

The General American Family of Piggyback Flatcars®



Jim Panza
RPM Chicagoland
October 2019
GATX Photo

1

The General American Family of Piggyback Flatcars®

Dedicated to: John ("Jack") L. Chester



2

The General American Family of Piggyback Flatcars

References and Acknowledgements

- New Haven Railroad Historical & Technical Association, Inc. (NHRHTA)
- *Clejan Trailiner Flat Cars*, Marc L. Frattasio, NHRHTA *Shoreliner*, vol. 17, issue 2 1986, pp. 16-24
- Thompson, Anthony W., *Southern Pacific Freight Cars, Vol. 3: Automobile Cars and Flat Cars*
- Dick Dawson
- James A. Kinkaid
- Eric Neubauer
- Hagley Museum & Library
- TTX Company

3

The General American Family of Piggyback Flatcars

G-85's roots were in the Clejan flatcar

- Deodat Clejan, president of a French company that designed and constructed flatcars and terminals for piggyback service in France, Belgium, Germany and Italy.
- Working with his engineer, Paul Poussiere and the New Haven Railroad, Clejan designed the Clejan car and tie-down system.



4

The General American Family of Piggyback Flatcars

NH 18000-18001 Clejan prototype flatcars

- Two 75-ft. prototypes built at NH Readville, MA shops.
- Prototypes were unveiled at the South Boston piggyback terminal to invited guests and the press on March 8, 1955.

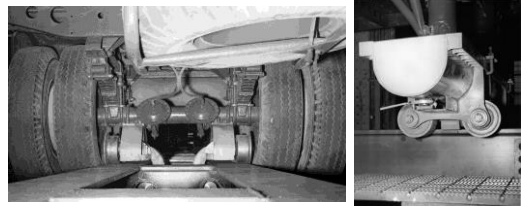


5

The General American Family of Piggyback Flatcars

Clejan flatcars

- Trailers were equipped with flanged rollers that guided the trailer during the loading/unloading process.

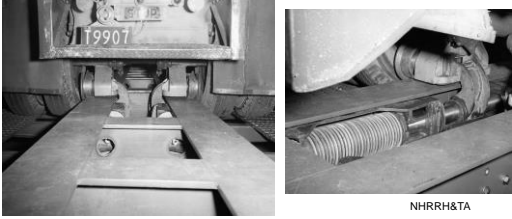


6

The General American Family of Piggyback Flatcars

Clejan flatcar

- Hooks engaged the center sill flange to retain the trailer.
- Spring-loaded shock absorber protected the trailers and lading from impacts.




NHRRH&TA

7

The General American Family of Piggyback Flatcars

Clejan flatcar

- Removable tie-downs were designed for trailers not equipped with the Clejan securement system.




NHRRH&TA

8

The General American Family of Piggyback Flatcars

New Haven Clejan Cars

- 1955: NH leased 100 79-ft., 6-in. Clejan cars from Clejan's subsidiary company named Piggyback, Inc. under 15-year lease that included handling terminal operations.
- Variations from the prototypes:
 - Increased length (79' 6" vs. 75' 1")
 - Roller bearing trucks
 - Simplified black paint scheme
 - Built by Pullman-Standard




Jim Kinkaid collection

9

The General American Family of Piggyback Flatcars

New Haven Clejan Cars

- "Trailer" service between Harlem River-Boston, Harlem River-Providence, New Haven-Boston and New Haven-Harlem River.
- Clejan cars operated mostly in solid blocks due to their unique trailer securement method required separate handling at terminals.




New Haven CT
June 29, 1958
Jack Swanberg
Photo

10

The General American Family of Piggyback Flatcars

New Haven Clejan Cars

- 1957: NH leased an additional 100 79-ft., 6-in. Clejan cars from Piggyback, Inc. under 15-year lease.
- General American Transportation Company (GATX) acquired the Clejan equipment and its designs from Piggyback, Inc.
 - Piggyback, Inc. terminal operations were not part of this deal. (NH took over its terminal operations in 1957)
 - The cars leased to the New Haven and other railroads became part of GATX's fleet, many operating with railroad reporting marks.




Jim Kinkaid collection

11

The General American Family of Piggyback Flatcars

Not all of the GATX Clejan cars operated with railroad reporting marks:

GPBX 20040 at San Bernardino, CA in November 1958.




Bob's Photo

12

The General American Family of Piggyback Flatcars


Clejan Cars on Other Railroads

- Erie



www.pinterest.com/Neil Bicheler

- Kansas City Southern



Jim Kinkaid collection

13

The General American Family of Piggyback Flatcars

Southern Pacific

- In 1957, SP built 150 Clejan cars (similar to the NH production cars) at its Sacramento, California shops.



J. Michael Gruber collection

14

The General American Family of Piggyback Flatcars

Clejan Challenges:

- Clejan equipment had to be segregated from "conventional" TOFC cars for loading and unloading.
- Additional cost and weight of trailer securement devices.





Photo collection of M. Young
http://www.wheelsotime.com

15

The General American Family of Piggyback Flatcars

Clejan Challenges - Why you never saw this:




- TTX (and PRR's) management expressed concern that the Clejan car was not the design they wanted to adopt as TTX's standard car design.
- ACF (Clejan's competition with its Model A hitch and 85-ft. flatcar) informed TTX of Clejan lost trailer incidents, one causing a spectacular derailment on KCS.
- The growth of the 40-ft. trailer in piggyback service beginning in 1958.

James Newell, president of TTX, did commit to support GATX in the redesign of the Clejan car that would evolve into the G-85 flatcar.

16

The General American Family of Piggyback Flatcars

What happened to those Clejan Cars?



Jim Kinkaid collection

New Haven:

- Subleased 50 Clejan cars to SP on June 1, 1960.
- Filed for bankruptcy, the Court authorized termination of the lease for the 200 Clejan cars on May 17, 1962.

Erie-Lackawanna, Kansas City Southern:

- Converted piggyback service to conventional equipment, joining TTX (KCS 12/19/1960 and Erie 1/1/1964).


Southern Pacific:

- Stretched and converted its fleet for various services.

17

The General American Family of Piggyback Flatcars

TTX's first order of G-85 Flatcars:




GATX Photo

- TTX 300000-300049 built by GATX – East Chicago, Ind.
- Built May 1961
- Equipped for conventional loading and Clejan loading
- "GTTX" initial not used prior to 1964

18

The General American Family of Piggyback Flatcars

TTX's first order of G-85 Flatcars:



GATX Photo

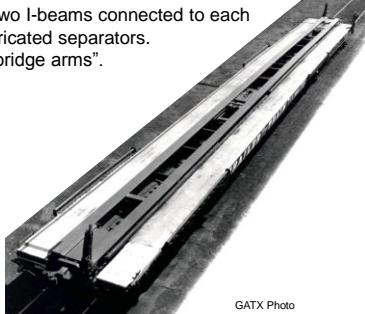
- Equipped with Equipco 3700-B handbrake
- Note the sway chain brackets to retain the chains secured to the trailer bogies.
- Sway chain use discontinued October 1963

19

The General American Family of Piggyback Flatcars

TTX's first order of G-85 Flatcars:

- Center sill is two I-beams connected to each other with fabricated separators.
- Note Clejan "bridge arms".



GATX Photo

20

The General American Family of Piggyback Flatcars

Building G-85 Flatcars at East Chicago, Indiana:



GATX Photos

Preparing Center Sill I-Beams

21

The General American Family of Piggyback Flatcars

Assembling center sill:




GATX Photo

22

The General American Family of Piggyback Flatcars

Applying crossbearers and floor stringers:



GATX Photo

23

The General American Family of Piggyback Flatcars

Rotated for down hand welding:

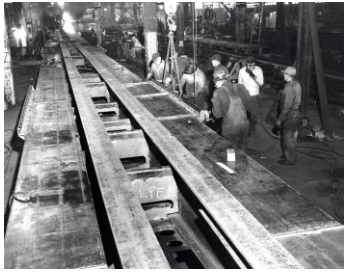


GATX Photo

24

The General American Family of Piggyback Flatcars

Applying sway chain bracket:



GATX Photo

25

The General American Family of Piggyback Flatcars

- Applying hitches.
- Note brackets for cushioned rub rail supports.



GATX Photo

26

The General American Family of Piggyback Flatcars

Bridge Plate Operation: Removing the lock pin

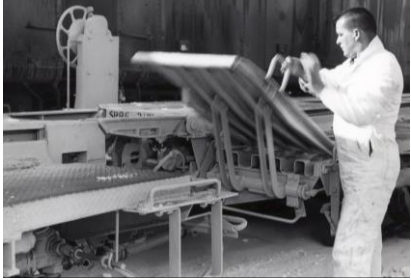


GATX Photo

27

The General American Family of Piggyback Flatcars

Bridge Plate Operation: Moving bridge plate into position



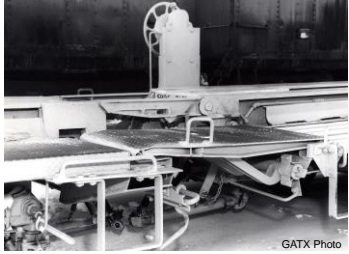
Note Clejan ramp in lowered position.

GATX Photo

28

The General American Family of Piggyback Flatcars

Bridge Plate Operation: In lowered position.



Note the vertical wheel handbrake and steam lines/valve for use in passenger trains (possibly cars for REX).

GATX Photo

29

The General American Family of Piggyback Flatcars

The G-85/G-89 Hitches

- Tractor-operated automatic locking/unlocking
- Vertical strut connected to center sill web bearings.




GATX Photo

30

The General American Family of Piggyback Flatcars

The G-85/G-89 Hitches

- Diagonal strut is connected to vertical strut and a hook assembly.
- Shock absorber assembly behind diagonal strut track cushions hitch during retraction.



TTX collection

31

The General American Family of Piggyback Flatcars

Hitches:



G85 GATX Photo




G89 SP Photo


32

The General American Family of Piggyback Flatcars

Hitches:



G85 TTX collection

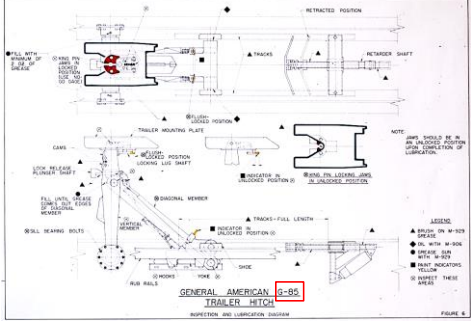


G89 SP Photo

33

The General American Family of Piggyback Flatcars

The G-85/G-89 Hitches



GENERAL AMERICAN TRAILER HITCH

INSPECTOR: H&L CORPORATION, CHICAGO

FIGURE 4

34

The General American Family of Piggyback Flatcars

Hitches

Kingpin jaws unlocked (open)




35

The General American Family of Piggyback Flatcars

Hitches


Kingpin jaws locked (closed)




36

The General American Family of Piggyback Flatcars

Containers



- GPDX 20200-20299 built in 1959
- Equipped with hitches and container securement system
- Note the unusual bridge plate hinge assembly

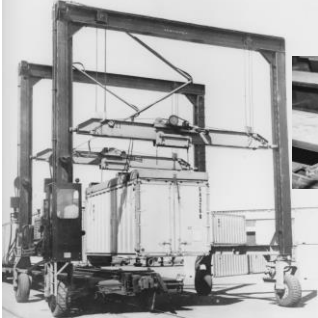
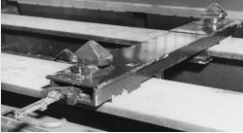


GATX Photos

37

The General American Family of Piggyback Flatcars

Containers


Early container bolster design

GATX Photos

38

The General American Family of Piggyback Flatcars

Containers




TTX 300226 built August 1962

TTX collection


39

The General American Family of Piggyback Flatcars

Containers



<https://www.researchgate.net>



GATX Photo

- GTTX 305054 (G89) built December 1965
- Container bolster with inner latch and locking pin for ISO containers.

40

The General American Family of Piggyback Flatcars

Auto racks

- ATSF 88975-88999
- ATSF 89000-89199
- GN 61500-61524




Ken Donnelly collection

41

The General American Family of Piggyback Flatcars

Auto racks

- SP 510500-510649 (79' 6" Clejan cars stretched to 85' 0")
- SP 511000-511099 (85' 0" Clejan cars)
- SP 511100-511199 (85' 0" Clejan cars)
- SP 512100-512149 (85' 0" Clejan cars)
- SSW 82700-82724
- TTX 300075-300124 (Tri-Level fixed racks)




Jim Kinkard collection

42


The General American Family of Piggyback Flatcars

Modular homes



Jim Panza collection

Saddleback




Jim Kinkaid collection

43

The General American Family of Piggyback Flatcars

Who owned the G-85s?

- All Trailer Train G-85s delivered in red paint scheme.




Owner	Series	Qty	Car Type	Class	Length	Date	Note
TTX*	300000-300074	75	G-85	G85	85' 0"	5-6/61	
TTX*	300075-300111	37	G-85	G85	85' 0"	6, 8/61	Tri-level fixed auto racks
TTX*	300112-300613	502	G-85	G85	85' 0"	8/61-3/63	300314-300328 were leased by TTX to REX as 3314-3328.

44

The General American Family of Piggyback Flatcars

Who owned the G-85s?

- Trailer Train yellow paint scheme adopted late 1970.



Larry DeYoung photo

Owner	Series	Qty	Car Type	Class	Length	Date	Note
TTX*	300760-300769	10	G-85	G85	85' 0"	12/60	Ex-WM 861-870 acquired 10/30/1963
GTTX	301395-301494	100	G-85	G85	85' 0"	9/61	Ex-EL 8700-8799 acquired 4/30/1964
GTTX	301923-301947	25	G-85	G85	85' 0"	3-5/62	Ex-UP 54050-54074 acquired 4/30/1965


*Initial changed to GTTX beginning 1964

45


The General American Family of Piggyback Flatcars

Who owned the G-85s?


- How about a hybrid TTX scheme?
- Or Headless Horseman?



Both Jim Kinkaid collection



TTX collection




HOW STOP FOR REPAIRS DO NOT LOAD

46

The General American Family of Piggyback Flatcars

Who owned the G-85s?

- ATSF




Bob's Photo Oakland, CA 1962

Owner	Series	Qty	Car Type	Class	Length	Date	Note
ATSF	88975-88999	25	G-85	Ft-21	85' 0"	9/61	Auto racks, racks removed c.1974, # to ATSF 290620-290636, 292003-292008
ATSF	89000-89049	50	G-85	Ft-18	85' 0"	-60	Auto racks, racks removed 1963-67
ATSF	89050-89199	150	G-85	Ft-18	85' 0"	10/59	Auto racks, racks removed 1963-67
ATSF	89700-89774	75	G-85	Ft-22	85' 0"	9/61	R# to ATSF 290549-290619 (1982?)
ATSF	89775-89824	50	G-85	Ft-26	85' 0"	9-10/62	
ATSF	292170-292194	25	G-85		85' 0"	-61	Ex-NAFX in 1978 to KCS.


47

The General American Family of Piggyback Flatcars



Bob's Photo

Owner	Series	Qty	Car Type	Class	Length	Date	Note
EL	8700-8799	100	G-85		85' 0"	9/61	To GTTX 301395-301441, 301443-301494 4/30/1964
GN	61500-61524	25	G-85		85' 0"	6-60	Lengthened to 89' 1963-1964 with auto racks. To BN 631054-631070.
MEC	450-452	3	G-85			12/63?	Leased?
NH	16000-16049	50	G-85		85' 0"	7/62-1/63	To PC 778100-778149 F55




Mike Bradley

48

The General American Family of Piggyback Flatcars

Who owned the G-85s?




Jim Panza collection

Owner	Series	Qty	Car Type	Class	Length	Date	Note
GDCX	10003-10010	8	G-85		85' 0"		Containers
GDCX	10037-10040	4	G-85		85' 0"		Containers
GDCX	10047-10099	53	G-85		85' 0"		Containers
GPBX	20200-20299	100	G-85		85' 0"	-59	Equipped to haul containers and trailers.
NIFX	6000-6009	10	G-85		85' 0"	1/61	
NIFX	11000-11009	10	G-85		85' 0"	3/61	
NIFX	12000-12002	3	G-85		85' 0"	7/61?	

49

The General American Family of Piggyback Flatcars

Who owned the G-85s?




Bob's Photo

Owner	Series	Qty	Car Type	Class	Length	Date	Note
NP	65500-65524	25	G-85		85' 0"	-60	Clejan & Hitches, to BN 635409-635433
NP	65525-65574	50	G-85		85' 0"	-60	Hitches, to BN 635434-635483
SOO	5623-5661	20	G-85		85' 0"	10/64	
SOO	54635-54653	39	G-85		85' 0"	5-12/63	EX-REX 3400-3440?

50

The General American Family of Piggyback Flatcars

Who owned the G-85s? Railway Express Agency (REX)




Facebook Freight Car Enthusiast: Tim O'Connor

Owner	Series	Qty	Car Type	Class	Length	Date	Note
REX	3314-3328	15	G-85	G-85	85' 0"	10/62	Leased from TTX. Equipped with steam & signal lines. Returned to TTX prior to expiration of 15-year lease, # GTTX 300314-300328.
REX	3400-3440	41	G-85		85' 0"	5-12/63	To Soo Line 1970

51

The General American Family of Piggyback Flatcars

Who owned the G-85s?



Peter Arnold
Piggyback Color Guide Volume 2: I to X by Jim Kinkaid


Owner	Series	Qty	Car Type	Class	Length	Date	Note
UP	53025-53049	25	G-85	F-70-4	85' 0"	1-2/61	R# to UP 54050-54074 3-5/62, to GTTX 301923-301947 4/65
UP	53050-53074	25	G-85	F-70-4	85' 0"	6/60	Equipped with auto racks, converted to TOFC.
WM	861-870	10	G-85		85' 0"	12/60	To GTTX 300760-300769 10/30/1963

52

The General American Family of Piggyback Flatcars

G-85's bigger brothers

- G-85A
 - Same as G-85 but with 8' 6" wide deck instead of 8' 0" wide deck.
 - First delivered to TTX in March 1963.




Ken Donnelly collection

53

The General American Family of Piggyback Flatcars

- G-89
 - 89' 0" length over end sills.
 - Several owners: ATSF PFE, SOO, SP, SSW and TTX

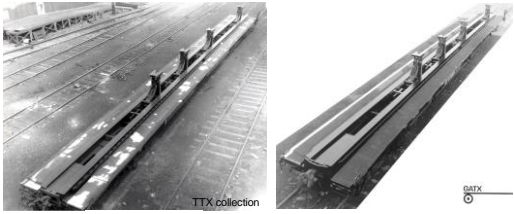


Bob's Photo

54

The General American Family of Piggyback Flatcars

- G-89
 - SP and TTX had both 2-hitch and 4-hitch versions of the G-89
 - 34 of 100 G-89 cars in TTX fleet were 4-hitch versions.



XTTX 305045
Note fresh leading "X"

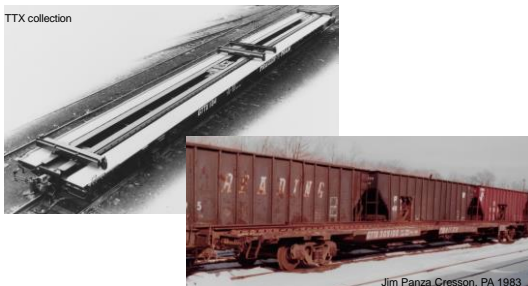
SP 513639

55

The General American Family of Piggyback Flatcars

G-89A

- GTTX 104 (r# to 305100) prototype all-purpose TOFC/COFC flatcar.



TTX collection


Jim Panza, Cresson, PA 1983

56

The General American Family of Piggyback Flatcars

G-89A (GTTX 104/GTTX 305100)

- G89 hitches (2) and moveable container pedestals.




All TTX collection

57

The General American Family of Piggyback Flatcars

The VTTX conversion

- 407 cars from classes G85 (99), G85A (288) & G89 (20)
- The first 100, completed in 1984, were equipped to haul 2-40' containers, were upgraded in 1985 to handle 4-20', 2-20'/1-40' or 2-40' containers.
- VTTX 300253 (prototype) retained complete floor.




TTX collection

58

The General American Family of Piggyback Flatcars

The VTTX conversion

- Increased reliability of the cars by eliminating the hitches and flooring which were problematic.
- Container curbs on container bolsters at the 20' container locations rotated out of the way to load 40' containers.




Jim Panza photo

59

The General American Family of Piggyback Flatcars

The VTTX conversion

- Based on configuration of TTX 104 (GTTX 305100) except container bolsters were at fixed locations.
- While the GTTX cars in TOFC service were off the roster by 1989, a few of the 407 VTTX cars lasted until 2006 (VTTX retirements began in 1991).
- Age and the double stack fleet doomed the VTTX cars.



UP Canal St., Chicago IL Oct 2000

Jim Panza photo

60

The General American Family of Piggyback Flatcars

Clejan Car Models

- HO Scale: Overland Models, Inc.
- N Scale: N-Scale Kits




- Scratch building info in NHRTHA Shoreliner, vol. 17, issue 2 1986.

61

The General American Family of Piggyback Flatcars


N Scale G-85 Models :

- Train Worx
 - Container-only version



Car #	Build rebuild date	Included in Trainwors part #	Retail price	Trainwors production date	Trainwors stock status
300235	8/06	28443-01	\$28.95		Coming soon
301128	8/06	28443-02	\$28.95		Coming soon
301258	8/06	28443-03	\$28.95		Coming soon
301713	8/06	28443-04	\$28.95		Coming soon
301881	8/06	28443-05	\$28.95		Coming soon
302228	8/06	28443-06	\$28.95		Coming soon

- Con-Cor
 - TOFC and COFC versions (with channel side sills)



62

The General American Family of Piggyback Flatcars

Walthers G-85



Courtesy Walthers, Inc.

63

The General American Family of Piggyback Flatcars

Walthers G-85

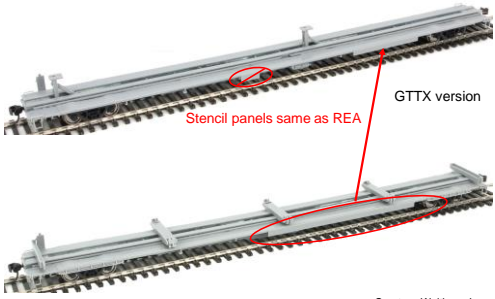


Courtesy Walthers, Inc.

64

The General American Family of Piggyback Flatcars

Walthers G-85

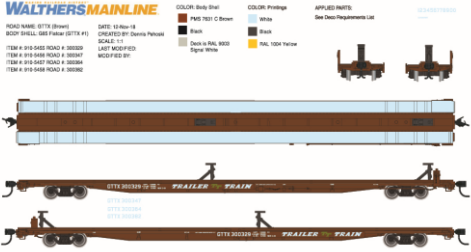


Courtesy Walthers, Inc.

65

The General American Family of Piggyback Flatcars

Walthers G-85



Courtesy Walthers, Inc.

66

