The making of a **Brightline train**

@ the Siemens Mobility Sacramento Manufacturing Plant



Sub-Assembly

- Determine subcomponents and place order
- Subcomponents include electrical, engines, windows and seats
- Major subcomponents assembled by Siemens Mobility in house

Locomotive Weld Assembly Shop

- Locomotive structure is made of high strength carbon steel
- walls, and end walls are fabricated and assembled in this shop • Includes the fuel tank
- the locomotive • Includes Crash Energy Management (CEM)

- Floor structure, side
 - that is integrated into

system on cab end

Coach Carshell Weld & Fabrication **Assembly Shop**

- Coach carbody structure is made of high strength stainless steel
- Floor structure, side walls, and end walls are fabricated and assembled in this shop
- Stainless outer skin is welded to the wall structure with welding robot

Finishing /Blast/ Paint and Passivation (Coach and Loco)

- After welding assembly is complete, carshell must be prepared for primer and paint
- Blasting and passivation process cleans up the metal
- Paint booths are clean, temperature controlled rooms controlled for paint and primer application

Flooring, Exterior Doors, HVAC units, and Windows

- Carbody side windows are dual pane glass made from FRA-certified safety glass
- Exterior doors are plug doors that seal to the carbody
- Each car has 2 rooftop **HVAC Units**



Water Testing

 Cars with installed windows, doors and HVAC units are run through a water test booth where pressurized water jets spray the entire car to ensure water tightness before the interior components are installed

Locomotive Final Assembly Shop

- Major subcomponents installed on each locomotive:
- Brake racks, main engine, alternator and air compressor
- Undercar equipment, like trucks and wheels, also installed

Locomotive **Static Testing**

- Headlight, horn and bell testing
- Fire up the main engines and perform load testing Brake system and air
- compressor testing

Coach Car Final Assembly Shop

- Major subcomponents installed on each car:
- HVAC units, exterior doors, undercar equipment, lavatory, seating
- Luggage racks, floor covering and wall panels
- Floor panels are phenolic panels adhered to the . carbody for a high strength, light weight, durable and fire resistant floor

Coach Car Static Testing

• Car gets powered up and all electrical component functionality is checked Test doors, outlets, displays, lavatory, audio system and lighting



Trainset Ships Trainsets are moved 2,500 miles cross country

7*іі*