

TRA 24-01 - Supply and Delivery of School Buses - Specification - Base Bus Specifications: Body - Type C Electric

| Line Item | BYD Canada Company Ltd | | Dynamic Specialty Vehicles | | First Truck Centre Vancouver | | The Lion Electric Co | | Western Canada IC Bus Inc. | |
|--|------------------------|--|----------------------------|---|------------------------------|---|----------------------|--|----------------------------|---|
| | Yes/No | Additional Information | Yes/No | Additional Information | Yes/No | Additional Information | Yes/No | Additional Information | Yes/No | Additional Information |
| 1 Four (4) additional power supply feeds at body power source. | Yes | | Yes | | Yes | | No | The LionC has two (2) additional power supply feeds at body power source | Yes | |
| 2 Crossing arm deactivation switch | Yes | | Yes | | Yes | | Yes | | Yes | |
| 3 Full power steering - minimum 18" diameter steering wheel Tilt steering column telescopic | Yes | | Yes | | Yes | | No | LionC steering wheel is 17.5 inches and is telescopic not power steering. | Yes | |
| 4 HORNS Dual electric | Yes | | Yes | | Yes | | Yes | | Yes | |
| 5 Instruments: Dash mounted hr meter Battery Monitor speedometer in kmh c/w odometer in km Range (2) air pressure gauges if air equipped | Yes | | Yes | | Yes | We do not have Range in the dash EV dash is similar to existing diesel with addition of SOC gauge | Yes | | Yes | |
| 6 Low air warning - light and buzzer | Yes | | Yes | | Yes | | Yes | | Yes | |
| 7 School buses must be equipped with heating units and be able to sustain 15.5 degrees C (plus or minus 2 degrees) inside the vehicle when the outside temperature is 0 degrees C ambient. Heaters should not decrease vehicle range by more than one percent. Please describe achievable in vehicle temperature when outside temperature is -30C and provide the expected impact of heating the interior cabin temperate on vehicle range especially when outside temperature conditions are very cold. | Yes | Yes standard heaters can meet the desired temp but not without some impact on range in extreme weather conditions. If so desired, a diesel powered heater working in conjunction with our electric heat pump will provide the heating and cooling without impacting operating range more than what is allowed in the cabin area. Our larger 288 kwh battery will likely negate the need for a diesel powered heater and provide the most robust and reliable heating and cooling solution for students in todays electric school bus market. | Yes | Reaching and sustaining 15.5 degrees C (+/- 2 degrees) inside the vehicle when the temperature is 0 is not a problem. Further testing is required to provide the achievable in-vehicle temperature when the outside temp is -30C. The battery thermal management system typically uses less than 10% of usable power to maintain operating conditions. This does not account for cabin heat loads. When cabin heat is activated cabin heat will consume 6% - 20% of usable power. | Yes | Yes standard heaters can meet the desired temp but not without more than 1% effect on range. We have 2 electric coolant heaters. 10kW heater for the batteries and 20kW heater for the cabin area | Yes | Lion offers an 80000 BTU fuel heater from common brands. The fuel fire heater emits on average 2238 pounds of CO2 per year (considering that the tank would be refilled about 4 times in extreme weather conditions) and the auxiliary tank contains 25 gallons of fuel. The auxiliary system does not draw any range from the battery. No kW used during operation; No draw on battery range; Pre-heat setting to heat the cabin while plugged in using the energy from the grid; 25 gallons tank; Refuel will depend on climate (average 4x per winter). | Yes | "Dual heating system included: electric and fuel fired. Both systems will operate on a closed loop. The electric heater (21kW) sustains heat between 18c to 23c (defined as comfort) down to -10C (14F) ambient temperature. In temperatures below -10C the fuel-fired heater will maintain comfort. Operation of heating systems has been taken into consideration in our range statement. The fuel fired heating system is used below -10C and to maintain maximum range." |
| 8 Vendors should describe their proposed heating systems including fuel source and flexibility to accommodate different fuel types as requested by local school district. "The use of electric heaters to pre-heat the vehicle cabin is not preferred; however using electric heat to keep the batteries warm is acceptable. Vendors should also describe their proposed system for pre-heating vehicle cabins. | Yes | BYD School bus has an electric PTC (Positive temperature coefficient) heater and an HVAC system to preheat the bus. | Yes | The Thermal Management System consists of three electric heaters of which one is dedicated to heating the propulsion batteries and two are dedicated to cabin heat. As a supplement to the electric heaters there is an optional Webasto diesel-fired heater that can provide additional heat for the cabin. The electric heaters and/or the fuel-fired heater are capable of pre-heating the cabin while the bus is charging. While the bus is charging the driver can turn on the cabin heaters while performing pre-check which will use power from the charger to run the electric heaters and not affect the battery charge. With a valeo heater the timer can be set on the EV no different than a diesel engine to pre-heat the cabin. The Valeo diesel-fired heater is included in the base price of the bus. For more information on Electric Buses see RFSO-Blue Bird EV Buses.pdf | Yes | Jouley is designed as a true ZERO emissions vehicle. 2 electric heaters are used to provide heat for the battery system and cabin area. Standard under-seat heaters are used to heat cabin - we do not offer an auxiliary diesel heater for our electric bus. For pre-heat conditioning of bus we utilize the BMS and charger to heat to desired temp before unplugged for route. | Yes | The heating system on the Lion school buses was designed as a system where the heater can begin warming the passenger cabin before the bus even begins its daily routes. This works by allowing the unit to start while the electric school bus is still connected into the charging station. Thus it heats up the school bus without draining any energy from the batteries because the energy being used to heat the bus is being drawn directly from the charging station. Using this "preheat" method as we call it means that the system can increase the interior bus temperature and maintain it at 21 degrees C during roll-out regardless of what temperature the passenger cabin started at. We have many electric school buses deployed in areas where winter weather regularly goes below freezing. However with our preheat ability our school buses can be warm and comfortable on the inside regardless of outside temperatures are below freezing (or lower). The preheat process can even be scheduled to occur automatically at determined times during selected days. This means that an operator can pre-set the unit to start warming up while charging even hours before the driver even boards. This way there is no wait time between the driver engaging the preheat system (remotely/automatically) and the school bus being warm enough and ready for roll-out. The school bus will already be maintaining a steady comfortable temperature by the time the driver boards. Our unique and innovative preheat ability contributes to the quality of our electric buses and helps drivers and end users have a comfortable riding experience. We are happy to provide additional information on the performance of our heating systems and preheat abilities upon request. ASTSBC are welcome to test the heating and preheat systems before delivery. However Lion can also leverage auxiliary diesel-powered heaters as mentioned before. Lion offers an 80000 BTU fuel heater from common brands such as Pro-heat and Spheros. The fuel fire heater emits on average 2238 pounds of CO2 per year (considering that the tank would be refilled about 4 times in extreme weather conditions) and the auxiliary tank contains approximately 25 gallons of fuel. The auxiliary system does not draw any range from the battery. No kW used during operation; No draw on battery range; Pre-heat setting to heat the cabin while plugged in using the energy from the grid; 25 gallons tank; Refuel will depend on climate (average 4x per winter) | Yes | "When vehicle is not in use during cold temperatures it is recommended to keep battery temp above 0C by keeping the vehicle plugged in. When vehicle is in use the vehicle BMS will control temperature. There are no additional maintenance or operational requirements." |
| 9 LIGHTS: Front headlights: HD All exterior lights to be LED Cluster lights: front and rear - six (6) in total LED 8 light system non-sequential with master switch | Yes | | Yes | | Yes | | Yes | | Yes | |
| 10 Body insulation including walls ceiling and roof bows - to be fiberglass or equivalent Dust intrusion package on underside of bus up to floor joint | Yes | | Yes | | Yes | | Yes | | Yes | |
| 11 WINDSHIELD Laminated safety glass tinted Please state what is offered. | Yes | | Yes | | Yes | Tinted safety glass 1- piece curved & bonded windshield provided for best in class visibility clear of any seams. with the largest visibility footprint on the market our windshield eliminates any potential blind spots that may be found with a 3 or 4 piece windshield. Ensuring children are always seen and safe | Yes | Laminated glass is not tinted. | Yes | 3-Piece Flat |
| 12 WINDOWS Passenger windows split sash type tinted throughout. Thermal where required Driver's window sliding type thermal pane lockable Emergency windows evenly spaced. | Yes | | Yes | | Yes | | Yes | Up to four (4) thermos windows. Windows are 26% tinted and are all tempered glass. | Yes | |
| 13 Exterior Lettering Six inch - (Purchaser name) both sides at belt line | Yes | | Yes | | Yes | As required by district | Yes | Lion will apply lettering at its St-Jerome (QC) manufacturing factory or its Richmond (BC) experience center during the bus' PDI. | Yes | |
| 14 Four Inch - Bus Number two front corners and opposite rear license plate | Yes | | Yes | | Yes | As required by district | Yes | Lion can work with ASTSBC preferred lettering vendor and can apply them before delivery | Yes | |
| 15 Two Inch - Capacity GVW (Purchaser name) on side panel back of entrance door and side panel below driver. | Yes | | Yes | | Yes | | Yes | Lion can work with ASTSBC preferred lettering vendor and can apply them before delivery | Yes | |
| 16 Floor 5/8 plywood subfloor or equivalent secured with screws only (no nails) water-proofed and sealed at joints with silicone sealer including floor to wall seams; floor covering and entry steps | Yes | | Yes | | Yes | we use screws only | Yes | Lion offers 3/4 plywood subfloor | Yes | |
| 17 Vandal lock for Emergency and Entrance Doors | Yes | | Yes | | Yes | | Yes | | Yes | |
| 18 Heavy duty entrance door control - air or electric operated Entrance Door must be outward opening | Yes | | Yes | | Yes | Air and Electrical entrance door controls available | Yes | Electric only | Yes | |
| 19 Two (2) auxiliary 6" electric defroster fans Separate switches on panel | Yes | Option | Yes | | Yes | One windshield mounted and one above driver's window | Yes | | Yes | |
| 20 Driver's dome light on separate switch. | Yes | | Yes | | Yes | LED Driver's Dome | Yes | | Yes | |
| 21 Rear dome lights on separate switches (with dimmers if available) | Yes | No dimmer | Yes | | Yes | Front & rear half of dome lights on separate switches (no dimmers available with LED dome lights) | Yes | | Yes | |

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| 22 AM/FM CD RADIO W/PA Flush mounted speakers to match bus | Yes | Yes | AM/FM MP3 USB SD MMC BT Radio with PA and Driver Remote Mic | Yes | Yes | Yes |
| 23 Driver's seat to be deluxe high back air seat fully adjustable - 6-way with lumbar support and fold down arm rests. Air foam rubber filled with heavy duty covering cloth fabric | Yes | Yes | | Yes | Yes | Yes Driver Air Seat brand: National Seating Model: Routemaster 350. |
| 24 EMERGENCY EQUIPMENT COMPARTMENT Above windshield; all emergency equipment to meet standards | Yes | Yes | | Yes | Yes | Yes Emergency equipment is located in the operators area. |
| 25 Mud flaps front Mud flaps rear with rubber fender skirts | Yes | Yes | | Yes | Yes | No The front mud flap are not required on a LionC as the rear body of the front wheels is protecting from potential splashes. The LionC has no rear rubber fender skirts. |
| 26 MIRRORS (EXTERIOR) Right and left side primary and convex mirrors; remote adjustable Exterior convex crossovers self-defrosting mounted on right and left sides of hood | Yes | Yes | | Yes | Yes | Yes |
| 27 Two (2) LED stop arms with strobe lights (red) air operated one (1) front mounted (1) rear mounted. Both with wind guards | Yes | Yes | | Yes | Yes | No Two stop-arms are standard on the LionC however it is electric operated not air operated. |
| 28 Wet arm windshield wipers Intermittent / delay preferred | Yes | Yes | | Yes | Yes | Yes Dark grey floor covering options are available. |
| 29 Light coloured rubber floor covering and entrance steps. Specify colour. | Yes | Yes | Gray | Yes | Yes | Yes Grey |
| 30 Seat spacing minimum 24" knee clearance Frame seat belt ready | Yes | Yes | | Yes | Yes | Yes The 70 passenger LionC model is compliant with the seat space 24" knee clearance. The knee clearance measurement is different with the 77 passenger LionC model. This is because the knee clearance was developed to accommodate the increase in number from 70 passengers to 77. |
| 31 Aluminized side panelling | Yes | Yes | | Yes | Yes | No Equivalent. The body panels on the LionC are composite material. The composite body panels have a gelcoat applied paint is not used. Corrosion and water leaks are eliminated with a gelcoat option which makes the buses more durable than aluminum. |
| 32 77" minimum interior headroom at highest point. Please state Headroom | Yes | Yes | 77" | Yes | Yes | Yes 78" |
| 33 Interior mirror - minimum 6" up to 10" x 30" Sun visor - Plexiglas 6" x 30" | Yes | Yes | | Yes | Yes | Yes 6 x 30 inch mirror provided |
| 34 Two (2) roof emergency hatches / vents | Yes | Yes | | Yes | Yes | Yes |
| 35 Right side luggage compartment 84" preferred Specify largest size available based on body size | No | No | Not available on Electric Bus model | No | No | No Not available on the LionC. |
| 36 Body fully undercoated for noise and enhanced rust protection | Yes | Yes | All areas excepted batteries are covered. DINITROL 4942 is used for rust protection. Not available as an option DINITROL 4942 is an under-body product for treatment of vehicles during production at import plants and in the after-market. When applied to a clean dry surface it adheres to both painted surfaces and those coated with a layer of PVC or similar material. Zinc rubber and plastics are completely unharmed by the product. A clean and economic treatment on the line is assured by easy application and high solid content. DINITROL 4942 is also designed to be used on spare parts machines and iron and steel structures in highly corrosive environment. DINITROL 4942 is also very suitable as a transport and storage anti-corrosive for long-term transporting or warehousing under extreme corrosive circumstances. | Yes | Yes | Yes Sulfonate Enhanced DTM Modified Wax coating is applied to the underbody of the vehicle. This premium coating replaces the standard asphalt emulsion undercoating and provides approximately twice the performance in highly corrosive environments where de-icing chemicals are prevalent. Coating is black in color and applied to a dry film thickness of 5-8 mils. |
| 37 Each unit shall be equipped with a Sound Generator that complies with FMVSS and CMVSS 141 | Yes | Yes | | Yes | Yes | Yes Lion is compliant. |
| | | | | | | Yes "Water Based Asphalt Emulsion installed post body-drop is included. Chemguard metal treatment is available optionally." |

TRA 24-01 - Supply and Delivery of School Buses - Specification - Base Bus Specifications: Chassis - Type C Electric

| Line Item | BYD Canada Company Ltd | | Dynamic Specialty Vehicles | | First Truck Centre Vancouver | | The Lion Electric Co | | Western Canada IC Bus Inc. | |
|--|------------------------|---|----------------------------|--|------------------------------|--|----------------------|---|----------------------------|---|
| | Yes/No | Additional Information | Yes/No | Additional Information | Yes/No | Additional Information | Yes/No | Additional Information | Yes/No | Additional Information |
| 1 Chassis and Body Year | Yes | BYD Creator Type C 2025 | Yes | Blue Bird 2025 | Yes | Thomas Built Bus 2025 Model Year | Yes | LionC MY2026 | Yes | 2025 International. (Inventory available for immediate delivery). |
| 2 Propulsion system - vehicle performance include: A sustained speed of 70 kph on a 2.5% grade; and 20 kph on a 20% grade. An ability to accelerate to 20 kilometers per hour (kph) in four seconds; to 40 kph in 10 seconds; 50 kph in 20 seconds and 70 kph in 35 seconds. Expectations are that the school bus shall be cable of a minimum of 200 kilometer range on a single battery charge on route measured with 50% city miles and 50% highway miles. Vehicles should be capable of operating at minus 30 degrees Celsius (-30C) to 35C with limited loss of range (no more than 10% reduction of documented range) in these variable conditions. This range rating must be tested with all normal accessories running in the conditions described including terrain encountered in BC. | Yes | 1) The powertrain differential ratio would NOT impact the range performance but the top speed and torque or we can say climbing speed by driving BYD bus. 2) Under extremely cold weather a diesel heater will be used for heating the cabin a 5% reduction is estimated. Under extremely hot weather AC will be used for cooling down the cabin | Yes | A sustained speed of 70 kph on a 2.5% grade: YES A sustained speed of 20 kph on a 20% grade: YES An ability to accelerate to 20 kilometers per hour (kph) in four seconds: YES An ability to accelerate to 40 kph in 10 seconds: YES An ability to accelerate to 50 kph in 20 seconds: YES An ability to accelerate to 70 kph in 35 seconds: YES Driving habits duty cycle vehicle weight and accessory load conditions can affect this number. The bus has not been tested with all normal accessories running in the conditions described including terrain encountered in BC. Operating temperatures are recommended to be within -30 – 68 degrees Celsius. The battery thermal management system typically uses less than 10% of usable power to maintain operating conditions. This does not account for cabin heat loads. When maximum cabin heat is activated the system will consume approximately 6% - 20% of usable power. In cold climates it is recommended to have the bus plugged in to a Level 3 DC Fast Charge system to maintain battery temperatures prior to starting routes. In cold climates it is also recommended to store the bus in a climate-controlled building prior to starting routes. | Yes | Startability/Gradability = 28% / 6% @ 30mph | Yes | As detailed in our Lion - ASTSBC RSO TRA23-01 Lion has delivered all-electric school buses throughout North America in a wide range of different climates and different types of roads. Range of the vehicles acceleration and consumption of energy are greatly affected by driving behaviours and use of accessories. Clients must follow operations guidelines and normal usage of accessories recommended by the manufacturer to optimize range and a normal usage of accessories. | Yes | |
| 3 Describe vehicle performance while fully loaded in terms of maximum operating speed grade-ability and acceleration. Please provide documentation of for verifying submitted vehicle performance claims to meet above performance specifications. | Yes | 100km/h max speed and up to 21 degree grade-ability | Yes | See gradeability and acceleration information attached: RFSO-Blue Bird EV Buses.pdf | Yes | RSL is up to 70mph. Driver Behavior and Terrain will determine a lot of this information | Yes | Certification to be supplied upon award. | Yes | "Range: 200km in bid stated conditions. Acceleration: All acceleration times will comply with bid stated conditions. Max Speed: 100km/h 20% grade 0-100km/h in <40 sec Peak Power: 250kW (335 hp) Continuous Power 160 kW (215 hp) Peak Torque: 15700Nm (11570 ft-lbs) Continuous Torque: 2100Nm (1549 ft-lbs) See Attachment." |
| 4 Vehicles should have the ability to change the powertrain differential ratio to maximize range performance in mountain routes city routes highway routes or a combination of mountain city and highway routes. Please describe your process for achieving this? | Yes | BYD school buses can change the powertrain differential ratio to maximize range performance in mountain routes city routes highway routes or a combination of mountain city and highway routes automatically. | Yes | Blue Bird has chosen to use the 5.29 single rear axle ratio as a great compromise for the typical school bus stop and go route whether that is in mountain routes city routes highway routes or any combination of the regional operations. Since Blue Bird School Buses do not use a transmission or a two-speed rear axle we not only keep the overall weight of the school bus lower we do not encounter the additional losses of efficiency that the vehicle would have with the added weight of a transmission. If a transmission and two speed rear axle were to be used it would contribute to a greater loss of efficiency. | No | 6.14 Rear axle ratio required | Yes | Lion's electric motor is direct drive there is no transmission. Lion partnered with Dana for its powertrain thus maximizing range performance. | Yes | "Differential axle ratios are determined by the axle on the vehicle which are semipermanent components. Changing the ratio would require a different axle. The axle differential ratio is designed to achieve an overall performance that is suitable for most environments." |
| 5 Wheelbase up to 280" - Specify for Each body size | Yes | 6.6 m | Yes | 252" Wheelbase with 3011 body size (71 Passenger bus) 273" Wheelbase with 3310 body size (75 Passenger bus) | Yes | Available in 259 wheelbase 311TS body size (up to 71 passengers) and 279 wheelbase 341TS body size (up to 77 passengers) | Yes | 278" | Yes | 276" |
| 6 Remote air tank drains | Yes | | Yes | Heated automatic drains for all reservoirs included. If remote manual | Yes | | Yes | Accompany air ride suspension. | Yes | |
| 7 Rear tow hooks | Yes | | Yes | | Yes | | Yes | | Yes | |
| 8 Wheels - Disc hub piloted | Yes | | Yes | | Yes | | Yes | | Yes | |
| 9 Tires - Six (6) -11R22.5 Michelin XZE 2 preferred | No | Goodyear 11R22.5 | Yes | KUMHO 11R22.5LRH standard - Michelin XZE2 Extra 2904 (factory) | Yes | Michelin XZE2 steer tires and Michelin X Multi D Plus drive tires. | Yes | | Yes | |
| 10 Rear Axle - Capacity: 19 500 lb Maximum speed required: 110 kmh Cruise control set at 100 kmh 21 000 lb air ride suspension. | Yes | | Yes | | Yes | Maximum rear axle capacity is 23000 lb. Maximum speed is 105km/h. Cruise control is not available. | Yes | The rear axle weight varies between 21000 lbs and 23000 lbs depending on the final vehicle configuration and number of passengers. Cruise control is not an option on the LionC. The | Yes | |
| 11 FRONT AXLE 10 000 lb minimum 10 000 lb spring suspension | Yes | | Yes | | Yes | | Yes | | Yes | |
| 12 AIR BRAKES S cam W/ABS Min. 13.2 cfm compressor Spring brakes for emergency and parking Auto slack adjustors long stroke Air dryer 16-1/2 x 5 Front 16-1/2 x 7 Rear backing plates | Yes | | Yes | | Yes | | Yes | The LionC has disc air brakes therefore there is no need for a slack adjuster. Lion's disc brakes meet the ASTSBC specifications. | Yes | |
| 13 Regenerative braking to charge batteries must meet all Canadian Motor Vehicle Safety Standards in regards to braking systems | Yes | | Yes | Blue Bird's regenerative braking system to charge batteries meets all Canadian Motor Vehicle Safety Standards in regards to braking system | Yes | | Yes | | Yes | |
| 14 BATTERY - *200 kWh minimum* - Vendors should describe their proposed energy storage/battery system including the number of battery packs and battery chemistry. "Battery efficiency (kilometers per kWh) "Time (in minutes) to charge batteries from 20% to 100% state of charge on a level 2 charger. "Time (in minutes) to charge batteries from 20% to 80% state of charge on a level 2 charger. "Battery capacity (amps per hour per cell) "Battery storage capacity (kWh) "Total usable battery energy storage capacity (kWh) "Total battery pack C-rate. "Total battery pack E-rate "Battery Cycle Life in number of charge-discharge cycles at a specific depth of discharge (DOD) "Battery thermal management type (describe battery maintenance and operational requirements when vehicle is in use and not in use | Yes | 3-pack configuration has 288kW capacity with charger and software platform tested and proven for V2G capability. Battery chemistry is LFP. By using a DC fast charger full charge time at 120kW is 2.5-3 hrs. An AC charger's full charge time at 19.2kW is 14.5-15 hrs. 288 KWH BATTERY / 280 KM RANGE / 12 YEARS WARRANTY | No | Number of packs: 7 batteries in two packs for a total of 14 batteries Chemistry: Li-NMC-G batteries which is Lithium-Nickel Manganese Cobalt-Graphite Battery efficiency: Will depend on several factors including driving habits terrain and use of a/c and heaters. Time to charge Level 2 (20%-100%): 400-430 minutes Time to charge Level 2 (20%-80%): 300-330 minutes Battery capacity: 126 Ah Battery storage: 196 kWh Total usable battery storage: 157 kWh C-rate: The charge rate is 1C and the discharge rate is 2C E-rate: This is proprietary and will not be disclosed Battery life cycle: 3000 cycles at 70% depth of charge Battery thermal management type: Blue Birds battery thermal management type is a system of heaters chillers a radiator and fluid pumps design to maintain the optimal operating temperature of the batteries and the main propulsion motor by regulating the temperature of the fluid flowing through them. Temperature sensors monitor the coolant for the batteries and the motor and the VCU uses that information to either activate the heaters to heat the coolant or to activate the chiller to cool the components. Maintenance required for the propulsion batteries is to torque the hardware every 12 months or 20000 miles. Maintenance for the thermal management system is to check the coolant level every 32000 km and change it every five years. | Yes | 2 battery packs - 123kW=246kW Battery Capacity 1.474 vehicle efficiency total usable battery capacity = 219kW 20% to 80% charge =132 minutes with 60kW charger - 330 minutes with 24kW charger ~1c/E peak charge rate ~1.8c/E peak discharge rate ~0.5c/E peak continuous charge rate ~0.7c/E continuous discharge rate | Yes | "Battery efficiency (kilometers per kWh): This parameter depends on vehicle configuration duty cycle load level. It does not depend on battery. "Level 2 charger - Time (in minutes) to charge batteries from 20% to 100% state of charge: Assuming 19.2 kW total charging 3 battery packs. 20%-100% = 528 minutes. "Level 2 charger - Time (in minutes) to charge batteries from 20% to 80% state of charge: Assuming 19.2 kW total charging 3 battery packs. 20%-80% = 392 minutes "Battery capacity (amps per hour per cell): Battery capacity = 88 Ah usable. "Battery storage capacity (kWh): 70 kWh per battery pack 210 kWh total battery storage capacity. "Total usable battery energy storage capacity (kWh): Battery energy = 62 kWh usable "Total battery pack C-rate: Peak charge/discharge current is 250 A "Total battery pack E-rate: Peak power = 177 kW "Battery Cycle Life in number of charge-discharge cycles at specific depth of discharge (DOD): Lion guarantees capacity retention ("state of health" or SOH) > 65% after 8 years and/or 266 MWh of total throughput equivalent to ~2400 charge-discharge at 100% DOD (rated energy). "Battery thermal management type (describe battery maintenance and operational requirements when vehicle is in use and not in use): Each battery is cooled by 20 litres/min of 50/50 ethylene glycol water mix at 20-25 °C. Coolant massflow and temperature may vary depending on configuration. | Yes | "The battery system consists of 2 strings of 3 battery packs each achieving a total capacity of 210kWh and a nominal voltage of 608V. Each pack has a 1P63S cell configuration. The cells are prismatic and use LFP chemistry. Lithium-Ion Batteries (6) 210kWh total 608V 345Ah total. Vehicle efficiency 0.84 kWh/km Level 2 Charge time: 20kW x T = 60% x 210kWh T = 378 Mins Useable capacity = 70% x 210kWh = 147 kWh Pack C Rate = 1 (continuous discharge) Pack C Rate = 0.7 (continuous charge) Attachment" |
| 15 Back-up alarm 97 dB minimum | Yes | | Yes | | Yes | | Yes | | Yes | |
| 16 High capacity dry type air cleaner c/w air restriction gauge to be mounted on dash or air intake | Yes | | Yes | | No | not applicable | No | Not applicable on a battery electric vehicle. | Yes | |
| 17 Battery Management System | Yes | Integrated BMS system | Yes | Blue Bird's Battery Management System (BMS) facilitates smart charging by monitoring battery State of Charge (SOC) and other parameters associated with State of Health (SOH) and communicates to the system controller (SCM). The SCM will then determine how much charge should be provided to the battery based on the current state of the battery and control the on-board chargers appropriately. The SCM also communicates the desired charge rate through the CCS1 connector to the off-board charger to ensure proper charge rates are delivered. The BMS monitors SOC and SOH and reports it to SCM. This data is recorded every 10 milliseconds. | Yes | Battery thermal management includes battery coolant heater and chiller to manage battery temperature when charging and driving | Yes | The Lion proprietary BMS served its purpose earlier than expected when LG introduced its new more energy dense modules whilst no longer being allowed to provide the matching LGBMS. The Lion proprietary BMS combined all the load commuting features its predecessor couldn't handle while making the battery monitoring overhead more cost effective. Constant efforts are currently invested to achieve ASIL C compliance according to the ISO26262 standard for our proprietary BMS. Mastering and having full control over our own BMS enables Lion to adapt to any current and future chemistry or form factor from any potential supplier. | Yes | "Each battery pack is equipped with a battery management system to monitor battery life state of charge and other proprietary variables." |

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| <p>18 On-Board Charging Systems Vendors should describe their preferred charging/discharging systems including EVSE noting that the expectation is that vehicles will be fitted with on board AC (19.2 kW) bidirectional charging/discharging systems that conform to the most recent SAE J1772 standards and/or other relevant standards for V2B bi-directional power flow. The vehicles should also be fitted with DC charge/discharge coupler capable of a sustained maximum of 90kW of power transfer at a maximum of 200 AMPs. The coupler should conform to all current SAE standards. All charging system components shall have CSA certification or provide acceptable documentation. Charging systems shall be capable of operating from -30C to 40C with no more than 10% degradation in performance</p> | <p>Yes</p> | <p>The bus is compatible with any CCS1 (For DC) with V2G capability or J1772 standards (for AC) chargers; The maximum charging power for DC is 120 kW at 200 AMPs and for AC is 19.2 kW.</p> | <p>Yes</p> <p>Blue Bird offers a standard CCS1 connector that allows for Level 3 DC Fast Charging. For maximum 80kW charge rate each Level 3 DCFC station must be supplied with three phase 480VAC 80 amp. A bus will fully charge with DC Fast Charging from 0-100% in about 3 hours. There are several Level 3 EVSE's available on the market today that meet these charging requirements including the Nuvve HD60 and the InCharge ICE-60. Blue Bird has decided to include bidirectional charging functionality with only DC charging at this time due to V2G interconnection requirements of most utilities across North America. The Nuvve RES-HD60-V2G is the required charging solution for V2G capability to be enabled with our electric bus.</p> | <p>No</p> <p>On-Board Charger not available. We are DC only. We will have the ability for AC/DC Charging in 2026. All Jouley's that are built are V2G Capable. The chargers we would recommend for V2G would have the inverter to convert DC to AC.</p> | <p>Yes</p> <p>Compliant. The Lion school buses are compliant to all EV Level 2 Level 3 AC/DC or V2G options on the market. Further Lion has created an entire division Lion Energy mentioned above at point 8 and in our response document that can help you determine the best charging solution depending on the vehicle battery pack and duty cycle.</p> | <p>Yes</p> <p>See Attachment</p> |
| <p>19 Heavy Duty hoses to meet current coolant standards.</p> | <p>Yes</p> | <p>Telematics (HSM, An American partner platform) box is equipped as a standard configuration, which facilitates customers to monitor the bus for preventive maintenance and location tracking (Cloud web real-time service is an option for quote); Training will be provided.</p> | <p>Yes</p> <p>Sample report included</p> | <p>Yes</p> <p>Hi-Miler Hose are standard on all Jouley's</p> | <p>Yes</p> <p>LionBeat</p> | <p>Yes</p> <p>Customized Regular Data Reporting will continue to be offered as required by the ASTSBC.</p> |
| <p>20 Data collection for performance and analytical comparisons must be available on a regular basis for both ASTSBC and the purchaser. Training must be provided. *Sample report with minimum requirements can be found in the Documents section.</p> | <p>Yes</p> | <p>Body diagnostics software service manual and training are included. Cummins Corporation currently is not offering any technical manuals on their powertrain and battery management system. Due to the high voltage electrical systems integrated into Blue Birds Bus platform Cummins is responsible for all repairs made to these systems.</p> | <p>Yes</p> <p>Body diagnostics software service manual and training are included. Cummins Corporation currently is not offering any technical manuals on their powertrain and battery management system. Due to the high voltage electrical systems integrated into Blue Birds Bus platform Cummins is responsible for all repairs made to these systems.</p> | <p>Yes</p> <p>Customers are provided (free for the first two years) Valence Software from Proterra. Subscription based after two years. We would also recommend Charge Management Software as well. Training can be provided for both.</p> | <p>Yes</p> <p>Lion can provide two (2) paper copies of our operators manual per unit and a portable document format (PDF) version. Lion is in the process of developing a secure access for clients so that they can view parts and service information via our LMS system where some service documents are available. Once the system is available Lion will reach to ASTSBC and the school districts.</p> | <p>Yes</p> <p>Yes</p> |
| <p>21 Oil lubed front wheel bearings or sealed bearings</p> <p>22 SERVICE MANUAL AND DIAGNOSTIC SOFTWARE Service manual for engine and chassis Engine and body diagnostics software or licensing if web based. Diagnostic Training must be provided to each purchaser</p> | <p>Yes</p> | <p>Supply line setting ticket is indicated in different colors</p> | <p>Yes</p> <p>Located on the left wall in the driver's cockpit area</p> | <p>Yes</p> <p>Parts & service info on-line</p> | <p>No</p> <p>Lion can provide two (2) paper copies of our operators manual per unit and a portable document format (PDF) version. Lion is in the process of developing a secure access for clients so that they can view parts and service information via our LMS system where some service documents are available. Once the system is available Lion will reach to ASTSBC and the school districts.</p> | <p>Yes</p> <p>Yes</p> |
| <p>23 Supply Driver Training and Orientation to ASTSBC Trainers to supply training for drivers upon bus delivery.</p> <p>24 Supply line setting ticket</p> <p>25 Heater cut off valve at source</p> <p>26 Battery location and weight - please describe</p> | <p>Yes</p> | <p>Location is between the Chassis mainframe. Each pack is 615kg. Type C has a 3 pack configuration (288 kWh) or 2-pack (193 kWh).</p> | <p>Yes</p> <p>The high voltage batteries are located under the chassis frame rails between the front and rear axle.</p> | <p>Yes</p> <p>Location is mid bus under frame rails approx.weight is 3200lbs</p> | <p>Yes</p> <p>To be supplied upon the reception of PO.</p> <p>Batteries are located underbody and between the framereils. Each battery is approximately 1000 lbs</p> | <p>Yes</p> <p>Batteries are mounted in between the frame rails and rigidly attached using welded and bolt on brackets. Each battery pack weighs 491 lbs. Batteries are protected from the elements. Batteries are backed by international standards rating of IP68 and are deemed fit enough to withstand dust dirt and sand and are resistant to submersion up to a maximum depth of 1.5m underwater for up to 30 minutes and encased in an aluminum box.</p> |

TRA 24-01 - Supply and Delivery of School Buses - Specification - Base Bus Specifications: Chassis - Type C Electric

| Line Item | BYD Canada Company Ltd | | Dynamic Specialty Vehicles | | First Truck Centre Vancouver | | The Lion Electric Co | | Western Canada IC Bus Inc. | |
|---|------------------------|---|----------------------------|---|------------------------------|--|----------------------|---|----------------------------|--|
| | Submission 1 | | Submission 1 | | Submission 1 | | Submission 1 | | Submission 1 | |
| | Yes/No | Additional Information | Yes/No | Additional Information | Yes/No | Additional Information | Yes/No | Additional Information | Yes/No | Additional Information |
| 1 Chassis and Body Year | Yes | BYD Creator Type C 2025 | Yes | Blue Bird 2025 | Yes | Thomas Built Bus 2025 Model Year | Yes | LionC MY2026 | Yes | 2025 International |
| 2 Propulsion system - vehicle performance include: A sustained speed of 70 kph on a 2.5% grade; and 20 kph on a 20% grade. An ability to accelerate to 20 kilometers per hour (kph) in four seconds; to 40 kph in 10 seconds; 50 kph in 20 seconds and 70 kph in 35 seconds. Expectations are that the school bus shall be cable of a minimum of 200 kilometer range on a single battery charge on route measured with 50% city miles and 50% highway miles. Vehicles should be capable of operating at minus 30 degrees Celsius (-30C) to 35C with limited loss of range (no more than 10% reduction of documented range) in these variable conditions. This range rating must be tested with all normal accessories running in the conditions described including terrain encountered in BC. | Yes | 1) The powertrain differential ratio would NOT impact the range performance but the top speed and torque or we can say climbing speed by driving BYD bus. 2) Under extremely cold weather a diesel heater will be used for heating the cabin a 5% reduction is estimated. Under extremely hot weather AC will be used for cooling down the cabin | Yes | A sustained speed of 70 kph on a 2.5% grade: YES A sustained speed of 20 kph on a 20% grade: YES An ability to accelerate to 20 kilometers per hour (kph) in four seconds: YES An ability to accelerate to 40 kph in 10 seconds: YES An ability to accelerate to 50 kph in 20 seconds: YES An ability to accelerate to 70 kph in 35 seconds: YES Driving habits duty cycle vehicle weight and accessory load conditions can affect this number. The bus has not been tested with all normal accessories running in the conditions described including terrain encountered in BC. Operating temperatures are recommended to be within -30 – 68 degrees Celsius. The battery thermal management system typically uses less than 10% of usable power to maintain operating conditions. This does not account for cabin heat loads. When maximum cabin heat is activated the system will consume approximately 6% - 20% of usable power. In cold climates it is recommended to have the bus plugged in to a Level 3 DC Fast Charge system to maintain battery temperatures prior to starting routes. In cold climates it is also recommended to store the bus in a climate-controlled building prior to starting routes. | Yes | Startability/Gradability = 28% / 6% @ 30mph | Yes | As detailed in our Lion - ASTSBC RSO TRA23-01 Lion has delivered all-electric school buses throughout North America in a wide range of different climates and different types of roads. Range of the vehicles acceleration and consumption of energy are greatly affected by driving behaviours and use of accessories. Clients must follow operations guidelines and normal usage of accessories recommended by the manufacturer to optimize range and a normal usage of accessories. | Yes | **INVENTORY AVAILABLE FOR IMMEDIATE |
| 3 Describe vehicle performance while fully loaded in terms of maximum operating speed grade-ability and acceleration. Please provide documentation of or verifying submitted vehicle performance claims to meet above performance specifications. | Yes | 100km/h max speed and up to 21 degree grade-ability | Yes | See gradeability and acceleration information attached: RFSO-Blue Bird EV Buses.pdf | Yes | RSL is up to 70mph. Driver Behavior and Terrain will determine a lot of this information | Yes | Certification to be supplied upon award. | Yes | "Range: 200km in bid stated conditions. Acceleration: All acceleration times will comply with bid stated conditions. Max Speed: 100km/h 20% grade 0- |
| 4 Vehicles should have the ability to change the powertrain differential ratio to maximize range performance in mountain routes city routes highway routes or a combination of mountain city and highway routes. Please describe your process for achieving this? | Yes | BYD school buses can change the powertrain differential ratio to maximize range performance in mountain routes city routes highway routes or a combination of mountain city and highway routes automatically. | Yes | Blue Bird has chosen to use the 5.29 single rear axle ratio as a great compromise for the typical school bus stop and go route whether that is in mountain routes city routes highway routes or any combination of the regional operations. Since Blue Bird School Buses do not use a transmission or a two-speed rear axle we not only keep the overall weight of the school bus lower we do not encounter the additional losses of efficiency that the vehicle would have with the added weight of a transmission. If a transmission and two speed rear axle were to be used it would contribute to a greater loss of efficiency. | No | 6.14 Rear axle ratio required | Yes | Lion's electric motor is direct drive there is no transmission. Lion partnered with Dana for its powertrain thus maximizing range performance. | Yes | "Differential axle ratios are determined by the axle on the vehicle which are semipermanent components. Changing the ratio would require a different axle. The axle differential ratio is designed to achieve an overall performance that is suitable for most environments." |
| 5 Wheelbase up to 280" - Specify for Each body size | Yes | 6.6 m | Yes | 252" Wheelbase with 3011 body size (71 Passenger bus) | Yes | Available in 259 wheelbase 311TS body size (up to 71 passengers) and 279 wheelbase | Yes | 278" | Yes | 276" |
| 6 Remote air tank drains | No | | Yes | Heated automatic drains for all reservoirs included. If remote manual drains are | Yes | | Yes | Accompany air ride suspension. | Yes | |
| 7 Rear tow hooks | Yes | | Yes | | Yes | | Yes | | Yes | |
| 8 Wheels - Disc hub piloted | Yes | | Yes | | Yes | | Yes | | Yes | |
| 9 Tires - Six (6) -11R22.5 Michelin XZE 2 preferred | No | Goodyear 11R22.5 | Yes | KUMHO 11R22.5LRH standard - Michelin XZE2 Extra 2904 (factory install) | Yes | Michelin XZE2 steer tires and Michelin X Multi D Plus drive tires. | Yes | Maximum rear axle capacity is 23000 lb. | Yes | |
| 10 Rear Axle - Capacity: 19 500 lb Maximum speed required: 110 kmh Cruise control set at 100 kmh 21 000 lb air ride suspension. | Yes | | Yes | | Yes | Maximum speed is 105km/h. Cruise control is not available. | Yes | The rear axle weight varies between 21000 lbs and 23000 lbs depending on the final vehicle configuration and number of passengers. Cruise control is not an option on the LionC. The maximum speed of the LionC is 95 km/h. | Yes | |
| 11 FRONT AXLE 10 000 lb minimum 10 000 lb spring suspension | Yes | | Yes | | Yes | | Yes | | Yes | |
| 12 AIR BRAKES 5 cam W/ABS Min. 13.2 cfm compressor Spring brakes for emergency and parking Auto slack adjustors long stroke Air dryer 16-1/2 x 5 Front 16-1/2 x 7 Rear backing plates | Yes | | Yes | | Yes | | Yes | The LionC has disc air brakes therefore there is no need for a slack adjuster. Lion's disc brakes meet the ASTSBC specifications. | Yes | |
| 13 Regenerative braking to charge batteries must meet all Canadian Motor Vehicle Safety Standards in regards to braking systems | Yes | | Yes | Blue Bird's regenerative braking system to charge batteries meets all Canadian Motor Vehicle Safety Standards in regards to braking system | Yes | | Yes | | Yes | |
| 14 BATTERY - *200 kwh minimum * Vendors should describe their proposed energy storage/battery system including the number of battery packs and battery chemistry. *Battery efficiency (kilometers per kWh) *Time (in minutes) to charge batteries from 20% to 100% state of charge on a level 2 charger. *Time (in minutes) to charge batteries from 20% to 80% state of charge on a level 2 charger. *Battery capacity (amps per hour per cell) *Battery storage capacity (kWh) *Total usable battery energy storage capacity (kWh) *Total battery pack C-rate. *Total battery pack E-rate *Battery Cycle Life in number of charge-discharge cycles at a specific depth of discharge (DOD) *Battery thermal management type (describe battery maintenance and operational requirements when vehicle is in use and not in use | Yes | 3-pack configuration has 288kW capacity. Battery chemistry is LFP. By using a DC fast charger full charge time at 120kW is 2.5-3 hrs. An AC charger's full charge time at 19.2kW is 14.5-15 hrs. | No | Number of packs: 7 batteries in two packs for a total of 14 batteries Chemistry: Li-NMC-G batteries which is Lithium-Nickel Manganese Cobalt-Graphite Battery efficiency: Will dependent on several factors including driving habits terrain and use of a/c and heaters. Time to charge Level 2 (20%-100%): 400-430 minutes Time to charge Level 2 (20%-80%): 300-330 minutes Battery capacity: 126 Ah Battery storage: 196 kWh Total usable battery storage: 157 kWh C-rate: The charge rate is 1C and the discharge rate is 2C E-rate: This is proprietary and will not be disclosed Battery life cycle: 3000 cycles at 70% depth of charge Battery thermal management type: Blue Birds battery thermal management type is a system of heaters chillers a radiator and fluid pumps design to maintain the optimal operating temperature of the batteries and the main propulsion motor by regulating the temperature of the fluid flowing through them. Temperature sensors monitor the coolant for the batteries and the motor and the VCU uses that information to either activate the heaters to heat the coolant or to activate the chiller to cool the components. Maintenance required for the propulsion batteries is to torque the hardware every 12 months or 20000 miles. Maintenance for the thermal management system is to check the coolant level every 32000 km and change it every five years. | Yes | 2 battery packs - 123kW=246kW Battery Capacity 1.474 vehicle efficiency total usable battery capacity = 219kW 20% to 80% charge =132 minutes with 60kW charger - 330 minutes with 24kW charger ~1c/E peak charge rate ~1.8C/E peak discharge rate ~0.5C/E peak continuous charge rate ~0.7C/E continuous discharge rate | Yes | ""Battery efficiency (kilometers per kWh): This parameter depends on vehicle configuration duty cycle load level. It does not depend on battery. ""Level 2 charger - Time (in minutes) to charge batteries from 20% to 100% state of charge: Assuming 19.2 kW total charging 3 battery packs. 20%-100% = 528 minutes. ""Level 2 charger - Time (in minutes) to charge batteries from 20% to 80% state of charge: Assuming 19.2 kW total charging 3 battery packs. 20%-80% = 392 minutes ""Battery capacity (amps per hour per cell): Battery capacity = 88 Ah usable. ""Battery storage capacity (kWh): 70 kwh per battery pack 210 kWh total battery storage capacity. ""Total usable battery energy storage capacity (kWh): Battery energy = 62 kWh usable ""Total battery pack C-rate: Peak charge/discharge current is 250 A ""Total battery pack E-rate: Peak power = 177 kW ""Battery Cycle Life in number of charge-discharge cycles at specific depth of discharge (DOD): Lion guarantees capacity retention ("state of health" or SOH) > 65% after 8 years and/or 266 MWh of total throughput equivalent to ~2400 charge-discharge at 100% DOD (rated energy). ""Battery thermal management type (describe battery maintenance and operational requirements when vehicle is in use and not in use): Each battery is cooled by 20 litres/min of 50/50 ethylene glycol water mix at 20-25 °C. Coolant massflow and temperature may vary depending on configuration. | Yes | "The battery system consists of 2 strings of 3 battery packs each achieving a total capacity of 210kWh and a nominal voltage of 608V. Each pack has a 1P63S cell configuration. The cells are prismatic and use LFP chemistry. Lithium-ion Batteries (6) 210kWh total 608V 345Ah total. Vehicle efficiency 0.84 kWh/km Level 2 Charge time: 20kW x T = 60% x 210kWh T = 378 Mins Usable capacity = 70% x 210kWh = 147 kWh Pack C Rate = 1 (continuous discharge) Pack C Rate = 0.7 (continuous charge) Attachment" |
| 15 Back-up alarm 97 dB minimum | Yes | | Yes | | Yes | | Yes | | Yes | |
| 16 High capacity dry type air cleaner c/w air restriction gauge to be mounted on dash or air intake | Yes | | Yes | | No | not applicable | No | Not applicable on a battery electric vehicle. | Yes | |
| 17 Battery Management System | Yes | Integrated BMS system | Yes | Blue Bird's Battery Management System (BMS) facilitates smart charging by | Yes | Battery thermal management includes battery coolant heater and chiller to manage | Yes | The Lion proprietary BMS served its purpose earlier than expected when LG introduced its new more energy dense | Yes | "Each battery pack is equipped with a battery management |
| 18 On-Board Charging Systems Vendors should describe their preferred charging/discharging systems including EVSE noting that the expectation is that vehicles will be fitted with on board AC (19.2 kW) bidirectional charging/discharging systems that conform to the most recent SAE J1772 standards and/or other relevant standards for V2B bi-directional power flow. The vehicles should also be fitted with DC charge/discharge coupler capable of a sustained maximum of 90kW of power transfer at a maximum of 200 AMPs. The coupler should conform to all current SAE standards. All charging system components shall have CSA certification or provide acceptable documentation. Charging systems shall be capable of operating from -30C to 40C with no more than 10% degradation in performance | Yes | The bus is compatible with any CCS1 (For DC) or J1772 standards (for AC) chargers; The maximum charging power for DC is 120 kW at 200 AMPs and for AC is 19.2 kW. | Yes | Blue Bird offers a standard CCS1 connector that allows for Level 3 DC Fast Charging. For maximum 80kW charge rate each Level 3 DCFC station must be supplied with three phase 480VAC 80 amp. A bus will fully charge with DC Fast Charging from 0-100% in about 3 hours. There are several Level 3 EVSE's available on the market today that meet these charging requirements including the Nuvev HD60 and the InCharge ICE-60. Blue Bird has decided to include bidirectional charging functionality with only DC charging at this time due to V2G interconnection requirements of most utilities across North America. The Nuvev RES-HD60-V2G is the required charging solution for V2G capability to be enabled with our electric bus. | No | On-Board Charger not available. We are DC only. We will have the ability for AC/DC Charging in 2026. All Jouley's that are built are V2G Capable. The chargers we would recommend for V2G would have the inverter to convert DC to AC. | Yes | Compliant. The Lion school buses are compliant to all EV Level 2 Level 3 AC/DC or V2G options on the market. Further Lion has created an entire division Lion Energy mentioned above at point 8 and in our response document that can help you determine the best charging solution depending on the vehicle battery pack and duty cycle. | Yes | See Attachment |
| 19 Heavy Duty hoses to meet current coolant standards. | Yes | | Yes | | Yes | Hi-Miler Hose are standard on all Jouley's | Yes | | Yes | |
| 20 Data collection for performance and analytical comparisons must be available on a regular basis for both ASTSBC and the purchaser. Training must be provided. *Sample report with minimum requirements can be found in the Documents section. | Yes | | Yes | Sample report included | Yes | Customers are provided (free for the first two years) Valence Software from Proterra. Subscription based after two years. We would also recommend Charge Management Software as well. Training can be provided for both. | Yes | LionBeat | Yes | Customized Regular Data Reporting will continue to be offered as required by the ASTSBC. |
| 21 Oil lubed front wheel bearings or sealed bearings | Yes | | Yes | | Yes | | Yes | | Yes | |
| 22 SERVICE MANUAL AND DIAGNOSTIC SOFTWARE Service manual for engine and chassis Engine and body diagnostics software or licensing if web based. Diagnostic Training must be provided to each purchaser | Yes | | Yes | Body diagnostics software service manual and training are included. Cummins Corporation currently is not offering any technical manuals on their powertrain and battery management system. Due to the high voltage electrical systems integrated into Blue Birds Bus platform Cummins is responsible for all repairs made to these systems. | Yes | Parts & service info on-line | No | Lion can provide two (2) paper copies of our operators manual per unit and a portable document format (PDF) version. Lion is in the process of developing a secure access for clients so that they can view parts and service information via our LMS system where some service documents are available. Once the system is available Lion will reach to ASTSBC and the school districts. | Yes | |
| 23 Supply Driver Training and Orientation to ASTSBC Trainers to supply training for drivers upon bus delivery. | Yes | | Yes | | Yes | | Yes | | Yes | |
| 24 Supply line setting ticket | Yes | Supply line setting ticket is indicated in different colors | Yes | | No | | Yes | To be supplied upon the reception of PO. | Yes | |
| 25 Heater cut off valve at source | Yes | | Yes | Located on the left wall in the driver's cockpit area | Yes | | Yes | | Yes | |
| 26 Battery location and weight - please describe | Yes | Between the Chassis mainframe each pack is 615kg. Type C has configurations of 2-pack or 3 pack | Yes | The high voltage batteries are located under the chassis frame rails between the front and rear axle. | Yes | Location is mid bus under frame rails approx.weight is 3200lbs | Yes | Batteries are located underbody and between the framereils. Each battery is approximately 1000 lbs | Yes | Batteries are mounted in between the frame rails and rigidly attached using welded and bolt on brackets. Each battery pack weighs 491 lbs. Batteries are protected from the elements. Batteries are backed by international standards rating of IP68 and are deemed fit enough to withstand dust dirt and sand and are resistant to submersion up to a maximum depth of 1.5m underwater for up to 30 minutes and encased in an aluminum box. |