

FLATCAR SPECIFICATIONS & DETAILS

Car ID	Length (ft)	Tare Weight (lbs)	Water Tank (gal)	Self Propulsion	ML 510 Boom
5070-A	50	47000	600	yes	yes
5071-D	50	45900	600	yes	yes
5072-B	40	42750	600	yes	yes
5073-H	40	43550	600	yes	yes
5074-J	40	55000	300	yes	yes
5075-F	40	43650	600	yes	yes
5076-E	50	46700	600	yes	yes
5077-K	40	42000	600	yes	yes
5078-G	40	43600	600	yes	yes
5079-L	40	42450	600	yes	no
5080-I	40	43650	600	yes	yes



Pictured: NRVE 5078-G 40 ft flatcar

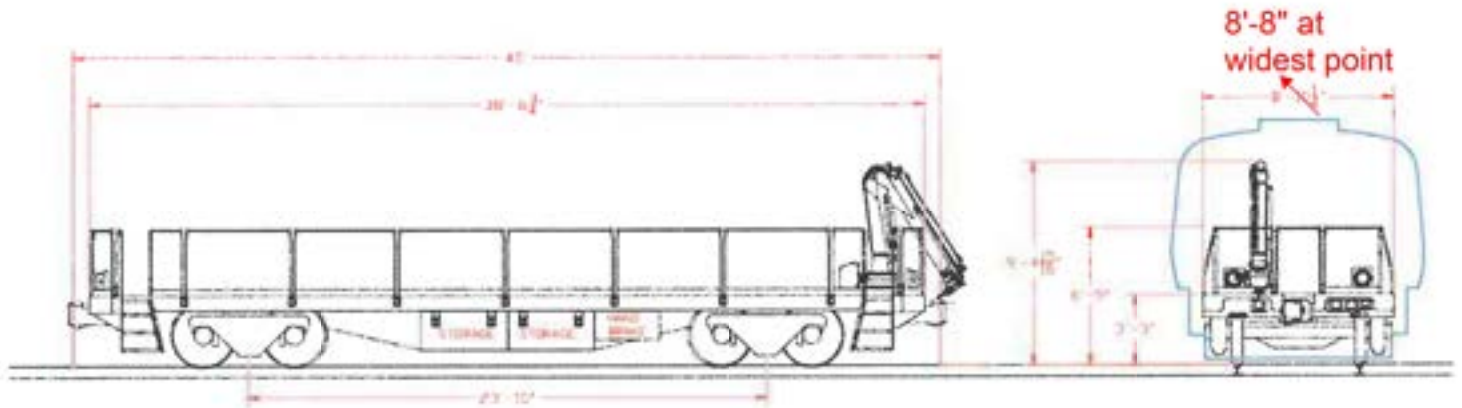


Figure 2.1.1: Overall external dimension of 40 ft. Car

Table 2.1.1: General 40 ft. Car dimensions

Length(coupler to coupler)	40'-0"
Length of Deck	38'-6 3/4"
Overall Height(including crane)	9'-4 15/16"
Coupler Height	34 1/2" → 31 1/2"
Height to Deck	39"
Crane Height	70 1/2"

2.2 Deck

- Flat cars will utilize steps on both sides of the car, including handrails
- Top of deck will be 39 ±1/2 inches above the plane created by the tops of the two running rails
- Steel deck with anti-skid surface
- The entire deck of the car will be open, flush and available for loading material without any obstructions



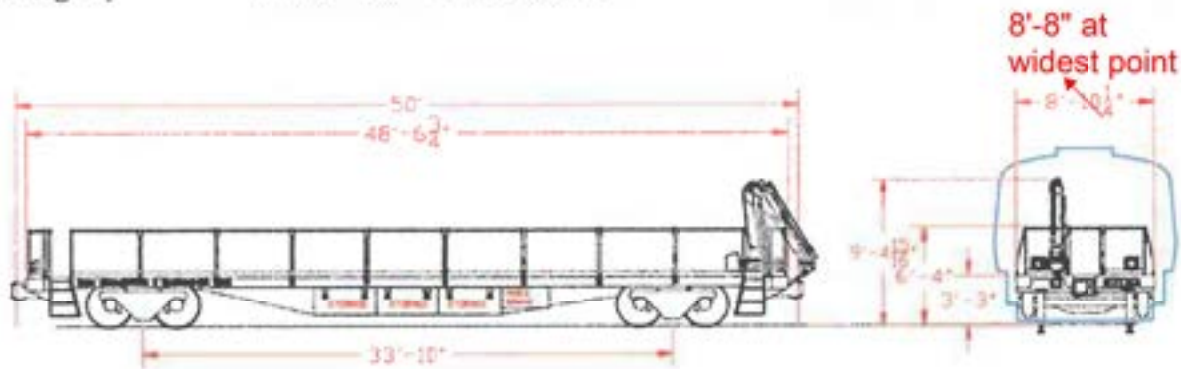


Figure 2.1.1: Overall external dimension of 50 ft. car

Table 2.1.1: General 50 ft. Car dimensions

Length(coupler to coupler)	50'-0"
Length of Deck	48'-6 3/4"
Overall Height(including crane)	9'-4 15/16"
Coupler Height	34 1/2" → 31 1/2"
Height to Deck	39"
Crane Height	70 1/2"

2.2 Deck

- Flat cars will utilize steps on both sides of the car, including handrails
- Top of deck will be 39 ±1/2 inches above the plane created by the tops of the two running rails
- Steel deck with anti-skid surface
- The entire deck of the car will be open, flush and available for loading material without any obstructions
- Hand rails provided around perimeter of work decks
 - Removable
 - Will not exceed 50 lbs.
 - Fold down
 - 42 inches tall with indeterminate rails and minimum 3.5 inch toe boards
 - Hand rails will be identical and interchangeable, excluding the end sections



- Removable
- Will not exceed 50 lbs.
- Fold down
- 42 inches tall with indeterminate rails and minimum 3.5 inch toe boards
- Hand rails will be identical and interchangeable, excluding the end sections
- Deck will be equipped to use standard ratchet tie downs with flat hooks
 - Ties down points will be located on the sides of the deck and every 4 ft. across the deck as shown in Figure 2.2.1.

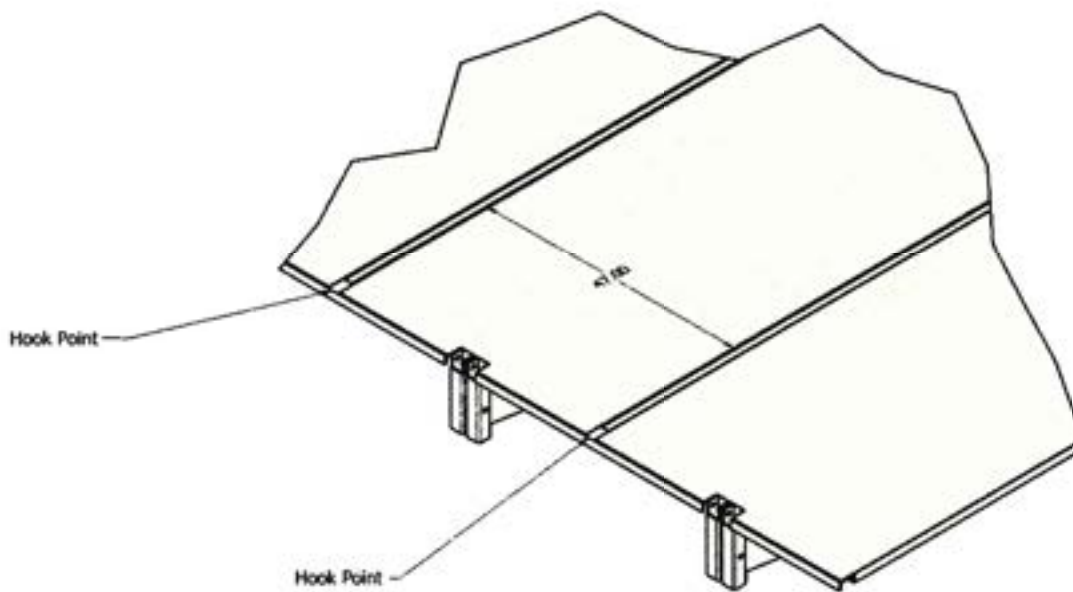


Figure 2.2.1: Tie Down Point configuration

2.3 Brakes

2.3.1 Hand brake

- AAR compatible
- Ratcheting type for parking
- Located on side of car below deck, at opposite corners to allow access from non-third rail side locations

2.3.2 WABCO ABD or ABDX brake system

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2.3.2 WABCO ABD or ABDX brake system

- AAR compatible
- Body mounted
- Air pressure to charge air tanks
- Full air pressure signals release of brakes
- Reduction in air pressure applies the brakes
- Quick disconnect located on each end of flat car
- Air brake valve
- Emergency reservoir
- Pipes and hoses connections

2.4 Wheels, Axles, Frame and Suspension

- All trucks have standard AAR side frames with special bolsters to provide for 66 inch wide track gauge
- AAR switcher trucks configured for 66 inch wide track gauge
- Standard AAR type E couplers and draft gears provided on each end of flat car, mounted at track centerline
31 1/2" ← ~~34.5~~ inches above the rail
- Flat car truck centers set at 23' – 10" from each other
- Maximum static axle load is 33,000 lbs.
- Rail/Wheel Shunting
 - Flat car axle and wheel sets will comply with BART Maintenance and Engineering (M&E) as referred to in Attachment C (Positive Shunting Procedure)
 - Positive track shunting is done through solid steel wheels and axles of less than 3 milliohms

2.5 Paint and Lettering

- Painted with high quality Polyurethane base, clear finishes, and standard equipment orange in color (subject to approval by district)
- High quality decals and stenciling with at least 2 coats of gloss enamel finish
 - Black lettering
- Vehicle numbers applied to both sides and both ends of each unit



- Includes gross weight of each unit
- 4 to 5 digit unit number per customer specifications
- Manufacturer's standard builder's plate applied

2.6 Electrical

- 27 pin MU passes through consist allowing multiple unit/remote control from one locomotive.
- MU dummy acts as a storage for MU cables when work cars are separated.
- AC plug allows APU to power lights and hydraulic systems when outside of the tunnel.
- AC plug to double as power cable inside the tunnel.
- Figure 2.6.1 shows the location of electrical connections are located at on the cars

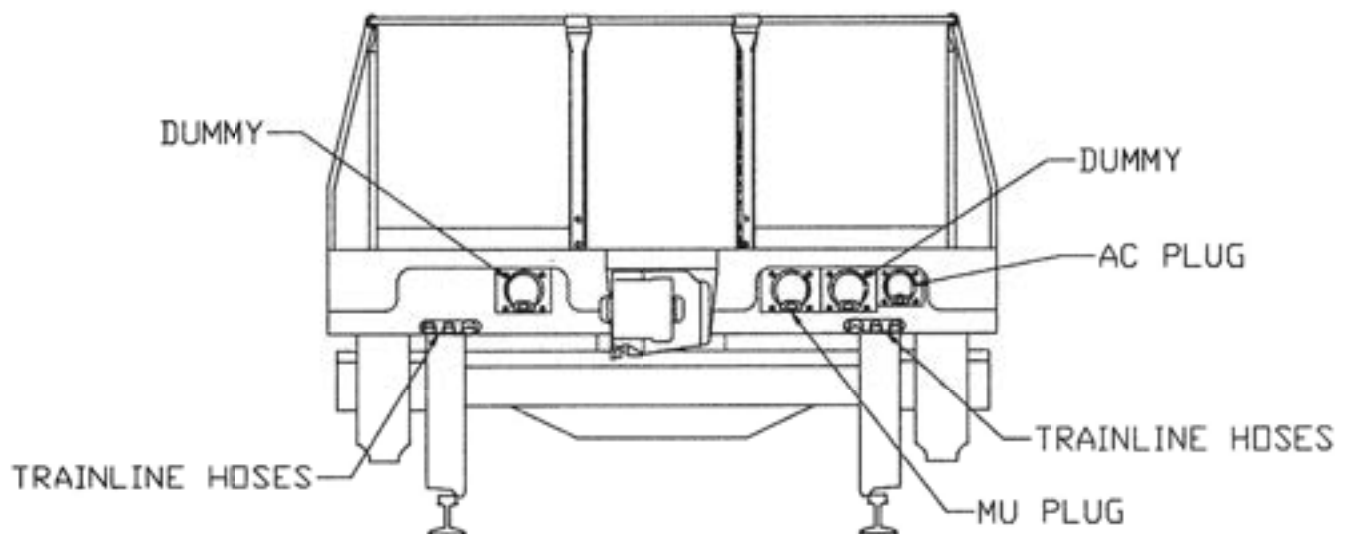


Figure 2.6.1: Electrical Configuration

2.6.1 Exterior Lighting

- Headlights and Taillights
 - HID (High Intensity Discharge) lights will be installed
 - Correspond with direction of travel
- Safety lights
 - Step lights will be provided
 - Storage compartment will be illuminated

- Work lights
 - Built in pockets on all corners for client supplied work lights
 - Storage for customer supplied work lights

2.7 Special Features

2.7.1 Storage compartment

- lock hasp
- Storage compartment will be illuminated.

2.7.2 Self-propelled feature

- Hydraulic driven system
- Operated by mechanical hydraulic valve for safety
- Max speed of 3 mph

2.7.3 Maxilift 510L.4 Telescopic Boom Crane

- Crane rating – 6,210 lbs.
- Slewing angle - 330°
- Maximum angle slope - 5°
- Slewing torque – 5900 ft. lbs.
- Maximum working pressure – 3335 P.S.I.
- Crane weight – 1245 lbs.
- www.maxliftcrane.com for more info.

2.7.4 Hydraulic System

- Valves
 - Mechanical and or electrical over hydraulic controls
 - 5 Section control valve that controls crane, outriggers and self-propelled unit.
- Pump
 - Gear type 3000 psi system
- Hydraulic reservoir
 - 20 Gallon
 - Return filters

2.7.5 Water Tank

- Located Under Deck of Car
- 500 gallon
- 20 Gallon/minute pumping capabilities
- 1" Camlock located on both sides of car



ADDITIONAL INFORMATION



Pictured: Standard flatcar operation control panel



Pictured: Standard water pump/tank & hydraulic system



Pictured: Black Bruin hydraulic powerdrive motor for flatcar self-propulsion

PLATE HANDLING DEVICE DETAILS

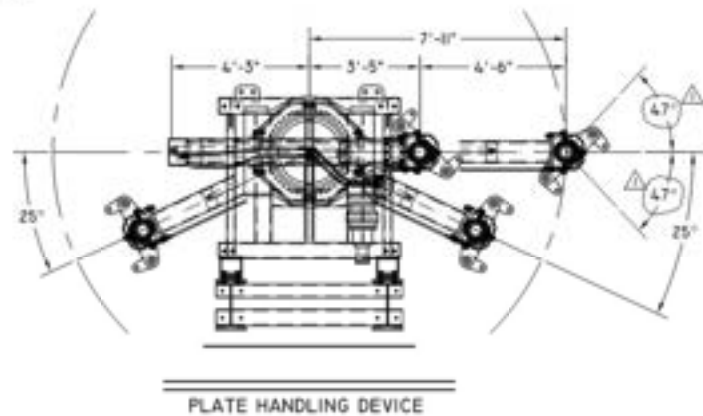
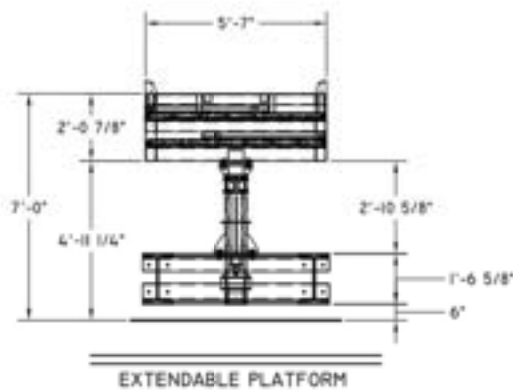
ID#: NRVE 5083-C

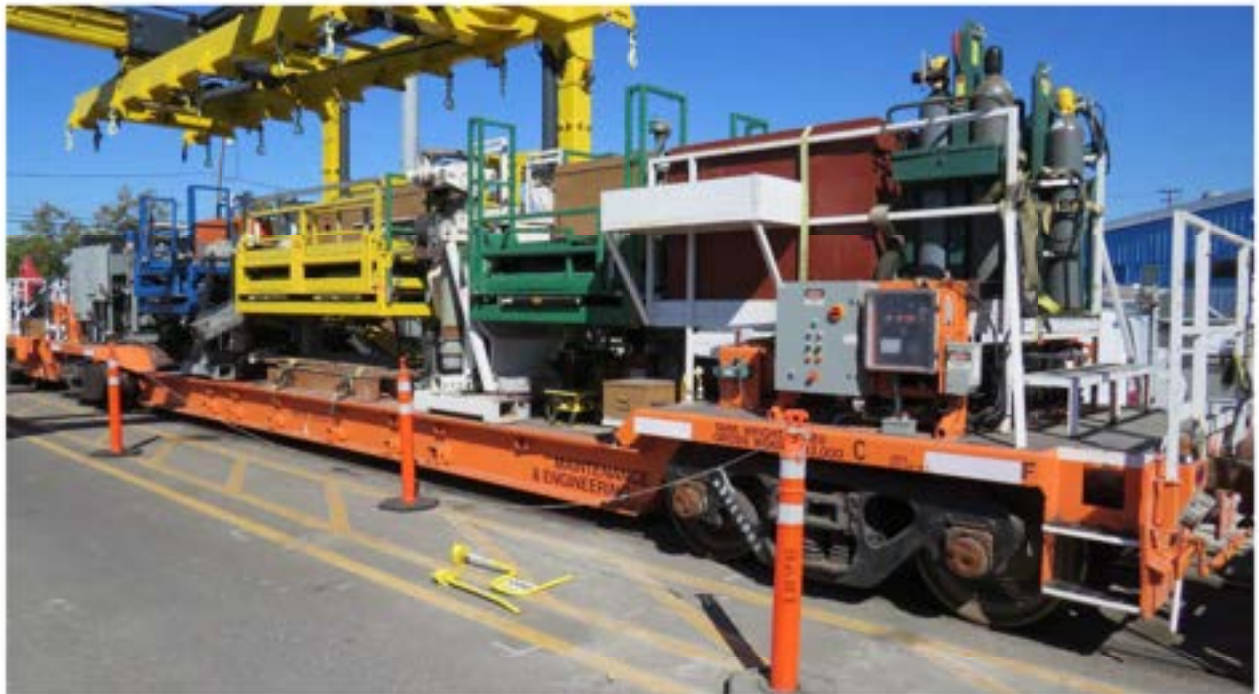
LENGTH – 55 ft

TARE WEIGHT – 88,000 lbs

FEATURES:

- **BLACK BRUIN POWERDRIVE (SELF-PROPULSION)**
- **2EA. TELESCOPING BOOMS**
- **BOOMS ARTICULATE 230°**
- **BOOM TIPS ARTICULATE 94°**
- **STOWABLE WORK PLATFORMS THAT EXTEND OUTWARD AND CAN BE ELEVATED**





CONCRETE MIXER CAR DETAILS (2EA.)

ID#: NRVE 5081-M & NRVE 5082-N

LENGTH – 41 ft

TARE WEIGHT – 55,000 lbs

CEMENT HOPPER CAPACITY – APPROX. 7 CUBIC YARDS

WATER TANK – 500 gal

BLACK BRUIN POWERDRIVE (SELF-PROPULSION)

