

# Parker Hannifin Corporation



ENGINEERING YOUR SUCCESS.

April 12, 2010

# Rail



# Rail Applications

Pantograph Systems



Cab Door Control



External Door Operation



Body Tilting Systems



Passenger Step Control

Brake Control



Traction Control

# Rail Applications

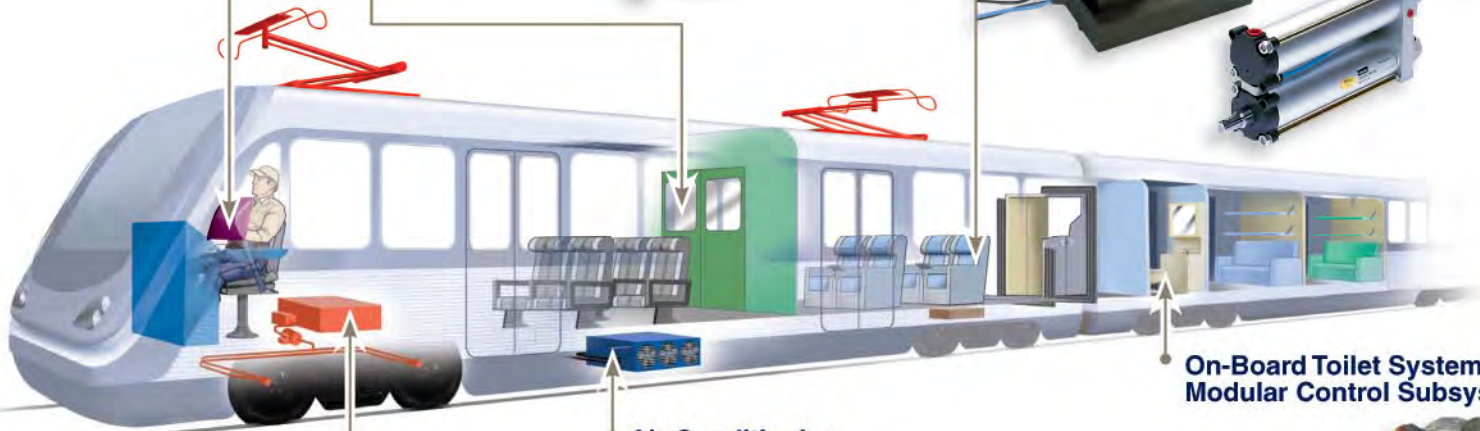
Retractable Mirrors



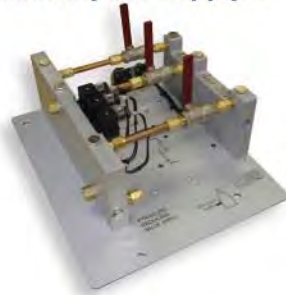
Automatic Interconnecting and Internal Doors



Seat Controls



Auxiliary Air Supply



Air-Conditioning



On-Board Toilet Systems  
Modular Control Subsystems

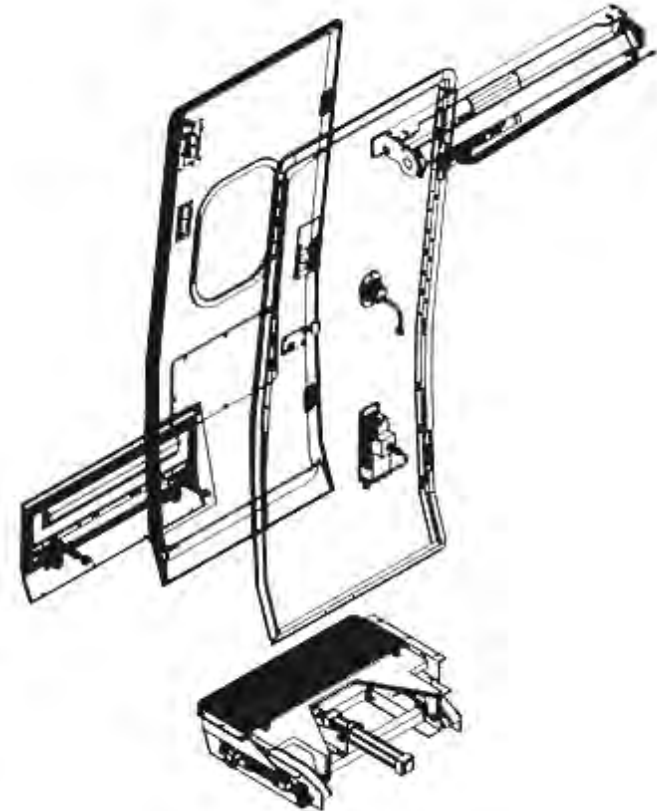


# Rail - Doors

- TGV internal door control systems
- Specially designed door actuators.
  - *Extended cushion for smooth closing*
  - *Easy accessible cushion adjustment*
  - *Pneumatic or Electromechanical*
- Modular Door control systems
  - *space saving*
  - *reducing air leak paths.*
- *Obstacle Detection provided*
  - *providing passenger safety*
- Supplied fully assembled and tested
  - *simplified installation*



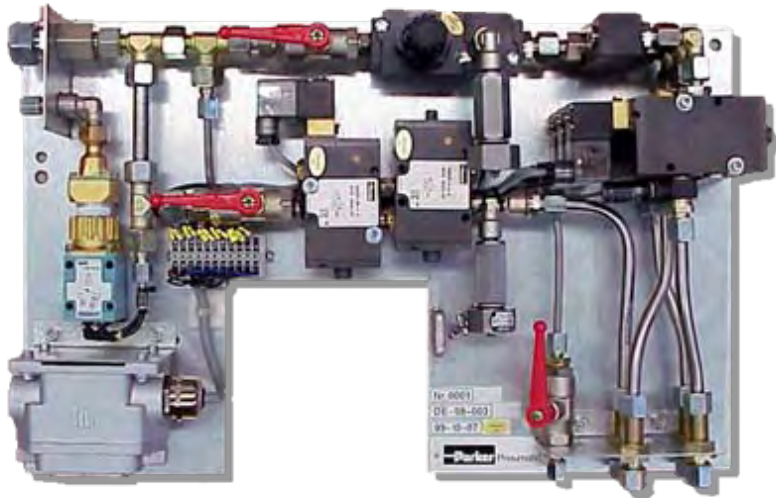
# Rail - External Door Steps



# Rail Vehicle Coupling

Rail Vehicle coupling systems

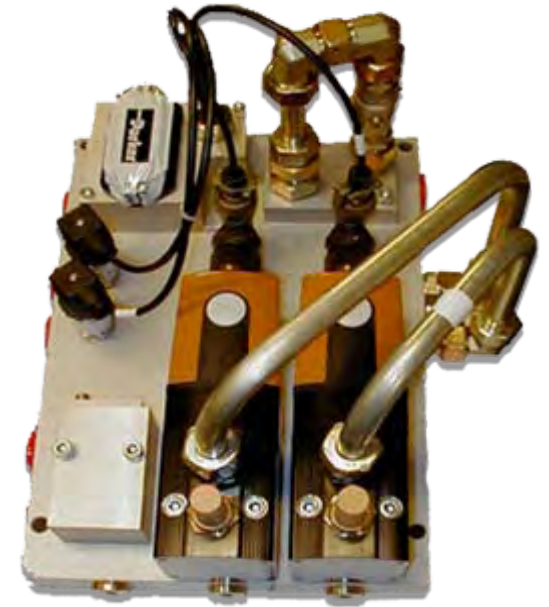
- Actuation
- Modular control systems



# Rail - Active Lateral Suspension



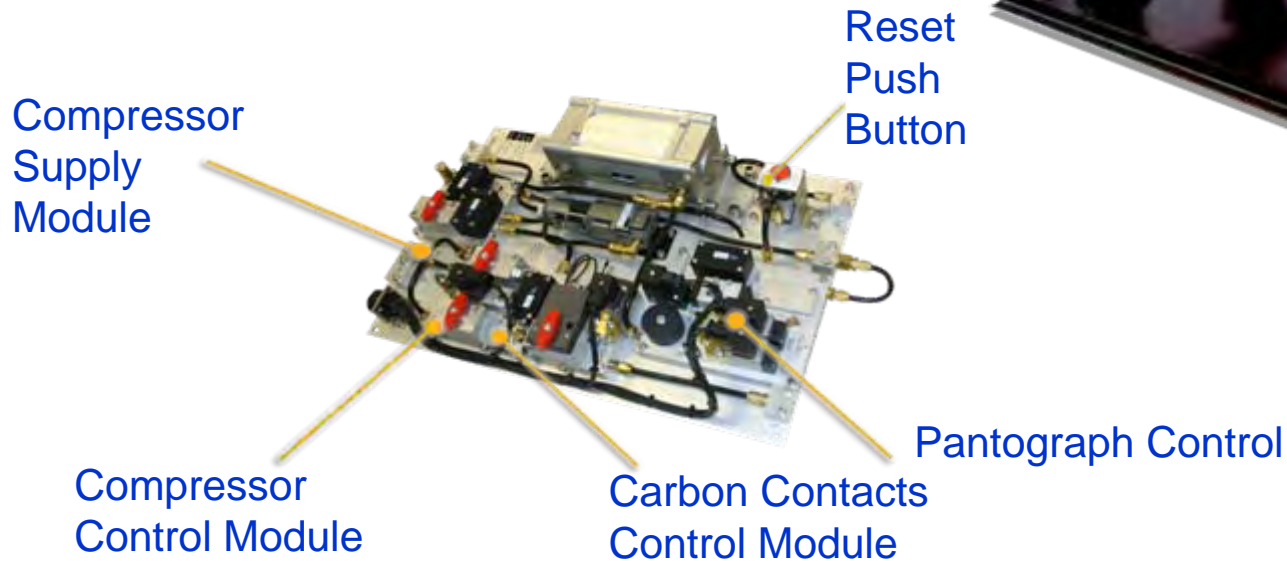
- Electro-pneumatic Pressure Regulator





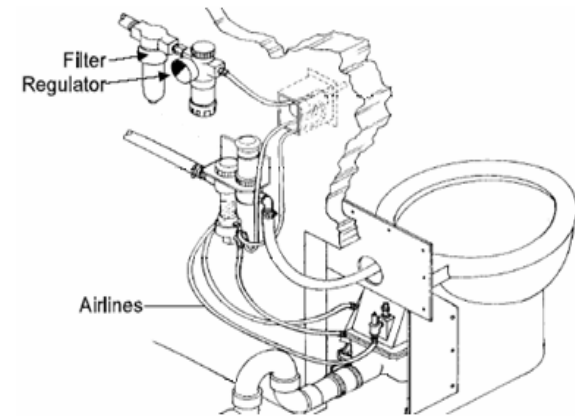
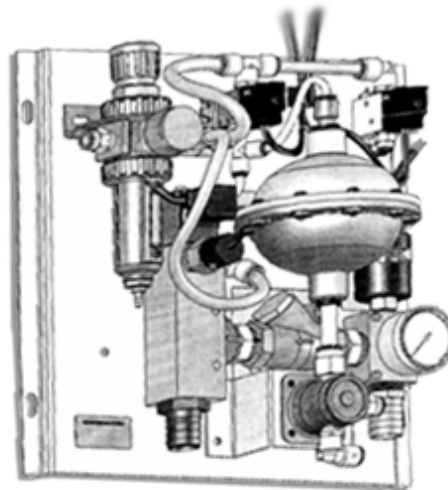
# Rail – Pantograph Control Systems

- Pneumatic and Electromechanical Actuation
- Pre-assembled Control system



# Rail – Sanitation Systems

- Vacuum
- Controls
- Air Preparation
- Pre-assembled control systems



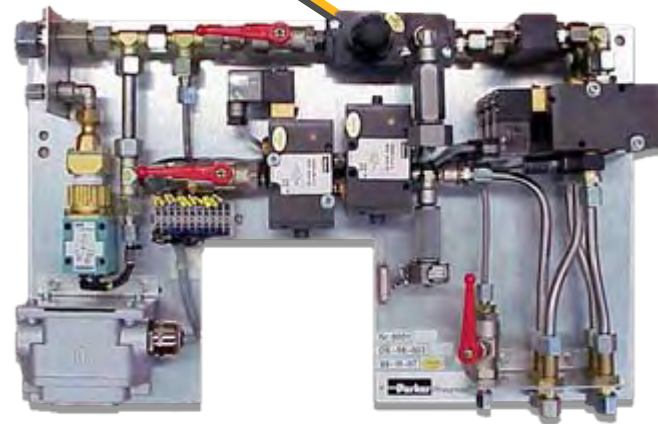
# Ancillary Control Systems



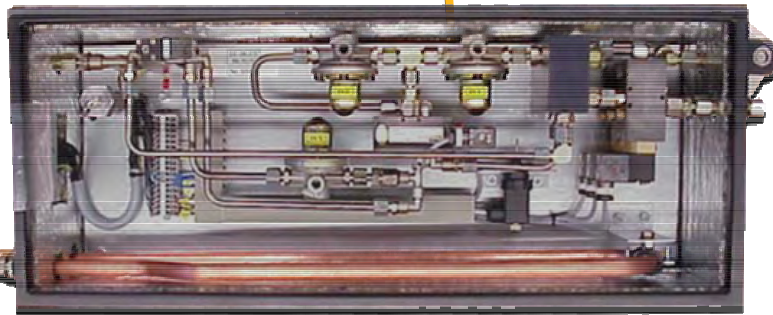
Horn Control Panel



Mirror Controls  
Wiper Controls



Sanding and Coupling control Panel



Engine retarder control cabinet

# Inverters for Light Rail Vehicles (LRVs)

*- Traction Control*

## STAINLESS STEEL ENCLOSURES

rooftop mounting – water tight





# Thank You

**ENGINEERING YOUR SUCCESS.**

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