

TRAINING GUIDE

Admin
Work Management and Module
Tools



Using new tools in Lucity Web This section covers using tools that were added to Lucity Web in 2018 and 2018r2.

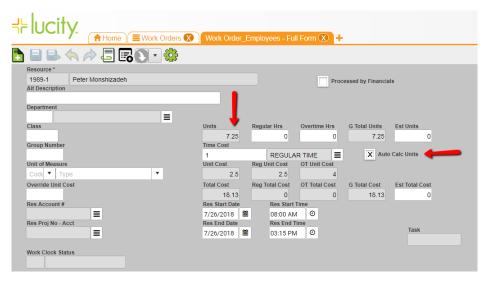
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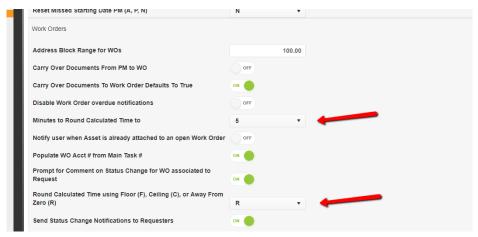
New Work Management Features - Part 1

Auto-Calculate Units

A new Boolean field called "Auto Calc Units" has been added to all Work Order Resource modules.
 When set to true, Normal Units will become read-only and will automatically calculate a value based on the resource's start and end dates and times.



- 2. This field can be defaulted to True on the form so that it is always used to calculate units.
- 3. The following Work Options have been added or modified to conform to this new field:



- Minutes to Round Calculated Time to:
 - This option has been converted to a drop down with predefined minute intervals of 5, 10, 15, 30, and 60.
- Round Calculated Time using Floor (F), Ceiling (C), or Away From Zero (R):
 - This option is new for 18R2 and determines which direction to round the resource's total time so that it can be converted to units. This option works directly with the "Minutes to Round Calculated Time to" option.
 - Floor: This means total resource time will round down to the nearest specified minute interval.
 - Ceiling: This means total resource time will round up to the nearest specified minute interval.
 - Away From Zero: "Zero" is the midpoint of the minute increment (Ex: If
 the interval is set to 10 minutes, then the midpoint would be 5 minutes).
 The total resource time will either round up or down to the nearest
 minute interval based on where the actual total resource time falls in
 relation to the "Zero."
 - Away From Zero: This is "Standard Rounding" or "midpoint" rounding.
 The total resource time will either round up or down to the nearest minute interval. This is determined by where the actual total resource time falls in relation to the time interval's midpoint. (Ex: If the interval is set to 10 minutes, then the midpoint would be 5 minutes). If actual total resource time falls on the time interval's midpoint, then the total resource time will be rounded up.

Note: There is an older Work Option called "Use Start and End Times to Calculate Hour Units." This option will default units based on start and end times, but only when units is empty. We recommend turning this option Off if using "Auto Calculate Units."

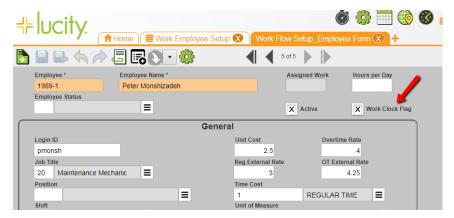
Work Clock

- Purpose: Work Clock allows users to track actual time worked on Work Order tasks with the use of Start & Stop buttons. This feature is only available in Lucity Web.
- To enable the Work Clock features:
 - System Settings: Enable Work Clock
 - o When this setting is turned on, the Work Clock features will be activated for the web client

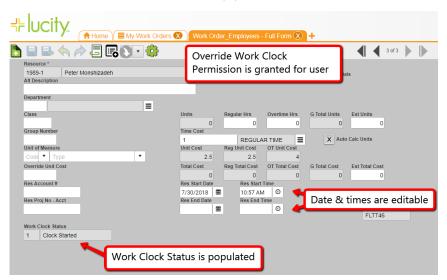


the old work option and how that works. The old work option will default units based on start and end times, but only if units is empty. So, we recommend not using that option and instead using auto calc units.

- Work Flow Employee Setup: Work Clock Flag
- When this flag is set to True, the user associated to the employee setup record (linked through Login ID) will be able to see the work clock icons in the widget bar and on the Work Order view.
 Ultimately, this means this user will be able to Start & Stop a work clock.



- Work Orders Permission: Override Work Clock
 - When this permission is granted, the user will be able to manually edit the Start/End Date & Times for Work Order resources where the Work Clock Status field is populated. When the permission is not granted, then Start/End Date & Times are read-only for resources where the Work Clock Status field is populated.



- New UI features related to Work Clock:
 - Clock icon in widget bar



- Shows Active Clock
- Shows history of 3 most recent active clocks
- Allows stopping of the logged-in user's active clock
- Allows the logged-in user to navigate to active and previously-active work clock work orders
- Clock icon on Work Order grid



- Allows starting work clock
- Allows stopping a running work clock
- Allows switching of the active work clock task
- Clock icon in Work Order Task grid:
 - Shows task(s) where work clock is actively tracking time



Notes:____

- New toolkits for the Work Clock feature:
 - "Stop Work Clock" Toolkits in Work Orders
 - Allows a supervisor to stop any running clocks at the end of the day.



- New fields for the Work Clock feature:
 - The "Auto Calc Units" field has been added to Employee and Equipment
 - When a clock is started for an employee and/or equipment resource, this field will automatically be set to true and made read-only. This ensures the resource units are calculated automatically and accurately when the work clock is stopped.
 - "Work Clock Status" has been added to Employee and Equipment resources
 - This field is read-only and is updated only by the Work Clock
 - There are three values that can appear in this field:
 - 1 Clock Started: This means the resource is currently tracking time with the work clock.
 - 2 Clock Stopped By User: This means the resource is no longer tracking time with the work clock and the clock was stopped either through the Work Clock buttons or through the Stop Work Clock toolkits.
 - 3 -Clock Auto-Stopped: This means the Nightly Service has stopped the

work clock.

1 of 2 Peter Monshizadel Processed by Financials Ħ REGULAR TIME ı Unit of Measu Unit Cost OT Unit Cos Total Cost Override Unit Cost OT Total Cost Reg Total Cost G Total Cost Res Start Date 7/26/2018 ≡ Res Proj No - Acct Res End Date Res End Time Task FLTT46 ≡ 0 100 Clock Started

How to use Work Clock

Let's start with a scenario to better understand how Work Clock functions. Peter, the logged in user, is a mechanic in the fleet maintenance department who has a work order on his dashboard. This work order has a couple of tasks on it that need to be completed today.



• With the Work Order record opened in the Work Order view, Peter now wants to start tracking his time on the work order. He does this by selecting the work order record in the grid.



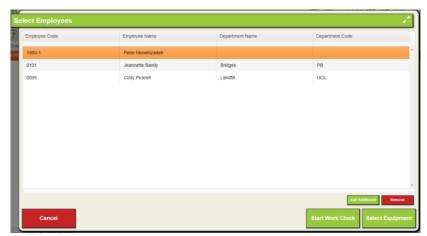
- With the single Work Order record selected in the grid, the work clock button on the Work Order view becomes active. Peter clicks on the button to initiate the Work Clock sequence.
- A list of all tasks on the Work Order display. Peter selects the task he wants to start tracking time
 on.

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Note: Only tasks with an End Date value of the current date, a future date, or a blank date will show in this list.



- Upon selecting the task in the list, Peter then clicks "Select Task". This confirms the task
 and then opens the Employee Resource list. The employees shown in this list will start
 tracking time on the task when the work clock is started. Some details about this
 employee list screen:
 - The logged in user will always show in this list and cannot be removed.
 - Any employees already on the task as resources will show in this list.
 - Additional employees can be added to the list through the "Add Additional" button.
 - Employees can be removed from the list through the "Remove" button.



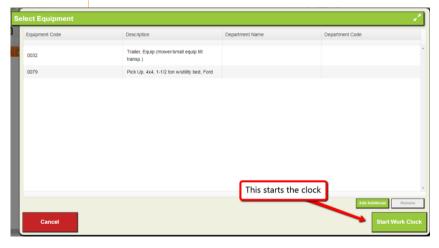
 The Work Clock can be started from the Select Employees screen by clicking the "Start Work Clock" button. However, Equipment can also be selected to track time as well. To do this, click the "Select Equipment" button.

Note: If the Work Clock is started from the Select Employees screen, then no equipment will have time started with the Work Clock.

Note: Employees do not need to be selected in the list to be included in the Work Clock. If they simply appear in the list, then that indicates they will be included in the Work Clock.

The "Select Equipment" screen functions similarly to the Select Employees screen.
 Equipment already on the task will automatically load in the list. Equipment can be removed or added through the buttons at the bottom of the screen.

Note: Equipment resources do not need to be selected in the list to be included in the Work Clock. If they simply appear in the list, then that indicates they will be included in the Work Clock.



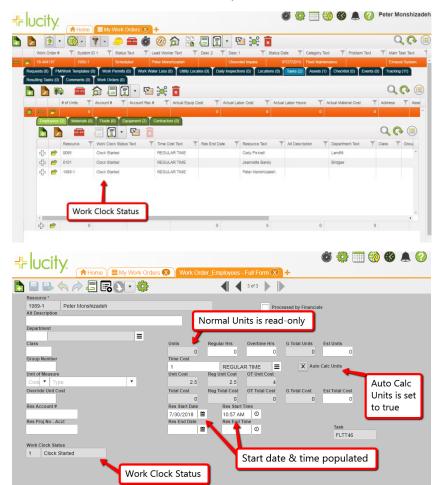
- The "Start Work Clock" button on the "Select Equipment" screen will initiate the work clock for all resources that appeared in the Employee and Equipment screens.
 - Employees and equipment that weren't already on the task before initiating the work clock will be automatically added as resources on the task.
 - Employees and equipment that were already resources on the task before initiating the work clock, but had either units or an end date specified, will be readded to the task (as duplicate resource records).
 - Duplicate resource records are added under these conditions because each resource record serves as its own unique time tracking record.
 Once a block of time is recorded for a resource (One start and stop of the clock), then a new resource record will be needed in order to record a new block of time.

- Once the clock has started, a few places in the app will update to signify that time is now being tracked.
 - The Widget Bar work clock icon will display the active work order and task, along with total time of the work clock session.
 - A clock icon will display next to the active work clock task under the Work Order.

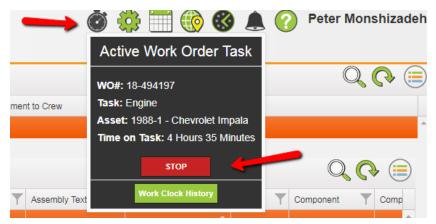


Notes:	

- A start date and time is written to each Employee & Equipment resource that was
 present in the Work Clock initiation sequence. The value entered will be the date and
 time from when the work clock was started. Other changes that are made to the work
 clock resources:
 - A value of "Clock Started" is written to all the selected resources' Work Clock Status field.
 - The "Auto Calc Units" field is automatically set to True and made read-only in all the selected resources.
 - Normal Units is made read-only.



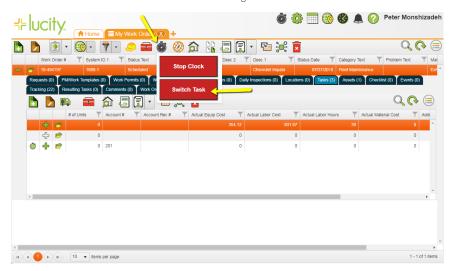
- Stopping the clock. Any employee resource on the task that is tracking time (Has a Work Clock Status = Clock Started) can stop the clock, if the employee is configured to do so (The Work Clock flag in their work employee setup record = True).
 - Peter would like to stop the clock because he has finished work on the task. He can stop the clock a few different ways:
 - Widget bar work clock icon: This allows the clock to be stopped from anywhere in the web app – the Work Order doesn't record doesn't have to be open in a view to stop the running work clock.



- Work Order View clock button Stop Clock.
 - The work order record with the actively running work clock does not need to be selected in the grid in order to stop the clock from this button.



- Work Order View clock button Switch Task.
 - The purpose of this button is to seamlessly stop the clock for the current task and start the clock on a new task.
 - In order to use Switch Task, a single work order will need to be selected in the grid.

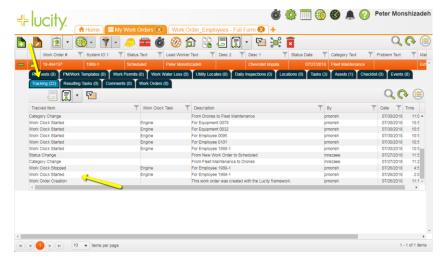


 Stop Work Clock toolkits. Using these toolkits is not in best practice if you're only stopping your own running Work Clock.
 The goal behind these toolkits is not so much for stopping a clock that you personally started, but more for stopping clocks on work orders that you haven't started or are not a resource on.
 These toolkits give supervisors the ability to stop erroneously running clocks at the end of the work day.

Notes:	 	

Work Clock and its effect on the Work Order Tracking grid

- The work order tracking grid records when a task's resources have time started and stopped.
 - For Example: When Peter started the clock on the Work Order task, the Work Order Tracking grid wrote an entry stating the clock had been started for his employee resource record. A similar entry will also be recorded when the clock is eventually stopped.



- Nightly Processes and the Work Clock
 - There is a Nightly Process in place to automatically stop work clocks. This ensures that no single work clock session goes on forever by accident. The following Work Option determines how the Nightly Process handles the stoppage of long-running clocks:
 - Work Option: Enforce Resource End Date = Start Date
 - When option is set to ON: The Nightly Process will stop all running clocks at midnight.
 - When option is set to OFF: The Nightly Process will stop clocks that have accumulated 10 hours.
 - When the Nightly Process stops a work clock, the work clock resource records will have a Work Clock Status value of "Clock Auto-Stopped."
- Limited Permission Users and access to Work Clock features
 - The user will need to have Work Order edit permissions (General Edit or Edit Own) to start and stop a work clock.

Commented [NS2]: I think after this section it would be good to go over how a supervisor (or someone with override work clock permission) can manipulate start and end times. I think it also would be good to go over the tracking events we log for work clock.

Commented [PM3R2]: Make notes on printed copy

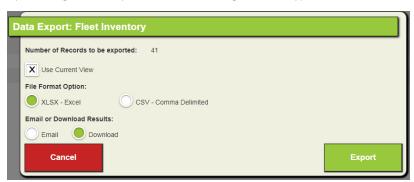
New Module Tools

Export to Excel

The Data Export button, which is a button available to be added to module views, allows you to export the current filter of records in a module. The exported file will contain the data from columns that are either present in the module view's grid or are available from a column template that you create inside the export tool itself.

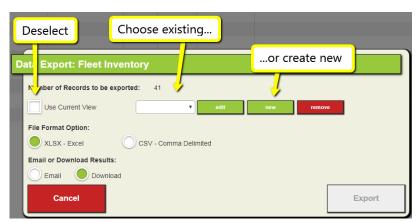


• Upon clicking the Data Export button, the following screen will appear.

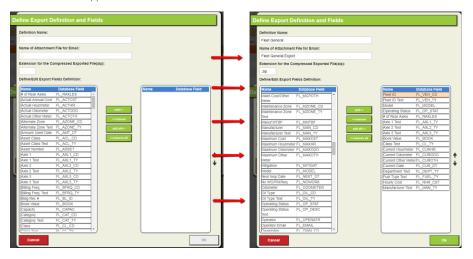


- If you want to export the columns present in the current view, then leave "Use Current View" checked
- If you want to export a file with different columns that are in the view, you can define a custom
 column template. To do this, uncheck "User Current View." Upon unchecking, the screen will
 update to look like this:

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• If you have an existing template, you can select it from the dropdown. Or, you can create a brand-new template. Select "New" to make a new template. Upon selected "New", the following screen will appear:



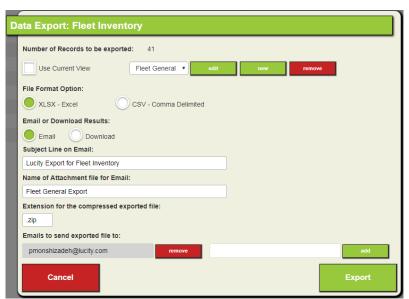
- The left list shows all the columns available to be added to exported view. These are all the fields in the module. Move the columns you want to display in your exported view file to the right-side list. The order of columns that appears in the right-side list is the same order the exported file will have. Use the Up/Down arrows next to the list to reorder the columns as desired.
- Next, enter a name for the template in the top text field. Then enter the file name for exported data. Lastly, enter a compressed file extension. If nothing is entered here, it will default to .zip. When you're finished, click "OK" to save the export view.
- Now select the export template from the drop down.



- Then, select the file format you would like to export the view to. For this example, we'll choose Excel (XLSX).
- Now, select the method in which to receive the file.
 - If you choose Download, the file will immediately download to your computer when you select "Export."

Note: If popups are blocked on the browser, the file may not download.

If you choose *Email*, then the following screen will appear:



Your user's email address will automatically be added as a recipient of the exported view.
 You can add or remove additional email address here as well. Upon clicking "Export," the file will be pushed to the email queue table and then sent out when the email process runs.

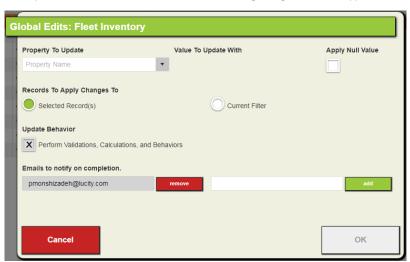
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Global Edits

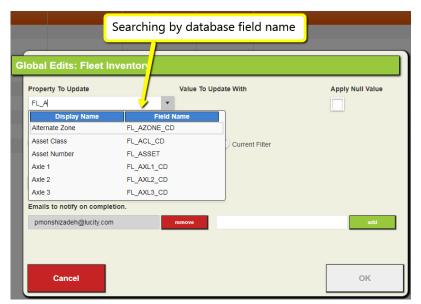
The Global Edits feature allows the user to update the value in a single field across many records in a module at once. The Global Edit button is located on the module's main grid.



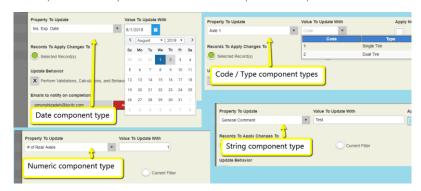
- Before opening the Global Edit feature, you will want to already know which records you want to
 edit in the module. Also, you'll want to know what the field is that you want to update within this
 set of records, and, you want to know what the value is that you want to update this field with.
- Set up a filter in the module that contains the records you want to edit. Or, alternatively, simply
 point out the records you want to edit by multi-selecting them from the module grid. With the
 records you want to edit now defined, click the Global Edits button.
- When you click on the Global Edits button, the following dialog window will appear:



- Use the "Property To Update" dropdown to select the field you want to update a value on.
 - Hint: You can type in the field to search for a specific property's display name or its database field name.



After you have selected a field, the "Value To Update With" column becomes editable. This
column changes its format depending on the field component type you have selected to edit.
(Example: String, Numeric, Code/Type, Date, component types will have different looking
formats). This is where you will enter the value that you want to update all records with.



• You can also choose to apply a null (blank) value to the selected field. To do this, check the "Apply Null Value" box.



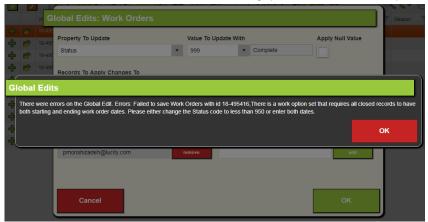
• Once you have the "Value To Update With" defined, you will then need to select whether this Global Edit will apply to the records you had selected in the grid, or to the current filter of records you had displayed.



The "Update Behavior" flag is the next item in the Global Edits dialog that requires user
attention.

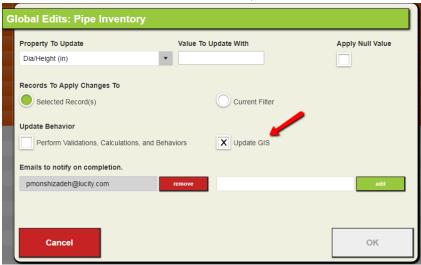
Update Behavior X Perform Validations, Calculations, and Behaviors

- When the flag is checked:
 - i. The system is protected from invalid data, but it does take more time to process the global edit. For example, if the Work Option is turned on that prevents a Work Order status from being set to "Closed" without an End Date entered on the Work Order, having the "Update Behavior" flag checked in Global Edits will catch when a Work Order record being updated is in error. See example below:



- ii. When this checkbox set to True, it also updates related GIS features based on the geodatabase configuration.
- iii. When this checkbox is set to True, it updates calculated fields.
- iv. There are many fields that can be globally edited but must have this flag set to True. Therefore, the checkbox displays as read-only when those fields are selected to be updated. These fields do not support running direct SQL updates and must be validated first.

- "Update Behavior" will be defaulted to True and read-only if there are 10 or less records selected or there are 10 or less records in the current filter to be edited.
- Special GIS scenarios:
 - Example of editing a GIS-specific field: Sewer Pipe Diameter (Dia/Height)
 - If "Update Behavior" is unchecked, then "Update GIS" checkbox displays and defaults to True.
 - ii. If "Update Behavior" is checked, then GIS is updated automatically.



- Emails to notify on completion:
 - The user's email address is entered by default. Other emails can be added or removed if they need to be notified when a global edit is performed.
- Running the global edit:
 - i. After all information is entered in the Global Edit screen, select "OK" to run the

New System Settings for Global Edits



- Maximum number of records which may be updated using global edit using the Business Rules
 option:
 - This setting is where you specify how many records can be selected or be in a filter when running a global edit with the "Update Behavior" box checked.
- Maximum number of records which may be updated using global edit using the Direct SQL option:
 - This setting is where you specify how many records can be selected or be in a filter when running a global edit with the "Update Behavior" box unchecked.
- Send an email to the system health email if a global update exceeds this row count:
 - If a global edit is performed on more records than is established in this setting, then
 emails will be sent out to the email addresses listed in the System Health Email system
 setting.

New Work Management Features - Part 2

Asset Class Features

The Asset Class Library and System Assembly Component modules were developed to allow for individual assets to display their own specific forms, while at the same time, grant each asset the ability to have its own hierarchical maintenance structure defined for it on Work Order tasks.

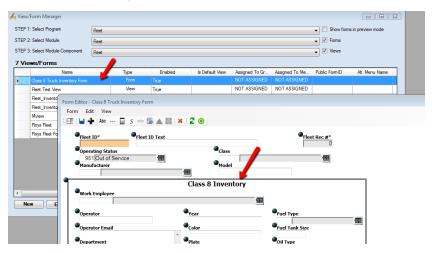
- Take fleet vehicles for example. A large Class 8 truck will have different data that needs to be displayed on the inventory and inspection forms compared to a midsize sedan. Each of these fleet vehicles can now have their own specific forms display thanks to Asset Class Library. In addition, System Assembly Component allows each of these types of fleet vehicles to have unique maintenance structures defined for them. When the asset has a Work Order created against it, these maintenance structures are visible on the tasks within the work order itself. This allows the user to quickly define what part of the asset is being repaired or serviced.
- To better understand these concepts, we'll break down how to set up Asset Class Library
 and System Assembly Component records, and then we'll see how these two modules
 work together.

Asset Specific forms (Inventory & Inspection)

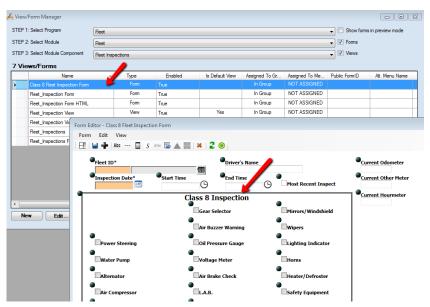
Note: Asset Class-specific forms are not yet supported in Lucity Mobile but will be in a future release.

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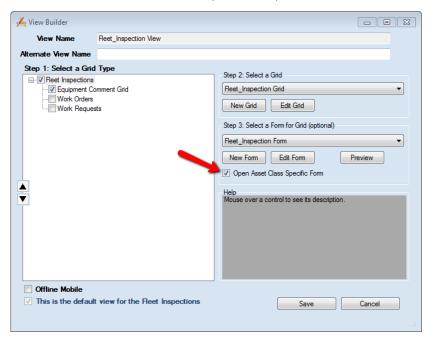
- Before getting into the Asset Class Library module, we first want to set up asset-specific Inventory and Inspection forms in Lucity Admin to demonstrate with. For this example, we'll set up forms for "Class 8 truck" fleet assets:
 - Inventory Form:



• Inspection Form:

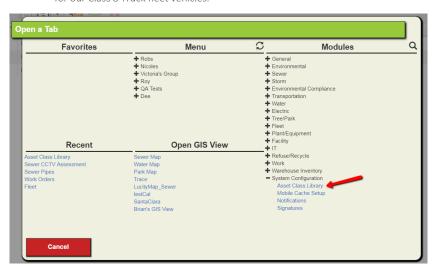


• With the asset class-specific inventory and inspection forms created, we now need to inform the Fleet views that there are asset class-specific forms present. By checking the "Open Asset Class Specific Form" checkbox, we are telling the views that they should open the asset class-specific form whenever possible. For this example, we will set the checkbox in both the Fleet Inventory and Fleet Inspection views.

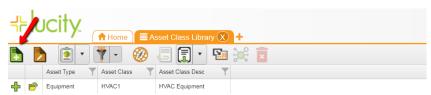


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• With the asset-specific forms created and the views set up to be able to recognize them, it's time to go over to the Asset Class Library module and create the Asset Class record for our Class 8 Truck fleet vehicles.



• Add a new Asset Class Library record.



• Select the Asset Type (Example: Fleet) and define the Asset Class code & description.



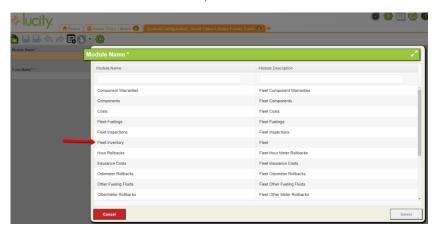




• With the Asset Class Library record created, we now want to define the forms that are specific to this asset class. Expand the "Forms" child grid and add a new record.

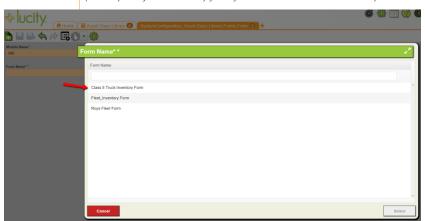


• Select the module that you want to define a specific asset class form for. You will be given a list of all available modules within the asset type. So, in this example, we see all the modules that fall under the Fleet asset type. We will select the Fleet Inventory module to define an Asset Class specific form for.

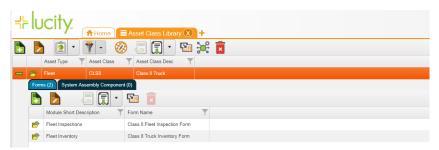


After selecting the Fleet Inventory module, we now will select the specific Fleet Inventory
form we want to assign to the Class 8 Truck asset class. We will select the form that we
created in Lucity Admin at the beginning.

NOTE: You can only define a single form, per module, per asset class. (i.e. only one fleet inventory form for our Class 8 Truck asset class)



• Here are both the Inventory and Inspection forms defined for the Class 8 Truck asset class record.

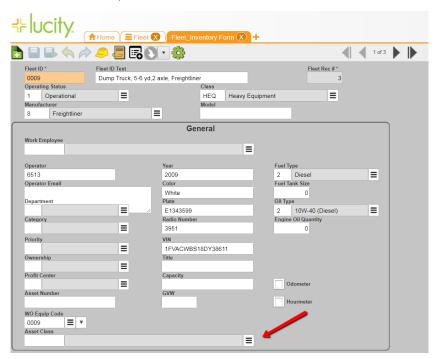


With the Asset Class Library record outfitted with asset-specific forms, we now want to
assign the Asset Class to our Class 8 Truck fleet vehicles. To do this, we'll head over to the
Fleet Inventory module. I have filtered my list of fleet records to show only those that I
consider to be part of the Class 8 Truck asset class.



Notes:		

• There's a new field available to be added to inventory forms called "Asset Class." This field is where you tie the asset to the asset class.

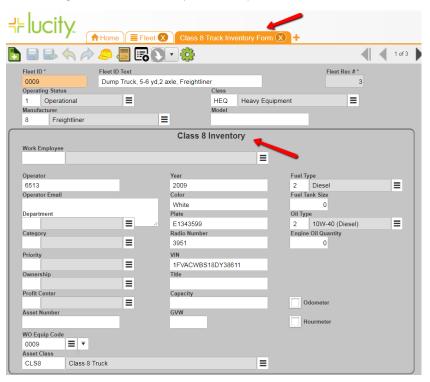


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• The list of asset classes shown in the field's lookup are those records in Asset Class Library which have the same asset type (i.e. Fleet asset classes).



 With the Asset Class defined for the fleet record, now the asset class-specific forms (Inventory & Inspection) for that fleet record will display instead of the default forms assigned to the Fleet Inventory and Fleet Inspection views.



System Assembly Component

The purpose behind System Assembly Component (SAC) is to allow for a detailed hierarchical structure to be defined for an asset's mechanical makeup. This hierarchy can help define what specific part of an asset is being worked on when a Work Order is made against the asset. Take the Class 8 Truck from the Asset Class Library example; there are many systems that make up a fleet asset like a Class 8 Truck, such as the engine, brake, and drivetrain systems. Each of these systems can be defined by their internal assemblies (i.e. front brakes), and from there, components within these assembly can describe the exact part that is being repaired or serviced (i.e. brake drums) on the asset.

Commented [NS6]: Somewhere we should mention that mobile supports SAC, but mobile offline does not support it yet.

a. Since we have an Asset Class Library record already created for Class 8 Trucks, let's create some System Assembly Component (SAC) values to tie into this same asset class. To begin, we'll open the System Assembly Component (SAC) module.



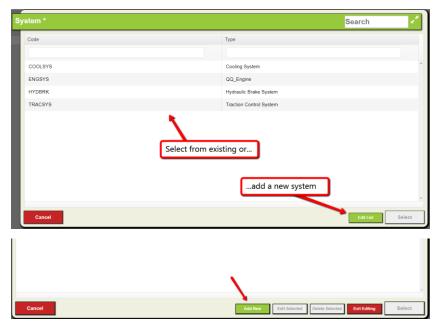
b. Next, we'll add a new System Assembly Component (SAC) record



c. The first thing to do when creating a new SAC record is to define the System for the record. In this case, a System that fits our Class 8 Truck example doesn't exist yet, so we'll need to create one.



d. To create a new System, we'll go into the System field lookup and select "Edit List." Then, click "Add New".



e. You can easily add multiple new system values to the list by checking the "Keep add dialog open".



f. With the new system added to the list, I can now choose that value from the list of Systems. Now it's time to select Assembly and Component values. If the values you need don't already exist, you can create them in the same way we created new System values above.



g. We can rapidly create more System Assembly Component records that fall within the same System, or System and Assembly, by turning on the form's Carry Over button. With Carry Over enabled, we can select the fields values that we want to keep when adding a new record.



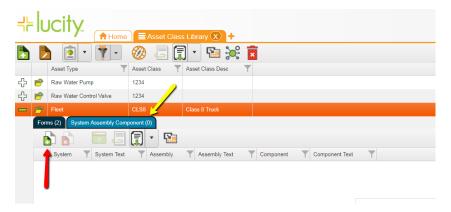
h. With the fields we want to carry over to the new SAC record selected, click the "Save and Add" button. This will save our current record and create a new SAC record all in one action.



i. With the new SAC record created, we see that we only need to select a Component that falls within the System and Assembly. When you've finished adding SAC records that fall under the same System or System/Assembly combination, click the "Save and Close" button to stop adding records.



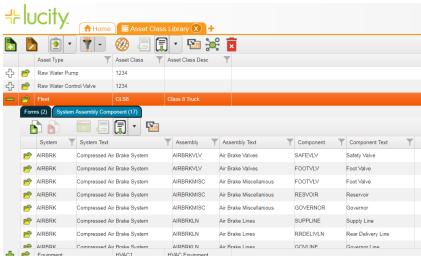
j. Now that we have some System Assembly Component records created, we need to link them up with an Asset Class Library record. To do this, we will open the Asset Class Library module. Then, we will expand our Class 8 Truck record, so we can see the System Assembly Component child grid.



Notes:	 	

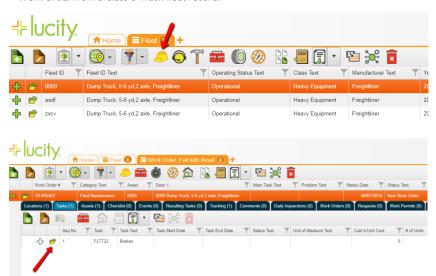
k. Next, click the Attach button in the System Assembly Component child grid. A list of all SAC records will display. Select all the SAC records that you want to relate to the Asset Class.





Notes:				

I. With our System Assembly Component records linked to our Class 8 Truck asset class library record, we can now look at how this affects Work Order Tasks when a Work Order is made against a Fleet vehicle that has an asset class of Class 8 Truck. To demonstrate this, I'll create a Work Order from a Class 8 Truck fleet record.

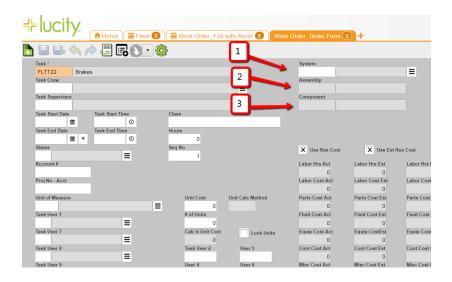


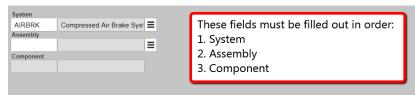
m. Once the Work Order is created, we'll need to add a Sub Task to it. On the Sub Task form, we will see that there are System, Assembly, and Component fields. The values that show in these fields are the determined by the System Assembly Component records that are tied to the work order asset's Asset Class. For this example, we will see the System Assembly Component values that are tied to the Class 8 Truck asset class.

Note 1: If there is no asset on the Work Order, or if there is more than one asset on the work order, or if the asset on the work order doesn't have an asset class defined, then all Asset Class Library-linked System Assembly Component values will be displayed here.

Note 2: The System Assembly Component fields are supported in Lucity Mobile, but not supported in Offline Mobile yet.

Notes:	 	





n. With the System Assembly Component fields filled out on the task, the otherwise-generic "Brakes" Sub Task now has a specific repair focus: The brake drums on the front foundation brake assembly. Having SAC values established like this will save you from having to set up tasks that are repair-specific.



o. The System Assembly Component fields on the Work Order sub task can have filters and reports ran against them, helping you determine the frequency of repairs on specific parts of an asset.