

UP TO **60** LOADED RAILCARS

TRACTIVE EFFORT: 85,000 LBS (378kN) SINGLE COUPLED WITHOUT WEIGHT TRANSFER FROM THE RAILCAR.



The NVX9060 Navigator Series Shuttlewagon stands alone as the highest capacity railcar mover in the world. Powerful, versatile, and dependable. It incorporates the most advanced technologies available to ensure safety and reliability are never compromised.

**NVX9060 GENERAL SPECIFICATIONS**

<b>FUEL CAPACITY</b>	110 gallons(416 L)
<b>DEF CAPACITY</b>	10 gallons(38 L)
<b>HYDRAULIC RESERVOIR CAPACITY</b>	40 gallons(150 L)
<b>COOLANT CAPACITY</b>	6 gallons(23 L)
<b>GENERATOR OIL CAPACITY</b>	6 gallons(23 L)
<b>AIR TANK CAPACITY (RAIL BRAKES)</b>	100 gallon(378 L)
<b>AIR TANK CAPACITY (VEHICLE BRAKES)</b>	5 gallon(19 L)
<b>WHEEL BASE</b>	213" (5410 mm)
<b>WIDTH</b>	120" (3048 mm)
<b>HEIGHT</b>	143.5" (3645 mm)
<b>LENGTH</b>	342.5" (8700 mm)
<b>GROUND CLEARANCE</b>	9" (228.5 mm)
<b>WEIGHT</b>	117,000 lbs.(53,070 kg)
<b>AIR FILTER</b>	Dry replacement element
<b>OIL &amp; FUEL FILTERS</b>	Replacement element
<b>SPEED RANGE</b>	0 to 10 mph/16 km/h
<b>TURNING RADIUS</b>	39' (11.9 m)



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



In dash multi-functional digital display module with push button controls on a 180 degree rotating operator console.



360 degree camera view available with technology package.



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.



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

**POWERFUL.  
VERSATILE.  
DEPENDABLE.**

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. Nordco® and Shuttlewagon® are registered trademarks of Nordco, Inc.



**NVX9060**

## ENGINE

<b>Model</b>	Diesel engine model QSX 15L (electronic)
<b>EPA</b>	Tier 4 Final
<b>Horsepower</b>	625 HP @ 1800 RPM. Up to 800 HP utilizing electric boost.
<b>Torque</b>	2050 @ 1400 RPM
<b>Cooling</b>	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).
<b>Exhaust</b>	DPF/DOC combo unit with SCR, decomposition reaction tube, selective catalyst reduction mounted in a "switchback" orientation.

## TRANSMISSION

<b>John Deere - Funk DF250</b>	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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## GENERATOR

<b>John Deere</b>	700V 3-phase, 400kw
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## BATTERY

<b>Dual HV Li-ion</b>	17.5kWh
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## INVERTERS

<b>Three</b>	One John Deere PD400 and two TM4 C0300's.
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## MOTORS

<b>Dual</b>	TM4 LSM280 AC induction motors.
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## AXLES

<b>Axle Tech™ (formerly Rockwell)</b>	Heavy duty planetary-type drive axles; mechanically locked differentials in both front and rear. Four wheel drive is available in Road mode and is always on during operation in Rail mode.
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## VEHICLE SPEED

<b>0 to 10 mph (0-16 kph) forward or reverse.</b>	Single gear (no shifting).
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## FRAME

<b>Fabricated from A-36 cold rolled steel plate.</b>	Multiple weldments complete a single assembly, balanced for 50/50 distribution of weight over both drive axles.
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## RAIL GEAR

<b>Eight, 16" (406mm) diameter AAR profile austempered ductile iron guide wheels.</b>	One each at the front and rear of each drive wheel. Rail gauge; 56 1/2" (1435mm). Rail guide wheels designed to guide pivoting drive axles around track curvatures. Each rail wheel equipped with graphite lubricating stick that may be consumed over time.
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## BRAKES

<b>Service</b>	Air over hydraulic actuated high-pressure disc brakes with dual calipers on front and rear and dual master cylinders. Foot control located at drivers station for road travel. Optional Joystick control is available and would locate a joystick on armrest of driver's seat for vehicle brake control on road or rail. Vehicle brakes use ABS (Antilock Brake System).
<b>Parking</b>	Electric over hydraulic actuated high-pressure disc brake. On/off switch located on dash panel.
<b>Rail</b>	AAR Glad hand connections located front and rear. Lever operated pressure control with emergency stop on dash panel. Rail brake valve protected with safety filter for harsh environments.

## STEERING

<b>Hydraulic power steering controlling both front and rear trucks</b>	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

<b>Front and Rear Couplers</b>	Cast steel full size AAR coupler with automatic latch, cab controlled air unlatch. <b>NON-WEIGHT TRANSFER</b> 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. A float position allows coupler to slide freely while negotiating tighter track curvatures.
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## HYDRAULIC SYSTEM

<b>Constant pressure</b>	Constant pressure hydraulic system.
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## PNEUMATIC SYSTEM

<b>Hydraulically driven air compressor</b>	125 psi, 165 cfm.
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## CAB

<b>10' full width cab, constructed of steel, mounted on rubber isolation bushings, at opposite end from engine to reduce noise.</b>	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 standard air conditioner. Defroster fans at each corner. All glass tinted to reduce solar heat gain. Padded rubber floor mat.
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## INSTRUMENTATION

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

<b>24 Volt system</b>	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. Two High Voltage batteries, providing boost to 800 horse power.
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## RAIL GUIDANCE SYSTEM

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

<b>Two dual blast type air horns.</b>	One air horn facing forward and one facing rearward. Back up alarm for on road operation.
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## ANTILOCK BRAKES (ABS) AND TRACTION CONTROL (ATC)

<b>An electronic controller monitors rail wheels and tires to detect tire slip on the rail.</b>	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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## TIRES & RIMS

<b>Four 14.00R x 24 tubeless tires.</b>	Mounted on solid disc three-piece construction type rims.
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## SANDERS

<b>Air operated, electrically controlled from cab.</b>	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

<b>One ladder per side.</b>	Ladders have inclined steps with breakaway lower step.
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