TECHNICAL MANUAL

MAINTENANCE

OF

RAILWAY CAR

H E A D Q U A R T E R S , D E P A R T M E N T O F T H E A R M Y

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PART ONE
GENERAL
CHAPTER 1
INTRODUCTION

1-1. Purpose and Scope

a. This manual provides information and guidance to personnel concerned with the operation, inspection, and maintenance of Department of the Army-owned continental United States railway intraplant freight equipment, and interchange freight and passenger equipment. It describes the principal parts of freight cars and passenger cars and gives detailed instructions for their inspection and maintenance. It includes basic details of car construction and describes types of light and heavy repairs. Necessary equipment for maintenance and repair is described, and pertinent forms are illustrated and explained. Instructions are given for standard painting, lettering, and numbering of freight cars and passenger cars.

b. The material presented herein is applicable without modification to both nuclear and nonnuclear warfare.

1-2. Modifications

Users of this publication are encouraged to submit recommended changes and comments to improve the publication Comments should be keyed to the specific page, paragraph, and line of the text in which the change is recommended. Reasons will be provided for each comment to insure understanding and complete evaluation. Comments should be prepared using DA Form 2028 (Recommended Changes to Publications) and forwarded direct to the Commandant, US Army Transportation School, ATTN: Director of Doctrine Development, Literature and Plans, Fort -Eustis, Virginia 23604.

1-3. Responsibilities

a. The Military Traffic Management and Terminal Service (MTMTS) is responsible for the control, distribution, utilization, and maintenance of, and the accountability for railway freight and tank cars that are owned or leased by or loaned to MTMTS and assigned to the Defense Freight Railway Interchange Fleet (DFRIF).

b. The US Army Mobility Equipment Command (MECOM) is responsible for the maintenance of utility rail equipment used by the Army and other Department of Defense (DOD) agencies having InterservIce Support Agreements with MECOM, and for the operation of the Mobile Rail Repair Shops (MRRS) to provide direct and general support maintenance to such equipment, as provided by AR 700-53.

CHAPTER 2

TYPES OF ARMY-OWNED CARS

2-1. General

Railway cars are generally identified by type as house cars, open-top cars, flatcars, tank cars, passenger cars, and special-purpose cars. Each car unit within these categories actually is an, assembly of various components, and each component has a definite function and place. These components are discussed in succeeding chapters. Within the types, there are many kinds of cars. The most common house cars are boxcars and refrigerator cars. Passenger cars include coaches, sleepers, diner or kitchen cars, guard cars, etc. any type that transports personnel. Army-owned rolling stock, worldwide, includes cars of all the types discussed herein.

2-2. Cars for Conus Service

In the continental United States (CONUS), Department of Defense (DOD)-owned freight and passenger cars, including Army Medical Department ambulance cars, troop kitchen cars, and guard cars, are constructed in conformance with Association of American Railroads (AAR) and Department of Transportation (DOT) specifications so as to be readily movable in interchange service. The major portion of DOD-owned cars in CONUS consists of heavy duty flatcars and the tank car fleet Use and movement of these cars are controlled by the Military Traffic Management and Terminal Service (MTMTS).

2-3. Cars for Oversea Service

a. Freight Cars. In foreign countries, low capacity cars (15 to 20 tons, 4-wheel, 2-axle) are standard. During World War II, a shortage of available shipping and the necessity for saving shipping space brought about the hurried design of knocked-down cars patterned after European cars. These and a few 40-ton flatcars, boxcars, gondolas, and tank cars of modified American 8wheeled type made up the standard gage (5,6 1/ 2-in-ch) cars produced and sent to Europe for use by the Transportation Railway Service (TRS) during World War II. For use in theaters of operations where narrow-gage tracks (39 3/8-inch and 42-inch) predominated, 8-wheel, 4-axle boxcars, flatcars, gondolas, and tank cars of 30-ton capacity were designed After World War II, action. was initiated by the Chief of Transportation to develop railway equipment to fit railway operating conditions in world areas considered strategically important. During 1951-53, to meet urgent military railway service requirements, a large number of US type standard-gage freight cars, including refrigerator cars, were constructed and sent to Korea. From 1966 to 1968, metergage gondolas, flatcars, and refrigerator cars (fig. 2-1 and 2-2) were built and sent to Vietnam. Limiting factors such as track gage and allowable axle-load, restricted by track and bridge load limits and clearance dimensions, have affected oversea fleet car dimensions and design capacity. This problem was solved by the development of the multigage truck and axle whereby the wheels may be pressed in or out, to fit the various track gages. This led to the development of the knockdown fleet-standard-gage cars (56 1/2 inches) to broad gage (60, 63, and 66 inches) with a capacity of 40 tons, and narrow-gage cars (36, 39 3/8, and 42 inches) with 30-ton capacity. Both fleets, the 30and 40-ton, include flatcars, boxcars, gondolas, and tank cars. Field and depot maintenance repair parts lists, special tool lists and assembly instructions for this type of railway rolling stock are contained in technical manuals of the TM 55-2220-series.

b. Passenger-Type Cars. During World War II, one oversea train of 10 ambulance cars was shipped to Europe. These were not passenger type cars. They were an experimental freight-car type which proved inadequate Thereafter, throughout the war, all ambulance service was accomplished with converted indigenous passenger-type equipment Development of ambulance train cars for oversea service since has resulted in the construction of pilot models of one ambulance car, one personnel car, and one kitchen dining-storage car.