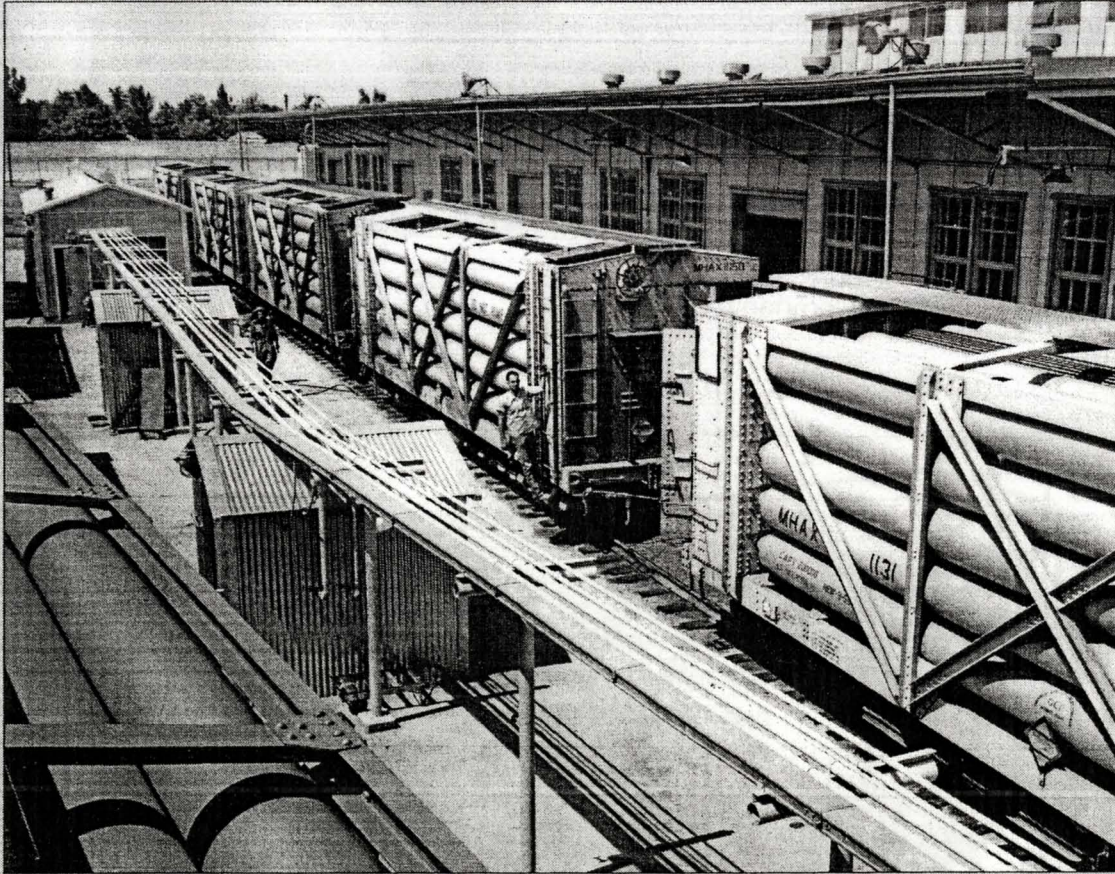


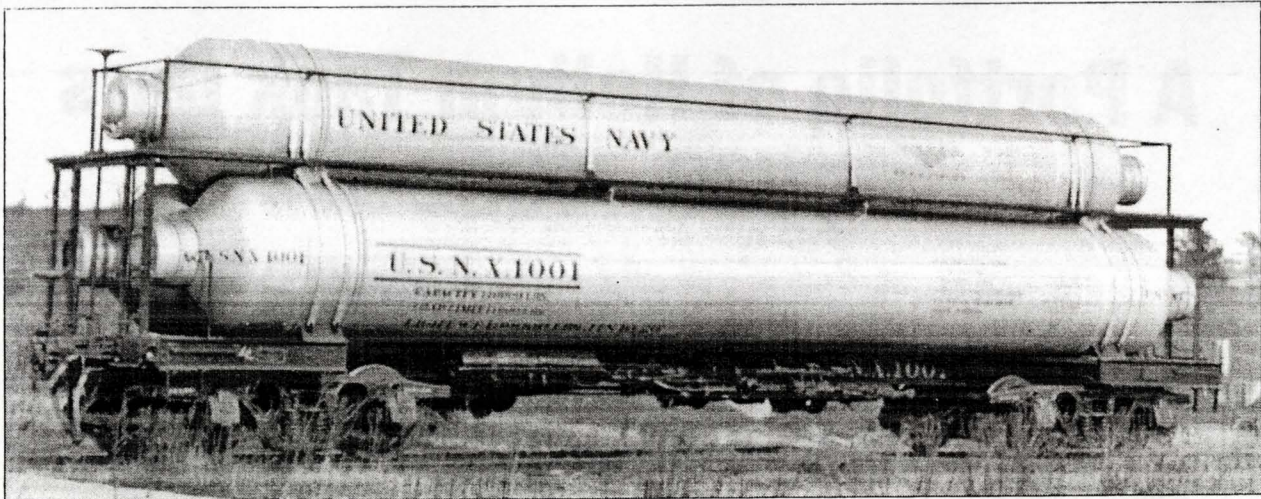
A Portfolio of Helium Tank Cars 1926 - 1962



**Built for the
U. S. Navy • U. S. Army Air Service
U. S. Bureau of Mines • U.S. Atomic Energy Commission**

**Manufactured By
Bethlehem Steel Company
General American Transportation Company
American Car and Foundry • Magor Car Corporation • Darby Corporation**

**Compiled by
Jay H. Miller
June 2007**



First Helium Car 3-Tubes

Built by Bethlehem Steel Company; October 1926
1001



First Army Helium Car 3-Tubes

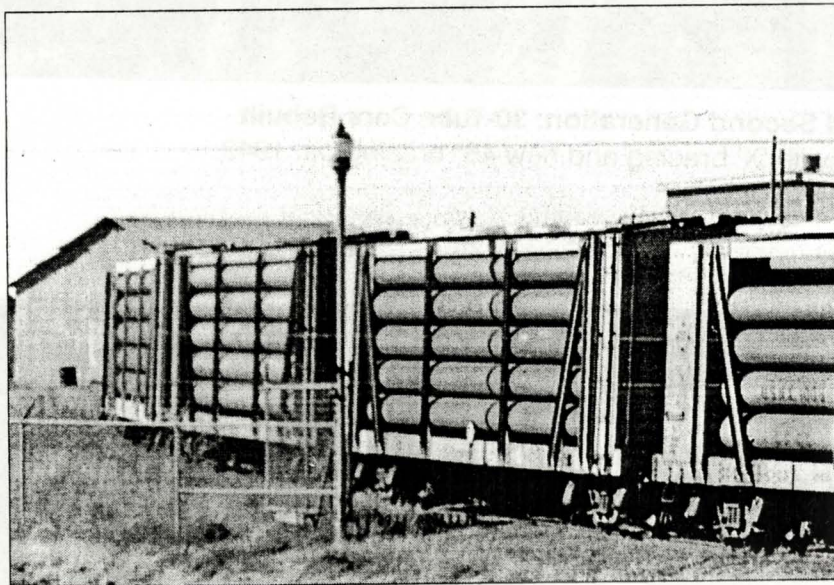
Built by Bethlehem Steel Company; 1927
201 and 202



First Generation: 28-Tube Car

Built by GATC; September-October 1930

1002-1006



Second Generation: 30-Tube Car

Built by GATC; 1933

1007-1012

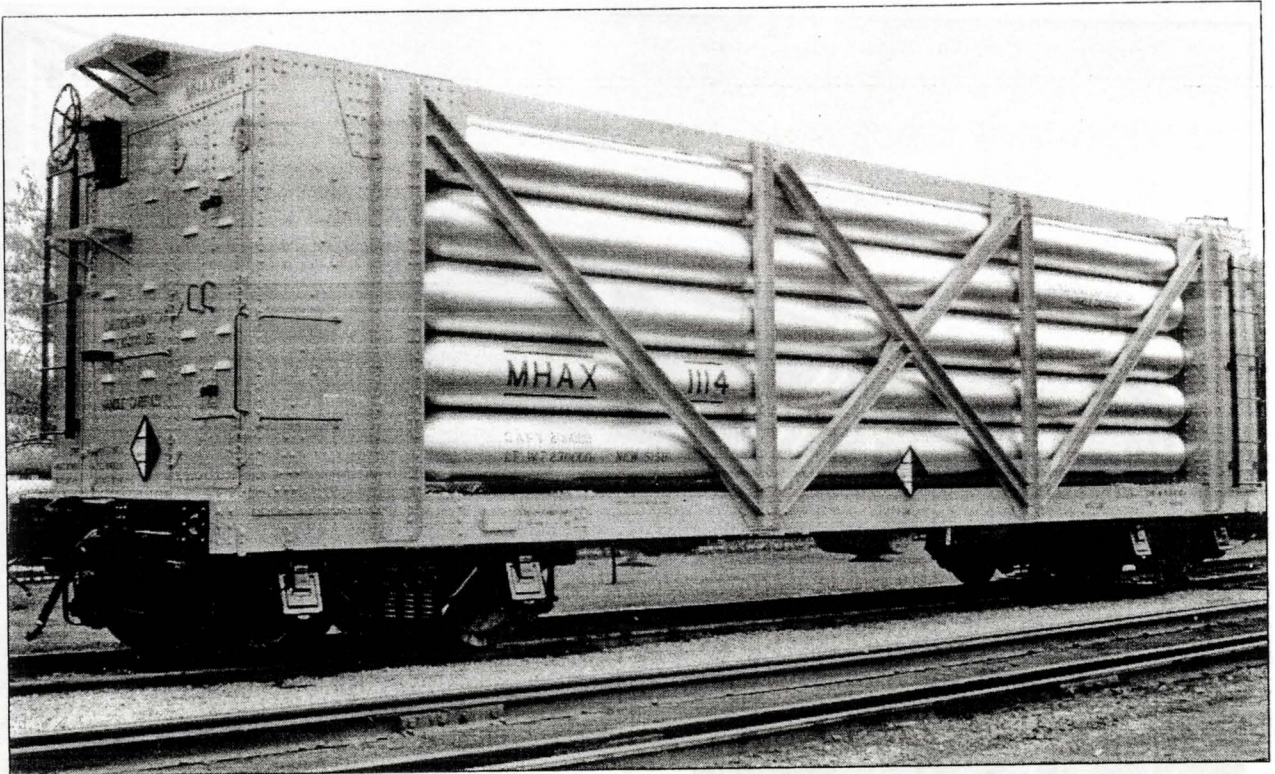


First Generation: 28-Tube and Second Generation: 30-Tube Cars Rebuilt
 Rebuilt by US Bureau of Mines with 'X' bracing and new 45° bracing ca. 1942.
 All lettered UNSX.
 1002-1012



Third Generation: 30-Tube Car
 Built by GATC; November 1942 - August 1943
 1013-1078

All lettered UNSX.

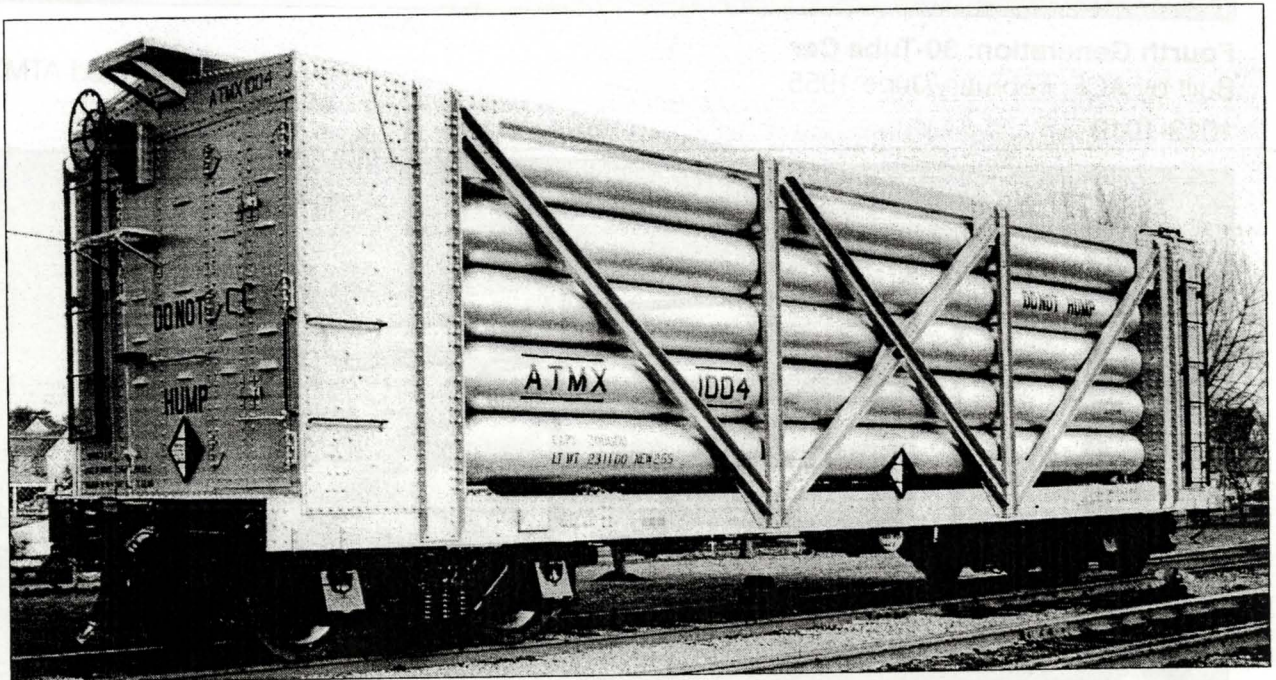


Fourth Generation: 30-Tube Car

Built by ACF; August 1955 - Sept. 1959

All cars lettered MHAX.

1079-1138 (Cars 1119 and later built with metal roof walks and roller bearing trucks.)

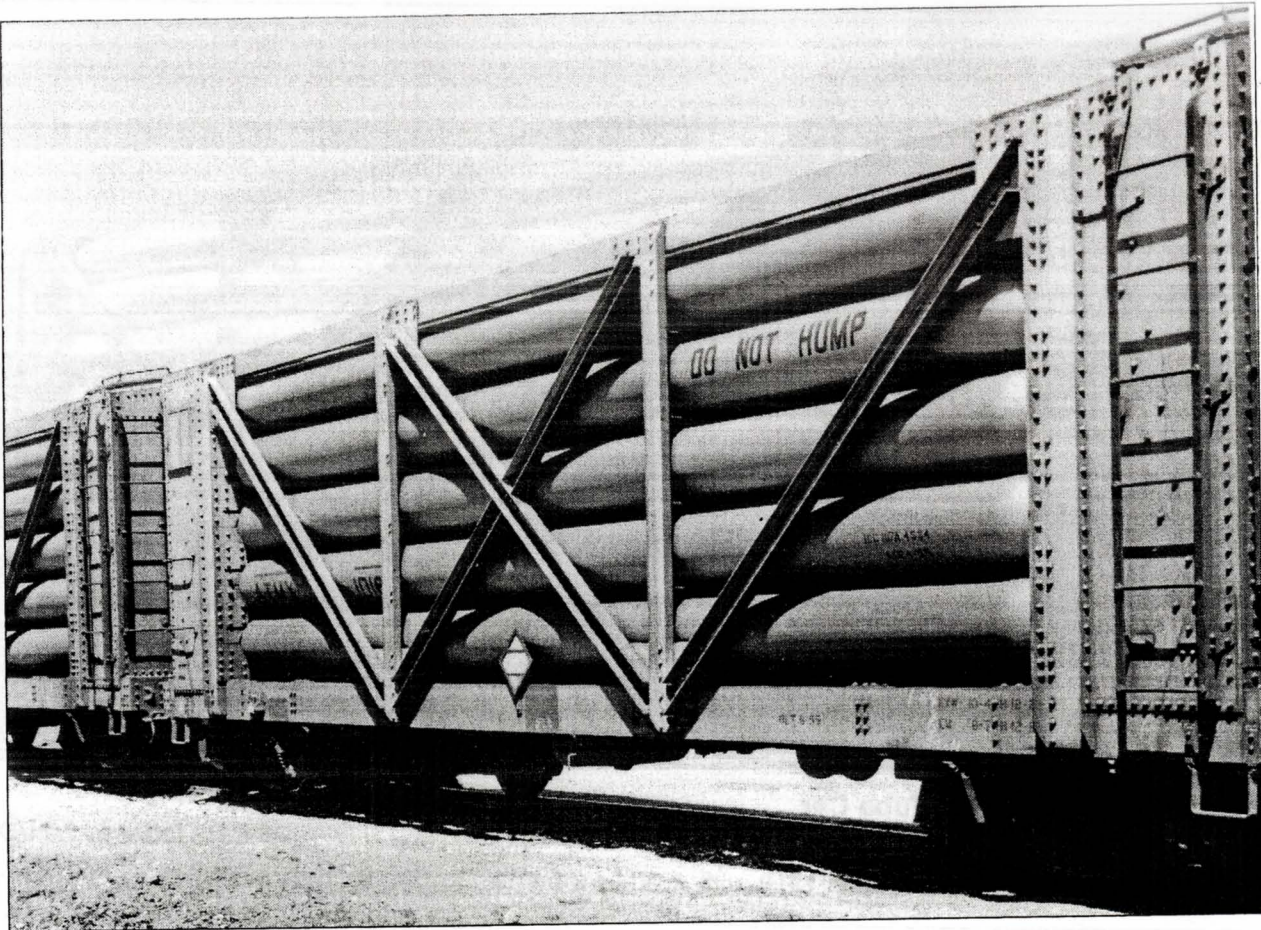


Fourth Generation: 30-Tube Car

Built by ACF; February 1955

All cars lettered ATMX.

1001-1005



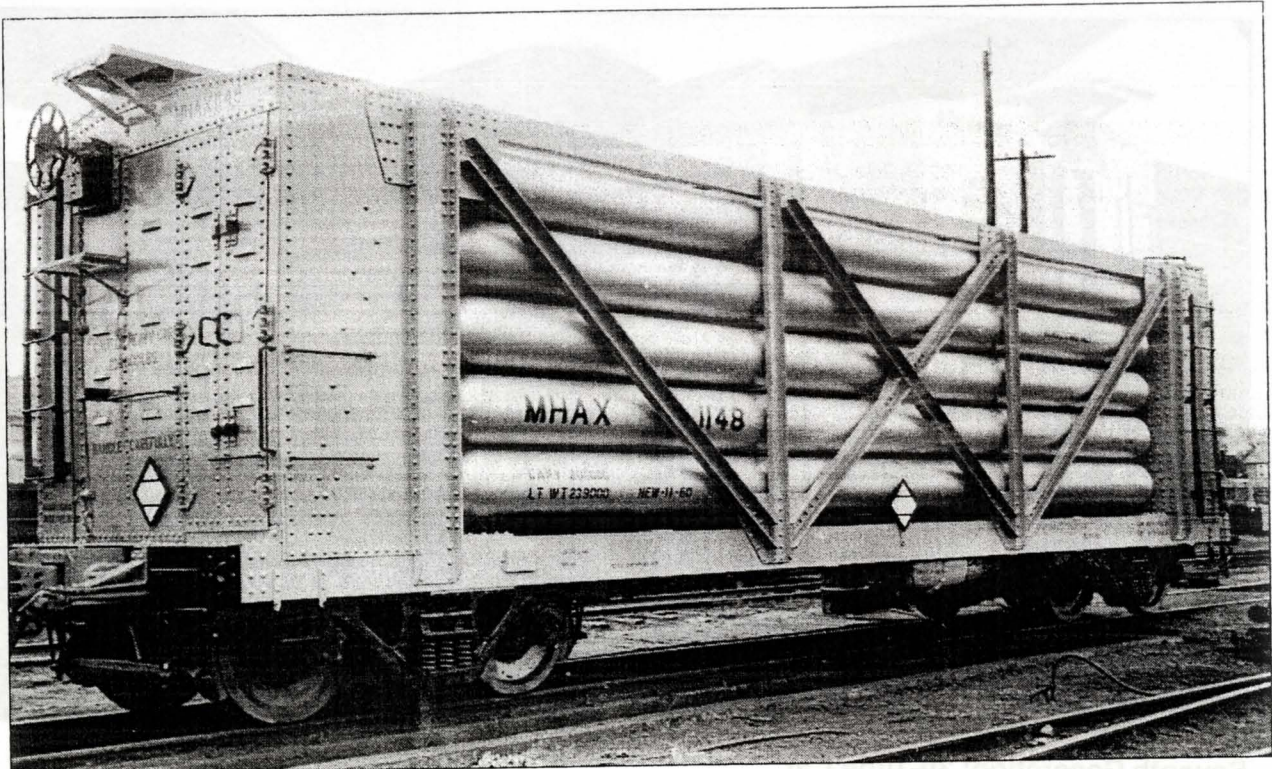
Fourth Generation: 30-Tube Car
Built by ACF; February/June 1955
1013-1019

All lettered ATMX.



Four-and-One-Half Generation: 30-Tube Car
Built by Darby Corporation; September 1958
1020-1025 (Car 1242 is ex. ATMX 1021 shown at Amarillo Railroad Museum in 2001.)

All lettered ATMX.

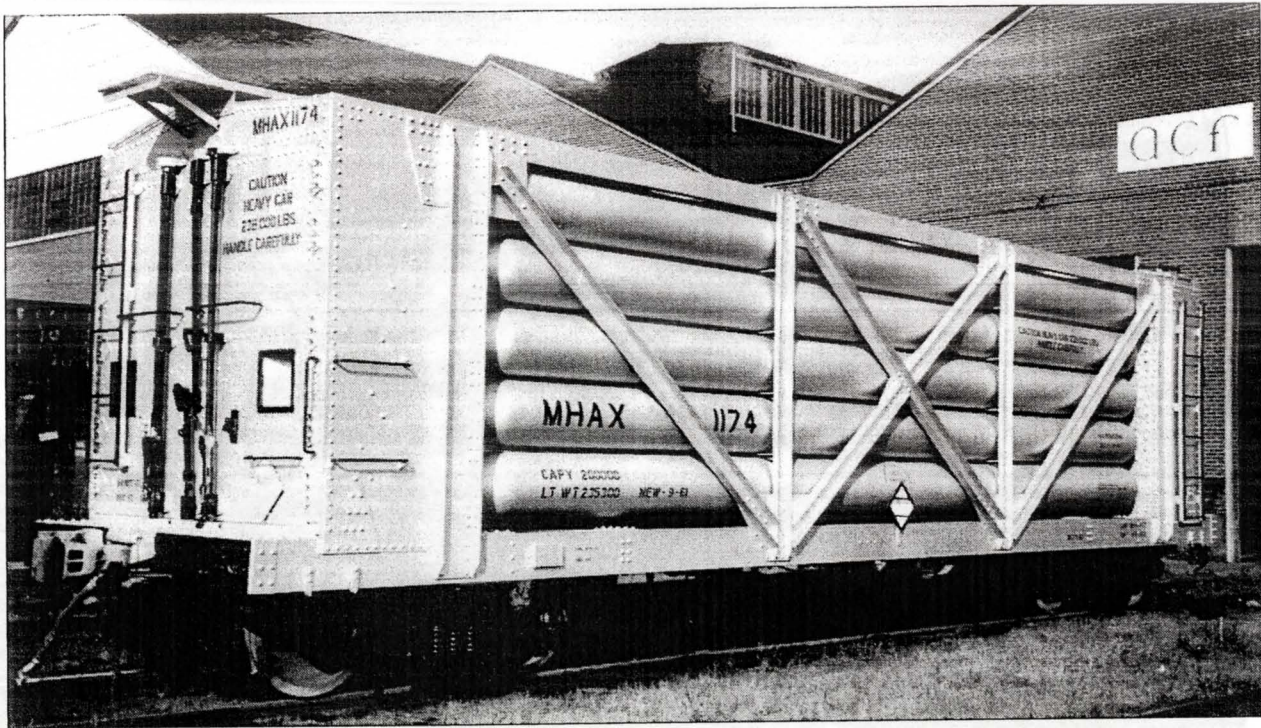


Fifth Generation: 30-Tube Car
Built by ACF; September 1960
1139-1163

All lettered MHAX.
All cars built with metal roof walks and roller bearing trucks.



Sixth Generation: 30-Tube Car
Built by Magor; June 1961
All lettered MHAX.
1164-1173

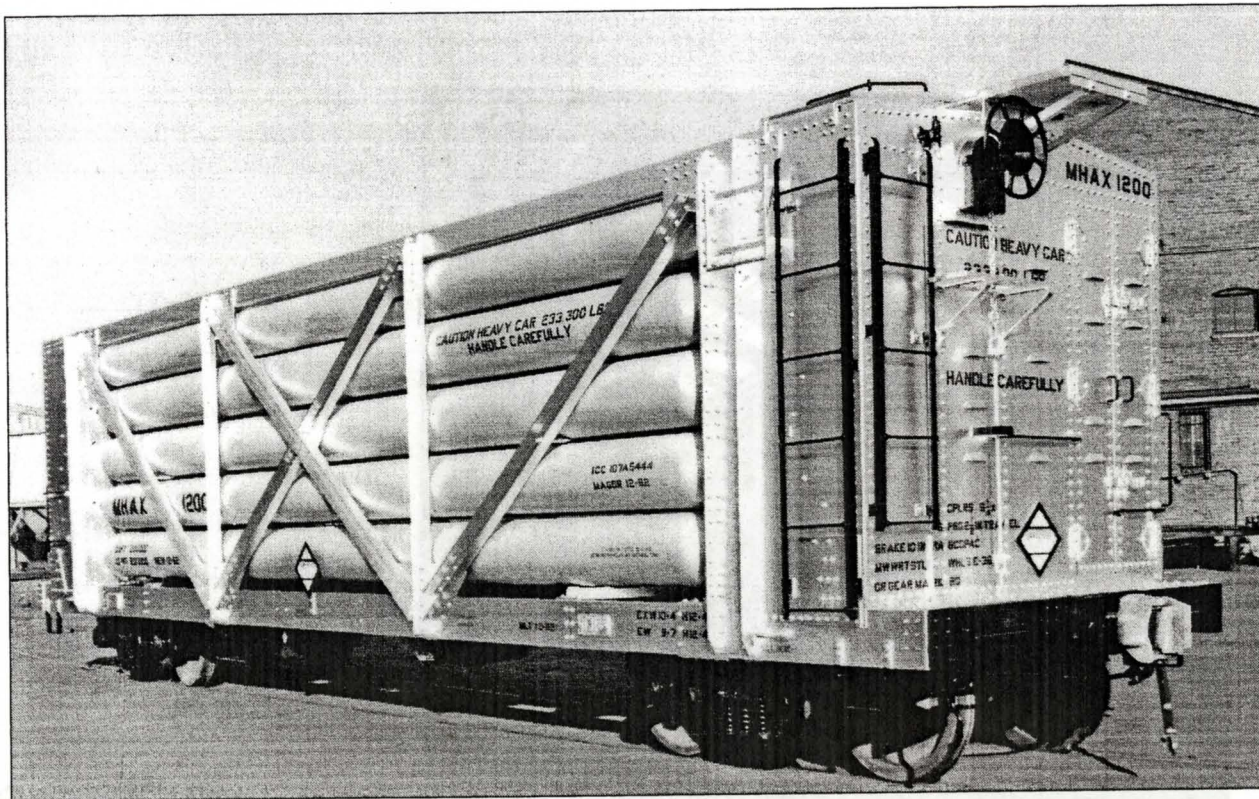


Seventh Generation: 30-Tube Car

Built by ACF September 1961

1174-1196

All lettered MHAX.



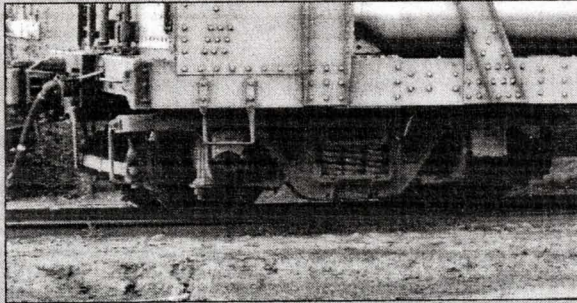
Eighth Generation: 30-Tube Car

Built by Magor; May 1962

1197-1221 (Painted all aluminum and these were the last cars built)

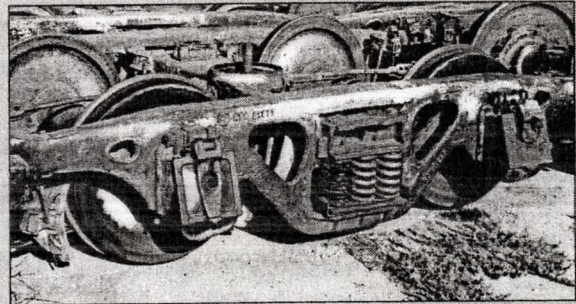
All lettered MHAX.

Helium Tank Car Trucks



First Generation Solid Bearing Truck

Clasp brake, bolted-journal solid bearing heavy-duty Andrews truck on brand new USNX 1004 at Amarillo in 1931.



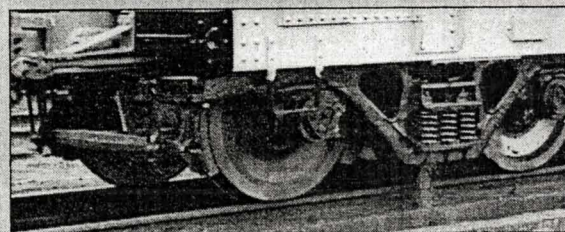
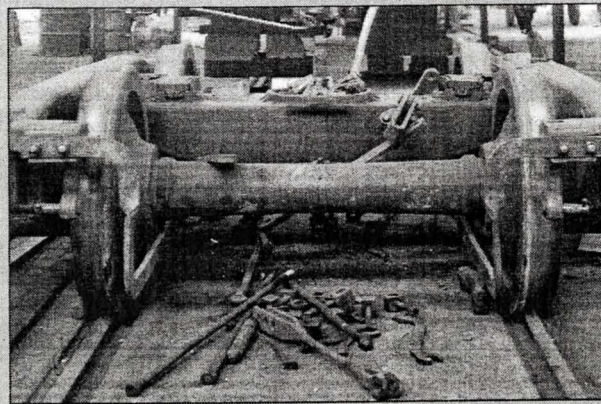
Third Generation Solid Bearing Truck

Clasp brake solid bearing ASF truck of Barber stabilized design. Removed from cars at Exell, ca. 1960.



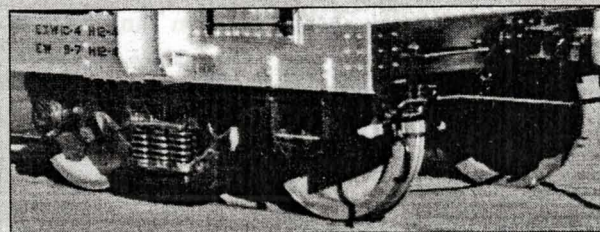
Second Generation Solid Bearing Truck

Clasp brake solid bearing truck with Dalman six spring package on USNX 1065 at GATC in 1943.



First Generation Roller Bearing Truck

Clasp brake, roller bearing truck on MHAX 1160 in November 1960 at ACF. Used on cars 1139 -1196 when built.



Second Generation Roller Bearing Truck

Roller bearing truck without clasp brakes on MHAX 1200 in December 1962 at Magor. Used on cars 1197 - 1221 as built.

All trucks were heavy duty versions. The wheel sets have very thick rims and treads and large diameter axles. On solid bearing trucks, the journal boxes are much larger (6 1/2" x 12") in comparison with other freight car trucks.

Quick Roster of Helium Tank Cars

Reporting Marks	Car Numbers	Builder	Date	Comments
Early 3-Tube Cars				
USQX	101-102	Bethlehem	1926-1927	Built for US Army Air Service
USNX	1001	Bethlehem	1926	Built for US Navy
First Generation: 28-Tube Cars				
USNX	1002-1006	GATC	1930	Rebuilt with 'X' brace, ca. 1940
Second Generation: 30-Tube Cars				
USNX	1007-1012	GATC	1933	Rebuilt with 'X' brace, ca. 1940
Third Generation: 30-Tube Cars				
USNX	1013-1078	GATC	1942-1943	Painted all Battleship Gray w/black U/F and hardware. Seven cars relettered for ATMX in 1955.
Fourth Generation: 30-Tube Cars				
MHAX	1079-1138	ACF	1955-1959	First use of MHAX reporting marks in July 1955. Cars 1119 and later (1959 built) in this generation built with roller bearing trucks and metal roof walks. Painted gray with aluminum tanks.
Fourth Generation: 30-Tube Cars				
ATMX	1001-1005	ACF	1955	First cars lettered ATMX. Ditto above.
ATMX	1013-1019	ACF	1955	
ATMX	1020-1025	Darby Corp.	1958	
Fifth Generation: 30-Tube Cars				
MHAX	1139-1163	ACF	1960	Roller bearing trucks, metal roof walks.
Sixth Generation: 30-Tube Cars				
MHAX	1164-1173	Magor	1961	Roller bearing trucks, metal roof walks.
Seventh Generation: 30-Tube Cars				
MHAX	1174-1196	ACF	1961	Roller bearing trucks, metal roof walks.
Eighth Generation: 30-Tube Cars				
MHAX	1197-1221	Magor	1962	Metal roof walks, roller bearing trucks without clasp brakes. All cars painted aluminum except trucks and H/W.

Total Cars Built: 241

When built, all cars equipped with solid bearing, clasp brake trucks except as noted.

Changeover from USNX to MHAX/ATMX reporting marks occurred in June-July 1955.

Changeover from gray superstructure and aluminum painted tanks to all aluminum paint begun after 1962.

All cars in active fleet were relettered to MHAX after ca. 1964.

Extensive rebuilding began ca. 1970 with removal of roof walks, new trucks, etc.

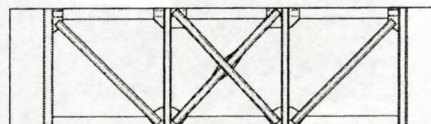
All cars retired or disposed of by 1998.

Roster of "Articulated" Helium Tank Cars ca. 1985

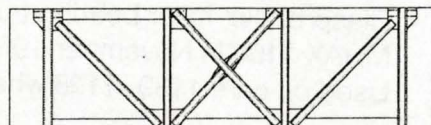
A & B Set Number	Car 'A' Built Date	Builder	Original No. of 'B' Car	Car 'B' Built Date	Builder
1165	Jun-61	Magor	1164	Jun-61	Magor
1178	Sep-61	Magor	1169	Jun-61	Magor
1180	Sep-61	Magor	1179	Sep-61	Magor
1183	Sep-61	Magor	1175	Sep-61	ACF
1189	Sep-61	ACF	1182	Sep-61	ACF
1198	May-62	Magor	1170	Jun-61	Magor
1203	May-62	Magor	1166	Jun-61	Magor
1207	May-62	Magor	1193	Sep-61	ACF
1211	May-62	Magor	1187	Sep-61	ACF
1212	May-62	Magor	1197	May-62	Magor
1213	May-62	Magor	1206	May-62	Magor
1214	May-62	Magor	1210	May-62	Magor
1215	May-62	Magor	1199	May-62	Magor
1217	May-62	Magor	1194	Sep-61	ACF

14 sets of 28 cars (Car 'A' carried its original number.)

Quick Spotting Features



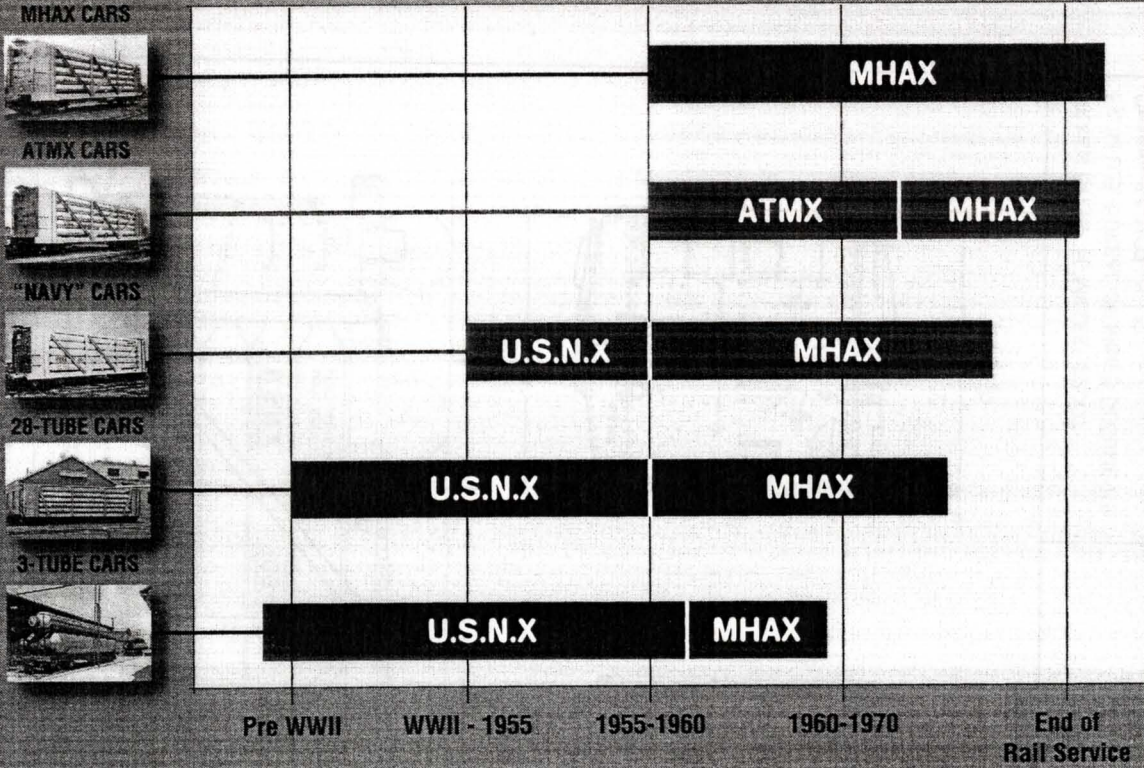
GATC Cars



ACF Cars

Not to Scale

Helium Tank Car Modeling Timeline



PREPARATION:
 SUPERSTRUCTURE TO BE STEAM CLEANED USING SUITABLE CHEMICALS. UNDERFRAME TO BE BLOWN OFF WITH AIR AND HAND CLEANED WITH WIRE BRUSH WHERE NECESSARY.

LAPS & JOINTS:
 One coat LAP & JOINT COMPOUND

UNACCESSIBLE PARTS:
 One coat READY MIXED PRIMER

SUPER STRUCTURE (1) INSIDE & OUTSIDE:
 Two coats ready mixed primer.
 Two coats ready mixed freight car gray paint.

UNDERFRAME (2) & BRAKE BEGGING:
 Two coats ready mixed primer.
 Two coats ready mixed freight car gray paint.
 Note: Includes inside of center sills, "AB" valve, brake cylinder & reservoir.

TRUCKS (3):
 Two coats ready mixed primer.
 One coat ready mixed black freight car paint.
 Note: Paint applied to side frames & bolsters. Must be light bodied.

MISCELLANEOUS (4) FRAMES:
 Two coats ready mixed primer.
 Two coats ready mixed black freight car paint.
 Note: Includes all safety appliances, door fittings, couplers, end sills, placard holders & access door frames at end.

WINDSHIELD BOARD & (5) BRACK STOP:
 Not painted due to galvanized surfaces. It is understood that a certain amount of spray appearing on these items as a result of painting adjacent areas will not be objectionable.

CYLINDERS (6) OUTSIDE:
 The fourteen cylinders located on sides and top and which are visible are painted with one coat ready mixed primer and two coats aluminum paint.
 Note: One coat primer applied by cylinder manufacturer.

CYLINDERS (7) INSIDE:
 The remaining sixteen cylinders located so that they are not visible are painted with one coat ready mixed primer and two coats black asphalt paint.
 Note: One coat primer applied by cylinder manufacturer.

STENCILING:
 Black on gray and aluminum surfaces and white on black. To meet Accepted Practices of American Railroads. Includes special stenciling required due to type of car.

ILLUSTRATION COVERS TYPICAL DETAILS SHOWN NOT NECESSARILY PART OF PROPOSED DESIGN SUBMITTED.

SHERWIN-WILLIAMS
 Ready mixed freight car gray paint

SHERWIN-WILLIAMS
 Ready mixed primer - E-41R1

LAP & JOINT COMPOUND
 Black asphalt paint

SHERWIN-WILLIAMS
 Aluminum paint - G 6654

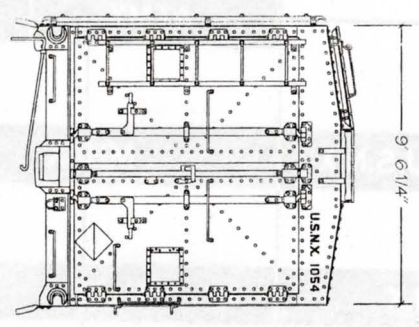
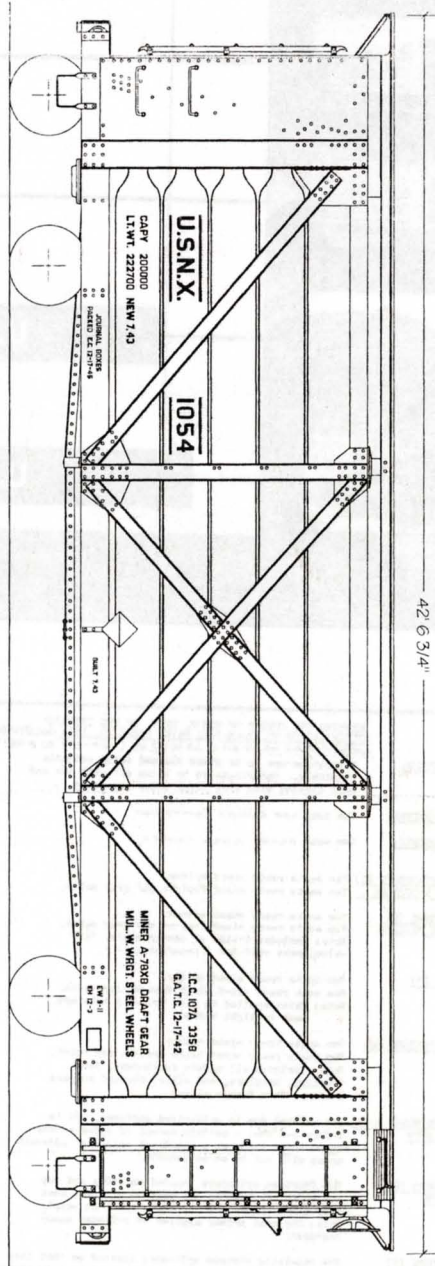
SHERWIN-WILLIAMS
 Ready mixed black freight car paint - F44B7

SHERWIN-WILLIAMS
 Black stencil paint - D43B2

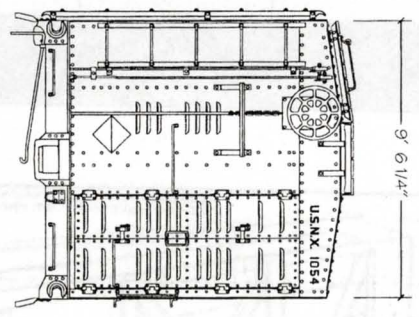
SHERWIN-WILLIAMS
 White stencil paint - D42W3

LOT 21-4481
 Lot 21-4368

AAK 8-2754A	RED LEAD REMOVED - LAP JOINT COMPOUND & PRIMER SUBSTITUTED	AMERICAN CAR AND FOUNDRY CO. 220-8955 AB
AAK 3-655 B	PAINT SUPPLIER NOTED. RE SPEC. IS AM 12-35 DATED DEC. 1, 1954 NOTED FOR LOT 21-4481	
PAINTING - U.S. GOVT. DEPT. OF INTERIOR - HELIUM DIV. 90 TON - SPECIAL HELIUM CARS JULY 21, 1954 DRAWN CHECKED APPROVED AAK		C.C.F.



'A' END



'B' END

PAINING INSTRUCTIONS
1942 - 1955

BATTLESHIP GRAY Entire car including superstructure and helium tanks.

BLACK Trucks, underframe, end sills, couplers, safety appliances, ladders, door hardware, placard holders and brake wheel.

BLACK All lettering

DRAWN BY JAY H. MILLER ©2007
FROM U.S. BUREAU OF MINES DOCUMENTS
DRAWN: 5/21/07

U.S.N.X HELIUM TANK CAR
1013 - 1078
BUILT 1942 - 1943 BY GATC

REV. 5/25/07