Colorado Railcar

New DMU

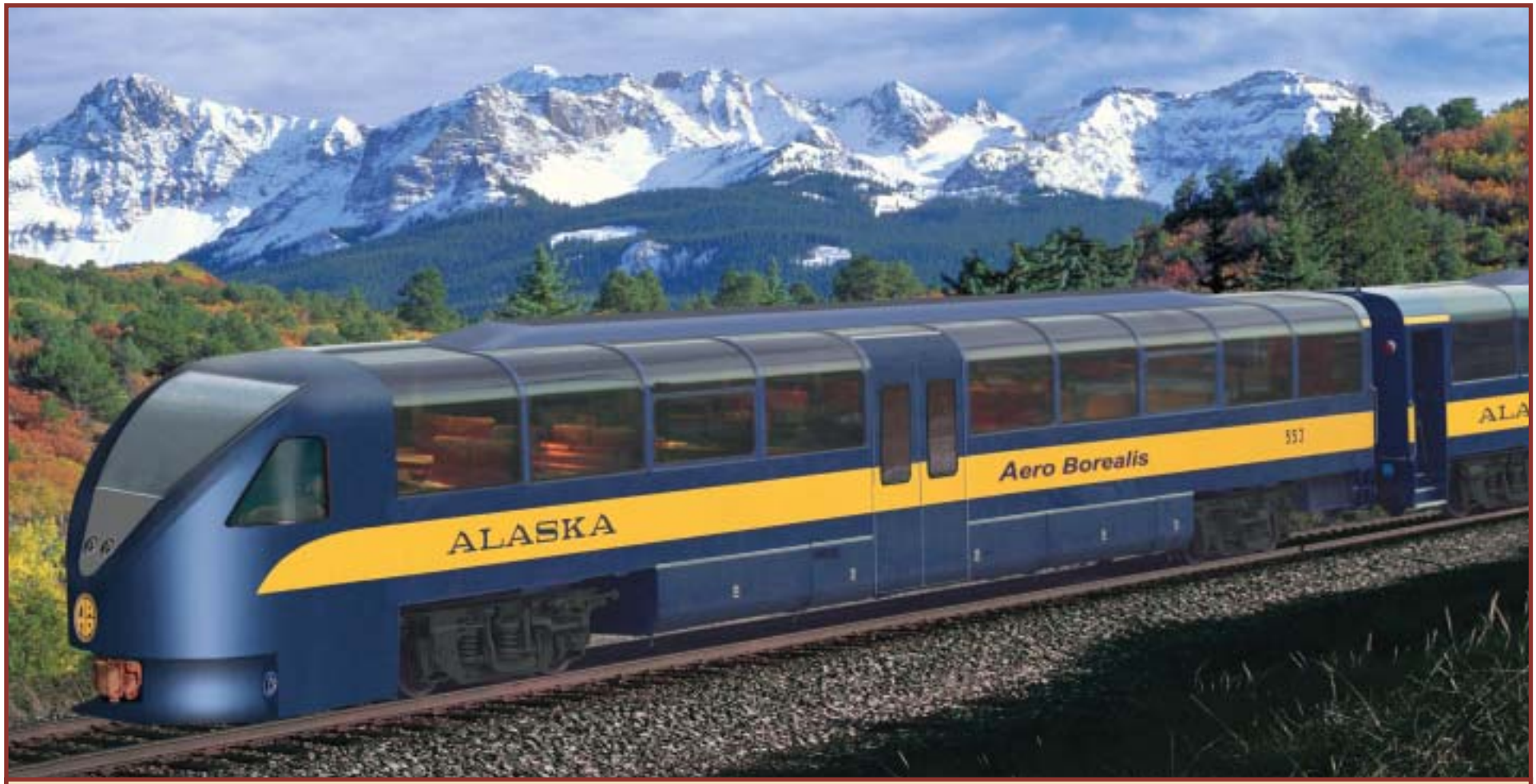
Meets the FRA's newest CFR part 238 specifications

Built in the USA

Member of APTA'S

Public Transportation Partnership for Tomorrow

All New Single Level Aero DMU



Colorado Railcar's All New Glass Domed Aero-DMU

Proposed For The Alaska Railroad

Powered By Twin 600 Horse Power Detroit Diesels With Voith Hydrodynamic Transmissions
Meets The FRA's Newest CFR Part 238 Specifications

The New, Highly Evolved DMU is Winning Acceptance

The DMUs (Diesel Multiple Unit) concept has always been a winner. Today, we are seeing a revival of the RDC/DMUs of the 50's albeit in a sleeker, safer, environmentally friendlier and more powerful form. And DMUs are garnering favor now for the very same reasons they were popular then; cost advantages, operational flexibility, and reliability.

Colorado Railcar, a high-end custom railcar manufacturer, has developed the first and only DMU meeting all FRA, APTA, ADA and AMTRAK requirements. As moderate volume, inter-city, suburban and rural commuter services become more important, the DMU emerges as the most promising solution. Outperforming locomotive hauled consists in flexibility, acceleration, and deceleration, DMUs provide a favorable cost/benefit ratio that is starting to be recognized nationwide. Colorado Railcar's FRA approved steel tube construction, state-of-the-art engine/drive train and freight compatible structure make it suitable for mixed use with existing freight rail, often a crucial factor in developing cost effective service.

Please review the following material on Colorado Railcar's new DMU that is changing the way America looks at inter-city and suburban commuter rail.

The New DMU Meets FRA's CFR Part 238 Structural Requirements

No Waivers Required

Meets or exceeds new structural safety specifications for:

- 800,000 Pounds of Compression Buff Load Strength
- 300,000 Pound Corner Post Strength
- 500,000 Pound Collision Post Strength Impact Spec
- Roof Structure Rollover Strength
- Static End Strength
- 200,000 Pound Anti-Climbing Mechanism

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Public Transportation Partnership for Tomorrow

Colorado Railcar's DMU Prototype

Nose Assembly Built to Locomotive Specifications

Colorado Railcar's DMU Prototype

Side and End of Car Framing of Heavy Corten Steel Tube in a Truss Configuration Meets the FRA's CFR Part 238 Structural Saftey Specifications

New DMU Uses Proven Components

The New DMU Is Powered by Twin Detroit Diesel Series 60 Engines

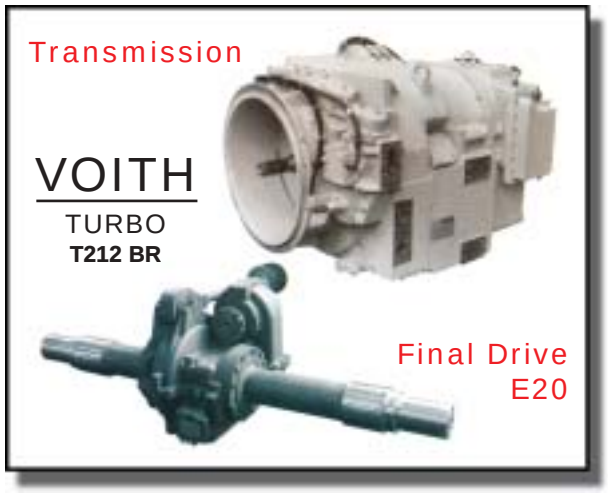
DDEC - Detroit Diesel Electronic Controls

6 Cylinder - Low Clearance Configuration

Gross Power - 600+BHP (447kw)
@1800/2100 RPM

- 600+ Horsepower per Engine
- Electronic DDEC Engine Management System
- Overhead Cam, Fuel Injected
- Lay-Down Configuration
- Two Year Warranty
- Parts/Service Availability at 1300 Outlets Nationwide
- 600,000 Engines in Use Worldwide Running Over a Billion Miles per Week. Engines Are Durable and Easy to Maintain

New DMU Utilizes Proven Components (Cont.)



Voith Turbo Transmission,
Retarder and Final Drive

Voith T212 BR Turbo Hydrodynamic Transmission

- The “Mercedes” of Heavy Duty Transit Transmissions
- 2,300 Turbo Transmissions in Use Worldwide and 75,000 Total Transmissions in Use Worldwide
- Hydrodynamic Braking
- Three Speed Transmission
- Electronic Control Management System
- 750,000 Km Before First Major Overhaul
- No Special Tools Required to Overhaul Transmission in Agency’s Shops

New DMU Utilizes Proven Components (Cont.)

GSI Low Clearance Truck

This truck has a proven track record and is currently in use by many commuter rail agencies.

DMU Trucks

GSI Trucks Featured on Bi-Level and Single Level

- **GSI Low Clearance Truck**
  - Inside Swing Hanger
  - Primary and Secondary Springs
  - Inboard Disk Brakes
  - Used by METRA and Many Other Transit Agencies
  - Voith E20 Final-Drive Used in Each Truck

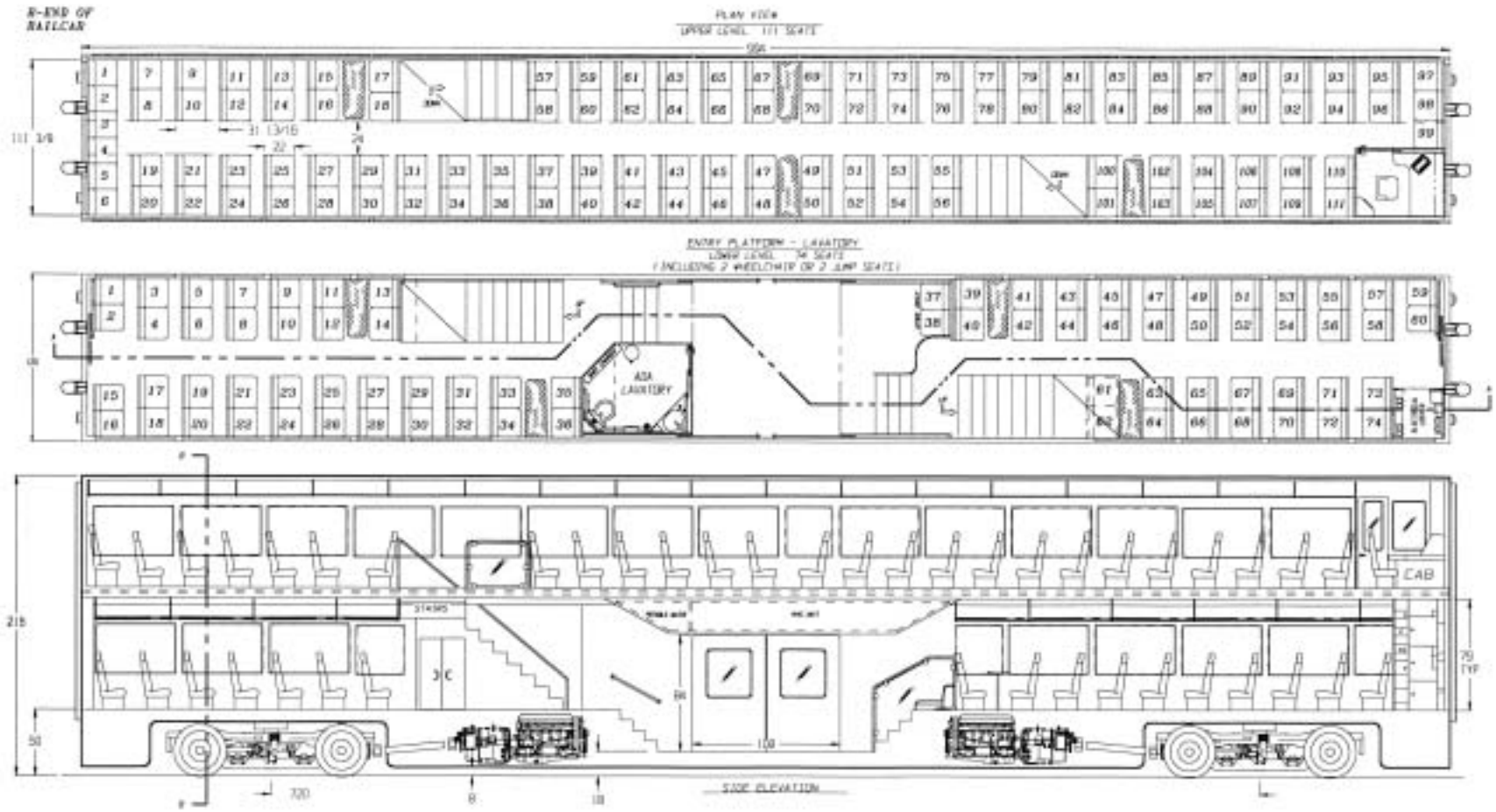
Proposed

New Bi-Level DMU

185 Seats

Bi-Level DMU Commuter Car

185 Seats



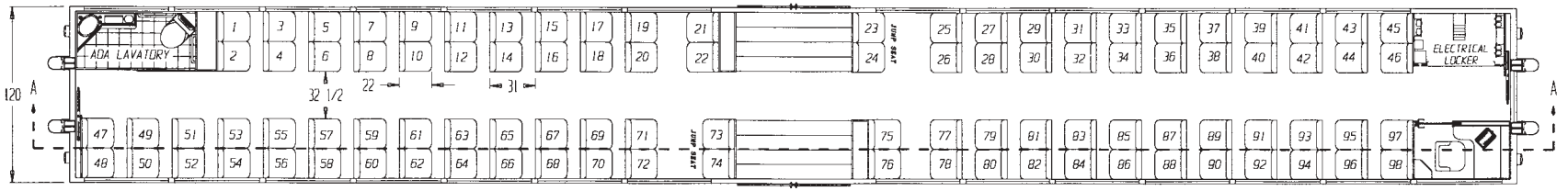
Proposed

New Single Level DMU

98 Seats

Single Level DMU Commuter Car

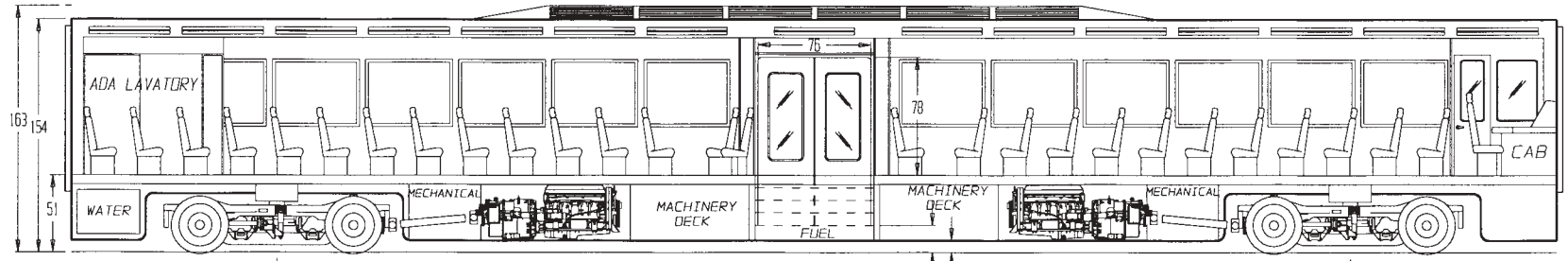
98 Seats



B-END OF RAILCAR

98 SEATS
(94 SEATS + 4 JUMP SEATS OR 2 WHEELCHAIR)

A-END OF RAILCAR



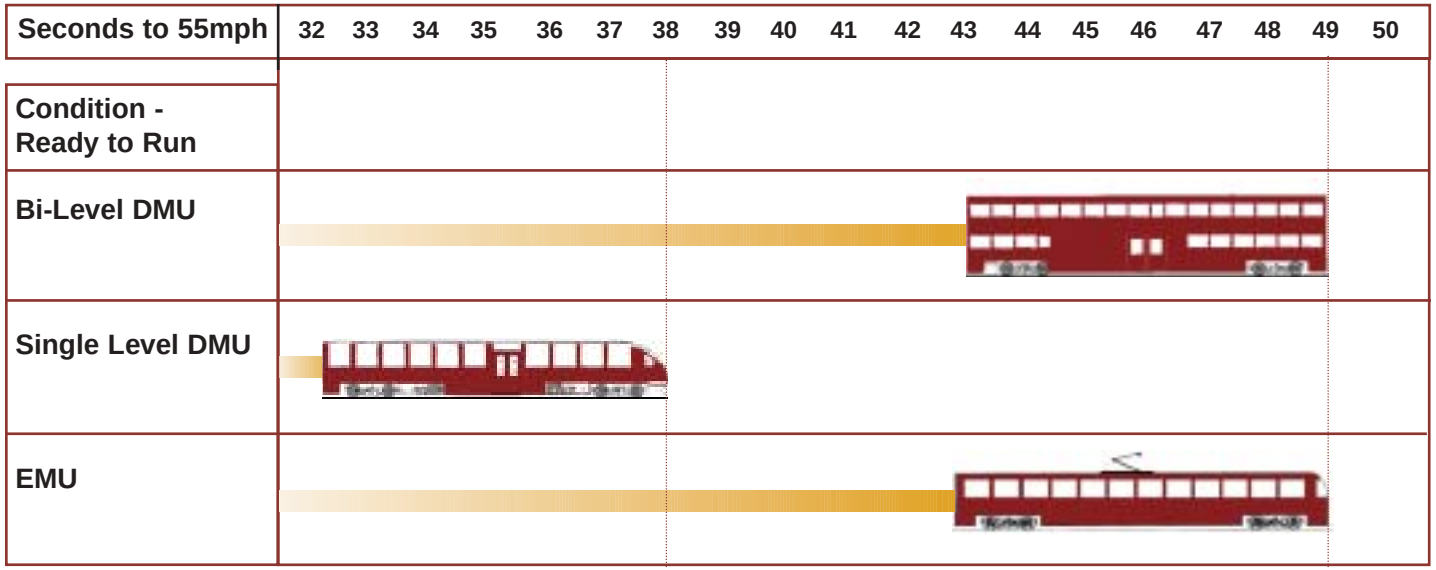
SIDE ELEVATION
SECTION A-A

New DMU Commuter Railcar Data

Parameters	Aero DMU Single Level	Double Deck DMU	Single Level Trailer	Double Deck Trailer
Overall Car Length	85’	85’	85’	85’
Maximum Height	13’7”	18’	13’7”	18’
Headroom (center aisle)	7’6”	6’7”	7’6”	6’7”
Door Threshhold to Top of Rail	18”	18”	18”	18”
Doorway width	76”	9’	76”	9’
Acceleration 0 to 55 mph in sec.	38 seconds	49 seconds	NA	NA
Seating Capacity	Aero 90 seats 98 std. end seats + up to 100 standees	185 seats + up to 125 standees	102 seats	189 seats
Maximum Weight	148,000 lbs	163,000 lbs	142,000 lbs	157,000 lbs
Maximum Operating Speed	90 mph	90 mph	90 mph	90 mph
Engine Ratio	Two - 640 hp 1280 hp per car	Two - 640 hp 1280 hp per car	NA	NA
Transmission	Two Voith T212 BR with KB190 retarder	Two Voith T212 BR with KB190 retarder	NA	NA
Service Braking	1.5 mphps	1.5 mphps	1.5 mphps	1.5 mphps
Minimum vertical curve radius	2,000 ft	2,000 ft	2,000 ft	2,000 ft
Toilet room	One per car ADA accessible	One per car ADA accessible	One per car ADA accessible	One per car ADA accessible
Emissions	Meets EPA Standards	Meets EPA Standards	NA	NA

The New DMU's Performance Matches EMU

- Acceleration and Braking Equal to Performance of EMU
- 1,240 Total Horsepower
- Bi-Level Performance: 8 Horsepower per Ton Ready-to-Run, — 49 Seconds to 55 mph
- Single Level Performance: 8.8 Horsepower per Ton Ready-to-Run — 38 Seconds to 55 mph



New DMU's Custom Designed to Meet the Agency's Needs

Seating Options from Basic Walkover Bench Commuter Seats to Individual Bucket Seats with Tray Tables, Audio and Reclining Seatbacks

Colorado Railcar Will Build to the Agency's Specific Requirements

- Boarding Door Location – Center or End of Car
- Trucks – GSI or Atchison Casting
- Seating – Type, Layout, Coverings, Color, Recliners, Seatback Trays
- Windows – Flat or Dome, Tint
- Exterior Paint and Graphics
- ADA Compliant Boarding Options
- Restroom Area Design
- Audio at Seat
- Service Bar

Ordering the New DMU

- Minimum DMU Car Order – As Few As Four Cars
- Limited Non-Recoverable Costs
- Engineering Included in Pricing
- Cost Effective Custom Options
- Production Delivery Time: 12-14 Months

At Last, A Self-Propelled Commuter Car That Meets All of FRA's CFR Part 238 Structural Requirements Without Waivers

Colorado Railcar

MANUFACTURING

Manufacturing Capabilities

- Complete new car fabrication
- Complete frame fabrication
- Truck & brake rebuild & modification
- Head end power (HEP)
- Electrical design & fabrication
- Auxiliary diesel power generators
- Air conditioning systems
- Galley design & fabrication
- Communication systems
- Full carpentry shop
- Interior design & fabrication
- Seating fabrication
- Full car painting
- Specialists in domed glass technology and glazing
- Self propelled DMU design build

Colorado Railcar's Exclusive Design Utilizes Heavy Steel Tubular Construction for End of Car Collision Posts, Corner Posts, and Floor Structure to Meet FRA's CFR Part 238 requirements

Design and Engineering

The Colorado Railcar design and engineering department features current computer aided drafting (CAD) and design technologies and is supported by finite element analysis capabilities for structural design. These processes combine to enhance our ability to design railcars that meet the customer's requirements and to ensure compliance with regulating railroad agencies. We meet all current safety, fire, and federal regulatory requirements including FRA's CFR Part 238 Requirements.

Engineerings CAD Capabilities

Truck Rebuild Shop

Colorado Railcar's Production Capabilities

Colorado Railcar's Facility

New Paint Booth

The Facility

Colorado Railcar's 75,000 square foot manufacturing facility is located in Ft. Lupton, 21 miles North of Denver, Colorado. The plant is adjacent to the Union Pacific mainline and has a spur running into the facility. A new 10,000 square foot state-of-the-art full car paint booth is located on the spur.

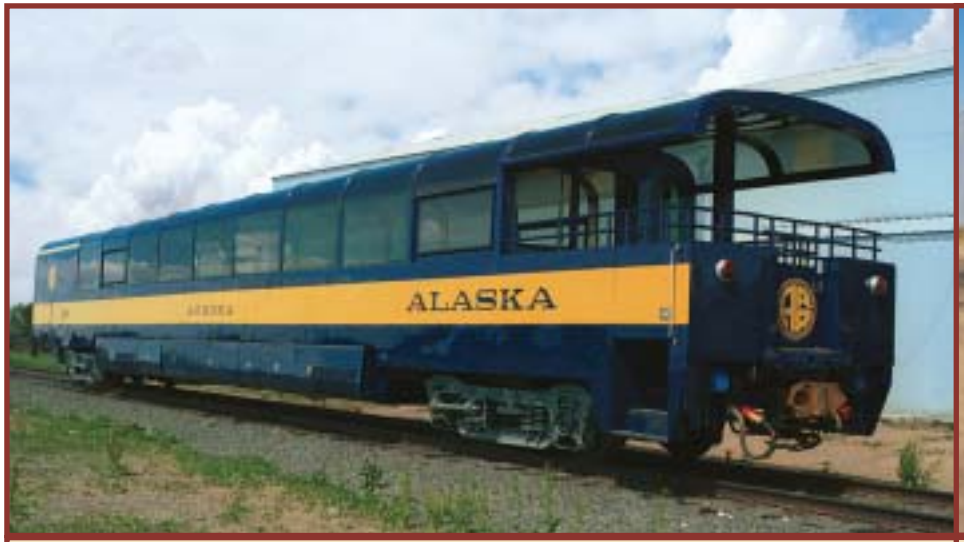
New Full Car Paint Booth Interior

Colorado Railcar's Manufacturing Plant

Royal Caribbean and Celebrity Cruise Lines Railcars Near Completion

Royal Caribbean and Celebrity Cruise Lines New Dome Car

Royal Caribbean and Celebrity Cruise Lines New Railcar Dome Level



Alaska Railroad's Single Level Dome Car With Open Platform

Colorado Railcar - Princess Cruises and Tours Ultra Dome

Colorado Railcar

For Further Information on Colorado Railcar's DMU

Contact Tom Janaky, Vice President of Sales
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