MA 18P 23061200000000000172
NEW

State of Maine

Master Agreement

Effective Date: 07/01/23 **Expiration Date:** 06/30/25

Master Agreement Description: School Bus, Select Electric Type A, Type C, Type D Front Eng

Buyer Information

ext.

Issuer Information

Cheryl Brackett	207-624-6770	**ext.**	Cheryl.Brackett@Maine.gov

Requestor Information

Cheryl Brackett	207-624-6770	**ext.**	Cheryl.Brackett@Maine.gov

Agreement Reporting Categories

Authorized Departments

Vendor Information

Vendor Line #: 1

Vendor ID
VS0000026776

Vendor Name
BYD COACH & BUS LLC

Alias/DBA
RIDE COACH & BUS

Vendor Address Information
888 E WALNUT ST STE 200

PASADENA, CA 91101
US

Vendor Contact Information
RICHARD MOALES

626-770-4678 **ext.**
ricardo.morales@ride.co

Commodity Information

Vendor Line #: 1

Vendor Name: BYD COACH & BUS LLC

Commodity Line #: 1

Commodity Code: 07033

Commodity Description: School Buses, Complete, Conventional Type

Commodity Specifications:

Commodity Extended Description: School Bus, Select Electric Type A, Type C, Type D Front Engine. No buses with less than a capacity of 16 will be part of this contract.

Quantity	UOM	Unit Price
0.00000		0.000000
Delivery Days	**Free On Board**	
0		
Contract Amount	**Service Start Date**	**Service End Date**
0.00	07/01/23	06/30/25
Catalog Name	**Discount**	
	0.0000 %	
	Discount Start Date	**Discount End Date**

Please see authorized signatures displayed on the next page

Each signatory below represents that the person has the requisite authority to enter into this Contract. The parties sign and cause this Contract to be executed.

State of Maine - Department of Administrative and Financial Services

DocuSigned by:
David Morris
2A644AF5681F482...

6/21/2023

Signature Date

David Morris, Acting Chief Procurement Officer

and

BYD COACH & BUS LLC

DocuSigned by:
Patrick Duan
C113F7642E6D466...

6/21/2023

Signature Date

Patrick Duan, Co-CEO

RIDERS

☑	The following riders are hereby incorporated into this Contract and made part of it by reference: (check all that apply)
☒	Rider A – MA User Information and/or Specifications
☒	Rider B – Terms and Conditions
☐	Rider C - Exceptions
☒	Bid Cover Page and Debarment Form – Appendix A from RFQ
☒	Municipality Political Subdivision and School District Participation Certification – Appendix D from RFQ
☐	Other – Included at Department's Discretion
☐	Other – Included at Department's Discretion

RIDER A
Master Agreement User Information and/or Specifications
MA 230612-172

Commodity: School Bus, Select Electric Type A, Type C, Type D Front Engine

The State reserves the right to add other similar items or commodities to the MA if it's in the State's best interest but does not obligate the State to purchase similar noncontracted items or commodities from the selected bidder.

Awarded School Buses

No buses with less than a capacity of 16 will be part of this contract,

Type A

Electric, Up to 30 capacity

Type C

Electric, Nameplate 219kWh - Up to 78 Capacity

Electric, Nameplate 288kWh - Up to 78 Capacity

Type D

Electric, Front Engine – Up to 84 Capacity

Master Agreement Competitive Bid RFQ: 05A 230327-236

Contract Period: Through June 30, 2025. The State of Maine with vendor approval can opt to issue up to one (1) two (2) year and one (1) one (1) year extensions.

Vendor Contact Person: The vendor contact person will help consumers place orders, inquire about orders that have not been delivered, all shipping issues, quality issues and any issues pertaining to the Master Agreement (MA) contract. All orders not submitted through a Delivery Order will be sent through the vendor contact person. The vendor contact person for this MA is:

Name: Jason Yan **Tel:** 213-519-8087 **Email**: Jason.Yan@ride.co

Prices: Prices are with shipping terms of "Free on Board (FOB) – Destination". The State intends for this to mean that all goods shall be priced to include shipping charges, if any, to the State's desired location. The "FOB – Destination" shipping term is also intended to mean that the State shall not bear any responsibility for the goods in question until the State takes possession of them at the destination point of delivery.

Price and Rate Guarantee Period: All quoted prices and rates must be guaranteed for and must remain firm for minimally one year of the initial contract period. Any approved

price or rate adjustments must be held firm for minimally one year or the remainder of the contract period if there is less than one year remaining. Price adjustment requests must be made by the vendor(s) at least sixty (60) days prior to the effective date. Requests for price adjustments must include sufficient documentation from the manufacture documenting the request is based on the vendor's actual cost increases. The price adjustment will not go into effect until the contract amendment has been fully approved by the State of Maine. The Bidder must deliver the buses at the contracted price at the time the order is placed.

Authorized Users: All State of Maine Departments, Agencies and statewide public school systems.

Quantities: It is understood and agreed that the MA will cover the actual quantities required by the State over the length of the contract.

Ordering Procedures: Delivery Orders (DO) will be created in AdvantageME for all orders from State Agencies. If a DO is used, the DO will be emailed to the email address referenced on the MA as a .pdf file. Public school systems will handle their own orders and will be responsible for all payments.

Delivery and Inspection: The requested items will be inspected after delivery. If shipment is deemed unacceptable the delivery will be refused and will be returned at the risk and expense of the selling vendor.

Specifications

All buses must meet all applicable Federal Motor Vehicle Safety Standards (FMVSS's) issued by the U.S. Department of Transportation (DOT) National Highway Traffic Safety Administration (NHTSA) and all applicable State and Federal Laws, including the current National School Transportation Specifications and Procedures (2015). All buses must meet or exceed Code of Maine Regulations (05-071 CMR Chap. 86) Maine Uniform School Bus Specifications.

Vehicle and component parts must be of the highest quality and workmanship available in the various trades and of substantial, durable, and safe construction. In all cases materials and construction of the vehicle must be furnished as specified.

All units or parts not herein contained or specified shall be manufacturer's standard. All parts shall be new. In no case will used, reconditioned, or obsolete parts be accepted. Insofar as possible, parts and equipment in any one vehicle shall be a duplicate in manufacture, design and construction and shall be interchangeable with parts and equipment in any other vehicle in the proposal.

RIDER B
TERMS AND CONDITIONS

1. **DEFINITIONS**: The following definitions are applicable to these standard terms and conditions:
   a. The term “Buyer” or “State” shall refer to the Government of the State of Maine or a person representing the Government of the State of Maine.
   b. The term “Department” or “DAFS” shall refer to the State of Maine Department of Administrative and Financial Services.
   c. The term “Bureau” or “BGS” shall refer to the State of Maine Bureau of General Services.
   d. The term “Division” shall refer to the State of Maine Division of Purchases.
   e. The term “Contractor”, “Vendor”, or “Provider” shall refer to the organization that is providing goods and/or services through the contract to which these standard terms and conditions have been attached and incorporated.
   f. The term “Contract” or “Agreement” shall refer to the contract document to which these standard terms and conditions apply, taking the format of a Buyer Purchase Order (BPO) or Master Agreement (MA) or other contractual document that is mutually agreed upon between the State and the Contractor.

2. **WARRANTY**: The Contractor warrants the following:
   a. That all goods and services to be supplied by it under this Contract are fit and sufficient for the purpose intended, and
   b. That all goods and services covered by this Contract will conform to the specifications, drawing samples, symbols or other description specified by the Division, and
   c. That such articles are merchantable, good quality, and free from defects whether patent or latent in material and workmanship, and
   d. That all workmanship, materials, and articles to be provided are of the best grade and quality, and
   e. That it has good and clear title to all articles to be supplied by it and the same are free and clear from all liens, encumbrances and security interest.

Neither the final certificate of payment nor any provision herein, nor partial nor entire use of the articles provided shall constitute an acceptance of work not done in accordance with this agreement or relieve the Contractor liability in respect of any warranties or responsibility for faulty material or workmanship. The Contractor shall remedy any defects in the work and pay any damage to other work resulting therefrom, which shall appear within one year from the date of final acceptance of the work provided hereunder. The Division of Purchases shall give written notice of observed defects with reasonable promptness.

3. TAXES: Contractor agrees that, unless otherwise indicated in the order, the prices herein do not include federal, state, or local sales or use tax from which an exemption is available for purposes of this order. Contractor agrees to accept and use tax exemption certificates when supplied by the Division as applicable. In case it shall ever be determined that any tax included in the prices herein was not required to be paid by Contractor, Contractor agrees to notify the Division and to make prompt application for the refund thereof, to take all proper steps to procure the same and when received to pay the same to the Division.

4. PACKING AND SHIPMENT: Deliveries shall be made as specified without charge for boxing, carting, or storage, unless otherwise specified. Articles shall be suitably packed to secure lowest transportation cost and to conform to the requirements of common carriers and any applicable specifications. Order numbers and symbols must be plainly marked on all invoices, packages, bills of lading, and shipping orders. Bill of lading should accompany each invoice. Count or weight shall be final and conclusive on shipments not accompanied by packing lists.

5. DELIVERY: Delivery should be strictly in accordance with delivery schedule. If Contractor's deliveries fail to meet such schedule, the Division, without limiting its other remedies, may direct expedited routing and the difference between the expedited routing and the order routing costs shall be paid by the Contractor. Articles fabricated beyond the Division's releases are at Contractor's risk. Contractor shall not make material commitments or production arrangements in excess of the amount or in advance of the time necessary to meet delivery schedule, and, unless otherwise specified herein, no deliveries shall be made in advance of the Division's delivery schedule. Neither party shall be liable for excess costs of deliveries or defaults due to the causes beyond its control and without its fault or negligence, provided, however, that when the Contractor has reason to believe that the deliveries will not be made as scheduled, written notice setting forth the cause of the anticipated delay will be given immediately to the Division. If the Contractor's delay or default is caused by the delay or default of a subcontractor, such delay or default shall be excusable only if it arose out of causes beyond the control of both Contractor and subcontractor and without fault of negligence or either of them and the articles or services to be furnished were not obtainable from other sources in sufficient time to permit Contractor to meet the required delivery schedule.

6. FORCE MAJEURE: The State may, at its discretion, excuse the performance of an obligation by a party under this Agreement in the event that performance of that obligation by that party is prevented by an act of God, act of war, riot, fire, explosion, flood or other catastrophe, sabotage, severe shortage of fuel, power or raw materials, change in law, court order, national defense requirement, or strike or labor dispute, provided that any such event and the delay caused thereby is beyond the control of, and could not reasonably be avoided by, that party. The State may, at its discretion, extend the time period for performance of the obligation excused under this section by the period of the excused delay together with a reasonable period to reinstate compliance with the terms of this Agreement.

7. INSPECTION: All articles and work will be subject to final inspection and approval after delivery, notwithstanding prior payment, it being expressly agreed that payment will not constitute final acceptance. The Division of Purchases, at its option, may either reject any article or work not in conformity with the requirements and terms of this order, or re-work the same at Contractor's expense. The Division may reject the entire shipment where it consists of a quantity of similar articles and sample inspection discloses that ten (10%) percent of the articles inspected are defective, unless Contractor agrees to reimburse the Division for the cost of a complete inspection of the articles included in such shipment. Rejected material may be returned at Contractor's risk and expense at the full invoice price plus applicable incoming transportation charges, if any. No replacement of defective articles of work shall be made unless specified by the Division.

8. INVOICE: The original and duplicate invoices covering each and every shipment made against this order showing Contract number, Vendor number, and other essential particulars, must be forwarded promptly to the ordering agency concerned by the Vendor to whom the order is issued. Delays in receiving invoice and also errors and omissions on statements will be considered just cause for withholding settlement without losing discount privileges. All accounts are to be carried in the name of the agency or institution receiving the goods, and not in the name of the Division of Purchases.

9. ALTERATIONS: The Division reserves the right to increase or decrease all or any portion of the work and the articles required by the bidding documents or this agreements, or to eliminate all or any portion of such work or articles or to change delivery date hereon without invalidating this Agreement. All such alterations shall be in writing. If any such alterations are made, the contract amount or amounts shall be adjusted accordingly. In no event shall Contractor fail or refuse to continue the performance of the work in providing of articles under this Agreement because of the inability of the parties to agree on an adjustment or adjustments.

10. TERMINATION: The Division may terminate the whole or any part of this Agreement in any one of the following circumstances:

a. The Contractor fails to make delivery of articles, or to perform services within the time or times specified herein, or
b. If Contractor fails to deliver specified materials or services, or
c. If Contractor fails to perform any of the provisions of this Agreement, or
d. If Contractor so fails to make progress as to endanger the performance of this Agreement in accordance with its terms, or
e. If Contractor is adjudged bankrupt, or if it makes a general assignment for the benefit of its creditors or if a receiver is appointed on account of its insolvency, or
f. Whenever for any reason the State shall determine that such termination is in the best interest of the State to do so.

In the event that the Division terminates this Agreement in whole or in part, pursuant to this paragraph with the exception of 8(f), the Division may procure (articles and services similar to those so terminated) upon such terms and in such manner as the Division deems appropriate, and Contractor shall be liable to the Division for any excess cost of such similar articles or services.

11. NON-APPROPRIATION: Notwithstanding any other provision of this Agreement, if the State does not receive sufficient funds to fund this Agreement and other obligations of the State, if funds are de-appropriated, or if the State does not receive legal authority to expend funds from the Maine State Legislature or Maine courts, then the State is not obligated to make payment under this Agreement.

12. COMPLIANCE WITH APPLICABLE LAWS: Contractor agrees that, in the performance hereof, it will comply with applicable laws, including, but not limited to statutes, rules, regulations or orders of the United States Government or of any state or political subdivision(s) thereof, and the same shall be deemed incorporated herein by reference. Awarding agency requirements and regulations pertaining to copyrights and rights in data. Access by the grantee, the subgrantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers and records of the Contractor which are directly pertinent to that specific contract for the purpose of making audit, examination,

excerpts, and transcriptions. Retention of all required records for three years after grantees or subgrantees make final payments and all other pending matters are closed. Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h), section 508 of the Clean Water Act, (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (Contracts, subcontracts, and subgrants of amounts in excess of $100,000). Mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).

13. INTERPRETATION: This Agreement shall be governed by the laws of the State of Maine as to interpretation and performance.

14. DISPUTES: The Division will decide any and all questions which may arise as to the quality and acceptability of articles provided and installation of such articles, and as to the manner of performance and rate of progress under this Contract. The Division will decide all questions, which may arise as to the interpretation of the terms of this Agreement and the fulfillment of this Agreement on the part of the Contractor.

15. ASSIGNMENT: None of the sums due or to become due nor any of the work to be performed under this order shall be assigned nor shall Contractor subcontract for completed or substantially completed articles called for by this order without the Division's prior written consent. No subcontract or transfer of agreement shall in any case release the Contractor of its obligations and liabilities under this Agreement.

16. STATE HELD HARMLESS: The Contractor agrees to indemnify, defend, and save harmless the State, its officers, agents, and employees from any and all claims and losses accruing or resulting to any and all contractors, subcontractors, material men, laborers and other persons, firm or corporation furnishing or supplying work, services, articles, or supplies in connection with the performance of this Agreement, and from any and all claims and losses accruing or resulting to any person, firm or corporation who may be injured or damaged by the Contractor in the performance of this Agreement.

17. SOLICITATION: The Contractor warrants that it has not employed or written any company or person, other than a bona fide employee working solely for the Contractor to solicit or secure this Agreement, and it has not paid, or agreed to pay any company, or person, other than a bona fide employee working solely for the Contractor any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon, or resulting from the award for making this Agreement. For breach or violation or this warranty, the Division shall have the absolute right to annul this agreement or, in its discretion, to deduct from the Agreement price or consideration, or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gifts, or contingent fee.

18. WAIVER: The failure of the Division to insist, in any one or more instances, upon the performance of any of the terms, covenants, or conditions of this order or to exercise any right hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such term, covenant, or condition or the future exercise of such right, but the obligation of Contractor with respect to such future performance shall continue in full force and effect.

19. MATERIAL SAFETY: All manufacturers, importers, suppliers, or distributors of hazardous chemicals doing business in this State must provide a copy of the current Material Safety Data Sheet (MSDS) for any hazardous chemical to their direct purchasers of that chemical.

20. COMPETITION: By accepting this Contract, Contractor agrees that no collusion or other restraint of free competitive bidding, either directly or indirectly, has occurred in connection with this award by the Division of Purchases.

21. INTEGRATION: All terms of this Contract are to be interpreted in such a way as to be consistent at all times with this Standard Terms and Conditions document, and this document shall take precedence over any other terms, conditions, or provisions incorporated into the Contract.

22. ORDER OF PRECEDENCE. In the event of a conflict between the documents comprising this Agreement, the Order of Precedence shall be:

a. Exceptions - If applicable
b. General Terms & Conditions for Goods and/or Services under Buyer Purchase Orders
and Master Agreements
c. Scope of Work - If applicable
d. Vender Agreement - Included at Department's Discretion
e. Other - Included at Department's Discretion

Appendix A

STATE OF MAINE
DEPARTMENT OF ADMINISTRATIVE AND FINANCIAL SERVICES
DIVISION OF PROCUREMENT SERVICES

BID COVER PAGE and DEBARMENT FORM

Bidder's Organization Name: RIDE Coach & Bus, a d/b/a of BYD Coach & Bus LLC		
Chief Executive - Name/Title: Patrick Duan, Co-CEO		
Tel: (626) 770-4678	Fax: (213) 373-9801	E-mail: patrick.duan@ride.co
Headquarters Street Address: 888 E. Walnut St. Ste. 200		
Headquarters City/State/Zip: Pasadena, CA 91101		
(provide information requested below if different from above)		
Lead Point of Contact for Bid - Name/Title: Jason Yan, Director of Sales Operations		
Tel: 213-519-8087	Fax: (213) 373-9801	E-mail: jason.yan@ride.co
Street Address: 888 E. Walnut St. Ste. 200		
City/State/Zip: Pasadena, CA 91101		

By signing below Bidder affirms:

- Their bid complies with all requirements of this RFQ;
- This bid and the pricing structure contained herein will remain firm for a period of 180 days from the date and time of the bid opening;
- That no personnel currently employed by the Department or any other State agency participated, either directly or indirectly, in any activities relating to the preparation of the Bidder's proposal;
- That no attempt has been made or will be made by the Bidder to induce any other person or firm to submit or not to submit a proposal; and
- The undersigned is authorized to enter into contractual obligations on behalf of the above-named organization.

Name: Patrick Duan		Title: Co-CEO
To have your bid accepted, this Appendix MUST have an actual wet signature or utilize DocuSign or Adobe Sign forms of electronic signature.		
Authorized Signature:		Date: 4/28/23

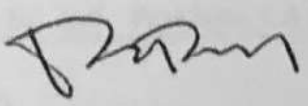
Debarment, Performance, and Non-Collusion Certification

By signing this document, I certify to the best of my knowledge and belief that the aforementioned organization, its principals, and any subcontractors named in this proposal:

a. *Are not presently debarred, suspended, proposed for debarment, and declared ineligible or voluntarily excluded from bidding or working on contracts issued by any governmental agency.*
b. *Have not within three years of submitting the proposal for this contract been convicted of or had a civil judgment rendered against them for:*
   i. *fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government transaction or contract.*
   ii. *violating Federal or State antitrust statutes or committing embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;*
   iii. *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 (b) of this certification; and*
   iv. *have not within a three (3) year period preceding this proposal had one or more federal, state or local government transactions terminated for cause or default.*
c. *Have not entered into a prior understanding, agreement, or connection with any corporation, firm, or person submitting a response for the same materials, supplies, equipment, or services and this proposal is in all respects fair and without collusion or fraud. The above mentioned entities understand and agree that collusive bidding is a violation of state and federal law and can result in fines, prison sentences, and civil damage awards.*

- **Failure to provide this certification may result in the disqualification of the Bidder's proposal, at the discretion of the Department.**

To the best of my knowledge all information provided in the enclosed proposal, both programmatic and financial, is complete and accurate at the time of submission.

Name: Patrick Duan		Title: Co-CEO
To have your bid accepted, this Appendix MUST have an actual wet signature or utilize Docu Sign or Adobe Sign forms of electronic signature.		
Authorized Signature: 		Date: 4/25/23

Appendix D

STATE OF MAINE
DEPARTMENT OF ADMINISTRATIVE AND FINANCIAL SERVICES
DIVISION OF PROCUREMENT SERVICES

MUNICIPALITY POLITICAL SUBDIVISION and SCHOOL DISTRICT PARTICIPATION CERTIFICATION

RFQ # 05A 230327-236
School Bus, All Fuel Types

The Division of Procurement Services is committed to providing purchasing opportunities for **municipalities, political subdivisions and school districts** in Maine by allowing them access, through our vendors, to our contract pricing. A bidder's willingness to extend contract pricing to these entities will be taken into consideration in making awards.

Orders from Municipality, Political Subdivisions and School Districts (Appendix D): If the bidder elects to permit Municipality, Political Subdivisions and School Districts to utilize the resulting Master Agreement Contract, The State of Maine will not be responsible for any order placed by these groups. All orders will originate from these groups and they will be liable for all payments.

Will you accept orders from political subdivisions and school districts in Maine at the prices quoted?

__X__ Yes

_____ Yes, with conditions as follows:

_____ No

Name of Company:

RIDE Coach & Bus, a d/b/a of BYD Coach & Bus LLC

Address:

888 E. Walnut St. Ste. 200 Pasadena, CA 91101

Signature:

Date: 4/25/23

RIDE **S12N01**

BATTERY ELECTRIC • ZERO EMISSIONS • BUILT IN AMERICA

TYPE D ELECTRIC SCHOOL BUS | ELECTRIC & ECO-FRIENDLY

HIGHEST BATTERY CAPACITY

SAFEST BATTERY TECHNOLOGY

UP TO 60% LOWER MAINTENANCE AND ENERGY COSTS

UV DISINFECTANT SANITATION OPTIONS

VEHICLE-TO-GRID TECHNOLOGY[4]

PROPRIETARY DRIVETRAIN TECHNOLOGY

ELECTRONIC STABILITY CONTROL

ANTI-BULLYING SAFEGUARD CHILDREN'S SEATS

ANTI-COLLISION TECHNOLOGY

RIDE

Real Innovation Delivered with Excellence

Jason Yan
jason.yan@ride.co

RIDE COACH & BUS
888 East Walnut Street, Pasadena, CA 91101
www.ride.co

RIDE **S12N01**

TYPE D ELECTRIC SCHOOL BUS

DIMENSIONS

Length	36.2 ft / 38.5 ft / 40.5 ft
Width	101.6 in.
Height	131.5 in.
Wheelbase	274 in.
Curb Weight	28,880 lb.
GVWR	39,153 lb.
Passenger Seats	Up to 84 (Wheelchair Area Optional)

PERFORMANCE

Top Speed	65 mph
Max Gradeability	20%
Range[1]	Up to 155 miles
Turning Radius	34.3 ft / 35.4 ft / 37.8 ft
Approach / Departure Angle	8.3° / 9°

CHASSIS

Front Axle	ZF
Rear Drive Axle	BYD in-wheel drive axle
Suspension	Air suspension with mechanical leveling valves
Brakes	Front & rear disc-brakes, ABS
Tires	305/70R22.5

POWERTRAIN

Motor Type	AC Synchronous
Max Power	150 kW×2
Max Torque	550 N·m×2
Battery Type	Iron Phosphate
Battery Capacity[2]	Nameplate 255 kWh / Usable 230 kWh
Charging Type	AC–J1772 & DC–CCS Combo
Charging Capacity	19.2 kW / 110 kW
Charging Time[3]	11.9–12.4 hr / 2.1–2.6 hr

Notes:

All information based on the latest data available at the time of printing. Final specs subject to change at production.

1. Variables affecting range include air temperature, weather, grade, speed, driver habits and use of air conditioning and heating.
2. Initial battery capacity shown. May decrease with time and use.
3. Battery age and outside ambient temperature affect charging times.
4. An option in the future.

02.22

RIDE **TYPE A**

BATTERY ELECTRIC • ZERO EMISSIONS • BUILT IN AMERICA

TYPE A ELECTRIC SCHOOL BUS | ELECTRIC & ECO-FRIENDLY

HIGHEST BATTERY CAPACITY

SAFEST BATTERY TECHNOLOGY

UP TO 60% LOWER MAINTENANCE AND ENERGY COSTS

UV DISINFECTANT SANITATION OPTIONS

VEHICLE-TO-GRID TECHNOLOGY[4]

PROPRIETARY DRIVETRAIN TECHNOLOGY

ELECTRONIC STABILITY CONTROL

ANTI-BULLYING SAFEGUARD CHILDREN'S SEATS

ANTI-COLLISION TECHNOLOGY

RIDE
Real Innovation Delivered with Excellence

Jason Yan
jason.yan@ride.co

RIDE COACH & BUS
888 East Walnut Street, Pasadena, CA 91101
www.ride.co

RIDE **TYPE A**

TYPE A ELECTRIC SCHOOL BUS

DIMENSIONS

Length	26.7 ft / 24.6 ft (Opt.) / 22.9 ft (Opt.)
Width	96 in.
Height	128 in.
Wheelbase	185 in.
Curb Weight	17,030 lb.
GVWR	21,500 lb.
Passenger Seats	Up to 30
Wheelchair Area	Optional

PERFORMANCE

Top Speed	65 mph
Max Gradeability	10% (≥10 mph) / 2.5% (≥40 mph)
Range[1]	105 miles
Turning Radius	25.9 ft
Approach / Departure Angle	≥20° / ≥10°

CHASSIS

Front Axle	Fangsheng
Drive Axle	Fangsheng
Suspension	Leaf Spring
Brakes	Front & rear disc-brakes, EBS + ESC
Tires	215/75R17.5

POWERTRAIN

Motor Type	AC Synchronous
Max Power	160 kW
Max Torque	1000 N·m
Battery Type	BYD LFP Battery
Battery Capacity[2]	Nameplate 156 kWh / Usable 141 kWh
Charging Type	AC–J1772 & DC–CCS Combo
Charging Capacity	19.2 kW AC / 110 kW DC
Charging Time[3]	7.5-8 hr AC / 1.5 hr DC

Notes:

All information based on the latest data available at the time of printing. Final specs subject to change at production.

1. Variables affecting range include air temperature, weather, grade, speed, driver habits and use of air conditioning and heating.
2. Initial battery capacity shown. May decrease with time and use.
3. Battery age and outside ambient temperature affect charging times.
4. An option in the future

02.22

Product Category **Category Description**	**Bus: A-1 and A-2** **Base Bid Spec and Description**	 **Check**
Fuel	**Electric**	**TYPE A**
Chassis Options		
AIR CLEANER	**A. A dry element air cleaner shall be provided. B. All diesel engine air filters shall include a latch-type restriction indicator that retains the maximum restriction developed during operation of the engine. The indicator should include a reset control so the indicator can be returned to zero when desired.**	✓
AXLES	**The front and rear axle and suspension systems shall have a gross axle weight rating (GAWR) at ground commensurate with the respective front and rear weight loads of the bus loaded to the rated passenger capacity.**	✓
BRAKES: GENERAL. A.	**A. The chassis brake system shall conform to the provisions of FMVSS No. 105, Hydraulic and Electric Brake Systems, 106, Brake Hoses, and 121, Air Brake Systems, as applicable. All buses shall have either a parking pawl in the transmission or a park brake interlock that requires the service brake to be applied to allow release of the parking brake.**	✓
BRAKES: GENERAL. B.	**B. The anti-lock brake system (ABS), provided in accordance with FMVSS No. 105, Hydraulic and Electric Brake Systems or No. 121, Air Brake Systems, shall provide wheel speed sensors for each front wheel and for each wheel on at least one rear axle. The system shall provide anti-lock braking performance for each wheel equiped with sensors (Four Channel System).**	✓
BRAKES: GENERAL. C.	**C. All brake systems shall be designed to permit visual inspection of brake lining wear without removal of any chassis component(s).**	✓
BRAKES: GENERAL. D.	**D. The brake lines, booster-assist lines, and control cables shall be protected from excessive heat, vibration and corrosion and installed in a manner that prevents chafing.**	✓
BRAKES: GENERAL. E.	**E. The parking brake system for either air or hydraulic service brake systems may be of a power-assisted design. The power parking brake actuator should be a device located on the instrument panel within reach of a seated 5th percentile female driver. As an option, the parking brake may be set by placing the automatic transmission shift control mechanism in the "park" position.**	✓
BRAKES: GENERAL. F.	**F. The power-operated parking brake system may be interlocked to the engine key switch. Once the parking brake has been set and the ignition switch turned to the "off" position, the parking brake cannot be released until the key switch is turned back to the "on" position.**	✓
BRAKES: HYDRAULIC	**Buses using hydraulic-assist brakes shall meet requirements of FMVSS 105.**	✓
BRAKES: AIR. A.	**A. The air pressure supply system shall include a desiccant-type air dryer installed according to the manufacturer's recommendations. The air pressure storage tank system may incorporate an automatic drain valve.**	✓

Product Category	Bus: A-1 and A-2	
BRAKES: AIR. B.	B. The chassis manufacturer shall provide an accessory outlet for air-operated systems installed by the body manufacturer. This outlet shall include a pressure protection valve to prevent loss of air pressure in the service brake reservoir.	✓
BRAKES: AIR. C.	C. For air brake systems, an air pressure gauge shall be provided in the instrument panel capable of complying with Commercial Driver's License (CDL) pre-trip inspection requirements.	✓
BRAKES: AIR. D.	D. Air brake systems shall include a system for anti-compounding of the service brakes and parking brakes.	✓
BRAKES: AIR. E.	E. Air brakes shall have both a visible and audible warning device whenever the air pressure falls below the level where warnings are required under FMVSS No. 121, *Air Brake Systems*.	✓
BUMPER: FRONT A.	A. School buses shall be equipped with a front bumper.	✓
BUMPER: FRONT B.	B. The front bumper on buses of Type A-2 (with GVWR greater thatn 14,500 pounds), Type B, Type C, and Type D shall be equivalent in strength and durability to pressed steel channel at least 3/16 inches thick and not less than 8 inches wide (high). It shall extend beyond the forward-most part of the body, grille, hood, and fenders and shall extend to the outer edges of the fenders at the bumper's top line. Type A buses having GVWR of 14,500 pounds or less may be equipped with OEM--supplied front bumper. The front bumper shall be of sufficient strength to permit being pushed by another vehicle on a smooth surface with a 5 degree, (8.7percent) grade, without permanent distortion. The contact point on the front bumper is intended to be between the frame rails, with as wide a contact area as possible. If the front bumper is used for lifting, the contact points shall be under the bumper attachments to the frame rail brackets unless the manufacturer specifies different lifting points in the owner's manual. Contact and lifting pressures should be applied simultaneously at both lifting points.	✓
BUMPER: FRONT C.	C. The front bumper, except breakaway bumper ends, shall be of sufficient strength to permit pushing a vehicle of equal gross vehicle weight, per Section B, without permanent distortion to the bumper, chassis or body.	✓
BUMPER: FRONT D.	D. The bumper shall be designed or reinforced so that it will not deform when the bus is lifted by a chain that is passed under the bumper (or through the bumper if holes are provided for this purpose) and attached to both tow hooks/eyes. For the purpose of meeting this specification, the bus shall be empty and positioned on a level, hard surface, and both tow hooks/eyes shall share the load equally.	✓
BUMPER: REAR A.	A. The bumper on Type A-1 buses shall be a minimum of 8 inches wide (high). Bumpers on Types A-2, B, C, and D buses shall be a minimum of 9-1/4 inches wide (high).	✓
BUMPER: REAR B.	B. The bumper shall wrap around the back corners of the bus. It shall extend forward at least 12 inches, measured from the rear-most point of the body at the floor line, and shall be mounted flush with the sides of the body or protected with an end panel.	✓
BUMPER: REAR C.	C. The bumper shall be attached to the chassis frame in such a manner that it may be removed. It shall be braced to resist deforration of the bumper resulting from impact from the rear of the side. It shall be designed to discourage hitching of rides by an individual.	✓
BUMPER: REAR D.	D. The bumper shall extend at least one inch beyond the rear-most part of the body surface, measured at the floor line.	✓
BUMPER: REAR E.	E. The bottom of the rear bumper shall not be more than 30 inches above ground level.	✓

Product Category	Bus: A-1 and A-2	
BUMPER, FRONT	Comply with National Standard. And must have bumpers of glossy black unless painting is impracticable through use of rubber, reflective	✓
CERTIFICATION	Upon request of the state agency having student transportation jurisdiction, the chassis and body manufacturer(s) shall certify that its(their) product(s) meets the state's minimum standards on items which are not covered by FMVSS certificatin requirements of 49 CFR, Part 567: *Certification*	✓
COLOR: Maine Statute	The chassis shall be black. "*Must have bumpers of glossy black unless painting is impracticable through use of rubber, reflective material or other devices*" [29-A Maine Revised Statutes section 2302(D)]. Body, cowl, hood, and fenders shall be in *national school bus glossy yellow*. State statue [29-A MRS section 2302(C and D)] and Code of Maine Regulations [CMR 05-071 - Chapter 86, section 3(1.A.(1))] apply.	✓
DRIVE SHAFT	The drive shaft shall be protected by a metal guard or guards around the circumference of the drive shaft to reduce the possibility of its whipping through the floor or dropping to the ground, if broken.	✓
ELECTRICAL SYSTEM: A. Battery	A. 1. The storage batteries shall have minimum cold cranking capacity rating (cold cranking amps) equal to the cranking current required 30 seconds at 0 degrees Fahrenheit and a minimum reserve capacity rating of 120 minutes at 25 amps. Higher capacities may be required, depending upon optional equipment and local environmental conditions. 2. The manufacturer shall securely attach the battery on a slide-out or swing-out tray in a closed, vented compartment in the body skirt or chassis frame so that the battery is accessible for convenient servicing from the outside. When in the stored position, the tray shall be retained by a securing mechanism capable of holding the tray [with battery(ies)] in position when subjected to a 5g load from any direction. The battery compartment door or cover, if separate from the tray, shall be hinged at the front or top. It shall be secured by a positive operated latching system or other type fastner. The door may be an integral part of the batter slide tray. the door or cover must fit tightly to the body, and not present sharp edges or snagging points. Battery cables shall meet SAE requirements. Batter cables shall be of sufficient lenght to allow the battery tray to fully extend. Any chassis frame-mounted batteries shall be relocated to a battery compartment on Type A buses. 3. All batteries are to be secured in a sliding tray except that on van conversion or cutaway front-section chassis, batteries may be secured in accordance with the manufacturer's standard configuration. In these cases, the final location of the battery and the appropriate cable lenghts shall be agreed upon mutually by the chassis and body manufacturers. However, in all cases the battery cable provided with the chassis shall have sufficient lenth to allow some slack, and shall be of sufficient gauge to carry the required amperage. 4. Buses may be equipped with a battery shut-off switch. The switch is to be placed in a location not readily	✓

Product Category	Bus: A-1 and A-2	
ELECTRICAL SYSTEM: B. Alternator	B. 1. All type A and Type B buses with a GVWR of 15,000 pounds or less shall have a minimum 130-amp alternator. Buses equipped with an electrically powered wheelchair lift and/or air conditioning shall be equipped with the highest rated capacity available from the chassis OEM. 2. All buses over 15,000 pounds GVWR shall be equipped with a heavy-duty truck-or-bus-type alternator having a minimum output rating of 200 amps or higher, and should produce a minimum current output of 50 percent of the rating at engine idle speed. 3. All other buses than those described in B1 equipped with an electrically powered wheelchair lift and/or air conditioning shall have a minimum alternator output of 240 amps and may be equipped with a device that advances the engine idle speed when the voltage drops to, or below, a pre-set level. 4. A belt-driven alternator shall be calpable of handling the rated capacity of the alternator with no detrimental effect on any other driven components. (For estimating required alternator capacity, see School Bus Manufacturers Technical Council's publication, "School Bus Technical Reference," available at http://www.nasdpts.org) 5. A direct/gear-drive alternator is permissible in lieu of a belt-driven alternator	✓
ELECTRICAL SYSTEM: C. Electrical Components	C. Materials in all electrical components shall contain no mercury.	✓
ELECTRICAL SYSTEM: D. Wiring, Chassis	D. 1. All wiring shall conform to current applicable recommended practices of the Society of Automotive Engineers (SAE). All wiring shall use color and at least one other method for identification. The other method shall be either a number code or name code, and each chassis shall be delivered with a wiring diagram that illustrates the wiring of the chassis. 2. The chassis manufacturer of an incomplete vehicle shall install a readily accessible terminal strip or connector on the body side of the cowl or in an accessible location in the engine compartment of vehicles designed without a cowl. The strip or connector shall contain the following terminals for the body connections: a. Main 100-amp body circuit; b. Tail lamps; c. Right turn signal; e. Stop lamps; f. Back-up lamps; and g. Instrument panel lamps (controlled by dimmer switch). 3. An appropriate identifyng diagram (color plus a name or number code) for all chassis electrical circuits shall be provided to the body manufacturer for distribution to the end user. 4. Wiring for the headlamp system must be separate from the elctronic controlled body solenoid/module.	✓
ELECTRICAL SYSTEM: E. Wiring, Body: 1-6	E. 1. All wiring shall conform to current applicable SAE recommended practices. 2. All wiring shall have an amperage capacity exceeding the design load by at least 25%. All wiring splices are to be accessible and noted as splices on the wiring diagram. 3. A body wiring diagram, sized to be easily read, shall be furnished with each bus body or affixed to an area convenient to the electrical accessory control panel. 4. The body power wire shall be attached to a special terminal on the chassis. 5. Each wire passing through metal openings shall be protected by a grommet. 6. Wires not enclosed within the body shall be fastened securely at intervals of not more than 18 inches. All joints shall be soldered or joined by equally effective connectors, which shall be water-resistant and	✓

Product Category	Bus: A-1 and A-2	
ELECTRICAL SYSTEM: E. Wiring, Body: 7	E. 7. Wiring shall be arranged in circuits, as required, with each circuit protected by a fuse breaker or electronic protection device. A system of color and number-coding shall be used and an appropriate identifying diagram shall be provided to the end user, along with the wiring diagram provided by the chassis manufacturer. The wiring diagrams shall be specific to the bus model supplied and shall include any changes to wiring made by the body manufacturer. Chassis wiring diagrams shall be supplied to the end user. The following body interconnecting circuits shall be color-coded, as noted by function: Left Rear Directional Lamp (Yellow), Right Rear Directional Lamp (Dark Green), Stop Lamps (Red), Tail Lamps (Brown), Ground (White), and Ignition Feed, Primary Feed (Black). The color of the cables shall correspond to SAE J1128, *Low-Tension Primary Cable* .	✓
ELECTRICAL SYSTEM: E. Wiring, Body: 8-12	E. 8. Wiring shall be arranged in at least six (6) regular circuits, as follows: a. Head, tail, stop (brake), clearance and instrument panel lamps; b. Step well lamps shall be actuated when the entrance door is open; c. Dome lamps; d. Ignition and emergency door signal; e. Turn signal lamps; and f. Alternately flashing signal lamps. 9. Any of the above combination circuits may be subdivided into additional independent circuits. 10. Heaters and defrosters shall be wired on an independent circuit. 11. Whenever possible, all other electrical functions (such as sanders and electric-type windshield wipers) shall be provided with independent and properly protected circuits. 12. Each body circuit shall be coded by number or letter on a diagram of circuits and shall be attached to the body in a readily accessible location.	✓
ELECTRICAL SYSTEM: F. Power Port	F. Buses may be equipped with a 12-volt power port in the driver's area.	✓
ELECTRICAL SYSTEM: G. Noise Suppression	G. There shall be a manual noise suppression switch installed in the control panel. The switch shall be labeled and alternately colored. This switch shall be an on/off type that deactivates body equipment that produces noise, including at least the AM/FM radio, heaters, air conditioners, fans, and defrosters. This switch shall not deactivate safety systems, such as windshield wipers or lighting systems.	✓
ELECTRICAL SYSTEM: H. Voltage	H. The entire electrical system of the body shall be designed for the same voltage as the chassis on which the body is mounted.	✓
EXHAUST SYSTEM	Must comply with National Specifications and Maine Motor Vehicle Inspection Manual (REFER TO MAINE MANUAL).	NA
EXHAUSE PIPE	The exhause pipe must be entirely outside the passenger compartment of a school bus. [29-A MRS section 2305(2)]	NA
EXHAUST SYSTEM: A-C	A. The exhaust pipe, after-treatment system and tailpipe shall be outside the bus body compartment and shall be attached to the chassis so any other chassis component is not damaged. B. The tailpipe and after-treatment system shall be constructed of a corrosion-resistant tubing material at least equal in strenght and durability to 16-gauge steel tubing of equal diameter. C. The tailpipe may be flush with, or shall not extend more than two inches beyond, the perimeter of the body for side-exit pipe. The exhaust system shall be designed such that exhaust gas will	NA

Product Category	Bus: A-1 and A-2	
EXHAUST SYSTEM: D-F	D. The tailpipe shall exit to the left or right of the emergency exit door in the rear of the vehicle or to the left side of the bus in front of or behind the rear drive axle or the tailpipe may extend through the bumper. The tailpipe exit location on all Types A-1 or B-1 buses may be in accordance to the manufacturer's standards. The tailpipe shall not exit beneath any fuel filler location, emergency door, or lift door. E. The exhaust shall be insulated in a manner to prevent any damage to any fuel system component. F. The design of the after treatment systems shall not allow active (non-manual) regeneration of the particulate filter during the loading and unloading of passengers. Manual regeneration systems will be designed such that unintentional operation will not occur.	NA
EXHAUST SYSTEM: G	G. For after treatment systems that require Diesel Exhaust Fluid (DEF) to meet federally mandated emissions: 1. The composition of Diesel Exhause Fluid (DEF) must comply with International Standard ISO 22241-1. Refer to engine manufacturer for any additional DEF requirements. 2. The DEF supply tank shall be sized to meet a minimum ratio of 3 diesel fills to 1 DEF fill	NA
FENDERS: FRONT	A. When measured at the fender line, the total spread of the outer edges of front fenders shall exceed the total spread of front tires when front wheels are in a straight-ahead position. B. Front fenders shall be properly braced and shall not require attachment to any part of the body	✓
FIRE SUPPRESSION SYSTEMS (Optional)	A. The chassis manufacturer may provide an automatic fire extinguisher system in the engine compartment. B. Fire suppression system nozzles shall be located in the engine compartment, under the bus, in the electrical panel or under the dash, but they shall not be located in the passenger compartment. The system must include a lamp or buzzer to alert the driver that the system has been activate.	✓
FRAME	A. Frame lengths shall be established in accordance with the design criteria for the complete vehicle. B. Making holes in top or bottom flanges or side units of the frame and welding to the frame shall not be permitted except as provided or accepted by the chassis manufacturer. C. Frames shall not be modified for the purpose of extending the wheel base. D. Any secondary manufacturer that modifies the original chassis frame shall provide a warranty at least equal to the warranty offered by the original equipment manufacturer (OEM), and shall certify that the modification and other parts of equipment affected by the modification shall be free from defects in material and workmanship under normal use and	✓
FUEL SYSTEM: A.-E. Fuel Tanks	A. Fuel tank(s) having a minimum 25-gallon capacity shall be provided by the chassis manufacturer. Each tank shall be filled from and vented to the outside of the passenger compartment, and each fuel filler should be placed in a location where accidential fuel spillage will not drip or drain or any part of the exhaust system. B. The fuel system shall comply with FMVSS No. 301, Fuel System Integrity. C. Fuel tank(s) may be mounted between the chassis frame rails or outboard of the frame rails on either the left or right side of the vehicle. D. The actual draw capacity of each fuel tank shall be a minimum of 83 percent of the tank capacity. E. Installation of alternative fuel systems, including fuel tanks and piping from the tank to the engine, shall comply with all applicable fire codes in effect on the date of manufacture of the bus.	NA

Product Category	Bus: A-1 and A-2	
FUEL SYSTEM: F. Liquefied Petroleum Gas (LPG)	F. Installation of Liquefied Petroleum Gas (LPG) tanks shall comply with National Fire Protection Association (NFPA) 58, *Liquefied Petroleum Gas Code*.	NA
FUEL SYSTEM: G.-H. Compressed Natural Gas (CNG)	G. Installation of Compressed Natural Gas (CNG) containers shall comply with FMVSS No. 304, Compressed Natural Gas Fuel Container Integrity. H. The CNG Fuel System shall comply with FMVSS No. 303, *Fuel System Integrity of Compressed Natural Gas Vehicles*	NA
FUEL TANK FILLER, VENT, DRAIN OPENINGS	The fuel tank filler, vent and drain openings must be outside the school bus body. [29-A MRS Section 2305(3)]	NA
GOVERNOR	An electronic engine speed limiter shall be provided and set to limit engine speed, not to exceed the maximum revolutions per minute, as recommended by the engine manufacturer.	✓
HEATING SYSTEM, PROVISION FOR	The engine shall be capable of supplying coolant at a temperature of at least 170 degrees Fahrenheit at the engine coolant thermostat opening. The coolant flow rate shall be 50 pounds per minute at the return end of 30 feet of one (1) inch inside diameter automotive hot water heater hose. (See SBMTC-001, *Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment*.)	✓
HORN	The bus shall be equipped with a horn(s) of standard make with the horn(s) capable of producing a complex sound in bands of audion frequencies between 250 and 2,000 cycles per second, and tested in accordance with SAE J377, *Horn - Forward Warning - Electric - Performance, Test, and Application.*	✓
INSTRUMENTS AND INSTRUMENT PANEL: A.	A. The chassis shall be equipped with the instruments and gauges listed here. Note: Telltale warning lamps in lieu of gauges are not acceptable, except as noted. 1. Speedometer; 2. Odometer that can be read without using a key and that will give accrued mileage (to seven digits), including tenths of miles, unless tenths of miles are registered on a trip odometer; 3. Tachometer; Note: for types B, C, and D buses, a tachometer shall be installed so as to be visible to the driver while seated in a normal driving position. 4. Voltmeter; Note: An ammeter with graduated charge and discharge indications is permitted in lieu of a voltmeter; however, when used, the ammeter wiring must be compatible with the current flow of the system. 5. Oil pressure gauge; 6. Water temperature gauge; 7. Fuel gauge; 8. High beam headlamp indicator; 9. Brake air pressure gauge (air brakes), brake indicator lamp (vacuum/hydraulic brakes), or brake indicator lamp (hydraulic/hydraulic); 10. Turn signal indicator; and 11. Glow-plug indicator lamp, where appropriate.	✓
INSTRUMENTS AND INSTRUMENT PANEL: B.	B. All instruments shall be easily accessible for maintenance and repair.	✓
INSTRUMENTS AND INSTRUMENT PANEL: C.	C. The instruments and gauges shall be mounted on the instrument panel so that each is clearly visible to the driver while seated in a normal driving position.	✓
INSTRUMENTS AND INSTRUMENT PANEL: D.	D. Instruments and controls must be illuminated as required by FMVSS No. 101, *Controls and Displays*.	✓

Product Category	Bus: A-1 and A-2	
INSTRUMENTS AND INSTRUMENT PANEL: E.	E. Multi-Function Gauge (MFG): 1. The driver must be able to manually select any displayable function of the gauge on a MFG, whenever desired. 2. Whenever an out-of-limits condition that would be displayed on one or more functions of a MFG occurs, the MFG controller should automatically display this condition on the instrument cluster. This should be in the form of an illuminated telltale warning lamp, as well as having the MFG automatically display the out-of-limits indications. If two or more functions displayed on the MFG go out of limits simutaneously, then the MFG should sequence automatically between those functions continuously until the condition(s) are corrected. 3. The use of a MFG does not relieve the need for audible warning devices, where required.	✓
MOUNTING	A. The rear body cross member shall be supported by the chassis frame. Except where chassis components interfere, the bus body shall be attached to the chassis frame at each main floor sill in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions. B. Isolators shall be installed at all contact points between teh body and the chassis frame on Types A-2, B, C, and D buses, and shall be secured by a positive means to the chassis frame or body to prevent shifting, separation, or displacement of the isolators under severe operting conditions.	✓
OIL FILTER	An oil filter with a replaceable element shall be provided and connected by flexible oil lines if it is not a built-in or an engine-mounted design. The oil filter shall have a capacity in accordance with the engine manufacturer's recommendation.	✓
OPENINGS	All openings in the floorboard or firewall between the chassis and the passenger compartment (e.g., for gearshift selector and parking brakes lever) shall be sealed.	✓
PASSENGER LOAD	A. Actual gross vehicle wight (GVW) is the sum of the chassis weight plus the body weight, plus the driver's weight, plus total seated student weight. For purposes of calculation, the driver's weight is 150 pounds and the student wight is 120 pounds per student. B. Actual GVW shall not exceed the chassis manufacturer's GVWR for the chassis, nor shall the actual weight carried on any axel exceed the chassis manufacturer's Gross Axle Weight Rating (GAWR)	✓
RETARDER SYSTEM (optional equipment)	A retarder system, if used, shall limit the speed of a fully loaded school bus to 19.0 mph on a 7% grade for 3.6 miles.	✓
ROAD SPEED CONTROL	When it is desired to accurately control vehicle maximum speed, a vehicle speed limiter may be utilized.	✓
SHOCK ABSORBERS	The bus shall be equipped with double-action shock absorbers compatiable with the manufacturer's rated axle capacity at each wheel location.	✓
SHUTTERS		✓

Product Category	Bus: A-1 and A-2	
STEERING GEAR	**A. The steering gear shall be aproved by the chassis manufacturerer and designed to ensure safe and accurate performance when the vehicle is operated with maximum load and at maximum speed. B. If external adjustments are required, the steering mechanism shall be accessible to make adjustments. C. Changes shall not be made to the steering apparatus which are not approved by the chassis manufacturer. D. There shall be a clearance of at least two inches between the steering wheel and cowl, instrument panel, windshield or any other surface. E. Power steering is required and shall be of the integral type with integral valves. F. The steering system shall be designed to provide a means for lubrication of all wearpoints that are not permanently lubricated.**	✓
SUSPENSION SYSTEM	**A. The capacity of springs or suspension assemblies shall be commensurate with the chassis manufacturer's GVWR. B. Rear leaf springs shall be of a progressive rate or multi-stage design. Front leaf springs shall have a stationary eye at one end and shall be protected by a wrapped leaf, in addition to the main leaf.** Shall comply with National Standards.	✓
THROTTLE	**The force required to operate the throttle shall not exceed 16 pounds throughout the full range of accelerator pedal travel.**	✓
TIRES & RIMS	**A. Rims and tires of the proper size and load rating commensurate with the chassis manufacturer's GVWR shall be provided. The use of milti-piece rimes and/or tube-type tires shall not be permitted on any school bus ordered after December 31, 1995. B. Dual rear tires shall be provided on Type A-2, Type B, Type C, and Type D school buses. C. All tires on a vehicle shall be of the same size, and the load range of the tires shall meet or exceed the GVWR, as required by FMVSS No. 120, Tire Selection and Rims for Vehicles other than Passenger Car. D. If the vehicle is equipped with a spare tire and rim assemble, it shall be the same size as those mounted on the vehicle. E. If a tire carrier is required, it shall be suitable mounted in an accessible location outside of the passenger compartment.** Standard is no Spare	✓
TRANSMISSION, AUTOMATIC	**Automatic transmissions shall have no fewer than three forward speeds and one reverse speed. Mechanical shift selectors shall provide a detent between each gear position when the gear selector quadrant and shift selector are not steering-column mounted. Automatic tranmissions shall have a transmission shifter interlock controlled by the application of the service brake to prohibit accidental engagement of the transmission.** 6-speed, heavy duty cooling.	**NA**
TURNING RADIUS	**A chassis with a wheel base of 264 inches or less shall have a right and left turning radius of not more than 42-1/2 feet, curb-to-curb measurement. A chassis with a wheelbase of 265 inches or more shall have a right and left turning radius of not more than 44-1/2 feet, curb-to-curb measurement**	✓
UNDERCOATING	**A. The entire underside of the bus body, including floor sections, cross member and below floor-line side panels, shall be coated with rust-proofing material for which the material manufacturer has issued to the bus body manufacturer a notarized certification to the bus body manufacturer that materials meet or exceed all performance requirements of SAE J1959, Sept. 2003 Edition of the Standard. B. The undercoating material shall be applied with suitable airless or conventional spray equipment to the undercoataing material manufacturer recommended film thickness and shall show no evidence of voids in the cured film. C. The undercoating material shall not cover any exhause**	✓

Product Category	Bus: A-1 and A-2	
Body Options		
ACCESS	**A school bus must be constructed to permit the operator access to the passenger compartment without leaving the vehicle. [29-A MRS Section 2305(1)]**	✓
AIR CONDITIONING, PASSENGER COMPARTMENT (optional)	The specifications are applicable to all types of school buses that may be equipped with air conditioning. This section is divided into three parts. Part 1 covers performance specifications, Part 2 covers test conditions, and Part 3 covers other requirements applicable to all buses.	✓
AISLE	**All emergency exit doors shall be accessible by a 12-inch minimum aisle. The aisle shall be unobstructed at all times by any type of barrier, seat, wheelchair or tie-down, unless a flip seat is installed and occupied. The track of a track seating system is exempt from this requirement. A flip seat in the unoccupied (up) position shall not obstruct the 12-inch minimum aisle to any side emergency exit door.**	✓
BACK-UP WARNING ALARM	**An automatic audible alarm shall be installed behind the rear axle and shall comply with the published Backup Alarm Standards (SAE J994b), providing a minimum of 112 dBA, or shall have a variable volume feature that allows the alarm to vary from 87 dBA to 112 dBA sound level, staying at least 5 dBA above the ambient noise level. Shall comply with National Standards.**	✓
BUMPER: FRONT A.	**A. School buses shall be equipped with a front bumper.**	✓
BUMPER: FRONT B.	**B. The front bumper on buses of Type A-2 (with GVWR greater thatn 14,500 pounds), Type B, Type C, and Type D shall be equivalent in strength and durability to pressed steel channel at least 3/16 inches thick and not less than 8 inches wide (high). It shall extend beyond the forward-most part of the body, grille, hood, and fenders and shall extend to the outer edges of the fenders at the bumper's top line. Type A buses having GVWR of 14,500 pounds or less may be equipped with OEM--supplied front bumper. The front bumper shall be of sufficient strength to permit being pushed by another vehicle on a smooth surface with a 5 degree, (8.7percent) grade, without permanent distortion. The contact point on the front bumper is intended to be between the frame rails, with as wide a contact area as possible. If the front bumper is used for lifting, the contact points shall be under the bumper attachments to the frame rail brackets unless the manufacturer specifies different lifting points in the owner's manual. Contact and lifting pressures should be applied simultaneously at both lifting points.**	✓
BUMPER: FRONT C.	**C. The front bumper, except breakaway bumper ends, shall be of sufficient strength to permit pushing a vehicle of equal gross vehicle weight, per Section B, without permanent distortion to the bumper, chassis or body.**	✓
BUMPER: FRONT D.	**D. The bumper shall be designed or reinforced so that it will not deform when the bus is lifted by a chain that is passed under the bumper (or through the bumper if holes are provided for this purpose) and attached to both tow hooks/eyes. For the purpose of meeting this specification, the bus shall be empty and positioned on a level, hard surface, and both tow hooks/eyes shall share the load equally.**	✓

Product Category	Bus: A-1 and A-2	
BUMPER: REAR A.	A. The bumper on Type A-1 buses shall be a minimum of 8 inches wide (high). Bumpers on Types A-2, B, C, and D buses shall be a minimum of 9-1/4 inches wide (high).	✓
BUMPER: REAR B.	B. The bumper shall wrap around the back corners of the bus. It shall extend forward at least 12 inches, measured from the rear-most point of the body at the floor line, and shall be mounted flush with the sides of the body or protected with an end panel.	✓
BUMPER: REAR C.	C. The bumper shall be attached to the chassis frame in such a manner that it may be removed. It shall be braced to resist deforration of the bumper resulting from impact from the rear of the side. It shall be designed to discourage hitching of rides by an individual.	✓
BUMPER: REAR D.	D. The bumper shall extend at least one inch beyond the rear-most part of the body surface, measured at the floor line.	✓
BUMPER: REAR E.	E. The bottom of the rear bumper shall not be more than 30 inches above ground level.	✓
CERTIFICATION	Upon request of the state agency having student transportation jurisdiction, the chassis and body manufacturer(s) shall certify that its(their) product(s) meets the state's minimum standards on items which are not covered by FMVSS certificatin requirements of 49 CFR, Part 567: *Certification*	✓
COLOR. A. BODY.	A. The school bus body "*must be painted national school bus glossy yellow, except that the hood may be lusterless black*" [29-A Maine Revised Statutes section 2302(C)].	✓
COLOR. B. EXTERIOR TRIM.	B. The body exterior trim, as defined by individual states, shall be black. "*Must have bumpers of glossy black unless painting is impracticable through use of rubber, reflective material or other devices*" [29-A Maine Revised Statutes section 2302(D)].	✓
COLOR. C. ROOF	C. Roof. State statue [29-A MRS section 2302(C)] and Code of Maine Regulations [CMR 05-071 - Chapter 86, section 3(1.A.(1)] apply: *"Roof color exception: a white roof on a school bus is not a state school bus specification."*	✓
COLOR. D. CHASSIS AND FRONT BUMPER.	D. The chassis shall be black. "*Must have bumpers of glossy black unless painting is impracticable through use of rubber, reflective material or other devices*" [29-A Maine Revised Statutes section 2302(D)]. Body, cowl, hood, and fenders shall be in *national school bus glossy yellow*. State statue (29-A MRS section 2302(C and D)) and Code of Maine Regulations [CMR 05-071 - Chapter 86, section 3(1.A.(1))] apply.	✓
COLOR. E. WHEELS.	E. Wheels may be silver, gray, white, yellow, or black.	✓
COLOR. F. MULTIFUNCTION SCHOOL ACTIVITY BUSES.	F. Multifunction school activity buses (MFSABs) shall be exempt from these [color] requirements.	✓

Product Category	Bus: A-1 and A-2	
CONSTRUCTION	A. Side Intrusion Test: The bus body shall be constructed to withstand an intrusion force equal to the curb weight of the vehicle of 20,000 pounds, whichever is less. Each vehicle shall be capable of meetng this requirement when tested in accordance with the procedures set forth below. The complete body structure, or a representative seven-body section mock up with seats installed, shall be load-tested at a location 24 +/- 2 inches above the floor line, with a maximum 10 inch diameter cylinder, 48 inches long, mounted in a horizontal plane. The cylinder shall be placed as close as practical to the mid-point of the tested structure, spanning two internal vertical structural members. The cylinder shall be statically loaded to the required force of curb weight of 20,000 pounds, whichever is less, in a horizontal plane with the load applied from the exterior toward the interior of the structure. When the minimum load has been applied, the penetration of the loading cylinder into the passenger compartment shall not exceed 10 inches from its original point of contact. There can be no separation of lapped panels or construction joints. Punctures, tears, or breaks in the external panels are acceptable but are not permitted on any adjacent interior panel. Body companies shall certify compliance with this intrusion requirement, and include test resutls, as requested. B. Construction shall be reasonably dust-proof and watertight.	✓
CROSSING CONTROL ARM. A, B, C	A. School buses of model year 2021 or newer MUST be equipped with a crossing control arm [29-A M.R.S. section 2302(1-A)]. The crossing control arm may be mounted on the right side of the front bumper. When opened, this arm shall extend in a line parallel to the body side and aligned with the right front wheel. B. All components of the crossing control arm and all connections shall be weatherproofed. C. The crossing control arm shall incorporate system connectors (electrical, vacuum, or air) at the gate and shall be easily removable to allow for towing of the bus.	✓
CROSSING CONTROL ARM. D, E, F	D. The crossing control arm shall be constructed of non-corrodible or nonferrous material or shall be treated in accordance with the boday sheet metal slpecification. (See bus body and chassis specifications, metal treatment.) E. There shall be no sharp edges or projections that could cause injury or be a hazard to students. The end of the arm shall be rounded. F. The crossing control arm shall extend a minimum of 70 inches (measured from the bumper	✓
CROSSING CONTROL ARM. G, H, I	G. The crossing control arm shall extend simultaneously with the stop signal arm(s), activated by stop signal arm controls. H. An automatic recycling interrupt switch may be installed for temporarily disabling the crossing control arm. I. The assembly shall include a device attached to the bumper near the end of the arm to automatically retain the arm while in the stowed position. That device shall not interfere with normal operations of the crossing control arm.	✓

Product Category	Bus: A-1 and A-2	
DEFROSTERS. A.	A. Defrosting and defogging equipment shall direct a sufficient flow of heated air onto the windshield, the window to the left of the driver and the glass in the viewing area directly to the right of the driver to eliminate frost, fog, and snow. NOTE: The requirements of this standard do not apply to the exterior surfaces of double pane storm windows.	✓
DEFROSTERS. B.	B. The defrosting system shall conform to SAE J381, *Windshield Defrosting Systems Test Procedure and Performance Requirements - Trucks, Buses, and Multipurpose Vehicles*.	✓
DEFROSTERS. C.	C. The defroster and defogging system shall be capable of furnishing heated, outside ambient air, except that the part of the system furnishing additional air to the windshield, entrance door, and stepwell may be the re-circulating air type.	✓
DEFROSTERS. D, E	D. Auxiliary fans are not considered defrosting or defogging systems. E. Portable heaters shall not be used.	✓
DOORS	A school bus must be equiped with at least 2 doors as follows: A. One door on the right side near the front for ordinary exits and entrances; and B. A 2nd door located in the center of the rear or if the engine makes that impossible, on the left side in the center or to the rear of center. The 2nd door must be free of obstruction, clearly marked as an emergency exit, and constructed to open from inside and outside. [29-A MRS Section 2304(2)]	✓
DOORS. A.	A. The entrance door shall be under the driver's control, designed to afford easy release and to provide a positive latching device on manual operating doors to prevent accidential opening. When a hand lever is used, no part shall come together that will shear or crush fingers. Manual door controls shall not require more thatn 25 pound of force to operate at any point throughout the range of operation, as tested on a 10% grade, both uphill and downhill.	✓
DOORS. B.	B. The primary entrance door shall be located on the right side of the bus, opposite and within direct view of the driver. 1. In addition, buses may be equipped with a left side entrance door located immediately behind the driver to be used exclusively for curb side loading/unloading on one-way streets. 2. Buses equipped with a left side entrance door shall have a mirror mounted in the upper right corner of the interior of the bus so as to provide a clear view of the left side entrance door and stepwell.	✓
DOORS. C, D, E	C. The entrance door shall have a minimum horizontal opening of 24 inches and a minimum vertical opening of 68 inches. D. The entrance door shall be a slplit-type door and shall open outward. E. All entranace door glass shall be approved safety glass. The bottom of each lower glass panel shall be not more than 10 inches from the top surface of the bottom step. The top of each upper glass panel when viewed from the interior shall be not more than 3 inches below the interior door control cover or header pad.	✓
DOORS. F, G, H	F. Vertical closing edges on entrance doors shall be equipped with flexible material. G. All door openings shall be equipped with padding at the top edge of the opening. Padding shal be at least three (3) inches wide and one (1) inch thick and extend the full width of the door opening. H. On power-operated entrance doors, the emergency release valve, switch, or device to release the entrance door must be placed above or to the immediate left or immediate eright of the entrance door and must be clearly labeled. The emergency release valve, switch or device shall work in the absence of power.	✓

Product Category	Bus: A-1 and A-2	
EMERGENCY EQUIPMENT: A. Fire Extinguisher	**A. Fire Extinguisher. 1. The bus shall be equipped with at least one UL-approved pressurized, dry chemical fire extinguisher. The extinguisher shall be secured in a mounted bracket, located in the driver's compartment and readily accessible to the driver and passengers. A pressure gauge shall be mounted on the extinguisher and shall be easily read without moving the extinguisher from its mounted position. 2. The fire extinguisher shall have a rating of 2-A:10-BC, or greater. The operating mechanism shall be secured with a type of seal that will not interfere with the use of the fire extinguisher.**	✓
EMERGENCY EQUIPMENT: B. First Aid Kit	**B. First Aid Kit. 1. The bus shall have a removable, moisture-proof and dust-proof first aid kit in an accessible place in the driver's compartment. It shall be mounted and identified as a first aid kit. The location for the first aid kit shall be marked. Contents of the first aid kit shall be in compliance with state standards. Suggested contents include: 2 - 1-inch x 2-1/2 yards of adhesive tape rolls; 24 - Sterile gauze pads 3x3 inches; 100 - 3/4 x 3 inches adhesive bandages; 8 - 2-inch bandage compress; 10 - 3-inch bandage compress; 2 - 2-inch x 6 foot sterile gauze roller bandages; 2 - Non-sterile triangular bandages, minimum 39x35x54 inches with two safety pins; 3 - Sterile gauze pads 36x36 inches; 3 - Sterile eye pads; 1 - Rounded-end scissors; 1 - Pair medical examination gloves; 1 - Mouth-to-mouth airway.**	✓
EMERGENCY EQUIPMENT: C. Body Fluid Clean-Up Kit	**C. Body Fluid Clean-Up Kit. Each bus shall have a removable and moisture-proof body fluid clean-up kit accessible to the driver. It shall be mounted and identified as a body fluid cleanup kit. Contents of the body fluid clean-up kit shall be in compliance with sate standards.**	✓
EMERGENCY EQUIPMENT: D. Warning Devices	**D. Warning Devices. Each school bus shall contain at least three retroreflective triangle road warning devices that meet the requirements of FMVSS No. 125, *Warning Devices*. They shall be mounted in an accessible place.**	✓
EMERGENCY EQUIPMENT: E.	**E. Any piece of emergency equipment may be mounted in an enclosed compartment, provided the compartment is labeled in not less than one inch letters, identifying each piece of equipment contained therin.**	✓
EMERGENCY EXITS: A. Any Installed Emergency Exit	**A. Any installed emergency exit shall comply with the design and performance requirements of FMVSS No. 217, Bus Emergency Exits and Window Retention and Release, applicable to that type of exit, regardless of whether or not that exit is required by FMVSS No. 217.**	✓
EMERGENCY EXITS: B. Emergency Window Requirements	**B. Emergency Window Requirements. 1. The rear emergency window shall have a lifting assistance device that will aid in lifting and holding the rear emergency window open. 2. Side emergency exit windows, when installed, may be vertically hinged on the forward side of the window. No side emergency exit window will be located above a stop arm.**	✓

Product Category	Bus: A-1 and A-2	
EMERGENCY EXITS: C. Emergency Door Requirements	**C. Emergency Door Requirements. 1. The exposed area of the upper panel of emergency doors shall abe a minimu of 400 square inches of approved safety glazing. 2. If installed, all other glass panels on emergency doors shall be approved safety glazing. 3. There shall be no stepls leading to an emergency door. 4. There shall be no obstruction higher than 1/4 inch across the botton of any emergency door opening. Fasteners used within the emergency exit opening shall be free of sharp edges or burrs.**	✓
EMERGENCY EXITS: D. Emergency Exit Requirements	**D. Emergency Exit Requirements. The use of tables is to determine the required number and types of emergency exits to comply with this specification, based on the bus manufacturer's equipped seating capacity. Refer to the National Specifications, Table 1 and Table 2, pages 40 and 41.**	✓
FIRE EXTINGUISHER	**A school bus must have at least one dry chemical fire extinguisher: A. Of at least 2-1/2 pound capacity; B. Mounted in automotive type manufacturer's extinguisher bracket; C. Located in the operator's compartment in full view of and readily accessible to the operator; and D. Having an Underwriters' Laboratories rating of not less than 10-B: C. [29-A MRS Section 2305(4)]**	✓
FLOORS	**A. The floor in the under-seat area, including tops of wheel housings, driver's compartment and toeboard, shall be covered with an elastomer floor covering, having a minimum overall thickness of 0.125 inch and a calculated burn rate of 0.1 mm per minute or less, using the test methods, procedures, and formulas listed in FMVSS No. 302, *Flammability of Interior Materials*. The driver's area and toeboad area in all Type-A buses may be manufacturer's standard flooring and floor covering. B. The floor covering in the aisles shall be ribbed or other raised pattern elastomer and have a calculated burn rate of 0.1 mm per minute or less using the test methods, procedures, and formulas listed in FMVSS No. 302. Minimum overall thickness shall be 0.187 inch measured from tops of ribs. C. The floor covering must be permanently bonded to the floor and must not crack when subjected to sudden changes in temperature. Bonding or adhesive material shall be waterproof and shall be a type recommended by the manufacturer of floor-covering material. All seams shall be sealed with waterproof sealer. D. On Types B, C, and D buses, a flush-mounted screw-down plate that is secured and sealed shall be provided to access the diesel or gasoline fuel tank sending unit and/or fuel pump. This plate shall not be installed under flooring material**	✓
HANDRAILS (GRAB RAIL)	**At least one handrail shall be installed. The handrail shall be a minimum of one (1) inch diameter and be constructed from corrosion resistant material(s). The handrail(s) shall assist passengers during entry or exit and shall be designed to prevent entanglement, as evidenced by the passing of the NHTSA strin and nut test.**	✓
HEATING SYSTEM, PROVISION FOR	**The engine shall be capable of supplying coolant at a temperature of at least 170 degrees Fahrenheit at the engine coolant thermostat opening. The coolant flow rate shall be 50 pounds per minute at the return end of 30 feet of one (1) inch inside diameter automotive hot water heater hose. (See SBMTC-001, *Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment*.)**	✓

Product Category	Bus: A-1 and A-2	
HEATING AND AIR CONDITIONING SYSTEMS. A. Heating System (1-4)	**1. The heater shall be hot water combustion type, electric heating element or heat pump. 2. If only one heater is used, it shall be fresh-air or combination fresh-air and recirculation type. 3. If more than one heater is used, additional heaters may be re-circulating air type. 4. The heating system shall be capable of maintaining bus interior temperatures, as specified in test procedure SAE J2233**	✓
HEATING AND AIR CONDITIONING SYSTEMS. A. Heating System (5)	**5. Aluxiliary fuel-fired systems are permitted, provided they comply with the following: a. The auxiliary heating system shall utilize the same type fuel as specified for the vehicle engine; b. The heater(s) may be direct, hot air-type or may be connected to the engine coolant system; c. An auxiliary heating system, when connected to the engine coolant system, may abe used to preheat the engine coolant or preheat and add supplementary heat to the heating system; d. Auxiliary heating systems must be installed pursuant to the manufacturer's recommendations and shall not direct exhause in such a manner that will endanger bus passengers; e. All combustion heaters shall be in compliance with current Federal Motor Carrier Safety Regulations; f. The auxiliary heating system shall require low voltage; g. Auxiliary heating systems shall comply with FMVSS No. 301, *Fuel System Integrity*, and all other applicable FMVSS, as well as with SAE test procedures.**	✓
HEATING AND AIR CONDITIONING SYSTEMS. A. Heating System (6-8)	**6. All forced-air heaters installed by body manufacturers shall bear a name plate that indicates the heater rating in accordance with SBMTC-001, *Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment*. The plate shall be affixed by the heater manufacturer and shall consitute certification that the heater performance is as shown on the plate. 7. Heater hoses shall be adequately supported to guard against excessive wear due to vibration. The hoses shall not dangle or rub against the chassis or any sharp edges and shall not interfere with or restrict the operation of any engine function. Heater hoses shall conform to SAE J20c, *Coolant System Hoses*. Heater lines, cores, and elements on the interior of the bus shall be shielded to prevent scalding or burning of the driver or passengers. 8. Each hot water system installed by a body manufacturer shall include one shutoff valve in the pressure line and one shut-off valve in the return line, with both valves at the engine in an accessible location, except that on Types A and B buses, the**	✓
HEATING AND AIR CONDITIONING SYSTEMS. A. Heating System (9-11)	**9. All heaters of hot water type in the passenger compartment shall be equipped with a device, installed in the hot water pressure line, which regulates the water flow to all passenger heaters. The device shall be conveniently operated by the driver while seated. The driver and passenger heaters may operate independently of each other for maximum comfort. 10. On hot water type systems, accessible bleeder valves for removing air from the heater shall be installed in an appropriate place in the return lines of body company-installed heater. 11. Access panels shall be provided to make heater motors, cores, elements, and fans readily accessible for service. An exterior access panel to the driver's heater may be**	✓

Product Category	Bus: A-1 and A-2	
HEATING AND AIR CONDITIONING SYSTEMS. B. PASSENGER COMPARTMENT AIR CONDITIONING (optional) 1. Performance Specifications	1. Performance Specifications. a. Standard Performance. The installed air conditioning system should cool the interior of the bus from 100 degrees to 80 degrees Fahrenheit, measured at three points (minimum) located four feet above the floor on the longitudinal centerline of the bus. The three required points shall be: (1) three feet above the center point of the horizontal driver seat surface, (2) at the longitudinal midpoint of the body, and (3) three feet forward of the rear emergency door or, for Type D rear-engine buses, three feet forward of the end of the axle. The independent temperature reading of each temperature probe inside the bus shall be within a range of +/- 3 degrees Fahrenheit of the average temperature at the conclusion of the test. b. High Performance. The installed air conditioning system should cool the interior of the bus from 100 degrees to 70 degrees Fahrenheit, measured at three points (minimum) located four feet above the floor on the logitudinal centerline of the bus. The three required points shall be: (1) three feet above the center point of the horizontal driver seat surface, (2) at the logitudinal midpoint of the body, and (3) three feet forward of the rear emergency door or, for Type D rear-engine buses, three feet forward of the end of the aisle. Note for the Type A vehicle placement of the rear theromocouple should be centered in the bus over the rear axle. The independent temperature reading of each temperature probe inside the bus shall be within a range of +/- 3 degrees Fahrenheit of the average temperature at the conclusion of the test.	✓
HEATING AND AIR CONDITIONING SYSTEMS. B. PASSENGER COMPARTMENT AIR CONDITIONING (optional) 2. Test Conditions	2. Test conditions. The test conditions under which the above performance standards must be achieved shall consist of (1) placing the bus in a room (such as a paint booth) where ambient temperature can be maintained at 100 degrees Fahrenheit; (2) heat-soaking the bus at 100 degrees Fahrenheit at a point measured two feet horizontally from the top of the windows on both sides of the bus, with windows open for two hours; and (3) closing windows, turning on the air conditioner with the engine running at 1250 +/- 50 RPM, and cooling the interior of the bus to 80 degrees Fahrenheit, (standard performance) or 70 degrees Fahrenheit (high performance), within 30 minutes while maintaining 100 degrees Fahrenheit outside temperature. The manufacturer shall provide test results that show compliance with standard systems. If the bid specifies, the manufacturer shall provide facilities for the user or user's representative to confirm that a pilot model of each bus design meets the above performance requirements.	✓

Product Category	Bus: A-1 and A-2	
HEATING AND AIR CONDITIONING SYSTEMS. B. PASSENGER COMPARTMENT AIR CONDITIONING (optional) 3. Other Requirements	3. Other requirements. a. Evaporator cases, lines and ducting (as equipped) shall be designed in such a manner that all condensation is effectively drained to the exterior of the bus below the floor level under all conditions of vehicle movement and without leakage on any interior portion of the bus; b. Evaporators and ducting systems shall be designed and installed to be free of projections or sharp edges. Ductwork shall be installed so that exposed edges face the front of the bus and do not present sharp edges; c. On school buses equipped with Type-2 seatbelts having anchorages above the windows, the ducting (if used) shall be placed at a height sufficient to not obstruct occupant securement anchorages. This clearance shall be provided along the entire lenth (except at evaporator locations) of the passenger area on both sides of the bus interior; d. The body may be equipped with insulation, including sidewalls, roof, firewall, rear, inside body bows and plywood or composite floor insulation to reduce thermal transfer; e. All glass (windshield, service and emergency doors, side and rear windows) may be equipped with maximum integral tinting allowed by federal, state, or ANSI standards for the respective locations, except that windows rear of the driver's compartment, if tinted, shall have approximately 28 percent light transmission; f. Electrical generating capacity shall be provided to accomodate the additional electrical demands imposed by the air conditioning system; g. Roofs may *not* be painted white (per Code of Maine Regulations (05-071 CMR Chap. 86); h. Air intake for any evaporator assembly(ies), except for front evaporator or Type A-1, shall be equipped with replaceable air filter(s) accessible without disassembly of evaporator case. i. For all buses (except Type D rear engine transit) equipped with a rear evaporator assembly, evaporator shall not encroach upon head impact zone, but may occupy an area of less than 26.5 inches from the rear wall and 14 inches from the ceiling. j. For Type D rear engine transit buses equipped with a rear evaporator over the davenport, the evaporator assembly may not interfere with rear exit window and may not extend above the rear seating row.	✓
HINGES	**All exterior metal door hinges shall be designed to allow lubrication to be channeled to the center 75% of each hinge loop without disassembly, unless they are constructed of stainless steel, brass or non-metallic hinge pins or other designs that prevent corrosion.**	✓
IDENTIFICATION: A. School Bus	**A. The body shall bear the words "SCHOOL BUS" in black letters at least eight (8) inches high on both front and rear of the body or on signs attached thereto. Lettering shall be placed as high as possible without impairment of its visibility. Letters shall conform to "Series B" of Standard Alphabets for Highway Signs. "SCHOOL BUS" lettering shall have a reflective background, or as an option, may be illuminated by backlighting. Multifunction school**	✓
IDENTIFICATION: B. Required lettering and numbering	**B. Required lettering and numbering shall include: 1. District, company name or owner of the bus displayed at the beltline. 2. The bus identification number displayed on the sides, on the rear and on the front.**	✓

Product Category	Bus: A-1 and A-2	
IDENTIFICATION: C. Other lettering, numbering, or symbols	**C. Other lettering, numbering or symbols which may be displayed on the exterior of the bus shall be limited to: 1. bus idenfification number, minimum 12-inch high characters, on top of the bus, in addition to required numbering on the sides, rear, and front. 2. The location of the battery(ies) identified by the word "BATTERY" or "BATTERIES" on the battery compartment door in two (2) inch lettering; 3. Symbols or letters not to exceed 64 square inches of total display near the entrance door, displaying information for identification by the students of the bus or route served; 4. Manufacturer, dealer or school identification or logos; 5. Symbols identifiying the bus as equipped for or transporting students with special needs as noted in SPECIALLY EQUIPPED SCHOOL BUS SPECIFICATIONS; 6. Lettering on the rear of the bus relating to school bus flashing signal lamps or electronic warning sign; and 7. Lettering relating to railroad stop procedures; and 8. Idenfification of fuel type in 1-inch lettering adjacent to the fuel filler opening.**	✓
ILLUMINATED SCHOOL BUS SIGN FRONT AND REAR	**Illuminated school bus sign front and rear**	✓
INSIDE HEIGHT	**Inside body height shall be 72 inches or more, measured metal to metal, at a point on the logitudinal centerline from the front vertical bow to the rear vertical bow. Inside body height of Type A-1 buses shall be 62 inches or more. Inside height measurement does not apply to air conditioning equipment**	✓
INSULATION: A. Thermal (optional)	A. If thermal insulation is specified, it shall be fire-resistant, UL approved, with minimum R-value of 5.5. Insulation shall be installed so as to prevent sagging.	✓
INSULATION: B. Floor (otional)	B. If floor insulation is required, it shall be five-ply softwood plywood, nominal 5/8-inch thickness and shall be equal to or exceed properties of the exterior-type, C-D Grade, as specified in the standard issued by U.S. Department of Commerce. When plywood is used, all exposed edges shall be sealed. Type A-1 buses may be equipped with nominal 1/2-inch-thick plywood or equivalent material meeting the above requirements. Equivalent material may be used to replace plywood, provided it has equal or greater insulation R-value, sound abatement, deterioration-resistant and moisture-resistant properties.	✓
INTERIOR: A. Free of Projections	**A. The interior of the bus shall be free of all unnecessary projections, which include luggage racks and attendant handrails, to minimize the potential for injury. This specification requires inner lining on ceilings and walls. If the ceiling is constructed with lap joints, the forward panel shall be lapped by rear panel and exposed edges shall be beaded, hemmed, flanged or otherwise treated to minimize sharp edges. Buses must be equipped with a storage compartment for tools, tire chains and/or tow chains. (see BUS BODY AND BODY SPECIFICATIONS, Storage**	✓
INTERIOR: B. Overhead Storage Compartments	**B. Interior overhead storage compartments may be provided if they meeet the following criteria: 1. Head protection requirements of FMVSS No. 222, *School Bus Passenger Seating and Crash Protection* , where applicable; 2. Be completely enclosed and equipped with latching door (both door and latch sufficient to withstand a pushing force of 50 pounds applied at the inside center of the door); 3. Have all corners and edges rounded with a minimum radius of one (1) inch or be padded equivalent to door header padding; 4. Be attached to the bus sufficiently to withstand a force equal to 20 times the maximum rated capacity of the compartment; and 5. Have no protrusions greater**	✓

Product Category	Bus: A-1 and A-2	
INTERIOR: C. Driver Area	C. The driver's area forward of the formost padded barriers will permit the mounting of required safety equipment and vehicle operation equipment.	✓
INTERIOR: D. Noise Level	D. Every school bus shall be constructed so that athe noise level at the ear of the occupant nearest to the primary vehicle noise source shall not exceed 85 dBA when tested according to the procedure described in APPENDIX B of *National School Transportation Specifications and Procedures, May 2015*	✓
LAMPS AND SIGNALS: A. Interior Lamps	A. Interior lamps which illuminate the aisle and the stepwell shall be provided. The stepwell lamp shall be illuminated by an entrance door-operated switch, to illuminate only when headlamps and clearance lamps are on and the entrance door is open.	✓
LAMPS AND SIGNALS: B. Body Instrument Panel Lamps	B. Body instrument panel lamps may be controlled by an independent dimmer switch or may be controlled by the dimmer that operates the gauge lighting.	✓
LAMPS AND SIGNALS: C. Alternately Flashing Signal Lamps	C. School bus alternately flasing signal lamps shall be provided as described by law. Multifunction school activity buses are exempt from this requirement. 1. The bus shall be equipeed with two (2) red lamps at the rear of the vehicle and two (2) red lamps at the front of th evehicle. 2. In addition to the four (4) red lamps described above, four (4) amber lamps shall be installed so that one (1) amber lamp is located near each red signal lamp, at the same level, but closer to the vertical centerline of the bus. The system of red and amber signal lamps shall be wired so that amber lamps are energized manually. The red lamps are automatically energized and amber lamps are automatically de-energized when stop signal arms are extended or when the bus entrance door is opened. The above mentioned activation sequence can be accomplished with either a "sequential operation" or a "non-sequential operation" warning lamp system. While each of the systems can be configured to include components such as a master switch, amber activation, interrupt switch, etc., the presence (or absence) of these components does not affect the classification of the system as either sequential or non-sequential. Both sequential and non-sequential systems can be configured with a multitude of switch combinations to provide a unique system meeting specific user requirements. An amber pilot lamp and a red pilot lamp shall be installed adjacent to the driver controls for the flashing signal lamp to indicate to the driver which lamp system is activated. 3. For background color requirements, refer to appropriate state specification requirements. 4. Red lamps shall flash at any time the stop signal arm is extended. 5. All flashers for alternately flashing red and amber signal lamps shall be enclosed in the body in a readily	✓

Product Category	Bus: A-1 and A-2	
LAMPS AND SIGNALS: D. Turn Signal and Stop/Tail Lamps	**D. 1. The bus body shall be equipped with amber rear turn signal lamps that are at least seven (7) inches in diameteror, if a shape other than round, a minimum 38 square inches of illuminated area and shall meet FMVSS No. 108, *Lamps, Reflective Devices, and Associated Equipment*. These signal lamps must be connected to the chassis hazard warning switch to cause simultaneous flashing of turn signal lamps when needed as a vehicular traffic hazard warning. Turn signal lamps are to be placed as wide apart as practical and their horizontal centerline shall be a maximum of 12 inches below the rear window. 2. Buses shall be equipped with amber side-mounted turn signal lamps. The turn signal lamp on the left side shall be mounted rearward of the stop signal arm and the turn signal lamp on the right side shall be mounted rearward of the entrance door. 3. Buses shall be equipped with four (4) combination red stop/tail lamps. a. Two (2) combination lamps with a minimum diameter of seven (7) inches, or if a shape other than round, a minimum 38 square inches of illuminated area shall be mounted on the rear of the bus just inside the turn signal lamps. b. Two (2) combination lamps with a minimum diameter of four (4) inches, or if a shape other than round, a minimum of 12 square inches of illuminated area, shall be placed on the rear of the body betweeen the beltline adn the floor line. The rear license plate lamp may be combined with one (1) lower tail lamp. Stop lamps shall be activated by the service brakes and shall emit a steady light when illuminated.**	✓
LAMPS AND SIGNALS: E. Monitor	**E. On buses equipped with a monitor for the front and rear lamps of the school bus, the monitor shall be mounted in full view of the driver. If the full circuit current passes through the monitor, each circuit shall be protected against any short circuit or intermittent shorts by a fuse circuit breaker, or electronic protection device**	✓
LAMPS AND SIGNALS: F. White Flashing Strobe Lamp (optional)	**F. An optional white flashing strobe lamp may be installed on the roof of a school bus at a location not closer than 12 inches or more thatn 6 feet from the rear of the roof edge. However, if the bus is equipped with a roof hatch or other roof mounted equipment falling within the above mentioned measurements, the strobe lamp may be located directly behind that equipment. The lamp shall have a single clear lens emitting light 360 degrees around its vertical axis, meeting the requirements of SAE J845. It may not extend above the roof more than the maximum legal height. A manual switch and a pilot lamp shall be included to indicate when the lamp is in operation. Optionally, the strobe lamp may be wired to activate with the amber alternately flashing signal lamps, continuing through the full loading or unloading cycle, and may be equipped with an override switch to allow activation of the stobe at any time for use in inclement**	✓
LAMPS AND SIGNALS: G. Rear Backup Lamps	**G. The bus body shall be equipped with two white rear backup lamps that are at least four (4) inches in diameter or, if a shape other than round, a minimum of 12 square inches of illuminated area, and shall meet FMVSS No. 108. If backup lamps are placed on the same horizontal line as the brake lamps and turn signal lamls, they shall be to the inside**	✓
LAMPS AND SIGNALS: H. Daytime Running Lamps System	**H. A daytime running lamps (DRL) system shall be provided.**	✓

Product Category	Bus: A-1 and A-2	
LETTERING	Must meet State and National Standards. Lettering must meet Maine Motor Vehicle Statute Title 29-A, section 2302, subsection 1.A-B. Each school bus must be identified with the words, "school bus." All lettering shall be printed in letters not less than 8 inches high and located (front and rear) between the warning signal lamps as high as possible without impairing front and rear visibility of the lettering. Each school bus must have no other lettering on the front or rear, except letterin not more thatn 4 inches high indicating an emergency exit and a bus number. Lettering specifics provided by each school district.	✓
TRIM	Maine Motor Vehicle Statute Title 29-A, section 2302, subsection 1.H. May be equipped with reflective strips of nationl school bus yellow (NSBY).	✓
	Reflexite brand tape	✓
LETTERING; INTERIOR SEAT #'S	Add numbers for interior seats; 2" decal (state quantity)	✓
LETTERING; ROOF TOP NUMBERS	Add 24 inch, last 5 digits of vehicle identification number (VIN) (state qty of digits). Price is per digit	✓
LICENSE PLATE HOLDER	Shall be on left rear outside of body with suitable method for mounting license plate	✓
LIGHT MONITOR, EXTERIOR LIGHTS	None	
	Light monitor system LED	✓
	Light monitor system not LED	✓
LIGHT, LANDING	Next to entrance door, outside skirt mounted	✓
	Delete landing light	✓
	Change to LED type light	✓
	Outside under step mounted	✓
LIGHT, LED STEPWELL LAMP	None	
	Add LED stepwell lamp	✓
LIGHT, STROBE	Strobe light is required. Shall comply with State and National Standards.	✓
	Add Brush guard	✓
LIGHTS	Lighting system be Weldon 7000 transistorized flasher OR EQUAL OR MULTIPLEX control units and include turn signals, stop lights, marker lights, stepwell lights, parking lights, landing light, interior lights, and eight (8) light warning system. Rear directional signal, side directionals, stop lights, and back-up lights in addition to the regular stop lamps. All exterior lights be bulb and conform to National Standards. (8 way lights include 3" black band around)	✓
	Change 8 way to strobing LED	✓
	Change the tail, brake, turn and backups to LED style lamps	✓
	Change 8 way, tail, brake, back up and turn to LED style lamps	✓
LIGHTS, CLEARANCE	Manufacturers standard clearance lights and must meet State and National Standards.	✓
	Add armored marker	✓
	Change to LED style	✓
	Add armored marker and add LED style	✓
LIGHT, EMERGENCY DOOR	None	✓

Product Category	Bus: A-1 and A-2	
	Add Red ICC light over emergency door (state Quantity)	✓
	Add light over emergency door. One light at the rear over the emergency door shall come on when the marker lights are on. This light shall be red overhead light and wiring shall comply with eight light system.	✓
LIGHTS, INTERIOR	**There shall be 4 dome lights installed to include 1 in drivers compartment and 3 in passenger compartment. The landing light shall be activated when the door opening mechanism is initiated.**	✓
	LED Dome lights	✓
		✓
	Add maximum dome lights	✓
	Add maximum led dome lights	✓
LIGHTS; INTERIOR DRIVER DOME	**Included**	✓
	Delete drivers dome	✓
LIGHTS; INTERIOR DOME PASSENGER	**Included**	✓
	Reduce to one switch for passenger	✓
LIGHTS TAIL TURN FLUSH MOUNT		
	Stop tail 4" flush mount LED	✓
	Stop tail 4" flush mount incandescent	✓
LIGHT VISORS	**None**	
	Individual visors for warning lights in lieu of visors that cover amber and red lights.	✓
	Dual light visors for warning lights	✓
METAL TREATMENT	**A. All metal except high-grade stainless steel or aluminum used in construction of the bus body shall be zinc-coated or aluminum-coated or treated to prevent corrosion. This includes but is not limited to such items as structural members, inside and outside panels, door panels and floor sills. Excluded are such items as door handles, grab handles, interior decorative parts and other interior plated parts. B. All metal parts that will be painted, in additin to the above requirements, shall be chemically cleaned, etched, zinc phosphate-coated and zinc chromate- or epoxy-primed to improve paint adhesion. This includes, but is not limited to, such items as crossing control arm and stop arm. C. In providing for these requirements, particular attention shall be given to lapped surfaces, welded connections of structural members, cut edges on punched or drilled hold areas in sheet metal, closed or box sections, unvented or undrained areas and surfaces subjected to abrasion during chemicle operation. D. As evidence that the above requirements have been met, samples of materials and sections used in the construction of the bus body shall be subjected to a cyclic corrosion testing as outlined n SAE J1563.**	✓
MIRRORS (29-A))	**Must be equipped with a system of mirrors that give the seated operator a view of the way to each side of the bus, and of the area immediately in front of the front bumper. [29-A MRS Section 2302(1.F)]**	✓

Product Category	Bus: A-1 and A-2	
MIRRORS	A. The interior glass mirror shall be either laminated or tempered and shall have rounded corners and protected edges. Mirrors shall be 6x16 inches minimum for Type A buses and be 6x30 inches for Types C and D buses. B. Each school bus shall be equipped with exterior mirrors meetng the requirements of FMVSS No. 111, *Rearview Mirrors*. The right side rear view mirror shall not be obscured by the unwiped portion of the windshild. Mirrors shall abe easily adjustable, but shall be rigidly braced, so as to reduce vibration. C. Heated external mirrors may be used. D. Remote controlled external rear view	✓
		✓
MIRRORS, CROSSOVER	Shall come equipped with two convex ellipitical cross-view mirrors mounted on front of vehicle. Shall be heated.	✓
MIRRORS, SIDE	Body shall be equipped with two split - style- type side-view mirrors supported from top or bottom. Exterior mirrors shall be heated.	✓
MIRRORS BRACKETS	Shall comply with National Standards.	✓
MOUNTING	A. The rear body cross member shall be supported by the chassis frame. Except where chassis components interfere, the bus body shall be attached to the chassis frame at each main floor sill in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions. B. Isolators shall be installed at all contact points between teh body and the chassis frame on Types A-2, B, C, and D buses, and shall be secured by a positive means to the chassis frame or body to prevent shifting, separation, or displacement of the isolators under severe operting conditions.	✓
MUD FLAPS	2 rear attached appropriately and made of rubber material.	✓
NOISE REDUCTION SYSTEM	Include 1/2" sound abatement package in floor and firewall	✓
NOISE REDUCTION FIREWALL	Included	✓
		✓
OUTSIDE LUGGAGE STORAGE		✓
OUTSIDE LUGGAGE; ACCESSORIES		✓
		✓
		✓
OVERALL LENGTH	Overall length of the bus shall not exceed 45 feet, excluding accessories.	✓
OVERALL WIDTH	Overall width of bus shall not exceed 102 inches, excluding accessories.	✓
Paneling, EXTERIOR REEDED		✓
PANEL, SHOULDER PAD	Full bus length	✓
POWER SOURCE		✓

Product Category	Bus: A-1 and A-2	
PUBLIC ADDRESS SYSTEM	A. Buses may be equipped with an AM/FM/audio and/or public address system having interior and exterior speakers. B. No internal speakers, other than the driver's communication systems, may be installed witin four feet of the driver's seat back in its rearmost upright position	✓
REFLECTORS	2 amber reflectors on each side of bus near the front and 2 red on rear side panels, 2 red on rear panels, and 2 amber intermediate on sides-Shall comply with FMVSS	✓
RETROREFLECTIVE MATERIAL	A. The front and/or rear bumper may be marked diagonally 45 degrees down toward the centerline of the pavement with two (2) plus or minus 1/4 inch-wide strips of non-contrasting retroreflective material. B. The rear of the bus body shall be marked with strips of retroreflective NSBY material to outline the perimeter of the back of the bus using material which conforms with the requirements of FMVSS No. 131, *School Bus Pedestrian Safety Devices*, Table 1. The perimeter markings of rear emergency exits per FMVSS No. 217, *Bus Emergency Exits and Window Retention and Release*, and/or the use of retroreflective "SCHOOL BUS" signs partially accomplishes the objective of this requirement. To complete the perimeter marking of the back of the bus, strips of retroreflective NSBY material, a minimum of 1 inch and a maximum of 2 inches in width shall be applied horizontally above the rear windows and above the rear bumper, extending from the rear emergency exit perimeter, marking outward to the left and right rear corners of the bus. Vertical strips shall be applied at the corners connecting these horizontal stripes. Multifunction school activity buses shall be exempt from these color requirements. C. "SCHOOL BUS" signs, if not a lighted design, shall be marked with retroreflective NSBY material comprising background for lettering of the front and/or rear "SCHOOL BUS" signs. D. Sides of the bus body shall be marked with at least 1-3/4 inch retroreflective NSBY material, extending the length of the bus body and located (vertically) between the floor line and the beltline. E. If used, signs placed on the rear of the bus relating to school bus flashing signal lamps or railroad stop procedures may be retroreflective material, as specified by each state. (See also APPENDICES A and B, Retroreflective Sheeting: National School Transportation Specifications and Procedures) School bus mrakings; . . . Identifications. May be equipped with reflective strips of national	✓
ROOF VENT, STATIC	Shall comply with National Standards.	✓
	Delete static roof vent. If static vent is deleted the front roof hatch must contain a static vent per National Standards.	✓
ROOF VENT, POWER		✓

Product Category	Bus: A-1 and A-2	
RUB RAILS	**A. There shall be one rub rail on each side of the bus located at, or no more than eight (8) inches above, the seat cushion level. They shall extend from the rear side of the entrance door completely around the bus body (except at the emergency door or any maintenance access door) to the point of curvature near the outside cowl on the left side. B. there shall be one additional rub rail on each side located 10 inches or less above the floor line. The rub rail shall cover the same logitudianl span as the upper rub rail, except at the wheel housing, and it shall extend only to the longitudianl tangent of the right and left rear corners. C. Rub rails above the floor line shall be attached at each body post and at all other upright structural members. D. Each rub rail shall be four (4) inches or more in width in its finished form and shall be constructed of 16-gauge metal or other material of equivalent strength suitable to help protect body side panels from damage. Rub rails shall be constructed in corrugated or ribbed fashion. E. Rub rails shall be applied outside the body or outside the body posts. (Pressed-in or snap-on rub rails do not satisfy this requirement.) For Type A-1 vehicles using the body provided by the chassis manufacturer or for Types A-2, B, C, and D buses containing the rear luggage or the rear engine compartment, rub rails need not extend around the rear corners. F. The bottom edge of the body side skirts shall be stiffened by application of a rub rail, or the edge may be stiffened by providing a flange or other stiffeners.**	✓

Product Category	Bus: A-1 and A-2	
SEATS AND RESTRAINING BARRIERS: A. PASSENGER SEATING	A. 1. School bus design capacities shall be in accordance with 49 CFR, Part 571.3, *Definitions*, and FMVSS No. 222, *School Bus Passenger Seating and Crash Protection*. 2. All seats shall have a minimum cushion depth of 15 inches, a seat back height of 24 inches above the seating reference point, and must comply with all other requirements of FMVSS No. 222. 3. All restraining barriers and passenger seats shall be constructed with materials that enable them to meet the criteria of the *School Bus Seat Upholstery Fire Block Test.* 4. Each seat leg shall be secured to the floor by bolts, washers and nuts in order to meet the performance requirements of FMVSS No. 222. Flange-head nuts may be used in lieu of nuts and washers. All seat frames attached to the seat rail shall be fastened with two or more bolts, washers and nuts, or with flange-head nuts. Seats may be track-mounted in conformance with FMVSS No. 222. 5. If track seating is installed, the manufacturer shall supply minimum and maximum seat spacing dimensions (applicable to the bus) which comply with FMVSS No. 222. This information shall be on a label permanently affixed to the bus. 6. All school buses (including Type A) shall be equipped with restraining barriers which conform to FMVSS No. 222. 7. A flip-up seat may be installed at any side emergency door. If provided, the flip-up seat shall conform to FMVSS No. 222 and aisle clearance requirements of FMVSS No. 217, *Bus Emergency Exits and Window Retention and Release.* The flip-up seat shall be free of sharp projections on the underside of the seat bottm. The underside of the flip-up seat bottoms shall be padded or contoured to reduce the possibility of clothing being snagged. Flip-up seats shall be constructed to prevent passenger limbs from becoming entrapped between the seat back and the seat cushion when the seat is in the upright position. The seat cushion shall be designed to rise to a vertical position automatically when it is not occupied. 8. Lap belts shall not be installed on	✓
SEATS AND RESTRAINING BARRIERS: B. PRE-SCHOOL AGE SEATING	B. Passenger seats designed to accommodate a child or infant acarrier seat shall comply with FMVSS No. 225, *Child Restraint Anchorage Systems*. These seats shall be in compliance with NHTSA's "*Guideline for the Safe Transportation of Pre-school Age Children in School Buses*." Note A.8: Lap belts shall not be installed on passenger seats in large school buses (over 10,000 pounds GVWR) except in conjunction with child safety restraint systems that comply with the requirements of FMVSS No. 213, *Child Restraint*	✓
SEATS AND RESTRAINING BARRIERS: C. DRIVER SEAT	C. 1. The driver's seat supplied by the body manufacturer shall be a high back seat. The seat back shall be adjustable to 15 degrees minimum, without requiring the use of tools. The seat shall be equipped with a head restraint to accommodate a 5th percentile female to a 95th percentile adult male, as defined in FMVSS No. 208, *Occupant Crash Protection*. 2.Type A buses may utilize the standard driver's seat provided	✓

Product Category	Bus: A-1 and A-2	
SEATS AND RESTRAINING BARRIERS: D. DRIVER RESTRAINT SYSTEM	D. A Type 2 lap/shoulder belt shall be provided for the driver. On buses where the driver's seat and upper anchorage for the schoulder belt are both attached to the body structure, a driver's seat with an integrated Type 2 lap/shoulder belt may be substituted. On buses where the driver's seat and upper anchorage for the shoulder belt are separately attached to both body and chassis structures (i.e., one attached to the chassis and the other attached to the body), a driver's seat with an integrated Type 2 lap/shoulder belt should be used. The assembly shall be equipped with an emergency locking retractor for the continuous belt system. On all buses except Type A that are equipped with a standard chassis manufacturer's driver's seat, the lap portion of the belt system shall be guided or anchored to prevent the driver from sliding sideways under the belt system. The lap/shoulder belt shall be designed to allow for easy adjustment in order to fit properly and to effectively protect drivers varying in size from 5th percentile adult female to 95th percentil adult male. The belt may be of a high visibility contrasting color.	✓
SEATS AND RESTRAINING BARRIERS: E. EACH BUS	E. Each bus shall be equipped with a durable webbing cutter having a full width handgrip and a protected, replacabel or non-corrodiable blade. The required webbing cutter shall be mounted in a location accessible to the seated driver in an easily detachable manner.	✓
SEAT, DRIVER	Upgrade to cloth seat	✓
SEATS, FIRE BLOCK	Required	✓
SEATS, PASSENGER: COLOR	Shall comply with National Standards.	✓
SEAT BELT	Shall comply with NHTSA 49 CFR Part 571, Standard No. 222	
STORAGE POUCH KICK PANEL BARRIER	None (located behind driver on barrier)	
KICK PANEL	One on right side	✓
	Add additional left side front	✓
SIDE SKIRT	School bus body side skirts tetween the front and rear axles shall extend down to within two inches plus or minus, of the horizontal line from the center of the front spindle to the center of the rear axle. The manufacturer may offer optional side skirt lengths that extend lower than this requuirement. This measurment shall apply to a new unloaded school bus located on a flat, level surface.	✓
STEP: DRIVER	Shall meet National Standards.	✓

Product Category	Bus: A-1 and A-2	
STEPS	**A. The first step at the entrance door shall be not less than 10 inches and not more than 14 inches from the ground when measured from the top surface of the step to the ground, based on standard chassis specifictions, except that on Type D vehicles, the first step at the entrance door shall be 12 inches to 16 inches from the ground. An auxiliary step may be provided to compensate for the increase in ground-to-first-step clearance. The auxiliary step is not required to be enclosed. B. Step risers shall not exceed a height of 10 inches. Note: When plywood is used on a steel floor or step, the riser height may be increased by the thickness of the plywood. C. Steps shall be enclosed to prevent accumulation of ice and snow. D. Steps shall not protrude beyond the side body line.**	✓
STEP TREADS	**A. All steps, including the floor line platform area, shall be covered with an elastomer floor covering having a minimum overall thickness of 0.187 inch. B. The step covering shall be permanently bonded to a durable backing material that is resistant to corrosion. C. Steps, including the floor line platform area, shall have a 1-1/2 inch nosing that contrasts in color by at least 70 percent measured in accordance with the contrasting color specification in 36 CFR, Part 1192, ADA, *Accessibility Guidelines for Transportation Vehciles*. D. Step treads shall have the following characteristics: 1. Abrasion resistance: Step tread material weight loss shall not exceed 0.40 percent, as tested under ASTM D-4060, *Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser*, (CS-17 Wheel, 1000 gram, 1000 cycle.) 2. Weathering resistance: Step treads shall not break, crack, or check after ozone exposure (seven days at 50 pphm at 40 degrees C) and Weatherometer exposure (ASTM D-750, *Standard Test Method for Rubber Deterioration in Carbon-Arc Weathering Apparatus*, seven days). 3. Flame resistance: Step treads shall have a calculated burn rate of .01 mm per minute or less using the test methods, procedures, and formulas listed in FMVSS No. 302, *Flammability of Interior Materials*. Note: A spray on application type material may be used in lieu of item A. that meets the requirements of items B. through D. The material shall be applied not only to the interior surfaces of the service door step treads but also to the exterior, if not covered by undercoataing.** Manufacturers standard to match floor color.	✓
STEP TREADS		✓
STEPWELL		✓
		✓
STEPWELL, GUARD		✓
STIRRUP STEPS	**If the windshield and lamps are not easly accessible from the ground, there may be at least one folding stirrup step or recessed foothold installed on each side of the body for easy accessibility for cleaning. There also may be a grab handle installed in conjunction with the step. Steps are permitted in or on the front bumper in lieu of the stirrup steps if the windshild and lamps ar eassily accessible for cleaning from that position.**	✓

Product Category	Bus: A-1 and A-2	
STOP SIGNAL ARM	**The stop signal arm(s) shall comply with the requiremetns of FMVSS No. 131, School Bus Pedestrian Safety Devices. MFSABs are exempt from thses requirements. School bus markings lights; . . . Identifications. May be equipped with a system of stop arms to be operated only with the red signal lights. [29-A MRS Section 2302(1.G)]**	✓
STORAGE COMPARTMENT (OPTIONAL)	A storage container for tools, tire chins and/or other equipment may be located either inside or outside the passenger compartment. If inside, it shall be fastened to the floor and have a cover with a poisitive fastening device.	✓
STUDENT REMINDER SYSTEM	**Included. Manufacturer Standard to be triggered by warning lights**	✓
STUDENT REMINDER ACTIVATION	**To be triggered by ignition.**	✓
SUN SHIELD	**A. On Types B, C, and D vehicles, an interior adjustable transparant sun shield, with a finished edge and dimensions not less thatn 6x30 inches, shall be installed i a position convenient for use by the driver. B. On Type A buses, the sun shield (visor) shall be installed by the chassis manufacturer**	✓
		✓
TOWING ATTACHMENT POINTS	**NOTE: <u>Type A buses are exempt from the requirement for front tow hooks or eyes due to built-in crush zones.</u>**	✓
TRACTION ASSISTING DEVICES (Optional)	**A. Where required or used, sanders shall: 1. Be hopper cartridge-valve type; 2. Have a metal hopper with all interior surfaces treated to prevent condensation of moisture; 3. Have a least 100 pounds (grit) capacity; 4. Have a cover that screws in place on the filler opening of the hopper, thereby sealing the unit airtight; 5. Have discharge tubes extending under the fender wheelhousing to the front of each rear wheel; 6. Have non-clogging discharage tubes with slush-proof, non-freezing rubber nozzles; 7. Be operated by an electric switch with a pilot lamp mounted on the instrument panel located so as to be exclusively controlled by the driver; 8. Be equipped with a gauge to indicate that the hopper has reached the one-quarter level (and needs to be refilled); and 9. Be designed to prevent freezing of all activation components and moving parts. B. Automatic traction**	✓

Product Category	Bus: A-1 and A-2	
TRASH CONTAINER AND HOLDING DEVICE (OPTIONAL)	When requested or used, the trash container shall be secured by a holding device that is designed to prevent movement and to allow easy removal and replacement. It shall be installed in an accessible location in the driver's compartment, not obstructing passenger access to the entrance door.	✓
UNDERCOATING	A. The entire underside of the bus body, including floor sections, cross member and below floor-line side panels, shall be coated with rust-proofing material for which the material manufacturer has issued to the bus body manufacturer a notarized certification to the bus body manufacturer that materials meet or exceed all performance requirements of SAE J1959, Sept. 2003 Edition of the Standard. B. The undercoating material shall be applied with suitable airless or conventional spray equipment to the undercoataing material manufacturer recommended film thickness and shall show no evidence of voids in the cured film. C. The undercoating material shall not cover any exhause	✓
VENTILATION	A. Auxiliary Fan(s) shall meet the following requirements: B. Fan(s) shall be placed in a location where they can be adjusted for maximum effectiveness and where they do not obstruct the driver's vision to the mirrors or interfere with the safe operation of the vehicle. 1. Fans shall have six-inch (nominal) diameter. 2. Fan blades shall abe enclosed in a protective cage. Each fan shall be controlled by a separate switch. C. The bus body shall be equipped with a suitably controlled ventilating system with capacity sufficient to maintain the proper quality of air flow under operating conditions without having to open a window except in extremely warm weather. D. Static-type, noncloseable exhaust ventilation shall be installed in a low-pressure area of the roof. E. Roof hatches designed to provide ventilation in all types of exterior weather conditions may be provided. Ventilation shall comply with National Standards.	✓
WHEEL HOUSING	A. The wheehousing opening shall allow for easy tire removal and service. B. Wheelhousings shall be attached to the floor panels in a manner to prevent any dust, water, or fumes from entering the body. Wheelhousings shall be constructed of 16-gauge (or thicker)steel. C. The inside height of the wheelhousings above the floor line shall not exceeed 12 inches. D. The wheel housings shall provide clearance for installation and use of the chains on single or dual (if so equipped) power-driven wheels. E. No part of a raised wheelhousing shall extend into	✓
WINDOW, STORM SASH, DRIVER		
WINDOW, STORM SASH, DRIVER SIDE	None (not tinted)	
WINDOW, STORM SASH, ENTRANCE DOOR	None	
WINDOW, STORM SASH, PASSENGER	None (not tinted)	
WINDOW, REAR	Manufacturer Standard	✓
WINDOWS	A. Other than emergency exits designated to comply with FMVSS No. 217, Bus Emergency Exists and Window Retention and Release, each side window shall provide an unobstructed opening of at least nine inches high (but not more than 13 inches high) and at least 22 inches wide, obtained by lowering the window. One window on each side of the bus may be less than 22 inches wide. B. Optional tinted and/or frC. ost-free glazing may be installed in all doors or windows. Windshields shall comply with federal,	✓
WINDOWS: SIDE SASHES	Shall comply with National Standards.	✓

Product Category	Bus: A-1 and A-2	
	Painted window side sashes black	✓
WINDOW: PILASTERS	Paint pilasters black	✓
	Windsheild to be OEM standard.	✓
WINDSHIELD		✓
WINDSHIELD WASHERS	Windshield washer system shall be provided.	✓
WINDSHEILD WIPERS	A. A two-speed or variable speed windshield wiping system, with an intermittent feature, shall be provided and shall be operated by a single switch. B. The wipers shall meet the requirements of FMVSS No. 104, *Windshield Wiping and Washing Systems.*	✓
WIPER BLADES		
WIPER BLADES, HEATED		✓
WHEELCHAIR ENTRY	None; If selected option the lift shall be a Braun and include a lift door, lift required lights and brake/lift interlocks to meet National Standards. Includes the deduct for the 2 seats in the lift area.	✓
	Front lift door w/Braun. If selected option shall include a lift door, lift required lights and brake/lift interlocks to meet National Standards. Should also include the deduct for the 2 seats in the lift area.	✓
		✓
	Rear lift door w/Braun. If selected option shall include a lift door, lift required lights and brake/lift interlocks to meet National Standards. Should also include the deduct for the 2 seats in the lift area.	✓
WHEELCHAIR ENTRY ALT. BRANDS	None; If selected option the lift shall include a lift door, lift required lights and brake/lift interlocks to meet National Standards. Includes the deduct for the 2 seats in the lift area.	✓
LIFT DOOR	Shall comply with National Standards.	✓
	Lock on lift door	✓
EXTERIOR LIFT LIGHTS	Shall comply with National Standards	✓
	Additional Exterior lift lights	✓
INTERIOR LIFT LIGHTS	Shall comply with National Standards	✓
	Additional interior lift lights	✓
FLAT FLOOR PACKAGE (NO SECUREMENTS)	None; If selected to include all body and chassis equipment needed for flat floor. Contact Dealer before selecting this option.	✓
	Add flat floor package. If selected to include all body and chasis equipment needed for flat floor.	✓
FLOOR TRACKING SYSTEM (NO SECUREMENTS)	None	
WHEELCHAIR SECUREMENTS (L-TRACK)	None	
WHEELCHAIR LOCATION	None	
WHEELCHAIR SEC. STORAGE POUCH	A device for storage of the Wheelchair Tie Down & Occupant Restraint System (WTORS) Storage Compartment SHALL BE PROVIDED. Shall comply with National Standard. Not required on standard bus.	✓
EVAC-AID	None	

Product Category	Bus: A-1 and A-2	
	Add evac-aid fire blankets (quantity)	✓
FIRE BLANKET	**None**	
	Add fire blankets (state quantity)	✓
RADIO 2-WAY	**None**	
RADIO 2-WAY: PREWIRE FOR 2-WAY RADIO	**None**	
SECURITY & GPS: PREWIRE FOR SECURITY & GPS SYSTEMS	**None**	
SURVEILLANCE CAMERA SYSTEM (inside the bus)	**The following regulation is in addition to the National School Transportation Specifications and Procedures 2015: Onboard video systems (also known as surveillance cameras) with a minimum of four (4) cameras and continuous recording shall be installed on the inside of all new school buses. [Code of Maine Regulations (05-071 CMR Chapt. 86) Maine Uniform School Bus Specifications] Note: school districts select the type of surveillance camera system.** Contact Dealer for hardware availability and pricing. Pricing for labor	✓
SURVEILLANCE CAMERA SYSTEM (inside the bus)	Labor to install four-camera system	✓
SURVEILLANCE CAMERA SYSTEM - GPS	**None**	
SURVEILLANAE CAMERA - STOP ARM CAMERA	**None. Contact dealer for pricing.**	
SURVEILLANCE CAMERA - MONITOR LIGHTS	**None**	
	Add camera monitor for lights	✓
SURVEILLANCE CAMERA - MONITOR SEAT BELT	**None**	
	Add camera monitor for seat belt	✓
SPECIALLY EQUIPPED SCHOOL BUS SPECIFICATIONS		
DEFINITION	**A specially equipped school bus is any school bus that is designed, equipped and/or modified to accommodate students with special transportation needs.**	✓
GENERAL REQUIREMENTS: A	**A. Specially equipped school buses shall comply with the *National School Transportation Specifications and Procedures* and with the Federal Motor Vehicle Safety Standards (FMVSSs) applicable to their Gross Vehicle Weight Rating (GVWR) category.**	✓
GENERAL REQUIREMENTS: B	**B. Any school bus to be used for the transportation of children who utilize a wheelchair or other mobile positioning device, or who require life-support equipment that prohibits use of the regular service entrance, shall be equipped with a power lift.**	✓
AISLES	**All school buses equipped with a power lift shall provide a minimum 30-inch pathway leading from any wheelchair position to at least one 30 inches wide emergency exit door. A wheel chair securement position shall never be located directly in front of (blocking) a powerlift door location.**	✓
GLAZING	**Tinted glazing may be installed in all doors, windows, and windshields consistent with federal, state, and local regulations.**	✓

Product Category	Bus: A-1 and A-2	
IDENFICATION	Specially equipped school buses shall display the International Symbol of Accessibility below the window line. Such emblems shall be white or blue or black background, shall not exceed 12 inches squre in size and shall be of a hight-intensity retroreflective material meetng the requirements of Federal Highway Administration (FHWA) FP-85, *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects*	✓
PASSENGER CAPACITY RATING	In determining the passenger capacity of a school bus for purposes other than actual passenger load (e.g., vehicle classification or various billing/reimbursement models), any location in a school bus intended for securement of a wheelchair during vehicle operation shall be regarded as four designated seating positions, and each lift area shall count as four designated seating positions	✓
POWER LIFTS	Refer to National School Transportatin Specifications and Procedures 2015.	✓
REGULAR SERVICE ENTRANCE	Refer to National School Transportatin Specifications and Procedures 2015.	✓
RESTRAINING DEVICES	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SEATING ARRANGEMENTS	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SECUREMENT AND RESTRAINT SYSTEM FOR WHEELCHAIRS AND WHEELCHAIR-SEATED OCCUPANTS	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SPECIAL LIGHT	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SPECIAL SERVICE ENTRANCE	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SPECIAL SERVICE ENTRANCE DOORS	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SUPPORT EQUIPMENT AND ACCESSORIES	Refer to National School Transportatin Specifications and Procedures 2015.	✓
TECHNOLOGY AND EQUIPMENT, NEW	Refer to National School Transportatin Specifications and Procedures 2015.	✓

Product Category **Category Description**	**Bus: Conventional** **Base Bid Spec and Description**	**Check**
Fuel	**Electric**	**TYPE C**
Chassis Options		
AIR CLEANER	**A. A dry element air cleaner shall be provided. B. All diesel engine air filters shall include a latch-type restriction indicator that retains the maximum restriction developed during operation of the engine. The indicator should include a reset control so the indicator can be returned to zero when desired.**	✓
AXLES	**The front and rear axle and suspension systems shall have a gross axle weight rating (GAWR) at ground commensurate with the respective front and rear weight loads of the bus loaded to the rated passenger capacity.**	✓
BRAKES: GENERAL. A.	**A. The chassis brake system shall conform to the provisions of FMVSS No. 105, Hydraulic and Electric Brake Systems, 106, Brake Hoses, and 121, Air Brake Systems, as applicable. All buses shall have either a parking pawl in the transmission or a park brake interlock that requires the service brake to be applied to allow release of the parking brake.**	✓
BRAKES: GENERAL. B.	**B. The anti-lock brake system (ABS), provided in accordance with FMVSS No. 105, Hydraulic and Electric Brake Systems or No. 121, Air Brake Systems, shall provide wheel speed sensors for each front wheel and for each wheel on at least one rear axle. The system shall provide anti-lock braking performance for each wheel equiped with sensors (Four Channel System).**	✓
BRAKES: GENERAL. C.	**C. All brake systems shall be designed to permit visual inspection of brake lining wear without removal of any chassis component(s).**	✓
BRAKES: GENERAL. D.	**D. The brake lines, booster-assist lines, and control cables shall be protected from excessive heat, vibration and corrosion and installed in a manner that prevents chafing.**	✓
BRAKES: GENERAL. E.	**E. The parking brake system for either air or hydraulic service brake systems may be of a power-assisted design. The power parking brake actuator should be a device located on the instrument panel within reach of a seated 5th percentile female driver. As an option, the parking brake may be set by placing the automatic transmission shift control mechanism in the "park" position.**	✓
BRAKES: GENERAL. F.	**F. The power-operated parking brake system may be interlocked to the engine key switch. Once the parking brake has been set and the ignition switch turned to the "off" position, the parking brake cannot be released until the key switch is turned back to the "on" position.**	✓
BRAKES: HYDRAULIC	**Buses using hydraulic-assist brakes shall meet requirements of FMVSS 105.**	✓
BRAKES: AIR. A.	**A. The air pressure supply system shall include a desiccant-type air dryer installed according to the manufacturer's recommendations. The air pressure storage tank system may incorporate an automatic drain valve.**	✓
BRAKES: AIR. B.	**B. The chassis manufacturer shall provide an accessory outlet for air-operated systems installed by the body manufacturer. This outlet shall include a pressure protection valve to prevent loss of air pressure in the service brake reservoir.**	✓

Product Category	Bus: Conventional	
BRAKES: AIR. C.	C. For air brake systems, an air pressure gauge shall be provided in the instrument panel capable of complying with Commercial Driver's License (CDL) pre-trip inspection requirements.	✓
BRAKES: AIR. D.	D. Air brake systems shall include a system for anti-compounding of the service brakes and parking brakes.	✓
BRAKES: AIR. E.	E. Air brakes shall have both a visible and audible warning device whenever the air pressure falls below the level where warnings are required under FMVSS No. 121, *Air Brake Systems*.	✓
BUMPER: FRONT A.	A. School buses shall be equipped with a front bumper.	✓
BUMPER: FRONT B.	B. The front bumper on buses of Type A-2 (with GVWR greater thatn 14,500 pounds), Type B, Type C, and Type D shall be equivalent in strength and durability to pressed steel channel at least 3/16 inches thick and not less than 8 inches wide (high). It shall extend beyond the forward-most part of the body, grille, hood, and fenders and shall extend to the outer edges of the fenders at the bumper's top line. Type A buses having GVWR of 14,500 pounds or less may be equipped with OEM--supplied front bumper. The front bumper shall be of sufficient strength to permit being pushed by another vehicle on a smooth surface with a 5 degree, (8.7percent) grade, without permanent distortion. The contact point on the front bumper is intended to be between the frame rails, with as wide a contact area as possible. If the front bumper is used for lifting, the contact points shall be under the bumper attachments to the frame rail brackets unless the manufacturer specifies different lifting points in the owner's manual. Contact and lifting pressures should be applied simultaneously at both lifting points.	✓
BUMPER: FRONT C.	C. The front bumper, except breakaway bumper ends, shall be of sufficient strength to permit pushing a vehicle of equal gross vehicle weight, per Section B, without permanent distortion to the bumper, chassis or body.	✓
BUMPER: FRONT D.	D. The bumper shall be designed or reinforced so that it will not deform when the bus is lifted by a chain that is passed under the bumper (or through the bumper if holes are provided for this purpose) and attached to both tow hooks/eyes. For the purpose of meeting this specification, the bus shall be empty and positioned on a level, hard surface, and both tow hooks/eyes shall share the load equally.	✓
BUMPER: REAR A.	A. The bumper on Type A-1 buses shall be a minimum of 8 inches wide (high). Bumpers on Types A-2, B, C, and D buses shall be a minimum of 9-1/4 inches wide (high).	✓
BUMPER: REAR B.	B. The bumper shall wrap around the back corners of the bus. It shall extend forward at least 12 inches, measured from the rear-most point of the body at the floor line, and shall be mounted flush with the sides of the body or protected with an end panel.	✓
BUMPER: REAR C.	C. The bumper shall be attached to the chassis frame in such a manner that it may be removed. It shall be braced to resist deforration of the bumper resulting from impact from the rear of the side. It shall be designed to discourage hitching of rides by an individual.	✓
BUMPER: REAR D.	D. The bumper shall extend at least one inch beyond the rear-most part of the body surface, measured at the floor line.	✓
BUMPER: REAR E.	E. The bottom of the rear bumper shall not be more than 30 inches above ground level.	✓
BUMPER, FRONT	Comply with National Standard. And must have bumpers of glossy black unless painting is impracticable through use of rubber, reflective material or other devices. [29-A MRS	✓

Product Category	Bus: Conventional	
CERTIFICATION	Upon request of the state agency having student transportation jurisdiction, the chassis and body manufacturer(s) shall certify that its(their) product(s) meets the state's minimum standards on items which are not covered by FMVSS certificatin requirements of 49 CFR, Part 567: *Certification*.	✓
COLOR: Maine Statute	The chassis shall be black. "*Must have bumpers of glossy black unless painting is impracticable through use of rubber, reflective material or other devices*" [29-A Maine Revised Statutes section 2302(D)]. Body, cowl, hood, and fenders shall be in *national school bus glossy yellow*. State statue [29-A MRS section 2302(C and D)] and Code of Maine Regulations [CMR 05-071 - Chapter 86, section 3(1.A.(1))] apply.	✓
DRIVE SHAFT	The drive shaft shall be protected by a metal guard or guards around the circumference of the drive shaft to reduce the possibility of its whipping through the floor or dropping to the ground, if broken.	✓
ELECTRICAL SYSTEM: A. Battery	A. 1. The storage batteries shall have minimum cold cranking capacity rating (cold cranking amps) equal to the cranking current required 30 seconds at 0 degrees Fahrenheit and a minimum reserve capacity rating of 120 minutes at 25 amps. Higher capacities may be required, depending upon optional equipment and local environmental conditions. 2. The manufacturer shall securely attach the battery on a slide-out or swing-out tray in a closed, vented compartment in the body skirt or chassis frame so that the battery is accessible for convenient servicing from the outside. When in the stored position, the tray shall be retained by a securing mechanism capable of holding the tray [with battery(ies)] in position when subjected to a 5g load from any direction. The battery compartment door or cover, if separate from the tray, shall be hinged at the front or top. It shall be secured by a positive operated latching system or other type fastner. The door may be an integral part of the batter slide tray. the door or cover must fit tightly to the body, and not present sharp edges or snagging points. Battery cables shall meet SAE requirements. Batter cables shall be of sufficient lenght to allow the battery tray to fully extend. Any chassis frame-mounted batteries shall be relocated to a battery compartment on Type A buses. 3. All batteries are to be secured in a sliding tray except that on van conversion or cutaway front-section chassis, batteries may be secured in accordance with the manufacturer's standard configuration. In these cases, the final location of the battery and the appropriate cable lenghts shall be agreed upon mutually by the chassis and body manufacturers. However, in all cases the battery cable provided with the chassis shall have sufficient lenth to allow some slack, and shall be of sufficient gauge to carry the required amperage. 4. Buses may be equipped with a battery shut-off switch. The switch is to be placed in a location not readily accessible to the driver or passengers.	✓

Product Category	Bus: Conventional	
ELECTRICAL SYSTEM: B. Alternator	B. 1. All type A and Type B buses with a GVWR of 15,000 pounds or less shall have a minimum 130-amp alternator. Buses equipped with an electrically powered wheelchair lift and/or air conditioning shall be equipped with the highest rated capacity available from the chassis OEM. 2. All buses over 15,000 pounds GVWR shall be equipped with a heavy-duty truck-or-bus-type alternator having a minimum output rating of 200 amps or higher, and should produce a minimum current output of 50 percent of the rating at engine idle speed. 3. All other buses than those described in B1 equipped with an electrically powered wheelchair lift and/or air conditioning shall have a minimum alternator output of 240 amps and may be equipped with a device that advances the engine idle speed when the voltage drops to, or below, a pre-set level. 4. A belt-driven alternator shall be calpable of handling the rated capacity of the alternator with no detrimental effect on any other driven components. (For estimating required alternator capacity, see School Bus Manufacturers Technical Council's publication, "School Bus Technical Reference," available at http://www.nasdpts.org) 5. A direct/gear-drive alternator is permissible in lieu of a belt-driven alternator.	✓
ELECTRICAL SYSTEM: C. Electrical Components	C. Materials in all electrical components shall contain no mercury.	✓
ELECTRICAL SYSTEM: D. Wiring, Chassis	D. 1. All wiring shall conform to current applicable recommended practices of the Society of Automotive Engineers (SAE). All wiring shall use color and at least one other method for identification. The other method shall be either a number code or name code, and each chassis shall be delivered with a wiring diagram that illustrates the wiring of the chassis. 2. The chassis manufacturer of an incomplete vehicle shall install a readily accessible terminal strip or connector on the body side of the cowl or in an accessible location in the engine compartment of vehicles designed without a cowl. The strip or connector shall contain the following terminals for the body connections: a. Main 100-amp body circuit; b. Tail lamps; c. Right turn signal; e. Stop lamps; f. Back-up lamps; and g. Instrument panel lamps (controlled by dimmer switch). 3. An appropriate identifyng diagram (color plus a name or number code) for all chassis electrical circuits shall be provided to the body manufacturer for distribution to the end user. 4. Wiring for the headlamp system must be separate from the elctronic controlled body solenoid/module.	✓
ELECTRICAL SYSTEM: E. Wiring, Body: 1-6	E. 1. All wiring shall conform to current applicable SAE recommended practices. 2. All wiring shall have an amperage capacity exceeding the design load by at least 25%. All wiring splices are to be accessible and noted as splices on the wiring diagram. 3. A body wiring diagram, sized to be easily read, shall be furnished with each bus body or affixed to an area convenient to the electrical accessory control panel. 4. The body power wire shall be attached to a special terminal on the chassis. 5. Each wire passing through metal openings shall be protected by a grommet. 6. Wires not enclosed within the body shall be fastened securely at intervals of not more than 18 inches. All joints shall be soldered or joined by equally effective connectors, which shall be water-resistant and corrosion-resistant.	✓

Product Category	Bus: Conventional	
ELECTRICAL SYSTEM: E. Wiring, Body: 7	**E. 7. Wiring shall be arranged in circuits, as required, with each circuit protected by a fuse breaker or electronic protection device. A system of color and number-coding shall be used and an appropriate identifying diagram shall be provided to the end user, along with the wiring diagram provided by the chassis manufacturer. The wiring diagrams shall be specific to the bus model supplied and shall include any changes to wiring made by the body manufacturer. Chassis wiring diagrams shall be supplied to the end user. The following body interconnecting circuits shall be color-coded, as noted by function: Left Rear Directional Lamp (Yellow), Right Rear Directional Lamp (Dark Green), Stop Lamps (Red), Tail Lamps (Brown), Ground (White), and Ignition Feed, Primary Feed (Black). The color of the cables shall correspond to SAE J1128, *Low-Tension Primary Cable*.**	✓
ELECTRICAL SYSTEM: E. Wiring, Body: 8-12	**E. 8. Wiring shall be arranged in at least six (6) regular circuits, as follows: a. Head, tail, stop (brake), clearance and instrument panel lamps; b. Step well lamps shall be actuated when the entrance door is open; c. Dome lamps; d. Ignition and emergency door signal; e. Turn signal lamps; and f. Alternately flashing signal lamps. 9. Any of the above combination circuits may be subdivided into additional independent circuits. 10. Heaters and defrosters shall be wired on an independent circuit. 11. Whenever possible, all other electrical functions (such as sanders and electric-type windshield wipers) shall be provided with independent and properly protected circuits. 12. Each body circuit shall be coded by number or letter on a diagram of circuits and shall be attached to the body in a readily accessible location.**	✓
ELECTRICAL SYSTEM: F. Power Port	**F. Buses may be equipped with a 12-volt power port in the driver's area.**	✓
ELECTRICAL SYSTEM: G. Noise Suppression	**G. There shall be a manual noise suppression switch installed in the control panel. The switch shall be labeled and alternately colored. This switch shall be an on/off type that deactivates body equipment that produces noise, including at least the AM/FM radio, heaters, air conditioners, fans, and defrosters. This switch shall not deactivate safety systems, such as windshield wipers or lighting systems.**	✓
ELECTRICAL SYSTEM: H. Voltage	**H. The entire electrical system of the body shall be designed for the same voltage as the chassis on which the body is mounted.**	✓
EXHAUST SYSTEM	**Must comply with National Specifications and Maine Motor Vehicle Inspection Manual (REFER TO MAINE MANUAL).**	**NA**
EXHAUSE PIPE	**The exhause pipe must be entirely outside the passenger compartment of a school bus. [29-A MRS section 2305(2)]**	**NA**
EXHAUST SYSTEM: A-C	**A. The exhaust pipe, after-treatment system and tailpipe shall be outside the bus body compartment and shall be attached to the chassis so any other chassis component is not damaged. B. The tailpipe and after-treatment system shall be constructed of a corrosion-resistant tubing material at least equal in strenght and durability to 16-gauge steel tubing of equal diameter. C. The tailpipe may be flush with, or shall not extend more than two inches beyond, the perimeter of the body for side-exit pipe. The exhaust system shall be designed such that exhaust gas will not be trapped under the body of the bus.**	**NA**

Product Category	Bus: Conventional	
EXHAUST SYSTEM: D-F	D. The tailpipe shall exit to the left or right of the emergency exit door in the rear of the vehicle or to the left side of the bus in front of or behind the rear drive axle or the tailpipe may extend through the bumper. The tailpipe exit location on all Types A-1 or B-1 buses may be in accordance to the manufacturer's standards. The tailpipe shall not exit beneath any fuel filler location, emergency door, or lift door. E. The exhaust shall be insulated in a manner to prevent any damage to any fuel system component. F. The design of the after treatment systems shall not allow active (non-manual) regeneration of the particulate filter during the loading and unloading of passengers. Manual regeneration systems will be designed such that unintentional operation will not occur.	NA
EXHAUST SYSTEM: G	G. For after treatment systems that require Diesel Exhaust Fluid (DEF) to meet federally mandated emissions: 1. The composition of Diesel Exhause Fluid (DEF) must comply with International Standard ISO 22241-1. Refer to engine manufacturer for any additional DEF requirements. 2. The DEF supply tank shall be sized to meet a minimum ratio of 3 diesel fills to 1 DEF fill.	NA
FENDERS: FRONT	A. When measured at the fender line, the total spread of the outer edges of front fenders shall exceed the total spread of front tires when front wheels are in a straight-ahead position. B. Front fenders shall be properly braced and shall not require attachment to any part of the body.	✓
FIRE SUPPRESSION SYSTEMS (Optional)	A. The chassis manufacturer may provide an automatic fire extinguisher system in the engine compartment. B. Fire suppression system nozzles shall be located in the engine compartment, under the bus, in the electrical panel or under the dash, but they shall not be located in the passenger compartment. The system must include a lamp or buzzer to alert the driver that the system has been activate.	✓
FRAME	A. Frame lengths shall be established in accordance with the design criteria for the complete vehicle. B. Making holes in top or bottom flanges or side units of the frame and welding to the frame shall not be permitted except as provided or accepted by the chassis manufacturer. C. Frames shall not be modified for the purpose of extending the wheel base. D. Any secondary manufacturer that modifies the original chassis frame shall provide a warranty at least equal to the warranty offered by the original equipment manufacturer (OEM), and shall certify that the modification and other parts of equipment affected by the modification shall be free from defects in material and workmanship under normal use and service intended by the OEM.	✓
FUEL SYSTEM: A.-E. Fuel Tanks	A. Fuel tank(s) having a minimum 25-gallon capacity shall be provided by the chassis manufacturer. Each tank shall be filled from and vented to the outside of the passenger compartment, and each fuel filler should be placed in a location where accidential fuel spillage will not drip or drain or any part of the exhaust system. B. The fuel system shall comply with FMVSS No. 301, Fuel System Integrity. C. Fuel tank(s) may be mounted between the chassis frame rails or outboard of the frame rails on either the left or right side of the vehicle. D. The actual draw capacity of each fuel tank shall be a minimum of 83 percent of the tank capacity. E. Installation of alternative fuel systems, including fuel tanks and piping from the tank to the engine, shall comply with all applicable fire codes in effect on the date of manufacture of the bus.	NA
FUEL SYSTEM: F. Liquefied Petroleum Gas (LPG)	F. Installation of Liquefied Petroleum Gas (LPG) tanks shall comply with National Fire Protection Association (NFPA) 58, ***Liquefied Petroleum Gas Code*** .	NA

Product Category	Bus: Conventional	
FUEL SYSTEM: G.-H. Compressed Natural Gas (CNG)	G. Installation of Compressed Natural Gas (CNG) containers shall comply with FMVSS No. 304, Compressed Natural Gas Fuel Container Integrity. H. The CNG Fuel System shall comply with FMVSS No. 303, *Fuel System Integrity of Compressed Natural Gas Vehicles*.	NA
FUEL TANK FILLER, VENT, DRAIN OPENINGS	The fuel tank filler, vent and drain openings must be outside the school bus body. [29-A MRS Section 2305(3)]	NA
GOVERNOR	An electronic engine speed limiter shall be provided and set to limit engine speed, not to exceed the maximum revolutions per minute, as recommended by the engine manufacturer.	✓
HEATING SYSTEM, PROVISION FOR	The engine shall be capable of supplying coolant at a temperature of at least 170 degrees Fahrenheit at the engine coolant thermostat opening. The coolant flow rate shall be 50 pounds per minute at the return end of 30 feet of one (1) inch inside diameter automotive hot water heater hose. (See SBMTC-001, *Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment*.)	✓
HORN	The bus shall be equipped with a horn(s) of standard make with the horn(s) capable of producing a complex sound in bands of audion frequencies between 250 and 2,000 cycles per second, and tested in accordance with SAE J377, *Horn - Forward Warning - Electric - Performance, Test, and Application.*	✓
INSTRUMENTS AND INSTRUMENT PANEL: A.	A. The chassis shall be equipped with the instruments and gauges listed here. Note: Telltale warning lamps in lieu of gauges are not acceptable, except as noted. 1. Speedometer; 2. Odometer that can be read without using a key and that will give accrued mileage (to seven digits), including tenths of miles, unless tenths of miles are registered on a trip odometer; 3. Tachometer; Note: for types B, C, and D buses, a tachometer shall be installed so as to be visible to the driver while seated in a normal driving position. 4. Voltmeter; Note: An ammeter with graduated charge and discharge indications is permitted in lieu of a voltmeter; however, when used, the ammeter wiring must be compatible with the current flow of the system. 5. Oil pressure gauge; 6. Water temperature gauge; 7. Fuel gauge; 8. High beam headlamp indicator; 9. Brake air pressure gauge (air brakes), brake indicator lamp (vacuum/hydraulic brakes), or brake indicator lamp (hydraulic/hydraulic); 10. Turn signal indicator; and 11. Glow-plug indicator lamp, where appropriate.	✓
INSTRUMENTS AND INSTRUMENT PANEL: B.	B. All instruments shall be easily accessible for maintenance and repair.	✓
INSTRUMENTS AND INSTRUMENT PANEL: C.	C. The instruments and gauges shall be mounted on the instrument panel so that each is clearly visible to the driver while seated in a normal driving position.	✓
INSTRUMENTS AND INSTRUMENT PANEL: D.	D. Instruments and controls must be illuminated as required by FMVSS No. 101, *Controls and Displays*.	✓

Product Category	Bus: Conventional	
INSTRUMENTS AND INSTRUMENT PANEL: E.	E. Multi-Function Gauge (MFG): 1. The driver must be able to manually select any displayable function of the gauge on a MFG, whenever desired. 2. Whenever an out-of-limits condition that would be displayed on one or more functions of a MFG occurs, the MFG controller should automatically display this condition on the instrument cluster. This should be in the form of an illuminated telltale warning lamp, as well as having the MFG automatically display the out-of-limits indications. If two or more functions displayed on the MFG go out of limits simutaneously, then the MFG should sequence automatically between those functions continuously until the condition(s) are corrected. 3. The use of a MFG does not relieve the need for audible warning devices, where required.	✓
MOUNTING	A. The rear body cross member shall be supported by the chassis frame. Except where chassis components interfere, the bus body shall be attached to the chassis frame at each main floor sill in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions. B. Isolators shall be installed at all contact points between teh body and the chassis frame on Types A-2, B, C, and D buses, and shall be secured by a positive means to the chassis frame or body to prevent shifting, separation, or displacement of the isolators under severe operting conditions.	✓
OIL FILTER	An oil filter with a replaceable element shall be provided and connected by flexible oil lines if it is not a built-in or an engine-mounted design. The oil filter shall have a capacity in accordance with the engine manufacturer's recommendation.	✓
OPENINGS	All openings in the floorboard or firewall between the chassis and the passenger compartment (e.g., for gearshift selector and parking brakes lever) shall be sealed.	✓
PASSENGER LOAD	A. Actual gross vehicle wight (GVW) is the sum of the chassis weight plus the body weight, plus the driver's weight, plus total seated student weight. For purposes of calculation, the driver's weight is 150 pounds and the student wight is 120 pounds per student. B. Actual GVW shall not exceed the chassis manufacturer's GVWR for the chassis, nor shall the actual weight carried on any axel exceed the chassis manufacturer's Gross Axle Weight Rating (GAWR)	✓
RETARDER SYSTEM (optional equipment)	A retarder system, if used, shall limit the speed of a fully loaded school bus to 19.0 mph on a 7% grade for 3.6 miles.	✓
ROAD SPEED CONTROL	When it is desired to accurately control vehicle maximum speed, a vehicle speed limiter may be utilized.	✓
SHOCK ABSORBERS	The bus shall be equipped with double-action shock absorbers compatiable with the manufacturer's rated axle capacity at each wheel location.	✓
SHUTTERS	None	✓

Product Category	Bus: Conventional	
STEERING GEAR	**A. The steering gear shall be aproved by the chassis manufacturerer and designed to ensure safe and accurate performance when the vehicle is operated with maximum load and at maximum speed. B. If external adjustments are required, the steering mechanism shall be accessible to make adjustments. C. Changes shall not be made to the steering apparatus which are not approved by the chassis manufacturer. D. There shall be a clearance of at least two inches between the steering wheel and cowl, instrument panel, windshield or any other surface. E. Power steering is required and shall be of the integral type with integral valves. F. The steering system shall be designed to provide a means for lubrication of all wearpoints that are not permanently lubricated.**	✓
SUSPENSION SYSTEM	**A. The capacity of springs or suspension assemblies shall be commensurate with the chassis manufacturer's GVWR. B. Rear leaf springs shall be of a progressive rate or multi-stage design. Front leaf springs shall have a stationary eye at one end and shall be protected by a wrapped leaf, in addition to the main leaf.** Shall comply with National Standards.	✓
THROTTLE	**The force required to operate the throttle shall not exceed 16 pounds throughout the full range of accelerator pedal travel.**	✓
TIRES & RIMS	**A. Rims and tires of the proper size and load rating commensurate with the chassis manufacturer's GVWR shall be provided. The use of milti-piece rimes and/or tube-type tires shall not be permitted on any school bus ordered after December 31, 1995. B. Dual rear tires shall be provided on Type A-2, Type B, Type C, and Type D school buses. C. All tires on a vehicle shall be of the same size, and the load range of the tires shall meet or exceed the GVWR, as required by FMVSS No. 120, *Tire Selection and Rims for Vehicles other than Passenger Car*. D. If the vehicle is equipped with a spare tire and rim assemble, it shall be the same size as those mounted on the vehicle. E. If a tire carrier is required, it shall be suitable mounted in an accessible location outside of the passenger compartment.** Standard is no Spare Tire or Rim.	✓
TRANSMISSION, AUTOMATIC	**A. Automatic transmissions shall have no fewer than three forward speeds and one reverse speed. Mechanical shift selectors shall provide a detent between each gear position when the gear selector quadrant and shift selector are not steering-column mounted. B. Automatic tranmissions shall have a transmission shifter interlock controlled by the application of the service brake to prohibit accidental engagement of the transmission.** PTS2500 Shall comply with National Standards. PTS2500 5-speed is standard specification.	**NA**
TURNING RADIUS	**A chassis with a wheel base of 264 inches or less shall have a right and left turning radius of not more than 42-1/2 feet, curb-to-curb measurement. A chassis with a wheelbase of 265 inches or more shall have a right and left turning radius of not more than 44-1/2 feet, curb-to-curb measurement**	✓
UNDERCOATING	**A. The entire underside of the bus body, including floor sections, cross member and below floor-line side panels, shall be coated with rust-proofing material for which the material manufacturer has issued to the bus body manufacturer a notarized certification to the bus body manufacturer that materials meet or exceed all performance requirements of SAE J1959, Sept. 2003 Edition of the Standard. B. The undercoating material shall be applied with suitable airless or conventional spray equipment to the undercoataing material manufacturer recommended film thickness and shall show no evidence of voids in the cured film. C. The undercoating material shall not cover any exhause components of the chassis.**	✓

Product Category	Bus: Conventional	
Body Options		
ACCESS	**A school bus must be constructed to permit the operator access to the passenger compartment without leaving the vehicle. [29-A MRS Section 2305(1)]**	✓
AIR CONDITIONING, PASSENGER COMPARTMENT (optional)	The specifications are applicable to all types of school buses that may be equipped with air conditioning. This section is divided into three parts. Part 1 covers performance specifications, Part 2 covers test conditions, and Part 3 covers other requirements applicable to all buses.	✓
AISLE	**All emergency exit doors shall be accessible by a 12-inch minimum aisle. The aisle shall be unobstructed at all times by any type of barrier, seat, wheelchair or tie-down, unless a flip seat is installed and occupied. The track of a track seating system is exempt from this requirement. A flip seat in the unoccupied (up) position shall not obstruct the 12-inch minimum aisle to any side emergency exit door.**	✓
BACK-UP WARNING ALARM	**An automatic audible alarm shall be installed behind the rear axle and shall comply with the published Backup Alarm Standards (SAE J994b), providing a minimum of 112 dBA, or shall have a variable volume feature that allows the alarm to vary from 87 dBA to 112 dBA sound level, staying at least 5 dBA above the ambient noise level. Shall comply with National Standards.**	✓
BUMPER: FRONT A.	**A. School buses shall be equipped with a front bumper.**	✓
BUMPER: FRONT B.	**B. The front bumper on buses of Type A-2 (with GVWR greater thatn 14,500 pounds), Type B, Type C, and Type D shall be equivalent in strength and durability to pressed steel channel at least 3/16 inches thick and not less than 8 inches wide (high). It shall extend beyond the forward-most part of the body, grille, hood, and fenders and shall extend to the outer edges of the fenders at the bumper's top line. Type A buses having GVWR of 14,500 pounds or less may be equipped with OEM--supplied front bumper. The front bumper shall be of sufficient strength to permit being pushed by another vehicle on a smooth surface with a 5 degree, (8.7percent) grade, without permanent distortion. The contact point on the front bumper is intended to be between the frame rails, with as wide a contact area as possible. If the front bumper is used for lifting, the contact points shall be under the bumper attachments to the frame rail brackets unless the manufacturer specifies different lifting points in the owner's manual. Contact and lifting pressures should be applied simultaneously at both lifting points.**	✓
BUMPER: FRONT C.	**C. The front bumper, except breakaway bumper ends, shall be of sufficient strength to permit pushing a vehicle of equal gross vehicle weight, per Section B, without permanent distortion to the bumper, chassis or body.**	✓
BUMPER: FRONT D.	**D. The bumper shall be designed or reinforced so that it will not deform when the bus is lifted by a chain that is passed under the bumper (or through the bumper if holes are provided for this purpose) and attached to both tow hooks/eyes. For the purpose of meeting this specification, the bus shall be empty and positioned on a level, hard surface, and both tow hooks/eyes shall share the load equally**	✓
BUMPER: REAR A.	**A. The bumper on Type A-1 buses shall be a minimum of 8 inches wide (high). Bumpers on Types A-2, B, C, and D buses shall be a minimum of 9-1/4 inches wide (high).**	✓

Product Category	Bus: Conventional	
BUMPER: REAR B.	B. The bumper shall wrap around the back corners of the bus. It shall extend forward at least 12 inches, measured from the rear-most point of the body at the floor line, and shall be mounted flush with the sides of the body or protected with an end panel.	✓
BUMPER: REAR C.	C. The bumper shall be attached to the chassis frame in such a manner that it may be removed. It shall be braced to resist deforration of the bumper resulting from impact from the rear of the side. It shall be designed to discourage hitching of rides by an individual.	✓
BUMPER: REAR D.	D. The bumper shall extend at least one inch beyond the rear-most part of the body surface, measured at the floor line.	✓
BUMPER: REAR E.	E. The bottom of the rear bumper shall not be more than 30 inches above ground level.	✓
CERTIFICATION	Upon request of the state agency having student transportation jurisdiction, the chassis and body manufacturer(s) shall certify that its(their) product(s) meets the state's minimum standards on items which are not covered by FMVSS certificatin requirements of 49 CFR, Part 567: *Certification*	✓
COLOR. A. BODY.	A. The school bus body "*must be painted national school bus glossy yellow, except that the hood may be lusterless black*" [29-A Maine Revised Statutes section 2302(C)].	✓
COLOR. B. EXTERIOR TRIM.	B. The body exterior trim, as defined by individual states, shall be black. "*Must have bumpers of glossy black unless painting is impracticable through use of rubber, reflective material or other devices*" [29-A Maine Revised Statutes section 2302(D)].	✓
COLOR. C. ROOF	C. Roof. State statue [29-A MRS section 2302(C)] and Code of Maine Regulations [CMR 05-071 - Chapter 86, section 3(1.A.(1)] apply: *"Roof color exception: a white roof on a school bus is not a state school bus specification."*	✓
COLOR. D. CHASSIS AND FRONT BUMPER.	D. The chassis shall be black. "*Must have bumpers of glossy black unless painting is impracticable through use of rubber, reflective material or other devices*" [29-A Maine Revised Statutes section 2302(D)]. Body, cowl, hood, and fenders shall be in *national school bus glossy yellow*. State statue (29-A MRS section 2302(C and D)) and Code of Maine Regulations [CMR 05-071 - Chapter 86, section 3(1.A.(1))] apply.	✓
COLOR. E. WHEELS.	E. Wheels may be silver, gray, white, yellow, or black.	✓
COLOR. F. MULTIFUNCTION SCHOOL ACTIVITY BUSES.	F. Multifunction school activity buses (MFSABs) shall be exempt from these [color] requirements.	✓

Product Category	Bus: Conventional	
CONSTRUCTION	A. Side Intrusion Test: The bus body shall be constructed to withstand an intrusion force equal to the curb weight of the vehicle of 20,000 pounds, whichever is less. Each vehicle shall be capable of meetng this requirement when tested in accordance with the procedures set forth below. The complete body structure, or a representative seven-body section mock up with seats installed, shall be load-tested at a location 24 +/- 2 inches above the floor line, with a maximum 10 inch diameter cylinder, 48 inches long, mounted in a horizontal plane. The cylinder shall be placed as close as practical to the mid-point of the tested structure, spanning two internal vertical structural members. The cylinder shall be statically loaded to the required force of curb weight of 20,000 pounds, whichever is less, in a horizontal plane with the load applied from the exterior toward the interior of the structure. When the minimum load has been applied, the penetration of the loading cylinder into the passenger compartment shall not exceed 10 inches from its original point of contact. There can be no separation of lapped panels or construction joints. Punctures, tears, or breaks in the external panels are acceptable but are not permitted on any adjacent interior panel. Body companies shall certify compliance with this intrusion requirement, and include test resutls, as requested. B. Construction shall be reasonably dust-proof and watertight.	✓
CROSSING CONTROL ARM. A, B, C	A. School buses of model year 2021 or newer MUST be equipped with a crossing control arm [29-A M.R.S. section 2302(1-A)]. The crossing control arm may be mounted on the right side of the front bumper. When opened, this arm shall extend in a line parallel to the body side and aligned with the right front wheel. B. All components of the crossing control arm and all connections shall be weatherproofed. C. The crossing control arm shall incorporate system connectors (electrical, vacuum, or air) at the gate and shall be easily removable to allow for towing of the bus.	✓
CROSSING CONTROL ARM. D, E, F	D. The crossing control arm shall be constructed of non-corrodible or nonferrous material or shall be treated in accordance with the boday sheet metal slpecification. (See bus body and chassis specifications, metal treatment.) E. There shall be no sharp edges or projections that could cause injury or be a hazard to students. The end of the arm shall be rounded. F. The crossing control arm shall extend a minimum of 70 inches (measured from the bumper	✓
CROSSING CONTROL ARM. G, H, I	G. The crossing control arm shall extend simultaneously with the stop signal arm(s), activated by stop signal arm controls. H. An automatic recycling interrupt switch may be installed for temporarily disabling the crossing control arm. I. The assembly shall include a device attached to the bumper near the end of the arm to automatically retain the arm while in the stowed position. That device shall not interfere with normal operations of the crossing control arm.	✓

Product Category	Bus: Conventional	
DEFROSTERS. A.	A. Defrosting and defogging equipment shall direct a sufficient flow of heated air onto the windshield, the window to the left of the driver and the glass in the viewing area directly to the right of the driver to eliminate frost, fog, and snow. NOTE: The requirements of this standard do not apply to the exterior surfaces of double pane storm windoes.	✓
DEFROSTERS. B.	B. The defrosting system shall conform to SAE J381, *Windshield Defrosting Systems Test Procedure and Performance Requirements - Trucks, Buses, and Multipurpose Vehicles* .	✓
DEFROSTERS. C.	C. The defroster and defogging system shall be capable of furnishing heated, outside ambient air, except that the part of the system furnishing additional air to the windshield, entrance door, and stepwell may be the re-circulating air type.	✓
DEFROSTERS. D, E	D. Auxiliary fans are not considered defrosting or defogging systems. E. Portable heaters shall not be used.	✓
DOORS	A school bus must be equiped with at least 2 doors as follows: A. One door on the right side near the front for ordinary exits and entrances; and B. A 2nd door located in the center of the rear or if the engine makes that impossible, on the left side in the center or to the rear of center. The 2nd door must be free of obstruction, clearly marked as an emergency exit, and constructed to open from inside and outside. [29-A MRS Section 2304(2)]	✓
DOORS. A.	A. The entrance door shall be under the driver's control, designed to afford easy release and to provide a positive latching device on manual operating doors to prevent accidential opening. When a hand lever is used, no part shall come together that will shear or crush fingers. Manual door controls shall not require more thatn 25 pound of force to operate at any point throughout the range of operation, as tested on a 10% grade, both uphill and downhill.	✓
DOORS. B.	B. The primary entrance door shall be located on the right side of the bus, opposite and within direct view of the driver. 1. In addition, buses may be equipped with a left side entrance door located immediately behind the driver to be used exclusively for curb side loading/unloading on one-way streets. 2. Buses equipped with a left side entrance door shall have a mirror mounted in the upper right corner of the interior of the bus so as to provide a clear view of the left side entrance door and stepwell.	✓
DOORS. C, D, E	C. The entrance door shall have a minimum horizontal opening of 24 inches and a minimum vertical opening of 68 inches. D. The entrance door shall be a slplit-type door and shall open outward. E. All entranace door glass shall be approved safety glass. The bottom of each lower glass panel shall be not more than 10 inches from the top surface of the bottom step. The top of each upper glass panel when viewed from the interior shall be not more than 3 inches below the interior door control cover or header pad.	✓
DOORS. F, G, H	F. Vertical closing edges on entrance doors shall be equipped with flexible material. G. All door openings shall be equipped with padding at the top edge of the opening. Padding shal be at least three (3) inches wide and one (1) inch thick and extend the full width of the door opening. H. On power-operated entrance doors, the emergency release valve, switch, or device to release the entrance door must be placed above or to the immediate left or immediate eright of the entrance door and must be clearly labeled. The emergency release valve, switch or device shall work in the absence of power.	✓

Product Category	Bus: Conventional	
EMERGENCY EQUIPMENT: A. Fire Extinguisher	A. Fire Extinguisher. 1. The bus shall be equipped with at least one UL-approved pressurized, dry chemical fire extinguisher. The extinguisher shall be secured in a mounted bracket, located in the driver's compartment and readily accessible to the driver and passengers. A pressure gauge shall be mounted on the extinguisher and shall be easily read without moving the extinguisher from its mounted position. 2. The fire extinguisher shall have a rating of 2-A:10-BC, or greater. The operating mechanism shall be secured with a type of seal that will not interfere with the use of the fire extinguisher.	✓
EMERGENCY EQUIPMENT: B. First Aid Kit	B. First Aid Kit. 1. The bus shall have a removable, moisture-proof and dust-proof first aid kit in an accessible place in the driver's compartment. It shall be mounted and identified as a first aid kit. The location for the first aid kit shall be marked. Contents of the first aid kit shall be in compliance with state standards. Suggested contents include: 2 - 1-inch x 2-1/2 yards of adhesive tape rolls; 24 - Sterile gauze pads 3x3 inches; 100 - 3/4 x 3 inches adhesive bandages; 8 - 2-inch bandage compress; 10 - 3-inch bandage compress; 2 - 2-inch x 6 foot sterile gauze roller bandages; 2 - Non-sterile triangular bandages, minimum 39x35x54 inches with two safety pins; 3 - Sterile gauze pads 36x36 inches; 3 - Sterile eye pads; 1 - Rounded-end scissors; 1 - Pair medical examination gloves; 1 - Mouth-to-mouth airway.	✓
EMERGENCY EQUIPMENT: C. Body Fluid Clean-Up Kit	C. Body Fluid Clean-Up Kit. Each bus shall have a removable and moisture-proof body fluid clean-up kit accessible to the driver. It shall be mounted and identified as a body fluid cleanup kit. Contents of the body fluid clean-up kit shall be in compliance with sate standards.	✓
EMERGENCY EQUIPMENT: D. Warning Devices	D. Warning Devices. Each school bus shall contain at least three retroreflective triangle road warning devices that meet the requirements of FMVSS No. 125, *Warning Devices*. They shall be mounted in an accessible place.	✓
EMERGENCY EQUIPMENT: E.	E. Any piece of emergency equipment may be mounted in an enclosed compartment, provided the compartment is labeled in not less than one inch letters, identifying each piece of equipment contained therin.	✓
EMERGENCY EXITS: A. Any Installed Emergency Exit	A. Any installed emergency exit shall comply with the design and performance requirements of FMVSS No. 217, Bus Emergency Exits and Window Retention and Release, applicable to that type of exit, regardless of whether or not that exit is required by FMVSS No. 217.	✓
EMERGENCY EXITS: B. Emergency Window Requirements	B. Emergency Window Requirements. 1. The rear emergency window shall have a lifting assistance device that will aid in lifting and holding the rear emergency window open. 2. Side emergency exit windows, when installed, may be vertically hinged on the forward side of the window. No side emergency exit window will be located above a stop arm.	✓

Product Category	Bus: Conventional	
EMERGENCY EXITS: C. Emergency Door Requirements	**C. Emergency Door Requirements. 1. The exposed area of the upper panel of emergency doors shall abe a minimu of 400 square inches of approved safety glazing. 2. If installed, all other glass panels on emergency doors shall be approved safety glazing. 3. There shall be no stepls leading to an emergency door. 4. There shall be no obstruction higher than 1/4 inch across the botton of any emergency door opening. Fasteners used within the emergency exit opening shall be free of sharp edges or burrs.**	✓
EMERGENCY EXITS: D. Emergency Exit Requirements	**D. Emergency Exit Requirements. The use of tables is to determine the required number and types of emergency exits to comply with this specification, based on the bus manufacturer's equipped seating capacity. Refer to the National Specifications, Table 1 and Table 2, pages 40 and 41.**	✓
FIRE EXTINGUISHER	**A school bus must have at least one dry chemical fire extinguisher: A. Of at least 2-1/2 pound capacity; B. Mounted in automotive type manufacturer's extinguisher bracket; C. Located in the operator's compartment in full view of and readily accessible to the operator; and D. Having an Underwriters' Laboratories rating of not less than 10-B: C. [29-A MRS Section 2305(4)]**	✓
FLOORS	**A. The floor in the under-seat area, including tops of wheel housings, driver's compartment and toeboard, shall be covered with an elastomer floor covering, having a minimum overall thickness of 0.125 inch and a calculated burn rate of 0.1 mm per minute or less, using the test methods, procedures, and formulas listed in FMVSS No. 302, *Flammability of Interior Materials*. The driver's area and toeboad area in all Type-A buses may be manufacturer's standard flooring and floor covering. B. The floor covering in the aisles shall be ribbed or other raised pattern elastomer and have a calculated burn rate of 0.1 mm per minute or less using the test methods, procedures, and formulas listed in FMVSS No. 302. Minimum overall thickness shall be 0.187 inch measured from tops of ribs. C. The floor covering must be permanently bonded to the floor and must not crack when subjected to sudden changes in temperature. Bonding or adhesive material shall be waterproof and shall be a type recommended by the manufacturer of floor-covering material. All seams shall be sealed with waterproof sealer. D. On Types B, C, and D buses, a flush-mounted screw-down plate that is secured and sealed shall be provided to access the diesel or gasoline fuel tank sending unit and/or fuel pump. This plate shall not be installed under flooring material.**	✓
HANDRAILS (GRAB RAIL)	**At least one handrail shall be installed. The handrail shall be a minimum of one (1) inch diameter and be constructed from corrosion resistant material(s). The handrail(s) shall assist passengers during entry or exit and shall be designed to prevent entanglement, as evidenced by the passing of the NHTSA strin and nut test.**	✓
HEATING SYSTEM, PROVISION FOR	**The engine shall be capable of supplying coolant at a temperature of at least 170 degrees Fahrenheit at the engine coolant thermostat opening. The coolant flow rate shall be 50 pounds per minute at the return end of 30 feet of one (1) inch inside diameter automotive hot water heater hose. (See SBMTC-001, *Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment*.)**	✓

Product Category	Bus: Conventional	
HEATING AND AIR CONDITIONING SYSTEMS. A. Heating System (1-4)	**1. The heater shall be hot water combustion type, electric heating element or heat pump. 2. If only one heater is used, it shall be fresh-air or combination fresh-air and recirculation type. 3. If more than one heater is used, additional heaters may be re-circulating air type. 4. The heating system shall be capable of maintaining bus interior temperatures, as specified in test procedure SAE J2233.**	✓
HEATING AND AIR CONDITIONING SYSTEMS. A. Heating System (5)	**5. Aluxiliary fuel-fired systems are permitted, provided they comply with the following: a. The auxiliary heating system shall utilize the same type fuel as specified for the vehicle engine; b. The heater(s) may be direct, hot air-type or may be connected to the engine coolant system; c. An auxiliary heating system, when connected to the engine coolant system, may abe used to preheat the engine coolant or preheat and add supplementary heat to the heating system; d. Auxiliary heating systems must be installed pursuant to the manufacturer's recommendations and shall not direct exhause in such a manner that will endanger bus passengers; e. All combustion heaters shall be in compliance with current Federal Motor Carrier Safety Regulations; f. The auxiliary heating system shall require low voltage; g. Auxiliary heating systems shall comply with FMVSS No. 301, *Fuel System Integrity*, and all other applicable FMVSS, as well as with SAE test procedures.**	✓
HEATING AND AIR CONDITIONING SYSTEMS. A. Heating System (6-8)	**6. All forced-air heaters installed by body manufacturers shall bear a name plate that indicates the heater rating in accordance with SBMTC-001, *Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment*. The plate shall be affixed by the heater manufacturer and shall consitute certification that the heater performance is as shown on the plate. 7. Heater hoses shall be adequately supported to guard against excessive wear due to vibration. The hoses shall not dangle or rub against the chassis or any sharp edges and shall not interfere with or restrict the operation of any engine function. Heater hoses shall conform to SAE J20c, *Coolant System Hoses*. Heater lines, cores, and elements on the interior of the bus shall be shielded to prevent scalding or burning of the driver or passengers. 8. Each hot water system installed by a body manufacturer shall include one shutoff valve in the pressure line and one shut-off valve in the return line, with both valves at the engine in an accessible location, except that on Types A and B buses, the valves may be installed in another accessible location.**	✓
HEATING AND AIR CONDITIONING SYSTEMS. A. Heating System (9-11)	**9. All heaters of hot water type in the passenger compartment shall be equipped with a device, installed in the hot water pressure line, which regulates the water flow to all passenger heaters. The device shall be conveniently operated by the driver while seated. The driver and passenger heaters may operate independently of each other for maximum comfort. 10. On hot water type systems, accessible bleeder valves for removing air from the heater shall be installed in an appropriate place in the return lines of body company-installed heater. 11. Access panels shall be provided to make heater motors, cores, elements, and fans readily accessible for service. An exterior access panel to the driver's heater may be provided.**	✓

Product Category	Bus: Conventional	
HEATING AND AIR CONDITIONING SYSTEMS. B. PASSENGER COMPARTMENT AIR CONDITIONING (optional) 1. Performance Specifications	1. Performance Specifications. a. Standard Performance. The installed air conditioning system should cool the interior of the bus from 100 degrees to 80 degrees Fahrenheit, measured at three points (minimum) located four feet above the floor on the longitudinal centerline of the bus. The three required points shall be: (1) three feet above the center point of the horizontal driver seat surface, (2) at the longitudinal midpoint of the body, and (3) three feet forward of the rear emergency door or, for Type D rear-engine buses, three feet forward of the end of the axle. The independent temperature reading of each temperature probe inside the bus shall be within a range of +/- 3 degrees Fahrenheit of the average temperature at the conclusion of the test. b. High Performance. The installed air conditioning system should cool the interior of the bus from 100 degrees to 70 degrees Fahrenheit, measured at three points (minimum) located four feet above the floor on the logitudinal centerline of the bus. The three required points shall be: (1) three feet above the center point of the horizontal driver seat surface, (2) at the logitudinal midpoint of the body, and (3) three feet forward of the rear emergency door or, for Type D rear-engine buses, three feet forward of the end of the aisle. Note for the Type A vehicle placement of the rear theromocouple should be centered in the bus over the rear axle. The independent temperature reading of each temperature probe inside the bus shall be within a range of +/- 3 degrees Fahrenheit of the average temperature at the conclusion of the test.	✓
HEATING AND AIR CONDITIONING SYSTEMS. B. PASSENGER COMPARTMENT AIR CONDITIONING (optional) 2. Test Conditions	2. Test conditions. The test conditions under which the above performance standards must be achieved shall consist of (1) placing the bus in a room (such as a paint booth) where ambient temperature can be maintained at 100 degrees Fahrenheit; (2) heat-soaking the bus at 100 degrees Fahrenheit at a point measured two feet horizontally from the top of the windows on both sides of the bus, with windows open for two hours; and (3) closing windows, turning on the air conditioner with the engine running at 1250 +/- 50 RPM, and cooling the interior of the bus to 80 degrees Fahrenheit, (standard performance) or 70 degrees Fahrenheit (high performance), within 30 minutes while maintaining 100 degrees Fahrenheit outside temperature. The manufacturer shall provide test results that show compliance with standard systems. If the bid specifies, the manufacturer shall provide facilities for the user or user's representative to confirm that a pilot model of each bus design meets the above performance requirements.	✓

Product Category	Bus: Conventional	
HEATING AND AIR CONDITIONING SYSTEMS. B. PASSENGER COMPARTMENT AIR CONDITIONING (optional) 3. Other Requirements	3. Other requirements. a. Evaporator cases, lines and ducting (as equipped) shall be designed in such a manner that all condensation is effectively drained to the exterior of the bus below the floor level under all conditions of vehicle movement and without leakage on any interior portion of the bus; b. Evaporators and ducting systems shall be designed and installed to be free of projections or sharp edges. Ductwork shall be installed so that exposed edges face the front of the bus and do not present sharp edges; c. On school buses equipped with Type-2 seatbelts having anchorages above the windows, the ducting (if used) shall be placed at a height sufficient to not obstruct occupant securement anchorages. This clearance shall be provided along the entire lenth (except at evaporator locations) of the passenger area on both sides of the bus interior; d. The body may be equipped with insulation, including sidewalls, roof, firewall, rear, inside body bows and plywood or composite floor insulation to reduce thermal transfer; e. All glass (windshield, service and emergency doors, side and rear windows) may be equipped with maximum integral tinting allowed by federal, state, or ANSI standards for the respective locations, except that windows rear of the driver's compartment, if tinted, shall have approximately 28 percent light transmission; f. Electrical generating capacity shall be provided to accomodate the additional electrical demands imposed by the air conditioning system; g. Roofs may *not* be painted white (per Code of Maine Regulations (05-071 CMR Chap. 86); h. Air intake for any evaporator assembly(ies), except for front evaporator or Type A-1, shall be equipped with replaceable air filter(s) accessible without disassembly of evaporator case. i. For all buses (except Type D rear engine transit) equipped with a rear evaporator assembly, evaporator shall not encroach upon head impact zone, but may occupy an area of less than 26.5 inches from the rear wall and 14 inches from the ceiling. j. For Type D rear engine transit buses equipped with a rear evaporator over the davenport, the evaporator assembly may not interfere with rear exit window and may not extend above the rear seating row.	✓
HINGES	**All exterior metal door hinges shall be designed to allow lubrication to be channeled to the center 75% of each hinge loop without disassembly, unless they are constructed of stainless steel, brass or non-metallic hinge pins or other designs that prevent corrosion.**	✓
IDENTIFICATION: A. School Bus	**A. The body shall bear the words "SCHOOL BUS" in black letters at least eight (8) inches high on both front and rear of the body or on signs attached thereto. Lettering shall be placed as high as possible without impairment of its visibility. Letters shall conform to "Series B" of Standard Alphabets for Highway Signs. "SCHOOL BUS" lettering shall have a reflective background, or as an option, may be illuminated by backlighting. Multifunction school activity buses are exempt from these requirements.**	✓
IDENTIFICATION: B. Required lettering and numbering	**B. Required lettering and numbering shall include: 1. District, company name or owner of the bus displayed at the beltline. 2. The bus identification number displayed on the sides, on the rear and on the front.**	✓

Product Category	Bus: Conventional	
IDENTIFICATION: C. Other lettering, numbering, or symbols	**C. Other lettering, numbering or symbols which may be displayed on the exterior of the bus shall be limited to: 1. bus identification number, minimum 12-inch high characters, on top of the bus, in addition to required numbering on the sides, rear, and front. 2. The location of the battery(ies) identified by the word "BATTERY" or "BATTERIES" on the battery compartment door in two (2) inch lettering; 3. Symbols or letters not to exceed 64 square inches of total display near the entrance door, displaying information for identification by the students of the bus or route served; 4. Manufacturer, dealer or school identification or logos; 5. Symbols identifiying the bus as equipped for or transporting students with special needs as noted in SPECIALLY EQUIPPED SCHOOL BUS SPECIFICATIONS; 6. Lettering on the rear of the bus relating to school bus flashing signal lamps or electronic warning sign; and 7. Lettering relating to railroad stop procedures; and 8. Idenfification of fuel type in 1-inch lettering adjacent to the fuel filler opening.**	✓
ILLUMINATED SCHOOL BUS SIGN FRONT AND REAR	**Illuminated school bus sign front and rear**	✓
INSIDE HEIGHT	**Inside body height shall be 72 inches or more, measured metal to metal, at a point on the logitudinal centerline from the front vertical bow to the rear vertical bow. Inside body height of Type A-1 buses shall be 62 inches or more. Inside height measurement does not apply to air conditioning equipment.**	✓
INSULATION: A. Thermal (optional)	A. If thermal insulation is specified, it shall be fire-resistant, UL approved, with minimum R-value of 5.5. Insulation shall be installed so as to prevent sagging.	✓
INSULATION: B. Floor (otional)	B. If floor insulation is required, it shall be five-ply softwood plywood, nominal 5/8-inch thickness and shall be equal to or exceed properties of the exterior-type, C-D Grade, as specified in the standard issued by U.S. Department of Commerce. When plywood is used, all exposed edges shall be sealed. Type A-1 buses may be equipped with nominal 1/2-inch-thick plywood or equivalent material meeting the above requirements. Equivalent material may be used to replace plywood, provided it has equal or greater insulation R-value, sound abatement, deterioration-resistant and moisture-resistant properties.	✓
INTERIOR: A. Free of Projections	**A. The interior of the bus shall be free of all unnecessary projections, which include luggage racks and attendant handrails, to minimize the potential for injury. This specification requires inner lining on ceilings and walls. If the ceiling is constructed with lap joints, the forward panel shall be lapped by rear panel and exposed edges shall be beaded, hemmed, flanged or otherwise treated to minimize sharp edges. Buses must be equipped with a storage compartment for tools, tire chains and/or tow chains. (see BUS BODY AND BODY SPECIFICATIONS, Storage Compartment).**	✓
INTERIOR: B. Overhead Storage Compartments	**B. Interior overhead storage compartments may be provided if they meeet the following criteria: 1. Head protection requirements of FMVSS No. 222, *School Bus Passenger Seating and Crash Protection*, where applicable; 2. Be completely enclosed and equipped with latching door (both door and latch sufficient to withstand a pushing force of 50 pounds applied at the inside center of the door); 3. Have all corners and edges rounded with a minimum radius of one (1) inch or be padded equivalent to door header padding; 4. Be attached to the bus sufficiently to withstand a force equal to 20 times the maximum rated capacity of the compartment; and 5. Have no protrusions greater than 1/4 inch.**	✓
INTERIOR: C. Driver Area	**C. The driver's area forward of the formost padded barriers will permit the mounting of required safety equipment and vehicle operation equipment.**	✓

Product Category	Bus: Conventional	
INTERIOR: D. Noise Level	D. Every school bus shall be constructed so that athe noise level at the ear of the occupant nearest to the primary vehicle noise source shall not exceed 85 dBA when tested according to the procedure described in APPENDIX B of *National School Transportation Specifications and Procedures, May 2015*	✓
LAMPS AND SIGNALS: A. Interior Lamps	A. Interior lamps which illuminate the aisle and the stepwell shall be provided. The stepwell lamp shall be illuminated by an entrance door-operated switch, to illuminate only when headlamps and clearance lamps are on and the entrance door is open.	✓
LAMPS AND SIGNALS: B. Body Instrument Panel Lamps	B. Body instrument panel lamps may be controlled by an independent dimmer switch or may be controlled by the dimmer that operates the gauge lighting.	✓
LAMPS AND SIGNALS: C. Alternately Flashing Signal Lamps	C. School bus alternately flasing signal lamps shall be provided as described by law. Multifunction school activity buses are exempt from this requirement. 1. The bus shall be equipeed with two (2) red lamps at the rear of the vehicle and two (2) red lamps at the front of th evehicle. 2. In addition to the four (4) red lamps described above, four (4) amber lamps shall be installed so that one (1) amber lamp is located near each red signal lamp, at the same level, but closer to the vertical centerline of the bus. The system of red and amber signal lamps shall be wired so that amber lamps are energized manually. The red lamps are automatically energized and amber lamps are automatically de-energized when stop signal arms are extended or when the bus entrance door is opened. The above mentioned activation sequence can be accomplished with either a "sequential operation" or a "non-sequential operation" warning lamp system. While each of the systems can be configured to include components such as a master switch, amber activation, interrupt switch, etc., the presence (or absence) of these components does not affect the classification of the system as either sequential or non-sequential. Both sequential and non-sequential systems can be configured with a multitude of switch combinations to provide a unique system meeting specific user requirements. An amber pilot lamp and a red pilot lamp shall be installed adjacent to the driver controls for the flashing signal lamp to indicate to the driver which lamp system is activated. 3. For background color requirements, refer to appropriate state specification requirements. 4. Red lamps shall flash at any time the stop signal arm is extended. 5. All flashers for alternately flashing red and amber signal lamps shall be enclosed in the body in a readily accessible location. MUST MEET FEDERAL REGULATIONS.	✓

Product Category	Bus: Conventional	
LAMPS AND SIGNALS: D. Turn Signal and Stop/Tail Lamps	**D. 1. The bus body shall be equipped with amber rear turn signal lamps that are at least seven (7) inches in diameteror, if a shape other than round, a minimum 38 square inches of illuminated area and shall meet FMVSS No. 108, *Lamps, Reflective Devices, and Associated Equipment*. These signal lamps must be connected to the chassis hazard warning switch to cause simultaneous flashing of turn signal lamps when needed as a vehicular traffic hazard warning. Turn signal lamps are to be placed as wide apart as practical and their horizontal centerline shall be a maximum of 12 inches below the rear window. 2. Buses shall be equipped with amber side-mounted turn signal lamps. The turn signal lamp on the left side shall be mounted rearward of the stop signal arm and the turn signal lamp on the right side shall be mounted rearward of the entrance door. 3. Buses shall be equipped with four (4) combination red stop/tail lamps. a. Two (2) combination lamps with a minimum diameter of seven (7) inches, or if a shape other than round, a minimum 38 square inches of illuminated area shall be mounted on the rear of the bus just inside the turn signal lamps. b. Two (2) combination lamps with a minimum diameter of four (4) inches, or if a shape other than round, a minimum of 12 square inches of illuminated area, shall be placed on the rear of the body betweeen the beltline adn the floor line. The rear license plate lamp may be combined with one (1) lower tail lamp. Stop lamps shall be activated by the service brakes and shall emit a steady light when illuminated.**	✓
LAMPS AND SIGNALS: E. Monitor	**E. On buses equipped with a monitor for the front and rear lamps of the school bus, the monitor shall be mounted in full view of the driver. If the full circuit current passes through the monitor, each circuit shall be protected against any short circuit or intermittent shorts by a fuse circuit breaker, or electronic protection device.**	✓
LAMPS AND SIGNALS: F. White Flashing Strobe Lamp (optional)	**F. An optional white flashing strobe lamp may be installed on the roof of a school bus at a location not closer than 12 inches or more thatn 6 feet from the rear of the roof edge. However, if the bus is equipped with a roof hatch or other roof mounted equipment falling within the above mentioned measurements, the strobe lamp may be located directly behind that equipment. The lamp shall have a single clear lens emitting light 360 degrees around its vertical axis, meeting the requirements of SAE J845. It may not extend above the roof more than the maximum legal height. A manual switch and a pilot lamp shall be included to indicate when the lamp is in operation. Optionally, the strobe lamp may be wired to activate with the amber alternately flashing signal lamps, continuing through the full loading or unloading cycle, and may be equipped with an override switch to allow activation of the stobe at any time for use in inclement weather.**	✓
LAMPS AND SIGNALS: G. Rear Backup Lamps	**G. The bus body shall be equipped with two white rear backup lamps that are at least four (4) inches in diameter or, if a shape other than round, a minimum of 12 square inches of illuminated area, and shall meet FMVSS No. 108. If backup lamps are placed on the same horizontal line as the brake lamps and turn signal lamls, they shall be to the inside**	✓
LAMPS AND SIGNALS: H. Daytime Running Lamps System	**H. A daytime running lamps (DRL) system shall be provided.**	✓

Product Category	Bus: Conventional	
LETTERING	**Must meet State and National Standards. Lettering must meet Maine Motor Vehicle Statute Title 29-A, section 2302, subsection 1.A-B. Each school bus must be identified with the words, "school bus." All lettering shall be printed in letters not less than 8 inches high and located (front and rear) between the warning signal lamps as high as possible without impairing front and rear visibility of the lettering. Each school bus must have no other lettering on the front or rear, except letterin not more thatn 4 inches high indicating an emergency exit and a bus number. Lettering specifics provided by each school district.**	✓
TRIM	Maine Motor Vehicle Statute Title 29-A, section 2302, subsection 1.H. May be equipped with reflective strips of national school bus yellow (NSBY).	✓
	Reflexite Brand tape	✓
LETTERING; INTERIOR SEAT #'S	**Add numbers for interior seats; 2" decal (state quantity)**	✓
LETTERING; ROOF TOP NUMBERS	**Add 24 inch, last 5 digits of vehicle identification number (VIN) (state qty of digits). Price is per digit**	✓
LICENSE PLATE HOLDER	**Shall be on left rear outside of body with suitable method for mounting license plate**	✓
LIGHT MONITOR, EXTERIOR LIGHTS	**None**	
	Light monitor system LED	✓
	Light monitor system not LED	✓
LIGHT, LANDING	**Next to entrance door, outside skirt mounted**	✓
	Delete landing light	✓
	Change to LED type light	✓
	Outside under step mounted	✓
LIGHT, LED STEPWELL LAMP	**None**	
	Add LED stepwell lamp	✓
LIGHT, STROBE	**Strobe light is required. Shall comply with State and National Standards.**	✓
	Add Brush guard	✓
LIGHTS	**Lighting system be Weldon 7000 transistorized flasher OR EQUAL OR MULTIPLEX control units and include turn signals, stop lights, marker lights, stepwell lights, parking lights, landing light, interior lights, and eight (8) light warning system. Rear directional signal, side directionals, stop lights, and back-up lights in addition to the regular stop lamps. All exterior lights be bulb and conform to National Standards. (8 way lights include 3" black band around)**	✓
	Change 8 way to strobing LED	✓
	Change the tail, brake, turn and backups to LED style lamps	✓
	Change 8 way, tail, brake, back up and turn to LED style lamps	✓
LIGHTS, CLEARANCE	Manufacturers standard clearance lights and must meet State and National Standards.	✓
	Add armored marker	✓
	Change to LED style	✓
	Add armored marker and add LED style	✓
LIGHT, EMERGENCY DOOR	None	✓
	Add Red ICC light over emergency door (state Quantity)	✓

Product Category	Bus: Conventional	
	Add light over emergency door. One light at the rear over the emergency door shall come on when the marker lights are on. This light shall be red overhead light and wiring shall comply with eight light system.	✓
LIGHTS, INTERIOR	One switch to operate dome light over drivers compartment, one switch for dome lights in mid-section of bus, and one switch to operate the last two dome lights in the rear of the bus. The landing light shall be activated when the door opening mechanism is initiated.	✓
	LED Dome lights	✓
	Add medium dome lights	✓
	Add maximum dome lights	✓
	Add maximum led dome lights	✓
LIGHTS; INTERIOR DRIVER DOME	**Included**	✓
	Delete drivers dome	✓
LIGHTS; INTERIOR DOME PASSENGER	**Included**	✓
	Reduce to one switch for passenger	✓
LIGHTS TAIL TURN FLUSH MOUNT		
	Stop tail 4" flush mount LED	✓
	Stop tail 4" flush mount incandescent	✓
LIGHT VISORS	**None**	
	Individual visors for warning lights in lieu of visors that cover amber and red lights.	✓
	Dual light visors for warning lights	✓
METAL TREATMENT	**A. All metal except high-grade stainless steel or aluminum used in construction of the bus body shall be zinc-coated or aluminum-coated or treated to prevent corrosion. This includes but is not limited to such items as structural members, inside and outside panels, door panels and floor sills. Excluded are such items as door handles, grab handles, interior decorative parts and other interior plated parts. B. All metal parts that will be painted, in additin to the above requirements, shall be chemically cleaned, etched, zinc phosphate-coated and zinc chromate- or epoxy-primed to improve paint adhesion. This includes, but is not limited to, such items as crossing control arm and stop arm. C. In providing for these requirements, particular attention shall be given to lapped surfaces, welded connections of structural members, cut edges on punched or drilled hold areas in sheet metal, closed or box sections, unvented or undrained areas and surfaces subjected to abrasion during chemicle operation. D. As evidence that the above requirements have been met, samples of materials and sections used in the construction of the bus body shall be subjected to a cyclic corrosion testing as outlined n SAE J1563.**	✓
MIRRORS (29-A))	**Must be equipped with a system of mirrors that give the seated operator a view of the way to each side of the bus, and of the area immediately in front of the front bumper. [29-A MRS Section 2302(1.F)]**	✓

Product Category	Bus: Conventional	
MIRRORS	A. The interior glass mirror shall be either laminated or tempered and shall have rounded corners and protected edges. Mirrors shall be 6x16 inches minimum for Type A buses and be 6x30 inches for Types C and D buses. B. Each school bus shall be equipped with exterior mirrors meetng the requirements of FMVSS No. 111, *Rearview Mirrors*. The right side rear view mirror shall not be obscured by the unwiped portion of the windshild. Mirrors shall abe easily adjustable, but shall be rigidly braced, so as to reduce vibration. C. Heated external mirrors may be used. D. Remote controlled external rear view mirrors may be used.	✓
	Add wide angle reflective lens for rear window	✓
MIRRORS, CROSSOVER	Shall come equipped with two convex ellipitical cross-view mirrors mounted on front of vehicle. Shall be heated.	✓
MIRRORS, SIDE	Body shall be equipped with two split - style- type side-view mirrors supported from top or bottom. Exterior mirrors shall be heated.	✓
MIRRORS BRACKETS	Shall comply with National Standards.	✓
MOUNTING	A. The rear body cross member shall be supported by the chassis frame. Except where chassis components interfere, the bus body shall be attached to the chassis frame at each main floor sill in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions. B. Isolators shall be installed at all contact points between teh body and the chassis frame on Types A-2, B, C, and D buses, and shall be secured by a positive means to the chassis frame or body to prevent shifting, separation, or displacement of the isolators under severe operting conditions.	✓
MUD FLAPS	2 front and full width rear attached appropriately and made of rubber material.	✓
NOISE REDUCTION SYSTEM	Acoustical headliner full length of bus. Include 1/2" sound abatement package in floor and firewall	✓
NOISE REDUCTION FIREWALL	Included	✓
	Delete sound abatement to floor of firewall	✓
OUTSIDE LUGGAGE STORAGE	Maximum avialable. If the outside luggage is deleted the body side skirts between the front and rear axles shall extend down to within two inches plus or minus, of the horizontal line from the center of the front spindle to the center of the rear axle. The manufacturer may offer optional side skirt lengths that extend lower than this requirement. This measurement shall apply to a new unloaded school bus located on a flat, level surface. See also Panels, Exterior	✓
OUTSIDE LUGGAGE; ACCESSORIES	Add lights In storage units	✓
	Add lock for storage units	✓
	Add lights & locks for storage units	✓
OVERALL LENGTH	Overall length of the bus shall not exceed 45 feet, excluding accessories.	✓
OVERALL WIDTH	Overall width of bus shall not exceed 102 inches, excluding accessories.	✓
Paneling, EXTERIOR REEDED	Add reeded sides	✓
PANEL, SHOULDER PAD	Full bus length	✓
POWER SOURCE	12-volt in driver area	✓
PUBLIC ADDRESS SYSTEM	A. Buses may be equipped with an AM/FM/audio and/or public address system having interior and exterior speakers. B. No internal speakers, other than the driver's communication systems, may be installed witin four feet of the driver's seat back in its rearmost upright position.	✓

Product Category	Bus: Conventional	
REFLECTORS	2 amber reflectors on each side of bus near the front and 2 red on rear side panels, 2 red on rear panels, and 2 amber intermediate on sides-Shall comply with FMVSS	✓
RETROREFLECTIVE MATERIAL	A. The front and/or rear bumper may be marked diagonally 45 degrees down toward the centerline of the pavement with two (2) plus or minus 1/4 inch-wide strips of non-contrasting retroreflective material. B. The rear of the bus body shall be marked with strips of retroreflective NSBY material to outline the perimeter of the back of the bus using material which conforms with the requirements of FMVSS No. 131, *School Bus Pedestrian Safety Devices*, Table 1. The perimeter markings of rear emergency exits per FMVSS No. 217, *Bus Emergency Exits and Window Retention and Release*, and/or the use of retroreflective "SCHOOL BUS" signs partially accomplishes the objective of this requirement. To complete the perimeter marking of the back of the bus, strips of retroreflective NSBY material, a minimum of 1 inch and a maximum of 2 inches in width shall be applied horizontally above the rear windows and above the rear bumper, extending from the rear emergency exit perimeter, marking outward to the left and right rear corners of the bus. Vertical strips shall be applied at the corners connecting these horizontal stripes. Multifunction school activity buses shall be exempt from these color requirements. C. "SCHOOL BUS" signs, if not a lighted design, shall be marked with retroreflective NSBY material comprising background for lettering of the front and/or rear "SCHOOL BUS" signs. D. Sides of the bus body shall be marked with at least 1-3/4 inch retroreflective NSBY material, extending the length of the bus body and located (vertically) between the floor line and the beltline. E. If used, signs placed on the rear of the bus relating to school bus flashing signal lamps or railroad stop procedures may be retroreflective material, as specified by each state. (See also APPENDICES A and B, Retroreflective Sheeting: National School Transportation Specifications and Procedures) School bus mrakings; . . . Identifications. May be equipped with reflective strips of national school bus yellow. [29-A MRS Section 2302 (1.H)]	✓
ROOF VENT, STATIC	Shall comply with National Standards	✓
	Delete static roof vent. If static vent is deleted the front roof hatch must contain a static vent per National Standards.	✓
ROOF VENT, POWER	Power roof vent (state quantity)	✓

Product Category	Bus: Conventional	
RUB RAILS	**A. There shall be one rub rail on each side of the bus located at, or no more than eight (8) inches above, the seat cushion level. They shall extend from the rear side of the entrance door completely around the bus body (except at the emergency door or any maintenance access door) to the point of curvature near the outside cowl on the left side. B. there shall be one additional rub rail on each side located 10 inches or less above the floor line. The rub rail shall cover the same logitudianl span as the upper rub rail, except at the wheel housing, and it shall extend only to the longitudianl tangent of the right and left rear corners. C. Rub rails above the floor line shall be attached at each body post and at all other upright structural members. D. Each rub rail shall be four (4) inches or more in width in its finished form and shall be constructed of 16-gauge metal or other material of equivalent strength suitable to help protect body side panels from damage. Rub rails shall be constructed in corrugated or ribbed fashion. E. Rub rails shall be applied outside the body or outside the body posts. (Pressed-in or snap-on rub rails do not satisfy this requirement.) For Type A-1 vehicles using the body provided by the chassis manufacturer or for Types A-2, B, C, and D buses containing the rear luggage or the rear engine compartment, rub rails need not extend around the rear corners. F. The bottom edge of the body side skirts shall be stiffened by application of a rub rail, or the edge may be stiffened by providing a flange or other stiffeners.**	✓
SEATS AND RESTRAINING BARRIERS: A. PASSENGER SEATING	**A. 1. School bus design capacities shall be in accordance with 49 CFR, Part 571.3, *Definitions*, and FMVSS No. 222, *School Bus Passenger Seating and Crash Protection*. 2. All seats shall have a minimum cushion depth of 15 inches, a seat back height of 24 inches above the seating reference point, and must comply with all other requirements of FMVSS No. 222. 3. All restraining barriers and passenger seats shall be constructed with materials that enable them to meet the criteria of the *School Bus Seat Upholstery Fire Block Test.* 4. Each seat leg shall be secured to the floor by bolts, washers and nuts in order to meet the performance requirements of FMVSS No. 222. Flange-head nuts may be used in lieu of nuts and washers. All seat frames attached to the seat rail shall be fastened with two or more bolts, washers and nuts, or with flange-head nuts. Seats may be track-mounted in conformance with FMVSS No. 222. 5. If track seating is installed, the manufacturer shall supply minimum and maximum seat spacing dimensions (applicable to the bus) which comply with FMVSS No. 222. This information shall be on a label permanently affixed to the bus. 6. All school buses (including Type A) shall be equipped with restraining barriers which conform to FMVSS No. 222. 7. A flip-up seat may be installed at any side emergency door. If provided, the flip-up seat shall conform to FMVSS No. 222 and aisle clearance requirements of FMVSS No. 217, *Bus Emergency Exits and Window Retention and Release.* The flip-up seat shall be free of sharp projections on the underside of the seat bottm. The underside of the flip-up seat bottoms shall be padded or contoured to reduce the possibility of clothing being snagged. Flip-up seats shall be constructed to prevent passenger limbs from becoming entrapped between the seat back and the seat cushion when the seat is in the upright position. The seat cushion shall be designed to rise to a vertical position automatically when it is not occupied. 8. Lap belts shall not be installed on passenger seats in large school buses (over 10,000 pounds GVWR) except in conjunction with child safety restraint systems that comply with the requirements of FMVSS No. 213, *Child Restraint Systems.***	✓

Product Category	Bus: Conventional	
SEATS AND RESTRAINING BARRIERS: B. PRE-SCHOOL AGE SEATING	B. Passenger seats designed to accommodate a child or infant acarrier seat shall comply with FMVSS No. 225, *Child Restraint Anchorage Systems*. These seats shall be in compliance with NHTSA's "*Guideline for the Safe Transportation of Pre-school Age Children in School Buses*." Note A.8: Lap belts shall not be installed on passenger seats in large school buses (over 10,000 pounds GVWR) except in conjunction with child safety restraint systems that comply with the requirements of FMVSS No. 213, *Child Restraint Systems.*	✓
SEATS AND RESTRAINING BARRIERS: C. DRIVER SEAT	C. 1. The driver's seat supplied by the body manufacturer shall be a high back seat. The seat back shall be adjustable to 15 degrees minimum, without requiring the use of tools. The seat shall be equipped with a head restraint to accommodate a 5th percentile female to a 95th percentile adult male, as defined in FMVSS No. 208, *Occupant Crash Protection*. 2.Type A buses may utilize the standard driver's seat provided by the chassis manufacturer.	✓
SEATS AND RESTRAINING BARRIERS: D. DRIVER RESTRAINT SYSTEM	D. A Type 2 lap/shoulder belt shall be provided for the driver. On buses where the driver's seat and upper anchorage for the schoulder belt are both attached to the body structure, a driver's seat with an integrated Type 2 lap/shoulder belt may be substituted. On buses where the driver's seat and upper anchorage for the shoulder belt are separately attached to both body and chassis structures (i.e., one attached to the chassis and the other attached to the body), a driver's seat with an integrated Type 2 lap/shoulder belt should be used. The assembly shall be equipped with an emergency locking retractor for the continuous belt system. On all buses except Type A that are equipped with a standard chassis manufacturer's driver's seat, the lap portion of the belt system shall be guided or anchored to prevent the driver from sliding sideways under the belt system. The lap/shoulder belt shall be designed to allow for easy adjustment in order to fit properly and to effectively protect drivers varying in size from 5th percentile adult female to 95th percentil adult male. The belt may be of a high visibility contrasting color.	✓
SEATS AND RESTRAINING BARRIERS: E. EACH BUS	E. Each bus shall be equipped with a durable webbing cutter having a full width handgrip and a protected, replacabel or non-corrodiable blade. The required webbing cutter shall be mounted in a location accessible to the seated driver in an easily detachable manner.	✓
SEAT, DRIVER	The driver's seat supplied by the body manufacturer shall be a high back seat. The seat back shall be adjustable to 15 degrees minimum, without requiring the use of tools. The seat shall be equipped with a head restraint to accommodate a 5th percentile female to a 95th percentile adult male, as defined in FMVSS No. 208, Occupant Crash Protection. 2.Type A buses may utilize the standard driver's seat provided by the chassis manufacturer.	✓
SEATS, FIRE BLOCK	Required	✓
SEATS, PASSENGER: COLOR	Shall comply with National Standards.	✓
SEAT BELT	NONE.	
STORAGE POUCH KICK PANEL BARRIER	None (located behind driver on barrier)	
KICK PANEL	One on right side	✓
	Add additional left side front	✓

Product Category	Bus: Conventional	
SIDE SKIRT	**School bus body side skirts tetween the front and rear axles shall extend down to within two inches plus or minus, of the horizontal line from the center of the front spindle to the center of the rear axle. The manufacturer may offer optional side skirt lengths that extend lower than this requuirement. This measurment shall apply to a new unloaded school bus located on a flat, level surface.**	✓
STEP: DRIVER	**Shall meet National Standards.**	✓
STEPS	**A. The first step at the entrance door shall be not less than 10 inches and not more than 14 inches from the ground when measured from the top surface of the step to the ground, based on standard chassis specifictions, except that on Type D vehicles, the first step at the entrance door shall be 12 inches to 16 inches from the ground. An auxiliary step may be provided to compensate for the increase in ground-to-first-step clearance. The auxiliary step is not required to be enclosed. B. Step risers shall not exceed a height of 10 inches. Note: When plywood is used on a steel floor or step, the riser height may be increased by the thickness of the plywood. C. Steps shall be enclosed to prevent accumulation of ice and snow. D. Steps shall not protrude beyond the side body line.**	✓
STEP TREADS	**A. All steps, including the floor line platform area, shall be covered with an elastomer floor covering having a minimum overall thickness of 0.187 inch. B. The step covering shall be permanently bonded to a durable backing material that is resistant to corrosion. C. Steps, including the floor line platform area, shall have a 1-1/2 inch nosing that contrasts in color by at least 70 percent measured in accordance with the contrasting color specification in 36 CFR, Part 1192, ADA, *Accessibility Guidelines for Transportation Vehciles*. D. Step treads shall have the following characteristics: 1. Abrasion resistance: Step tread material weight loss shall not exceed 0.40 percent, as tested under ASTM D-4060, *Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser*, (CS-17 Wheel, 1000 gram, 1000 cycle.) 2. Weathering resistance: Step treads shall not break, crack, or check after ozone exposure (seven days at 50 pphm at 40 degrees C) and Weatherometer exposure (ASTM D-750, *Standard Test Method for Rubber Deterioration in Carbon-Arc Weathering Apparatus*, seven days). 3. Flame resistance: Step treads shall have a calculated burn rate of .01 mm per minute or less using the test methods, procedures, and formulas listed in FMVSS No. 302, *Flammability of Interior Materials*. Note: A spray on application type material may be used in lieu of item A. that meets the requirements of items B. through D. The material shall be applied not only to the interior surfaces of the service door step treads but also to the exterior, if not covered by undercoataing.** Manufacturers standard to match floor color.	✓
STEP TREADS	**Add 2 steps with both pebble tread and heated step with ambient switch.**	✓
STEPWELL	**Upgrade to stainless steel**	✓
	Marr Proof step risers	✓
STEPWELL, GUARD		✓

Product Category	Bus: Conventional	
STIRRUP STEPS	**If the windshield and lamps are not easly accessible from the ground, there may be at least one folding stirrup step or recessed foothold installed on each side of the body for easy accessibility for cleaning. There also may be a grab handle installed in conjunction with the step. Steps are permitted in or on the front bumper in lieu of the stirrup steps if the windshild and lamps ar eassily accessible for cleaning from that position.**	✓
STOP SIGNAL ARM	**The stop signal arm(s) shall comply with the requiremetns of FMVSS No. 131, School Bus Pedestrian Safety Devices. MFSABs are exempt from thses requirements. School bus markings lights; . . . Identifications. May be equipped with a system of stop arms to be operated only with the red signal lights. [29-A MRS Section 2302(1.G)]**	✓
STORAGE COMPARTMENT (OPTIONAL)	A storage container for tools, tire chins and/or other equipment may be located either inside or outside the passenger compartment. If inside, it shall be fastened to the floor and have a cover with a poisitive fastening device.	✓
STUDENT REMINDER SYSTEM	**Included. Manufacturer Standard to be triggered by warning lights**	✓
STUDENT REMINDER ACTIVATION	**To be triggered by ignition.**	✓
SUN SHIELD	**A. On Types B, C, and D vehicles, an interior adjustable transparant sun shield, with a finished edge and dimensions not less thatn 6x30 inches, shall be installed i a position convenient for use by the driver. B. On Type A buses, the sun shield (visor) shall be installed by the chassis manufacturer**	✓
	Left side drivers window shade	✓
TOWING ATTACHMENT POINTS	**Front and/or rear towing devices (i.e.,, tow hooks, tow eyes, or other designated towing attachment points) shall be furnished to assist in the retrieval of buses that are stuck and/or for towing buses when a wrecker with a "wheel lift" or an "axle lift" is not available or cannot be applied to the towed vehicle. A. Towing devices shall be attached to the chassis frame either by the chassis manufacturer or in accordanace with the chassis manufacturer's specifications. B. Each towing device shall have a strength rating of 13,500 pounds each, for a combined rating of 27,000 pounds with the force applied in the rearward direction, parallel to the ground, and parallel to the longitudinal axis of the chassis frame rail. For pulling and lifting purposes, tow hooks are meant to be used simultaneously. For pulling, angularity applied to the tow hooks will decrease the capacities of the tow hooks. C. The towing devices shall be mounted such that they do not project forward of the front bumper or rearward of the rear bumper. NOTE: Type A buses are exempt from the requirement for front tow hooks or eyes due to built-in crush zones.**	✓

Product Category	Bus: Conventional	
TRACTION ASSISTING DEVICES (Optional)	A. Where required or used, sanders shall: 1. Be hopper cartridge-valve type; 2. Have a metal hopper with all interior surfaces treated to prevent condensation of moisture; 3. Have a least 100 pounds (grit) capacity; 4. Have a cover that screws in place on the filler opening of the hopper, thereby sealing the unit airtight; 5. Have discharge tubes extending under the fender wheelhousing to the front of each rear wheel; 6. Have non-clogging discharage tubes with slush-proof, non-freezing rubber nozzles; 7. Be operated by an electric switch with a pilot lamp mounted on the instrument panel located so as to be exclusively controlled by the driver; 8. Be equipped with a gauge to indicate that the hopper has reached the one-quarter level (and needs to be refilled); and 9. Be designed to prevent freezing of all activation components and moving parts. B. Automatic traction chains may be installed.	✓
TRASH CONTAINER AND HOLDING DEVICE (OPTIONAL)	When requested or used, the trash container shall be secured by a holding device that is designed to prevent movement and to allow easy removal and replacement. It shall be installed in an accessible location in the driver's compartment, not obstructing passenger access to the entrance door	✓
UNDERCOATING	A. The entire underside of the bus body, including floor sections, cross member and below floor-line side panels, shall be coated with rust-proofing material for which the material manufacturer has issued to the bus body manufacturer a notarized certification to the bus body manufacturer that materials meet or exceed all performance requirements of SAE J1959, Sept. 2003 Edition of the Standard. B. The undercoating material shall be applied with suitable airless or conventional spray equipment to the undercoataing material manufacturer recommended film thickness and shall show no evidence of voids in the cured film. C. The undercoating material shall not cover any exhause components of the chassis.	✓
VENTILATION	A. Auxiliary Fan(s) shall meet the following requirements: B. Fan(s) shall be placed in a location where they can be adjusted for maximum effectiveness and where they do not obstruct the driver's vision to the mirrors or interfere with the safe operation of the vehicle. 1. Fans shall have six-inch (nominal) diameter. 2. Fan blades shall abe enclosed in a protective cage. Each fan shall be controlled by a separate switch. C. The bus body shall be equipped with a suitably controlled ventilating system with capacity sufficient to maintain the proper quality of air flow under operating conditions without having to open a window except in extremely warm weather. D. Static-type, noncloseable exhaust ventilation shall be installed in a low-pressure area of the roof. E. Roof hatches designed to provide ventilation in all types of exterior weather conditions may be provided. Ventilation shall comply with National Standards.	✓
WHEEL HOUSING	A. The wheehousing opening shall allow for easy tire removal and service. B. Wheelhousings shall be attached to the floor panels in a manner to prevent any dust, water, or fumes from entering the body. Wheelhousings shall be constructed of 16-gauge (or thicker)steel. C. The inside height of the wheelhousings above the floor line shall not exceeed 12 inches. D. The wheel housings shall provide clearance for installation and use of the chains on single or dual (if so equipped) power-driven wheels. E. No part of a raised wheelhousing shall extend into the emergency door opening.	✓
WINDOW, STORM SASH, DRIVER	None	
WINDOW, STORM SASH, DRIVER SIDE	None (not tinted)	
WINDOW, STORM SASH, ENTRANCE DOOR	None	

Product Category	Bus: Conventional	
WINDOW, STORM SASH, PASSENGER	None (not tinted)	
WINDOW, REAR	Manufacturer Standard	✓
WINDOWS	A. Other than emergency exits designated to comply with FMVSS No. 217, Bus Emergency Exists and Window Retention and Release, each side window shall provide an unobstructed opening of at least nine inches high (but not more than 13 inches high) and at least 22 inches wide, obtained by lowering the window. One window on each side of the bus may be less than 22 inches wide. B. Optional tinted and/or frC. ost-free glazing may be installed in all doors or windows. Windshields shall comply with federal, state, and local regulations.	✓
WINDOWS: SIDE SASHES	Shall comply with National Standards.	✓
	Painted window side sashes black	✓
WINDOW: PILASTERS	Paint pilasters black	✓
	The largest windshield furnished by each body company be considered as standard equipment. This is to be a one piece to four piece windshield with shaded band at the top.	✓
WINDSHIELD	2-piece curved	✓
WINDSHIELD WASHERS	Windshield washer system shall be provided.	✓
WINDSHEILD WIPERS	A. A two-speed or variable speed windshield wiping system, with an intermittent feature, shall be provided and shall be operated by a single switch. B. The wipers shall meet the requirements of FMVSS No. 104, *Windshield Wiping and Washing Systems*.	✓
WIPER BLADES	None	
WIPER BLADES, HEATED	Heated wiper blades	✓
WHEELCHAIR ENTRY	None; If selected option the lift shall be a Braun and include a lift door, lift required lights and brake/lift interlocks to meet National Standards. Includes the deduct for the 2 seats in the lift area.	✓
	Front lift door w/Braun. If selected option shall include a lift door, lift required lights and brake/lift interlocks to meet National Standards. Should also include the deduct for the 2 seats in the lift area.	✓
	Midship lift door w/Braun. If selected option shall include a lift door, lift required lights and brake/lift interlocks to meet National Standards. Should also include the deduct for the 2 seats in the lift area.	✓
	Rear lift door w/Braun. If selected option shall include a lift door, lift required lights and brake/lift interlocks to meet National Standards. Should also include the deduct for the 2 seats in the lift area.	✓
WHEELCHAIR ENTRY ALT. BRANDS	None; If selected option the lift shall include a lift door, lift required lights and brake/lift interlocks to meet National Standards. Includes the deduct for the 2 seats in the lift area.	✓
LIFT DOOR	Shall comply with National Standards.	✓
	Lock on lift door	✓
EXTERIOR LIFT LIGHTS	Shall comply with National Standards	✓
	Additional Exterior lift lights	✓
INTERIOR LIFT LIGHTS	Shall comply with National Standards	✓
	Additional interior lift lights	✓
FLAT FLOOR PACKAGE (NO SECUREMENTS)	None; If selected to include all body and chassis equipment needed for flat floor. Contact Dealer before selecting this option.	✓
	Add flat floor package. If selected to include all body and chasis equipment needed for flat floor.	✓

Product Category	Bus: Conventional	
FLOOR TRACKING SYSTEM (NO SECUREMENTS)	None	
WHEELCHAIR SECUREMENTS (L-TRACK)	None	
WHEELCHAIR LOCATION	None	
WHEELCHAIR SEC. STORAGE POUCH	A device for storage of the Wheelchair Tie Down & Occupant Restraint System (WTORS) Storage Compartment SHALL BE PROVIDED. Shall comply with National Standard. Not required on standard bus.	✓
EVAC-AID	None	
	Add evac-aid fire blankets (quantity)	✓
FIRE BLANKET	None	
	Add fire blankets (state quantity)	✓
RADIO 2-WAY	None	
RADIO 2-WAY: PREWIRE FOR 2-WAY RADIO	None	
SECURITY & GPS: PREWIRE FOR SECURITY & GPS SYSTEMS	None	
SURVEILLANCE CAMERA SYSTEM (inside the bus)	The following regulation is in addition to the National School Transportation Specifications and Procedures 2015: Onboard video systems (also known as surveillance cameras) with a minimum of four (4) cameras and continuous recording shall be installed on the inside of all new school buses. [Code of Maine Regulations (05-071 CMR Chapt. 86) Maine Uniform School Bus Specifications] Note: school districts select the type of surveillance camera system. Contact Dealer for hardware availability and pricing. Pricing for labor and pre-wire is listed below.	✓
SURVEILLANCE CAMERA SYSTEM (inside the bus)	Labor to install four-camera system	✓
SURVEILLANCE CAMERA SYSTEM - GPS	None	
SURVEILLANAE CAMERA - STOP ARM CAMERA	None. Contact dealer for pricing.	
SURVEILLANCE CAMERA - MONITOR LIGHTS	None	
	Add camera monitor for lights	✓
SURVEILLANCE CAMERA - MONITOR SEAT BELT	None	
	Add camera monitor for seat belt	✓
	None	
SPECIALLY EQUIPPED SCHOOL BUS SPECIFICATIONS		
DEFINITION	A specially equipped school bus is any school bus that is designed, equipped and/or modified to accommodate students with special transportation needs.	✓
GENERAL REQUIREMENTS: A	A. Specially equipped school buses shall comply with the *National School Transportation Specifications and Procedures* and with the Federal Motor Vehicle Safety Standards (FMVSSs) applicable to their Gross Vehicle Weight Rating (GVWR) category.	✓
GENERAL REQUIREMENTS: B	B. Any school bus to be used for the transportation of children who utilize a wheelchair or other mobile positioning device, or who require life-support equipment that prohibits use of the regular service entrance, shall be equipped with a power lift.	✓
AISLES	All school buses equipped with a power lift shall provide a minimum 30-inch pathway leading from any wheelchair position to at least one 30 inches wide emergency exit door. A wheel chair securement position shall never be located directly in front of (blocking) a powerlift door location.	✓

Product Category	Bus: Conventional	
GLAZING	Tinted glazing may be installed in all doors, windows, and windshields consistent with federal, state, and local regulations.	✓
IDENFICATION	Specially equipped school buses shall display the International Symbol of Accessibility below the window line. Such emblems shall be white or blue or black background, shall not exceed 12 inches squre in size and shall be of a hight-intensity retroreflective material meetng the requirements of Federal Highway Administration (FHWA) FP-85, *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects.*	✓
PASSENGER CAPACITY RATING	In determining the passenger capacity of a school bus for purposes other than actual passenger load (e.g., vehicle classification or various billing/reimbursement models), any location in a school bus intended for securement of a wheelchair during vehicle operation shall be regarded as four designated seating positions, and each lift area shall count as four designated seating positions.	✓
POWER LIFTS	Refer to National School Transportatin Specifications and Procedures 2015.	✓
REGULAR SERVICE ENTRANCE	Refer to National School Transportatin Specifications and Procedures 2015.	✓
RESTRAINING DEVICES	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SEATING ARRANGEMENTS	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SECUREMENT AND RESTRAINT SYSTEM FOR WHEELCHAIRS AND WHEELCHAIR-SEATED OCCUPANTS	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SPECIAL LIGHT	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SPECIAL SERVICE ENTRANCE	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SPECIAL SERVICE ENTRANCE DOORS	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SUPPORT EQUIPMENT AND ACCESSORIES	Refer to National School Transportatin Specifications and Procedures 2015.	✓
TECHNOLOGY AND EQUIPMENT, NEW	Refer to National School Transportatin Specifications and Procedures 2015.	✓

Product Category **Category Description**	**Bus: Front Engine Transit** **Base Bid Spec and Description**	**Check**
Fuel	**Electric**	**TYPE D**
Chassis Options		
AIR CLEANER	**A. A dry element air cleaner shall be provided. B. All diesel engine air filters shall include a latch-type restriction indicator that retains the maximum restriction developed during operation of the engine. The indicator should include a reset control so the indicator can be returned to zero when desired.**	✓
AXLES	**The front and rear axle and suspension systems shall have a gross axle weight rating (GAWR) at ground commensurate with the respective front and rear weight loads of the bus loaded to the rated passenger capacity.**	✓
BRAKES: GENERAL. A.	**A. The chassis brake system shall conform to the provisions of FMVSS No. 105, Hydraulic and Electric Brake Systems, 106, Brake Hoses, and 121, Air Brake Systems, as applicable. All buses shall have either a parking pawl in the transmission or a park brake interlock that requires the service brake to be applied to allow release of the parking brake.**	✓
BRAKES: GENERAL. B.	**B. The anti-lock brake system (ABS), provided in accordance with FMVSS No. 105, Hydraulic and Electric Brake Systems or No. 121, Air Brake Systems, shall provide wheel speed sensors for each front wheel and for each wheel on at least one rear axle. The system shall provide anti-lock braking performance for each wheel equiped with sensors (Four Channel System).**	✓
BRAKES: GENERAL. C.	**C. All brake systems shall be designed to permit visual inspection of brake lining wear without removal of any chassis component(s).**	✓
BRAKES: GENERAL. D.	**D. The brake lines, booster-assist lines, and control cables shall be protected from excessive heat, vibration and corrosion and installed in a manner that prevents chafing.**	✓
BRAKES: GENERAL. E.	**E. The parking brake system for either air or hydraulic service brake systems may be of a power-assisted design. The power parking brake actuator should be a device located on the instrument panel within reach of a seated 5th percentile female driver. As an option, the parking brake may be set by placing the automatic transmission shift control mechanism in the "park" position.**	✓
BRAKES: GENERAL. F.	**F. The power-operated parking brake system may be interlocked to the engine key switch. Once the parking brake has been set and the ignition switch turned to the "off" position, the parking brake cannot be released until the key switch is turned back to the "on" position.**	✓
BRAKES: HYDRAULIC	**Buses using hydraulic-assist brakes shall meet requirements of FMVSS 105.**	✓
BRAKES: AIR. A.	**A. The air pressure supply system shall include a desiccant-type air dryer installed according to the manufacturer's recommendations. The air pressure storage tank system may incorporate an automatic drain valve.**	✓

Product Category	Bus: Front Engine Transit	
BRAKES: AIR. B.	B. The chassis manufacturer shall provide an accessory outlet for air-operated systems installed by the body manufacturer. This outlet shall include a pressure protection valve to prevent loss of air pressure in the service brake reservoir.	✓
BRAKES: AIR. C.	C. For air brake systems, an air pressure gauge shall be provided in the instrument panel capable of complying with Commercial Driver's License (CDL) pre-trip inspection requirements.	✓
BRAKES: AIR. D.	D. Air brake systems shall include a system for anti-compounding of the service brakes and parking brakes.	✓
BRAKES: AIR. E.	E. Air brakes shall have both a visible and audible warning device whenever the air pressure falls below the level where warnings are required under FMVSS No. 121, *Air Brake Systems*.	✓
BUMPER: FRONT A.	A. School buses shall be equipped with a front bumper.	✓
BUMPER: FRONT B.	B. The front bumper on buses of Type A-2 (with GVWR greater thatn 14,500 pounds), Type B, Type C, and Type D shall be equivalent in strength and durability to pressed steel channel at least 3/16 inches thick and not less than 8 inches wide (high). It shall extend beyond the forward-most part of the body, grille, hood, and fenders and shall extend to the outer edges of the fenders at the bumper's top line. Type A buses having GVWR of 14,500 pounds or less may be equipped with OEM--supplied front bumper. The front bumper shall be of sufficient strength to permit being pushed by another vehicle on a smooth surface with a 5 degree, (8.7percent) grade, without permanent distortion. The contact point on the front bumper is intended to be between the frame rails, with as wide a contact area as possible. If the front bumper is used for lifting, the contact points shall be under the bumper attachments to the frame rail brackets unless the manufacturer specifies different lifting points in the owner's manual. Contact and lifting pressures should be applied simultaneously at	✓
BUMPER: FRONT C.	C. The front bumper, except breakaway bumper ends, shall be of sufficient strength to permit pushing a vehicle of equal gross vehicle weight, per Section B, without permanent distortion to the bumper, chassis or body.	✓
BUMPER: FRONT D.	D. The bumper shall be designed or reinforced so that it will not deform when the bus is lifted by a chain that is passed under the bumper (or through the bumper if holes are provided for this purpose) and attached to both tow hooks/eyes. For the purpose of meeting this specification, the bus shall be empty and positioned on a level, hard surface, and both tow hooks/eyes shall share the load equally.	✓
BUMPER: REAR A.	A. The bumper on Type A-1 buses shall be a minimum of 8 inches wide (high). Bumpers on Types A-2, B, C, and D buses shall be a minimum of 9-1/4 inches wide (high).	✓
BUMPER: REAR B.	B. The bumper shall wrap around the back corners of the bus. It shall extend forward at least 12 inches, measured from the rear-most point of the body at the floor line, and shall be mounted flush with the sides of the body or protected with an end panel.	✓
BUMPER: REAR C.	C. The bumper shall be attached to the chassis frame in such a manner that it may be removed. It shall be braced to resist deforration of the bumper resulting from impact from the rear of the side. It shall be designed to discourage hitching of rides by an individual.	✓
BUMPER: REAR D.	D. The bumper shall extend at least one inch beyond the rear-most part of the body surface, measured at the floor line.	✓

Product Category	Bus: Front Engine Transit	
BUMPER: REAR E.	E. The bottom of the rear bumper shall not be more than 30 inches above ground level.	✓
BUMPER, FRONT	Comply with National Standard. And must have bumpers of glossy black unless painting is impracticable through use of rubber, reflective	✓
CERTIFICATION	Upon request of the state agency having student transportation jurisdiction, the chassis and body manufacturer(s) shall certify that its(their) product(s) meets the state's minimum standards on items which are not covered by FMVSS certificatin requirements of 49 CFR, Part 567; *Certification*	✓
COLOR: Maine Statute	The chassis shall be black. "*Must have bumpers of glossy black unless painting is impracticable through use of rubber, reflective material or other devices*" [29-A Maine Revised Statutes section 2302(D)]. Body, cowl, hood, and fenders shall be in *national school bus glossy yellow*. State statue [29-A MRS section 2302(C and D)] and Code of Maine Regulations [CMR 05-071 - Chapter 86, section 2(1-A-(1))] apply.	✓
DRIVE SHAFT	The drive shaft shall be protected by a metal guard or guards around the circumference of the drive shaft to reduce the possibility of its whipping through the floor or dropping to the ground, if broken.	✓
ELECTRICAL SYSTEM: A. Battery	A. 1. The storage batteries shall have minimum cold cranking capacity rating (cold cranking amps) equal to the cranking current required 30 seconds at 0 degrees Fahrenheit and a minimum reserve capacity rating of 120 minutes at 25 amps. Higher capacities may be required, depending upon optional equipment and local environmental conditions. 2. The manufacturer shall securely attach the battery on a slide-out or swing-out tray in a closed, vented compartment in the body skirt or chassis frame so that the battery is accessible for convenient servicing from the outside. When in the stored position, the tray shall be retained by a securing mechanism capable of holding the tray [with battery(ies)] in position when subjected to a 5g load from any direction. The battery compartment door or cover, if separate from the tray, shall be hinged at the front or top. It shall be secured by a positive operated latching system or other type fastner. The door may be an integral part of the batter slide tray. the door or cover must fit tightly to the body, and not present sharp edges or snagging points. Battery cables shall meet SAE requirements. Batter cables shall be of sufficient lenght to allow the battery tray to fully extend. Any chassis frame-mounted batteries shall be relocated to a battery compartment on Type A buses. 3. All batteries are to be secured in a sliding tray except that on van conversion or cutaway front-section chassis, batteries may be secured in accordance with the manufacturer's standard configuration. In these cases, the final location of the battery and the appropriate cable lenghts shall be agreed upon mutually by the chassis and body manufacturers. However, in all cases the battery cable provided with the chassis shall have sufficient lenth to allow some slack, and shall be of sufficient gauge to carry the required amperage. 4. Buses may be equipped with a battery shut-off switch. The	✓

Product Category	Bus: Front Engine Transit	
ELECTRICAL SYSTEM: B. Alternator	B. 1. All type A and Type B buses with a GVWR of 15,000 pounds or less shall have a minimum 130-amp alternator. Buses equipped with an electrically powered wheelchair lift and/or air conditioning shall be equipped with the highest rated capacity available from the chassis OEM. 2. All buses over 15,000 pounds GVWR shall be equipped with a heavy-duty truck-or-bus-type alternator having a minimum output rating of 200 amps or higher, and should produce a minimum current output of 50 percent of the rating at engine idle speed. 3. All other buses than those described in B1 equipped with an electrically powered wheelchair lift and/or air conditioning shall have a minimum alternator output of 240 amps and may be equipped with a device that advances the engine idle speed when the voltage drops to, or below, a pre-set level. 4. A belt-driven alternator shall be calpable of handling the rated capacity of the alternator with no detrimental effect on any other driven components. (For estimating required alternator capacity, see School Bus Manufacturers Technical Council's publication, "School Bus Technical Reference," available at http://www.nasdpts.org) 5. A direct/gear-drive alternator is permissible in lieu of a belt-driven	✓
ELECTRICAL SYSTEM: C. Electrical Components	C. Materials in all electrical components shall contain no mercury.	✓
ELECTRICAL SYSTEM: D. Wiring, Chassis	D. 1. All wiring shall conform to current applicable recommended practices of the Society of Automotive Engineers (SAE). All wiring shall use color and at least one other method for identification. The other method shall be either a number code or name code, and each chassis shall be delivered with a wiring diagram that illustrates the wiring of the chassis. 2. The chassis manufacturer of an incomplete vehicle shall install a readily accessible terminal strip or connector on the body side of the cowl or in an accessible location in the engine compartment of vehicles designed without a cowl. The strip or connector shall contain the following terminals for the body connections: a. Main 100-amp body circuit; b. Tail lamps; c. Right turn signal; e. Stop lamps; f. Back-up lamps; and g. Instrument panel lamps (controlled by dimmer switch). 3. An appropriate identifyng diagram (color plus a name or number code) for all chassis electrical circuits shall be provided to the body manufacturer for distribution to the end user. 4. Wiring for the headlamp system must be separate from the elctronic controlled body	✓
ELECTRICAL SYSTEM: E. Wiring, Body: 1-6	E. 1. All wiring shall conform to current applicable SAE recommended practices. 2. All wiring shall have an amperage capacity exceeding the design load by at least 25%. All wiring splices are to be accessible and noted as splices on the wiring diagram. 3. A body wiring diagram, sized to be easily read, shall be furnished with each bus body or affixed to an area convenient to the electrical accessory control panel. 4. The body power wire shall be attached to a special terminal on the chassis. 5. Each wire passing through metal openings shall be protected by a grommet. 6. Wires not enclosed within the body shall be fastened securely at intervals of not more than 18 inches. All joints shall be soldered or joined by equally effective connectors, which shall be water-	✓

Product Category	Bus: Front Engine Transit	
ELECTRICAL SYSTEM: E. Wiring, Body: 7	E. 7. Wiring shall be arranged in circuits, as required, with each circuit protected by a fuse breaker or electronic protection device. A system of color and number-coding shall be used and an appropriate identifying diagram shall be provided to the end user, along with the wiring diagram provided by the chassis manufacturer. The wiring diagrams shall be specific to the bus model supplied and shall include any changes to wiring made by the body manufacturer. Chassis wiring diagrams shall be supplied to the end user. The following body interconnecting circuits shall be color-coded, as noted by function: Left Rear Directional Lamp (Yellow), Right Rear Directional Lamp (Dark Green), Stop Lamps (Red), Tail Lamps (Brown), Ground (White), and Ignition Feed, Primary Feed (Black). The color of the cables shall correspond to SAE J1128, *Low-Tension Primary Cable*.	✓
ELECTRICAL SYSTEM: E. Wiring, Body: 8-12	E. 8. Wiring shall be arranged in at least six (6) regular circuits, as follows: a. Head, tail, stop (brake), clearance and instrument panel lamps; b. Step well lamps shall be actuated when the entrance door is open; c. Dome lamps; d. Ignition and emergency door signal; e. Turn signal lamps; and f. Alternately flashing signal lamps. 9. Any of the above combination circuits may be subdivided into additional independent circuits. 10. Heaters and defrosters shall be wired on an independent circuit. 11. Whenever possible, all other electrical functions (such as sanders and electric-type windshield wipers) shall be provided with independent and properly protected circuits. 12. Each body circuit shall be coded by number or letter on a diagram of circuits and shall be attached to the body in a readily accessible location.	✓
ELECTRICAL SYSTEM: F. Power Port	F. Buses may be equipped with a 12-volt power port in the driver's area.	✓
ELECTRICAL SYSTEM: G. Noise Suppression	G. There shall be a manual noise suppression switch installed in the control panel. The switch shall be labeled and alternately colored. This switch shall be an on/off type that deactivates body equipment that produces noise, including at least the AM/FM radio, heaters, air conditioners, fans, and defrosters. This switch shall not deactivate safety systems, such as windshield wipers or lighting systems.	✓
ELECTRICAL SYSTEM: H. Voltage	H. The entire electrical system of the body shall be designed for the same voltage as the chassis on which the body is mounted.	✓
EXHAUST SYSTEM	Must comply with National Specifications and Maine Motor Vehicle Inspection Manual (REFER TO MAINE MANUAL).	NA
EXHAUSE PIPE	The exhause pipe must be entirely outside the passenger compartment of a school bus. [29-A MRS section 2305(2)]	NA
EXHAUST SYSTEM: A-C	A. The exhaust pipe, after-treatment system and tailpipe shall be outside the bus body compartment and shall be attached to the chassis so any other chassis component is not damaged. B. The tailpipe and after-treatment system shall be constructed of a corrosion-resistant tubing material at least equal in strenght and durability to 16-gauge steel tubing of equal diameter. C. The tailpipe may be flush with, or shall not extend more than two inches beyond, the perimeter of the body for side-exit pipe. The exhaust system shall be designed such that exhaust gas will	NA

Product Category	Bus: Front Engine Transit	
EXHAUST SYSTEM: D-F	D. The tailpipe shall exit to the left or right of the emergency exit door in the rear of the vehicle or to the left side of the bus in front of or behind the rear drive axle or the tailpipe may extend through the bumper. The tailpipe exit location on all Types A-1 or B-1 buses may be in accordance to the manufacturer's standards. The tailpipe shall not exit beneath any fuel filler location, emergency door, or lift door. E. The exhaust shall be insulated in a manner to prevent any damage to any fuel system component. F. The design of the after treatment systems shall not allow active (non-manual) regeneration of the particulate filter during the loading and unloading of passengers. Manual regeneration systems will be designed such that unintentional operation will not occur.	NA
EXHAUST SYSTEM: G	G. For after treatment systems that require Diesel Exhaust Fluid (DEF) to meet federally mandated emissions: 1. The composition of Diesel Exhause Fluid (DEF) must comply with International Standard ISO 22241-1. Refer to engine manufacturer for any additional DEF requirements. 2. The DEF supply tank shall be sized to meet a minimum ratio of 3 diesel fills to 1 DEF fill	NA
FENDERS: FRONT	A. When measured at the fender line, the total spread of the outer edges of front fenders shall exceed the total spread of front tires when front wheels are in a straight-ahead position. B. Front fenders shall be properly braced and shall not require attachment to any part of the body	✓
FIRE SUPPRESSION SYSTEMS (Optional)	A. The chassis manufacturer may provide an automatic fire extinguisher system in the engine compartment. B. Fire suppression system nozzles shall be located in the engine compartment, under the bus, in the electrical panel or under the dash, but they shall not be located in the passenger compartment. The system must include a lamp or buzzer to alert the driver that the system has been activate.	✓
FRAME	A. Frame lengths shall be established in accordance with the design criteria for the complete vehicle. B. Making holes in top or bottom flanges or side units of the frame and welding to the frame shall not be permitted except as provided or accepted by the chassis manufacturer. C. Frames shall not be modified for the purpose of extending the wheel base. D. Any secondary manufacturer that modifies the original chassis frame shall provide a warranty at least equal to the warranty offered by the original equipment manufacturer (OEM), and shall certify that the modification and other parts of equipment affected by the modification shall be free from defects in material and workmanship under normal use and	✓
FUEL SYSTEM: A.-E. Fuel Tanks	A. Fuel tank(s) having a minimum 25-gallon capacity shall be provided by the chassis manufacturer. Each tank shall be filled from and vented to the outside of the passenger compartment, and each fuel filler should be placed in a location where accidential fuel spillage will not drip or drain or any part of the exhaust system. B. The fuel system shall comply with FMVSS No. 301, Fuel System Integrity. C. Fuel tank(s) may be mounted between the chassis frame rails or outboard of the frame rails on either the left or right side of the vehicle. D. The actual draw capacity of each fuel tank shall be a minimum of 83 percent of the tank capacity. E. Installation of alternative fuel systems, including fuel tanks and piping from the tank to the engine, shall comply with all applicable fire codes in effect on the date of	NA

Product Category	Bus: Front Engine Transit	
FUEL SYSTEM: F. Liquefied Petroleum Gas (LPG)	**F. Installation of Liquefied Petroleum Gas (LPG) tanks shall comply with National Fire Protection Association (NFPA) 58, *Liquefied Petroleum Gas Code*.**	**NA**
FUEL SYSTEM: G.-H. Compressed Natural Gas (CNG)	**G. Installation of Compressed Natural Gas (CNG) containers shall comply with FMVSS No. 304, Compressed Natural Gas Fuel Container Integrity. H. The CNG Fuel System shall comply with FMVSS No. 303, *Fuel System Integrity of Compressed Natural Gas Vehicles*.**	**NA**
FUEL TANK FILLER, VENT, DRAIN OPENINGS	**The fuel tank filler, vent and drain openings must be outside the school bus body. [29-A MRS Section 2305(3)]**	**NA**
GOVERNOR	**An electronic engine speed limiter shall be provided and set to limit engine speed, not to exceed the maximum revolutions per minute, as recommended by the engine manufacturer.**	✓
HEATING SYSTEM, PROVISION FOR	**The engine shall be capable of supplying coolant at a temperature of at least 170 degrees Fahrenheit at the engine coolant thermostat opening. The coolant flow rate shall be 50 pounds per minute at the return end of 30 feet of one (1) inch inside diameter automotive hot water heater hose. (See SBMTC-001, *Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment*.)**	✓
HORN	**The bus shall be equipped with a horn(s) of standard make with the horn(s) capable of producing a complex sound in bands of audion frequencies between 250 and 2,000 cycles per second, and tested in accordance with SAE J377, *Horn - Forward Warning - Electric - Performance, Test, and Application.***	✓
INSTRUMENTS AND INSTRUMENT PANEL: A.	**A. The chassis shall be equipped with the instruments and gauges listed here. Note: Telltale warning lamps in lieu of gauges are not acceptable, except as noted. 1. Speedometer; 2. Odometer that can be read without using a key and that will give accrued mileage (to seven digits), including tenths of miles, unless tenths of miles are registered on a trip odometer; 3. Tachometer; Note: for types B, C, and D buses, a tachometer shall be installed so as to be visible to the driver while seated in a normal driving position. 4. Voltmeter; Note: An ammeter with graduated charge and discharge indications is permitted in lieu of a voltmeter; however, when used, the ammeter wiring must be compatible with the current flow of the system. 5. Oil pressure gauge; 6. Water temperature gauge; 7. Fuel gauge; 8. High beam headlamp indicator; 9. Brake air pressure gauge (air brakes), brake indicator lamp (vacuum/hydraulic brakes), or brake indicator lamp (hydraulic/hydraulic); 10. Turn signal indicator; and 11. Glow-plug indicator lamp, where appropriate.**	✓
INSTRUMENTS AND INSTRUMENT PANEL: B.	**B. All instruments shall be easily accessible for maintenance and repair.**	✓
INSTRUMENTS AND INSTRUMENT PANEL: C.	**C. The instruments and gauges shall be mounted on the instrument panel so that each is clearly visible to the driver while seated in a normal driving position.**	✓
INSTRUMENTS AND INSTRUMENT PANEL: D.	**D. Instruments and controls must be illuminated as required by FMVSS No. 101, *Controls and Displays*.**	✓

Product Category	Bus: Front Engine Transit	
INSTRUMENTS AND INSTRUMENT PANEL: E.	E. Multi-Function Gauge (MFG): 1. The driver must be able to manually select any displayable function of the gauge on a MFG, whenever desired. 2. Whenever an out-of-limits condition that would be displayed on one or more functions of a MFG occurs, the MFG controller should automatically display this condition on the instrument cluster. This should be in the form of an illuminated telltale warning lamp, as well as having the MFG automatically display the out-of-limits indications. If two or more functions displayed on the MFG go out of limits simutaneously, then the MFG should sequence automatically between those functions continuously until the condition(s) are corrected. 3. The use of a MFG does not relieve the need for audible warning devices, where required.	✓
MOUNTING	A. The rear body cross member shall be supported by the chassis frame. Except where chassis components interfere, the bus body shall be attached to the chassis frame at each main floor sill in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions. B. Isolators shall be installed at all contact points between teh body and the chassis frame on Types A-2, B, C, and D buses, and shall be secured by a positive means to the chassis frame or body to prevent shifting, separation, or displacement of the isolators under severe operting conditions.	✓
OIL FILTER	An oil filter with a replaceable element shall be provided and connected by flexible oil lines if it is not a built-in or an engine-mounted design. The oil filter shall have a capacity in accordance with the engine manufacturer's recommendation.	✓
OPENINGS	All openings in the floorboard or firewall between the chassis and the passenger compartment (e.g., for gearshift selector and parking brakes lever) shall be sealed.	✓
PASSENGER LOAD	A. Actual gross vehicle wight (GVW) is the sum of the chassis weight plus the body weight, plus the driver's weight, plus total seated student weight. For purposes of calculation, the driver's weight is 150 pounds and the student wight is 120 pounds per student. B. Actual GVW shall not exceed the chassis manufacturer's GVWR for the chassis, nor shall the actual weight carried on any axel exceed the chassis manufacturer's Gross Axle Weight Rating (GAWR)	✓
RETARDER SYSTEM (optional equipment)	A retarder system, if used, shall limit the speed of a fully loaded school bus to 19.0 mph on a 7% grade for 3.6 miles.	✓
ROAD SPEED CONTROL	When it is desired to accurately control vehicle maximum speed, a vehicle speed limiter may be utilized.	✓
SHOCK ABSORBERS	The bus shall be equipped with double-action shock absorbers compatiable with the manufacturer's rated axle capacity at each wheel location.	✓
SHUTTERS	None	✓

Product Category	Bus: Front Engine Transit	
STEERING GEAR	**A. The steering gear shall be aproved by the chassis manufacturerer and designed to ensure safe and accurate performance when the vehicle is operated with maximum load and at maximum speed. B. If external adjustments are required, the steering mechanism shall be accessible to make adjustments. C. Changes shall not be made to the steering apparatus which are not approved by the chassis manufacturer. D. There shall be a clearance of at least two inches between the steering wheel and cowl, instrument panel, windshield or any other surface. E. Power steering is required and shall be of the integral type with integral valves. F. The steering system shall be designed to provide a means for lubrication of all wearpoints that are not permanently**	✓
SUSPENSION SYSTEM	**A. The capacity of springs or suspension assemblies shall be commensurate with the chassis manufacturer's GVWR. B. Rear leaf springs shall be of a progressive rate or multi-stage design. Front leaf springs shall have a stationary eye at one end and shall be protected by a wrapped leaf, in addition to the main leaf.** Shall comply with National Standards.	✓
THROTTLE	**The force required to operate the throttle shall not exceed 16 pounds throughout the full range of accelerator pedal travel.**	✓
TIRES & RIMS	**A. Rims and tires of the proper size and load rating commensurate with the chassis manufacturer's GVWR shall be provided. The use of milti-piece rimes and/or tube-type tires shall not be permitted on any school bus ordered after December 31, 1995. B. Dual rear tires shall be provided on Type A-2, Type B, Type C, and Type D school buses. C. All tires on a vehicle shall be of the same size, and the load range of the tires shall meet or exceed the GVWR, as required by FMVSS No. 120, Tire Selection and Rims for Vehicles other than Passenger Car. D. If the vehicle is equipped with a spare tire and rim assemble, it shall be the same size as those mounted on the vehicle. E. If a tire carrier is required, it shall be suitable mounted in an accessible location outside of the passenger compartment.**	✓
TRANSMISSION, AUTOMATIC	**Automatic transmissions shall have no fewer than three forward speeds and one reverse speed. Mechanical shift selectors shall provide a detent between each gear position when the gear selector quadrant and shift selector are not steering-column mounted. Automatic tranmissions shall have a transmission shifter interlock controlled by the application of the service brake to prohibit accidental engagement of the transmission.** PTS2500 Shall comply with National Standards. PTS2500 5-speed is	**NA**
TURNING RADIUS	**A chassis with a wheel base of 264 inches or less shall have a right and left turning radius of not more than 42-1/2 feet, curb-to-curb measurement. A chassis with a wheelbase of 265 inches or more shall have a right and left turning radius of not more than 44-1/2 feet, curb-to-curb measurement**	✓

Product Category	Bus: Front Engine Transit	
UNDERCOATING	**A. The entire underside of the bus body, including floor sections, cross member and below floor-line side panels, shall be coated with rust-proofing material for which the material manufacturer has issued to the bus body manufacturer a notarized certification to the bus body manufacturer that materials meet or exceed all performance requirements of SAE J1959, Sept. 2003 Edition of the Standard. B. The undercoating material shall be applied with suitable airless or conventional spray equipment to the undercoataing material manufacturer recommended film thickness and shall show no evidence of voids in the cured film. C. The undercoating material shall not cover any**	✓
Body Options		
ACCESS	**A school bus must be constructed to permit the operator access to the passenger compartment without leaving the vehicle. [29-A MRS Section 2305(1)]**	✓
AIR CONDITIONING, PASSENGER COMPARTMENT (optional)	The specifications are applicable to all types of school buses that may be equipped with air conditioning. This section is divided into three parts. Part 1 covers performance specifications, Part 2 covers test conditions, and Part 3 covers other requirements applicable to all buses.	✓
AISLE	**All emergency exit doors shall be accessible by a 12-inch minimum aisle. The aisle shall be unobstructed at all times by any type of barrier, seat, wheelchair or tie-down, unless a flip seat is installed and occupied. The track of a track seating system is exempt from this requirement. A flip seat in the unoccupied (up) position shall not obstruct the 12-inch minimum aisle to any side emergency exit door.**	✓
BACK-UP WARNING ALARM	**An automatic audible alarm shall be installed behind the rear axle and shall comply with the published Backup Alarm Standards (SAE J994b), providing a minimum of 112 dBA, or shall have a variable volume feature that allows the alarm to vary from 87 dBA to 112 dBA sound level, staying at least 5 dBA above the ambient noise level. Shall comply with National Standards**	✓
BUMPER: FRONT A.	**A. School buses shall be equipped with a front bumper.**	✓
BUMPER: FRONT B.	**B. The front bumper on buses of Type A-2 (with GVWR greater thatn 14,500 pounds), Type B, Type C, and Type D shall be equivalent in strength and durability to pressed steel channel at least 3/16 inches thick and not less than 8 inches wide (high). It shall extend beyond the forward-most part of the body, grille, hood, and fenders and shall extend to the outer edges of the fenders at the bumper's top line. Type A buses having GVWR of 14,500 pounds or less may be equipped with OEM--supplied front bumper. The front bumper shall be of sufficient strength to permit being pushed by another vehicle on a smooth surface with a 5 degree, (8.7percent) grade, without permanent distortion. The contact point on the front bumper is intended to be between the frame rails, with as wide a contact area as possible. If the front bumper is used for lifting, the contact points shall be under the bumper attachments to the frame rail brackets unless the manufacturer specifies different lifting points in the owner's manual. Contact and lifting pressures should be applied simultaneously at both lifting points.**	✓

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BUMPER: FRONT C.	C. The front bumper, except breakaway bumper ends, shall be of sufficient strength to permit pushing a vehicle of equal gross vehicle weight, per Section B, without permanent distortion to the bumper, chassis or body.	✓
BUMPER: FRONT D.	D. The bumper shall be designed or reinforced so that it will not deform when the bus is lifted by a chain that is passed under the bumper (or through the bumper if holes are provided for this purpose) and attached to both tow hooks/eyes. For the purpose of meeting this specification, the bus shall be empty and positioned on a level, hard surface, and both tow hooks/eyes shall share the load equally.	✓
BUMPER: REAR A.	A. The bumper on Type A-1 buses shall be a minimum of 8 inches wide (high). Bumpers on Types A-2, B, C, and D buses shall be a minimum of 9-1/4 inches wide (high).	✓
BUMPER: REAR B.	B. The bumper shall wrap around the back corners of the bus. It shall extend forward at least 12 inches, measured from the rear-most point of the body at the floor line, and shall be mounted flush with the sides of the body or protected with an end panel.	✓
BUMPER: REAR C.	C. The bumper shall be attached to the chassis frame in such a manner that it may be removed. It shall be braced to resist deforration of the bumper resulting from impact from the rear of the side. It shall be designed to discourage hitching of rides by an individual.	✓
BUMPER: REAR D.	D. The bumper shall extend at least one inch beyond the rear-most part of the body surface, measured at the floor line.	✓
BUMPER: REAR E.	E. The bottom of the rear bumper shall not be more than 30 inches above ground level.	✓
CERTIFICATION	Upon request of the state agency having student transportation jurisdiction, the chassis and body manufacturer(s) shall certify that its(their) product(s) meets the state's minimum standards on items which are not covered by FMVSS certificatin requirements of 49 CFR, Part 567: *Certification*.	✓
COLOR. A. BODY.	A. The school bus body "*must be painted national school bus glossy yellow, except that the hood may be lusterless black*" [29-A Maine Revised Statutes section 2302(C)].	✓
COLOR. B. EXTERIOR TRIM.	B. The body exterior trim, as defined by individual states, shall be black. "*Must have bumpers of glossy black unless painting is impracticable through use of rubber, reflective material or other devices*" [29-A Maine Revised Statutes section 2302(D)].	✓
COLOR. C. ROOF	C. Roof. State statue [29-A MRS section 2302(C)] and Code of Maine Regulations [CMR 05-071 - Chapter 86, section 3(1.A.(1)] apply: *"Roof color exception: a white roof on a school bus is not a state school bus specification."*	✓
COLOR. D. CHASSIS AND FRONT BUMPER.	D. The chassis shall be black. "*Must have bumpers of glossy black unless painting is impracticable through use of rubber, reflective material or other devices*" [29-A Maine Revised Statutes section 2302(D)]. Body, cowl, hood, and fenders shall be in *national school bus glossy yellow*. State statue (29-A MRS section 2302(C and D)) and Code of Maine Regulations [CMR 05-071 - Chapter 86, section 3(1.A.(1))] apply.	✓
COLOR. E. WHEELS.	E. Wheels may be silver, gray, white, yellow, or black.	✓

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COLOR. F. MULTIFUNCTION SCHOOL ACTIVITY BUSES.	F. Multifunction school activity buses (MFSABs) shall be exempt from these [color] requirements.	✓
CONSTRUCTION	A. Side Intrusion Test: The bus body shall be constructed to withstand an intrusion force equal to the curb weight of the vehicle of 20,000 pounds, whichever is less. Each vehicle shall be capable of meetng this requirement when tested in accordance with the procedures set forth below. The complete body structure, or a representative seven-body section mock up with seats installed, shall be load-tested at a location 24 +/- 2 inches above the floor line, with a maximum 10 inch diameter cylinder, 48 inches long, mounted in a horizontal plane. The cylinder shall be placed as close as practical to the mid-point of the tested structure, spanning two internal vertical structural members. The cylinder shall be statically loaded to the required force of curb weight of 20,000 pounds, whichever is less, in a horizontal plane with the load applied from the exterior toward the interior of the structure. When the minimum load has been applied, the penetration of the loading cylinder into the passenger compartment shall not exceed 10 inches from its original point of contact. There can be no separation of lapped panels or construction joints. Punctures, tears, or breaks in the external panels are acceptable but are not permitted on any adjacent interior panel. Body companies shall certify compliance with this intrusion requirement, and include test resutls, as requested. B. Construction shall be reasonably dust-proof and watertight.	✓
CROSSING CONTROL ARM. A, B, C	A. School buses of model year 2021 or newer MUST be equipped with a crossing control arm [29-A M.R.S. section 2302(1-A)]. The crossing control arm may be mounted on the right side of the front bumper. When opened, this arm shall extend in a line parallel to the body side and aligned with the right front wheel. B. All components of the crossing control arm and all connections shall be weatherproofed. C. The crossing control arm shall incorporate system connectors (electrical, vacuum, or air) at the gate and shall be easily removable to allow for towing of the bus.	✓
CROSSING CONTROL ARM. D, E, F	D. The crossing control arm shall be constructed of non-corrodible or nonferrous material or shall be treated in accordance with the boday sheet metal slpecification. (See bus body and chassis specifications, metal treatment.) E. There shall be no sharp edges or projections that could cause injury or be a hazard to students. The end of the arm shall be rounded. F. The crossing control arm shall extend a minimum of 70 inches (measured from the bumper	✓

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CROSSING CONTROL ARM. G, H, I	G. The crossing control arm shall extend simultaneously with the stop signal arm(s), activated by stop signal arm controls. H. An automatic recycling interrupt switch may be installed for temporarily disabling the crossing control arm. I. The assembly shall include a device attached to the bumper near the end of the arm to automatically retain the arm while in the stowed position. That device shall not interfere with normal operations of the crossing control arm.	✓
DEFROSTERS. A.	A. Defrosting and defogging equipment shall direct a sufficient flow of heated air onto the windshield, the window to the left of the driver and the glass in the viewing area directly to the right of the driver to eliminate frost, fog, and snow. NOTE: The requirements of this standard do not apply to the exterior surfaces of double pane storm windows	✓
DEFROSTERS. B.	B. The defrosting system shall conform to SAE J381, *Windshield Defrosting Systems Test Procedure and Performance Requirements - Trucks, Buses, and Multipurpose Vehicles*.	✓
DEFROSTERS. C.	C. The defroster and defogging system shall be capable of furnishing heated, outside ambient air, except that the part of the system furnishing additional air to the windshield, entrance door, and stepwell may be the re-circulating air type.	✓
DEFROSTERS. D, E	D. Auxiliary fans are not considered defrosting or defogging systems. E. Portable heaters shall not be used.	✓
DOORS	A school bus must be equiped with at least 2 doors as follows: A. One door on the right side near the front for ordinary exits and entrances; and B. A 2nd door located in the center of the rear or if the engine makes that impossible, on the left side in the center or to the rear of center. The 2nd door must be free of obstruction, clearly marked as an emergency exit, and constructed to open from inside and outside. [29-A MRS Section 2304(2)]	✓
DOORS. A.	A. The entrance door shall be under the driver's control, designed to afford easy release and to provide a positive latching device on manual operating doors to prevent accidential opening. When a hand lever is used, no part shall come together that will shear or crush fingers. Manual door controls shall not require more thatn 25 pound of force to operate at any point throughout the range of operation, as tested on a 10% grade, both uphill and downhill.	✓
DOORS. B.	B. The primary entrance door shall be located on the right side of the bus, opposite and within direct view of the driver. 1. In addition, buses may be equipped with a left side entrance door located immediately behind the driver to be used exclusively for curb side loading/unloading on one-way streets. 2. Buses equipped with a left side entrance door shall have a mirror mounted in the upper right corner of the interior of the bus so as to provide a clear view of the	✓
DOORS. C, D, E	C. The entrance door shall have a minimum horizontal opening of 24 inches and a minimum vertical opening of 68 inches. D. The entrance door shall be a slplit-type door and shall open outward. E. All entranace door glass shall be approved safety glass. The bottom of each lower glass panel shall be not more than 10 inches from the top surface of the bottom step. The top of each upper glass panel when viewed from the interior shall be not more than 3 inches below the interior door control cover or header	✓

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DOORS. F, G, H	F. Vertical closing edges on entrance doors shall be equipped with flexible material. G. All door openings shall be equipped with padding at the top edge of the opening. Padding shal be at least three (3) inches wide and one (1) inch thick and extend the full width of the door opening. H. On power-operated entrance doors, the emergency release valve, switch, or device to release the entrance door must be placed above or to the immediate left or immediate eright of the entrance door and must be clearly labeled. The emergency release valve, switch or device shall work in the absence of power.	✓
EMERGENCY EQUIPMENT: A. Fire Extinguisher	A. Fire Extinguisher. 1. The bus shall be equipped with at least one UL-approved pressurized, dry chemical fire extinguisher. The extinguisher shall be secured in a mounted bracket, located in the driver's compartment and readily accessible to the driver and passengers. A pressure gauge shall be mounted on the extinguisher and shall be easily read without moving the extinguisher from its mounted position. 2. The fire extinguisher shall have a rating of 2-A:10-BC, or greater. The operating mechanism shall be secured with a type of seal that will not interfere with the use of the fire extinguisher.	✓
EMERGENCY EQUIPMENT: B. First Aid Kit	B. First Aid Kit. 1. The bus shall have a removable, moisture-proof and dust-proof first aid kit in an accessible place in the driver's compartment. It shall be mounted and identified as a first aid kit. The location for the first aid kit shall be marked. Contents of the first aid kit shall be in compliance with state standards. Suggested contents include: 2 - 1-inch x 2-1/2 yards of adhesive tape rolls; 24 - Sterile gauze pads 3x3 inches; 100 - 3/4 x 3 inches adhesive bandages; 8 - 2-inch bandage compress; 10 - 3-inch bandage compress; 2 - 2-inch x 6 foot sterile gauze roller bandages; 2 - Non-sterile triangular bandages, minimum 39x35x54 inches with two safety pins; 3 - Sterile gauze pads 36x36 inches; 3 - Sterile eye pads; 1 - Rounded-end scissors; 1 - Pair medical examination gloves; 1 - Mouth-to-mouth airway.	✓
EMERGENCY EQUIPMENT: C. Body Fluid Clean-Up Kit	C. Body Fluid Clean-Up Kit. Each bus shall have a removable and moisture-proof body fluid clean-up kit accessible to the driver. It shall be mounted and identified as a body fluid cleanup kit. Contents of the body fluid clean-up kit shall be in compliance with sate standards.	✓
EMERGENCY EQUIPMENT: D. Warning Devices	D. Warning Devices. Each school bus shall contain at least three retroreflective triangle road warning devices that meet the requirements of FMVSS No. 125, *Warning Devices*. They shall be mounted in an accessible place.	✓
EMERGENCY EQUIPMENT: E.	E. Any piece of emergency equipment may be mounted in an enclosed compartment, provided the compartment is labeled in not less than one inch letters, identifying each piece of equipment contained therin.	✓
EMERGENCY EXITS: A. Any Installed Emergency Exit	A. Any installed emergency exit shall comply with the design and performance requirements of FMVSS No. 217, Bus Emergency Exits and Window Retention and Release, applicable to that type of exit, regardless of whether or not that exit is required by FMVSS No. 217.	✓

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EMERGENCY EXITS: B. Emergency Window Requirements	B. Emergency Window Requirements. 1. The rear emergency window shall have a lifting assistance device that will aid in lifting and holding the rear emergency window open. 2. Side emergency exit windows, when installed, may be vertically hinged on the forward side of the window. No side emergency exit window will be located above a stop arm.	✓
EMERGENCY EXITS: C. Emergency Door Requirements	C. Emergency Door Requirements. 1. The exposed area of the upper panel of emergency doors shall abe a minimu of 400 square inches of approved safety glazing. 2. If installed, all other glass panels on emergency doors shall be approved safety glazing. 3. There shall be no stepls leading to an emergency door. 4. There shall be no obstruction higher than 1/4 inch across the botton of any emergency door opening. Fasteners used within the emergency exit opening shall be free of sharp edges or burrs.	✓
EMERGENCY EXITS: D. Emergency Exit Requirements	D. Emergency Exit Requirements. The use of tables is to determine the required number and types of emergency exits to comply with this specification, based on the bus manufacturer's equipped seating capacity. Refer to the National Specifications, Table 1 and Table 2, pages 40 and 41.	✓
FIRE EXTINGUISHER	A school bus must have at least one dry chemical fire extinguisher: A. Of at least 2-1/2 pound capacity; B. Mounted in automotive type manufacturer's extinguisher bracket; C. Located in the operator's compartment in full view of and readily accessible to the operator; and D. Having an Underwriters' Laboratories rating of not less than 10-B: C. [29-A MRS Section 2305(4)]	✓
FLOORS	A. The floor in the under-seat area, including tops of wheel housings, driver's compartment and toeboard, shall be covered with an elastomer floor covering, having a minimum overall thickness of 0.125 inch and a calculated burn rate of 0.1 mm per minute or less, using the test methods, procedures, and formulas listed in FMVSS No. 302, *Flammability of Interior Materials*. The driver's area and toeboad area in all Type-A buses may be manufacturer's standard flooring and floor covering. B. The floor covering in the aisles shall be ribbed or other raised pattern elastomer and have a calculated burn rate of 0.1 mm per minute or less using the test methods, procedures, and formulas listed in FMVSS No. 302. Minimum overall thickness shall be 0.187 inch measured from tops of ribs. C. The floor covering must be permanently bonded to the floor and must not crack when subjected to sudden changes in temperature. Bonding or adhesive material shall be waterproof and shall be a type recommended by the manufacturer of floor-covering material. All seams shall be sealed with waterproof sealer. D. On Types B, C, and D buses, a flush-mounted screw-down plate that is secured and sealed shall be provided to access the diesel or gasoline fuel tank sending unit and/or fuel pump. This plate shall not be installed under	✓
HANDRAILS (GRAB RAIL)	At least one handrail shall be installed. The handrail shall be a minimum of one (1) inch diameter and be constructed from corrosion resistant material(s). The handrail(s) shall assist passengers during entry or exit and shall be designed to prevent entanglement, as evidenced by the passing of the NHTSA strin and nut test.	✓

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HEATING SYSTEM, PROVISION FOR	**The engine shall be capable of supplying coolant at a temperature of at least 170 degrees Fahrenheit at the engine coolant thermostat opening. The coolant flow rate shall be 50 pounds per minute at the return end of 30 feet of one (1) inch inside diameter automotive hot water heater hose. (See SBMTC-001, *Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment*.)**	✓
HEATING AND AIR CONDITIONING SYSTEMS. A. Heating System (1-4)	**1. The heater shall be hot water combustion type, electric heating element or heat pump. 2. If only one heater is used, it shall be fresh-air or combination fresh-air and recirculation type. 3. If more than one heater is used, additional heaters may be re-circulating air type. 4. The heating system shall be capable of maintaining bus interior temperatures, as specified in test procedure SAE J2233**	✓
HEATING AND AIR CONDITIONING SYSTEMS. A. Heating System (5)	**5. Aluxiliary fuel-fired systems are permitted, provided they comply with the following: a. The auxiliary heating system shall utilize the same type fuel as specified for the vehicle engine; b. The heater(s) may be direct, hot air-type or may be connected to the engine coolant system; c. An auxiliary heating system, when connected to the engine coolant system, may abe used to preheat the engine coolant or preheat and add supplementary heat to the heating system; d. Auxiliary heating systems must be installed pursuant to the manufacturer's recommendations and shall not direct exhause in such a manner that will endanger bus passengers; e. All combustion heaters shall be in compliance with current Federal Motor Carrier Safety Regulations; f. The auxiliary heating system shall require low voltage; g. Auxiliary heating systems shall comply with FMVSS No. 301, *Fuel System Integrity*, and all other applicable FMVSS, as well as**	✓
HEATING AND AIR CONDITIONING SYSTEMS. A. Heating System (6-8)	**6. All forced-air heaters installed by body manufacturers shall bear a name plate that indicates the heater rating in accordance with SBMTC-001, *Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment*. The plate shall be affixed by the heater manufacturer and shall consitute certification that the heater performance is as shown on the plate. 7. Heater hoses shall be adequately supported to guard against excessive wear due to vibration. The hoses shall not dangle or rub against the chassis or any sharp edges and shall not interfere with or restrict the operation of any engine function. Heater hoses shall conform to SAE J20c, *Coolant System Hoses*. Heater lines, cores, and elements on the interior of the bus shall be shielded to prevent scalding or burning of the driver or passengers. 8. Each hot water system installed by a body manufacturer shall include one shutoff valve in the pressure line and one shut-off valve in the return line, with both valves at the engine in an accessible location, except that on Types A and B buses, the**	✓
HEATING AND AIR CONDITIONING SYSTEMS. A. Heating System (9-11)	**9. All heaters of hot water type in the passenger compartment shall be equipped with a device, installed in the hot water pressure line, which regulates the water flow to all passenger heaters. The device shall be conveniently operated by the driver while seated. The driver and passenger heaters may operate independently of each other for maximum comfort. 10. On hot water type systems, accessible bleeder valves for removing air from the heater shall be installed in an appropriate place in the return lines of body company-installed heater. 11. Access panels shall be provided to make heater motors, cores, elements, and fans readily accessible for service. An exterior access panel to the driver's**	✓

Product Category	Bus: Front Engine Transit	
HEATING AND AIR CONDITIONING SYSTEMS. B. PASSENGER COMPARTMENT AIR CONDITIONING (optional) 1. Performance Specifications	1. Performance Specifications. a. Standard Performance. The installed air conditioning system should cool the interior of the bus from 100 degrees to 80 degrees Fahrenheit, measured at three points (minimum) located four feet above the floor on the longitudinal centerline of the bus. The three required points shall be: (1) three feet above the center point of the horizontal driver seat surface, (2) at the longitudinal midpoint of the body, and (3) three feet forward of the rear emergency door or, for Type D rear-engine buses, three feet forward of the end of the axle. The independent temperature reading of each temperature probe inside the bus shall be within a range of +/- 3 degrees Fahrenheit of the average temperature at the conclusion of the test. b. High Performance. The installed air conditioning system should cool the interior of the bus from 100 degrees to 70 degrees Fahrenheit, measured at three points (minimum) located four feet above the floor on the logitudinal centerline of the bus. The three required points shall be: (1) three feet above the center point of the horizontal driver seat surface, (2) at the logitudinal midpoint of the body, and (3) three feet forward of the rear emergency door or, for Type D rear-engine buses, three feet forward of the end of the aisle. Note for the Type A vehicle placement of the rear theromocouple should be centered in the bus over the rear axle. The independent temperature reading of each temperature probe inside the bus shall be within a range of +/- 3 degrees Fahrenheit of the average temperature at the conclusion of the test.	✓
HEATING AND AIR CONDITIONING SYSTEMS. B. PASSENGER COMPARTMENT AIR CONDITIONING (optional) 2. Test Conditions	2. Test conditions. The test conditions under which the above performance standards must be achieved shall consist of (1) placing the bus in a room (such as a paint booth) where ambient temperature can be maintained at 100 degrees Fahrenheit; (2) heat-soaking the bus at 100 degrees Fahrenheit at a point measured two feet horizontally from the top of the windows on both sides of the bus, with windows open for two hours; and (3) closing windows, turning on the air conditioner with the engine running at 1250 +/- 50 RPM, and cooling the interior of the bus to 80 degrees Fahrenheit, (standard performance) or 70 degrees Fahrenheit (high performance), within 30 minutes while maintaining 100 degrees Fahrenheit outside temperature. The manufacturer shall provide test results that show compliance with standard systems. If the bid specifies, the manufacturer shall provide facilities for the user or user's representative to confirm that a pilot model of each bus design meets the above performance requirements.	✓

Product Category	Bus: Front Engine Transit	
HEATING AND AIR CONDITIONING SYSTEMS. B. PASSENGER COMPARTMENT AIR CONDITIONING (optional) 3. Other Requirements	3. Other requirements. a. Evaporator cases, lines and ducting (as equipped) shall be designed in such a manner that all condensation is effectively drained to the exterior of the bus below the floor level under all conditions of vehicle movement and without leakage on any interior portion of the bus; b. Evaporators and ducting systems shall be designed and installed to be free of projections or sharp edges. Ductwork shall be installed so that exposed edges face the front of the bus and do not present sharp edges; c. On school buses equipped with Type-2 seatbelts having anchorages above the windows, the ducting (if used) shall be placed at a height sufficient to not obstruct occupant securement anchorages. This clearance shall be provided along the entire lenth (except at evaporator locations) of the passenger area on both sides of the bus interior; d. The body may be equipped with insulation, including sidewalls, roof, firewall, rear, inside body bows and plywood or composite floor insulation to reduce thermal transfer; e. All glass (windshield, service and emergency doors, side and rear windows) may be equipped with maximum integral tinting allowed by federal, state, or ANSI standards for the respective locations, except that windows rear of the driver's compartment, if tinted, shall have approximately 28 percent light transmission; f. Electrical generating capacity shall be provided to accomodate the additional electrical demands imposed by the air conditioning system; g. Roofs may *not* be painted white (per Code of Maine Regulations (05-071 CMR Chap. 86); h. Air intake for any evaporator assembly(ies), except for front evaporator or Type A-1, shall be equipped with replaceable air filter(s) accessible without disassembly of evaporator case. i. For all buses (except Type D rear engine transit) equipped with a rear evaporator assembly, evaporator shall not encroach upon head impact zone, but may occupy an area of less than 26.5 inches from the rear wall and 14 inches from the ceiling. j. For Type D rear engine transit buses equipped with a rear evaporator over the davenport, the evaporator assembly may not interfere with rear exit window and may not extend above the rear seating row	✓
HINGES	**All exterior metal door hinges shall be designed to allow lubrication to be channeled to the center 75% of each hinge loop without disassembly, unless they are constructed of stainless steel, brass or non-metallic hinge pins or other designs that prevent corrosion**	✓
IDENTIFICATION: A. School Bus	**A. The body shall bear the words "SCHOOL BUS" in black letters at least eight (8) inches high on both front and rear of the body or on signs attached thereto. Lettering shall be placed as high as possible without impairment of its visibility. Letters shall conform to "Series B" of Standard Alphabets for Highway Signs. "SCHOOL BUS" lettering shall have a reflective background, or as an option, may be illuminated by backlighting. Multifunction school**	✓
IDENTIFICATION: B. Required lettering and numbering	**B. Required lettering and numbering shall include: 1. District, company name or owner of the bus displayed at the beltline. 2. The bus identification number displayed on the sides, on the rear and on the front.**	✓

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IDENTIFICATION: C. Other lettering, numbering, or symbols	**C. Other lettering, numbering or symbols which may be displayed on the exterior of the bus shall be limited to: 1. bus idenfification number, minimum 12-inch high characters, on top of the bus, in addition to required numbering on the sides, rear, and front. 2. The location of the battery(ies) identified by the word "BATTERY" or "BATTERIES" on the battery compartment door in two (2) inch lettering; 3. Symbols or letters not to exceed 64 square inches of total display near the entrance door, displaying information for identification by the students of the bus or route served; 4. Manufacturer, dealer or school identification or logos; 5. Symbols identifiying the bus as equipped for or transporting students with special needs as noted in SPECIALLY EQUIPPED SCHOOL BUS SPECIFICATIONS; 6. Lettering on the rear of the bus relating to school bus flashing signal lamps or electronic warning sign; and 7. Lettering relating to railroad stop procedures; and 8. Idenfification of fuel type in 1-inch lettering adjacent to the fuel filler opening.**	✓
ILLUMINATED SCHOOL BUS SIGN FRONT AND REAR	**Illuminated school bus sign front and rear**	✓
INSIDE HEIGHT	**Inside body height shall be 72 inches or more, measured metal to metal, at a point on the logitudinal centerline from the front vertical bow to the rear vertical bow. Inside body height of Type A-1 buses shall be 62 inches or more. Inside height measurement does not apply to air conditioning equipment**	✓
INSULATION: A. Thermal (optional)	A. If thermal insulation is specified, it shall be fire-resistant, UL approved, with minimum R-value of 5.5. Insulation shall be installed so as to prevent sagging.	✓
INSULATION: B. Floor (otional)	B. If floor insulation is required, it shall be five-ply softwood plywood, nominal 5/8-inch thickness and shall be equal to or exceed properties of the exterior-type, C-D Grade, as specified in the standard issued by U.S. Department of Commerce. When plywood is used, all exposed edges shall be sealed. Type A-1 buses may be equipped with nominal 1/2-inch-thick plywood or equivalent material meeting the above requirements. Equivalent material may be used to replace plywood, provided it has equal or greater insulation R-value, sound abatement, deterioration-resistant and moisture-resistant properties.	✓
INTERIOR: A. Free of Projections	**A. The interior of the bus shall be free of all unnecessary projections, which include luggage racks and attendant handrails, to minimize the potential for injury. This specification requires inner lining on ceilings and walls. If the ceiling is constructed with lap joints, the forward panel shall be lapped by rear panel and exposed edges shall be beaded, hemmed, flanged or otherwise treated to minimize sharp edges. Buses must be equipped with a storage compartment for tools, tire chains and/or tow chains. (see BUS BODY AND BODY SPECIFICATIONS, Storage**	✓
INTERIOR: B. Overhead Storage Compartments	**B. Interior overhead storage compartments may be provided if they meeet the following criteria: 1. Head protection requirements of FMVSS No. 222, *School Bus Passenger Seating and Crash Protection* , where applicable; 2. Be completely enclosed and equipped with latching door (both door and latch sufficient to withstand a pushing force of 50 pounds applied at the inside center of the door); 3. Have all corners and edges rounded with a minimum radius of one (1) inch or be padded equivalent to door header padding; 4. Be attached to the bus sufficiently to withstand a force equal to 20 times the maximum rated capacity of the compartment; and 5. Have no protrusions**	✓

Product Category	Bus: Front Engine Transit	
INTERIOR: C. Driver Area	**C. The driver's area forward of the formost padded barriers will permit the mounting of required safety equipment and vehicle operation equipment.**	✓
INTERIOR: D. Noise Level	**D. Every school bus shall be constructed so that athe noise level at the ear of the occupant nearest to the primary vehicle noise source shall not exceed 85 dBA when tested according to the procedure described in APPENDIX B of *National School Transportation Specifications and Procedures, May 2015***	✓
LAMPS AND SIGNALS: A. Interior Lamps	**A. Interior lamps which illuminate the aisle and the stepwell shall be provided. The stepwell lamp shall be illuminated by an entrance door-operated switch, to illuminate only when headlamps and clearance lamps are on and the entrance door is open**	✓
LAMPS AND SIGNALS: B. Body Instrument Panel Lamps	**B. Body instrument panel lamps may be controlled by an independent dimmer switch or may be controlled by the dimmer that operates the gauge lighting.**	✓
LAMPS AND SIGNALS: C. Alternately Flashing Signal Lamps	**C. School bus alternately flasing signal lamps shall be provided as described by law. Multifunction school activity buses are exempt from this requirement. 1. The bus shall be equipeed with two (2) red lamps at the rear of the vehicle and two (2) red lamps at the front of th evehicle. 2. In addition to the four (4) red lamps described above, four (4) amber lamps shall be installed so that one (1) amber lamp is located near each red signal lamp, at the same level, but closer to the vertical centerline of the bus. The system of red and amber signal lamps shall be wired so that amber lamps are energized manually. The red lamps are automatically energized and amber lamps are automatically de-energized when stop signal arms are extended or when the bus entrance door is opened. The above mentioned activation sequence can be accomplished with either a "sequential operation" or a "non-sequential operation" warning lamp system. While each of the systems can be configured to include components such as a master switch, amber activation, interrupt switch, etc., the presence (or absence) of these components does not affect the classification of the system as either sequential or non-sequential. Both sequential and non-sequential systems can be configured with a multitude of switch combinations to provide a unique system meeting specific user requirements. An amber pilot lamp and a red pilot lamp shall be installed adjacent to the driver controls for the flashing signal lamp to indicate to the driver which lamp system is activated. 3. For background color requirements, refer to appropriate state specification requirements. 4. Red lamps shall flash at any time the stop signal arm is extended. 5. All flashers for alternately flashing red and amber signal lamps shall be enclosed in the body in a readily**	✓

Product Category	Bus: Front Engine Transit	
LAMPS AND SIGNALS: D. Turn Signal and Stop/Tail Lamps	**D. 1. The bus body shall be equipped with amber rear turn signal lamps that are at least seven (7) inches in diameteror, if a shape other than round, a minimum 38 square inches of illuminated area and shall meet FMVSS No. 108, *Lamps, Reflective Devices, and Associated Equipment*. These signal lamps must be connected to the chassis hazard warning switch to cause simultaneous flashing of turn signal lamps when needed as a vehicular traffic hazard warning. Turn signal lamps are to be placed as wide apart as practical and their horizontal centerline shall be a maximum of 12 inches below the rear window. 2. Buses shall be equipped with amber side-mounted turn signal lamps. The turn signal lamp on the left side shall be mounted rearward of the stop signal arm and the turn signal lamp on the right side shall be mounted rearward of the entrance door. 3. Buses shall be equipped with four (4) combination red stop/tail lamps. a. Two (2) combination lamps with a minimum diameter of seven (7) inches, or if a shape other than round, a minimum 38 square inches of illuminated area shall be mounted on the rear of the bus just inside the turn signal lamps. b. Two (2) combination lamps with a minimum diameter of four (4) inches, or if a shape other than round, a minimum of 12 square inches of illuminated area, shall be placed on the rear of the body betweeen the beltline adn the floor line. The rear license plate lamp may be combined with one (1) lower tail lamp. Stop lamps shall be activated by the service brakes and shall emit a steady light when illuminated.**	✓
LAMPS AND SIGNALS: E. Monitor	**E. On buses equipped with a monitor for the front and rear lamps of the school bus, the monitor shall be mounted in full view of the driver. If the full circuit current passes through the monitor, each circuit shall be protected against any short circuit or intermittent shorts by a fuse circuit breaker, or electronic protection device**	✓
LAMPS AND SIGNALS: F. White Flashing Strobe Lamp (optional)	**F. An optional white flashing strobe lamp may be installed on the roof of a school bus at a location not closer than 12 inches or more thatn 6 feet from the rear of the roof edge. However, if the bus is equipped with a roof hatch or other roof mounted equipment falling within the above mentioned measurements, the strobe lamp may be located directly behind that equipment. The lamp shall have a single clear lens emitting light 360 degrees around its vertical axis, meeting the requirements of SAE J845. It may not extend above the roof more than the maximum legal height. A manual switch and a pilot lamp shall be included to indicate when the lamp is in operation. Optionally, the strobe lamp may be wired to activate with the amber alternately flashing signal lamps, continuing through the full loading or unloading cycle, and may be equipped with an override switch to allow activation of the stobe at any time for use in**	✓
LAMPS AND SIGNALS: G. Rear Backup Lamps	**G. The bus body shall be equipped with two white rear backup lamps that are at least four (4) inches in diameter or, if a shape other than round, a minimum of 12 square inches of illuminated area, and shall meet FMVSS No. 108. If backup lamps are placed on the same horizontal line as the brake lamps and turn signal lamls, they shall be to the inside**	✓
LAMPS AND SIGNALS: H. Daytime Running Lamps System	**H. A daytime running lamps (DRL) system shall be provided.**	✓

Product Category	Bus: Front Engine Transit	
LETTERING	Must meet State and National Standards. Lettering must meet Maine Motor Vehicle Statute Title 29-A, section 2302, subsection 1.A-B. Each school bus must be identified with the words, "school bus." All lettering shall be printed in letters not less than 8 inches high and located (front and rear) between the warning signal lamps as high as possible without impairing front and rear visibility of the lettering. Each school bus must have no other lettering on the front or rear, except letterin not more thatn 4 inches high indicating an emergency exit and a bus number. Lettering specifics provided by each school district.	✓
TRIM	Maine Motor Vehicle Statute Title 29-A, section 2302, subsection 1.H. May be equipped with reflective strips of nationl school bus yellow (NSBY).	✓
	Reflexite Brand tape	✓
LETTERING; INTERIOR SEAT #'S	Add numbers for interior seats; 2" decal (state quantity)	✓
LETTERING; ROOF TOP NUMBERS	Add 24 inch, last 5 digits of vehicle identification number (VIN) (state qty of digits). Price is per digit	✓
LICENSE PLATE HOLDER	Shall be on left rear outside of body with suitable method for mounting license plate	✓
LIGHT MONITOR, EXTERIOR LIGHTS	None	
	Light monitor system LED	✓
	Light monitor system not LED	✓
LIGHT, LANDING	Next to entrance door, outside skirt mounted	✓
	Delete landing light	✓
	Change to LED type light	✓
	Outside under step mounted	✓
LIGHT, LED STEPWELL LAMP	None	
	Add LED stepwell lamp	✓
LIGHT, STROBE	Strobe light is required. Shall comply with State and National Standards.	✓
	Add Brush guard	✓
LIGHTS	Lighting system be Weldon 7000 transistorized flasher OR EQUAL OR MULTIPLEX control units and include turn signals, stop lights, marker lights, stepwell lights, parking lights, landing light, interior lights, and eight (8) light warning system. Rear directional signal, side directionals, stop lights, and back-up lights in addition to the regular stop lamps. All exterior lights be bulb and conform to National Standards. (8 way lights include 3" black band around)	✓
	Change 8 way to strobing LED	✓
	Change the tail, brake, turn and backups to LED style lamps	✓
	Change 8 way, tail, brake, back up and turn to LED style lamps	✓
LIGHTS, CLEARANCE	Manufacturers standard clearance lights and must meet State and National Standards.	✓
	Add armored marker	✓
	Change to LED style	✓
	Add armored marker and add LED style	✓

Product Category	Bus: Front Engine Transit	
LIGHT, EMERGENCY DOOR	**None**	✓
	Add Red ICC light over emergency door (state Quantity)	✓
	Add light over emergency door. One light at the rear over the emergency door shall come on when the marker lights are on. This light shall be red overhead light and wiring shall comply with eight light system.	✓
LIGHTS, INTERIOR	**One switch to operate dome light over drivers compartment, one switch for dome lights in mid-section of bus, and one switch to operate the last two dome lights in the rear of the bus. The landing light shall be activated when the door opening mechanism is initiated.**	✓
	LED Dome lights	✓
	Add medium dome lights	✓
	Add maximum dome lights	✓
	Add maximum led dome lights	✓
LIGHTS; INTERIOR DRIVER DOME	**Included**	✓
	Delete drivers dome	✓
LIGHTS; INTERIOR DOME PASSENGER	**Included**	✓
	Reduce to one switch for passenger	✓
LIGHTS TAIL TURN FLUSH MOUNT		
	Stop tail 4" flush mount LED	✓
	Stop tail 4" flush mount incandescent	✓
LIGHT VISORS	**None**	
	Individual visors for warning lights in lieu of visors that cover amber and red lights.	✓
	Dual light visors for warning lights	✓
METAL TREATMENT	**A. All metal except high-grade stainless steel or aluminum used in construction of the bus body shall be zinc-coated or aluminum-coated or treated to prevent corrosion. This includes but is not limited to such items as structural members, inside and outside panels, door panels and floor sills. Excluded are such items as door handles, grab handles, interior decorative parts and other interior plated parts. B. All metal parts that will be painted, in additin to the above requirements, shall be chemically cleaned, etched, zinc phosphate-coated and zinc chromate- or epoxy-primed to improve paint adhesion. This includes, but is not limited to, such items as crossing control arm and stop arm. C. In providing for these requirements, particular attention shall be given to lapped surfaces, welded connections of structural members, cut edges on punched or drilled hold areas in sheet metal, closed or box sections, unvented or undrained areas and surfaces subjected to abrasion during chemicle operation. D. As evidence that the above requirements have been met, samples of materials and sections used in the construction of the bus body shall be subjected to a cyclic corrosion testing as outlined n SAE J1563.**	✓

Product Category	Bus: Front Engine Transit	
MIRRORS (29-A))	Must be equipped with a system of mirrors that give the seated operator a view of the way to each side of the bus, and of the area immediately in front of the front bumper. [29-A MRS Section 2302(1.F)]	✓
MIRRORS	A. The interior glass mirror shall be either laminated or tempered and shall have rounded corners and protected edges. Mirrors shall be 6x16 inches minimum for Type A buses and be 6x30 inches for Types C and D buses. B. Each school bus shall be equipped with exterior mirrors meetng the requirements of FMVSS No. 111, *Rearview Mirrors*. The right side rear view mirror shall not be obscured by the unwiped portion of the windshild. Mirrors shall abe easily adjustable, but shall be rigidly braced, so as to reduce vibration. C. Heated external mirrors may be used. D. Remote controlled external rear	✓
	Add wide angle reflective lens for rear window	✓
MIRRORS, CROSSOVER	Shall come equipped with two convex ellipitical cross-view mirrors mounted on front of vehicle. Shall be heated.	✓
MIRRORS, SIDE	Body shall be equipped with two split - style- type side-view mirrors supported from top or bottom. Exterior mirrors shall be heated.	✓
MIRRORS BRACKETS	Shall comply with National Standards.	✓
MOUNTING	A. The rear body cross member shall be supported by the chassis frame. Except where chassis components interfere, the bus body shall be attached to the chassis frame at each main floor sill in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions. B. Isolators shall be installed at all contact points between teh body and the chassis frame on Types A-2, B, C, and D buses, and shall be secured by a positive means to the chassis frame or body to prevent shifting, separation, or displacement of the isolators under severe operting conditions.	✓
MUD FLAPS	2 front and full width rear attached appropriately and made of rubber material.	✓
NOISE REDUCTION SYSTEM	Acoustical headliner full length of bus. Include 1/2" sound abatement package in floor and firewall	✓
NOISE REDUCTION FIREWALL	Included	✓
	Delete sound abatement to floor of firewall	✓
OUTSIDE LUGGAGE STORAGE	Maximum avialable. If the outside luggage is deleted the body side skirts between the front and rear axles shall extend down to within two inches plus or minus, of the horizontal line from the center of the front spindle to the center of the rear axle. The manufacturer may offer optional side skirt lengths that extend lower than this requirement. This measurement shall apply to a new unloaded school bus located on a flat, level surface. See also Panels, Exterior	✓
OUTSIDE LUGGAGE; ACCESSORIES	Add lights In storage units	✓
	Add lock for storage units	✓
	Add lights & locks for storage units	✓
OVERALL LENGTH	Overall length of the bus shall not exceed 45 feet, excluding accessories.	✓
OVERALL WIDTH	Overall width of bus shall not exceed 102 inches, excluding accessories.	✓
Paneling, EXTERIOR REEDED	Add reeded sides	✓

Product Category	Bus: Front Engine Transit	
PANEL, SHOULDER PAD	Full bus length	✓
POWER SOURCE	12-volt in driver area	✓
PUBLIC ADDRESS SYSTEM	A. Buses may be equipped with an AM/FM/audio and/or public address system having interior and exterior speakers. B. No internal speakers, other than the driver's communication systems, may be installed witin four feet of the driver's seat back in its rearmost upright position	✓
REFLECTORS	2 amber reflectors on each side of bus near the front and 2 red on rear side panels, 2 red on rear panels, and 2 amber intermediate on sides-Shall comply with FMVSS	✓
RETROREFLECTIVE MATERIAL	A. The front and/or rear bumper may be marked diagonally 45 degrees down toward the centerline of the pavement with two (2) plus or minus 1/4 inch-wide strips of non-contrasting retroreflective material. B. The rear of the bus body shall be marked with strips of retroreflective NSBY material to outline the perimeter of the back of the bus using material which conforms with the requirements of FMVSS No. 131, *School Bus Pedestrian Safety Devices*, Table 1. The perimeter markings of rear emergency exits per FMVSS No. 217, *Bus Emergency Exits and Window Retention and Release*, and/or the use of retroreflective "SCHOOL BUS" signs partially accomplishes the objective of this requirement. To complete the perimeter marking of the back of the bus, strips of retroreflective NSBY material, a minimum of 1 inch and a maximum of 2 inches in width shall be applied horizontally above the rear windows and above the rear bumper, extending from the rear emergency exit perimeter, marking outward to the left and right rear corners of the bus. Vertical strips shall be applied at the corners connecting these horizontal stripes. Multifunction school activity buses shall be exempt from these color requirements. C. "SCHOOL BUS" signs, if not a lighted design, shall be marked with retroreflective NSBY material comprising background for lettering of the front and/or rear "SCHOOL BUS" signs. D. Sides of the bus body shall be marked with at least 1-3/4 inch retroreflective NSBY material, extending the length of the bus body and located (vertically) between the floor line and the beltline. E. If used, signs placed on the rear of the bus relating to school bus flashing signal lamps or railroad stop procedures may be retroreflective material, as specified by each state. (See also APPENDICES A and B, Retroreflective Sheeting: National School Transportation Specifications and Procedures) School bus mrakings; . . . Identifications. May be equipped with reflective	✓
ROOF VENT, STATIC	Manufacturer Standard	✓
	Delete static roof vent. If static vent is deleted the front roof hatch must contain a static vent per National Standards.	✓
ROOF VENT, POWER	Power roof vent (state quantity)	✓

Product Category	Bus: Front Engine Transit	
RUB RAILS	**A. There shall be one rub rail on each side of the bus located at, or no more than eight (8) inches above, the seat cushion level. They shall extend from the rear side of the entrance door completely around the bus body (except at the emergency door or any maintenance access door) to the point of curvature near the outside cowl on the left side. B. there shall be one additional rub rail on each side located 10 inches or less above the floor line. The rub rail shall cover the same logitudianl span as the upper rub rail, except at the wheel housing, and it shall extend only to the longitudianl tangent of the right and left rear corners. C. Rub rails above the floor line shall be attached at each body post and at all other upright structural members. D. Each rub rail shall be four (4) inches or more in width in its finished form and shall be constructed of 16-gauge metal or other material of equivalent strength suitable to help protect body side panels from damage. Rub rails shall be constructed in corrugated or ribbed fashion. E. Rub rails shall be applied outside the body or outside the body posts. (Pressed-in or snap-on rub rails do not satisfy this requirement.) For Type A-1 vehicles using the body provided by the chassis manufacturer or for Types A-2, B, C, and D buses containing the rear luggage or the rear engine compartment, rub rails need not extend around the rear corners. F. The bottom edge of the body side skirts shall be stiffened by application of a rub rail, or the edge may be stiffened by providing a flange or other stiffeners.**	✓

Product Category	Bus: Front Engine Transit	
SEATS AND RESTRAINING BARRIERS: A. PASSENGER SEATING	A. 1. School bus design capacities shall be in accordance with 49 CFR, Part 571.3, *Definitions*, and FMVSS No. 222, *School Bus Passenger Seating and Crash Protection*. 2. All seats shall have a minimum cushion depth of 15 inches, a seat back height of 24 inches above the seating reference point, and must comply with all other requirements of FMVSS No. 222. 3. All restraining barriers and passenger seats shall be constructed with materials that enable them to meet the criteria of the *School Bus Seat Upholstery Fire Block Test.* 4. Each seat leg shall be secured to the floor by bolts, washers and nuts in order to meet the performance requirements of FMVSS No. 222. Flange-head nuts may be used in lieu of nuts and washers. All seat frames attached to the seat rail shall be fastened with two or more bolts, washers and nuts, or with flange-head nuts. Seats may be track-mounted in conformance with FMVSS No. 222. 5. If track seating is installed, the manufacturer shall supply minimum and maximum seat spacing dimensions (applicable to the bus) which comply with FMVSS No. 222. This information shall be on a label permanently affixed to the bus. 6. All school buses (including Type A) shall be equipped with restraining barriers which conform to FMVSS No. 222. 7. A flip-up seat may be installed at any side emergency door. If provided, the flip-up seat shall conform to FMVSS No. 222 and aisle clearance requirements of FMVSS No. 217, *Bus Emergency Exits and Window Retention and Release.* The flip-up seat shall be free of sharp projections on the underside of the seat bottm. The underside of the flip-up seat bottoms shall be padded or contoured to reduce the possibility of clothing being snagged. Flip-up seats shall be constructed to prevent passenger limbs from becoming entrapped between the seat back and the seat cushion when the seat is in the upright position. The seat cushion shall be designed to rise to a vertical position automatically when it is not occupied. 8. Lap belts shall not be	✓
SEATS AND RESTRAINING BARRIERS: B. PRE-SCHOOL AGE SEATING	B. Passenger seats designed to accommodate a child or infant acarrier seat shall comply with FMVSS No. 225, *Child Restraint Anchorage Systems*. These seats shall be in compliance with NHTSA's "*Guideline for the Safe Transportation of Pre-school Age Children in School Buses*." Note A.8: Lap belts shall not be installed on passenger seats in large school buses (over 10,000 pounds GVWR) except in conjunction with child safety restraint systems that comply with the requirements of FMVSS No. 213, *Child Restraint*	✓
SEATS AND RESTRAINING BARRIERS: C. DRIVER SEAT	C. 1. The driver's seat supplied by the body manufacturer shall be a high back seat. The seat back shall be adjustable to 15 degrees minimum, without requiring the use of tools. The seat shall be equipped with a head restraint to accommodate a 5th percentile female to a 95th percentile adult male, as defined in FMVSS No. 208, *Occupant Crash Protection*. 2.Type A buses may utilize the standard driver's seat provided	✓

Product Category	Bus: Front Engine Transit	
SEATS AND RESTRAINING BARRIERS: D. DRIVER RESTRAINT SYSTEM	D. A Type 2 lap/shoulder belt shall be provided for the driver. On buses where the driver's seat and upper anchorage for the schoulder belt are both attached to the body structure, a driver's seat with an integrated Type 2 lap/shoulder belt may be substituted. On buses where the driver's seat and upper anchorage for the shoulder belt are separately attached to both body and chassis structures (i.e., one attached to the chassis and the other attached to the body), a driver's seat with an integrated Type 2 lap/shoulder belt should be used. The assembly shall be equipped with an emergency locking retractor for the continuous belt system. On all buses except Type A that are equipped with a standard chassis manufacturer's driver's seat, the lap portion of the belt system shall be guided or anchored to prevent the driver from sliding sideways under the belt system. The lap/shoulder belt shall be designed to allow for easy adjustment in order to fit properly and to effectively protect drivers varying in size from 5th percentile adult female to 95th percentil adult male. The belt may be of a high visibility contrasting	✓
SEATS AND RESTRAINING BARRIERS: E. EACH BUS	E. Each bus shall be equipped with a durable webbing cutter having a full width handgrip and a protected, replacabel or non-corrodiable blade. The required webbing cutter shall be mounted in a location accessible to the seated driver in an easily detachable manner	✓
SEAT, DRIVER	The driver's seat supplied by the body manufacturer shall be a high back seat. The seat back shall be adjustable to 15 degrees minimum, without requiring the use of tools. The seat shall be equipped with a head restraint to accommodate a 5th percentile female to a 95th percentile adult male, as defined in FMVSS No. 208, Occupant Crash Protection. 2.Type A buses may utilize the standard driver's seat provided by the chassis manufacturer. Type A buses may utilize the standard driver's seat provided by the chassis manufacturer	✓
SEATS, FIRE BLOCK	Required	✓
SEATS, PASSENGER: COLOR	Shall comply with National Standards.	✓
SEAT BELT	NONE.	
STORAGE POUCH KICK PANEL BARRIER	None (located behind driver on barrier)	
KICK PANEL	One on right side	✓
	Add additional left side front	✓
SIDE SKIRT	School bus body side skirts tetween the front and rear axles shall extend down to within two inches plus or minus, of the horizontal line from the center of the front spindle to the center of the rear axle. The manufacturer may offer optional side skirt lengths that extend lower than this requuirement. This measurment shall apply to a new unloaded school bus located on a flat, level surface	✓
STEP: DRIVER	Shall meet National Standards.	✓

Product Category	Bus: Front Engine Transit	
STEPS	**A. The first step at the entrance door shall be not less than 10 inches and not more than 14 inches from the ground when measured from the top surface of the step to the ground, based on standard chassis specifictions, except that on Type D vehicles, the first step at the entrance door shall be 12 inches to 16 inches from the ground. An auxiliary step may be provided to compensate for the increase in ground-to-first-step clearance. The auxiliary step is not required to be enclosed. B. Step risers shall not exceed a height of 10 inches. Note: When plywood is used on a steel floor or step, the riser height may be increased by the thickness of the plywood. C. Steps shall be enclosed to prevent accumulation of ice and snow. D. Steps shall not protrude beyond the side body line.**	✓
STEP TREADS	**A. All steps, including the floor line platform area, shall be covered with an elastomer floor covering having a minimum overall thickness of 0.187 inch. B. The step covering shall be permanently bonded to a durable backing material that is resistant to corrosion. C. Steps, including the floor line platform area, shall have a 1-1/2 inch nosing that contrasts in color by at least 70 percent measured in accordance with the contrasting color specification in 36 CFR, Part 1192, ADA, *Accessibility Guidelines for Transportation Vehciles*. D. Step treads shall have the following characteristics: 1. Abrasion resistance: Step tread material weight loss shall not exceed 0.40 percent, as tested under ASTM D-4060, *Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser*, (CS-17 Wheel, 1000 gram, 1000 cycle.) 2. Weathering resistance: Step treads shall not break, crack, or check after ozone exposure (seven days at 50 pphm at 40 degrees C) and Weatherometer exposure (ASTM D-750, *Standard Test Method for Rubber Deterioration in Carbon-Arc Weathering Apparatus*, seven days). 3. Flame resistance: Step treads shall have a calculated burn rate of .01 mm per minute or less using the test methods, procedures, and formulas listed in FMVSS No. 302, *Flammability of Interior Materials*. Note: A spray on application type material may be used in lieu of item A. that meets the requirements of items B. through D. The material shall be applied not only to the interior surfaces of the service door step treads but also to the exterior, if not covered by undercoataing.** Manufacturers standard to match floor color.	✓
STEP TREADS	**Add 2 steps with both pebble tread and heated step with ambient switch.**	✓
STEPWELL	**Upgrade to stainless steel**	✓
	Marr Proof step risers	✓
STEPWELL, GUARD	**Add Stepwell guard**	✓
STIRRUP STEPS	**If the windshield and lamps are not easly accessible from the ground, there may be at least one folding stirrup step or recessed foothold installed on each side of the body for easy accessibility for cleaning. There also may be a grab handle installed in conjunction with the step. Steps are permitted in or on the front bumper in lieu of the stirrup steps if the windshild and lamps ar eassily accessible for cleaning from that position**	✓

Product Category	Bus: Front Engine Transit	
STOP SIGNAL ARM	**The stop signal arm(s) shall comply with the requiremetns of FMVSS No. 131, School Bus Pedestrian Safety Devices. MFSABs are exempt from thses requirements. School bus markings lights; . . . Identifications. May be equipped with a system of stop arms to be operated only with the red signal lights. [29-A MRS Section 2302(1.G)]**	✓
STORAGE COMPARTMENT (OPTIONAL)	A storage container for tools, tire chins and/or other equipment may be located either inside or outside the passenger compartment. If inside, it shall be fastened to the floor and have a cover with a poisitive fastening device.	✓
STUDENT REMINDER SYSTEM	**Included. Manufacturer Standard to be triggered by warning lights**	✓
STUDENT REMINDER ACTIVATION	**To be triggered by ignition.**	✓
SUN SHIELD	**A. On Types B, C, and D vehicles, an interior adjustable transparant sun shield, with a finished edge and dimensions not less thatn 6x30 inches, shall be installed i a position convenient for use by the driver. B. On Type A buses, the sun shield (visor) shall be installed by the chassis manufacturer**	✓
	Left side drivers window shade	✓
TOWING ATTACHMENT POINTS	**Front and/or rear towing devices (i.e.,, tow hooks, tow eyes, or other designated towing attachment points) shall be furnished to assist in the retrieval of buses that are stuck and/or for towing buses when a wrecker with a "wheel lift" or an "axle lift" is not available or cannot be applied to the towed vehicle. A. Towing devices shall be attached to the chassis frame either by the chassis manufacturer or in accordanace with the chassis manufacturer's specifications. B. Each towing device shall have a strength rating of 13,500 pounds each, for a combined rating of 27,000 pounds with the force applied in the rearward direction, parallel to the ground, and parallel to the longitudinal axis of the chassis frame rail. For pulling and lifting purposes, tow hooks are meant to be used simultaneously. For pulling, angularity applied to the tow hooks will decrease the capacities of the tow hooks. C. The towing devices shall be mounted such that they do not project forward of the front bumper or rearward of the rear bumper. NOTE: Type A buses are exempt from the requirement for front tow hooks or eyes due to built-in crush zones.**	✓
TRACTION ASSISTING DEVICES (Optional)	**A. Where required or used, sanders shall: 1. Be hopper cartridge-valve type; 2. Have a metal hopper with all interior surfaces treated to prevent condensation of moisture; 3. Have a least 100 pounds (grit) capacity; 4. Have a cover that screws in place on the filler opening of the hopper, thereby sealing the unit airtight; 5. Have discharge tubes extending under the fender wheelhousing to the front of each rear wheel; 6. Have non-clogging discharage tubes with slush-proof, non-freezing rubber nozzles; 7. Be operated by an electric switch with a pilot lamp mounted on the instrument panel located so as to be exclusively controlled by the driver; 8. Be equipped with a gauge to indicate that the hopper has reached the one-quarter level (and needs to be refilled); and 9. Be designed to prevent freezing of all activation components and moving parts. B. Automatic traction**	✓

Product Category	Bus: Front Engine Transit	
TRASH CONTAINER AND HOLDING DEVICE (OPTIONAL)	When requested or used, the trash container shall be secured by a holding device that is designed to prevent movement and to allow easy removal and replacement. It shall be installed in an accessible location in the driver's compartment, not obstructing passenger access to the entrance door	✓
UNDERCOATING	A. The entire underside of the bus body, including floor sections, cross member and below floor-line side panels, shall be coated with rust-proofing material for which the material manufacturer has issued to the bus body manufacturer a notarized certification to the bus body manufacturer that materials meet or exceed all performance requirements of SAE J1959, Sept. 2003 Edition of the Standard. B. The undercoating material shall be applied with suitable airless or conventional spray equipment to the undercoataing material manufacturer recommended film thickness and shall show no evidence of voids in the cured film. C. The undercoating material shall not cover any	✓
VENTILATION	A. Auxiliary Fan(s) shall meet the following requirements: B. Fan(s) shall be placed in a location where they can be adjusted for maximum effectiveness and where they do not obstruct the driver's vision to the mirrors or interfere with the safe operation of the vehicle. 1. Fans shall have six-inch (nominal) diameter. 2. Fan blades shall abe enclosed in a protective cage. Each fan shall be controlled by a separate switch. C. The bus body shall be equipped with a suitably controlled ventilating system with capacity sufficient to maintain the proper quality of air flow under operating conditions without having to open a window except in extremely warm weather. D. Static-type, noncloseable exhaust ventilation shall be installed in a low-pressure area of the roof. E. Roof hatches designed to provide ventilation in all types of exterior weather conditions may be provided. Ventilation shall comply with National Standards.	✓
WHEEL HOUSING	A. The wheehousing opening shall allow for easy tire removal and service. B. Wheelhousings shall be attached to the floor panels in a manner to prevent any dust, water, or fumes from entering the body. Wheelhousings shall be constructed of 16-gauge (or thicker)steel. C. The inside height of the wheelhousings above the floor line shall not exceeed 12 inches. D. The wheel housings shall provide clearance for installation and use of the chains on single or dual (if so equipped) power-driven wheels. E. No part of a raised wheelhousing shall extend into	✓
WINDOW, STORM SASH, DRIVER	None	
WINDOW, STORM SASH, DRIVER SIDE	None (not tinted)	
WINDOW, STORM SASH, ENTRANCE DOOR	None	
WINDOW, STORM SASH, PASSENGER	None (not tinted)	
WINDOW, REAR	Manufacturer Standard	✓
WINDOWS	A. Other than emergency exits designated to comply with FMVSS No. 217, Bus Emergency Exists and Window Retention and Release, each side window shall provide an unobstructed opening of at least nine inches high (but not more than 13 inches high) and at least 22 inches wide, obtained by lowering the window. One window on each side of the bus may be less than 22 inches wide. B. Optional tinted and/or frC. ost-free glazing may be installed in all doors or windows. Windshields shall comply with federal,	✓

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WINDOWS: SIDE SASHES	Shall comply with National Standards.	✓
	Painted window side sashes black	✓
WINDOW: PILASTERS	Paint pilasters black	✓
	The largest windshield furnished by each body company be considered as standard equipment. This is to be a one piece to four piece windshield with shaded band at the top.	✓
WINDSHIELD	2-piece curved	✓
WINDSHIELD WASHERS	Windshield washer system shall be provided.	✓
WINDSHEILD WIPERS	A. A two-speed or variable speed windshield wiping system, with an intermittent feature, shall be provided and shall be operated by a single switch. B. The wipers shall meet the requirements of FMVSS No. 104, *Windshield Wiping and Washing Systems*	✓
WIPER BLADES	None	
WIPER BLADES, HEATED	Heated wiper blades	✓
WHEELCHAIR ENTRY	None; If selected option the lift shall be a Braun and include a lift door, lift required lights and brake/lift interlocks to meet National Standards. Includes the deduct for the 2 seats in the lift area.	✓
		✓
	Midship lift door w/Braun. If selected option shall include a lift door, lift required lights and brake/lift interlocks to meet National Standards. Should also include the deduct for the 2 seats in the lift area.	✓
	Rear lift door w/Braun. If selected option shall include a lift door, lift required lights and brake/lift interlocks to meet National Standards. Should also include the deduct for the 2 seats in the lift area.	✓
WHEELCHAIR ENTRY ALT. BRANDS	None; If selected option the lift shall include a lift door, lift required lights and brake/lift interlocks to meet National Standards. Includes the deduct for the 2 seats in the lift area.	✓
LIFT DOOR	Shall comply with National Standards.	✓
	Lock on lift door	✓
EXTERIOR LIFT LIGHTS	Shall comply with National Standards	✓
	Additional Exterior lift lights	✓
INTERIOR LIFT LIGHTS	Shall comply with National Standards	✓
	Additional interior lift lights	✓
FLAT FLOOR PACKAGE (NO SECUREMENTS)	None; If selected to include all body and chassis equipment needed for flat floor. Contact Dealer before selecting this option.	✓
	Add flat floor package. If selected to include all body and chasis equipment needed for flat floor.	✓
FLOOR TRACKING SYSTEM (NO SECUREMENTS)	None	
WHEELCHAIR SECUREMENTS (L-TRACK)	None	
WHEELCHAIR LOCATION	None	
WHEELCHAIR SEC. STORAGE POUCH	A device for storage of the Wheelchair Tie Down & Occupant Restraint System (WTORS) Storage Compartment SHALL BE PROVIDED. Shall comply with National Standard. Not required on standard bus.	✓

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EVAC-AID	None	
	Add evac-aid fire blankets (quantity)	✓
FIRE BLANKET	None	
	Add fire blankets (state quantity)	✓
RADIO 2-WAY	None	
RADIO 2-WAY: PREWIRE FOR 2-WAY RADIO	None	
SECURITY & GPS: PREWIRE FOR SECURITY & GPS SYSTEMS	None	
SURVEILLANCE CAMERA SYSTEM (inside the bus)	The following regulation is in addition to the National School Transportation Specifications and Procedures 2015: Onboard video systems (also known as surveillance cameras) with a minimum of four (4) cameras and continuous recording shall be installed on the inside of all new school buses. [Code of Maine Regulations (05-071 CMR Chapt. 86) Maine Uniform School Bus Specifications] Note: school districts select the type of surveillance camera system. Contact Dealer for hardware availability and pricing. Pricing	✓
SURVEILLANCE CAMERA SYSTEM (inside the bus)	Labor to install four-camera system	✓
SURVEILLANCE CAMERA SYSTEM - GPS	None	
SURVEILLANAE CAMERA - STOP ARM CAMERA	None. Contact dealer for pricing.	
SURVEILLANCE CAMERA - MONITOR LIGHTS	None	
	Add camera monitor for lights	✓
SURVEILLANCE CAMERA - MONITOR SEAT BELT	None	
	Add camera monitor for seat belt	✓
	None	
SPECIALLY EQUIPPED SCHOOL BUS SPECIFICATIONS		
DEFINITION	A specially equipped school bus is any school bus that is designed, equipped and/or modified to accommodate students with special transportation needs.	✓
GENERAL REQUIREMENTS: A	A. Specially equipped school buses shall comply with the *National School Transportation Specifications and Procedures* and with the Federal Motor Vehicle Safety Standards (FMVSSs) applicable to their Gross Vehicle Weight Rating (GVWR) category	✓
GENERAL REQUIREMENTS: B	B. Any school bus to be used for the transportation of children who utilize a wheelchair or other mobile positioning device, or who require life-support equipment that prohibits use of the regular service entrance, shall be equipped with a power lift	✓
AISLES	All school buses equipped with a power lift shall provide a minimum 30-inch pathway leading from any wheelchair position to at least one 30 inches wide emergency exit door. A wheel chair securement position shall never be located directly in front of (blocking) a powerlift door location	✓
GLAZING	Tinted glazing may be installed in all doors, windows, and windshields consistent with federal, state, and local regulations.	✓

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IDENFICATION	Specially equipped school buses shall display the International Symbol of Accessibility below the window line. Such emblems shall be white or blue or black background, shall not exceed 12 inches squre in size and shall be of a hight-intensity retroreflective material meetng the requirements of Federal Highway Administration (FHWA) FP-85, *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects*	✓
PASSENGER CAPACITY RATING	In determining the passenger capacity of a school bus for purposes other than actual passenger load (e.g., vehicle classification or various billing/reimbursement models), any location in a school bus intended for securement of a wheelchair during vehicle operation shall be regarded as four designated seating positions, and each lift area shall count as four designated seating positions	✓
POWER LIFTS	Refer to National School Transportatin Specifications and Procedures 2015.	✓
REGULAR SERVICE ENTRANCE	Refer to National School Transportatin Specifications and Procedures 2015.	✓
RESTRAINING DEVICES	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SEATING ARRANGEMENTS	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SECUREMENT AND RESTRAINT SYSTEM FOR WHEELCHAIRS AND WHEELCHAIR-SEATED OCCUPANTS	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SPECIAL LIGHT	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SPECIAL SERVICE ENTRANCE	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SPECIAL SERVICE ENTRANCE DOORS	Refer to National School Transportatin Specifications and Procedures 2015.	✓
SUPPORT EQUIPMENT AND ACCESSORIES	Refer to National School Transportatin Specifications and Procedures 2015.	✓
TECHNOLOGY AND EQUIPMENT, NEW	Refer to National School Transportatin Specifications and Procedures 2015.	✓