Erie Systematizes Supply Work for Car Programs

Programming and scheduling avoid confusion, keep stocks down and cut shortages

THE Erie has developed a procedure for the ordering and handling of car repair materials, by means of which the stores department has succeeded in eliminating much confusion attendant upon supplying car rebuilding programs, and also in avoiding much over-ordering of material without endangering the progress of the work. The present policy is to repair cars in lots of 300 to 500, and when the cars are available supplementary arrangements are made to repair all of the cars of a series in the same shop, as far as this is possible. Under this practice, which is advantageous to both the mechanical and stores departments, the work orders are numbered consecutively and the shops designated by appropriate symbols to avoid any confusion as to the number of cars to be repaired and the site of the work.

When an order to repair cars is issued, the division car foreman or his assistants inspect a representative number of cars in the series to be repaired, for the purpose of determining their general condition. Where necessary, one or more cars are completely torn down to ascertain the material required for the repair work. Blueprints showing all items of car construction are used in the inspection, and lists are then prepared of the material needed for the work.

Upon the completion of this statement by the mechanical department, a copy is furnished to the proper storekeeper with advice as to the date upon which the material should be available for starting work on the car order. It also devolves upon the storekeeper to procure a written statement from the shop superintendent or master mechanic, giving as closely as possible the anticipated output of cars per day, as well as the date of commencement.

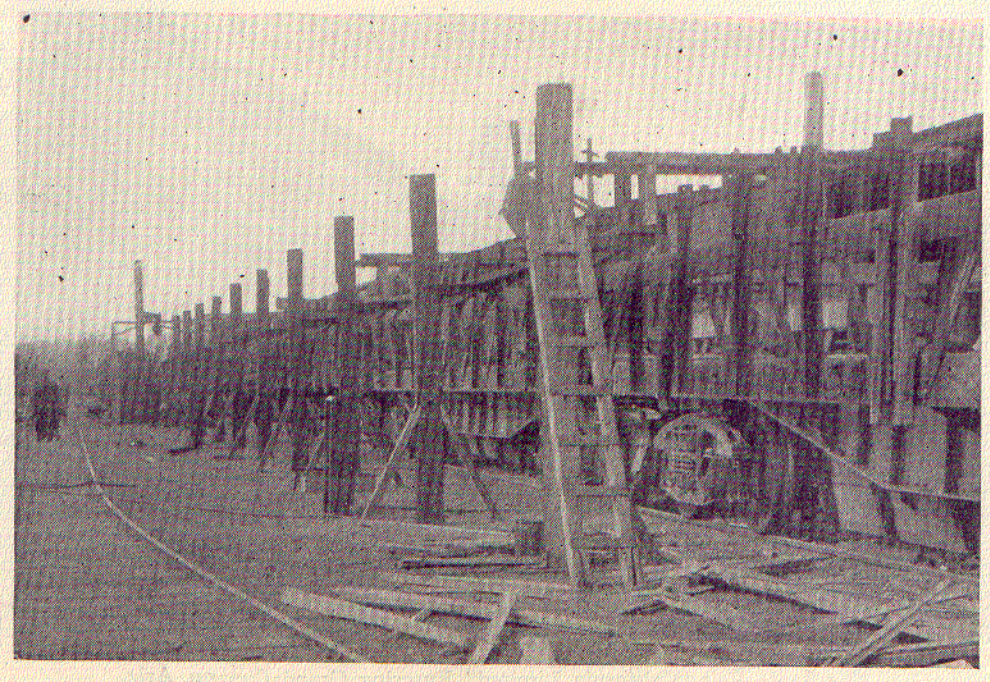
The description of the material called for is then entered on a special form designed to record each step in the progress of the work. In the right hand upper corner of this form are marked the number of the car order, the number of cars in the order and the series, while the rest of each sheet is ruled into columns for the following information with reference to each item of material:

Column 1, items marked "X" indicate 100 per cent renewal;
Column 2, description of material;
Column 3, total quantity required for entire program;
Column 4, quantity on hand;
Column 5, quantity available for car work in question, after deducting material for incompleted work and that for running repairs;
Column 6, requisition reference number and quantity ordered;
Column 7, number of purchase or stores department order;
Column 8, firm or store holding order;
Column 9, date shipped;
Column 10, surplus after completion of work.

Entries on Form

From the bill of material furnished by the car department, the total quantity of each item required for the entire car order is marked in Column 3. The storekeeper then ascertains by physical count how much material of each kind is already on hand, and enters this information in Column 4. In the next column is recorded the quantity available for the car work in question, after deducting from the quantity on hand, the quantity required for current running repairs, as determined from an examination of the stock books. The difference between the quantity of material required for the car work and the quantity available gives the quantity which must be acquired, and requisitions are prepared, the reference number and quantity called for in these requisitions being marked in Column 6.

When a series of cars are being inspected to arrive at an estimate of the material needed for their repair, the bill of material is usually made sufficiently complete to protect all contingencies. In practice, however, it usually develops that original bills of material do not forecast the requirements exactly and that the procurement of all of the material called for in these initial bills or



A Car Repair Operation

lists will result in excesses. To avoid this, the Erie practice calls for ordering the full estimated requirement at once only where 100 per cent renewal of the items is specified. Lumber, fabricated steel parts, and castings are examples of the commodities so ordered. If 100 per cent renewal is not specified, only 60 per cent of the requirements are ordered on initial requisitions, leaving the remaining requirements to be reviewed during the progress of the work.

Accumulation of Material Avoided

The dates the materials are to be delivered are specified on the requisition and the shipments are divided into installments 15 to 60 days apart to meet the requirements and to avoid accumulating more material than will be used promptly. In the case of materials of a special nature, or not regularly used in making running repairs, the plan is to call for sufficient material on the first requisition for 60 days' output, then to prepare the next requisition 30 days in advance of starting the work and have it call for a 30-day supply, unless all of the material was ordered on the first requisition. With standard items of material, such as couplers, brake beams, brake shoes, connecting rods, brake pins, nuts, washers, nails, grip nuts, rivets, paint, oils, brasses, wedges, etc., which are regularly used in repairs to standard equipment, the requisitions are prepared for a 30-day supply on the basis of actual consumption, as determined from the actual progress of the work.

Reference to each order is entered on the material report, and in addition a copy of each order that is placed with a manufacturer or with another store is furnished the proper storekeeper, who also receives a notice of every shipment. These records are marked in Columns 7, 8 and 9 on the special sheet, where they furnish at a glance the current status of supplies for the car work. To avoid any confusion, it is required that the special form cover all material described in the original bill of material, whether orders are issued for it or not. Also, the statement is divided to separate each period of ordering. The storekeeper traces the manufacturer or shipper directly in order to secure deliveries on the dates specified and otherwise to meet requirements, and as a precaution against the use of program material for other needs, the materials ordered for program car work are indicated in the stock book with the mark "P" and the order number.

Check Surplus Early

The supply forces watch closely to see how the progress of the work checks with the original estimates, in order to be prepared at all times to meet any changes and to avoid premature accumulations of material, as well as to avoid shortages, and as far ahead of the completion of the program as practicable, frequent checks are made to determine approximately what materials are certain to be left over. These materials, if not needed locally, are then reported in the stock books as surplus, without waiting for the completion of the car program. The purpose of this check, obviously, is to absorb such surpluses as quickly as possible. Finally, when the program is completed, the stock is checked and all materials that are left over are recorded on the special form as surplus, and a statement of it filed with the manager of stores for immediate attention.

The plan has not eliminated the importance of a close watch upon the situation by the supply forces, or the maintenance of a close, personal contact between the supply and repair forces, but it has simplified the problem and has been the source of much improvement in results for both the mechanical and the supply department forces.

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The Santa Fe's "California Limited" Entering Grand Canyon, Ariz.