DE30AC

Operation Manual

Second Edition

Long Island Rail Road

Road Numbers 400 Thru 422

ELECTRO-MOTIVE

Electro-Motive DE30AC

LOCOMOTIVE OPERATOR'S MANUAL

Long Island Rail Road

Locomotive Numbers 400 thru 422

Second Edition, November 1998

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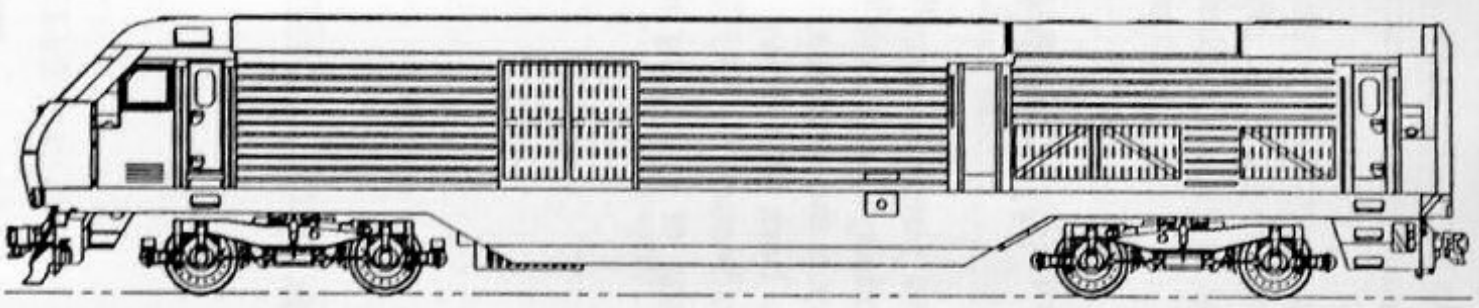

TYPICAL DE30AC LOCOMOTIVE

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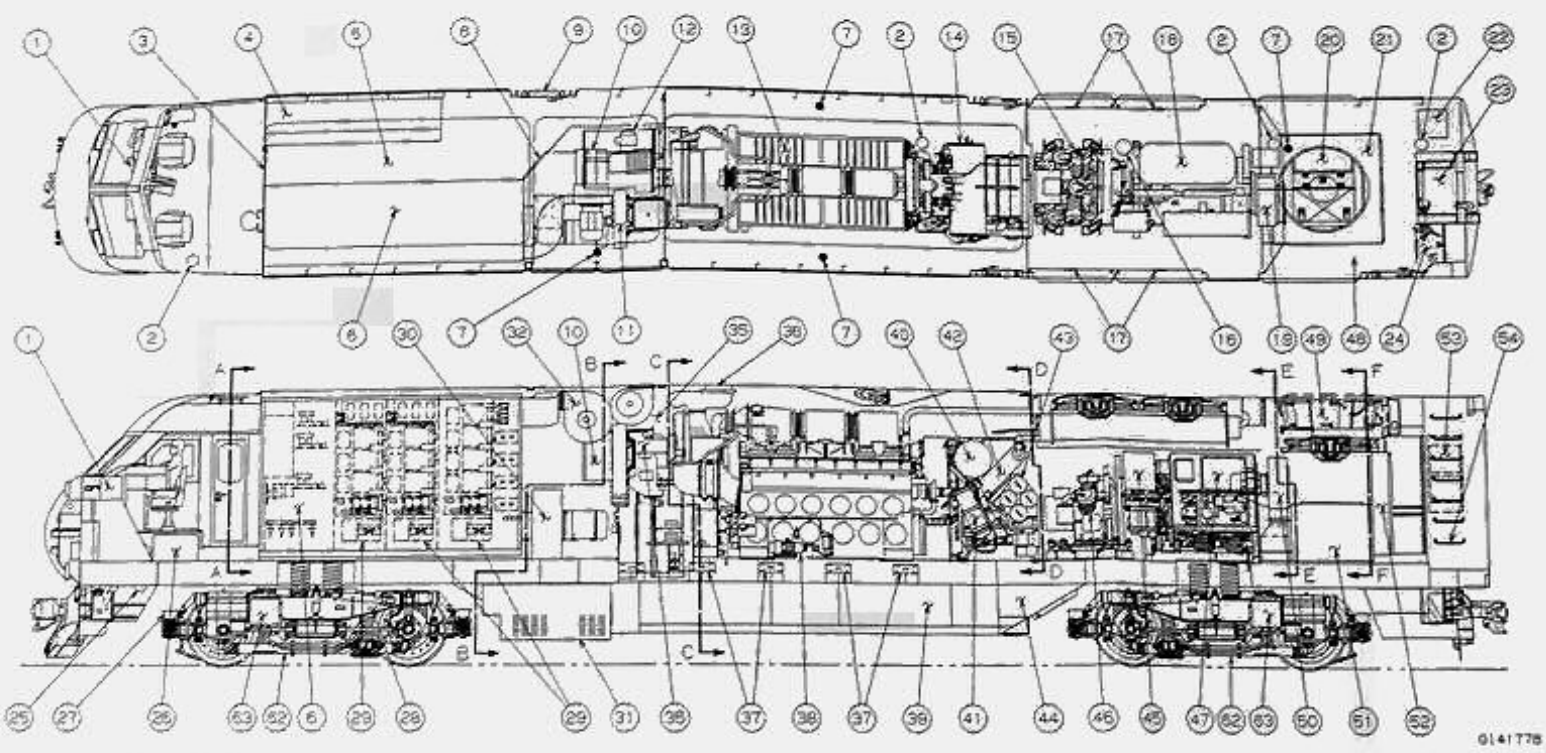

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Figure 1-1 DE30AC/DM30AC Locomotive

1. Engineer's Control Consoles
2. Fire Extinguisher
3. Access Door
4. #1 Electrical Cabinet
5. Walkway To Equipment Room
6. Traction Converter Cabinet
7. Fire Suppression Nozzle Head
8. Access Door - Engine And Inertial Air f
9. Access Door
10. Engine Air Filter (bag type)
11. Inertial Filter (Dust Bin) Blower
12. Inertial Filter Blower Motor
13. 12N-710G3B-EC Diesel Engine
14. Engine Coolant Tank
15. Air Compressor
16. Fire Suppression Bottle
17. Radiator Shutters
18. Main Reservoirs
19. Traction Motor Blower
20. Battery Box
21. #2 Electrical Cabinet
22. Battery Charger/Converter Cabinet
23. Roof Access
24. Hostler's Controls
25. Locomotive Bell
26. Heat, Vent., Air Conditioning Unit
27. Parking Brake Unit
28. Truck
29. 3 TCC Phase Modules
30. Traction Motor/Converter Blwr/ Motor
31. Head End Power Cabinet
32. TCC1 Cabinet Filter/Blower
33. TA12-8QBE Alternator
34. Alternator Exciter
35. Alternator Room Partition
36. Engine Exhaust Silencer
37. Generator Isolation Mountings
38. Turbo Prelube Pump Motor
39. Fuel Tank - 3000 Fuel/60 Ret.
40. Engine Water Tank
41. Primary Fuel Filters (2 x 30 inch)
42. Lube Oil Cooler
43. Lube Oil Filter
44. Retention Tank
45. 2 AC Cooling Fans, 2-Spd, 48 in.
46. Air Compressor - 3 Cylinder, Motor Driven
47. Air Brake Equipment
48. Cable Duct
49. Dynamic Brake Grids
50. Dynamic Brake Fan
51. Batteries
52. #2 Electrical Control Cabinet
53. Battery Chrge/Converter Cabinet
54. Sand Fill
55. Alternator Blower
56. Fuel Fill
57. Radiators
58. Horn
59. Hostler's Window
60. Marker/Auxiliary Lights
61. Headlights

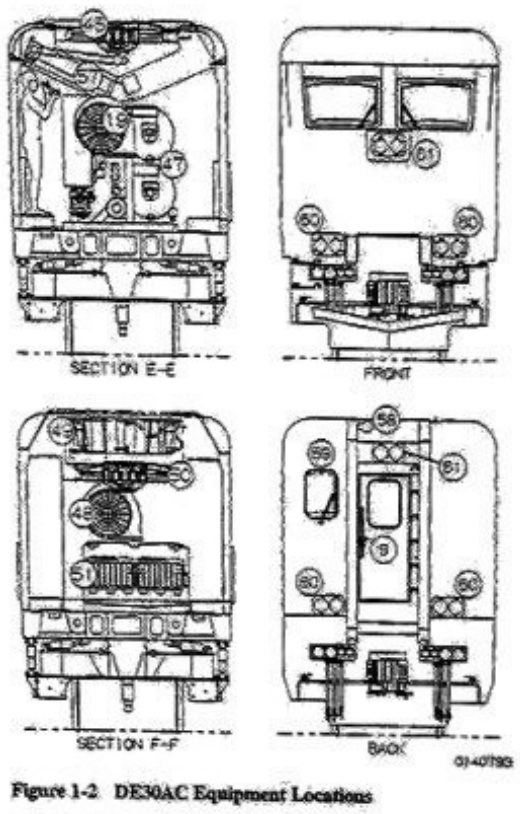

Figure 1-2 DE30AC Equipment Locations

Section 4. CONTROL EQUIPMENT

The locomotive cab, Figure 4-1, is divided into an **upper** and a **lower** console in reference to equipment placement. These two areas have most of the control equipment required for operation.

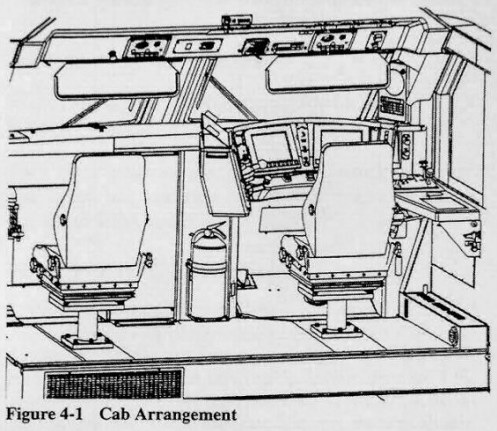

Figure 4-1 Cab Arrangement

UPPER CONSOLE

Much of the equipment used by the engineer and observer is located on the upper console, Figure 4-2, page 4-2. The upper console is attached to the front bulkhead and consists of two separate areas:

1. Overhead Switch Panel (more horizontal)
2. Other Control Equipment (more vertical)

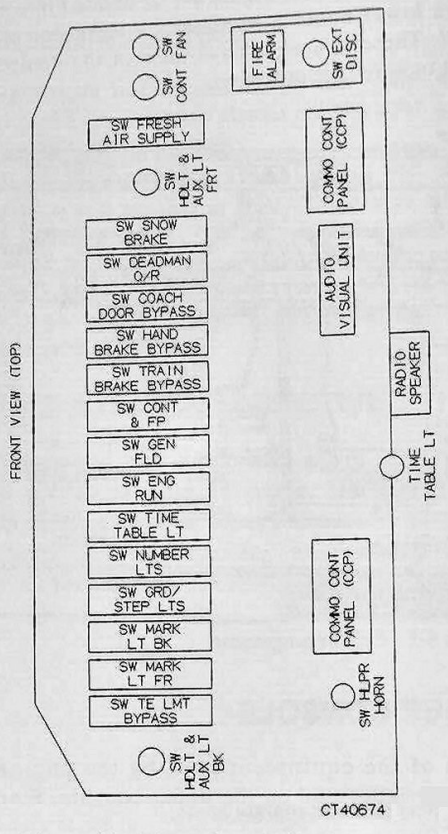

Figure 4-2 Upper Console Equipment

Section 1. GENERAL INFORMATION

Single cab, monocoque construction with full width long hood, complete with all equipment for single unit operation, including supply of inverter head end power for passenger cars.

Designation DE30AC
Locomotive Type ..... (B-B) 0440
Locomotive Power (Diesel Mode) ..... 3000 HP
Locomotive Gear Ratio
(Axle To Traction Motor Pinion) ..... 92:19 With 44 inch wheels

POWER PLANT

Engine Type ..... Turbocharged Two-stroke Diesel
Designation 12N-710G3B-EC
Number of Cylinders 12
Full Speed ..... 904 RPM
Idle Speed, Normal ..... 423 RPM

TRACTION ALTERNATOR (Main Generator)

Designation TA12
Model TA12-QBE
Maximum Output (DC Link Voltage ..... 2800 VDC
Max. Continuous Current ..... 8100 A