Jouley Walk-Around

ENGINE COMPARTMENT

High Voltage Junction Box (HVJB)	Controls the connections between the HV batteries, charging input, drivetrain/inverter, ancillary HV loads, DC/DC and DC/AC converter, and AC Variable Frequency Drive (VFD). Includes a HV Cut-Off Switch located on the front end with Lock Out - Tag Out Tab
Power Steering Pump & Motor	Baldor Reliance High Voltage Motor with Eaton Power Steering Pump 3 Phase 5 HP (3.7kw – 208-230v) electric motor Activated when: Vehicle Speed Detected / Parking Brake is Released / Drive Mode is Selected
Variable Frequency Drive (VFD)	2 VFD's that acts like an alternator Upper VFD controls current for AC Compressor and Power Steering Pump Lower VFD Controls current for LV (12v) batteries and body accessories
Radiator	Same radiator used in all Saf-T-Liner C2's Uses the same coolant for the batteries and cabin heaters OAT 50/50 Coolant
Telematics – Proterra APEX Software	Vehicle Monitoring – Real-Time information and vehicle performance Remote Diagnostics – Reduce on-site visits and solve problems remotely Preventative Maintenance – Notifications and Recommendations Charger Management – Monitor Charger Status Remotely and Receive Updates
AC Compressor	Used to cool coolant to help cool the batteries Also offers Dash AC for the Driver
Electric Vehicle Alert System	Sound Generator are mounted front left side in the bumper and behind rear bumper with the backing alarm. Meets all FMVSS Certifications. J1939 CAN Compliant. Sound will generate from 1mph to 20mph
High Voltage Heaters	2 HV Heaters mounted under the front engine compartment 10kW heater produces heat for the batteries 20kW heater produces heat for the cabin area
Low Voltage Batteries	2 – 12v AGM Low voltages located in the battery box compartment High Density Batteries
Low Voltage Cut-Off Switch	LV Cut-Off switch located in the battery box compartment with lock out-tag out tab Switch has to be in the "ON" Position to activate charging of batteries When switch is in the "OFF" Position, High Voltage cannot be activated.

Jouley Walk-Around

MID-SHIP CHASSIS

Coolant Lines	Same coolant lines we use today in all our vehicles. Gates Blue Stripe Coolant Hose is standard on all EV
High Voltage Cables	ALL HV Cables are Orange Weather Covering Consist of copper conductor sized for load
Cross Members	Additional cross members added to help support: HV & Coolant Lines. Each cable and hose are tied down individually to eliminate hazards.
High Voltage Proterra Batteries	(2) 113kW Batteries – 226kW Total Capacity - Reduced to 90% for a total of 204kW Useable Capacity to reduce battery degradation. Protected by 10 mm aluminum ballistic grade material. Each battery has its own (MSD) Manual Safety Disconnect on the street side “identified in orange”
Body AC Compressor (KR4 Roof Top)	Optional Equipment – Compressor mounted Street Side “Outside Chassis Rail” Available is the KR4 Roof-Top Condenser – Mounted in section above and behind driver – Approximately ten inches in height.
Eaton Transmission	2sp transmission – extended range and reduced battery requirements Improved performance on grades and startability with lower torque Better acceleration and greater efficiency at high speeds
Transmission Cooler	Brazed aluminum construction Rugged, Lightweight and Compact Provides the best heat transfer per given envelope size
Traction Motor	UQM Powerphase 220 HD Motor (295 HP / 1822 Ft. Lbs. Peak Torque) Liquid Cooled permanent magnet motor with liquid cooled inverter Provides up to 94% efficiency
Motor Controller / Invertor	Power flow through the inverter is bidirectional. When accelerating, DC Power is converted to AC Power to propel the bus forward and reverse. When decelerating, the AC power is converted back to DC Power and recharges the main batteries.
Battery Thermal Management System (BTMS) Coolant	BTMS in electric vehicles is critical for maintaining energy storage capacity, driving range, and cell longevity and system safety. Batteries optimal performance temperature is around 70 degrees.
Charge Port	Standard CP is located curbside behind the entrance door. Option Rear Charge Port is located 48” inward from rear bumper curbside. Red & Green Light Indicators with Stop Charge Button Requires a J1772 CCS Type 1 Connector. 400v minimum to charge the batteries

Jouley Walk-Around

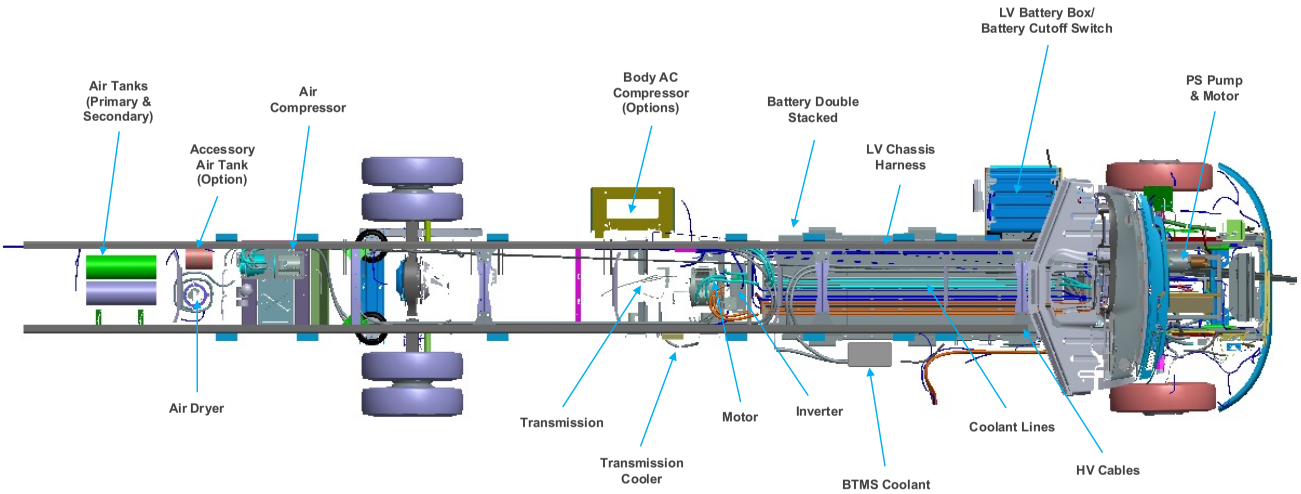
AFT OF REAR AXLE

Air Tanks	2 Accessory Air Tanks (Primary / Secondary) mounted rear of axle between chassis rails. Mounted inside chassis rails away from potential crash zone
Air Tanks	Option for Air Tanks are available for Air Equipment Option (Air Door / Stop Signs / Walkgate)
WABCO Air Dryer SS1200	13% better drying capacity compared to other leading manufactures 14% lighter compared to other leading manufactures Up to 5% smaller footprint compared to previous generation
Hydrovane Air Compressor	High Voltage Hydrovane rotary vane compressor with water cooler coupled directly to an AC electric motor. Compressor oil circulation is by internal pressure differential through the water cooler.

INSIDE CABIN AREA

Drivers Instrument Cluster	Similar to current instrument cluster. RPM Tachometer removed and replaced with a Battery State of Charge (SOC) meter. Digital Interface provide information for the driver.
Bendix - Intellipark	New electronic parking brake system designed to help drivers prevent rollaway and runaway crashes. Replaces the manual air parking brake buttons with easy-to-apply electronic switches. The system can automatically set the parking brake if the driver exits the vehicle without doing so.
Hill-Hold Assist	It is a device that holds the vehicle on any Up or Down Grade for up to 4 seconds. Hill Hold Assist works by holding the service brake while the driver is moving their foot from the service brake pedal to the accelerator pedal to prevent the bus from rolling forward or backwards while on a grade.
Regenerative Braking	Regen works by acting as a brake on the EV Bus as soon as the driver lifts their foot off the accelerator. Two levels of Regenerative braking are available STD and High in the transmission selector panel Allows the electric vehicle to reuse the energy generated by slowing down through battery storage.
S.T.A.R.S System – Saf-T-Anchor Removable Mounting System	Allows seats to be removed completely from inside the vehicle Uses standard wall mount seat frames Seats can “only” be re-installed from where the seat was removed

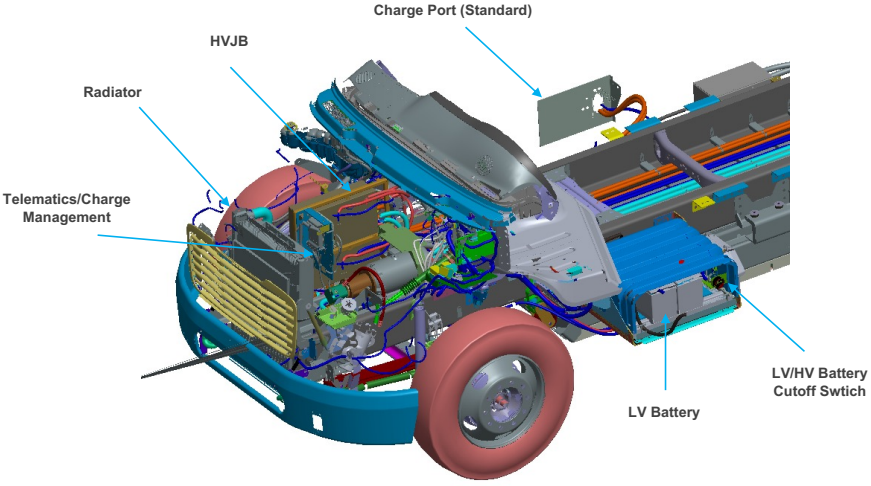
CHASSIS HIGH VOLTAGE COMPONENT LAYOUT



- Very clean design, thoughtful and purposeful
- Containment within frame rails a significant objective, safety focus
- HV cables, coolant tubes, and LV chassis harness systematically installed
- Use of cradles between frame rails to secure cables and tubing, stabilizes components and insures performance
- Major propulsion components are between the front and rear axles. No HV components behind the axle.
- Minimal components installed on the outside of the frame rails.

Jouley Walk-Around

ENGINE COMPARTMENT
HIGH VOLTAGE COMPONENT LAYOUT



- Use of radiator, coolant heaters and dash AC compressor to manage battery temperatures.
- Battery architecture is “liquid cooled” for superior battery performance and longevity of life
- Purposeful design to use as many common parts with other C2 powertrains, reduces inventory cost for customer
- Standard charger port is rear of service door on the curb side, option to have a charge port rear of the axle is available. Options limited to only one charge port.
- HV lock out and safety strategy incorporates four power off options; Driver ignition key, LV/HV battery cut off switch in battery box, HV cut off switch on the HVJB in forward compartment and MSD’s located on the rear, street side corner of both battery packs.

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PROTERRA 60KW CHARGING SYSTEM

- Standard Technology
- Fast Charging (up to 3.4 Hours)
- Vehicle To Grid (V2G) Capable
- Turnkey Infrastructure
- Can connect up to 4 dispensers
- Can be mounted up to 500ft away
- Charger up to 4 EV's Sequentially
- Requires 480v / 3-Phase
- J1772 CCS Type 1 Connector

OTHER AVAILABLE CHARGERS

ABB DC WALLBOX: 24KW FAST CHARGER

- 24kw Peak, 22.5kw continuous fast charging
- 60A high output current
- Robust all weather enclosure
- Charge Cable 3.5 or 7m
- 7" full color touchscreen display
- Operating Temperature (-35c to +55c)
- Charging Protocols CCS1 J1772
- Web Tools for statistics, remote diagnostics
- Available in 480v-3phase (60amp) & 240v-single phase (100amp)
- Charging Time (Full Charge in 8.25 Hours)

Abb.com/evcharging.com

DELTA 25KW DC FAST CHARGER SINGLE WALLBOX

- Max. output power 25kW
- Single Charging – CCS1 J1772 Connector
- Operating Temperatures – (-22F to +122F)
- Up to 6500ft Altitude
- Charging cable 13ft (4m)
- Network Interface – Ethernet (std) 3G (optional)
- 2.7" OLED Screen
- Can be mounted on a base
- Available in 480v – 3 Phase (65amps) & 240v-single phase
- Charting Time (Full Charge in 8.25 Hours)

Delta-Americas.com