

B2W FLEET MAINTENANCE & MANAGEMENT
BEST PRACTICES SERIES:


SETTING UP MAINTENANCE CODES TO OPTIMIZE MAINTENANCE PROCESSES



Jennifer Angrisano has helped organizations improve maintenance practices in the heavy construction sector for more than 15 years. Before joining B2W Software as a business analyst, she was a total process management consultant. Previously, she led the conversion to a software based program for a heavy highway construction enterprise with a fleet of more than 300 pieces of equipment, turning a \$1.3 million loss in the shop into a \$200,000 gain in a single year.



New Request:

 Requests

New Maintenance Request

Equipment *
16-02 [2015 MACK GU713 TRI-AXLE DUMP TRUCK]

Request Description *
Adjust Clutch

Alternate ID

Type * ← **1**
CORRECTIVE/PREDICTIVE MAINTENANCE

Problem Code ← **2**
Normal Wear and Tear [NWT]

Requested By
Clark Hemming [12365]

Priority *
HIGH

Setting Up Maintenance Codes to Optimize Maintenance Processes

This edition of the B2W Fleet Maintenance & Management Best Practices Series covers how establishing consistent coding of the type of work required and the reason the work is necessary can help an organization measure and improve the reliability and effectiveness of its maintenance efforts.

Scope

Maintenance codes are fundamental in providing valuable data that measures the effectiveness and efficiency of a maintenance organization. A CMMS (Computerized Maintenance Management System) offers different codes to help an organization measure performance and optimize maintenance processes.

Two codes that are essential for measuring reliability and effectiveness are the Type of work to be performed and the Problem or reason the work needs to be done. This data provides important information to the maintenance manager to ensure proper cost-effective execution.

The following recommended practice addresses the use of the Type and Problem Codes in B2W Maintain to provide necessary data to operate a best-in-class maintenance organization.

Resources

B2W Maintain collects the Type and Problem Codes at the time a Request is created. The requestor is responsible for accurately recording the Type and Problem Code. The maintenance manager should monitor these codes for accuracy and make changes as deemed necessary. It is important that these codes are accurate to ensure that metrics and reports are truthful.

1. **Type** is a code to identify the ‘what’ or the nature of the work that is expected to be performed. It is customizable by the user and established during implementation of the software system. This code is a required field selected by the requestor, and is editable by the maintenance manager or similar role if the original Type was incorrect.

2. **Problem Code** is a code to identify the reason ‘why’ the work is to be performed. The Problem Codes are customizable by the user and are established during implementation. This code is not a required field and is selectable by the requestor. This field is editable by the maintenance manager or similar role if the original Problem Code was incorrect.

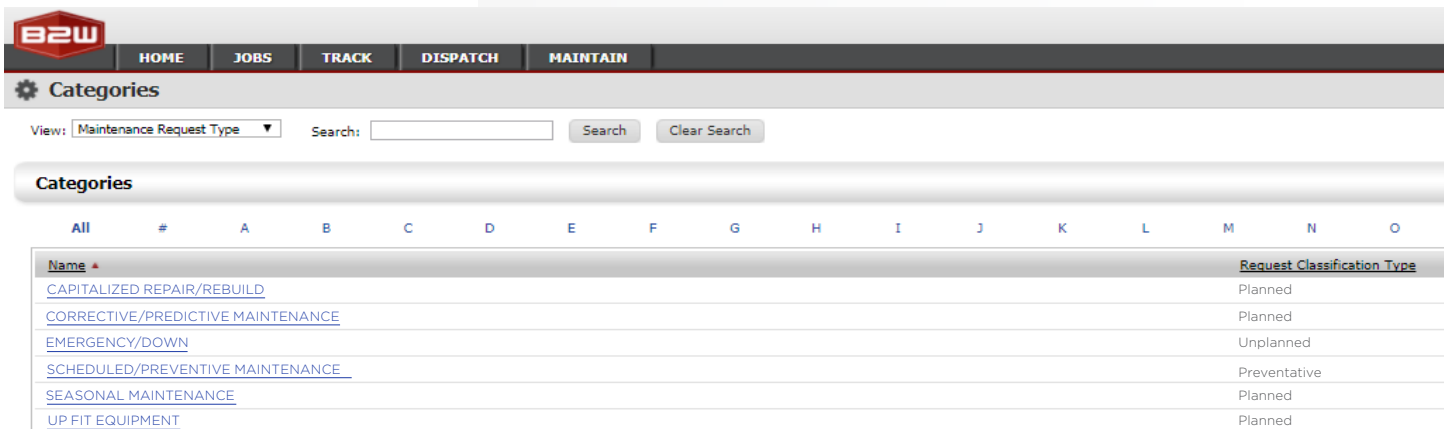
Methodology

During implementation of the CMMS it is important to carefully consider how to successfully setup codes that will support a maintenance manager in his/her effort to run a reliable, effective shop. The following is the recommended practice for the use of Type and Problem Codes:

B2W Maintain Type and Problem Codes

| TYPE-WHAT IS REQUIRED | PROBLEM-WHY IT IS REQUIRED; THE REASON |
|---|--|
| Emergency/Down (Respond to a reported emergency down) | <ul style="list-style-type: none"> • Normal wear and tear • Other than normal wear and tear • Theft and vandalism |
| Corrective/Predictive Maintenance (Respond to a repair before failure) | <ul style="list-style-type: none"> • Normal wear and tear • Other than normal wear and tear • Theft and vandalism |
| Scheduled/Preventive Maintenance (Perform regular scheduled maintenance) | <ul style="list-style-type: none"> • Fixed Scheduled Event |
| Seasonal Maintenance (Perform seasonal maintenance) | <ul style="list-style-type: none"> • Fixed Scheduled Event |
| Up Fit Equipment (Bring a new or existing unit up to specification) | <ul style="list-style-type: none"> • Special Requests |
| Capitalized Repair/Rebuild (Work on a capitalized repair or rebuild) | <ul style="list-style-type: none"> • Special Requests |

The Types are established in Categories under Settings in B2W Maintain, and the Category is called Maintenance Request Type. Additionally, it is important to select the correct Request Classification Type associated with the Type as this drives certain metrics within B2W Maintain. The following picture shows the Types setup in B2W Maintain, along with the associated Request Classification Type:



Problem Codes

| |
|---------------------------------------|
| FIXED SCHEDULED EVENT [FSE] |
| NORMAL WEAR AND TEAR [NWT] |
| OTHER THAN NORMAL WEAR AND TEAR [OTN] |
| SPECIAL REQUEST [SPR] |
| THEFT AND VANDALISM [THV] |

Problem Codes

The Problem Codes are established in B2W Maintain Codes under Resources. The following picture shows the Problem Codes setup in B2W Maintain:

Using the Type and Problem Codes this way will provide the maintenance manager with data to establish reliability and maintenance effectiveness measures.

Results

Type and Problem Codes can be reported a number of different ways in B2W Maintain. Filterable reports make it easy to look at this information for a unit, equipment type or equipment category. These codes also help the maintenance manager set goals to improve reliability and maintenance effectiveness.

B2W Maintain contains key performance indicators on the home page and dashboard pages that relate directly to the Types and measure the reliability and maintenance effectiveness of the maintenance organization.

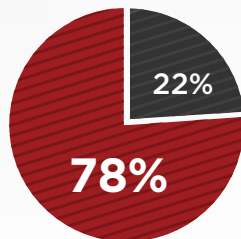
The home page dashboard contains four key performance indicators that are a direct result of the Type selected on the Request. These are produced by the Request Classification Type associated with the Type. The top two are calculated by the number of work order items, while the bottom two are the number of labor hours reported for a work order item. The metric is displayed for the prior month. While this date is not changeable on the dashboard, the maintenance manager can go to the Maintenance Metric Report in Reports and change the date ranges, and even filter the metric to obtain different results. For example, setting a filter by a certain Equipment Category or Equipment Type.

Recommended Goals for Home Page Dashboard Metrics:

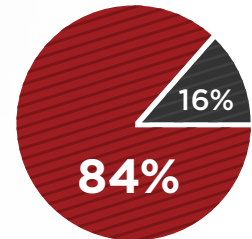
- % Emergency Maintenance Labor Hours: The recommended goal is below 10% of labor hours spent on emergency/unplanned maintenance. For % Emergency Maintenance Items, the goal can be similar.
- % Planned, Preventive, Unplanned Labor Hours: The recommended goal is below 10% of labor hours spent on unplanned maintenance, approximately 60% of labor hours spent on preventive maintenance and 30% of labor hours spent on planned maintenance. For % Planned, Preventive, Unplanned Maintenance Items, the goal can be similar.

Home Page Dashboard

% Emergency Maintenance Items

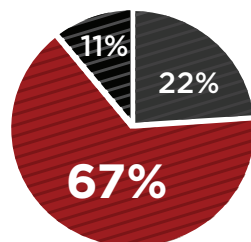


% Emergency Maintenance Labor Hours

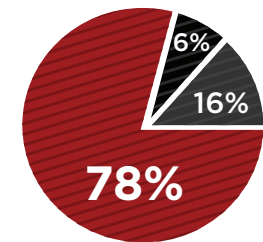


■ Planned/Preventive maintenance
■ Emergency maintenance (Unplanned)

% Planned, Preventive, Unplanned Maintenance Items



% Planned, Preventive, Unplanned Maintenance Labor Hours



■ Planned ■ Preventive ■ Unplanned

Maintenance Metric Report

Reports and Dashboards

Report Preview

| | | | |
|---------------------|--|-----------------|--|
| Group 1st by: | (None) ▼ | Date range: | This Month ▼ |
| Start date: | <input type="text"/> <input type="checkbox"/> NULL | End date: | <input type="text"/> <input type="checkbox"/> NULL |
| Metric: | % Planned, Preventative, Unplanned ▼ | Business unit: | (All) ▼ |
| Equipment category: | DUMP TRUCK, EXCAVATOR, PAVER ▼ | Equipment type: | (All) ▼ |
| Quantity to show: | Hours ▼ | Show chart: | Yes ▼ |

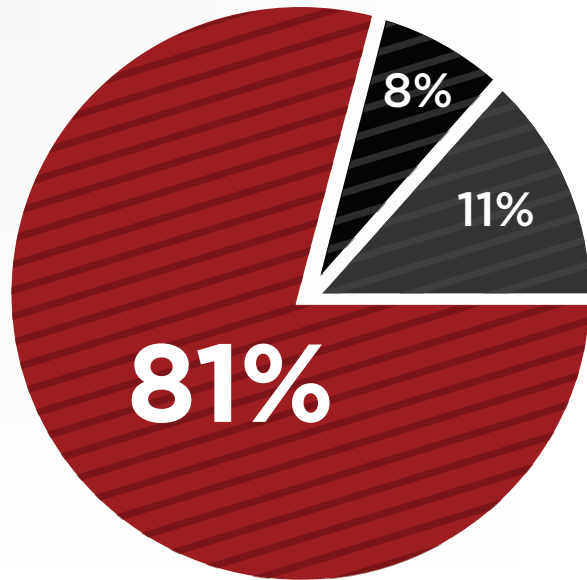
1 of 1 Find | Next

Maintenance Metric Report

Filters: Date Range - This Month [8/1/2017 - 8/31/2017]; Equipment category - DUMP TRUCK, EXCAVATOR, PAVER, TRUCK

% Planned, Preventative, Unplanned

| Request Type Classification | Total Labor Hours | % Request Type Classification |
|-----------------------------|-------------------|-------------------------------|
| Planned | 115.75 | 80.52% |
| Preventative | 12.00 | 8.35% |
| Unplanned | 16.00 | 11.13% |



DEFINITIONS

CMMS: Computerized Maintenance Management Software

Type: A code to identify the 'What' or the nature of the work that is expected to be performed

Problem Code: A code to identify the reason 'Why' the work is to be performed

Request: A maintenance need identified by a Requestor or a system generated preventive maintenance program

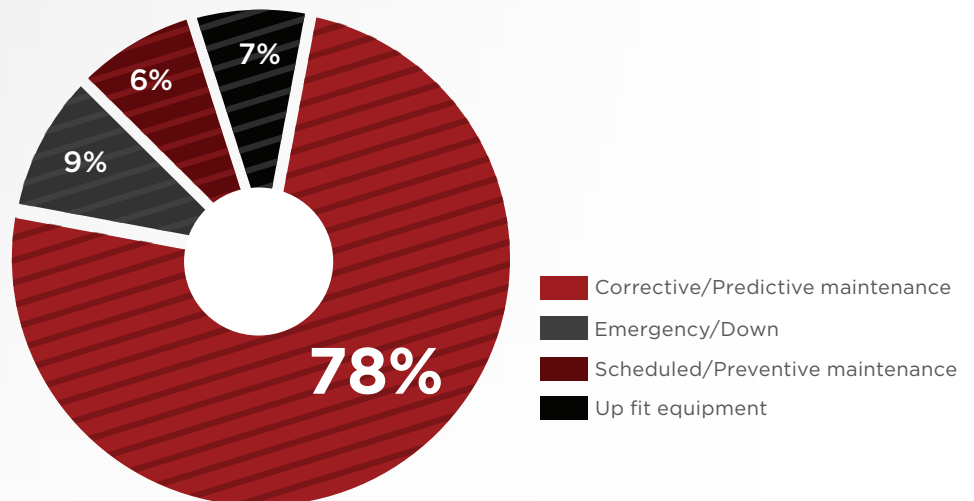
Requestor: The person who creates a new Request in B2W Maintain. Examples include Mechanics, Foreman, Superintendents, or Maintenance Manager

The B2W Maintain Dashboard page provides a key performance indicator that shows the percentage of labor hours by Type, and can be displayed for the current year or month.

Recommended Goals for the B2W Maintain Complete Work order Item Hours Metric:

- % Emergency/Down item labor hours: below 10%
- % Corrective/Predictive Maintenance item labor hours: approximately 20%
- % Scheduled/Preventive Maintenance item labor hours: approximately 60%
- % Seasonal Maintenance item labor hours: approximately 5%
- % Up Fit Equipment item labor hours: approximately 2.5%
- % Capitalized Repair/Rebuild item labor hours: approximately 2.5%

Complete Work Order Item Hours on the B2W Maintain Dashboard



Keep in mind that these numbers can fluctuate during the year, and it is important to focus on reducing the Emergency/Down labor hours in order to increase labor hours in planned maintenance.

Additionally, there are reports that can be filtered to show different data based on the Type and/or Problem Code. A few examples of reports containing this information are the Work Order Listing, Work Order Item Cost Report, Repair Request Listing and the Maintenance Metric Report.

Watch **B2W Maintain** introduction video:

