



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

State of West Virginia
 Centralized Request for Quote
 Equipment

Proc Folder: 1294516		Reason for Modification:	
Doc Description: ADDENDUM NO_3 Truck Mounted Culvert Cleaner		Addendum No_3 Vendor Questions and Responses	
Proc Type: Central Master Agreement			
Date Issued	Solicitation Closes	Solicitation No	Version
2023-10-13	2023-10-23 13:30	CRFQ 0803 DOT2400000023	4

BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US



VENDOR

Vendor Customer Code: 000000204452
Vendor Name: West Virginia Tractor Company
Address: PO Box 473
Street: 214 Virginia Street West
City: Charleston
State: WV **Country:** US **Zip:** 25322
Principal Contact: Gary Grady
Vendor Contact Phone: 304-346-5301 **Extension:**

FOR INFORMATION CONTACT THE BUYER
 John W Estep
 304-558-2566
 john.w.estep@wv.gov

Vendor Signature X *Gary Grady* **FEIN#** 550621655 **DATE** 10-17-23

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

ADDENDUM NO_3

Addendum No_3 issued to publish and distribute the attached information to the Vendor Community.

REQUEST FOR QUOTATION:

The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia Division of Highways, Department of Transportation to establish an open-end contract for a (WVDOH Class 813) Truck Mounted Culvert Cleaner Vector Ramjet or Equal. Per the Bid Requirements, Specifications, Terms and Conditions attached to this solicitation.

INVOICE TO**SHIP TO**

DIVISION OF HIGHWAYS
EQUIPMENT DIVISION RT 33
83 BRUSHY ROAD
CROSSING, PO BOX 610
BUCKHANNON WV
US

DIVISION OF HIGHWAYS
EQUIPMENT DIVISION
83 BRUSHY FORK RD
CROSSING
BUCKHANNON WV
US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Truck Mounted Culvert Cleaner	10.00000	EA		

Comm Code**Manufacturer****Specification****Model #**

25101935

Extended Description:

Truck Mounted Culvert Cleaner

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Pre-Bid Equipment Division Buckhannon @ 11:00am	2023-10-05
2	Tech Questions due by 10:00am	2023-10-12

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CRFQ DOT240000023

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:


(Check the box next to each addendum received)

<input checked="" type="checkbox"/> Addendum No. 1	<input type="checkbox"/> Addendum No. 6
<input checked="" type="checkbox"/> Addendum No. 2	<input type="checkbox"/> Addendum No. 7
<input checked="" type="checkbox"/> Addendum No. 3	<input type="checkbox"/> Addendum No. 8
<input type="checkbox"/> Addendum No. 4	<input type="checkbox"/> Addendum No. 9
<input type="checkbox"/> Addendum No. 5	<input type="checkbox"/> Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

West Virginia Tractor Company

Company



Authorized Signature

10-17-23

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title) Gary Grady President
(Address) PO Box 473 Charleston WV 25322
(Phone Number) / (Fax Number) 304-346-5301 304-346-5305
(email address) wvtractor@msn.com

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

West Virginia Tractor Company

(Company) _____
(Signature of Authorized Representative) Gary Grady
Gary Grady President
(Printed Name and Title of Authorized Representative) (Date)
304-346-5301 304-346-5301
(Phone Number) (Fax Number)
wvtractor@msn.com
(Email Address) _____

REQUEST FOR QUOTATION
(WVDOH CLASS 813) Truck Mounted Culvert Cleaner Vactor Ramjet Or Equal.

7.1.4 Failure to remedy deficient performance upon request.

7.2 The following remedy shall be available to Agency upon default.

7.2.1 Immediate cancellation of the contract.

7.2.2 Immediate cancellation of one or more release orders issued under this Contract.

7.2.3 Any other remedies available in law or equity.

8. MISCELLANEOUS:

8.1 **No Substitutions:** Vendor shall supply only Contract Items submitted in Response to the Solicitation unless a contract modification is approved in accordance with the provisions contained in this Contract.

8.2 **Reports:** Vendor shall provide quarterly reports and annual summaries to the Agency showing the Agency's items purchased, quantities of items purchased, and total dollar value of the items purchased. Vendor shall also provide reports, upon request, showing the items purchased during the term of this Contract, the quantity purchased for each of those items, and the total value of purchases for each of those items. Failure to supply such reports may be grounds for cancellation of this Contract.

8.3 **Contract Manager:** During its performance of this Contract, Vendor must designate and maintain a primary contract manager responsible for overseeing Vendor's responsibilities under this Contract. The Contract manager must be available during normal business hours to address any customer service or other issues related to this Contract. Vendor should list its Contract manager and his or her contact information below.

Contract Manager: Gary Grady
Telephone Number: 304-346-5301
Fax Number: 304-346-5305
Email Address: wvtractor@msn.com

State of West Virginia

VENDOR PREFERENCE CERTIFICATE

Certification and application is hereby made for Preference in accordance with **West Virginia Code**, §5A-3-37. (Does not apply to construction contracts). **West Virginia Code**, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the **West Virginia Code**. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Vendor Preference, if applicable.

1. **Application is made for 2.5% vendor preference for the reason checked:**
Bidder is an individual resident vendor and has resided continuously in West Virginia, or bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia, for four (4) years immediately preceding the date of this certification; **or**,
 Bidder is a resident vendor partnership, association, or corporation with at least eighty percent of ownership interest of bidder held by another entity that meets the applicable four year residency requirement; **or**,
 Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; **or**,
2. **Application is made for 2.5% vendor preference for the reason checked:**
Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,
3. **Application is made for 2.5% vendor preference for the reason checked:**
Bidder is a nonresident vendor that employs a minimum of one hundred state residents, or a nonresident vendor which has an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia and employs a minimum of one hundred state residents, and for purposes of producing or distributing the commodities or completing the project which is the subject of the bidder's bid and continuously over the entire term of the project, on average at least seventy-five percent of the bidder's employees or the bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years and the vendor's bid; **or**,
4. **Application is made for 5% vendor preference for the reason checked:**
Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; **or**,
5. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**
Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; **or**,
6. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**
Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.
7. **Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with West Virginia Code §5A-3-59 and West Virginia Code of State Rules.**
Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.
8. **Application is made for reciprocal preference.**
Bidder is a West Virginia resident and is requesting reciprocal preference to the extent that it applies.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) rescind the contract or purchase order; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: West Virginia Tractor Company

Signed: 

Date: 10-17-23

Title: President

*Check any combination of preference consideration(s) indicated above, which you are entitled to receive.



CERTIFICATE OF GARAGE INSURANCE

DATE (MM/DD/YYYY)
04/21/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Sentry Insurance 1800 North Point Drive Stevens Point, WI 54481		CONTACT NAME: Sentry Customer Service	
		PHONE (A/C, No, Ext): 800-473-6879	FAX (A/C, No): 800-514-7191
		EMAIL ADDRESS: businessproducts_direct@sentry.com	
INSURER(S) AFFORDING COVERAGE			
INSURER A : Sentry Select Insurance Company		NAIC # 21180	
INSURER B :			
INSURER C :			
INSURER D :			
INSURER E :			
INSURER F :			

COVERAGES **PROD / CUSTOMER ID:** **CERTIFICATE #:** 1311744 **REVISION #:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSRD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS					
A	GARAGE LIABILITY			A0053698001	04/01/2023	04/01/2024	AUTO ONLY (Ea accident)		\$ 500,000			
	<input type="checkbox"/> ANY AUTO	<input checked="" type="checkbox"/> HIRED AUTOS ONLY					OTHER THAN AUTO ONLY	EA ACCIDENT	\$ 500,000			
	<input checked="" type="checkbox"/> OWNED AUTOS ONLY	<input checked="" type="checkbox"/> NON-OWNED AUTOS USED IN GARAGE BUSINESS						AGGREGATE	\$ 2,500,000			
	<input checked="" type="checkbox"/> Scheduled Autos											
A	GARAGE KEEPERS LIABILITY			A0053698001	04/01/2023	04/01/2024	<input checked="" type="checkbox"/> COMP / OTC SPECIFIED PERILS	LOC	1	\$ 250,000		
	<input type="checkbox"/> LEGAL LIABILITY DIRECT BASIS						<input checked="" type="checkbox"/> COLLISION	LOC	1	\$ 250,000		
	<input type="checkbox"/> PRIMARY	<input type="checkbox"/> EXCESS						LOC		\$		
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY			A0053698005	04/01/2023	04/01/2024	<input type="checkbox"/> CLAIMS-MADE	<input checked="" type="checkbox"/> OCCUR				
	GEN'L AGGREGATE LIMIT APPLIES PER:											
	<input checked="" type="checkbox"/> POLICY	<input type="checkbox"/> PRO-JECT	<input type="checkbox"/> LOC									
	OTHER											
	EACH OCCURRENCE											\$ 1,000,000
	DAMAGE TO RENTED PREMISES (Ea occurrence)											\$ 500,000
A	<input checked="" type="checkbox"/> UMBRELLA LIAB	<input checked="" type="checkbox"/> OCCUR		A0053698008	04/01/2023	04/01/2024	EACH OCCURRENCE		\$ 2,000,000			
	<input checked="" type="checkbox"/> EXCESS LIAB	<input type="checkbox"/> CLAIMS-MADE					AGGREGATE		\$ 6,000,000			
	<input type="checkbox"/> DED	<input type="checkbox"/> RETENTION \$					PRODUCTS - COMP/OP AGG		\$ 6,000,000			
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY											
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)		Y / N				N / A					
	If yes, describe under REMARKS below		<input type="checkbox"/>									
A	ERRORS & OMISSIONS			A0053698004	04/01/2023	04/01/2024	Employee Benefits	Occurrence Limit	\$ 500,000			
		Errors & Omissions	Annual Aggregate Limit				\$ 1,000,000					
			Deductible				\$ 1,000					
	All Other Errors & Omissions	Occurrence Limit	\$ 250,000									
		Annual Aggregate Limit	\$ 500,000									
		Deductible	\$ 1,000									

REMARKS (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Refer to attached

CERTIFICATE HOLDER WV DOH 83 Brushy Road Xing PO Box 610 Buckhannon, WV 26201-0610	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE <i>John Hyland</i>
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AGENCY CUSTOMER ID: XXXXXX1655

LOC #: _____

ADDITIONAL REMARKS SCHEDULE

AGENCY Melanie Rosenbaum		NAMED INSURED West Virginia Tractor Co.
POLICY NUMBER A0053698001		
CARRIER Sentry Select Insurance Company	NAIC CODE 21180	EFFECTIVE DATE: 04/01/2023

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: ACORD 30 FORM TITLE: Certificate Of Garage Insurance

General Liability


WV DOH AND STATE OF WEST VIRGINIA ARE ADDITIONAL INSURED ON THE GENERAL LIABILITY, PER THE POLICY PROVISIONS IF REQUIRED AS SUCH IN WRITTEN CONTRACCT WITH THE NAMED INSURED. GARAGE LIABILITY INCLUDES THE AUTOMOBILE LIABILITY. ANY AUTO COVERAGE INCLUDED. EXCESS/UMBRELLA LIABILITY FOLLOWS FORM.

Errors and Omissions Liability Coverage:

Policy Number: A0053698004 Effective date: 04/01/2023 Expiration Date: 04/01/2024
 Per Occurrence Limit: \$250,000 General Aggregate Limit: \$500,000

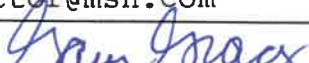
Truth-In-Lending and Truth-In-Leasing
 Odometer Hour Meter and Prior Damage Disclosure Errors and Omissions
 Title Errors and Omissions

VENDOR: West Virginia Tractor Co **Truck mounted culvert cleaner**

Item No.	Description:	Model & Part Number Being Bid	Estimated Unit Quantity	Unit Price	Item Total Cost
1	Vactor Ramjet truck mounted culvert cleaner or equal	Vactor Ramjet Freightliner M2-106 Plus	10	\$302,758	\$302,758
Total Bid Cost					\$3,027,580

Bid Will Be Awarded To The Lowest Overall Bid Total For All Items

Vendor Information

Company Name: West Virginia Tractor Company
Contact Manager: Gary Grady
Address: PO Box 473 Charleston WV 25322
Phone: 304-346-5301
Fax: 304-346-5305
E-mail: wvtractor@msn.com
Signature: 

Prepared for:
Todd Campbell
WEST VIRGINIA DEPT OF
HIGHWAYS
83 BRUSHY FORK
XING

BUCKHANNON, WV 26201
Phone: 304-473-
5354

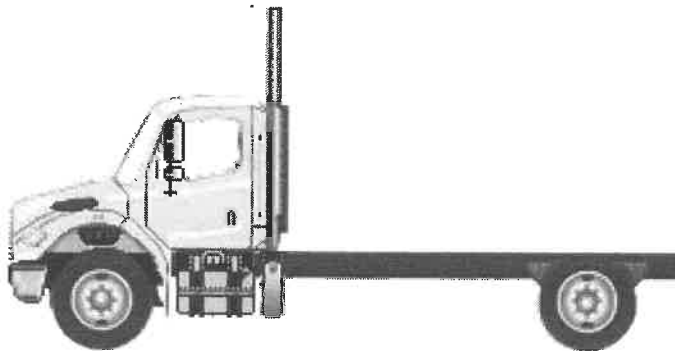
Prepared by:
Brian Conrad
MATHENY MOTOR TRUCK
COMPANY
50 Matheny Lane
Mineral Wells, WV 26150
Phone: 3044854418

A proposal for
WEST VIRGINIA DEPT OF HIGHWAYS

Prepared by
MATHENY MOTOR TRUCK COMPANY
Brian Conrad

Oct 22, 2023

Freightliner M2 106 Plus



Components shown may not reflect all spec'd options and are not to scale



Prepared for:
Todd Campbell
WEST VIRGINIA DEPT OF
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S P E C I F I C A T I O N P R O P O S A L

Data Code	Description	Weight Front	Weight Rear
Price Level			
PRL-28M	M2 PRL-28M (EFF:MY25 ORDERS)		
Data Version			
DRL-017	SPECPRO21 DATA RELEASE VER 017		
Vehicle Configuration			
001-172	M2 106 PLUS CONVENTIONAL CHASSIS	5,709	3,450
004-225	2025 MODEL YEAR SPECIFIED		
002-004	SET BACK AXLE - TRUCK		
019-004	STRAIGHT TRUCK PROVISION, NON-TOWING		
003-001	LH PRIMARY STEERING LOCATION		
General Service			
AA1-002	TRUCK CONFIGURATION		
AA6-002	DOMICILED, USA (EXCLUDING CALIFORNIA AND CARB OPT-IN STATES)		
99D-027	EPA EMISSIONS CERTIFICATION FOR REGISTRATION OUTSIDE CARB STATES - EPA CLEAN IDLE (INCLUDES 6X4 INCH LABEL ON LOWER FORWARD OF DRIVER DOOR)		
AF2-998	NO STATE/PROVINCE INITIAL REGISTRATION SELECTED		
A85-010	UTILITY/REPAIR/MAINTENANCE SERVICE		
A84-1GM	GOVERNMENT BUSINESS SEGMENT		
AA4-002	LIQUID BULK COMMODITY		
AA5-002	TERRAIN/DUTY: 100% (ALL) OF THE TIME, IN TRANSIT, IS SPENT ON PAVED ROADS		
AB1-008	MAXIMUM 8% EXPECTED GRADE		
AB5-001	SMOOTH CONCRETE OR ASPHALT PAVEMENT - MOST SEVERE IN-TRANSIT (BETWEEN SITES) ROAD SURFACE		
995-091	MEDIUM TRUCK WARRANTY		



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 COMPANY
 50 Matheny Lane
 Mineral Wells, WV 26150
 Phone: 3044854418

Data Code	Description	Weight Front	Weight Rear
A66-99D	EXPECTED FRONT AXLE(S) LOAD : 14600.0 lbs		
A68-99D	EXPECTED REAR DRIVE AXLE(S) LOAD : 23000.0 lbs		
A63-99D	EXPECTED GROSS VEHICLE WEIGHT CAPACITY : 37600.0 lbs		

Truck Service

AA3-034	SEWER/INDUSTRIAL VACUUM BODY		
AF3-1DN	VACTOR		
AF7-99D	EXPECTED BODY/PAYLOAD CG HEIGHT ABOVE FRAME "XX" INCHES : 32.0 in		

Engine

101-3BM	CUM L9 270 HP @ 2200 RPM; 2200 GOV RPM, 860 LB-FT @ 1200 RPM	640	30
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Electronic Parameters

79A-070	70 MPH ROAD SPEED LIMIT		
79B-000	CRUISE CONTROL SPEED LIMIT SAME AS ROAD SPEED LIMIT		
79K-005	PTO MODE ENGINE RPM LIMIT - 900 RPM		
79M-001	PTO MODE BRAKE OVERRIDE - SERVICE BRAKE APPLIED		
79P-002	PTO RPM WITH CRUISE SET SWITCH - 700 RPM		
79Q-003	PTO RPM WITH CRUISE RESUME SWITCH - 800 RPM		
79S-001	PTO MODE CANCEL VEHICLE SPEED - 5 MPH		
79U-007	PTO GOVERNOR RAMP RATE - 250 RPM PER SECOND		
79V-001	FUEL DOSING OF AFTERTREATMENT ENABLED IN PTO MODE-CLEANS HYDROCARBONS AT HIGH TEMPERATURES ONLY		
79W-001	ONE REMOTE PTO SPEED		
79X-001	PTO SPEED 1 SETTING - 700 RPM		
80G-002	PTO MINIMUM RPM - 700		
80J-002	REGEN INHIBIT SPEED THRESHOLD - 5 MPH		
80S-014	PTO 1, NO SWITCH, TEM SUPPLIED REQUEST AND INTERLOCKS, WITH PTO CONNECTIONS, STATIONARY INTERLOCKS		
80T-014	PTO 2, NO SWITCH, TEM SUPPLIED REQUEST AND INTERLOCKS, WITH PTO CONNECTIONS, STATIONARY INTERLOCKS		



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 Phone: 3044854418

Data Code	Description	Weight Front	Weight Rear
Engine Equipment			
99C-024	EPA 2010/GHG 2024 CONFIGURATION		
13E-001	STANDARD OIL PAN		
105-001	ENGINE MOUNTED OIL CHECK AND FILL		
014-099	SIDE OF HOOD AIR INTAKE WITH FIREWALL MOUNTED DONALDSON AIR CLEANER		
124-1D7	DR 12V 160 AMP 28-SI QUADRAMOUNT PAD ALTERNATOR WITH REMOTE BATTERY VOLT SENSE		
292-235	(2) DTNA GENUINE, FLOODED STARTING, MIN 2000CCA, 370RC, THREADED STUD BATTERIES	10	
290-017	BATTERY BOX FRAME MOUNTED		
281-001	STANDARD BATTERY JUMPERS		
282-001	SINGLE BATTERY BOX FRAME MOUNTED LH SIDE UNDER CAB		
291-017	WIRE GROUND RETURN FOR BATTERY CABLES WITH ADDITIONAL FRAME GROUND RETURN		
289-001	NON-POLISHED BATTERY BOX COVER		
293-058	POSITIVE LOAD DISCONNECT WITH CAB MOUNTED CONTROL SWITCH MOUNTED OUTBOARD DRIVER SEAT	2	
306-015	PROGRESSIVE LOW VOLTAGE DISCONNECT AT 12.3 VOLTS FOR DESIGNATED CIRCUITS		
107-032	CUMMINS TURBOCHARGED 18.7 CFM AIR COMPRESSOR WITH INTERNAL SAFETY VALVE		
108-002	STANDARD MECHANICAL AIR COMPRESSOR GOVERNOR		
131-013	AIR COMPRESSOR DISCHARGE LINE		
152-040	ELECTRONIC ENGINE INTEGRAL WARNING AND DERATE PROTECTION SYSTEM		
128-076	CUMMINS ENGINE INTEGRAL BRAKE WITH VARIABLE GEOMETRY TURBO ON/OFF	20	
016-1C2	RH OUTBOARD UNDER STEP MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH B-PILLAR MOUNTED VERTICAL TAILPIPE	30	25
28F-014	ENGINE AFTERTREATMENT DEVICE, AUTOMATIC OVER THE ROAD REGENERATION AND VIRTUAL REGENERATION REQUEST SWITCH IN CLUSTER		
239-026	10 FOOT 06 INCH (126 INCH+0/-5.9 INCH) EXHAUST SYSTEM HEIGHT		



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 5354

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 MATHENY MOTOR TRUCK
 COMPANY
 50 Matheny Lane
 Mineral Wells, WV 26150
 Phone: 3044854418

Data Code	Description	Weight Front	Weight Rear
237-1CR	RH CURVED VERTICAL TAILPIPE B-PILLAR MOUNTED ROUTED FROM STEP		
23U-001	6 GALLON DIESEL EXHAUST FLUID TANK		
30N-003	100 PERCENT DIESEL EXHAUST FLUID FILL		
* 43X-002	LH MEDIUM DUTY STANDARD DIESEL EXHAUST FLUID TANK LOCATION		
	LOCATE DEF TANK AT 3000MM		
* 23Y-001	STANDARD DIESEL EXHAUST FLUID PUMP MOUNTING		
	237-007 HIGH MTD DEF TANK W/ PUMP MTD AFT OF TANK		
43Y-001	STANDARD DIESEL EXHAUST FLUID TANK CAP		
242-001	STAINLESS STEEL AFTERTREATMENT DEVICE/MUFFLER/TAILPIPE SHIELD		
* 273-018	HORTON DRIVEMASTER ADVANTAGE ON/OFF FAN DRIVE		
	273-048 HORTON 2-SPEED DRIVEMASTER ADVANTAGE POLAREXTREME FAN DRIVE		
276-002	AUTOMATIC FAN CONTROL WITH DASH SWITCH AND INDICATOR LIGHT, NON ENGINE MOUNTED		
110-003	CUMMINS SPIN ON FUEL FILTER		
118-008	COMBINATION FULL FLOW/BYPASS OIL FILTER		
266-101	900 SQUARE INCH ALUMINUM RADIATOR	15	
103-036	ANTIFREEZE TO -34F, ETHYLENE GLYCOL PRE-CHARGED SCA HEAVY DUTY COOLANT		
171-007	GATES BLUE STRIPE COOLANT HOSES OR EQUIVALENT		
172-001	CONSTANT TENSION HOSE CLAMPS FOR COOLANT HOSES		
270-016	RADIATOR DRAIN VALVE		
168-002	LOWER RADIATOR GUARD		
138-011	PHILLIPS-TEMRO 1000 WATT/115 VOLT BLOCK HEATER	4	
140-053	BLACK PLASTIC ENGINE HEATER RECEPTACLE MOUNTED UNDER LH DOOR		
134-001	ALUMINUM FLYWHEEL HOUSING		
132-004	ELECTRIC GRID AIR INTAKE WARMER		
155-058	DELCO 12V 38MT HD STARTER WITH INTEGRATED MAGNETIC SWITCH		

Transmission



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Data Code	Description	Weight Front	Weight Rear
342-584	ALLISON 3500 RDS AUTOMATIC TRANSMISSION WITH PTO PROVISION	200	60

Transmission Equipment

343-323	ALLISON VOCATIONAL PACKAGE 172 - AVAILABLE ON 3000/4000 PRODUCT FAMILIES WITH VOCATIONAL MODEL RDS
84B-012	ALLISON VOCATIONAL RATING FOR ON/OFF HIGHWAY APPLICATIONS AVAILABLE WITH ALL PRODUCT FAMILIES
84C-023	PRIMARY MODE GEARS, LOWEST GEAR 1, START GEAR 1, HIGHEST GEAR 6, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY
84D-023	SECONDARY MODE GEARS, LOWEST GEAR 1, START GEAR 1, HIGHEST GEAR 6, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY
84E-000	PRIMARY SHIFT SCHEDULE RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE
84F-000	SECONDARY SHIFT SCHEDULE RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE
84G-000	PRIMARY SHIFT SPEED RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE
84H-000	SECONDARY SHIFT SPEED RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE
84J-000	ENGINE BRAKE RANGE PRESELECT RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE
84K-002	2ND GEAR ENGINE BRAKE ALTERNATE PRESELECT WITH MODERATE DOWNSHIFT STRATEGY
84N-011	NEUTRAL AT STOP ENABLED
84U-000	DRIVER SWITCH INPUT - DEFAULT - NO SWITCHES
84V-001	DIRECTION CHANGE ENABLED WITH MULTIPLEXED SERVICE BRAKES - ALLISON 5TH GEN TRANSMISSIONS
84M-001	PUMP MODE INPUT ENABLED 3RD/4TH LOCKUP WIRED ON TCM INPUT AJ/BQ - ALLISON 5TH GEN TRANSMISSIONS
353-076	QUICKFIT BODY LIGHTING CONNECTOR AT END OF FRAME, WITH BLUNTCUTS



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34C-011	ELECTRONIC TRANSMISSION WIRING TO CUSTOMER INTERFACE CONNECTOR		
362-824	(2) CUSTOMER INSTALLED CHELSEA 280 SERIES PTO'S		
363-011	PTO MOUNTING, LH AND RH SIDES OF MAIN TRANSMISSION		
341-018	MAGNETIC PLUGS, ENGINE DRAIN, TRANSMISSION DRAIN, AXLE(S) FILL AND DRAIN		
345-003	PUSH BUTTON ELECTRONIC SHIFT CONTROL, DASH MOUNTED		
97G-004	TRANSMISSION PROGNOSTICS - ENABLED 2013		
370-015	WATER TO OIL TRANSMISSION COOLER, IN RADIATOR END TANK		
346-003	TRANSMISSION OIL CHECK AND FILL WITH ELECTRONIC OIL LEVEL CHECK		
35T-001	SYNTHETIC TRANSMISSION FLUID (TES-295 COMPLIANT)		
Front Axle and Equipment			
400-1A8	DETROIT DA-F-14.7-3 14,700# FF1 71.5 KPI/3.74 DROP SINGLE FRONT AXLE	10	
402-049	MERITOR 16.5X5 Q+ CAST SPIDER CAM FRONT BRAKES, DOUBLE ANCHOR, FABRICATED SHOES		
403-002	NON-ASBESTOS FRONT BRAKE LINING		
419-001	CAST IRON OUTBOARD FRONT BRAKE DRUMS		
427-001	FRONT BRAKE DUST SHIELDS	5	
409-006	FRONT OIL SEALS		
408-001	VENTED FRONT HUB CAPS WITH WINDOW, CENTER AND SIDE PLUGS - OIL		
416-022	STANDARD SPINDLE NUTS FOR ALL AXLES		
405-002	MERITOR AUTOMATIC FRONT SLACK ADJUSTERS		
536-012	TRW TAS-85 POWER STEERING	40	
539-003	POWER STEERING PUMP		
534-015	2 QUART SEE THROUGH POWER STEERING RESERVOIR		
40T-002	CURRENT AVAILABLE SYNTHETIC 75W-90 FRONT AXLE LUBE		

Front Suspension

620-010	14,600# TAPERLEAF FRONT SUSPENSION	170	
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Data Code	Description	Weight Front	Weight Rear
619-005	MAINTENANCE FREE RUBBER BUSHINGS - FRONT SUSPENSION		
410-001	FRONT SHOCK ABSORBERS		
Rear Axle and Equipment			
420-051	RS-23-160 23,000# R-SERIES SINGLE REAR AXLE		180
421-563	5.63 REAR AXLE RATIO		
424-001	IRON REAR AXLE CARRIER WITH STANDARD AXLE HOUSING		
386-073	MXL 17T MERITOR EXTENDED LUBE MAIN DRIVELINE WITH HALF ROUND YOKES		
423-020	MERITOR 16.5X7 Q+ CAST SPIDER CAM REAR BRAKES, DOUBLE ANCHOR, FABRICATED SHOES		
433-002	NON-ASBESTOS REAR BRAKE LINING		
434-011	BRAKE CAMS AND CHAMBERS ON FORWARD SIDE OF DRIVE AXLE(S)		
451-023	CONMET CAST IRON REAR BRAKE DRUMS		
425-002	REAR BRAKE DUST SHIELDS		5
440-006	REAR OIL SEALS		
426-100	WABCO TRISTOP D LONGSTROKE 1-DRIVE AXLE SPRING PARKING CHAMBERS		
428-002	MERITOR AUTOMATIC REAR SLACK ADJUSTERS		
41T-002	CURRENT AVAILABLE SYNTHETIC 75W-90 REAR AXLE LUBE		
Rear Suspension			
622-1MJ	23,000# 52 INCH VARIABLE RATE MULTI-LEAF SPRING REAR SUSPENSION WITH LEAF SPRING HELPER		110
621-001	SPRING SUSPENSION - NO AXLE SPACERS		
431-001	STANDARD AXLE SEATS IN AXLE CLAMP GROUP		
Pusher / Tag Equipment			
429-998	NO PUSHER/TAG BRAKE DUST SHIELDS		
Brake System			
018-002	AIR BRAKE PACKAGE		
490-1AU	WABCO 4S/4M ABS WITH TRACTION CONTROL WITH ATC SHUT OFF SWITCH		



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871-001	REINFORCED NYLON, FABRIC BRAID AND WIRE BRAID CHASSIS AIR LINES		
904-001	FIBER BRAID PARKING BRAKE HOSE		
412-001	STANDARD BRAKE SYSTEM VALVES		
46D-002	STANDARD AIR SYSTEM PRESSURE PROTECTION SYSTEM		
413-002	STD U.S. FRONT BRAKE VALVE		
432-003	RELAY VALVE WITH 5-8 PSI CRACK PRESSURE, NO REAR PROPORTIONING VALVE		
480-088	WABCO SYSTEM SAVER HP WITH INTEGRAL AIR GOVERNOR AND HEATER		
483-004	WABCO OIL COALESCING FILTER FOR AIR DRYER		
479-012	AIR DRYER MOUNTED UNDER HOOD		
* 460-008	STEEL AIR BRAKE RESERVOIRS MOUNTED INSIDE RAIL		
	MOUNT PASSENGER SIDE AIR TANK HANGERS AT FL FRAME STATION 3850 ANDE 4550. MOUT DRIVER SIDE AIR TANK HANGERS AT FL FRAME STATION 4100 AMD 4350 ACCORDING TO FRAME DRAWING 504400SA		
477-001	PULL CABLE ON WET TANK, PETCOCK DRAIN VALVES ON ALL OTHER AIR TANKS		
* 485-001	EXTERNAL CHARGING GLADHAND	5	
	485-045 METALLIC AIR MANIFOLD MOUNTED TO BACK OF CAB CROSSMEMBER WITH SIX 1/4 INCH FITTINGS		

Trailer Connections

481-998	NO TRAILER AIR HOSE		
476-998	NO AIR HOSE HANGER		
919-063	(1) QUICKFIT PROGRAMMABLE SOLENOID W/STATE RETENTION PLUMBED TO BACK OF CAB		
310-998	NO TRAILER ELECTRICAL CABLE		

Wheelbase & Frame

545-452	4525MM (178 INCH) WHEELBASE		
546-101	11/32X3-1/2X10-15/16 INCH STEEL FRAME (8.73MMX277.8MM/0.344X10.94 INCH) 120KSI	10	120
552-030	1600MM (63 INCH) REAR FRAME OVERHANG		
55W-006	FRAME OVERHANG RANGE: 61 INCH TO 70 INCH		
AC8-99D	CALC'D BACK OF CAB TO REAR SUSP C/L (CA) : 112.6 in		



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Data Code	Description	Weight Front	Weight Rear
AE8-99D	CALCULATED EFFECTIVE BACK OF CAB TO REAR SUSPENSION C/L (CA) : 109.6 in		
AE4-99D	CALC'D FRAME LENGTH - OVERALL : 278.54 in		
FSS-0LH	CALCULATED FRAME SPACE LH SIDE : 71.53 in		
FSS-0RH	CALCULATED FRAME SPACE RH SIDE : 79.13 in		
553-001	SQUARE END OF FRAME		
550-001	FRONT CLOSING CROSSMEMBER		
559-001	STANDARD WEIGHT ENGINE CROSSMEMBER		
561-001	STANDARD CROSSMEMBER BACK OF TRANSMISSION		
* 562-001	STANDARD MIDSHIP #1 CROSSMEMBER(S) 562-341 STANDARD MIDSHIP #1 CROSSMEMBER MOUNTED 1035MM (41 INCH) FROM BACK OF CAB		
* 572-001	STANDARD REARMOST CROSSMEMBER 572-063 WITH DOUBLE STANDARD CROSSMEMBER SPACING		
565-001	STANDARD SUSPENSION CROSSMEMBER		
Chassis Equipment			
556-1AN	THREE-PIECE 14 INCH STEEL CENTER BUMPER WITH FLEXIBLE PLASTIC ENDS		
558-001	FRONT TOW HOOKS - FRAME MOUNTED	15	
574-001	BUMPER MOUNTING FOR SINGLE LICENSE PLATE		
585-998	NO MUDFLAP BRACKETS		
590-998	NO REAR MUDFLAPS		
586-024	FENDER AND FRONT OF HOOD MOUNTED FRONT MUDFLAPS		
551-017	GRADE 8/CLASS 10.9 THREADED HEX HEADED FRAME FASTENERS INSTALLED WITH BOLT HEADS ON OUTSIDE OF FRAME		
44Z-002	EXTERIOR HARNESES WRAPPED IN ABRASION TAPE		
605-1AB	D15-16004-000 CENTER PUNCH TO MARK CENTERLINE OF REAR SUSPENSION ON FRAME WEB		
* 606-294	DRLG PREP FOR SEC PER DWG SEC CHAMPION 32-36 YD, REV 2, 08/17/2018 DRLG PREP FOR VACTOR PER DWG 504400SA, REV 0 , 3/17/2016		
Fifth Wheel			
578-998	NO FIFTH WHEEL		



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Fuel Tanks			
204-192	50 GALLON/189 LITER RECTANGULAR ALUMINUM FUEL TANK - LH	10	
218-005	RECTANGULAR FUEL TANK(S)		
215-005	PLAIN ALUMINUM/PAINTED STEEL FUEL/HYDRAULIC TANK(S) WITH PAINTED BANDS		
212-007	FUEL TANK(S) FORWARD		
664-001	PLAIN STEP FINISH		
205-001	FUEL TANK CAP(S)		
122-1H3	DETROIT FUEL/WATER SEPARATOR WITH WATER IN FUEL SENSOR	-5	
216-020	EQUIFLO INBOARD FUEL SYSTEM		
202-016	HIGH TEMPERATURE REINFORCED NYLON FUEL LINE		
* 221-008	FUEL COOLER MOUNTED LEFT HAND IN RAIL	10	
	221-019 FUEL COOLER MOUNTED RIGHT HAND IN RAIL AT 3450		
Tires			
093-994	MICHELIN XZE 12R22.5 16 PLY RADIAL FRONT TIRES	50	
094-1UY	MICHELIN X MULTI D 11R22.5 16 PLY RADIAL REAR TIRES		60
Hubs			
418-060	CONMET PRESET PLUS PREMIUM IRON FRONT HUBS		
450-060	CONMET PRESET PLUS PREMIUM IRON REAR HUBS		
Wheels			
502-766	ALCOA ULA18X 22.5X8.25 10-HUB PILOT 5.81 INSET ALUMINUM DISC FRONT WHEELS	-62	
505-766	ALCOA ULA18X 22.5X8.25 10-HUB PILOT ALUMINUM DISC REAR WHEELS		-124
524-001	POLISHED FRONT WHEELS; OUTSIDE ONLY		
525-001	POLISHED REAR WHEELS; OUTSIDE OF OUTER WHEELS ONLY		
496-011	FRONT WHEEL MOUNTING NUTS		
497-011	REAR WHEEL MOUNTING NUTS		
498-011	NYLON WHEEL GUARDS FRONT AND REAR ALL INTERFACES		



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Data Code	Description	Weight Front	Weight Rear
Cab Exterior			
829-071	106 INCH BBC FLAT ROOF ALUMINUM CONVENTIONAL CAB		
650-008	AIR CAB MOUNTING		
648-002	NONREMOVABLE BUGSCREEN MOUNTED BEHIND GRILLE		
678-018	LH AND RH EXTERIOR GRAB HANDLES WITH SINGLE RUBBER INSERT		
646-023	HOOD MOUNTED CHROMED PLASTIC GRILLE		
65X-003	CHROME HOOD MOUNTED AIR INTAKE GRILLE		
644-004	FIBERGLASS HOOD		
690-002	TUNNEL/FIREWALL LINER		
727-1AF	SINGLE 14 INCH ROUND HADLEY AIR HORN UNDER LH DECK	4	
726-001	SINGLE ELECTRIC HORN		
728-001	SINGLE HORN SHIELD		
575-001	REAR LICENSE PLATE MOUNT END OF FRAME		
312-038	INTEGRAL HEADLIGHT/MARKER ASSEMBLY WITH CHROME BEZEL		
302-047	LED AERODYNAMIC MARKER LIGHTS		
311-019	HEADLIGHTS ON WITH WIPERS, WITH DAYTIME RUNNING LIGHTS		
294-001	INTEGRAL STOP/TAIL/BACKUP LIGHTS		
300-015	STANDARD FRONT TURN SIGNAL LAMPS		
744-1BK	DUAL WEST COAST MOLDED-IN COLOR HEATED MIRRORS WITH LH AND RH REMOTE		
797-001	DOOR MOUNTED MIRRORS		
796-001	102 INCH EQUIPMENT WIDTH		
743-1AP	LH AND RH 8 INCH MOLDED-IN COLOR CONVEX MIRRORS MOUNTED UNDER PRIMARY MIRRORS		
74A-001	RH DOWN VIEW MIRROR		
729-001	STANDARD SIDE/REAR REFLECTORS		
275-061	PARK BRAKE REMINDER WARNING SYSTEM		
768-043	63X14 INCH TINTED REAR WINDOW		
661-004	TINTED DOOR GLASS LH AND RH WITH TINTED OPERATING WING WINDOWS		
654-011	RH AND LH ELECTRIC POWERED WINDOWS		
663-013	1-PIECE SOLAR GREEN GLASS WINDSHIELD		



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Data Code	Description	Weight Front	Weight Rear
659-019	2 GALLON WINDSHIELD WASHER RESERVOIR WITHOUT FLUID LEVEL INDICATOR, FRAME MOUNTED		
Cab Interior			
055-019	RUGGED TRIM PACKAGE		
707-107	GRAY & CARBON VINYL INTERIOR "RUGGED"		
70K-020	CARBON WITH PREMIUM GUNMETAL ACCENT (RUGGED)		
706-013	MOLDED PLASTIC DOOR PANEL		
708-013	MOLDED PLASTIC DOOR PANEL		
772-006	BLACK MATS WITH SINGLE INSULATION		
785-034	ASH CUP AND (1)LIGHTER, (1)12V POWER OUTLET, (1)DASH MTD DUAL USB-C OUTLET		
691-001	FORWARD ROOF MOUNTED CONSOLE		
693-019	LH AND RH DOOR STORAGE POCKETS INTEGRATED INTO MOLDED DOOR PANELS		
738-021	DIGITAL ALARM CLOCK IN DRIVER DISPLAY		
742-007	(2) CUP HOLDERS LH AND RH DASH		
680-029	M2/SD DASH		
700-002	HEATER, DEFROSTER AND AIR CONDITIONER		
701-008	STANDARD HVAC DUCTING WITH SNOW SHIELD FOR FRESH AIR INTAKE		
703-005	MAIN HVAC CONTROLS WITH RECIRCULATION SWITCH		
* 689-111	PREP KIT FOR CUSTOMER INSTALLED AUXILIARY HEATER, PLUMBING FROM ENGINE TO BACK OF CAB WITH SHUTOFF VALVES ON LH	25	
	689-804 PREP KIT FOR CUSTOMER INSTALLED AUXILIARY HEATER, PLUMBING FROM ENGINE TO RAIL UNDER CAB WITH SHUTOFF VALVES		
* 170-045	STANDARD HEATER PLUMBING WITH BALL SHUTOFF VALVES AT SUPPLY LINES ONLY		
	170-019 STANDARD HEATER PLUMBING WITH BALL SHUTOFF VALVES		
130-041	VALEO HEAVY DUTY A/C REFRIGERANT COMPRESSOR		
702-002	BINARY CONTROL, R-134A		
739-033	STANDARD INSULATION		
285-013	SOLID-STATE CIRCUIT PROTECTION AND FUSES		
280-007	12V NEGATIVE GROUND ELECTRICAL SYSTEM		



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Data Code	Description	Weight Front	Weight Rear
324-1B3	STANDARD LED CAB LIGHTING		
787-998	NO SECURITY DEVICE		
657-001	DOOR LOCKS AND IGNITION SWITCH KEYED THE SAME		
78G-004	KEY QUANTITY OF 4		
655-005	LH AND RH ELECTRIC DOOR LOCKS		
756-338	BASIC ISRINGHAUSEN HIGH BACK AIR SUSPENSION DRIVERS SEAT WITH MECHANICAL LUMBAR AND INTEGRATED CUSHION EXTENSION	30	
760-338	BASIC ISRINGHAUSEN HIGH BACK AIR SUSPENSION PASSENGER SEAT WITH MECHANICAL LUMBAR AND INTEGRATED CUSHION EXTENSION	25	10
759-005	DUAL DRIVER AND PASSENGER SEAT ARMRESTS	8	
711-004	LH AND RH INTEGRAL DOOR PANEL ARMRESTS		
758-014	BLACK CORDURA PLUS CLOTH DRIVER SEAT COVER		
761-014	BLACK CORDURA PLUS CLOTH PASSENGER SEAT COVER		
763-102	HIGH VISIBILITY ORANGE SEAT BELTS		
532-002	ADJUSTABLE TILT AND TELESCOPING STEERING COLUMN		
540-070	4-SPOKE 18 INCH (450MM) LEATHER WRAPPED STEERING WHEEL WITH CHROME SWITCH BEZELS		
765-002	DRIVER AND PASSENGER INTERIOR SUN VISORS		

Instruments & Controls

4CH-008	8 EXTRA PROGRAMMABLE SWITCHES/INDICATORS
106-002	ELECTRONIC ACCELERATOR CONTROL
734-022	FULLY CONFIGURABLE CENTER INSTRUMENT PANELS
87L-003	ENGINE REMOTE INTERFACE WITH PARK BRAKE AND NEUTRAL INTERLOCKS
870-002	BRIGHT ARGENT FINISH GAUGE BEZELS
486-001	LOW AIR PRESSURE INDICATOR LIGHT AND AUDIBLE ALARM
840-001	DUAL NEEDLE PRIMARY AND SECONDARY AIR PRESSURE GAUGE



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198-003	DASH MOUNTED AIR RESTRICTION INDICATOR WITH GRADUATIONS		
721-001	97 DB BACKUP ALARM		3
149-015	ELECTRONIC CRUISE CONTROL WITH CONTROLS ON STEERING WHEEL SPOKES		
156-007	KEY OPERATED IGNITION SWITCH AND INTEGRAL START POSITION; 4 POSITION OFF/RUN/START/ACCESSORY		
157-004	MANUAL REMOTE ENGINE STOP/START		
811-044	PREMIUM INSTRUMENT CLUSTER WITH 5.0 INCH TFT COLOR DISPLAY		
81B-003	DIGITAL PANEL LAMP DIMMER SWITCH IN DRIVER DISPLAY		
160-038	HEAVY DUTY ONBOARD DIAGNOSTICS INTERFACE CONNECTOR LOCATED BELOW LH DASH		
844-001	2 INCH ELECTRIC FUEL GAUGE		
148-073	ENGINE REMOTE INTERFACE FOR REMOTE THROTTLE		
48H-004	QUICKFIT POWERTRAIN INTERFACE CONNECTOR UNDER CAB WITH BLUNTCUTS		
4C0-998	NO ADDITIONAL EXTRA SWITCH ACCUATORS		
48C-003	QUICKFIT PROGRAMMABLE INTERFACE CONNECTOR(S) UNDER CAB WITH CAP		
163-014	ENGINE REMOTE INTERFACE CONNECTOR AT POWERTRAIN INTERFACE CONNECTOR		
856-001	ELECTRICAL ENGINE COOLANT TEMPERATURE GAUGE		
864-001	2 INCH TRANSMISSION OIL TEMPERATURE GAUGE		
867-004	ELECTRONIC OUTSIDE TEMPERATURE SENSOR DISPLAY IN DRIVER MESSAGE CENTER		
830-017	ENGINE AND TRIP HOUR METERS INTEGRAL WITHIN DRIVER DISPLAY		
372-123	PTO CONTROLS FOR ENHANCED VEHICLE ELECTRIC/ELECTRONIC ARCHITECTURE		
736-998	NO OBSTACLE DETECTION SYSTEM		
72J-998	NO DR ASSIST SYSTEM		
49B-998	NO VEHICLE STABILITY ADVISOR OR CONTROL		
73B-998	NO LANE DEPARTURE WARNING SYSTEM		
852-002	ELECTRIC ENGINE OIL PRESSURE GAUGE		



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Data Code	Description	Weight Front	Weight Rear
35M-010	QUICKFIT PROGRAMMABLE INTERFACE MODULE	10	
1U1-002	TOP OF DASH RAM MOUNT WITHOUT POWER OR GROUND, FOR CUSTOMER FURNISHED DEVICE		
746-137	AM/FM/WB WORLD TUNER RADIO WITH BLUETOOTH, USB AND AUXILIARY INPUTS, J1939		
747-001	DASH MOUNTED RADIO		
750-002	(2) RADIO SPEAKERS IN CAB		
753-998	NO AM/FM RADIO ANTENNA		
75W-002	SHARKFIN MULTI-BAND ANTENNA: AM/FM/WEATHERBAND, WIFI/BLUETOOTH, SDAR/SIRIUSXM, GNSS/GPS		
74D-006	STANDARD RADIO WIRING WITH STEERING WHEEL CONTROLS		
810-027	ELECTRONIC MPH SPEEDOMETER WITH SECONDARY KPH SCALE, WITHOUT ODOMETER		
817-001	STANDARD VEHICLE SPEED SENSOR		
812-001	ELECTRONIC 3000 RPM TACHOMETER		
813-1C8	DETROIT CONNECT PLATFORM HARDWARE		
8D1-303	3 YEARS DAIMLER CONNECTIVITY BASE PACKAGE (FEATURES VARY BY MODEL) POWERED BY DETROIT CONNECT		
6TS-009	(2) TMC RP1226 ACCESSORY CONNECTORS: (1) LOCATED BEHIND PASSENGER SIDE REMOVEABLE DASH PANEL (1) CENTER OF BACKWALL/PASSENGER SIDE BAGGAGE COMPARTMENT		
162-002	IGNITION SWITCH CONTROLLED ENGINE STOP		
81Y-006	PRE-TRIP INSPECTION FEATURE FOR EXTERIOR LAMPS AND SERVICE BRAKES		
264-030	(1) OVERHEAD MOUNTED LANYARD CONTROL FOR DRIVER AIR HORN		
883-998	NO TRAILER HAND CONTROL BRAKE VALVE		
836-015	DIGITAL VOLTAGE DISPLAY INTEGRAL WITH DRIVER DISPLAY		
660-008	SINGLE ELECTRIC WINDSHIELD WIPER MOTOR WITH DELAY		
304-030	ROTARY HEADLAMP SWITCH, MARKER LIGHTS/HEADLIGHTS SWITCH WITH PULL OUT FOR OPTIONAL FOG/ROAD LAMPS		



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 83 BRUSHY FORK
 XING

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Data Code	Description	Weight Front	Weight Rear
882-009	ONE VALVE PARKING BRAKE SYSTEM WITH WARNING INDICATOR		
299-020	SELF CANCELING TURN SIGNAL SWITCH WITH DIMMER, HEADLAMP FLASH, WASH/WIPE/INTERMITTENT		
298-046	INTEGRAL ELECTRONIC TURN SIGNAL FLASHER WITH 40 AMP (20 AMP PER SIDE) TRAILER LAMP CAPACITY		

Design

065-000 PAINT: ONE SOLID COLOR

Color

980-5F6 CAB COLOR A: L0006EY WHITE ELITE EY
 986-020 BLACK, HIGH SOLIDS POLYURETHANE CHASSIS PAINT
 964-6Z7 BUMPER PAINT: FP24812 ARGENT SILVER DUPONT FLEX
 969-998 NO CAB/BODY EXTERIOR DECALS
 963-003 STANDARD E COAT/UNDERCOATING

Certification / Compliance

996-001 U.S. FMVSS CERTIFICATION, EXCEPT SALES CABS AND GLIDER KITS

Sales Programs

N PMY-3G1 BUSINESS QUOTE SALES PROGRAM

TOTAL VEHICLE SUMMARY

Weight Summary

	Weight Front	Weight Rear	Total Weight
Factory Weight ⁺	6990 lbs	3929 lbs	10919 lbs
Total Weight ⁺	6990 lbs	3929 lbs	10919 lbs

Extended Warranty



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WAG-074 TOWING: 1 YEAR/UNLIMITED MILES/KM EXTENDED TOWING
COVERAGE \$750 CAP FEX APPLIES

(+) Weights shown are estimates only.

If weight is critical, contact Customer Application Engineering.

(***) All cost increases for major components (Engines, Transmissions, Axles, Front and Rear Tires) and government mandated requirements, tariffs, and raw material surcharges will be passed through and added to factory invoices.

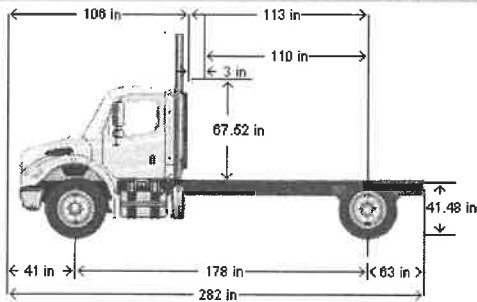


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D I M E N S I O N S



VEHICLE SPECIFICATIONS SUMMARY - DIMENSIONS

Model	M2106
Wheelbase (545)	4525MM (178 INCH) WHEELBASE
Rear Frame Overhang (552).....	1600MM (63 INCH) REAR FRAME OVERHANG
Fifth Wheel (578)	NO FIFTH WHEEL
Mounting Location (577)	NO FIFTH WHEEL LOCATION
Maximum Forward Position (in).....	0
Maximum Rearward Position (in)	0
Amount of Slide Travel (in).....	0
Slide Increment (in).....	0
Desired Slide Position (in).....	0.0
Cab Size (829).....	106 INCH BBC FLAT ROOF ALUMINUM CONVENTIONAL CAB
Sleeper (682).....	NO SLEEPER BOX/SLEEPER CAB
Exhaust System (016)	RH OUTBOARD UNDER STEP MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH B-PILLAR MOUNTED VERTICAL TAILPIPE

TABLE SUMMARY - DIMENSIONS



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Dimensions	Inches
Bumper to Back of Cab (BBC)	106.3
Bumper to Centerline of Front Axle (BA)	40.7
Front Axle to Back of Cab (AC)	65.6
Min. Cab to Body Clearance (CB)	3.0
Back of Cab to Centerline of Rear Axle(s) (CA)	112.6
Effective Back of Cab to Centerline of Rear Axle(s) (Effective CA)	109.6
Back of Cab Protrusions (Exhaust/Intake) (CP)	2.0
Back of Cab Protrusions (Side Extenders/Trim Tab) (CP)	0.0
Back of Cab Protrusions (CNG Tank)	0.0
Back of Cab Clearance (CL)	3.0
Back of Cab to End of Frame	175.6
Cab Height (CH)	67.5
Wheelbase (WB)	178.1
Frame Overhang (OH)	63.0
Overall Frame Length	278.5
Overall Length (OAL)	281.9
Rear Axle Spacing	0.0
Unladen Frame Height at Centerline of Rear Axle	41.5

Performance calculations are estimates only. If performance calculations are critical, please contact Customer Application Engineering.



VACTOR

BID SPEC

Ramjet

Truck Mounted Sewer Cleaner

For

WVDOT-Highways

US Rt 33 83 Brushy Rd Crossing

Buckhannon

WV

26201

US



VACTOR

Detailed Specifications

For
Ramjet

		COMPLY	
		YES	NO
1.0	INTENT		
1.01	The intent of this specification is to provide for the purchase or lease of one (1) new and unused single-engine sewer cleaner used for removing blockages caused by stones, bottles, cans, grease, sludge and other debris from sanitary sewer and/or storm drain lines by the flushing action of high pressure water. The unit shall consist of a hydraulically driven high pressure water pump and equipped with a self-contained water supply as the source for the water pump system. The machine shall be capable of being operated by one person with all operating controls for high pressure water and hose reel located at the operator's station of the machine. (Submit horsepower requirements of all systems on unit)		
1.02	This specification is not to be interpreted as restrictive, but rather as a measure of the safety, quality, performance and overall cost of ownership against which all equipment bid will be compared. In comparing proposals, consideration will be given to life cycle cost guarantees whereby bidder shall provide all pertinent information to evaluate long-term cost. Contract will be awarded for the product which best serves the interests of considering long-term maintenance cost, parts availability, product support and service cost as well as guaranteed buyback value of bidders equipment. reserves the right to reject any or all bids or any part thereof, and to waive any minor technicalities. Award shall be to the bidder showing most favorable life cycle costing while meeting the requirements of these specifications.		
2.0	EQUIVALENT PRODUCT		



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2.01	Bids will be accepted for consideration on any make or model that is equal or superior to the equipment specified. Decisions of equivalency will be at the sole interpretation of the Purchasing and Public Services Director.		
2.02	Bidder shall demonstrate a reasonable likeness of the equipment being offered within a reasonable time of request. Equipment demonstrated shall be equipped with all accessories and components required in this specification to ascertain equivalence.		
2.03	A blanket statement that equipment proposed will meet all requirements will not be sufficient to establish equivalence. Original manufacturer's brochures of the proposed unit are to be submitted with the proposal.		
3.0	BIDDER REFERENCES		
3.01	To ensure adequate local availability of parts and competent service from experienced suppliers, bids are preferred from local vendors who have sold and serviced at least 30 units of same manufacturer within service area of is preferred and should include contacts with phone numbers.		
4.0	SERVICE AND SUPPORT		
4.01	Location of warranty service center and amount of inventory shall be noted which may be verified and inspected.		
4.02	Amount of OEM parts at this facility: \$		
4.03	Years of servicing equipment being bid: Years		
4.04	Number of factory qualified service technician(s):		
5.0	GENERAL		
5.01	The specification herein states the minimum requirements of the . All bids must be regular in every respect. Unauthorized conditions, limitations, or provisions shall be cause for rejection. Any bid not prepared and submitted in accordance with the bid document and specification, or any bid lacking sufficient technical literature to enable the to make a reasonable determination of compliance to the specification will be considered "non-responsive" and grounds for rejection.		
8.0	WATER TANK		
8.01	The water tank shall have a minimum capacity of 1500 gallons.		



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8.02	The water tank shall be constructed from stainless steel; Type 304.		
8.03	The water tank shall be round in cross section with domed ends to maximize the structural integrity and minimize corner stress concentrations found in rectangular flat sided tanks.		
8.04	The water tank shall incorporate a domed water tank baffling system that will maximize hydrodynamic dampening.		
8.05	The water tank shall be located for the lowest possible center of gravity while providing 100 % of water to gravity feed water pump to maximize volumetric efficiency and eliminate the potential for water pump damage due to cavitation		
8.06	A water level sight tube gauge shall be located on the street side and the curb side.		
8.07	The water tank shall come equipped with an anti-siphon device and 25 feet of 2-1/2 " hydrant fill hose with a quick disconnect cam lock fitting.		
8.08	A water tank filling connection shall be provided on the street side and the curb side.		
8.09	The water tank shall be adequately vented to provide complete filling.		
8.10	A 3 inch "Y" strainer with 80 mesh stainless steel filter screen shall be located in the water tank fill.		
8.11	A low water alarm with indicator at the operator station shall alert operator when water capacity is at 150 gallons.		
8.12	A drain valve shall be provided to allow complete draining of the water tank.		
8.13	The water tank base shall be constructed from stainless steel; type 304. The water tank base shall extend the entire length of the water tank for maximum support. The water tank base shall be bolted to the chassis frame at the rear and spring mounted at the front to allow chassis flexure.		
8.14	The stainless steel water tank and base shall have a ten (10) year warranty against defects in workmanship, corrosion, cracking, UV degradation and other forms of fatigue. Warranty shall not be prorated.		
8.15	An air purge system utilizing the chassis air system shall be provided to assist displacing of residual water out of the high-		



VACTOR

	pressure water system. System shall utilize the truck chassis air compressor to fill a 14-gallon auxiliary air storage chamber with pressure gauge and pressure protection valves to isolate the holding tank from the chassis compressor. System shall be equipped with ball valve and all necessary high pressure piping hoses, couplings and controls.		
8.16	An ASME coded and safety stamped 2.5 gallon capacity, nitrogen charged bladder type accumulator shall be supplied to eliminate the cycle pulsation action and provide smooth operation at the nozzle when desired. The accumulator system shall have a 1" ball valve shut off to allow the water pump system to operate with pulsation action or smooth flow operation at the nozzle.		
8.17	An extreme cold weather recirculation system - minimum 25 GPM via transmission PTO at chassis engine idle speed.		
8.18	A continuous water fill system shall be provided at the water tank inlet including an air operated valve which opens when the water level in the tanks are low. This water start and stop levels shall be operator set on control screen.		
9.0	WATER PUMP SYSTEM		
9.01	The high pressure dual acting single piston water pump shall be hydraulically driven that directly converts hydraulic oil pressure into water pressure.		
9.02	The hydraulic pump(s) used to power the water pump shall be engaged/disengaged independently from the water pump eliminating unnecessary high pressure ball valve bypass and to help reduce water pump wear.		
9.03	The hydraulic system shall contain a direct acting relief valve. For added protection, the high pressure water system shall also contain a direct acting relief valve.		
9.04	The high pressure water pump shall have a maximum rated flow capacity of 100 GPM and a maximum rated output pressure of 3000 PSI.		
9.05	The high pressure water pump system shall be certified to deliver 0 to 80 GPM at a variable pressure up to 2500 PSI at the hose reel. Full flow and pressure ranges shall be achieved without diverting high pressure water back to the water tank. Variable flow systems diverting or relieving water back to the water tank to achieve full flow range (0 to 80 GPM) are not considered equal		



VACTOR

	due to additional wear and horsepower/fuel consumption. Any deviation from this requirement shall have full explanation of horsepower consumption.		
9.06	The water system shall be power demand matched to chassis to optimize performance and fuel economy. The high pressure water system shall have hose reel mounted controls for operation.		
9.07	The water pump and associated water suction plumbing shall be located below the water storage tank. With the water pump located below the water tank, 100 % of the water will gravity feed to the pump to optimize water pump volumetric efficiency and eliminate the potential for water pump damage due to cavitation.		
9.08	The water pump and associated plumbing shall be easily accessed from ground level.		
9.09	This water pump cycle shall provide a pulsation action to assist the nozzle in navigating difficult lines or breaking through obstructions/blockages. Pulsation surge wave shall allow nozzle to punch forward 2" to 18" depending on flow dynamics and length of hose in sewer pipe. There shall be no interruption in the system water flow at the nozzle when this event occurs.		
9.10	The water pump shall use a single water piston that provides a relatively slow pump stroke (as compared to triplex piston/plunger type pumps) that provides minimal wear and allows the pump to run at normal operating conditions or speed without water for thirty minutes.		
9.11	In order to maintain an optimized oil temperature for the hydraulic oil system, an oil to water shell and tube type oil cooler shall be provided in the water pump suction plumbing.		
9.12	A 3 inch "Y" strainer with 80 mesh stainless steel filter screen shall be located in the water pump suction between the water tank and water pump. A 3 inch gate valve shall be provide in the water pump suction to isolate the water tank and provide the ability to inspect/clean the 80 mesh stainless steel filter screen with water in the water tank.		
9.13	A compliment of drain valves and drain plugs shall be provided that allows the water pump and water tank system to be easily drained at ground level.		
9.14	The water pump shall have a two (2) year warranty.		



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9.15	Handgun shall be supplied that allows for changing of flow pattern from a fine mist to a steady stream.		
9.16	Handgun shall come equipped with quick connect coupler and 3/8" x 35' hose.		
9.17	A mid-ship quick disconnect with shut off valve shall be provided.		
9.18	Low Water Alarm with Water Pump Flow Indicator		
9.19	A nozzle rack accommodating (3) nozzles shall be provided in a toolbox. The nozzles shall be labeled on storage rack for pipe size/flow and application.		
9.20	Digital Water Pressure Gauge		
9.21	Front and rear quick disconnect handgun couplers shall be provided.		
9.22	The water pump enclosure shall keep the water pump and plumbing enclosed and protected from the elements.		
9.23	The water pump enclosure shall be constructed of aluminum to provide maximum corrosion protection.		
9.24	The water pump enclosure shall have two aluminum doors with full length stainless steel hinges and doors shall allow complete access to the water pump and plumbing from ground level.		
9.25	The water pump enclosure doors shall be secured with a lockable system providing three latching points from a single point of actuation.		
9.26	When equipped with a water pump enclosure, there shall be two (2) 1/2" high pressure ball valves provided for draining the water pump and flushing sediment from the bottom of the water pump.		
9.27	The water pump enclosure shall be heated with a 20,000 BTU heater.		
9.28	Shut off valves shall be provided to isolate heater from chassis engine coolant when heat is not required.		
9.29	An additional 1" water relief valve shall be provided.		
9.30	The water pump shall provide precise 0-80 GPM controlled flow at variable pressure up to 2500 PSI.		
9.31	An additional 1" water relief valve shall be provided.		
12.0	HOSE REEL (REAR)		
12.01	Hydraulic Extending Hose Reel - 900' capacity of 1" hose shall be provided.		



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12.02	The hose reel assembly shall mount to a heavy duty slewing bearing mounted to a stationary, independent frame bolted between the chassis frame rails.		
12.03	In order to optimize functionality of the hose reel assembly, the hose reel assembly shall be mounted such that the outer edge of the reel spool is approximately 7" above the top of the chassis frame.		
12.04	The hose reel assembly shall rotate on a greaseable heavy duty slewing bearing a total of 180 degrees, 90 degrees to curb side and 90 degrees to street side providing direct alignment to manholes.		
12.05	In order to equally optimize functionality of the hose reel assembly to both curb side and street side, the hose reel assembly shall be mounted at the rear in the center of the chassis frame rails. The hose reel assembly shall rotate about the slewing bearings vertical centerline such that the hose reel assembly shall never extend beyond the width of the truck.		
12.06	The rotation of the hose reel assembly through the 180 degree working range will require minimal effort and shall not require any power assist complexity.		
12.07	The rotation of the hose reel assembly shall have a dual locking mechanism to positively lock the hose reel assembly in any position through the 180 degree operating range.		
12.08	In order to facilitate serviceability and reduce wear, all hoses and electrical cables used to control the hose reel assembly shall be routed above the hose reel assembly.		
12.09	In order to eliminate the movement and potential for damage of the high pressure water feed line to the hose reel assembly, a rotating swivel joint that is adjustable and rebuildable shall be used at both the vertical and horizontal rotation points of the hose reel assembly.		
12.10	The hose reel spool shall be manufactured out of 1/4" spun steel for added structural strength and shall require no internal or external reinforcements that could damage rodder hose.		
12.11	The hose reel spool shall be powered in both directions by a hydraulic motor and an adjustable double roller chain/sprocket assembly.		



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12.12	In order to optimize performance and fuel economy, the hose reel hydraulic system shall be supplied by a load sensing/pressure compensated variable displacement hydraulic pump. The operator input to precisely control the hose reel direction and the pay in/out rate shall be through an electro proportional joystick and a variable speed switch mounted in the hose reel control panel.		
12.13	The hose reel control panel shall be located to the right of the hose reel spool and shall provide convenient access to all necessary operating controls.		
12.14	The hose reel control panel shall be mounted to the hose reel frame and shall rotate with the hose reel assembly.		
12.15	10' Leader Hose		
12.16	Primary operator station shall be located at the hose reel.		
12.17	Station shall include: truck engine throttle, water pump on/off, water pump mode, water pump multiflow control, hose reel pay in/out joystick, hose reel speed control, water pressure gauge, low water indicator, alarm on/off, rotating hose reel lock control, LCD monitor, and E-Stop.		
12.18	500' x 1" Piranha Sewer Hose / 2500 Psi shall be provided		
12.19	Digital footage counter displaying absolute and relative footage values shall be provided. System must be capable of resetting relative value to ensure operator safety.		
12.20	Must have accuracy to within one percent of actual distance.		
12.21	Will include an easy to read LCD screen		
12.22	A manual hose level wind guide shall be provided for rewinding of jet hose onto the reel.		
12.23	An air actuated 1" ball valve shall be installed in lieu of the manual 1" ball valve. This air actuated ball valve will have the switch mounted on the ball valve plate at the side of the unit.		
18.0	SHROUD PACKAGE		
18.01	The rear hose reel shroud package shall keep the hose reel, water pump, and associated plumbing enclosed and protected from the elements.		
18.02	The rear hose reel shroud package shall be constructed of aluminum to provide maximum corrosion protection.		
18.03	The rear hose reel shroud package shall consist of a rotating cylindrical enclosure with welded in floor with fixed top cover for		



VACTOR

	the hose reel, an enclosure for the water pump and a storage cabinet that connects the two.		
18.04	The cylindrical enclosure shall rotate on the same vertical axis as the hose reel assembly.		
18.05	The cylindrical enclosure/hose reel assembly vertical axis shall lie in the center of the chassis frame rails.		
18.06	The overall width of the cylindrical enclosure shall be at least 14 inches narrower on both sides than the widest point of the truck jetter providing improved driver rear vision with side mirrors over truck jetter shrouds that are as wide as the overall unit.		
18.07	The cylindrical enclosure shall rotate a total of 180 degrees, 90 degrees to the curb side and 90 degrees to the passenger side.		
18.08	The cylindrical enclosure shall have a fixed top cover that protects the hose reel and associated plumbing from the elements at all times; in road mode or work mode.		
18.09	There shall be two lockable sliding doors at nearly the same radius as the cylindrical enclosure that allow the hose to pay off the reel into the sewer.		
18.10	Brush type seals shall be used to seal the cylindrical rotating enclosure.		
18.11	The rotation of the cylindrical enclosure/hose reel assembly through the 180 degree working range will require minimal effort and shall not require any power assist complexity.		
18.12	The rotation of the cylindrical enclosure/hose reel assembly shall have a dual locking mechanism to positively lock the cylindrical enclosure/hose reel assembly in any position through the 180 degree operating range		
18.13	There shall be two large access panels provided on either side of cylindrical enclosure for easy access for service.		
18.14	The water pump enclosure shall have two aluminum doors with full length stainless steel hinges that provide complete access to the water pump and plumbing from ground level.		
18.15	The water pump enclosure doors shall be secured with a lockable system providing three latching points from a single point of actuation.		



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18.16	When equipped with a water pump enclosure, there shall be two (2) 1/2" high pressure ball valves provided for draining the water pump and flushing sediment from the bottom of the water pump.		
18.17	A storage cabinet shall be provided that connects the water pump enclosure to the rear cylindrical enclosure area.		
18.18	Rodder pump, accumulator, recirculation system quick coupler shall be mounted in an insulated, heated aluminum storage cabinet located at the curb side of vehicle.		
19.0	ELECTRICAL & SAFETY LIGHTING		
19.01	All electrical connections shall be void of exposed wires or terminals nor should they be painted. Paint process shall be completed prior to installation of electrical wiring and components.		
19.02	Harnessed wiring shall be color coded and labeled by function for easy troubleshooting.		
19.03	The entire system shall be vapor sealed to eliminate moisture damage, "NEMA 4" type or equal.		
19.04	All power cables coming from the chassis batteries shall be fuse protected at the battery to provide maximum system protection.		
19.05	Individual circuits shall be protected with resettable circuit breakers housed in a conveniently located sealed junction box accessible from ground level.		
19.06	For serviceability, major components shall contain a Deutsch or Weather Pack type sealed connector within the wiring harness.		
19.07	Unit shall be equipped with a high quality, weatherproof, color LCD monitor at the operator station		
19.08	The LCD monitor shall have the ability to display the following standard features:		
19.09	* Chassis Engine: Actual Engine RPM, Desired Engine RPM, Engine Coolant Temp, Engine Oil Temp, Engine Oil Pressure, Engine Hours, Fuel Rate, and Actual Engine Load (%).		
19.10	* RamJet Module: PTO Status, Mode (Stationary, E-Stop), Hydraulic Oil Temp, Chassis Engine RPM, and Low Water Indicator.		
19.11	LED lights shall be provided: clearance, back-up, stop, tail/turn.		
19.12	Rear work lights shall be provided		
19.13	L.E.D. Lights, Clearance, Stop, Tail & Turn shall be provided.		



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19.14	L.E.D. Lights, Clearance, Back-Up, Stop, Tail & Turn shall be provided.		
19.15	Handheld, Pistol Grip LED Spot light with rechargeable Lithium Ion battery.		
20.0	SAFETY EQUIPMENT		
20.01	An E-stop shall be located at the operator station.		
20.02	The E-stop shall turn off water pump, disengage hydraulic PTO's/ Pumps and set chassis engine speed to idle.		
20.03	The electrical system controls shall be configured to allow for single point operation only. Upon engagement of controls at a specific location, additional/optional controls shall be disabled.		
20.04	The electrical system shall enable a self-check to ensure all switches are in home position prior to critical function engagement. Electrical system shall lock out function when control switch is not in home position.		
20.05	The electrical system shall display the hydraulic oil temperature. The electrical system shall display a message and shall have an indicator if the hydraulic oil temperature reaches 180 degrees F. The hydraulic system shall be disabled if the hydraulic oil temperature reaches 200 degrees F.		
20.06	(1) Road side hazard kit.		
20.07	(1) 5# Fire extinguisher.		
20.08	A rear back up color camera with 130 degree viewing area shall be provided. The back up camera shall have automatic activation when the chassis transmission is shifted to reverse.		
21.0	SEWER TOOLS AND ACCESSORIES		
21.01	Hydrant wrench		
21.02	Hose Guide with Tie-off rope		
21.03	(1) P-15 Penetrator		
21.04	(1) Power Cleaner		
21.05	(1) Super Flusher		
21.06	(1) 1" Small finned nozzle pipe skid		
23.0	CHASSIS EQUIPMENT AND STORAGE		
23.01	Two (2) front tow hooks shall be provided.		
23.02	Two (2) rear tow hooks shall be provided.		
24.0	MODULE FINISH		



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24.01	Hose reel and components not constructed from aluminum or stainless steel shall be painted or powder coated black		
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