished the vocational body contractors shall be delivered to the dealer via their standard commercial practice. (This may include wheels-on-ground transportation)

Notification of the in-transit mileage accumulation on vehicles driven from the assembly plant to the receiving location shall be made to the OEM by the dealer for the purpose of extending the warranty coverage required in 3.9.

3.8.4.1 GSA FORM 1398

The Vocational Body Contractors shall affix one copy of GSA Form 1398, GSA Purchased Vehicle, fully completed, to the right or left front door lock face or door post after the pre-delivery inspection is made at the manufacturer's plant. All marks on windows and other labels (except the Morony label and labels cautioning against drained transmission, crankcase, and rear axle) shall be removed. Copies of GSA Form 1398 are available from the Contracting Officer.

NOTE TO OFFEROR: Data shown in the solicitation schedule of items may be utilized to satisfy the requirements for the following to be shown on GSA Form 1398:

- (1) Receiving Agency—Examples are: State, USIA, Forest Service, and GSA.
- (2) Purchase Order No.—Use the five-digit "case" or "file" number (often referred to as the RPN number)

GSA PURCHASED VEHICLE		
RECEIVING AGENCY		
CONTRACT NO.	FOB	
GS-00P		
PURCHASE ORDER NO.		
MFG. SERIAL NO.		
DATE OF DELIVERY	MONTH	YEAR
WARRANTY	MONTHS	MILES
INSPECTED BY	DATE	
<p>NOTE TO CONTRACTOR</p> <p>Insert all data above and apply this label to the right or left front door lock face or door post after final inspection is made. Remove all labels and marks from windows and windshield except the labels cautioning against drained oil in transmission, crank case and rear axle.</p>		
GSA FORM 139B (REV. 4-74)		

3.8.4.2 DEALER DELIVERY

Dealer delivery is standard. The contractor shall have the final predelivery inspection and servicing performed at an authorized dealer of the same make nearest to the destination. Following predelivery servicing, the dealer shall notify the consignee on the delivery order that the vehicle is ready for pick up.

Note: It is the consignee's responsibility to furnish license plate(s) for the vehicle. The vehicle cannot be removed from the dealer under its own power with out license plates.

3.8.4.3 WHEELS-OFF-GROUND DELIVERY

With the exception of the pilot model, no vehicle shall be driven or towed in excess of 50 miles prior to delivery to the Government. This applies whether the delivery is made to the Government at the bidder's plant or at destination points furnished by the Government.

The delivery method used shall assure that all wheels of subject vehicles are off the ground at all times while in transit from the point of final assembly (vehicle complete as specified) to the destination indicated under the item description. (If vehicles are shipped by rail, the "wheels-off-ground delivery" delivery method is required to a geographical point not more than 60 road miles from the specified destination. In this situation, other modes of conveyance may be used to transport the vehicle(s) from the rail drop-off point to the destination specified under the item description.) For the purpose of complying with delivery mileage restrictions in this standard

where so specified under the item, the road mileage between geographical points shall be as stated in "Household Goods Carriers' Bureau Mileage Guide", or "Rand McNally Road Atlas", latest issued in effect.

3.8.4 IDENTIFICATION OF VEHICLES

The Contractor must show the applicable GSA Purchase Order number on the carrier's freight bill or other document used in the delivery of vehicles awarded f.o.b. destination under this solicitation. This information is essential to the consignee for identification purposes. Vehicles will not be accepted by the Government without this identifying number.

3.8.5 WORKMANSHIP

- A. Vehicles shall be free from defects that may impair their serviceability or detract from appearance.
- B. All bodies, systems, equipment, and interfaces with the chassis shall be done in accordance with the OEM Body Builders Book.
- C.Defective components shall not be furnished. Parts, equipment, and assemblies that have been repaired or modified to overcome deficiencies shall not be furnished without the approval of the purchaser. Component parts and units shall be manufactured to definite standard dimensions with proper fits, clearances, and uniformity. General appearance of the vehicle shall not show any evidence of poor workmanship.
- D.The following shall be reason for rejection:
 - 1.Rough, sharp, or unfinished edges, burrs, seams, corners, and joints.
 - 2. Grit, seeds, orange peel, fish eyes, streaks, running, sagging, wrinkles, pin holes, craters in paint, failure to meet minimum thickness requirements and nonuniformity of specified color.
 - 3.Body panels or components that are uneven, unsealed, or contain cracks and dents.
 - 4.Misalignment of body fasteners, glass, viewing panels, light housings, other items with large or uneven gaps, spacing, etc., such as door, body panels, and hinged panels.
 - 5.Improperly fabricated and routed wiring or harness.
 - 6.Improperly supported or secured hoses, wires, wiring harnesses, mechanical controls, etc.
 - 7.Interference of chassis components, body parts, doors, etc.
 - 8.Leaks of any gas, vacuum, or fluid lines (air conditioning, coolant, oil, etc.).
 - 9.Noise, panel vibrations, etc.
 - 10.Inappropriate or incorrect use of hardware, fasteners, components, or methods of construction.
 - 11.Incomplete or improper welding, riveting, or bolting.
 - 12.Lack of uniformity and symmetry where applicable.

3.8.6 STATEMENT OF ORIGIN OR BILL OF SALE

The manufacturer's Statement of Origin and Bill of Sale showing the applicable purchase order number for each vehicle procured shall be provided. The document shall be forwarded to the **Consignee Mailing Address shown on the MVDO** prior to shipping the vehicle.

The consignee is responsible for obtaining the vehicle title.

3.8.7 OVERSEAS VEHICLE REQUIREMENTS

Export vehicle(s) shall conform to applicable FMVSS of U.S.A. Vehicles shall be supplied with OEM export configuration.

The speedometer shall indicate speeds in both miles and kilometers and the odometer shall show

cumulative distance in either kilometers or miles.

3.9 WARRANTY

3.9.1 CODES “WAR” & “WARV” WARRANTY COVERAGE

The contractor shall provide WAR, the OEM commercial whole vehicle (bumper-to-bumper) warranty. This coverage shall be for at least three (3) years from date of acceptance or thirty-six thousand (36,000) miles, exclusive of accumulated drive away mileage, whichever occurs first. Refer to the chassis manufacturer's warranty for precise terms and conditions.

The vocational body contractor shall provide WARV, the manufacturer's warranty for the body and equipment provided in addition to the OEM vehicle. The warranty shall cover parts failure or malfunction due to design, construction or installation errors, defective workmanship, and missing or incorrect parts for a minimum of twelve (12) months or twelve thousand (12,000) miles of operation, exclusive of any accumulated drive away mileage, whichever occurs first. For foreign use vehicles, the period shall be fifteen (15) months.

Note: The warranty begins when the Government accepts the vehicle at its destination.

3.9.1.1 RESERVED

3.9.2 CORROSION COVERAGE

The contractor shall provide the chassis manufacturer's commercial corrosion warranty coverage. This coverage shall be for at least 5 years/100,000 miles. This coverage applies only to domestic use vehicles.

3.9.3 EMISSION CONTROL SYSTEM

The contractor shall provide the OEM emission control system warranty, which shall be in conformance with applicable regulations of the U.S. Environmental Protection Agency.

3.9.4 DOMESTIC USE

When vehicles are used within the 50 States of the United States, the District of Columbia, Puerto Rico, and the Virgin Islands, the warranty shall include furnishing, without cost to the Government (FOB contractor's nearest dealer or branch to vehicle's location or station), new parts and assemblies to replace any that failed or malfunctioned within the warranty period. In addition, when the Government elects to have the work performed at the contractor's plant, branch, or dealer, or with the contractor's approval (i) to correct the vehicle itself or (ii) to have the vehicle corrected by a commercial garage facility, the cost of the labor involved in the replacement of the failed or malfunctioned parts or assemblies shall be borne by the contractor.

3.9.5 FOREIGN USE

When vehicles are used outside the 50 States of the United States, the District of Columbia, Puerto Rico, and the Virgin Islands, the warranty shall include the furnishing of new parts or assemblies to replace any returned to the contractor by the Government which failed or malfunctioned within the warranty period. The replacement parts or assemblies shall be delivered by the contractor to the port of embarkation in the United States designated by the Government. The contractor shall not be required to bear the cost of the labor involved in correcting defects in vehicles operated in foreign countries.

3.9.6 WARRANTY EXTENSIONS

If the contractor receives from any supplier or subcontractor additional warranty coverage on the whole or any component of the vehicle, in the form of time and/or mileage including any pro rata arrangements, or the contractor generally extends to their commercial customers a greater or extended warranty coverage, including anti-corrosion, power train, or emission, the Government

shall receive corresponding warranty benefits.

4. QUALITY ASSURANCE PROVISIONS

4.1 RESPONSIBILITY FOR INSPECTION

The contractor is responsible for the performance of all inspection requirements specified herein. The contractor may use their own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections deemed necessary to ensure that supplies and services conform to prescribed requirements.

4.2 CLASSIFICATION OF INSPECTIONS

The solicitation and/or contract will specify the inspection(s) required for each vehicle. The inspections are classified as follows:

- (a) Source inspection (4.2.1).
- (b) Destination examination (4.2.2).
- (c) First production vehicle inspection (4.2.3).

4.2.1 SOURCE INSPECTION

When specified in the contract or motor vehicle delivery order, vehicles shall be visually inspected upon completion, and by examination of documentation and data books, by the Government, prior to shipment from manufacturer's factory or assembly plant to determine compliance with the contract requirements.

4.2.2 DESTINATION EXAMINATION

When specified in the contract or motor vehicle delivery order, the contracted vehicle(s) shall be examined at its destination. The vehicle(s) shall be visually examined to determine compliance to the contract requirements and include the operational check of 4.2.2.1. Vehicle failures, defects, and/or shortcomings may be accepted subject to correction by the contractor/manufacturer at those points or by dealer.

4.2.2.1 OPERATIONAL CHECK

Operational checks shall cover all controls, systems, and devices, doors, windows, accessories, and road testing of the completed vehicle. Vehicle shall be driven at various speeds, brakes tested for dependability, checked for rattles, squeaks, and compliance to section 3 requirements.

4.2.3 FIRST PRODUCTION VEHICLE INSPECTION

When specified in the contract or motor vehicle delivery order, the first production vehicle produced under contract shall be inspected by the contractor at their plant under the direction and in the presence of Government representatives. The purpose of the inspection shall be to determine vehicle conformity with the contract. Acceptance of the first production vehicle shall not constitute a waiver by the Government of its rights under the provisions of the contract. Failure of the first production vehicle to meet the requirements of the contract shall be cause for the Government to refuse acceptance of the vehicle until corrective action has been taken.

4.2.3.1 VEHICLE WEIGHT

The first production vehicle shall be weighed to determine curb weight and the distribution of the curb weight on the front and rear axles. The imposed loading on the front and rear axles will be computed using the curb weight, the occupants at 68 kg (150 lbs each), and the remaining payload, uniformly distributed over the vehicle load area, to determine if the GVWR is adequate. Calculated imposed loads on the front and rear axles will be utilized to ascertain that the GAWR

is adequate.

4.2.3.2 ROAD TEST

The first production vehicle will be examined and road tested (less payload) by the contractor to ensure that the vehicle will operate in accordance with the contract requirements. The Government reserves the right to perform inspection requirements on the first production vehicle with payload where such inspections are deemed necessary to ensure the vehicle will operate in accordance with the contract requirements.

4.2.3.3 TRUCK BODIES, TREATMENT, AND PAINTING

The certification regarding the body cleaning, treatment, and painting as required by MIL-HDBK-1223 (see 3.6.5 and 3.6.6) shall be presented to the Government representative of the procuring activity for examination and approval.

4.3 GOVERNMENT VERIFICATION

Quality assurance operations performed by the contractor will be subject to Government verification at unscheduled intervals. Verification will consist of observation of the operations to determine that practices, methods, and procedures of the contractor's inspection are being properly applied. Failure of the contractor to promptly correct product deficiencies discovered shall be cause for suspension of acceptance until correction has been made or until conformance of product to specification criteria has been demonstrated.

4.4 PRODUCT CONFORMANCE

The products provided shall meet the salient characteristics of this standard; conform to the producer's own drawings, specifications, standards, and quality assurance practices; and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

5. PACKAGING

5.1 PREPARATION

The vehicle shall be packaged for mobile delivery in accordance with the supplier's standard commercial practice, ensuring carrier acceptance and safe delivery to destination in compliance with regulations applicable to the mode of transportation. The fuel tank(s) shall be filled to at least the quarter full mark on the fuel gauge.

6. NOTES

6.1 ORDERING DATA

Purchaser should select the required vehicle(s) and options from the Federal Vehicle Standard. Use the AUTOCHOICE web site at: www.gsa.gov/automotive. AUTOCHOICE is GSA Automotive's state-of-the-art on-line vehicle ordering system. Inspection acceptance and shipment shall be in accordance with section 4 and 5.

The following codes are used to identify the availability of options in the Federal Vehicle Standard:

- a) S= Standard
- b) SA= Stand Alone
- c) PKG= Package (includes, requires or excludes other options)
- d) N/A= Not Available

6.1.1 PRECAUTIONS AND OBSERVATIONS

Due to the variety of light truck models this standard must cover, the purchasers are cautioned that the options offered herein are subject to manufacturer's changes or availability. Customizing these standard vehicles with special requirements will seriously limit the number of offerers and suppliers. Most special requirement items are not offered as assembly line or factory options. Therefore, if special features or non-standard equipment is desired, procurement locally of such items after the vehicle is contracted for or received is often more advantageous. Reference the manufacturer's data books and brochures before ordering vehicle(s) with special requirements.

6.2 PROCEDURE TO IDENTIFY VEHICLES AND OPTIONS

The payload/passenger requirements determine the model and GVWR of vehicle desired (see 3.2.2 and 3.2.3). They are available in the Federal Vehicle Standard and AUTOCHOICE at: www.gsa.gov/automotive.

6.3 DEVIATION FROM FEDERAL STAND NO. 307

Systems or equipment not identified in the Federal Vehicle Standards identified as special requirements shall be identified as special requirements. Contact the appropriate Contract Specialist to determine availability. All non-standard/special equipment is reviewed by GSA Engineering to determine the appropriate application.

The ordering agency head or their designee shall determine which vehicle requires specific additional systems or equipment considering the following:

- a) Climate conditions prevailing in the area of operation.
- b) Effect on vehicle operational capabilities.
- c) Special terrain requirements
- d) Availability of maintenance and service facilities.
- e) Fuel availability and cost.
- f) Delivery delays of completed vehicle, due to customizing specified.

6.5 ENERGY POLICY REQUIREMENTS

The fleet fuel economy average of light trucks acquired by an Executive Agency must meet or exceed the average fuel economy standard for the appropriate model year, under Executive Order 12375, dated August 4, 1982. See No 41 CFR 102-34.

6.6 NOTIFICATION

Federal Vehicle Standard No. 307 includes light, two wheel drive (4x2) and four wheel drive (4x4) trucks. Automobiles and station wagons appear in Federal Vehicle Standard No. 122. Federal Vehicle Standard 794 covers medium trucks. Federal Standard 807 covers heavy trucks.

6.7 WARRANTY EXCEPTIONS

The following items are considered normal maintenance and repair for which the contractor need not assume liability for reimbursing the Government regardless of the vehicle age or mileage:

- a) Abuse, negligence, or unapproved alteration of original parts.
- b) Damage from accidents.
- c) Brake and standard clutch adjustments.
- d) Headlamp adjustments.
- e) Wheel alignment or tire balancing.
- f) Tires, and batteries (if warranted by their manufacturers).
- g) Miscellaneous incurred expenses such as fuel, towing, telephone, travel, lodging, or loss of personal property.
- h) Damage such as atmospheric pollution

6.8 TRAILER TOWING

Trailer towing presents many major concerns relating to equipment reliability, safety and ultimately liability. Because of this fact, it is imperative that agencies follow the OEM's towing guidelines to select the appropriate type of vehicle to perform their trailer towing operations.

Listed below are some facts about towing that agencies engaged in towing operations should be familiar with:

Brake requirements:

Electric brake systems are highly recommended on all sizes of trailers. The towing vehicle chassis manufacturers may require operational brake systems for all trailers having a gross weight of 1,000 lbs. or more.

The use of surge brakes may not permit the use of some equalizing and weight distributing devices.

Total Weight:

The combined weight of the trailer and the load on board the trailer should never exceed the

trailer manufacturer's rating of the trailer.

The total combined weight of the towing vehicle, load on board towing vehicle, trailer and load on board trailer should never exceed the towing vehicle chassis manufacturer's GCWR for the towing vehicle.

Tv = weight of loaded towing vehicle.

Tr = weight of loaded trailer.

GCW = combined weight of loaded towing vehicle and loaded trailer.

Tv + Tr Must **NOT** exceed the GCW

GCW may be referred to as GCWR

Trailer Tongue Weight:

Tongue weight should be between 10 - 15% of gross trailer weight.

6.8.1 OEM Towing Guidelines

The following are links furnished by the OEM's to access their towing information:

DCX:

<http://www.fleet.chrysler.com/vehicles.jsp> (then click on the towing guide)

Ford:

http://www.fleet.ford.com/products/rv_trailer_towing/2006/2006_default.asp

GM:

http://www.chevrolet.com/astro/library/fs/index_trailer.htm
http://www.chevrolet.com/avalanche/library/fs/index_trailer.htm
http://www.chevrolet.com/blazer/library/fs/index_trailer.htm
http://www.chevrolet.com/express/library/fs/index_trailer.htm
http://www.chevrolet.com/silverado/library/fs/index_trailer.htm
http://www.chevrolet.com/suburban/library/fs/index_trailer.htm
http://www.chevrolet.com/tahoe/library/fs/index_trailer.htm
http://www.chevrolet.com/tracker/library/fs/index_trailer.htm
http://www.chevrolet.com/trailblazer/trailer.htm
http://www.chevrolet.com/venture/library/fs/index_trailer.htm

Be sure to follow the information specified in the chassis manufacturer's ratings and recommendations. Never overload any part of your towing system. Individual state and local government requirements must be adhered to and in cases where the above information conflicts

with local laws, local laws take precedence.

6.9 CHANGES AND NOTICES

Requests for changes or additions to the Federal Vehicle Standard, along with rationale, should be sent to the General Services Administration, Vehicle Acquisition Center, Engineering & Commodity Management Division 1901 S. Bell St., Arlington, VA 22202, for appropriate action. The requesting agency will be informed of the action taken.

MILITARY REVIEW ACTIVITIES:

Air Force - 84-99
Army – AT – CE
Navy – YD – MC
Defense Logistics Agency

CIVIL AGENCY REVIEWING ACTIVITIES:

Agriculture-FS-ARS-NRCS-APHIS
DC Government
Interior - BLM-Reclamation
State - AID
Transportation – CG
Treasury – IRS – Sec. Svc. – Customs – ATF
Energy – BPA
Commerce – NOAA
Justice – INS, FBI
EPA, TVA, VA
Army – Air Force Exchange Service

CIVIL COORDINATION & PREPARING ACTIVITY:

GSA-FSS-FFAE