

RIDC

With the "New Look"

Budd



What is RDC?

The letters R-D-C stand for rail diesel car. RDC is the generic name for the self-propelled, stainless steel cars designed, developed and built by The Budd Company.

There are four models, all of standardized construction and equipment and with established prices. The cars are built in lots of varying quantities in advance of orders. Consequently the interval between the placing of an order and delivery of the car may be a matter of weeks.

All the RDC models—RDC-1, 2, 3 and 4—are powered by two 300-horsepower diesel engines. The cars operate in either direction as single units, or in any required multiple, all controlled from a single station. Seating capacity of the first three types of RDCs varies. RDC-1, 90 passengers; RDC-2, 71 passengers and a 17 foot baggage-express compartment; RDC-3, 49 passengers, and compartments for baggage-express and mail; RDC-4 carries baggage-express and mail only. All models are equipped with Budd railway passenger car disc brakes, and all but RDC-4 are air-conditioned.

Singly, or in multiples, RDC capacity can be tailored to traffic needs. And smooth-running, comfortable, air-conditioned RDC has a habit of increasing traffic.

Introducing a New RDC

RDC first went into service in the Spring of 1950. Since then more than 300 RDCs have been placed in operation in the United States, Canada, Cuba, Australia and Saudi Arabia.

Many millions of RDC operating miles have proved the soundness and dependability of all the car's components—structure, power, transmission, brakes, utilities.

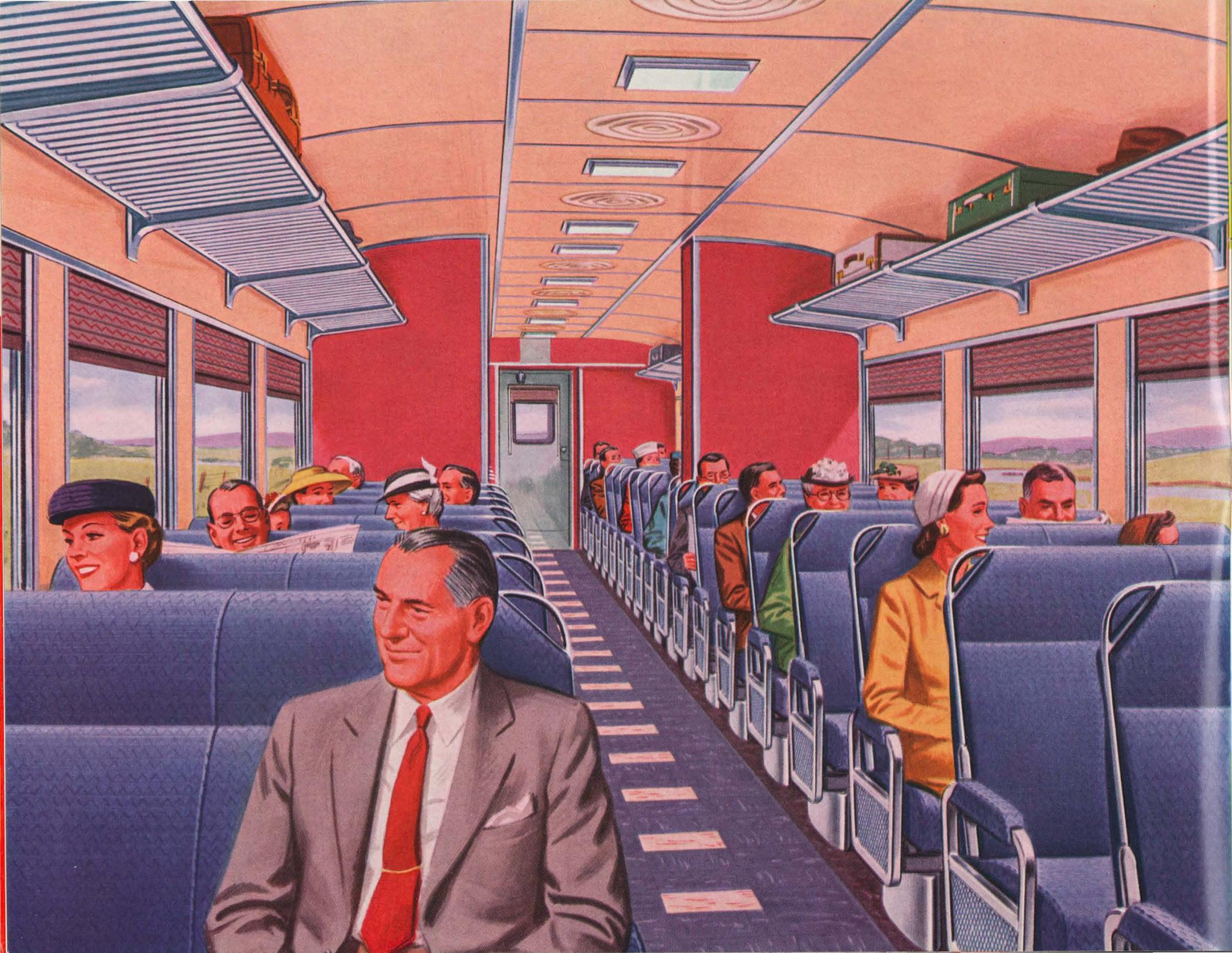
But one characteristic of The Budd Company is discontent. "Good enough" is not good enough, if there can be a "better". And we maintain a very large and expert staff of engineers, scientists and metallurgists whose job and responsibility is to find ways to do things better than the existing best. That has always been our Company's way of life in whatever activity it has been engaged.

During the years RDC has been in service, it is inevitable the advances in invention, in the development of new materials, the lessons of operating experience, should all present opportunities to improve the car.

All of these have led to the development of a new RDC . . . an RDC with a new look, incorporating a whole galaxy of improvements.

The "new look" RDC, incorporating a whole galaxy of improvements outside and inside.





These improvements cover a multitude of categories, large and small. They make it a better looking car, both outside and inside. They make it more comfortable for both passengers and crew. They make it stronger. Safer. They increase its performance. They make it easier to maintain, and more economical to operate.

That is our new RDC . . . with greater available power for even finer performance than its brilliant predecessors . . . stronger end construction . . . enlarged air-conditioning capacity . . . wheels of greater diameter for longer wheel life . . . permanently impregnated, colored plastic interior surfaces that never need paint. Improved controls, connections, accessories, lighting, many relocated for greater convenience, better appearance and longer life. Even enlarged passenger capacity within its conventional eighty-five foot length.

Individually, the improvements may seem details. Collectively, they add up to a superior RDC—a thoroughbred progeny of thoroughbreds,

The interior of the new RDC provides a happy combination of pleasing colors and extremely practical furnishing. Those fresh colors in the walls and ceiling will never fade or become chipped, for they are impregnated in the plastic surface. Note the new floor pattern and colors, and the handsome baggage racks. Lighting, all from a ceiling source, is greatly improved.

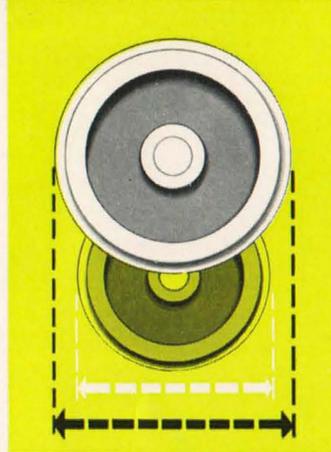
More comfortable seat for the engineer



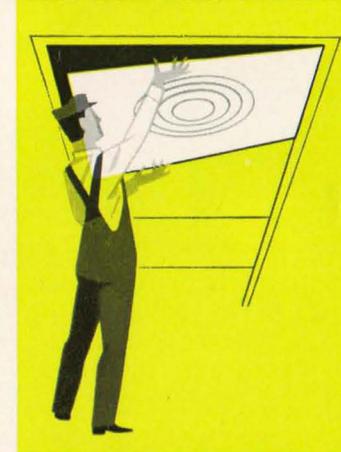
Larger, farther-carrying horn



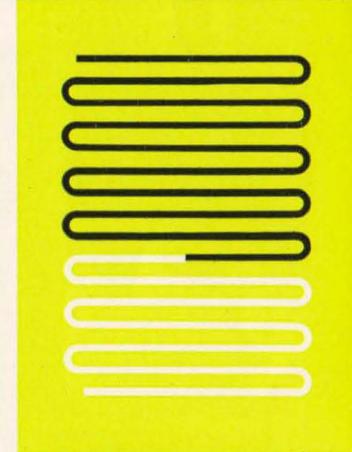
Pilot flush with car end



Wheels of greater diameter



Removable plastic ceiling panels



Enlarged air-conditioning capacity



What RDC has done

In a quietly efficient and non-sensational way, RDC has logged some spectacular achievements.

Of course there have been sensational events, too, such as the 12½ hour daylight run from Washington to Chicago on the Baltimore and Ohio, and cutting a forty-three hour schedule to less than twenty hours. But the real accomplishments have been far more fundamental. They fall into three general categories. One, saving money. Two, attracting traffic. Three, preserving, improving and increasing service.

The way RDC can save money is fantastic . . . imagine the result of replacing 235 coaches with 64 RDCs. Or a saving of \$600,000 with only two RDCs during a single year of operation. Car storage yards sold for freight-producing industrial developments. Turntables and switching equipment eliminated. Terminal charges cut in half. Even substantial operating profits earned, as in Australia where a service which would have lost \$220,268. a year showed a profit of \$32,217.— thanks to three RDCs. It is not at all extraordinary for RDCs to repay their purchase price in a year. A return-on-investment of 25 per cent is normally possible.

The ability of RDC to attract traffic has provided so many examples that it would be impossible to catalogue them. One railroad stated: "They've become so popular that a majority of commuters clamor for seats aboard them and voice disappointment when other types of accommodations are offered during periods of heavy traffic."

The New Haven restored passenger service between Worcester, Mass. and New London, Conn. with one RDC, Monday through Friday, and two on week-ends, carried more than 80,000 passengers in one year. On one occasion a single 89-passenger RDC on the Boston and Maine found itself occupied by more than 200 passengers, on a run from Haverhill to Boston—an easy forty-mile automobile drive over a super highway. Pennsylvania-Reading Seashore Lines had a similar experience in New Jersey. The Canadian Pacific encountered a chronic condition of standees between Toronto, London and Windsor-Detroit . . . and among them were many former airline patrons.

This is the record the new RDC is designed to *improve* on!

RDC in winter on the Canadian Pacific. RDCs are operating in temperatures which range from fifty degrees below zero to one hundred and thirty degrees above.

RDC's record and performance

Over a period of three and a half years, two RDCs on a Western railroad never missed a single assigned run. Each car had traveled more than 420,000 miles. Availabilities from 95% to 100% are the rule wherever RDC operates and whatever the type of service to which it is assigned—and these vary from extremely short commuter hauls (one of them is only seven miles) to desert-and-mountain runs of more than 900 miles. Flexibility of consist to fit capacity to traffic requirements is one of RDC's great advantages. Cars not only operate singly, or as two and three car trains, but regularly make up into trains of six cars and have even gone as high as twelve. Another phase of its flexibility is its imperviousness to extremes of

Comparison of RDC operating costs

Actual Average vs 1952 Coverdale & Colpitts Report

I.C.C. Account	Description	Actual per Car	C & C Forecast 1 Car
317	Repairs	\$.1687	\$.1565
393-401	Crew Expense	.2830	.2649
394	Fuel	.0527	.0374
398	Lubricants	.0057	.0034
399	Other Transportation Expense	.0080	.0023
400	Engine House Expense	.0329	.0075
402	Train Supplies and Expense	.0158	.0412
	Payroll Taxes	.0206	.0216
	Vacation Pay	.0049	.0138
Total Out of Pocket Cost Per Car-Mile		\$.5923	\$.5486
331	Depreciation	.0571	.0606
333	Insurance	.0060	.0031
	Interest	.0537	.0531
	Taxes	.0041	
Total Fixed Charges Cost Per Car-Mile		\$.1209	\$.1168
Total Operating Expenses			
Per Car-Mile, Taxes omitted		\$.7091	\$.6654
Total Operating Expenses			
Per Car-Mile, Taxes included using tax value of \$.0041		\$.7132	\$.6695

climate. RDCs are operating through a temperature range of 180 degrees . . . from 50 degrees below zero in parts of Canada to the 130 degrees of desert heat in Saudi Arabia. Even on a single run, such as on the Western Pacific between Salt Lake City and Oakland a range of 100 degrees can be encountered. RDC's operating costs naturally vary with the type of service, utilization, and terrain traversed. But the millions of miles RDCs have traveled have demonstrated that the car requires less out-of-pocket expense than any comparable form of land transportation.

In 1952 the engineering firm of Coverdale and Colpitts made a detailed report on the cost of operating RDC. Since then, of course, wages and all other expenses have increased. Yet so economically does RDC operate that in 1955, eight railroads, reporting on more than 14,000,000 miles of RDC operation, showed an average cost figure comparable with the 1952 report. The detailed figures are shown in the accompanying chart.



Loading express on RDC-4.

New York Central RDC in West Virginia taking the Hatfields, the McCoys, and other less-feuding youngsters to school.





RDCs may be operated in any multiples the traffic requires, with all cars controlled from a single station.

All RDCs are constructed of stainless steel

A car in which stainless steel is merely employed as an outer sheathing is not a stainless steel car, any more than a cake is a chocolate cake because it has a chocolate icing. In RDC, as in all Budd cars—and only in Budd cars—stainless steel is the basic structural metal. Underneath that gleaming surface you'll find the same corrosion-resistant, tough metal—three times as strong as ordinary steel (the kind, for example, in the girders of a bridge).

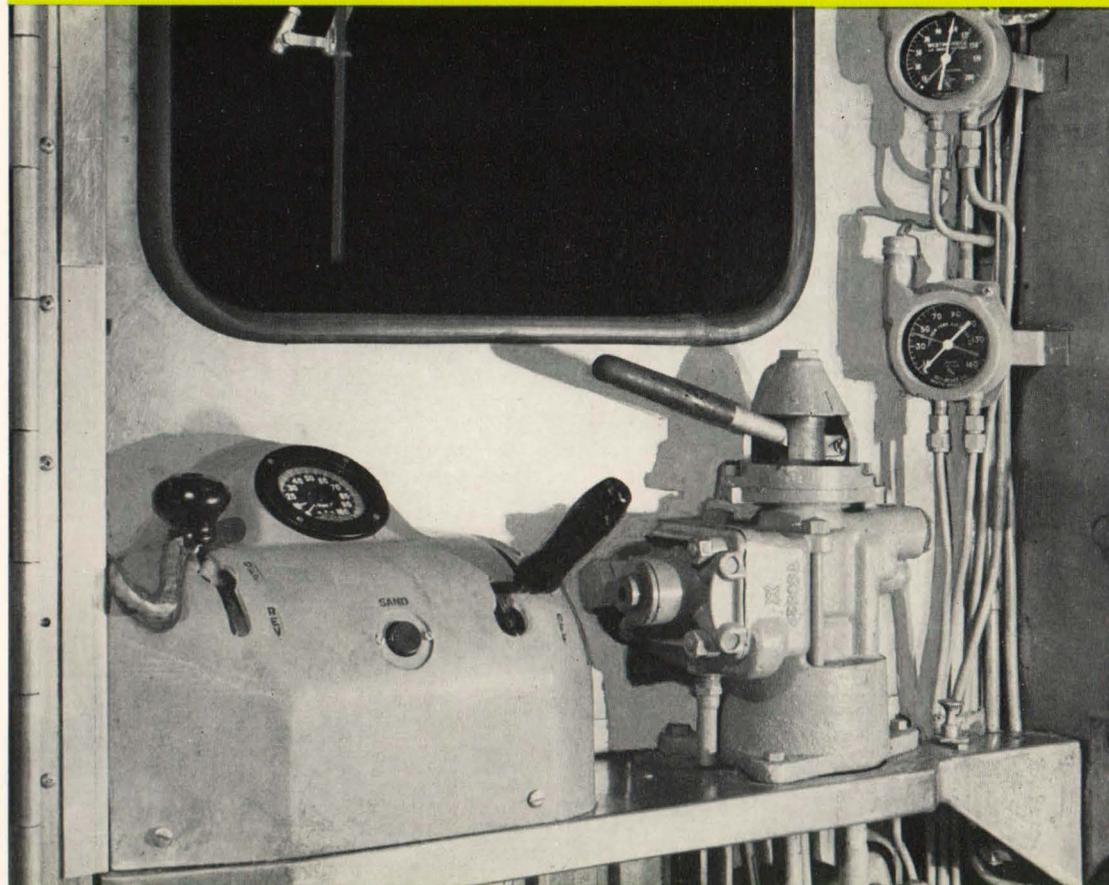
This unique, separate construction contributes most importantly to RDC's lightweight, dependability, availability and low operating and maintenance cost.

How to operate an RDC

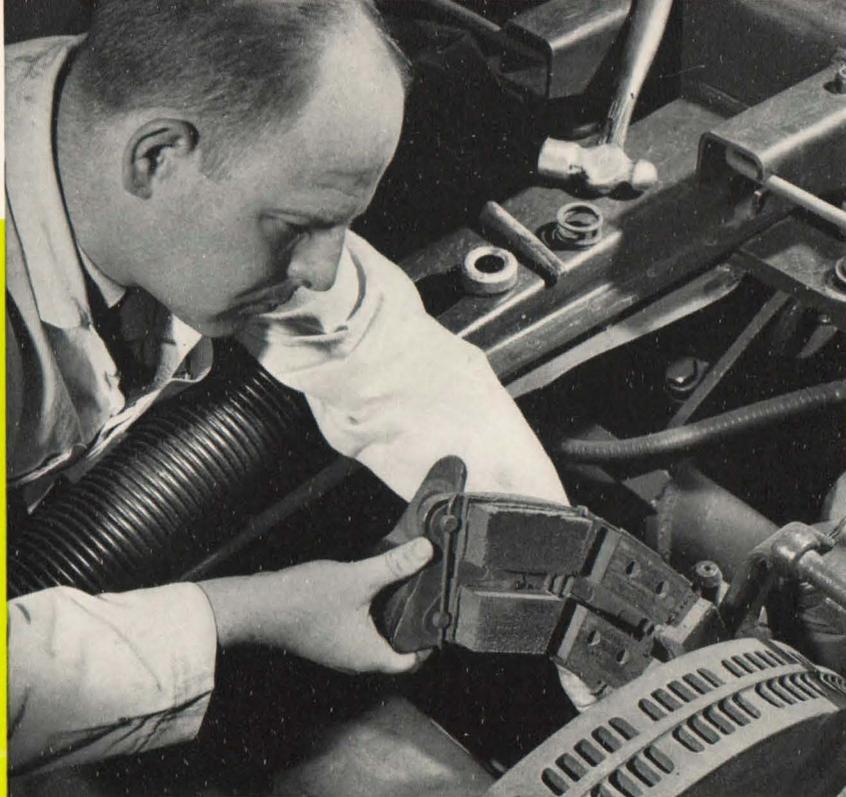
An RDC requires only one operator whether in multiple or single operation. The engineman has only three controls which he is to be concerned with and they are as follows:

1. A self-lapping straight air brake valve.
2. A four-position throttle lever.
3. A reversing lever.

Normally, once the car is ready to be set in motion, the clutches are engaged by moving the throttle to No. 1. To move off, the brake is released and the car automatically moves forward at whatever rate the engineer desires depending on the placing of the throttle lever in any one of its four positions. When he wants to make a stop, he reduces the throttle to No. 1, which leaves the clutches engaged, and the engines idle and he then



These are all the controls required to operate RDC,
either as a single unit or in a train of RDCs.



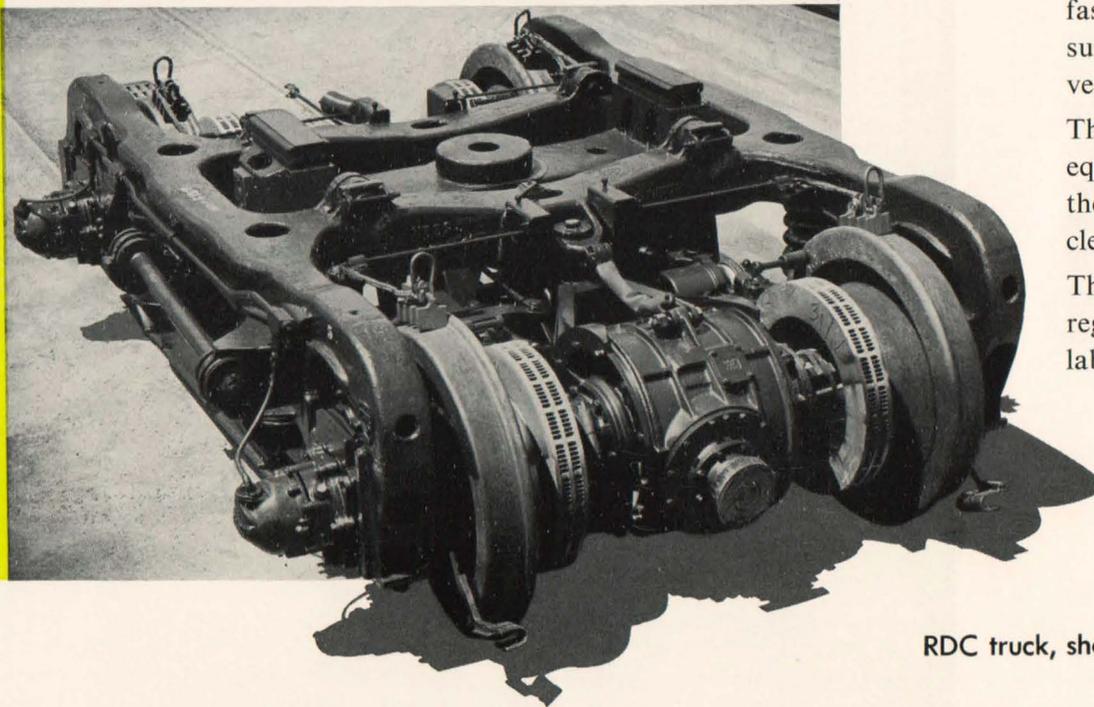
The brake-shoe on RDC's disc brake can be changed in less than two minutes, using only a hammer. Brake shoe life is extraordinary. We have records of more than 200,000 miles of service between changes.

applies his brakes by moving the brake lever to the position which instantly gives him the desired brake cylinder pressure. He can use this to control his speed down a steep grade by applying light brake cylinder pressure or he can come to a fast stop by moving the lever further on the quadrant increasing brake cylinder pressure.

The simplicity of the controls makes the engineman's job easier and gives him the tools to exercise the skill that an engineer has at his fingertips. This nicety of control makes for faster and safer handling. In his cab he also has control of such accessories as sand, bell, lights and whistle; all conveniently located and within easy reach.

The visibility in the cab is the finest available in any railroad equipment. There is no hood to create a blind spot; this allows the engineman, when working in yards and stations, to see clearly the railroad until it runs beneath his feet.

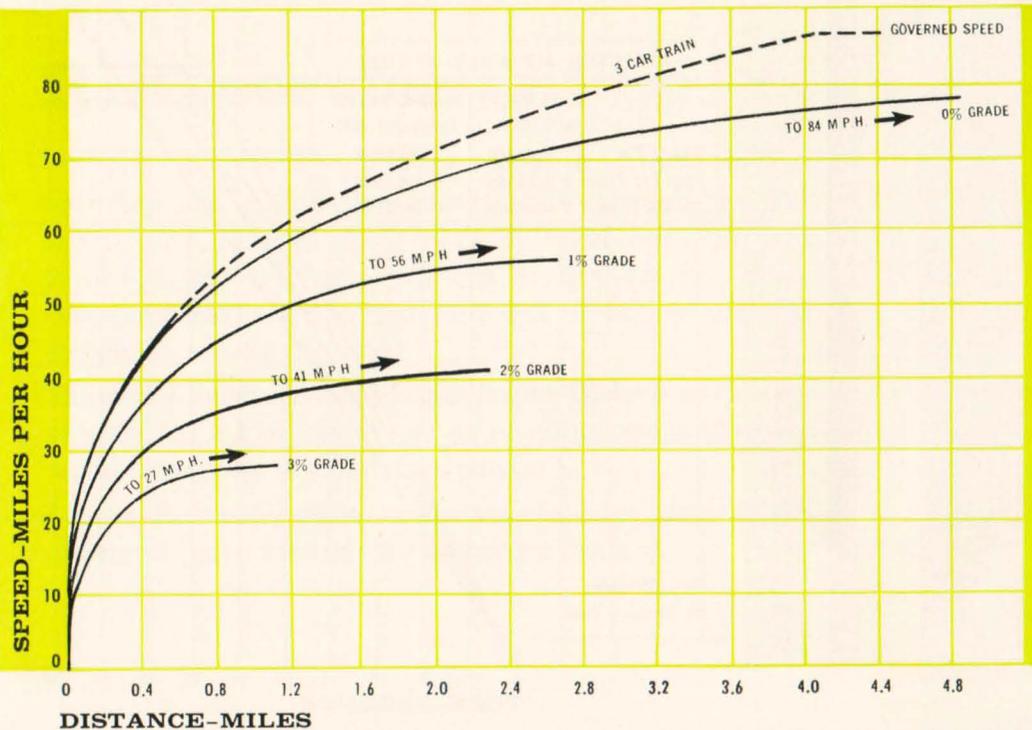
The conductor's job is eased by generous aisle width and a regulator locker which is easily accessible, its switches well labeled.



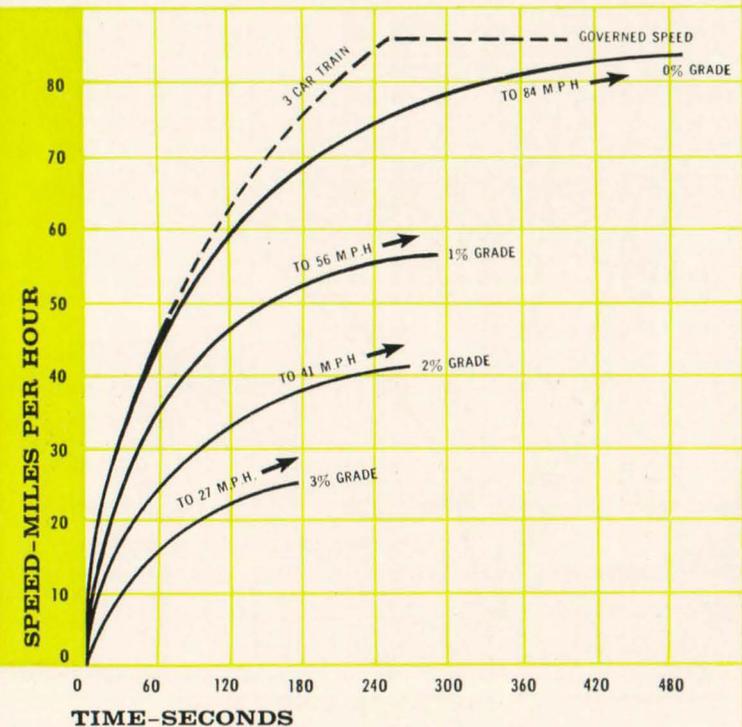
RDC truck, showing the Budd disc brake.

Acceleration

Speed-Distance



Speed-Time



RDC-1 single car operation

Wt. per car—131,900 lbs.* • Two 300 H.P. engines per car

Approx. H.P. to auxiliaries—30 H.P./car • Performance at sea level 100% power

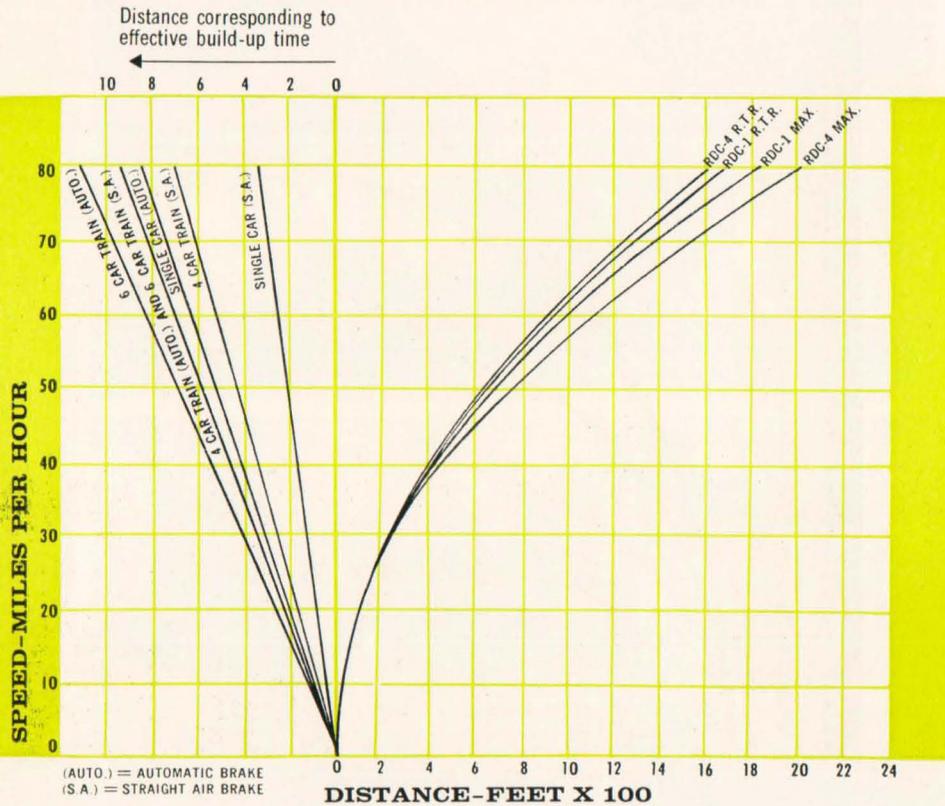
34" dia. wheels • Gear ratio 2.08 to 1

* Normal maximum weight including 90 passengers.

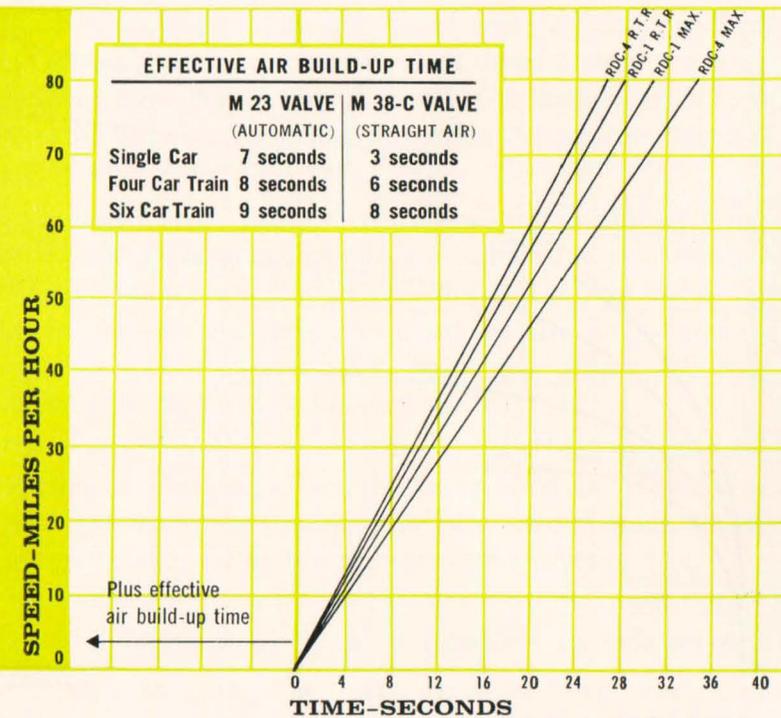
Braking-Budd Disc Brake

Service application* (75 lbs/in.² BCP) level track

Speed-Distance



Speed-Time



RDC-1 R.T.R. 118,000 lbs. • RDC-1 Max. 131,900 lbs.
 RDC-4 R.T.R. 113,800 lbs. • RDC-4 Max. 144,300 lbs.
 34" dia. wheels—standard brake lining

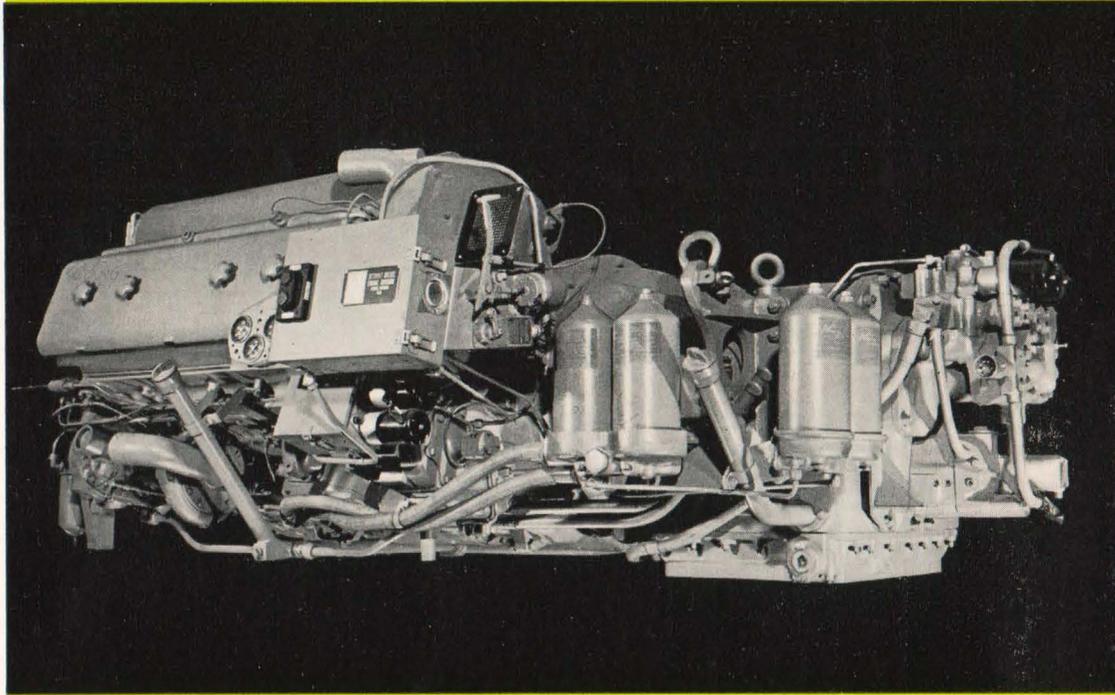
*Emergency stops utilize the same BCP as service braking but are actuated by the emergency portion of D22 control valve. Both emergency and service braking are obtained with recommended 90 lbs. train line pressure.

RDC service

This takes many forms and is continuous. It includes training operating and maintenance crews when cars first go into service, and periodic check-backs by Budd representatives to demonstrate improved practices as they are developed. One check-back of this kind took one of our service men completely around the world.

The engine builder, Detroit Diesel Engine Division of General Motors, has a like service and an excellent technical school which is available to railroad employees.

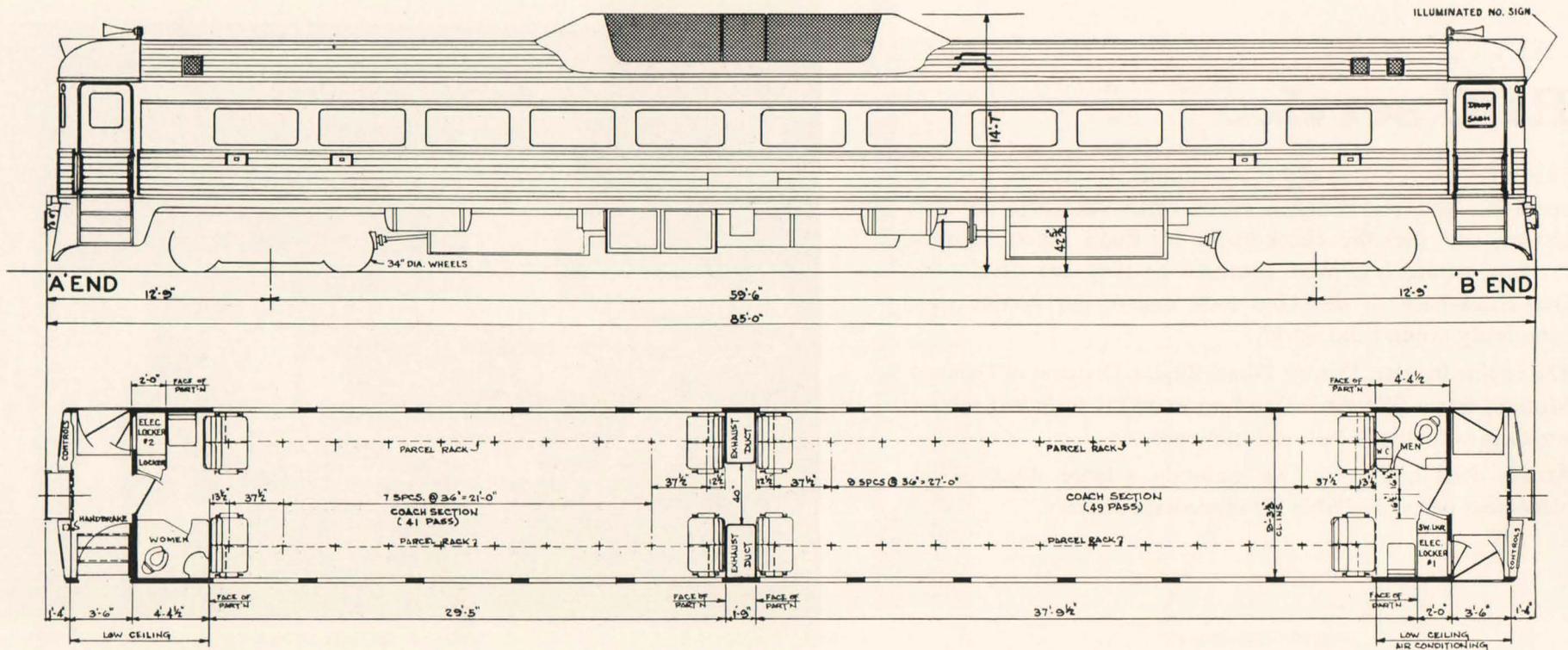
At our Red Lion plant we maintain a large stock of replacement parts, available for immediate delivery.



RDC is propelled by two 300 horsepower diesel engines mounted under the floor so that there is no intrusion on revenue space. Transmission is by torque converter.

RDC-1

RDC-1 is strictly for carrying passengers.
It seats 90, on walkover seats.

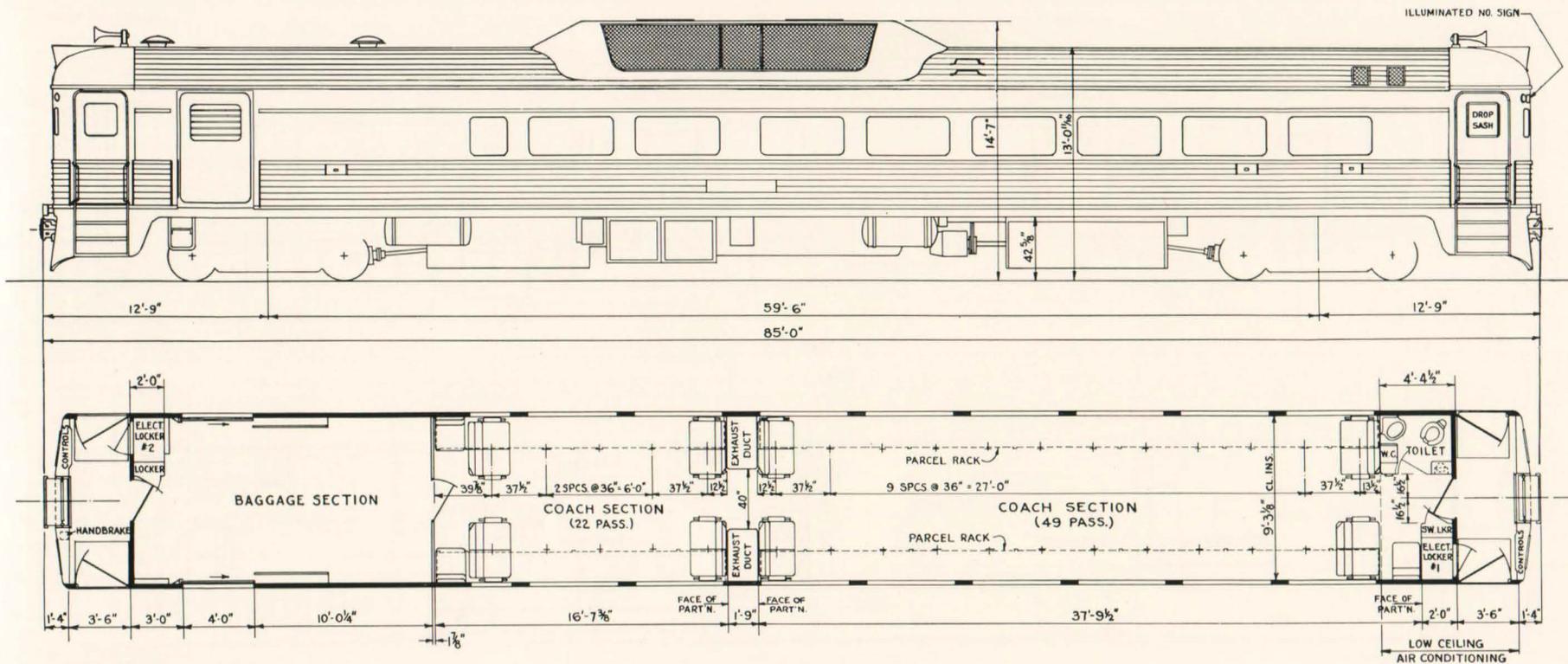


<i>Weight, light</i>	<i>113,200 pounds</i>
<i>Weight, ready to run</i>	<i>118,000 pounds</i>
<i>Normal maximum weight (including 90 passengers)</i>	<i>131,900 pounds</i>

SK-22833

RDC-2

RDC-2 combines passengers and baggage-express.
Seats 71 passengers. Has a 17 foot baggage-express compartment.

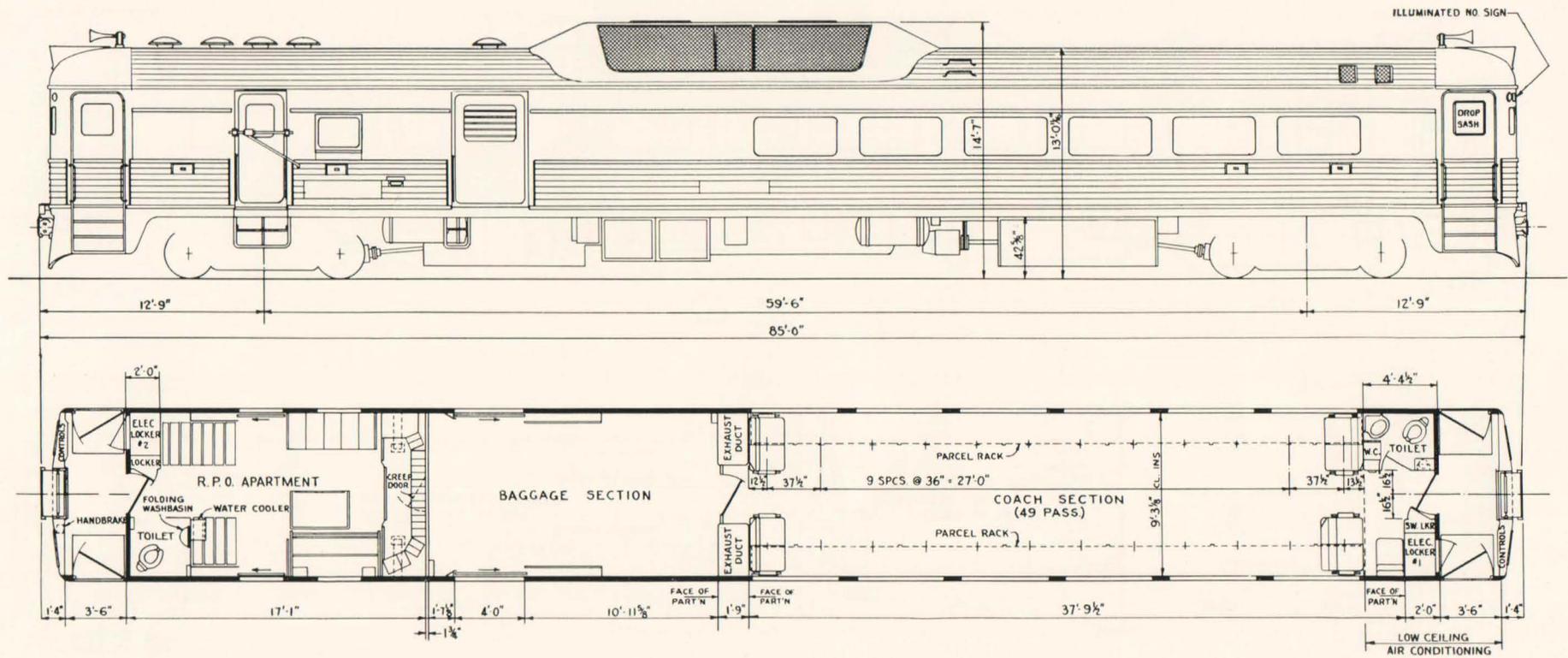


SK-22839

<i>Weight, light</i>	<i>114,200 pounds</i>
<i>Weight, ready to run</i>	<i>119,000 pounds</i>
<i>Normal maximum weight (including 71 passengers and 9,900 lb. baggage)</i>	<i>139,900 pounds</i>

RDC-3

RDC-3 combines passengers, baggage-express, and mail, seating 49 passengers, with a 17 foot baggage-express compartment, separated by a bulkhead with a creep door from a 15 foot railway mail apartment.

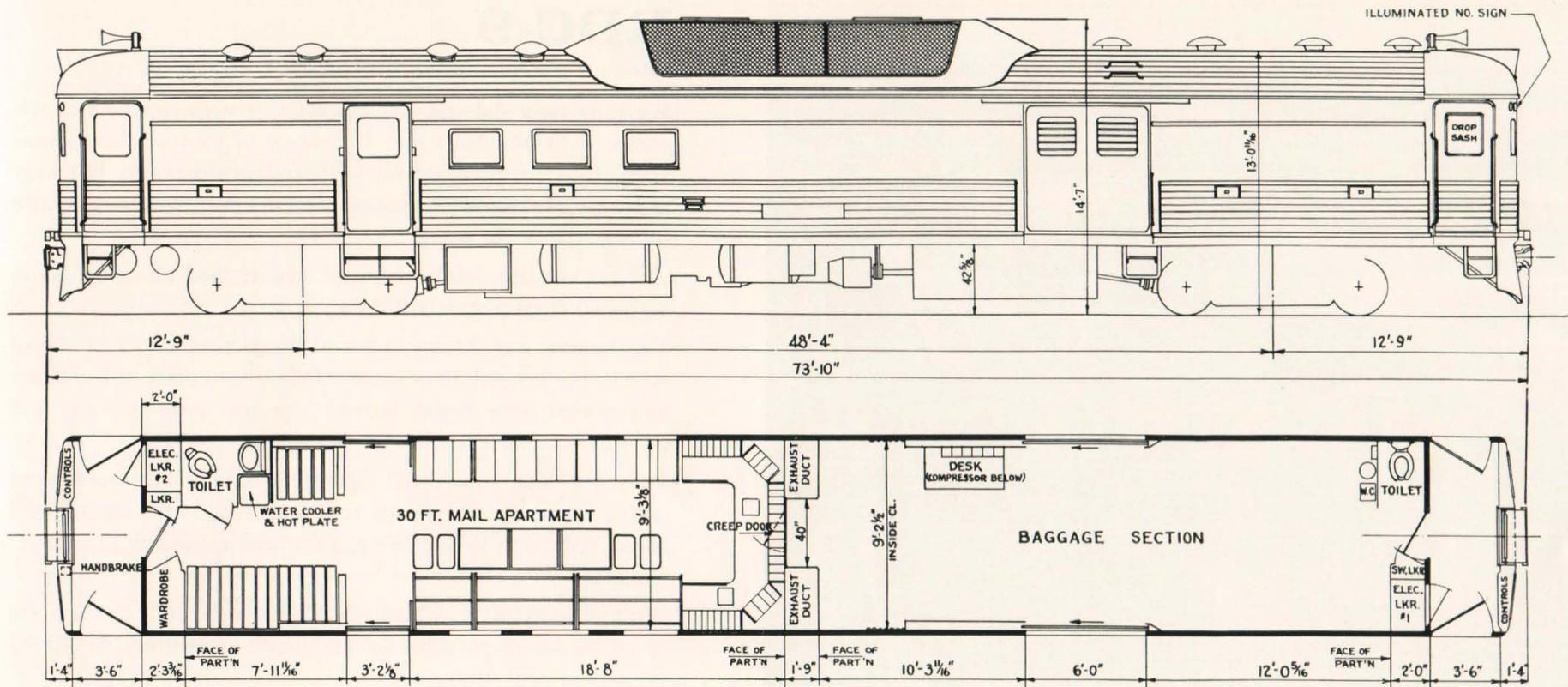


<i>Weight, light</i>	117,900 pounds
<i>Weight, ready to run</i>	122,700 pounds
<i>Normal maximum weight (including 49 passengers 5,000 lb. R.P.O. load 8,000 lb. baggage)</i>	143,400 pounds

SK-22913

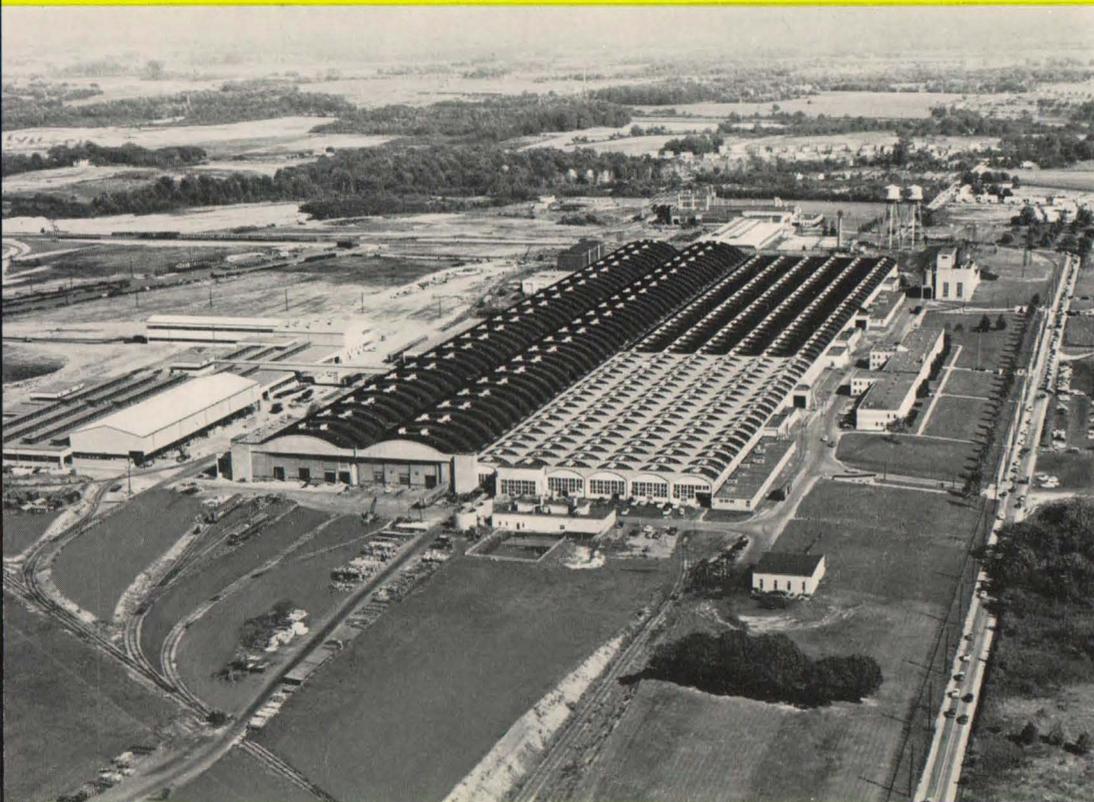
RDC-4

RDC-4 is for mail and baggage-express exclusively. It is 73 feet, 10 inches long and contains a baggage-express compartment of 31 feet, separated by a bulkhead and creep door from a mail apartment of 30 feet.



Weight, light 109,200 pounds
 Weight, ready to run 113,800 pounds
 Normal maximum weight (including
 10,000 lb. R.P.O. load 20,200 lb. baggage) 144,300 pounds

SK-23022



RDC-9

We purposely did not include RDC-9 with our earlier reference to RDCs 1-2-3 and 4, because of its specialized character. It is not designed for independent operation, but only in trains composed of standard RDCs in a prescribed ratio of one type to the other.

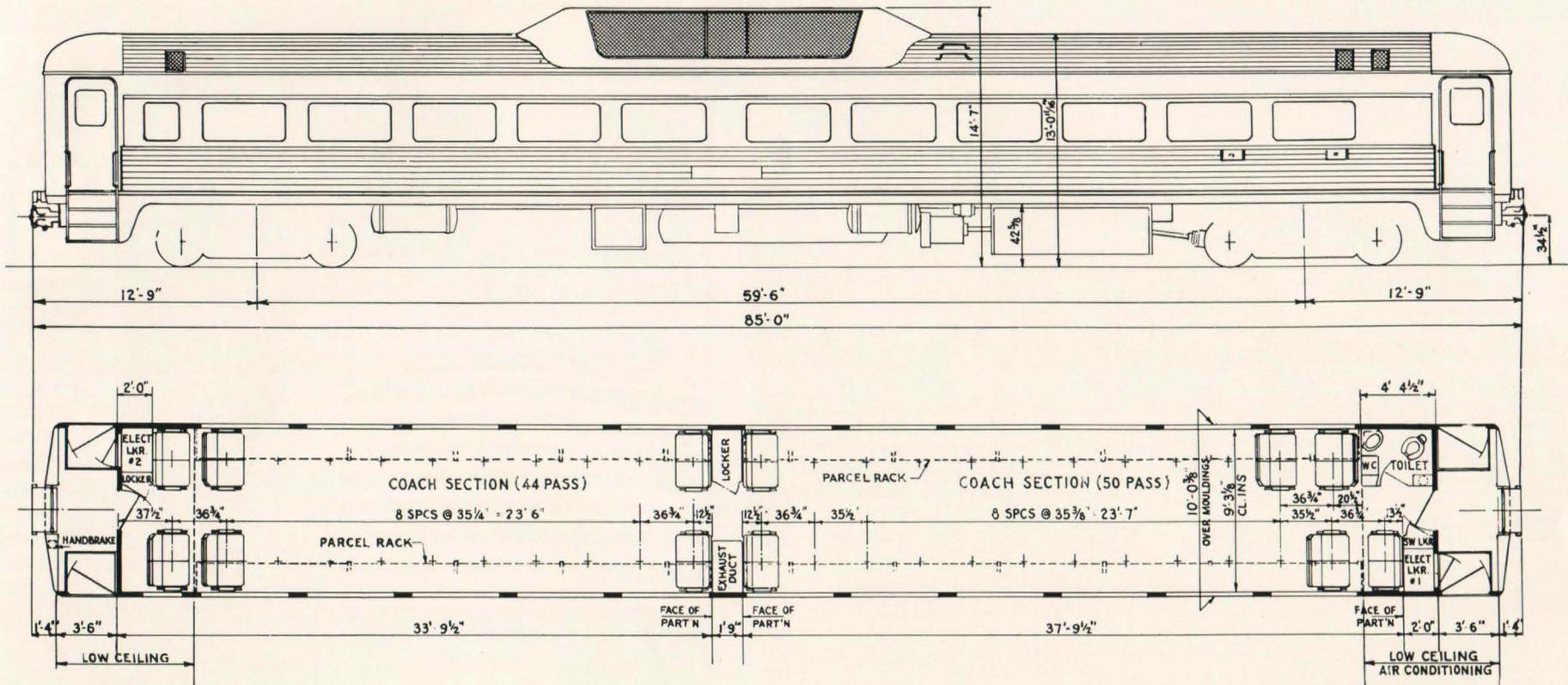
The car has one 300 horsepower engine, and all controls are activated from a standard RDC.

The Boston and Maine, with its large fleet of 71 standard RDCs, has bought 30 of these RDC-9s to replace 102 coaches and release nine diesel locomotives for other service, and provide increased schedules.

They promise substantial operating savings, without even taking into account savings resulting from reduction in yard areas, reduction in switching costs, and reduction in layover facilities.

With 94 seats, RDC-9 also offers greater capacity . . . a point of particular importance for its greatest usefulness is during periods of peak traffic.

RDC-9





MISSOURI - KANSAS - TEXAS

20

20

20

U.S. MAIL
RAILWAY
POST OFFICE

How to buy RDC

When RDC was first developed, in 1949, self-propelled cars had an unsuccessful reputation. Consequently we used our first RDC as a demonstrator, and loaned it to many railroads, without fee, for them to operate in whatever service they thought appropriate. The car is still available on the same basis, but there now exists such a vast fund of operating experience preliminary experiment is often unnecessary.

As the car's abilities have become more widely understood and appreciated, more and more ways are being constantly discovered to profit from its usefulness. We maintain a qualified and experienced staff whose assignment is to work with railroad management, to help them search out ways they can improve their service and reduce their costs with RDC, and to predict, with remarkable accuracy, the benefit the railroad will receive. It is a growing practice to work out an RDC purchase mutually. An inquiry to any Budd office will obtain complete information. These offices can also provide any desired engineering and operating data.



"New look" RDC-3, built for the M-K-T

Sales Offices



THE BUDD COMPANY
PHILADELPHIA 15, PA.

RAILWAY EXCHANGE
BUILDING
CHICAGO 4, ILLINOIS

230 PARK AVENUE
NEW YORK 17, N. Y.

111 SUTTER STREET
SAN FRANCISCO 4
CALIFORNIA

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PHILADELPHIA 32, PA.

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