

December 16, 2008

Mr. Ron Price State of West Virginia Department of Administration Purchasing Division 2019 Washington Street East Charleston, WV 25305

Dear Mr. Price:

Thank you for the opportunity to submit this bid in response to your Request for Quotation #PTR09013. We are offering the ElDorado National Aero Elite in Option O.

Should we receive an award for this solicitation, we will provide all of the material as outlined in Part One, sections 4.1.1 through 4.1.12. The Aero Elite body will be constructed at the ElDorado production facility in Salina, Kansas.

Because the Navistar 3200 chassis varies from the base bus chassis specification, we have provided a complete set of chassis specifications designed for West Virginia. You will find these specifications behind tab seven in the bid binder.

When you review the attached floor plans, you will notice that the floor plans for Options P and Q vary slightly from your request. Available floor space on the 3200 is different from that available on a Freightliner rail chassis.

We are in full understanding of the training requirements. We will provide personnel to conduct all training if we are the successful bidder. We have included "as-built" wiring schematics in our bid price. Also, as requested, we are offering paint schemes to match your existing fleets. The prices for the paint and graphics are included in our bid price.

Thank you again for this opportunity. Please call if you have questions.

Sincerely

Chad Seals

Account Manager

West Virginia Public Transit Providers

Sonny Merryman, Inc.

800-533-1006 x352

434-821-8203 (fax)

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2008 DEC 17 P 1: 04

PERSONG DIVISION STATE OF WV

www.sonnymerryman.com



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

# Request for Quotation

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ADDRESS CORRESPONDENCE TO ATTENTION OF TRANK WHITTAKER

\*709033659 434-821-1000 SONNY MERRYMAN INC PO BOX 495

RUSTBURG VA 24588

DIVISION OF PUBLIC TRANSIT

BUILDING 5, ROOM 906
1900 KANAWHA BOULEVARD, EAST
CHARLESTON, WV
25305-0432 304-558-0428

DATE PRINTED TERMS OF SALE SHIP VIA FOB. FREIGHT TERMS 10/28/2008 BID OPENING DATE: 12/17/2008 OPENING TIME 30DMCAT. LINE QUANTITY UOP ITEM NUMBER UNIT PRICE AMOUNT 0001 ıS \$56-50 1 COACH, TRANSIT (SINGLE DOOR, UNDER 35 FEET) THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA DIVISION OF PUBLIC TRANSIT IS SOLICITING BIDS FROM RESPONSIBLE VENDORS FOR AN OPEN-END CONTRACT TO PROVIDE 1-15 MID-\$IZE MEDIUM LIGHT DUTY TRANSIT BUS WITH A/C, WHEELCHAIR LIFT AND wheelchair securement system as specified in the ATTACHED. A MANDATORY PRE-BID MEETING WILL BE HELD ON 11/05/2008 1 10:00 AM IN BLDG 5, ROOM 912, 1900 KANAWHA BLVD., E ¢harleston w√ 253¢5. NO BIDS WILL BE CONSIDERED FROM ANY VENDOR THAT IS NOT REPRESENTATED AT THE PRE-BID. NO ONE PERSON MAY REPRESENT MORE THAN ONE VENDOR AT THE PRE-BID MEETING. EXHIBIT 2 LIFE OF CONTRACT: THIS CONTRACT BECOMES EFFECTIVE ON JPON AWARD AND EXTENDS FOR A PERIOD OF ONE (1) CEAR OR UNTIL SUCH "REASONABLE TIME" THEREAFTER AS IS NECESSARY TO OBTAIN A NEW CONTRACT OR RENEW THE ORIGINAL CONTRACT THE "REASONABLE TIME" PERIOD SHALL NOT EXCEED TWELVE (12) MONTHS. DURING THIS "REASONABLE TIME" THE VENDOR MAY TERMINATE THIS CONTRACT FOR ANY REASON UPON GİVING|THE DIRECTOR OF|PURCHASING THIRTY (30) DAYS WRITTEN NOTICE. Unless specific provistons are stipulated in this SEE REVERSE SIDE FOR TERMS AND CONDITIONS SIGNATURE TELEPHON 821-1000 12-16-08 (434) TITLE FEIN ADDRESS CHANGES TO BE NOTED ABOVE 54-0806176



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

# Request for Quotation

PTR09013

PAGE 2

ADDRESS CORRESPONDENCE TO ATTENTION OF STREAMS
FRANK WHITTAKER

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\*709033659 434-821-1000 SONNY MERRYMAN INC PO BOX 495

RUSTBURG VA 24588

DIVISION OF PUBLIC TRANSIT

BUILDING 5, ROOM 906 1900 KANAWHA BOULEVARD, EAST CHARLESTON, WV

25305-0432

304-558-2316

304-558-0428

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

# Request for

REG NUMBER PTR09013

ADDRESS CORRESPONDENCE TO ATTENTION OF

FRANK WHITTAKER 304-558-2316

\*709033659 434-821-1000 SONNY MERRYMAN INC PO BOX 495

RUSTBURG VA 24588

DIVISION OF PUBLIC TRANSIT

BUILDING 5, ROOM 906 1900 KANAWHA BOULEVARD, EAST CHARLESTON, WV 25305-0432 304-558-0428

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		ADDRESS CHANGES TO BE NOTED ABOVE



\*709033659

PO BOX 495

SONNY MERRYMAN INC

RUSTBURG VA 24588

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

# Request for

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ADDRESS CORRESPONDENCE TO ATTENTION OF:

FRANK WHITTAKER B04-558-2316

434-821-1000

DIVISION OF PUBLIC TRANSIT

BUILDING 5, ROOM 906 CHARLESTON, WV

1900 KANAWHA BOULEVARD, EAST 25305-0432 304-558-0428

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BUYER: FW-44 PAGE

Spending Unit: Division of Public Transit

Department of Transportation

Mid-Size Medium Light Duty Transit Bus

NAVISTAR/ELDORADO	\$ N/B	\$ 115,500.00	\$ 29,535.00	\$ 6,750.00	\$ 11,100.00	\$ 21,375.00	\$ NC	\$ 46,875.00	\$ 10,680.00	\$ 41,400.00	\$_N/A	\$ 8,430.00	\$ 26,250.00	\$ N/B	\$ N/B	\$ 1,752,510.	\$ 40,125.00	\$ 61,500.00
Manufacturer: OPTION 0 - NAVISTAR/ELDORADO	15	15	15	15	15	15	15		15	15	25	15	15			\$ % # 15	15	15
LERO ELITE	\$ N/B	\$ 7,700.00	\$ 1,969.00	\$ 450.00	\$ 740.00	\$ 1,425.00	\$ NC	\$ 3,125.00	\$ 712.00	\$ 2,670.00	\$ N/A	\$ 562.00	\$ 1,750.00	\$ N/B	\$ N/B	\$ 116,834	\$ 2,675.00	\$ 4,100.00
2009 Model: OPTION 0 - 3200/AERO ELITE	Price for each completed vehicle with 2 wheelchair spaces:	Brake Retarder	Roof Mount A/C Condenser System	Emergency Rear Exit Door	Front Curbside Lift	Child Restraint Seat	Cloth Passenger Seats	Automatic Tire Chain Device	Rear Air Suspension	Security Camera System	Security Camera Playback System	Vehicle Skirt Painting	Full Bus Body Paint	Extended Length Body Increase 4 Passengers	Extended Length Body Increase 8 Passengers	Base Vehicle Substitute Navistar 3200 Chassis	Ext. Length Body Navistar Chassis Increase 4 Pass.	Ext. Length Body Navistar Chassis Increase 8 Pass.
Model Year:	Price for each	OPTION A:	OPTION B:	OPTION C:	OPTION D:	OPTION E:	OPTION F:	OPTION G:	OPTION H:	OPTION I:	OPTION J.	OPTION K:	OPTION L:	OPTION M:	OPTION N:	OPTION O:	OPTION P:	OPTION Q:



VENDOR

DATE PRINTED

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

TERMS OF SALE.

# Request for Quotation

SHIP VIA

RFO NUMBER PTR09013

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FREIGHT TERMS

ADDRESS CORRESPONDENCE TO ATTENTION OF:

FRANK WHITTAKER 304-558-2316

\*709033659 434-821-1000 SONNY MERRYMAN INC PO BOX 495

RUSTBURG VA 24588 DIVISION OF PUBLIC TRANSIT

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# PTR09013 ADDENDUM #1

- 1. The Approved Equals are due to the Purchasing Division by 4pm on 11/19/2008.
- 2. Remove page 94 of REQ. Vendor Preference. FTA does not allow this as part of the bidding process.
- 3. Page 25: Send all questions to: Ron Price

Same Address (304) 558-0492 Ron.N.Price@wv.gov

- 4. Page 24, Section 24- The vendors agrees to hold two (1) day training sessions per year at two locations selected by the Division of Public Transit.
- 5. Page 29, Section 1.3, Change GVWR to read 23,500 Lbs, ADD minimum to wheelbase, and ADD wording to Seat/Wheelchair Capacity to read And Up To 2 w/c spaces.
- 6. Page 30, Change transmission to Allison 2200 series.
- 7. Page 32, Section 2.7, Change capacity from 90 to 65 gallons.
- 8. Page 33, Section 3.1, change transmission to Allison 2200 series.
- 9. Page 34, Section 4.1.2, ADD, An emergency charge air line shall extend from the reserve air tank to a port mounted on the vehicle skirt on the street side. This airline will facilitate charging of the reserve tank in the event of an emergency to facilitate the release of the air activated emergency brake.
- 10. Page 37, Section 5.3.9. ADD LED Lights to be supplied.
- 11. Page 38, Section 5.4.3, Change foot candles to 8 from 12.
- 12. Page 38, Section 5.4.4, remove the word LED from paragraph.
- 13. Page 40, Section 6.2.2, Add word minimum after Dual compressor first line.
- 14. Page 41, Section 6.2.7, CHANGE WORDS Driver to DASH.
- 15. Page, 41, ADD Section 6.2.7A, System shall include a supplemental 35, BTU/hr evaporator mounted just behind the driver on the street side interior wall adjacent to the passenger entrance door. The air flow shall be directed by deflectors or ducting in such a manner as to blow into the driver's compartment and toward the entrance door not reward in to the passenger compartment. Drain lines shall not be visible and shall exit the bus through the curbside wall. The duct work for the air flow shall not be visible.
- 16. Page 45, Section 9.2.9, ADD or sprayed urethane insulation to the end of the paragraph.
- 17. Page 47, Section 9.5.1 ADD wording pressure treated in front of the word PLYWOOD.
- 18. Page 47, Section 9.6.1, ADD to the end of the paragraph or spray urethane.
- 19. Page 48, Section 10.1, ADD with supplemental 3 step foldaway seating included over the wheelchair position per the floorplan.
- 20. Page 49, Section 11.1.3, Regular retractable seat belts are accepted on the 3 step foldaways only.
- 21. Page 54, Section 16.0, Six speakers to be included instead of four.
- 22. Page 56, Section 20.0, Manuals for chassis only to be supplied per model year. All others stay the same.
- 23. Page 58, Section 23.0, Change the word Granning to OEM or approved equal.

SIGN IN SHEET

PLEASE PRINT Request for Proposal No. PTR 09013

6 Page Date:\_\_

\* PLEASE BE SURE TO PRINT LEGIBLY - IF POSSIBLE, LEAVE A BUSINESS CARD

		TEI EBHONE & EAV
FIRM & REPRESENTATIVE NAME	MAILING ADDRESS	NUMBERS
Company: Sonny Merryman Inc	P.O. Box 495	PHONE (434) 821-1000 EL 35
Rep: Chad Seals	Rustburn M. 24588	TOLL FREE <i>/-8cu-533-700 G</i>
Email Address: Und Sowy morgani. Com		FAX (484) 821-4456
Company: Mational Bus Sales	P.O. Box 6549	PHONE 540 728 - 3751
Rep: David Clauses	Maritta, GA	TOLL FREE 800 282-7981
Email Address: dclawsen anational bussales .com	7900E woo.	FAX 170 422 - 9007
Company: (Many) is Kils Line	331 GERHAM ZE	PHONE 3/6,338,50/8
Rep: Janue frolle	Inlay City Mi	TOLL FREE 810,734,753
Email Address: TL: plachlyingridues-Con	hhh8t	FAX 810, 734, 1844
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State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

# Request for Quotation

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PTR09013

RFO NUMBER

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FRANK WHITTAKER 304-558-2316

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RUSTBURG VA 24588

DIVISION OF PUBLIC TRANSIT

ADDRESS CORRESPONDENCE TO ATTENTION OF

BUILDING 5, ROOM 906 1900 KANAWHA BOULEVARD, EAST CHARLESTON, WV 25305-0432 304-558-0428

ADDRESS CHANGES TO BE NOTED ABOVE

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54-0806176

# PTR09013 Addendum #2

# Additional Change to Specification

Section 24 Option I: Add one additional camera for a total of (3) three to be installed in each Vehicle ordered.

# PTR09013 Addendum #2

# Vendor: Sonny Merryman

Section 5.2	Approved
Section 5.2	Approved
Section 5.3.1	Denied
Section 6.2	Approved
Section 9.1	Approved as long as NO two-sided tape is used. Honeycomb style must have welded reinforced steel in body panels that forms a complete cage.
Section 9.4.3	Approved
Section 9.4.3	Approved
Section 9.4.5	Approved
Section 9.4.13	Approved
Section 9.4.13	Approved
Section 9.6.1	Approved
Section 9.7	Approved
Section 10.2.5	Approved- WVDPT must approve design prior to installation.
Section 11.1.8	Approved
Section 12.2	Approved
Section 12.3	Approved
Section 13.3	Approved
Section 23	Denied – Bid air suspension as option per RFQ.
Part 3, Warranty	Approved

Submitted by: Sonny Merryman, Inc.

# State of West Virginia - Equals Requests

	PTR09013	Approved Equals	11/17/2008
Sections	As Specified	Request	Remarks
General			Sonny Merryman, Inc will be bidding the Navistar 3200 / ElDorado Aero Elite base vehicle substitute only.
2.2	Batteries - Reserve capacity of CCA-1900.	Batteries - Reserve capacity of CCA - 1300.	Navistar OEM
5.2	One master cutoff switch for body electrical panel and one for lift, chassis and Telma retarder if selected	ElDorado will provide all of the switches requested with the exception of the "chassis" cutoff switch.	Per Navistar guidelines
5.3.1	Trucklite exterior LED lights	Grote exterior LED lights	
6.2	86,000 BTU rear evaporator, 20,000 BTU OEM or "in dash" evaporator, 26,000 BTU driver's area evaporator	See attached specifications	Originally specified system not compatible with Navistar 3200 chassis with DT466 engine. The sytem proposed in the attached will meet all of your performance specifications.
9.1	Steel cage body construction	Steel reinforced composite body construction.	No double sided tape utilized. Composite body. Specifications attached
9.4.3	Grease fittings on door cam arms	Please accept A & M Doors that do not require grease fitting.	No lubrication needed since the shafts are mounted with bronze bushings.
9.4.5	10 gauge steel doorway surround and header	12 gauge 304 stainless steel	Stainless will have better corrosion resistance
9.4.13	37" x 65" rear emergency door	36" x 62" rear emergency door	
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9.4	Cam over style hold back	Air shock hold 3k	
and the second			
9.6.1	Closed cell or bagged fiberglass	The Aero Elite composite body serves as insulation without added material. The Aero Elite body has an R factor of seven.	
9.7	HELP bumpers front and rear	Help bumper rear only. A front HELP bumper is not available for the Navistar 3200.	
10.2.5	"Stand Clear" caution sign for lift operations	"Stand Clear" caution sign for lift Applied vinyl (decal) "Stand Clear" caution for operations	
11.1.8	Magnum 200 or USSC 9002 driver's seat	Navistar OEM air operated driver's seat	
12.2	Passenger windows AS-2, 36" x 36"	Passenger windows AS-3 safety glass, 41" x 29"	
12.3	AS-3 door panels	AS-2 door panels	
13.3	Visor for windshield and driver's side window		Please clarify. Is the request for a school bus style visor or a standard visor that will pivot to either position?
23	Optional air suspension	Air suspension standard on the Navistar 3200	
Part 3, Warranty	Per Part 3	Per the attached ElDorado warranty overview	

# PTR09013 Addendum #2

# Vendor: National Bus Sales and Leasing

1. Page 5, Section A	Denied
2. Page 29, Section 1.3	Approved
3. Page 30, Section 1.3	Approved
4. Page 32, Section 2.7	Approved
5. Page 35, Section 4.3.2	Approved
6. Page 38, Section 5.4.4	Approved
7. Page 43, Section 9.1.1	Approved
8. Page 45, Section 9.2.3	Approved
9. Page 45, Section 8.2.6	Denied – No 8.2.6
10. Page 47, Section 9.4.13	Approved
11. Page 47, Section 9.5.4	Approved
12. Page 48, Section 9.7	Approved
13. Page 50, Section 11.1.8	Approved
14. Page 52, Section 12.2	Approved
15. Page, 52, Section 12.2	Approved
16. Page 58, Sections 22 and 23	Approved
17. Page 59-60, Sections 28-32	Approved, B as base with the foldaway on sidewall.
18. Page 33, Section 3.1	Understood
19. Body Structure	Approved
-	

# NATIONAL **BUS SALES** MidAtlantic Region

RECEIVED

NOV 1 9 2003

**DIVISION OF PUBLIC TRANSIT** 

P.O. Box 6549 Marietta, GA 30065-0549 7 800 Pickens Drive Ext. Marietta, GA 30062

GA - (770) 422-8920 FAX - (770) 422-9007 Toll Free (800) 282-7981 Ext. 59

2075 West Main Street Waynesboro, VA 23322 FAX Home Office (540) 337-4619

VA - (540) 943-3430 Cell - (540) 729-3751 Regional Manager - David M. Clawson, Jr. dclawson@nationalbussales.com

November 19, 2008

Mr. Ron Price State of West Virginia, Purchasing Division 2019 Washington Street East Charleston, WV 25305-0130

RE: WV PTR09013 for medium duty under 35' buses

Dear Mr. Price:

National Bus Sales & Leasing, Inc formally requests the following amendments to the specifications and/or clarifications and/or and approved equals documented below:

Item	Page	Section	Request/Clarification
1	5	A	We are requesting extension of the period of delivery for each vehicle to: not to exceed 220 days after receipt of purchase orders until liquidated damages are assessed.
2	29	1.3	We request GVWR to specify a minimum of 23,400 lbs due to front axle constraint on the International chassis
3	30	1.3	We request approval to provide a <u>minimum</u> wheelbase of 178". Option vehicles will require increased wheelbase to accommodate higher passenger loads.
4	32	2.7	We request approval to provide 65 gallon RH fuel tank minimum for the optional vehicles built on the International 3200 chassis.
5	35	4.3.2	We request approval to provide front axle rating of 10,000 lbs however due to the size and load rating of the tires this may reduce the front axle capacity to 9400 lbs capacity. Please approve

6	20	5.4.4	We request approval to provide a standard bullet incandecesnt light for the lift platform lights
7	43	9.1.1	We request approval of our floor frame construction: The floor frame is constructed of 11-gauge, 2"x 2.88" x 2" channel cross members, on a maximum 24" center, with an outer 14-gauge angle steel impact rail. 11-gauge, 4" wide flat steel is provided to support the floor track. The floor frame is secured to the chassis frame in accordance with Ford's QVM requirements which are considered best practices.
8	45	9.2.3	We request approval to omit the requirement for belly pan. Using exterior grade pressure treated plywood flooring without underbelly steel will eliminate any possible vapor lock. This causes more damage and deterioration to the flooring than it prevents.
9	45	8.2.6	We request approval to change the current specifications to read stepwell shall be minimum of 14 gauge stainless steel stepwell. We feel this is pertinent and necessary to insure the longevity of the vehicles stepwells in climates with high moisture area with snow and salt are present. Please consider updating the current specification to require this construction of all bidders.
			Option C: We request the approval to supply a rear exit door when
10	47	9.4.13	optioned a clear opening of 37" x 56"
11	47	9.5.4	We request the approval to use RCA, Rubber Solutions flooring as in previous contracts. Overall vehicle content will continue to meet Buy America requirements
12	48	9.7	We request the approval to omit the requirement for the front energy absorbing bumper. This will ensure adequate air flow to the engine compartment. Fiberglass front bumper will be provided for the base specifications and a chrome front bumper for the optional International chassis.
13	50	11.1.8	We request approval to use an Air Ride seat by National Seating for the International chassis only. It is standard feature on their chassis and included in the OEM chassis warranty
14	52	12.2	We request approval to supply main passenger side windows that are 36" high by 46" wide.
·	· en	12.1	We request approval to use an OEM supplied single piece windshield for the International Options.
15	52	12.1	
16	58	22 and 23	We request approval to provide <u>either</u> option G or H on any one vehicle. The options together are not compatible.
17	59- 60	28-32	We request clarification of which base bid rear lift layout you prefer A or B. Please approve the attached floor plan(s) to meet your requirements for extended and increased passengers Option M, Option N, Option O, Option P, Option Q.
18	33	3.1	Please acknowledge that air activated parking brake is not coupled to the transmission shifter on the International 3200 chassis only. Putting the trans. in park does not set the parking brake. Parking brake must be set by operator.

Item 19. Additionally, we ask that you approve our most current body structure specification:

The sidewalls are constructed of 1.5" x 1.5" 16-gauge tubular steel studs and corner posts on maximum 48" centers. A 14-gauge, 1-1/2" x 2" tubular horizontal stringer is welded to the top of the studs. A 16-gauge Z-rail is welded to the studs at the bottom of the sidewall. The window corners are reinforced with corner gussets.

The roof consists of 1.5" x 1.5" 16-gauge tubular steel rafters installed on maximum 48" centers. The roof rafters are welded into two 16-gauge steel "U" shaped sidewall caps. The rafters, in conjunction with two 3" 16-gauge flat longitudinal stringers, form a "steel cage" type of construction.

The back wall has a 1.5" x 1.5" 16-gauge tubular steel frame, reinforced with 16-gauge "C" channel. A section of 16-gauge Z-channel is welded to the bottom of the back wall.

The floor frame is constructed of 11-gauge, 2"x2.8"x2" channel cross members, on maximum 34" centers, with an outer 14-gauge channel steel impact rail. 11-gauge, 4" flat steel is provided to support the floor track. The wheel wells consist of 14-gauge steel welded to the floor cross members. Any wheelchair tie downs are attached through 11-gauge 4" flat steel welded in the appropriate locations on the floor. The floor frame is secured to the chassis frame in accordance with the chassis manufacturer's requirements.

When the sidewalls, floor, and roof are welded together, they form a continuous "hoop" structure, which is extremely strong and durable

The body has a steel cage construction. When the sidewalls, floor, and roof are welded together, they form a strong, durable structure.

The sidewalls are constructed of 1.5" x 1.5" 16-gauge tubular steel studs and corner posts on maximum 48" centers. A 14-gauge, 1-1/2" x 2" tubular horizontal stringer is welded to the top of the studs. A 16-gauge Z-rail is welded to the studs at the bottom of the sidewall. The window corners are reinforced with corner gussets.

The roof consists of 1.5" x 1.5" 16-gauge tubular steel rafters installed on maximum 48" centers. The roof rafters are welded into two 16-gauge steel "U" shaped sidewall caps. The rafters, in conjunction with two 3" 16-gauge flat longitudinal stringers, form a "steel cage" type of construction.

The back wall has a 1.5" x 1.5" 16-gauge tubular steel frame, reinforced with 16-gauge "C" channel. A section of 16-gauge Z-channel is welded to the bottom of the back wall.

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Sidewalls, floor, and roof are welded together, to form a continuous "hoop" structure.

We thank-you for your consideration,

David M. Clawson, Jr. MidAtlantic Representative

dclawson@nationalbussales.com

# Required Documentation Checklist RFQ PTR09013

# **Medium Heavy Duty Transit Vehicle**

	Section <u>Referenced</u>	
	Part 1	
A_	_ 4.1	Items in sections 4.1.1 – 4.1.12 provide proof of compliance
X	_ 8.5.1	Complete Mechanical Description of Vehicle, its construction and equipment including manufacturer's model, model name and/or number and model year Include Warranty Information
<u>X</u>	_ 8.5.3	Curb Weight (empty weight and Gross Vehicle Weight Rating (GVWR) of vehicle
X	8.5.5 & <u>Part</u> 3, 2.2.1	Warranty Locations- A description of how and by whom warranty service will be provided in four (4) areas of WV to cover both Mechanical and body work. Provide vendor who will do warranty of both chassis and body, including bus body, air conditioning and wheelchair lifts.  Four areas of WV include: Northern Panhandle, Eastern Panhandle Central WV and Southern WV
X	_ 8.5.6	Location of nearest depot which will furnish a complete supply of parts and components for the repair and maintenance of the vehicle to be supplied
<u>A</u>	8,5.8	Location of assembly
X	8.5.9	List of five users names, addresses and telephone numbers who have been provided similar equipment
<u>A</u>	_ 24	Training- submit letter of understanding to the terms in this section
	Part 2	
<u>X</u>	1.1	Complete (2) bids in binder form – (1) Marked for WVDPT
<u>X</u>	1.8	STURAA TEST- 7 Years

A - SEE COVER LETTER

B - UPON AWARD

# Required Documentation Checklist RFQ PTR09013

# Medium Heavy Duty Transit Vehicle Page 2

2.0	Engine: ISB-07- provide description, warranty and literature
<u>B</u> 2.1	Water Separator and Fuel Filter- provide description, warranty and literature
<u>B</u> 2.9	High Idle System- provide description, warranty and literature
<u>B</u> 3.1	Transmission- provide description, warranty and literature
<u>B</u> 3.3	Transmission Cooling System- provide description, warranty and literature
<u>B</u> 4.1.1	Heavy Duty Brakes- provide description warranty and literature
<u>B</u> 4.3	Suspension System- provide description warranty and literature
<u>B</u> 4.4.2	Tire Information- provide description, warranty and literature
<u>X</u> 5.0	Electrical System- provide description, literature and warranty
<u>X</u> 5.1	Alternator- specify the rectifier, method of installation, provide warranty and literature
<u>B</u> 5.2	Batteries- specify type and capacity
<u>B</u> 5.3.4	Exterior Lights -LED Lights- provide description, warranty and literature
<u>B</u> 5.3.13	Strobe Light-provide description, warranty and literature
<u>X</u> 5.3.15	Truck Lite Products- provide description, warranty and literature
<u>B</u> 5.4	Interior Lights- provide description/details
X 5.5.2	Fuse box panel- provide description/details
B 5.6.2	Rear Alarm- provide description, warranty and literature
<u>B</u> 5.6.4	Intelligent Alarm- provide description, warranty and literature

A - SEE COVER LETTER

B - UPON AWARD

# Required Documentation Checklist RFQ PTR09013

# Medium Heavy Duty Transit Vehicle Page 3

<u>B</u> 6.1.1	Heating System- provide description, warranty and literature
<u>B</u> 6.1.3	Auxiliary Heaters- provide description, warranty and literature
<u>X</u> 6.1.5	Stepwell Heater- provide description, warranty and literature
<u>B</u> 6.2	A/C Cooling System- provide description, warranty and literature
X 6.2.2	A/C Compressor- provide description, warranty and literature
<u>X</u> 6.2.3	A/C Condenser Information- provide description, warranty and literature
<u>B</u> 6.2.7	Driver's Evaporator- provide description, warranty and literature
<u>B</u> 6.2.9	A/C Hose System- provide description, warranty and literature
<u>B</u> 6.2.13	Roof Mounted A/C- provide description, warranty and literature
7.0	Roof Hatch- provide description, warranty and literature
9.1.1	Body Construction- provide description of body construction including materials, methods of joining and assembling components or subassemblies and method of attachment of the body to the chassis, warranty and literature
<u>X</u> 9.1.8	Water Testing- details of process
<u>B</u> 9.2.2	Provide proof that skirt panel seams below floorline will be placed only above wheel wells or adjacent to A/C skirt condenser
<u>B</u> 9.2.8	Insulation- provide proof of insulation requirement per spec.
<u>X</u> 9.4.3	Door Operating Mechanism- provide description/ details
<u>X</u> 9.5.4	Sample of Flooring- provide color per specifications, warranty and literature
<u>X</u> 9.5.5	Sample of Ribbed Flooring- provide color per specifications, warranty and literature

A - SEE COVER LETTER

B - UPON AWARD

# Required Documentation Checklist RFQ PTR09013

# Medium Heavy Duty Transit Vehicle Page 4

X 9.6.2	Undercoating/Rust proofing- provide description, warranty, literature and application process
<u>A</u> 9.7	Bumpers- provide description, warranty and literature
<u>X</u> 10.1	Lift- provide details, model #, warranty and literature. Provide information and literature that lift will meet the NHTSA platform lift requirements.
10.2.6	Interlock System- provide description, warranty and literature
<u>X</u> 11.0	Seating Diagram- provide proposed seating diagram
<u>B</u> 11.1.1	Passenger Seats- provide details for all proposed including flip up seats and ABS Knee Saver backs
<u>B</u> 11.1.3	Under Seat Retractor System- provide description, warranty, literature and FMVSS 210 Report Certification
<u>B</u> 11.1.8	Driver's Seat- provide description, warranty and literature
<u>B</u> 11.1.10	Child Restraint Seat- provide description, warranty and literature
<u>B</u> 11.2.	Mobility Aid Securement- provide details of proposed system, warranty, and literature
<u>B</u> 13.1	Exterior Mirrors- provide description, warranty and literature
<u>B</u> 15.0	Radio/Communication Installation procedures
<u>B</u> 16.0	Radio/CD Stereo- provide description, provide warranty and literature
<u>B</u> 19.0	Fixed Route Package- provide description, warranty and literature
<u>B</u> 19.2	Control Panel Location- submit details
<u>B</u> 19.4	PA System- provide description, warranty and literature

A - SEE COVER LETTER

B - UPON AWARD

# Required Documentation Checklist RFQ PTR09013

# Medium Heavy Duty Transit Vehicle Page 5

<u>B</u> 19.5	Passenger Signaling System- provide description, warranty and literature
<u>B</u> 21.1, 21.2	Interior and Exterior Color Schemes- provide details of schemes available
<u>B</u> 21.2.3	Paint Scheme- provide sample of vinyl chart to be used
<u>B</u> 22.0	Automatic Tire Chain Device- provide description, warranty and literature
B23.0	Rear Air Suspension- provide description, warranty and literature
B24.0	Security Camera System- provide description, warranty and literature
<u>B</u> 25.0	Security Camera Playback System- provide description, warranty and literature
Part 3	
X 2.1	Warranty on completed vehicle
X 2.2	Warranty on Basic Vehicle Structure
X 2.3	Warranty per specs. on subsystems and components
<u>Part 5</u>	
X	ALL REQUIRED FORMS 1-10 INCLUDE COPY OF RELEVANT BUS TESTING REPORT
X_	No Debt Affidavit

A - SEE COVER LETTER

B - UPON AWARD

Buyer: FW-44 Page \_\_\_\_\_ PO# PTR09013
Spending Unit: Division of Public Transit
Department of Transportation PO# PTR09013

### BID FORM #1

Location(s) of the Technical Service Representative(s) and parts distribution center(s) in the State of West Virginia.

Location(s) of the technical service representative(s).

Name:	MATHENY MOTORS
Address:	3rd STREET & ANN STREET
•	PARKERSBURG, WV 26101
Telephone:	1-304-485-4418
Locat	ion(s) of parts distribution center(s).
Name:	MATHENY MOTORS
Address:	3rd STREET & ANN STREET
	PARKERSBURG, WV 26101
·elenhone·	1-304-485-4418

Buyer: FW-44 Page PO# PTR09013 Spending Unit: Division of Public Transit Department of Transportation

→ SONNY MERRYMAN

### BID FORM #2

### **CERTIFICATION FOR AIR POLLUTION**

Pursuant o Section 8.4 of Part 1 of the Procurement, the Vendor certifies that the vehicles proposed:

AF E or ARE NOT (specify one) in compliance with the regulations in 40 CFR Part 85, 40 CFR Part 86, 40 CFR Part 600 and the air pollution criteria established by the Environmental Prc ection Agency of the United States Government

Buyer: FW-44 Page \_\_\_\_\_ PO# PTR09013 Spending Unit: Division of Public Transit Department of Transportation

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### BID FORM #3

# DISADVANTAGED BUSINESS ENTERPRISE VENDORS/ MANUFACTURERS CERTIFICATION

# (Cl eck appropriate statement)

- The Vendor, <u>if a transit vehicle manufacturer</u>, hereby certifies that it has complied with the requirements of 49 CFR Section 26.49 by submitting an annual DBE goal to the Federal Transit Administration (FTA). The goal has either been approved or not disapproved by FTA.
- The Vendor, if a non-manufacturing supplier, hereby certifies that the manufacturer of the transit vehicle to be supplied has complied with the above-referenced requirement of 49 CFR Section 26.49.

Dal 3

Aut ionized Signature

Sales Coordinator

Title

Idorado National Co.

Cor pany Name

Buyer: FW-44 Page PO# PTR09013
Spending Unit: Division of Public Transit
Department of Transportation

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### **BID FORM #4**

# BUY AMERICA CERTIFICATION ROLLING STOCK

### Certificate of Compliance

The bidde or offeror hereby certifies that it will comply with the requirements of section 165(b)(3), of the Surface Transport; tion Assistance Act of 1982, as amended, and the applicable regulations of 49 CFR 661.11:

_ 12-10-08
Dat :
<u>- Du 73</u>
Aut orized Signature
1-Idorado National Co.
Con pany Name
_ David L. Perny
Nan a David L. Ferry
: Sales Coordinator
Title

### Certificate for Non-Compliance

The bidder or offeror hereby certifies that it cannot comply with the requirements of section 165(b)(3) of the Surface Transports on Assistance Act of 1982, as amended, but may qualify for an exception to the requirement consistent with section 165 (b)(2) or (b)(4) of the Surface Transportation Assistance Act, as amended, and the applicable regulations in 49 CFR 661.7.

Date	
Auth	rized Signature
Com	any Name
Nam	
Title	

Buyer: FW-44 Page PO# PTR09013
Spending Unit: Division of Public Transit
Department of Transportation

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### **BID FROM #5**

# FEDERAL MOTOR VEHICLE SAFETY STANDARDS CERTIFICATION

The vent or hereby certifies that it shall submit, as required by Title 49 of the CFR, Part 663 - Subpart D, it's self-certifi ation information stating that the vehicle(s) will comply with the relevant Federal Motor Vehicle Safety Standards issued by he National Highway Traffic Safety Administration in Title 49 of the Code of Federal Regulations, Part 571.

Da: 3

Da: 3

Aut iorized Signature

Sales Coordinator

Title

1 = 1 dorado National Co.

Cor pany Name

Buyer: FW-44 Page PO# PTR09013 Spending Unit: Division of Public Transit Department of Transportation

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# BID FORM #6

TEId: rado National Co- the U.S. Comptroller General's Consolidated List of Pe Contracts Incorporating Labor Standards Provisions.	hereby certifies that it IS or IS NOT (specify one) included on arsons or Firms Currently Debarred for Violations of Various Public
Total Moor Porating Lanor Standards Provisions.	

Buyer: FW-44 Page PO# PTR09013
Spending Unit: Division of Public Transit
Department of Transportation

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# BID FORM #6-A

# CERTIFICATION OF PRIMARY PARTICIPANT REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

	DEBAKMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS		
1 ne P tird p	rimary Participant (applicant for an FTA grant or cooperative agreement, or potential contractor for a major		
k now	Eldorado National Co. (COMPANY NAME) certifles to the best of its edge and belief, that it and its principals:		
1	Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;		
2	Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;		
3.	Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (2) of this certification; and		
4.	Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.		
If the primary participant (applicant for an FTA grant, or cooperative agreement, or potential third party contractor) is mable to certify to any of the statements in this certification, the participant shall attach an explanation to this tification)			
F E PRIMARY PARTICIPANT (APPLICANT FOR AN FTA GRANT OR COOPERATIVE AGREEMENT, OR TENTIAL CONTRACTOR FOR A MAJOR THIRD PARTY CONTRACT),			
CERTIFIES OR AFFIRMS THE TRUTHFULNESS OF A STIPPED ON OR WITH THIS CERTIFICATION AND UNDERSTANDS THAT THE PROVISIONS OF 31 U.S.C SECTIONS 3801 ET SEQ.			
	Signature and Title of Authorized Official		

Buyer: FW-44 Page \_\_\_\_\_ PO# PTR09013
Spending Unit: Division of Public Transit
Department of Transportation

### **BID FORM #7**

# VENDOR'S CERTIFICATION OF UNDERSTANDING AND ACCEPTANCE

The Vendor hereby certifies that all Technical Specifications and Contract Terms and Conditions have been carefully reviewed, are fully understood and shall be adhered to in performance and completion of any contract resulting from this hid

/	2-15-08	
Date	1111/1	
	MCSel	vrmma v v v v
Authorized	d Signature	
Sales	Condinate	
Title		
Long	Manyman Inc.	-
Company	Name	

### SPECIFICATION COMPLIANCE

NOTE: <u>Please check</u> if what is offered is in exact compliance with specifications. Any discrepancies must be listed as an attachment to the bid proposal. Exact dimensions and/or descriptions must be provided as a part of the Vendor's bid proposal when submitted.

X	Bid proposal submitted meets and/or exceeds all specification requirements.
<del></del>	Bid proposal submitted contains deviations from specification requirements. Detailed descriptions of these deviations have been provided with this bid proposal. Changes or deviations to the specifications must be approved in the Approved Equals process.

Buyer: FW-44 Page PO# PTR09013
Spending Unit: Division of Public Transit 79
Department of Transportation

### **BID FORM #8**

# CERTIFICATION OF COMPLIANCE WITH FTA'S BUS TESTING REQUIREMENTS

The unidersigned (Vendor/Manufacturer) certifies that the vehicle offered in this procurement complies with 49 U. J.C. § 5323(c) and FTA's implementing regulation at 49 CFR Part 665.

The undersigned understands that misrepresenting the testing status of a vehicle acquired with Federal financial assist once may subject the undersigned to civil penalties as outlined in the Department of Transportation's regulation on Pri gram Fraud Civil Remedies, 49 CFR Part 31. In addition, the undersigned understands that FTA may suspend or debar a manufacturer under the procedures in 49 CFR Part 29.

12-10-08

Author zed Signature

Esales Coordinator

Title

Eldorado National Co.

Company Name

Buyer: FW-44 Page \_\_\_\_\_ PO# PTR09013
Spending Unit: Division of Public Transit 81
Department of Transportation

### BID FORM #10

### ADDENDUM ACKNOWLEDGMENT

I hereby acknowledge receipt of the following checked addendum(s) and have made the necessary revisions to my proposal, plans and/or specifications, etc.

Addendum No.'s:	
No. 1	X
No. 2	X
No. 3	X
No. 4	

No. 5

I understand that failure to confirm the receipt of the addendum(s) is cause for rejection of bids.

Signature

Sowny Moryman INC.

Company

Date

Buyer: FW-44 Page \_ PO# PTR09013 Spending Unit: Division of Public Transit 8() **Department of Transportation** 

### **BID FORM #9**

# CERTIFICATION OF RESTRICTIONS ON LOBBYING

The undersigned (Vendor, Contractor) certifies, to the best of his or her knowledge and belief, that:

- 1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal oan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- 2. f any funds other than Federal appropriated funds have been paid or will be paid to any person for making obbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, pan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, Disclosure Form to Report Lobbying," in accordance with its instructions. [as amended by "Government Vide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in raragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act if 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, et seq.)]
- 3. The undersigned shall require that the language of this certification be included in the award documents for Il subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative greements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was ma le or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure. [Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited ext anditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of r ot less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The Vendor, <u>Eldorado National Co.</u>, certifies or affirms the truthfulness and accuracy of € ach statement of its certification and disclosure, if any. In addition, the Vendor understands and agrees that the provisions of 31 U.S.C. § 3801, et seq., apply to this certification and disclosure, if any

Dat | Authorized Signature |

Spales Coordinator



# **WARRANTY OVERVIEW**

ENC Base Warranty	12 Months / 12,000 Miles
ENC Body Structure	5 Year / 100,000 Miles
Ford Motor Co.	Gas: 5 Year / 100,000 Miles   Diesel: 5 Year / 100,000 Miles
General Motors	G-Cutaway 3 Year / 36,000 Miles C4500 & C5500 Chassis 2 Years Unlimited Miles
International	5 Year / 150,000 Miles
A.C.T. A/C	2 Years Unlimited
A/C Carrier*	2 Year Limited
Thermo King A/C	2 Years
ProAir Heaters*	2 Years
Freedman Seating*	Recliner/Rigid Frames & Foam 5 Years Level 1 & 2 Covers / 1 Year Level 3 & up Covers / 2 Years
Q-Straint Tie-downs*	Q-8200 / 1 Year Q-8100 / 2 Years Q-8300 / 3 Years
Sure-Lok Tie-downs	1 Year Limited
Luminator Signs	3 Years
TwinVision Signs	3 Years
Braun Lifts*	3 Years Parts, 1 Year Labor
Ricon Lifts	5 Years Parts, 1 <sup>st</sup> year Parts & Labor
A&M Doors*	1 Year
ASA Radio Components*	2 Years Unlimited
Intermotive Interlock	2 Years
Intermotive Fast Idle	2 Years
MOR/ryde Suspensions	3 Years / 70,000 Miles
PennTex Alternators	18 Months / 75,000 Miles
Telma Retarders	2 Years Unlimited Mileage

\*Preferred Suppliers 3/6/07

# **SERVICE LOCATIONS**

# • BWAB International, LLC

408 Goff Mountain Rd Charleston, West Virginia 25313 United States (304) 776-5600

# • R.F. Steiner and Company

2221 5th Avenue Huntington, West Virginia 25722 United States (304) 525-7773

# • BWAB International, LLC

Rt. 16 South Beckley, West Virginia 25802 United States (304) 253-3366

# Truck Sales & Service, Inc.

1301 Pike Street Marietta, Ohio 45750 United States (740) 373-1081

# BWAB International, LLC

800 Coal Heritage Road Bluefield, West Virginia 24704 United States (304) 325-8116

### Glockner Truck Plaza

4368 U.S. Route 23 Portsmouth, Ohio 45662 United States (740) 353-2161

### BWAB International, LLC

38378 Midland Trail East White Sulphur Springs, West Virginia 24986 United States (304) 536-2000

### 1.1 BODY

### 1.3.1 Body Design

The buses shall have a clean, smooth, sleek design, correctly proportioned and properly balanced. The exterior and body features, including chassis and body grills and louvers, shall be shaped to allow complete and easy cleaning by automatic bus washers without snagging washer brushes. Water and dirt shall not be retained in or on any body feature to freeze or bleed out onto the buses after leaving the washer.

Body, windows and doors shall be sealed to prevent leaking of water, air or dust in routine service, or of cleaning liquids in automatic bus washers, for the life of the bus under normal use (normal wear and tear excluded). Accumulation of spray and splash on any window of the bus, generated by the bus wheels on a wet road, shall be minimized.

Each bus shall be water-leak tested for minimum of 10 minutes in a water-spray booth specifically designed for such tests. Any leaks detected during the test are to be repaired immediately and extreme leaks shall require a second water-leak test to assure repairs were effective. Extreme leaks are defined as any leak that creates a stream of water that rapidly pools on the interior of the bus. During leak testing, particular attention is to be paid to windows, doors and seams. Leaks at the entry or wheelchair-lift doors or at window locations that egress back to the outside of the buses shall not be regarded as defects and shall not require repair.

### 1.3.2 Body Materials

Exterior body materials shall be fabricated of a matrix of fiberglass-reinforced plastic with an inner thickness of resin-hardened honeycomb craft material. This construction and these materials shall be designed to form a unibody design, reducing maintenance, extending durability, providing consistency of appearance throughout the life of the buses, and have a low sound and temperature absorption rate. The exterior of the matrix shall be a minimum .020" thickness of high-gloss gelcoat. Secondary surface shall be a minimum .125" thickness of resin-hardened fiberglass reinforced plastic. The center composite layer shall consist of a 1" thickness of resin-hardened craft honeycomb laid on edge to allow maximum column strength of each cell.

Detailing shall be kept simple without exposed fasteners or protruding moldings. Add-on devices and trim shall be minimized and, where necessary, integrated into the basic design.

### 1.3.3 Finish and Color

All exterior surfaces shall be smooth and free as possible of visible fasteners, wrinkles and dents. Since a commercial bus appearance is desired, an exposed, riveted-type body construction shall not be accepted. Both exterior and interior surfaces to be painted shall be properly cleaned and primed, as appropriate, for the paint being used. This cleaning

process shall be done prior to the application of the paint to assure a proper bond between the base surface and successive coats of original paints.

All paint shall be applied smoothly and evenly with the finished surface free as possible of dirt, runs, orange peel and other imperfections. All exterior finished surfaces shall be impervious to diesel fuel, gasoline and commercial applications of commonly used graffiti removing chemicals.

### 1.3.4 Body Frame Structure

Multi-point rubber isolators shall be used to mount the body to the cab chassis. All structural fabrication shall consist of 1010/1020 low carbon cold rolled steel.

**International:** The substructure shall consist of a combination of at least nine (9) 2" x 3", 14 gauge, tubular steel outriggers, 1.25" x 4.25", 11 gauge C-channel, 12 gauge "seat track" and 1" x 1.5" x 2", 14 gauge Z-channel welded into a ladder type structure and bolted to the O.E.M. chassis frame on rubber grommets.

<u>Chevrolet</u>: The substructure shall consist of a combination of at least ten (10) 2" x 2", 11 gauge tubular steel outriggers, 1.25" x 4.25", 11 gauge C-channel, 12 gauge "seat track" and 1" x 1.5" x 2", 14 gauge Z-channel welded into a ladder type structure and bolted to the O.E.M. chassis frame on rubber grommets.

### 1.3.5 Body Panel Assembly

The sidewalls, rear crown wall, roof, and front roof crown shall be interlocked by resin saturated fiberglass matting and wood members, forming a unibody design without exposed fasteners or protruding moldings. Body assembly shall meet or exceed FMVSS 220 and FMVSS 221 requirements.

### 1.3.5.1 Panel Construction

All body panel assemblies shall be Body Armor<sup>TM</sup> or approved equal and shall consist of a matrix of fiberglass reinforced plastic with an inner core combination of both polypropylene honeycomb and resin-hardened craft honeycomb materials. The order of matrix assembly shall be as follows:

- Exterior surface shall be a minimum .020" thickness of high-gloss gelcoat to prevent moisture penetration and corrosion.
- Secondary surface shall have a minimum 0.125" thickness of resin-hardened fiberglass reinforced plastic.
- The center composite layer shall consist of a 1" thick resin-hardened craft honeycomb craft material laid on edge to allow maximum column strength of each cell.
- Wall structure shall include a minimum of two (2) 1.5" wide longitudinal sections of 18-gauge flat steel extending from the forward body seam to the rearward body

seam to provide an additional attachment point for the integrally welded sidewall seat rail.

- Roof structure to be of single piece design and include a minimum of 5 longitudinal, sections of 18-gauge flat steel extending from the forward body seam to the rearward body seam. All flat steel sections shall be fully integrated into the roof matrix and shall provide additional structural integrity and secure attachment surface for ceiling panels, handrails and stanchion fixtures.
- Final surface of the body structure shall be a minimum 3/32" thickness of resinhardened fiberglass reinforced plastic.
- Window framing in sidewall shall be a heavy gauge steel ladder-type assembly. Window pillars shall be minimum 1.5" x 1" 14-gauge dipped, zinc-plated tube.
- Top and lower horizontal ladder bridge rails shall be minimum 1" x 2" 12-gauge zinc-plated angle section. Attachment of ladder assembly to roof and lower wall section shall be grade 5, #10 x 0.75" mechanical fasteners on not more than 8" center. In addition, interface of wall and roof to window ladder assembly surfaces shall include a high contact adhesive, Sikaflex 255 or approved equal to provide a 100% bonding and sealing at these locations.

### 1.3.6 Floor

The floor structure shall be computer load tested to withstand 40,000 pounds with less that 1/16" of deflection at the perimeter.

Select one:
☐ Baseline: Exterior .75", 7-ply plywood of C-C Plug Grade. All surface irregularities shall be filled and sub floor sanded smoothly. Subfloor shall be exterior .75", 7-ply, fir underlayment grade plywood with a solid crossband that is pattern cut, edge sealed, and fastened with .25" diameter counter sunk Tek screws or approved equal that are predrilled and installed approximately every 10" throughout the entire floor structure. Subfloor understructure shall be completely undercoated by hand brushing and 100% sealed from moisture penetration prior to being installed on steel frame understructure.
☐ Option: Marine Grade Plywood Flooring Flooring shall be .75", 7-ply Marine grade, fir plywood. The flooring shall be pattern cut, edge sealed, and fastened with .25" diameter counter-sunk Tek screws or approved equal. Flooring understructure and edges shall be completely undercoated by hand brushing and 100% sealed from moisture penetration prior to being installed on steel frame understructure.

### 1.3.7 Floor Covering

Black, transit grade rubber flooring shall be provided. The flooring shall be 3/16" ribbed in the aisle and .125" smooth under the seats. The driver's area shall be covered with

sound deadening, non-skid black floor mat that meets the interior noise requirements of this Technical Specification.

### 1.3.8 Insulation

Sides, roof, front and rear crowns shall be insulated by dead air cells of the body assembly composite. The insulation shall provide a R-6 thermo-barrier and sound absorption.

### 1.3.9 Steps and Stepwell

Steps shall be formed and weld fabricated using minimum 14-gauge, 304 grade stainless steel powder coated using the five (5) step Interpon PZ770 process in a two-step design.

### 1.3.9.1 Size

Standard entry steps shall provide the following maximum dimensions:

- Ground to first 11.5"
- Step risers International is 10" max & Chevrolet is 9" max
- Step tread depth 10"

### 1.3.9.2 Corrosion Treatment

Step assembly shall be powder coated using the five (5) step Interpon PZ770 process, or approved equal, bright white in color and shall be undercoated on the underside.

### 1.3.9.3 Step Covering

Steps shall be covered with .125" thick rubber flooring on all risers and sides, and 3/16" thick ribbed rubber step treads with contrasting nosing that is properly sealed.

### 1.3.10 Wheel Housings

Wheel housings shall be fabricated from 14-gauge steel. Housings shall be welded to the floor structure and properly sealed and undercoated.

### 1.3.11 Skirts, Fenders, and Mud Flaps

Skirts shall be integral, full-length curved, reinforced fiberglass with replaceable contoured wheelwell fenders. Mud flaps shall be made of 3/16" thick rubber composite and installed behind the front and rear tires.

### **1.1 BODY**

### 1.3.1 Body Design

The buses shall have a clean, smooth, sleek design, correctly proportioned and properly balanced. The exterior and body features, including chassis and body grills and louvers, shall be shaped to allow complete and easy cleaning by automatic bus washers without snagging washer brushes. Water and dirt shall not be retained in or on any body feature to freeze or bleed out onto the buses after leaving the washer.

Body, windows and doors shall be sealed to prevent leaking of water, air or dust in routine service, or of cleaning liquids in automatic bus washers, for the life of the bus under normal use (normal wear and tear excluded). Accumulation of spray and splash on any window of the bus, generated by the bus wheels on a wet road, shall be minimized.

Each bus shall be water-leak tested for minimum of 10 minutes in a water-spray booth specifically designed for such tests. Any leaks detected during the test are to be repaired immediately and extreme leaks shall require a second water-leak test to assure repairs were effective. Extreme leaks are defined as any leak that creates a stream of water that rapidly pools on the interior of the bus. During leak testing, particular attention is to be paid to windows, doors and seams. Leaks at the entry or wheelchair-lift doors or at window locations that egress back to the outside of the buses shall not be regarded as defects and shall not require repair.

### 1.3.2 Body Materials

Exterior body materials shall be fabricated of a matrix of fiberglass-reinforced plastic with an inner thickness of resin-hardened honeycomb craft material. This construction and these materials shall be designed to form a unibody design, reducing maintenance, extending durability, providing consistency of appearance throughout the life of the buses, and have a low sound and temperature absorption rate. The exterior of the matrix shall be a minimum .020" thickness of high-gloss gelcoat. Secondary surface shall be a minimum .125" thickness of resin-hardened fiberglass reinforced plastic. The center composite layer shall consist of a 1" thickness of resin-hardened craft honeycomb laid on edge to allow maximum column strength of each cell.

Detailing shall be kept simple without exposed fasteners or protruding moldings. Add-on devices and trim shall be minimized and, where necessary, integrated into the basic design.

### 1.3.3 Finish and Color

All exterior surfaces shall be smooth and free as possible of visible fasteners, wrinkles and dents. Since a commercial bus appearance is desired, an exposed, riveted-type body construction shall not be accepted. Both exterior and interior surfaces to be painted shall be properly cleaned and primed, as appropriate, for the paint being used. This cleaning

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### 1.3.4 Body Frame Structure

Multi-point rubber isolators shall be used to mount the body to the cab chassis. All structural fabrication shall consist of 1010/1020 low carbon cold rolled steel.

<u>International</u>: The substructure shall consist of a combination of at least nine (9) 2" x 3", 14 gauge, tubular steel outriggers, 1.25" x 4.25", 11 gauge C-channel, 12 gauge "seat track" and 1" x 1.5" x 2", 14 gauge Z-channel welded into a ladder type structure and bolted to the O.E.M. chassis frame on rubber grommets.

<u>Chevrolet</u>: The substructure shall consist of a combination of at least ten (10) 2" x 2", 11 gauge tubular steel outriggers, 1.25" x 4.25", 11 gauge C-channel, 12 gauge "seat track" and 1" x 1.5" x 2", 14 gauge Z-channel welded into a ladder type structure and bolted to the O.E.M. chassis frame on rubber grommets.

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Standard entry steps shall provide the following maximum dimensions:

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Wheel housings shall be fabricated from 14-gauge steel. Housings shall be welded to the floor structure and properly sealed and undercoated.

### 1.3.11 Skirts, Fenders, and Mud Flaps

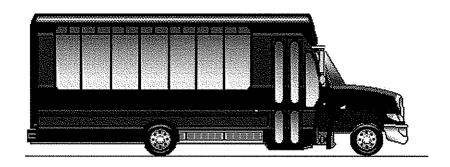
Skirts shall be integral, full-length curved, reinforced fiberglass with replaceable contoured wheelwell fenders. Mud flaps shall be made of 3/16" thick rubber composite and installed behind the front and rear tires.

INTERNATIONAL® December 16, 2008

Prepared For: 2009/2010 Mitch Comfort 1655 Wall St. Salina, KS 67401-1759 (785)827 - 1033 Presented By: Roberts Truck Center Richard Shupe 1944 A N. 9th St. Salina KS 67401

Reference ID: W. Virginia 200

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 2010 3200 4X2 BUS (PC015)

APPLICATION: Commercial - Public Transit On Demand

MISSION: Requested GVWR: 23500. Calc. GVWR: 23500

Calc. Start / Grade Ability: 22.40% / 2.33% @ 55 MPH

Calc. Geared Speed: 81.8 MPH

FUEL ECONOMY: 9.15 MPG @ 55 MPH

**DIMENSION:** Wheelbase: 217.00, CA: 149.90, Axle to Frame: 120.00

ENGINE, DIESEL: {International MaxxForce DT} 210 HP, @ 2300 RPM, 560 lb-ft Torque @ 1400 RPM, 2600 RPM

Governed Speed, # 2 Bell Housing

**TRANSMISSION, AUTOMATIC:** {Allison 2200\_PTS} 4th Generation Controls; Close Ratio, 5-Speed, With Overdrive; Includes Park

Pawl, Less PTO Provision, Less Retarder, With 26,000-lb GVW & GCW Max. Shuttle Bus

CLUTCH: Omit Item (Clutch & Control)

AXLE, FRONT NON-DRIVING: {Dana Spicer D800-F} I-Beam Type, 8,000-lb Capacity

AXLE, REAR, SINGLE: {Dana Spicer S16-130} Single Reduction, 15,500-lb Capacity With 190 Wheel Ends Gear Ratio:

4.30

CAB: Conventional, With Partial Trim

TIRE, FRONT: (2) 245/70R19.5 AH11 (HANKOOK) 625 rev/mile, load range G, 14 ply TIRE, REAR: (4) 245/70R19.5 AH11 (HANKOOK) 625 rev/mile, load range G, 14 ply SUSPENSION, RR, SPRING, SINGLE: Vari-Rate; 15,500-lb Capacity, With 4500 lb Auxiliary Rubber Spring

PAINT: Cab schematic 100DC

Location 1: 9318, Bright White (Prem)

1

Chassis schematic 932DC Wheel: 9318, Bright White (Prem)

### Vehicle Specifications 2010 3200 4X2 BUS (PC015)

December 16, 2008

### Description

Base Chassis, Model 3200 4X2 BUS with 217.00 Wheelbase, 149.90 CA, and 120.00 Axle to Frame.

TOW HOOK, FRONT (2) Inside Rail, Frame Mounted.

FRAME RAILS High Strength Low Alloy Steel (80,000 PSI Yield); 10.250" x 3.092" x 0.375" (260.4mm x 78.5mm x 9.5mm); 427.0" (10846mm) Maximum OAL

BUMPER, FRONT Full Width, Aerodynamic, Chrome Plated Steel; 0.142" Material Thickness

CROSSMEMBER, REAR, AF (2)

WHEELBASE RANGE 193" (490cm) Through and Including 217" (550cm)

AXLE, FRONT NON-DRIVING {Dana Spicer D800-F} I-Beam Type, 8,000-lb Capacity

SUSPENSION, FRONT, SPRING Parabolic, Taper Leaf; 8,000-lb Capacity; With Shock Absorbers

### Includes

: SPRING PINS Rubber Bushings, Maintenance-Free

BRAKE SYSTEM, HYDRAULIC Split System, Full Power, With Automatic Adjustment And With Four Channel ABS

### Includes

- : DUST SHIELDS, FRONT BRAKE
- : DUST SHIELDS, REAR BRAKE

BRAKE, PARKING {Bosch} DSSA Drum Type; 12" x 3", Spring Actuated; for Hydraulic Brake Chassis; Activated by Parking Brake Knob on Instrument Panel; With Key Switch Interlock, Park Brake Cannot be released Until Ignition Switch is in Run Position; Differential Mounted

### Includes

: PARKING BRAKE CONTROL Applies Hydraulic Actuated Powered Park Brake, Activated by Parking Brake Knob on Instrument Panel

TRACTION CONTROL, HYDRAULIC Automatic; With Full Power Hydraulic Brake System

BRAKES, FRONT, HYDRAULIC DISC Quadraulic; four 70mm Diameter Pistons

BRAKES, REAR, HYDRAULIC DISC Quadraulic; four 70mm Diameter Pistons

GVWR LIMITATION FOR BUS With Hydraulic Brakes, Limited to 29,800-lbs Maximum to meet FMVSS 105 Requirements, for Conventional Bus

STEERING COLUMN Tilting

STEERING WHEEL 2-Spoke, 18" Diam., Black

STEERING GEAR (TRW (Ross) TAS-40) Power

PROPSHAFT GUARD

EXHAUST SYSTEM Single, Horizontal Aftertreatment Device Frame Mounted Right Side, Includes Long Horizontal Tail Pipe

### Includes

: PLEASE NOTE: The Horizontal Tailpipe Includes a Temperature Control Device

TAIL PIPE Long Horizontal, Exits Left Side Through Bumper

SWITCH, FOR EXHAUST 2 Position, Lighted & Latching, ON/OFF Type, Mounted in IP, Inhibits Diesel Particulate Filter Regeneration as Long as Switch is in ON Position

ELECTRICAL SYSTEM 12-Volt, Standard Equipment

### Includes

- : BATTERY BOX Steel; Mounted Right Side, Under Cab with Left Side Fuel Tanks; Mounted Left Side, Under Cab with Right Side Fuel Tanks; Between the Rail Tanks: Mounted Left Side, Under Cab for Non-Integrated Packages; Mounted Right Side, Under
- : DATA LINK CONNECTOR For Vehicle Programming and Diagnostics In Cab
- : FUSES, ELECTRICAL SAE Blade-Type
- : HAZARD SWITCH Push On/Push Off, Located on Top of Steering Column Cover

**December 16, 2008** 

### **Description**

- : HEADLIGHT DIMMER SWITCH Integral with Turn Signal Lever
- : PARKING LIGHT Integral with Front Turn Signal and Rear Tail Light
- : RUNNING LIGHT (2) Daytime, Included With Headlights
- : STARTER SWITCH Electric, Key Operated
- : STOP, TURN, TAIL & B/U LIGHTS Dual, Rear, Combination with Reflector
- : TURN SIGNAL FLASHER
- : TURN SIGNAL SWITCH Self-Cancelling with Lane Change Feature
- : TURN SIGNALS, FRONT Includes Reflectors and Auxiliary Side Turn Signals, Solid State Flashers; Flush Mounted
- : WINDSHIELD WIPER SWITCH 2-Speed with Wash and Intermittent Feature (5 Pre-Set Delays), Integral with Turn Signal Lever
- : WINDSHIELD WIPERS Single Motor, Electric, Cowl Mounted
- : WIRING, CHASSIS Color Coded and Continuously Numbered

HORN, ELECTRIC (2)

RADIO Accommodation Package; Less Radio, With Wiring and Antenna, Less Speakers and Speaker Grills

ALTERNATOR (Leece-Neville 4949PA) Brush Type; 12 Volt 270 Amp. Capacity, Pad Mounted

BODY BUILDER WIRING Back of Standard Cab at Left Frame or Under Extended or Crew Cab at Left Frame; Includes Sealed Connectors for Tail/Amber Turn/Marker/ Backup/Accessory Power/Ground and Sealed Connector for Stop/Turn

BATTERY SYSTEM {International} Maintenance-Free (2) 12-Volt 1300CCA Total.

SWITCH, BODY CIRCUITS, MID for Body Builders; 12 Switches in Instrument Panel, With Two Power Modules With 6 Channels, 20 Amp Max. per Channel, 80 Amp Max Output, Switch Control Power Modules Through Multiplex Wiring, Mounted on Battery Box BOC

HEADLIGHTS Halogen; Composite Aero Design for Two Light System; Includes Daytime Running Lights

STARTING MOTOR (Delco Remy 38MT Type 300) 12 Volt; less Thermal Over-Crank Protection

INDICATOR, LOW COOLANT LEVEL With Audible Alarm

CIRCUIT BREAKERS Manual-Reset (Main Panel) SAE Type III With Trip Indicators, Replaces All Fuses Except For 5-Amp Fuses

**GRILLE Chrome** 

FRONT END Tilting, Fiberglass, With Three Piece Construction

PAINT SCHEMATIC, PT-1 Single Color, Design 100

### Includes

: PAINT SCHEMATIC ID LETTERS "DC"

PAINT IDENTITY, PT-2 Single Color, Instruction No. 932. Wheels

PAINT TYPE Base Coat/Clear Coat, 1-2 Tone

PAINT CLASS Premium Color.

**CLUTCH Omit Item (Clutch & Control)** 

ENGINE, DIESEL {International MaxxForce DT} 210 HP, @ 2300 RPM, 560 lb-ft Torque @ 1400 RPM, 2600 RPM Governed Speed, # 2 Bell Housing

### Includes

- : AIR COMPRESSOR AIR SUPPLY LINE Naturally-Aspirated
- : COLD STARTING EQUIPMENT Intake Manifold Electric Grid Heater with Engine ECM Control
- : CRUISE CONTROL Electronic; Controls Integral to Steering Wheel
- : ENGINE OIL DRAIN PLUG Magnetic
- : ENGINE SHUTDOWN Electric, Key Operated
- : FUEL FILTER Included with Fuel/Water Separator
- : FUEL/WATER SEPARATOR Fuel/Water Separator and Fuel Filter in a Single Assembly; With Water-in-Fuel Sensor; Engine Mounted
- : GOVERNOR Electronic
- : OIL FILTER, ENGINE Spin-On Type
- : WET TYPE CYLINDER SLEEVES

### Vehicle Specifications 2010 3200 4X2 BUS (PC015)

December 16, 2008

### Description

FAN DRIVE {Borg-Warner SA85} Viscous Screw On Type

### Includes

- : FAN Nylon
- : FAN Optimized Position

RADIATOR Aluminum; 2-Row, Cross Flow, Over Under System, 717 Sqln Louvered, With 313 Sqln Charge Air Cooler. With In-Tank Transmission Cooler

### includes

- : ANTI-FREEZE Red Shell Rotella Extended Life Coolant -40F (-40C)
- : DEAERATION SYSTEM with Surge Tank
- : HOSE CLAMPS, RADIATOR HOSES Gates Shrink Band Type; Thermoplastic Coolant Hose Clamps
- : RADIATOR HOSES Premium, Rubber

AIR CLEANER Single Element

### Includes

: GAUGE, AIR CLEANER RESTRICTION Air Cleaner Mounted

GOVERNOR Electronic Road Speed Type; for International Electronic Engines and Bus Models; With 55 MPH Default

THROTTLE, HAND CONTROL Engine Speed Control; Electronic, Stationary, Variable Speed; Mounted on Steering Wheel

FEDERAL EMISSIONS 2007 for International MaxxForce DT Engines (DT466)

ENGINE CONTROL, REMOTE MOUNTED Provision for; Includes Wiring for Body Builder Installation of PTO Controls; With Ignition Switch Control for International post 2007 Emissions Electronic Engines

EXPANDED ENGINE TEMP EFFECTS to Allow Higher Engine Operating Temperature Range; Includes Nylon Surge Tank and 15 psi Pressure Cap

EMISSION COMPLIANCE Engine Shutdown System Exempt Vehicles, Complies With California Clean Air Regulations

TRANSMISSION, AUTOMATIC (Allison 2200\_PTS) 4th Generation Controls; Close Ratio, 5-Speed, With Overdrive; Includes Park Pawl, Less PTO Provision, Less Retarder, With 26,000-lb GVW & GCW Max. Shuttle Bus

### Includes

- : OIL FILTER, TRANSMISSION Mounted on Transmission
- : TRANSMISSION OIL PAN Magnet in Oil Pan

AXLE, REAR, SINGLE {Dana Spicer S16-130} Single Reduction, 15,500-lb Capacity With 190 Wheel Ends . Gear Ratio: 4.30

### Includes

: REAR AXLE DRAIN PLUG (1) Magnetic, For Single Rear Axle

SUSPENSION, RR, SPRING, SINGLE Vari-Rate; 15,500-lb Capacity, With 4500 lb Auxiliary Rubber Spring

SHOCK ABSORBERS, REAR (2)

FUEL/WATER SEPARATOR With Thermostatic Fuel Temperature Controlled Electric Heater, and Filter Restriction/Change Indicator, Includes Standard Equipment Water-in-Fuel Sensor

FUEL TANK Top Draw; Rectangular, Steel; 65 U.S. Gal., 246 L Capacity, Includes Protective Cage and With Fuel Filler Assembly and Vent Hosing, Mounted Between Frame Sidemembers and Behind Rear Axle

CAB Conventional, With Partial Trim

### Includes

- : ARM REST Molded Plastic, Drivers Door Only
- : CUP HOLDERS Two-Beverage Container, Located in Lower Center of Instrument Panel
- : DOME LIGHT, CAB Rectangular, Door Activated and Push On-Off at Light Lens, Timed Theater Dimming, Integral to Console, Center Mounted

4

- : GLASS, ALL WINDOWS Tinted
- : GRAB HANDLE, CAB INTERIOR (1) "A" Pillar Mounted, Drivers Side

### Vehicle Specifications 2010 3200 4X2 BUS (PC015)

December 16, 2008

### Description

- : GRAB HANDLE, CAB INTERIOR (1) "B" Pillar Mounted, Drivers Side
- : INTERIOR SHEET METAL Upper Door (Above Window Ledge) Painted Exterior Color
- : STEP Single, Driver Side Only

SEAT, PASSENGER Omit Item

MIRRORS (2) Omit Item

GAUGE CLUSTER English With English Electronic Speedometer

### Includes

- : GAUGE CLUSTER (5) Engine Oil Pressure (Electronic), Water Temperature (Electronic), Fuel (Electronic), Tachometer (Electronic), Voltmeter
- : ODOMETER DISPLAY, Miles, Trip Miles, Engine Hours, Trip Hours, Fault Code Readout
- : WARNING SYSTEM Low Fuel, Low Oil Pressure, High Engine Coolant Temp, and Low Battery Voltage (Visual and Audible)

GAUGE, OIL TEMP, ALLISON TRAN

IP CLUSTER DISPLAY On Board Diagnostics Display of Fault Codes in Gauge Cluster

SEAT, DRIVER (National 2000) Self Contained with Compressor, High Back with Integral Headrest, Cloth, Isolated, With 2 Position Front Cushion Adjustment, -3 to +14 Degree Seat Back Adjustment, With Mechanical Lumbar, Includes Additional Back Padding for School Bus

### Includes

: SEAT BELT 3-Point, Lap and Shoulder Belt Type

ARM REST, RIGHT, DRIVER SEAT

INSTRUMENT PANEL Center Section, Flat Panel

AIR CONDITIONER (International Blend-Air) With Integral Heater & Defroster

### Includes

- : HEATER HOSES Premium
- : REFRIGERANT Hydrofluorocarbon HFC-134A

**CAB INTERIOR TRIM Deluxe** 

### Includes

- : "A" PILLAR COVER Molded Plastic
- : CAB INTERIOR TRIM PANELS Cloth Covered Molded Plastic, Full-Height; All Interior Sheet Metal (Passenger Door Excluded) is Covered
- : CONSOLE, OVERHEAD Molded Plastic
- : DOOR TRIM PANELS Molded Plastic with Textured Insert on Storage Pocket Drivers Door Only
- : FLOOR COVERING Rubber, Black
- : INSTRUMENT PANEL TRIM Molded Plastic with Black Center Section
- : STORAGE POCKET, DOOR (1) Molded Plastic, Full-Length; Driver Door
- : SUN VISOR (2) Padded Vinyl with Driver Side Toll Ticket Strap, Integral to Console

ACCESS, CAB Driver Side, 2 Steps Mounted on Battery Box in Lieu of one

WHEELS, FRONT DISC; 19.5" Painted Steel, 4 Hand Hole, 8-Stud (275 MM BC) Hub Piloted, Flanged Nut, Metric Mount, 6.75 DC Rims; With Steel Hubs

### **Includes**

- : PAINT IDENTITY, FRONT WHEELS White
- : WHEEL SEALS, FRONT Oil Lubricated, Includes Wheel Bearings

WHEELS, REAR DUAL DISC; 19.5" Painted Steel, 4 Hand Hole, 8-Stud (275 MM BC) Hub Piloted, Flanged Nut, Metric Mount, 6.75 DC Rims; With Steel Hubs

5

### Includes

- : PAINT IDENTITY, REAR WHEELS White
- : WHEEL SEALS, REAR Oil Lubricated, Includes Wheel Bearings

### Vehicle Specifications 2010 3200 4X2 BUS (PC015)

December 16, 2008

### **Description**

BDY INTG, I/O EXPANSION HARNES (for Diamond Logic Builder) In-Cab wire harness (DLB) program only, Includes a harness with five blunt cut wires routed on lower left of instrument panel. Two ground active inputs and two (.5Amp) relay drivers outputs are provided

6

- (2) TIRE, FRONT 245/70R19.5 AH11 (HANKOOK) 625 rev/mile, load range G, 14 ply
- (4) TIRE, REAR 245/70R19.5 AH11 (HANKOOK) 625 rev/mile, load range G, 14 ply

MISCELLANEOUS 8wpz pre trip light test



### **AERO ELITE USER LIST**

City of Amarillo

P.O. BOX 1971

Amarillo, TX 79105-1971

Contact: Billy Barclay Phone: (806) 378-6859

Fax: (806) 378-6846

Date Received: August 2008

Number of Buses: (4) Aero Elites

Long Island Bus

700 Commercial Avenue Garden City, NJ 11530

Contact: John French

Phone: (516) 542-0100 x4329

Fax: (516) 794-8670 Email: <u>ifrench@libus.org</u>

Date Received: January – April 2008 Number of Buses: 65 Aero Elites **Veolia Transportation** 

8998 Senate Street Dallas, TX 75228

Contact: Jeff Hoover Phone: (214) 327-0322 Fax: (214) 327-0293

Email: jeff.hoover@veoliatransportation.com

Date Received: November 2007

Number of Buses: 209 Aero Elite Navistars



### **AERO ELITE USER LIST**

(Lift equipped vehicles)

### SUMMITT COUNTY BOARD OF MR/DD

Tom Moran

Phone: 330-630-6007

Tallmadge, OH

### **AKRON METO**

Wade Dolinger

Phone: 330-762-7267, ext. 3122

Akron, OH

### **SHUTTLEPORT**

Michael Robinson

Phone: 314-895-4180

Hazelwood, MO

### **COUNTY OF HAWAII - MTA**

Tom Brown

Phone: 808-961-8343

Hilo, Hawaii

# THUNDERBAY TRANSPORTATION CORPORATION

Ron Prell

Phone: 517-354-2487

Alpena, MI

### **HURON TRANSIT CORPORATION**

Kenneth Jimkoski

Phone: 989-269-2103

Bad Axe, MI

### **GLADWIN CITY/COUNTY TRANSIT**

Dennis Vannest

Phone: 989-426-6751

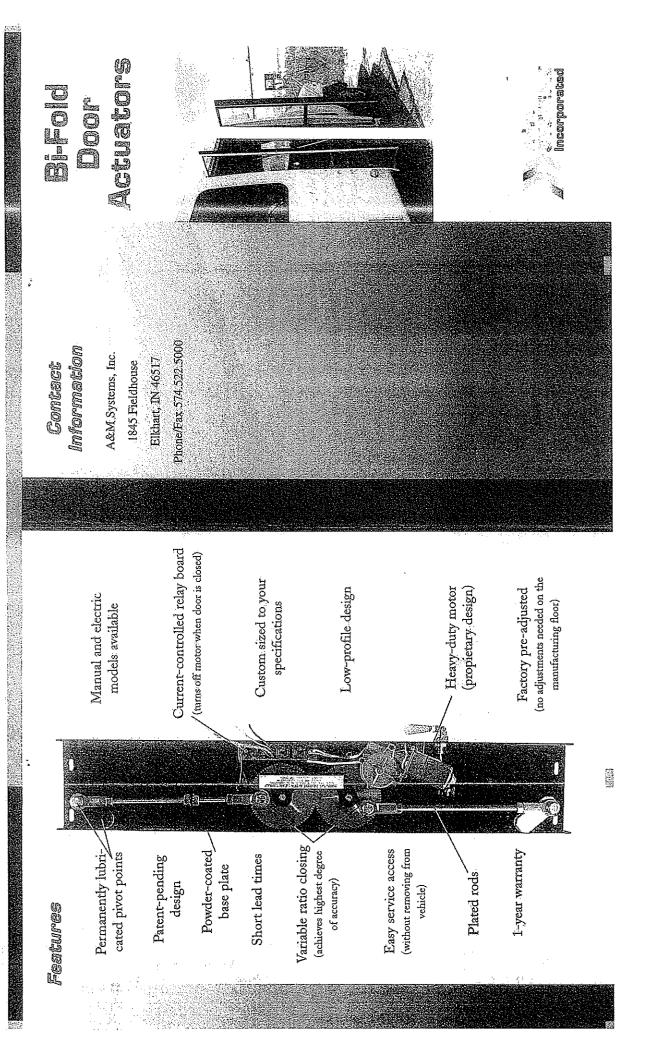
Gladwin, MI

### **MONTGOMERY COUNTY**

Tom Hill

Phone: 240-777-5741

Rockville, MD



# Simple is Better

One look at our manual and electric bifold door actuators reveals our design approach: simple is better. We carefully engineered these actuators (headers) to operate smoothly and reliably while eliminating the problem-prone and complex design elements that plague our competitor's products. The result is a simple and elegant product which has become the number one choice for manufacturers of small and medium-size

Simplicity in design leads to simplicity in installation and simplicity in operation. It also means that we can offer a superior product at the best possible pricing to you.

Our actuators are known to keep the

Of course, closing is important too!

door closed even at highway speeds.

And there's never a mismatch or a hitting of the doors. The positive

opening in both electric and manual

models.

passed, achieving perpendicular

operation, our actuators are unsurensures that the forward door always

closes last.

timing and synchronized movement

Simplicity in design does not mean shortcuts in our production, however. We've put in over four years of engineering effort to perfect the design of our manual and electric door actuators. Operational testing is conducted 24/7. Life-cycle testing has already produced in excess of 250,000 trouble-free cycles.

Innovation is not lost in our efforts to maintain simplicity. For example, the variable ratio closing on our manual actuator is a patent-pending design. Consider also the re-engagement of our electric actuator following emergency

(electric model). Indeed, "heavy-duty" is a decriptor that applies to the entire

to the heavy-duty, custom motor

Looking past the simplicity in design, you'll see a quality product—from the powdercoated base plate to the plated rods to the oil-impregnated bushings.

Quality in Design

opening. This scenario resulted in extremely complex approaches in competitive products. Our actuator easily and automatically recycles when the

motor is re-engaged.

can expect years of trouble-free operation.

comprehensive one-year warranty. Beyond the warranty period however, you

product. With confidence, we offer a

In the unlikely event that service is ever

required, the design also facilites easy access for servicing—there is no need to remove the actuator from the vehicle to service it.

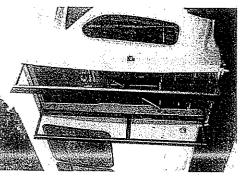
# Custom Design

While we do offer specific product families to address the needs of most manufacturers, A&M Systems specializes in designing to your specifications. Pin to pin lengths can vary between 26 and 46 inches. Header width can range from 7 to 11.5 inches. Our ability to manufacture to specification has lead top manufacturers to abandon their own production and design efforts and to choose the A&M Systems product.

In addition, those operating in the affermarket.

that our actuators can be used as drop-in, direct replacement for older,

less reliable door headers.



# About ASM Systems

Our cost-conscious approach pleases the company with operation pleases the end user. And the For years we've specialized in designing pleases production personnel. Ease-ofpleases everyone. We are committed to purchasing agent. Ease-of-installation quality in design, quality in production, keen insight and manufacturing problem-free door quality and reliability of our products into the industry. service-oriented times, and just in time production. manuafacturing, short lead actuators. We are a We offer agile and quality in service.



Sterling Heights, Mi 48312 - USA 7205 Sterling Ponds Court Tel 586 274 9400 Toll free: 1 800 836 8382 Fax: 586 274 9440 Email: info@transpecworldwide.com

Web: www.transpecworldwide.com

### Driver Alert<sup>TM</sup> Model 7500



### Dual safety messages alert traffic when school buses are stopping or stopped

Transpec Worldwide proudly introduces the **DRIVER ALERT**<sup>TM</sup> Model 7500. Built Transpec tough, our display unit flashes two distinct LED safety messages to alert drivers when a school bus is stopping or stopped.

- High Visibility LED Display
- Reduces Pass-by's
- Reduces Rear-end Collisions
- Improves Safety
- Easy to Install
- Low Maintenance
- Impact/Scratch Resistant
- **Built Transpec Tough**



"Caution" and "Stopping" flashes when amber lights or emergency flashers are activated.



"Stop" and "Do Not Pass" flashes when red lights and stop arm are deployed.





### SENDS A CLEAR MESSAGE TO TRAFFIC

When amber lights or emergency flashers are activated, such as at a railroad crossing, the DRIVER ALERTIM flashes its bright LED message of Caution -Stopping. When red lights and stop arm are deployed, the DRIVER ALERTIM alternately flashes the message Stop with Do Not Pass. The result is improved bus safety by helping to reduce pass-by's and rear-end collisions.

### THE HIGHLY VISIBLE LED DISPLAY LETS YOU BE SEEN AND BE SAFER

The Transpec DRIVER ALERT<sup>TM</sup> is simple to install. The intense LED display offers outstanding readability and long life with minimum maintenance. The DRIVER ALERTIM is sealed to keep out all the elements and covered with a durable polycarbonate lens that resists impacts and scratches.

### A DECISION YOU CAN LIVE WITH

Specify the Transpec DRIVER ALERT<sup>TM</sup> Model 7500 for your entire fleet of school buses. Call toll free 800 836 8382 for ordering or more information today.

CHOOSE

replacement bulbs a accessories. We produce lighting products utilizing bo traditional incandesc lighting technology a

OUR "SEE & BE SEEN" SOURCE FOR LIGHTING, MIRROR & HARNESS SAFETY SYSTEMS

CATALOG

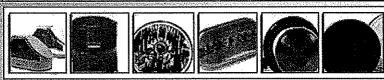
WHAT'S NEW INSIDE TRUCK-LITE PRODUCT HELP DOWNLOADS

LOGG



### LIGHTING SYSTEMS

Truck-Lite's lighting systems product offering encompasses over 49,000 saleable part numbers including complete lighting systems for the OEM heavy-duty commercial vehicle market, individua lighting products such as tail lamps and signal lights, and the industry's broadest selection of



Light Emitting Diode ("LED") technology, and market these products under both our premium Truck-Lite® brand and o Signal-Stat® brand.

Within the traditional incandescent lighting market, we believe Truck-Lite has the broadest and deepest catalog of sealed lamps and accessories in the commercial vehicle lighting industry, and are regarded as the highest quality producer of these lighting technologies. Lighting products based on traditional incandescent lighting technology continue to be widely utilized throughout the heavy-duty commercial vehicle market and North America.

Truck-Lite is also the leading producer of lighting systems based on LED technology within the commercial vehicle industry, and offer the industry's largest selection of such systems. LED-based lighting systems have a significant advantage over traditional incandescent lighting systems when used for commercial vehicle applications featuring longer product life, increased durability and reduced power consumption.

Truck-Lite has a strong foundation, with over 50 years of lighting manufacturing experience. With the industry's largest intellectual portfolio, and a list of industry firsts, Truck-Lite is viewed by the heavy duty industry as the manufacturer of the highest quality and most durable lighting line. By exceeding legal requirements and extending product value, Truck-Lite can offer the most comprehensive warranty system in the industry, combined with responsive technical support and a troubleshooting help line.

### **INCANDESCENT LIGHTING**

Truck-Lite's incandescent line of lighting products includes bulb replaceable and sealed lamps for numerous

applications featuring Truck-Lite's Super® line of incandescent lamps. Truck-Lite manufacturing processes utilize shock mounting and vibration welded components, with continual developments prolonging lamp life. Additional products in the categories of stop/turn/tail, signal, forward, warnin specialty and emergency applications are offered as well.

### **LED LIGHTING**

Since 1995, Truck-Lite has been recognized as the leader for innovative quality Light Emitting Dir products. Standing as the 4th largest purchaser of light emitting diodes in the world and 1st in the heavy-duty market, Truck-Lite offers the broadest line of extended warranty lifetime lighting LED Lamps in the industry. Truck-Lite's developments in LED lighting have made significant progress, resulting in lamps which require less power and provide greater light output.

### TOOLS & CAPABILITIES

### **New Product Introduction Process**

- Computer Aided Design
- Unigraphics
- AutoCad
- ProEngineer
- Catia
- Mold Flow / Mold Cool -- AC Technology
- Optics Design (ASAP, SPEOS, Light
- Finite Element Analysis (Algor)

### Rapid Prototyping

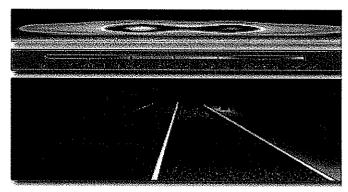
- Stereolithography
- Internal model shop & model fabrication
- Smart Cam Software

### Interior Lighting Design Flexibility: Modular, Stylized Lamps

- Modular Headlamp System
- MCI Headlamp
- Kenworth Headlamp module
- Theoretical Analysis Complex Reflector Design Using ASAP Analysis Software Prior to Prototype Tooling.

### **NEW PRODUCT INNOVATION & OEM MANUFACTURING**

Recognized as the leader for innovative, quality products, Truck-Lite utilizes advanced design software and analysis tools to shorten the development cycle and to create more efficient products. Truck-Lite has developed numerous products for use in original equipment design, as these technologies improve the ways we study light output requirements.



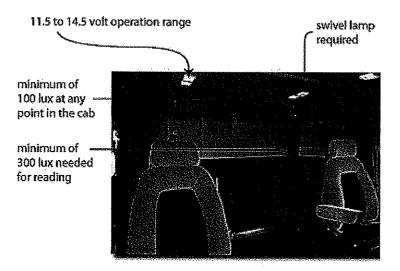
### **LED DEVELOPMENT - OEM PROJECTS**

Need a custom designed LED product, or one that solves a specific requirement or problem? Long further! Truck-Lite is widely recognized as the leader for innovative, quality LED designs. Out engineers have advanced tools available to them to help in specifying, designing, and fully testing product that completely meets your needs.

A typical development process would include the following steps:

1. Determine the requirements of your application

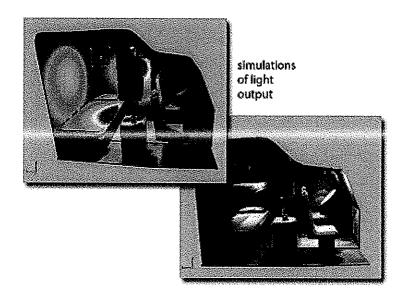
Truck-Lite's Engineering department works closely with OEM manufacturers to detail the specific needs for upcoming applications, and to help determine how Truck-Lite can meet the needs with



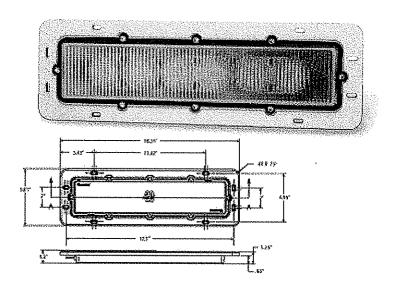
innovative technologies.

2. Develop a design and run computer simulations of its performance.

With internal capabilities to simulate light output, Truck-Lite's can help to assure conceptual ideas meet with the expected results.



**3. Discuss and select styling options**Once a product definition is assembled, Truck-Lite's works to create the best styling solution for y needs, and does so with many options.



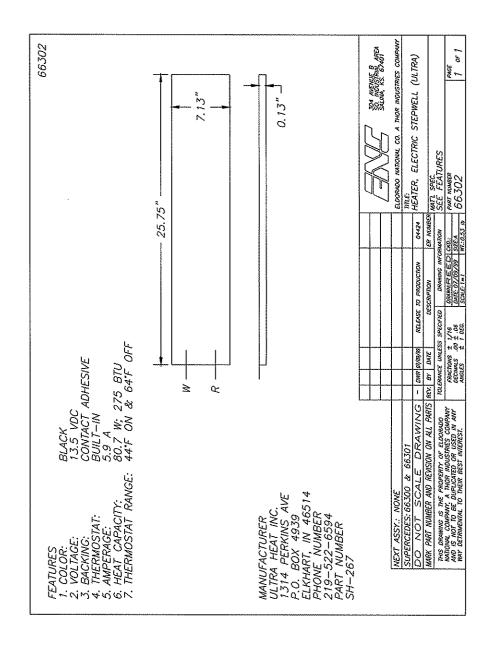
4. Develop and thoroughly test a durable, innovative, and cost effective LED product Once a product is conceptualized, simulated and designed, Truck-Lite's history of excellence in testing and development assures that the new lamp will perform as needed with the quality you'vertically the control of the c come to expect with Truck-Lite.

For additional information on Truck-Lite's additional Core Product offering, click the links below



TESS WALL STREET SALINA, KS. 67401 4443000G PAGE 7 ElDorado National Session - THOR company - Session - HEATER, STEPWELL ELECTRIC DESCRIPTION 11723 PART NUMBER RELEASE # 4443000G MATERIAL SPEC: SEE BOM RELEASE TO PRODUCTION - PEH 3/20/07 REV. BY DATE NEXT ASSEMBLY: NONE DRAWING INFORMATION
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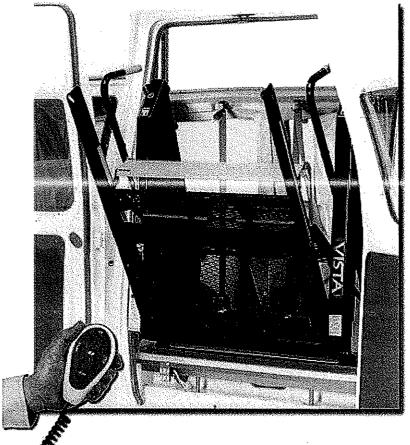
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# **BRAUN VISTA SERIES**

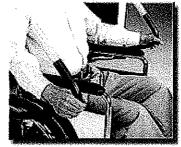
Spring-loaded roll stop engages and locks as the platform leaves the ground

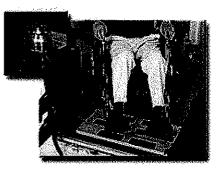


- Interfaces with OEM interlocks
- Unique stacking platform for increased passenger and driver visibility
- Lift-mounted platform lighting
- Ergonomic hand-held control with illuminated switches, telephone-style cord & hand control
- Locking mechanical Inboard Barrier (IB), powder coated yellow for safety and high visibility, prevents operation if occupied, provides warning if not locked
- Pump design prevents platform folding when occupied, quiet operation & low current draw
- Rotary Encoder allows for horizontal platform position sensing without the use of microswitches
- Durable redesigned base plate reduces lift weight and allows for quicker and easier service of hose/wiring
- Visual & audible warning for unsafe conditions
- Spring-loaded outer barrier engages as the platform leaves the ground, powder coated yellow for safety and high visibility
- Side or rear door application
- Several platform widths and lengths
- Dual handrails for security and convenience
- Bridging feature permits the wheelchair user to board the lift from sidewalks or inclines
- Floor to ground travel is 42" or 48" (depending on model)
- 800 lb lifting capacity (33% more than NHTSA requirement)
- Integrated back-up pump
- Adjustable anti-rattle feature to avoid unpleasant noise during transit
- Durable high-gloss powder-coated finish
- Lift-Tite system stows the lift platform securely while the vehicle is in transit
- Pump module with removable cover offers easy access to all components

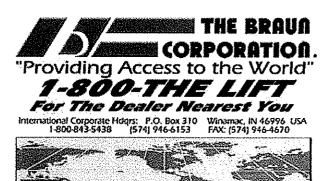


Integrated dual handrails provide added security for wheelchair users and standees





Visual and audible warnings alert both passengers and attendants to unsafe conditions





## PRODUCT BULLETIN

April 16, 2008

### **TECTYL® 121BN New Standard Undercoat**

Manufacturer:

**Tectyl Industrial Products** 

Models Affected: All Eldorado National-KS Bus products

**Option Number:** 

7388000M – Cab undercoat

Plus the standard body undercoating

Features/benefits: See attached product information sheet

Implementation:

Units starting in production the week of July 30, 2007.

DAUBERT CHEMICAL COMPANY, INC.

### TECTYL® 121BN

### Description

TECTYL® 121BN is a solvent cutback corrosion preventive compound suitable for complete undercoating for automotive equipment. The cured

film is firm, black, resilient, abrasion resistant, and provides sound deadening.

### **Laboratory Data**

### **Typical Properties**

Flash, PMCC*, Minimum	106°F
Density, Weight/Gallon @ 77°F (25°C)	7.9 ± 0.2 lbs./gallor
Specific Gravity @ 60°F (15.6°C)	0.92
Recommended Dry Film Thickness over Metal Profile	10 - 12 mils
Theoretical Coverage @ Recommended DFT	74.4 sq. ft./gallon
Non-Volatile % by Weight	57 ± 2
Non-Volatile % by Volume	51 ± 2
Volatile Organic Content (VOC)	3.2 lbs./gallon
Approximate Dry to Touch Time @ 77°F (25°C)	2 - 4 hours
Cure Time	16 - 24 hours
High Temperature Flow Point, Minimum	350°F
Accelerated Corrosion Tests:	
5% Salt Spray (Hours)	
ASTM** B-117 @ Recommended DFT	1200
(2x4x1/8 in. Polished Steel Panels)	
100% Relative Humidity (Hours)	
ASTM D-1748 @ Recommended DFT	1200
(2x4x1/8 in. Polished Steel Panels)	
Weathering Hours (Federal Standard 141,	300
Method 6151 @ Recommended DFT)	

\*PMCC (Penske Martin Closed Cup)
\*\*ASTM (American Society for Testing and Materials)

### **Surface Preparation**

The maximum performance of TECTYL® 121BN can be achieved only when the metal surfaces to be protected are clean, dry and free of rust, oil and mill scale. Daubert Chemical Company recommends that the metal substrate temperature be 50-95°F (10-35°C) at the time of product application.

### Application

TECTYL® 121BN is formulated to be used as supplied. Ensure uniform consistency prior to use. Continued stirring is generally not required. If the product thickens due to cold storage or loss of solvent during use, contact Daubert Chemical Company. DO NOT THIN TECTYL® 121BN. Incorrect thinning will affect film build, dry time and product performance. Daubert Chemical Company recommends that the ambient and product temperature be 50 - 95°F (10 - 35°C) at time of application. TECTYL® 121BN can be airless spray applied. DO NOT FREEZE TECTYL® 121BN.

### Removal

TECTYL® 121BN can be removed with TECTYL® HPS solventborne thinner, vapor degreasing, hot alkaline wash, or low pressure steam. TECTYL® 121BN can be removed from fabrics by normal dry cleaning procedures. Avoid the use of chlorinated or highly aromatic solvents when removing from painted surfaces, as these solvents may adversely affect paint.

### Storage

Store TECTYL® 121BC at temperatures between 50-95°F (10-35°C). Mild agitation is recommended prior to use.

### Caution

Adequate ventilation is required for cure and to ensure against formation of a combustible liquid. THE PARTIALLY CURED FILM SHOULD NOT BE EXPOSED TO IGNITION SOURCES SUCH AS FLARES, FLAMES, SPARKS, EXCESSIVE HEAT, OR TORCHES. Refer to Daubert's Material Safety Data Sheet for additional handling and first aid information.

### Note:

The addition of any product over or under this coating is not recommended. The use of additional coatings could result in chemical incompatibility, thus adversely affecting the performance of this coating as stated in the lab data section. If a product other than Daubert Chemical Company's recommended product is required, written authorization must be obtained from Daubert Chemical Company, Inc.

3/24/04:kp

CAUTION: The data, statements and recommendations set forth in this product information sheet are based on testing, research and other development work which has been carefully conducted by us, and we believe such data, statements and recommendations will serve as reliable guidelines. However, this product is subject to numerable uses under varying conditions over which we have no control, and accordingly, we do NOT warrant that this product is suitable for any particular use. Users are advised to test the product in advance to make certain it is suitable for their particular production conditions and particular use or uses.

WARRANTY: Daubert Chemical Company, Inc. ("Daubert") warrants all products manufactured by it to be free from defects in malerial and workmanship. DAUBERT MAKES NO OTHER WARRANTIES, WHETHER, EXPRESSED OR IMPLIED, WITH RESPECT TO SUCH PRODUCTS, AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND IMPLIED WARRANTIES ARISING FROM A COURSE OF DEALING OR USAGE OF TRADE, ARE DISCLAIMED BY DAUBERT. All claims hereunder must be made in writing within 30 days after receipt of the products at the buyer's plant and prior to further processing the products or combining them with other materials or products. Daubert's liability, whether under this warranty or in contract, tort, negligence or otherwise, is limited to the return of the net purchase price paid for any products proven defective or, at Daubert's option, to the repair or replacement of said products upon their return, transportation prepaid, to Daubert. THE REMEDY HEREBY PROVIDED SHALL BE THE EXCLUSIVE AND SOLE REMEDY OF THE BUYER, AND UNDER NO CIRCUMSTANCES SHALL DAUBERT BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES. No Daubert representative or other person is authorized to change this warranty in any way or to assume for Daubert any other liability in connection with the sale or use of its products.

REFER TO MATERIAL SAFETY DATA SHEET FOR HEALTH AND SAFETY INFORMATION.

# C.P.S. COATINGS SHREVEPORT, LA 71107 318-222-6100

### TECHNICAL DATA

Name

CPS-LD-130 Light Gray Zinc Chromate Primer

**Generic Type** 

Alkyd Zinc Chromate

Description

A rust-inhibitive primer for application to steel surfaces. it provides excellent protection, adhesion,

wetting, and application properties.

Color

Yellow / Gray - Flat Finish

**Solids Content** 

50% Volume 62% weight

**VOC Content** 

3.8 lbs per gallon

Viscosity

68 +/- 2 KU

**Shelf Life** 

1 Year

Flash Point

55 degrees F.

`overage

802 sq. ft. per gallon at I rail

fhickness

1.5 - 2.0 mils DFT

**Dry Time** 

2 Hours - Tack Free 5 Hours - Recoat

8 Hour - Dry Hard

Solvent

**UR-SERIES Reducer** 

**Recommended Uses** 

May be used for interior or exterior surface under alkyd, oil, oleo resinous and latex top coats -

for structural steel, tanks, piping, equipment, etc.

**Surface Preparation** 

Surfaces must be clean, dry, and free from all dirt oil and grease. For

best results abrasive blast to a commercial blast SSPS-SP-6 for a mild exposure hand or power

tool may be satisfactory.

### **DIRECT TO METAL**

SALT SPRAY RESISTANCE (5% EXPOSURE) ASTM D1645-79a

	250 hr.	500hr.	1000hr.
Rating Failure at Scribe			
Inches	1/8	3/8+	7/8+
Interpretation	Good	Fair	Poor



### SPECIFICATIONS ESPECIALLY PREPARED FOR: WEST VIRGINIA TRANSIT SYSTEM MODEL: AC- 137333DMAX

(15,000-BTU/HR-IMACA / OEM DRIVER'S IN-DASH SYSTEM)

- + (35,000-BTU/HR-IMACA / FRONT AREA CEILING COOLING)
- + (90,000-BTU/HR-IMACA / REAR CENTER CEILING COOLING) (125,000-BTU/HR-IMACA / TOTAL SYSTEM COOLING)

VEHICLE AIR CONDITIONING SYSTEM EQUAL TO OR BETTER THAN IN STANDARDS OF QUALITY, DESIGN, AND PERFORMANCE TO A CARRIER TRANSPORT AIR CONDITIONING SYSTEM MODEL AC- 137333DMAX.

THE VEHICLE'S DUAL AIR CONDITIONING SYSTEMS ARE TO BE KEPT COMPLETELY SEPERATED FROM EACH OTHER IN ORDER TO ACHIEVE A MAXIMIZATION OF OVERALL CAPACITY, AS WELL AS A REDUNDANCY FEATURE IN CASE OF ONE SYSTEMS FAILURE,

THE VEHICLE'S AIR CONDITIONING SYSTEM IS COMPRISED OF THE FOLLOWING COMPONENTS:

### **EVAPORATORS:**

(1)-MODEL EM-3-REAR CENTER CEILING MOUNTED UNIT RATED @ 90,000-BTU/HR - IMACA, THIS UNIT IS TO BE CAPABLE OF PRODUCING 2,400 CFM OF AIRFLOW ON HIGH SPEED ( RATED @ 13.5VDC ( 6" STATIC ), THIS UNIT CONTAINS ( 2 )TWO ( 3 ) THREE SPEED PERMANENT MAGNET 19,000 HOUR DESIGN LIFE SEALED BALL BEARING MOTORS, THIS UNIT'S MAXIMUM AMPERAGE DRAW IS 46 AMPS @ 13.5 VDC.

AND (1) MODEL EM-7- REAR CENTER CEILING MOUNTED UNIT RATED @ 35,000- BTU/HR - IMACA / COOLING. THIS UNIT IS TO BE CAPABLE OF PRODUCING 800 CFM OF AIRFLOW ON HIGH SPEED ( RATED @ 13.5VDC / 6" STATIC ), THIS UNIT CONTAINS ONE THREE ( 3 ) FIXED SPEED PERMANENT MAGNET 10,000 HOUR DESIGN LIFE SEALED BALL BEARING MOTORS. THIS UNIT'S MAXIMUM AMPERAGE DRAW IS 15 AMPS @ 13,5 VDC, HE COIL IS TO BE CONSTRUCTED OF INTERNALLY ENHANCED COPPER TUBES, WITH ALUMINUM FINS EXPANDED INTO COATED STEEL END PLATES. The unit's frame is to be constructed of 16-cauge galvannealed steel epoxy powder coated to give maximum surface durability. THE UNIT'S CASE MUST MEET OR EXCEED FMVSS302 FIRE RETARDANT SPECIFICATIONS, THE UNIT MUST BE EQUIPPED WITH AN EASY REMOVABLE, CLEANABLE FILTER ELEMENT CAPABLE OF FILTERING AIR TO 10,000 PPM. THE UNIT'S EXPANSION VALVE MUST BE EQUIPPED WITH O- RING FITTINGS TO INSURE LEAK- FREE CONTINUOUS OPERATION. ALSO, THIS UNIT MUST OPERATE ON A NON- OZONE DEPLETING REFRIGERANT SUCH AS R- 134A.

(1)-VEHICLE OEM SUPPLIED 15,000 BTUIHR ( MINIMUM ) DRIVER'S IN-DASH AIR CONDITIONING UNIT, THE OEM IN-DASH SHALL BE CAPABLE OF PRODUCING A MINIMUM 300 CFM OF AIRFLOW ON HIGH SPEED ( RATED @ 13.5VDC / 0" STATIC ), THIS UNIT CONTAINS ONE THREE SPEED WOUND FIELD MOTOR AND OPERATES ON THE NON-OZONE DEPLETING REFRIGERANT R-134A.

### **CONDENSERS:**

(2)-MODEL CM-3 - UNDER FLOOR SKIRT MOUNTED UNIT RATED @ 80,000- BTUIHR - IMACA, THIS UNIT IS TO BE CAPABLE OF PRODUCING A TOTAL OF 2499 CFM OF AIRFLOW ( RATED @ 13.5VDC / 0" STATIC ). THIS UNIT CONTAINS THREE ( 3 ) SINGLE SPEED PERMANENT MAGNET FOUR POLE, FOUR BRUSH 10,000 HOUR DESIGN LIFE SEALED BALL BEARING MOTORS, THIS UNIT'S MAXIMUM AMPERAGE DRAW IS 21 AMPS @ 13,5VDC. THE COILS ARE TO BE CONSTRUCTED OF 25 MM WIDE MICROCHANNEL ALUMINUM TUBES, WITH ALUMINUM FINS CONSTRUCTED ONTO ALUMINUM MOUNTING plates. The Fin Surface is to be zinc plasma electrocoated to give it the maximum corrosion protection available against salt. THE UNIT'S FRAME IS TO BE CONSTRUCTED OF 15. GAUGE GALVANNEALED STEEL EPOXY POWDER COATED TO GIVE MAXIMUM SURFACE DURABILITY, AND OPERATIONAL RELIABILITY. THE AIR SHALL BE PULLED THROUGH THE COIL AND DISCHARGED TOWARD THE CENTER LINE OF THE VEHICLE AT A 49- DEGREE ANGLE TO PREVENT RECIRCULATION AND INCREASED WARMING OF THE VEHICLE'S FLOOR, THE UNITS SHALL BE EQUIPPED WITH AN AUTOMATIC RESET TYPE HIGH PRESSURE SWITCH TO PROVIDE SAFE OPERATING CONDITIONS AND PROTECTION OF THE SYSTEMS COMPRESSOR. the unit's fans shall be of a low-profile axial type design constructed of a high impact abs material, dynamically balanced in ORDER TO INSURE MAXIMUM DURABILITY AND LONGEVITY. THE MOTOR / FAN ASSEMBLIES ARE TO BE SEPERATED BY DIRECTIONAL BAFFLES, WHICH WILL DIRECT AIRFLOW THROUGH THE COIL TO GIVE MAXIMUM BALANCED PERFORMANCE, THE UNIT'S REFRIGERANT CONNECTIONS ARE TO BE OF A PORROSION RESISTANT BRASS, AND SHALL BE OF THE O-RING TYPE TO INSURE LEAK-FREE CONTINUOUS OPERATION, ALL ELECTRICAL CONNECTIONS ARE TO BE OF A WEATHER- PROOF DESIGN TO INSURE MAXIMUM RELIABILITY. THE UNIT'S FILTER DRIER SHALL BE A MINIMUM SIXTEEN ( 16 ) CUBIC-INCHES OF DESSICANT COMPATIBLE WITH R-134A; EQUIPPED WITH O-RING CONNECTIONS TO INSURE LEAK-FREE CONNECTIONS, AND CAPABLE OF MAINTAINING A DRY, NON- ACIDIC SYSTEM.





### COMPRESSORS :

(1)-MODEL DEM \$ (2) TM-16 ENGINE MOUNTED, EACH RATED @ A MINIMAL 55,000-BTU/HR, EACH CIRCUIT IS TO HAVE AT A MINIMUM A NOMINAL TEN (10) CUBIC INCH DISPLACEMENT, AND IS TO BE BELT DRIVEN OFF OF THE VEHICLE'S ENGINE. THE COMPRESSORS ARE TO BE EQUIPPED WITH AN ELECTRO-MAGNETIC CLUTCH CONTROLLED INDEPENDANTLY BY EACH OF THE SYSTEM'S (2) THERMOSTATS.

### ENGINE / REAR COMPRESSOR MOUNT:

THE VEHICLE'S ENGINE! REAR COMPRESSOR MOUNT KIT IS TO BE DESIGNED, TESTED, MANUFACTURED, AND SUPPLIED TO EITHER THE CHASSIS OR BODY MANUFACTURER ONLY BY & FROM THE AIR CONDITIONING SYSTEM MANUFACTURER. THE MOUNT KIT SHALL UTILIZE A MULTL-GROOVE POLY-Y TYPE POLYESTER CORD REINFORCED DRIVE BELT WHEREVER POSSIBLE, AND SHALL INCLUDE A SELF-TENSIONING IDLER PULLEY TO AUTOMATICALLY MAINTAIN PROPER DESIGNED BELT TENSION. THIS COMPONENT IS TO BE COVERED UNDER THE AIC SYSTEM MANUFACTURER'S WARRANTY IN ACCORDANCE WITH THEIR TERMS AND CONDITIONS.

### **HVAC SYSTEM CONTROLS:**

THE VEHICLE'S AIR CONDITIONING SYSTEM SHALL BE CONTROLLED FROM THE DRIVER'S SEATED POSITION. THE CONTROLS SHALL CONSIST

OF (2) ROTARY FAN SPEED SWITCH (OFF / HIGH / MEDIUM / LOW), AND (2) ROTARY OR SLIDE TYPE THERMOSTAT SWITCHES. ALL SWITCHES ARE TO BE
CLEARLY LABELED, ALL A/C SYSTEM WIRING IS TO BE COLOR CODED FOR SYSTEM DIAGNOSTICS, AND MUST MEET/ EXCEED ALL FMVSS SPECIFICATIONS
THAT ARE REQUIRED. ALL CIRCUITS ARE TO BE PROTECTED WITH ADEQUATELY RATED CIRCUIT BREAKERS AND/OR THERMAL FUSES. THESE RATINGS
ARE TO INCLUDE BOTH TRANSIENT AND CONTINUOUS LOADS THAT THE SYSTEM WILL PRODUCE. ANY SUBCONTRACTOR / INSTALLER WHO PROVIDES
INSTALLATION OR OTHER HVAC COMPONENTS MUST MEET ALL SPECIFICATIONS UNLESS SPECIFIC EXCEPTIONS ARE GRANTED. A SYSTEM LOW PRESSURE
SWITCH IS TO BE INCLUDED IN ORDER TO PROVIDE PROTECTION TO THE SYSTEM'S COMPRESSOR IN CASE OF LOW OR SUDDEN LOSS OF REFRIGERANT.

### REFRIGERANT HOSES:

REFRIGERANT HOSES SHALL BE CONSTRUCTED IN ORDER TO COMPLY WITH, OR EXCEED SPECIFICATION SAE-J2064 TYPE D. THE CONSTRUCTION OF THE HOSE SHALL INCLUDE A NYLON-BASED THERMOPLASTIC INNER LINER, REINFORCED WITH TWO SEPARATE LAYERS OF TEXTILE YARN. THE OUTER COVERING SHALL CONSIST OF A SYNTHETIC ELASTOMER TO REDUCE INCIDENCES OF CHAFFING, CUTS, AND RUB-THROUGHS.

### REFRIGERANT FITTINGS:

REFRIGERANT FITTINGS SHALL BE CONSTRUCTED IN ORDER TO COMPLY WITH, OR EXCEED SPECIFICATION SAE-12064 TYPE D. THE CONSTRUCTION OF THE FITTINGS AND NUTS SHALL BE OF STEEL WITH A YELLOW ZING PLATING (ASTME-633) CAPABLE OF MAINTAINING INTEGRITY AFTER ONE THOUSAND (1,000) HOURS OF SALT SPRAY TESTING. THE HOSE COUPLING END OF ALL FITTINGS SHALL INCLUDE TWO (2) HOSE BARBS FOR RETENTION AND TWO (2) HOSE ELASTOMER D-RING GASKETS TO INSURE LEAK-FREE RELIABLE OPERATION.

### REFRIGERANT CLAMPS:

REFRIGERANT HOSE CLAMPS SHALL BE CONSTRUCTED IN ORDER TO COMPLY WITH, OR EXCEED SPECIFICATION SAE-12864 TYPE D. THE CONSTRUCTION OF THE CLAMPS SHALL BE OF A STAINLESS-STEEL ONE-PIECE DESIGN WHICH WILL ENSURE COUPLING INTEGRITY.

### WARRANTY:

THE WARRANTY FOR THE BUS AIR CONDITIONING EQUIPMENT SHALL BE FOR A TERM OF TWO YEARS (FROM THE DATE IN SERVICE ) WITH UNLIMITED MILEAGE ON THE VEHICLE. THE PROVIDER OF THE INSTALLED BUS AIR CONDITIONING SYSTEM SHALL PROVIDE A COPY OF THE EQUIPMENT MANUFACTURER'S WARRANTY AT THE TIME OF THE BUS DELIVERY. INSTALLER MUST ALSO REGISTER THE WARRANTY WITH THE EQUIPMENT MAKER PRIOR TO DELIVERY OF THE VEHICLE'S.





### **WATER TEST**

The roofs, windows, windshields and all doors of all buses shall be water tested as follows:

The water test shall consist of a series of 57 nozzles which are strategically located not less than one foot nor more than three feet around the perimeter of the bus so as to spray water over the entire surface of the bus.

The nozzles shall eject a volume of water not less than 2.6 gallons per minute under a pressure of not less than 40 pounds per square inch measured at the nozzle tip.

The contractor shall be required to water test each bus under the conditions set forth above for no less than five minutes in order to determine whether or not there are any body leaks at the window areas, door areas, roof panels, etc. Contractor shall take the necessary corrective action when body leaks are found to exist as a result of the above test, and conduct a second water test to recheck for the body leaks following corrective action.



### SPECIFICATIONS ESPECIALLY PREPARED FOR: WEST VIRGINIA TRANSIT SYSTEM MODEL: AC-1373R4DMAX

(15,000-BTU/HR-IMACA / OEM DRIVER'S IN-DASH SYSTEM)

- + (35,000-BTU/HR-IMACA / FRONT AREA CEILING COOLING)
- + (90,000-BTU/HR-IMACA / REAR CENTER CEILING COOLING) (125,000-BTU/HR-IMACA / TOTAL SYSTEM COOLING)

VEHICLE AIR CONDITIONING SYSTEM EQUAL TO OR BETTER THAN IN STANDARDS OF QUALITY, DESIGN, AND PERFORMANCE TO A CARRIER TRANSPORT AIR CONDITIONING SYSTEM MODEL AC- 1373R4DMAX.

THE VEHICLE'S DUAL AIR CONDITIONING SYSTEMS ARE TO BE KEPT COMPLETELY SEPERATED FROM EACH OTHER IN ORDER TO ACHIEVE A MAXIMIZATION OF OVERALL CAPACITY, AS WELL AS A REDUNDANCY FEATURE IN CASE OF ONE SYSTEMS FAILURE.

THE VEHICLE'S AIR CONDITIONING SYSTEM IS COMPRISED OF THE FOLLOWING COMPONENTS:

### **EVAPORATORS:**

- (1) MODEL EM-3- REAR CENTER CEILING MOUNTED UNIT RATED @ 90,000- BTU/HR IMACA. THIS UNIT IS TO BE CAPABLE OF PRODUCING 2,400 CFM OF AIRFLOW ON HIGH SPEED ( RATED @ 13.5VDC / 0" STATIC ), THIS UNIT CONTAINS ( 2 )TWO ( 3 ) THREE SPEED PERMANENT MAGNET 10,000 HOUR DESIGN LIFE SEALED BALL BEARING MOTORS. THIS UNIT'S MAXIMUM AMPERAGE DRAW IS 46 AMPS @ 13.5 VDC.
- AND (1) MODEL EM-7-REAR CENTER CEILING MOUNTED UNIT RATED @ 35,000- BTUHR IMAGA / COOLING, THIS UNIT IS TO BE CAPABLE OF PRODUCING 800 CFM OF AIRFLOW ON HIGH SPEED (RATED @ 13.5VDC / 0" STATIC ), THIS UNIT CONTAINS ONE THREE (3) FIXED SPEED PERMANENT MAGNET 10,000 HOUR DESIGN LIFE SEALED BALL BEARING MOTORS. THIS UNIT'S MAXIMUM AMPERAGE DRAW IS 15 AMPS @ 13,5 VDC. THE COIL IS TO BE CONSTRUCTED OF INTERNALLY ENHANCED COPPER TUBES, WITH ALUMINUM FINS EXPANDED INTO COATED STEEL END PLATES. THE UNIT'S FRAME IS TO BE CONSTRUCTED OF 16- GAUGE GALVANNEALED STEEL EPOXY POWDER COATED TO GIVE MAXIMUM SURFACE DURABILITY. THE UNIT'S CASE MUST MEET OR EXCEED FMVSS302 FIRE RETARDANT SPECIFICATIONS. THE UNIT MUST BE EQUIPPED WITH AN EASY REMOVABLE, CLEANABLE FILTER ELEMENT CAPABLE OF FILTERING AIR TO 10,000 PPM. THE UNIT'S EXPANSION VALVE MUST BE EQUIPPED WITH O-RING FITTINGS TO INSURE LEAK- FREE CONTINUOUS OPERATION, ALSO, THIS UNIT MUST OPERATE ON A NON- OZONE DEPLETING REFRIGERANT SUCH AS R- 134A.
- (1)-VEHICLE OEM SUPPLIED 15,000 STU/HR ( MINIMUM ) DRIVER'S IN-DASH AIR CONDITIONING UNIT. THE OEM IN-DASH SHALL BE CAPABLE OF PRODUCING A MINIMUM 300 CFM OF AIRFLOW ON HIGH SPEED ( RATED @ 13.5VDC / 0" STATIC ). THIS UNIT CONTAINS ONE THREE SPEED WOUND FIELD MOTOR AND OPERATES ON THE NON- DZONE DEPLETING REFRIGERANT R- 134A.

### CONDENSERS:

(1) - MODEL KR-4 - VEHICLE ROOF MOUNTED UNIT RATED @ 163,800 - BTU/HR - IMACA, THIS UNIT IS TO BE CAPABLE OF PRODUCING A TOTAL OF 3,500- CFM OF AIRFLOW ( RATED @ 13,5VDC / 0" STATIC ). THIS UNIT CONTAINS FOUR ( 4 ) SINGLE SPEED PERMANENT MAGNET FOUR POLE, FOUR BRUSH 10,000 HOUR DESIGN LIFE SEALED BALL BEARING MOTORS, THIS UNIT'S MAXIMUM AMPERAGE DRAW IS 44 AMPS (8) 13.5VDC. THE COILS ARE TO BE CONSTRUCTED OF INTERNALLY ENHANCED COPPER TUBES, WITH ALUMINUM FINS EXPANDED INTO GALVANIZED STEEL END PLATES. THE FIN SURFACES ARE TO BE BLACK ACRYLIC ELECTROCOATED TO GIVE IT THE MAXIMUM CORROSION PROTECTION AVAILABLE AGAINST SALT. THESE UNIT'S FRAMES ARE TO BE CONSTRUCTED OF 15- GAUGE GALVANEALED STEEL EPOXY POWDER COATED TO GIVE MAXIMUM SURFACE DURABILITY. AND OPERATIONAL RELIABILITY. THE AIR SHALL BE PULLED THROUGH THE COIL AND DISCHARGED TOWARD THE CENTER LINE OF THE VEHICLE AT A 98- DEGREE ANGLE TO PREVENT RECIRCULATION AND INCREASED WARMING OF THE VEHICLE'S ROOF. THE UNITS SHALL BE EQUIPPED WITH AN AUTOMATIC RESET TYPE HIGH PRESSURE SWITCH TO PROVIDE SAFE OPERATING CONDITIONS AND PROTECTION OF THE SYSTEMS COMPRESSOR. THE UNIT'S FANS SHALL BE OF A LOW- PROFILE AXIAL TYPE DESIGN CONSTRUCTED OF A HIGH IMPACT ABS MATERIAL, DYNAMICALLY BALANCED IN ORDER TO INSURE MAXIMUM DURABILITY AND LONGEVITY. THE MOTOR / FAN ASSEMBLIES ARE TO BE SEPERATED BY DIRECTIONAL BAFFLES, WHICH WILL DIRECT AIRFLOW THROUGH THE COIL TO GIVE MAXIMUM BALANCED PERFORMANCE, THE UNIT'S REFRIGERANT CONNECTIONS ARE TO BE OF A CORROSION RESISTANT BRASS, AND SHALL BE OF THE O-RING TYPE TO INSURE LEAK-FREE CONTINUOUS OPERATION, ALL ELECTRICAL CONNECTIONS ARE TO BE OF A WEATHER- PROOF DESIGN TO INSURE MAXIMUM RELIABILITY. THE UNIT'S FILTER DRIERS SHALL BE A MINIMUM SIXTEEN (16 ) CUBIC-Inches of dessicant compatible with R- 134A; Equipped with 0- Ring connections to insure leak-free connections, and capable of MAINTAINING A DRY, NON-ACIDIC SYSTEM.





AND (1)-MODEL CEM-RADIATOR MOUNTED UNIT RATED @ 18,000-BTU/HR-IMACA, THIS UNIT IS TO BE CAPABLE OF PRODUCING A TOTAL OF 650 CFM OF AIRFLOW ( RATED @ 0" STATIC ). THIS UNIT IS TO BE COOLED VIA THE DEM'S ENGINE MOUNTED METAL FAN BLADE, THE COIL IS TO BE CONSTRUCTED OF INTERNALLY ENHANCED ALUMINUM TUBES, WITH ALUMINUM FINS WELDED INTO ALUMINUM END PLATES. THE FIN SURFACE IS TO BE BLACK ACRYLIC ELECTROCOATED TO GIVE IT THE MAXIMUM CORROSION PROTECTION AVAILABLE AGAINST SALT.

### **COMPRESSORS:**

(1)-MODEL CEM & (2) TM-16 ENGINE MOUNTED, EACH RATED @ A MINIMAL 55,000- BTU/HR. EACH CIRCUIT IS TO HAVE AT A MINIMUM A NOMINAL TEN (10) CUBIC INCH DISPLACEMENT, AND IS TO BE BELT DRIVEN OFF OF THE VEHICLE'S ENGINE. THE COMPRESSORS ARE TO BE EQUIPPED WITH AN ELECTRO-MAGNETIC CLUTCH CONTROLLED INDEPENDANTLY BY EACH OF THE SYSTEM'S (2) THERMOSTATS.

### **ENGINE / REAR COMPRESSOR MOUNT:**

THE VEHICLE'S ENGINE I REAR COMPRESSOR MOUNT KIT IS TO BE DESIGNED, TESTED, MANUFACTURED, AND SUPPLIED TO EITHER THE CHASSIS OR BODY MANUFACTURER ONLY BY & FROM THE AIR CONDITIONING SYSTEM MANUFACTURER, THE MOUNT KIT SHALL UTILIZE A MULTI-GROOVE POLY-V TYPE POLYESTER CORD REINFORCED DRIVE BELT WHEREVER POSSIBLE, AND SHALL INCLUDE A SELF-TENSIONING IDLER PULLEY TO AUTOMATICALLY MAINTAIN PROPER DESIGNED BELT TENSION. THIS COMPONENT IS TO BE COVERED UNDER THE AIC SYSTEM MANUFACTURER'S WARRANTY IN ACCORDANCE WITH THEIR TERMS AND CONDITIONS.

### **HVAC SYSTEM CONTROLS:**

THE VEHICLE'S AIR CONDITIONING SYSTEM SHALL BE CONTROLLED FROM THE DRIVER'S SEATED POSITION. THE CONTROLS SHALL CONSIST OF (2) ROTARY FAN SPEED SWITCH (OFF / HIGH / MEDIUM / LOW ), AND (2) ROTARY OR SLIDE TYPE THERMOSTAT SWITCHES. ALL SWITCHES ARE TO BE LEARLY LABELED. ALL A/C SYSTEM WIRING IS TO BE COLOR CODED FOR SYSTEM DIAGNOSTICS, AND MUST MEET! EXCEED ALL FMVSS SPECIFICATIONS THAT ARE REQUIRED. ALL CIRCUITS ARE TO BE PROTECTED WITH ADEQUATELY RATED CIRCUIT BREAKERS AND/OR THERMAL FUSES. THESE RATINGS ARE TO INCLUDE BOTH TRANSIENT AND CONTINUOUS LOADS THAT THE SYSTEM WILL PRODUCE. ANY SUBCONTRACTOR / INSTALLER WHO PROVIDES INSTALLATION OR OTHER HVAC COMPONENTS MUST MEET ALL SPECIFICATIONS UNLESS SPECIFIC EXCEPTIONS ARE GRANTED, A SYSTEM LOW PRESSURE SWITCH IS TO BE INCLUDED IN ORDER TO PROVIDE PROTECTION TO THE SYSTEM'S COMPRESSOR IN CASE OF LOW OR SUDDEN LOSS OF REFRIGERANT.

### **REFRIGERANT HOSES:**

REFRIGERANT HOSES SHALL BE CONSTRUCTED IN ORDER TO COMPLY WITH, OR EXCEED SPECIFICATION SAE- J2064 TYPE D. THE CONSTRUCTION OF THE HOSE SHALL INCLUDE A NYLON-BASED THERMOPLASTIC INNER LINER, REINFORCED WITH TWO SEPARATE LAYERS OF TEXTILE YARN. THE OUTER COVERING SHALL CONSIST OF A SYNTHETIC ELASTOMER TO REDUCE INCIDENCES OF CHAFFING, CUTS, AND RUB-THROUGHS.

### **REFRIGERANT FITTINGS:**

REFRIGERANT FITTINGS SHALL BE CONSTRUCTED IN ORDER TO COMPLY WITH, OR EXCEED SPECIFICATION SAE- J2864 TYPE D. THE CON-STRUCTION OF THE FITTINGS AND NUTS SHALL BE OF STEEL WITH A YELLOW ZINC PLATING ( ASTME- 633 ) CAPABLE OF MAINTAINING INTEGRITY AFTER ONE THOUSAND ( 1,886 ) HOURS OF SALT SPRAY TESTING. THE HOSE COUPLING END OF ALL FITTINGS SHALL INCLUDE TWO ( 2 ) HOSE BARBS FOR RETENTION AND TWO (2) HNBR ELASTOMER D-RING GASKETS TO INSURE LEAK-FREE RELIABLE OPERATION.

### **REFRIGERANT CLAMPS:**

REFRIGERANT HOSE CLAMPS SHALL BE CONSTRUCTED IN ORDER TO COMPLY WITH, OR EXCEED SPECIFICATION SAE- J2064 TYPE D. THE CON-STRUCTION OF THE CLAMPS SHALL BE OF A STAINLESS-STEEL ONE-PIECE DESIGN WHICH WILL ENSURE COUPLING INTEGRITY,

### WARRANTY:

THE WARRANTY FOR THE BUS AIR CONDITIONING EQUIPMENT SHALL BE FOR A TERM OF TWO YEARS ( FROM THE DATE IN SERVICE ) WITH UNLIMITED MILEAGE ON THE VEHICLE. THE PROVIDER OF THE INSTALLED BUS AIR CONDITIONING SYSTEM SHALL PROVIDE A COPY OF THE EQUIPMENT MANUFACTURER'S WARRANTY AT THE TIME OF THE BUS DELIVERY. INSTALLER MUST ALSO REGISTER THE WARRANTY WITH THE EQUIPMENT MAKER PRIOR O DELIVERY OF THE VEHICLE'S.



