

General Locomotive Specifications Section

- 132,000 Pound Total Weight
- 4 Drive Axles, axle load of 33,000# or less
- Configured for 66” track gauge
- Cummins QSX15, 500 Engine HP, Tier IV
- Marathon MagnaMAX, Harsh duty 480 3 PH Alternator
- ATS Propulsion Control
- Multiple Unit (MU) equipped
- D77 Traction Motors
- 9'-0" wide at widest point excluding foldable mirrors

System Specifications

Brakes

- Ratcheting handbrake for parking
- Pneumatic air brakes in a 26L braking system configuration
- 34.7 CFM air compressor
- Brake line connections located on both ends of the locomotive with “quick disconnecting” hoses in a AAR standard configuration
- Locomotive braking system to enable emergency braking upon engine failure

Wheels, Axles, Frame, and Suspension

- Configured for a 66” track gauge
- AAR type E Couplers and draft gears. Mounted 34.5” above top of rail
- Recycled components listed below are used as the base before remanufacture of each:
 - Locomotive frame
 - Truck frame
 - Traction motors
 - Axles
- Positive track shunting is done thru solid steel wheels and axles of less than 3 millionhms
- AAR Switcher trucks configured in a 66” track gauge
- Sand application to the #1 and 4 axles
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Engine and Powertrain

- Unit Model: Cummins QSX15 14.9L
 - Tier IV
 - 500HP
 - Peak Torque: 1600 Ib/ft @1400RPM
 - Transient Response: equal to or greater than IT4
 - Cold Starting: meets or exceeds IT4
 - Continuous Power Rating: 500 HP
 - Displacement: 14.9L
 - 4 cycle, turbocharged diesel
 - Un-keyed ignition switch, on/off positions
 - Push button start
 - 24V system
 - Drive system with automatic speed maintaining for constant speed regulation
- Engine will be equipped with heavy-duty two-stage dry-type air cleaner with pre-cleaner and service indicator, full flow oil filter. All fluid filters will be replaceable spin-on type and easily accessible for replacement
- Remote, cab mounted monitoring of Ammeter/Volt meter, hour meter, tachometer, engine oil pressure fluid, cooling system, fuel gauge, and speedometer
- Engine will properly function in accordance with the environmental requirements of Tier IV
- Additional cooling capacity to provide for continuous operation in multi-mile tunnels, including the machine being stopped for continuous periods of time and operations in both forward and reverse direction, in regards to engine overheating

Fuel Systems

- Diesel fuel reservoir provides
 - Common reservoir for all propulsion engines
 - Fuel reservoir capacity of 500 gallons, allowing for 20 hours at 100% load
 - Fueling inlets provided on both sides of machine
 - Fuel tank equipped with a drainage system at lowest point of tank, with shut off valve



Exhaust Systems

- Safety heat shields around the mufflers or pipes exposed to personnel and shall include mufflers and silencers
- Exhaust purifiers mounted close to engine
- Diesel particulate filter EPA Tier IV compliant
- DEF reservoir capacity for 40 hours of operation
- Vented system to be top vented and directed away from operators position
- Complies with all Federal, State, and Local exhaust emission laws

Electrical Systems

- Marathon; 3 phase; 277/480 VAC; 60 Hz, main alternator
- American Traction Systems (ATS) Propulsion Control System applied to control wheel adhesion and wheel-slip with independent axle control
- Multiple Unit Equipped
- 24VDC Control System
- HVAC system installed to provide sufficient heating and cooling of cab for crew comfort
- Remote Monitoring(camera)
- Auxiliary Power Unit
- New batteries applied that are easily accessible for maintenance including a master cut-off switch
- 12 VDC, 15 Ampere separate power circuit accommodating for district supplied radios
- Standard 12 VDC power outlet in cab
- Battery sized to operate the below listed items for a period of 30 minutes after an engine failure/shutdown
 - Cab and instrument lighting
 - Amber strobe lights
- Exterior Lighting
 - Lights for night operation, including yellow strobe emergency beacons and 6 110/115 Volt AC HID floodlights



- Light located at each corner or work deck and one located mid deck on each side
- Lights are manually adjustable
- Floodlights powered by auxiliary generator
- Floodlights are removable and does not require tools to do so
- Storage compartment with lock hasp and sufficient capacity for all lights
- Headlights and taillights corresponding to direction of travel
- Lights separately switch activated and in all enclosed areas
- A red Emergency operator alert buzzer located in operators cab (capable of emitting an 85 dbA sound)
- Ladders and catwalks illuminated per AREMA requirements

Pneumatic System

- Air outlets at front and rear of each unit
- Outlets fit “Chicago” type fittings
- Each outlet equipped with shutoff valves and velocity fuses
- Through outlets, pneumatic system charges locomotive breaking system

Operator’ Cab

- High visibility “Quiet” Noise Reduction Cab
- Single operator control
- Pressurized, Under Floor HVAC system, for heating and cooling
- Operators position located on right side
- Isolated cab to minimize vibration
- Roof mounted work lights, additional 4
- Front access door and one rear access door to engine room
- Soft ceiling
- Vinyl covered “soft” flooring
- Seating for 4



- Colored day or black & white closed circuit TV system included with screens mounted for easy operator viewing
- Equipped with external “West Coast” type mirrors
- Electric windshield wipers
- Variable lighting including 50 inch candles of light at 30 inches from light source
- Emergency lighting system
- Transparent materials (windows) are double plate safety glass
- All seams in cab metal cladding are fully seal welded

Controls

- Gauges and instruments are backlit
- All controls located within reach of operator’s control station
- Instruments and controls clearly identified with wear resistant labeling material
- All displays are cab mounted

Clearance and Safety

- Locomotive shall be equipped with an automatic change of direction alarm per 49 CFR 214.511(b).

