

Nova Bus Academy

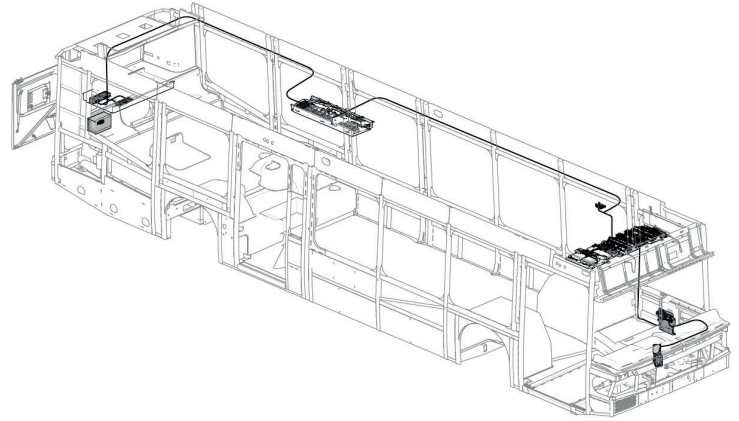
Training Simulators Manual



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Multiplex Model 1 Training Simulator



- Self-contained fully-functional multiplexing system
- Pre-loaded with troubleshooting scenarios to actively involve participants in the electrical multiplexing problem-solving process
- A sampling of bus operations, inputs, and outputs are designed into this simulator

Specifications

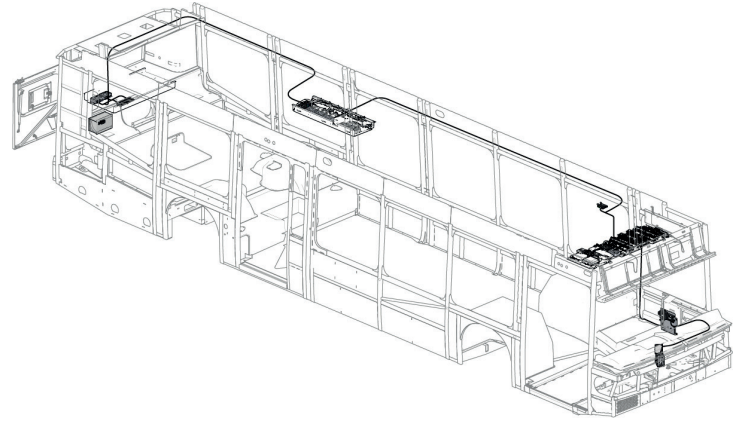
Voltage Input	120 VAC, 15 AC
Dimensions (LxWxH)	32 x 21 x 13 inches 80 x 52.5 x 32.5 centimeters
Weight	40 pounds 18.2 kilos



Training Simulator #
NV-1000-03

Nova Bus Academy

Multiplex Model 2 Training Simulator



- Displays every component of the network communication system
- Enables users to practice electrical, multiplexing and J1939 CAN diagnostic procedures
- Mounted in compliance with the manufacturer's specifications and standards, and wired according to OEM electrical diagrams
- Allows the user to see and access all of the bus' multiplexing components.

Specifications

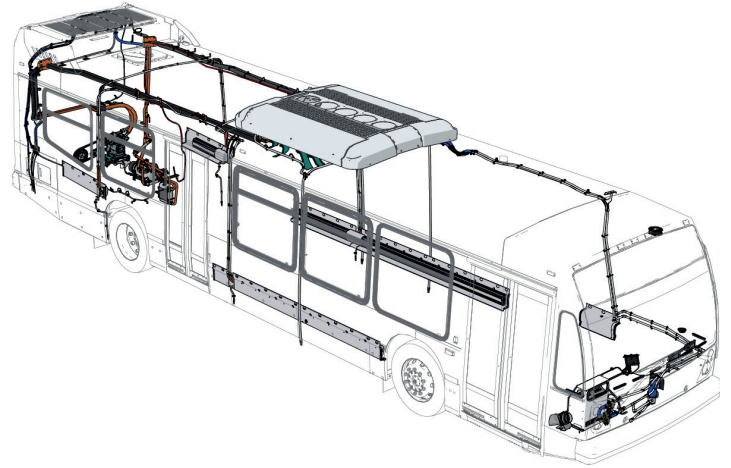
Voltage Input	120 VAC, 15 AC
Dimensions (LxWxH)	98 x 26 x 78 inches 245 x 65 x 195 centimeters
Weight	380 pounds 172.7 kilos



Training Simulator #
NV-1000-02

Nova Bus Academy

HVAC MCC Training Simulator



- 460V Stand-Alone Mobile Climate Control® HVAC Training Bench
- Allows clear visualization of all component operation of the electrically operated HVAC system
- It provides student diagnostic exercises using manually induced faults

Specifications

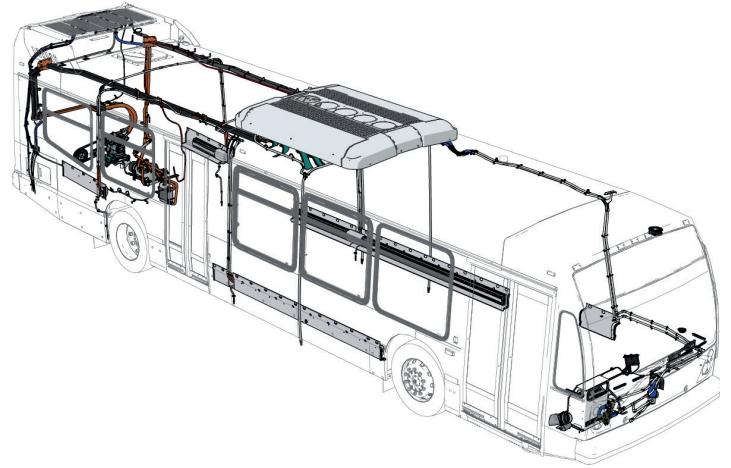
Voltage Input	460 VAC, 20 AC
Dimensions (LxWxH)	96 x 36 x 80 inches 240 x 90 x 200 centimeters
Weight	1,350 pounds 613.6 kilos



Training Simulator #
NV-1000-01B

Nova Bus Academy

HVAC Thermo King Training Simulator



- 460V Stand-Alone Thermo King® HVAC Training Bench
- Allows clear visualization of all component operation of the electrically operated HVAC system
- It provides student diagnostic exercises using manually induced faults

Specifications

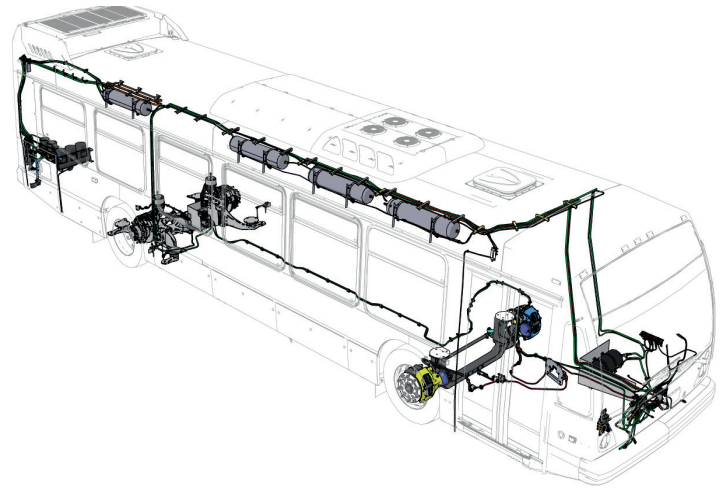
Voltage Input	460 VAC, 20 AC
Dimensions (LxWxH)	96 x 36 x 80 inches 240 x 90 x 200 centimeters
Weight	1,350 pounds 613.6 kilos



Training Simulator #
NV-1000-01C

Nova Bus Academy

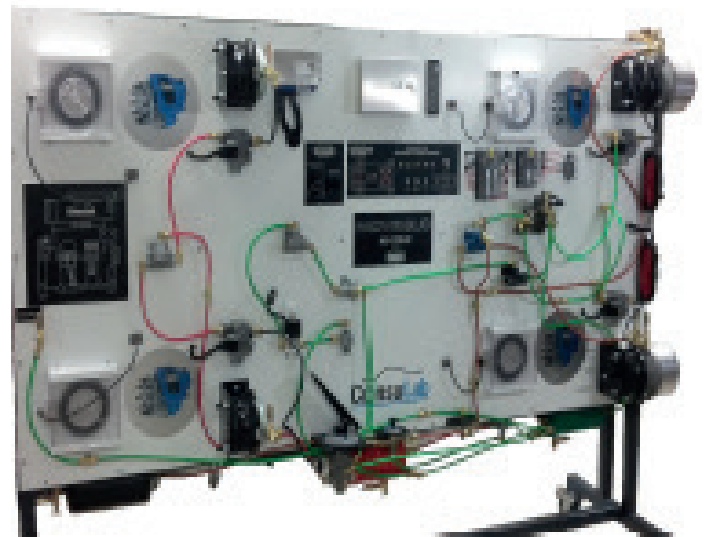
Pneumatic Braking Training Simulator



- Air Brake Trainer consists of Bendix and WABCO brake products including the WABCO ABS/ATC bus system.
- Valves and air system completely functional and typical of the bus.
- Toothed wheels for the ABS sensors are mounted on 12 VDC motors. Motor/toothed wheel speeds are regulated by an electronic controller to simulate ABS stop and traction control events.
- An engine simulator is installed for proper operation of the ATC function. Over 20 ABS / ATC faults are inserted by fault switches mounted on the rear of the display.

Specifications

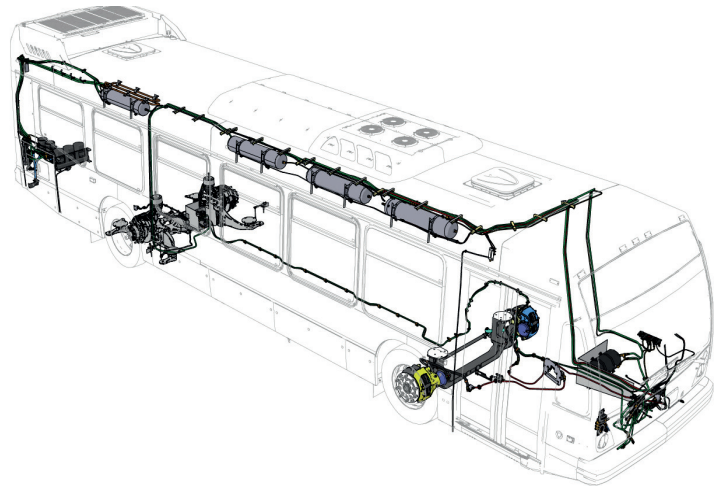
Voltage Input	120 VAC, 15 AC
Air input	Standard 1/4" air filter (120 psi)
Dimensions (LxWxH)	80 x 79 x 28 inches 200 x 197.5 x 70 centimeters
Weight	400 pounds 181.8 kilos



Training Simulator #
NV-1000-07

Nova Bus Academy

Pneumatic System Training Simulator



- Includes air brake, kneeling and front door systems with accessories mounted on a training bench.
- All the major components to show and train.
- Show every component of the bus' pneumatic system and their interrelation.
- Gives the user an excellent representation of the bus' air supply, doors, suspension, kneeling and braking systems.

Specifications

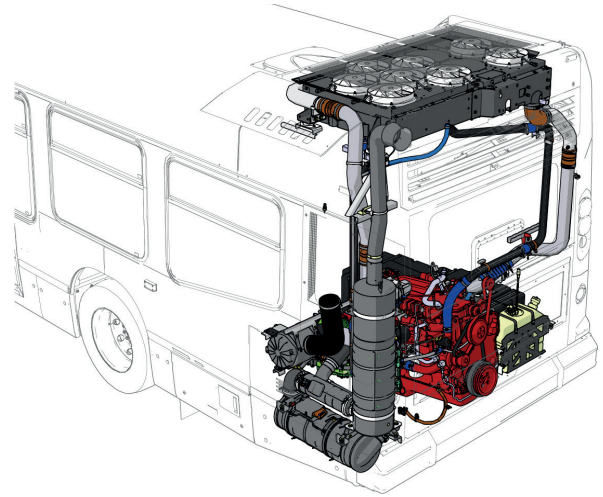
Voltage Input	120 VAC, 15 AC
Air input	Standard 1/4" air filter (120 psi)



Training Simulator #
NV-1000-06

Nova Bus Academy

Diesel Engine and Transmission Training Simulator



- 380HP Stand-Alone Cummins® Training Bench
- Allows clear visualization of all component operations of the electrically and mechanically operated engine system
- Demonstrates basic system operation, the trainer provides student diagnostic exercises using manually induced faults

Specifications

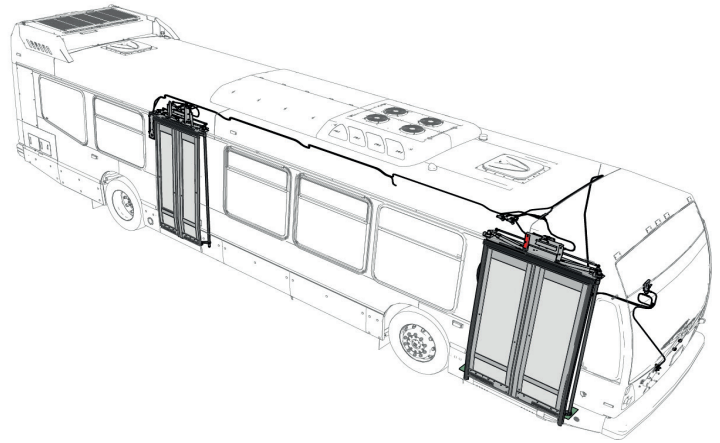
Voltage Input	120 VAC, 15 AC
Dimensions (LxWxH)	95 x 74 x 84 inches 229 x 188 x 213 centimeters
Weight	3,800 pounds 1,724 kilos



Training Simulator #
HV-950-ISL

Nova Bus Academy

Door System Training Simulator



- Includes all the components required to demonstrate the operation of a complete door operation with ActiveAir, Class system and APC systems
- Allows students to visualize components, be able to perform door adjustment, and testing on the Class and APC systems
- Mounted on a movable frame that allows access to components for inspection and service

Specifications

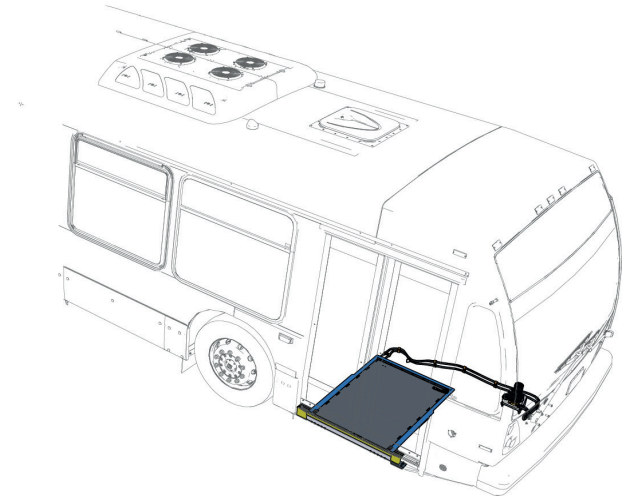
Voltage Input	120 VAC, 15 AC
Dimensions (LxWxH)	66 x 53 x 96 inches 165 x 133 x 240 centimeters
Weight	425 pounds 193 kilos
Air input	Standard 1/4" air fitting 120 psi



Training Simulator #
NV-1000-09

Nova Bus Academy

Wheelchair Ramp Training Simulator



- Ramp with the same hardware as in a bus
- Allows students to visualize component function, perform adjustments and system testing
- The ramp is cutaway to show the cylinder and sensors operation

Specifications

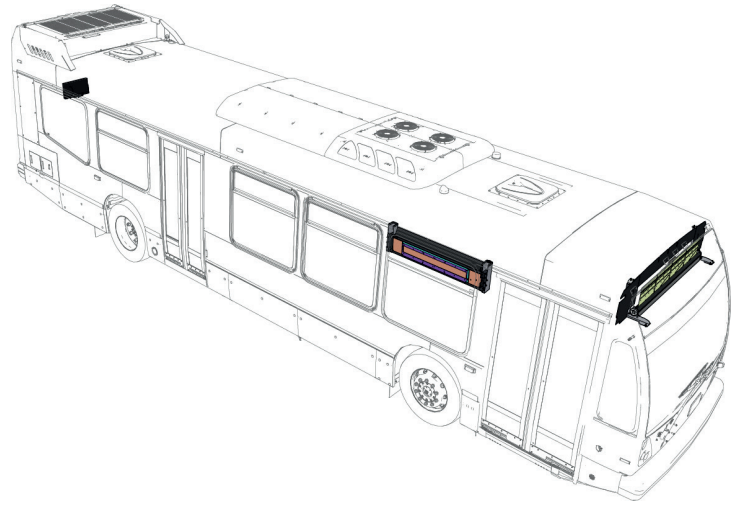
Voltage Input	120 VAC, 15 AC
Dimensions (LxWxH)	80 x 42 x 43 inches 200 x 105 x 108 centimeters
Weight	360 pounds 164 kilos



Training Simulator #
NV-1000-08

Nova Bus Academy

Destination Sign Training Simulator



- Front and side destination signs with the same hardware as in a bus
- Control unit with USB port for destination message download
- Allows students to visualize component function, perform adjustments and practice system testing

Specifications

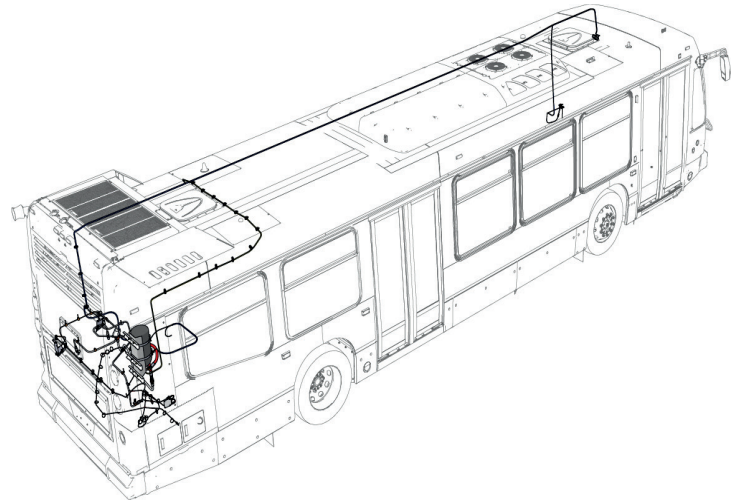
Voltage Input	120 VAC, 15 AC
Dimensions (LxWxH)	72 x 26 x 92 inches 180 x 65 x 180 centimeters
Weight	180 pounds 82 kilos



Training Simulator #
NV-1000-11

Nova Bus Academy

Fire Suppression Training Simulator



- Fire suppression system with the same hardware as in a bus
- Control unit and manual switch
- Allows students to visualize component function, perform adjustments, and practice system testing

Specifications

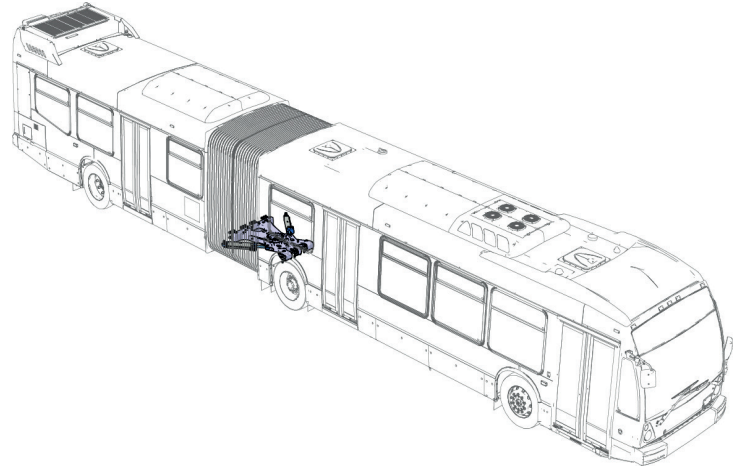
Voltage Input	120 VAC, 15 AC
Dimensions (LxWxH)	72 x 26 x 66 inches 180 x 65 x 165 centimeters
Weight	180 pounds 82 kilos



Training Simulator #
NV-1000-10

Nova Bus Academy

Articulation Training Simulator



- Its main components are the articulation, the control system and the damping system
- An electronic control unit detects the operating conditions, controls driving performance and allows early fault diagnostics
- To use the simulator, remove the top, then plug the power cord into a standard 120V 15A outlet
- Includes fault insertion

Specifications

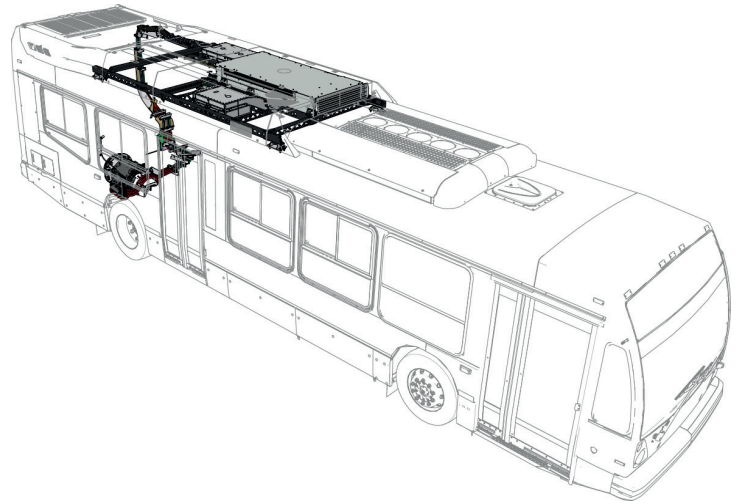
Voltage Input	120 VAC, 15 AC
Dimensions (LxWxH)	32 x 21 x 13 inches 80 x 53 x 33 centimeters
Weight	60 pounds 27 kilos



Training Simulator #
NV-1000-12

Nova Bus Academy

Hybrid Training Simulator



- Allows instructors to demonstrate the operation of a complete hybrid drivetrain
- Shows all EV drive components speed in real time for all modes of operation
- Shows the high voltage safety system that opens a relay, which disconnects the HV battery whenever any access cover is opened
- Demonstrates the operation of both transmission clutches as the bus accelerates and decelerates

Specifications

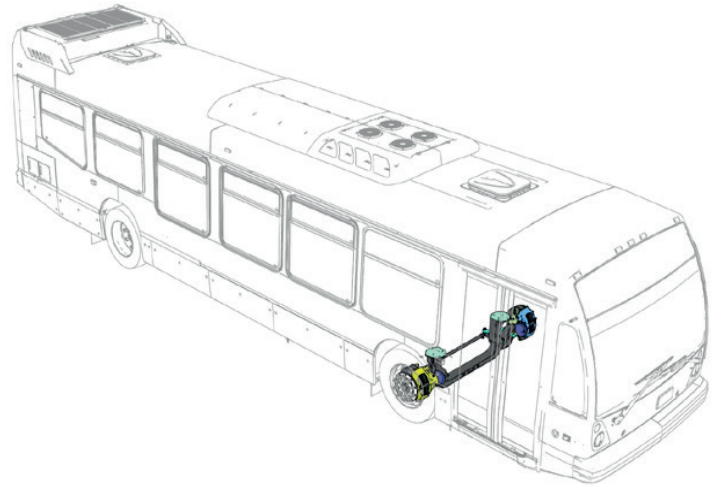
Voltage Input	120 VAC, 15 AC
Dimensions (LxWxH)	50 x 26 x 72 inches 125 x 65 x 180 centimeters
Weight	150 pounds 68 kilos



Training Simulator #
NV-1000-05

Nova Bus Academy

Front Axle Training Simulator



- Front axle including disc brakes
- Allows visualization of components of the front axle
- In addition to the axle system, the trainer provides the possibility to perform disc brake replacement

Specifications

Dimensions (LxWxH)	35 x 106 x 48 inches 94 x 270 x 122 centimeters
Weight	1,537 pounds 697 kilos

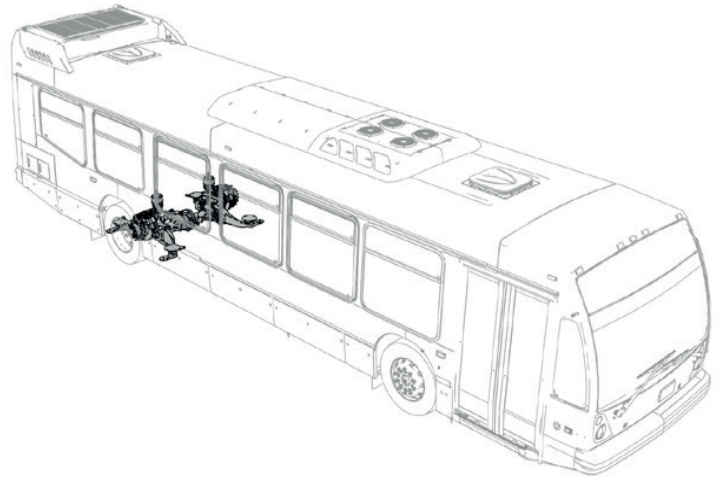
* An optional Brake Control Box is available to apply air pressure and perform brake pad replacement.



Training Simulator #
NV-1000-13A

Nova Bus Academy

Rear Axle Training Simulator



- Rear axle including disc brakes
- Allows visualization of components of the rear axle
- In addition to the axle system, the trainer provides the possibility to perform disc brake replacement



Specifications

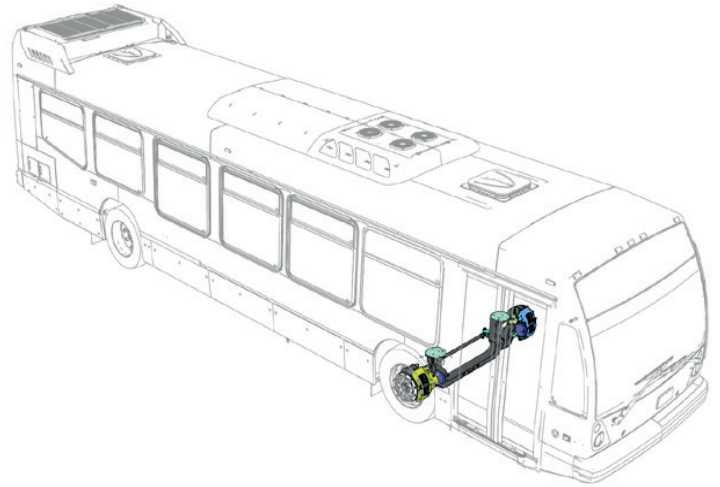
Dimensions (LxWxH)	90 x 70 x 58 inches
	229 x 178 x 147 centimeters
Weight	2,602 pounds
	1,180 kilos

* An optional Brake Control Box is available to apply air pressure and perform brake pad replacement.

Training Simulator #
NV-1000-13C

Nova Bus Academy

Front Caliper Axle Training Simulator



- Front Brake simulator with air chamber
- Uses shop air, the service and parking brakes can be applied
- Brake system can be dismantled, adjusted and the brakes can be measured

Specifications

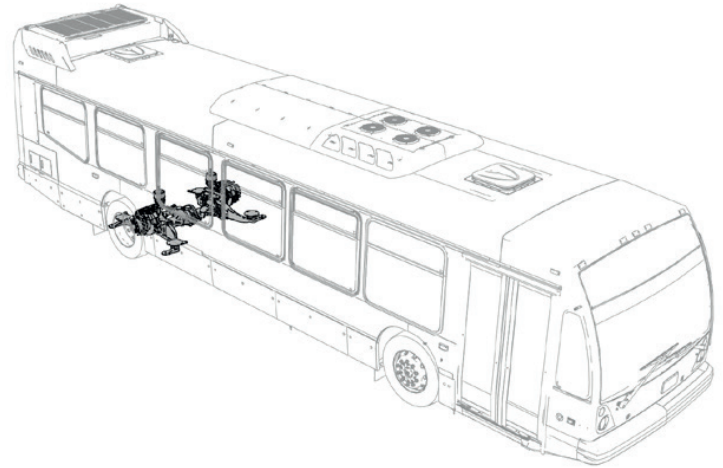
Dimensions (LxWxH)	63 x 32 x 50 inches 160 x 82 x 127 centimeters
Weight	1,053 pounds 478 kilos



Training Simulator #
NV-1000-13B

Nova Bus Academy

Rear Caliper Axle Training Simulator



- Rear Brake simulator with air chamber
- Uses shop air, the service and parking brakes can be applied
- Brake system can be dismantled, adjusted and the brakes can be measured

Specifications

Dimensions (LxWxH)	40 x 68 x 61 inches 101 x 173 x 155 centimeters
Weight	1,802 pounds 817 kilos

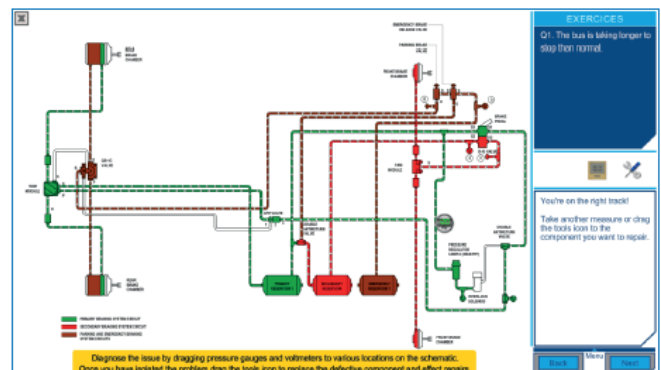
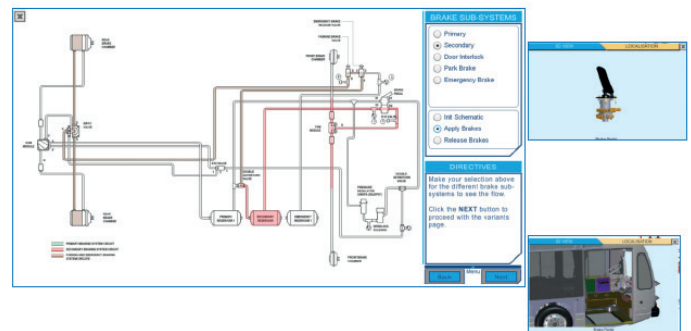


Training Simulator #
NV-1000-13D

Nova Bus Academy

Virtual Pneumatic Training Simulator

- The Virtual Pneumatic Simulator is intended to help mechanics develop troubleshooting skills at their own pace.
- The simulator explains the braking system (Primary, Secondary, Door Interlock, Park, Brake and Emergency). It also provides an animated 3D view of all the major components and their location in the bus.
- Troubleshooting scenarios are pre-programmed to have mechanics identify the source of potential problems. The virtual model also makes the tool easily accessible without having to handle large mock ups.



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