

a pickup truck, passed through a sorting centre and loaded into the proper railway car or trailer to be rushed to its destination in a fraction of the time formerly required under the manual method.

In Eastern Canada, where the density of package freight, l.c.l. and transport traffic is even greater, separate departments continue to make use of more efficient operating methods. Canadian Pacific Express, for instance, recently placed in service one of the latest methods of containerization. The first two of a potential fleet of standard-sized aluminum insulated containers are in service between Montreal, Toronto and points in southwestern Ontario. Perishable express freight is picked up anywhere by one of the containers which is carried on a transfer device pulled by a highway tractor. At railhead, the container is transferred onto a specially constructed flat car, the transfer taking two minutes. At destination the container is hauled to a terminal point for distribution or directly to the consignee's facilities. Another form of containerization—a relatively small wire cage type container—is being used by the Express company between Montreal and Maritime points. One of these cages, destined for a particular city or area, is loaded with express parcels at Montreal, fork-lifted into an express car on a passenger train and sped to destination with a minimum of handling.

There are a great many commodities to be moved that cannot be containerized. Most of Canada's foreign dollar-earning power comes from the export of raw materials in the form of minerals, forest products and grain, for the movement of which Canadian Pacific provides the most up-to-date freight-car facilities. For some products, it has been necessary to make substantial investments for specialized equipment: pneumatically operated drop-bottom gondola cars are used to haul gypsum in Nova Scotia; aluminum tank-type hopper cars are in service carrying potash from Saskatchewan to tidewater and world markets; tri-level cars transport automobiles from the manufacturing areas of Ontario to all parts of Canada; bi-level cars serve much the same purpose but are used mainly to carry trucks; bulkhead-end flat cars, originally conceived to carry forest products, have been put into service carrying great quantities of shingles and piping; longer, more elaborate box-cars have been introduced for the newsprint industry; and damage-dunnage free bulkhead box-cars, which are also insulated, are being used to carry canned goods, electrical appliances and bottled goods, or almost anything normally shipped in cartons.

Specialization of freight equipment includes the modifying of freight cars already in use as well as the designing of new cars. On Canadian Pacific drafting boards are many new designs—all of which are the product of the current upsurge in railway research. And coincident with the advances in freight equipment has been the need for increased motive power capacity. Several locomotives have recently been upgraded to produce greater power output and incorporate other design changes: the locomotive bodies were pressurized to keep out dirt and moisture and thereby secure from electrical and diesel engine components a longer working life and better performance; running gears were improved; fuel capacity was improved without increasing total weight; new transistorized electrical apparatus was installed; and brake capacity was increased. In 1964, Canadian Pacific took delivery of twelve 2,500-hp. diesel units—the most powerful in use in Canada today.

At one time or another, most Canadian Pacific freight equipment passes through the railway's new Toronto freight yard—the most advanced automated freight classification operation in Canada and perhaps the world. The \$15,000,000 yard, which cuts in half the handling time for freight cars passing through the Toronto area, was completed in June 1964. It makes use of radar, television, an electronic computer, radio, integrated data processing, microwave, automatic switching devices and several remote-control systems to sort freight cars and group them into trains bound for common destinations. The Toronto yard is the fifth push-button type of classification yard put into operation by Canada's railways, but surpasses the others in the degree of efficiency of its automatic features. It incorporates the first transistorized centralized traffic control system in Canada, which allows one man to control the more than 1,000 train movements made each day over the rail approaches to the yard.