



LIGHT RAIL VEHICLE (LRV)
FLEET

DATA SHEET



GENERAL INFORMATION

GENERAL INFORMATION	
Manufacturer	Kawasaki Heavy Industries
Build/Delivery Year(s)	1980-1981
Number of Single-End Cars in Revenue Service	112
Number of Double-End Cars in Revenue Service	29
Number of Cars in Non-Revenue Service	0
Fleet Series Number	Single-End: 9000-9111
	Double-End: 100-128
Maximum Number of Cars in a Train	2
Maximum Passenger Capacity Per Car	Seated (Single-End): 51
	Fully Loaded (Single-End): 101 (from spec)
	Seated (Double-End): 50
	Fully Loaded (Double-End): 100 (from spec)
Line Length	
Tunnel (13th St to 40th St)	2.5 miles
10	5.9 miles
11	7.7 miles
13	6.15 miles
34	4.95 miles
36	7.1 miles
Route 101 (Media)	8.6 miles
Route 102 (Sharon Hill)	5.2 miles
Minimum Radius on Horizontal Curve	420" (35')
Average Miles/Year/Vehicle	Single-End: 23,412 miles
	Double-End: 18,210 miles

PHYSICAL DATA - DIMENSIONS	INCHES	FEET
Length Over Anti-Climbers of One Car	Single-End: 600"	50'
	Double-End: 636"	53'
Length Over Couplers of One Car	Single-End: 698.4"	58' 2.4"
	Double-End: 660"	55'
Maximum Width of Car	Single-End: 102"	8' 6"
	Double-End: 106"	8' 10"

Overall Height of Car from Top of Rail	130.5"	10' 10.5"
Distance Between Truck Centers	Single-End: 300"	25'
	Double-End: 330"	27.5'
Truck Wheelbase	74.75"	6' 2.75"
Track Gauge	62.25"	5' 2.25"
Distance Between Top of Rail and Center of Coupler/Drawbar	17" ± 0.5"	1' 5 ± 0.5"
Distance Between Top of Rail and Top of Anti-Climber	Single-End: 32.9"	2' 8.9"
	Double-End: 35"	2' 11"
Wheel Diameter	Single-End Minimum: 24"	2'
	Single-End New Wheel Diameter: 27"	2' 3"
	Double-End Minimum: 24"	2'
	Double-End New Wheel Diameter: 26"	2' 2"

PHYSICAL DATA – WEIGHTS	
Weight of Single-End Car at AW-0 (Empty)	57,881 lbs
Weight of Double-End Car at AW-0 (Empty)	60,042 lbs
Weight of Single-End Car at AW-3 (Crush)	72,872 lbs
Weight of Double-End Car at AW-3 (Crush)	75,033 lbs
Weight of Truck	10,500 lbs

TECHNICAL DATA

Propulsion System

LRV receives catenary power, it is equipped with four DC Series 100 hp Motors, with electric chopper control

PROPULSION SYSTEM	
Maximum Tractive Effort	3100 lbs
Maximum Acceleration Rate	3.0 mph/s
Maximum Speed (Service)	51 mph
Maximum Speed (Delivered Design)	Single-End Car: 47 mph
	Double-End Car: 50 mph
Traction Motor HP	100 hp

Traction Motor Voltage	600 VDC
Traction Motor Current	125 A
Maximum Regenerated Voltage	725 VDC
Gear Unit Ratio	Single-End: 8.307:1
	Double-End: 5.784:1

Braking Systems

LRV braking action is actuated via the four listed braking systems below:

- Dynamic braking
- Magnetic track braking
- Applied friction braking on each truck axle
- Spring paralleled park braking

BRAKING RATES	
Full Service	Single-End: -4.0 mph/s
	Double-End: -3.5 mph/s
Emergency	Single-End: -5.37 mph/s (minimum)
	Double-End: -6.47 mph/s (minimum)

Door System

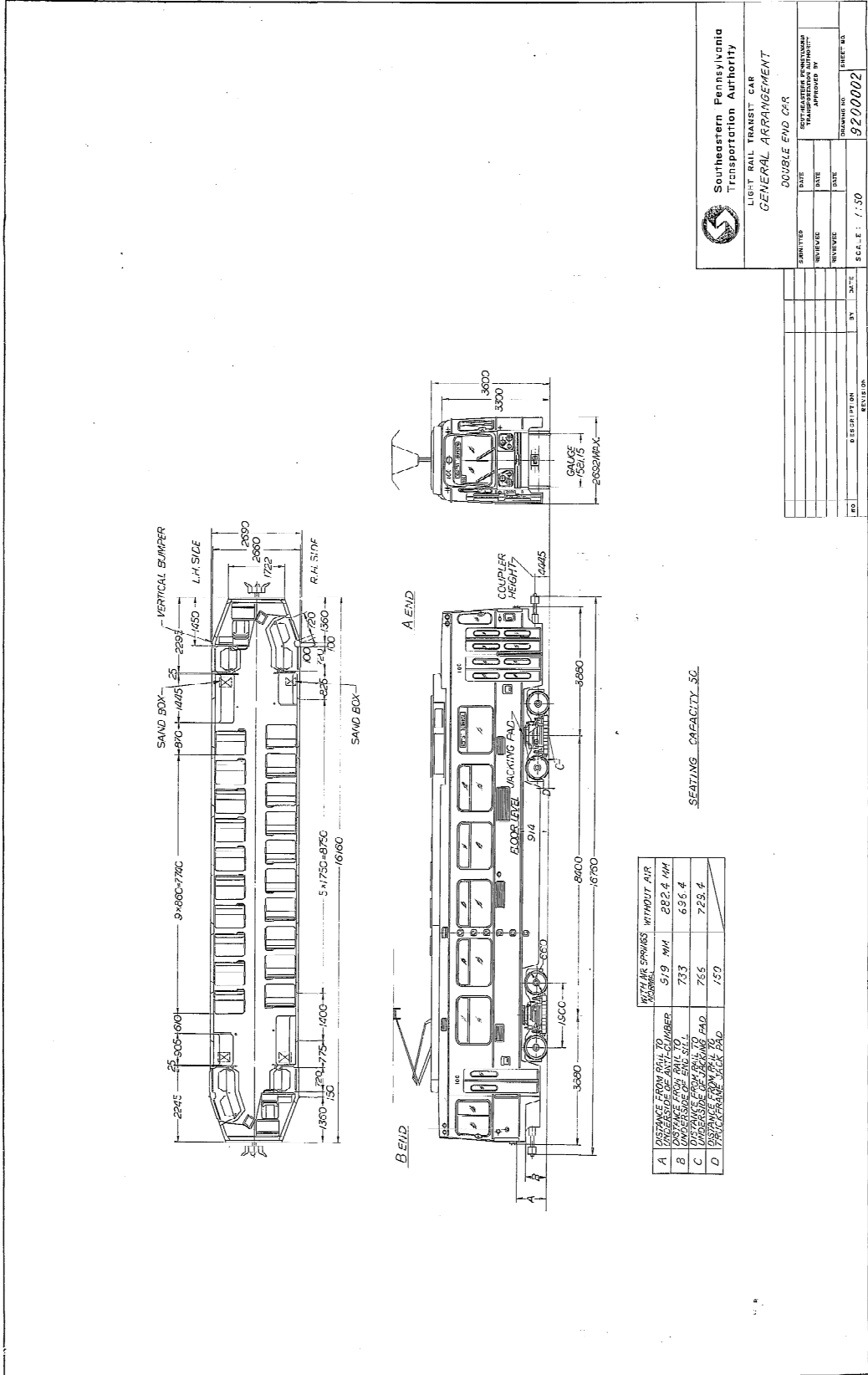
DOOR SYSTEM SPECIFICATIONS	
Open Time	2.5 ± 0.5 s
Close Time	3.5 ± 0.5 s
Maximum Force	N/A
Minimum Size of a Detected Obstacle	1/8" x 1" No Recycle 1" x 1" Must Recycle
Door Sensitivity Type	Single-End: Sensitive Edge on Center Doors Double-End: Sensitive Edge on All Doors
Recycle	Single-End: Center Doors: Yes Front Doors: No
	Double-End: All Doors Yes

Differences between Cars

DIFFERENCES BETWEEN SINGLE-END CAR & DOUBLE-END CAR	
SINGLE-END	DOUBLE-END
1 Cab	2 Cabs
Trolley Pole	Pantograph
Resilient Wheel with Tapered Profile	Solid Wheel with Cylindrical Profile
Fiberglass Seating	Upholstered Seating
4 Doors	6 Doors
Emergency Egress Window	N/A

PASSENGER AMENITIES

- Public Address System with interior speakers
- Destination sign and corresponding voice annunciation on both exterior and interior
- Interior fluorescent lighting
- Video Surveillance System with 8 cameras per SE car and 12 cameras per DE car
- Not Wheelchair Accessible



LRV General Arrangement Double-End Car

Southeastern Pennsylvania Transportation Authority

LOGO

LIGHT RAIL TRANSIT CAR
GENERAL ARRANGEMENT
DOUBLE END CAR

DATE	DATE	DATE	DATE
REVISION	REVISION	REVISION	REVISION
BY	BY	BY	BY
DATE	DATE	DATE	DATE

SCALE: 1:30

PROJECT NO: 920002

SHEET NO:

LIST OF RELEVANT DRAWINGS

TITLE	SEPTA/OEM	DRAWING NO.
General Arrangement Single-End	SEPTA	<i>9100001</i>
General Arrangement Double-End	SEPTA	<i>9200002</i>
Seating Arrangement Single-End	SEPTA	<i>SK-254</i>
Subway Clearance Layout	SEPTA	<i>D-4185</i>
SE Car Clearance Layout	SEPTA	<i>SK-358-2</i>
Truck Assembly for S.E. Car	SEPTA	<i>9180010</i>
Truck Assembly for D.E. Car	SEPTA	<i>9280011</i>
Wheel Tread Profile & Wheel Hub Rough Bore Diameter (SE)	SEPTA	<i>B-2852</i>
Solid Wrought Steel Wheel Profile (DE)	SEPTA	<i>B-0753</i>
Brake Rate Testing ECN	SEPTA	<i>ECN-3627</i>