

GENERAL INFORMATION AND IDENTIFICATION

4000 Horsepower Six Motor AC Traction Diesel-Electric locomotive.

4000 Traction HP
Controlled Locomotive
SD70MACE
KCS 3900 - 3974

Locomotive Model Designation

New Road Numbers (Formerly TFM 1600 - 1674)

TYPE

AAR designation (C-C), Common designation (0660)

NOMINAL DIMENSIONS

Length, pulling face of Coupler to Truck Center of Rotation	11'-10"
Distance between Truck Rotation Centers	50'-4"
Truck wheel base	13'-8"
Length over coupler pulling faces	74'-0"
Width over handrail supports	10'-3 3/4"
Track gauge - Standard	4'8 1/2"
Diameter Wheels - New	42"

TRUCKS

HTC-R Radial Trucks

WEIGHTS AND SUPPLIES

Total loaded weight (approximate)	415,000# +/-5,000# Based on inbound core
Fuel (usable)	4,890 gal.
Sand (total, front and rear)	56 cu. ft. (28 cu. ft. at each end)
Cooling System	276 gal.
Lubricating Oil	436 gal.

CLEARANCES

The basic locomotive and all options are in compliance with AAR Plate "L" under all loading conditions and wheel sizes. The locomotive also in compliance with AAR Plate "M" with the dynamic brake grid hatch that was raised during the MELCO conversion.

CURVE NEGOTIATION

Single unit	213' Radius - 26.9 deg Curve
Two SD70MACE units coupled	256' Radius - 22.4 deg Curve
Single unit coupled with 50 ft. box car	373' Radius - 15.4 deg. Curve

PERFORMANCE

Temperature Range	-40 to + 115 F
Gear Ratio	85:16
Maximum Operating Speed	70 MPH
Maximum Speed at Full Horsepower	70 MPH

Continuous Tractive Effort at Full Horsepower

137,000 lbs. TE @ 9.2 mph

Starting Tractive Effort
Peak Dynamic Brake Effort

175,500 lbs. TE
81,000 lbs.

HORSEPOWER RATING

The SD70MACE locomotive develops 4000 traction horsepower at 904 RPM under AAR conditions.

Engine
Emissions
Alternator
Engine / Locomotive Control Systems
Traction Control System

16 cylinder 710 G3B
Tier 1+
TA17 -6JBE-CA7B
EMDEC, EM2000
MELCO IGBT

LOCOMOTIVE OPTIONS AND MODIFICATIONS

Automatic Equipment Start Stop System

Equipped

Graham White 944 Air Dryer

Equipped

Air Brake System Hardware and Software

Knorr CCB 2

Distributed Power

Equipped

Gen 3 Fire Screens

Equipped

Control Systems
EM2000
EMDEC

Railhead DVR system with 1 forward facing camera and 2 interior cameras.

Global Positioning System (GPS)

GPS Greenwich Mean Time is available on all cab electronics interfaces. GPS time will be written to the event recorder every hour as a universal reference for analysis of event recorder logs.

Weight and Ballast

Nominal loaded weight of the inbound core locomotives, including full supplies is 415,000# +/-5,000# .

Manufacturing tolerance plus or minus 5,000 lbs. Locomotive weight to be equalized between trucks to within 5,000 lbs.

Clearance

The basic locomotive and all options are in compliance with AAR Plate "L" under all loading conditions and wheel sizes.

Parking Brake

Recessed wheel type handbrake located at right rear of long hood. 125 lbs. of force is required to set the hand brake.

FUEL SYSTEM

Fuel Tank

Units to be equipped with impact resistant fuel tank. Fuel tank provides 4,890 gallon capacity, with 100 gallon retention tank. Engine water drain will not be discharged into the retention tank.

One filler pipe located on each corner of tank.

Two float type fill gauges are provided, one per side of the locomotive.

Four Snyder II automatic fuel adapter applied - two per side.

The two inch drain line from the locomotive retention tank to be equipped with McMasters Carr part no. 5589K15 "D" coupler and part no. 5594K15 dust plug.

Electronic Fuel Gauge

Complete application of the existing Pulse Electronic Fuel Gauge shall be retained.