

# COPPER & NICKEL ELECTRICS

by **DONN C. BARBER**

Phoenix, Arizona may seem an unlikely location for locomotive rebuilding, but thanks to General Electric Co. and numerous Phoenix firms, the unlikely is taking place.

The \$500,000 rebuilding project all started when Kennecott Copper Co., Chino Mines Div., Silver City, New Mexico, sold eight of its replaced electric locomotives to International Nickel, Ltd., of Sudbury, Ontario, Canada.

The General Electric Phoenix Apparatus Service Shop was selected by International Nickel to carry out the major rebuilding operation. Joseph B. Levine was selected as project coordinator and Byron Hensler selected as project foreman. Several members of the mechanical crew were born after many of the locomotives were built.

A total of eight locomotives were transported from New Mexico to Phoenix by semi-trailer truck. International Nickel originally requested that five of the eight locomotives be rebuilt, the remaining three units to be used for parts. Due to the excellent performance of the newly rebuilt locomotives, INCO is considering having two more units rebuilt.

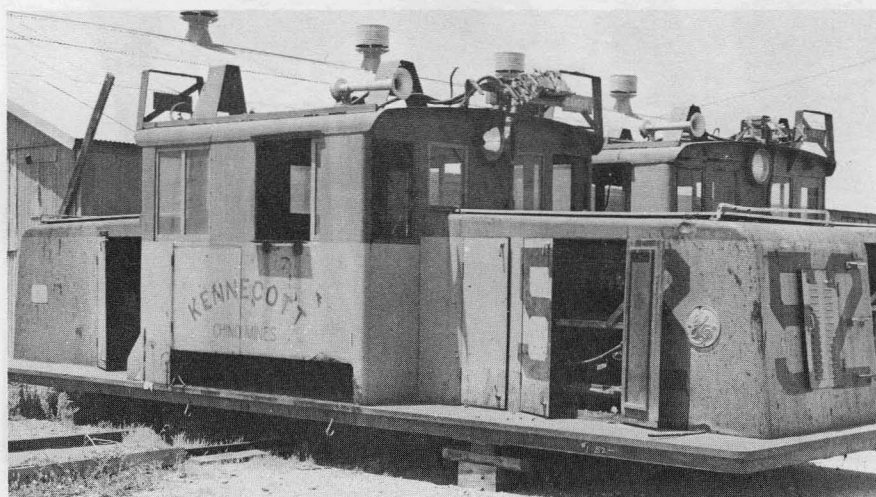
Three units originally intended for scrap or parts salvage were unloaded by crane, for outside storage.



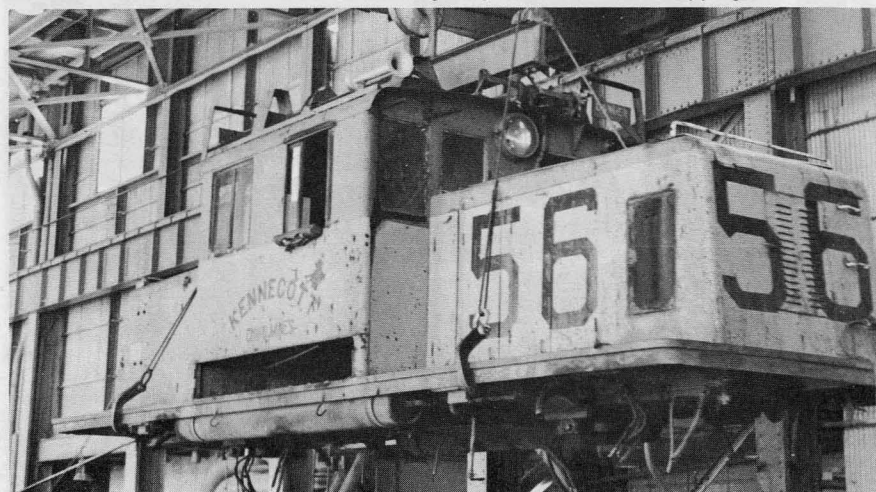
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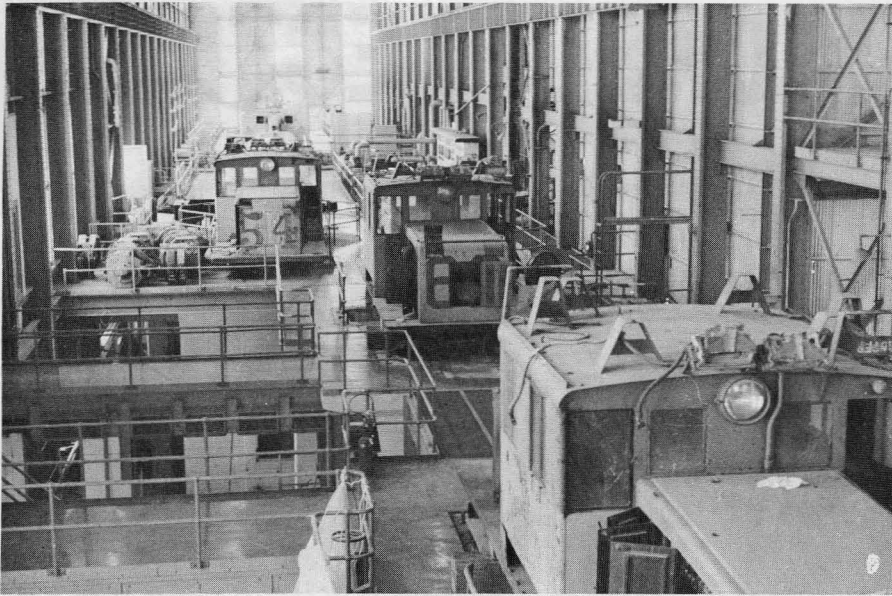
All units arrived from New Mexico via semi-trailer, stripped of parts and badly weather-beaten.



Two of three units originally intended for scrapping.



No. 56 being transferred by overhead cranes to rebuilding location within powerhouse.



Three superstructures and misc. parts rest on turbine deck awaiting their turn for rebuilding.

Overhead view from turbine deck looking down on yet to be rebuilt power trucks stored in rebuilding bay.

The five locomotives scheduled for rebuilding will leave Phoenix as new units, being completely rebuilt, painted and lettered for the new owner. Each locomotive superstructure is being shipped by rail flat car. The traction trucks and spare parts are being shipped by a second rail flat car. Four completed locomotives, Nos. 121, 123, 125, & 126 have been thusly shipped to date.

As General Electric's local facilities were not adequate to handle the task, space was leased from Arizona Public Service Co. at their West Phoenix Power Plant. The APS power house is ideally suited for the rebuilding as the main structure is approximately 60' wide by 400' long by 60' high, and equipped with a 75-ton overhead traveling crane and 10-ton auxiliary.

Two of the "pure electric locomotives" were built in 1950, the remaining units being built at different dates during the 1940's.

All units are presently rated at 85 tons, but will be rated heavier following rebalasting upon delivery to Canada. The superstructures scale out at approximately 71,000 lbs., while each power truck weighs about 47,000 lbs.

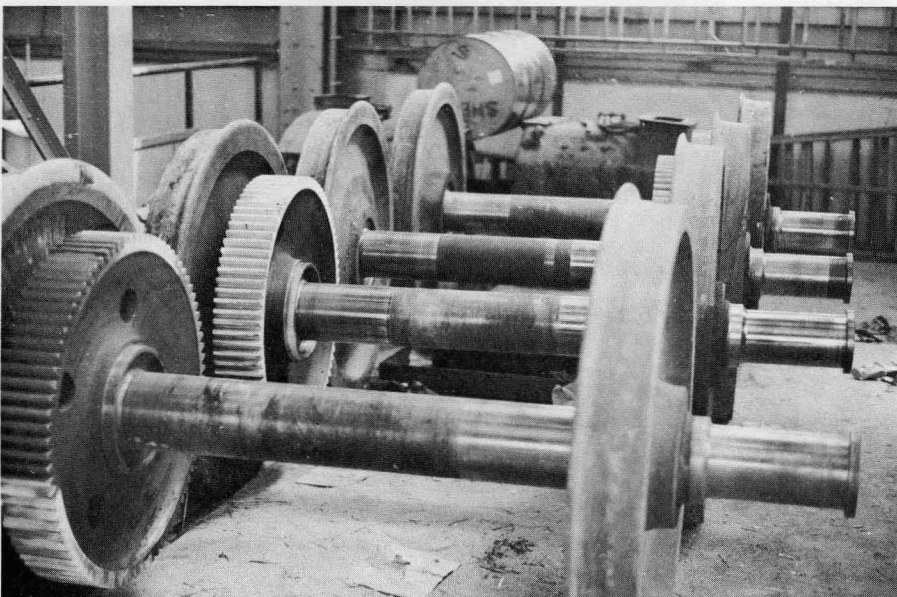
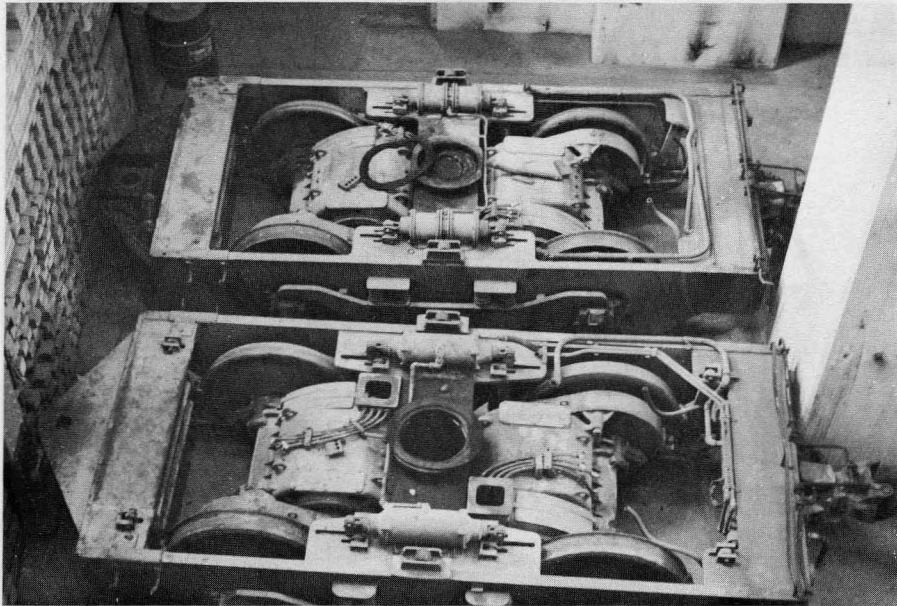
All locomotives are of the same basic design with only slight variations in construction or detail. Two units have been rebuilt with centered hoods as shown in the photos. The remaining three units will have offset hoods compatible with those of International Nickel.

Each of the eight locomotives are swivel mounted on articulated power trucks containing 2-500 H.P., 600 Volt General Electric traction motors per truck.

The articulated truck concept utilized on the locomotives was, in theory, to transmit all pulling forces thru the trucks only, the superstructures being "along for the ride."

The rebuilding process necessitated considerable work such as removal and repair or replacement of the hoods, repair and reconstruction of the cabs, rebuilding and/or replacement of all electrical components. Prior to replacement of equipment, the superstructures were sandblasted, steam cleaned, and painted a prime coat. The traction trucks were disassembled, cleaned, necessary repairs and/or replacements made, and painted. All traction motors will receive a

Wheelsets with attached bull-gears following "Magniflux" inspection. Note condition of flanges on wheels which necessitate replacement of several wheels.





Only the foot boards need be added to complete truck for No. 126.

INCO No. 126 (formerly KCC No. 63) preparatory to painting. Pantograph bases and other appurtenances will be added after units reach Canada, due to shipping clearances.

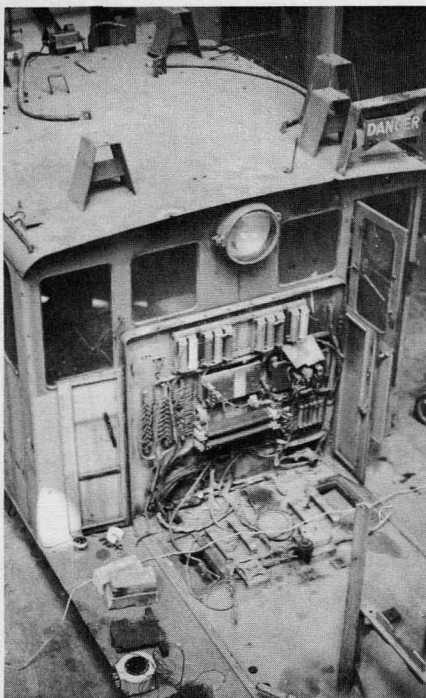
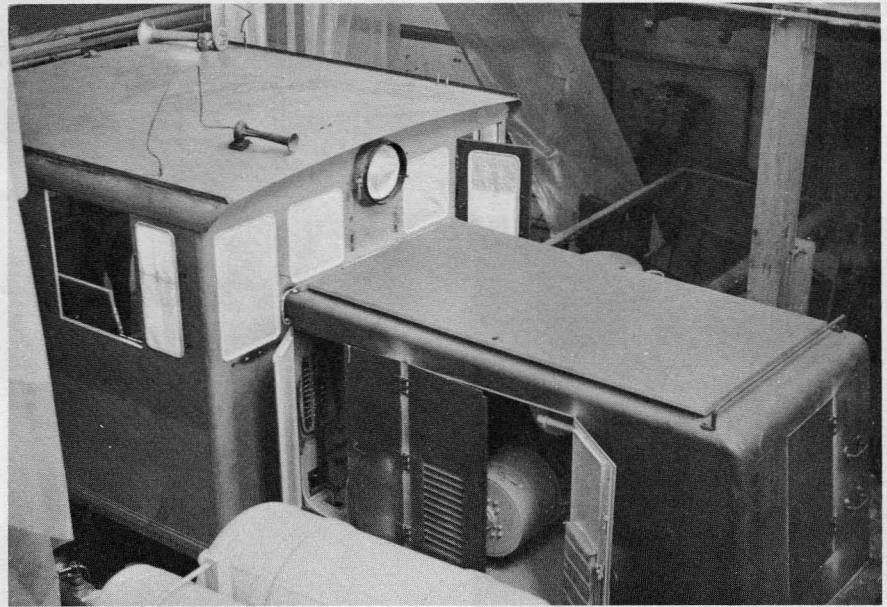
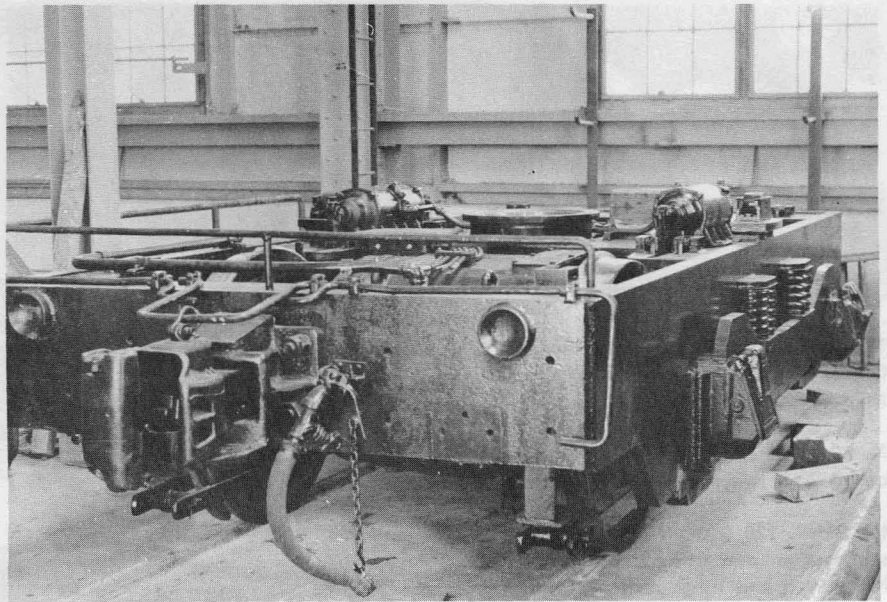
complete overhaul as necessary.

Only 30 of the original wheels were satisfactory for reconditioning. Additional 46" wheels have been cast by a west coast foundry and machined at a Phoenix machine shop on a modified lathe. The locomotives originally intended for scrapping were: 52, 56, and 59.

Although Phoenix has been without operating "electrics" for nearly a quarter of a century, and may seem as an unlikely location for locomotive rebuilding, thanks to General Electric, Phoenix again has "Electrics", at least temporarily.

INCO No. 126 being transported to rail siding for placement on power trucks. Photo by Stanley D. Schwendler.

No. 63 (INCO No. 126) in process of being stripped for complete rebuilding.

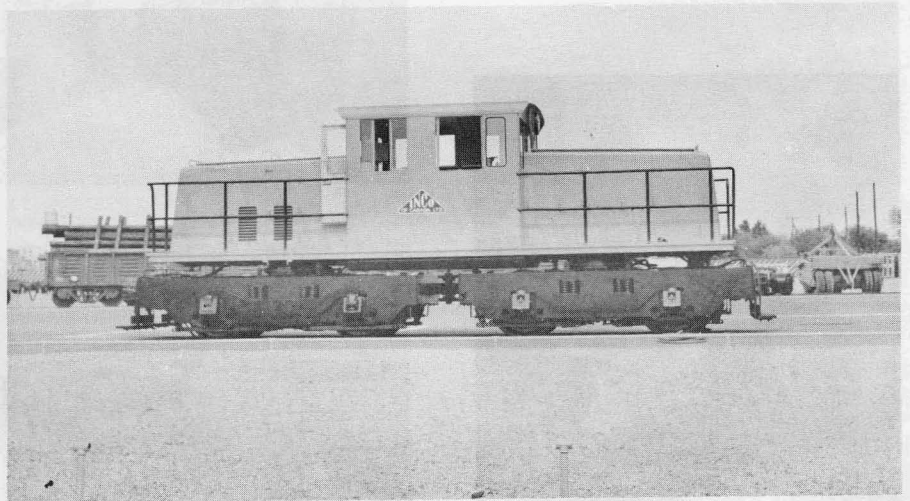
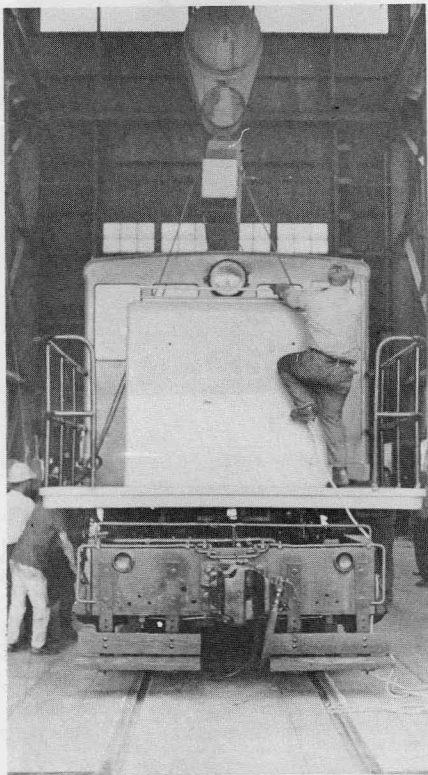
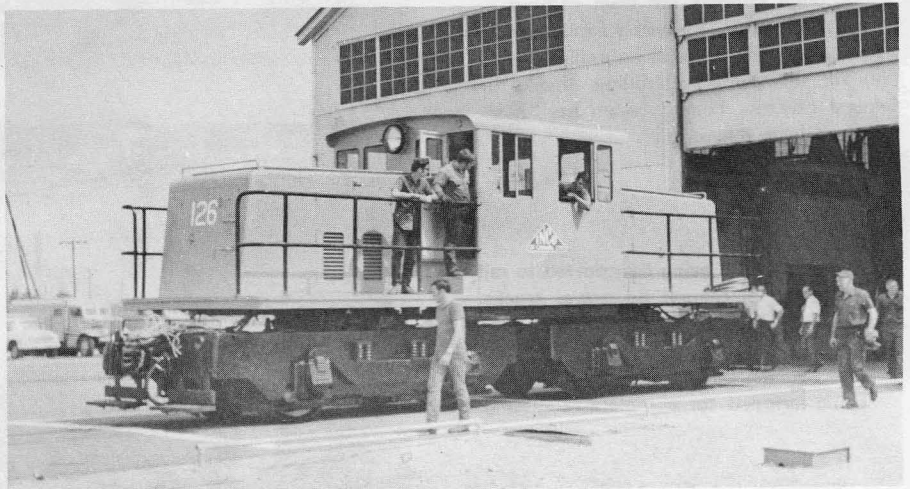


The first of 2 locomotives with centered hoods. The balance of the locos will have wider offset hoods.

Number 126 rolls out into the sunlight on its own wheels for the first time.

INCO No. 126 (KCC No. 63) ready for shipment to new owners. Pantographs, horns, bell and other roof details will be added upon arrival in Canada.

Does it fit? Number 126 is lowered onto its power trucks following rebuilding.

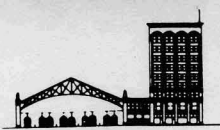


ALL PHOTOS ON THIS PAGE  
BY STANLEY D. SCHWENDLER.

**LOCOMOTIVE ROSTER**

Kennecott No.	Builders Date & Number	INCO No.
KCC 50	GE March 1940 No. 12553	INCO 121
KCC 52	GE March 1940 No. 12555	
KCC 56	GE March 1940 No. 12559	
KCC 59	GE April 1941 No. 13040	
KCC 62	GE Nov. 1942 No. 15625	INCO 123
KCC 63	GE Dec. 1950 No. 30638	INCO 126
KCC 64	GE Dec. 1950 No. 30639	INCO 125
KCC 54	GE March 1940 No. 12557	INCO 122





## OFFICE CAR

We are glad to hear that Al Lamborn and Everitt Wood have launched the Model Traction Institute—it is something that we have felt needed to be done for a long time. Best of everything to them.

Another thing that we have felt was needed in the Traction Fan & Model field is an "Electric Railway Foundation". Of course it would have to be administered by a board of directors, but so often we have talked to fellows with wonderful ideas for a book, model or model part, but most of us are not fortunate enough to have the money, time and ability, all at the same time.

But if the "Electric Railway Foundation" was in operation, the board of directors could consider a certain item—let's say an under-floor power truck for HO traction, make arrangements for its manufacture and distribution, and thus further the fun in Model Traction, and encourage others to submit their ideas, plans and inventions. Of course the directors would serve without pay, their "seed money" coming from "investors" who could expect a little profit and of course the inventor would get a royalty from each item he was instrumental in designing.

Your comments, ideas, and contributions are earnestly solicited—for books on little known lines; brass imported models of less popular cars; future development of model traction—what do you think?

Vane A. Jones, Publisher

# TRACTION & MODELS

May, 1971  
Volume 7, No. 3

**COVER PHOTO:** Donn C. Barber, who furnished the slide for the cover promises us 1/4" scale plans for these same locomotives at a future date. Photo shows newly rebuilt International Nickel-GE electric locomotive at Phoenix, Ariz. Story on page 15.

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**SUBSCRIPTIONS:** Single copies, 75c each; by mail to U.S.A.: 1 year, \$7.50; 2 years, \$13; other countries \$1 per year extra.

**PUBLISHED MONTHLY** by Vane A. Jones Co., 6710 Hampton Drive, E., Indianapolis, Ind. 46226.

**ADVERTISING** rates are quoted by the publisher upon written request. Ads are limited to items of particular interest to Traction Fans and Model Builders, and includes related items such as Model Railroad, Railroad Books, etc.

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MAY, 1971 75c



BLOOMSBURG

COPPER ELECTRICS

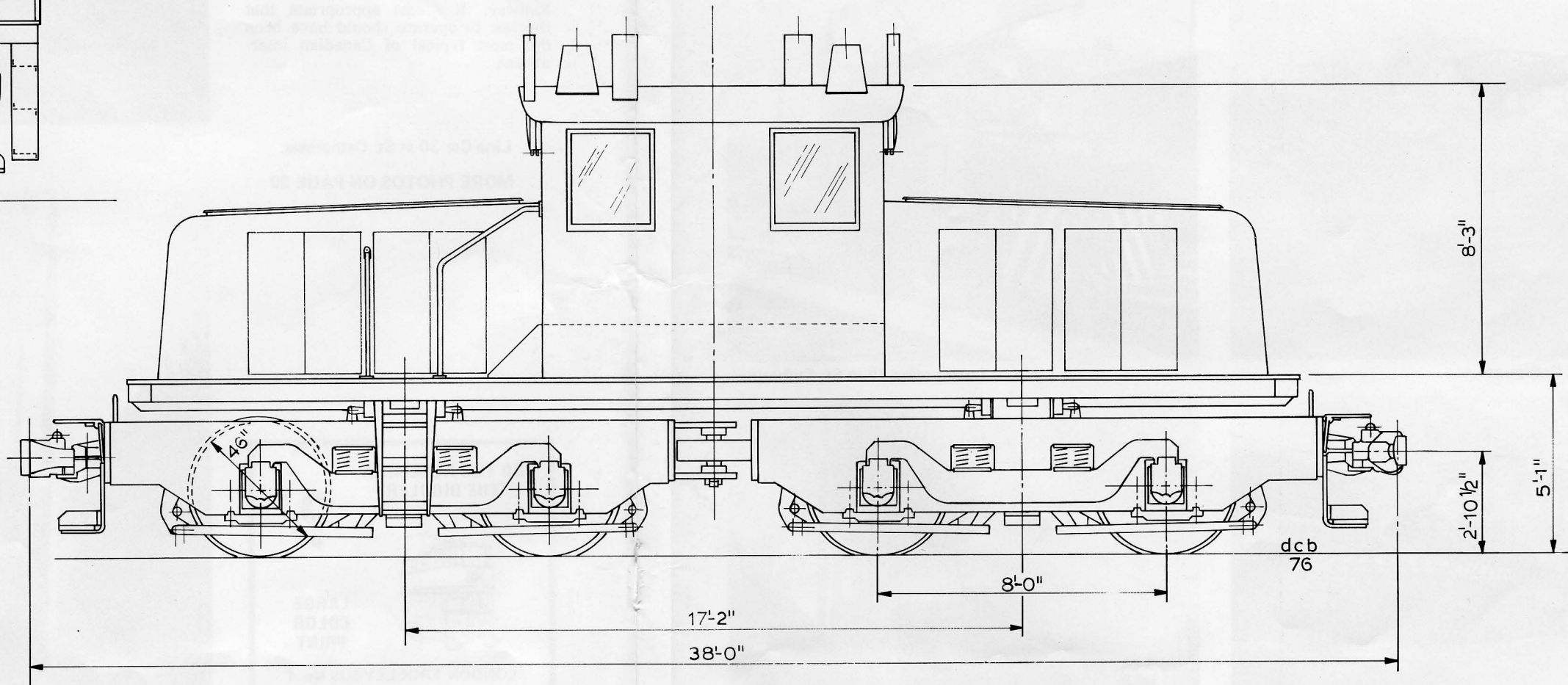
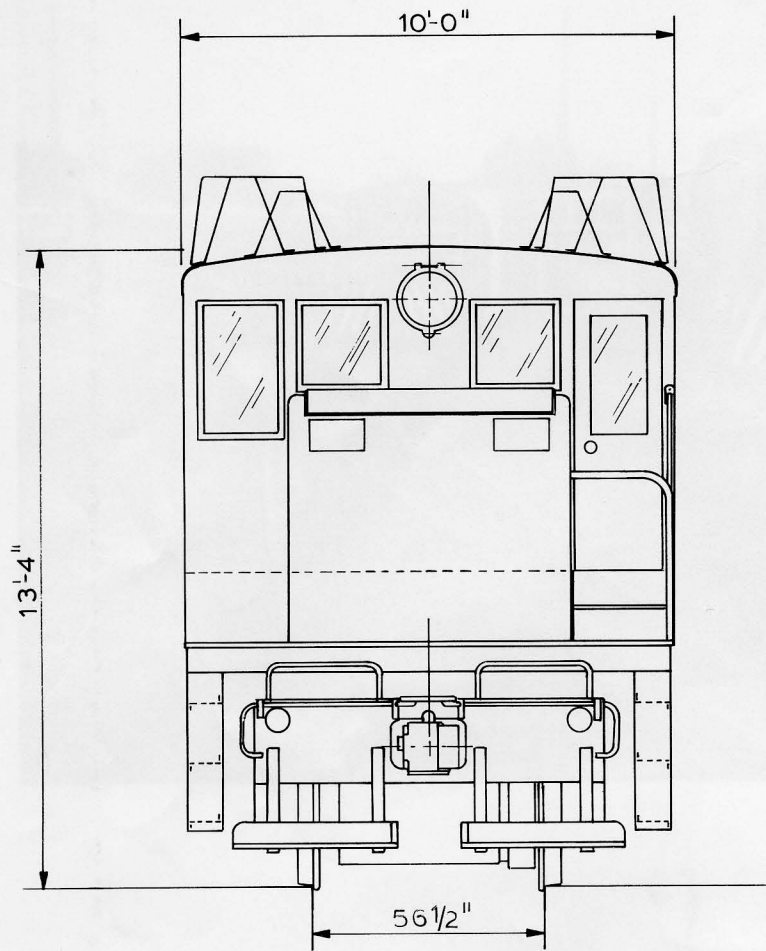
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For additional information and  
photos refer to TRACTION &  
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