

UP TO **40** LOADED
RAILCARS

**TRACTIVE EFFORT: 60,000 LBS SINGLE COUPLED WITHOUT
WEIGHT TRANSFER FROM RAILCAR.**

STANDARD FEATURES

- 90 gallon fuel tank
- ABS vehicle brakes
- Air knife
- Anti-slip traction control
- CAN-bus electrical system
- Door mounted windshield wipers
- Engine diagnostic adapter: console
- Exterior mounted cameras with color monitor on operator's console
- Full width cab; 360 degree visibility
- Speed based rail guidance pressure
- Three 12 volt power receptacles
- Tinted cab glass
- Two air ride operator seats

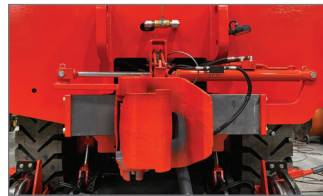
OPTIONAL FEATURES

- Air bell
- Cab air pressurizer
- Cold weather package
- Corrosion Resistance package
- Extended warranties
- Heated mirrors
- High output 160 CFM air compressor
- Hydraulic broom
- LED work lights
- On board DVR with cameras
- Radio remote control
- Shuttletrak: machine telematics
- Snow plow
- Additional options available

The Navigator Series Shuttlewagon stands alone as the highest capacity railcar mover in North America. It defines railcar switching operations for today's needs. Powerful, versatile, and dependable. It incorporates the most advanced technologies available to ensure safety and reliability are never compromised.

NVX8040 GENERAL SPECIFICATIONS

FUEL CAPACITY	90 gallons
HYDRAULIC RESERVOIR CAPACITY	50 gallons
AIR TANK CAPACITY (RAIL BRAKES)	30 gallon
AIR TANK CAPACITY (VEHICLE BRAKES)	10.5 gallon
AIR FILTER	Dry replacement element
OIL & FUEL FILTERS	Replacement element
WHEEL BASE	168" (4267 mm)
WIDTH	120" (3048 mm)
HEIGHT	143.5" (3645 mm)
LENGTH	296 (7518 mm)
GROUND CLEARANCE	4.85" in rail mode
WEIGHT	101,500 lbs. (46,040 kg)
FIRST GEAR	0 to 2 MPH
SECOND GEAR	0 to 4 MPH
THIRD GEAR	0 to 7 MPH
FOURTH GEAR	0 to 14 MPH



Wide range AAR sliding couplers are air released and hydraulically positioned to improve pulling performance on curves and grades.



Pull out sander boxes with wide mouth lids for easy loading. Air activated sanders for smooth dispensing.



Powerful air knife increases capacities up to 50% in adverse weather.



180-degree rotating console with multifunction display. Dual four-way air suspension seats for operation from either side of cab in rail mode. Shown with 4-camera surround.



Patented rail guidance system: two independent drive wheel trucks supported on rotating bearing with eight 16" AAR profile guide wheels. ABS & traction assist provide more control while reducing maintenance costs.

For narrow or wide applications: Please consult with factory. *Note: Tractive effort may vary with rail and weather conditions. Dimensions and Weight do not include optional equipment. Specifications are subject to change without notice.

ENGINE

Model	Cummins diesel engine model QSL 9.0L (electronic)
EPA	Tier 3
Horsepower	300 HP @ 2200 RPM
Torque	1050 ft lbs @ 1500 RPM
Radiator	Charge air cooler across the top, engine radiator in the middle, and transmission oil cooler across the bottom. (engine temp controlled, reversing hydraulic driven fan).
Exhaust	Vertically mounted away from cab.

TRANSMISSION

Powershift Transmission	Four speeds forward and reverse both on rail and on road. Constant mesh spur gearing electronically controlled. Flex plate connects torque converter directly to engine flywheel. Automatic or manual gear selection. Shift protected (downshift and forward/reverse). Operator panel shows gear, direction, and transmission diagnostics.
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DRIVE LINES

Constant Velocity Universal Shafts	Transmission to Axle
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AXLES

Planetary Axles	Heavy duty planetary-type drive axles; mechanically locked differentials in both front and rear.
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FRAME

All welded steel plate construction.	3" full width and full length deck plate. Frame rails are 1" plate connecting with 1" front and rear coupler plates to the deck plate. One recessed steps in each rear corner of frame gives access to cab and other components. Safety handrails around the deck surface.
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RAIL GEAR

Rail guidance system consists of (8) 16" (406mm) diameter AAR profile rail guide wheels.	(2) each at front and rear of each drive wheel. AAR standard 56.5" (1435 mm) rail gauge. Control of guide wheels is from eight hydraulic cylinders, controlled from the cab. Rail suspension and vehicle suspension are independent, allowing ample travel for adverse track conditions and providing smooth quiet ride. Cylinder allows movement for uneven rails, frogs, and switches while maintaining guide wheel force. These rail trucks are in the float position while on the rail and guides the trucks around the tightest curves.
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BRAKES

Service	Air over hydraulic actuated high-pressure disk brakes with dual Haldex high pressure converters (master cylinder) one for each axle. Foot control located at drivers station for road travel. Hand vehicle brake control located on instrument panel for vehicle brake control on rail. Vehicle brakes use ABS (Antilock Brake System) while on rail. Meritor axle is equipped with dual calipers on each disc (4 calipers per axle).
Parking	Disc brake running in oil located internally on output shaft of transmission. Transmission cannot be shifted into forward or reverse with parking brake engaged.
Rail	80 cfm compressor system with two (2) 30 gallon air tanks. Heated air dryer and desiccant cartridge with single mounting bolt for easy maintenance. All reservoirs equipped with drain valves. AAR glad hand connections located front and rear. Lever operated pressure control and emergency stop on dash panel. Rail brake valve protected with safety filter for harsh environments.

ANTILOCK BRAKES (ABS) AND TRACTION CONTROL (ATC)

An electronic controller monitors rail wheels and tires to detect tire slip on the rail.	The ABS valve controls vehicle brake pressure to minimize brake lock up. Engine speed is automatically adjusted to reduce wheel spin when starting a move, while maintaining the maximum drawbar pull. The operator panel message window alerts the operator if the tires are slipping. ABS and ATC are used in rail mode only.
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STEERING

Hydraulic power steering controlling both front and rear trucks	Steering is in float position when on rail. Straight ahead steering indicator provided on instrument panel to align steerable trucks while in road mode.
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COUPLERS

Front and Rear Couplers	Cast steel full size AAR coupler with automatic latch, cab controlled air unlatch. NON-WEIGHT TRANSFER design, wide range AAR sliding couplers with buffer system to reduce shock load to railcar mover during coupling operation. Couplers are hydraulically positioned from side to side with controls located on instrument panel inside cab. Video camera system to view rear coupler from cab.
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HYDRAULIC SYSTEM

Variable displacement load-sensing pump driven from transmission	Centrally located manifold is two-pressure design electric operated and detent maintained (provides the safety of manual valves). All solenoid valves have manual overrides. Hydraulic tank has excess capacity for cooling and large clean out flanges. Rail gear is dual pressure with extra traction momentary switch.
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PNEUMATIC SYSTEM

Standard compressor	80 cfm. AAR Glad hand connections located front and rear. Lever operated pressure control and emergency stop on dash panel. Rail brake valve protected with safety filter for harsh environments.
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CAB

Air Conditioned 10' full width cab constructed of "galvanneal" steel, mounted on rubber isolation bushings, at opposite end from engine to reduce noise.	Cab has two doors located at rear. Four electric wipers, two on front windshield and one each on rear doors. Console is mounted in the center of the cab and can be swiveled to allow operation from either side of the cab. Hand throttle, hand vehicle brake, and train brake conveniently located on console. Console extends to operator as desired and allows easy reach when looking out the side windows. Air ride seats on both sides have side travel to allow easy viewing out side windows. Tilt steering column adjusts out of the way for rail operation. 360-degree cab visibility with filtered outside air supply and 46,000 BTU/hr heater and air conditioner. Defroster fans at each corner. All glass tinted, with darker tint on side windows to reduce solar heat gain. Padded rubber floor mat.
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INSTRUMENTATION

Heavy-duty operator panel with color display, push buttons, and warning light.	Additional color video monitor to display view from (4) exterior mounted cameras. CAN-Bus system allows direct communication with engine and transmission, for display of all operating conditions and alarms. Main operating screen displays fuel level, transmission gear, rail pressure, engine speed, vehicle speed, oil pressure, coolant temperature, transmission temperature, battery voltage, and a message window. The message window, with light and buzzer, alerts operator of important events and alarms. Rail gear is controlled with operator panel push buttons. Duplex rail brake reservoir and brake pipe gauge.
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ELECTRICAL

12 Volt starting and lighting with 160-ampere alternator.	Two Heavy-duty maintenance-free batteries rated at 950 CCA. Batteries located in self-contained battery box located on Shuttlewagon deck. Two amber strobe lights, one mounted on each side of cab. LED corner markers. Cab interior dome lights to illuminate instrument panel. Automotive fuses and circuit breakers provide protection for each electrical circuit.
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RAIL GUIDANCE SYSTEM

Automatic Speed Induced	Equipped with automatic speed induced rail guidance system to provide necessary hydraulic pressure at higher rail speeds.
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WARNING SIGNALS

Two dual blast type air horns.	One air horn facing forward and one facing rearward. Back up alarm for on road operation.
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TIRES & RIMS

Four 14.00R x 24 tubeless tires.	Mounted on solid disc three-piece construction type rims.
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SANDERS

Air operated, electrically controlled from cab.	Eight sanders two for each drive wheel, front and rear. Four removable polyethylene sander boxes that hold a total of 800 pounds of sand. These sand boxes can be pulled out to allow easy filling.
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LADDERS

One ladder per side.	Ladders have inclined steps with breakaway lower step.
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