



PRETTY setting for a railroad station was Ligonier, Penna. This is the Ligonier Valley Railroad's EMC car 1152, ex-Boston & Maine 1152, waiting for passengers in 1948. There were too few, and the line was abandoned four years later.
Author's Collection

Electro-Motive Corp.

Cleveland, Ohio

THE REMARKABLE success story of Electro-Motive in the rail motorcar saga begins precisely where the earlier triumphs of General Electric came to an abrupt end on the eve of World War I. There were some important new ingredients, first and foremost a former bus and truck salesman named Harold L. Hamilton.

General Electric built 89 motorcars, most of them in a brief six-year period beginning in 1910. The company solved many of the vexing engineering problems inherent in the wedding of internal combustion propulsion to the steel rail, but the solution to others—particularly in the control area—eluded GE until it was too late. Declining sales and the need to commit company resources elsewhere induced GE to exit the field completely in 1917.

Hamilton, who had once been a railway mechanic, thought the giant electrical firm was making a big mistake. In surveying the railroad industry in the midst of its struggle to regain profitability after the 1917-1918 war, he detected an unmet need for a really workable rail motorcar. He also knew that earlier troubles of prime mover, control and durability would have to be mastered be-

fore the motorcar could be revived. This, he set out to do.

Organizing the Electro-Motive Corporation in Cleveland, Hamilton in 1922 began talking with GE engineers, particularly Hermann Lemp, the Swiss-born engineering genius who had been a consultant to GE's gas car project starting from 1910. Ironically, the decrease in railcar activity had stimulated GE's research into the modern diesel engine, and the gas-electric control problem had been tackled anew by 1918.

Simplified, Lemp's new system substituted one single control for the two previously used: the throttle of the gas engine and the field strength selector for the generator. The old combination had been tricky: too much excitation stalled the engine; too much throttle wasted fuel. The system was confusing, and easy to abuse. A given speed could be obtained by a combination of control settings—e.g., 5 mph could be realized with the engine screaming and the excitation cut down to a minimum, or with the engine lugging away at low rpms with heavy excitation. It took an extremely capable motorman to master these mysteries and keep everything running.

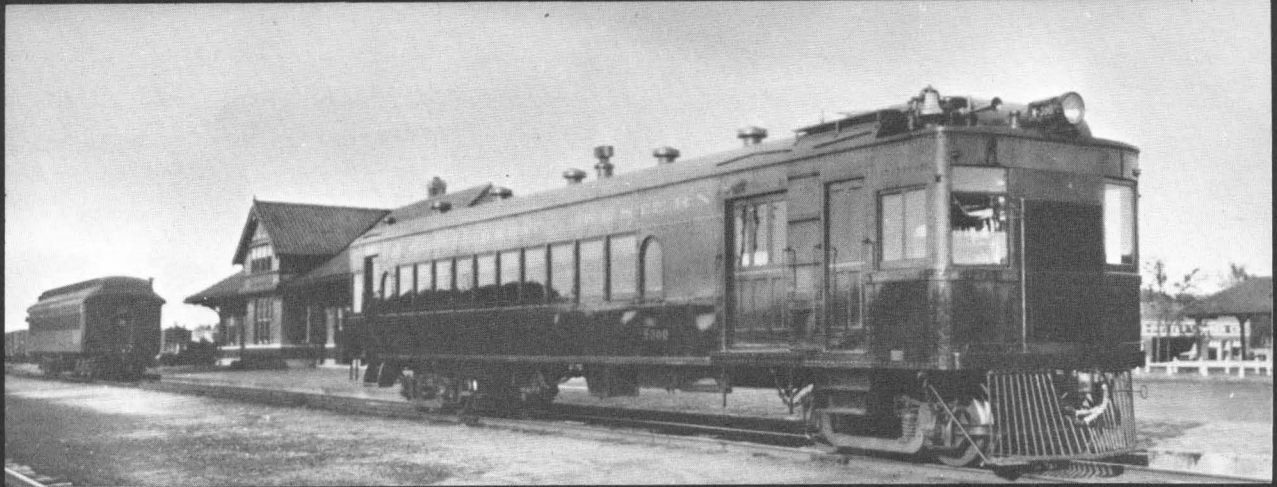
Lemp finally came up with a control

which regulated the traction motors and the gas engine through a mechanical governor. Variables were kept in compensation by an air cylinder control.

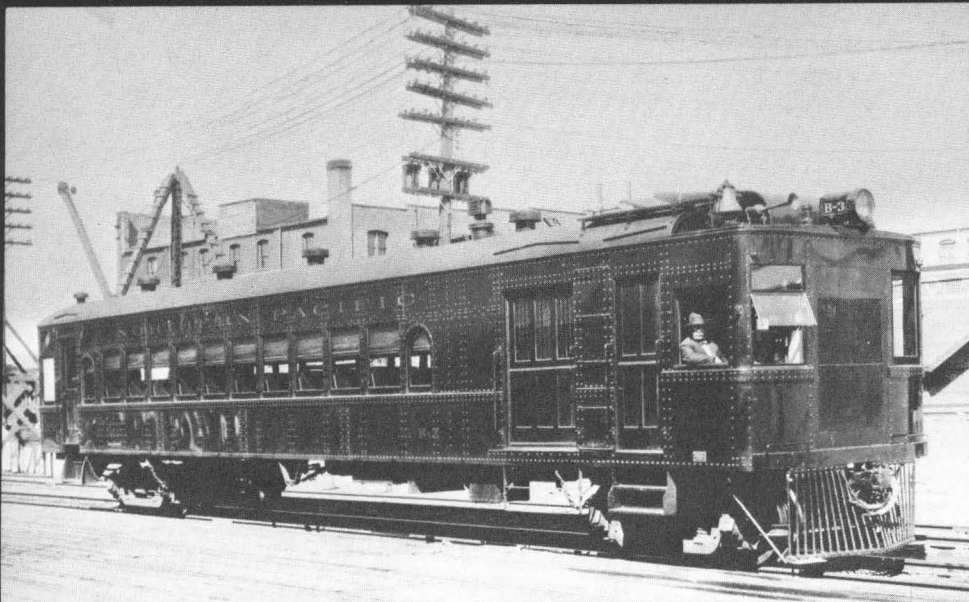
Still, the system was basically mechanical and quite complicated. It was at this point that Hamilton entered the picture, demanding a further refinement so that his fledgling company could capitalize on the demand for large rail motorcars which he felt could be stimulated with just the right machine.

GE agreed to new tests. Hamilton supplied a Sterling "Dolphin" marine gas engine; working with this on a converted early diesel switcher and later an Ingersoll-Rand unit, Lemp produced some important refinements. A true single-handle control was perfected, operating only the engine throttle. The rest was done automatically, and by 1923 the system was ready for revenue application.

The early 1920s were rough times for the American railroad industry, struggling to cope with recession, inflation and a physical plant all but worn out by record war traffics and government mismanagement. Hardly the time to start a new company and attempt to set the conservative railroad industry on its ear

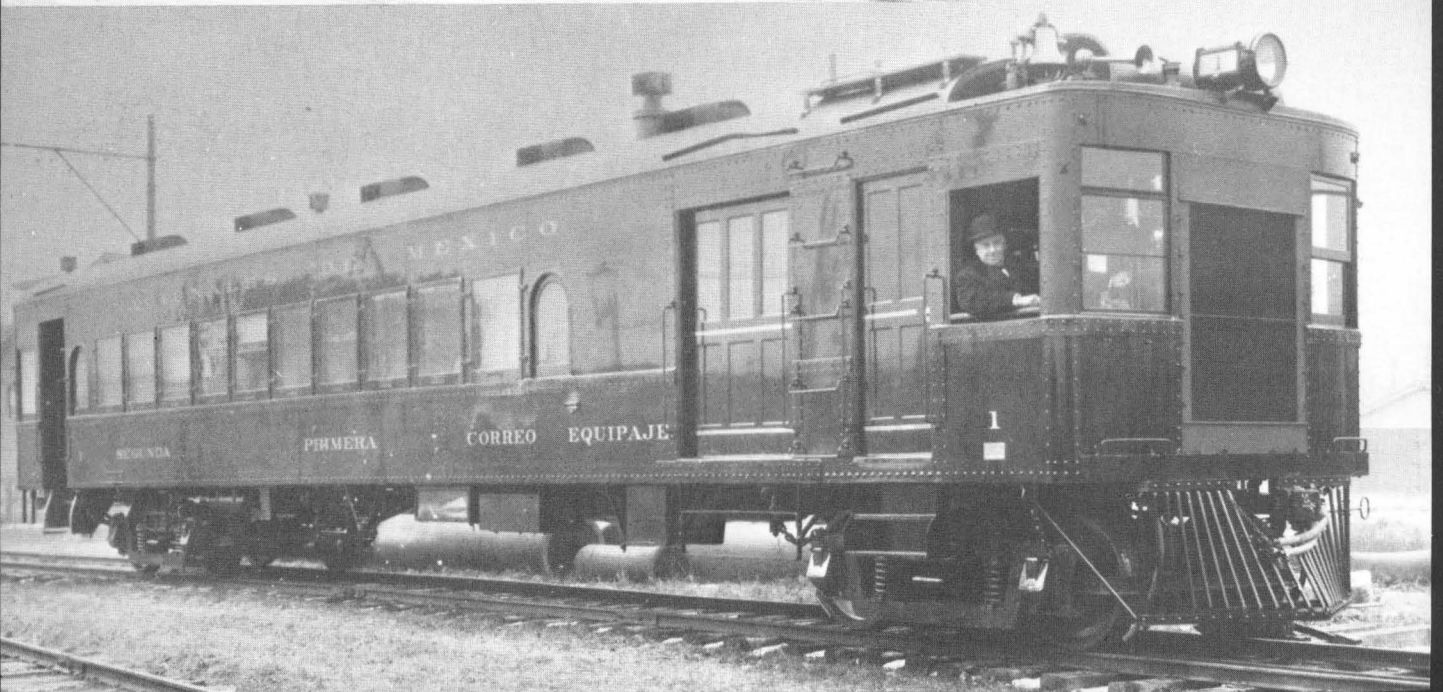


Electro-Motive's Earliest



THESE are the first three rail motorcars built by EMC. Top photo is of Chicago Great Western M-300; middle is the Northern Pacific's B-3, and the bottom view is of Mexican National No. 1. Incidentally, that's Baldwin's Sam Vauclain in the driver's seat. All three were built in 1924.

*Middle photo: A.E. Barker Collection;
Others: Louis A. Marre Collection*



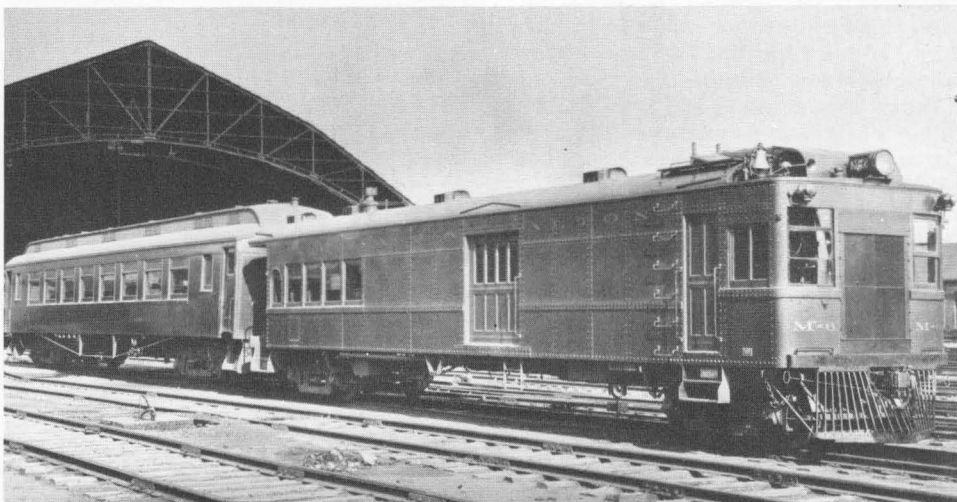
with a new product many managers didn't even know they needed. But Hamilton was a born salesman, and combined a double measure of self-confidence with careful business management.

As his chief engineer he selected Richard Dilworth, a former GE gas-electric technician who would later play a major role in the development of the diesel electric locomotive—the product destined to make Electro-Motive the dominant North American supplier of railroad motive power.

EMC itself began as simply a letter-head, a few desks in rented office space near downtown Cleveland, and a hired stenographer who worked half a day for the fledgling firm, left for lunch and said: "I'm not coming back as I have seen these blue sky companies start and fizzle out in no time."

And blue sky is just about what Harold Hamilton had for starters. Unable to afford a manufacturing plant and an army of craftsmen, Hamilton subcontracted nearly everything. GE, of course, supplied the motors, controls and electrical gear. He contracted with the Winton Engine Co. for prime movers, and had the cars fabricated at the St. Louis Car Co., one of the country's most versatile carbuilders specializing in everything from four-wheel Birney streetcars to mainline passenger coaches, and which once tried to market a steam-powered rail motorcar on its own.

By the summer of 1924 Hamilton had persuaded the Chicago Great Western to purchase EMC's first test car, an ungainly 35-ton vehicle with a 6-cylinder, 175-hp Winton gasoline engine, and throttle levers and linkage rigged from



MOTOR car "trains" became the rule on some lines, especially after introduction of the sturdy EMC units. Lehigh Valley No. 23 (above) has three coaches in tow; judging from all the brass hats present, it may be a test run. Chicago & Alton M-6 is shown (middle) with but a single wooden chair car. Both: Louis A. Marre Collection

GREAT Northern EMC car 2320 is shown in latter-day livery; snow plows were a necessity in GN territory.

A.E. Barker
Collection



stock Chevy and Ford auto parts. The M-300 measured 57 feet 4 inches in length, had a 16-foot 8-inch baggage compartment and seats for 44.

The skeptical CGW attached conditions to purchase of the car: it had to make schedule for 30 days of continuous service with no more than two 15-minute delays. With fingers crossed, Hamilton, Dilworth and Co. delivered the M-300 to the Grainger road and awaited the verdict.

The M-300 performed, and went on to make history, spawning some 400 doodlebugs to come later and bearing the EMC builder's plate. The Lemp-inspired single control worked, and the Winton engine proved to be a rugged and dependable machine. The car did not vibrate excessively or make too much noise, and it expended fuel at a highly respectable four miles to the gallon.

From this point, EMC was in the driver's seat, and no mistake. Although the market for rail motorcars was not especially important in the total railroad context, EMC soon began making waves felt throughout the entire rail spectrum, and somewhere along the line attracted the attention of one of the most powerful



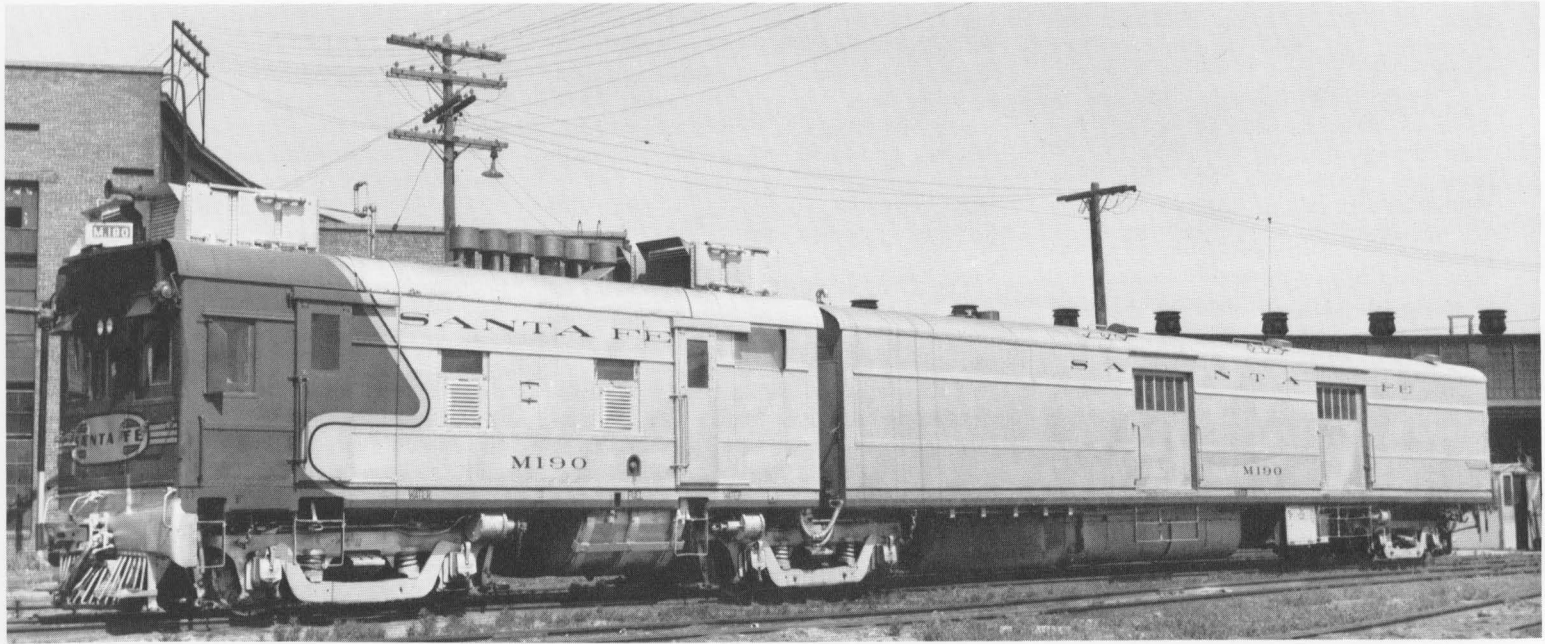
INDIGNITY of being hauled after road failure by steam locomotive was suffered occasionally by the lowly doodlebug. In this case, Burlington 4-6-2 2931 hauls unidentified EMC gas car near Centralia, Ill., on October 7, 1953.

Joe G. Collias from Louis A. Marre

SANTA FE was big doodlebug booster; here is EMC car M-180 at Hutchinson, Kan., in 1939. Many railcars sported RPO sections.

G. W. Sisk from Louis A. Marre





EXAMPLES of non-passenger carrying cars include Santa Fe's huge, articulated EMC M-190 at Clovis, N.M., 1959 (above) and Rock Island's 9013 at Kansas City, Kan., 1963 (left).

Both: Louis A. Marre Collection

corporations in the world—General Motors.

As the railroads began pulling themselves up out of the financial morass of the early 1920s and accelerated into the big boom which preceded the Great Depression, a market for the doodlebug did open up. Upstart EMC and old-line builder Brill were the principal firms able to cash in on it, for both recognized that the economics of the conventional passenger train were going sour, and that the roads were finally looking for a way out. Every year, 26,000 miles of paved highway were being built. Every year saw the production of 3½ million new automobiles. The locals and the branch line trains were losing business at an alarming rate. As David P. Morgan of *Trains Magazine* put it: the \$1.25-a-mile steam train was a sitting duck for the 50-cent-a-mile doodlebug.

EMC's second car went to the Northern Pacific, also in 1924. Other orders came in, first a trickle, then a torrent. EMC launched a widespread advertising program, sent salesmen around, and collected testimonials from railroads genuinely surprised and pleased at the EMC product. The Colorado and Southern reported savings of \$14,000 per year by substituting an EMC car for a train between Cheyenne and Wendover, Wyo-



ONE of last "doodlebugs" built (in 1936) was Seaboard's 2028, shown here at Venice, Fla., on April 12, 1963, with train which connected with New York streamliner. *K.L. Douglas from Louis A. Marre*

ming. At \$50,022.32, the EMC car was expensive, but paid for itself in four years.

In 1925, EMC delivered 36 cars; in 1926, 45. Sales reached 54 in 1927 and then nearly doubled in 1928 to 105 cars—the peak year. By this time Hamilton was selling eight out of every 10 gas-electrics purchased by U.S. roads.

In contrast to Brill, EMC did not offer a standardized body design, although most EMC cars did share a certain boxy look with an absolutely flat front which lent at once a substantial and formidable look to the machines. St. Louis Car's early near-monopoly on building EMCs soon gave way to other builders, especially Pullman. Within two or three

years, the cars grew in size and weight to accommodate increased railroad demands for use of the cars in maid-of-all-work duties: baggage-express, RPO, coach. Whereas the M-300 had weighed 35 tons, and produced 175 hp, ultimately the EMC cars grew to be 75 feet or more in length, weigh 80 tons, pack 550 hp in two engines, and pull trailers.

The famous Santa Fe car M-190 of 1932 boasted a 900-hp V-12 engine, was articulated with its baggage car and could haul five coaches. This car turned out, unwittingly, to be a sort of transitory vehicle between the pure doodlebug and the complete motor trains which were to help revive rail passenger traffic in the late 1930s.

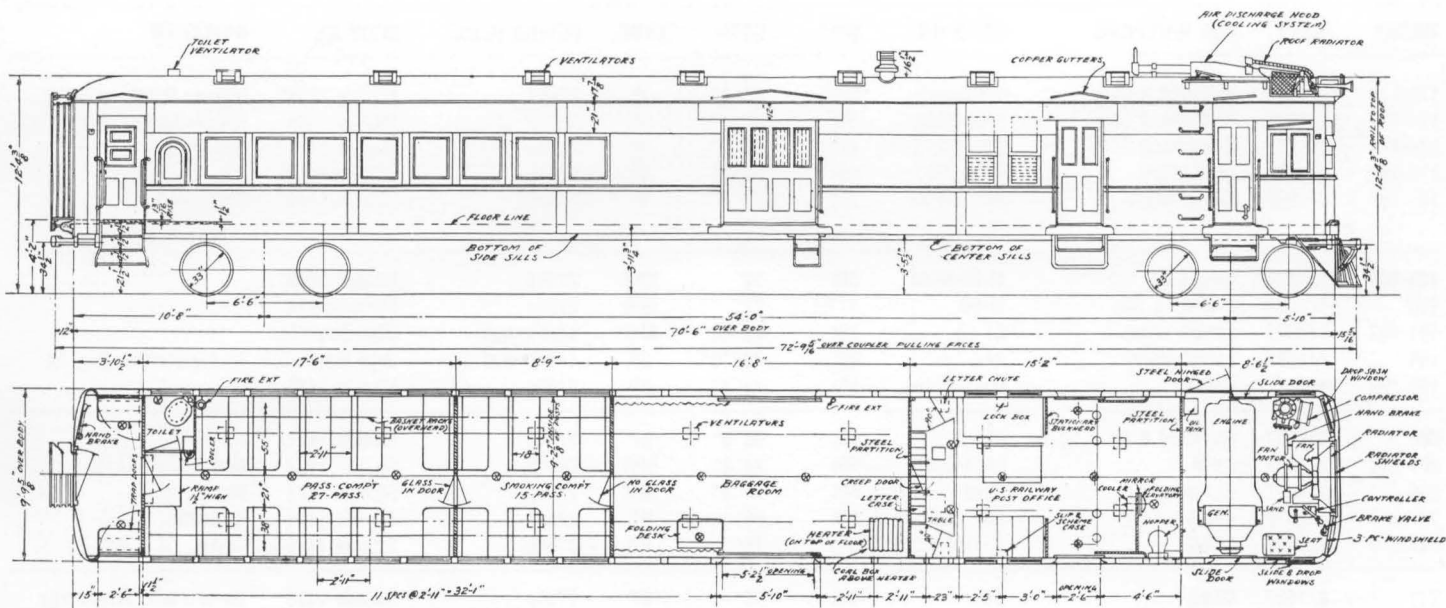
The decade of the 1930s proved to be the end—and the beginning—of EMC. In 1930 General Motors Corporation purchased both EMC and its Winton engine supplier, and formed the Electro-Motive Division within GM. The market for rail motorcars was evaporating (only 92 cars were delivered in 1929 and sales plummeted to 38 in 1930) but the giant automaker could see the beginnings of the diesel revolution on the railroads, and reasoned that EMC would be the ideal vehicle for capturing this market.

GM was, of course, right. EMC built the last of the conventional doodlebugs in 1935, but hardly anyone noticed that the end of an era had occurred. The company was too busy inventing the modern diesel locomotive.

EMC

ORDER	BUILT	FOR RAILROAD	ROAD NO.	WGT.	LGTH.	TYPE	POWER PLANT	BODY BY	REMARKS
100	2/1924	Chi Gt West	M-300	35t	59' 4"	BP	175hp	StLouis 1323	Burned 2/1930
101	1924	Lehigh Valley	T-50	35t	59'	BP	—	StLouis 1377	Trailer
102	1/1925	Northern Pac	B-3	35t	59' 4"	BP	175hp	StLouis 1332	Conv. to loco. G-5
103	1/1925	Nat Rys Mex	1	35t	59' 4"	BP	175hp	StLouis 1348A	Sold through Baldwin
104	1/1925	Chi & Alton	M-4	35t	59' 6"	BP	175hp	StLouis 1348C	Re #6002, to GM&O 2504
105-107	1/1925	Northern Pac	B-5, B-4, B-7	35t	59' 4"	BP	175hp	StLouis 1348B	B-7 to Gilmore & Pgh Ry
108	4/1925	Demonstrator		35t	59' 4"	BP	175hp	StLouis 1352	Rebuilt on BN 141
109	4/1926	Northern Pac	B-8	35t	59' 4"	BP	175hp	StLouis 1352C	
111-112	5/1925	Northern Pac	B-9, B-10	35t	59' 4"	BP	175hp	StLouis 1352C	
113	5/1925	Gt Northern	2309	35t	59' 4"	BP	175hp	StLouis 1352A	Orig. #2210
114-116	5/1925	Gt Northern	2310-2312	35t	59' 7"	BP	175hp	StLouis 1360G	Orig. #2211-2213
117	6/1925	Soo Line	M-1	40t	58' 1"	BP	175hp	StLouis 1360C	To Sperry detector car #137
118	7/1925	SLSF	2120	40t	57' 4"	BP	175hp	StLouis 1360B	
119-120	4/1925	Chi & Alton	M-5, M-6	35t	57' 4"	BP	175hp	StLouis 1363	M-S Re#M-1; M-6 Re#6003
121	3/1925	Grand Trunk Wes	15805	45t	59' 7"	BP	175hp	StLouis 1367	Reblt diesel 1941; Scr. 12/1957
126	9/1926	SLSF	2121	40t	57' 4"	BP	175hp	StLouis 1368A	
127-129	7/1926	Boston & Maine	150-152	39t	59' 7"	BP	175hp	StLouis 1368D	Re# 1150-1152
130	11/1925	Gt Northern	2313	35t	59' 7"	BP	175hp	StLouis 1368C	To Montana West 31; preserved
131	11/1925	MKT	M-10	35t	59' 6"	BP	175hp	StLouis 1368	
132	11/1925	Lehigh Valley	25	40t	59' 10"	BP	175hp	StLouis 1375	Scr. 9/1947
133-135	11/1925	Lehigh Valley	29, 27, 26	40t	59' 4"	BP	175hp	StLouis 1376	To Sperry, 125, 131, 130
136	12/1925	Lehigh Valley	28	40t	59' 4"	BP	175hp	StLouis 1376A	To Sperry 129
137-138	12/1925	Seaboard AL	2002, 2003	35t	71' 4"	BP	350hp dual	StLouis 1365	To Sperry 133, 132
139-140	1/1926	Wabash	4001, 4000	37t	59' 6"	BP	175hp	StLouis 1387, 8	4000 Bag. only
141	4/1926	CNW	9900	39t	59' 7"	BP	220hp	StLouis 1352	Ex-BN 108; to CNW 9900
142-145	4/1926	Gt Northern	2300-2303	35t	59' 10"	B	175hp	StLouis 1395	2302 Rblt Bag-Psgr
146-147	6/1926	Gt Northern	2315, 2316	35t	64' 7"	BR	275hp	StLouis 1395A	Reblt diesel 1948; RPO
148-150	6/1926	CNW	9901-9903	46t	72' 9"	BPR	220hp	StLouis 1394	Rblt tirs 9950- 9952
151-153	7/1926	Northern Pac	B-13, B-12, B-11	46t	72' 9"	BP	220hp	StLouis 1396,7	
154-155	8/1926	Mobile & Ohio	1800, 1801	47½t	70'	BPR	220hp	StLouis 1403	
156-158	9/1926	Missouri Pac	652-654	45t	70'	BP	220hp	StLouis 1402	
159	9/1926	Missouri Pac	651	39t	60'	BP	220hp	StLouis 1401	
160	10/1926	Missouri Pac	650	39t	60'	BP	220hp	StLouis 1400	
161-162	8/1926	Boston & Maine	195, 196	52t	75' 6"	BP	275hp	Osgd Bdy 8690	Re# 1195, 1196
163-170	9/1926	Boston & Maine	180-187	47t	64'	BP	275hp	Osgd Bdy 8795	Re# 1180-1187

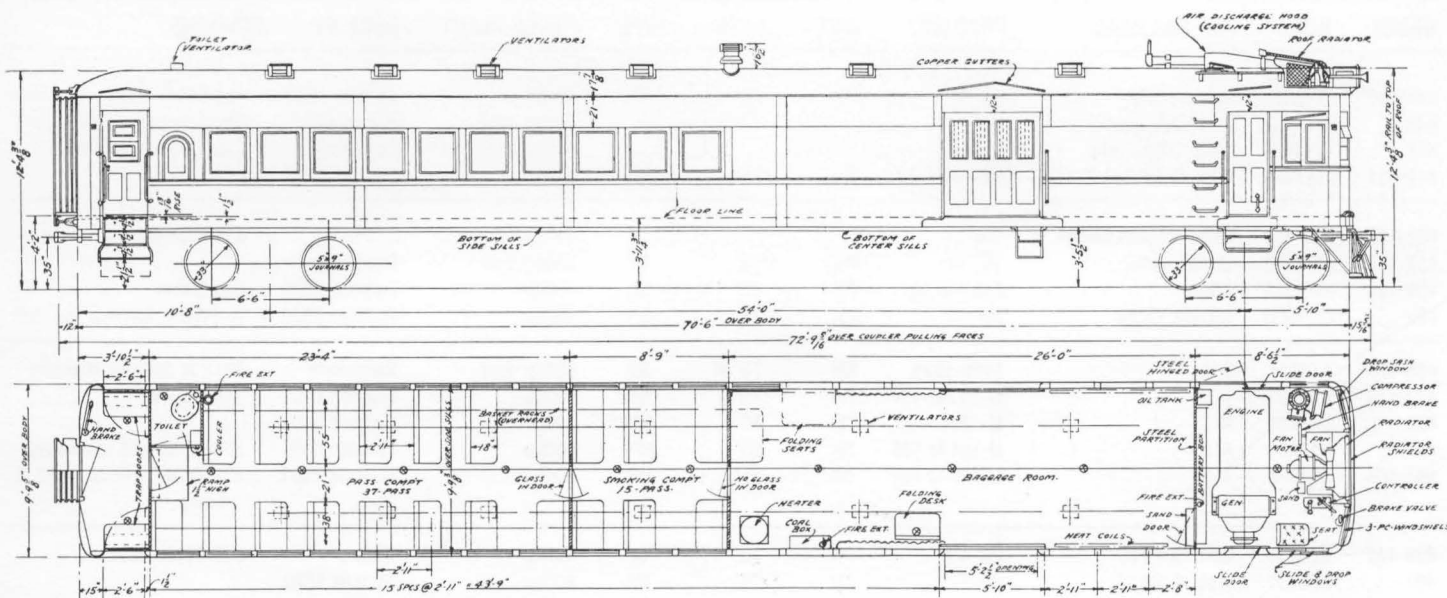
ORDER	BUILT	FOR RAILROAD	ROAD NO.	WGT.	LGTH.	TYPE	POWER PLANT	BODY BY	REMARKS
171-173	11/1926	Baltimore & Ohio	6003-6005	56t	57' 4"	P	220hp	StLouis 1386B	Rblt: to Sperry 119-117
174-175	11/1926	Baltimore & Ohio	6006-6007	56t	57' 4"	P	220hp	StLouis 1386	Rblt: to Lehigh Valley 14, 15
176-178	11/1926	Gt Northern	2317-2319	48t	77' 4"	BR	275hp	StLouis 1411	Rblt deisel
179-180	11/1926	Gt Northern	2320-2321	46t	59' 7"	BP	220hp	StLouis 1410	
181-185	1/1927	Union Pacific	M-31-M-35	55t	72'	P	220hp	StLouis 1412	Psg. Smoker; M-35 preserved
186-189	1/1927	Oregon SL	M-65-M-68	50t	72'	BPR	275hp	StLouis 1413	
190	11/1927	O-W Ry & Nav	M-99	47½t	72'	BPR	275hp	StLouis 1414	
191-193	1/1927	Lehigh Valley	21-23	60t	72' 10"	BPR	440hp dual	Osgd Bdy 8972	
194	1/1927	Lehigh Valley	24	63	72' 10"	BP	440hp dual	Osgd Bdy 8973	To Apalachicola Nor. 24
195-199	4/1927	CRI&P	9045-9049	55t	75' 3"	BP	275hp	StLouis 1416	
200	3/1927	Maryland & PA	61	46t	59' 6"	BP	275hp	StLouis 1421	
201-205	2/1927	CNW	9904-9908	50t	74' 3"	BPR	220hp	StLouis 1422	Rblt to tlrs
206	3/1927	Gt Northern	2323	50t	77' 3"	BPR	275hp	StLouis 1423	Rblt diesel
207-208	4/1927	CB&Q	555, 556	53t	65'	BP	275hp	StLouis 1424	Re #9725, 9726
209-210	5/1927	CB&Q	(1st) 570, 571	54t	75'	BP	275hp	StLouis 1425	To Ala, TN & Nor. 51, 52
211	8/1927	CB&Q	585	58t	75'	BP	275hp	StLouis 1426	Several Re#, rebuildings
212-213	8/1927	Mobile & Ohio	1820, 1821	64t	72'	BP	440hp dual	StLouis 1431	To GM&O, Same #
214	5/1927	Mobile & Ohio	1802	48t	72'	P	220hp	StLouis 1432	To GM&O, Same #
215-218	8/1925	Cincinnati Nor	M-100-M-103	41½t	57' 4"	BR	275hp	StLouis 1364	To NYC M-200-M-203
219-223	3/1928	CMStP&P	5925-5929	73t	75' 11"	BR	275hp	Std Steel 307	
224	8/1927	Northern Pac	B-14	52t	74' 3"	BP	275hp	StLouis 1437	
225-226	8/1927	Northern Pac	B-15, B-16	50t	74' 3"	B	275hp	StLouis 1438	
227-229	7/1928	New York Cent	M-207-M-209	64t	75' 6"	BPR	440hp dual	Osgd Bdy 9375	Re# M-406-M-408
230	9/1927	CB&Q	559	53t	65'	BP	275hp	StLouis 1442	Re# 9728, Rblt tlr.
231	10/1927	CB&Q	572	53t	75'	BP	275hp	StLouis 1448	Several Re#, rebuildings
232	9/1927	CB&Q	557	53t	65'	BP	275hp	StLouis 1443	Several Re#, rebuildings
233	10/1927	CB&Q	586	53t	75'	BP	275hp	StLouis 1446	Several Re#, rebuildings
234	9/1927	CB&Q	558	53t	65'	BP	275hp	StLouis 1442	Several Re#, rebuildings
235	10/1927	CB&Q	587	53t	75'	BP	275hp	StLouis 1446	Re# 9567; burned 1/1933
236	9/1927	CB&Q	560	53t	65'	BP	275hp	StLouis 1444	Several Re#, rebuildings
237	10/1927	CB&Q	573	53t	75'	BP	275hp	StLouis 1447	Several Re#, rebuildings
238	10/1927	CB&Q	588	53t	75'	BP	275hp	StLouis 1445	Several Re#, rebuildings
239-240	10/1927	CB&Q	575, 574	53t	75'	BP	275hp	StLouis 1447	Several Re#, rebuildings
241	6/1927	Lehigh Valley	20	41t	57' 4"	BP	275hp	StLouis 1386A	To Sperry 124, rblt diesel
242	11/1927	O-W Ry & Nav	M-98	52½t	72'	BP	275hp	StLouis 1454	Conv. to M/W Service
243	2/1927	Tor Ham & Bflo	301	50t	60'	BP	275hp	Ottawa CCF	
244-245	1/1928	ATSF	M-108-M-109	55t	74' 6"	BP	275hp	StLouis 1456	Rblt tlr, Re# T-105, T-106
246	1/1928	Gt Northern	2324	50t	77' 4"	BPR	275hp	StLouis 1458	
247-248	1/1928	Chi & Alton	M-15, M-16	51t	74' 11"	BPR	275hp	StLouis 1461	On GM&O Re# 2506, 2509
249-250	1/1928	Chi & Alton	M-17, M-18	52t	74' 11"	BPR	275hp	StLouis 1462	On GM&O Re# 2507, 2508
251-255	3/1928	CMStP&P	5930-5934	73t	75' 11"	BR	275hp	Std Steel 307	5932 rblt diesel, 1935
256-260	4/1928	CMStP&P	5935-5939	55t	75' 11"	BP	275hp	Pullman 6120	5936 rblt tlr
261-262	2/1928	Seaboard AL	2022, 2023	52t	74' 3"	BP	275hp	StLouis 1459	To Sperry 134, 135
263-264	2/1928	Seaboard AL	2060, 2061			P		StLouis 1460	Trailer
265	3/1928	Lehigh Valley	19	66t	73' 8"	BP	440hp dual	Bethlehem	
266	3/1928	Lehigh Valley	18	66t	73' 6"	BPR	440hp dual	Osgd Bdy 9580	
267-269	5/1928	CNW	9910-9912	51t	74' 7"	BPR	275hp	Pullman 6141	
270	5/1928	CNW	9909	51t	74' 7"	BPR	275hp	Pullman 6141	
271	5/1928	CStPM&Omaha	2001	51t	74' 3"	BPR	275hp	Pullman 6144	
272-276	6/1928	CNW	9913-9917	65t	66' 10"	BR	550hp dual	Pullman 6143	9915 rblt diesel, 1948
277	5/1928	CStPM&Omaha	2000	65t	66' 10"	BP	275hp	Pullman 6143	
278-280	7/1928	CB&Q	843, 845, 844	57t	75'	BPR	275hp	Pullman 6145	844 rblt diesel, 1930
281	7/1928	CB&Q	841	57t	75'	BPR	275hp	Pullman 6145	Rblt diesel, 1930
282-285	7/1928	CB&Q	846-848, 842	63t	75'	BPR	275hp	Pullman 6145	Several Re#, rebuildings
286-287	7/1928	CB&Q	525, 528	55t	65'	BP	275hp	Pullman 6145	
288-289	8/1928	CB&Q	450, 526	52t	65'	BP	275hp	Pullman 6145	526 rblt diesel
290-294	8/1928	CB&Q	625-629	56t	65'	PR	275hp	Pullman 6145	Rblt BPR, re#



THIS plan and elevation is of Chicago & Northwestern car 9902.

EMC, Author's Collection

ORDER	BUILT	FOR RAILROAD	ROAD NO.	WGT.	LGTH.	TYPE	POWER PLANT	BODY BY	REMARKS
295-298	8/1928	CB&Q	527, 729-731	52t	65'	BR	275hp	Pullman 6145	729 wrecked, 9/1941
299	11/1928	CB&Q	(2nd) 570	67t	75'	BP	400hp	StLouis	Rblt diesel, re#
300-301	10/1928	CB&Q	665, 666	72t	75'	PR	400hp	Pullman 6145	665 wrecked, 666 sold GM&N
302	11/1928	Colo & Sou	401	67t	75'	BR	400hp	Pullman 6145	
303-305	4/1928	Mobile & Ohio	1830-1832	68t	72"	B	440hp dual	StLouis 1471	GM&O #2501-2503
306-311	2/1928	PRR	4644-4649	61t	76' 2"	BP	275hp	Pullman 6159	4644, 4649 rblt tower cars
312-316	11/1928	SLSF	2122-2126	65t	74'	BR	400hp	StLouis 1474	2124 wrecked, rblt BN 507
317-321	11/1928	CNW	9918-9922	53t	74' 7"	Mixed	275hp	Pullman 6195	9918-9920 to M/W Svc
322-325	11/1928	Union Pacific	M-36-M-39	55t	71'	P	275hp	Pullman 6178	
326	12/1928	CRI&P	(2nd) 9050	60t	74' 9"	BP	275hp	StLouis 1475	
327-333	12/1928	CRI&P	9051-9057	60t	74' 9"	BP	275hp	StLouis 1475	All except 9056 rblt, re#
334	12/1928	CB&Q	529	52t	65'	BP	275hp	Pullman 6203	Rblt, re#
335	12/1928	CB&Q	(2nd) 571	57t	75'	BP	275hp	Pullman 6203	Rblt, re#
336-339	12/1928	CB&Q	849-850, 732-733	54t	65'	BPR	275hp	Pullman 6203	732, 733 BR only
340	2/1929	CB&Q	765	70t	75'	BR	400hp	Pullman 6203	
341	2/1929	CB&Q	766	70t	75'	BR	400hp	Pullman 6203	
342-343	2/1929	CB&Q	734, 735	66t	65'	BR	400hp	Pullman 6203	
344	1/1929	Minn & Int	M-1	63t	77' 2"	B	275hp	Std Steel 328	To NP B-6
345-346	1/1929	Northern Pac	B-18, B-19	63t	77' 2"	BPR	300hp	Std Steel 328	
347	12/1928	Maryland & PA	62	61t	59' 8"	BP	220hp	StLouis 1480	
348	4/1929	PRR	4665	71t	76' 2"	BP	400hp	Pullman 6202	Rblt diesel
349	12/1928	Tonopah & Twtr	99	54t	70'	BP	275hp	StLouis 1484	To FC Sonora-Baja CA, Mex
350-351	4/1929	T&NO	1010, 1011	59t	72' 6"	BR	300hp	Bethlehem	
352	4/1929	T&NO	1012	60t	73' 3"	BR	300hp	Pullman 6226	
353-354	6/1929	CNW	9925, 9926	58t	76' 10"	BPR	300hp	Pullman 6233	9925 rblt diesel
355-356	6/1929	CNW	9928, 9929	55t	66' 10"	BR	300hp	Pullman 6233	9928 to M/W Svc
357	6/1929	CNW	9927	76t	76' 10"	BP	600hp dual	Pullman 6233	
358-360	6/1929	CNW	9930-9932	78t	76' 10"	BR	600hp dual	Pullman 6233	9931 wrecked, 1936
361-362	6/1929	CNW	9923, 9924	62t	66' 10"	P	400hp	Pullman 6233	9924 burned, 1944
363	6/1929	Lehigh Valley	15	40t	59' 4"	P	220hp	StLouis 1386	Rblt of BN 175; to Sperry 1939
364-366	7/1929	CStPM&Omaha	2002-2004	73t	66' 10"	BR	600hp dual	Pullman 6238	2002 burned
367	7/1929	CStPM&Omaha	2005	77t	73' 10"	BR	600hp dual	Pullman 6238	"NAMAAGON"
368	6/1929	Colo & Sou	402	68t	75'	BR	400hp	Pullman 6239	



ANOTHER version of same 70-foot car omitted RPO Section.

EMC, Author's Collection

ORDER	BUILT	FOR RAILROAD	ROAD NO.	WGT.	LGTH.	TYPE	POWER PLANT	BODY BY	REMARKS
369	1/1929	Lehigh Valley	14	40t	59' 4"	P	220hp	StLouis 1386B	Rbld of BN 174; to Sperry, 1936
370	8/1929	Lehigh Valley	16	76t	74'	BP	600hp dual	OsgdBdy10285	
371	8/1929	Lehigh Valley	17	76t	74'	BP	600hp dual	OsgdBdy10280	
372-378	8/1929	ATSF	M-115-M-121	78t	75'	BP	400hp	Pullman 6259	Rbld diesel in 1950s.
379-383	9/1929	ATSF	M-175-M-179	78t	80'	BPR	400hp	Pullman 6259	Rbld diesel except M-179
384-385	9/1929	ATSF	M-130, M-131	78t	80'	BPR	400hp	Pullman 6259	Rbld diesel except M-130
386	10/1929	ATSF	M-182	78t	80'	BPR	400hp	Pullman 6259	Rbld diesel, 1952
387-388	9/1929	ATSF	M-180, M-181	78t	80'	BPR	400hp	Pullman 6259	Rbld diesel, 1951
389-392	10/1929	ATSF	M-122-M-125	74t	75'	PR	400hp	Pullman 6259	Rbld diesel except M-125, West El Equip
393-399	11/1929	CRI&P	9008-9014	100t	50' 10"	Loco	800hp dual	StLouis 1503	All had bag. compartments
400-401	11/1929	CRI&P	9070, 9071	78 1/2t	74'	BPR	400hp	StLouis 1502	Rbld diesel, 1948
402-404	10/1929	Trin & Braz Val	61-63	70t	75'	BR	400hp	Pullman 6265	Conv. to trrs
405-408	8/1929	Gt Northern	2332-2335	78t	74'	BR	400hp	StLouis 1504	Rbld diesel
409	8/1929	Gt Northern	2336	78t	74'	B	400hp	StLouis 1505	Rbld diesel
410-412	11/1929	Northern Pac	B-20-B-22	64t	77'	BPR	300hp	StLouis 1512	
413	11/1929	Northern Pac	B-23	64t	77'	BPR	300hp	StLouis 1513	
414	11/1929	Northern Pac	B-26	63t	77'	BP	300hp	StLouis 1515	
415-416	1/1930	Northern Pac	B-24, B-25	82t	77'	BR	600hp dual	StLouis 1514	
417-418	11/1929	Vic Rys (Aus)	M-58, M-63		60'	PB	220hp	VR Newport Shops	5' 3" gauge; conv. diesel
419-420	11/1929	Vic Rys (Aus)	M-62, M-55		60'	PB	220hp	VR Newport Shops	5' 3" gauge; conv. diesel
421-422	11/1929	Vic Rys (Aus)	M-57, M-64		60'	PB	220hp	VR Newport Shops	5' 3" gauge; conv. diesel
423-424	1929	Vic Rys (Aus)	M-61, M-56		60'	PB	220hp	VR Newport	5' 3" gauge; conv. diesel
425	1929	Vic Rys (Aus)	M-60		60'	PB	220hp	VR Newport Shops	5' 3" gauge; conv. diesel
426-431	1/1930	T&NO	1025-1030	70t	75' 10"	BR	400hp	Pullman 6295	1029 burned
432-434	3/1930	Southern Pac	3-5	79t	73' 6"	BP	400hp	Pullman 6297	To SLSW (2nd) 15-17
435	3/1930	Northwestern Pac	901	79t	73' 6"	BP	400hp	Pullman 6297	
436	3/1930	Southern Pac	6	79t	73' 6"	BP	400hp	Pullman 6297	To CStPM&P 5940, 1941
437	3/1930	Northwestern Pac	902	79t	73' 6"	BP	400hp	Pullman 6297	To CStPM&P 5941
438-440	12/1929	Mpls & StL	GE-1-GE-3	64t	75'	BPR	300hp	StLouis 1519	
441-442	3/1930	ATSF	M-126, M-183	75t	75'	BPR	400hp	Pullman 6342	Rbld diesel 1950s
443	7/1930	Gt Northern	2338	75t	74'	BR	400hp	StLouis 1531	Rbld diesel

ORDER	BUILT	FOR RAILROAD	ROAD NO.	WGT.	LGTH.	TYPE	POWER PLANT	BODY BY	REMARKS
444-445	6/1930	Canadian Pac	46, 47	70t	72'	BP	400hp	StLouis 1537	Re# 9003, 9004
446	8/1930	New York Cent	X45				440hp dual	Brownhoist	Crane; resold USSR
447	8/1930	Cleve Union Term	X99				440hp dual	Brownhoist	Crane; resold USSR
448-451	10/1930	Mpls & StL	GE-25-GE-28	73t	75'	BR	400hp	StLouis 1545	
452-455	7/1930	Anglo-Chilean Nitrate	1-4				250hp		3' 6" gauge
456-457	11/1930	Lehigh Valley	10, 11	76t	74'	BP	600hp dual	Osgd Bdly	
458-461	10/1930	CB&Q	9767-9770	75t	75'	BR	400hp	Pullman 6390	Rblt diesel
462	10/1930	Wichita Valley	20	71t	75'	BR	400hp	Pullman 6390	To FW&D, Same #, b/1933
466-476	1/1931	Erie	5005-5015	88t	73' 6"	BP	600hp dual	Bethlehem	5012 at Ohio Ry Museum
477-479	6/1931	ATSF	M-155-M-157	75t	75'	BR	400hp	Pullman 6401	Rblt diesel
480	6/1931	ATSF	M-187	75t	80'	BPR	400hp	Pullman 6401	
481-83	6/1931	ATSF	M-184-M-186	75t	80'	BPR	400hp	Pullman 6401	M-184, M-186 rblt diesel
484-488	5/1931	ATSF	M-150-M-154	72t	75'	BR	400hp	Pullman 6401	Rblt diesel, 1950s, West El Equip
489-490	8/1931	Canadian Pac	48, 49	71t	72'	BP	400hp	Ottawa	Re# 9005, 9006
491	7/1931	Mpls & StL	GE-29	73t	75'	BR	400hp	StLouis 1550	
492-493	7/1931	Mpls & StL	GE-30, GE-31	72½t	75'	BR	400hp	StLouis 1551	
494	7/1931	Mpls & StL	GE-4	64t	75'	BR	400hp	StLouis 1552	
495-496	11/1931	Missouri Pac	660, 661	78½t	77'	BR	400hp	StLouis 1553	
497-498	1/1932	Canadian Pac	50, 51	71t	72'	BP	400hp	Ottawa	Re# 9007, 9008
499	6/1932	ATSF	M-190	126t	30' & 50'	B	900hp	Pullman 6407	Rblt diesel; preserved
500	4/1932	MKT	M-11	75t	77' 7"	BP	400hp	StLouis 1556	
501-502	8/1932	Canadian Pac	9009, 9010	71t	72'	BP	400hp	Ottawa	
503-506	12/1932	Chi Gt Wes	1006-1009	89t	75'	BR	600hp	Pullman 6415	
507	6/1933	SLSF	2124	65t	74'	BR	400hp	StLouis 1474	Rblt; to Cassville & Exeter
508	2/1934	Union Pacific	M-10000	85t	72' 8"	BP	600hp dual	Pullman	"City of Salina" power
509	4/1934	CB&Q	9900	52t	74'	BP	600hp	Budd 94600	"Pioneer Zephyr" power
521	10/1935	CB&Q	9903	50t	76' 8"	B	600hp	Budd 96200	"Mark Twain Zephyr" power
523-524	4/1936	Seaboard AL	2027, 2028	97t		BR	600hp	StLouis 1584	2028 to SCL 4900



ORDER	BUILT	FOR RAILROAD	ROAD NO.	WGT.	LGTH.	TYPE	POWER PLANT	BODY BY	REMARKS
529	8/1936	Boston & Maine	6000	107t	199' 3"	B	600hp	Budd 96001	Artic. Train
530, 531	4/1936	CB&Q	9901, 9902	50t	66' 8"	B	600hp	Budd 96055	"Twin Zephyr" power
	4/1939	CB&Q	9908	100t	80' 4"	B	1000hp	Budd 96101	Silver Charger

Except where noted, all cars powered by Winton with GE Electrical equipment.

EMC Rebuilds

ORDER	BUILT	FOR RAILROAD	ROAD NO.	WGT.	LGTH.	TYPE	POWER PLANT	BODY BY	REMARKS
McKC-1-4	5/1925 3/1926	CRI&P	9022-9024 9020	37t	70'	BP	175hp	McKeen	
McKC-5	9/1926	Union Pacific	M-16	43t	70'	BP	220hp	McKeen	
RIC-6-7	4/1927	CRI&P	9000, 9001	86t	44'	Loco	550hp dual	Pullman	Orig dist—elec locos
GEC-8	12/1930	Missouri Pac	600	62t	70'	BP	220hp	Gen Elec	
SKC-9	4/1927	Missouri Pac	626	30t	62' 3"	BP	220hp	Sykes; StL	Was #606
GEC-10	6/1928	ATSF	M-105	50½t	68'	BP	275hp	Gen Elec 3761	Burned 1943
SKC-11-14	5-8/1928	Missouri Pac	625, 627-629	30t	62' 3"	BP	220hp	Sykes; StL	Was #605, 607-609
RIC-15-17	5/1929	CRI&P	9005-9007	106t	44' 8"	Loco	800hp dual	Pullman	Orig dist—elec locos
McKC-18-19	9/1928	Chi Gt Wes	M-1003, M-1004	46t	70'	BP	275hp	McKeen	
SCK-20-21	11/1928	SLSF	2127-2128	45t	62' 3"	P	220hp	Sykes; StL	Was #3010, 3011
McKC-22	1/1929	Chi Gt Wes	M-1002	58t	64'	BP	300hp	McKeen	Had steam power plant in '20s
HKPC-28	11/1929	CB&Q	530	49t	65' 8"	BP	220hp	Edwards; Porter	Was #552

Special Note for EMC list: Following abbreviations in 7th column are used with respect to the type of car, when built: B=Baggage only. BP=Baggage-passenger. BPR=Baggage-passenger-Railway Post Office. BR=Baggage-RPO. P=Passenger only. PR=Passenger-RPO. Some cars were later rebuilt to other configurations.



ALTON road and successor GM&O employed gas-electrics on some lines; photo on preceding page spotlights lightweight trailer 6111 with EMC car 2508, at Bloomington, Ill., 1947. On this page we see motor 2509 and trailer at Mason City, Ill., 1960.

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