

## Railway Prototype Cyclopedia Article Index

Vol. No.	Pages	Title/Author	Synopsis
1	6-16	St. Louis Car Company Cabooses, <i>Washington University Collection</i>	While most well known for their street cars and passenger cars, the St. Louis Car Company also built more than 350 cabooses for Class 1 railroads. This photo essay displays excellent builder's photos of these cabooses. A roster and sample diagrams are also provided.
1	17-36	Santa Fe 4-6-2 Pacifics <i>by Richard Hendrickson</i>	The Santa Fe operated a sizable fleet of 4-6-2 Pacifics of the 1309, 1337, 3500, and 3600 Classes. This outstanding article discusses the history of these locomotives including variations and later modifications made to them. A total of 29 excellent photographs pictorially documents this piece of Santa Fe history.
1	37-47	Modeling Plan 3410 12-1 Pullman Cars <i>by Pat Wider</i>	The most common of all the heavyweight sleeping cars was the Plan 3410 series 12 Section, 1 Drawing Room Pullman sleeping car. In the first part of this series of articles on Pullman heavyweight cars, the body of the Rivarossi HO scale model is prepared for all the underbody work and final assembly that is completed in Volume 2. The article provides information on the various air conditioning systems used on these cars as well as six pages of valuable data that helps put these cars into perspective.
1	48-58	Riveted 40' PS-1 Box Cars <i>by Pat Wider and Ed Hawkins</i>	Pullman-Standard manufactured more than 5,500 PS-1 40' box cars with 6' door openings and riveted side panels. The article provides a roster and ten photographs of prototype cars including numerous cars built for Chicago and North Western. Also, two models are shown that were fabricated from parts of three InterMountain Railway kits. The end result of this relatively easy kitbash is a highly authentic scale model.
1	59-69	Missouri Pacific Stockyard <i>by Charles Duckworth</i>	Stockyards were commonly found along the right of way during the 1930s through the 1950s and were an important part of railroad revenue during this period. This article gives an interesting account of shipping livestock by rail along with a fabulous model of a small Missouri Pacific stockyard in HO scale. A complete set of plans is provided along with pertinent information for modeling a stockyard.
1	70-81	Frisco's Howe Truss Box Cars <i>by Joe Pennington</i>	The mainstay of Frisco's rolling stock fleet was the 40' Howe Truss box car. In all, 6,500 cars of this design were built from 1926 through 1930. In April 1960, some 4,535 cars were still in service. The article covers the history of the cars including the steel rebuilding program that began in 1953. These distinctive prototype cars can be accurately modeled using kits made by Sunshine Models.
1	82-96	1935 A.A.R. 50-ton Hopper Cars - Part 1 <i>by Ed Hawkins</i>	The ubiquitous workhorse of the coal hauling roads, the 33' inside length offset hopper was truly a common car. The article discusses the features and the differences of the 50-ton A.A.R. Standard and Alternate Standard designs as well as one nonstandard design used mainly by Illinois Central. Numerous photographs are presented as well as a four page roster of approximately 127,000 cars built from 1934 to 1960.
2	6-22	AC&F Type 27 Tank Cars - Part 1 <i>by Ed Hawkins</i>	The Type 27 design tank car was produced by American Car & Foundry for approximately two decades. This article provides information on the difference of these cars from the earlier Type 21 design and concentrates on the common 8,000 and 10,000 gallon ICC-103 uninsulated riveted cars. Included is a set of drawings of the 8,000 gallon car, roster for the 8,000 and 10,000 gallon prototypes, and numerous builder's photos. These are the prototype cars for the InterMountain Railway models produced in HO and N scale.

## Railway Prototype Cyclopedia Article Index

Vol. No.	Pages	Title/Author	Synopsis
2	23-47, 97	Plan 3410 12-1 Pullman Cars - Part 2 <i>by Pat Wider</i>	The Rivarossi model is completed with information and outstanding detail photos of the underbody details, roof details, end modification, and final painting and lettering. Additional tables provide data on correct prototype painting, car names and decals, air-conditioning systems, trucks used on Plan 3410 sleeping cars, and a bill of materials for the model. These articles have inspired a model manufacturer to announce they will produce a series of HO scale heavyweight cars in injection molded plastic kits.
2	48-57	Modeling ART's First Steel Reefer <i>by Charles Duckworth</i>	The American Refrigerator Company purchased more than 1,000 steel reefers in 1936 that were clones to the PFE R-40-10. A history of the prototype cars is presented along with a roster of these cars and other similar ART cars built from 1939 to 1946. Models were fabricated by kitbashing an InterMountain Railway PFE R-40-23 reefer and installing square corner 4-4 Dreadnaught Ends and other details. A two-page ART lettering diagram (circa 1950s) is provided. Since the Volume 2 was published, accurate models are now available from Sunshine Models.
2	58-64	Section, Bunk, and Tool Houses <i>by Charles Duckworth</i>	These small but important structures were found along the right of way on every railroad. A synopsis of the types of buildings is presented, two pages of plans, and several models offered by American Model Builders. While the buildings shown are Missouri Pacific prototypes, structures of similar design were used throughout the country.
2	65-70	Frisco's Howe Truss Box Cars - Part 2 <i>by Joe Pennington</i>	Several HO scale models offered by Sunshine Models are presented to supplement the prototype material provided in Volume 1. The author discusses how some of the Frisco "replacement" cars were built with the Duryea underframe. Details and photographs of the Duryea underframe are also shown.
2	71-82	Modeling the Early EMC SW-1 Switcher <i>by Charles Roth</i>	The front and side handrails gave the early version of the EMC SW-1 switcher a distinctive look. A brief history of the EMC/EMD SW-1 design is discussed along with a list of railroads that owned units of this type built in 1939 and the first half of 1940. Charles Roth provides insight on the handrail construction and other details of his superb Western Pacific model made from the Walthers HO scale locomotive.
2	83-96	1935 A.A.R. 50-ton Hopper Cars - Part 2 <i>by Ed Hawkins</i>	Part 2 of the 1935 A.A.R. twin offset hopper series features a number of eastern roads that owned these cars, including B&O, BAR, BM, CNJ/CRP, D&H, Erie, LNE, Reading, and South Buffalo.
3	2-18	AC&F Type 27 Tank Cars - Part 2 <i>by Ed Hawkins</i>	Part 2 of the AC&F Type 27 tank cars features an additional 33 photos of 8,000 and 10,000 gallon ICC-103 uninsulated prototype cars, plus a summary of the commodities transported in the cars. These are the prototypes for the InterMountain Railway Company Type 27 tank car in HO scale.
3	19-31	Greenville's GV-2 Two-Bay Covered Hoppers <i>by Ed Hawkins</i>	The Greenville Steel Car Company built more than 1,000 cars that were clones to the 2,003 cu. ft. Pullman-Standard PS-2 two-bay covered hopper from 1955 to 1961. Included are numerous photos of the prototype cars plus a complete roster.
3	32-51	Box Car Painting and Lettering <i>by Pat Wider</i>	All "box car red" box cars weren't painted "box car red"! The article provides information on the actual paints and paint names used on box cars during the 1930s through 1950s. In addition, photographs illustrate how sides, ends, roofs, running boards, underframes, and other details were painted during this period. A cross-reference table correlates the prototype colors used to model paint formulas.

## Railway Prototype Cyclopedia Article Index

Vol. No.	Pages	Title / Author	Synopsis
3	52-67	52'-6" 70-Ton Drop-End Gondolas <i>by Ed Hawkins and John Spencer</i>	The prototypes for the Life-Like 52'-6" 70-ton drop end gondola are discussed in detail and a roster of cars built to this "de facto" standard design is provided. John Spencer's outstanding model of a Rock Island car illustrates how to model details such as the Wine lading anchors and side hold down clips used on many of the prototype cars.
3	68-77	Modeling GE-70-Tonners <i>by Charles Roth</i>	The General Electric middleweight champ would be at home on many layouts. The author provides information on the GE 70-tonners regarding the different phases and how to model them. A number of sample of prototype photos are included along with outstanding models built for the Tidewater Southern.
3	78-83, 97	Pullman Heavyweight Cars - Part 3 <i>by Pat Wider</i>	Part 3 of the author's Pullman heavyweight series includes a list of the top 25 "common" Pullman heavyweight cars along with a good selection of representative prototype photos. The table shown on the inside back cover is meant as a guide for model manufacturers to produce the most common prototypes. The table provides invaluable information on the cars including plan numbers, quantity and years built, overall length, brake and air conditioning systems used, truck types, and a cross reference to plans shown in Mainline Modeler.
3	84-96	Rodger-Hart 70-Ton Ballast Cars <i>by Pat Wider</i>	The Rodger-Hart Ballast Car Company designed a 70-ton open hopper with side discharge openings with the primary purpose of hauling ballast. However, these cars were used in various other types of service including hauling bituminous coal. The cars were built by American Car & Foundry spanning a 24 year period. The article includes a substantial number of AC&F builder's photos and paint/lettering data from the original bill of materials. A roster is provided that provides details such as the type of trucks used on each series.
4	1-34	Box Car Lettering Practices <i>by Pat Wider</i>	The author discusses the A.A.R. requirements for box car lettering and how the railroads followed those standards (or deviated from them). Shown are box cars of all types, including 40' and 50', single and double sheathed wood side cars, all-steel cars, single door and automobile box cars. In addition to details about capacity and dimensional data, this article provides numerous photos displaying monograms and slogans that were stenciled on box cars.
4	35-51	Freight Car Trucks <i>by Richard H. Hendrickson</i>	From Arch Bar trucks to Roller Bearings, Richard Hendrickson discusses the development of freight car trucks from the early 1900s through the 1950s. Included are examples of the most common freight car trucks used plus a few that were not so common. Examples of high-speed trucks, heavy-duty trucks, and caboose trucks are also shown.
4	52-70	NWX 40-foot AC&F Reefers <i>by Pat Wider</i>	The North Western Refrigerator Line purchased more than 3,000 AC&F-built wood refrigerator cars during the 1920s, '30s, and 1940. The article presents a roster of the cars and a substantial number of NWX prototype photos as well as the associated Western Refrigerator Line (Green Bay and Western). Many of the NWX cars were originally built with "billboard" lettering and were rolling advertisements for various dairy and poultry companies located in the upper Midwest. Accurate scale models of the prototype cars are available from Westerfield in HO scale. After Volume 4 was published, Branchline Trains released a version of these AC&F-built cars as an HO scale styrene plastic kit, accurate for NWX cars built 1927-1931.

## Railway Prototype Cyclopedia Article Index

Vol. No.	Pages	Title/Author	Synopsis
4	71-85	Phosphate Covered Hopper Cars <i>by Pat Wider</i>	During the early 1930s, the Seaboard Air Line developed a new covered hopper design for the transport of phosphate rock. Soon thereafter, the Atlantic Coast Line developed a similar, but different design. Later, Shippers Car Line also owned a quantity of phosphate covered hopper cars for leasing purposes. Wabash purchased some second-hand during the early 1950s. This article provides prototype information and photographs on these unique covered hopper cars. Roster information is also provided as well as a sample diagram.
4	86-96	1935 A.A.R. 50-ton Hopper Cars - Part 3 <i>by Ed Hawkins</i>	The series is continued with 50- and 60-ton cars of the A.A.R. Standard and Alternate Standard twin offset design used by railroads of the Appalachian region, including the C&O, B&LE, C&I, Montour, P&S, P&WV, and W&LE.
5	1-24	Box Car Painting - Part 3 <i>by Pat Wider</i>	Part 3 of the box car painting and lettering series presents cars that were painted with "attention-grabbing" schemes. Included are a total of 47 builder's and in-service photos of various size box cars intended to catch the viewer's eye. Also, included are numerous box cars that were placed in special service, such as less-than-carload merchandise service. These are sure to be a hit for modelers of the 1940s to 1950s.
5	25-41	WW II Troop Sleepers and Kitchen Cars <i>by Pat Wider</i>	To support the U.S. troop movements during and immediately after World War II, Pullman-Standard manufactured two series of troop sleeping cars and American Car & Foundry built a total of 840 troop kitchen cars. This article provides a history of these cars and insight in the configuration and interior details. In addition, a few examples of the cars are shown during the postwar period when some railroads purchased the cars, modified them, and placed them in passenger train express service.
5	42-58	URTCO. and MRX 40-foot AC&F Reefers <i>by Ed Hawkins</i>	The Union Refrigerator Transit Company and Morrell's Refrigerator Line owned a substantial number of AC&F-built wood refrigerator cars that were purchased during the late 1920s. The article presents a roster of the cars built from May 1927 to 1929 and a substantial number of URTCo. (later URTX) and MRX prototype photos. Many of these cars were originally built with "billboard" lettering. This is a sister article to the NWX refrigerator car article presented in Volume 4. Accurate scale models of the prototype cars are available from Westerfield in HO scale. After Volume 5 was published, Branchline Trains released an HO scale plastic kit accurate for the URTCo./URTX cars discussed in this article.
5	59-77	1926/1929 A.R.A. 70-ton Hopper Cars <i>by Ed Hawkins</i>	In 1926, the A.R.A. developed a preliminary design for a 70-ton quadruple hopper car with offset-side panels. The Baltimore & Ohio owned 7,000 cars built to this design. In 1929 the design was modified and approved by the A.R.A. as a standard design for 70-ton quadruple hopper cars. A number of roads had cars built that generally conformed to the 1929 design. This article presents the primary differences in the two designs, a detailed roster, and time-line chart for the cars as they were in service through the 1950s and later.
5	78-93	EMD F2 and Early F3 Diesel Locomotives <i>by Ed Hawkins</i>	Beginning in 1946, Electro-Motive Division continued the cycle of manufacturing F units that had begun with the FT. Identified by three portholes on the side of the cab units (as built), the EMD F2 and earliest of the F3 models are featured. The early F3 model has been dubbed "Phase I" by the modeling community. A detailed roster is presented that specifies various items such as the use of dynamic brakes, steam generation equipment, headlight configuration, and style of number boards. Many examples of the production locomotives are illustrated with EMD builder's and in-service photos.

## ***Railway Prototype Cyclopedia Article Index***

<b>Vol. No.</b>	<b>Pages</b>	<b>Title / Author</b>	<b>Synopsis</b>
5	94-97	Model Track Guide <i>by Pat Wider</i>	What model track in each scale is the most prototypically correct? The author's detailed study and account of prototype track is summarized with tables that provide a guide for the modeler in choosing the track that would be best suited for various applications.
6	1	Updates & Errata	Updates and corrections that pertain to Volume 5, including additional CNW F3 Phase I locomotives, corrections to KCS F3 painting information, and a photo of the KCS quadruple hopper car that was not included in Volume 5 due to space limitations.
6	2-39	Box Car Painting - BX Express Box Cars <i>by Pat Wider</i>	Part 4 of the box car painting and lettering series presents cars that were equipped with steam and signal lines for passenger train express service. Included is a two page roster of BX cars used during the late 1920s through 1960. The article identifies and illustrates numerous examples of BX box cars specially equipped and painted for high-speed service. Note: we have additional photos of BX express box cars that could not be published in Volume 6 due to space limitations. We plan to update this subject in a future edition, to include additional photos that we currently have plus others that we hope to locate in the meantime.
6	40-75	EMD F3 Phase II Diesel Locomotives <i>by Ed Hawkins</i>	This article is the second in a series of Electro-Motive Division F3 Diesel locomotives. This particular group was identified by "chicken wire" between the two side portholes on the A-units. This F3 model has been dubbed "Phase II" by the modeling community. A detailed roster is presented that specifies various items such as the use of dynamic brakes, steam generation equipment, headlight configuration, type of pilot, exhaust fans (high or low), and style of number boards. Additional information about steam generators and dynamic brakes provide insight why these two items were not necessarily mutually exclusive options. Many examples of the production locomotives are illustrated with EMD builder's and in-service photos.
6	76-105	Lightweight Passenger Car Trucks <i>by Pat Wider</i>	A tremendous amount of research went into this article which identifies lightweight passenger car trucks used by all the railroads during the postwar period. In addition, several prewar trucks used on early streamline passenger cars are shown. The Pullman Company codes for passenger car truck designations are described in detail with illustrations and photos of the various features that caused these trucks to be so distinctive. Nearly 60 photos or diagrams accompany this article alone! Six pages of tables provide a detailed accounting of the types of trucks used on lightweight sleeping cars (by railroad) and a cross-reference table that identifies each specific group of trucks by the Pullman Company designation.
7	1-77	BR & BS Express Refrigerator Cars <i>by Pat Wider</i>	Express refrigerator cars were a major facet of railroad history and were an important part of passenger train consists into the 1960s. Seventy-seven pages to this subject with history, data, photos, and a 3-page roster of these interesting and sometimes unique cars. More than 90 builder's and in-service photos, 36 of which are color, display many painting and lettering schemes.

## Railway Prototype Cyclopedia Article Index

Vol. No.	Pages	Title / Author	Synopsis
7	78-84	EMD F3 Phase III Diesel Locomotives <i>by Ed Hawkins</i>	This is the third in a series of Electro-Motive Division F3 Diesel locomotive articles. This particular group was identified by the introduction of horizontal louvers between the two side portholes on the A-units and "chicken wire" along the top row of air intakes. This F3 model has been dubbed "Phase III" by the modeling community. A detailed roster is presented that specifies various items such as the use of dynamic brakes, steam generation equipment, headlight configuration, type of pilot, and style of number boards. Examples of the production locomotives are illustrated with EMD builder's and in-service photos.
7	85-105	AC&F Type 27 10,500-Gallon ICC-105A Propane Tank Cars <i>by Ed Hawkins</i>	In the late 1920s the propane industry was in its infancy and by the mid-1930s had grown in prominence. Purpose-specific tank cars were built to support the increased demand for the transportation of propane. AC&F built more than 500 Type 27 10,500-gallon tank cars from 1929 to early 1946 having the same general dimensions and configuration. The cars had many variations that are described plus a total of 32 photos and plans of these important cars in railroad history.
8	1-27	Express Box Cars Addendum <i>by Pat Wider</i>	This addendum provides additional coverage on the subject of BX express box cars that we originally presented in Volume 6. Included are many photos and much information we either did not have sufficient space for in Volume 6 or have subsequently acquired. Shown are BX express box cars routinely used in head-end express passenger train service from the 1930s through the 1950s and into the 1960s.
8	28-59	Baldwin VO-1000 Diesel Switcher Locomotives <i>by Charlie Roth</i>	Presented are the many "phases" of Baldwin VO-1000 Diesel switchers built during the production span of these distinctive locomotives from late 1939 to 1946. Included are builder's or in-service photographs of each "phase" in as-delivered appearance plus examples of locomotives that received various modifications while in service. Each phase designation is described with its inherent characteristics and a guide to the time period produced. In the case of modified locomotives, information about the original configuration is included. This article and the series of VO-1000 articles in Diesel Era are complimentary in nature.
8	60-74	1935 A.A.R. 50-ton Hopper Cars Part 4 <i>by Ed Hawkins</i>	Continuing the series of 1935 A.A.R. twin offset-side hopper cars produced for 25 years (1936 to 1960), this edition presents cars of this type built for southeastern roads. Examples include A.A.R. Standard and Alternate Standard cars as well as "non-standard" cars having 33' inside length. Representative builder's and in-service photos are shown of the numerous southeastern roads owning cars of this general description. This includes the Louisville & Nashville Railroad, which had more than 19,000 cars of various configurations.
8	75-105	10'-0" Inside Height Postwar A.A.R. 40'-6" Box Cars <i>by Ed Hawkins</i>	Following the production of the 1937 A.A.R. box car, the "most common box car" ever produced, cars of the same general design followed from 1945 into the 1950s. Presented are cars of 10'-0" IH having Improved Dreadnaught Ends of three versions built during this period. More than 35,000 cars of this description were built with SP/T&NO having more than 19,000. Included is a two-page roster of cars meeting the criteria.
9	1-25	B&O Wagon-Top Box Cars (25 pages) <i>by Pat Wider</i>	The Baltimore & Ohio Railroad's signature box car was noted for its unique design and appearance. The article includes historical information about the origin of the cars as rebuilt class M-15 box cars plus other cars built new (class M-53) during the late 1930s and early 1940s. Shown are numerous builder's and in-service photos plus several brass and cast urethane models in HO scale of these distinctive box cars.

## Railway Prototype Cyclopedia Article Index

Vol. No.	Pages	Title/Author	Synopsis
9	26-43	Pullman-Standard Compartmentizers <i>by Pat Wider</i>	During the 1930s through 1940s, railroads were constantly battling the financial impact of the high cost of damaged lading. One builder's solution to the problem was the Compartmentizer, first offered by Pullman-Standard in the early 1950s. The article discusses the problems caused by damaged freight with a description and photos of Pullman-Standard's interior arrangement of movable partitions to help keep lading from being damaged during transit. Shown are numerous photographs of freight cars equipped with Compartmentizers, all having Compartmentizer stencils on the car sides.
9	44-60	1935 A.A.R. 50-ton Hopper Cars - Part 5 <i>by Ed Hawkins</i>	Continuing the series of 1935 A.A.R. twin offset-side hopper cars produced for 25 years (1936 to 1960), this edition presents cars of this type built for Midwestern roads. Examples include A.A.R. Standard and Alternate Standard cars as well as "non-standard" cars having 33' inside length. Representative builder's and in-service photos are shown of the numerous Midwestern roads owning cars of this general description.
9	61-86	Express Refrigerator Cars- Addendum <i>by Pat Wider</i>	In Volume 7 we presented 77 pages of coverage on the interesting and important subject in railroad history of express refrigerator cars. Since that time we located a substantial number of additional photographs of these ubiquitous cars, some of which are very rare. Also included are several line drawings of express refrigerator cars, including the omnipresent Pennsylvania Railroad R-50b.
9	87-105	EMD F3 Phase IV Diesel Locomotives (18 pages + back inside cover for roster) <i>by Ed Hawkins</i>	This is the fourth in a series of Electro-Motive Division F3 Diesel locomotive articles. This particular group was identified by the introduction of horizontal grilles along the top row of air intakes. This F3 model has been dubbed "Phase IV" by the modeling community. A detailed roster is presented that specifies various items such as the use of dynamic brakes, steam generation equipment, headlight configuration, type of pilot, and style of number boards. Examples of the production locomotives are illustrated with EMD builder's and in-service photos.
10	1-59	Freight Car Hand Brakes - 1920s to 1950s <i>by Pat Wider</i>	One item common to all freight cars is a hand brake. During the 1920s through 1950s a wide variety of types and styles of hand brakes were available. This included the use of vertical staff hand brakes with the wheel in a horizontal plane, geared power hand brakes with the wheel in either a vertical or horizontal plane, ratchet hand brakes, and lever hand brakes. Over time hand brake manufacturers introduced numerous changes to mechanisms and to the appearance of the wheels. Presented is a history of hand brake devices with more than 100 photos and illustrations of the many hand brakes installed on freight cars during this period. Also provided are tables listing A.A.R. certified geared hand brakes as of May 1944 and June 1959.
10	60-70	New York Central 47'-11" Drop- Side Container Cars <i>by Pat Wider</i>	During the early 1930s the New York Central Railroad and L.C.L. Corporation continued the development of an early intermodal "Container-On-Flat-Car (COFC) service. The L.C.L. Corporation purchased 335 such cars from Standard Steel Car Company and American Car & Foundry Company in 1930 and 1931 with each car equipped with 6 containers and having an inside length of 47'-11". These drop-side cars were used in COFC service into the early 1950s before being converted by NYC with the permanent closing of the drop-sides. The article presents a history of the cars with 20 photos and illustrations.

## Railway Prototype Cyclopedia Article Index

Vol. No.	Pages	Title/Author	Synopsis
10	71-75	70-ton Phosphate Quadruple Covered Hopper Cars - Addendum by <i>Pat Wider</i>	In Volume 4 we presented an article on 70-ton quadruple covered hopper cars for use in dedicated phosphate service. The cars were owned by Atlantic Coast Line, Seaboard Air Line, and Shippers' Car Line. Wabash later purchased some of these cars for sand service. Additional material is presented that includes five in-service photos, two model photos, and two illustrations of these cars.
10	76-105	AC&F Type 27 Uninsulated Multiple-Compartment I.C.C. 103 Tank Cars by <i>Ed Hawkins</i>	From 1928 through the late 1940s, AC&F developed and built a myriad of tank cars constructed to their Type 27 design standard. Included were several hundred multiple-compartment cars of either insulated or uninsulated configurations. Presented in this volume are uninsulated cars of this type, nearly all of which were either two-compartment or three-compartment. A lone five-compartment car was built. The tank capacities ranged in size from 4,000 gallons to 8,000 gallons with 6,000 gallons being the most common. Included is a history of the development of Type 27 tank cars with a comprehensive roster and more than 50 photos and illustrations of these unique multiple-compartment cars used for transporting liquid materials.
11	1-113	Six Pullman Lightweight Passenger Cars by <i>Pat Wider</i>	Presented are four selected groups of Pullman lightweight streamline passenger cars, two of which had specific variations to make six unique arrangements. The four main groups discussed include selected Pullman-Standard 10-5, Pullman-Standard 6-6-4, Pullman-Standard 4-4-2, and Budd 10-6 sleeping cars. The prototype versions match, to an extent, HO-scale models available from Walthers. Also included in this volume is information that applies to virtually all lightweight sleeping cars with comprehensive attention paid to the underbody equipment. There are summaries and detailed descriptions, photos, illustrations, diagrams, and tables of Pullman's sleeping car accommodations, materials used to construct lightweight cars, electrical systems, air-conditioning systems, heating systems, braking systems, trucks, hand brakes, draft gear and couplers, steam connections, as well as a few other miscellaneous topics. Numerous builders' photos and in-service photos, some in landscape format, are provided.
12	1-45	Weighing Freight Cars by <i>Pat Wider</i>	The extensive material includes plans and photographs of Fairbanks-Morse and Howe track scales, Baldwin-Southwark scale test cars, National Bureau of Standards scale test cars, B&O scale tool cars, as well as lists of track scales on the B&O railroad and a list of the railroad's weigh station symbols. Several pages are devoted to describing the process of weighing freight cars and the reweighing and stenciling requirements of the A.A.R.
12	46-87	CB&Q Wood-Sheathed Auto Cars ((XA-1 Through XA-14) by <i>Bat Masterson, Hol Wagner, and Al Hoffman</i>	The material includes a roster and a comprehensive history of CB&Q's XA-1 through XA-14 double- and single-sheathed automobile cars as well as numerous photographs and diagrams. More than 7,000 cars of these 40' and 50' classes were built through 1937.
12	88-113	Fruit Growers Express/Burlington Refrigerator Express/Western Fruit Express Wartime Reefers (1942-1946) by <i>Bill Welch, Ed Hawkins, and Pat Wider</i>	Included is an extensive history of the FGE consortium as well as a roster, descriptions, and numerous photographs of the FGE/BRE/WFE cars built from 1942-1946. The earliest of these had plywood-sheathed sides, while others had vertical tongue and groove sides. All-steel derivatives built by Mount Vernon beginning in late 1946 are also included. The subject matter covers prototype cars that will soon be forthcoming from Sunshine Models in HO scale.

## Railway Prototype Cyclopedia Article Index

Vol. No.	Pages	Title/Author	Synopsis
13	1-75	Milwaukee Road Ribbed-Side Box and Automobile Cars <i>by Pat Wider</i>	The extensive material includes plans, photographs, and a roster of Milwaukee Road ribbed-side 40' & 50' box and automobile cars that were designed and patented by the railroad's Car Department Superintendent, Karl Nystrom. Discussed are the cars' many variations implemented during their period of construction (1937-1949).
13	76-88	Seaboard Air Line Turtle-Back Cars <i>by Pat Wider</i>	The article describes and illustrates the several classes of Turtle-Back (round-roof) box and automobile cars built by Pullman-Standard for the Seaboard Air Line from 1940 to 1942.
13	89-101	CB&Q Wood-Sheathed Auto Cars - Part 2 ((XA-15 and XA-16) <i>by Bat Masterson, Hol Wagner, and Al Hoffman</i>	Part two of the article on CB&Q automobile cars continues from where the previous article left off. The final part covers the all-steel automobile cars built by the railroad from 1941 to 1946 and it includes several diagrams and numerous photographs of these cars.
13	102-105	1935 A.A.R. 50-ton Hopper Cars - Part 6 <i>by Ed Hawkins</i>	The author continues his series on the A.A.R. twin offset hopper cars by discussing and illustrating the cars owned by the Santa Fe and Northern Pacific railroads.
14	1-39	Missouri Pacific Steel Rebuild Box Cars (including the original single and double-sheathed cars) <i>by Ed Hawkins</i>	Considered Missouri Pacific's "signature" box cars, the 1950s 36' and 40' steel rebuilds were truly unique as they reused underframes and ends (mostly) from cars built from 1924-1930. Rebuilt cars received new all-steel 10-panel riveted sides, new Youngstown doors, and new diagonal panel roofs. The article also presents the original cars, including interim changes made before the rebuilding program. The rebuilds were painted either freight car red for general service or in Eagle passenger-train colors for L.C.L. Eagle Merchandise Service. A two-page roster and time-line are also included.
14	40-77	40' Cryogenic Gas Tank/Box Cars <i>by Patrick C. Wider</i>	From the late 1930s to early 1960s, distinctive tank cars disguised as all-steel box cars were built by Pressed Steel Car Co., General American Transportation Corp., and American Car & Foundry for the transportation of cryogenic gases. Shown are numerous builder's photos and in-service photos of cars leased to Linde, Air Reduction, and National Cylinder Gas. Included are a roster and engineering drawings of selected cars showing a general configuration of the tank and box car as well as details such as roof hatches and end doors.
14	78-98	General American 37' Meat Reefers <i>by Patrick C. Wider</i>	From the late 1930s through the 1950s, Midwestern slaughterhouses and meat packers leased a significant quantity of modern 37' refrigerator cars with wood superstructures built by General American Transportation Corporation. Dubuque, Kingan & Co., Dugdale Packing, and Oscar Meyer are just a few examples of the shippers that leased these cars owned by General American with G.A.R.X. or U.R.T.X. reporting marks. Also included is a roster.
14	99-105	1926/1929 A.R.A. Quadruple Hoppers Addendum <i>by Ed Hawkins</i>	Presented in the addendum are additional in-service photos that have been acquired since the publication of the original article in Volume 5. These include cars for original owners B&O, C&O, Erie, K.C.S. (a later all-welded version), MILW, and M.P., as well as mid to late 1950s second-hand owners Montour and Norfolk Southern, the latter of which leased cars with extended sides for wood chip service. Also included is an updated roster and ORER time-line table.
15	1-46	General American GAEX/GARX XME and RB Leased Box Cars <i>by Patrick C. Wider</i>	The extensive material covers the 1950s state-of-the-art General American 50' high quality XME box cars as well as their 50' RB insulated box car siblings that were leased by several well-known class I railroads. The article also includes considerable information on General American-Evans DF Loaders that equipped these cars as well as many others built during the period.

## Railway Prototype Cyclopedia Article Index

<b>Vol. No.</b>	<b>Pages</b>	<b>Title/ Author</b>	<b>Synopsis</b>
15	47-87	Pennsylvania Railroad X23, X24, K7, and R7 Freight Cars <i>by Patrick C. Wider</i>	The comprehensive article describes and illustrates the P.R.R. single-sheathed box cars, automobile cars, stock cars, and refrigerator cars all built to a standard 1912 railroad propriety design. The cars had long lives and a number of the refrigerator cars were subsequently transferred to Fruit Growers Express and the National Car Company.
15	88-105	Greenville Steel Car Co. 70-Ton Fish-belly Side Sill Covered Hopper Cars <i>by Ed Hawkins</i>	Covered are the distinctive fish-belly Greenville 70-ton covered hopper cars that were built from 1947-1953 and bore many design characteristics of similar cars built by American Car & Foundry as well as several other major American freight car builders of the period.
16	1-53	U.S.R.A. 40-ton Double-Sheathed Box Cars <i>by Patrick C. Wider</i>	The article is the first in a series of articles that will cover several "standard" American box car designs that were built in large quantities during the first half of the 20th Century. In this article, Pat Wider covers the 25,000 double-sheathed wood and steel box cars that were built from 1918 to 1922 following a United States Railroad Association standard design. The comprehensive series of articles will include the contemporary U.S.R.A. single-sheathed wood & steel and double-sheathed all-steel box cars operated by a large number of U.S. railroads.
16	54-63	General American 70-ton All-Steel Refrigerator Cars <i>by Patrick C. Wider</i>	The author describes and illustrates the unique 1930s General American 70-ton "super size" all-steel refrigerator cars owned and operated by General American Transportation Corporation and leased to the Milwaukee Road and the Elgin, Joliet and Eastern Railway. These cars presaged the modern 50' cars of the 1950s.
16	64-113	Freight Car Running Boards and Brake Steps <i>by Ed Hawkins</i>	The author covers the various types of running boards and brake steps installed on freight cars prior used from the early 1900s through 1960 and to their banishment in 1974. Included are numerous photographs, tables, diagrams, descriptions, and contemporary trade publication advertisements. This is a must have article for serious freight-car modelers.
17	1-51	U.S.R.A. 50-ton Single-Sheathed Box Cars and Steel Rebuilds <i>by Patrick C. Wider</i>	The article is the second in a series of articles that cover several "standard" American box car designs that were built in large quantities during the first half of the 20th Century. In this article, Pat Wider covers the 25,000 single-sheathed wood and steel box cars that were built from 1918 to 1920 following a United States Railroad Administration standard design. The article also includes the steel-rebuilds of many of these cars that lasted well into the 1960s.
17	52-64	General American Trans-Flo Hopper Cars <i>by Patrick C. Wider</i>	The author describes and illustrates the unique General American 70-ton Trans-Flo covered hopper cars owned and operated by the General American Transportation Corporation and leased to the American Stores Company, National Biscuit Company, and Miles Laboratories. These distinctive cars presaged the later General American Airslide hopper cars of the 1950s and 1960s.
17	65-113	Railroad-Owned GATC Airslide 2,600 Cu. Ft. Covered Hopper Cars <i>by Ed Hawkins</i>	The author covers the General American 2,600 Cu. Ft. Airslide covered hopper cars that were ordered and owned by several railroads from 1954 to 1959. The article features many pristine builder's photographs. This is the first part in a series of articles that will also include the General American-owned 2,600 Cu. Ft. Airslide cars.

## Railway Prototype Cyclopedia Article Index

Vol. No.	Pages	Title / Author	Synopsis
18	1-113	A.R.A 1923-29 Design 40' Inside-Length 40- and 50-ton Box Cars by <i>Patrick C. Wider</i>	This full volume article is the third in a series that cover several "standard" American box car designs that were built in large quantities during the first half of the 20th Century. The article covers the 1923-29 design A.R.A. single-sheathed and double-sheathed, standard steel frame box cars as well as the A.R.A. "proposed-standard" all-steel box cars that were built from 1924 to 1934 following several American Railroad Administration designs. These cars were the immediate predecessors of the A.R.A. Standard Box Car of 1932. The standard single- and double-sheathed steel frame box cars were built for or owned by many railroads including the A&WP, AT&SF, BAR, B&M, C&O, CGW, CRI&P, GA, GF&A, L&N, M&StL, SAL, SP, UP, WAG, and WofA. The A.R.A. "proposed-standard" all-steel box cars were built for or owned by the B&O, B&M, C&O, CGW, CRRofNJ, DT&I, Erie, L&NE, MEC, MTC, NKP, NYC, PM, PRR, and W&LE. The article includes 151 black & white and color photographs, 35 diagrams, and 3 tables. The Pennsy's X29 A.R.A. all-steel box cars will the subject of a separate article in a future <i>RP CYC</i> .
19	1-50	Emergency Composite Box Cars by <i>Patrick C. Wider</i>	This article is the fourth in a series of articles that cover American box car designs that were built in large quantities during the first half of the 20th Century. In this article, the author covers the single-sheathed and plywood-sheathed 40' and 50' emergency box cars constructed during World War II following restrictions imposed by the War Production Board.
19	51-60	Erie 40-Ton Express Milk Cars by <i>Patrick C. Wider</i>	The author describes and illustrates the unique Erie express milk cars built during the 1930s by Greenville Steel Car Company. Also discussed and illustrated are some of the cars converted for express baggage service.
19	61-113	Family of All-Welded 70-Ton Drop-End Gondola Cars Based on PRR's Class G31 by <i>Ed Hawkins</i>	The author covers an interesting group of subject cars first built by the Pennsylvania Railroad (Class G31) in 1948-1950, followed in the 1950s with derivatives built by American Car & Foundry and Pullman-Standard for Pennsy, Atlantic Coast Line, Birmingham Southern, Delaware & Hudson, Delaware, Lackawanna & Western, Southern Pacific, Wabash, Sacramento Northern, and Western Pacific.
20	1-85	Flat Car Loading Practices by <i>Patrick C. Wider</i>	The article contains 46 diagrams that show how many types of loads are restrained and tied down to flat cars. Also included are 126 photos of flat cars with all types of loads such as various steel products including pipe, auto frames, road construction and farm machinery, transformers and circuit breakers, boilers and vessels, rolling stock underframes, trucks and wheels, forging presses, locomotives, damaged freight cars, street cars and busses, lumber products, stone, containers, military equipment, and trailers on flat cars. Captions describe the flat cars photographed including the cars' histories (car number series, builder, and build date). Additional text details the A.A.R. rules for securing the various commodities.
20	86-113	GATC Airslide 2,600 Cu. Ft. Covered Hopper Cars (Part 2) - Cars Leased by Railroads by <i>Ed Hawkins</i>	The article is the second in a series, which covers cars from 1954-1959 built and owned by General American (GACX reporting marks) and leased to railroads during this time period. There are also a few examples of cars originally leased by railroads and then purchased by the railroad. The article contains 49 page-width photographs, two diagrams, and two comprehensive tables.

## Railway Prototype Cyclopedia Article Index

Vol. No.	Pages	Title/Author	Synopsis
21	1-93	U.S.R.A.-design All-steel Box & Auto Cars <i>by Patrick C. Wider</i>	The article is the fifth in a series that cover American box car designs that were built in large quantities during the first half of the 20th century. The article covers the U.S.R.A. all-steel box car design of 1918 and the ubiquitous box and automobile cars that were built in the post-World War I era that loosely followed this design. Included among the latter were the cars built for the New York Central Lines (New York Central, Boston & Albany, Cleveland, Cincinnati, Chicago & St. Louis, Michigan Central, Peoria & Eastern, and Pittsburgh & Lake Erie) as well as the similar cars built for the Delaware, Lackawanna & Western, Reading, Central Railroad of New Jersey, and Universal Portland Cement Company. Railroads that received the latter's cars second hand such as the Hannibal Connecting and Northampton and Bath are also covered. A total of 37,001 prototype cars of this description were built from 1920 to 1930. The article contains 147 page-width prototype and model photographs, eight diagrams, and three comprehensive tables.
21	94-113	Armour Refrigerator Line's Steel Reefers <i>by Ed Hawkins</i>	The article covers the 2,000 steel cars built by the General American Transportation Corporation and American Car & Foundry Co. circa 1948-49 that were owned by the Armour Refrigerator Line (ARLX reporting marks) as well as the all-steel cars that were leased by Armour (TRAX and PCX reporting marks) in the mid-1950s. Contained in the article are 20 page-width photographs, eight diagrams, and three comprehensive tables.
22	1-74	Pennsylvania Railroad Wagon-Top Box and Automobile Cars <i>by Patrick C. Wider</i>	The article is the sixth in a series that cover American box car designs that were built in large quantities during the first half of the 20th century. The article covers the Pennsylvania Railroad 40' and 50' wagon-top box and automobile cars (railroad class X31, X32 and X33 and subclasses) that were built in the post-World War I era that loosely followed this design. The article contains 89 prototype photographs, 26 diagrams, 8 model photographs, and one comprehensive table. Railroads that received similar wagon-top cars such as the Norfolk & Western will be covered in a follow-on article.
22	75-113	General American Airslide Covered Hopper Cars, Part 3 <i>by Ed Hawkins</i>	The article covers the GATC Airslide cars that were leased by numerous companies including Pillsbury, Sunshine Biscuits, Nabisco, International Milling, and many more. It contains 73 page-width photographs, one table of specialty items and design detail changes, and one partial roster.
23	1-41	Mid-Century Composite 40'-6" Box Cars <i>by Patrick C. Wider</i>	This article is the seventh in a series covering North American box car designs that were built during the first half of the 20th century. It describes the last single- and double-sheathed wood box cars built new from 1937-1943 for the Canadian Pacific, Great Northern, Gulf, Mobile and Northern, and Northern Pacific railroads. One might call these box cars "late wood-sheathed anachronisms" considering that box cars with steel sheathing had become the de facto standard on America's railroads by the mid-1930s.
23	42-78	Bethlehem-Design 52'-6" 70-ton Drop-End Gondola Cars <i>by Ed Hawkins</i>	The article describes and illustrates the design of nearly 9,500 riveted-steel cars built from 1937 to 1957 for six railroads including B&O, CRP/CNJ, LV, RDG, WAB, and WM. Included is a comprehensive roster.
23	79-113	Non-Pennsylvania Railroad Wagon-Top Box and Auto Cars <i>by Patrick C. Wider</i>	This article is the eighth in a series covering American box car designs that were built during the first half of the 20th century. It describes the wagon-top box and auto cars that were built new for the Detroit, Toledo & Ironton, Norfolk & Western, and Virginian. Railroads that received the cars second-hand such as the AD&N, D&H, D&M, MRS, NP, OP&E, P&PU, TA&G, TS-E, and Wabash are also covered.