

# REPAIR SHOPS WORK REPORTING PROCEDURE

LaRue Delp, State Highway Commission of Kansas

● ON July 1, 1971, Kansas began an activity-oriented repair shops work accomplishment reporting procedure. The term activity-oriented means that the work in the repair shop is classified by general types. No effort is made to sharply define the work. It can be compared to the old country barber shop. The barber measured his day's work by the number of haircuts and shaves performed. He was not concerned with the type or difficulty of haircuts.

Commercial repair shops tend to specialize by brand and type of equipment. These shops have developed complex work procedures and flat-rate books that facilitate repetitive procedures. Current flat-rate books are so detailed that rates are broken down to tenths of an hour for specific operations. A typical example is a flat rate of 0.8 hour to replace a steering knuckle on a passenger car.

In contrast, the highway equipment repair shop is like the old-time barber shop. It works on anything that comes in the door: passenger cars, station wagons, trucks, motor graders, wheel tractors, front loaders, crawler tractors, mowers, air compressors, and augers.

State highway commission repair shops measure their work in simple basic units that are common to all vehicles. The activities involved in the repair of tires, ignitions, and engines are essentially the same for all vehicles.

## LABOR CLASS CODES

The labor class codes for vehicle repairs consist of six major classifications: (a) service, (b) power plant, (c) power train, (d) suspension, (e) cab, and (f) body and chassis.

Each of the six major classifications is subdivided (Appendix). Subsidiary charges, which are charged directly to a specific vehicle, make up a seventh classification.

## WORK GENERATOR CODE

For good management control, a thorough knowledge of how work originates is required. This can be done by using a work generator code (Appendix). Each repair is classified as one of the following: (a) scheduled repair; (b) unscheduled repair; (c) road call; (d) accident repair; (e) equipment preparation and alteration; or (f) miscellaneous equipment repair.

## REPORTING AND FEEDBACK

The record-keeping system is simple. The mechanic maintains a weekly pencil copy of a report that is computer tabulated. There is no clerk or bookkeeper between the mechanic and the computer. The mechanic's report consists of four items: (a) vehicle number, (b) reason for repair, (c) nature of repair, and (d) hours required.

The computer tabulations consist of the following five general reports:

1. Shop tabulation consists of all work performed within a specific shop and is compared to the average work performed in all shops;
2. Vehicle tabulation lists all work performed on a vehicle for the life of the vehicle;

3. Vehicle type or class is coded in the vehicle number, which makes it possible to compare makes of vehicles;
4. Mechanic tabulation shows all the work performed by each mechanic and how he rates with a state average; and
5. Work source printout shows the percentages of work created by various conditions.

### PROGRAM OBJECTIVES

The repair shops work accomplishment program is designed to meet many objectives. The following are a few of these objectives:

1. Development and implementation of time-rate standards;
2. Capability of quantitatively measuring the work performed by a mechanic;
3. Revision of the mechanic staffing pattern;
4. Quantitative comparison of preventive maintenance and emergency repairs;
5. Development of a logical parts inventory; and
6. Logical determination of specification writing, i. e., how much special equipment should be installed after purchase and how much should be required as original equipment.

### SUMMARY

This is a preliminary report of a computerized work accomplishment method of shop repairs and vehicle management for maintenance operation in Kansas. It is intended to give a preview of the program in its initial stage. The comprehensive program covers all of the functions of about 160 mechanics and service personnel who work in 34 shops that are located throughout the state.

## APPENDIX

### WORK GENERATOR AND LABOR CLASS CODES

#### WORK GENERATOR CODES

(How Work Originated)

- |   |  |
|---|--|
| 1. Scheduled repair                     | 6. Equipment repairs without KSHC number |
| 2. Unscheduled repair                   | 7. Subsidiary Charges                    |
| 3. Road call                            | 8.                                       |
| 4. Accident repairs                     | 9. Other                                 |
| 5. Equipment preparation and alteration |  |

#### LABOR CLASS CODES

(Type work performed)

- |  |   |
|--|---|
| 010. SERVICE   | 024. Fuel System                            |
| 011. Lubrication and oil change  | 025. Cooling System                         |
| 012. Change tires, tire service, tire balancing  | 026. Exhaust System                         |
| 013. Change battery or battery service   | 027.  |
| 014. 600 hour or 12,000 mile service check   | 028.  |
| 015. Pump Island service   | 029. Other                                  |
| 016. Washing and Cleaning  |   |
| 017. Pool Car Delivery   | 030. POWER TRAIN                            |
| 018.   | 031. Clutch                                 |
| 019. Other   | 032. Transmission (Including PTO)           |
|  | 033. Propellor Shaft                        |
| 020. POWER PLANT   | 034. Differential, Tandem, or Final Drive   |
| 021. Engine  | 035. Mechanical System                      |
| 022. Ignition system, coil, distributor, plugs & wires                                       | 036. Hydraulic System                       |
| 023. Electric system (less lights & instruments but including starting and generator system) | 037. Pneumatic System                       |
|  | 038. Auxiliary Pumps (Asphalt, water, etc.) |
|  | 039. Other                                  |

## 040. SUSPENSION

- 041. Steering System
- 042. Brake System
- 043. Wheels
- 044. Springs and Shocks
- 045.
- 046.
- 047.
- 048.
- 049. Other

## 050. CAB

- 051. Painting, All Types
- 052. Lighting System
- 053. Instruments
- 054. Heating and Air Conditioning System
- 055. Accessories
- 056. Glass
- 057.
- 058.
- 059. Other

## 060. BODY &amp; CHASSIS

- 061. Body
- 062. Frame
- 063. Blades & Paddles
- 064. Liners
- 065. Brooms
- 066. Valves & Piping
- 067.
- 068.
- 069. Other

## 070. SUBSIDIARY CHARGES

- 071. Shop Cleanup
- 072. Repair to Shop Equipment
- 073. Rework
- 074. Waiting for Parts
- 075. Leave (All types)
- 076. Training
- 077. Yard Maintenance
- 078. Road, Bridge and Bldg. Maintenance
- 079. Other