Locomotive Collision Test #1
Inline Collision of a Freight Locomotive with a Stationary Hopper Consist

Test #1: Set-Up

3 Loaded Hopper cars

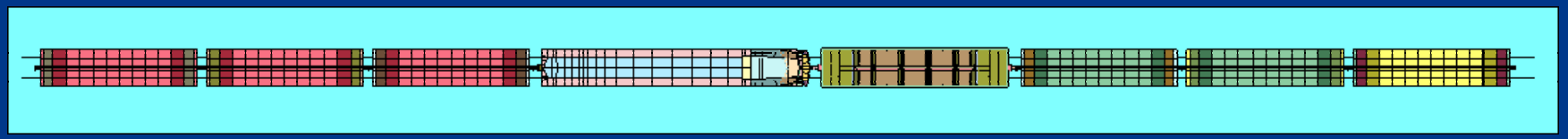
Test Locomotive (SD-45, front end converted to SD-70)

~30 Loaded Hopper Cars

Collision Speed - 30 mph

Bullet Consist

Target Consist



50 mph

Stationary

Test #1: Pre-Test Photos

Bullet locomotive and trailing hopper cars

Stationary hopper car

Test #1: Post Test Photos

Position of locomotive following collision test

View of locomotive front end buried in hopper car debris

Test #1: Post Test Photos

Extensive damage to end plate and draft gear pocket

Test #1: Outcome

- What did we learn from this test?
  - Even at low speeds (~30 mph), the locomotive can override stationary vehicles
  - Anticlimber and collision posts did not directly affect the outcome of this collision
  - End plate and draft gear pocket formed a ramp that allowed the locomotive to ride up on top of the comparatively weaker hopper structure
  - Hopper body provided no resistance to locomotive override