For those who track their Equipment via barcodes, Aware has features that allow you to store these barcode values and perform lookups by barcode. This document outlines the barcoding setup and use within Aware.

Setting Up Barcodes in AwareManager

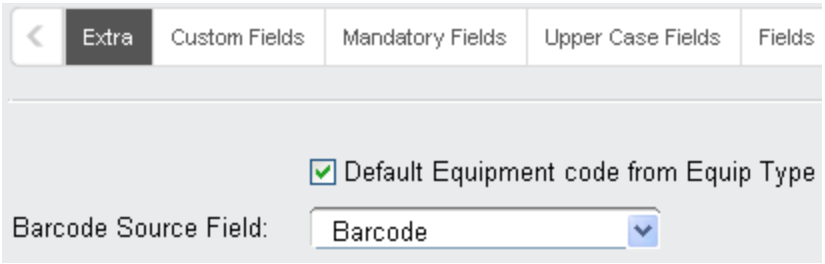
If you have barcodes associated with each piece of equipment, you must record the barcode value against its corresponding Equipment record in Aware. You may store the information as follows:

- **Custom Field** – You can store the barcode value in any one of the Equipment capsule's 50 custom fields. You must manually populate this information in the database
- **Code** – If you have the option to define your own barcode values, you may set them to correspond to each equipment record's corresponding Code in Aware. No updates are required to the Equipment records if you're using this value
- **Marker** – If you have the option to define your own barcode values, and your database uses Divisions, you may set them to correspond to each equipment record's corresponding Marker (Code + Division) in Aware. No updates are required to the Equipment records if you're using this value
- **Barcode** – This is a standard Equipment field dedicated to storing the barcode value associated with a piece of Equipment.

Note: The field used to store the barcode value must be consistent across all Equipment.

Once you have determined the field you will use to store your barcode values, you must indicate this in the Equipment Preferences:

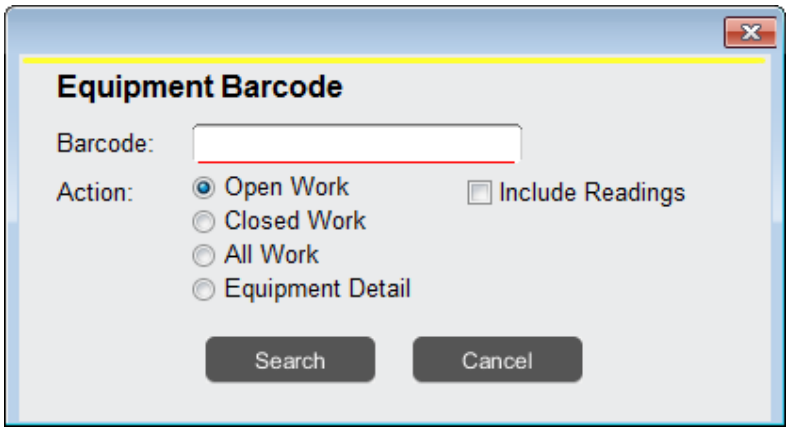
1. Right-click on **Equipment** and select **Preferences.**
2. Press  to edit the record.
3. Select the appropriate field from the *Barcode Source Field* drop-down.
4. Press  to save your changes.



Open (Equipment) by Barcode Search

This option allows you to view Equipment details for the piece of equipment whose barcode is scanned.

Right-click on **Equipment** and select **Open By Barcode Search** to select this as your default access option. When the **Equipment Barcode** window opens, it will prompt the user to select the details they wish to view:

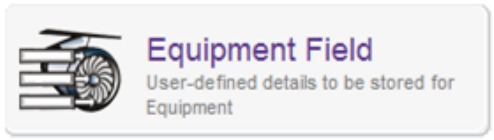


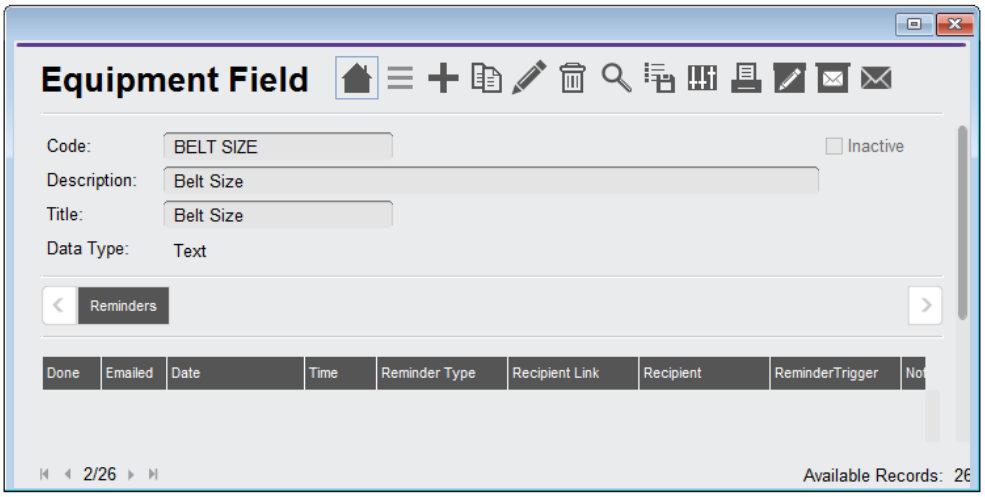
- **Open Work -** All Work of an Open Status Type that is linked to the Equipment via the Equipment field (as well as Readings, if the option is checked).
- **Closed Work** - All Work of a Closed Status Type that is linked to the Equipment via the Equipment field (as well as Readings, if the option is checked).
- **All Work** – All Work (open and closed) linked to the Equipment via the Equipment field (as well as Readings, if the option is checked).
- **Equipment Detail** – Displays the corresponding Equipment record.

Note: Work/Equipment details displayed are based on the current user's capsule settings.

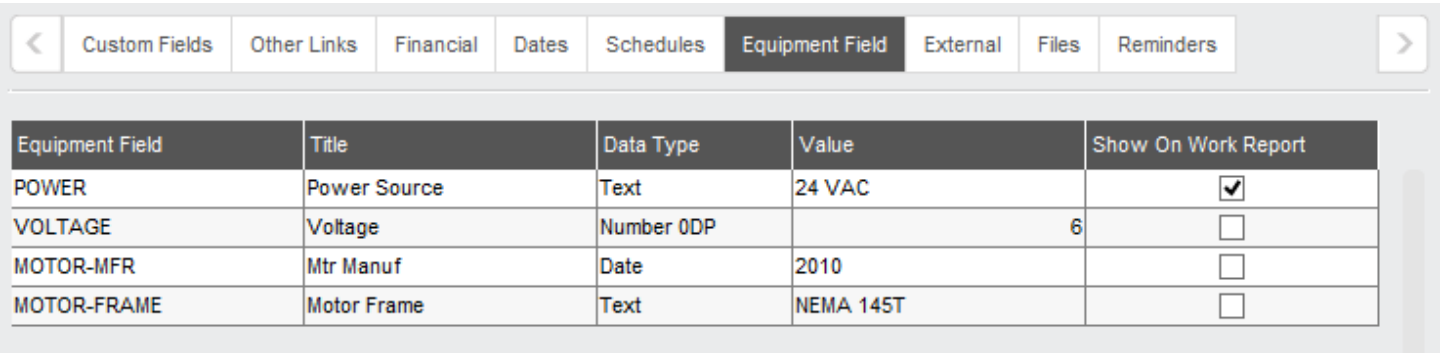
Once your results are returned, you may view, add, or change records as your system access allows. Closing out of your results window will return you to the **Equipment Barcode** window. You must close this window to exit out of "barcode search" mode.

Equipment Fields allows you to store important details about your equipment that can be used to help maintain and repair it over time. For instance, you can store information about the size and type of replacement parts for your equipment.





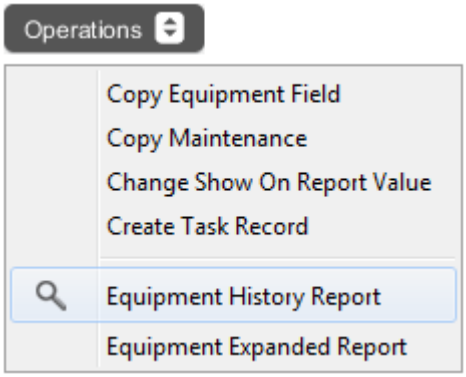
These fields are entered as separate records in the Equipment Fields capsule and attached to their relevant pieces of equipment under the Equipment Fields tab on the Equipment record:



Equipment Field	Title	Data Type	Value	Show On Work Report
POWER	Power Source	Text	24 VAC	☑
VOLTAGE	Voltage	Number 0DP	6	☐
MOTOR-MFR	Mtr Manuf	Date	2010	☐
MOTOR-FRAME	Motor Frame	Text	NEMA 145T	☐

Anyone viewing this piece of equipment will be able to know the power source, voltage, motor manufacture date, and motor frame type/size needed for this piece of equipment.

Equipment History Report

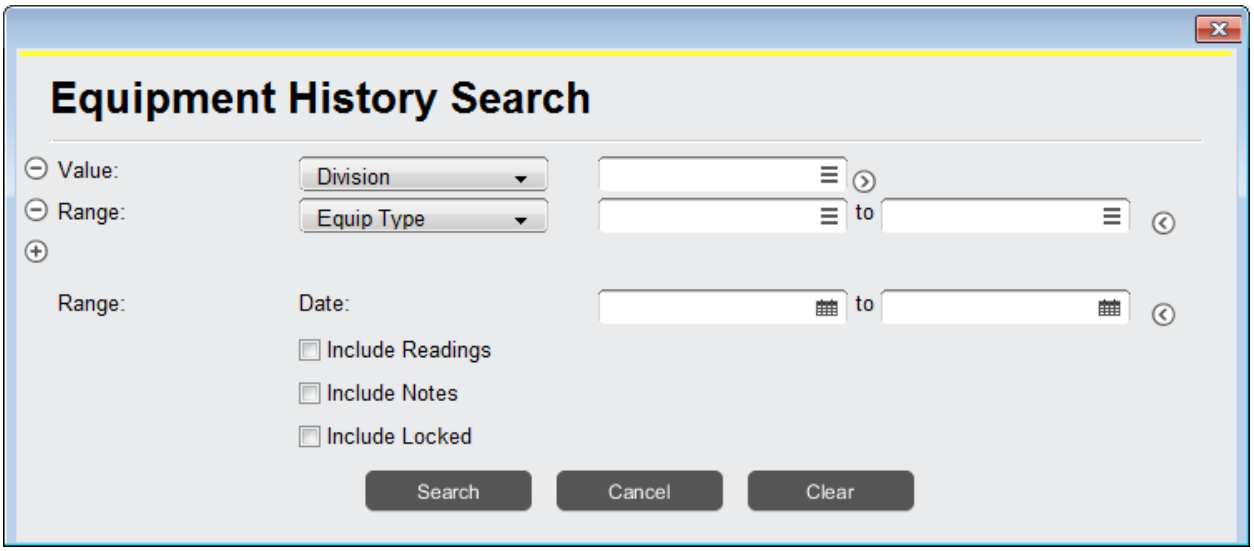


The Equipment History Report in AwareManager JXT is designed to be as flexible as possible. This report is used to determine what has been done to specific equipment by whom and when.

Based on the search criteria entered, key details about the piece of equipment and when it was last maintained are shown (including Location, Equipment Type, Model/Serial Number, Description, and Notes) as well as details from all work orders linked to the equipment (including Work Number, Type, Done By, Description, and any readings linked to the WO).

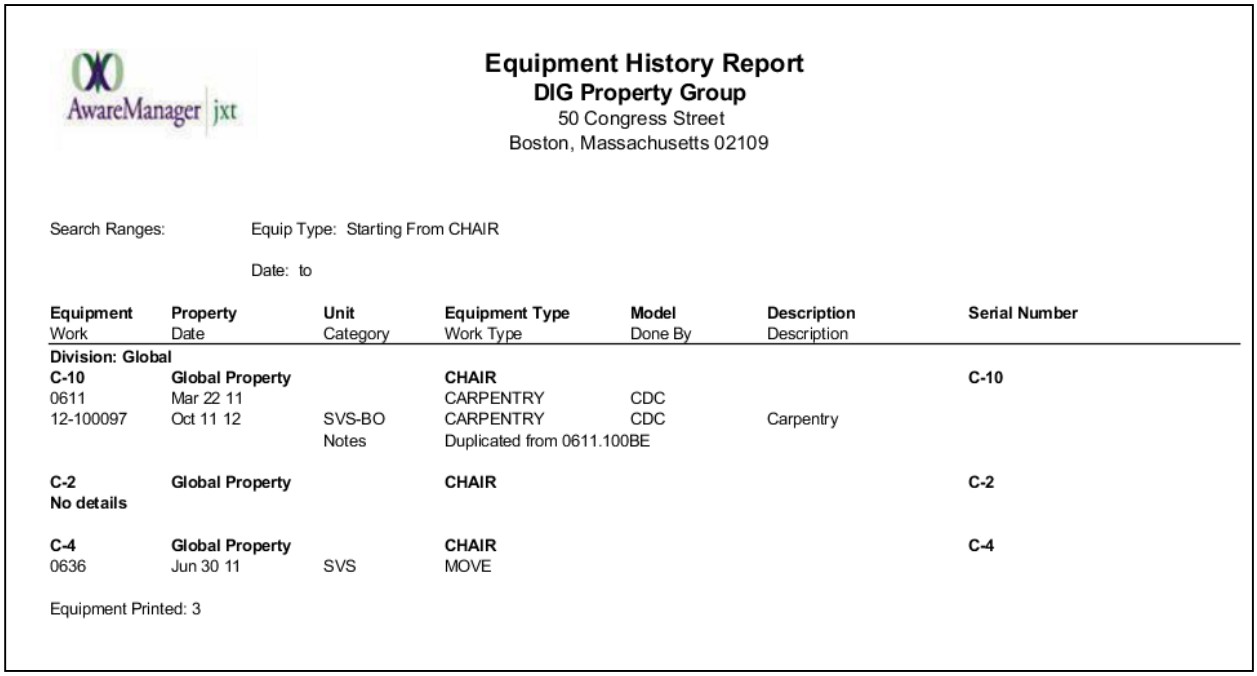
Access this report from either the Operations menu on the Equipment List and select Equipment History Report, or go to the Reports capsule (located on the Administration tab) and navigate to the list of equipment reports to find the Equipment History Report.

Search window:



This report sorts by Equipment Code and then by Date. Only Work Orders with a Closed Status Type will display in the report and the last Date field pertains to either Date Completed or the date of any Readings taken.

Example of the Equipment History Report:



Equipment History Report
DIG Property Group
50 Congress Street
Boston, Massachusetts 02109

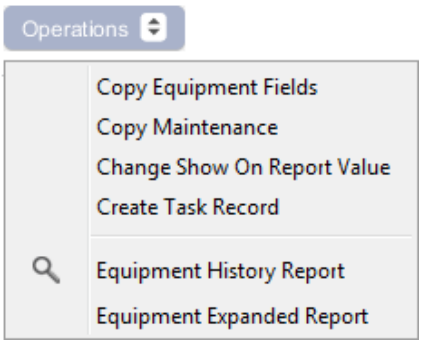
Search Ranges: Equip Type: Starting From CHAIR

Date: to

Equipment / Work	Property / Date	Unit / Category	Equipment Type / Work Type	Model / Done By	Description / Description	Serial Number
Division: Global						
C-10	**Global Property**		**CHAIR**			**C-10**
0611	Mar 22 11		CARPENTRY	CDC		
12-100097	Oct 11 12	SVS-BO	CARPENTRY	CDC	Carpentry	
		Notes	Duplicated from 0611.100BE			
C-2	**Global Property**		**CHAIR**			**C-2**
No details						
C-4	**Global Property**		**CHAIR**			**C-4**
0636	Jun 30 11	SVS	MOVE			

Equipment Printed: 3

Equipment Operations

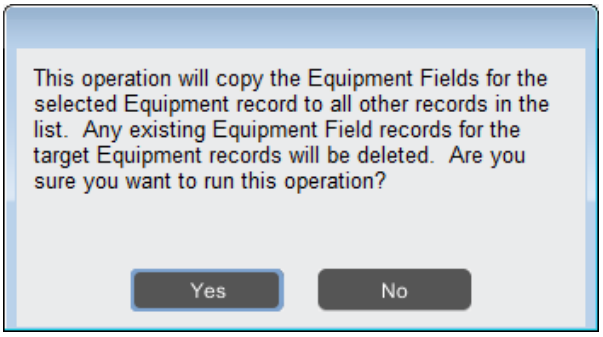


Access these Operations by clicking on the Operations menu of the Equipment list and selecting Copy Equipment Fields, Copy Maintenance, Change Show On Report Value, or Create Task Record.

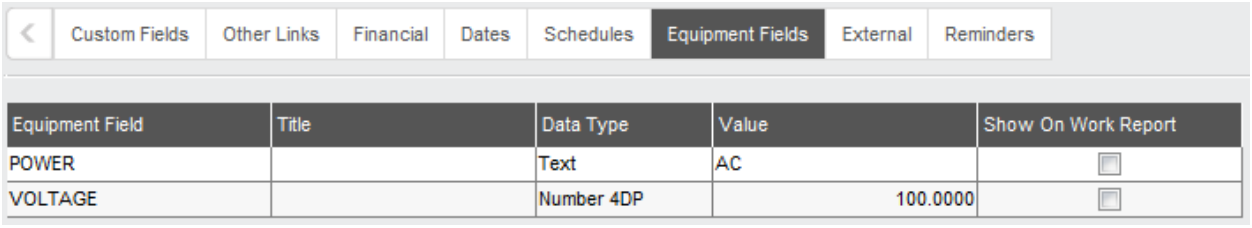
Copy Equipment Fields

This operation will copy the Equipment Fields for a selected Equipment record in the list to all other records in the list. It will overwrite any Equipment Field lines listed on other records.

When this operation is selected, you will see the following window:

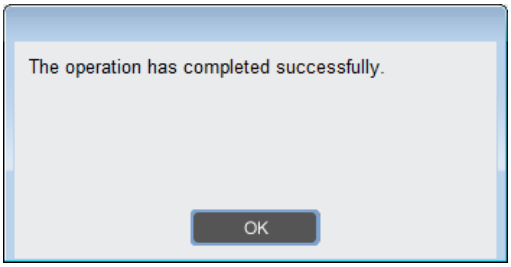


The list of Equipment Fields associated with the selected record in the list will be copied to all other records in the list.



Note: This operation will copy only the Equipment Fields, not their associated values.

When the operation is complete, you will see the following window:



Copy Maintenance

This operation will create Maintenance records for all of the other equipment records with the same maintenance schedules.

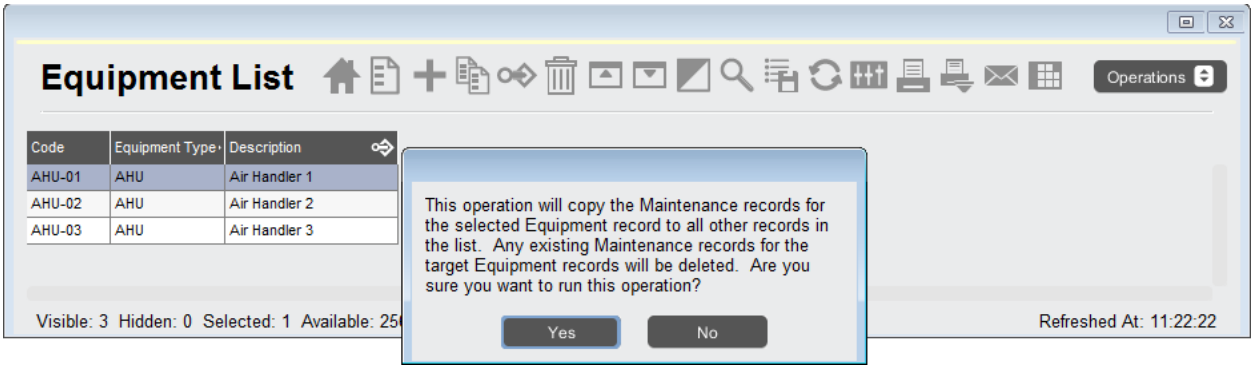
1. Search for all of the Equipment records with the same maintenance schedules, making sure that the equipment you already created the maintenance records for is included in the list.

Hint: If all the equipment is of the same type, do a search based on the Equipment Type.

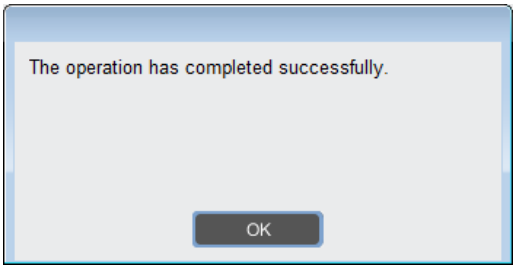
2. Highlight the Equipment record whose Maintenance records are all set up.
3. Click on **Operations** and select **Copy Maintenance**.
4. You will be warned that any maintenance already linked to the target equipment in the list will be deleted. Press **OK** to proceed.

Note: This operation will copy all dates. To stagger the dates, review the Maintenance records (search by Equipment Type) and adjust the dates manually.

5. The new Maintenance records will automatically be created for all of the other pieces of Equipment in the list.

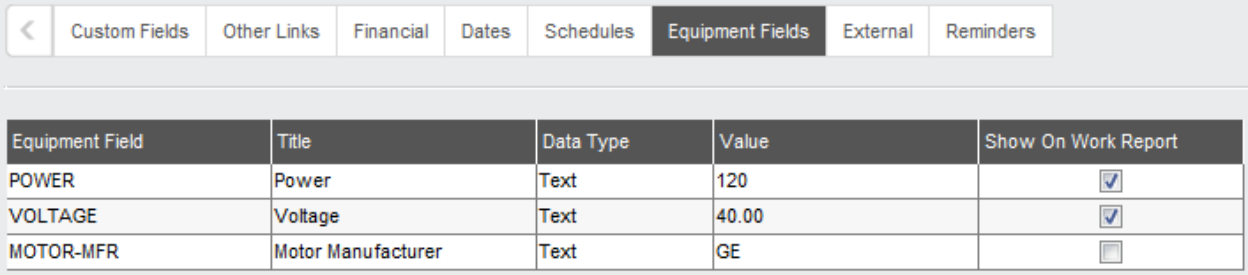


When the operation is complete, you will see the following window:



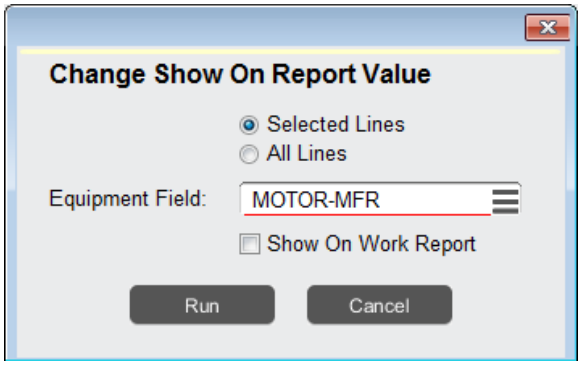
Change Show On Report Value

This operation is used to change the “Show On Work Report” checkbox, located on the Equipment Field tab of Equipment records.



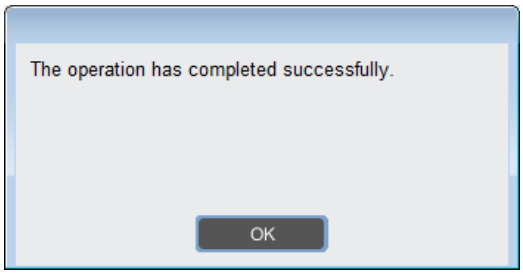
Equipment Field	Title	Data Type	Value	Show On Work Report
POWER	Power	Text	120	☑
VOLTAGE	Voltage	Text	40.00	☑
MOTOR-MFR	Motor Manufacturer	Text	GE	☐

When this operation is selected, you will get the following window:



You may choose to run this operation on “Selected Lines” or “All Lines” and can then select the Equipment Field that you would like the “Show On Work Report” checkbox to be changed for.

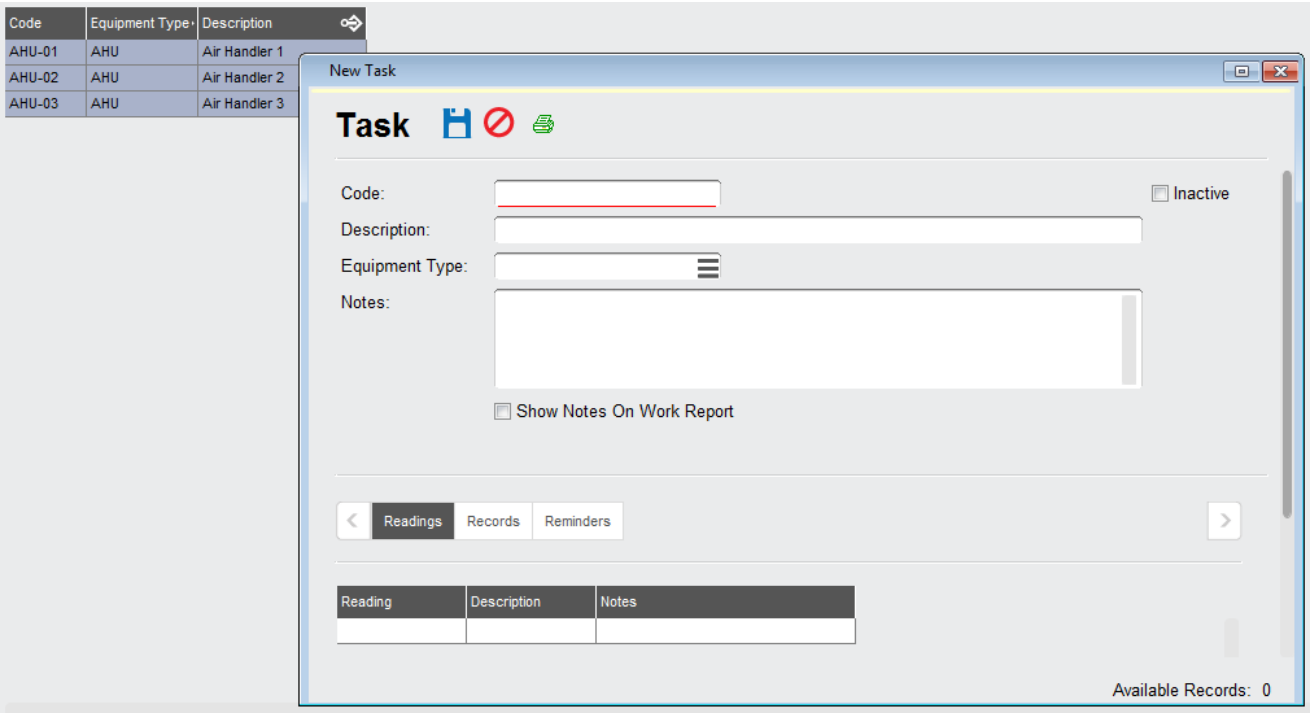
When the operation is complete, you will see the following window:



Create Task Record

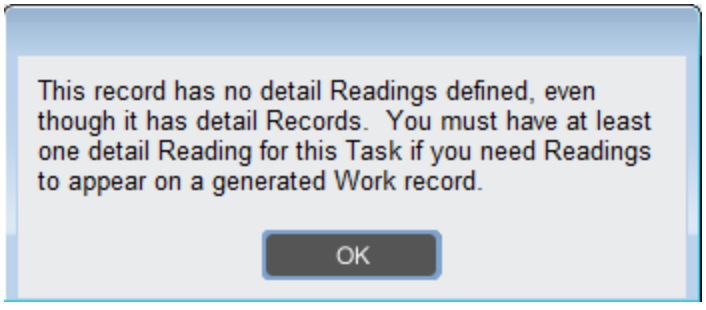
This operation allows you to create a new Task record directly from the Equipment list, so that it is automatically linked to the selected Equipment records.

Before selecting this operation you should highlight all Equipment records you want included on the task. Then, when this operation is selected, you will see the following window:



On the Task record, the Records tab will list all of the Equipment records that are selected in your list. Complete the rest of the fields as you normally would to create a new Task record.

Note: If you save the Task record without linked the Task to any Readings, you will see the following message:



If you want the Equipment records to print, you must define at least one Reading value.

Generating Maintenance Work Orders

The Preventive Maintenance module creates work orders according to the records in the Maintenance capsule.

When the **Generate Work** operation is run, the system calculates whether or not a new work order is needed based upon the information in the *Dates* section of the Maintenance records.

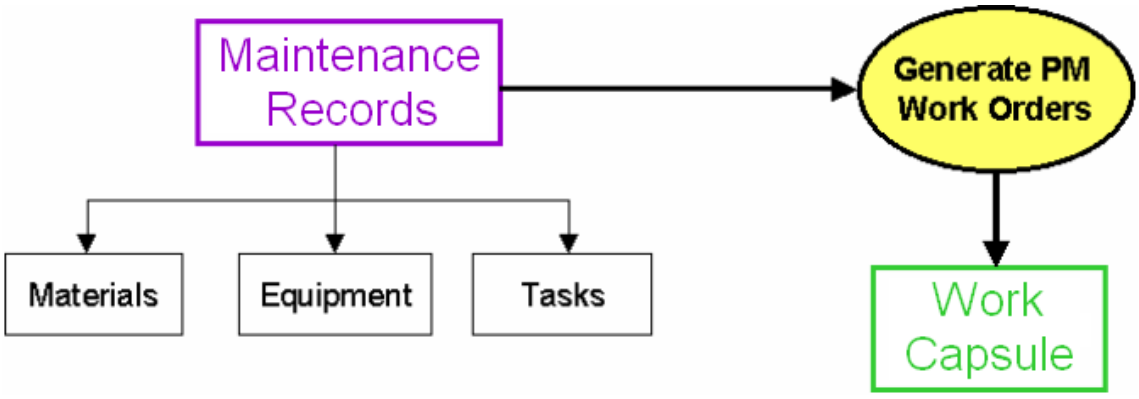
The system adds the frequency to the value that is selected as the **Source For Generating.**

If the resulting date falls within the date entered into the **Generate Work** search window, the system will create a work order.

In the example above, the system will create the next work order for April 1, 2012; one month from the Last Scheduled Date.

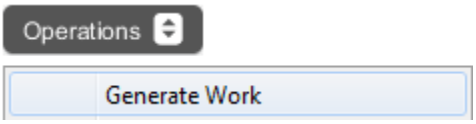
Note: If the *Last Scheduled* and *Last Maintained* dates are empty (during the initial set up of the system) JXT will create the first work order based upon the *Commencement Date*.

Once the work orders are generated they appear in the same capsule as all of your other work orders.



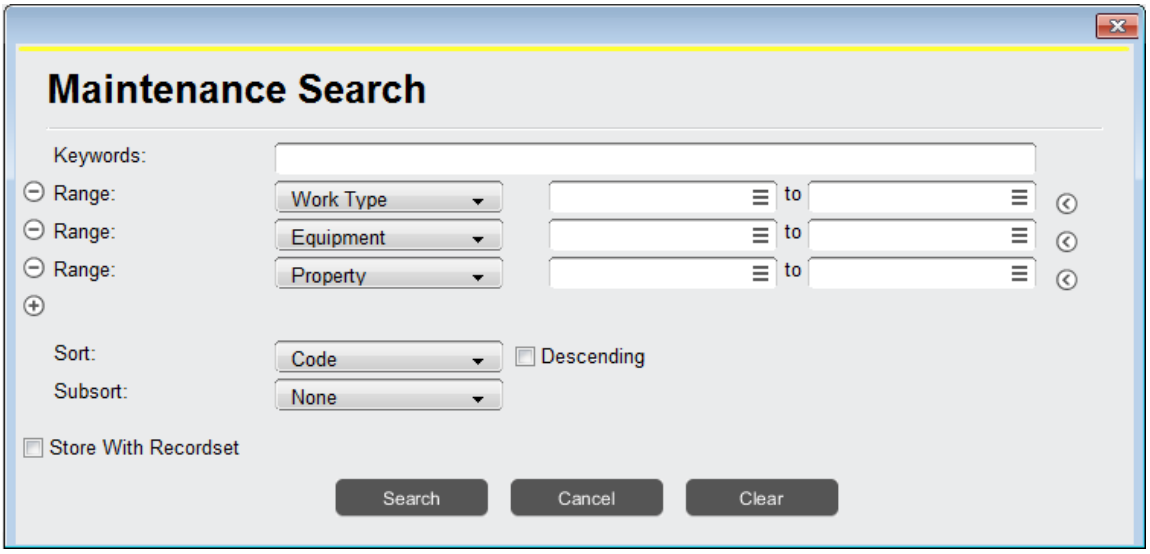
Generating Work

The Generate Work feature is found on the Operations menu of the Maintenance capsule. The first step is to open up the Maintenance List viewing all the Maintenance records that you want to generate.



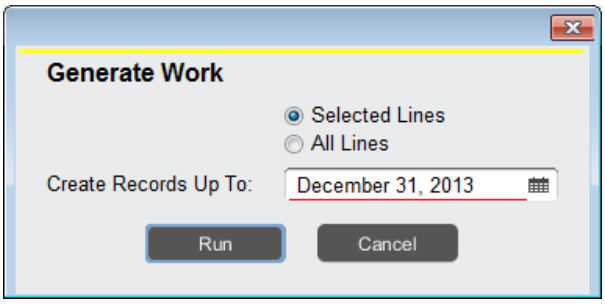
1. Right-click on the Maintenance capsule icon and select **Open by Search**.
2. In the Maintenance Search window, enter the criteria for the maintenance work you want to generate. If you want to generate all of your Maintenance work at once leave the search criteria blank (if there are stored searches use the Clear button to reset the search)

Typical search criteria include *Work Type*, *Equipment*, or *Property*.



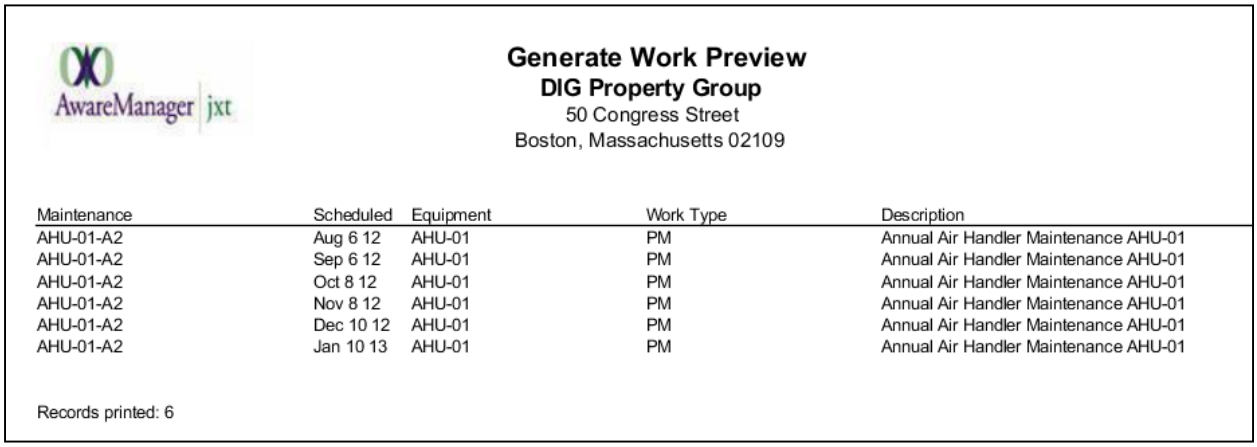
3. You will be taken to a list window showing all Maintenance records matching the search criteria.
4. If you only want to generate work from a subset of the records appearing in the list, highlight those records and select **Operations→Generate Work**. Otherwise, you can leave all records unselected to include them all.
5. Enter the date you want to generate maintenance work through. If you generate weekly, put in the last date of that week. If you generate each month, put in the last day of the month.

If you selected specific records prior to running the operation, make sure Selected Lines is selected. Otherwise, select All Lines.



This operation will go through all Maintenance records included in the operation. For each record, it will add the Frequency to the date specified as the Source For Generating. If the resulting date falls within the date entered in the Generate Work window, a work order will be generated from that maintenance record.

6. You will be taken to a screen report showing a preview of the work to be generated. For each work order, it lists the *Maintenance* record it was generated from, *Work Status, Date Scheduled, Equipment, Work Type,* and *Description*.



AwareManager jxt

Generate Work Preview
DIG Property Group
50 Congress Street
Boston, Massachusetts 02109

Maintenance	Scheduled	Equipment	Work Type	Description
AHU-01-A2	Aug 6 12	AHU-01	PM	Annual Air Handler Maintenance AHU-01
AHU-01-A2	Sep 6 12	AHU-01	PM	Annual Air Handler Maintenance AHU-01
AHU-01-A2	Oct 8 12	AHU-01	PM	Annual Air Handler Maintenance AHU-01
AHU-01-A2	Nov 8 12	AHU-01	PM	Annual Air Handler Maintenance AHU-01
AHU-01-A2	Dec 10 12	AHU-01	PM	Annual Air Handler Maintenance AHU-01
AHU-01-A2	Jan 10 13	AHU-01	PM	Annual Air Handler Maintenance AHU-01

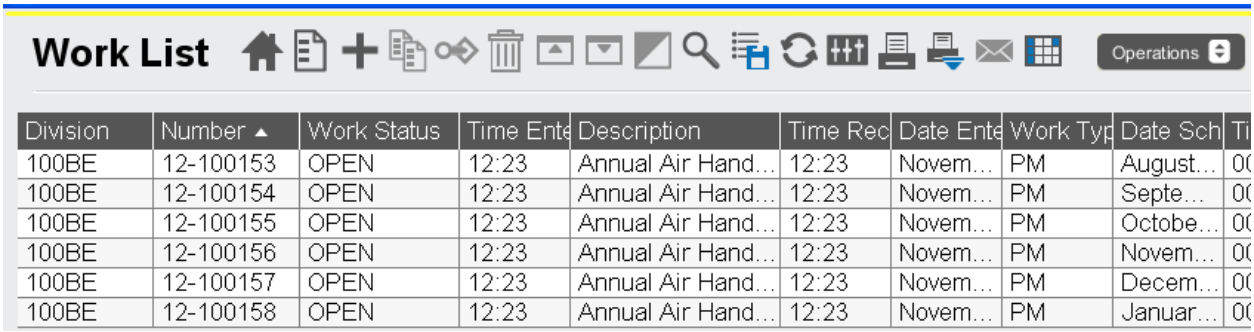
Records printed: 6

Review the preview report closely to check:

- Date Scheduled
- Total number of work orders to be generated (in the lower left-hand corner of the report)

7. When you close this preview you will be prompted to either generate the work or cancel the operation. Click **Yes** to generate the work.

8. The Work List window will open with the newly created records listed.



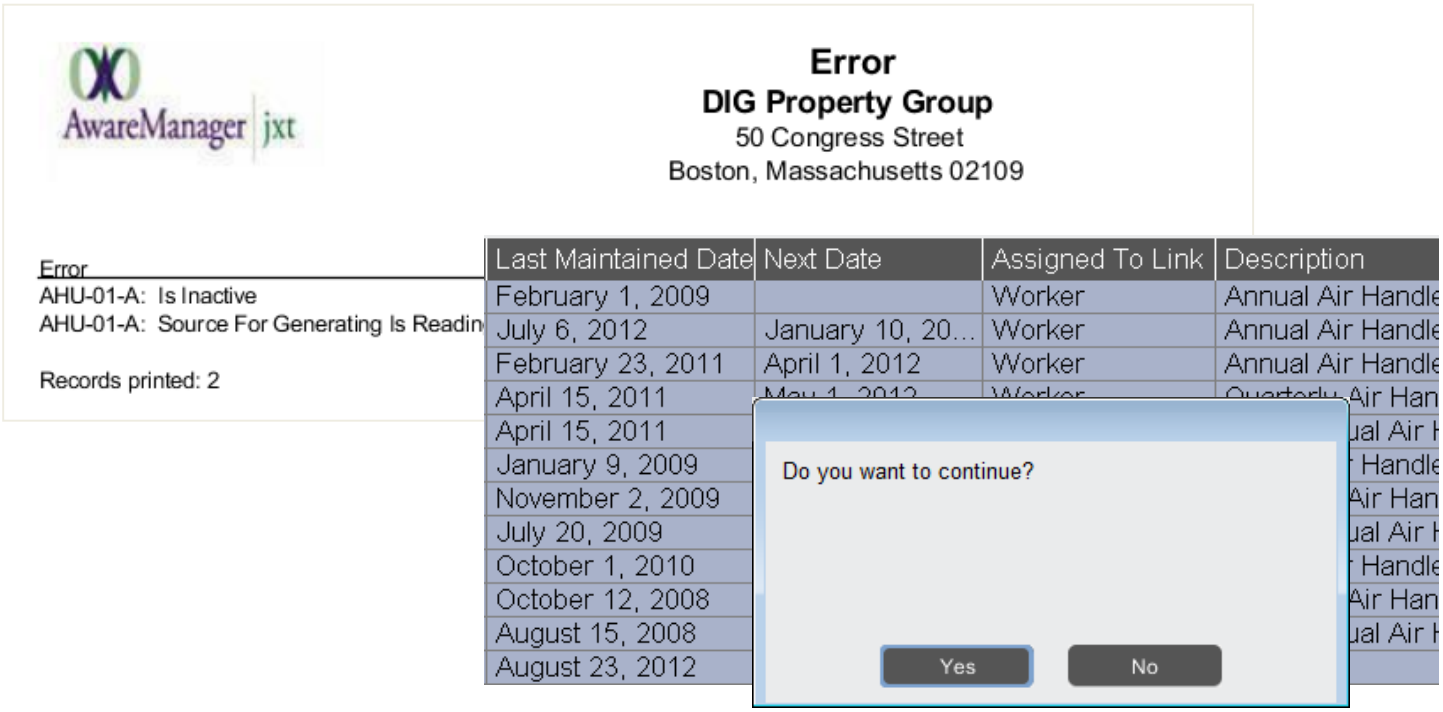
Work List Operations

Division	Number ▲	Work Status	Time Ente	Description	Time Rec	Date Ente	Work Typ	Date Sch	Ti
100BE	12-100153	OPEN	12:23	Annual Air Hand...	12:23	Novem...	PM	August...	0(
100BE	12-100154	OPEN	12:23	Annual Air Hand...	12:23	Novem...	PM	Septe...	0(
100BE	12-100155	OPEN	12:23	Annual Air Hand...	12:23	Novem...	PM	Octobe...	0(
100BE	12-100156	OPEN	12:23	Annual Air Hand...	12:23	Novem...	PM	Novem...	0(
100BE	12-100157	OPEN	12:23	Annual Air Hand...	12:23	Novem...	PM	Decem...	0(
100BE	12-100158	OPEN	12:23	Annual Air Hand...	12:23	Novem...	PM	Januar...	0(

Errors During Generation

If any of the fields on a Maintenance record are inactive, or any required fields are blank, it will not create a work order from that record. Instead, prior to the system asking if you want to generate you will see an error report stating which values prevented the work order(s) from being created.

Print this report (so you know which PM's need to be corrected). The system will ask you if you want to continue. Answer **Yes**, and then continue generating the remaining PM's. Then go back and fix the incomplete records and rerun the **Generate Work** routine.



Generating Maintenance Work Orders

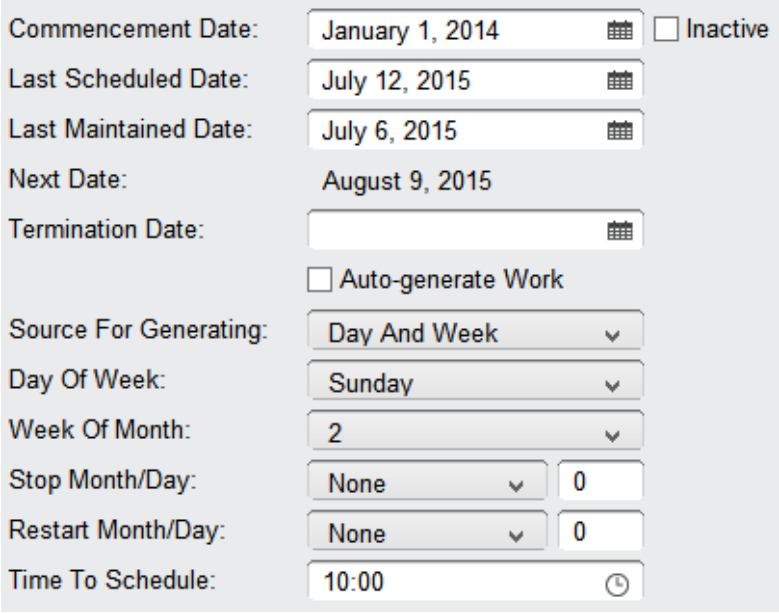
The Preventive Maintenance module creates work orders according to the schedules laid out in the Maintenance capsule.

Users now have two options for generating Work via Maintenance – they can set up Auto-generate Work, or they can manually generate Work using an operation in the Maintenance list. It is possible to allow certain records to Auto-generate Work, while requiring that others are manually generated. With either of these processes, the system calculates whether or not a new Work Order is needed based upon information in the *Dates/Frequency* section of Maintenance records.

Dates and Frequency in Maintenance Records

There are several ways AwareManager JXT can calculate the Next Date of a Maintenenace record. By selecting the Source for Generating, users can choose if they would like the Next Date of a Maintenance record to be calculated based on:

- Last Scheduled Date
- Last Maintained Date
- Weeks – once a week, once every other week, etc.
- Day and Week – Every third Friday of the month, every second Monday of the month, etc.
- Readings Exception – If a reading falls below a pre-set lower limit, or is above a pre-set upper limit, a reactive Work Order will be created when you run the Generate Work by Readings Exception operation in the Work Capsule



Above: the system will create the next work order for August 9, 2015 because it is the second Sunday in the month of August

Note: the Auto-generate Work feature is not yet able to automatically generate work when the Source for Generating is Readings Exception

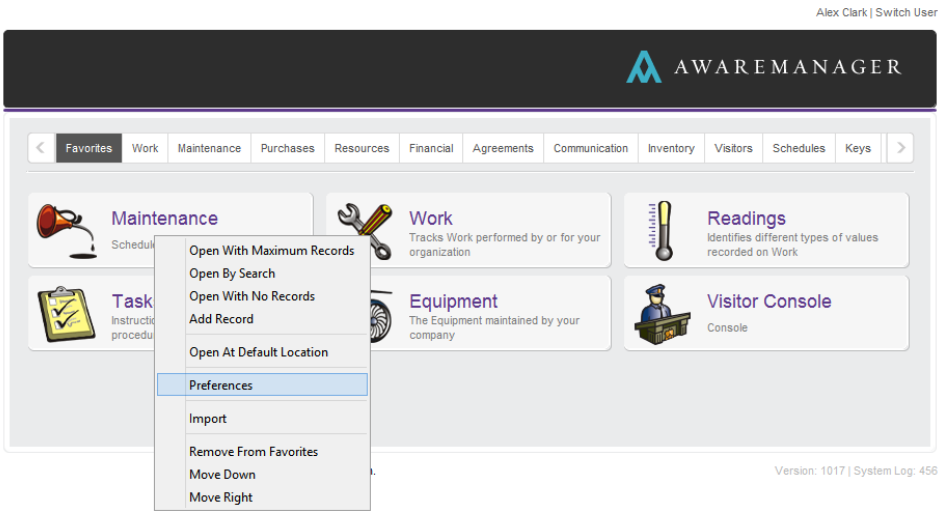
The system adds the frequency to the value that is selected as the Source For Generating**.** If the resulting Next Date falls within the parameters set in the Generate Work search window or the Lead Time defined in Maintenance Preferences, Work will be generated for that Maintenance record.

If the Last Scheduled and Last Maintained dates are blank, JXT will create the first work order based upon the Commencement Date. Once the Work Orders are generated, they appear in the Work capsule along with all of your other Work Orders.

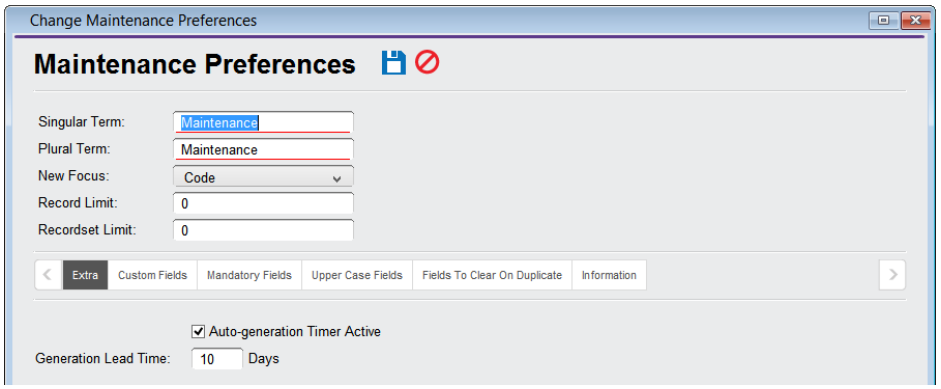
Auto-generate Work

Auto-generate Work allows you to set up Maintenance schedules and leave them to generate new Work automatically, as opposed to having to generate them manually. To set this up, first go to **Maintenance Preferences.**

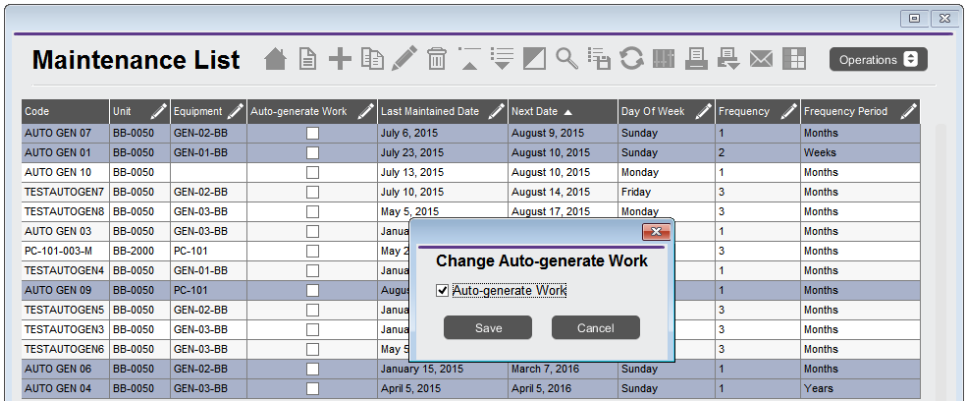
- Go to Maintenance Preferences: right-click the Maintenance capsule and select Preferences from the drop-down list



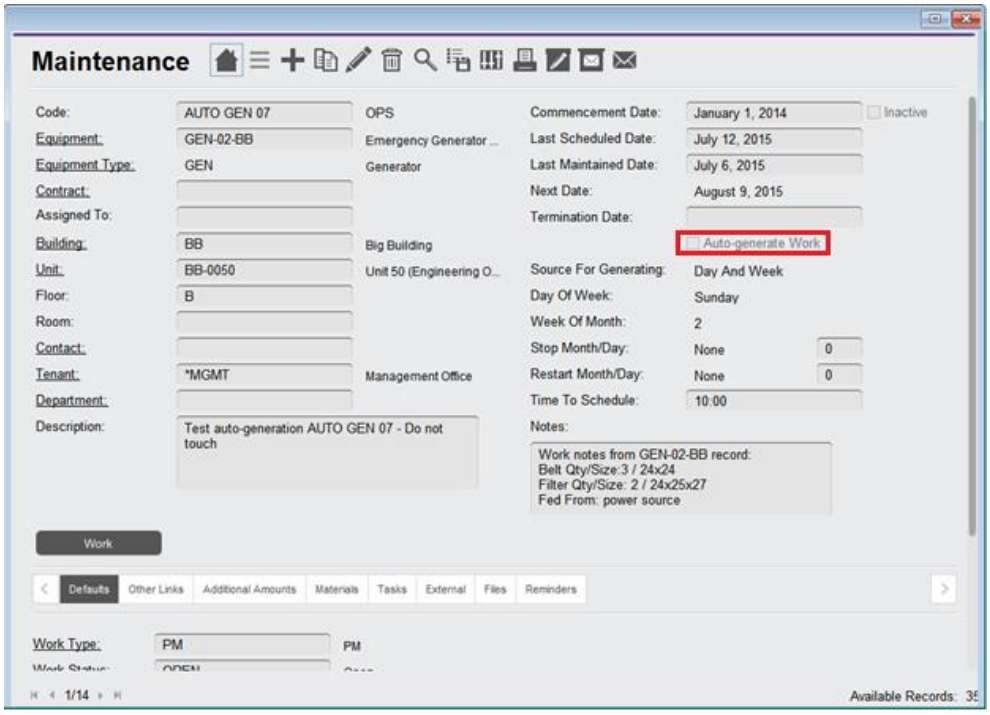
- Edit Preferences
  - Activate the **Auto-generation Timer**, which generates the new Work Orders every day at midnight.
  - Set the **Lead Time**. Lead Time defines how far ahead the system will search for Maintenance with an upcoming Next Date (i.e. if the lead time is set to 10 Days, Work will be generated for any Maintenance record with a Next Date in the coming 10 days).
- Save changes



- Select the Maintenance records you would like to automatically generate work. There are two ways this can be done, you must access the Maintenance List for both options:
  - Several records
    - Add the Auto-generate Work column
    - Highlight records you would like to use to Auto-generate Work
    - Use the pencil in the Auto-generate Work column to update the records and Save

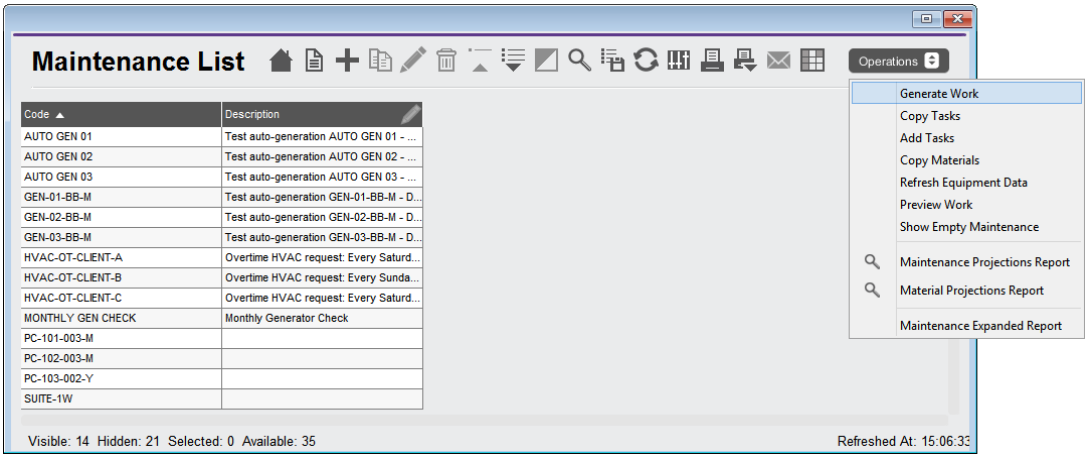


- Individual record
  - Open an individual Maintenance Record in change mode
  - Select the Auto-generate Work checkbox



Generate Work Operation

The Generate Work feature is found on the Operations menu of the Maintenance capsule. The first step is to open up the **Maintenance List**.

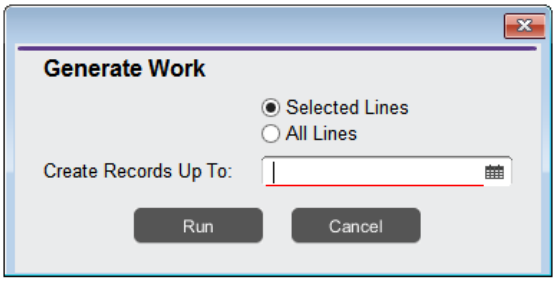


- Access the Maintenance List by searching, using a Recordset, or opening the Maintenance capsule with maximum records (if you do not recognize any of these options, refer to documentation related to Search, Basics, and Search-based Recordsets)

- Once you are in the Maintenance List, either select specific records by highlighting them in the list or do not select any records. You will have the option to include all records in the list in the Generate Work search window

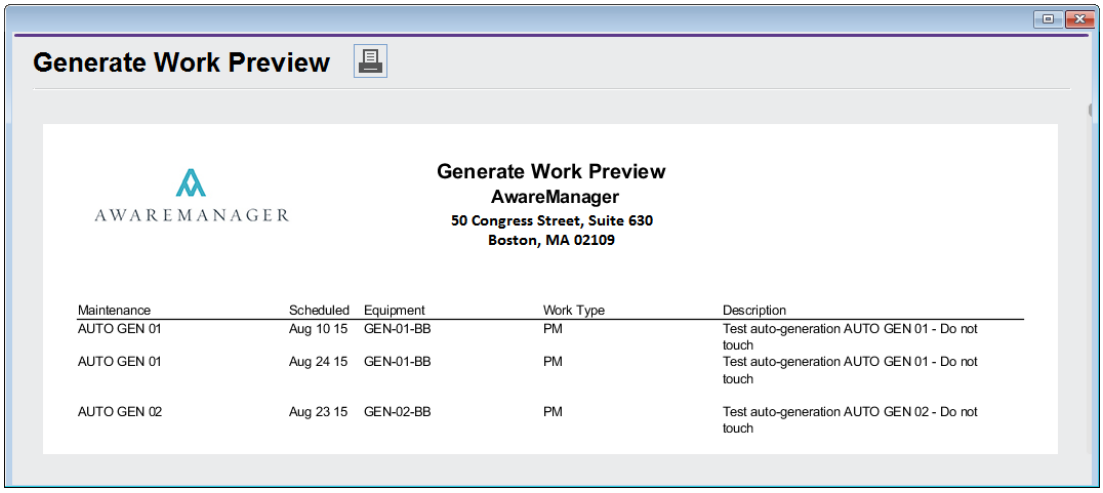
- Go to **Operations→Generate Work**

- Enter the **Create Records Up To** date – the date through which you would like to generate Maintenance Work (i.e. if you generate weekly, put in the last date of that week, etc.)

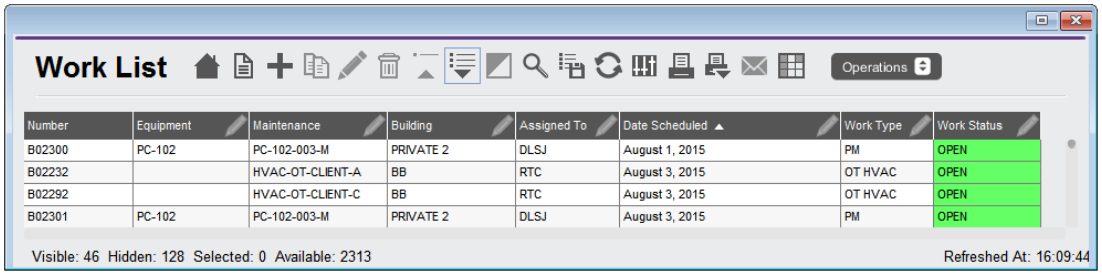


This operation will go through all Maintenance records included in the selected group. For each record, it will calculate the Next Date. If the resulting Next Date falls between the current date and the **Create Records Up To** date, from the Generate Work search window, Work will be generated for that Maintenance record.

- The system will show you a preview report of the work to be generated, unless there are errors preventing the generation (in which case see the Errors during Generation section below)
    - Review the preview report closely to check that the Date Scheduled is accurate and that it is the correct total number of work orders to be generated (in the lower left-hand corner of the report)

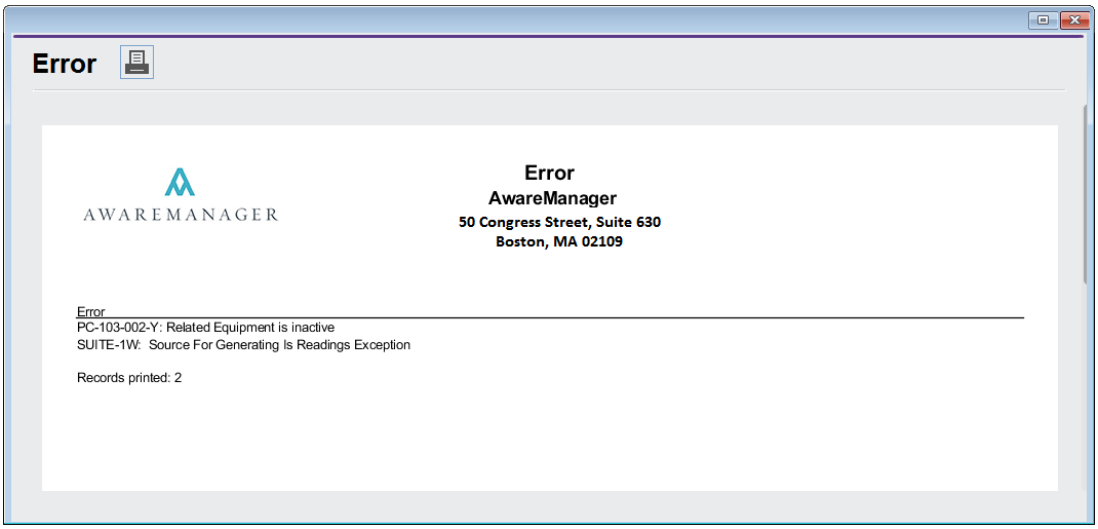


- When you print/save or close this preview you will be prompted to either generate the work or cancel the operation. Click **Yes** to generate the Work records
- The Work List window will open to show the newly generated records



Errors during Generation

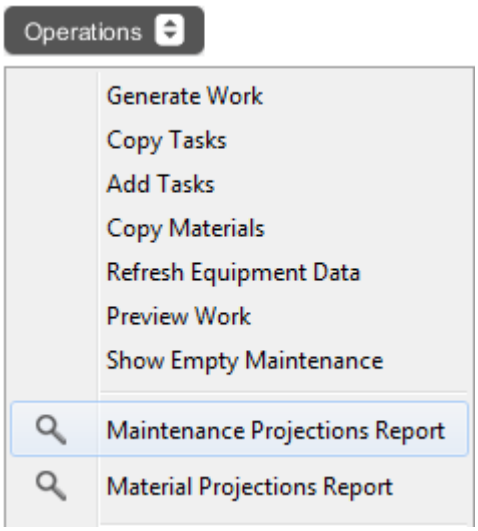
If any errors occur during the generation process, Work for the Maintenance record with the error will not be generated, and you will be shown a report listing the specific record(s) affected as well as a description of the actual error.



When you print/save or close out this report, you will be asked if you would like to continue:

- Select **Yes** to generate Work from the Maintenance records without any errors
- Fix the affected records
- Repeat the **Generate Work** process for the records that were not generated

Maintenance Projections Report



The Maintenance Projections Report in AwareManager is designed to be as flexible as possible. This search-based report displays the scheduled maintenance by month, according to the date range entered. The maintenance is displayed based on its Estimated Hours.

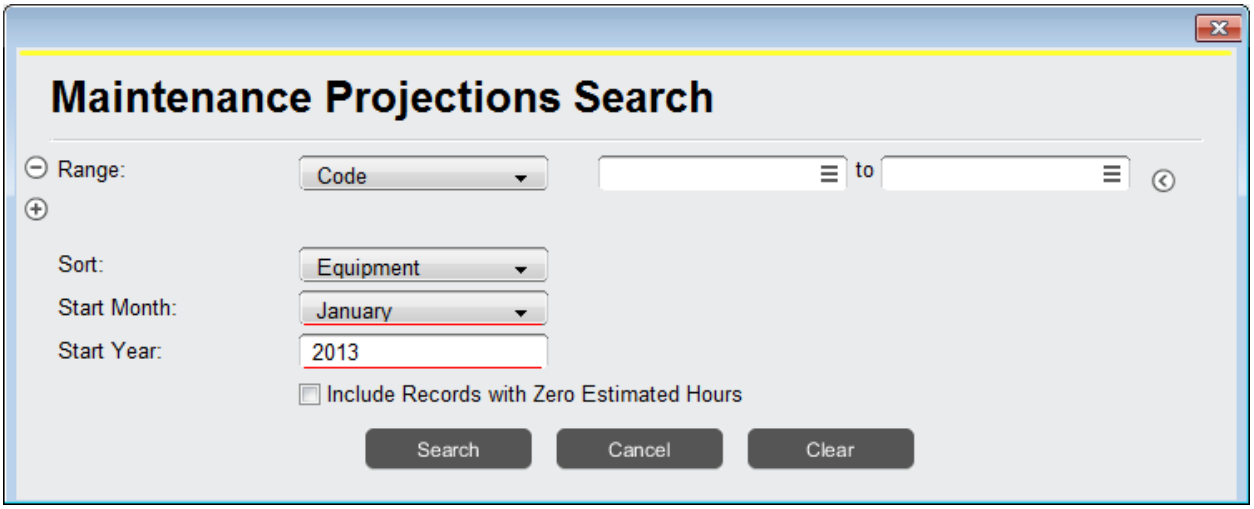
Access this report from either the Operations menu on the Maintenance List and select Maintenance Projections Report, or go to the Reports capsule (located on the Administration tab) and navigate to the list of Maintenance reports to find the Maintenance Projections Report.

Search window:

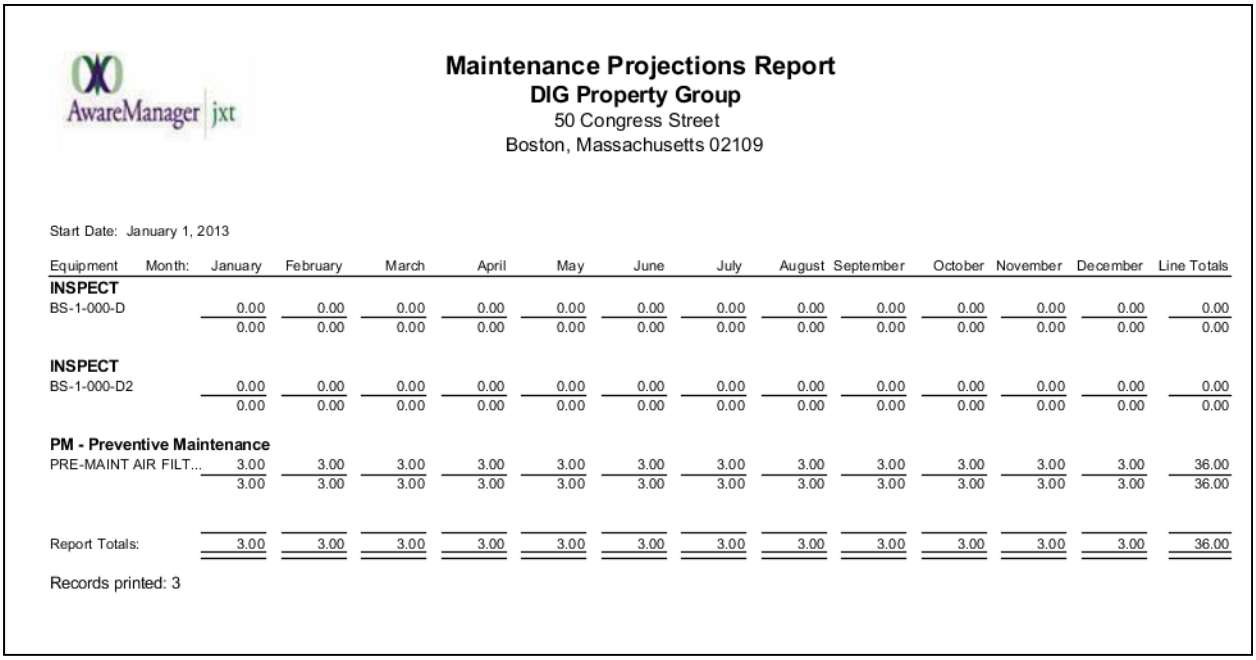
Enter your search criteria to achieve your desired report.

Sort the list by: **Equipment, Equipment Type, Property, Work Type, Work Category, Contract, Assigned To, Department,** or **Custom Field 01**.

Select a Start Date to project the maintenance work orders due in the time period. The **Include Records with Zero Estimated Hours** checkbox will cause the report to return maintenance records that do not have an Estimated Hours value.



Example of the Maintenance Projections Report:



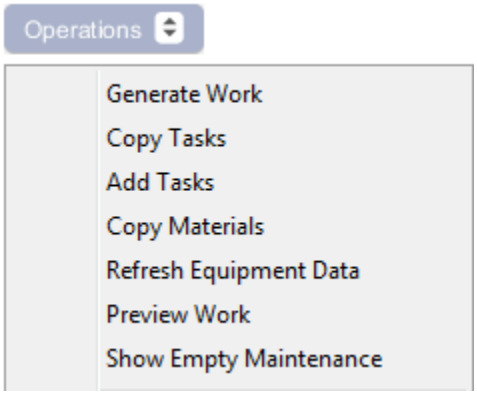
Maintenance Projections Report
DIG Property Group
50 Congress Street
Boston, Massachusetts 02109

Start Date: January 1, 2013

Equipment Month:	January	February	March	April	May	June	July	August	September	October	November	December	Line Totals
INSPECT													
BS-1-000-D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSPECT													
BS-1-000-D2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PM - Preventive Maintenance													
PRE-MAINT AIR FILT...	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	36.00
	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	36.00
Report Totals:	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	36.00

Records printed: 3

Maintenance Operations



Access these Operations by clicking on the Operations menu of the Maintenance List: Generate Work, Copy Tasks, Add Tasks, Copy Materials, Refresh Equipment Data, Preview Work, or Show Empty Maintenance.

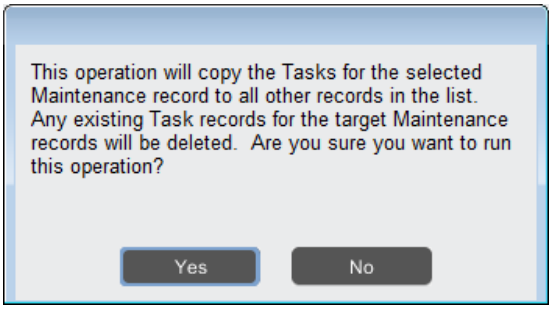
Generate Work

For information on this topic, please see the separate document **Generating Maintenance WOs.**

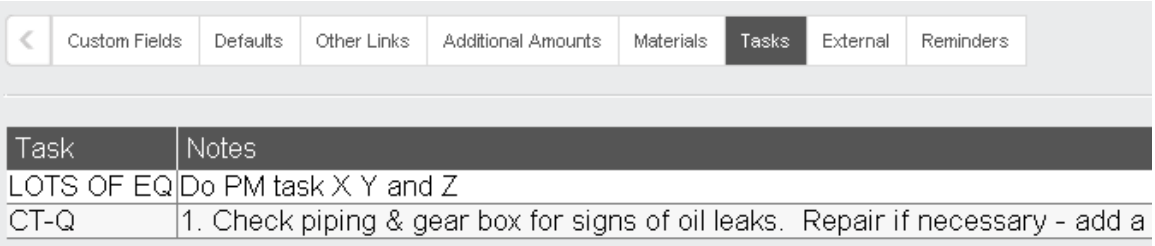
Copy Tasks

This operation will copy the Tasks for a selected Maintenance record in the list to all other records in the list. It will overwrite any Task records listed on other records. This operation is helpful when setting up your maintenance records. For example: copying the Tasks from one record to all of those with the same Equipment Type and Frequency.

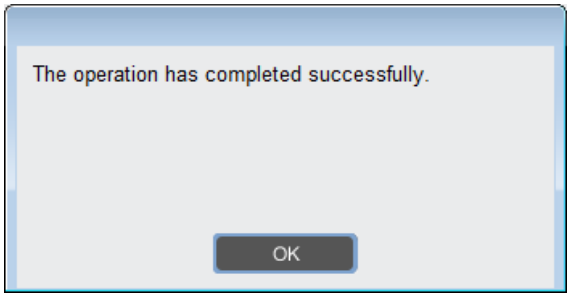
When this operation is selected, you will see the following window:



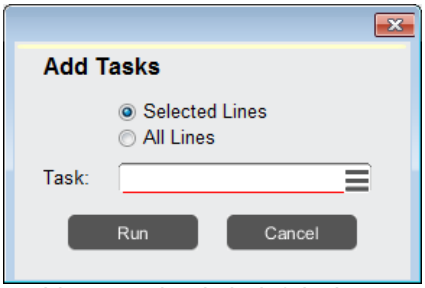
The list of Tasks, associated with the selected record in the list, will be copied to all other records in the list.



When the operation is complete, you will see the following window:



Add Tasks

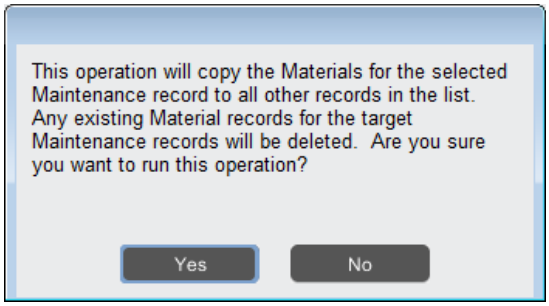


This operation allows you to select a Task record to add to all of the Maintenance records included (*Selected* or *All Lines*).

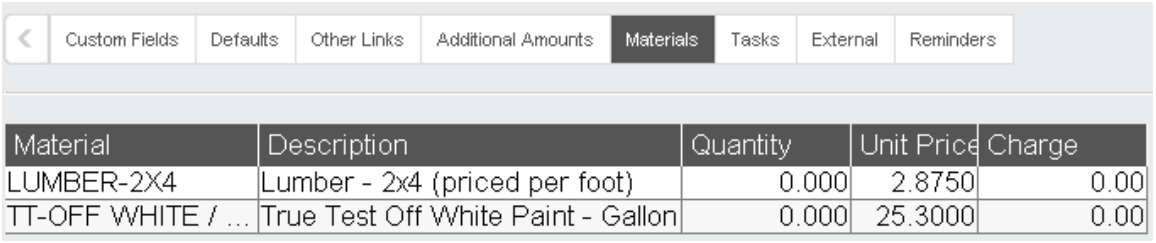
Copy Materials

This operation will copy the Materials for a selected Maintenance record in the list to all other records in the list. It will overwrite any Material records listed on other records. This operation is helpful when setting up your maintenance records. For example: copying the Materials from one record to all of those with the same Equipment Type and Frequency.

When this operation is selected, you will see the following window:

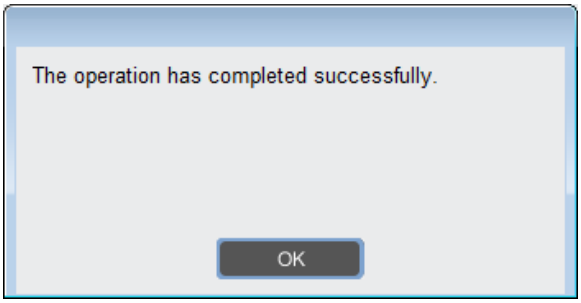


The list of Materials, associated with the selected record in the list, will be copied to all other records in the list.



Material	Description	Quantity	Unit Price	Charge
LUMBER-2X4	Lumber - 2x4 (priced per foot)	0.000	2.8750	0.00
TT-OFF WHITE / ...	True Test Off White Paint - Gallon	0.000	25.3000	0.00

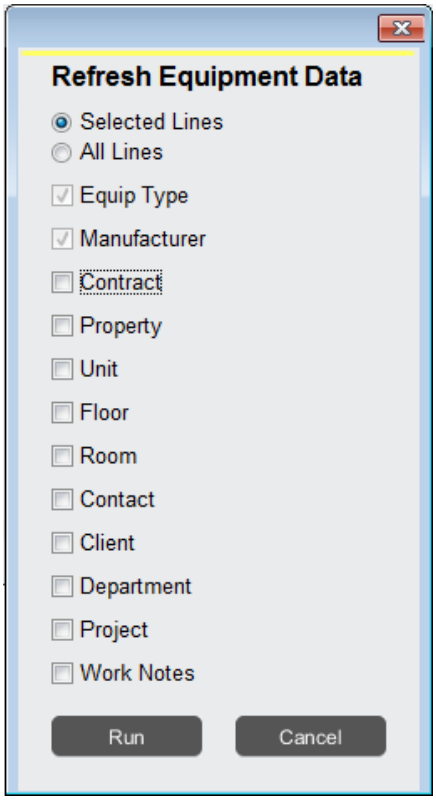
When the operation is complete, you will see the following window:



Refresh Equipment Data

This operation is used to update information on Maintenance records, based on its related Equipment records.

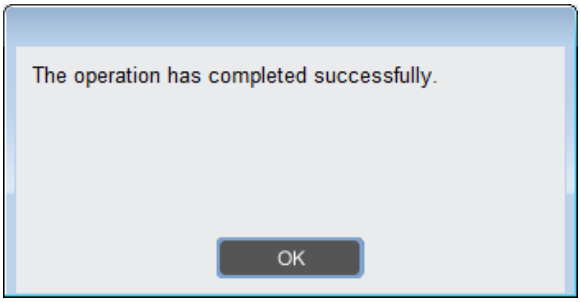
When this operation is selected, you will get the following window:
You may choose to run this operation on “Selected Lines” or “All Lines” and can then select the fields you would like to be included in this refresh.



Important Notes:

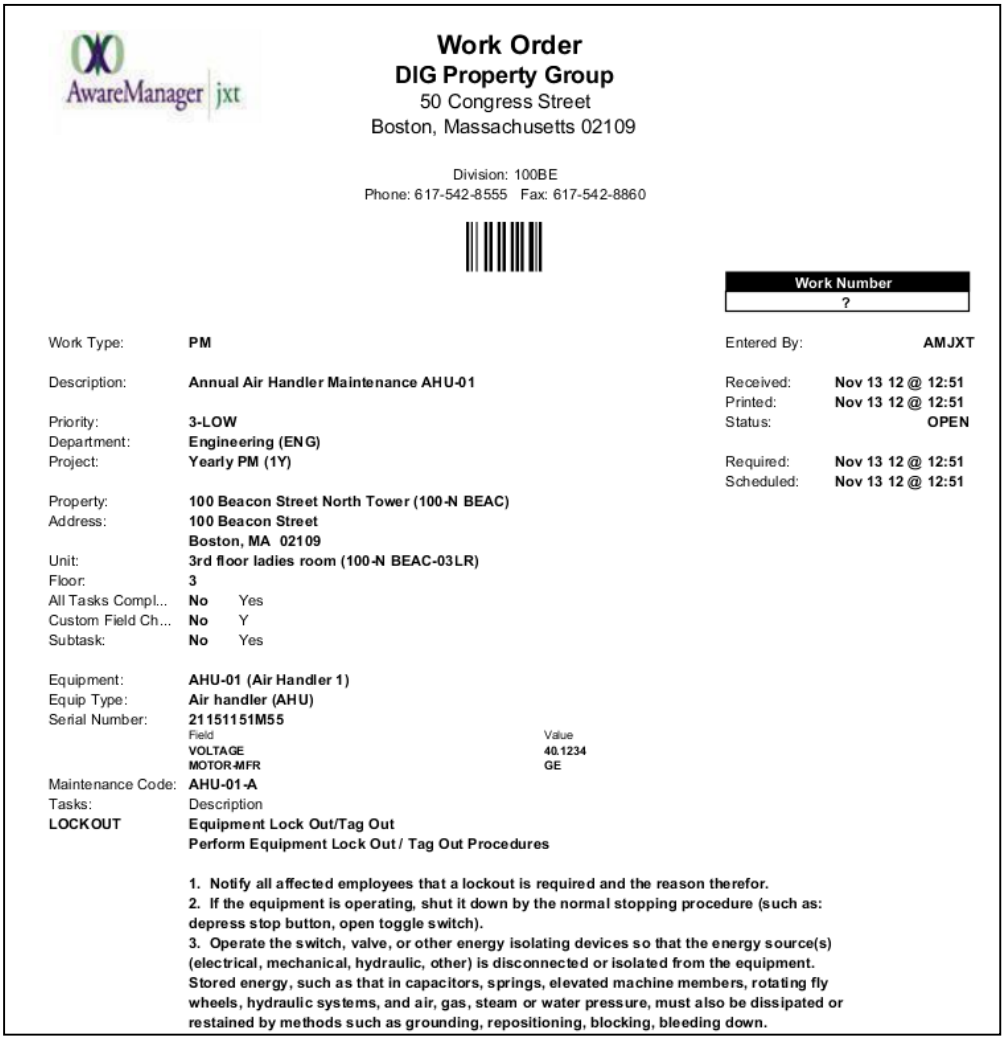
- Equipment Type and Manufacturer are a mandatory check
- The fields “checked” will be copied to the Maintenance record, unless they are blank on the Equipment record.
- Work Notes are copied to the Notes field of the Maintenance record, if selected and are not blank.

After clicking the green checkmark, you will get the following message:



Preview Work

This operation allows you to see a preview of what a Maintenance record would look like after it has been generated into a Work record, by using the Generate Work Operation. (Note the Work has not yet been created; it displays "?" instead of a Work Number.) To use this operation, you must only have one line selected in the Maintenance list.



Work Order
DIG Property Group
50 Congress Street
Boston, Massachusetts 02109

Division: 100BE
Phone: 617-542-8555 Fax: 617-542-8860

Work Number
?

Work Type:	**PM**	Entered By:	**AMJXT**
Description:	**Annual Air Handler Maintenance AHU-01**	Received:	**Nov 13 12 @ 12:51**
		Printed:	**Nov 13 12 @ 12:51**
Priority:	**3-LOW**	Status:	**OPEN**
Department:	**Engineering (ENG)**		
Project:	**Yearly PM (1Y)**	Required:	**Nov 13 12 @ 12:51**
		Scheduled:	**Nov 13 12 @ 12:51**
Property:	**100 Beacon Street North Tower (100-N BEAC)**		
Address:	**100 Beacon Street** **Boston, MA 02109**		
Unit:	**3rd floor ladies room (100-N BEAC-03LR)**		
Floor:	**3**		
All Tasks Compl...	**No** Yes		
Custom Field Ch...	**No** Y		
Subtask:	**No** Yes		

Equipment:	**AHU-01 (Air Handler 1)**
Equip Type:	**Air handler (AHU)**
Serial Number:	**21151151M55**

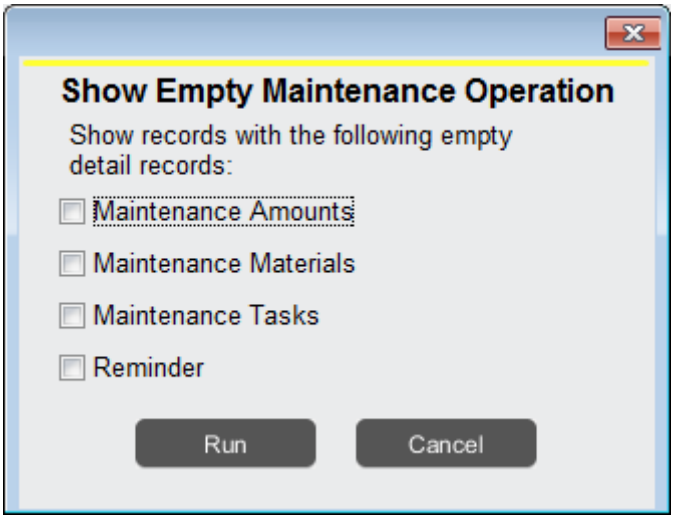
Field	Value
VOLTAGE	40.1234
MOTOR-MFR	GE

Maintenance Code:	**AHU-01-A**
Tasks:	Description
LOCKOUT	**Equipment Lock Out/Tag Out**
	Perform Equipment Lock Out / Tag Out Procedures

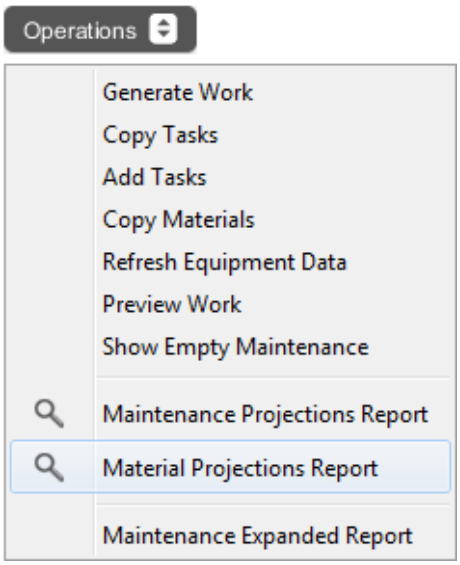
1. Notify all affected employees that a lockout is required and the reason therefor.
2. If the equipment is operating, shut it down by the normal stopping procedure (such as: depress stop button, open toggle switch).
3. Operate the switch, valve, or other energy isolating devices so that the energy source(s) (electrical, mechanical, hydraulic, other) is disconnected or isolated from the equipment. Stored energy, such as that in capacitors, springs, elevated machine members, rotating fly wheels, hydraulic systems, and air, gas, steam or water pressure, must also be dissipated or restained by methods such as grounding, repositioning, blocking, bleeding down.

Show Empty Maintenance

This operation filters the current list window to allow the user to see fields that do not have detail in them. It will display checkboxes for each detail field that the user has access to on their standard form. If there are no detail tables empty, an error message will display.



Material Projections Report

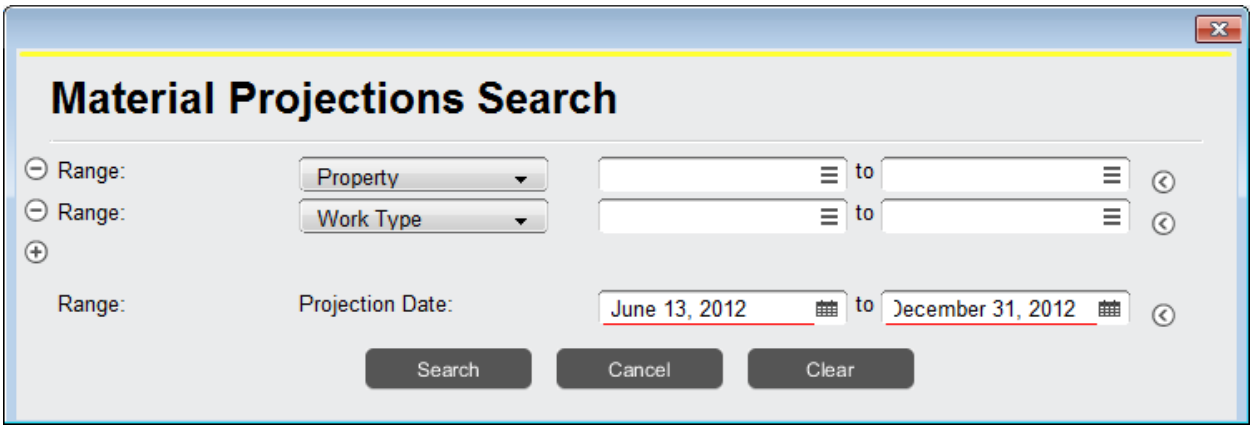


The Material Projections Report in AwareManager is designed to be as flexible as possible. This search-based report is displays the materials required for completion of the Maintenance records based upon search criteria and the date range entered.

Access this report from either the Operations menu on the Maintenance List and select Material Projections Report, or go to the Reports capsule (located on the Administration tab) and navigate to the list of Maintenance reports to find the Material Projections Report.

Search window:

Enter any search criteria for the report you would like displayed. Then enter a projection date range, which allows the system to know how far ahead to report on the Materials needed.



Example of the Material Projections Report:

Material Projections Report
DIG Property Group
50 Congress Street
Boston, Massachusetts 02109

Search Ranges: **Projection Date: June 13, 2012 to December 31, 2012**

Material Type / Material Code	Material Type Description / Description	Quantity On Hand	Quantity
No Material Type			
	material 1	0.000	5.00
CLEAN			
TEST KIT.100BE	Test Kit	0.000	4.00
ELEC	**Electrical Supplies**		
ELEC-SOCKET #450	Electrical Socket #450	211,155.000	120.00
HVAC	**HVAC Supplies**		
BELT-45TLSJ5	45TLSJ5 Belt	75.000	2.00
FIL-24X20X2	24X20X2 Pleated Filter	222.000	46.00
FIL-40X40	40 x 40 Media Roll Filter	118.000	240.00
TSTAT-550	Thermostat 550	17.000	0.00
LUMBER	**Lumber**		
LUMBER-2X4	Lumber - 2x4 (priced per foot)	966.000	0.00
PAINT	**Painting Supplies**		
TT-OFF WHITE / GAL	True Test Off White Paint - Gallon	12.000	120.00

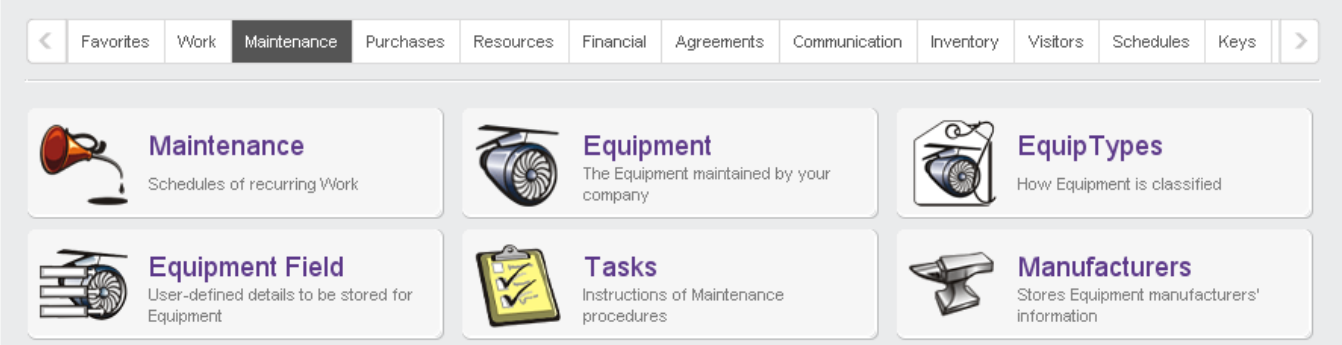
The data for this report was accumulated from the following Maintenance records (the number of projected Work records are in parenthesis):

AHU-01-A (5), AHU-01-A2 (5), AHU-01-ATEST (7), AHU-01-Q (3), AHU-01-S (1), AHU-02-A (1), AHU-02-Q (2), AHU-02-S (1), AHU-03-A (1), AHU-03-Q (2), AHU-03-S (0), BS-1-000-D (6), BS-1-000-D2 (6), CT-1-Q (1), CT-2-Q (3), EXCEPTION 2 MAINT (6), TEMP READINGS EXC (6)

Records printed: 9

Maintenance Capsules

Here we will briefly describe each of the Maintenance capsules. Later in this session we will detail the unique features of each Maintenance capsule.



Maintenance

This capsule stores information that is used to create Maintenance work orders. The Maintenance capsule pulls together all of the attributes related to a single Maintenance work record; it links to the *Equipment*, *Task*, and *Material* capsules. A separate work record is generated containing all of the linked information based on the frequency indicated on the Maintenance record.

Equipment Types

This capsule contains one record for each type of equipment. Equipment Types are broad categories used to group individual equipment. The following are some examples of equipment types:

Code	Description (of the equipment type)
AHU	Air Handling Unit
BLR	Boiler
F-R	Return Fan
F-S	Supply Fan

Equipment

This capsule contains one record for each piece of equipment. Each record stores the attributes of a single piece of equipment, including its location, manufacturer, etc.

Equipment Field

This capsule is used to define additional fields that you want to store for one or more pieces of equipment. These records will be linked to the records in the Equipment capsule. They can be set up to default based upon the Equipment Type.

Tasks

This capsule stores descriptions of maintenance procedures (i.e. instructions) which can be as general or detailed as desired. Some of our clients create very general tasks; others will create very detailed instructions.

Manufacturers

This capsule stores information about the manufacturer of a piece of equipment. This is a basic capsule that makes it easy to associate an equipment record to the manufacturer without having to type the same manufacturer's name multiple times.

Other Capsules used with the Maintenance module

Readings

The *Work* module includes a feature called **Readings**. This feature tracks values that can be linked to a *Task*. Reading can be recorded for a single piece of equipment or a list of *Equipment* or *Units*.

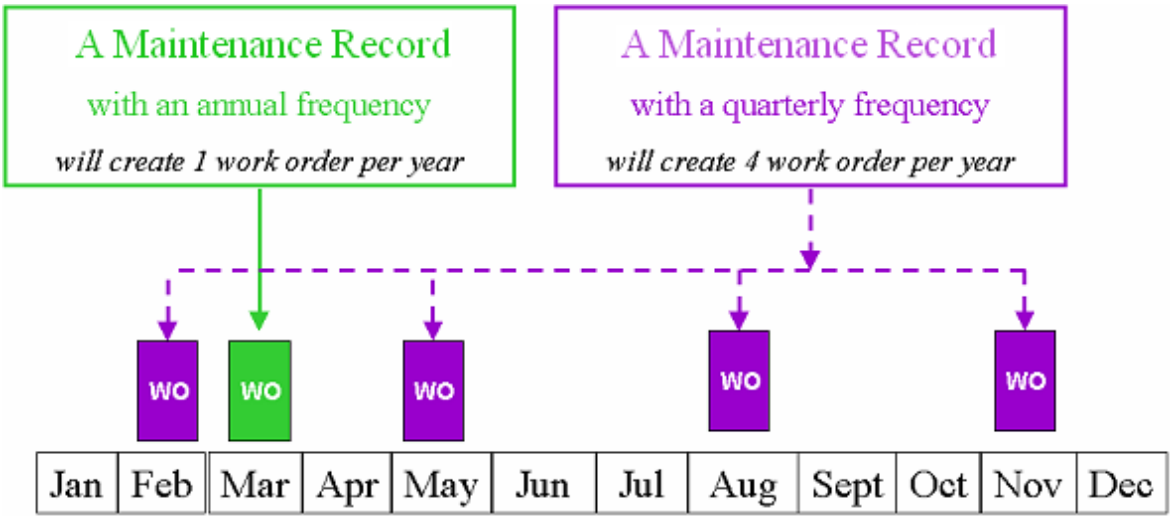
Contracts

The *Agreements* module includes a capsule called **Contracts** which stores information regarding the basic terms of a service contract. *Reminders* can be associated with these records to notify users of expiration dates. *Contracts* can be linked to *Maintenance* records to facilitate tracking maintenance performed by vendors.

Critical Concepts

The following concepts are extremely important to understand when using the Maintenance module.

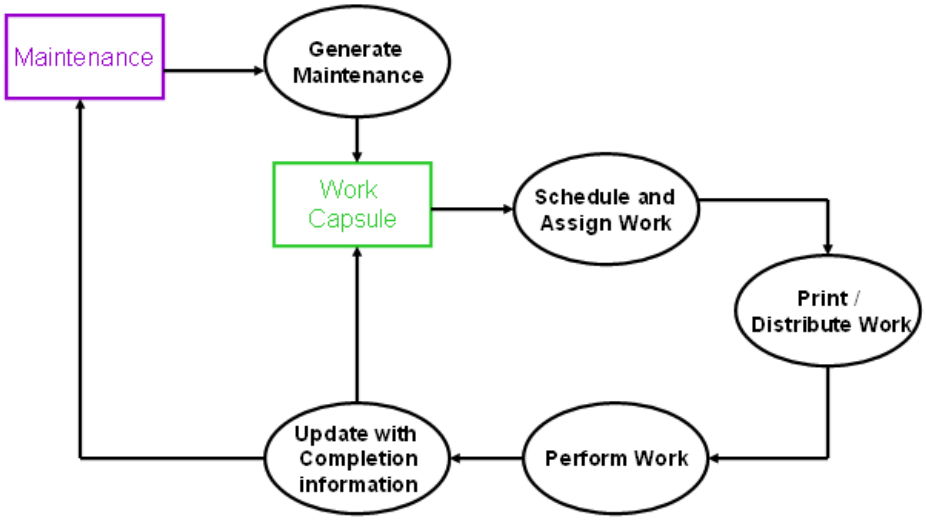
CC #1: The Maintenance capsule is a mechanism for creating work records according to a Maintenance record.



CC #2: Once generated, a Maintenance work record is stored in the same capsule as all other work records.

- When the **Generate Work** operation is run, Maintenance work records are created in the **Work** capsule based on the information in the Maintenance capsule.
- These Maintenance work records can be assigned, printed, and distributed just like corrective work.
- Once the work is performed, the completion information is recorded on the work record. When the work is closed, the **Completion Date** automatically updates the Maintenance record's *Last Maintained Date* field.

A typical PM process:

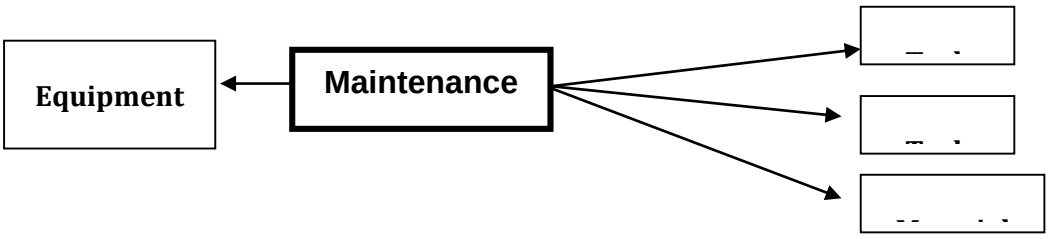


CC # 3: Capsule Relationships

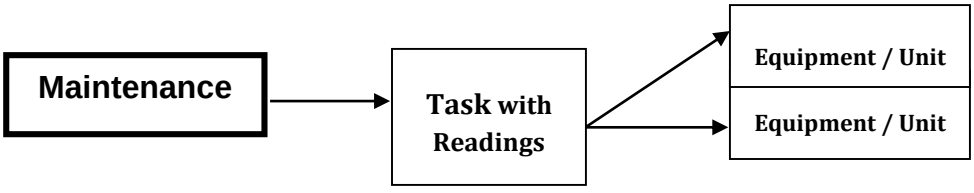
An important aspect of the Maintenance module is the relationship between the Maintenance, Equipment, Tasks and Materials capsules.

- A Maintenance record can stand alone (i.e. not be associated with a piece of equipment) to track any kind of recurring event or job.

- A Maintenance record can be linked to a single Equipment record, but multiple tasks and materials.



- A Task (using the Readings feature) can be linked to several pieces of equipment or several units – which is then linked to a single Maintenance record.



CC # 4: Determining the Maintenance records you need and their frequencies

When creating a Maintenance record, a critical attribute of the record is the *Frequency* and *Commencement Date*. Because of the AwareManager's unique capsule relationship between Maintenance and Tasks, the number of Maintenance records needed and their related frequencies are different than you may first assume.

To determine the Maintenance records needed and their frequencies we recommend plotting the maintenance for the year.

1. Think about the tasks that need to be performed, and their frequencies.

Let's say you have a piece of equipment with the following maintenance:

Once a year - CLEAN UNIT
Twice a year - GREASE BEARINGS
Four times a year - CHANGE FILTER

2. Determine the months you plan to perform each task. Keep in mind that it may make sense to coincide the tasks to minimize the number of trips to the equipment in the course of a year.

Clean Unit – July
Grease Bearings – January & July
Change Filters – January, April, July & October

3. Next, plot the tasks for the year. You can determine the number of schedules by looking for the unique combination of tasks.

January – Grease Bearings, Change Filters
April, October – Change Filters
July – Clean Unit, Grease Bearings, Change Filters

4. Finally, based upon the Maintenance records needed, determine the frequency for each by denoting the number of times in the course of a year that the maintenance occurs.

Once a year (January) - Grease Bearings, Change Filters
Once a year (July) - Clean Unit, Grease Bearings, Change Filters
Twice a year (April, October) - Change Filters

CC # 5: Values can be copied across records using the AwareManager's List Operations to facilitate setting up and updating them

You can avoid setting up each record individually by grouping similar records and copying the values across them. Records can be grouped in any of the following cases:

- You have multiple pieces of equipment with the same Equipment Fields.
- You have multiple pieces of equipment with the exact same Maintenance.
- You have various maintenance records that involve the same Tasks (regardless of any other information that might differ between the records).
- You have various maintenance records that require the same Materials to be used.

These records are not explicitly grouped; rather, they are brought up in the same list and one record is highlighted. The highlighted record is updated to include all the details to be copied to the other records in the list. The appropriate option is selected from the **Operations** menu and the corresponding values from the highlighted record are copied across to all other records in the list.

These options are available in the Equipment and Maintenance capsules. For more details, please see the Maintenance documentation.

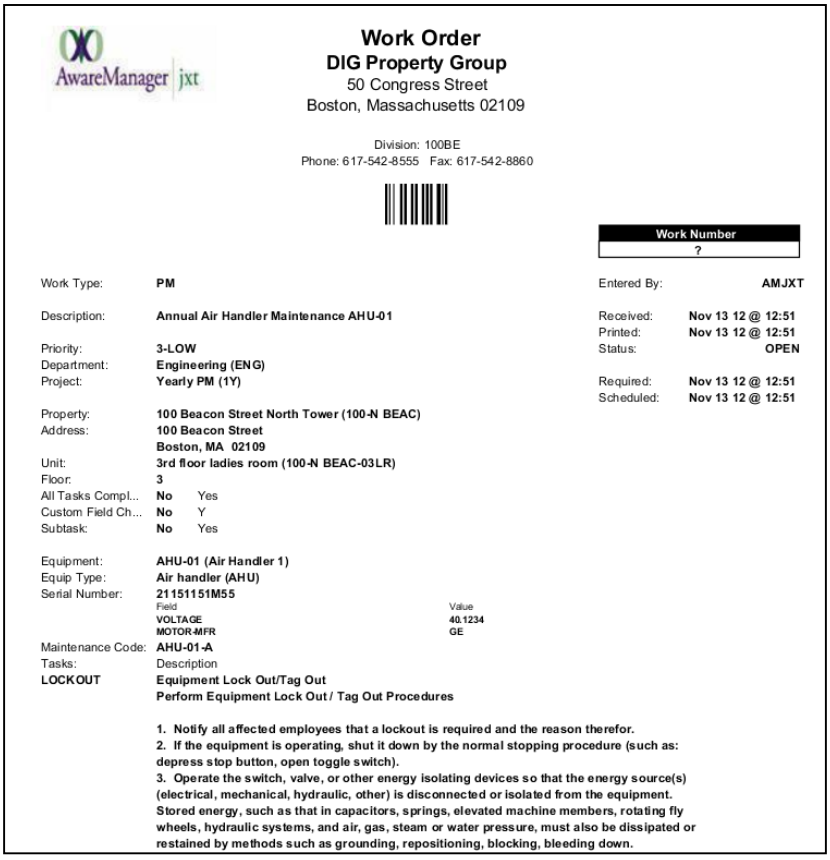
PM Reports

There are a number of reports located on the Operations menu of the Maintenance list that can be used to create reports to fit your needs.

Code	Equipment	Last Maintained Date	Next Date	Description
AHU-01-A	AHU-01	February 1, 2009		Annual Air Handler Maintenance AHU-01
AHU-01-A2	AHU-01	July 6, 2012	January 10, 2013	Annual Air Handler Maintenance AHU-01
AHU-01-ATE...	AHU-01	February 23, 2011	April 1, 2012	Annual Air Handler Maintenance AHU-01
AHU-01-Q	AHU-01	April 15, 2011	May 1, 2012	Quarterly Air Handler Maintenance AHU-01
AHU-01-S	AHU-01	April 15, 2011	August 1, 2012	Semi Annual Air Handler Maintenance AHU-01
AHU-02-A	AHU-02	January 9, 2009	January 9, 2013	Annual Air Handler Maintenance AHU-02
AHU-02-Q	AHU-02	November 2, 2009	May 1, 2012	Quarterly Air Handler Maintenance AHU-02
AHU-02-S	AHU-02	July 20, 2009	August 1, 2012	Semi Annual Air Handler Maintenance AHU-02
AHU-03-A	AHU-03	October 1, 2010	February 1, 2013	Annual Air Handler Maintenance AHU-03
AHU-03-Q	AHU-03	October 12, 2008	May 1, 2012	Quarterly Air Handler Maintenance AHU-03
AHU-03-S	AHU-03	August 15, 2008		Semi Annual Air Handler Maintenance AHU-03

Preview Work

This displays a preview of the Work report based upon the highlighted record in the list. Note the Work record has not been created yet; there is a "?" instead of an actual Work Number.



Work Order
DIG Property Group
50 Congress Street
Boston, Massachusetts 02109

Division: 100BE
Phone: 617-542-8555 Fax: 617-542-8860

Work Number
?

Work Type: **PM**
Description: **Annual Air Handler Maintenance AHU-01**
Priority: **3-LOW**
Department: **Engineering (ENG)**
Project: **Yearly PM (1Y)**

Property: **100 Beacon Street North Tower (100-N BEAC)**
Address: **100 Beacon Street**
Boston, MA 02109
Unit: **3rd floor ladies room (100-N BEAC-03LR)**
Floor: **3**
All Tasks Compl... **No** Yes
Custom Field Ch... **No** Y
Subtask: **No** Yes

Equipment: **AHU-01 (Air Handler 1)**
Equip Type: **Air handler (AHU)**
Serial Number: **21151151M55**

Field	Value
VOLTAGE	40.1234
MOTOR-MFR	GE

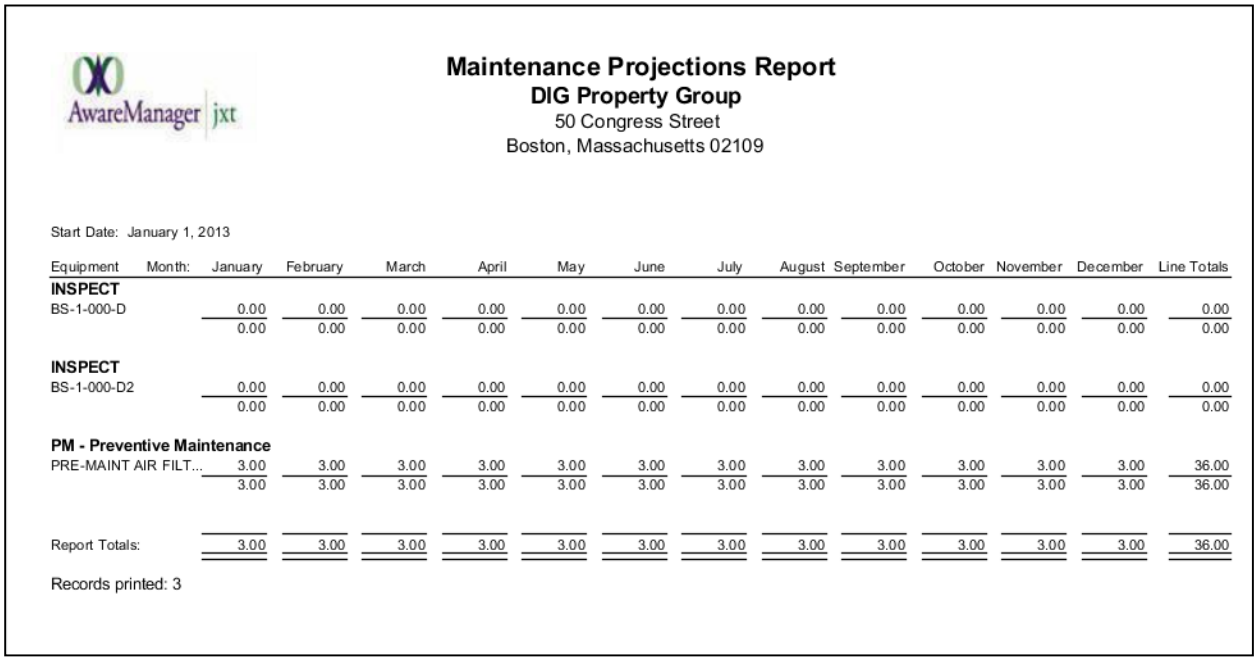
Maintenance Code: **AHU-01-A**
Tasks: Description
LOCKOUT **Equipment Lock Out/Tag Out**
Perform Equipment Lock Out / Tag Out Procedures

1. Notify all affected employees that a lockout is required and the reason therefor.
2. If the equipment is operating, shut it down by the normal stopping procedure (such as: depress stop button, open toggle switch).
3. Operate the switch, valve, or other energy isolating devices so that the energy source(s) (electrical, mechanical, hydraulic, other) is disconnected or isolated from the equipment. Stored energy, such as that in capacitors, springs, elevated machine members, rotating fly wheels, hydraulic systems, and air, gas, steam or water pressure, must also be dissipated or restained by methods such as grounding, repositioning, blocking, bleeding down.

Entered By: **AMJXT**
Received: **Nov 13 12 @ 12:51**
Printed: **Nov 13 12 @ 12:51**
Status: **OPEN**
Required: **Nov 13 12 @ 12:51**
Scheduled: **Nov 13 12 @ 12:51**

Maintenance Projections Report

This search-based report is designed to display the scheduled maintenance by month, according to the entered date range. The report will display the estimated hours.



Maintenance Projections Report
DIG Property Group
50 Congress Street
Boston, Massachusetts 02109

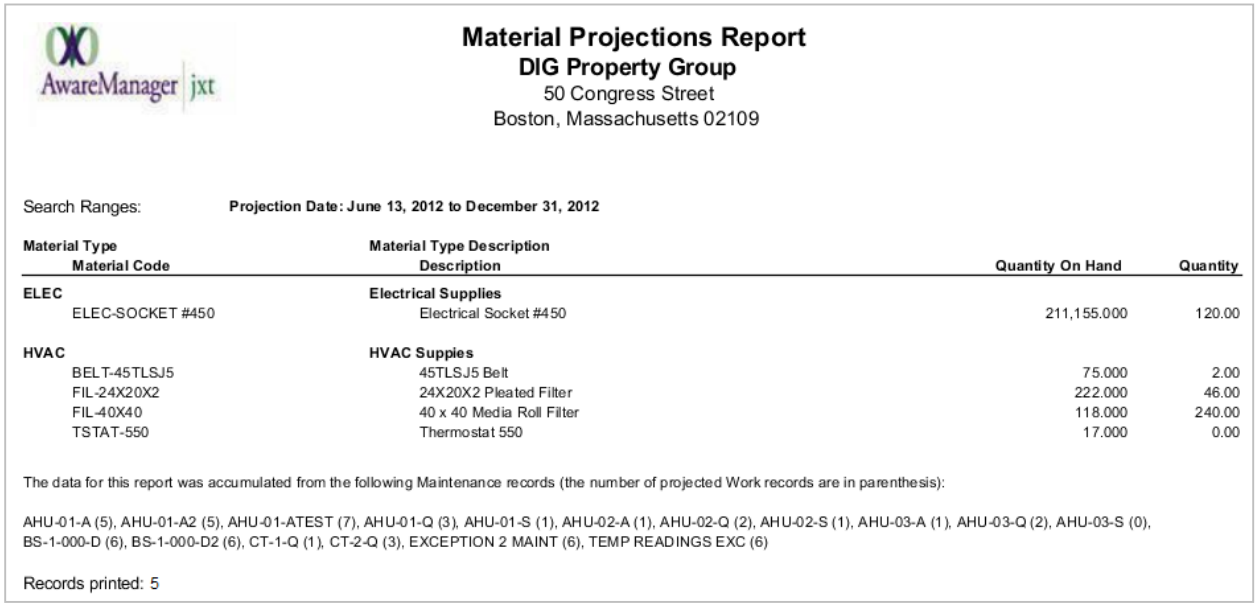
Start Date: January 1, 2013

Equipment Month:	January	February	March	April	May	June	July	August	September	October	November	December	Line Totals
INSPECT													
BS-1-000-D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSPECT													
BS-1-000-D2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PM - Preventive Maintenance													
PRE-MAINT AIR FILT...	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	36.00
	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	36.00
Report Totals:	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	36.00

Records printed: 3

Material Projections Report

This search-based report is designed to display the materials required for completion of the Maintenance records based upon search criteria and an entered date range.



Material Projections Report
DIG Property Group
50 Congress Street
Boston, Massachusetts 02109

Search Ranges: **Projection Date: June 13, 2012 to December 31, 2012**

Material Type / Material Code	Material Type Description / Description	Quantity On Hand	Quantity
ELEC	**Electrical Supplies**		
ELEC-SOCKET #450	Electrical Socket #450	211,155.000	120.00
HVAC	**HVAC Suppies**		
BELT-45TLSJ5	45TLSJ5 Belt	75.000	2.00
FIL-24X20X2	24X20X2 Pleated Filter	222.000	46.00
FIL-40X40	40 x 40 Media Roll Filter	118.000	240.00
TSTAT-550	Thermostat 550	17.000	0.00

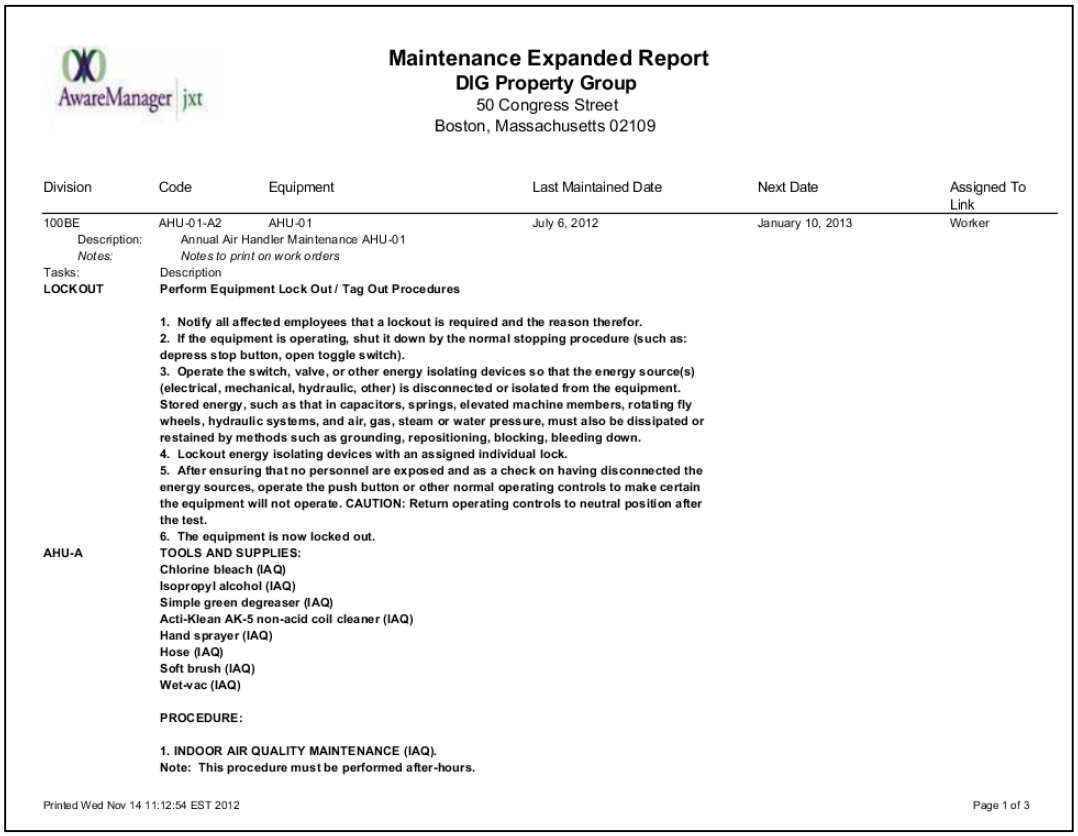
The data for this report was accumulated from the following Maintenance records (the number of projected Work records are in parenthesis):

AHU-01-A (5), AHU-01-A2 (5), AHU-01-ATEST (7), AHU-01-Q (3), AHU-01-S (1), AHU-02-A (1), AHU-02-Q (2), AHU-02-S (1), AHU-03-A (1), AHU-03-Q (2), AHU-03-S (0), BS-1-000-D (6), BS-1-000-D2 (6), CT-1-Q (1), CT-2-Q (3), EXCEPTION 2 MAINT (6), TEMP READINGS EXC (6)

Records printed: 5

Maintenance Expanded Report

This report prints based upon data in the list. It includes the entire Description, Notes, and the Task, and Material details.



Maintenance Expanded Report
DIG Property Group
50 Congress Street
Boston, Massachusetts 02109

Division	Code	Equipment	Last Maintained Date	Next Date	Assigned To Link
100BE	AHU-01-A2	AHU-01	July 6, 2012	January 10, 2013	Worker

Description: Annual Air Handler Maintenance AHU-01
Notes: *Notes to print on work orders*

Tasks: Description

LOCKOUT **Perform Equipment Lock Out / Tag Out Procedures**

1. Notify all affected employees that a lockout is required and the reason therefor.
2. If the equipment is operating, shut it down by the normal stopping procedure (such as: depress stop button, open toggle switch).
3. Operate the switch, valve, or other energy isolating devices so that the energy source(s) (electrical, mechanical, hydraulic, other) is disconnected or isolated from the equipment. Stored energy, such as that in capacitors, springs, elevated machine members, rotating fly wheels, hydraulic systems, and air, gas, steam or water pressure, must also be dissipated or restained by methods such as grounding, repositioning, blocking, bleeding down.
4. Lockout energy isolating devices with an assigned individual lock.
5. After ensuring that no personnel are exposed and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate. CAUTION: Return operating controls to neutral position after the test.
6. The equipment is now locked out.

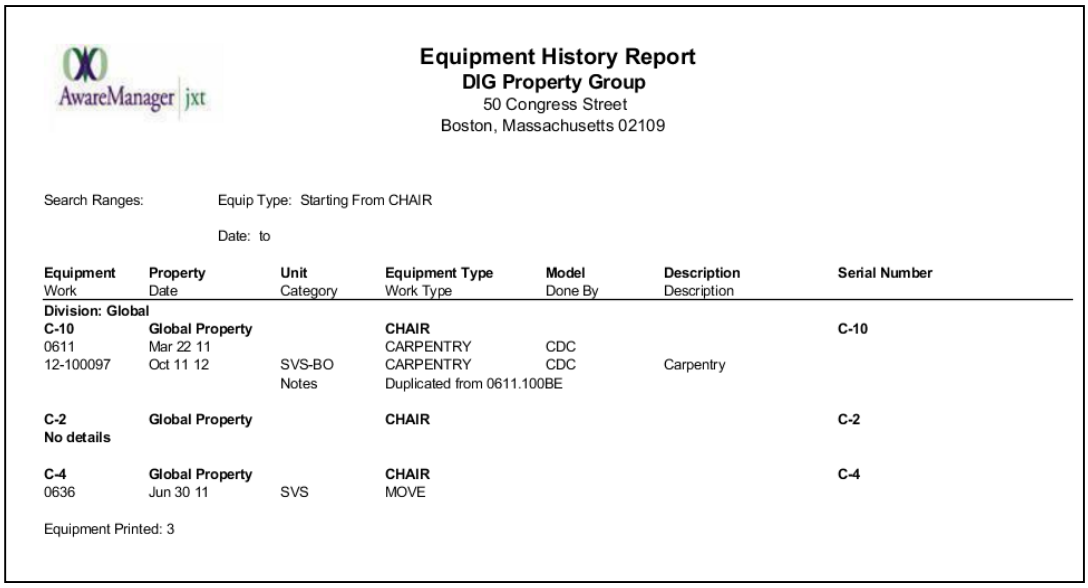
AHU-A **TOOLS AND SUPPLIES:**
Chlorine bleach (IAQ)
Isopropyl alcohol (IAQ)
Simple green degreaser (IAQ)
Acti-Klean AK-5 non-acid coil cleaner (IAQ)
Hand sprayer (IAQ)
Hose (IAQ)
Soft brush (IAQ)
Wet-vac (IAQ)

PROCEDURE:

1. INDOOR AIR QUALITY MAINTENANCE (IAQ).
Note: This procedure must be performed after-hours.

Printed Wed Nov 14 11:12:54 EST 2012 Page 1 of 3

On the Operations menu of the Equipment list there is also an **Equipment History Report**.



Equipment History Report
DIG Property Group
50 Congress Street
Boston, Massachusetts 02109

Search Ranges: Equip Type: Starting From CHAIR
Date: to

Equipment / Work	Property / Date	Unit / Category	Equipment Type / Work Type	Model / Done By	Description / Description	Serial Number
Division: Global						
C-10	**Global Property**		**CHAIR**			**C-10**
0611	Mar 22 11		CARPENTRY	CDC		
12-100097	Oct 11 12	SVS-BO	CARPENTRY	CDC	Carpentry	
		Notes	Duplicated from 0611.100BE			
C-2	**Global Property**		**CHAIR**			**C-2**
No details						
C-4	**Global Property**		**CHAIR**			**C-4**
0636	Jun 30 11	SVS	MOVE			

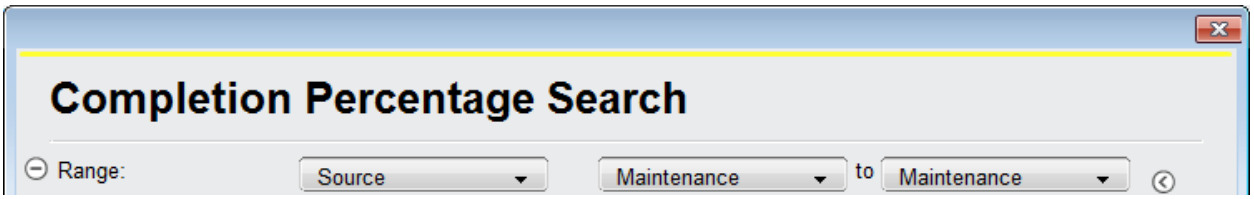
Equipment Printed: 3

This report lists equipment details, for each piece of equipment, (including Location, Equipment Type, Model/Serial Number, Description, and Notes) as well as details from all work orders linked to the equipment (including Work Number, Type, Done By, Description, and any readings linked to the WO).

Remember: Keep in mind, once your PMs are generated into Work orders, all work reports can be used as PM reports from the Work list. In the search window, use the Source field to bring up Maintenance to Maintenance. This (in addition to any other search criteria you entered) will bring up a list of all Work records that were created from the Maintenance capsule.

Completion Percentage Report

A great example of a Work report that could be extremely helpful when viewing PM information is the **Completion Percentage Report.**



This search-based report is found on the Operations menu of the Work list. It summarizes the number of work orders by your selected sort (Work Type, Assigned To, Department, or Client). It displays the number of work records entered, completed, and closed and the corresponding percentages.

AwareManager jxt

Completion Percentage by Work Type
DIG Property Group
50 Congress Street
Boston, Massachusetts 02109

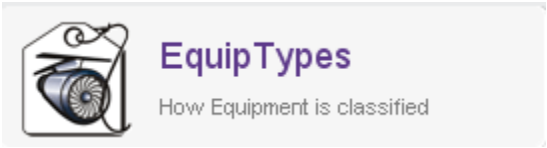
Search Ranges: Date Entered: February 6, 2008 To April 15, 2011
Work Type: LIGHTS To WINDOWS

Work Type	Description	Quantity Entered	Quantity Completed	Percent Completed	Quantity Closed	Percent Closed
LIGHTS	Replace Lights	10	6	60%	3	30%
MED-COMM...	Medical Command Log	1	0	0%	0	0%
MOVE	Moves	7	2	29%	3	43%
OTHER	Other678901234567890...	13	0	0%	0	0%
PAINT	Painting	9	0	0%	1	11%
PAINTING		5	1	20%	1	20%
PEST	Pest Control	9	2	22%	4	44%
PLUM-LEAK		1	1	100%	0	0%
PLUMB	Plumbing	17	8	47%	12	71%
PM	Preventive Maintenance	41	20	49%	19	46%
REPAIR		1	0	0%	0	0%
SIGNAGE	Signage / Directory	3	3	100%	3	100%
TEST	test description	17	0	0%	1	6%
TEST-REAING	Test WorkType with Read...	2	1	50%	2	100%
TEST1	testing material types def...	1	0	0%	0	0%
TRASH	Trash	8	4	50%	4	50%
WINDOWS	Cleaning Windows	12	3	25%	3	25%
		157	51	32%	56	36%

Records printed: 17

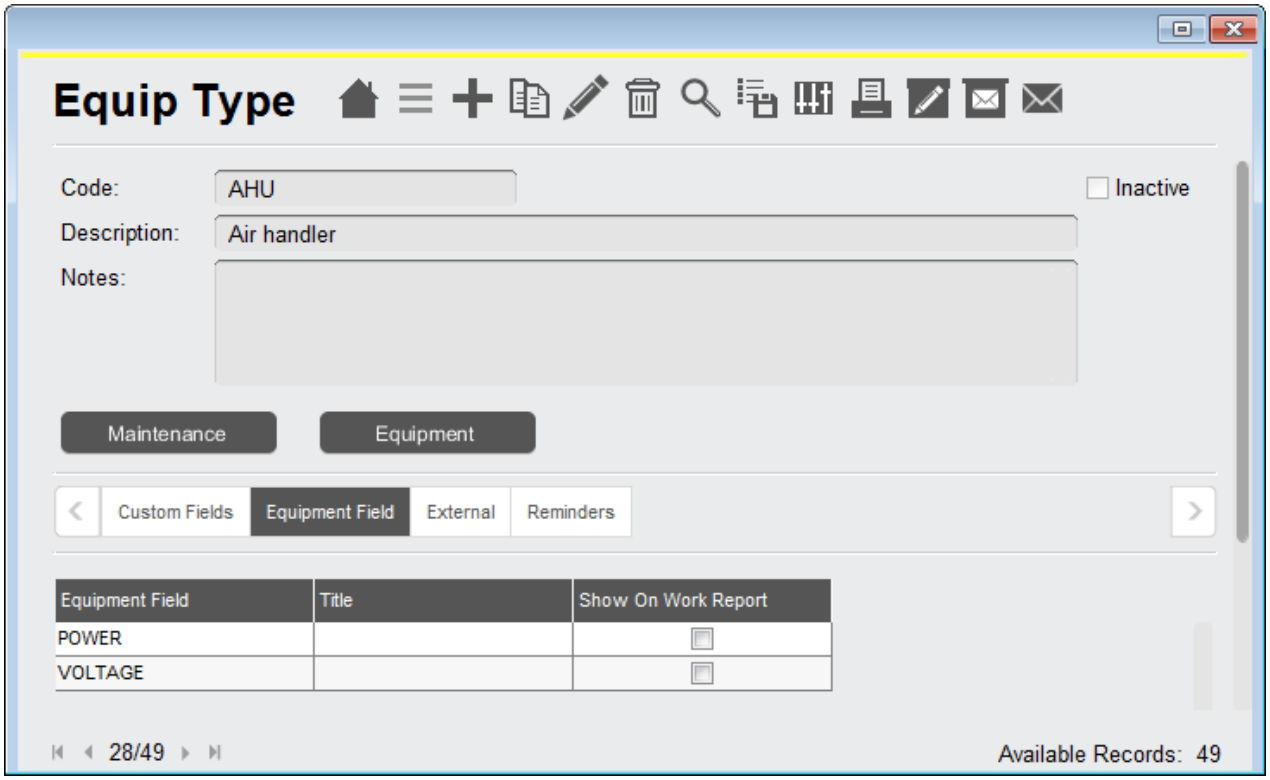
You can easily narrow down your results to only Maintenance-generated records by including the *Source* field in your search criteria.

STEP 1. Set up Equipment Types



1. Make sure all Equipment Types are set up the way that you would like them.
2. This includes making sure that all Equipment Fields are filled in that are necessary in the Equipment Field tab.

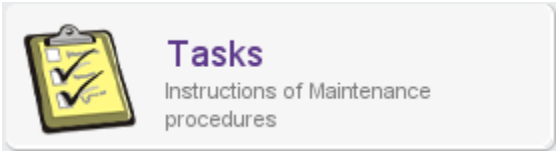
Note: There is a preference for each Equipment Field to determine whether or not the value will print on Work Orders.



STEP 2. Enter all Equipment records for the Equipment Type

1. If the equipment you are entering is similar to another equipment record, you can use the Duplicate icon ( ) to quickly enter the values.
2. Enter a unique code for the new piece of Equipment that uniquely identifies the equipment record (don't forget to reference the building if applicable).
3. Enter/Update all appropriate fields (e.g. location information, serial number, etc.), including the fields in the Equipment Fields tab.
4. Click on the **Save** icon to save the equipment record.
5. Continue this process until all equipment is entered for the equipment type.

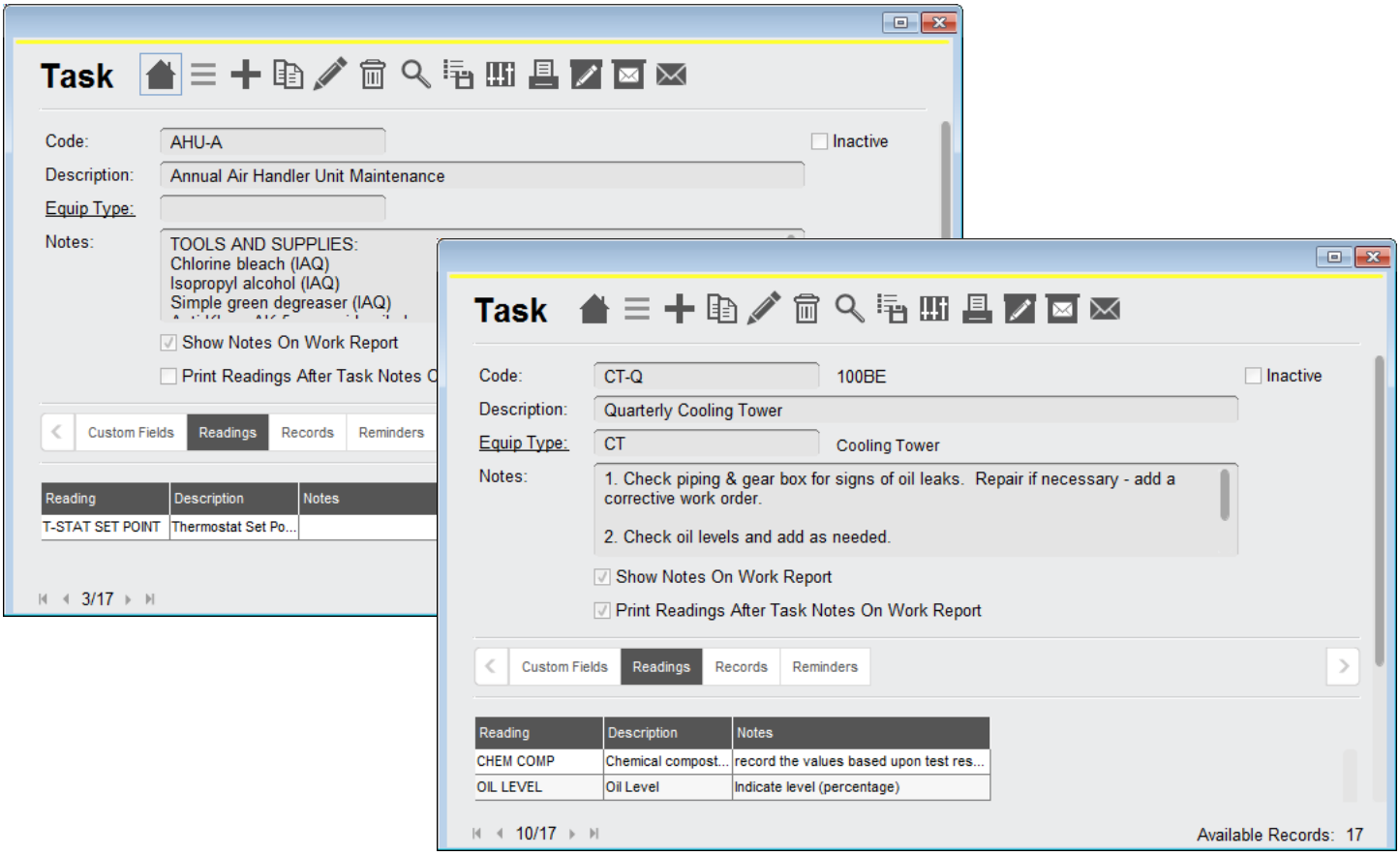
STEP 3. Enter all Tasks for that Equipment Type



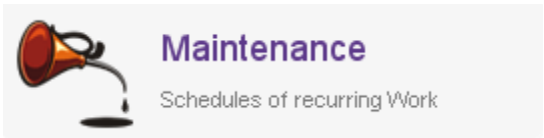
1. Think of the Task capsule as a library of instructions. Each set of Tasks related to the Equipment Type need to be entered. These Task instructions will be visible on the PM Work Orders.

Note: If your company has entered standard tasks for you can modify the records as opposed to entering in brand new records.

2. When adding new records pay attention to the Code. We recommend making the code for the Task a combination of the Equipment Type and the Frequency of the Task. For example, if it is an annual task for an Air Handler (AHU), the code would be AHU-A.



STEP 4. Enter all Maintenance for one of the Equipment records



1. Open a blank list in the Maintenance capsule and click on the **+** icon to begin entering a new record. It is often helpful to start with the least frequent maintenance - i.e. Annual.
2. Following are some of the key fields to complete:

- **Code:** Recommended format: Equipment Code-Frequency (e.g. AHU-01-A).

  If you leave this blank the system will default it for you based on the Equipment Code and the Frequency you select.

- **Equipment:** Select the equipment the maintenance is to be performed on.
- **Assigned To:** Set the combo box to the default Assigned To entity that will be performing the work (Worker, Vendor).
- **Description:** Enter a generic description for the Maintenance record (e.g. Annual PM Air Handling Unit). Avoid referencing the specific piece of equipment since you will be duplicating from this PM.
- **Commencement Date:** This is the date the maintenance should begin (the first date you want AwareManager to create a work order).
- **Source For Generating:** Select the date the system will calculate the next maintenance date off of.

  MOST COMMON: Last Scheduled

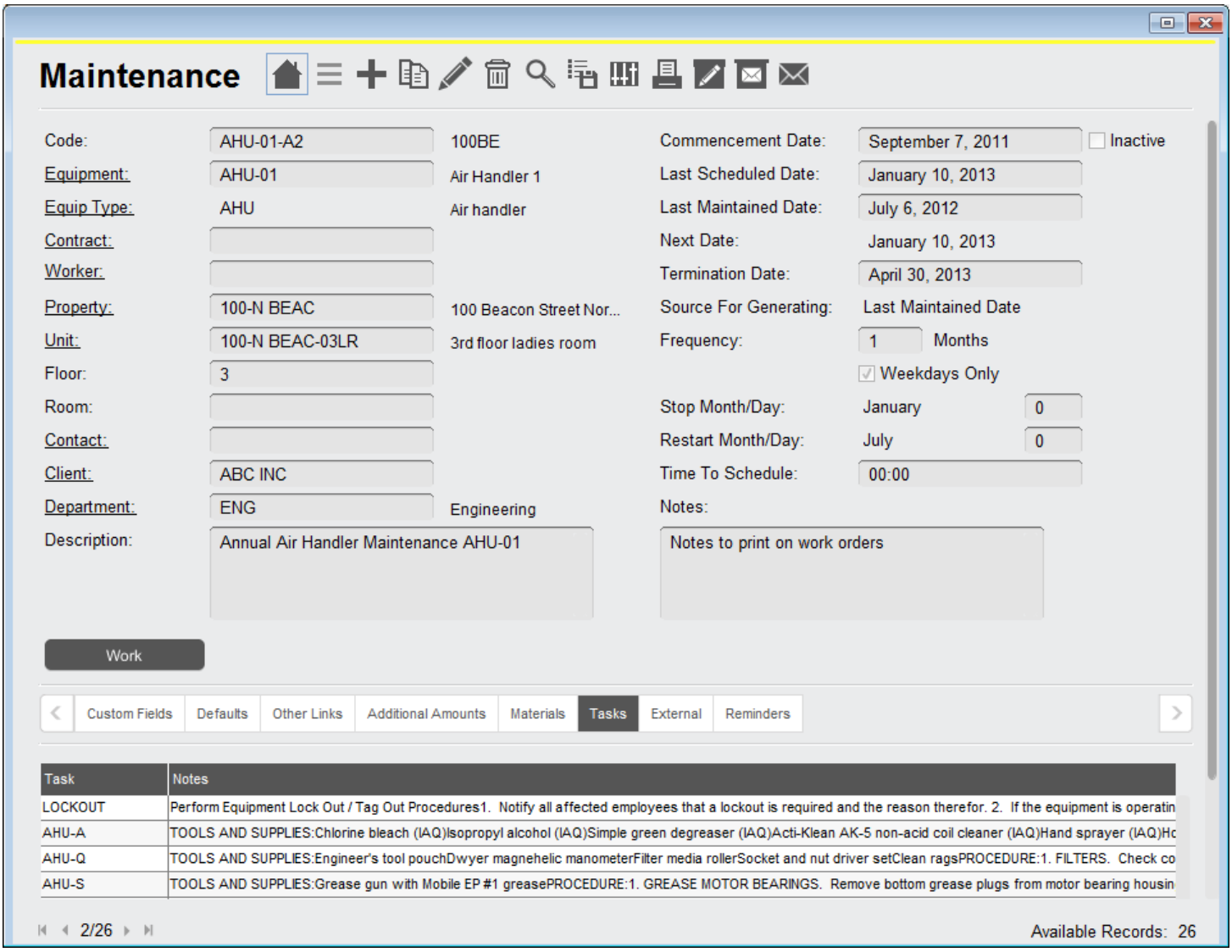
- **Frequency:** How often this Maintenance should produce a work order per year.

  Remember this isn't always what you think – it is based on the other Maintenance records that you set up and what tasks are included in each record.

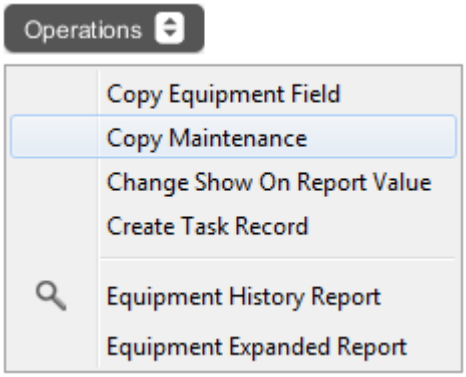
- **Tasks:** List the tasks that need to be performed.
- **Materials:** Enter the Materials required for the Maintenance. If they do not already exist you can add them on the fly.
- **Defaults:** Enter all the defaults for the PM: **Work Type**, **Work Category**, **Status**, **Priority** and **Estimated Hours**

  Note: *Estimated Hours should be the Total anticipated man hours.*

Example of a Maintenance Record:



STEP 5. Use the Copy Maintenance operation from the Equipment List window to create the schedules for all of the other equipment records with the same maintenance.



1. Do a search on all of the Equipment records with the same maintenance, making sure that the equipment you just created the maintenance records for is included in the list. If all this equipment is of the same type, do a search based on the Equipment Type.
2. Highlight the equipment record whose maintenance is set up.
3. Click on **Operations** (located at the top of the window) and select **Copy Maintenance**.
4. You will be warned that any maintenance already linked to the target equipment in the list will be deleted.
5. Press **OK** to proceed.
6. The new Maintenance records will automatically be created for all of the other pieces of Equipment in the list.

STEP 6. Review / Update the new Maintenance records

1. Open up the Maintenance records just created in the Maintenance list. It may be helpful to do a search by the Equipment Type.
2. Review and change (if necessary) any of the Maintenance records. You may want to change the Commencement Date(s) so that not all of the work orders will be created for the same date.