



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
708EC018

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
MICHAEL AUSTIN 304-558-2402

VENDOR

*425141848 304-776-5600
 BWAB INTERNATIONAL LLC
 408 GOFF MOUNTAIN RD
 CROSS LANES WV 25313

SHIP TO

DIVISION OF HIGHWAYS
 EQUIPMENT DIVISION
 ROUTE 33
 BRUSHY FORK ROAD
 BUCKHANNON, WV
 26201 304-472-1750

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
08/26/2008				
BID OPENING DATE: 09/10/2008		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO. 7						
CHANGES TO THE SPECIFICATIONS PER THE ATTACHED.						
BID OPENING DATE AND TIME REMAINS 09/10/08 @ 1:30 P.M.						
NO OTHER CHANGES.						
0001	1	EA		065-30		
	62,000 GVW CAB AND CHASSIS, DUMP BODY					
***** THIS IS THE END OF RFQ 708EC018 ***** TOTAL:						\$137,013. ⁵⁴ per

RECEIVED

2008 SEP 10 A 11:33

PURCHASING DIVISION
STATE OF WV

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE <i>John R. Beach</i>	TELEPHONE 304-776-5600	DATE 9/10/08	
TITLE <i>Sales</i>	FEIN 26-1590366	ADDRESS CHANGES TO BE NOTED ABOVE	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.
14. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
15. **WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT:** If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in case of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130

708EC018
ADDENDUM #7

62,000GVW CAB AND CHASSIS, DUMP BODY, HYDRAULIC SYSTEM

CHANGES TO SPECIFICATIONS:

FROM:

8.12 Rear Axle

8.12.1 To be:

Easton DP462P or equal
Rockwell RT-48-380-P or equal
Mack S440 (46,000 lb. with pump) or equal

TO:

8.12 Rear Axle

8.12.1 To be:

Easton DS462P or equal
Rockwell RT46-160-P or equal
Mack S440 (46,000 lb. with pump) or equal

708EC018
ADDENDUM #7

62,000 GVW CAB AND CHASSIS, DUMP BODY, HYDRAULIC SYSTEM

CHANGES TO BIDDER'S EVALUATION REPORT:

FROM:

X8.12 Rear Axle:

X8.12.1 Manufacturer: DANA SPICER Model: D-46-170DP/R-46-170D

TO:

(No Change Required)

X8.12 Rear Axle:

X8.12.1 Manufacturer: Meritor Model: RT-46-164EH
w/ DRIVER Controlled Lockers
FRONT & REAR - REAR AXLES

NOTE: Vendors should type Bidder's Evaluation Report

DIVISION OF HIGHWAYS EQUIPMENT DIVISION

BIDDER'S EVALUATION REPORT

PROCUREMENT SPECIFICATIONS FOR OPEN END CONTRACT NO. 377-2-E

OPEN END CONTRACT 62,000 GVW CAB AND CHASSIS, DUMP BODY, AND HYDRAULIC SYSTEM

NOTE TO BIDDER: Procurement Specification No. 377-2-E, Paragraph 2.0 recommends the completion and submittal of this Report with your bid. Purpose of this Report is to enable the West Virginia Division of Highways Evaluation Committee to make full and fair evaluation of the bid. Addendums in order, along with a summary of exception as a separate attachment, should be with Bidder's Evaluation Report. FAILURE TO SUBMIT THIS REPORT, COMPLETE IN ITS ENTIRETY, MAY SUBJECT THE BIDDER TO DISQUALIFICATION.

Reference Requisition No.: 708ECO18

Bidder's Name: BWAB International LLC

Address: 408 Goff Mountain Rd., Cross Lanes WV 25313

Telephone Number: 304-776-5600

Years Bidder has been registered to do business with the State of West Virginia: 3/4 YRS.

Years Company has been an authorized dealer for proposed unit: 3/4 YRS.

X3.2 Have you complied with all mandatory specifications? [checked] YES [] NO

X4.2 DELIVERY:

X4.2.1 Delivery date of completed representative unit: 90 Calendar Days After Receipt of Purchase Agreement

X4.2.2 Delivery date of balance of completed units: 90 Day - 1st 4 units, 120 Day - 2nd 10 units etc. Calendar Days After Receipt of Purchase Agreement

NOTE: Vendors can complete Bidder's Evaluation Report at Purchasing's Web Site www.state.wv.us/admin/purchase

X5.0 AWARD CRITERIA;

X5.1 Prices for units:

1-25	<u>\$ 137,013.⁵⁴</u> per unit
26-50	<u>\$ 137,013.⁵⁴</u> per unit
51 and over	<u>\$ 137,013.⁵⁴</u> per unit

X6.0 SPECIFICATIONS - GENERAL

X6.1 Manufacturer, model, series, and date of manufacture of proposed unit:

International - 5500 - November 30, 2008

Is descriptive literature, fully describing proposed unit attached to your bid? YES NO

If not, why? _____

X6.2 Will the required number of service manuals, and complete parts list be delivered to the Equipment Division at Buckhannon upon completion of delivery of total units?

YES NO

Will the required Equipment Preventive Maintenance Form (Section X6.2 of Bidders Evaluation Report) be provided upon inspection of the pilot unit?

YES NO

X6.2
2-10-00

EQUIPMENT PREVENTATIVE MAINTENANCE QUESTIONNAIRE

THIS FORM MUST BE COMPLETED IN ITS ENTIRETY BY SUCCESSFUL BIDDER OR MANUFACTURER'S TECHNICAL REPRESENTATIVE PRIOR TO DELIVERY OF PILOT MODEL TO THE WVDOH.

DESCRIPTION: Dump Truck/Plow MAKE: International

MODEL: 5500 YEAR: 2009 PURCHASE AMOUNT: _____

ENGINE: MAKE: Cummins MODEL: ISM FUEL TYPE: DIESEL

HORSEPOWER: 370 CYLINDER: 6 ENGINE SERIAL: TBD

COOLING SYSTEM CAPACITY: 941 sq. in.

BELTS: DESCRIPTION: _____ PART NUMBERS: _____

GVW: 62,000 AXLE CAPACITY: FRONT: 20,000 lb REAR: 46,000 lb

TIRES: FRONT MAKE & SIZE: Goodyear G-291-315/80R22.5

REAR MAKE & SIZE: Goodyear G-244 MSD-11R22.5

DIMENSIONS OF UNIT: LENGTH: 262" WIDTH: 94.5" LENGTH: _____

VENDOR CONTACT PERSON: Matt Cochran / Mike Toney PHONE: _____

PARTS:

BATTERY MAKE: Int'l MODEL: Maint.-Free CCA: 2775
TOP OR SIDE POST: _____ DIMENSIONS: LENGTH 13.5' WIDTH _____ HEIGHT _____
SPARK PLUGS OR FUEL INJECTORS MAKE: Posich PART # _____
FUEL PUMP OR INJECTION PUMP MAKE: _____ MODEL: _____
ALTERNATOR MAKE: _____ PART #: _____
STARTER MAKE: _____ PART #: _____
TURBO CHARGER MAKE: _____ PART #: _____
TRANS. MAKE: _____ MODEL: _____ AUTO/MANUAL: _____
HYDRAULIC PUMP MAKE: _____ MODEL: _____

FILTERS	MAKE	PART NO.	LUBRICANT	MANUFACTURER TYPE
OIL	_____	_____	ENGINE	_____
AIR INNER	_____	_____	TRANSMISSION	_____
AIR OUTER	_____	_____	POWER STEERING	_____
FUEL PRIMARY	_____	_____	HYDRAULIC	_____
FUEL SECONDARY	_____	_____	DIFFERENTIALS	_____
COOLANT	_____	_____	BRAKE FLUID	_____
HYDRAULIC	_____	_____	COOLANT	_____
OTHER	_____	_____	OTHER	_____

X6.3 TRAINING:

Will training seminar be conducted on Preventive Maintenance, Operator and Mechanic Training YES NO

Will you conduct training with each purchase order against this open end contract? YES NO

Will training be conducted within 2 working days from the delivery of the pilot unit on the individual purchase order? YES NO

If NO, explain time frame _____

Will an Operator's Manual be furnished directly to Training Academy prior to the delivery of the pilot? YES NO

X6.4 If you are the successful vendor, will you furnish all training aids, i.e., videos, projectors, required in conducting the training? YES NO

X6.4.1 Will all manuals, booklets, etc. explaining preventive maintenance, operator procedures, and service schedule be delivered with each unit? YES NO
If NO, explain _____

X6.5 WARRANTY AND SERVICE POLICY

Will the warranty and service you provide comply with all areas as stated in Section 6.5 of specifications YES NO

Is warranty literature attached? YES NO

Is a minimum two (2) year bumper to bumper basic parts and labor warranty excluding abuse and normal wear items included? YES NO
Describe:

Engine: Cummins ISM

X6.5 WARRANTY AND SERVICE POLICY QUESTIONNAIRE
THIS FORM MUST BE COMPLETED IN ITS ENTIRETY AND SUBMITTED WITH YOUR BID.

(If additional lines are needed, make copies of form.)

1. Define the terms of the standard warranty. If not offered, so state. (Attach copy)

2yr Complete

2. Define warranty service to be performed at DOH facilities and warranty service to be performed at manufacturer's representative facility. List name and location of manufacturer's representative.

A. usual

B. All - John Vance - 304-776-5600 BWA B

3. List locations for parts inventories that are within the State of West Virginia. Also, list availability levels, if known.

Chas, Beckley, Lewisburg, Bluefield
100% - 12 Day Max

4. During the term of warranty, list the guarantee discount to manufacturer's published list price for parts that bidder will sell the parts to owner.

- A. Terms: Net 30 Manufacturer's published list price less: _____ % discount
- B. Terms: Net 60 Manufacturer's published list price less: _____ % discount
- C. Terms: Net 90 Manufacturer's published list price less: _____ % discount

5. During the term of warranty, will all manufacturers or engineering improvements be submitted to Division of Highways? YES NO

6. During the term of warranty, list the guaranteed rates charged for repair to the unit.

A. Shop Rate \$ 88 per mechanic hour

B. Travel Time Charge \$ 50 per mechanic hour
(Specify if one-way) _____; port to port _____

C. Mileage Charge \$ 1.50 per vehicle mile
(Specify if one-way) _____; port to port _____

D. Field Mechanic Rate \$ 88 per mechanic hour

E. Specify period of time that prices are in effect: yearly

F. Surcharge for miscellaneous items: / %

X6.6 EVALUATION COMMITTEE REQUIREMENTS

Is all component specifications, product literature, component models provided for Evaluation Committee bid determination? YES NO

X6.7 Will all parts, equipment, accessories, material, design and performance characteristics not specified herein, but which are necessary to provide a complete unit, be furnished with the unit and conform in strength, quality of material, and quality of workmanship to those which are advertised and provided to the market in general by the unit industry? YES NO

X6.7.1 Are all parts and accessories adequate and regularly supplied as standard to be included except those which may be duplications of specifications herein, and except these by specification are not to be furnished? YES NO

X6.7.2 Are all standard safety features that are required by Federal and State statutes of law included? YES NO

X7.0 SPECIFICATIONS OF THE QUOTED UNIT

The bidder should complete the following schedule in order for the Division to compare the actual bid unit to the specifications. Should the bidder except a requirement, then such exception may be only on the basis that such feature is not offered by the manufacturer. The Division will have the sole discretion as to whether the bidder's substitution meets the requirements of the specifications.

X8.0 SPECIFICATIONS - CAB & CHASSIS

Manufacturer: International Model: 5500

X8.1 GVWR rating: 64,180 lbs.

X8.2 Cab to axle dimension: 108. inches usable

X8.2.1 After frame length 68 inches

X8.3 Wheelbase: 194 inches

X8.3.1 Are the wheelbase and CA dimensions adjusted to provide optimum legal weight distribution YES NO

X8.3.2 Bumper to back of cab: 114 inches dimension excluding frame extension

- X8.4 **Frame: Will the manufacturer provide a frame that meets or exceeds all Federal requirements for GVWR specified that extends forward beyond the grille a minimum of 14 inches.** YES NO
- X8.4.1 **Frame material: 110,000 PSI yield strength**
Is frame extension "parent rail" material YES NO
- X8.4.2 **R.B.M. 3,406,000 Ins./Lb. Per rail MAX.**
Have you submitted shop drawings pertaining to frame construction and frame extension YES NO
- X8.4.2.1 **Where engine and radiator adjustments are required 3,406,000 in lb. per rail (RBM)**
- X8.4.3 **Main frame and any required liners straight channel** YES NO
Or offset channel YES NO full length
- X8.4.4 **Is minimum frame RBM approved by manufacturers Engineering Department** YES NO
- X8.4.5 **Does front frame accommodate the Department's standard hydraulic PTO shaft and pump, and the plow frame** YES NO
- X8.4.5.1 **Easy service accessibility** YES NO
- X8.5 **Cab: Is cab manufacturers standard steel and/or fiberglass** YES NO
Is hood tilt hood and fenders either steel and/or fiberglass **and provided with rear air bag suspension** YES NO
- X8.5.1 **Cab door locks, both doors, keyed alike** YES NO
- X8.5.2 **Dual sun visors** YES NO
- X8.5.3 **Arm rests, both sides** YES NO
- X8.5.4 **Seats: Fully adjustable air ride high back with head rest, cloth covered both left hand and right hand sides** YES NO
- Clearance between seats: 18 inches**
- X8.5.5 **Floor Mats: Rubber floor mats throughout cab area with non-absorbent backing under the mats** YES NO
- X8.5.6 **Turn Signals: Manufacturers standard with hazard warning switch** YES NO

- X8.5.7 Heater and defroster: Fresh air type, heaviest duty YES NO
- X8.5.8 Windshield wipers and washers: Manufacturer's heaviest duty with intermittent feature with manufacturers largest reservoir filled with antifreeze type solvent YES NO
- X8.5.9 Instruments: All instruments dash mounted except where specified YES NO
- X8.5.9.1 Coolant, oil pressure gauges, to have both dial type readout and either an audible or visual alarm to warn operator when safe operating conditions are exceeded YES NO
- X8.5.9.2 Voltmeter or ammeter YES NO
- X8.5.9.3 Engine RPM tachometer YES NO
- X8.5.9.4 Speedometer with odometer YES NO
- X8.5.9.4.1 Provisions for dual speedometer leads made available**
 YES NO
- X8.5.9.5 Primary air pressure gauge YES NO
- X8.5.9.6 Auxiliary air pressure gauge YES NO
- X8.5.9.7 Air filter manufacturers heaviest duty dual element type that meets all requirements of extended engine warranty YES NO
- X8.5.9.7.1 Air intake system fitted with inside/outside air; actuated by "air" valve
 YES NO
- X8.5.9.8 If unit is equipped with front air intake, is a cable control valve to enable operator to divert air intake to engine compartment during plowing application provided**
 YES NO
- X8.5.9.9 Air filter restriction indicator gauge dash mounted** YES NO
- X8.5.9.10 Engine hourmeter (controlled by engine operation, not by key switch) YES NO
- X8.5.9.11 Fuel level reading YES NO
- X8.5.9.12 Parking brake to be dash controlled with indicator light YES NO

- X8.5.9.13 Is the sound/weather insulation package the manufacturer's best for proposed cab YES NO
- X8.5.9.14 **Outside temperature control with in cab digital read out and accomplished without use of mirrors** YES NO
- X8.5.10 Rearview Mirrors:
- X8.5.10.1 Mirrors are West Coast type power adjustable with convex spot mirror
Size: 16" x 7" YES NO
- X8.5.10.2 Both mirrors heated type with stainless steel YES NO or aluminum YES NO hardware, heads, and fasteners
- X8.5.11 Grab Handle: Right hand and left hand sides of cab, rear of door opening YES NO
- X8.5.12 Air horns, with snow shields, cab mounted with adequate clearance for future installation of body cab shield YES NO
- X8.5.13 Unit includes lockable hand operated throttle control or electronic control for idle up and idle down for hydraulic flow rate YES NO
- X8.5.14 Manufacturer will provide for stationary grille or grille with cutout area to allow tilt hood to clear snow plow mount YES NO
- Stone/gravel guard provided YES NO
- X8.5.15 Air conditioning: Manufacturers standard package for model bid. "APADS" to specified air condition system YES NO
- X8.5.16 Radio: AM/FM stereo with weatherband radio feature YES NO
- X8.5.17 Glass: Manufacturers tinted safety glass (all locations) YES NO
- X8.5.17.1 Dual power windows YES NO
- X8.5.18 Manufacturers engine cover or dash mounted extended two (2) cup drink holder YES NO
- X8.5.19 Front mudflaps manufacturers standard for unit YES NO
- X8.5.20 Emergency triangle warning kit, with hold down fastened in cab
Manufacturers: As Requested Part No. _____ YES NO

X8.5.21 Manufacturers tilt steering column with cruise control feature or provide locking hand operated throttle steering wheel 18 inches diameter YES NO

X8.5.22 Fire extinguisher - rechargeable with vehicle mount. Mounted in cab for easy and quick access YES NO

Manufacturer: As Requested Part No. _____

X8.5.23 Accessories not indicated above but advertised as standard equipment provided YES NO

X8.5.24 If successful vendor, will you provide complete list of all filters required for normal maintenance YES NO

X8.6 Engine: Engine manufacturer will make provisions for front mounted hydraulic pump to crankshaft pulley YES NO

X8.6.1.1 Diesel Engine:

HP: 370 Peak torque: 1450 lbs. ft.

Manufacturer: Cummins Model: ISM Liter: 11

X8.6.1.2 1500 watt in block engine heater YES NO

X8.6.1.2.1 One piece and waterproof electrical cable from heater to plug, location - left side under driver door YES NO

X8.6.1.3 In line fuel heater with thermostatically controlled by pass maintain #2 diesel fuel temperature above cloud point before diesel fuel passes through the filter YES NO

Manufacturer: DAJCO Model: Fuel Pro 382

X8.6.1.3.1 Is engine fuel system equipped with primer pump YES NO

X8.6.1.4 Exhaust:

X8.6.1.4.1 Single vertical exhaust pipe with underbody muffler that will meet all Federal noise abatement requirements; exhaust to the passenger (right) side of unit YES NO

- X8.6.1.4.2 Tail pipe shielded or insulated to protect personnel from burns when entering or exiting the cab YES NO
Shield 180 degrees to 360 degrees and of non-rustable material such as stainless steel or aluminum YES NO
Manufacturer: International (Nelson, Riker or Equal)
- X8.6.1.4.3 Exhaust pipe with rain cap or exhaust turn out YES NO
- X8.6.2 Engine Brake:
Manufacturer: JACOBS Model: 411
- X8.6.3 Engine components facing wheel areas, on both sides, and areas to the rear of wheels shielded by means of rubber skirts supported by easily removable steel rods YES NO
- X8.7 Cooling System: The cooling system capable of maintaining engine temperature within the manufacturer's recommended range during continuous operation YES NO
- X8.7.1 The system incorporates a thermostat and bypass for warm up and filled with permanent OAT type extended life or equal antifreeze rated to a -30 degree F or lower YES NO
- X8.7.2 Is the largest factory available engine cooling capacity compatible with engines and transmission referenced and for continuous high engine output under extreme temperatures and/or operating conditions due to prolonged snow plowing operations in low gears YES NO
- X8.7.3 Unit is fitted with provisions for visually monitoring coolant with necessitating removal of the cap from the radiator or expansion tank YES NO
- X8.7.4 Radiator mounting provides adequate clearance to facilitate the installation of a crankshaft driven PTO drive shaft YES NO
- X8.7.5 The distance between the extreme tip of the radiator fan blade and the centerline of the crankshaft 4" inches to insure adequate clearance for PTO drive shaft
- X8.7.6 Radiator screen guard to protect radiator from foreign objects YES NO
- X8.8 Fuel Tank:
- X8.8.1 Safety type aluminum fuel tanks per requirements of FMVSS YES NO

- X8.8.2 Single aluminum fuel tanks: YES ___ NO Capacity (usable) 95 US gallons
Frame mounted YES ___ NO
- X8.8.3 Driver and passenger entrance steps - grated self cleaning safety step YES ___ NO
- X8.8.3.1 All edges banded on the outer perimeter YES ___ NO
- X8.8.3.2 Top of first step ___ inches above ground
- X8.8.4 System top draw and top return line YES ___ NO
- X8.9 Electrical System:
- X8.9.1 Type: Manufacturer's 12 volt negative ground system with manufacturers radio interference suppression ___ YES NO
- X8.9.1.1 Circuit breaker equipped in easily accessible location, weatherproof YES ___ NO
- X8.9.2 Four (4) heavy duty, 12 volt batteries, maintenance free ___ YES NO
- X8.9.2.1 Reserve capacity: 540 minutes at 80 degrees F
- X8.9.2.2 Cold Crank AMPS: 2775 total at 0 degrees F
- X8.9.3 Alternator capacity: 110 AMP with internal regulator YES ___ NO
- X8.9.4 Wiring: Heavy duty hypalon type in heavy duty sheathing, bundled with lacing cords or non metallic tie straps YES ___ NO
- X8.9.5 Lighting: Provisions made available for all required lighting on completed unit (Number, location, and color) to conform to WVMV Code YES ___ NO
- X8.9.6 Auxiliary snow plow/salt spreader lighting package:
- X8.9.6.1 Provisions in left rear back of cab for manufacturers approved wiring and weather proof disconnect plug to operate the following lights on truck mounted chemical spreader YES ___ NO
- Manufacturer and model: Cole Hersee 12081
1. One sealed beam flood lamp YES ___ NO
2. Left and right combination brake/turn and tail lights YES ___ NO
3. One strobe warning light YES ___ NO

X8.9.7 Provisions are made for manufacture approved wiring and weatherproof disconnect plug in line six (6) pin connector with approximately three (3) foot "pigtail" to operate combination left and right turn/park lights/auxiliary headlights YES NO

Manufacturer and model: Weather Pac 12110751

X8.9.7.1 Provisions for weatherproof disconnect plug located at lower left front grille-bumper area YES NO

All wiring connections weatherproof with wiring encased in wire looms YES NO

X8.9.7.2 7-way trailer connection light socket mounted at rear of truck frame YES NO

Manufacturer and model: Colt Hersee 12080

X8.10 Power Train Overview:

Lubricants for front axle hubs and differentials, manual transmission, transfer cases, and all rear differentials meet or exceed all appropriate MIL and SAE specifications for synthetic lubricants and have all plugs identified as synthetic or painted red YES NO

X8.10.1 Transmission: Allison 4500 RDS P
Manufacturer transmission oil cooler YES NO

X8.10.1.1 Does transmission torque capacity meet specified engine torque YES NO

X8.11 Driveline:

X8.11.1 Manufacturer: Spicer Model: SPLX170XL

X8.12 Rear Axle:

X8.12.1 Manufacturer: Mevitor Model: RT-46-164E17

X8.12.2 Unit equipped with four (4) wheel dual reduction with inner axle power divider
Single Red- / 4 wheel Power Divider YES NO

X8.12.3 Ratio: Does gear ratio allow vehicles to be capable of a top speed of 70 MPH YES NO

X8.12.4 Specify housing type FAB

X8.12.5 Rear wheel seals: Stanco Guardian

X8.12.6 Drain plug, magnetic

YES NO

X8.13 Front Suspension:

X8.13.1 Capacity at ground each front spring: 10,000 lbs.; total spring capacity 20,000 lbs.

X8.13.2 Front spring pins or bearings/bushing furnished with 360 degree grease grooves to insure adequate lubricant penetration

YES NO

X8.13.3 Spring hangers heavy castings with sufficient pin and bearing surface to render trouble free service

YES NO

X8.14 Rear Suspension:

Manufacturer: Hendrickson Model: RT 463

X8.15 Front Axle:

X8.15.1 Capacity: 20,000 lbs.

X8.15.1.1 Front axle, drag links, and tie rods have grease zerks installed

YES NO

X8.15.2 Heavy duty shock absorbers

YES NO

X8.15.3 Front wheel seals oil lubricated type

YES NO

Manufacturers: Stanco Guardian

X8.15.4 Adequate tire clearance at maximum turning angles YES NO

X8.16 Brakes:

X8.16.1 Type: Full air, with manufacturers ABS in compliance with most current FMVSS requirements

YES NO

X8.16.2 Compressor:

Manufacturer: Cummins Model: _____ Cubic ft. 18.7

X8.16.3 Service Brake Size:

X8.16.3.1 Front: 16.5 inch x 6 inch

S Cam YES NO or power front disc brake system YES NO

- X8.16.3.2 Quick change type single YES _____ NO or double anchor pin if drum type brakes are furnished _____ YES _____ NO
- X8.16.3.3 Rear: 16.5 inch x 7 inch
S cam with quick change type single YES _____ NO or double pin _____ YES _____ NO
- X8.16.4 Drum brakes have automatic slack adjusters and clearance sensing type only, with adjustment on application of brake YES _____ NO
- X8.16.5 Parking Brake: Rear wheel spring type YES _____ NO
Manufacturer: MGM Model: TR30-30- severe service spring brakes
- X8.16.5.1 Parking brake provides modulated emergency braking via the foot valve in the event of a rear service system failure YES _____ NO
- X8.16.6 Air dryer with heater above road surface: 27 inches
Manufacturer: Bendix Model: AD-9 with spin on desiccant cartridge
_____ YES NO
- X8.16.6.1 All electrical connectors for drain valve and air dryer covered with heat shrink material or have sealed connections YES _____ NO
- X8.16.7 Manufacturer's standard air tanks for service brakes; auxiliary tank for parking brake YES _____ NO
- X8.16.8 Low air pressure warning light and buzzer YES _____ NO
- X8.16.9 Rear service brake chambers and spring brake chambers mounted to provide adequate clearance for tire chains and backing into bituminous paving machines YES _____ NO
- X8.16.10 Brake dust covers installed on all wheels YES _____ NO
- X8.16.11 Unit equipped with hand control valve, tractor protection valve, with provisions for installation of glad hands at rear of truck to enable unit to pull air brake operated equipment trailer YES _____ NO
- X8.17 Tires and Wheels:
- X8.17.1 Is truck equipped with hub piloted steel disc wheels for tubeless tires YES _____ NO

X8.17.2 Wheel end equipped with outboard cast brake drums, and 15 degree tubeless steel wheels, hub piloted, 10 hole - 285.75mm bolt circle with 22mm two piece flange nuts YES NO

X8.17.3 Front:

X8.17.3.1 Wheels:

Size: 22.5 x 9.0

10 hole - 285.75mm bolt circle with 220mm bore YES NO

Tubeless steel disc wheel rated at 10,000 lbs. at a maximum inflation pressure of 130 PSIG YES NO

Manufacturer: Accuride Part No. 29039

X8.17.3.2

Tires:

Size: 315/80R22.5 Ply: 20

X8.17.4 Rear:

X8.17.4.1 Wheels:

Size: 22.5/8-25

10 hole - 285.75mm bolt circle with 220mm bore YES NO

Tubeless steel disc wheel rated at 7500 lbs. at a maximum inflation pressure of 120 PSIG YES NO

Manufacturer: Accuride Part No. 29169

X8.17.4.2

Tires:

Size: 11R22.5

X8.17.4.3 Does the dual rear wheel/tire assembly have clearance between the tires, which permits the use of dual tire chains YES NO

X8.17.5 Wheel guard Separators YES NO

X8.17.6 Tires: radials YES NO

Manufacturer: Goodyear Front Tire: G291

Manufacturer: Goodyear Rear Tire: G244MSD

X8.18 Steering:

X8.18.1 Power steering: Dual integral YES NO or single integral type YES NO hydraulic power steering with right wheel power assist cylinder YES NO

X8.18.2 Steering system:

Manufacturer: Shppard Model: M-100/M-80

X8.18.3 Hydraulic supply pump:
Vane type YES _____ NO or roller type _____ YES _____ NO with sufficient oil flow to permit one (1) steering wheel revolution per second with front axle loaded to rated capacity with plow on, in a "park" condition YES _____ NO

Manufacturer: _____ Model: _____

X8.18.4 Is the pump the integral filter type unit _____ YES _____ NO

X8.18.5 Power steering reservoir: Remote mounted YES _____ NO

Capacity: 2 qt. incorporating a filter which is easy to remove and replace YES _____ NO

X8.18.6 The remote filter factory mounted, certified, and engineering approved in conjunction with the appropriate pump YES _____ NO

X8.19 All features advertised by manufacturer as "standard features" provided if not specifically addressed within YES _____ NO

X8.20 Paint:

X8.20.1 Cab exterior and interior color: White / Tan

X8.20.2 Grille: Chrome

X8.20.3 Wheel paint: Grey

X8.20.4 Describe proposed method of painting and prepping:
Manufacturer

X8.21 Detail/Decorative Stripes with Logo:

X8.21.1 Width: 4 inches

X8.21.2 Will you comply with WVDOH logo area YES _____ NO

X8.21.3 Does conspicuity striping material provided meet requirements of Section 8.21.3 through 8.21.8 of specification section? YES _____ NO

X8.22 Does unit offered meet or exceed "Occupational Safety and Health Act of 1970" YES _____ NO

X8.23 Does unit conform to the advertising guidelines YES _____ NO

X8.24 Preventive Maintenance

X8.24.1 Will a preventative maintenance and operator's training seminar be provided YES NO

X8.24.2 Will booklets and pamphlets be furnished to be used by the operators YES NO

X8.24.3 Will you furnish all training aids; i.e. videos, projectors, etc. required in conducting the training YES NO

X9.0 SPECIFICATIONS OF THE DUMP BODY

The bidder should complete the following schedule in order for the Division to compare the actual bid unit to the specifications. Should the bidder except a requirement, then such exception may be only on the basis that such feature is not offered by the manufacturer. The Division will have the sole discretion as to whether the bidder's substitution meets the requirements of the specifications.

Bidder: See - See Attached

Address: _____

Telephone Number: _____

Years company has been an authorized dealer for proposed unit: _____ years

Manufacturer, model, series, and date of manufacture of proposed Dump body:

Is descriptive literature full describing proposed dump body attached to your bid proposal? YES NO

If NO, refer to specification statement Section 6.6

When will required number of operating manuals, service manuals, and complete parts list be delivered to the Equipment Division at Buckhannon? _____ prior to deliver of unit or _____

X9.0.1 Water Level of dump body: _____ cu yd

X9.0.2 Will side board pockets and tailgate height provide additional capacities of 2-5 cu. yd. YES NO

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X8.24 Preventive Maintenance

X8.24.1 Will a preventative maintenance and operator's training seminar be provided YES NO

X8.24.2 Will booklets and pamphlets be furnished to be used by the operators YES NO

X8.24.3 Will you furnish all training aids; i.e. videos, projectors, etc. required in conducting the training YES NO

X9.0 SPECIFICATIONS OF THE DUMP BODY

The bidder should complete the following schedule in order for the Division to compare the actual bid unit to the specifications. Should the bidder except a requirement, then such exception may be only on the basis that such feature is not offered by the manufacturer. The Division will have the sole discretion as to whether the bidder's substitution meets the requirements of the specifications.

Bidder: ACE TRUCK EQUIPMENT CO.

Address: 1130 NEWARK RD. ZANESVILLE, OH 43701

Telephone Number: 740.453.0551

Years company has been an authorized dealer for proposed unit: 12 years

Manufacturer, model, series, and date of manufacture of proposed Dump body:

HENDERSON MKE-13.5-WV08

Is descriptive literature full describing proposed dump body attached to your bid proposal? X YES NO

If NO, refer to specification statement Section 6.6

When will required number of operating manuals, service manuals, and complete parts list be delivered to the Equipment Division at Buckhannon? prior to deliver of unit or WITH THE UNIT

X9.0.1 Water Level of dump body: 13 cu yd

X9.0.2 Will side board pockets and tailgate height provide additional capacities of 2-5 cu. yd. X YES NO

- X9.0.3 Front body bulkhead: 3/16 inch AR400 steel 190,000 PSI yield strength
- X9.0.4 Are rear corner posts full depth one-piece construction from the top of tailgate to bottom of rear bolster X YES NO
- X9.0.5 Is rear bolster one piece full depth and full width X YES NO
- X9.0.6 Are spreader strap retainers adequately welded on both sides X YES NO
- X9.0.7 Does cab shield have built in tarp deflector, full width of body having sufficient clearance to ensure shield will not hit exhaust when dumping on uneven terrain X YES NO
- X9.0.8 Are there two (2) front frame mounted tow hooks or eyes X YES NO
- X9.1 Dimensions:
- X9.1.1 Inside length of body: 162 inches
- X9.1.2 Inside width: 86 inches
- X9.1.3 Outside width: 96 inches at rub rail
- X9.1.4 Basic side height: 44 inches (measure from floor to top rail)
- X9.1.5 Tailgate height: 52 inches (measure from floor to top rail)
- X9.1.6 Body overhang: 12 inches (measure from center of hinge pin)
- X9.1.7 Cab protector: 24 inches with adequate clearance for cab mounted air horns
- X9.1.8 Is cab protector sloped rearward for drainage purposes X YES NO
- X9.2 Construction of the dump bed sides, front, head, and tailgate constructed with a the following minimums X YES NO
- X9.2.1 Floor: 1/4 inch AR400 190,000 PSI yield strength steel with 5 inch radius built into floor, all one piece
- X9.2.2 Sides: 10 Gauge AR400 190,000 PSI yield strength steel thickness
- X9.2.3 Tailgate Plate: 3/16 inch AR400 190,000 PSI yield strength steel
- X9.2.4 Top Rail: 3/16 inch thickness

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- X9.2.5 Bottom Rail: 3/16 inch thickness
- X9.2.6 Cab Protector: 10 Gauge
- X9.2.7 Longitudinal: 8 inch/13 lb.ft. I beam
- X9.3 Are all the weldings inside the dump body continuous YES NO
 Are all rails and posts continuous welded and completely closed YES NO
- X9.3.1 The corner posts are 7 gauge Grade 50, 4-3/4 inch x 12 inch full depth tied to 8 inch formed channel rear apron
 Is this joint further reinforced with a 1/4 inch plate that helps prevent flexing and strengthens latch assembly YES NO
- X9.3.2 Cab protector sides, formed with gussets extend forward 24 inches.
 Clearance above highest point of cab 3 inches
- X9.3.3 Is there one (1) horizontal side brace, weld on, dirt shedding sloped side brace connected to front and rear corner posts YES NO
- X9.3.4 Are all seams welded solid except crossmembers YES NO
- X9.4 Hydraulic hoist :
 Telescopic hoist YES NO Internal dog house YES NO
 of 13 inches
- X9.4.1 Trunnion mount to bottom of dump body, not top of doghouse YES NO
- X9.4.2 NTEA rating: Class 90 double acting with 26 ton capacity YES NO
- X9.4.2 Is the hoist of the cross head sleeve twin side lift arms and links design for stability YES NO
- X9.4.3 Is the single hoist cylinder trunnion mount YES NO

- X9.4.4 Does the hoist cylinder have three (3) stages YES NO with 130 inches of stroke with five (5) inch diameter stage at bottom YES NO
 Manufacturer and part number: MAILHOT CS-130-5.5-3
- X9.4.5 Does the cylinder have wear and corrosion resistant nitrided cylinder tubes YES NO
- X9.4.6 Cylinder warranty 2 year
- X9.4.7 Does a five (5) degree oscillating cylinder collar protect the cylinder against inside stress with replaceable greaseless composite bushings at collar pivots YES NO
- X9.4.8 Does the body have 6 inch x 8 inch x 1/2 inch structural angle rear hinge assembly installed in the truck chassis frame YES NO
- X9.4.9 Are there two (2) inch 303 stainless steel hinge pins connecting to 2 1/2 inch hinge blocks using replaceable greaseless composite bushings for a minimal pin-to-bushing clearance YES NO
- X9.5 Features shall be included:
 - X9.5.1 Warning light (bed raised) dash or console mounted YES NO
 - X9.5.2 Hydraulic oil level reading YES NO
 - X9.5.3 Safety decals as required YES NO
 - X9.5.4 Mud guards permanently attached in front of rear wheels YES NO
10 Gauge x 24 inches x 30 inches
 Will you align exhaust stack for bed clearance YES NO
 - X9.5.5 Shovel bracket (SEE ADDENDUM) YES NO
 - X9.5.6 Are gussets for 2 inch x 6 inch lumber (rough) located at front and rear posts and mid-rail 2 inch x 6 inch (rough) oak sideboards supplied and bolted through gussets YES NO
 Painted to match dump body YES NO

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X9.5.7 Air operated tailgate latches are pancake type tailgate release valve
 YES NO

Manufacturer and model: ANCHOR LOCK MODEL #24LS EQUIVALENT
With spring-over-center latch and pivot points include stainless steel bushings to reduce seizing
 YES NO

X9.5.8 Outside steps on both sides of front of bed
 YES NO

X9.5.9 Self cleaning safety platform non-skid material located on both sides of dump body
 (DELETE AS PER ADDENDUM) YES NO

X9.5.10 OSHA approved backup alarm, electronic ambient, adjusts to background noise, 112 dba shock mounted at rear
 YES NO

X9.5.10.1 OSHA approved body support, both sides
 YES NO

X9.5.11 Slope outside of bottom red rail
 YES NO

X9.5.12 Is unit equipped with 49,000 lb. capacity pintle hook centered between rear frame rails
 YES NO

Manufacturer: WALLACE **Part No.:** B30

Is height from ground level to center line of pintle "eye" 32 inches
 YES NO

X9.5.13 Is air deflector hood mounted, blue or smoke
 YES NO

Is deflector manufacturers standard width for truck made YES NO

Is access to front end hood tilt handle avoided
 YES NO

X9.6 Lighting: Weather/shock resistant marker lights, LED type with average amp draw between .045-.72 YES NO **Manufacturer:** TRUCKLITE

Do all connections have sure snap plug assemblies and epoxy sealed electronics to protect against shock and vibration
 YES NO

X9.6.1 Are marker lights 2 1/2 inch diameter flush mounted sealed beam lights with integral reflector mounted in rubber base
 YES NO

X9.6.2 Are all ground wires attached with plated steel fasteners YES NO
 NOTE: GROUNDED THRU CHASSIS WIRING SYSTEM

- X9.6.3 Are rear lights shock mounted, recessed oval stop, tail, turn, and recessed oval backup lights mounted in back post YES NO
 Are strobe lights marked and switched from dash board location YES NO
- X9.6.4 Are center rear I.D. Lights three (3) located in truck chassis YES NO
- X9.6.5 Are there two (2) amber oval L.E.D. strobe lights mounted at front corners of the cab protector YES NO
 Are there two (2) amber oval L.E.D. strobe lights mounted at each outside corner of the cab protector YES NO
 Are strobe lights marked and switched at dash board location YES NO
 Manufacturer: TRUCKLITE Part No. 601224
 Are oval cutouts precut by dump body manufacturer YES NO
- X9.6.6 Auxiliary headlights for snow plowing application shock mounted on fender of unit YES NO
 Manufacturer: TRUCKLITE Part No. 80800
- X9.6.7 Are there two (2) oval amber L.E.D. strobe lights mounted at top of rear corner posts right and left sides YES NO
 Are they switched in combination with cab protector strobe YES NO
 Manufacturer: TRUCKLITE Model: 601224
 Are oval cutouts precut by dump body manufacturer YES NO
- X9.6.8 Angled hydraulic fittings are mounted above the lights, and the vertical apron is cut out above the frame to facilitate their placement YES NO
- X9.6.9 Two (2) front frame mounted tow hooks YES NO
- X9.6.10 Lighted license plate bracket YES NO
- X9.7 Does a full length dirt shedding rub rail extend along each side of the body, sufficient to cover the rear wheels YES NO

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- X9.8 The following should be at the front of both sides of the body on posts:**
- X9.8.1** Iread plate step YES NO
- X9.8.2** Strap type ladder, dirt shedding, non-skid material, both sides as low as practical, braced and permanently mounted both sides YES NO
- X9.8.3** Two grab handles located on the front post YES NO
- X9.8.4** 3/4 inch re-rod tarp rail mounted to bottom rub rail slope with adequate clearance between slope and re-rod from the front post to rear post (tarp rail) welded at each post YES NO
- X9.8.5** Is there adequate gusset spacing between rub rail slope and re-rod YES NO
- X9.9 Tailgate:**
- X9.9.1** Tailgate hinged at top with flush mount, 1/2 inch flame cut pivots, one (1) inch pork chop type off-set hardware to achieve maximum opening of tailgate, but have provisions for pivoting at bottom YES NO
- X9.9.2** Top hinge channel with removable, chain tethered keeper pins YES NO
- X9.9.3** Latching action at bottom of gate is 3/4 inch latch hooks with 3/8 inch latch plates operable by the truck driver without leaving the truck cab YES NO
- X9.9.4** Gate self-aligning YES NO
- X9.9.5** Tailgate upper and lower latch pins 1 1/4 inch diameter hot rolled YES NO
- X9.10** The design and strength characteristics of the entire dump such that the unit structural members and the hoisting system suffers no deformation, damage, or structural failure resulting from raising a distributed full payload YES NO
- X9.11** The location of the dump box pivot point in relation to the rear end of the truck frame and in relation to the rear lip of the box floor such that the horizontal distance from floor lip to the rear end of the frame is 18 inches YES NO
- X9.12 Bumper**
- X9.12.1** The bumper is formed out of 1/4 inch roll steel YES NO
- Weight: 10.20 lbs. per square foot

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- X9.8 The following should be at the front of both sides of the body on posts:**
- X9.8.1 Tread plate step** YES NO
- X9.8.2 Strap type ladder, dirt shedding, non-skid material, both sides as low as practical, braced and permanently mounted both sides** YES NO
- X9.8.3 Two grab handles located on the front post** YES NO
- X9.8.4 3/4 inch re-rod tarp rail mounted to bottom rub rail slope with adequate clearance between slope and re-rod from the front post to rear post (tarp rail) welded at each post** YES NO
- X9.8.5 Is there adequate gusset spacing between rub rail slope and re-rod** YES NO
- X9.9 Tailgate:**
- X9.9.1 Tailgate hinged at top with flush mount, 1/2 inch flame cut pivots, one (1) inch pork chop type off-set hardware to achieve maximum opening of tailgate, but have provisions for pivoting at bottom** YES NO
- X9.9.2 Top hinge channel with removable, chain tethered keeper pins** YES NO
- X9.9.3 Latching action at bottom of gate is 3/4 inch latch hooks with 3/8 inch latch plates operable by the truck driver without leaving the truck cab** YES NO
- X9.9.4 Gate self-aligning** YES NO
- X9.9.5 Tailgate upper and lower latch pins 1 1/4 inch diameter hot rolled** YES NO
- X9.10 The design and strength characteristics of the entire dump such that the unit structural members and the hoisting system suffers no deformation, damage, or structural failure resulting from raising a distributed full payload** YES NO
- X9.11 The location of the dump box pivot point in relation to the rear end of the truck frame and in relation to the rear lip of the box floor such that the horizontal distance from floor lip to the rear end of the frame is 18 inches** YES NO
- X9.12 Bumper**
- X9.12.1 The bumper is formed out of 1/4 inch roll steel** YES NO
- Weight: 10.20 lbs. per square foot

- X9.12.2 Bumper face to cover all of truck frame (12 inches) with two (2) flanges
2.25 inches top and bottom YES NO
- X9.12.3 Bumper overall width: 94 inches
- X9.12.4 Bumper is straight across front from centerline of truck chassis 21 inches each
side of centerline, making bumper straight 42 inches long in center with ends
swept back 30 degrees and 27 inches each side YES NO
- X9.12.5 Upper and lower flanges cut and welded solid at point where bumper is bent and
ground off smooth YES NO
- X9.12.6 Bumper mounted by two (2) mounting angles bolted to front of truck frame with two
(2) 5/8 inch bolts each side YES NO
- X9.12.7 Mount angle 1/4 inches x 3 inches x 8 inches long with four (4) 5/8 inch
holes
- X9.12.8 Front bumper paint: BLUE
- X9.13 Under Body Tool Box:
 - X9.13.1 One (1) tool box mounted under body on right side frame rail YES NO
 - X9.13.2 Tool box 18 inches high 24 inches wide 18 inches deep cradles by a heavy
steel angle frame attached to the truck frame YES NO
 - X9.13.3 Construction of 14 gauge A-60 galvaneal steel with all seems welded
 YES NO
 - X9.13.4 Tool box has a horizontal hinged fold down door YES NO
 - X9.13.5 Tool box door has cable or chain to hold the door in a horizontal position
 YES NO
 - X9.13.6 Tool box has keyed latch of corrosion resistant hardware, automotive style weather
stripping, and a drip rail over the door opening YES NO
- X9.14 Load covering system electrically controlled: YES NO
 - X9.14.1 Does electric motor assembly include 12 volt direct drive motor with forward and
reverse action, cab mounted control switch, resettable circuit breaker
 YES NO
 - X9.14.2 Pivot arm assembly constructed in a two (2) piece bent arm configuration of 1-1/4
inch 14 gauge steel tubing

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- X9.14.3 Bent arm extensions constructed of 1 inch 14 gauge steel tubing
- X9.14.4 Rear cross constructed of 1-1/4 inch 14 gauge steel tubing
- X9.14.5 Pivot arm rests included YES NO
- X9.14.6 Underbody spring extension spring 12 inches in length attached to base of pivot arm and of body with articulating spring mounting bracket YES NO
- X9.14.7 All steel components finished with manufacturer's recommended rust preventative system to include a minimum of adequate primer and paint YES NO
- X9.14.8 Load covering system provided with 18 oz black vinyl tarp to fit dump body YES NO
- X9.14.9 Load covering system supplied with all necessary hardware and delivered to the WVDOH as a complete and operational unit YES NO

X9.15 Paint:

X9.15.1 - 9.15.2.1 Describe proposed method of painting: _____

UNIT WILL BE SANDBLASTED AND PRIMED, THEN PAINTED WITH A BLUE PAINT.

X9.16 Detail/Decorative Stripes with Logo.
 Will striping and detailing you provide comply with requirements of Section 9.16.1 through 9.16.7 YES NO

X9.17 Other standard features:
 List other standard features offered and not addressed above:

X9.18 Does the proposed unit meet or exceed the "OSHA OF 1970" and/or subsequent changes YES NO

X10.0 SECTION THREE - CENTRAL HYDRAULIC SYSTEM

Reference Requisition No. on request for proposal:
708EC018

Bidder's Name: ACE TRUCK EQUIPMENT CO.

Address: 1130 NEWARK RD. ZANESVILLE, OH 43701

Telephone Number: 740.453.0551

Years Company has been an authorized dealer for proposed unit:
12 YRS

Manufacturer, model, series, and date of manufacture of proposed Hydraulic System:
CERTIFIED POWER/COMPONENT TECHNOLOGY SG03080009
WEST VIRGINIA SYSTEM MANUFACTURED AS REQUIRED FOR CONTRACT.

Is descriptive literature, fully describing proposed system attached to your bid proposal?
 YES NO

If NO, refer to specification statement Section 7.5

When will required number of operating manuals, service manuals, and complete parts list be delivered to the Equipment Division at Buckhammon? _____ prior to delivery of unit or WITH UNIT

Will hydraulic system be designed to operate a front mounted telescopic dump body hoist cylinder, a hydraulically driven integrated salt and abrasive spreader requiring the simultaneous operation of 2 hydraulic motors in 2 different modes with conveyor reverse, a double acting snowplow lifting cylinder, a snowplow power angle system, plow balance system, and an auxiliary equipment drive circuit YES NO

Are provisions made for future add-on hydraulic driven pre-wet system YES NO

Pre-wet system:
Will supplied spreader control contain the ability to control a closed loop pre-wet system. YES NO

Will system operate using a flow meter feedback circuit YES NO

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Will controller software allow for adjustability of pre-wet output by the operator, represented in gallons per ton X YES NO

Will information related to pre-wet application rate and total flow in gallons be displayed on the screen while the pre-wet system is active. X YES NO

Central hydraulic system warranty: TWO (2) YEAR BUMPER TO BUMPER PARTS AND LABOR

X10.1 Pump System:

X10.1.1 Is pump variable volume pressure compensated load sensing axial piston type X YES NO

X10.1.2 Are the front mounting flange and main housing/case of cast iron construction X YES NO

Are the inlet and outlet port section of high strength ductile iron with SAE split flange or orb type porting X YES NO

X10.1.3 Is suction port and associated plumbing sized to allow for minimum inlet restriction between the pump and the suction port on the reservoir X YES NO

Does installation comply with pump manufacturers allowable inlet condition specifications X YES NO

Is suction plumbing equal to or greater than pump inlet or suction size X YES NO

X10.1.4 Is pressure port of the SAE split flange or ORB type side mounted for direct bolt mounting of solenoid shut down valve assembly X YES NO

X10.1.5 Are case drain and load sense signal ports of the SAE o-ring type X YES NO

Is case drain line taken directly to tank without passing through the return line filter X YES NO

X10.1.6 Does the input shaft have a minimum continuous torque rating equal to 200% of the imposed load when pump is operated at maximum engine rpm, maximum displacement and system pressure X YES NO

Is it minimum SAE "C" keyed X YES NO

X10.1.7 Is front shaft bearing of the heavy duty ball or roller type designed for high axial and radial loading YES NO

Is rear shaft bearing of high speed and load sleeve type design YES NO

Are bearings fully lubricated by flooded case oil YES NO

X10.1.8 Is ramp/swashplate supported by pressure lubricated bearings of rocker cam or Saddle type for high piston load support YES NO

Is ramp angle positioning by means of dual servo control cylinders for rapid pump response and precise pump output control YES NO

X10.1.9 Is adjustable load sense and high pressure compensator control valve assembly of the full cartridge or of bolt-on housing design for ease of replacement and repair YES NO

X10.1.9.1 System is designed and components to provide flow, pressure, and performance requirements as stated with operating load sense differential pressure of 300 PSI and a maximum standby pressure of 350 PSI for maximum efficiency YES NO

Is pilot control shifted valving utilized in the system YES NO
 Are they designed to be fully functional within this pressure Range YES NO

X10.1.9.2 Is high pressure compensator valve preset to limit the maximum pump output pressure to the maximum required operating pressure plus sense differential and margin pressure prevent premature de-stroking of ramp resulting in reduced or insufficient pump output YES NO

X10.1.10 Pump Output: SEE ADDENDUM
 Is it capable of providing hoist cylinder extension required YES NO

Manufacturer and part number: MALHOIT CS-130-5.5-3

9.9 gallons to fully extend

5 GPM flow rate	<u>120</u>	seconds to raise
10 GPM flow rate	<u>60</u>	seconds to raise
15 GPM flow rate	<u>40</u>	seconds to raise
20 GPM flow rate	<u>30</u>	seconds to raise
25 GPM flow rate	<u>24</u>	seconds to raise
30 GPM flow rate	<u>20</u>	seconds to raise
40 GPM flow rate	<u>15</u>	seconds to raise

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X10.1.11 Is the pump you are supplying of overall quality of construction, design, and Performance YES NO

X10.1.12 Pump Manufacturer and model: REXROTH A10V071 SERIES 31

X10.1.13 Is pump of a manufacturer's standard product release and design YES NO

X10.1.14 Is pump driveline assembly of the keyed shaft design utilizing a 4 bolt driveshaft flange and matching drive yoke on the pump YES NO

X10.1.14.1 Does driveline have a minimum continuous torque rating equal to 200% of the imposed load when pump is operating at maximum system requirements YES NO

Manufacturer and model: SPICER 1310 SERIES

X10.1.14.2 Are dual journals and yokes incorporated to connect the pump shaft and engine drive flange with an angular misalignment no greater than six (6) degrees and not less than two (2) degrees YES NO

X10.2 Pump Shutdown System:

X10.2.1 Is the normally closed, energized to open, solenoid operated control valve of the cartridge and manifold design to be directly bolted to pump pressure port YES NO
Is solenoid electrical connection of the Packard "Weatherpack" type with "SO" cable Wiring YES NO

X10.2.2 Is it valve controlled by a console mounted "Master On" switch with pilot lamp for normal system operation and by a float switch located in hydraulic reservoir to automatically shut off pump pressure port flow to all down stream functions in the event of low hydraulic oil level YES NO

X10.2.3 Pressure drop across valve 40 PSI at 40 GPM flow when in the switched open position
Nominal valve rating of 50 GPM @ 3500 PSI

X10.2.4 Is SAE #6 gauge port equipped with Parker Hannifin Model PD361 diagnostic coupling nipple and protective cap provided for pump output pressure testing to be installed in valve manifold and within an easily accessible mounting position YES NO

X10.2.5 Is valve designed to protect the pump for damage when system is shut down at high pressure and flow operation YES NO

- X10.2.6 Valve Manufacturer and model:** COMPONENT TECHNOLOGY
- X10.2.7** Is central control console mounted audio alarm and warning lamp indicating pump pressure/flow shutdown provided YES NO
- X10.2.8** Is warning lamp a press-to-test and incorporate a switching system into the automatic shutdown assembly to simulate low oil level, shut off pump output flow and test float switch wiring and connections YES NO
- X10.2.9** Is a console mounted electrical override function switch provided to allow momentary operation of hydraulic functions in emergency situations YES NO
- X10.3 Directional Control Valve Assembly:**
- X10.3.1** Is valve stacked section type and of closed center circuit design YES NO
- X10.3.2** Is each work section pressure compensated with fully integrated load sense network (SEE ADDENDUM #2) YES NO
- Is flow output relative to spool travel with preset maximum flow rate obtained at maximum spool stroke to provide feathering control of operated function YES NO
- X10.3.3** Are dump body, snowplow lift and snowplow power angle sections of the manual cable shift type YES NO
- Is auxiliary circuit section of the electric solenoid shift type YES NO
- Are both ends of each section valve spool sealed with weather resistant caps or cable entry bonnets YES NO
- X10.3.4** Is valve assembly flow capacity rating and pressure drop characteristics sufficient to provide for the required pump output and circuit flow rates at the specified maximum load sense differential pressure settings YES NO
- X10.3.5** Are all valve ports of the SAE o-ring seal type and of sufficient size to handle required section flow rates at stated load sense differential pressure YES NO
- X10.3.6** Is a priority section installed to allow plow to raise in a system over demand Situation SEE ADDENDUM #2 YES NO

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X10.3.7 Is a main pressure inlet relief valve provided to reduce system pressure shock loads X YES NO

Is it preset at pressure so as not to interfere with pump pressure compensator and to prevent premature relief opening at system high demand operation X YES NO

X10.3.8 Is pilot pressure reducing valve required for solenoid section control X YES NO

Is it designed to meet operating requirements as set forth in Section 10.1.9.1 X YES NO

Is pilot supply and tank venting internal within the valve assembly sections X YES NO

X10.3.9 Is load sense network high pressure relief provided and preset to limit system maximum operating pressure X YES NO

Will set point provide proper pressure margin to pump pressure compensator and high pressure relief valve as to prevent premature loss of required flow rates and pressure capability X YES NO

X10.3.10 Is SAE #6 gauge port equipped with Parker Hannifin PD361 diagnostic coupling nipple with protective cap for load sense testing installed in an easily accessible location X YES NO

X10.3.11 Is dump body control section 4-way three position spring centered cylinder spool for operation of a double acting hoist cylinder X YES NO

X10.3.11.1 Is full flow workport relief valve installed in power up port X YES NO

Will set point prevent operating pressure from exceeding hoist cylinder normal operating pressure rating X YES NO

X10.3.11.2 Is full flow workport relief valve installed in the power down port, set at 500 PSI to prevent full system pressure on down stroke X YES NO

X10.3.12 Is snowplow lift control section 4-way three position spring centered cylinder spool for operation of a double acting lift cylinder X YES NO

X10.3.12.1 Is full flow workport relief valve preset at maximum required unlock pressure installed in power down workport YES NO

SEE ADDENDUM

SEE ADDENDUM

Is workport relief valve installed in power up workport if maximum system pressure output setting exceeds normal operating pressure limit of plow lift cylinder YES NO

SEE ADDENDUM

Is three (3) way valve provided for plow hoist circuit YES NO
Is a full flow work port relief provided for plow lower circuit YES NO

X10.3.12.2 Is an adjustable flow control installed to limit downward speed of snowplow X YES NO

Is flow limiting control system preset for proper plow lift speed supplied to reduce over demand operation and to increase system efficiency X YES NO

X10.3.13 Is snowplow power angle control section 4-way three (3) position spring centered motor spool for operation of worm gear driven type reversing system X YES NO

X10.3.13.1 Is flow limiting control system preset for proper plow reversing speed supplied to reduce over demand operation and to increase system efficiency X YES NO

X10.3.14 Plow Balance Valve:

X10.3.14.1 Is hydraulic system supplied with a plow balance valve X YES NO

X10.3.14.2 Is valve designed to offset a specific (adjustable) plow weight when activated X YES NO

X10.3.14.3 Does plow balance system alter the operation of any other hydraulic function or have an adverse effect on the performance of other hydraulically operated equipment including:

Wing Plow YES X NO
Body Hoist YES X NO
Plow Hoist or Angle YES X NO
Spreader functions YES X NO

Will all normal operations of the plow lift/lower functions be maintained without additional tasks X YES NO

X10.3.14.4 Is plow lift immediate to guarantee safe operation of vehicle X YES NO

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- X10.3.14.5** Are solenoid valve coils used YES NO
 Do they have manual override capabilities if needed for continued use when coils fail YES NO
- X10.3.14.6** Does manifold valve include a pressure test point for use when checking balance pressures YES NO
- X10.3.14.7** Is pressure test point capable of tapping into system at pressures of 5000 PSI YES NO
- X10.3.15** Is auxiliary equipment drive circuit control section 3-way three position spring centered solenoid operated motor spool YES NO
 Is this circuit separate and distinct from spreader control system YES NO
- X10.3.15.1** Is flow limiting control system preset to provide a maximum of 22 GPM at a system load pressure of 2200 PSI YES NO
 Is pump capable of supplying this flow rate with engine speed of 1400 RPM YES NO
- X10.3.15.2** Is an inline mounted control valve supplied for this operation in place of directional control valve section YES NO
 Is it supplied YES NO
 Are proper interconnections and venting of load sense network system Provided N/A YES NO
- X10.3.15.3** Is pressure line 3/4" SAE100R2 hose and manifold mounted at rear of chassis and equipped with Parker Hannifin SH6-62 quick disconnect coupler and protective metal plug YES NO
 Is mating nipple SH6-63 with protective cap supplied YES NO
- X10.3.15.4** Directional and auxiliary circuit valves Manufacturer and model:
REXROTH MP18 SERIES
- X10.3.16** Is directional control valve assembly located in a combination tank/valve enclosure assembly to protect the hydraulic tank/valve from elements YES NO
 Reservoir (tank): 40 gallon capacity

X10.3.17 Pre-Wet Circuit:

X10.3.17.1 Is a separate circuit provided to control an add-on pre-wet system
 YES NO

X10.3.17.2 Is a hydraulic valve of the section type ___ or of the cartridge style X
 Contained in a manifold

X10.3.17.3 Is a manifold type valve supplied YES NO
Is it attached to the main valve assembly YES NO

X10.3.17.4 Is all wiring to the pre-wet hydraulic circuit provided as part of the system
 YES NO

X10.3.17.5 Is wiring to the control console related to the rest of the pre-wet system provided as part of the pre-wet package at the time of pre-wet system installation
 YES NO

X10.4 Spreader Control Valve Assembly:

X10.4.1 Are spinner and conveyor solenoid flow controls of the PWM proportional solenoid type and equipped with manual overrides YES NO

Are overrides manually adjustable over operating flow range in the event of electrical system failure YES NO

X10.4.2 Are flow control circuits pressure compensated and provide a spinner and pre-wet flow rate of 0-7 GPM and a conveyor flow rate of 0-15 GPM
 YES NO

Pressure relief valve system limit circuits to 2200 PSI

X10.4.3 Are load sense circuits connected to directional control valve network for proper pump control YES NO

Does design prevent improper high pressure load sense signal and pressure line loading when spreader valve is not in use and when spreader quick disconnects are uncoupled YES NO

X10.4.4 Is PWM solenoid control supplied by microprocessor spreader control system
 YES NO

Are solenoids capable of 100% PWM signal without failure YES NO

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X10.4.5 Is solenoid operated directional control valve and in-cab mounted electrical switch to operate spreader conveyor reverse required for front or rear material discharge selection provided X YES NO

X10.4.6 Are electrical switching and indicator light for spreader clogged indication provided X YES NO

X10.4.7 Proposed valve Manufacturer and model: REXROTH MP18 SERIES

X10.5 Spreader Control System:

X10.5.1 Is dual flow, ground speed oriented spreader control system of the closed loop microprocessor based type with nonvolatile control memory X YES NO

X10.5.2 Is programming automatic calibration and flexibility X YES NO

SEE ADDENDUM #2 X10.5.3 Is system capable of operation in ground speed oriented closed loop conveyor feed back, open loop, manual set, blast and unload modes and fully functional in both front and rear material discharge selection YES NO

X10.5.4 Is automatic switchover with display indication from closed loop to open loop operation in the event of loss of feed rate sensor signal provided X YES NO

X10.5.5 Are control console digital readouts capable of displaying actual application rate, vehicle ground speed, distance of spread route driven and total quantity of material spread X YES NO

X10.5.6 Are programming and output cable connection for material and trip information printer and program uploading provided X YES NO

X10.5.7 Is control unit capable of accumulating such display information up to 999,999 miles and 999,999 tons of discharged material X YES NO

X10.5.8 Is console programming capable of selection, calibration and display of four (4) separate spread materials with independent application rates of each material capable of being set to fixed rates or to rate increments of a preset maximum application rate X YES NO

X10.5.9 Is a variable digital access code lockout for application rate selection and for system operating parameters provided YES X NO

X10.5.10 Are backlighted switches and LCD screed utilized for on-board programming and for display readout and application rate selection X YES NO

X10.5.11 Is material spread width selectable by no less than a ten (10) position switch with minimum and maximum spinner speed totally programmable through entire flow range. YES NO

Is spinner speed capable of linking to ground speed for on-off control YES NO

X10.5.12 Does display enunciate error message and sound audio alarm when microprocessor system detects any loss of control or accuracy YES NO

X10.5.13 Will system be fully functional at time of delivery YES NO

X10.5.14 Will truck speed sensor be compatible with type of speedometer drive system supplied on chassis YES NO

X10.5.15 Will a built-in ground speed simulator be provided either internal to the control or located in the control console YES NO

X10.5.16 Will all components required for proper installation and operation of control system onto truck and spreader units be supplied YES NO

X10.5.17 Control System Manufacturer and model: COMPONENT TECHNOLOGY SG51 WITH GL400 CONTROL

X10.6 Central Control Console:

X10.6.1 Mounted between seats within easy access of driver YES NO

X10.6.1.1 Warning light (bed raised) control console mounted YES NO

X10.6.2 Is all wiring, valve control cables, and electrical harness entry into cab and console sealed with grommets YES NO

X10.6.3 Are remote control valve levers console mounted YES NO

Are all levers clearly marked as to their function and operation YES NO

X10.6.3.1 Are remote control levers to operate push-pull type cables with .250" diameter stainless steel rod ends YES NO

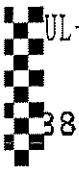
X10.6.3.2 Is inner cable member 18-8 stainless steel armor wrapped construction with a low resistance nylon liner and polyethylene covered tempered steel wire conduit YES NO

X10.8 Filtration:

- X10.8.1 Is filtration manufacturers standard to adequately protect the hydraulic system from Damage YES NO
- X10.8.2 Is return line filter isolated from reservoir by a full flow non-restrictive type quarter turn brass ball valve if filter is not installed in reservoir YES NO N/A
- X10.8.3 Is each filter equipped with a differential pressure switch to indicate filter clogged condition by means of a console mounted indicator lamp YES NO
- X10.8.4 Is one (1) extra replacement filter for each assembly provided for each truck YES NO
- X10.8.5 Are filter assemblies positioned as close to reservoir as possible and in an easily accessible service location YES NO

X10.9 Hoses and Fittings:

- X10.9.1 Is each hose assembly, except for suction hose, fitted with JIC swivel connectors on ends where connection to system component is made YES NO
- X10.9.2 Do all pressure line hoses meet or exceed SAE Specification 100R2 and equal to Gates high pressure hose, type C2AT for sizes up to and including 1"ID YES NO
- X10.9.3 Is suction hose 2" nominal ID SAE Specification 100R4, braided fiber, spiral wire reinforced, rubber covered hose with replaceable bolt-on type fittings YES NO
- X10.9.4 Are all hydraulic hoses fully cleaned on interior, installed and ready for operation. YES NO
- X10.9.5 Are grommets used when routing hoses through steel bracketing or frame members YES NO
- X10.9.6 Are Snap-Tite quick disconnects (manifold mounted) supplied for the forward and rear spinner 1/2 inch pressure and return lines
SEE ADDENDUM #2 YES NO
- X10.9.7 Are all fittings and connectors steel type designed for high pressure hydraulic system YES NO
- X10.9.8 Were pipe thread ported components and connectors used only when the specific component is not available with SAE or JIC Porting YES NO



X10.9.9 Were all pipe thread connectors coated with liquid teflon pipe sealer before assembly? YES NO

X10.9.10 Are the hoses run to the front of truck chassis for snowplow functions manifold mounted behind the front bumper with sufficient access for pump assembly service and snowplow hitch installation YES NO

X10.9.11 Are lines equipped with complete 1/2"VH" series Snap-Tite quick disconnects, metal caps and plugs YES NO

X10.10 Other Standard Features: _____

X10.11 Initial servicing and pretesting:

X10.11.1 Initial fill of reservoir with high grade 32AW hydraulic fluid 40 gallon level marked on sight glass YES NO

X10.11.2 Start up and initial run of hydraulic system, checking for leaks, excess heat, system efficiency YES NO

Will you replace any defective component YES NO

You will be responsible for any defects discovered at the time of installation of spreader and plow YES NO

X10.12 Are hydraulic lines located within 10" of exhaust system metal lines YES NO

X10.12 If successful vendor, will you provide WVDOH with complete list of all filters for normal maintenance? YES NO

X10.13 Have you included with your bid detailed component specifications, product literature, system component layout drawing with bill of materials and full functional hydraulic system schematics in accordance with JIC and ANSI-Y32 YES NO

X10.14 If you are the successful vendor, will you provide WVDOH with complete list of all filters required for normal maintenance on unit YES NO

X10.15 Describe your training sessions that will be provided with each order at an Equipment Division facility:

THREE ONE DAY TRAININGS PER P.O.

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X10.6.3.3 Is cable to valve connection of the weather resistant bonneted type X YES NO

X10.6.3.4 Is the hoist control lever OSHA 1926.601(b)(11) compliant X YES NO

X10.6.4 Is central control console or dash mounted rocker switches with indicator lamps X provided for strobe lights, spreader light, and plow lights isolated from all hydraulic system control circuits X YES NO

X10.6.4.1 Are all interconnections and cables installed and ready for operation X YES NO

X10.6.4.2 Is hydraulic system automatic shutdown system and control switching relay Controlled X YES NO

X10.6.4.3 Are relay(s) mounted within the cab X YES NO

X10.6.4.4 Is an access plate to internal wiring provided X YES NO

X10.7 Hydraulic Reservoir and Valve Enclosure Assembly:

X10.7.1 Is tank/valve enclosure flex mounted to the chassis frame rail X YES NO

X10.7.2 Tank construction: 7 GAUGE STAINLESS STEEL

X10.7.3 Is tank equipped with a combination oil level sight glass and thermometer X YES NO

X10.7.4 Is tank equipped with a ten (10) micron filler/breather cap with removable five hundred (500) micron strainer X YES NO

X10.7.5 Is an internal steel baffle provided within tank X YES NO

X10.7.6 Size of stenciling on tank "Hydraulic Oil": 1-1/4 inches high

X10.7.7 Is tank level switch connection "SO" type wiring and mounted within the tank/valve enclosure to protect it from elements X YES NO

X10.7.8 Pump supply suction port 2 inch NPT and system return port 1-1/4 inch NPT



LEAVE AS WRITTEN:

X8.18.4 Is the pump the integral filter type unit YES NO

LEAVE AS WRITTEN:

X8.18.5 Power steering reservoir: Remote mounted YES NO
Capacity: _____ qt. incorporating a filter which is easy to remove and replace
 YES NO

FROM:

X8.20.3 Wheel paint: _____

TO:

X8.20.3 Wheel paint: _____
Are they powder coated YES NO
Gray top coat YES NO

NO CHANGE REQUIRED:

X9.2.1 Floor: 1/4 inch AR400 190,000 PSI yield strength steel with 5 inch radius built into floor, all one piece

FROM:

X9.5.5 Shovel bracket YES NO

TO:

X9.5.5 Shovel bracket (front of bed behind driver) YES NO

DELETE:

X9.5.9 Self cleaning safety platform non-skid material located on both sides of dump body
 YES NO

FROM:

X10.1.10 Pump Output:

TO:

X10.1.10 Pump Output: 71 cc/Revolution

FROM:

X10.3.2 Is each work section pressure compensated with fully integrated load sense network YES NO

Is flow output relative to spool travel with preset maximum flow rate obtained at maximum spool stroke to provide feathering control of operated function YES NO

TO:

X10.3.2 Is each work section pressure and flow compensated with fully integrated load sense network X YES NO

Is flow output relative to spool travel with preset maximum flow rate obtained at maximum spool stroke to provide feathering control of operated functions X YES NO

FROM:

X10.3.6 Is a priority section installed to allow plow to raise in a system over demand situation YES NO

TO:

X10.3.6 If valve supplied pre-compensated design X YES NO

Is a priority section provided to allow plow raise in an over demand situation X YES NO

Is system post compensated YES X NO
(Priority section is not required due to flow being divided across all operating valve sections)

LEAVE AS WRITTEN:

X10.3.11.2 Is full flow workport relief valve installed in the power down port, set at 500 PSI to prevent full system pressure on down stroke X YES NO

DELETE:

X10.3.12.1 Is full flow workport relief valve preset at maximum required unlock pressure installed in power down workport YES NO

FROM:

X10.5.3 Is system capable of operation in ground speed oriented closed loop conveyor feed back, open loop, manual set, blast and unload modes and fully functional in both front and rear material discharge selection YES NO

TO:

X10.5.3 Is system capable of operation in ground speed oriented closed loop conveyor feed back, open loop, manual set, blast and unload modes YES NO

FROM:

X10.9.6 Are Snap-Tite quick disconnects (manifold mounted) supplied for the forward and rear spinner 1/2 inch pressure and return lines YES NO

TO:

X10.9.6 Are Snap-Tite quick disconnects (manifold mounted) supplied for the spinner 1/2 inch pressure and return lines YES NO

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

LICENSING: Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

CONFIDENTIALITY: The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendors should visit www.state.wv.us/admin/purchase/privacy for the Notice of Agency Confidentiality Policies.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), it is hereby certified that the vendor acknowledges the information in this said affidavit and are in compliance with the requirements as stated.

Vendor's Name: BWAB International, LLC

Authorized Signature: John R. Burchey - BWAB LLC Date: 9/10/08

2007

WEST VIRGINIA
STATE TAX DEPARTMENT

2009

**BUSINESS REGISTRATION
CERTIFICATE**

ISSUED TO:

**BWAB INTERNATIONAL LLC
408 GOFF MOUNTAIN RD.
CROSS LANES, WV 25313**

BUSINESS REGISTRATION ACCOUNT NUMBER: 2190-4981

This certificate is issued for the registration period beginning: July 1, 2007

This certificate is valid until: June 30, 2009

*This business registration certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12 of the West Virginia Code.*

*The person or organization identified on this certificate is registered
to conduct business in the State of West Virginia at the location above.*

This certificate is not transferrable and must be displayed at the location for which issued.

ENGAGING IN BUSINESS WITHOUT CONSPICUOUSLY POSTING A WEST VIRGINIA BUSINESS REGISTRATION CERTIFICATE IN THE PLACE OF BUSINESS IS A CRIME AND MAY SUBJECT YOU TO FINES PER W. VA. CODE § 11-9.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

WV-029596

State of West Virginia

Division of Motor Vehicles

DEALER LICENSE CERTIFICATE

THIS IS TO CERTIFY that BWAB INTERNATIONAL, LLC

Street Address ROUTE 60, WEST City WHITE SUL SPGS State WV

has complied with the provisions of Chapter Seventeen A, Article Six of the Motor Vehicle Code and is hereby granted

License Certificate No. D 160 to conduct the business of:

DEALER IN NEW AND USED MOTOR VEHICLES
at the above address and the following additional locations within the State of West Virginia.

ROUTE 16 SOUTH RALE BECKLEY

408 GOFF MOUNTAIN ROAD KANA CROSS LANES

800 COAL HERITAGE ROAD MERC BLUEFIELD

Street Address _____ County _____ City _____
Street Address _____ County _____ City _____
Street Address _____ County _____ City _____

Certificate issued for fiscal year 2008-2009 expires JUNE 30, 2009
Issued at Charleston, West Virginia this 26TH day of JUNE, 2008

Joseph C. ...
DIVISION OF MOTOR VEHICLES

Commissioner

This License Must Be Displayed In The Dealer's Office In View Of The Public



Prepared For:
WV Dept. of Transportation
Donald Weese
P. O. Box 610
Buckhannon, WV 26201-
(304)348 - 1750
Reference ID: N/A

Presented By:
BWAB INTERNATIONAL, LLC
Robert M Cochran
408 GOFF MOUNTAIN ROAD
CHARLESTON WV 25313 -
(304)776-5600

Thank you for the opportunity to provide you with the following quotation on a new International truck. I am sure the following detailed specification will meet your operational requirements, and I look forward to serving your business needs.

Model Profile
2009 5500i 6X4 (DF557)

APPLICATION:	Front Plow with spreader
MISSION:	Requested GVWR: 62000. Calc. GVWR: 64180 Calc. Start / Grade Ability: 31.90% / 2.25% @ 55 MPH Calc. Geared Speed: 70.3 MPH
FUEL ECONOMY:	N/A
DIMENSION:	Wheelbase: 194.00, CA: 108.00, Axle to Frame: 68.00
ENGINE, DIESEL:	{Cummins ISM 385V} 370 HP @ 2100 RPM Governed Speed; 1450 lb-ft Torque @ 1200 RPM; 385 Peak HP (Max)
TRANSMISSION, AUTOMATIC:	{Allison 4500_RDS_P} 4th Generation Controls; Wide Ratio, 6-Speed, With Double Overdrive; On/Off Hwy; Includes Oil Level Sensor, With PTO Provision, Less Retarder
CLUTCH:	Omit Item (Clutch & Control)
AXLE, FRONT NON-DRIVING:	{Meritor FL-941} I-Beam Type, 20,000-lb Capacity
AXLE, REAR, TANDEM:	{Meritor RT-46-164EH} Single Reduction, Standard Width, 46,000-lb Capacity, With Driver Controlled Locking Differential in Forward Rear and Rear-Rear Axle and 200 Wheel Ends Gear Ratio: 5.38
CAB:	Conventional
TIRE, FRONT:	(2) 315/80R22.5 UNISTEEL G291 (GOODYEAR) 491 rev/mile, load range L, 20 ply
TIRE, REAR:	(8) 11R22.5 G244 MSD (GOODYEAR) 497 rev/mile, load range H, 16 ply
SUSPENSION, REAR, TANDEM:	{Hendrickson RT-463} Walking Beam Type 54" Axle Spacing; 46,000-lb Capacity With Bronze Center Bushings
FRAME REINFORCEMENT:	Outer "C" Channel, Heat Treated Alloy Steel (110,000 PSI Yield); 12.560" x 3.500" x 0.250" x 275.5" OAL
PAINT:	Cab schematic 100KA Location 1: 9219, Winter White (Std) Chassis schematic 931KA Frame: 6023, Blue (Prem)

<u>Description</u>	<u>(USA DOLLAR)</u>	<u>Price</u>
Factory List Prices:		
Product Items	\$171,578.00	
Service Items	\$0.00	
Total Factory List Price Including Options:		\$171,578.00
Total Goods Purchased:		\$312.00
Freight Charge	\$1,650.00	
Raw Material Steel Surcharge	\$1,200.00	
Total Freight:		\$2,850.00
Total Factory List Price Including Freight:		\$174,740.00
Less Customer Allowance:		(\$75,333.46)
Total Vehicle Price:		\$99,406.54
Total Body/Allied Equipment:		\$37,607.00
Total Sale Price:		\$137,013.54
Total Per Vehicle Sales Price:		\$137,013.54
Net Sales Price:		\$137,013.54

Please feel free to contact me regarding these specifications should your interests or needs change. I am confident you will be pleased with the quality and service of an International vehicle.

Approved by Seller:

Accepted by Purchaser:

Sales 9/10/2008

Official Title and Date

Firm or Business Name

John R. Bandy

Authorized Signature

Authorized Signature and Date

**This proposal is not binding upon the seller without
Seller's Authorized Signature**

Official Title and Date

<u>Code</u>	<u>Description</u>
DF55700	Base Chassis, Model 5500i 6X4 with 194.00 Wheelbase, 108.00 CA, and 68.00 Axle to Frame.
1103	FRAME RAILS Heat Treated Alloy Steel (110,000 PSI Yield); 12.000" x 3.250" x 0.250" x 341.4" OAL
1506	FRAME REINFORCEMENT Outer "C" Channel, Heat Treated Alloy Steel (110,000 PSI Yield); 12.560" x 3.500" x 0.250" x 275.5" OAL
1LLW	BUMPER, FRONT Heavy Duty, Painted Steel; Swept Back 40-Degrees
1WCP	FRAME EXTENSION, FRONT Integral; Heat Treated Alloy Steel (110,000 PSI Yield); 27" in Front of Grille, Includes: Crossmember for Front PTO
2233	AXLE, FRONT NON-DRIVING {Meritor FL-941} I-Beam Type, 20,000-lb Capacity
3AEX	SUSPENSION, FRONT, SPRING Two Stage Multileaf, 20,000-lb Capacity, Two Stage Steel Springs and (2) Rubber Auxiliary Springs, With Shocks
	<u>Includes</u>
	: SPRING PINS Threaded
4091	BRAKE SYSTEM, AIR Dual System for Straight Truck Applications
	<u>Includes</u>
	: BRAKE CHAMBERS, SPRING (4) Rear Parking
	: BRAKE LINES Color and Size Coded Nylon
	: DRAIN VALVE Twist-Type
	: DUST SHIELDS, FRONT BRAKE
	: DUST SHIELDS, REAR BRAKE
	: GAUGE, AIR PRESSURE (2) Air 1 and Air 2 Gauges; Located in Instrument Cluster
	: INVERSION VALVE and Double Check Valve
	: PARKING BRAKE VALVE Color-Coded Yellow Knob, Located on Instrument Panel
	: SLACK ADJUSTERS, FRONT Automatic
	: SLACK ADJUSTERS, REAR Automatic
	: SWITCH, AUXILIARY Interrupter for Cab Clearance/Marker Lights (Blinks Lights with Headlight Switch in "ON" Position); Instrument Panel Mounted
4190	BRAKES, FRONT, AIR CAM S-Cam; 16.5" x 6.0"; Includes 24 Sq. In. Brake Chambers
4273	BRAKES, REAR, AIR CAM S-Cam; 16.5" x 7.0"; Includes 30 Sq. In. MGM Spring Actuated Parking Brake Chambers
4619	TRAILER CONNECTIONS Four-Wheel, With Hand Control Valve and Tractor Protection Valve, for Straight Truck
	<u>Includes</u>
	: INVERSION VALVE and Double Check Valve
4AZJ	AIR BRAKE ABS {Bendix AntiLock Brake System} Full Vehicle Wheel Control System (4-Channel) With Automatic Traction Control
4EAH	AIR DRYER {Bendix AD-9} With Heater, Standard Location
4SPA	AIR COMPRESSOR {Cummins} 18.7 CFM
4VDX	AIR TANK LOCATION (2) Mounted Outside Right Rail, Under Cab, On Step Mounting Brackets
5710	STEERING COLUMN Tilting and Telescoping
5CAL	STEERING WHEEL 2-Spoke, 18" Diam., Black
5PTB	STEERING GEAR (2) {Sheppard M-100/M-80} Dual Power
6DDC	DRIVESHAFT SYSTEM SPL250XL Driveshaft and SPL170XL Inner-Axle Shaft in lieu of 1810 Driveshaft and 1710 Inner-Axle Shaft

<u>Code</u>	<u>Description</u>
7BDL	EXHAUST SYSTEM Single, Horizontal, Aftertreatment Device Frame Mounted Outside Right Rail Under Cab; Includes Vertical Tail Pipe and Guard <u>Includes</u> : MUFFLER/TAIL PIPE GUARD Non-Bright Finish
7SAM	ENGINE COMPRESSION BRAKE {Jacobs Model 411} for Cummins ISM Engine, With Selector Switch and On/Off Switch
7WAZ	TAIL PIPE (1) Turnback Type, Non-Bright Finish, for Single Exhaust
8000	ELECTRICAL SYSTEM 12-Volt, Standard Equipment <u>Includes</u> : BATTERIES (3) Maintenance-Free, 12-Volt 1950 CCA Total : BATTERY BOX Aluminum; Mounted Left Side Under Driver's Door : CIGAR LIGHTER Includes Ash Cup, Center Console Mounted : FUSES, ELECTRICAL SAE Blade-Type : HAZARD SWITCH Integral with Turn Signal Switch : HEADLIGHT DIMMER SWITCH Integral with Turn Signal Lever : HEADLIGHTS (2) Sealed Beam, 5" X 7" Rectangular : HORN, AIR Single, Chrome : HORN, ELECTRIC Single : PARKING LIGHT Integral with Front Turn Signal and Rear Tail Light : READING LIGHT, CAB (2) with Individual Switches; One Above Each Door : STARTER SWITCH Electric, Key Operated : STOP, TURN, TAIL & B/U LIGHTS Dual, Rear, Combination with Reflector : TURN SIGNAL FLASHER : TURN SIGNAL SWITCH Manual Cancelling with Lane Change Feature : TURN SIGNALS, FRONT Includes Integral Reflectors and Side Marker Lights; Fender Mounted : WINDSHIELD WIPER SWITCH 2-Speed with Wash and Intermittent Feature, Instrument Panel Mounted : WINDSHIELD WIPERS Single Motor, Electric, Cowl Mounted : WIRING, CHASSIS Color Coded and Continuously Numbered
8554	TRAILER CONNECTION SOCKET 7-Way; Mounted at Rear of Frame
8695	SNOW SHIELD (2) Chrome; for Dual Air Horns
8836	HORN, AIR (2) Single Bell, Extra Long, Organ Tone; Chrome
8ACE	BEACON LIGHT WIRING for (2) Customer Installed Beacon
8GEJ	ALTERNATOR {Leece-Neville 8LHP2172VAH} Brush Type; 12 Volt 110 Amp. Capacity, Pad Mounted
8MKY	BATTERIES (3) {International Group 31} Maintenance-Free (3) 12-Volt 2775CCA Total
8RBZ	SPEAKER, AUXILIARY, CB RADIO With Jack for CB; Mounted Left Side Above Driver's Door
8RDG	ANTENNA BASE (1) Dual Function, for CB and Entertainment Radio, With Splitter, Lead-In and Dual Function Antenna; Mounted on Left Mirror <u>Includes</u> : CB WIRING for Mounting CB; in Center Header Storage Compartment
8RDT	CB RADIO Accommodation Package; Accommodates Larger CB Radio, Includes Brackets and Velcro Straps, With Two Post Power Terminal and Direct Wire Power Option Mounted Center of Header
8RJV	RADIO {International} AM/FM Stereo With Weatherband, Clock, Auxiliary Input, Includes Multiple Dual Cone Speakers <u>Includes</u> : SPEAKERS IN CAB (4) Dual-Cone
8THJ	AUXILIARY HARNESS 3.0' for Auxiliary Front Head Lights and Turn Signals for Front Plow Applications

Code	Description
8WBE	JUNCTION BLOCK In Cab, For Tail Light, Turn Light, Backup Light and Key Switch Controlled Circuits; Mounted Behind Drivers Seat
8WGG	BATTERY BOX Steel; With Aluminum Lid, 3 Battery Capacity, Mounted Right Side Under Cab Below Frame Mounted Exhaust, Provides Clean CA
8WNH	RUNNING LIGHT (2) Daytime
8WXG	STARTING MOTOR {Mitsubishi Electric Automotive America 105P} 12-Volt, Less Thermal Over Crank Protection
8XAH	CIRCUIT BREAKERS Manual-Reset (Main Panel) SAE Type III With Trip Indicators, Replaces All Fuses Except For 5-Amp Fuses
9107	FRONT END Tilting, Fiberglass
	<u>Includes</u> : GRILLE Stainless Steel Vertical Grille Bars : HEADLIGHT BEZELS Chrome
9HAN	INSULATION, UNDER HOOD for Sound Abatement
9HBN	INSULATION, SPLASH PANELS for Sound Abatement
9WAC	BUG SCREEN Front End; Mounted Behind Grille
10060	PAINT SCHEMATIC, PT-1 Single Color, Design 100
	<u>Includes</u> : PAINT SCHEMATIC ID LETTERS "KA"
10631	PAINT IDENTITY, PT-2 Single Color, Instruction No. 931. Frame/Running Gear & Fuel Tank (Aluminum Tank Will Not Be Painted)
10761	PAINT TYPE Base Coat/Clear Coat, 1-2 Tone
10769	PAINT CLASS Premium Color.
11001	CLUTCH Omit Item (Clutch & Control)
12701	ANTI-FREEZE Purple, To -40 Degrees F/ -40 Degrees C, Freeze Protection
12851	PTO EFFECTS, ENGINE FRONT Less PTO Unit, Includes Adapter Plate on Engine Front Mounted
12864	BLOCK HEATER, ENGINE {Phillips} 120 Volt/1500 Watt
	<u>Includes</u> : BLOCK HEATER SOCKET Receptacle Type; Mounted below Drivers Door
12991	COLD STARTING EQUIPMENT Automatic Ether; With Engine ECM Control
12CZW	ENGINE, DIESEL {Cummins ISM 385V} 370 HP @ 2100 RPM Governed Speed; 1450 lb-ft Torque @ 1200 RPM; 385 Peak HP (Max)
	<u>Includes</u> : AIR COMPRESSOR AIR SUPPLY LINE Naturally-Aspirated : CRUISE CONTROL Electronic : ENGINE SHUTDOWN Electric, Key Operated : FUEL FILTER Engine Mounted : GOVERNOR Electronic : OIL FILTER, ENGINE Spin-On Type : THROTTLE, HAND CONTROL Electronic, Instrument Panel Mounted : TIMER Idle Shutdown : WATER FILTER Engine Mounted
12TKS	FAN DRIVE {Borg-Warner K26} With Automatic On/Off Control

<u>Code</u>	<u>Description</u>
	<u>Includes</u> : FAN Nylon
12UWK	RADIATOR Crimped, Cross Flow, 3 Row, Parallel System, 941 SqIn Area With Aluminum Core and 467 SqIn Charge Air Cooler <u>Includes</u> : ANTI-FREEZE Red Shell Rotella Extended Life Coolant -40F (-40C) : DEAERATION SYSTEM with Sight Glass and Remote Mounted Coolant Reservoir : RADIATOR HOSES Premium, Rubber
12UXT	FEDERAL EMISSIONS for 2002; for Cummins ISM Engines
12UY Y	FEDERAL EMISSIONS 2007 for Cummins ISM Engines
12VBK	AIR CLEANER Dual Element, with Integral Snow Separation Module <u>Includes</u> : GAUGE, AIR CLEANER RESTRICTION Air Cleaner Mounted
12WTA	FAN DRIVE SPECIAL EFFECTS Fan Cooling Ring with Fan Shroud Effects, Engine Mounted
12WZE	EMISSION COMPLIANCE Federal, Does Not Comply With California Clean Air Regulations
13AMN	TRANSMISSION, AUTOMATIC {Allison 4500_RDS_P} 4th Generation Controls; Wide Ratio, 6-Speed, With Double Overdrive; On/Off Hw; Includes Oil Level Sensor, With PTO Provision, Less Retarder <u>Includes</u> : OIL FILTER, TRANSMISSION Mounted on Transmission : TRANSMISSION OIL PAN Magnet in Oil Pan
13WCU	OIL COOLER, AUTO TRANSMISSION {Modine} Remote Mounted; For Use With Allison HD & 4000 Series Transmission Less Retarder
13WLM	TRANSMISSION OIL Synthetic; 63 thru 76 Pints
13WUC	ALLISON SPARE INPUT/OUTPUT for Rugged Duty Series (RDS); General Purpose Trucks, Construction
14HRC	AXLE, REAR, TANDEM {Meritor RT-46-164EH} Single Reduction, Standard Width, 46,000-lb Capacity, With Driver Controlled Locking Differential in Forward Rear and Rear-Rear Axle and 200 Wheel Ends . Gear Ratio: 5.38 <u>Includes</u> : POWER DIVIDER LOCK Air Operated, Cab Control with Indicator Light in Cluster : REAR AXLE DRAIN PLUG (2) Magnetic, For Tandem Rear Axle
14UHK	SUSPENSION, REAR, TANDEM {Hendrickson RT-463} Walking Beam Type 54" Axle Spacing; 46,000-lb Capacity With Bronze Center Bushings
14WAL	SUSPENSION/REAR-AXLE IDENTITY for Meritor(Rockwell) Tandem Rear Axles With Bar-Pin Beam Attachment Type Suspensions
14WBN	DIFF. SWITCH CONTROLS Two Independent Switches for Control Traction Differentials on Tandem Rear Axles, Mounted on Dash
14WLE	AXLE, REAR, LUBE {EmGard 75W-90} Synthetic Oil; 65 thru 89.99 Pints
15LGL	FUEL/WATER SEPARATOR {Davco Fuel Pro 382 (382030)} With Fuel Heated Fuel Heater, Thermostatic Fuel Temperature Control, Mounted In Standard Position
15SHC	FUEL TANK Non-Polished Aluminum, 24" Diam., 100 U.S. Gal., 378 L Capacity Left Side, Under Cab.
16031	CAB Conventional <u>Includes</u> : CLEARANCE/MARKER LIGHTS (5) Roof Mounted

<u>Code</u>	<u>Description</u>
	<ul style="list-style-type: none"> : COAT HOOK, CAB AND HAT HOOK, Located in Cab on Rear Wall, Centered Above Rear Window : CONSOLE, CENTER Plastic, Driver Convenience with a Cup and Change Holder, Ash Tray and Lower Storage Area with Net : DOME LIGHT, CAB (2) Rectangular, Door and Header-Mounted Switch Activated; Above Door Mounted, One Each Side : DOOR CHECK STRAP (2) One Each Door : GLASS, ALL WINDOWS Tinted : GRAB HANDLE, CAB INTERIOR (2) One Each Side : GRAB HANDLE, EXTERIOR (2) Mounted Behind Driver and Passenger Doors : INTERIOR SHEET METAL Upper Door (Above Window Ledge) Painted Exterior Color : SKIN Riveted : STEP (4) Two Steps per Door : STORAGE, CAB INTERIOR Vinyl Pocket, Mounted on Driver and Passenger Seat Back
16CDJ	CAB INTERIOR TRIM ACCENT Dark Blue
16HBH	GAUGE, TEMPERATURE, AMBIENT Includes Compass Readout and Wiring and Sensor With Display Unit Mounted in Cab Header
16HBJ	GAUGE CLUSTER Black Face; English with English Electronic Speedometer and with Tachometer for Air Brake Chassis, Includes Odometer, Trip Odometer, Total Engine Hours, and Trip Hours
	<p><u>Includes</u></p> <ul style="list-style-type: none"> : GAUGE, ENGINE OIL PRESSURE Electronic : GAUGE, WATER TEMPERATURE Electronic : VOLTMETER
16HGH	GAUGE, OIL TEMP, ALLISON TRAN
16HHG	GAUGE, AIR CLEANER RESTRICTION {Filter-Minder} With Chrome Bezel Mounted in Instrument Panel
16JPD	SEAT, DRIVER {National 2000 Model 195} Air Suspension, High Back, Vinyl Boxing With Cloth Facing, 2 Arm Rest, Isolator, Adjuster, 3 Lumbar Support, 6 Position Front Cushion Adjust, 3 Position Rear Cushion Adj, 2-15 Degree Back Angle Adjust, Vinyl Suspension Cover
	<p><u>Includes</u></p> <ul style="list-style-type: none"> : SEAT BELT 3-Point, Lap and Shoulder Belt Type
16PXW	SEAT, PASSENGER {National 2000 Model 197} Air Suspension, High Back, Vinyl Boxing With Cloth Facings, Two Arm Rest, Isolator, 6" Adjuster, Triple Chamber Lumbar Support, 6 Position Front Cushion Adjustment, 2-15 Degree Back Angle Adjustment, Vinyl Suspension Cover
16VAJ	CAB INTERIOR TRIM Premium Level; Vinyl, for Day Cab
	<p><u>Includes</u></p> <ul style="list-style-type: none"> : "A" PILLAR COVER Plastic, Medium Tan : CAB INTERIOR TRIM PANELS Soft Padded Vinyl : CONSOLE, OVERHEAD Molded Plastic with Three Storage Pockets; One with Velcro Strap for CB Radio Mounting; Two with Netting; Light Switches for Cab Dome and Courtesy Lights : COURTESY LIGHT (2) Driver and Passenger Door Mounted : DOOR TRIM PANELS Vinyl Covered Driver and Passenger Doors : FLOOR COVERING Rubber, Black : FLOOR MATS, CAB Rubber : GRILLE SURROUND Painted Steel : HEADLINER Soft Padded Vinyl : HEATER BOX Metal, Painted Black : INSTRUMENT PANEL TRIM Vinyl, Medium Tan with Woodgrain Appearance Panel Face : MIRROR, CONVEX, LOOK DOWN Black, Located on Passenger Side : SLEEPER COMPARTMENT CURTAIN Vinyl with Magnetic Closure : STORAGE POCKET, DOOR (2) Molded Plastic, Full Length, Driver and Passenger Door : SUN VISOR (2) Vinyl with Toll Ticket Strap

<u>Code</u>	<u>Description</u>
16VRZ	CAB SOUND INSULATION {Whisper Cab} Daycab Interior Noise Reduction Package
16WAK	WINDOW, POWER (2) in Left and Right Doors
16WJC	APADS SYSTEM {Index Sensors & Controls} Air Conditioner Protection and Diagnostics System; Use With Temperature Controlled Fan
16WJG	CAB DOOR LOCKS Power
16WKB	AIR CONDITIONER {International Blend-Air} With Integral Heater & Defroster <u>Includes</u> : HEATER HOSES Premium : REFRIGERANT Hydrofluorocarbon HFC-134A
16WKR	WINDSHIELD Single Piece
16WLD	CAB REAR SUSPENSION {Link Z9079D1} Dual Frame Mounted Cab Rear Air Suspension; Includes Special Crossmember Assembly
16WSP	MIRRORS (2) {International} West Coast Type, Rectangular, 16" x 7" & Convex, 102" Inside Spacing, Heated Heads, Power Both Sides, Lighted Both Sides, Bright Heads & Brackets
27DPL	WHEELS, FRONT DISC; 22.5" Painted Steel, 5 Hand Hole, 10-Stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 9.00 DC Rims; With .500" Thick Disc, Non-Standard Offset and Steel Hubs <u>Includes</u> : PAINT IDENTITY, FRONT WHEELS White : WHEEL SEALS, FRONT Oil Lubricated, Includes Wheel Bearings
28DMA	WHEELS, REAR DUAL DISC; 22.5" Painted Steel, 2 Hand Hole, 10-Stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 8.25 DC Rims; With Steel Hubs <u>Includes</u> : PAINT IDENTITY, REAR WHEELS White : WHEEL SEALS, REAR Oil Lubricated, Includes Wheel Bearings
29589	WHEEL SEALS, REAR {Stemco Guardian} Oil Lubricated Wheel Bearings
29594	WHEEL SEALS, FRONT {Stemco Guardian} Oil Lubricated Wheel Bearings
7382130152	(8) TIRE, REAR 11R22.5 G244 MSD (GOODYEAR) 497 rev/mile, load range H, 16 ply
7772540190	(2) TIRE, FRONT 315/80R22.5 UNISTEEL G291 (GOODYEAR) 491 rev/mile, load range L, 20 ply
804MAB	BRAKE CHAMBERS, SPRING Rear-Rear, Inverted; Brake Cam and Drum Rotation Do Not Change.
813WCC	PTO CONTROL, DASH MOUNTED For Customer Provided PTO; Includes Control Valve, Piping and Wiring, Wired for PTO
829WAE	WHEEL GUARDS, REAR {Accuride} for Metric Hub Piloted Wheels with Flanged Mounting Nuts, Mounted Between Hub & Wheel and Between Dual Wheels
OBD001	COATING IDENTITY, FRONT WHEELS Powder Coating front wheels Gray color
OBD002	COATING IDENTITY, REAR WHEELS Powder Coat rear wheels Gray in color
1	ACE BODY QUOTE-Henderson MKE 13.5 Body Safety Equipment/Triangles/Fire Ext. Artic Wiper Blades

(USA DOLLAR)

Description

Price

Warranty-2 year bumper to bumper, less light bulbs and tires.

0

Total Warranty : \$0.00

INTERNATIONAL®

Body Allied/Equipment
2009 5500i 6X4 (DF557)

September 10, 2008

(USA DOLLAR)

Description

Price

ACE BODY QUOTE-Henderson MKE 13.5 Body

\$37,607.00

Total Body Allied/Equipment: \$37,607.00

ENGINE, DIESEL (0012CZW)

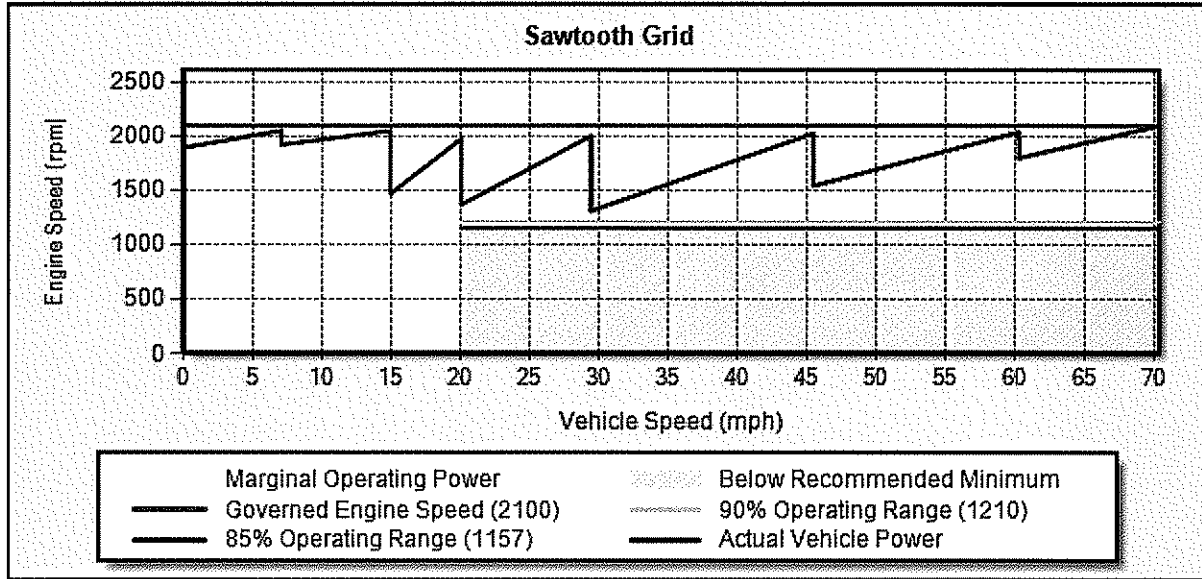
ATTACHMENTS: 0004619 (TRAILER CONNECTIONS) 0004091 (BRAKE SYSTEM, AIR)

<u>Parameter</u>	<u>Value</u>	<u>UOM</u>
MAX ACCELERATOR VEHICLE SPEED	70	MPH
ACCELERATOR LOWER DROOP	2	MPH
ACCELERATOR UPPER DROOP	0	MPH
SMART RSG	DISABLE	N/A
GEAR DOWN PROTECTION	DISABLE	N/A
GEAR DOWN PROTECTION - HEAVY LOAD	62	MPH
GEAR DOWN PROTECTION - LIGHT LOAD	57	MPH
LOW IDLE SPEED	700	RPM
LOW IDLE ADJUSTMENT	ENABLE	N/A
IDLE SHUTDOWN	DISABLE	N/A
IDLE TIME BEFORE SHUTDOWN	15	MIN
IDLE SHUTDOWN OVERRIDE	DISABLE	N/A
ENABLE IDLE SHUTDOWN IN PTO	DISABLE	N/A
PTO IDLE SHUTDOWN % LOADING	10	%
ENGINE FAN MIN ON TIME FOR AC	60	SEC
FAN VEHICLE SPEED INTERACTION	DISABLE	N/A
FAN ON DURING ENGINE BRAKING	DISABLE	N/A
LBSC - HIGH ENG LOAD SPEED	2500	RPM
LBSC - LOW ENG LOAD SPEED	2500	RPM
CRUISE CONTROL	ENABLE	N/A
MAXIMUM CRUISE CONTROL SPEED	70	MPH
CRUISE CONTROL LOWER DROOP	2.0	MPH
CRUISE CONTROL UPPER DROOP	0.0	MPH
CRUISE CONTROL SAVE SET SPD ENABLE	DISABLE	N/A
CRUISE CONTROL AUTO-RESUME	DISABLE	N/A
ENGINE BRAKE MIN VEHICLE SPEED	0	MPH
ENG BRAKE SERVICE BRAKE ACTIVATION	DISABLE	N/A
AUTO ENGINE BRAKE IN CRUISE	DISABLE	N/A
DELTA FOR MIN ENG BRAKE	4.0	MPH
DELTA FOR MAX ENG BRAKE	6.0	MPH
GOVERNOR TYPE	AUTO-GOV	N/A
PTO CONTROL	ENABLE	N/A
PTO MAX ENGINE LOAD	800	LB-FT
PTO SERVICE BRAKE OVERRIDE	ENABLE	N/A
PTO MAX VEHICLE SPEED	2	MPH
PTO MAX RPM	2100	RPM
PTO MIN RPM	700	RPM
PTO ACCELERATOR OVERRIDE	DISABLE	N/A
PTO APS OVERRIDE MAX SPEED	2100	RPM
PTO CONTROL - SET PTO RPM	850	RPM
PTO CONTROL - RESUME PTO RPM	900	RPM
PTO ALTERNATE SWITCH SPEED	1000	RPM
PTO ACCEL/DECEL RAMP RATE	250	RPM/SEC
PTO CLUTCH OVERRIDE	ENABLE	N/A
REMOTE PTO ENGINE SPEED 1	2100	RPM
TRIP INFO VEHICLE OVERSPEED 1	65	MPH
TRIP INFO VEHICLE OVERSPEED 2	75	MPH
POWERSPEC ENABLE	DISABLE	N/A
ENG PROTECTION SHUTDOWN	DISABLE	N/A
MAX ENGINE SPEED WITHOUT VSS	2090	RPM
MASTER PASSWORD DESIRED	000000	N/A
ADJUSTMENT PASSWORD DESIRED	000000	N/A
RESET PASSWORD DESIRED	000000	N/A

These Electronic Parameters have not been finalized

There is no weight study for this proposal.

ENGINE/TRANSMISSION MATCHING



Sawtooth Details

Gear	Trans Ratio	Upshift Power Avail		Govern Power Avail		Peak Power Comparison			Warn Msg
		Veh Spd (MPH)	Eng Spd (RPM)	Veh Spd (MPH)	Eng Spd (RPM)	Gear Step (%)	85% Range (%)	90% Range (%)	
1C	4.70	0.0	1893.8	7.0	2050.4	N/A	82	74	
2C	2.21	7.0	1920.0	14.9	2049.4	N/A	82	74	
2L	2.21	14.9	1467.4	20.0	1971.3	N/A	82	74	
3L	1.53	20.0	1364.8	29.4	2001.2	N/A	82	74	
4L	1.00	29.4	1308.0	45.4	2025.0	N/A	82	74	
5L	0.76	45.4	1539.0	60.2	2039.1	N/A	82	74	
6L	0.67	60.2	1797.6	70.3	2100.0	N/A	82	74	

@ - WHEELSLIP CAN OCCUR AT THE GRADE SHOWN. THE VEHICLE IS CAPABLE OF INCREASED GRADEABILITY IF MORE WEIGHT IS PLACED ON THE DRIVE AXLES.

STEADY STATE PERFORMANCE

Performance Results	Gear	Veh Spd (mph)	Eng Spd (rpm)	Fuel Econ (mpg)	Grade (%)	Notes
LEVEL ROAD MAXIMUM SPEED	6L	71.8	2144	*****	0.00	
HI GEAR SPEED @ RATED RPM	6L	70.3	2100	*****	0.70	
55.0 MPH STEADY-STATE	6L	55.0	1642	*****	2.25	- Calculated Grade Ability/Fuel Economy

VEHICLE ORDER CODING ERRORS MAY RESULT IF THE "LEVEL ROAD MAX SPEED" VALUE EXCEEDS THE "HI GEAR SPEED @ RATED RPM" AND IS USED AS THE ENGINE PROGRAMMABLE VEHICLE SPEED LIMIT.

IF THE RESULTS CONTAIN " ----", VEHICLE CANNOT ATTAIN THAT SPEED.

IF THE RESULTS CONTAIN "*****", THE ENGINE USED DOES NOT HAVE A FUEL MAP. FUEL ECONOMY CANNOT BE PREDICTED.

Recommendations / General Information

CUMMINS RECOMMENDATIONS FOR ENGINE SPEED:

GENERAL GUIDELINE

- * 1500-1700 RPM @ 55 MPH.
- * 1500-1600 RPM @ 65 MPH OR FASTER.
- * 1500 RPM OR LESS @ CRUISE SPEED SHOULD BE AVOIDED.

LTL AND LINEHAUL APPLICATIONS

- * TARGET ~1500 RPM @ 65 MPH IF GCW <= 80,000 LBS.

URBAN DELIVERY AND TWO-LANE OPERATION

- * TARGET ~1600 RPM @ 65 MPH IF GCW <= 80,000 LBS.

IDLE FUEL RATE : **** GALS/HR @ 700 RPM

TORQUE CONVERTER: TC-521 STALL RATIO: 2.42

Fuel Economy Route: Normal Route - City, Suburban, and Highway

Key Fuel Economy Information	City	Suburban	Highway	Notes
MILES PER GALLON	*****	*****	*****	
AVERAGE MPH	18.92	39.77	54.60	
MISSION MINUTES	29.9	52.1	173.4	

IF THE RESULTS CONTAIN "*****", THE ENGINE USED DOES NOT HAVE A FUEL MAP. FUEL ECONOMY CANNOT BE PREDICTED.

GRADEABILITY PERFORMANCE

Enroute - Full Throttle Upshift Performance

Gear	Trans Ratio	Veh Spd (mph)	Eng Spd (rpm)	Whl Pwr (hp)	Grade (%)	Warn Notes Msg
1C	4.70	0.0	1893.8	0.0	51.90	@ STALL
		3.9	1925.0	243.8	40.10	70% EFF
		5.4	1975.0	276.1	31.90	80% EFF
		7.0	2050.4	285.6	24.60	
2C	2.21	7.0	1920.0	220.6	18.60	
		14.9	2049.4	285.1	10.90	
2L	2.21	14.9	1467.4	351.6	13.70	
		20.0	1971.3	342.2	9.60	
3L	1.53	20.0	1364.8	341.8	9.60	
		29.4	2001.2	339.2	6.10	
4L	1.00	29.4	1308.0	329.6	5.90	
		45.4	2025.0	332.0	3.20	
5L	0.76	45.4	1539.0	343.0	3.40	
		60.2	2039.1	320.3	1.60	
6L	0.67	60.2	1797.6	330.4	1.70	
		67.4	2012.5	315.2	1.00	
		70.3	2100.0	306.1	0.70	RATED RPM
		70.8	2112.5	286.3	0.50	
		71.8	2143.8	235.8	0.00	LEVEL ROAD

STARTING / TOP GEAR PERFORMANCE

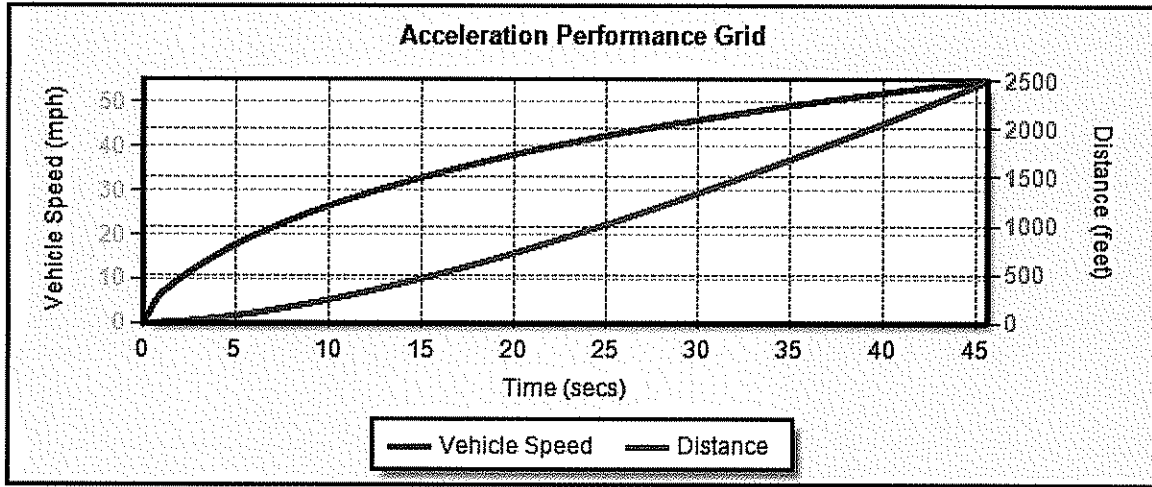
Gear	Trans Ratio	Veh Spd (mph)	Eng Spd (rpm)	Whl Pwr (hp)	Grade (%)	Warn Notes Msg
1C	4.70	0.0		0.0	51.90	@ STALL
		5.4		276.1	31.90	80% EFF - Calculated Start Ability

@ - WHEELSLIP CAN OCCUR AT THE GRADE SHOWN. THE VEHICLE IS CAPABLE OF INCREASED GRADEABILITY IF MORE WEIGHT IS PLACED ON THE DRIVE AXLES.

THE TRANSMISSION WAS SIMULATED IN PERFORMANCE OPERATING MODE.

ACCELERATION PERFORMANCE RESULTS

Acceleration Performance Grid



Acceleration Performance: TIME TO ACCELERATE ON A 0.00% GRADE TO 55.0 (MPH) IS 45.63 (SECS)

Acceleration Performance Details

Gear	Time (secs)	Distance (feet)	Speed (mph)	Notes
1	0.14	0.1	1.0	
	0.29	0.4	2.0	
	0.43	0.9	3.0	
	0.55	1.6	4.0	
	0.70	2.6	5.0	
	0.87	3.9	6.0	
	1.08	5.9	7.0	
2	1.08	6.0	7.0	
	1.38	9.2	8.0	
	1.67	12.9	9.0	
	1.97	17.1	10.0	
	2.30	22.1	11.0	
	2.64	27.9	12.0	
	3.01	34.8	13.0	
3	3.41	42.7	14.0	
	3.79	50.7	14.9	
	4.19	59.6	15.9	
	4.61	69.9	16.9	
	5.07	81.4	17.9	
	5.55	94.5	18.9	
	6.07	109.3	19.9	
4	6.13	111.2	20.0	
	6.66	126.9	21.0	
	7.20	143.9	22.0	
	7.76	162.6	23.0	
	8.36	183.2	24.0	
	8.99	205.8	25.0	
	9.65	230.4	26.0	
5	10.34	257.3	27.0	
	11.06	286.6	28.0	
	11.83	318.7	29.0	
	12.10	330.4	29.4	

Gear	Time (secs)	Distance (feet)	Speed (mph)	Notes
	12.91	365.9	30.4	
	13.73	403.0	31.4	
	14.57	442.2	32.4	
	15.44	484.0	33.4	
	16.34	528.6	34.4	
	17.28	576.4	35.4	
	18.25	627.6	36.4	
	19.26	682.3	37.4	
	20.32	740.8	38.4	
	21.41	803.3	39.4	
	22.55	870.0	40.4	
	23.74	941.2	41.4	
	24.98	1017.4	42.4	
	26.28	1099.0	43.4	
	27.64	1186.7	44.4	
	29.08	1280.9	45.4	
6	29.21	1289.8	45.4	
	30.64	1385.9	46.4	
	32.12	1488.1	47.4	
	33.67	1596.8	48.4	
	35.28	1712.5	49.4	
	36.96	1835.6	50.4	
	38.71	1966.6	51.4	
	40.54	2106.0	52.4	
	42.46	2254.6	53.4	
	44.46	2413.5	54.4	
	45.63	2507.3	55.0	

REQUIRED TCAPE INFORMATION

TCAPE Factors For Vehicle

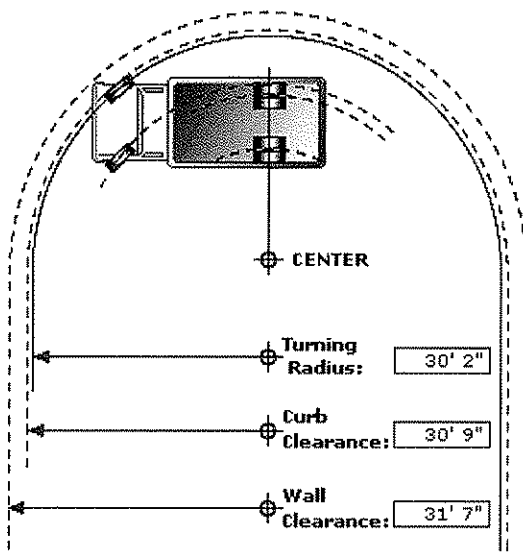
Selected Rear Axle Gear Ratio(s):	5.38
Vehicle Vocation:	MODERATE ON/OFF HIGHWAY
Road Surface Type:	TYPICAL
Enroute PTO:	NO
Transmission Mode:	Performance
Fuel Economy Route:	Normal Route - City, Suburban, and Highway
ID Wheel Slip Conditions:	Yes
Engine Fan Type:	CLUTCH (MODULATED - ON/OFF)
Parked PTO:	NO
Road Governor/Cruise Ctrl:	No
Acceleration Grade (%):	0.0
Alternator (A):	40
Frontal Area (FT2):	88
Air Compressor (HP):	2.20
Vehicle Height (IN):	132
Steering Gear (HP):	2.60
Air Conditioner (HP):	0.00
Weight on Drive Axle (LBF):	46000
Acceleration Vehicle Spd (MPH):	55.0
Speed Limit on Route (MPH):	61.0
Vehicle Width (IN):	96
Relative Drag Coefficient:	105
TIRE, FRONT	2 - RADIAL LOWPROFILE
TIRE, REAR	8 - RADIAL NORMAL

Components

0002233	AXLE, FRONT NON-DRIVING {Meritor FL-941} I-Beam Type, 20,000-lb Capacity
0004SPA	AIR COMPRESSOR {Cummins} 18.7 CFM
0005PTB	STEERING GEAR (2) {Sheppard M-100/M-80} Dual Power
0008GEJ	ALTERNATOR {Leece-Neville 8LHP2172VAH} Brush Type; 12 Volt 110 Amp. Capacity, Pad Mounted
0012CZW	ENGINE, DIESEL {Cummins ISM 385V} 370 HP @ 2100 RPM Governed Speed; 1450 lb-ft Torque @ 1200 RPM; 385 Peak HP (Max)
0012TKS	FAN DRIVE {Borg-Warner K26} With Automatic On/Off Control
0013AMN	TRANSMISSION, AUTOMATIC {Allison 4500_RDS_P} 4th Generation Controls; Wide Ratio, 6-Speed, With Double Overdrive; On/Off Hwy; Includes Oil Level Sensor, With PTO Provision, Less Retarder
0014HRC	AXLE, REAR, TANDEM {Meritor RT-46-164EH} Single Reduction, Standard Width, 46,000-lb Capacity, With Driver Controlled Locking Differential in Forward Rear and Rear-Rear Axle and 200 Wheel Ends
0016031	CAB Conventional
0016WKB	AIR CONDITIONER {International Blend-Air} With Integral Heater & Defroster
07382130152	TIRE, REAR 11R22.5 G244 MSD (GOODYEAR) 497 rev/mile, load range H, 16 ply 11R22.5 G244 MSD (GOODYEAR) 497 rev/mile, load range H, 16 ply
07772540190	TIRE, FRONT 315/80R22.5 UNISTEEL G291 (GOODYEAR) 491 rev/mile, load range L, 20 ply 315/80R22.5 UNISTEEL G291 (GOODYEAR) 491 rev/mile, load range L, 20 ply

TCAPE HAS BEEN DESIGNED TO GIVE ECONOMY AND PERFORMANCE PREDICTIONS WHICH HAVE BEEN SHOWN TO BE TYPICAL FOR MOST OPERATIONS. HOWEVER, DUE TO OPERATING CONDITIONS, DRIVER INFLUENCES, AND OTHER FACTORS, YOUR RESULTS MAY VARY FROM THOSE PREDICTED. ALSO, BECAUSE OF FUEL MAPPING PROCEDURES USED BY VARIOUS ENGINE MANUFACTURERS, COMPARISONS OF FUEL ECONOMY RESULTS FOR DIFFERENT BRANDS OF ENGINES MAY VARY FROM THOSE SHOWN.

NAVISTAR, INC. SHALL NOT BE LIABLE FOR ANY LOSS OF PROFITS, LOSS OF USE, INTERRUPTION OF BUSINESS OR INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND THAT ARE INCURRED BY DEALER OR BY DEALER'S CUSTOMERS AS A RESULT OF RELIANCE ON TCAPE, WHETHER THE CLAIM IS IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE.



Series: 5000
 Model: DF557
 Description: 5500i 6X4
 Model Year: 2009

Calculation Factors

Wheelbase: 194
 Front Axle: 0002233
 Description: AXLE, FRONT NON-DRIVING, {Meritor FL-941} I-Beam Type, 20,000-lb Capacity
 Front Wheel: 0027DPL
 Description: WHEELS, FRONT, DISC; 22.5" Painted Steel, 5 Hand Hole, 10-Stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 9.00 DC Rims; With .500" Thick Disc, Non-Standard Offset and Steel Hubs
 Front Tire: 07772540190
 Description: TIRES, 315/80R22.5 UNISTEEL G291 (GOODYEAR) 491 rev/mile, load range L, 20 ply
 Steering Gear: 0005PTB
 Description: STEERING GEAR, (2) {Sheppard M-100/M-80} Dual Power

Turning Radius Statistics

General Information

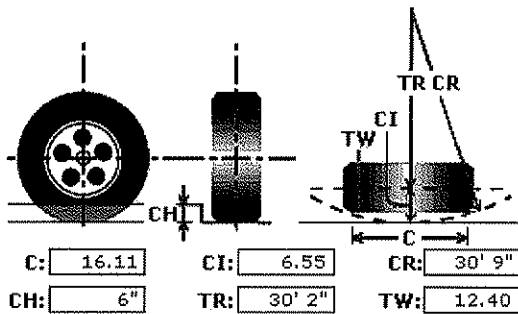
Inside Turn Angle: 40 Degrees
 Radial Overhang: 17

Axle Information

KingPin Inclination: 6 Degrees
 KingPin Center: 68.5

Turning Radius - Curb View

C - Curb Contact Length: 16.11
 CI - Curb Clearance Increment: 6.55
 CR - Curb Clearance Radius: 30'9"
 CH - Curb Height: 6"
 TR - Turning Radius: 30'2"
 TW - Tire Width: 12.40



* All Measurements are in inches, unless otherwise specified.

This information is based on engineering information available at this time. Actual figures may vary. Navistar, Inc. cannot accept liability for consequences due to this variance.

INTERNATIONAL

CTS - 2003K

WARRANTY COVERAGE SCHEDULE

Items Covered	Months	Miles/Km(000)
VEHICLE LIMITED COVERAGE		
Vehicle Limited Warranty	24	Unlimited
COMPONENTS		
Frame Side Rails	60	Unlimited
Frame Side Rails (7500 ONLY)	84	Unlimited
Cab/Cowl Structure	60	Unlimited
Cab/Cowl Perforation Corrosion	60	Unlimited
Rear Axle Weight Ratings greater than 52,000-lb	12	Unlimited
Front Axle Assembly	12	Unlimited
Rear Axle and Differential Transmission	12	Unlimited
Rear Axle Weight Ratings of 52,000-lb and Less	36	300/480
Front Axle Assembly	36	300/480
Rear Axle and Differential Transmission	36	300/480
International HT 530 Injectors (HT 530)	36	300/480
	24	150/240

DRIVETRAIN COMPONENTS-AS WARRANTED BY SUPPLIERS (On-Highway Tractors Only- Reference Supplier Information)*

* The drivetrain Supplier may offer additional warranty coverage beyond 36 months/300,000 miles (480,000 Km) as a part of their standard warranty.

For information regarding additional supplier coverages, please refer to specific policies from supplier warranty statements. You may acquire these materials from the supplier direct or your local International Dealer.

NOTE:

Any failures resulting from improper Allied Equipment installation or Equipment compatibility with the Truck components will be the responsibility of the Equipment installer or manufacturer.

Any failures resulting from improper alteration of the company or person components will be the responsibility of the company or person performing the alterations.

WHAT IS NOT COVERED

AFTER THE FIRST 90 DAYS FROM DELIVERY TO USER (DTU):

- Correction of loose fasteners, squeaks, rattles and unusual noises.
- Towing.
- Adjustments (e.g., headlights, brake/clutch adjustments, steering system adjustments, coolant levels).

COMPONENTS / ITEMS :

- Warranted by their respective manufacturers (e.g., non-International brand engines, tires & tubes, Allison Transmissions, radios, Lubricants, etc.)
- Bodies, equipment and accessories installed by other than authorized International Truck employees at International Truck manufacturing plants.
- Front and rear axle alignment.

REPAIRS :

- Maintenance-related items/repairs or those as a result of normal wear and tear, including tune-ups, brake/clutch lining, windshield wiper blades, tire balancing, lubrication and other similar procedures/parts required to keep vehicle in good working condition.
- To any part of the vehicle subjected to misuse, negligence, improper maintenance, improper operation, or which are the result of an accident.
- Fade, runs, mismatch or damage to paint, trim items, upholstery, chrome, polished surfaces, etc., resulting from environmental causes, improper polishes, cleaners or washing solutions, or chemical and industrial fallout.
- In which power train, propshaft and suspension sales guidelines (specifications) are not strictly adhered to by all owners and operators of this vehicle.

OTHER :

- Vehicles sold and/or operated outside the United States and Canada.
- Vehicles/components which have had unauthorized alterations or modifications.
- Vehicles on which the odometer reading has been altered.
- Loss of time or use of the vehicle, loss of profits, inconvenience, or other consequential or incidental damages or expenses.
- Replacement of defective parts with parts other than those provided by International Trucks.*

INTERNATIONAL® SEVERE MODELS-EXTENDED VEHICLE COVERAGE AND/OR MAJOR COMPONENTS OPTIONAL SERVICE CONTRACTS

**EXTENDED VEHICLE AND/OR MAJOR COMPONENTS
OPTIONAL SERVICE CONTRACTS**
(SEVERE MODELS)

POLICY ISSUED BY: DEALER NAME

CITY	DEALER ACCOUNT NUMBER
STATE/PROVINCE	POSTAL ZONE
YEAR	MODEL
VEHICLE IDENTIFICATION NUMBER	VEHICLE APPLICATION
ENGINE SERIAL NUMBER	
DATE OF DELIVERY TO USER (DTU)	ODOMETER READING AT DELIVERY
ABOVE INFORMATION MUST AGREE WITH DELIVERY TO USER (DTU) FORM AND DELIVERY INFORMATION	
ESTABLISHED BY RETAIL SALE	

CONTRACT HOLDER'S NAME _____
 STREET _____
 CITY _____

STATE/PROVINCE	POSTAL ZONE	CONTRACT TERMS		
EXTENDED	SERVICE CONTRACT NUMBER(S)	TIME MONTHS	DISTANCE - MI/KM (000)	HOURS
VEHICLE EXT WARRANTY		24	150,000	
MAJOR COMPONENT				

CUSTOMER: I HAVE REVIEWED THE OWNER / OPERATOR'S MANUAL FOR THIS VEHICLE AND READ THIS WARRANTY AGREEMENT AND:
 (1) I UNDERSTAND THE OPERATION OF THIS VEHICLE, (2) I UNDERSTAND AND ACCEPT THE TERMS OF THIS WARRANTY AGREEMENT, AND (3) I ACKNOWLEDGE RECEIPT OF A COPY OF THIS WARRANTY AGREEMENT.

CUSTOMER SIGNATURE _____ DATE _____
 DEALER: (1) YOU MUST REVIEW THE STANDARD WARRANTY AND THIS OPTIONAL WARRANTY SERVICE POLICY AND THE OWNER / OPERATOR'S MANUAL WITH THE CUSTOMER AT THE TIME OF SALE, (2) FOR U.S. AND CANADIAN SALES, SUBMIT A COPY OF THIS CONTRACT TO: WARRANTY ADMINISTRATOR, INTERNATIONAL TRUCK RELIABILITY CENTER, P.O. BOX 100888, FORT WAYNE, INDIANA, 46850 OR FAX TO 260-461-1976
 DEALER SIGNATURE _____ DATE _____

DEALER: SELECT/WRITE IN APPLICABLE SERVICE CONTRACT NUMBER(S) FROM PL-284 PRICE LIST. WRITE IN SERVICE CONTRACT NUMBER(S), AND CONTRACT TERMS WHERE REQUIRED.
 ORIGINAL - CUSTOMER COPY
 PHOTOCOPY COMPLETED ENROLLMENT FORM & MAIL OR FAX TO WARRANTY ADMINISTRATOR

EXTENDED VEHICLE COVERAGE WARRANTY:

The Extended Vehicle Service Contract Warranty option provides coverage to your vehicle for time or distance traveled from new vehicle delivery date, whichever expiration occurs first.

During the period selected, International* will repair or replace any part of this vehicle (less Engine and Engine-Electronic Components †), which proves defective in material and/or workmanship in normal use, with new or ReNEWed parts. Exceptions are listed herein under *What is Not Covered*.

† For Engine and Engine-Electronic Components coverage, please see PL-284/PLH-284.

MAJOR COMPONENTS COVERAGE:

The Major Component option provides coverage for time or distance traveled from new vehicle delivery date, whichever expiration occurs first.

During the period selected, International Trucks* will repair or replace any of the following components which prove to be defective in material and/or workmanship in normal use, with new or ReNEWed parts. Exceptions are listed herein under *What is Not Covered*.

COMPONENTS COVERED:

Coverage includes:

- Transmission (excluding Allison),
- Front Axle Assembly (excluding brakes and wheel ends),
- Rear Axles & Differentials (excluding brakes, axle shafts, controls, wheel ends and attachments),
- Frame Crossmembers,
- Frame-mounted Brackets,
- Suspensions (excluding pins, bushings, and air bags),
- Clutch (less facing material and controls)

Salesperson: Refer to the current PL-284/PLH-284 Price List for a complete listing of available contracts

WHAT IS NOT COVERED:**After the first 90 days from Delivery To User (DTU):**

- Correction of loose fasteners, squeaks, rattles and unusual noises.
- Towing.
- Adjustments (e.g., headlights, brake/clutch adjustments, steering system adjustments, coolant levels).

Components / Items:

- Warranted by their respective manufacturers (e.g., non-International brand engines, tires & tubes, Allison Transmissions, radios, lubricants, batteries, etc.)
- Bodies, equipment and accessories installed by other than authorized International Truck employees at International Truck manufacturing plants.
- Front and rear axle alignment.

Repairs:

- Maintenance-related items/repairs or those as a result of normal wear and tear, including tune-ups, brake/clutch lining, windshield wiper blades, gaskets, belts, seals, tire balancing, lubrication and other similar procedures/parts required to keep vehicle in good working condition.
- To any part of the vehicle subjected to misuse, negligence, improper maintenance, improper operation, or which are the result of an accident.
- Paint, Fade, runs, mismatch or damage to paint.
- Trim items, upholstery, chrome, polished surfaces, etc., resulting from environmental causes, improper polishes, cleaners or washing solutions, or chemical and industrial fallout.
- In which power train, propshaft and suspension sales guidelines (specifications) are not strictly adhered to by all owners and operators of this vehicle.
- Any single repair requiring less than \$40.00 parts and labor to complete.

Other:

- Vehicles sold and/or operated outside the United States and Canada.
- Vehicles/components which have had unauthorized alterations or modifications.
- Vehicles on which the odometer reading has been altered.
- Loss of time or use of the vehicle, loss of profits, inconvenience, or other consequential or incidental damages or expenses.
- Replacement of defective parts with parts other than those provided by International Trucks.*

ADMINISTRATIVE INFORMATION

Obtaining service: To obtain service under this Service Contract, return this vehicle to any International Truck Dealer authorized to service this model vehicle and engine.

Transferability: These contracts may be transferred. Approval and payment of a processing fee is required.

NOTE TO SERVICING LOCATION

Should there be questions regarding this coverage, call the Warranty Claims Center for clarification. For this purpose, the following phone numbers are provided to be used between 7:30 a.m. and 4:30 p.m. EST. In the 48 contiguous states, Hawaii and Canada, call 630-753-5200.

DISCLAIMER

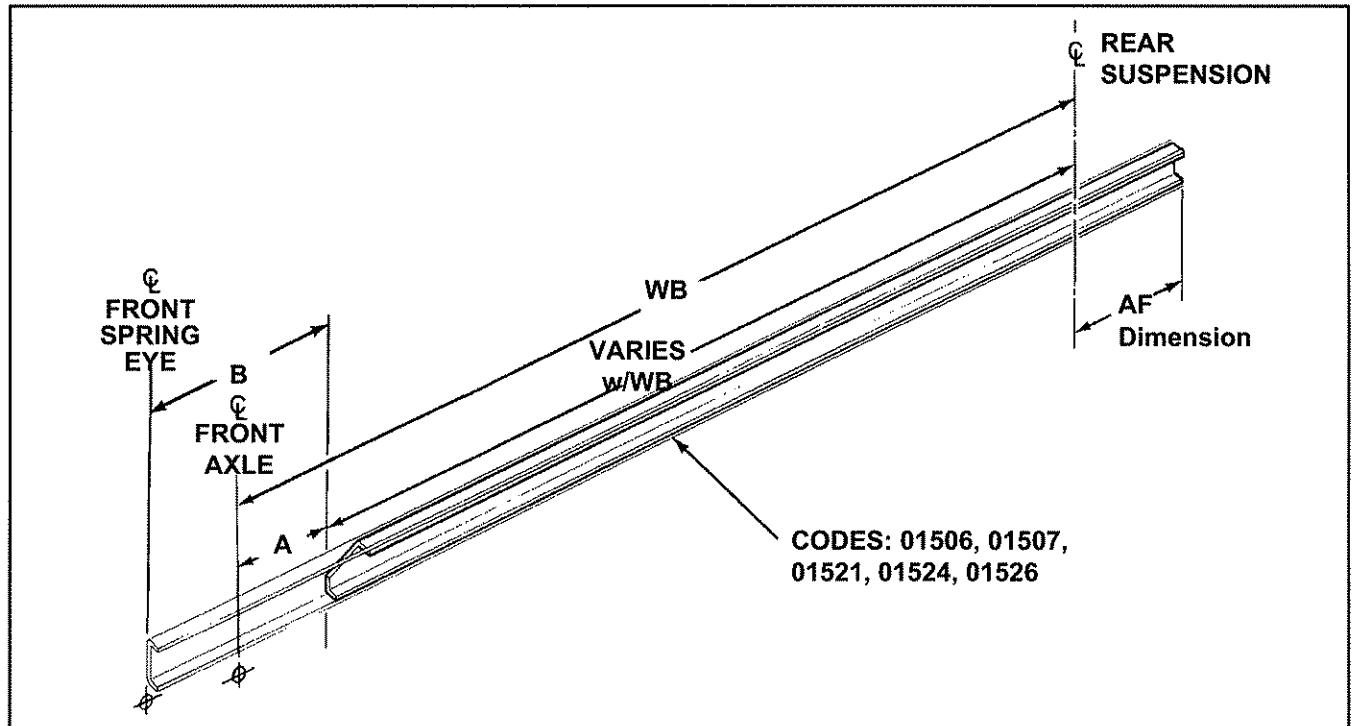
NO WARRANTIES ARE GIVEN BEYOND THOSE DESCRIBED HEREIN. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. THE COMPANY SPECIFICALLY DISCLAIMS WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OTHER REPRESENTATIONS TO THE USER/PURCHASER, AND ALL OTHER OBLIGATIONS OR LIABILITIES. THE COMPANY FURTHER EXCLUDES LIABILITY FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES, ON THE PART OF THE COMPANY OR SELLER. No person is authorized to give any other warranties or to assume any liabilities on the company's behalf unless made or assumed in writing by the Company; and no other person is authorized to give any warranties or to assume any liabilities on the seller's behalf unless made or assumed in writing by the seller.

Remedies Under State or Provincial Law: Some States and Provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to the owner. This warranty gives the owner specific legal rights, and he may also have other legal rights which may vary by state or province.

*International® Truck & Engine Corp., except in Canada where it is International Truck & Engine Corporation, Canada
PRINTED IN U.S.A.

■ FULL-LENGTH STRAIGHT RAIL REINFORCEMENT

To determine the location of the reinforcement on the main rail, refer to the following table.



**Full-Length Straight Rail Reinforcement
(Frame Keys CU & CW)**

01_0185

Suspension		A Front Axle Centerline to Beginning of Reinforcement (Inches)			B Front Spring Eye Centerline to Beginning of Reinforcement (Inches)		
Description	Code	5500i, 5900i	5600i	5900i SBA	5500i, 5900i	5600i	5900i SBA
Hendrickson Air – 55"	14UKZ, 14ULB, 14ULT, 14ULU	18.50	15.02	2.50	43.3	41.3	27.3
Hendrickson Air – 60"	14ULA, 14ULC, 14ULS, 14ULV						
Hendrickson	All Except Air						
Chalmers	All						
Neway – 55"	14UKX, 14VKA						
Neway – 60"	14UKY, 14VKB						
Neway – 72"	14UKU, 14VKC						

■ FRAME PIERCING

All frame rails are custom pierced resulting in a minimum number of open holes. The elimination of these unnecessary holes helps to increase the strength of the rails. A design that emphasizes minimum weight with maximum strength is assured.

■ SPECIAL FRAME PIERCING

■ ■ *Optional*

801PBZ

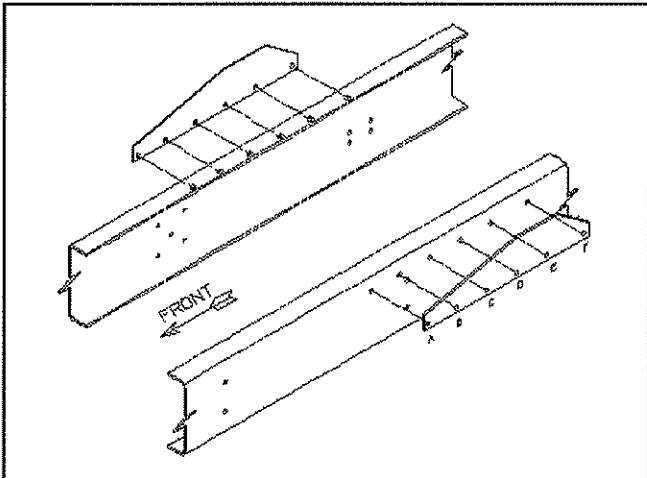
SPECIAL FRAME PIERCING (Body Mounting Holes) for MTM Mixer Body

■ FRAME, SPECIAL EFFECTS

■ ■ *Optional*

801WCN

FRAME, SPECIAL EFFECTS Bolt Two Mixer Mounting Plates to Frame for MTM Mixer Body



Mixer Mounting Plates – Code 801WCN

01_0186

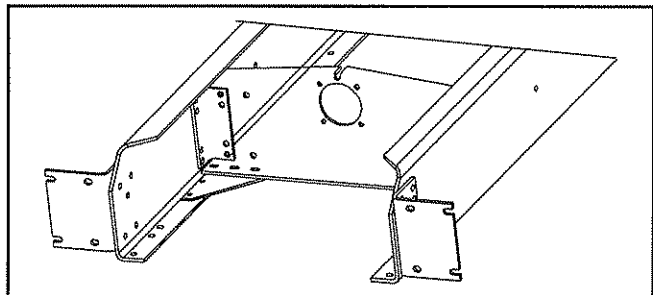
■ FRAME EXTENSION, FRONT

Front frame extensions are available to reposition the bumper farther forward for the mounting of pumps, winches and other equipment.

■ ■ *Optional*

01WCP

FRAME EXTENSION, FRONT Integral; Heat Treated Alloy Steel (110,000 PSI Yield); 27" in Front of Grille, Includes: Crossmember for Front PTO



Front Frame Extension – Code 01WCP

01_0187

■ CROSSMEMBER, INTERMEDIATE

The number of intermediate crossmembers depends on the wheelbase. All crossmembers have a wide bolt span and are attached to the frame rails with premium quality grade 8 high strength flange head bolts and Huck-spin fasteners. This design offers superior strength while at the same time conserving weight.

■ FRAME RAILS WITH TAPERED REAR

■ ■ *Optional*

01616

FRAME RAILS WITH TAPERED REAR

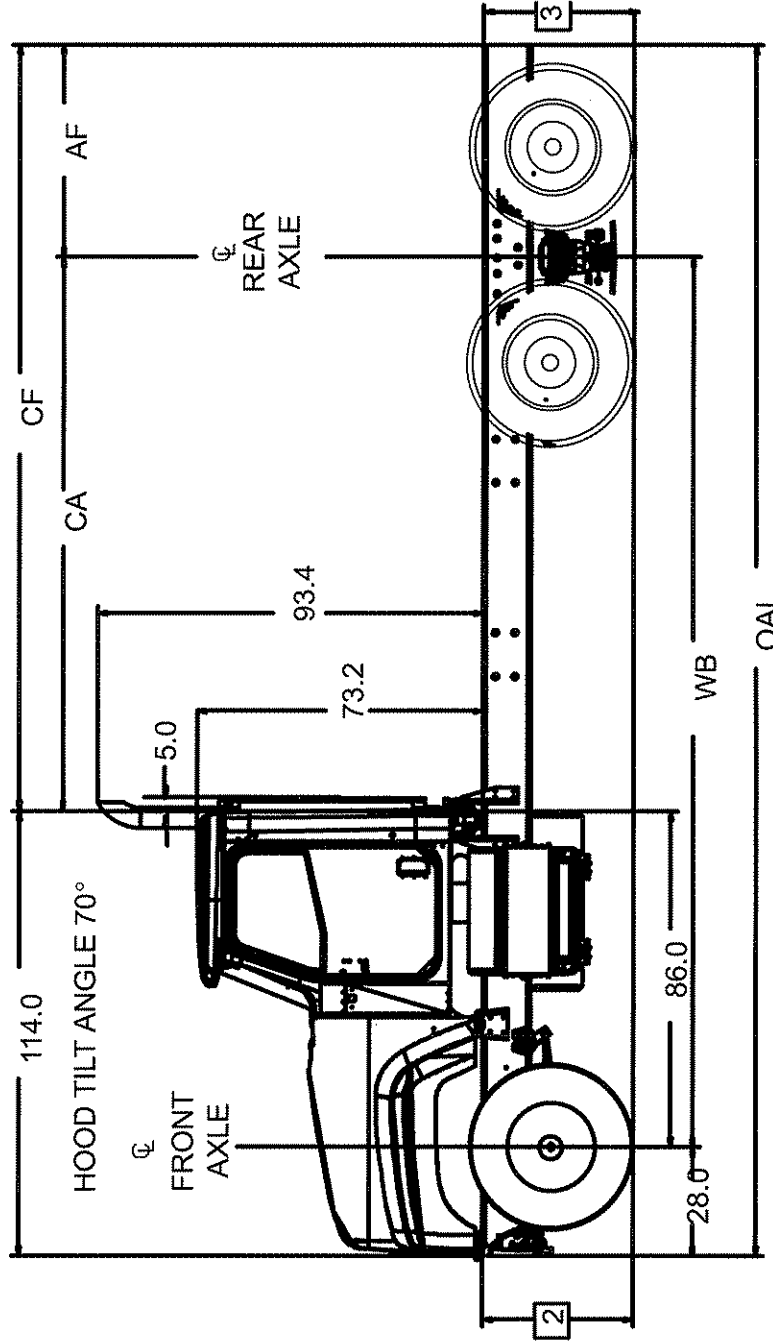
831317

FRAME RAILS WITH TAPERED REAR Special; Less Add-On Ramps.



6x4 SFA Chassis

Chassis Diagram — Side View



* DIMENSION DATA BASED ON THE 224" WHEELBASE UNLESS OTHERWISE NOTED.

5500i

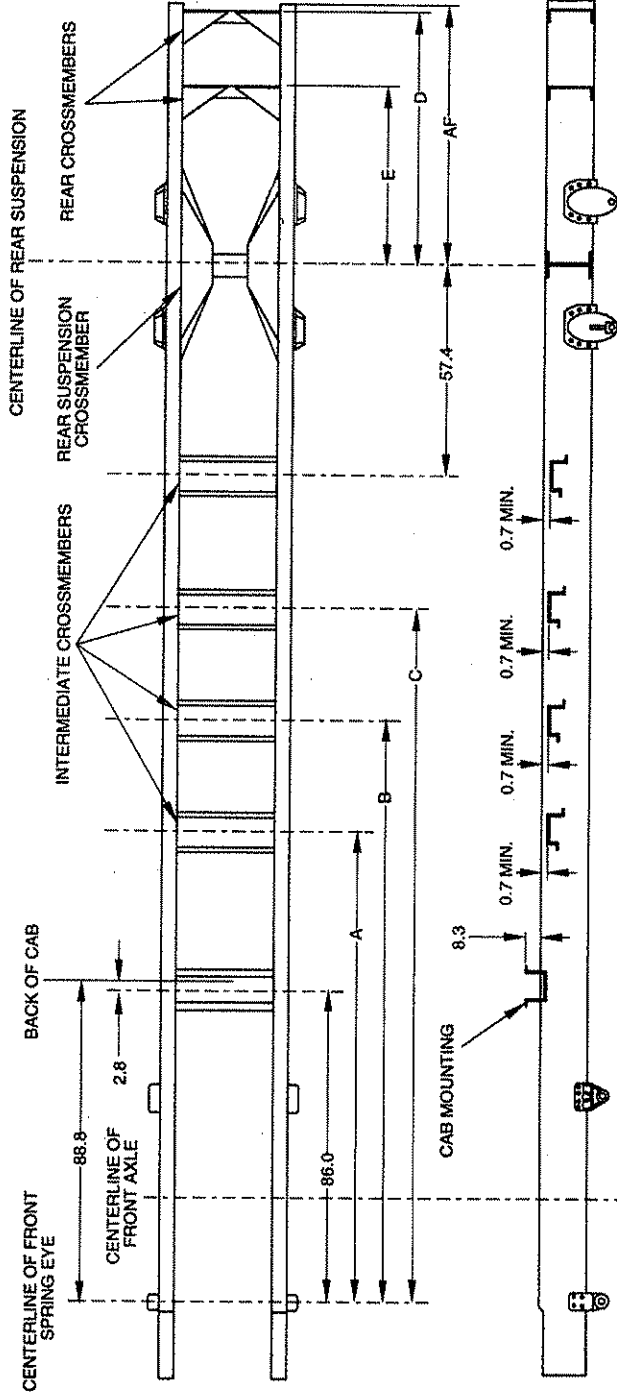
2 = Frame Height at centerline of front axle: unloaded - 41.7", loaded - 39.2"

3 = Frame Height at centerline of rear axle: unloaded - 43.2", loaded - 41.4"



5000i 6x6

Crossmember Locations



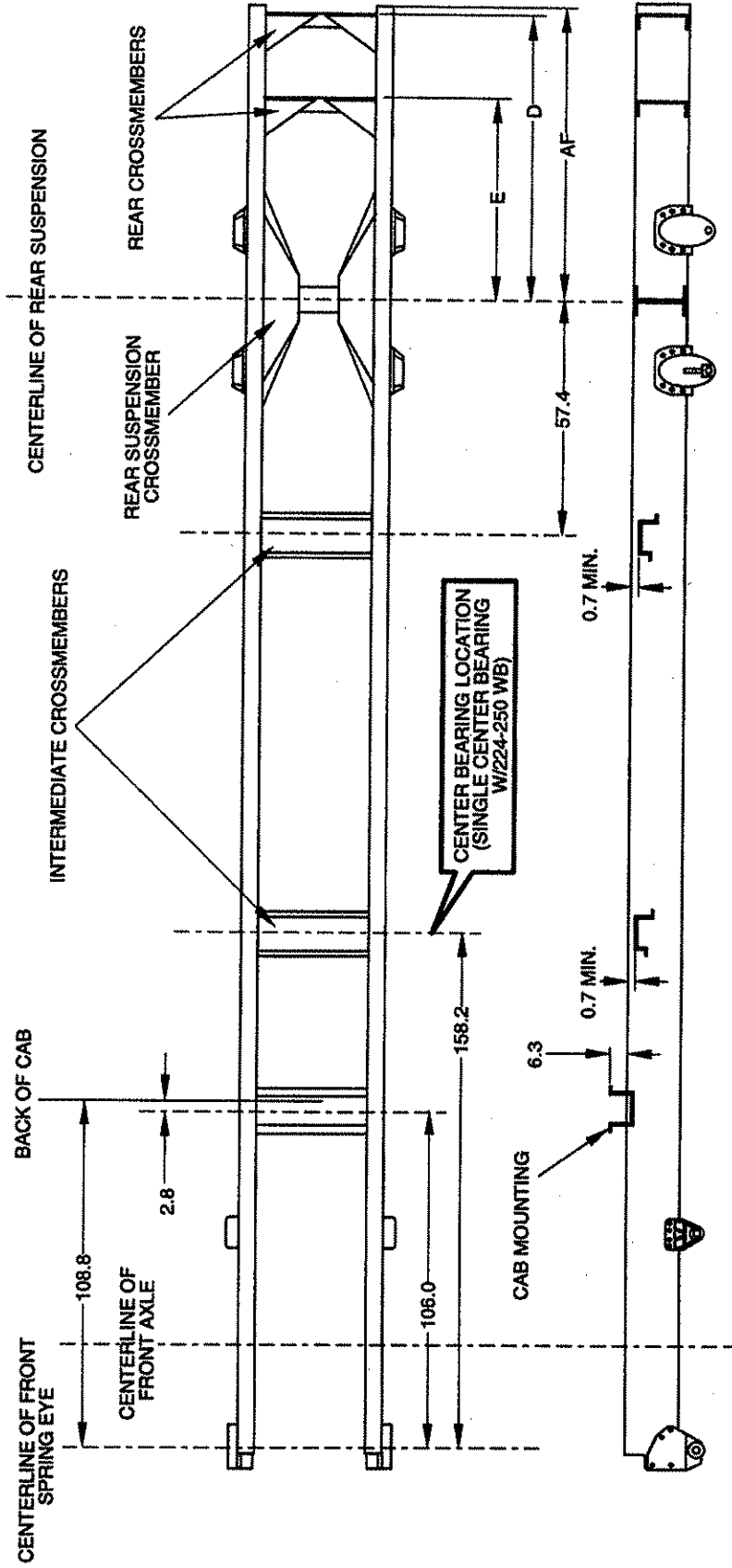
WHEELBASE (INCHES)	A	B	C	CENTER BEARING POSITION (IF REQUIRED)
164 THRU 181	—	—	—	—
182 THRU 213	—	—	—	—
214 THRU 243	—	158.2	—	—
244 THRU 258	—	175.2	—	B
259 THRU 273	126.2	158.2	188.2	B, C
274 THRU 288	—	168.2	203.2	B, C
289 THRU 303	—	173.2	218.2	B, C
304 THRU 318	—	180.2	233.2	B, C

	AF		
	54	66	78
D	49.0	61.0	73.0
E	—	—	49.0



5000i SFA 6x4

Crossmember Locations

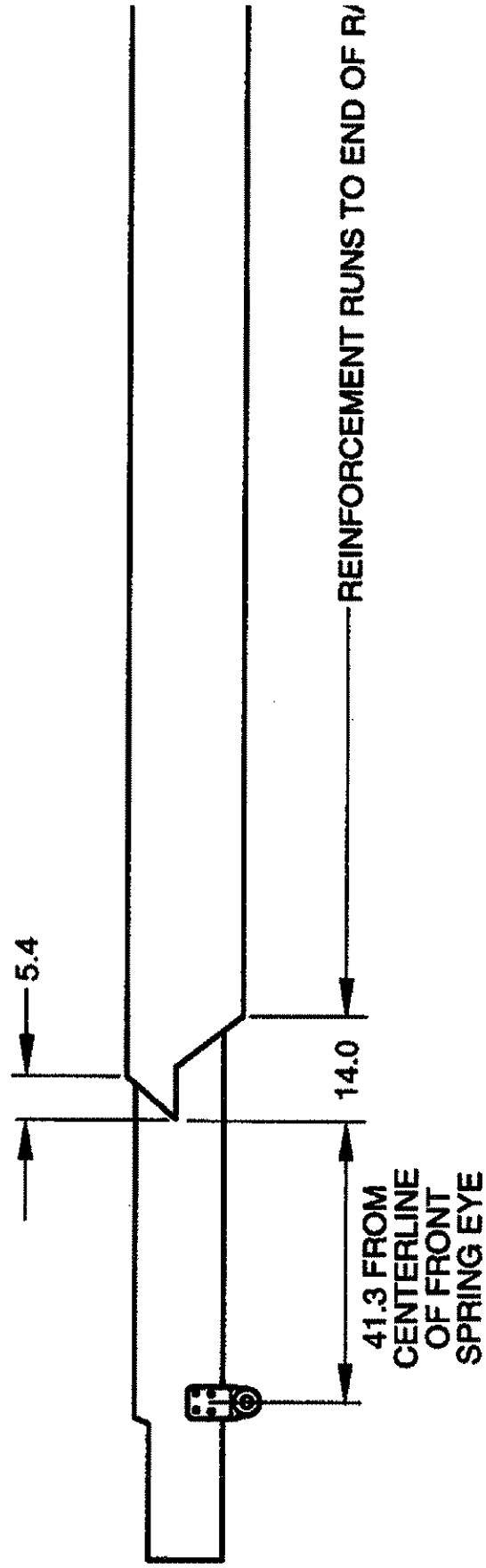


		AF		
	54	66	78	90
D	49.0	61.0	73.0	85.0
E	—	—	49.0	49.0



5000i SBA Series

Frame Rail Reinforcement



5000i Series

Frame Rail Specifications

FRAME RAIL SPECIFICATIONS

FRAME KEY	Side Rail & Reinforcement Descriptions ²							SECTION MODULUS ¹ (Inches ³)		RESISTING BENDING MOMENT (In.-Lbs.)	
	DIMENSIONS (Inches)			YIELD STRENGTH NOMINAL (psi)	MATERIAL #	Maximum	Nominal	Maximum	Design		
	Depth	Width	Thickness								
CG	Straight Channel Side Rail			120,000	C	17.88	16.72	1,967,000	1,839,000		
	10.880	3.893	0.315								
CP	Straight Channel Side Rail			110,000	C	22.34	21.01	2,457,000	2,311,000		
	12.250	3.375	0.375								
CU	Straight Channel Side Rail with Outer Full Channel Reinforcement			110,000	C	30.96	28.75	3,406,000	3,162,000		
	12.000	3.250	0.250								
	12.560	3.500	0.250								
CW	Straight Channel Side Rail with Outer Full Channel Reinforcement			110,000	C	43.09	40.45	4,740,000	4,450,000		
	12.250	3.375	0.375								
	12.934	3.687	0.312								

NOTE:

C = Heat Treated Alloy Steel

¹ = Section Modulus:

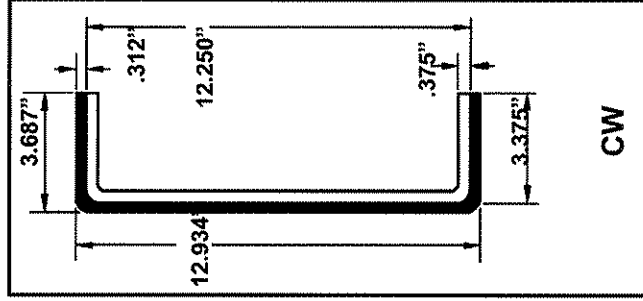
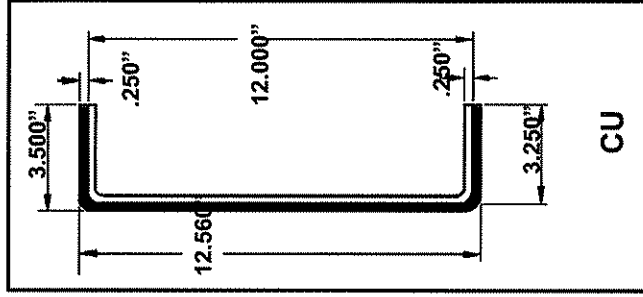
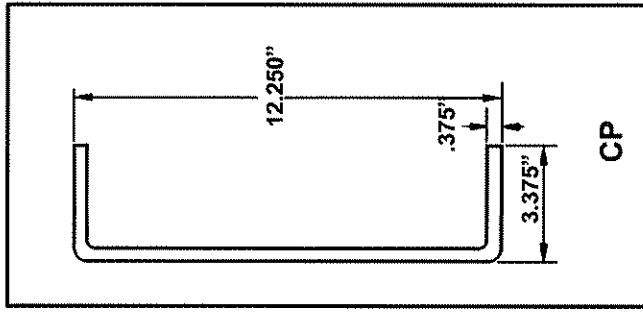
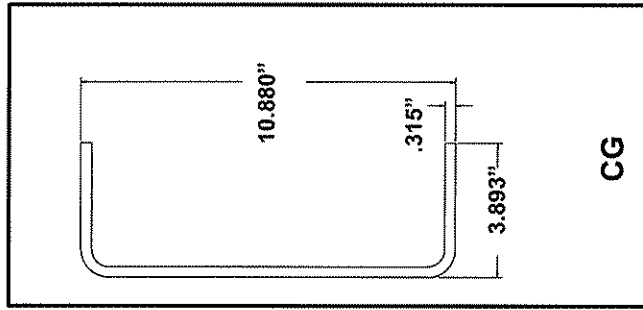
Maximum Tolerance: All frame dimensions are at maximum tolerance; used by some competitors as advertised values.
Nominal: Calculated using design dimensions – indicates the design load capacity of the frame.

² = Reinforcement dimensions and specifications are shown in italics.



5000i Series

Frame Rail Cross-Sections





5900i Series

Integrated Dump – Hydraulic Crossmember Frame Piercing Hole Locations

WHEELBASE WITH AF = 64							
Feature Code	Dump Body Length	LOCATION 1	LOCATION 2	LOCATION 3	LOCATION 4	LOCATION 5	LOCATION 6
01NAC	14 Foot Body						
01NAD	15 Foot Body	204 THRU 210	212 THRU 216	218 THRU 228	230 THRU 234	236 THRU 246	248 THRU 252
01NAE	16 Foot Body	216 THRU 222	224 THRU 228	230 THRU 240	242 THRU 246	248 THRU 258	260 THRU 264
01NAG	16.5 Foot Body	222 THRU 228	230 THRU 234	236 THRU 246	248 THRU 252	254 THRU 264	266 THRU 270
01NAH	17 Foot Body	228 THRU 234	236 THRU 240	242 THRU 252	254 THRU 258	260 THRU 270	272 THRU 276
01NAJ	17.5 Foot Body	234 THRU 240	242 THRU 246	248 THRU 258	260 THRU 264	266 THRU 276	278 THRU 282
01NAK	18 Foot Body	240 THRU 246	248 THRU 252	254 THRU 264	266 THRU 270	272 THRU 282	284 THRU 288
01NAL	18.5 Foot Body	246 THRU 252	254 THRU 258	260 THRU 270	272 THRU 276	278 THRU 288	290 THRU 294
01NAM	19 Foot Body	252 THRU 258	260 THRU 264	266 THRU 276	278 THRU 282	284 THRU 294	296 THRU 300
01NAN	19.5 Foot Body	258 THRU 264	266 THRU 270	272 THRU 282	284 THRU 288	290 THRU 300	302 THRU 306



5000i Series

Integrated Dump – Minimum Wheelbase and Minimum CA

WB = AB + CA									
CA+AF-PF = BL-PE+GAP									
CA = BL-PE+GAP-AF+PF									
Model		5500		5600		5900			
Axle Configuration		SFA		SBA		SFA		SFA	
Front Axle to BOC		AB		62		90			
Rear Axle to End of Frame		AF1		64		64			
		AF2		74		74			
BOC to Front of Body		GAP		8		8			
Pivot Point to End of Body		PE		12		12			
Pivot Point to End of Frame		PF		2		2			
Dump Body Length		Body Length		Boc to Rear Axle		Min. Wheelbase		Min. Wheelbase	
		BL		CA1	CA2	WB1	WB2	WB1	WB2
15 Foot Body	180	114	104	200	190	176	166	204	194
16 Foot Body	192	126	116	212	202	188	178	216	206
16.5 Foot Body	198	132	122	218	208	194	184	222	212
17 Foot Body	204	138	128	224	214	200	190	228	218
17.5 Foot Body	210	144	134	230	220	206	196	234	224
18 Foot Body	216	150	140	236	226	212	202	240	230
18.5 Foot Body	222	156	146	242	232	218	208	246	236
19 Foot Body	228	162	152	248	238	224	214	252	242
19.5 Foot Body	234	168	158	254	244	230	224	258	248

5000i

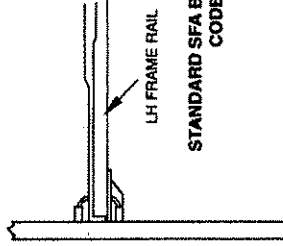
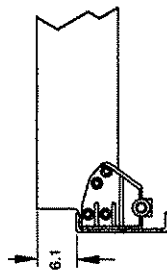
CT-471 October, 2002

5000i

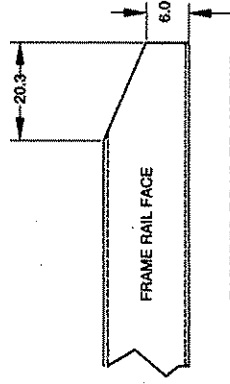


5000i Series

Front Bumper Mounting

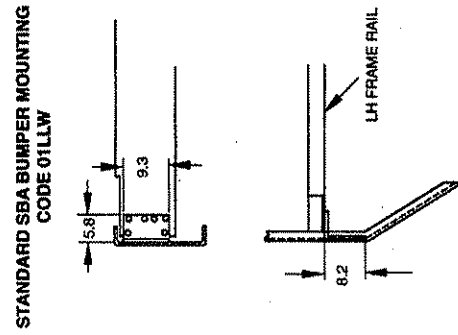
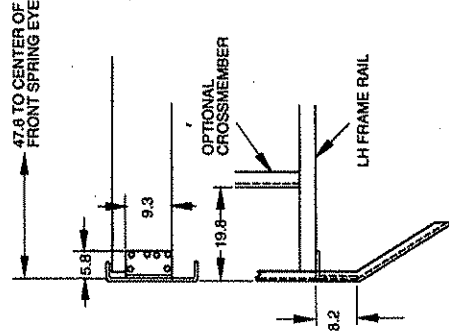


STANDARD SFA BUMPER MOUNTING
CODE 01LAG



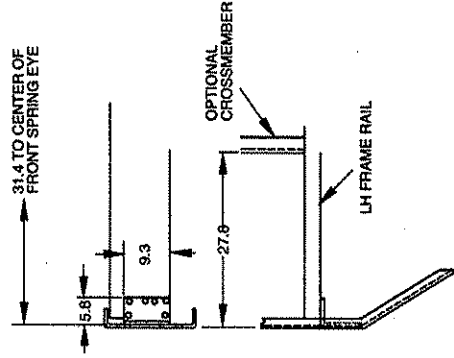
TAPERED REAR FRAME END
(12" RAIL SHOWN - CODE 01616)

29" EXTENDED BUMPER - SBA 12" RAIL
CODE 01WCP W/STANDARD TILT HOOD
OR 01WBH W/OPTIONAL BUTTERFLY HOOD



STANDARD SBA BUMPER MOUNTING
CODE 01LLW

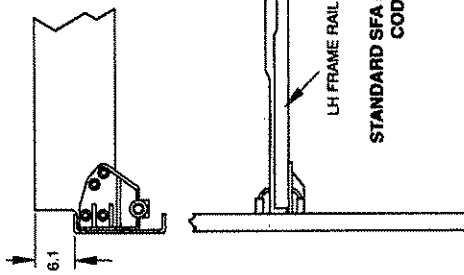
27" EXTENDED BUMPER - SFA 12" RAIL
CODE 01WBT W/STANDARD HOOD



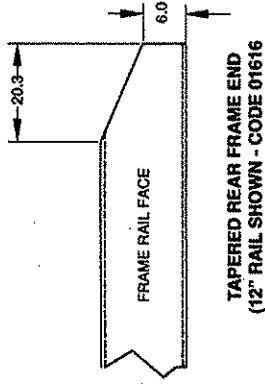


5000i Series

Front Bumper Mounting

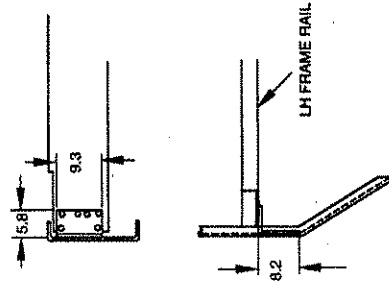


STANDARD SFA BUMPER MOUNTING
CODE 01LAG

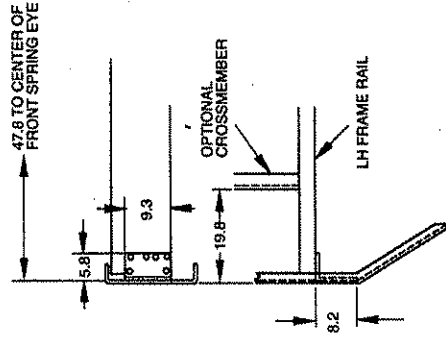


TAPERED REAR FRAME END
(12" RAIL SHOWN - CODE 01616)

STANDARD SBA BUMPER MOUNTING
CODE 01LLW



28" EXTENDED BUMPER - SBA 12" RAIL
CODE 01WCP W/STANDARD TILT HOOD
OR 01WBH W/OPTIONAL BUTTERFLY HOOD



27" EXTENDED BUMPER - SFA 12" RAIL
CODE 01WBT W/STANDARD HOOD

