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SPECIFICATIONS

GENERAL MOTORS

2000 H.P. "LEAD" UNIT

DIESEL - ELECTRIC

PASSENGER

LOCOMOTIVE

ELECTRO - MOTIVE DIVISION

GENERAL MOTORS CORPORATION

LA GRANGE, ILLINOIS, U. S. A.

Specification 8005
JUNE 1, 1946
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GENERAL MOTORS

2000 H.P. "LEAD" UNIT
DIESEL-ELECTRIC

PASSENGER LOCOMOTIVE

INDEX

SECTION 1

General Information and Identification

GENERAL MOTORS LOCOMOTIVES

Model EA-7—"Lead"—2000 Horsepower Locomotive.

Type A.A.R. designation (A1A-A1A). Common designation (0660).

Arrangement The general arrangement of the locomotive is shown on Elevation and Floor Plan Drawing 8085151.

The locomotive consists of one unit complete with two independent 1000 H.P. power plants, trucks and all necessary auxiliaries, with a control cab at the front which identifies it as a "Lead" unit.

Major Dimensions

Distance, pulling face of front coupler to centerline of No. 1 truck	14′ 7¼″
Distance between bolster centers	43′ 0″
Truck—rigid wheel base	14′ 1″
Distance, pulling face of rear coupler to centerline of No. 2 truck	13′ 6″
Distance, pulling face front coupler to rear coupler	71′ 1¼″
Width over body posts	9′ 10″
Width over handholds	10′ 6⅞″
Height, top of rail to top of carlines	13′ 11″
Overall height, over horns, maximum	14′ 11″

Drive

Driving motors	Four
Driving wheels	4 Pair
Diameter wheels	36″

Weights and Supplies

Loaded weight on drivers	(Approximately) 212,310 lbs.
Total loaded weight on rails	(Approximately) 315,000 lbs.
Carbody and Equipment	(Approximately) 212,100 lbs.
Truck—Total 2	102,900 lbs.
Fuel	1200 gal.
Sand	16 cu.ft.
Cooling water—Total 2 engines	400 gal.
Lubricating oil—Total 2 engines	330 gal.
Steam Generator water	1200 gal.

SECTION 1

General Information and Identification

Clearances EMD Clearance Diagram 8087680 illustrates clearance conditions for Body, Truck, Motors, Running Gear and miscellaneous underneath equipment. Truck swing designed for 21° curve or 274′ radius, with 2¼″ free lateral motion in the truck bolster and ⅜″ in Hyatt journal boxes.

Safety Appliances All steps, grab handles and other safety appliances cover EMD interpretation of Interstate Commerce Commission requirements.

SECTION 2

Carbody Construction

GENERAL MOTORS LOCOMOTIVES

Framing Carbody framing designed to simulate bridge construction using a modified Howe truss arrangement. The underframe has center sills joined to the side framing through cross members and side sills. The upper or roof portion is tied together with arched frames and carlines to form a turtle back roof. Ample jacking pads are provided for blocking the locomotive. Front and rear framing is arranged to provide collision protection. The complete assembly is of welded construction throughout, with reinforcing plates used at joints, placed so that no transverse welds are used.

Hatches Hatches designed to blend with the contour of the turtle back roof and located to provide access for removal of equipment.

Outside Finish The outside finish consists of paneling, mounted by use of battens, with allowance for deflection of body without buckling of panels. The finish does not assist in the support of the carbody.

Roof sheets are welded directly to the carlines and framing.

Flooring Consists of plates welded to the underframe acting as a base for application of anti-skid flooring in aisles.

Body Center Plates Steel casting, welded to body bolster assembly. Wear plates applied to bottom and outside surfaces.

Control Cab The control cab, an integral part of the body, is located ahead and above the locomotive floor, leaving an unobstructed view for the operating crew.

The cab is insulated where possible with 2″ insulation, fire and moisture proof, and equipped with two upholstered swivel type seats having arm and back rests. The inside finish consists of ceiling lined acoustical treatment, while the cab floor is wood within steel framing, linoleum covered.

SECTION 2

Carbody Construction

GENERAL MOTORS LOCOMOTIVES

Cab Sash — Windshield sash. Stationary 9/16" safety plate glass. Mounted in a frame at an approximate angle of 15° from vertical and also slanting toward outside of car from center to form a wide "V" which, in combination with the vertical slant, will tend to shed rain, offering better visibility.

Side Sash — Retractable 1/4" safety plate glass in the doors and windows next to the operators, mechanically operated with a crank. Forward portion pivoted for controlled ventilation.

Engine Compartment Sash — 1/4" safety plate glass. Rectangular stationary sash.

Gutters — Gutters are provided above doors and cab windows.

Front Coupler Arrangement — Front end coupler arrangement includes draft gear and uncoupling device. Coupler and draft gear assembled in a sliding draft gear pocket with solid buffer.

Coupler and draft gear assembly is retractable by means of a hydraulic-pneumatic cylinder controlled by a valve arrangement located inside the hinged pilot doors. Two draft keys hold the coupler in the extended position, the movement of which is controlled by the same valve arrangement.

All air hoses and steam conduit of unit permanently located in service position, suitably covered by hinged pilot doors and removable cover.

Couplers — National Malleable A.A.R. Tight Lock coupler, with heavy swivel butt.

Draft Gear — National Malleable type M-350 rubber draft gear (front and rear).

Yoke — Special EMD design.

Draw Bar Carrier — Spring supported.

Uncoupling Device — Operated from both sides of locomotive.

Coupler Swing — Normal 13° swing.

Front and Rear Connections — Air brake, signal lines, and steam conduit fitted with shut-off valves.

SECTION 2

Carbody Construction

GENERAL MOTORS LOCOMOTIVES

Pilots Pilots are designed to withstand substantial shock, braced firmly laterally and longitudinally.

Anti-Climbers An anti-climber is placed at the intersection of the pilot and underframe.

Body end and Side Doors Side and front end doors are hinged type, and rear end door is sliding type.

The cab doors are arranged so that the cab can be reached directly from the outside or engine compartment. The door locks are of special EMD design "L" handle, latched in horizontal position. Outside cab doors locked by inside latch, left and right hand doors of engine room provided with a lock and Railway Coach key.

Weather Stripping For sash—rubber of special design to provide good cushioning and water-tight assembly. For outside doors—rubberized canvas covered sponge rubber at sides, top and bottom. One extra rubber strip at bottom towards outside.

Signal Brackets Combination flag and oil marker light brackets located at rear of unit. Flags and marker lights furnished by railroad. Front classification light is built integral with the illuminated number box blending into the contour of the carbody. Classification light arranged for Red, Green, or White indication. Classification flag brackets located within arm's reach outside cab side windows.

Blue flag bracket placed at end of anti-climber in plain view from cab right side only.

Diaphragms Attached to body end posts, with standard EMD face plate.

Vestibule Curtain Standard type vestibule curtain furnished at rear end. Curtain attached to right-hand post, facing end of car from outside.

Vestibule Light Vestibule light provided at rear end and operated on same circuit with engine room lights.

Foot Plate Foot plate provided for passageway between locomotive units at rear end. When front coupler is extended, buffer provides foot plate.

SECTION 3

Trucks

GENERAL MOTORS LOCOMOTIVES

Truck Assemblies Two (2) six (6) wheel truck assemblies are provided per locomotive unit, interchangeable. Improved riding qualities and greater stability in negotiating curves at high speeds are obtained by an EMD design of load suspension.

Truck frame supported at four points by twin group coil springs which ride on four equalizers carried between journals. Swing bolster supported by full elliptic springs. These springs ride on each end of two spring planks, which in turn are carried by swing hangers pivoted from outside of truck frame.

Traction motors geared direct to outer axles of each truck are carried in conventional manner between the driver axles and truck transoms. Center axle is idle, and necessary for load carrying and braking purposes only.

Clean air is forced to the motors by engine-driven blowers located in engine room. Air is directed to motors through openings in bolster and body center plates, and from the bolster to the hollow truck transoms through matched openings in each. The passages between the swing bolster and transom sections are sealed by a special gasket and steel slide plate arrangement. Air passes from the transom to the motors through flexible rubber ducts, applied between motor and transom openings.

Axles Modified E-12 with oversize wheel and gear seat and journals to suit Hyatt Roller Bearings. A.A.R. material specification M-104.

Wheels Rolled steel heat treated, 36″ diameter, 2″ rim. Wheel tread ground smooth and concentric after assembly on axle.

Journal Boxes Locomotive equipped with Hyatt Roller Bearings 6½″ journals of special EMD design. Lateral thrust is taken through a cushioning arrangement directly by the box. Journal box pedestal guides provided with spring steel wear plate.

Truck Frame and Bolster Steel casting, heat treated, EMD design.

Pedestals Lined with spring steel plates bolted to frame.

Pedestal Tie Bars Fitted and applied at the lower end of the pedestal legs, held in position by bolts.

SECTION 3

Trucks

Truck Center Plates	Truck center plate provided with wear plates, dust guard, and lubricating arrangement.
Side Bearings	Friction type side bearings.
Interlocks	Body and truck interlocks provided each side of the center plate, serving as anti-sluing device in case of derailment.
Swing Hangers	Made from the same kind of steel as the axles.
Bolster Springs	Full elliptic.
Truck Brakes	Clasp brake rigging provided on each wheel, operated by four brake cylinders per truck. Each cylinder fitted with automatic slack adjuster.
Brake Pins	All pins and bushings hardened and ground, large size. All holes in brake rigging bushed.
Hand Brake	Hand brake provided for the locomotive connected to one brake cylinder lever only. All trucks provided with lever for hand brake connection, making trucks interchangeable.

SECTION 4

Power Plant and Transmission

GENERAL MOTORS LOCOMOTIVES

Engine G.M. Diesel twelve (12) cylinder, 2 cycle, bore 8½", stroke 10", unit injection Roots blower scavenging through cylinder wall intake, and multi-valve exhaust. Water cooled cylinder liners and heads, oil cooled pistons, seven (7) bearing crankshaft, drop forged connecting rods, floating piston pin and bushing, and full floating piston assembly. Isochronous governor speed control and separate overspeed trip.

Main Generator EMD force ventilated, nominally 600 volt direct current. Single bearing direct connected to engine crankshaft through a flexible coupling. Capacity suitable to continuously transmit to traction motors the rated output of the engine under all conditions for which the locomotive is offered.

Traction Motors EMD direct current, series wound, roller bearings, force ventilated, axle hung motors.

Auxiliary Generator 10 K.W. direct current generator, provides current for control circuits, lighting, battery charging, and separate excitation of main generator. The voltage is automatically controlled by a voltage regulator.

Load Regulator A load regulator is provided which automatically maintains a constant horsepower output, corresponding to each throttle position, over the entire range of locomotive speeds.

Engine Starting By motoring of the main generator through use of special starting fields energized by the locomotive storage battery.

Cooling System Each engine has a separate circulation system consisting of two direct driven centrifugal water pumps; forced air circulation through fin tube radiators, and separate water supply tank. Provision made for steam jet heating of cooling water during layover periods. Temperature control by manually operated shutters.

SECTION 4

Power Plant and Transmission

Engine Lubricating Oil System

Dual circulation system for each engine, consisting of a pressure pump for oil delivery to the engine lubricating system, and a separate pressure pump for oil delivery to the piston cooling system, both pumps being connected to a common supply line from the oil tank. A scavenging pump delivers oil from the engine sump through two oil coolers, a four unit waste type filter to the supply tank. Pumps are protected by strainer in the suction line. Supply tank provided with a basket strainer at the tank filler.

Engine Fuel System

Return flow, with a single D.C. motor driven gear pump for each engine, protected by suction filter in addition to discharge filters to insure clean fuel for the engine. An assembly of sight glasses and relief valves offers visual indication of any system trouble plus protection against excessive pressures.

Engine Exhaust

Dual fabricated chambers, each with independent exhaust outlets.

Fuel Tank

Tank built of heavy gauge steel, with baffle plates.

Capacity 1200 gallons, located underneath the locomotive body. Filling station each side, vents equipped with flame arrestors. Double sumps with cleanout plugs and non-removable water drains located at bottom of tank.

Each fuel filling station has I.C.C. approved direct reading fuel gauge, indicating fuel level 4½″ from top of tank. Tank is also supplied with a hydrostatic distant type level gauge, indicating levels to within 1″ of the bottom.

I.C.C. Requirements

Each filling station fitted with pull ring for emergency fuel cut-off. Similar pull cords located at operator's control station and in engine room.

Electrical Control Cabinets

Cabinet for each power plant houses the locomotive high and low voltage control equipment.

1) High and low voltage control for Main Generator and Traction Motors.
2) Battery charging control.
3) Engine starting.

A distribution cabinet in rear cab partition comprises starting fuse, distribution fuses, battery cut-out switch, fuse test blocks, battery charging ammeter and voltmeter, and individual switches for train control, power plants and lighting.

Locomotive Control

Automatic forward transition of motor connections between Series, Parallel, and Shunt. Backward transition is automatic between Shunt and Parallel, and manual between Parallel and Series.

SECTION 4

Power Plant and Transmission

GENERAL MOTORS LOCOMOTIVES

Storage Battery — 32 cell, 64 volt, 426 ampere hour—(*8 hour rating*) battery located under cab floor, accessible from nose compartment and removable through nose door.

Engineer's Control Station — Engineer's control station located conveniently to the left of the engineer's seat, includes the engine speed throttle and locomotive reverse lever. The lever arrangements are such that the throttle must be in "Idle" before the reverse lever can be removed to isolate the controller. Translucent illuminated dial indicates position of throttle.

Engineer's Control Switch — Multiple button control and lighting switch located within reach of the engineer, having the branch circuits fused on the distribution panel in the control cabinet.

1) Engineer's Order Light
2) Attendant's call
3) Control
4) Generator field
5) Fuel pump
6) Defrosters
7) Number & Gauge lights
8) Classification lights
9) Headlight dim
10) Headlight bright
11) Mars Signal light (*if required*)

Order Lights — Separate order lights provided for the engineer and fireman.

Local Control Station — A local control station for each engine located on the wall of engine room is used to individually control each engine and includes the following apparatus:

a) Engine start and stop buttons.
b) Isolation switch.
c) Master air valve for electro-pneumatic throttle.
d) Fuel pump fuse and switch.
e) Oil pressure and engine water temperature gauges.
f) Three signal lights.

Signal Alarm System — Two alarm bells and four groups of signal lights to indicate trouble from low oil pressure, hot engine water, and steam generator failure.

Engineer's Instrument Panel — Directly in front of the engineer on the dash is located a panel having air brake gauges, wheel slip light, traction motor ammeter, windshield wiper valve.

Speedometer — A combination speedometer, recorder and odometer located to the left of the engineer's instrument panel.

SECTION 5

Air Brakes

GENERAL MOTORS LOCOMOTIVES

Air Brakes	Type 24-RL with independent brake valve to the left of the automatic brake valve.
Brake Piping	I.P.S. copper tubing and A.A.R. 300 lb. solder fittings except at end valves where wrought iron pipe with A.A.R. malleable iron fittings are used. All piping $\frac{5}{8}$" O.D. and under uses nominal size copper tubing with S.A.E. tube fittings. All brake equipment mounted on a panel requiring a minimum amount of piping and readily accessible for inspection or replacement.
Main Reservoir	Main reservoirs are carbon steel with all-welded seams and heads, capacity 45,800 cubic inches.
Air Compressor	Each engine drives a two stage, two cylinder, air cooled direct coupled compressor having a displacement of 89.0 cu. ft. per min. at 800 RPM. Pro rata delivery in proportion to engine speed. Air compressor governor adjusted to provide constant main reservoir pressure with 5 to 10 lb. differential.
Brake Cooling System	Cooling system placed between air compressor and first main reservoir.
Sanding	Sanding controlled by manually operated valve or from brake valve bail for forward movement only.
Sand Capacity	Four sand boxes, capacity 4 cu. ft. each, total 16 cubic feet.

SECTION 6

Equipment

GENERAL MOTORS LOCOMOTIVES

Cab Heaters	Two hot water cab heaters with fan driven air circulating system in each cab, hot water taken from engine cooling system. Each heater has a three speed switch for the fan.
Defroster	Two defroster blowers—motor driven.
Sun Visors	Four adjustable metal sun visors per cab.
Warning Devices	One large and one small diaphragm type air horn, both pointing forward. One 12″ locomotive bronze bell with internal ringer.
Fire Extinguishers	One (*1*) 1-quart carbon tetrachloride—in control cab. Two (*2*) 1-gallon carbon tetrachloride—in engine room.
Window Wipers	Two large size—pneumatic type, double wiper blades.
Toilet	Coach type—double hopper, foot operated, with seat but without lid, independent water tank.
Steam Generator	Evaporation capacity 2250 lb. per hour.
Steam Generator Water Tank	Tank built of heavy gauge steel, with baffle plates. Capacity 1200 gallons, located underneath the locomotive body. Filling station each side with strainer. Hydrostatic remote reading level gauge.
Steam Trainline	2½″ diameter, 250 lb. extra heavy fittings, one expansion joint and necessary end valves. Lagging with metal covering over trucks. Both ends of locomotive provided with conventional steam connection.

SECTION 7

Modifications

GENERAL MOTORS LOCOMOTIVES

Gear Ratio:

Option	1	2	3	4
GEARS	52:25	55:22	56:21	57:20
RATIO	2.08	2.50	2.66	2.85
CONT. T. E.*	15,600	18,800	20,000	21,400
MAX. SPEED	117	98	92	85

*Continuous tractive effort is given per 2000 H.P. unit.
See speed-tractive effort curve.

Air Brakes: The following combinations are available:

Lever Ratio	Brake Cylinder	Brake Shoes	Braking lb. 100#/in.² B.C. Pres.
*6.3	10 x 10	*14″ or 18″	395,900
6.3	11 x 10	18″	480,000
7.3	10 x 10	14″ or 18″	458,700
†7.3	11 x 10	18″	554,500

*Supplied without E.P. brakes unless otherwise specified.
†Supplied with E.P. brakes.

The following modifications in the brake schedule may be obtained:

a) Electro-Pneumatic braking.

b) Automatic sanding in emergency.

c) Deadman control from foot pedal and/or brake valve handle with or without time delay.

d) Independent sanding valve and/or sanding from bail on brake valve handle.

e) Maximum speed control with or without time delay and suppression features.

SECTION 7

Modifications

Headlights: The following headlights are available:

250 watt—32 volt medium screw base.
250 watt—64 volt medium screw base.
250 watt—60 volt medium screw base.
360 watt—12 volt Mogul prefocus base.
480 watt—12 volt Bi-Post base.
50 C.P.—7 cluster double contact bayonet base.

Temperature Control: Automatic shutters for cooling water temperature control.

Signal Light: Mars Red and White signal light.

Remote Steam Generator Control: Remote steam generator control from cab.

Electric Water Cooler: Electric water cooler in cab with removable one gallon jug. Total capacity, including cooling coil, 2 gallons.

Third Cab Seat: Third cab seat can be provided.

SECTION 8

Painting

GENERAL MOTORS LOCOMOTIVES

General Only the best quality materials available are used, with special attention given to both the selection of materials and methods of application to insure a maximum of protection and durability.

Cab Inside finished in Suede Grey Dulux, trimmed in black.

Engine Room Inside finished in Suede Grey Dulux, trimmed in black.

All air, fuel, water and lube oil piping color coded at points of connection.

Outside Finish Color arrangement and design to agree with Railroad's requirement. To be finished in standard lacquer finish as follows:

a) Special primer.

b) Surfacer.

c) Knife glaze.

d) Wet-sand entire surface.

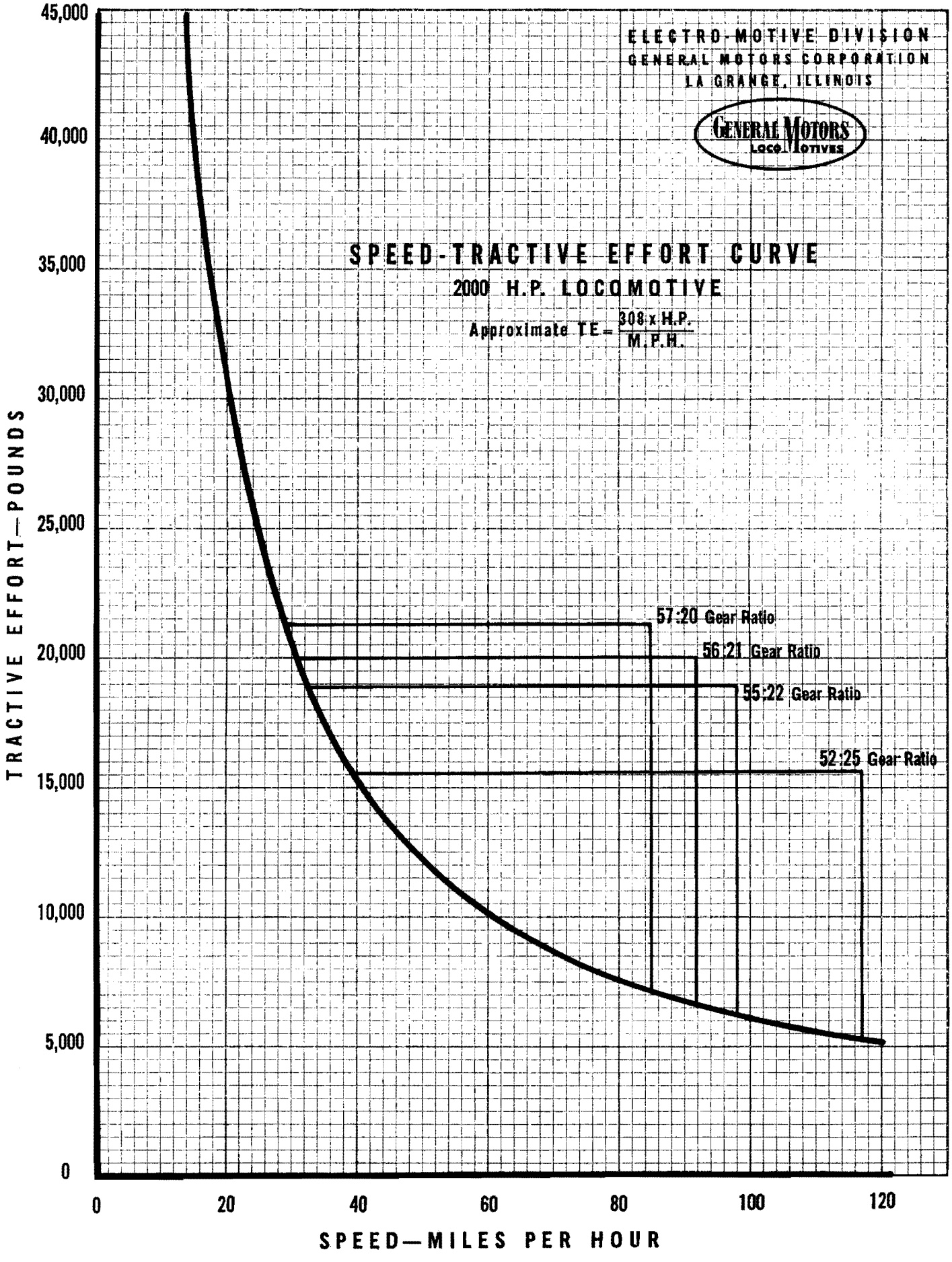
e) Spot surface.

f) Dry-sand and thoroughly clean.

g) Lacquer finish (*7 to 10 coats*).

Under Carriage Black Dulux unless otherwise specified.

Trucks & Tanks Black enamel unless otherwise specified.


ELECTRO-MOTIVE DIVISION
GENERAL MOTORS CORPORATION
LA GRANGE, ILLINOIS
GENERAL MOTORS LOCOMOTIVES
SPEED-TRACTIVE EFFORT CURVE
2000 H.P. LOCOMOTIVE
Approximate TE = 308 x H.P. / M.P.H.
57:20 Gear Ratio
56:21 Gear Ratio
55:22 Gear Ratio
52:25 Gear Ratio
TRACTIVE EFFORT—POUNDS
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
0
20
40
60
80
100
120
SPEED—MILES PER HOUR

SECTION 10

Warranty and Patents

GENERAL MOTORS LOCOMOTIVES

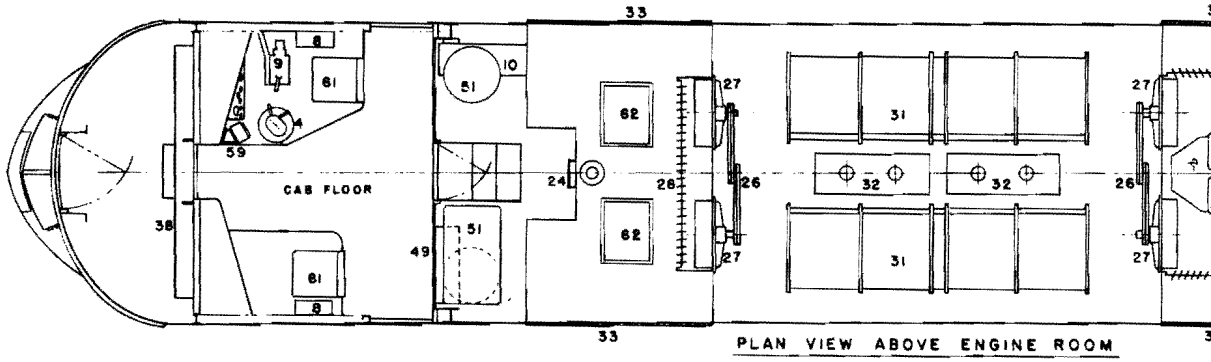
Warranty: THIS IS TO CERTIFY that we, ELECTRO-MOTIVE DIVISION, GENERAL MOTORS CORPORATION, LaGrange, Illinois, warrant all new equipment manufactured by us to be free from defects in material and workmanship under normal use and service; our obligation under this Warranty being limited to making good at our factory any part or parts thereof, which shall within one (1) year after delivery of such equipment to the original purchaser, or before such equipment has been 100,000 miles in scheduled service, whichever event shall first occur, be returned to us with transportation charges prepaid, and which our examination shall disclose to our satisfaction to have been thus defective.

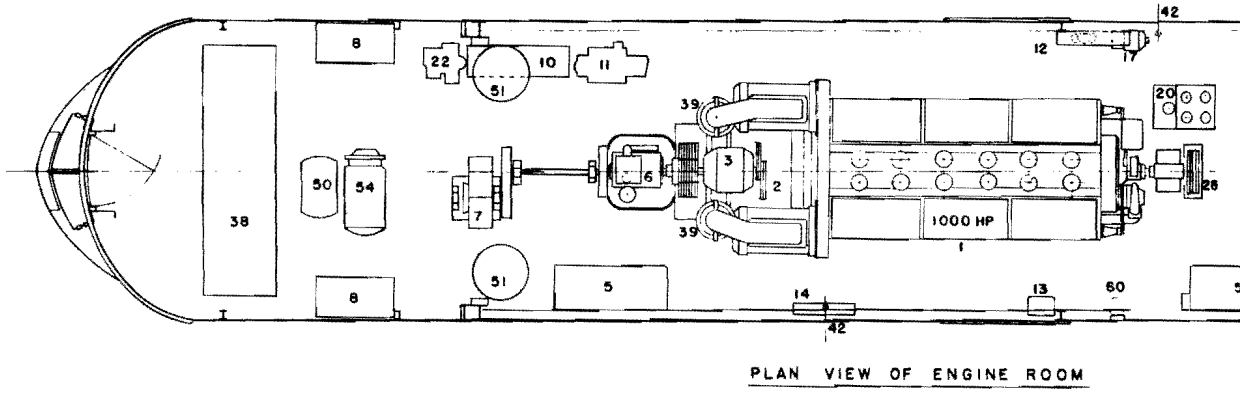
This Warranty being expressly in lieu of all other Warranties expressed or implied and of all other obligations or liabilities on our part, and we neither assume nor authorize any person to assume for us any other liability in connection with the sale of our equipment.

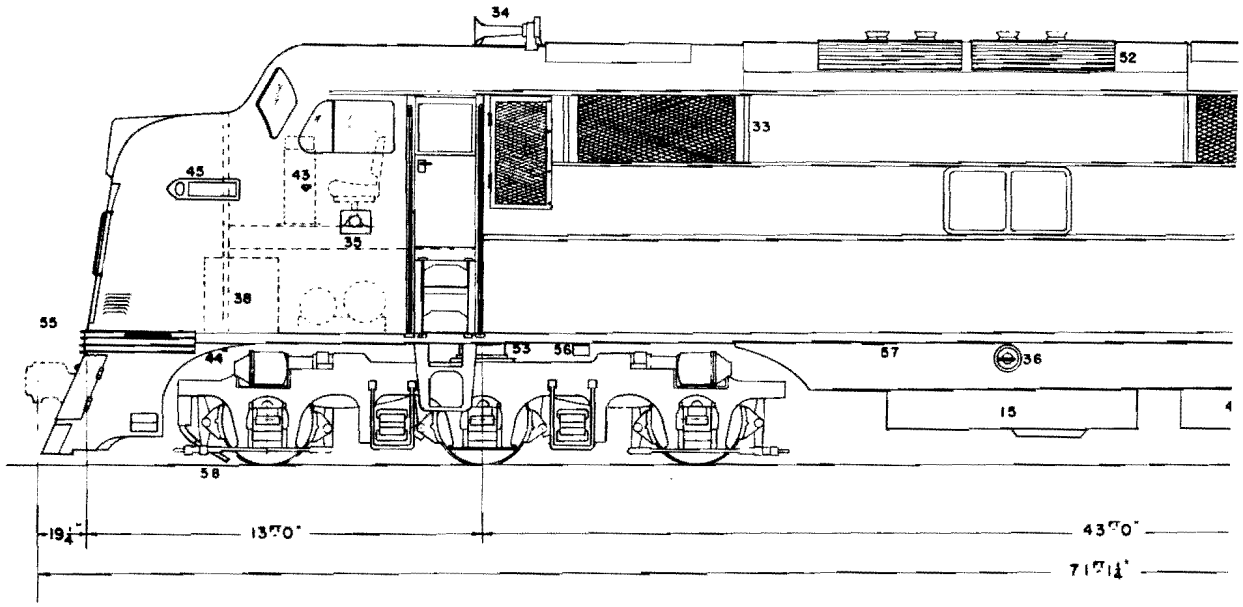
This Warranty shall not apply to any equipment which shall have been repaired or altered unless repaired or altered by us or by our authorized service representatives, if, in our judgment, such repairs or alterations affect the stability or reliability of the equipment, or if the equipment has been subject to misuse, negligence or accident.

We reserve the right to make changes in design or add any improvements on equipment at any time without incurring any obligation to install same on equipment previously purchased.

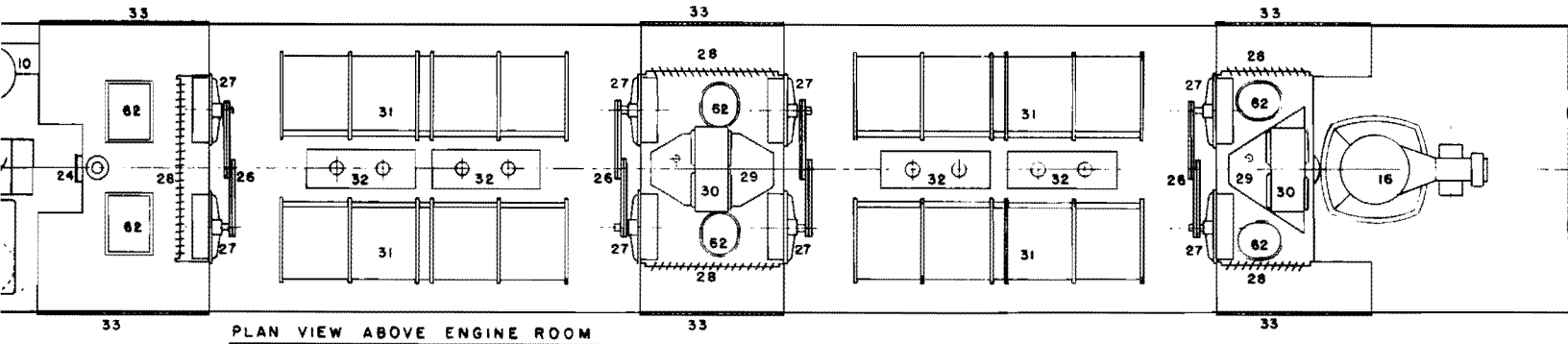
Patents: The Electro-Motive Division, General Motors Corporation, will not assume liability for patent infringment by reason of purchase, manufacture, sale, or use of devices or equipment not included in and covered by this Specification.



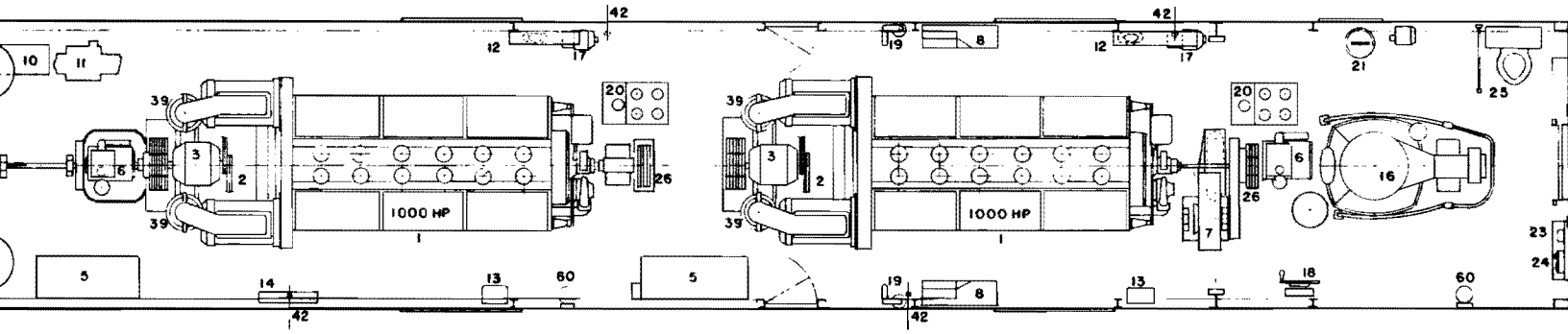




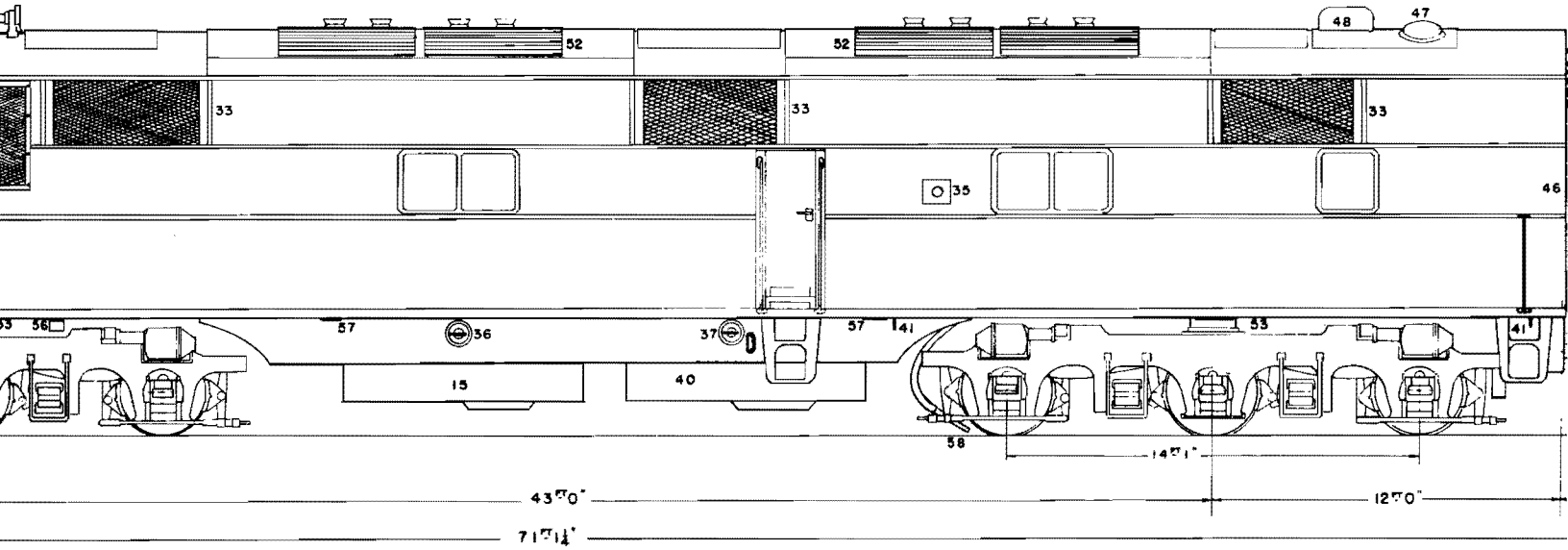
2000 H.P. MODEL EA-7 PASSENGER I



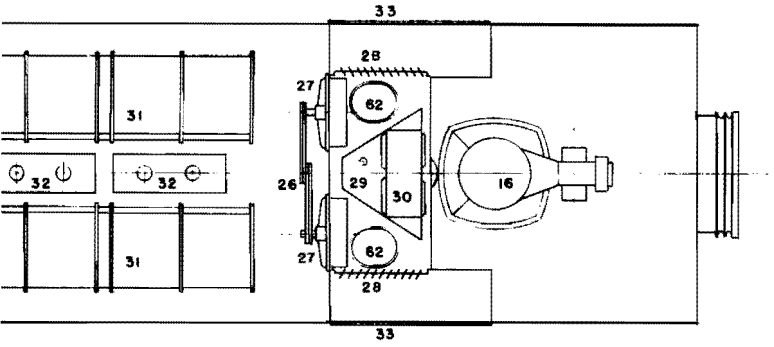
PLAN VIEW ABOVE ENGINE ROOM

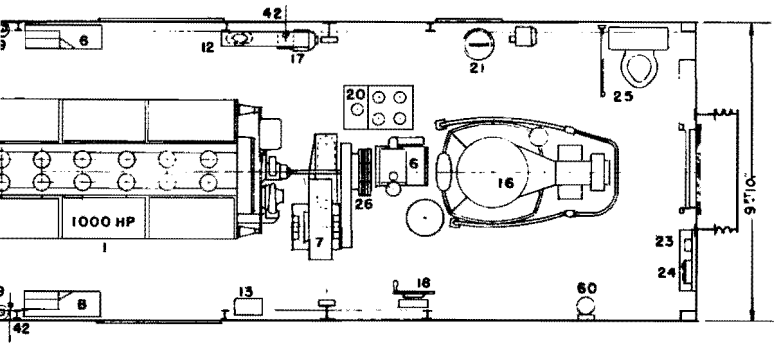


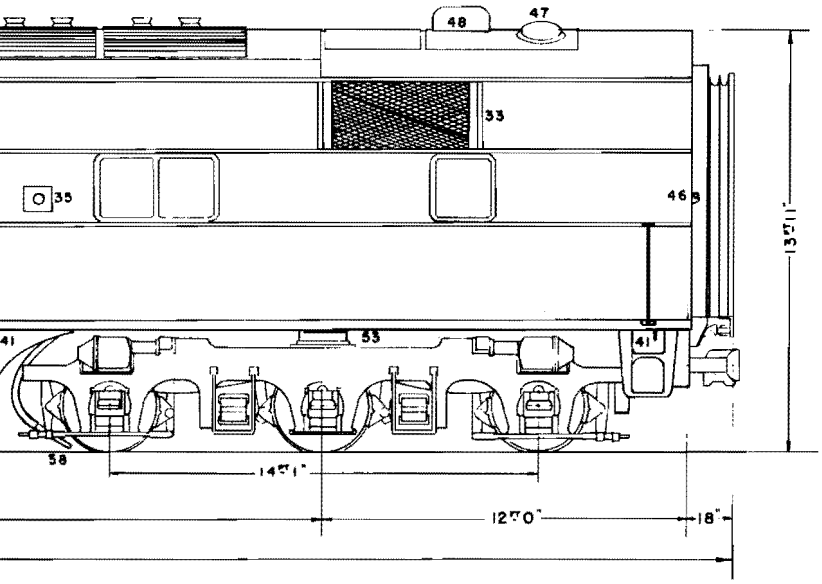
PLAN VIEW OF ENGINE ROOM



000 H.P. MODEL EA-7 PASSENGER LOCOMOTIVE "LEAD" UNIT







E "LEAD" UNIT

— EQUIPMENT —

1 ENGINE E.M.D. MODEL 12-567A 1000 HP. 800 R.P.M.
2 GENERATOR E.M.D. MODEL D-4
3 AUX. GENERATOR
4 CONTROLLER
5 HIGH & LOW VOLT. CABINET
6 AIR COMPRESSOR
7 TRACTION MOTOR BLOWER
8 SAND BOXES
9 AIR BRAKE VALVE
10 TRAIN CONTROL EQUIPMENT (WHEN REQUIRED)
11 AIR CONTROL VALVE
12 ENGINE CONTROL & INSTRUMENT PANEL
13 LOAD REGULATOR
14 SHUNT FIELD SERIES RESISTOR
15 BOILER WATER TANK
16 BOILER
17 ENGINE FUEL PUMP
18 HAND BRAKE
19 FUEL TANK VENT WITH FLAME ARRESTOR
20 LUB. OIL TANK & FILTER
21 WATER TREATMENT TANK
22 RELAY VALVE
23 BOILER CONTROL PANEL
24 SIGNAL LIGHTS
25 HOPPER
26 FAN DRIVE
27 FANS - 26"
28 SHUTTERS
29 ENGINE COOLING WATER TANK
30 LUB. OIL COOLER
31 RADIATOR
32 EXHAUST MANIFOLD
33 COOLING SYSTEM AIR INTAKE
34 HORNS
35 SAND BOX FILLER
36 BOILER WATER FILLER DWG. NO 8015856 (2½" MALE AM. ST'D. HOSE TH'D.)
37 FUEL FILLER DWG. NO 8015871 (2½" MALE AM. ST'D HOSE TH'D.)
38 BATTERIES,
39 ENGINE AIR INTAKE FILTER
40 FUEL TANK
41 ENGINE WATER FILLER
42 LUB. OIL DRAIN
43 CLASSIFICATION FLAG BRACKET
44 BLUE FLAG BRACKET (RIGHT SIDE ONLY)
45 CLASSIFICATION LIGHT & NUMBER BOX
46 OIL MARKER LIGHT BRACKET
47 BOILER AIR INTAKE
48 BOILER STACK
49 DISTRIBUTION CABINET
50 EQUALIZING - RESERVOIR
51 MAIN AIR RESERVOIR
52 AIR EXHAUST LOUVERS
53 JACKING PAD
54 CONTROL RESERVOIR
55 RETRACTABLE COUPLER
56 BATTERY CHARGING RECEPTACLE
57 BLOCKING PAD
58 SANDER
59 SPEED RECORDER
60 FIRE EXTINGUISHER
61 SEAT
62 MAN-HOLE

GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION
GENERAL MOTORS CORPORATION
LA GRANGE, ILLINOIS