

# **SPECIFICATIONS**

**GENERAL MOTORS**

**1500 H.P. "LEAD" UNIT**

**DIESEL - ELECTRIC**

**LOCOMOTIVE**



**ELECTRO - MOTIVE DIVISION**

**GENERAL MOTORS CORPORATION**

**LA GRANGE, ILLINOIS, U. S. A.**

**Specification 8013  
August 2, 1948**

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**GENERAL MOTORS  
1500 H.P. "LEAD" UNIT  
DIESEL-ELECTRIC  
LOCOMOTIVE**

**I N D E X**

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SECTION 1

# General Information and Identification



<b>Model</b>	F-7—"Lead"—1500 Horsepower Locomotive.	
<b>Type</b>	A.A.R. designation (B-B). Common designation (0440).	
<b>Arrangement</b>	<p>The general arrangement of the locomotive is shown on Elevation and Floor Plan Drawing attached.</p> <p>The locomotive consists of one unit complete with engine, generator, trucks and all necessary auxiliaries, with a control cab at the front which identifies it as a "Lead" unit.</p>	
<b>Major Dimensions</b>	Distance pulling face of front coupler to centerline of No. 1 truck . .	10' 8"
	Distance between bolster centers . . . . .	30' 0"
	Truck—rigid wheel base . . . . .	9' 0"
	Distance, pulling face front coupler to rear coupler . . . . .	50' 8"
	Width over body posts . . . . .	9' 10"
	Width over handholds . . . . .	10' 8"
	Height, top of rail to top of carlines . . . . .	14' 0½"
	Overall height, over horns . . . . .	15' 0"
<b>Drive</b>	Driving motors . . . . .	Four
	Driving wheels . . . . .	4 Pair
	Diameter wheels . . . . .	40"
	Gear Ratio . . . . .	62:15
	Maximum Locomotive Speed . . . . .	65 MPH
<b>Weights and Supplies</b>	Total loaded weight on rails . . . . . (approximately)	230,000 lbs.
	Carbody and Equipment . . . . . (approximately)	154,400 lbs.
	Truck—Total 2 . . . . .	75,600 lbs.
	Fuel . . . . .	1200 gal.
	Sand . . . . .	16 cu.ft.
	Cooling water . . . . .	230 gal.
	Lubricating oil . . . . .	200 gal.
<b>Clearances</b>	EMD Clearance Diagram 8097194 illustrates clearance conditions for Body, Truck, Motors, Running Gear and miscellaneous underneath equipment. Truck swing designed for 23° curve or 250' radius, with 2¼" free lateral motion in the truck bolster and ⅜" in Hyatt journal boxes.	
<b>Safety Appliances</b>	All steps, grab handles and other safety appliances cover EMD interpretation of Interstate Commerce Commission requirements.	

## SECTION 2

# Carbody Construction

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- 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. Stainless steel grill provided covering air intake openings in upper belt section.
- 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** High grade steel drop forging, 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 with arm and back rests. The inside finish consists of ceiling lined acoustical treatment, while the cab floor is wood within steel framing, linoleum covered.
- Cab Sash** Windshield sash. Stationary  $\frac{9}{16}$ " 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  $\frac{1}{4}$ " safety plate glass in the doors and windows next to the operators, mechanically operated with a crank. Forward portion pivoted for controlled ventilation.

## SECTION 2

## Carbody Construction



<b>Engine Compartment Sash</b>	Round sash with $\frac{1}{4}$ " safety plate glass.
<b>Gutters</b>	Gutters are provided above doors and cab windows
<b>Centering Device</b>	A centering device is used at each end of locomotive, preventing excessive offset with multiple unit operation.
<b>Draft Gear</b>	National Malleable type M-380 rubber draft gear ( <i>front and rear</i> ).
<b>Yoke</b>	Special EMD design for low overhang.
<b>Coupler</b>	Type "E" ( <i>see section 7</i> ).
<b>Draw Bar Carrier</b>	Spring supported, part of centering device.
<b>Uncoupling Device</b>	Operated from both sides of locomotive.
<b>Coupler Swing</b>	Normal 13° swing.
<b>Front and Rear Connections</b>	Air brake and signal lines fitted with shut-off valves.
<b>Pilots</b>	Pilots are designed to withstand substantial shock, braced firmly laterally and longitudinally.
<b>Anti-Climbers</b>	An anti-climber is placed at the intersection of the pilot and underframe.
<b>Body End and Side Doors</b>	All doors are hinged 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.
<b>Weather Stripping</b>	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.
<b>Signal Brackets</b>	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 right end of anti-climber in plain view from cab.
<b>Diaphragms</b>	Attached to body end posts, with standard EMD face plate.
<b>Engine Room Ventilation</b>	All openings provided for engine room ventilation are equipped with panel type filters with deflectors on inside face of filters.

## SECTION 3

# Trucks

GENERAL MOTORS  
LOCOMOTIVES

- Truck Assemblies** Two (2) four (4) wheel truck assemblies are provided per locomotive and are interchangeable and reversible. Improved riding qualities and greater stability are obtained by a new arrangement of load suspension, strictly an EMD development. The truck frame is supported on each of the four journal boxes by twin group coil springs. Bolster springs rest on each end of the spring plank which in turn is carried by swing hangers *pivoted from outside of truck frame*. Each of the four motors is supported by the driving axle to which it is geared, and a special suspension on the truck transom provides a flexible support, dampening out the torque shocks of the motor.
- Axles** Oversize ATEA E-12 with oversize wheel and gear seat and journals to suit Hyatt Roller Bearings. A.A.R. material specification M-126, Class D.
- Wheels** Rolled steel heat treated, 40" diameter, 2½" 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 Pedestals** Steel casting, heat treated, EMD design. 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.
- 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.

SECTION 3

**Trucks**



**Truck Brakes** Clasp brake rigging provided on each wheel, operated by individual brake cylinders.

**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

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- Engine** G.M. Diesel sixteen (16) cylinder, 2 cycle, bore  $8\frac{1}{2}$ ", stroke 10", unit injection Roots blower scavenging through cylinder wall intake, and multi-valve exhaust. Water cooled cylinder liners and heads, oil cooled pistons, ten (10) bearing crankshaft, drop forged connecting rods, floating piston pin bushings, and floating piston assembly. Isochronous governor speed control, separate overspeed trip, lubricating oil and water pumps.
- Main Generator** EMD, nominally 600 volt direct current, ventilated by blower. Single bearing direct connected to engine crankshaft through alternator rotor and 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.
- Alternator** EMD A.C. 149V, 3 phase, 16 pole, built integral with main generator, to supply A.C. power to induction motors driving engine cooling fans and traction motor blowers.
- Traction Motors** Four EMD direct current, series wound, roller bearings, force ventilated, axle hung motors.
- Auxiliary Generator** Constant voltage provides current for control circuits, lighting and battery charging, with automatic 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.
- Engine Cooling** Consisting of two direct driven centrifugal water pumps on the engine, radiators and 4 A.C. motor driven cooling fans located in hatch above engine. Full ceiling with removable light weight sections separates cooling air from engine room. The water cooled oil cooler and water tank mounted as a unit directly in front of the governor end of engine. Automatic water temperature control and hot engine alarm.
- Engine Lubrication** The engine lubricating oil system is a pressure system using two positive displacement gear type pumps combined in a single unit. One pump delivers oil for the pressure lubricating system, the other for piston cooling. The oil supply to these pumps is drawn from the oil strainer chamber through a common suction pipe.
- A scavenging oil pump is used to draw oil from the engine oil pan through a strainer, pump it through the lube oil filter to the cooler core section of the oil cooler tank and return it to the strainer chamber. Low oil pressure and high suction protection is provided.



SECTION 4

Power Plant and Transmission



**Engine Turning Jack** Provided for engine timing and inspection. Constructed for one man operation.

**Engine Fuel System** Return flow, single D.C. motor driven gear pump, 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.

**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  $4\frac{1}{2}$ " from top of tank. Tank is also supplied with a hydrostatic distant type level gauge, indicating levels to within 1" of the bottom. Each filling station fitted with pull ring for emergency fuel cut-off. Similar pull cords located at operators control station and in engine room.

**Electrical Control Cabinet** Cabinet houses the locomotive high and low voltage control equipment.

- 1) High and low voltage control for Main Generator, Alternator and Traction Motors.
- 2) Battery charging control.
- 3) Engine starting.
- 4) Distribution panel.

The cabinet is ventilated and readily accessible for service or unit replacement.

**Locomotive Control** Fully automatic transition forward and backward. High voltage circuits are safeguarded by ground protective relay.

**Storage Battery** 32 cell, 64 volt, 426 ampere hour—(8 hour rating) battery located underneath locomotive in two cabinets, one on each side of the locomotive directly in front of the fuel tank, accessible for servicing outside locomotive. A 64 volt battery charging receptacle provided on left side.

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

**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	7) Number lights
2) Attendant's call	8) Classification lights
3) Control	9) Headlight dim
4) Generator field	10) Headlight bright
5) Fuel pump	11) Mars signal light (when used)
6) Defrosters	

SECTION 4

**Power Plant and Transmission**



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

**Local Control Station** A local control station located at the governor end of the engine on the cooling water tank is used to individually control the engine and includes the following apparatus:

- a) Engine start and stop buttons.
- b) Isolation switch.
- c) Master relay for electro hydraulic throttle.
- d) Fuel pump contactor and switch.
- e) Oil pressure, suction and engine water temperature gauges.
- f) Fuel gauge.

**Signal Alarm System** Alarm bell connected to hot engine and low oil pressure and high suction switches with respective lights to indicate the circuit in trouble. No voltage protection and alarm is provided for the alternator. Pneumatic control switch, with indicating light, is provided with automatic reset when throttle is returned to idle position.

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

**Speedometer** A combination speedometer, recorder, maximum speed limit switch and odometer located to the left of the engineer's instrument panel.

## SECTION 5

# Air Brakes

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- Air Brakes** Automatic and independent brakes are provided on all wheels, with suitable end connections. 24-RL brake schedule with D-24 automatic brake valve and maximum speed control without time delay or suppression (see section 7).
- Foundation Brakes** 9" x 8" cylinders, 5.65:1 lever ratio, 14" brake shoes, 290,000 lb. braking force @ 100 lb. cylinder pressure.
- Brake Piping** I.P.S. copper tubing and 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 in a rack 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,  $26\frac{1}{2}$ "x50", capacity 25,000 cubic inches.
- One reservoir is located under the cab floor while the second unit is mounted under the locomotive between the battery boxes in front of the fuel tank for a total capacity of 50,000 cubic inches. Reservoirs are fitted with drain cocks.
- Air Compressor** One, two stage, three cylinder, air cooled direct coupled compressor, having displacement of 180 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 10 lb. differential, including synchronized control between units.
- Brake Cooling System** Finned type cooling coils placed between air compressor and first main reservoir.
- Sanding** Single line sanding system with sand traps ahead of each truck for forward movement only controlled by manually operated valve.
- Sand Capacity** Four sand boxes, capacity 4 cu. ft. each, total 16 cubic feet.

## SECTION 6

# Equipment

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- 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** Two large diaphragm type air horns, one pointing forward and the other towards the rear.  
One 12" locomotive bronze bell with internal ringer.
- Fire Extinguisher** 1 quart carbon tetrachloride—in control cab.  
1 gallon carbon tetrachloride—in engine room.
- Windshield Wipers** Two large size—pneumatic type.
- Toilet** Coach type—double hopper, foot operated, with seat but without lid, independent water tank.
- Steam Trainline** 2½", 300 lb. extra heavy fittings, lagged and protected where necessary with metal covering. Standby heating connection at right side forward of bolster. (See section 7.)
- Headlight** 14" clear glass reflector mounted in headlight barrel with 250 watt, 32 volt medium screw base. Hinged assembly for access from nose compartment.

## SECTION 7

# Locomotive Modifications

**GENERAL MOTORS**  
LOCOMOTIVES

The following modifications can be supplied on request to satisfy various operating requirements. The base price of the locomotive which is described in this specification does not include any of these modifications.

**Brakes** 10"x8" cylinders, 5.95 levers, 18" shoes, 370,000 lb. @ 100 lb. cylinder pressure in place of basic combination.

The following modifications in the air 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) Sanding from bail on brake valve in place of manual operated valve.
- e) Addition of time delay and suppression features to maximum speed control.

**Couplers** In addition to Type "E" couplers which are supplied basically, Tightlock couplers are available upon request. Units can also be linked together when required.

**Dynamic Brakes** Variable dynamic brakes available on request. The traction motors are used as generators, the power being dissipated through force ventilated grid resistors located in the roof hatch. The transition lever is used as the excitation control lever.

**Steam Generator** When the locomotive is desired for Passenger service, a 1600 lb. steam generator is available for train heating. Without dynamic brakes, 800 gallons of water are available. 2" and 2½" steam end connectors are installed upon request.

**Third Cab Seat** A third cab seat can be provided located either adjacent to fireman's seat or against the rear cab partition.

**Electric Water Cooler** Electric water cooler in cab with removable one gallon jug. Total capacity including coil, two gallons. Sanitary paper cup dispenser included.

## 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, trimmed in black.

**Engine Room** Inside finished in Suede Grey, 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.

**Under Carriage** Black, unless otherwise specified.

**Trucks & Tanks** Black, unless otherwise specified.

**Engine  
Exhaust and  
Boiler  
Manifold** Heat resistant paint.

## SECTION 9

# Performance Data



Although Section 1 specifies 62:15 gear ratio, other gear combinations are available when requested to suit operating requirements. The following table and curve show the characteristics of these gear combinations:

**Gear Ratio:**

<b>Option</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>GEARS</b>	65-12	62-15	61-16	60-17	59-18	58-19	57-20	56-21
<b>RATIO</b>	5.416	4.135	3.81	3.53	3.28	3.05	2.85	2.66
<b>CONT. T. E. *</b>	52,400	40,000	37,000	34,000	32,000	29,500	27,500	25,500
<b>MAX. SPEED</b>	55	65	71	77	83	89	95	102

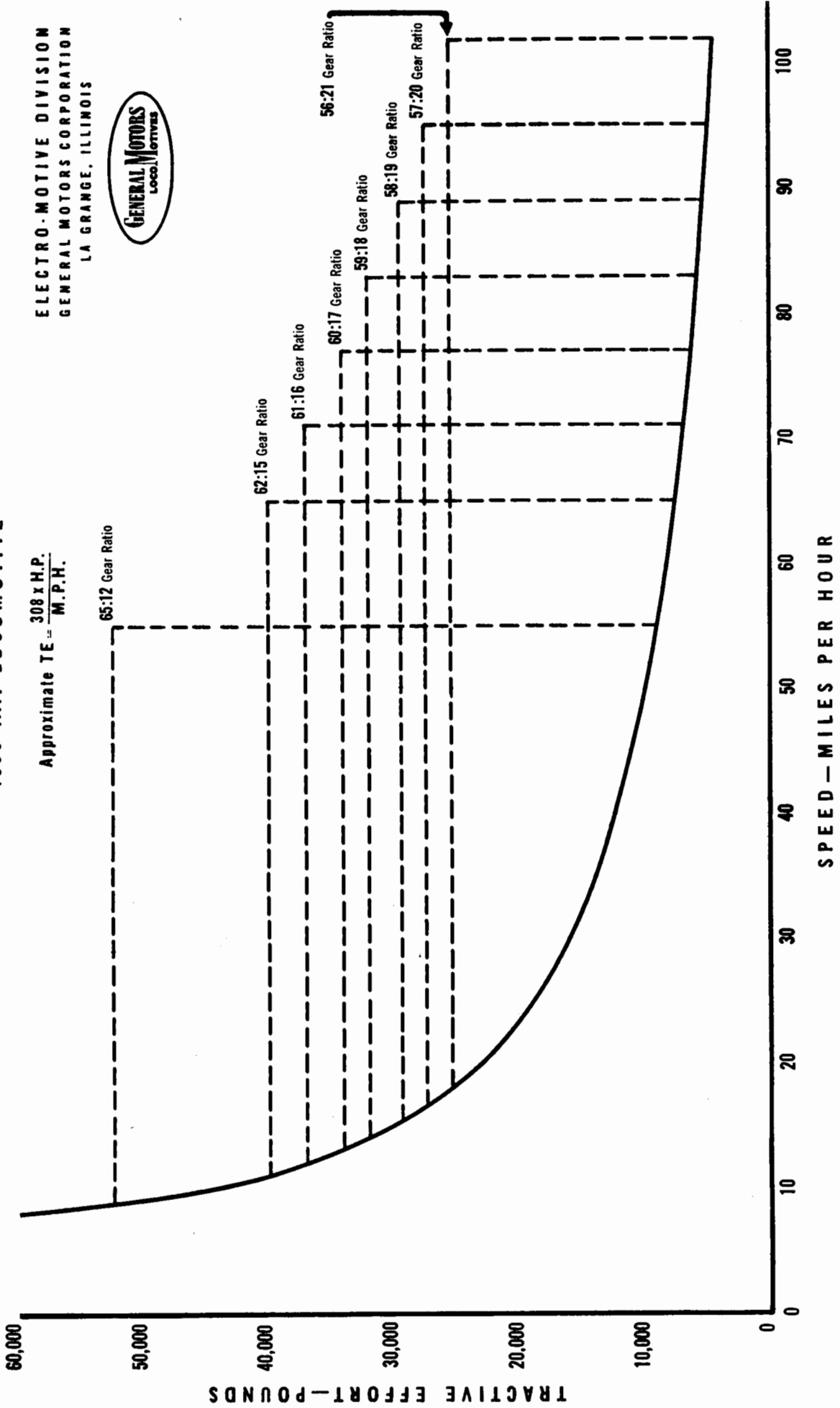
\*Continuous tractive effort is given per 1500 H.P. unit.

*See speed-tractive effort curve.*

# SPEED-TRACTIVE EFFORT CURVE

## 1500 H.P. LOCOMOTIVE

Approximate TE =  $\frac{308 \times \text{H.P.}}{\text{M.P.H.}}$



ELECTRO-MOTIVE DIVISION  
 GENERAL MOTORS CORPORATION  
 LA GRANGE, ILLINOIS





## SECTION 10

# Warranty and Patents



**Warranty:**

THIS IS TO CERTIFY that we, ELECTRO-MOTIVE DIVISION, GENERAL MOTORS CORPORATION, LaGrange, Illinois, warrant all new locomotives 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 the locomotives have 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.

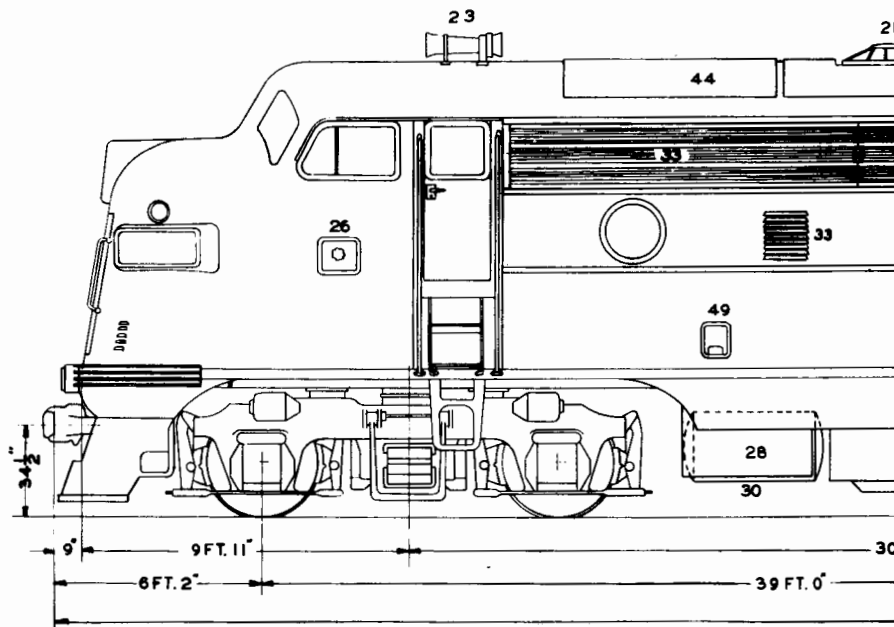
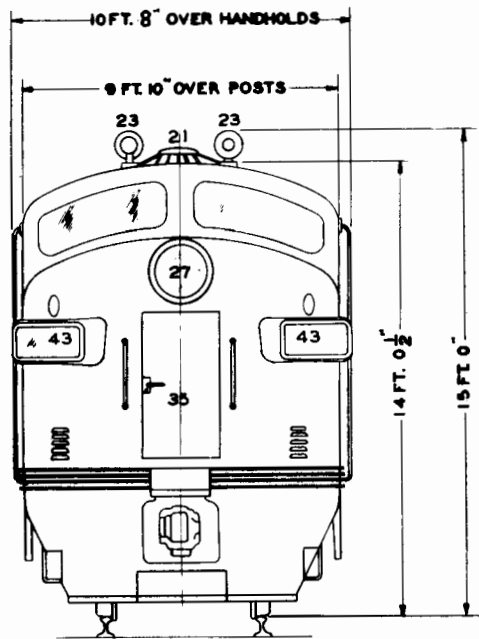
This Warranty being expressly in lieu of all other Warranties expressed or implied and of all other obligations or liabilities on our part, and we neither assume nor authorize any person to assume for us any other liability in connection with the sale of our equipment.

This Warranty shall not apply to any locomotive components 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.

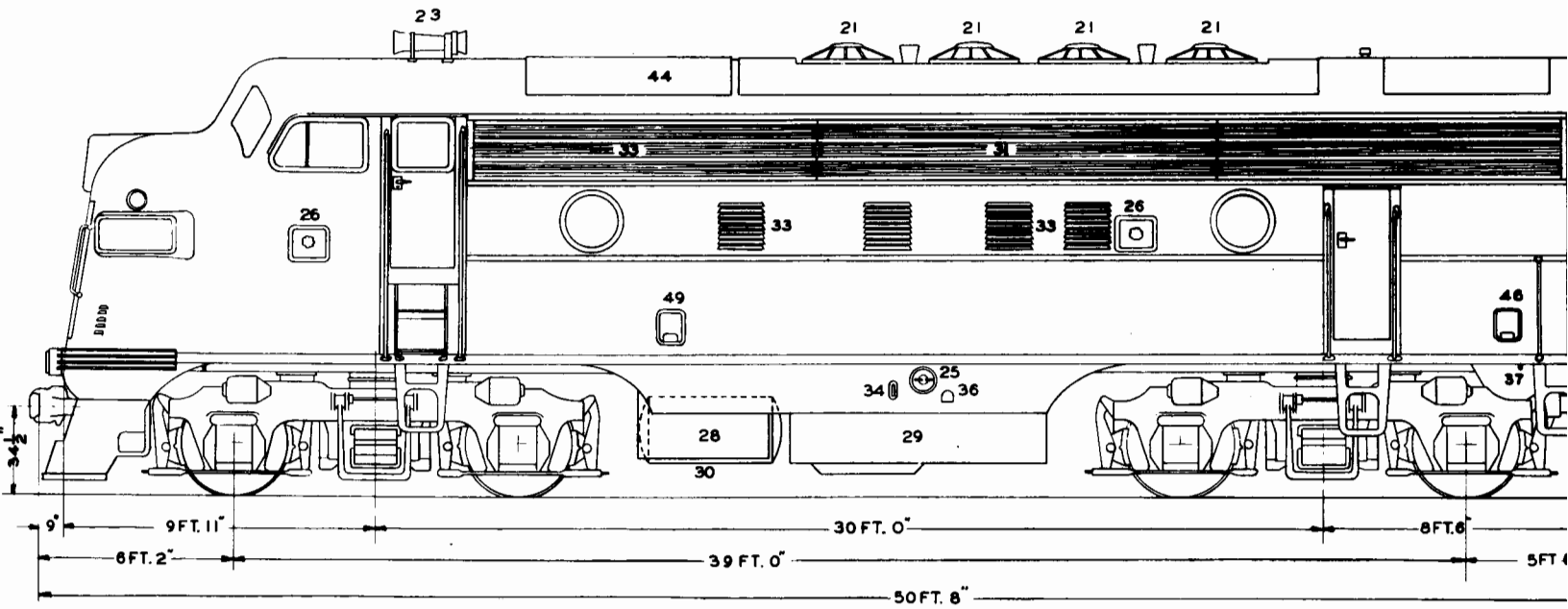
We reserve the right to make changes in design or add any improvements on equipment at any time without incurring any obligation to install same on equipment previously purchased.

**Patents:**

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

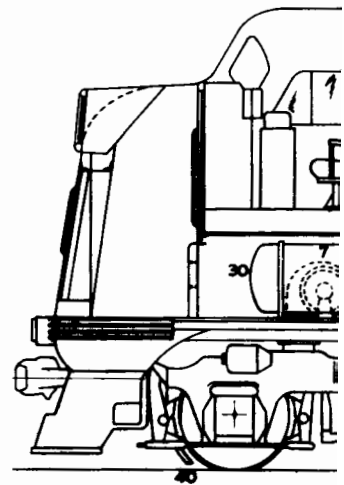
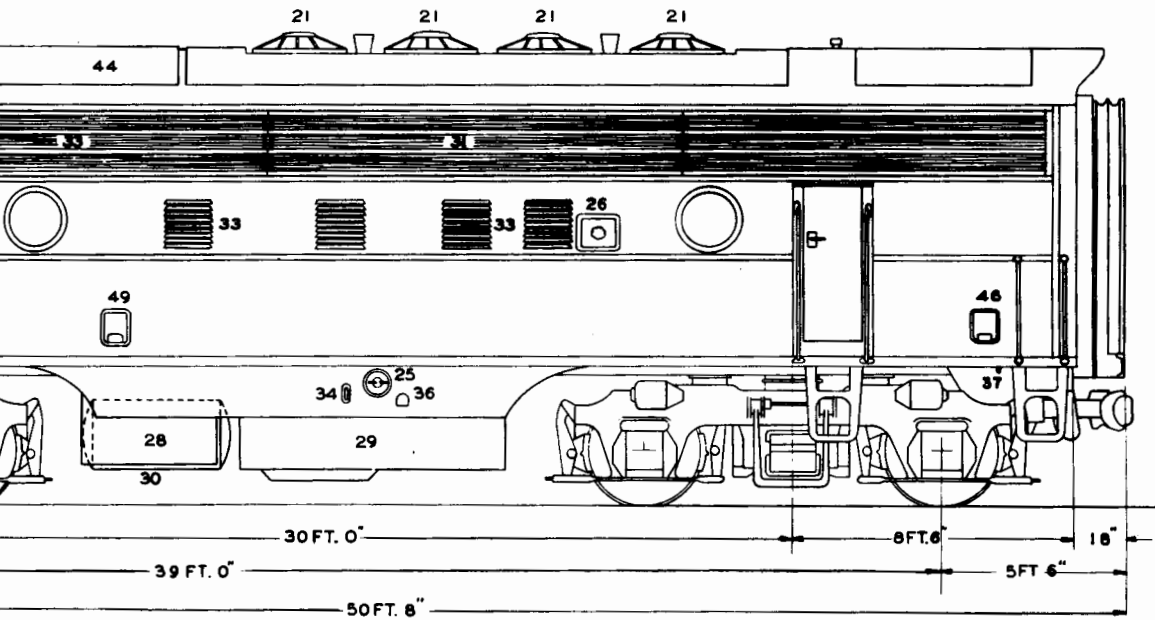
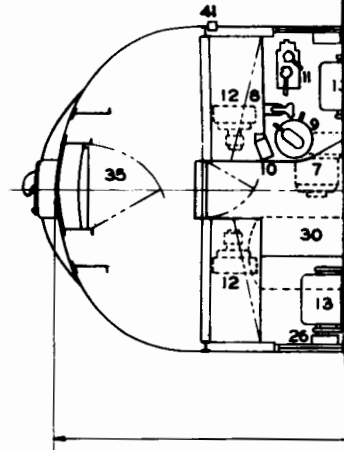


SUPPLIES	
FUEL	1200 GAL.
LUB. OIL	200 GAL.
COOLING WATER	230 GAL.
SAND	16 CU. FT.
BOILER WATER	200 OR 800



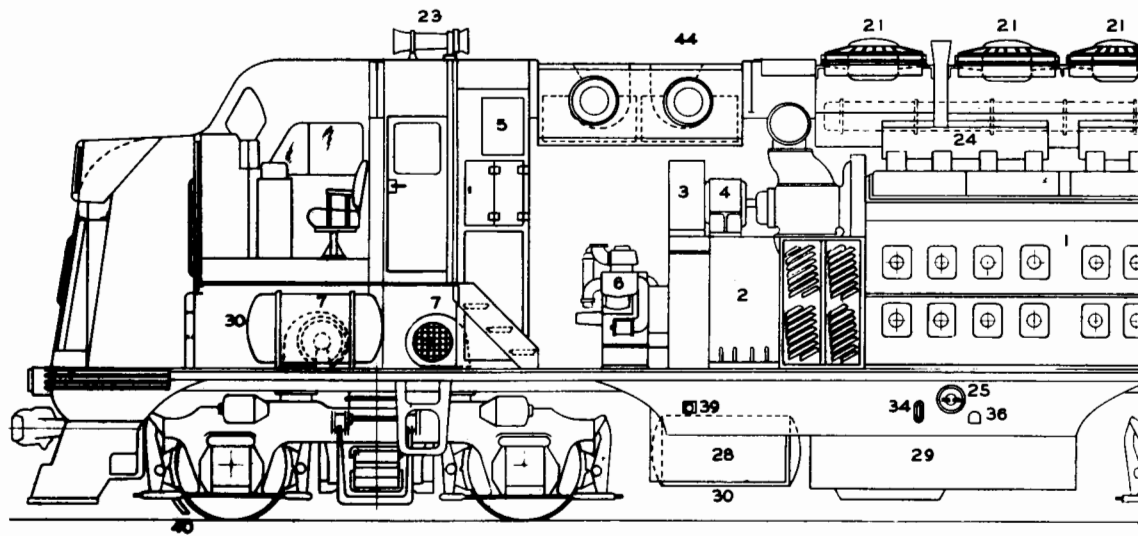
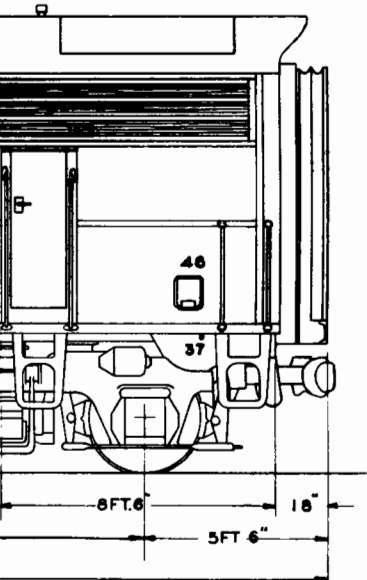
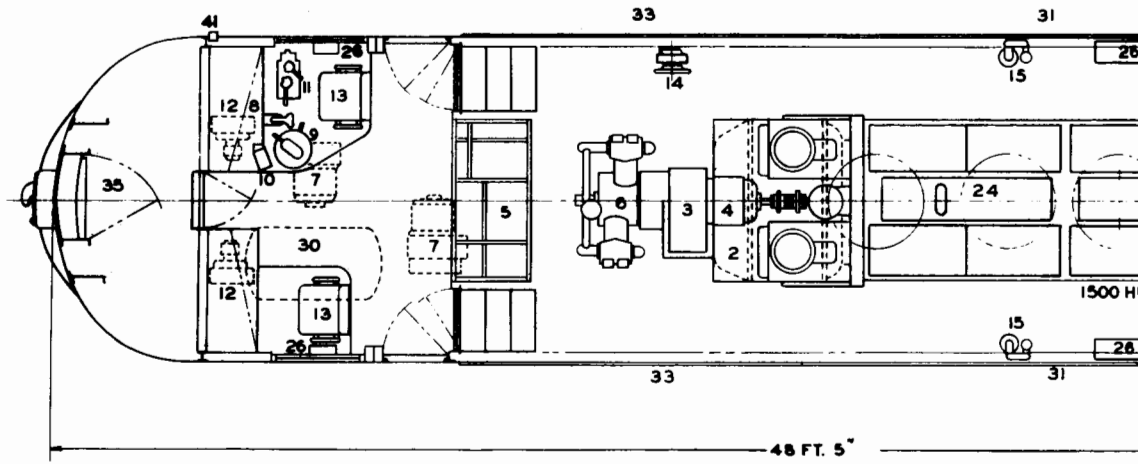
**1500 H.P. MODEL F7 LOCOMOTIVE**

SUPPLIES	
FUEL	1200 GAL.
LUB. OIL	200 GAL.
COOLING WATER	230 GAL.
SAND	16 CU. FT.
BOILER WATER	200 OR 800 GAL.

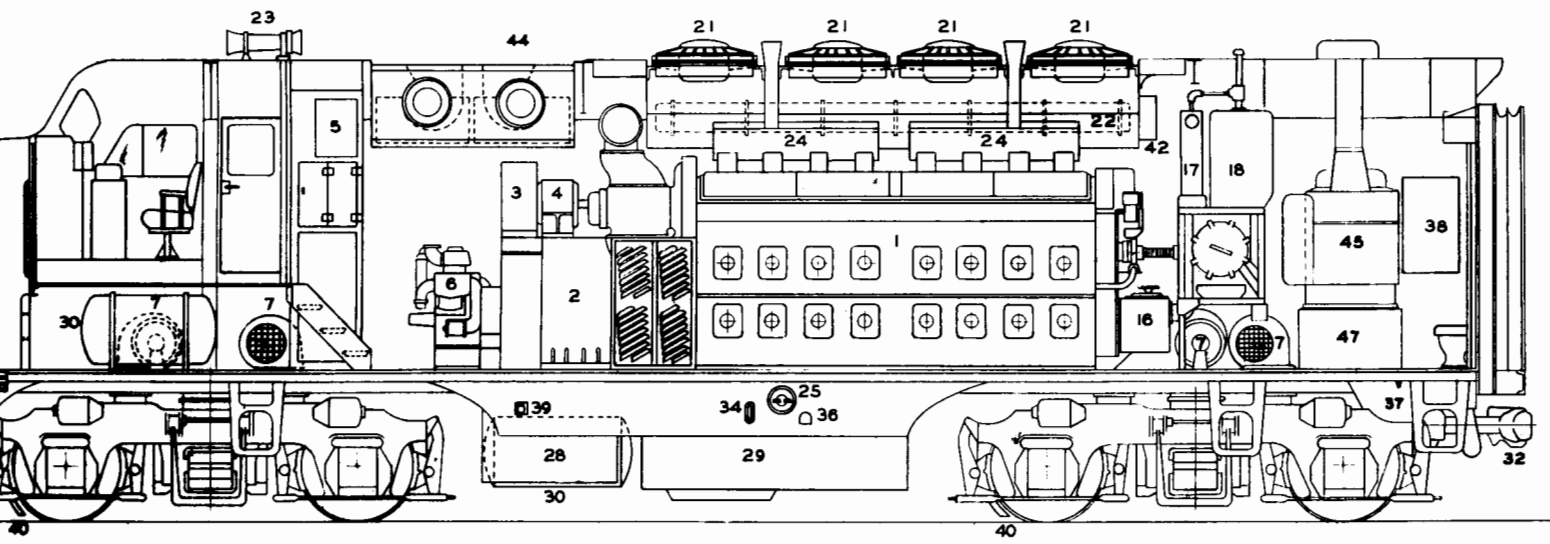
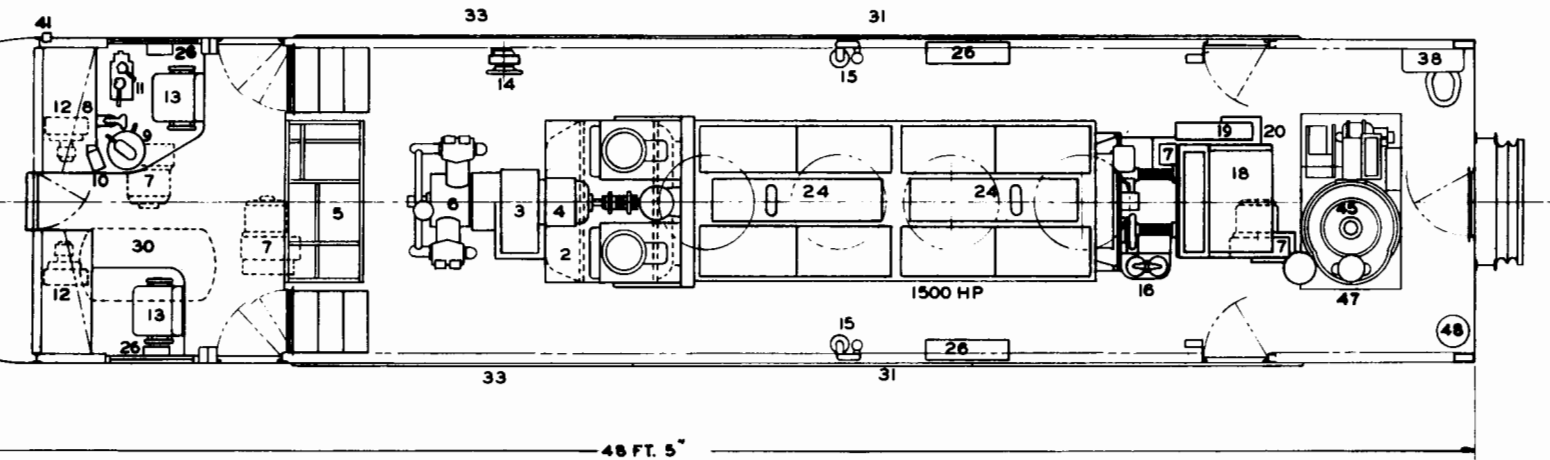


**1500 H.P. MODEL F7 LOCOMOTIVE "LEAD" UNI**

SUPPLIES	
	1200 GAL.
OIL	200 GAL.
CONDENSING WATER	230 GAL.
	16 CU. FT.
COOLING WATER	200 OR 800 GAL.

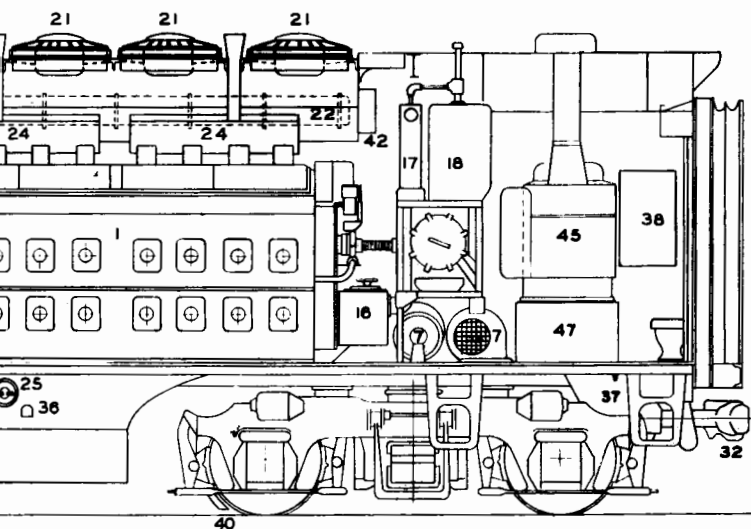
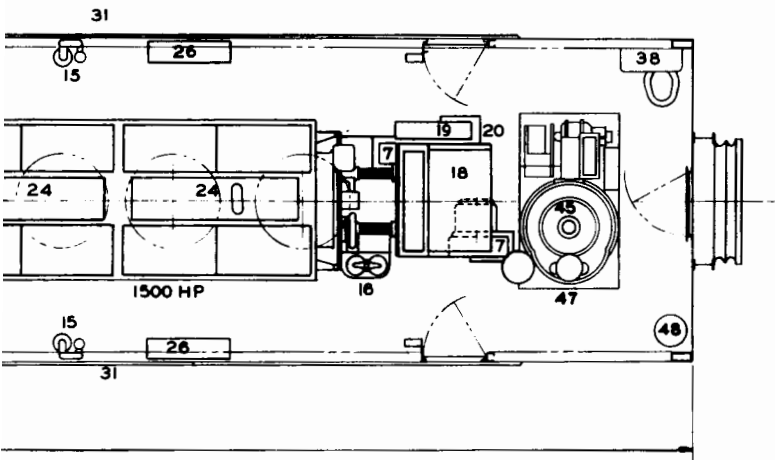


**MODEL F7 LOCOMOTIVE "LEAD" UNIT**



● MODIFICATIONS

D'' UNIT



- 49 BOILER WATER TANK FILLER (HATCH TANK) BOTH SIDES
- 48 BOILER WATER SOFTENER
- 47 BOILER WATER TANK - 200 GAL.
- 46 BOILER WATER FILLER (500 GAL. TANK ONLY) BOTH SIDES
- 45 BOILER
- 44 DYNAMIC BRAKE GRIDS & BLOWERS
- 43 NUMBER BOX
- 42 A - C CONTACTOR CABINET
- 41 BLUE FLAG BRACKET
- 40 SANDING NOZZLES
- 39 BATTERY CHARGING RECEPTACLE (LEFT SIDE ONLY)
- 38 TOILET
- 37 ENGINE WATER FILLER (BOTH SIDES)
- 36 EMERGENCY FUEL CUT - OFF
- 35 DOOR - PLAIN
- 34 FUEL TANK GAUGE
- 33 AIR INTAKE FOR GRIDS & ENGINE ROOM
- 32 COUPLER BETWEEN UNITS
- 31 AIR INTAKE & SHUTTERS
- 30 MAIN AIR RESERVOIR
- 29 FUEL TANK - 1200 GAL.
- 28 BATTERIES
- 27 HEAD LIGHT - FIXED BEAM
- 26 SAND BOX
- 25 FUEL FILLER
- 24 EXHAUST MANIFOLD
- 23 HORN
- 22 RADIATOR
- 21 34" FAN & MOTOR
- 20 LOAD REGULATOR
- 19 ENGINE CONTROL & INSTRUMENT PANEL
- 18 ENGINE WATER TANK
- 17 LUB. OIL COOLER
- 16 LUB. OIL FILLER
- 15 FUEL TANK VENT WITH FLAME ARRESTOR
- 14 HAND BRAKE
- 13 SEAT
- 12 CAB HEATER
- 11 AIR BRAKE VALVE
- 10 SPEEDOMETER RECORDER
- 9 CONTROL STAND
- 8 INSTRUMENT BOARD
- 7 TRACTION MOTOR BLOWER
- 6 AIR COMPRESSOR
- 5 CONTROL CABINET
- 4 AUX. GENERATOR
- 3 GENERATOR BLOWER
- 2 MAIN GENERATOR & ALTERNATOR
- 1 ENGINE E.M.D. MODEL 16-567 B

● MODIFICATIONS



ELECTRO-MOTIVE DIVISION  
GENERAL MOTORS CORPORATION  
LA GRANGE, ILLINOIS