

# SPECIFICATIONS FOR HEAVY DUTY TRUCK CHASSIS

COMPLY

YES

NO

**1. SERVICE EQUIPMENT:**

This truck will be used by the Department of Public Works for general maintenance work including hauling gravel, sand, salt. The truck will be used for plowing and salting of our streets.

**2. MODEL:**

Shall be the manufactures current model.



YEAR \_\_\_\_\_ MAKE \_\_\_\_\_ MODEL \_\_\_\_\_

**3. GROSS VEHICLE WEIGHT:**

Minimum G.V.W.R. of 41,000Lbs.



**4. CAB TO AXLE:**

Shall be suitable for mounting a 11' dump body. Fit to dump body builder specs



**5. ENGINE:**

a. Diesel powered wet sleeve engine design with a minimum 325 hp @1000 ft. lbs. of torque.



b. Engine crankshaft to be equipped with a flange to attach either a drive shaft or a front mounted hydraulic pump.



c. Installed engine block heater.



d. Fuel heater/water separator



e. Engine starter shall be a heavy duty Delco Remy.



**6. RADIATOR:**

a. Radiator shall be heavy duty type with sufficient cooling capacity to adequately cool the engine and transmission. The radiator must be mounted so that a front mount hydraulic motor can be used.



b. Radiator must be all metal construction with no plastic tanks.



**7. TRANSMISSION:**

a. Transmission shall be an Allison 6 speed RDS 3000 series transmission. Their shall be no substitutes.



b. Transmission shall be filled with Transynd synthetic fluid or equivalent.

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### 8. REAR AXLE:

a. Single speed with capacity rating of no less than 23,000 lbs.

With 23,000 lb. air suspension system and shock absorbers.



b. Full floating axle with 6.43 ratio with driver control main locking differential. Shall use a synthetic axle fluid.



### 9. FRONT AXLE:

Shall have a minimum rating of 18,000 lbs. Shall have a multi-leaf system with 18,000 lb. capacity and have a right side spring build up to better support the weight of the wing.



### 10. FRAME:

Frame shall have a minimum 22.10sm., 2,600,000 RBM, 120,000 psi single channel from bumper to bumper with a 20" minimum front extension.



### 11. TIRES:

a. Front tires to be 315/80R with highway tread, "L" rating

b. Rear tires (4) to be 11.00R x 22.5 with a 14 ply rating.

c. Rear tires must be traction type

d. Must include one spare tire and rim for front and rear









### 12. RIM/WHEELS:

Hub piloted, steel painted rims.



### 13. BRAKES:

Air brakes:

a. front cam 16.5" x 6" with slack adjuster and dust cover.



b. rear cam 16.5" x 7" with slack adjuster and dust cover.



c. Must be supplied with a Meritor- Wabco air dryer system.

**COMPLY**

**YES**                      **NO**

**14. AIR SYSTEM:**

Must have a minimum CFM of 18.0 and pull cords on tank to release the air.

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**15. EXHAUST SYSTEM:**

- a. Horizontal DPF with a vertical tailpipe on the right side of cab.
- b. Must have a 45 degree elbow at the top of exhaust pipe.


**16. FUEL TANK:**

Tank not to be less than 50 gallons. Frame mounted, aluminum tank.

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**17. CAB:**

- a. Conventional tilt hood with inspection hatches and stationary grill.
- b. Cloth high back, air ride drivers seat and standard companion seat.
- c. Electric two speed wiper with delay.
- d. Sun visors left and right
- e. Air conditioning
- f. Heated mirrors left and right
- g. Dome light in cab
- h. AM-FM radio with Bluetooth capabilities
- i. Accessory power plugs mounted in dash
- j. Cab must be large enough to accommodate "Snow Command " controls and still have adequate room for a passenger.
- k. Hour meter
- l. Tilt steering wheel
- m. Outside cab mounted entrance grab rails on both sides of cab.


**18. ELECTRICAL SYSTEM:**

- a. 12 volt system with a 135 amp. (minimum) brushless alternator.
- b. Three(3) 1000 CCA (minimum) batteries with a battery disconnect switch.


## SPECIFICATIONS FOR HEAVY DUTY TRUCK CHASSIS

	COMPLY	
	YES	NO
<b>19. LIGHTING:</b>		
a. Lights to include signal, tail and stop to conform to ICC and DOT regulations.	<input type="checkbox"/>	<input type="checkbox"/>
b. Rear brake, turn, tail and side marker lights to be LED.	<input type="checkbox"/>	<input type="checkbox"/>
c. Upfitter switches to be added to dash for additional lighting.	<input type="checkbox"/>	<input type="checkbox"/>
d. Plow upfitter switch and wiring harness must be included	<input type="checkbox"/>	<input type="checkbox"/>
<b>20. PAINT:</b>		
The entire cab to be painted white over a suitable primer with a black frame.	<input type="checkbox"/>	<input type="checkbox"/>
<b>21. MANUALS:</b>		
Must have a complete set of Operator, Service and Parts manuals included.	<input type="checkbox"/>	<input type="checkbox"/>

**COMPLY**

**YES**

**NO**

**EMISSIONS COMPONENT WARRANTY:**

\* 60 Months or 100,000 miles on parts and labor

**ENGINE/CHASSIS:**

\* Warranty is to cover all major engine components and labor for a period of 60 months

**TRANSMISSION:**

\* Transmission parts and labor to be covered for a period of 36 months

**TOWING:**

\* Towing on all warrantable failures to be cover for a period of 60 months

**\* WARRANTY TO START THE DAY EQUIPMENT IS PUT INTO SERVICE**

# SPECIFICATIONS FOR 5 YARD DUMP BODY

COMPLY

	YES	NO
<b>DUMP BODY SPECS.</b>		
<b>Dump body shall be a heavy duty municipal style dump body</b>		
<b>1.DUMP BODY SIZE:</b>		
a. Dump body shall a minimum of 11' long and 7'wide with a 5 to 7 yd capacity	<input type="checkbox"/>	<input type="checkbox"/>
b. Body shall have a minimum of 30" sides	<input type="checkbox"/>	<input type="checkbox"/>
c. Tailgate shall be a minimum of 36"	<input type="checkbox"/>	<input type="checkbox"/>
d. Front of dump body shall be 40", measuring from the floor	<input type="checkbox"/>	<input type="checkbox"/>
<b>2. DUMP BODY STRUCTURE:</b>		
a. The body shall have a western style under-structure which utilizes full length tubular or I-beam long members and no cross members, thereby reducing weight, eliminating "wash boarding" of the floor and providing easy cleanout	<input type="checkbox"/>	<input type="checkbox"/>
b. body interior shall have at least 5" radius from the front to the floor and the sides to the floor.	<input type="checkbox"/>	<input type="checkbox"/>
c. Their shall be a 1/3 cab protector installed	<input type="checkbox"/>	<input type="checkbox"/>
d. A full length stainless steel grip strut will be install on each side of dump body	<input type="checkbox"/>	<input type="checkbox"/>
e. A stainless steel shovel holder will be installed on the right rear side of dump body	<input type="checkbox"/>	<input type="checkbox"/>
f. Must have spill guards attached to tailgate to prevent salt from spilling out over salter sides	<input type="checkbox"/>	<input type="checkbox"/>
g. All tailgate hardware and mounting hardware must be of stainless steel (pins, latching devices, etc.) and greasable	<input type="checkbox"/>	<input type="checkbox"/>
<b>3.BODY MATERIAL:</b>		
Body shall be constructed of a stainless steel with an exception to the floor, the floor must be a minimum of 1/4" AR400 or AR450	<input type="checkbox"/>	<input type="checkbox"/>
<b>4.BODY HOIST:</b>		
a. The body hoist shall be a single cylinder, double acting hoist with a 21 ton capacity	<input type="checkbox"/>	<input type="checkbox"/>
b. The hoist shall be a "scissors" type with horizontally mounted hoist cylinder. This is needed to eliminate the "doghouse" inside the box. NO substitutes	<input type="checkbox"/>	<input type="checkbox"/>
c. The hoist shall have an internal cylinder bypass	<input type="checkbox"/>	<input type="checkbox"/>
d. Must have a "Body raised" indicator light	<input type="checkbox"/>	<input type="checkbox"/>

**COMPLY**

**YES**                      **NO**

**5. BODY LIGHTING:**

- a. The body shall have recessed stop/ turn/tail/backup LED lights with sealed wiring harness and junction box.
- b. There shall be two Vertex Super-LED's #VTX 615A installed, one on each side of rear quarter panels
- c. Shall have a LED warning light, Federal Signal Corp. #454205-02 to be mounted on the cab protector


**6. HITCH:**

- a. There shall be a 25 ton spring mounted pintle hitch with safety chain hooks mounted on rear frame
- b. The hitch shall be mounted 24" from the ground to the center of the hitch in the closed position


**7. BACK UP ALARM:**

There shall be an audible back-up alarm installed on the rear of the body

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**8. BODY PROP:**

There shall be a body prop installed to safely hold dump body in the up position.

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**9. MUD FLAPS:**

There shall be rubber mud flaps installed in the front and rear of the rear tires.

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**10. AIR OPERATED TAILGATE:**

There shall be an air operated tailgate installed with an electric switch for open and close. Switch must have a safety lockout feature to prevent accidental open of the tailgate

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**11. SPILL PAN:**

A stainless steel spill pan shall be mounted on the rear of the box below the tailgate. It shall be pinned at the sides and bolted in the middle. Mounting pins and brackets shall be the same type and design as used in mounting the tailgate spreader.

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**COMPLY**

<b>YES</b>	<b>NO</b>
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**PLOW, WING and SPREADER SYSTEM**

**12.PLOW:**

- a. Plow must be a pin and loop hitch system
- b. Must be painted black to match factory chassis
- c. Must be a low profile design at least 40" in height
- d. Must be a complete install
- e. Must have a 4" double acting lift cylinder
- f. Plow must be a 11 foot heavy duty, reversible snow plow
- g. All welds must be continuous welds, skip welds are not acceptable
- h. Must have a carbide cutting edge
- i. Must have a one piece tripping bottom moldboard with trip edge
- j. Must have a 12" rubber snow flap mounted on top of blade


**13.WING:**

- Wing must be a 9 foot wing:
- a. Cutting edge must be (1) one piece
  - b. Wing marker installed at wing heel
  - c. Installed complete
  - d. Must have a LED wing light installed


**14.SPREADER:**

- Stainless steel tailgate spreader
- a. Must have a 6" auger with continuous and reverse auger with an offset left spinner
  - b. Installed complete
  - c. Must have an amber spreader light installed on left side of spreader


**15. PLOW LIGHTS**

- Plow lights shall be installed and wired on hood with Ford mirror brackets or aproved equal. See attached picture

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## CENTRAL HYDRAULIC SYSTEM

	COMPLY	
	YES	NO
<b>16.HYDRAULIC PUMP:</b>		
a. Hydraulic pump shall be a US manufactured axial piston pressure and flow compensated load sensing type.	<input type="checkbox"/>	<input type="checkbox"/>
b. The pump shall be cast iron construction and rated to 4.67 cubic inches per revolution maximum stroke (20 gpm @ 1000 RPM)	<input type="checkbox"/>	<input type="checkbox"/>
c. The pump shall have a two inch suction line. The pump shall be rated for up to 3000 rpm and 3000 psi pressure.	<input type="checkbox"/>	<input type="checkbox"/>
d. The pump shall have a 1 ¼" keyed drive shaft and SAE type C mounting flange. The pump shall have a high pressure shaft seal, specially designed to prevent damage from road contamination and salt spray.	<input type="checkbox"/>	<input type="checkbox"/>
e. The pump shall be FORCE America FASD-34L severe duty load sensing pump.	<input type="checkbox"/>	<input type="checkbox"/>
f. A 1" outlet with a 1/4 turn ball valve shall be mounted on the pressure outlet of the pump.	<input type="checkbox"/>	<input type="checkbox"/>
<b>17.MOUNTING:</b>		
a. The hydraulic pump shall be mounted with shaft center line parallel to the crankshaft center line and at a level to create not more than a three degree angle on the drive line. Pump mounting shall be incorporated with a bracket fabricated to mount in the extended frame rails of the truck.	<input type="checkbox"/>	<input type="checkbox"/>
<b>18.DRIVE LINE:</b>		
a. The hydraulic pump shall be driven directly off the engine crankshaft via a splined drive line to allow for movement.	<input type="checkbox"/>	<input type="checkbox"/>
b. The drive line shall include grease fittings on both u-joints (Spicer model 1310 series).	<input type="checkbox"/>	<input type="checkbox"/>

**COMPLY**

**YES**

**NO**

**19.CONTROL CENTER:**

a. The control Center shall be a Force America Patrol Commander MPJC Ultra series with a 5100eX model spreader control, integrated into the armrest

b. Controls for all valve functions and electronic spreader control will be integrated into a single, self-contained control center. The control center shall be a padded armrest style that is ergonomically designed. Control center shall be modular in design for ease of installation and service, and wiring and connectors shall be keyed and color-coded throughout. All components must be durable for long life and trouble free operation.

**INSPECTIONS:**

The City will be given an opportunity to do pre-delivery inspections during manufacturing process.

**COMPLY**

**YES**

**NO**

**19.HYDRAULIC VALVE:**

a. The hydraulic valve shall be of modular manifold design. Each hydraulic function requires an individual manifold stacked together to form the manifold base. The hydraulic control valves shall be pulse-width modulated, proportionally controlled. Each hydraulic valve segment shall be individually mounted to the manifold base assembly and be serviceable without removing any hydraulic hoses or any other hydraulic valve segments. All segments shall have heavy duty continuous duty coils and connections shall be with Hirshman connectors. All coils shall operate at 12 VDC and require a maximum maximum of 1400 milli-amps. Each segment shall be equipped with a rack and pinion manual override except for the auger and spinner sections. Valve sections must have adjustable stroke limiter flow controls for each function. Valve segments shall be FORCE America "Add-A-Fold" and be arranged as follows:

- 1. Hoist, double acting with 500 psi down relief
- 2. Plow Lift, double acting w/ hydraulic float
- 3. Plow Angle, double acting
- 4. Wing Toe / Heel, double acting w/ sequence valves for toe/heel operation
- 5. Wing Push Arm, double acting w/ out relief @ 700 psi
- 6. Auger, 14 gpm
- 7. Spinner, 7 gpm



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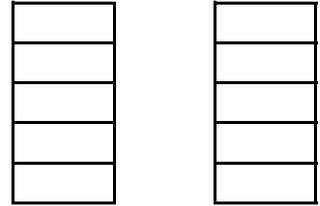
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**20.RESERVOIR/VALVE ENCLOSURE :**

- a. The hydraulic reservoir/valve enclosure combination shall be stainless steel, frame mounted with 35 gallon capacity. The reservoir must be equipped with the following:

- Lockable basket type filler breather cap
- Magnetic drain plug
- Two inch NPT suction with 100 mesh screen type filter
- Separate return port for control drain line
- Sight temperature gauge externally mounted



- b. The hydraulic reservoir shall also be equipped with an electric level or level/temperature sending unit to be wired to the control panel and back lit for designated warning.



- c. The valve shall be mounted on a plate attached to the outside of the reservoir. All hoses must connect to the bottom of the valve, and exit the rear of the reservoir/valve enclosure combination through a integral hose guard. The enclosure cover must have a gasket less passive seal design, to eliminate spray while venting moisture. The valve MUST be exposed on all sides with the cover removed, for ease of service.

Further, the valve mounting plate MUST swing out for ease of valve service and hose replacement. Oil filter, filler breather, and level/temperature sender MUST be enclosed by the enclosure cover. Reservoir/Valve Enclosure shall be FORCE America VT35 Valve/Tank Assembly



