



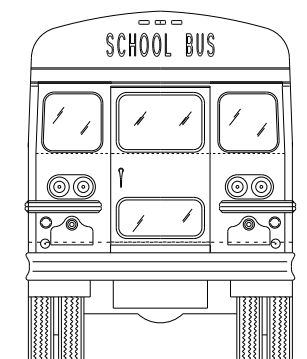
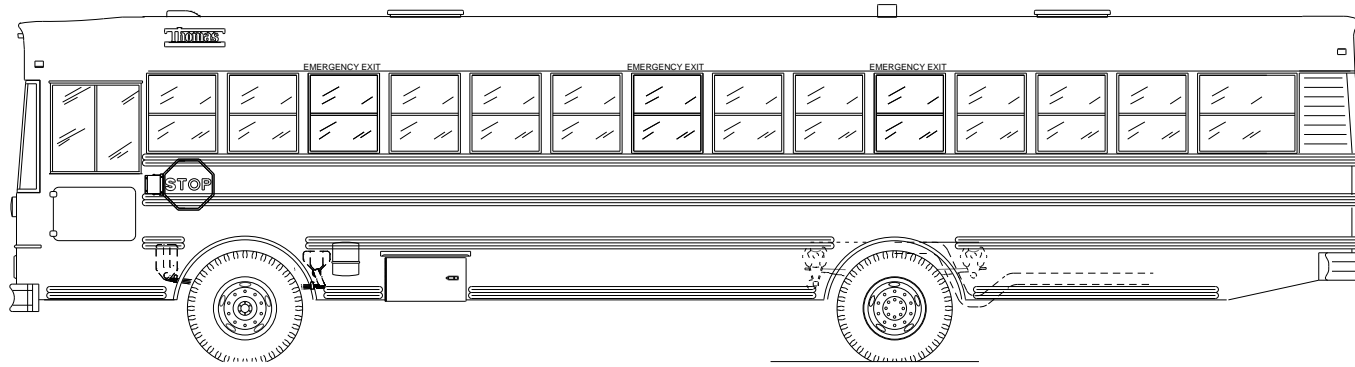
## **SURVIVAL FACTORS ATTACHMENT 1**

### **School Bus Information**

**Chattanooga, TN**

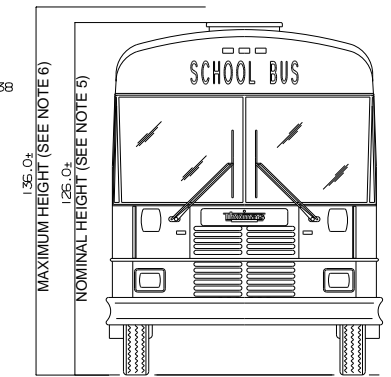
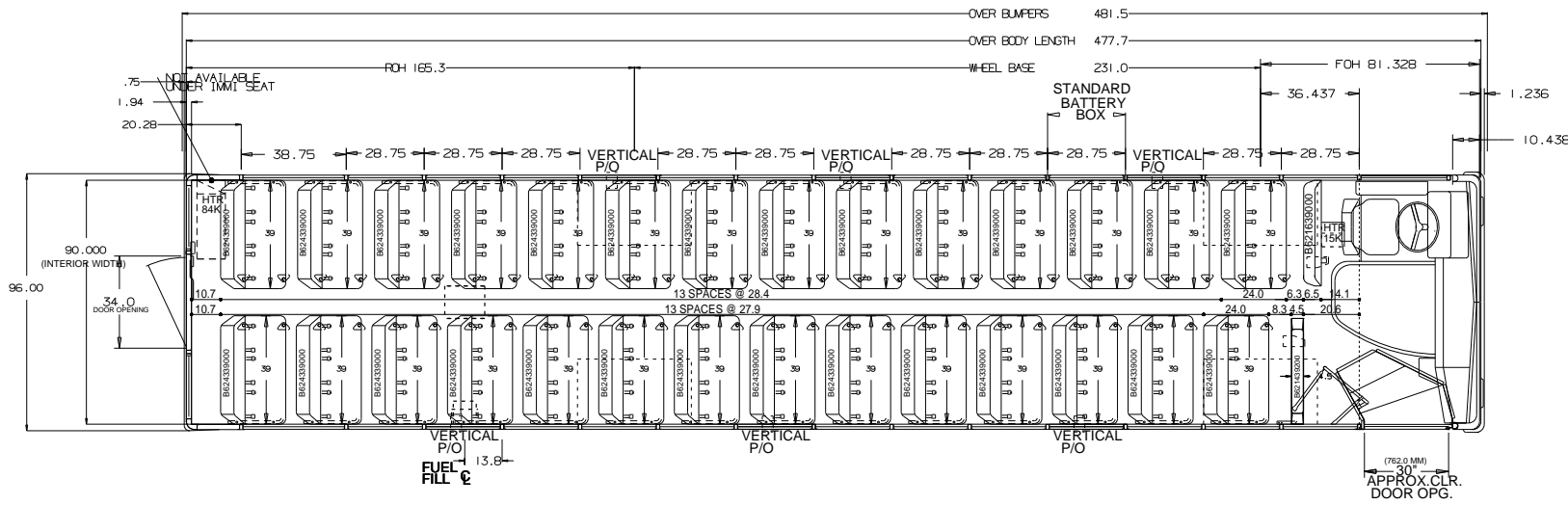
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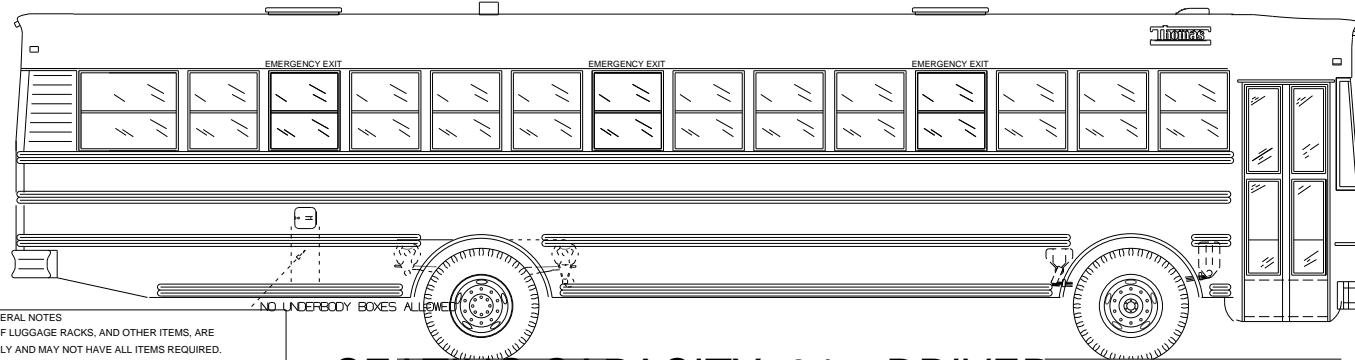


LEFT BARRIER FRONT MOUNTING HOLE TO FIRST SEAT FRONT MOUNTING HOLE = 8.8

RIGHT BARRIER FRONT MOUNTING HOLE TO FIRST SEAT FRONT MOUNTING HOLE = 8.8



NOTES:  
 UNIT EQUIPPED WITH PLYWOOD FLOOR



Model: MVP-EF  
 Units Ordered: 87  
 Order Numbers: 4750 - 4836  
 Quote Number: 192384  
 Locality: TN  
 Build Date: 5/21/2007

**SEATING CAPACITY: 84 + DRIVER**

- GENERAL NOTES
- SOME ITEMS, SUCH AS CV MIRRORS, ROOF LUGGAGE RACKS, AND OTHER ITEMS, ARE SHOWN IN ONE VIEW ONLY FOR CLARITY.
  - THIS DRAWING IS A REPRESENTATION ONLY AND MAY NOT HAVE ALL ITEMS REQUIRED. PLEASE REFER TO ORDER SHEET.
  - THE CLEARANCE BETWEEN BOTTOM OF BUS OR BOTTOM OF UNDERBODY COMPARTMENTS AND GROUND WILL VARY ACCORDING TO TIRE SIZE, BUS LOAD, AND SUSPENSION TYPE.
  - THE MAXIMUM WIDTH AT BELT LINE OVER GUARD RAILS IS 94".
  - THE NOMINAL BUS HEIGHT IS BASED ON A STANDARD BODY AND LARGEST SIZE TIRES.
  - THE MAXIMUM BUS HEIGHT IS BASED ON BODY WITH OPTIONS SUCH AS AC UNITS, STROBE LIGHT, LARGEST SUSPENSION ETC.

SIDE	ROW	SPACING	WHEEL SPACING
LEFT		28.4	27.2
RIGHT		27.9	26.7

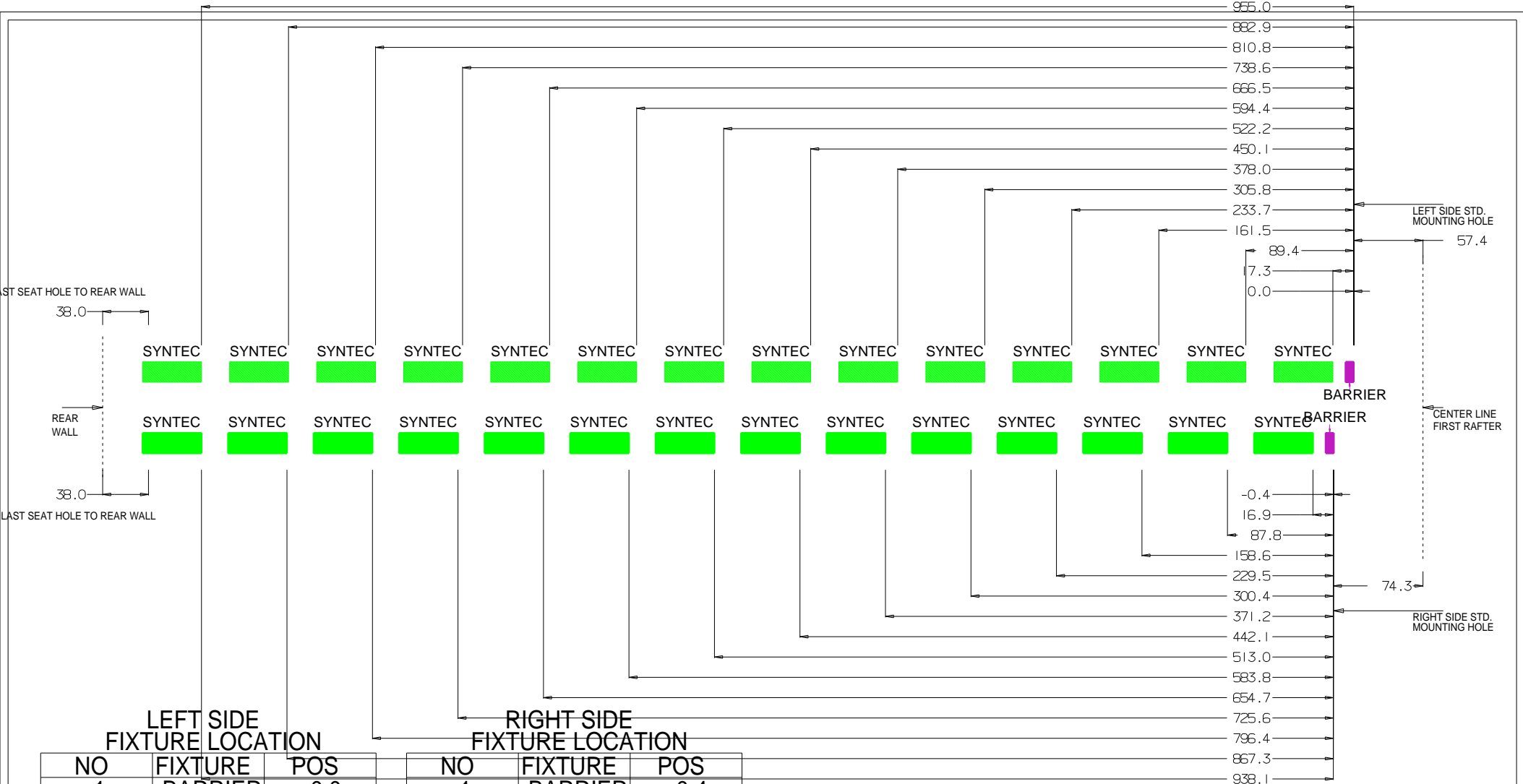
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**THOMAS BUILT BUSES, INC**  
 HIGH POINT, NC WOODSTOCK, CANADA

TITLE: **PLAN AND ELEVATION BODY 1418S**

DRN: 03-29-07 BY: Mike Easton DWG. NO. **270038**

SCALE: 3/8"=12" **S**



**LEFT SIDE  
FIXTURE LOCATION**


NO	FIXTURE	POS
1	BARRIER	0.0
2	GREEN	17.3
3	GREEN	89.4
4	GREEN	161.5
5	GREEN	233.7
6	GREEN	305.8
7	GREEN	378.0
8	GREEN	450.1
9	GREEN	522.2
10	GREEN	594.4
11	GREEN	666.5
12	GREEN	738.6
13	GREEN	810.8
14	GREEN	882.9
15	GREEN	955.0

**RIGHT SIDE  
FIXTURE LOCATION**

NO	FIXTURE	POS
1	BARRIER	-0.4
2	GREEN	16.9
3	GREEN	87.8
4	GREEN	158.6
5	GREEN	229.5
6	GREEN	300.4
7	GREEN	371.2
8	GREEN	442.1
9	GREEN	513.0
10	GREEN	583.8
11	GREEN	654.7
12	GREEN	725.6
13	GREEN	796.4
14	GREEN	867.3
15	GREEN	938.1

NOTES: ALL DIMENSIONS ARE IN CENTIMETERS (CM)  
UNLESS OTHERWISE INDICATED.

ALL FIXTURE DIMENSIONS ARE REFERENCED FROM  
THE STANDARD BARRIER MOUNTING HOLE.

 INDICATEDS BARRIER MOUNTING POSITION.  
0 DIMENSION INDICATES BARRIER  
MOUNTED IN STANDARD HOLE.

**FRONT OF BUS**



Model: MVP-EF  
Units Ordered: 87  
Order Numbers: 4750 - 4836  
Quote Number: 192384  
Locality: TN  
Build Date: 5/21/2007

- GENERAL NOTES
- SOME ITEMS, SUCH AS CV MIRRORS, ROOF LUGGAGE RACKS, AND OTHER ITEMS, ARE SHOWN IN ONE VIEW ONLY FOR CLARITY.
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  - THE CLEARANCES BETWEEN THE TOP OF BUS OR BOTTOM OF UNDERBODY COMPARTMENTS AND GROUND WILL VARY ACCORDING TO TIRE SIZE, BUS LOAD, AND SUSPENSION TYPE.
  - THE MAXIMUM WIDTH AT BELT LINE OVER GUARD RAILS IS 96".

**THOMAS BUILT BUSES, INC**  
HIGH POINT, NC WOODSTOCK, CANADA

TITLE **SEAT RAIL FIXTURE DRILLING  
BODY 1418S**

CAD DRAWING  
DO NOT  
MAKE MANUAL  
CHANGES

DRN: 03-29-07 BY: Mike Easton SIZE: DWG. NO.:  
SCALE 3/8"=12" S 270038

\*\*\*\*\* WEIGHT O.K. \*\*\*\*\*

SEATINGPLAN: 270038  
 ORDER NO: 192384  
 YARD NO:  
 BODY MODEL: 1418S  
 CHASSIS MAKE: THOS  
 WHEELBASE: 231.0  
 DATE: 03-29-07  
 TIME: 14:52:20

Weight Summary	Front	%Front	Rear	%Rear	Total
Total Weight	11345.37	38%	18726.63	62%	30072.00
Allowables	12350.00		21000.00		33350.00
Unladen	9188.09	46%	10653.91	54%	19842.00
Base Body	2548.69		4596.31		7145.00
Body Options	565.15		2127.85		2693.00
Base Chassis	4861.00		3164.00		8025.00
Chassis Options	1213.25		765.75		1979.00
Passenger	2157.28		8072.72		10230.00
State Special	0.00		0.00		0.00

NOTES:

\*\*\*\*\*  
 \* THE WEIGHT AND AXLE RATINGS IN THIS REPORT APPLY ONLY TO \*  
 \* ORDER NO. 192384 AND REFERENCE SEATING PLAN 270038 \*  
 \* ANY OPTIONS EXCEEDING 20 LBS. OR SEATING PLAN CHANGES NOT ON \*  
 \* THIS REPORT OR MADE AFTER THE SUBMISSION DATE AND TIME WILL \*  
 \* NULLIFY RESPONSIBILITY OF THOMAS BUILT BUSES ENGINEERING \*  
 \* DEPARTMENT OF THE SAFE OPERATION OF THE VEHICLE \*  
 \*\*\*\*\*

\* THIS SHEET MUST ACCOMPANY ORIGINAL ORDER.  
 SIGNATURE OF ENGINEERING APPROVAL:

Christian, Mike

***** BODY OPTIONS *****		Front	Rear	Total
Option	Description			
B158000141	PLYWOOD FLOOR	-14.87	459.87	445.00
B202001000	FIRE EXTINGUISHER 5 LB.	4.94	0.06	5.00
B2050TN000	KIT-FIRST AID,24 UNIT,TENNESSE	4.00	0.00	4.00
B2060TN000	KIT-BODY FLUID CLEAN-UP,TENNESSE	2.99	0.01	3.00
B209113000	TRIANGLE FLARES-0/HEAD STORAGE	10.33	0.67	11.00
B216002000	DEFROSTER FAN-MTD OVER W/S,CTR	2.97	0.03	3.00
B216005000	DEFROSTER FAN-MTD OVER DRS WDO	2.97	0.03	3.00
B231011000	BACK-UP ALARM - 112DB	-1.33	3.33	2.00
B293120000	ELECTRIC STOP SIGNAL W/STROBE	18.25	-2.25	16.00
B323000000	DRIVERS DOME	1.00	0.00	1.00
B335001000	DIRECTIONAL REAR-2 AMBER	-2.07	5.07	3.00
B342001000	DIRECTIONAL LIGHTS - SIDE, 4-C	2.00	0.00	2.00
B358204000	HALO 8-LIGHT WARN SYSTEM	1.91	4.09	6.00
B403003000	HEATER LEFT 15,000 BTU	10.42	-1.42	9.00
B412015050	84,000 BTU HEATER-LS REAR	-15.07	38.07	23.00
B525215001	ROOF HATCH-SPEC PROLO-WHITE	-6.02	28.02	22.00
B525215001	ROOF HATCH-SPEC PROLO-WHITE	15.88	6.12	22.00
B531000141	78" HEADROOM	52.00	118.00	170.00
B543000141	BOTTOM RAIL	5.89	49.11	55.00
B565902000	MUD FLAPS RUBBER 19.5 W	-0.61	7.61	7.00
B567000000	TOW HOOKS (2)	-13.80	33.80	20.00
B585706000	ELEC XING ARM-FIG-8 W/O LIGHT	4.06	-1.06	3.00
B610400175	AIR SUSPENSION PEDESTAL	12.34	-2.34	10.00

\* \* \* WEIGHT DISTRIBUTION REPORT \* \* \*

B610401000	THOMAS DRV'S SEAT W/ADJ BACK	60.01	-10.01	50.00
B621439200	39" BARR-VERT,WALL MT 41"H RS RIGHT SIDE	32.82	-1.82	31.00
B621639000	39"8DEG BARR-REV. WALL-MT 41"H LEFT SIDE	33.60	-2.60	31.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	62.14	-0.14	62.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	54.52	7.48	62.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	46.90	15.10	62.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	39.28	22.72	62.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	31.65	30.35	62.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	24.03	37.97	62.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	16.41	45.59	62.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	8.79	53.21	62.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	1.16	60.84	62.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	-6.46	68.46	62.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	-14.08	76.08	62.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	-21.70	83.70	62.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	-29.33	91.33	62.00
B624339000	39" FMVSS RESTRAINING SEAT LEFT SIDE	-36.95	98.95	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	60.40	1.60	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	52.91	9.09	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	45.42	16.58	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	37.93	24.07	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	30.45	31.55	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	22.96	39.04	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	15.47	46.53	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	7.98	54.02	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	0.49	61.51	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	-7.00	69.00	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	-14.48	76.48	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	-21.97	83.97	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	-29.46	91.46	62.00
B624339000	39" FMVSS RESTRAINING SEAT RIGHT SIDE	-36.95	98.95	62.00
-----				
Body Option Total		565.15	2127.85	2693.00

***** CHASSIS OPTIONS *****				
Option	Description	Front	Rear	Total
C115800443	AIR DRYER-BENDIX AD9 W/HEATER	29.00	0.00	29.00
C117202000	AIR ACCESSORY SYSTEM (MVP-EF)	3.81	21.19	25.00
C135800443	LCE-NVLE 185 AMP PAD-MTD ALT	41.57	-8.57	33.00
C146234000	AXLE - REAR, AAC 23K, 6.14 RA	60.00	0.00	60.00
C241008240	CUMMINS ISB-240 ENGINE (8)	636.83	-86.83	550.00
C340501000	TOW HOOKS, FRONT - TWO (2)	13.46	-3.46	10.00
C341507000	163 3/8" REAR FRAME OVERHANG	-14.41	35.41	21.00
C531251100	MICH 11R22.5 14(G)PLY XDE M/S	40.00	80.00	120.00
C531251100	MICH 11R22.5 14(G)PLY XDE M/S	40.00	80.00	120.00
C531251100	MICH 11R22.5 14(G)PLY XDE M/S	40.00	80.00	120.00
C531251100	MICH 11R22.5 14(G)PLY XDE M/S	40.00	80.00	120.00
C531303000	MICH 11R22.5 14(G)PLY XZE	40.00	80.00	120.00
C531303000	MICH 11R22.5 14(G)PLY XZE	40.00	80.00	120.00
C602804443	ALLISON 3000 PTS TRANSMISSION	39.00	0.00	39.00
C656007000	DISC WHEEL-8.25X22.5,5H(BLACK)	27.33	54.67	82.00
C656007000	DISC WHEEL-8.25X22.5,5H(BLACK)	27.33	54.67	82.00
C656007000	DISC WHEEL-8.25X22.5,5H(BLACK)	27.33	54.67	82.00
C656007000	DISC WHEEL-8.25X22.5,5H(BLACK)	27.33	54.67	82.00
C656007000	DISC WHEEL-8.25X22.5,5H(BLACK)	27.33	54.67	82.00
C656007000	DISC WHEEL-8.25X22.5,5H(BLACK)	27.33	54.67	82.00
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Chassis Option Total		1213.25	765.75	1979.00

***** PASSENGER WEIGHTS *****						
#	Option	Description	Side	Front	Rear	Total
1	B610401000	THOMAS DRV'S SEAT W/ADJ BACK	SIDE	180.03	-30.03	150.00
3	B624339000	39" FMVSS RESTRAINING SEAT LEFT	LEFT SIDE	360.84	-0.84	360.00
3	B624339000	39" FMVSS RESTRAINING SEAT LEFT	LEFT SIDE	316.58	43.42	360.00
3	B624339000	39" FMVSS RESTRAINING SEAT LEFT	LEFT SIDE	272.32	87.68	360.00
3	B624339000	39" FMVSS RESTRAINING SEAT LEFT	LEFT SIDE	228.06	131.94	360.00
3	B624339000	39" FMVSS RESTRAINING SEAT LEFT	LEFT SIDE	183.80	176.20	360.00
3	B624339000	39" FMVSS RESTRAINING SEAT LEFT	LEFT SIDE	139.54	220.46	360.00
3	B624339000	39" FMVSS RESTRAINING SEAT LEFT	LEFT SIDE	95.28	264.72	360.00
3	B624339000	39" FMVSS RESTRAINING SEAT LEFT	LEFT SIDE	51.02	308.98	360.00
3	B624339000	39" FMVSS RESTRAINING SEAT LEFT	LEFT SIDE	6.76	353.24	360.00
3	B624339000	39" FMVSS RESTRAINING SEAT LEFT	LEFT SIDE	-37.50	397.50	360.00
3	B624339000	39" FMVSS RESTRAINING SEAT LEFT	LEFT SIDE	-81.76	441.76	360.00
3	B624339000	39" FMVSS RESTRAINING SEAT LEFT	LEFT SIDE	-126.02	486.02	360.00

\* \* \* WEIGHT DISTRIBUTION REPORT \* \* \*

3	B624339000	39"	FMVSS	RESTRAINING SEAT	LEFT	LEFT SIDE	-170.28	530.28	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	LEFT	LEFT SIDE	-214.54	574.54	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	350.71	9.29	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	307.23	52.77	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	263.75	96.25	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	220.27	139.73	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	176.78	183.22	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	133.30	226.70	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	89.82	270.18	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	46.34	313.66	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	2.86	357.14	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	-40.62	400.62	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	-84.10	444.10	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	-127.58	487.58	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	-171.06	531.06	360.00
3	B624339000	39"	FMVSS	RESTRAINING SEAT	RIGHT	RIGHT SIDE	-214.54	574.54	360.00
-----									
Passenger Totals							2157.28	8072.72	10230.00