

The first 2,000 70-ton hopper cars on the Lines were Lot 368-H, delivered to the Pittsburgh, McKeesport & Youghioghney in May 1917 by the Standard Steel Car Co.

## 70-Ton Hopper Cars of The New York Central

Charles M. Smith

From 1917 to 1961 the New York Central and subsidiary roads acquired a total of 37,947 open-top hopper cars of 70-ton capacity. These cars were of five basic designs, and two designs accounted for over 80% of the total.

The Central's first 2,000 70-ton hoppers were delivered to the Pittsburgh, McKeesport & Youghioghney in 1917 by the Standard Steel Car Co. (later to become part of Pullman-Standard) of Butler, Pa. These cars were designated Lot 368-H. They were of the builder's standard design and were distinguished from later cars by their four shallow hopper pockets. See diagram H-21. In later years, when these cars received general repairs, the four shallow hoppers were replaced with three saw-tooth hoppers, see diagram H-9.

It was not until six years later, in 1923, that additional 70-ton hopper cars were acquired. These 5,300 cars, Lots 435-H, 436-H, 466-H, 467-H, and 476-H, were built to New York Central specification 480-B. This specification closely followed the 70-ton hopper car design developed by, but not built by, the United States Railroad Administration. As built, these cars had saw-tooth outside hoppers and a shallow center hopper, see diagram H-19. As these cars received general repairs, the shallow center hopper was replaced with one of the saw-tooth type, see diagram H-17.

The year 1924 saw the delivery of an additional 8,000 cars to specification 480-C, Lots 488-H, 495-H, 496-H and 499-H. The final 500 cars of this type, to Specification 480-D, Lot 525-H, were delivered in 1926.

All of the previously mentioned cars were built and maintained with sides of riveted construction and with outside pressed stakes.

The year 1926 also saw the delivery of the first 70-ton hopper cars of a new design, Specification 916-B, and 500 cars were

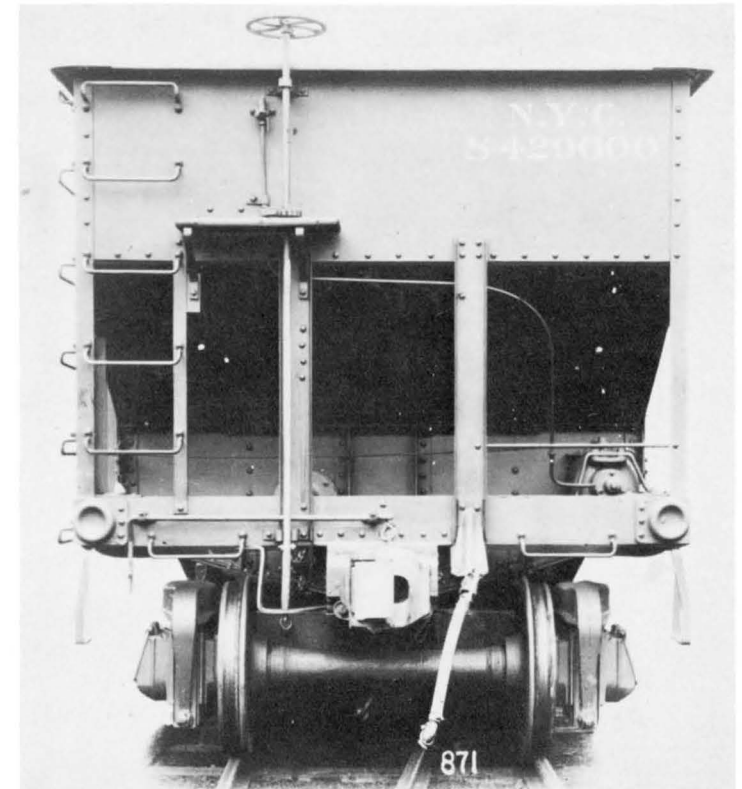
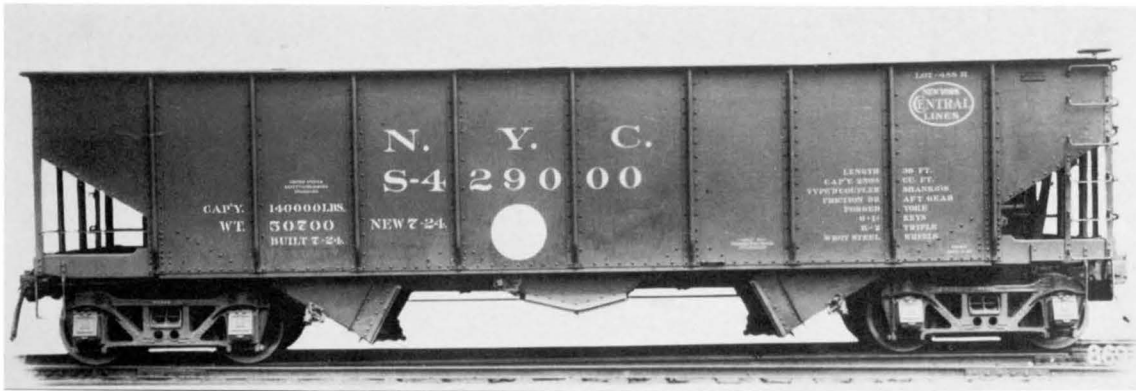
received in Lot 524-H. These cars were noticeably different from previous NYC 70-ton cars, having pressed side stakes located inside the side sheets. This construction allowed a car of greater cubic capacity for the same width, but had the disadvantage that structural members were in contact with the lading and subject to increased corrosion.

An additional 950 cars of this design were received in Lot 556-H during 1927 and the final 500 cars in Lot 597-H in 1929. The first two lots of cars to Specification 916-B had shallow center hoppers as built, see diagram H-23 (1940), but these were replaced at general repairs with saw-tooth center hoppers, see diagram H-21. The final lot was built with three saw-tooth hoppers, see diagram H-25 (1954). Lot 597-H was also the first 70-ton hopper lot to be built with geared hand brakes.

Lot 543-H, 97 cars, was acquired second-hand in from the A. M. Byers Co. in 1926, and Lot 588-H, 450 cars, was acquired second-hand from the Corrigan-McKinney Co. in 1929. Lot 543-H had formerly carried reporting marks BYRX 101-198, and Lot 588-H reporting marks McKX 500-999. Both lots were of the Standard Steel Car Co. design similar to Lot 368-H, diagram H-21, and were received with four shallow hoppers. These were replaced with three saw-tooth hoppers at general repairs. With the exception of car 903171 (Lot 588-H), all cars in Lots 543-H and 588-H were rebuilt with the Union Metal Products Company's pressed panel sides, diagram H-25 (1938). Car 903171 retained outside stake riveted sides throughout its service, and the remaining cars in Lot 588-H were ultimately rebuilt to this configuration, see diagram H-23 (1954).

After the delivery of Lot 597-H in 1929 came the Great Depression, followed by World War II, and nineteen years would elapse before the New York Central received another 70-ton hopper car.

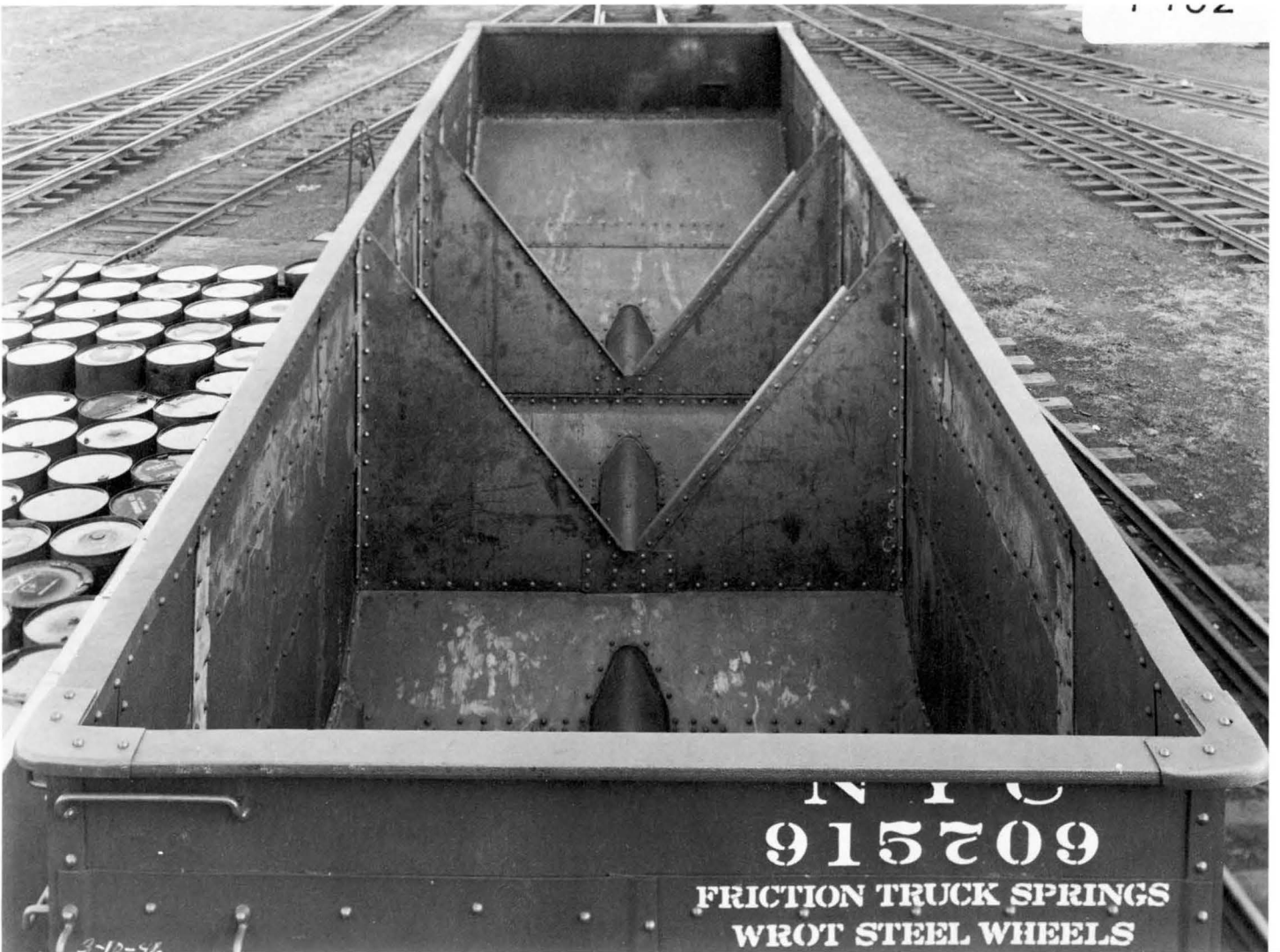
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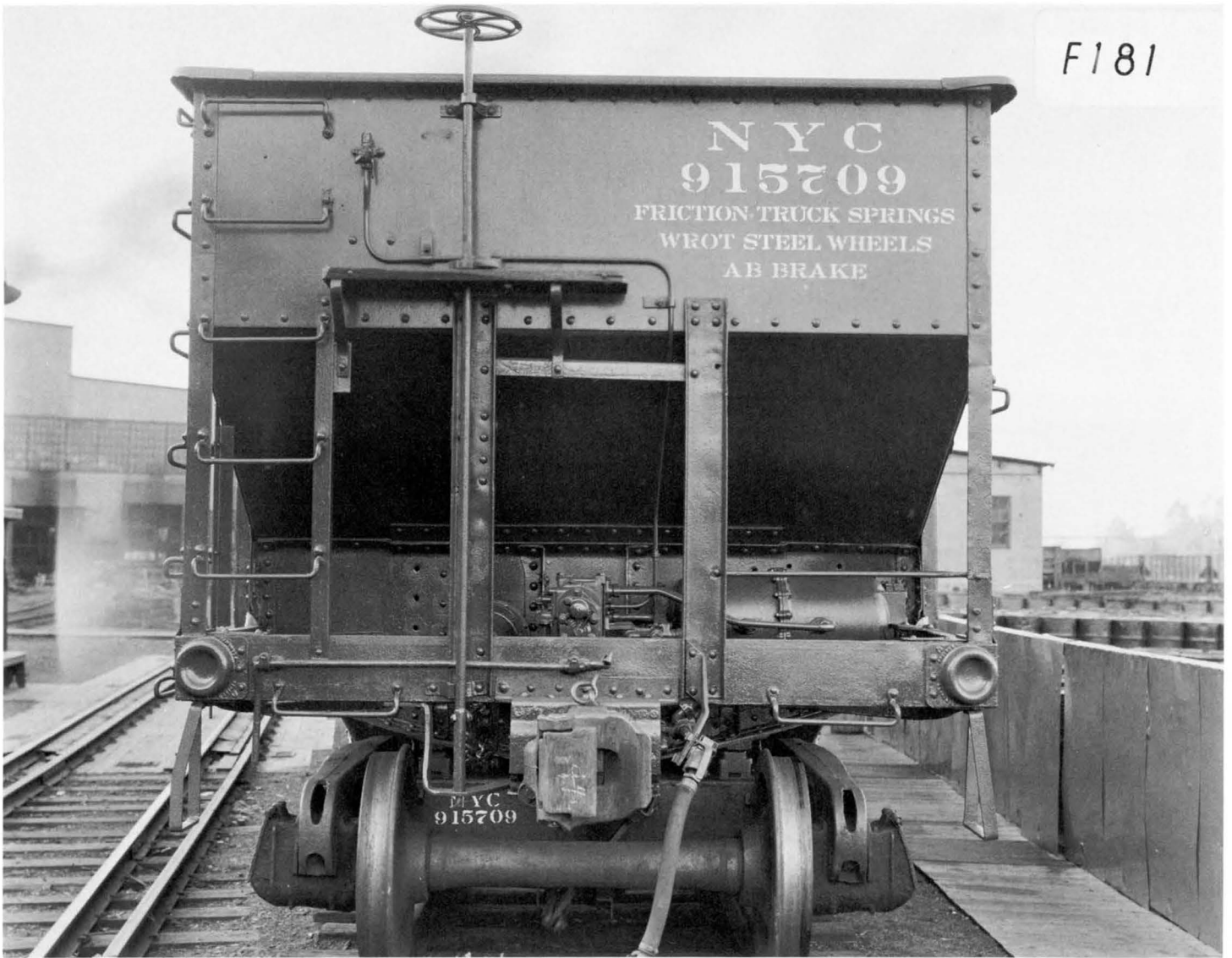
The 13,800 cars built to Specification 480 were exemplified by these photographs of NYC S-429000, built by the Standard Steel Car Co. in 1924. This car was one of 1,600 to this specification built with truck design to NYC drawing N-38314, which was sprung at the journal box and was furnished by the car builder. These trucks were phased out after 1938.



Car 915709, ex 431709, was from Lot 488-H and is shown as repaired at East Rochester in 1946. This car has USRA 70-ton trucks with Keystone separable journal box side frames.



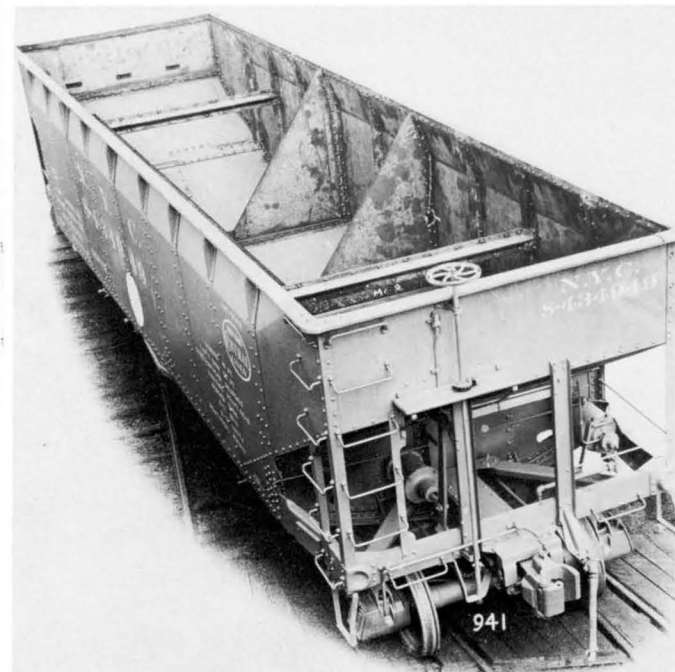
Interior construction of NYC 915709 as repaired in 1946. Compare with photo of NYC S-429000 and note that crossies have been eliminated and stiffener angles applied to crossridge webs.

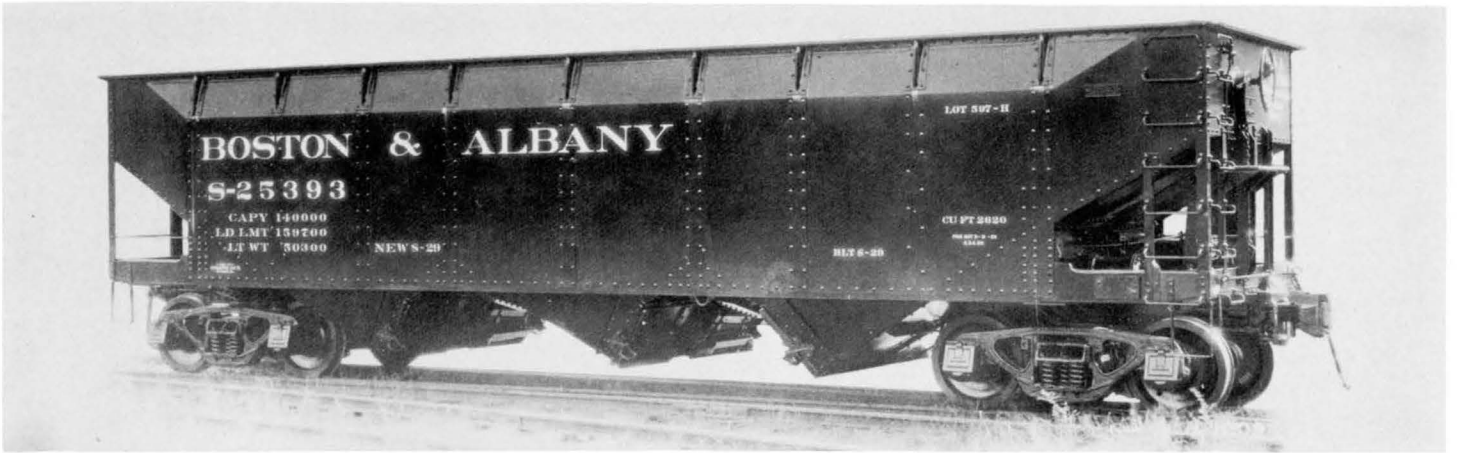


B end of NYC 915709 as repaired in 1946. AB brake equipment has replaced the original KD-1012 equipment.

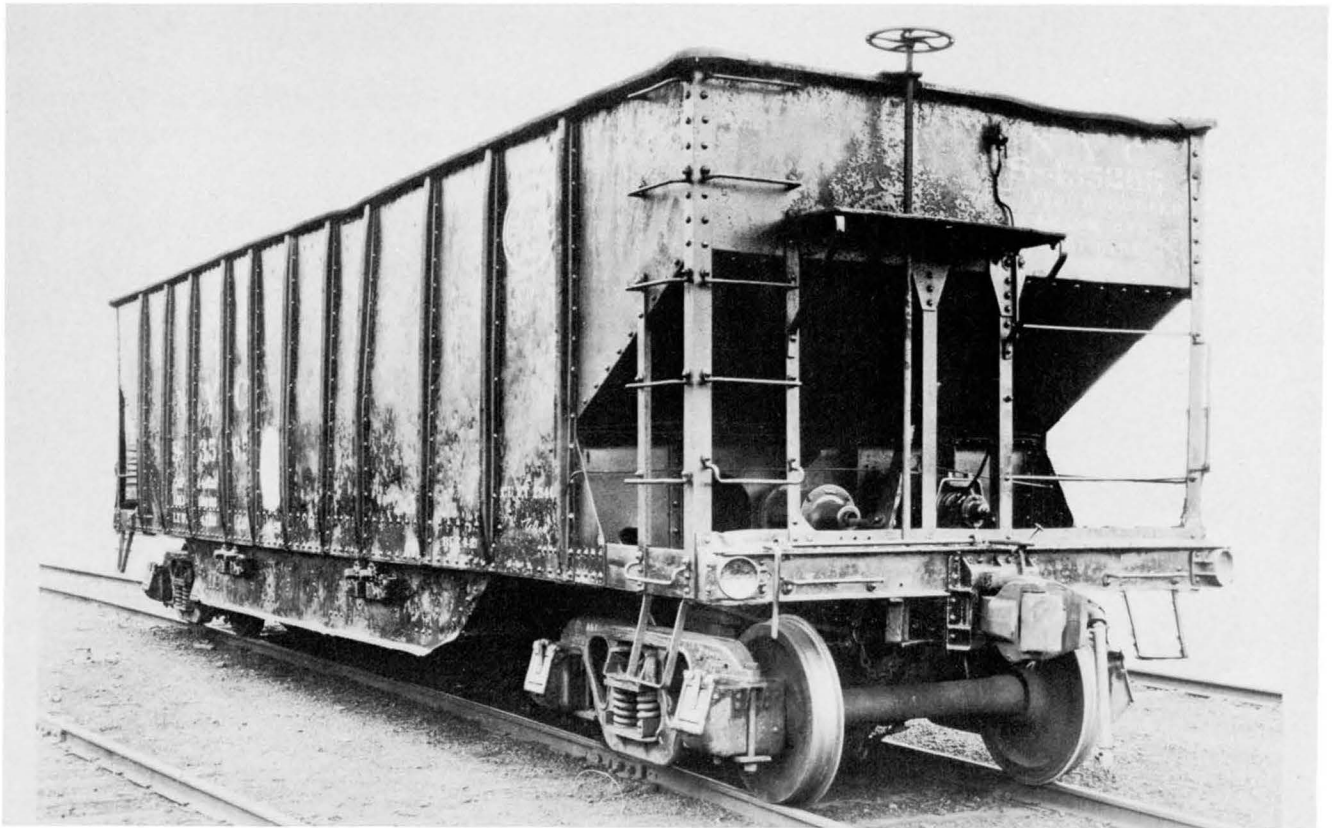


NYC S-434949, Lot 556-H, represents the 70-ton inside-stake hopper cars built to NYC Specification 916-B in 1927. Trucks on this car have U-section side frames with integral journal boxes.





**B&A S-25393, Lot 597-H, was another Specification 916-B car, and represented the first group of 70-ton hopper cars built with geared hand brakes and sawtooth center hoppers.**



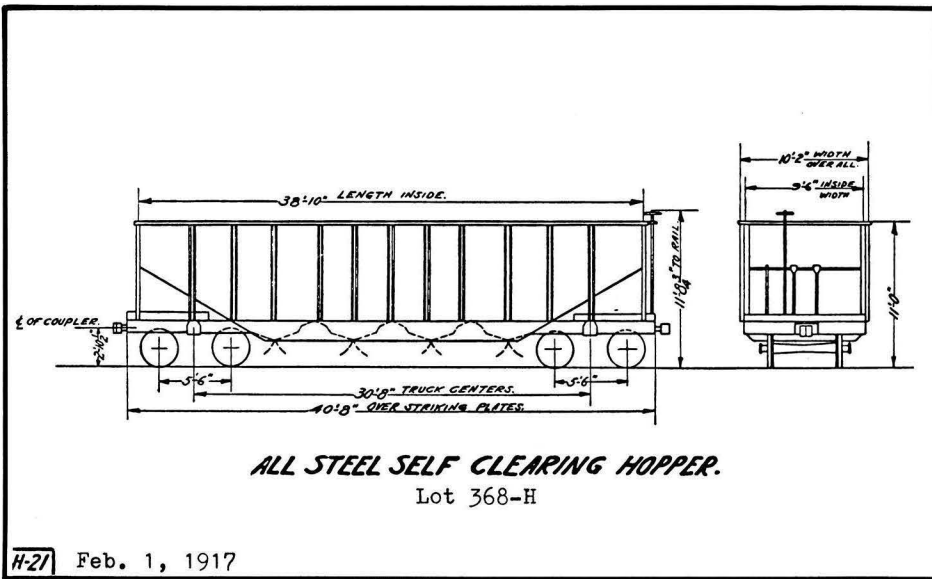
**Lot 588-H was acquired second-hand from Corrigan-McKinney Steel Co. in 1928, and was somewhat shopworn as this photograph shows. Car was similar in design to Lot 368-H, and was equipped with Andrews trucks.**



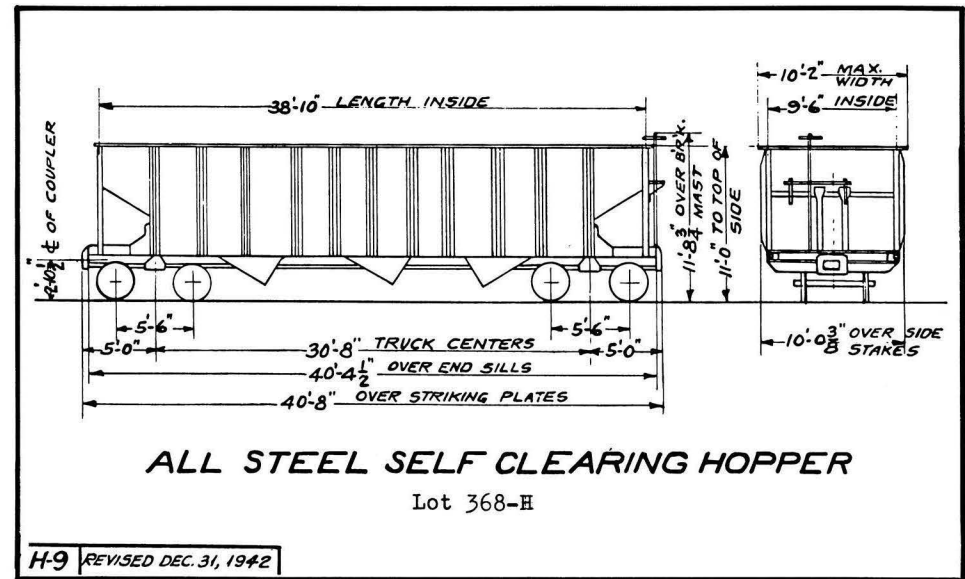
Car S-435171, Lot 588-H, was rebuilt as shown at Avis, Pa. in 1931, the only car to receive this treatment at that time.



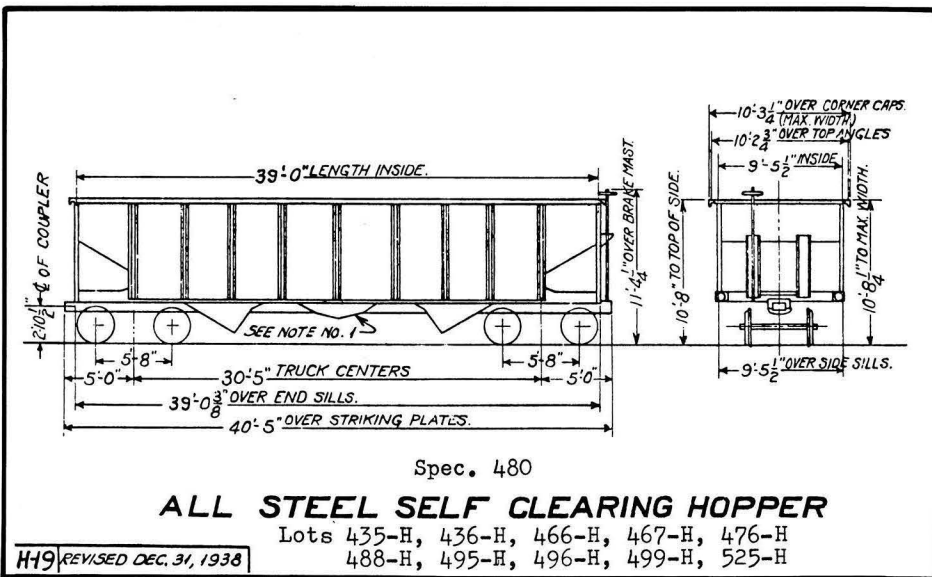
Car 903354, Lot 588-H, exemplifies this lot as rebuilt with panel sides at Avis, Pa. in 1937. All cars except 903171 (ex-435171) received this treatment. Note also that AB brake equipment was applied. Trucks are still the Andrews type.



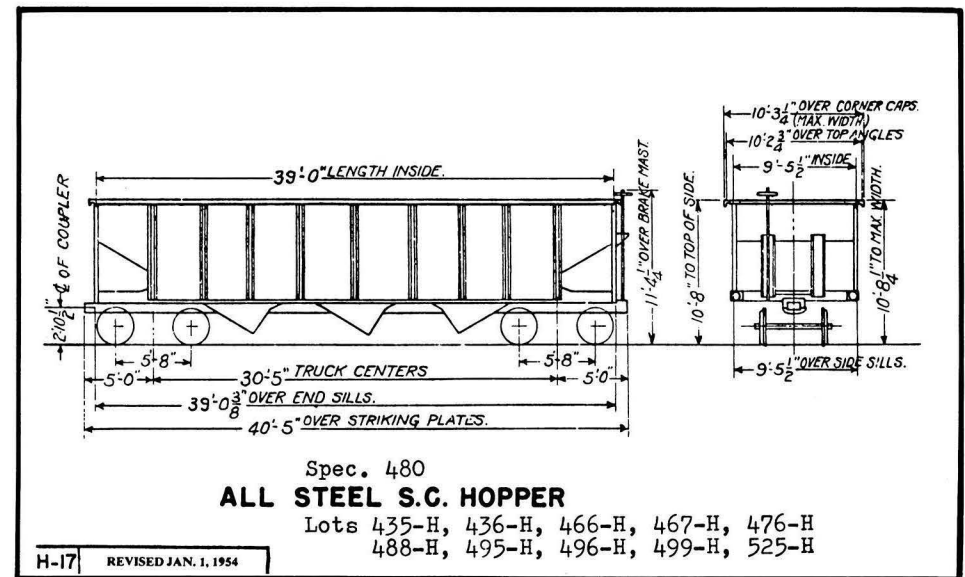
**ALL STEEL SELF CLEARING HOPPER.**  
Lot 368-H



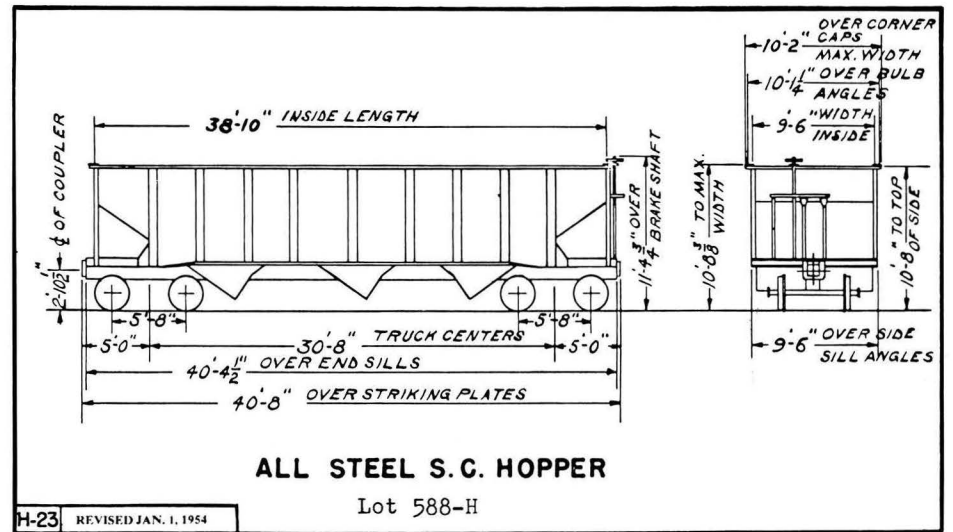
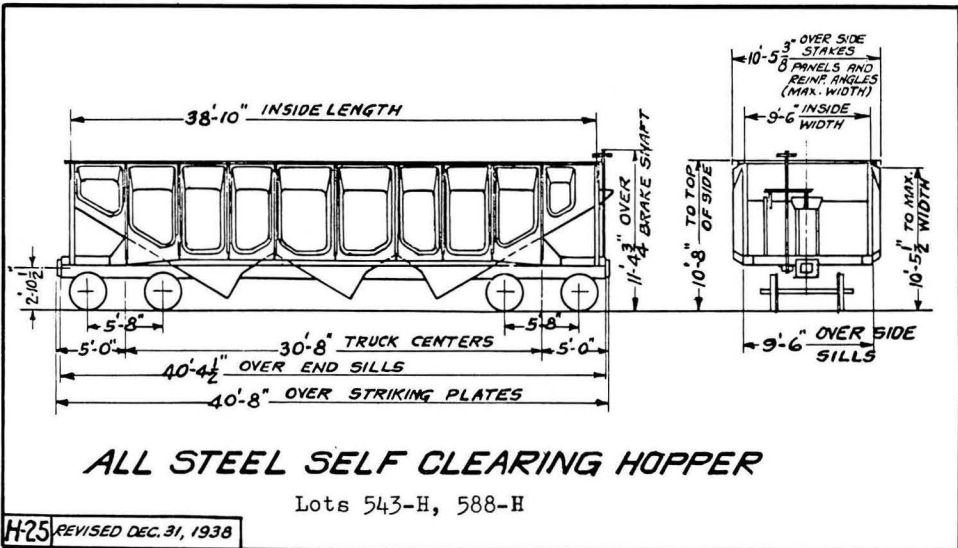
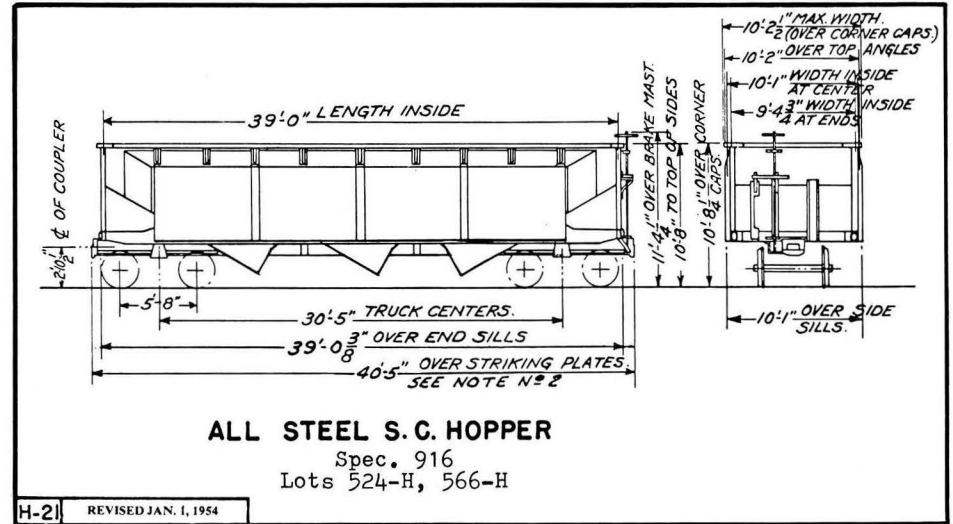
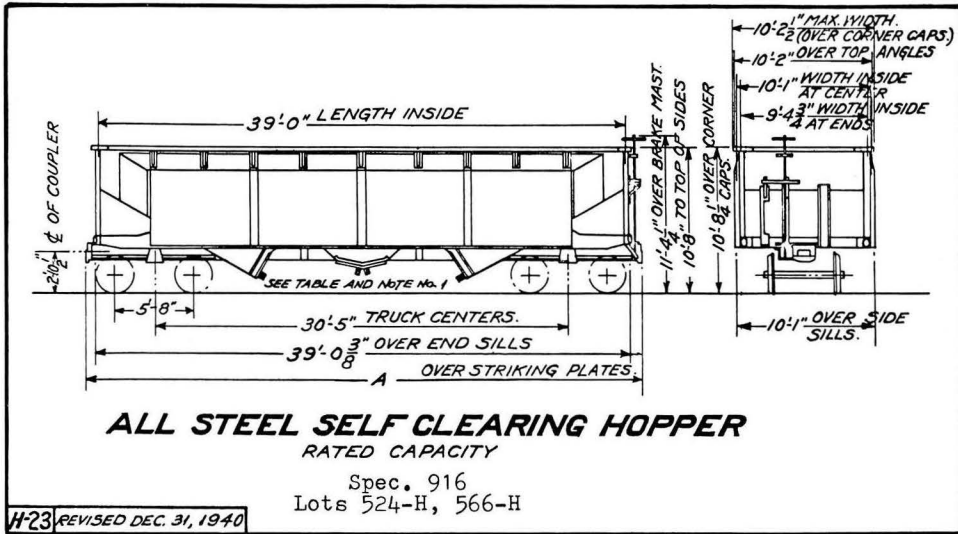
**ALL STEEL SELF CLEARING HOPPER**  
Lot 368-H



Spec. 480  
**ALL STEEL SELF CLEARING HOPPER**  
Lots 435-H, 436-H, 466-H, 467-H, 476-H  
488-H, 495-H, 496-H, 499-H, 525-H



Spec. 480  
**ALL STEEL S.C. HOPPER**  
Lots 435-H, 436-H, 466-H, 467-H, 476-H  
488-H, 495-H, 496-H, 499-H, 525-H





Lot No.	Spec. No.	No. Cars	Builder	Year	Road	Original Numbers	Road	Final Numbers	See Notes	Light Weight	Capacity	
											Tons	Cu. Ft.
368-H	—	2000	SSB	1917	PMcKY	63000-63499			NOTE 1	51700	70	2660
435-H	480-B	1500	PSC	1923	PMcKY	53000-54499			NOTE 2	50000	70	2508
436-H	480-B	1500	SSB	1923	PLE	66000-67499			NOTE 2	50200	70	2508
466-H	480-B	1500	SSB	1923	NYC	425000-426499	NYC	908000-909499	NOTE A	50300	70	2508
467-H	480-B	500	PSC	1923	NYC	426500-426999	NYC	909500-909999	NOTE A	50000	70	2508
476-H	480-B	300	PSC	1923	PLE	67500-67799			NOTE 2	50100	70	2508
488-H	480-C	5000	SSB	1924	NYC	427000-431999	NYC	911000-915999	NOTE A	50700	70	2508
495-H	480-C	1000	PSC	1924	PLE	56000-56999			NOTE B	NOTE 4	70	2508
496-H	480-C	1500	PSC	1924	NYC	432000-433499	NYC	917000-918499	NOTE A	50700	70	2508
499-H	480-C	500	SSB	1924	NYC	433500-433999	NYC	918500-918999	NOTE A	50300	70	2508
524-H	916-B	500	SSB	1926	PLE	57000-57499			NOTE 6	52400	70	2620
525-H	480-D	500	PSC	1926	PLE	57500-57999			NOTE 2	51000	70	2508
543-H	—	97	SSB	1920	PLE	67900-67996			NOTE 7	—	70	2536
556-H	916-B	950	SSB	1927	NYC	434000-434999	NYC	951000-951999	NOTE C	NOTE 9	70	NOTE 10
588-H	—	450	SSB	1920	NYC	435000-435499	NYC	903000-903499	NOTE D	NOTE 13	70	NOTE 14
597-H	916-B	500	SSB	1929	B&A	25000-25499	NYC	902000-902499	NOTE 16	50200	70	2620
770-H	954-A	1000	GSC	1948	PLE	3000-3999			NOTE 17	46700	70	2773
814-H	954-B	500	ER	1952	NYC	903500-903999				50100	70	2744
824-H	954-B	1000	GAT	1952	NYC	904000-904999				50600	70	2744
865-H	959-B	5250	ER	1957	NYC	919000-924249			NOTE 18	50700	70	2700
866-H	959-B	1500	ACB	1956-7	NYC	900000-901499				50700	70	2700
867-H	959-B	500	GAT	1957	NYC	901500-901999				50700	70	2700
868-H	959-B	1000	GSC	1957	NYC	905000-905999			NOTE 19	50000	70	2700
869-H	959-B	1000	PSB	1957	NYC	906000-906999				50000	70	2700
870-H	959-B	2000	BSJ	1956-7	PLE	68000-69999			NOTE 20	49800	70	2700
879-H	959-B	2000	ER	1957	PLE	70000-71999				49800	70	2700
886-H	959-D	1000	ER	1959	PLE	72000-72999				50500	70	2700
890-H	959-D	500	GSC	1960	PLE	73000-73499				51200	70	2700
902-H	959-F	550	ER	1961	PLE	73500-74049				51200	70	2700
903-H	959-F	1500	ER	1961	NYC	922250-923749				50700	70	2700
904-H	959-E	350	ER	1961	NYC	950000-950349				55800	70	2757

## NOTES

- Note 1 Lot 368-H built with four (4) shallow hoppers, rebuilt with three (3) saw-tooth hoppers.
- Note 2 Cars to Specification 480 built with shallow center hopper; at general repairs had saw-tooth center hopper applied, increasing cubic capacity to 2518 cu. ft.
- Note 3 240 cars from these lots were converted for handling bauxite and lot 720-H assigned.
- Note 4 Light weight of 56000-56899 was 50,600 lbs. Light weight of 56900-56999 was 52,100 lbs.
- Note 5 Cars 56900-56999 had empty-load brakes.
- Note 6 Lot 524-H built with three (3) saw-tooth hoppers; length over strikers, 40'-5".
- Note 7 Lot 543-H was purchased from the A. M. Byers Co. in 1926; panel sides were applied by P&LE at McKees Rocks in 1939.
- Note 8 Lot 556-H was built with shallow center hoppers, at general repairs had saw-tooth hoppers applied, increasing cubic capacity to 2620 cu. ft.
- Note 9 Light weight of cars 434000-434949, 51,500 lbs.; cars 434950-434999, 52,500 lbs.
- Note 10 Cubic capacity of cars 434000-434949, 2610 cu. ft.; cars 434950-434999, 2600 cu. ft.
- Note 11 Cars 434000-434949 equipped with standard underframes, length over strikers, 40'-5"; cars 434950-434999 equipped with Duryea underframes, length over strikers, 40'-6".
- Note 12 Lot 588-H built with four (4) shallow hoppers, at general repairs had three (3) saw-tooth hoppers applied.
- Note 13 Light weight of car 903171 was 49,200 lbs.; other cars in lot 588-H were 48,300 lbs. with panel sides.
- Note 14 Cubic capacity of car 903171 was 2459 cu. ft., other cars in lot 588-H were 2586 cu. ft. with panel sides and 2546 cu. ft. with flat sides.
- Note 15 Lot 588-H was purchased from Corrigan-McKinney Steel Co. in 1929. Panel sides applied to all cars except 903171 at Avis, Pa. in 1937. These sides replaced with outside stake flat sides at Avis in 1950. Car 903171 had received outside stake flat sides at Avis in 1933.
- Note 16 Lot 597-H built with three (3) saw-tooth hoppers.
- Note 17 Lot 770-H had inside length 40'-8".
- Note 18 Car 921139 converted to rectangular tank car 899999 in 1962.
- Note 19 Car 905182 rebuilt to 100-ton hopper, NYC 952000.
- Note 20 Twenty-four cars from this lot rebuilt to multi-service ballast cars, P&LE 850-869.

Note A - See notes 2 and 3.

Note B - See notes 2, 4, and 5.

Note C - See notes 8, 9, 10, and 11.

Note D - See notes 12, 13, 14, and 15.

#### Builder and Shop Abbreviations

ACB, American Car & Foundry, Berwick, Pa.

BSC, Bethlehem Steel Corp., Johnstown, Pa.

ER, NYC-DSI-MDT, East Rochester, N.Y.

GAT, General American Trans. Corp., E. Chicago, Ind.

GSC, Greenville Steel Car Co., Greenville, Pa.

PSB, Pullman-Standard Car Mfg. Co., Butler, Pa.

PSC, Pressed Steel Car Co., McKees Rocks, Pa.

SSC, Standard Steel Car Co., Butler, Pa.

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This hiatus came to an end in 1948 with the delivery of 1,000 cars to Specification 954-A in Lot 770-H, see diagram H-51. These cars were of the AAR standard inside-stake riveted design, and were outwardly similar to the Specification 916 cars except that most of the pressed members used in the earlier design were replaced with rolled structural shapes.

Lot 770-H was followed in 1952 by Lot 814-H (500 cars) and Lot 824-H (1,000 cars), both to Specification 954-B. See diagram H-53.

In 1956 the New York Central System embarked upon its largest and final 70-ton hopper car construction program. In the following five years, to 1961, 17,150 cars to Specification 959 were built under Lots 865-H, 866-H, 867-H, 868-H, 869-H, 870-H, 879-H, 886-H, 890-H, 902-H and 904-H. See two diagrams p. 261 8/1/67.

These cars were distinguished by extensive use of welding in the fabrication of the carbody. The side assemblies were entirely fabricated by welding, the only rivets appear where corner post, bolster and crossridge connections were made. Floor, hopper and underframe construction was entirely fabricated and assembled by welding.

In many respects the Specification 959 car resembles, and has many construction features in common with, the Pullman-Standard PS-3 70-ton hopper car, but it is not the same car. The New York Central car is 2'-2½" shorter and 3'-15/16" higher, and has 42 cubic feet less cubic capacity, and only fifteen side stakes versus sixteen on the Pullman design (the P-S car has four intermediate stakes between the crossridge stakes, while the NYC car has three).

Despite the fact that these cars were fabricated by Central's own Despatch Shops and five outside builders construction was extremely uniform. Specialty allocations create the major differences - hand brakes, door hardware, slack adjusters, trucks. But note that between Lot 865-H and Lot 904-H the vestigial push pole pockets disappeared. Cars in Lot 904-H, the last 350 cars, were also distinguished from the other cars by their longitudinal hoppers, which made them suitable for distributing ballast. Twenty cars from Lot 870-H were converted to the longitudinal hopper arrangement after original construction and became P&LE 850-869.

One car from Lot 865-H, 921139, was converted in 1962 to the prototype and never-duplicated rectangular tank car, NYC 899999. See diagram p. 371 8/1/67.

One car from Lot 868-H, 905182, was stretched by two feet and equipped with 100-ton trucks in 1962, becoming New York Central's first 100-ton capacity open-top hopper, NYC 952000, Lot 920-H. See diagram p. 280 8/1/67.

#### Trucks

All New York Central 70-ton hopper cars were equipped with friction bearing trucks having 6" x 11" journals and 33" wheels. Because of in-service replacement and substitution of interchangeable components, it is difficult to do more than describe the as-built condition of the cars.

Lot 368-H was equipped with trucks having ASF Vulcan side frames, 5'-6" wheelbase.

Except for a total of 1,600 cars in Lots 466-H, 488-H, and 524-H, all cars from Lot 435-H to 597-K inclusive were equipped with trucks to USRA standards, 5'-8" wheelbase. Lots 435-H to 525-H were equipped with trucks having Keystone side frames with separable journal boxes, while Lots 543-H and 588-H had Andrews side frames with separable journal boxes, and Lots 556-H and 597-H had U-section double truss side frames with integral journal boxes.

The exceptional cars, 100 cars in Lot 466-H, 1,000 cars in Lot 488-H and 500 cars in Lot 524-H had trucks to New York Central drawing N-38314. This truck was sprung between the journal box and side frame, rather than between side frame and bolster. This truck is shown in photograph of car NYC S-429000, and was phased out after 1938.

As years passed, the side frames with separable journal boxes were renewed with integral journal box side frames.

Cars built under Lot 770-H and later were equipped with stabilized trucks of the Barber, ASF Ride Control and National C-1 designs, with the Barber design predominating.

#### Brakes

All cars built prior to Lot 770-H were originally equipped with KD-1012 brake equipment; and the AB brake was made standard those cars remaining in service were retrofitted with that equipment.

Lot 770-H and subsequent cars were equipped with AB equipment as built.

Cars built prior to Lot 597-H were equipped with vertical staff hand brakes; Lot 597-H and subsequent cars had geared hand brakes.

#### Underframe Construction

Cars built prior to Lot 770-H had built-up center sills consisting of two rolled channels and a top cover plate. Lot 770-H and subsequent cars had the current standard AAR Z-section center sill.

#### Painting

All cars built prior to Lot 770-H were delivered painted black. Lots 770-H through 824-H inclusive were delivered painted red oxide. Lots 865-H and subsequent were delivered painted black.

#### Conversions

The conversion of two Specification 959-B cars to the prototype rectangular tank car and the prototype 100-ton hopper car has already been mentioned, and the one large scale conversion of Specification 480 cars to covered hopper cars should not be neglected.

In 1942, in order to meet the wartime demand for aluminum, additional equipment was required to handle bauxite ore. This was done by applying removable roofs to 240 cars from Lots 466-H, 467-H, 488-H, 496-H and 499-H. These 240 cars were then assigned to Lot 720-H, series 882000-882239. After their wartime stint these cars were reconverted to their original configuration and reverted to their original number series. See diagram H-47 and photograph of car NYC 882198.

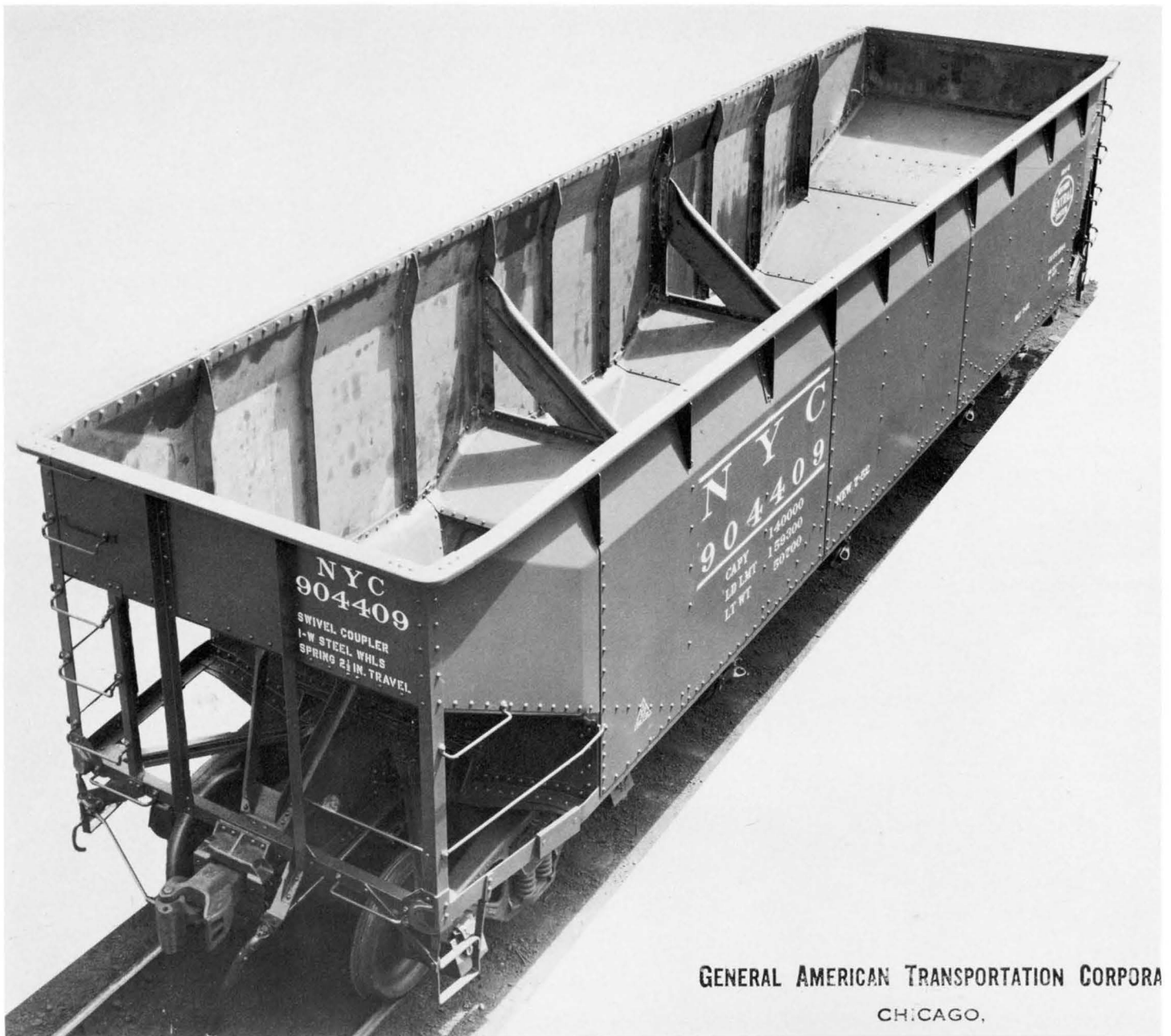


Car 903500, Lot 814-H, exemplifies the inside-stake hopper cars of the AAR 70-ton design, NYC Specification 954-B, as built at East Rochester in 1952. Note that the car is stencilled for Benson Mines-Pittsburgh ore service. Sintered ore was loaded hot, hence in-service cars were rarely seen with paint intact. This car has Barber stabilized trucks.



GENERAL AMERICAN TRANSPORTATION CORPORATION  
CHICAGO,

Car 904409, Lot 824-H, was built to Specification 954-B by General American Transportation Co. in 1952.

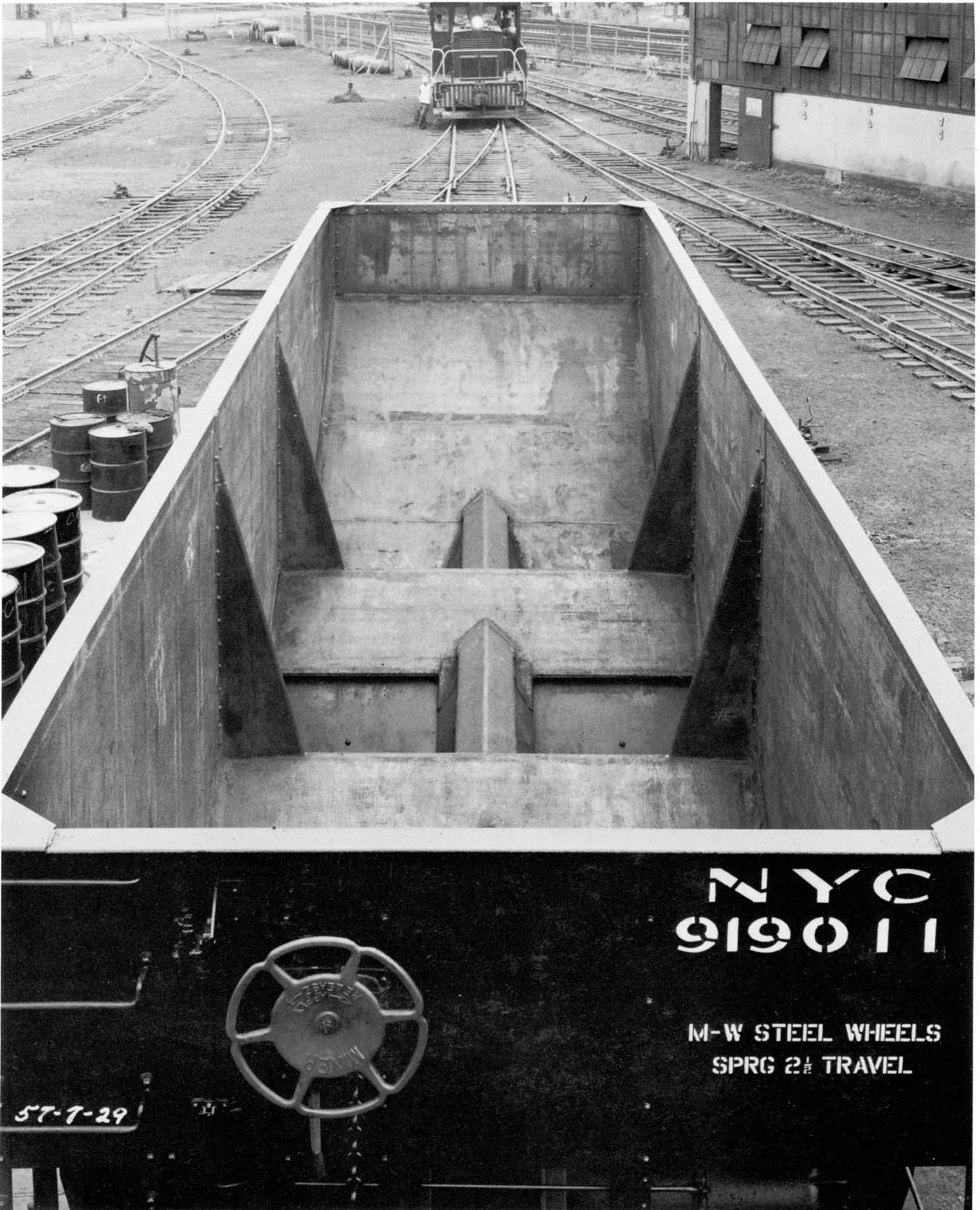


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CHICAGO.

This photo of NYC 904409, Lot 824-H, shows inside construction of these cars. Note that bolster and crossridge stakes are of bulb angle, while balance of stakes are plain angle.



Car 919011, Lot 865-H, was the twelfth 70-ton hopper car to Specification 959-B completed at East Rochester in 1957. This car has National C-1 trucks, Enterprise door hardware and Miner hand brake.



Interior of NYC 919011, Lot 865-H. Note the clean interior surface resulting from welded construction. Only interior rivets are at crossridge, corner posts and ends.



Car 906369, Lot 869-H, was built by Pullman-Standard at Butler, Pa. in April 1957 to Specification 959-B. This car is equipped with Barber trucks.



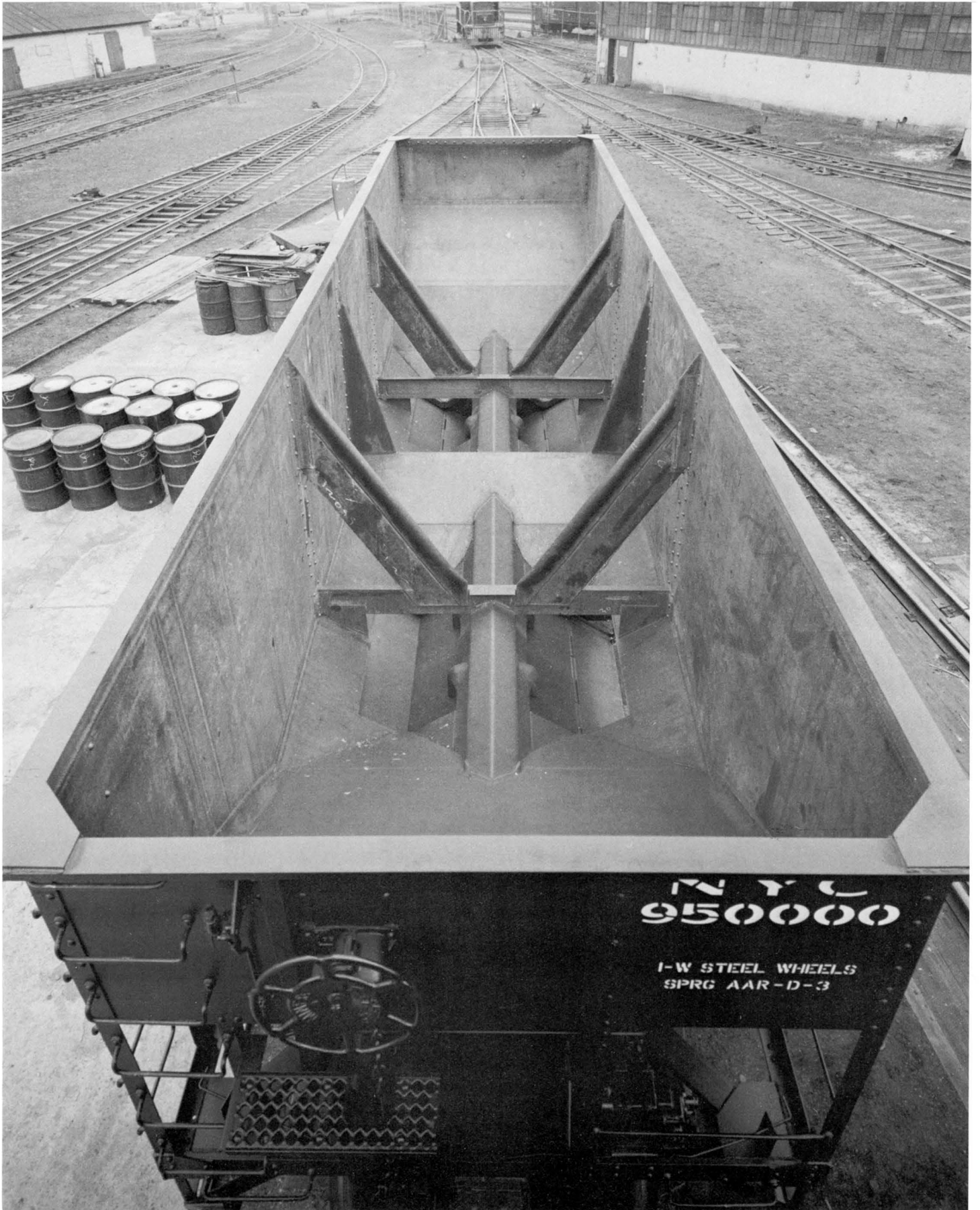
Car PLE 68200, Lot 870-H, was to Specification 959-B and was built by Bethlehem Steel Corp. at Johnstown, Pa. in 1957. Trucks are Barber type, and hopper doors have Wine latches. Hand brake is by Miner.



Car PLE 73500, Lot 902-H, was to Specification 959-F and was built at East Rochester in 1960. Trucks are of the Barber design.

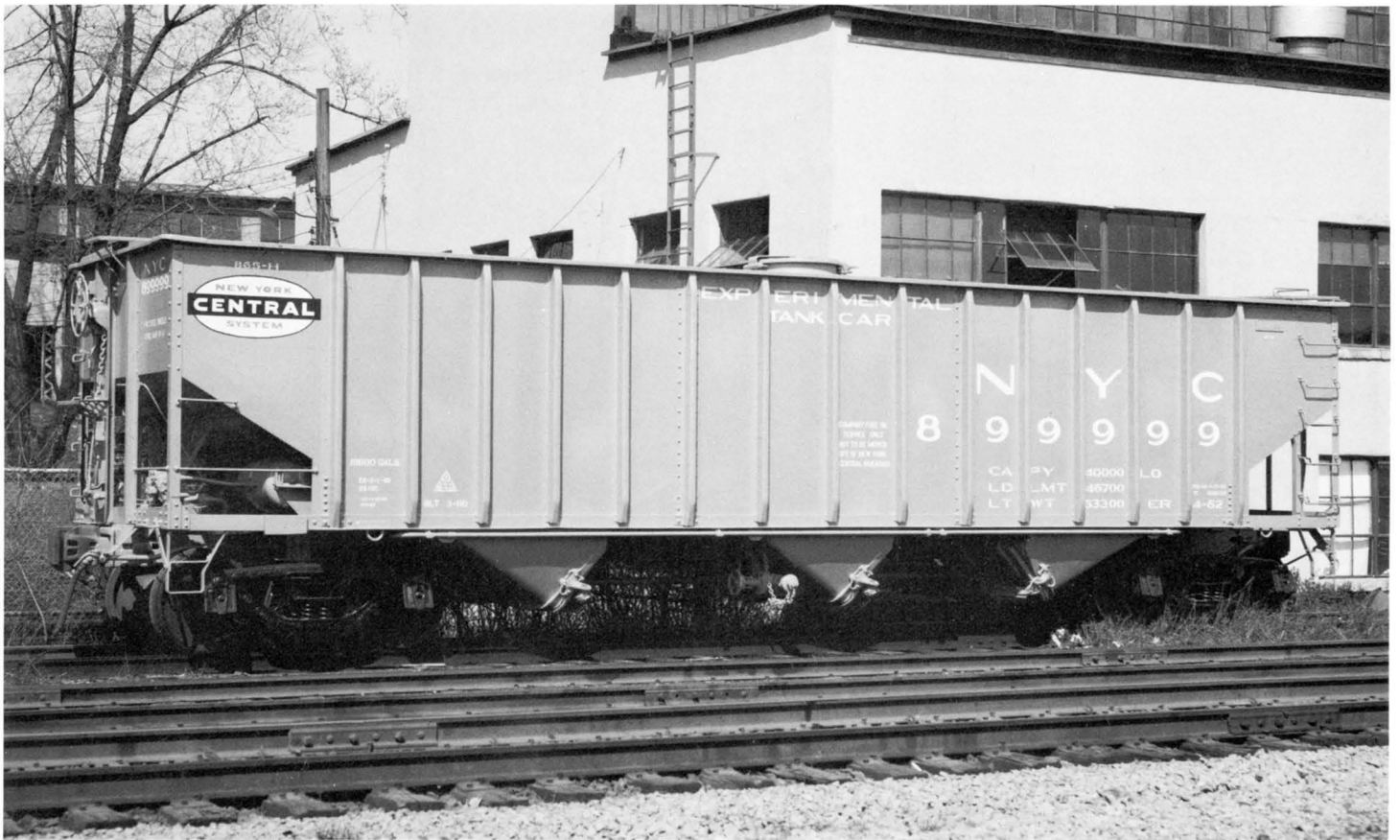


Car NYC 950000, Lot 904-H, was to Specification 959-E, and represents the last 350 70-ton hopper cars built for the NYC. This car has Enterprise longitudinal hopper doors for ballast service. Trucks are of the Barber design.



Interior of car NYC 950000, Lot 904-H, with longitudinal hoppers. Note that the crossridge and floor construction differs from cars that have transverse hoppers.

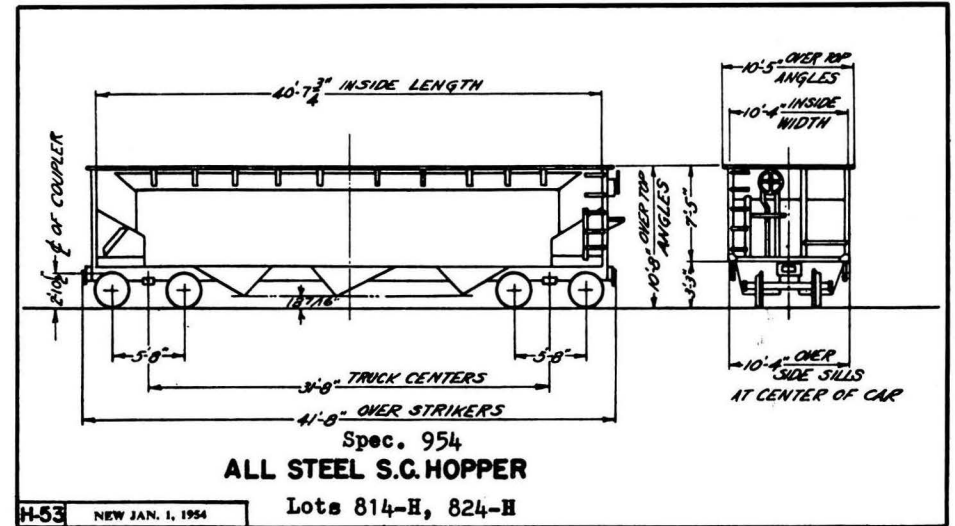
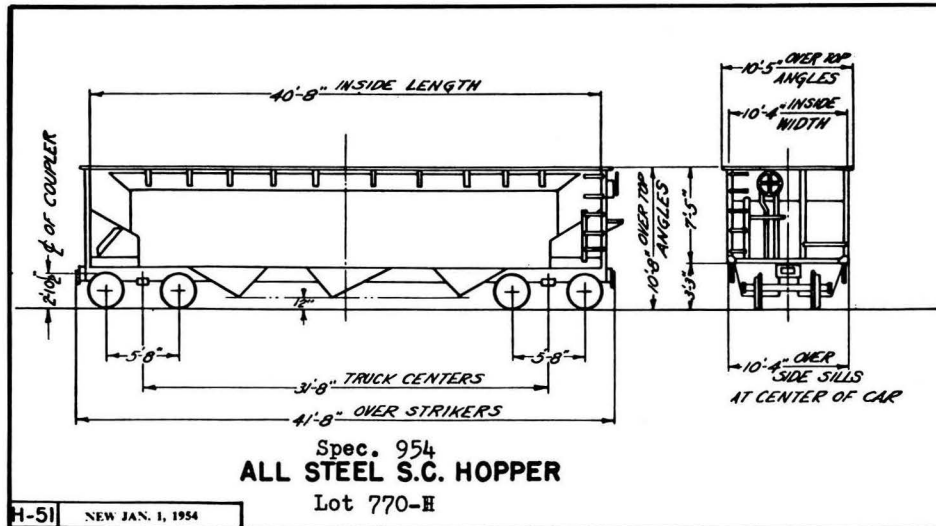
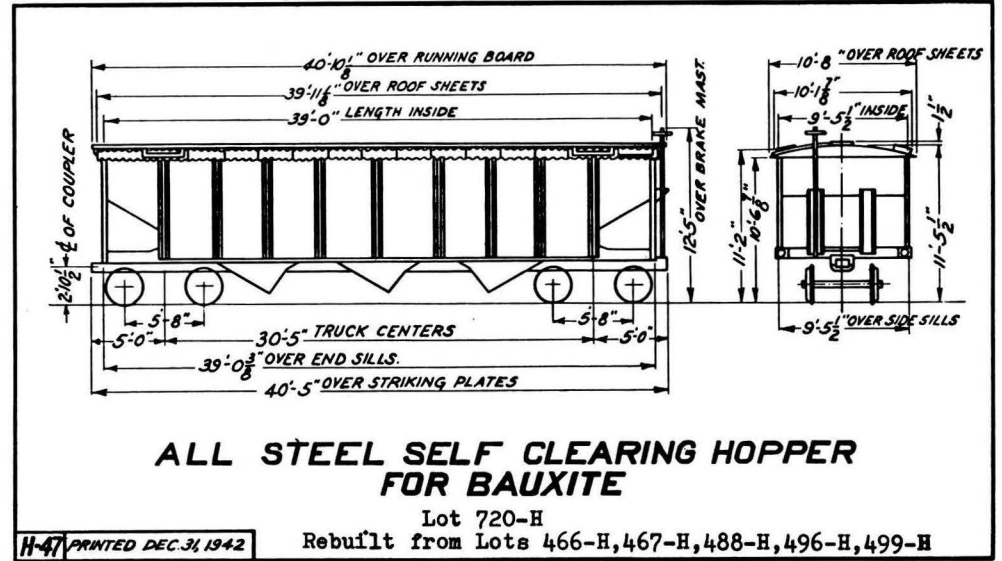
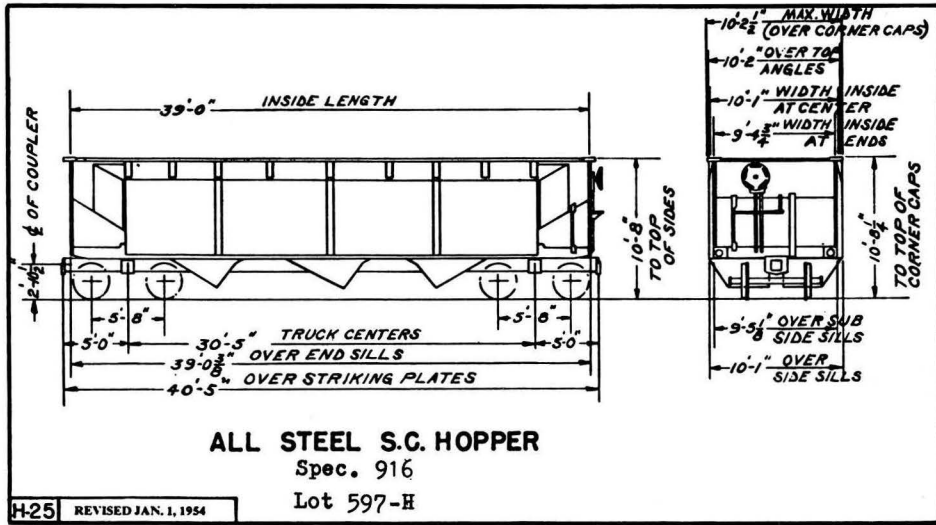


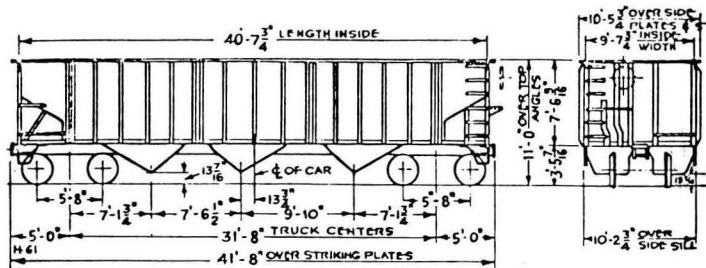


In 1962 car 921139 from Lot 865-H was converted to a rectangular tank car of 19,600 gallons capacity and renumbered NYC 899999. Stencil indicates car was for company fuel service only and was not to be used in interchange.



In 1942 240 cars from Lots 466-H, 467-H, 488-H, 496-H and 499-H (Specification 480) had removable sectional roofs applied and were assigned to bauxite service as Lot 720-H, cars 882000-882239. Car 882198 is shown as outshopped at East Rochester.



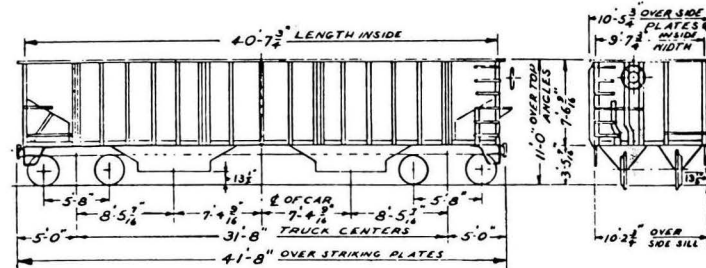


ALL STEEL S.C. HOPPER CAR

Spec. 959

Lots 865-H, 866-H, 867-H, 868-H, 869-H,  
870-H, 879-H, 886-H, 890-H, 902-H, 903-H

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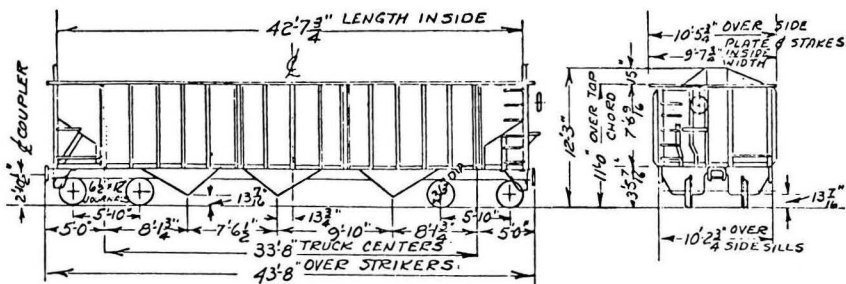


ALL STEEL S.C. HOPPER CAR

Spec. 959

Lot 904-H

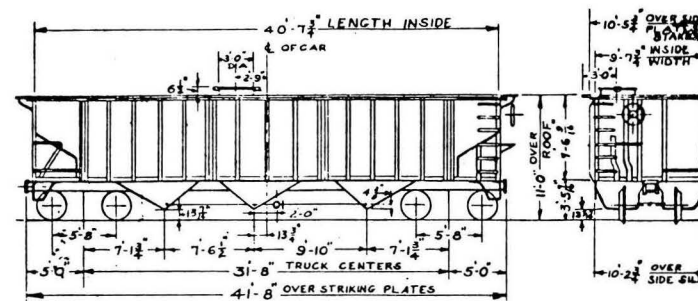
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ALL STEEL S.C. HOPPER CAR

Car NYC 952000

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TANK CAR

Car NYC 899999

Car converted 1962 from hopper car NYC 921139  
Car modified 1964 by removing interior baffles, and installing  
National 3-C cushion underframe, as well as heater and lining.  
Light weight increased from 63,300 to 67,200 lbs.

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