

SPECIFICATION SUPPLEMENT



SPECIFICATION

for

GREAT NORTHERN RAILWAY COMPANY

Covering

ONE (1) 4500 HP FREIGHT LOCOMOTIVE
Order #3129

ELECTRO-MOTIVE DIVISION
GENERAL MOTORS CORPORATION
LA GRANGE, ILLINOIS

Specification #8013
Specification #8014
with SUPPLEMENT #1

August 2, 1948
August 3, 1948
February 22, 1952

271 A & B & 4584

SPECIFICATION SUPPLEMENT



GREAT NORTHERN RAILWAY COMPANY
Order #3129

SPECIFICATIONS #8013 AND #8014
SUPPLEMENT #1

February 22, 1952

GENERAL

Electro-Motive Division basic 1500 HP Model F7 Lead and Booster Locomotive Specifications #8013 and #8014, dated August 2, 1948 and August 3, 1948 respectively, are herewith amended to include this Supplement #1 dated February 22, 1952, which covers those options and modifications agreed upon between the Great Northern Railway Company and Electro-Motive Division to be incorporated in the construction of:

ONE (1) 1500 HP FREIGHT LOCOMOTIVE

Consisting of

Two (2) 1500 HP Lead Units
and

One (1) 1500 HP Booster Unit

GEAR RATIO

62:15, maximum speed 65 MPH. Speed recorder dial 0-75 MPH. Maximum speed set for 67 MPH.

COUPLERS

Type "E" couplers at front (#1) end of all lead units. Type "H" Tightlock couplers at rear of lead and both ends of booster unit.

HEADLIGHT

Twin sealed beam (200W - 30V) lamps, (Pyle National).

FOUNDATION BRAKES

Clasp type, 9" x 8" brake cylinders, 5.65:1 lever ratio, 14" brake shoes.

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AIR BRAKE EQUIPMENT

#24 RL air brakes with the following features:

- a) Rigid automatic brake valve handle.
- b) Prime independent sanding valve (GWS #246) (forward only).
- c) Overspeed control with warning whistle, time delay and temporary suppression. (Service application).
- d) Conductor's valve (1-1/4") mounted on cab wall adjacent to fireman's seat.
- e) New York Air Brake type F-3-D feed valve in place of basic D-24B feed valve.
- f) Brake pipe break-in-two protection (with brake pipe cutoff protection valve on H24 relay air valve bracket) (overspeed control) (no automatic sanding in emergency):

DYNAMIC BRAKES

Provided only on booster unit. Variable type using traction motors as generator, dissipating the heat thus generated through force ventilated grids. This includes a limiting regulator and Cutler Hammer grids.

DYNAMIC BRAKE INTERLOCK

Dynamic brake interlock equipment is added to the #24 RL brakes on the booster unit, to provide the following:

1. When the dynamic brake is operating,
 - A. If an automatic service or straight air electro-pneumatic brake application is made, the dynamic brake interlock will permit brakes to apply on the train, but not on the locomotive.
 - B. If an emergency brake application is made,
 - 1) from the brake valve, the dynamic brake interlock will release the dynamic brakes and emergency will apply on the locomotive and train.

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DYNAMIC BRAKE INTERLOCK (Cont.)

- 2) from the train, the dynamic brake interlock will not release the dynamic brakes and emergency will apply on the train, and not on the locomotive.
2. When an automatic service or straight air electro-pneumatic brake application is made and the dynamic is then operated, the dynamic brake interlock will release the brake application on the locomotive, but not on the train.
3. When automatic service or straight air electro-pneumatic brake application is on the train and the dynamic brake is released, the brakes will reapply on locomotive.
4. The dynamic brake interlock will not interfere with the operation of the locomotive independent brake valve.

SANDING

Viloco single line sanding equipment provided.

TRANSITION

Fully automatic transition with transition lever trainlined for manual transition of trailing units without automatic transition.

STEAM END CONNECTIONS

- (a) 2-1/2" Vapor steam end connections at the #1 and #2 ends of lead units.
- (b) 2" Vapor steam end connections at the #1 and #2 ends of booster units.

CLASSIFICATION NUMBER BOX

Large five digit type, mounted at 45° on nose for forward and side visibility, arranged for individual locomotive numbers. (Great Northern special number).

JUMPER CABLES

- a) 27:27 power plant, (Mines molded with renewable inserts).
One (1) per 3000 HP (F7A)
One (1) per 1500 HP (F7B)

EMD does not warrant this jumper. Application is at specific request of customer who assumes all responsibility.

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JUMPER CABLES (Cont.)

- b) 3:3 dynamic brake jumper cable (Mines molded) one (1) required.
- c) Cable carrier (dynamic brake and/or power plant).
- d) Cable hanger bars applied at square ends of units.

FIRE EXTINGUISHERS

Lead Units:

One (1) 20# CO2 "Dry Powder" and one (1) 20# CO2 "Gas" in operating cab, and one (1) 20# CO2 "Dry Powder" and one (1) 50# CO2 "Gas" in engine room.

Booster Unit:

One (1) 20# CO2 "Dry Powder" and one (1) 50# CO2 "Gas" in engine room.

CLASSIFICATION FLAG BRACKETS

Classification flag and marker brackets located above cab side windows on the eaves.

AUXILIARY CAB SEAT

Auxiliary (third) cab seat adjacent to fireman's seat, and 4" to the rear.

HORNS

Nathan Model M-3 horn with EMD modulating horn valve. Horn mounted on right hand side of locomotive.

FUEL OIL PREHEATING

Fuel oil preheating provided on all lead units.

SAFETY VALVE

A 2" safety valve installed in place of basic E-7-B safety valve after main reservoir on booster units.

CONTROL AIR PIPING

Relocation of control air piping take-off ahead of main reservoir cutout cock.

WATER COOLER

Marquette electric drinking water cooler provided in operating cab with Ajax paper cup dispenser. Provision for spare bottle.

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LADDER RESTS AND GRAB IRONS

Ladder rests and grab irons applied on nose and rear end of lead units and both ends of the booster unit.

TEMPERATURE SWITCH

Vapor Car type engine cooling temperature switch provided.

LIFTING LUGS

Lifting lugs provided at front and rear of units.

BALLAST

Ballast applied at #1 end of booster unit.

GROUND RELAY

500 milli-amp pick-up setting.

STEAM GENERATOR AND WATER SUP- PLY

A. Lead Unit - R.R. #271A - Serial #16096

Model OK-4740 Vapor steam generator with liquid treatment tank. 600 gallon hatch tank provided with transfer piping.

B. Lead Unit - R.R. #271B - Serial #16097

Provided with 600 gallon floor tank. 600 gallon hatch tank and transfer piping.

BOILER CONTROL

Remote steam generator control provided on both "A" units.

WINTERIZATION

Lead Unit #271A - Serial #16096.

1. Air duct on roof for recirculating engine room air.
2. Hinged covers for blanking carbody filters in boiler compartment.
3. Summer-winter switch to operate all four (4) fans in the winter position and shutters remain closed until fourth fan goes in.

Lead Unit #271B - Serial #16097.

1. Same as Unit #271A except no hinged covers for filters provided.

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WINTERIZATION (Cont.)

Booster Unit

1. Summer-winter switch provided to operate all four (4) fans in winter position and shutters to remain closed until fourth fan goes in.

BASIC ITEMS

The following basic items are specifically requested:

1. 4" Farr engine air intake filters.
2. Viloco bell ringer.
3. Exide batteries.

SERIAL AND ROAD NUMBERS

The following EMD serial and customer's road numbers apply:

<u>Lead</u>		<u>Booster</u>		<u>Lead</u>	
<u>Serial #</u>	<u>Road #</u>	<u>Serial #</u>	<u>Road #</u>	<u>Serial #</u>	<u>Road #</u>
16096	271A	16098	458C	16097	271B

STYLING AND PAINTING

To be in accordance to design developed for and approved by the railroad, similar to that provided on previous locomotives, including the Great Northern medallion (mountain goat) and Stimsonite reflector number plates on the front nose of all lead units. Individual number plates to be furnished by EMD per R.R. Drawing #32969.

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HHK/df