

Version 1.17: How to use Maintenance by Metric

We're excited to introduce Maintenance by Metric!

In Version 1.17, to expand the capabilities of Helm CONNECT Maintenance and meet evolving customer needs, we're introducing some powerful new features. In this article, you'll learn how Maintenance by Metric lets you do the following:

- Set up and track multiple cumulative reading types for system components
- Schedule maintenance checklists based on more than one cumulative reading type
- More accurately predict when maintenance routines will be due

In Helm CONNECT Maintenance, a "cumulative reading type" refers to a metric, such as running hours, where values only ever increase. Cumulative reading types aren't used to indicate that something is "out of spec," or outside the range of normal or expected operation.

To get you started, when you update to Version 1.17, two cumulative reading types will already be defined: Running Hours and Fuel Used. You can create one more cumulative reading type for whatever you need, and you can also edit or delete the Fuel Used reading type if you need something different (as long as the reading type isn't actively in use in any maintenance templates or published checklists).

If you don't need to incorporate fuel burn, or any other cumulative reading, into your maintenance plan, you won't need to make any changes to Helm CONNECT. Your running hours schedules on your maintenance checklists will work the same as they did before.



Note If you use the Fuel Used reading type, note that it's not a "fuel tracker" tool; it's designed to track only fuel consumption for maintenance purposes. It can't be used for billing within Helm CONNECT Jobs or to track how much fuel is in the tank.

Set up cumulative reading types

In Version 1.17, you can define up to three cumulative reading types in Helm CONNECT.

To set up cumulative reading types

1. Go to the **Setup > Operations > Reading Types** tab.
2. Click **New Reading Type**.
3. In the **Name** field, enter the full, descriptive name of the reading type.
4. In the new **Display Name** field, enter a short name (20 characters or fewer) for the reading type. This will be the label that appears with the reading type wherever it occurs in Helm CONNECT. We recommend including the reading type, for example, Running Hours or Fuel Used, in the display name for clarity.
5. In the **Units** field, enter the required units for the cumulative reading type.
6. Select the **Cumulative** check box.



Note

Once you've saved a reading type, you can't change this check box.

The screenshot shows a form with three input fields: 'Name *', 'Display Name', and 'Units *'. The 'Display Name' field contains the placeholder text 'Display Name'. To the right of the 'Units' field is a checkbox labeled 'Cumulative' which is currently unchecked. The 'Display Name' field and the 'Cumulative' checkbox are highlighted with yellow boxes.

7. Click **Save Changes**.

The Display Name and Cumulative reading type information appear in new columns on the Setup > Operations > Reading Types tab list view.

Name	Display Name	Units	Cumulative	
Fuel Used	Fuel Used	gal	✓	
Running Hours	Running Hours	hr	✓	
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Build maintenance templates using cumulative reading types

In previous versions, you could already build templates to record running hours for components and templates that were triggered by running hours milestones. In Version 1.17, you can still do this, and more.

More powerful schedule tool

We've made the scheduler in maintenance templates more powerful and flexible. You can schedule a maintenance template based on calendar date, on cumulative readings, or both. Whichever due schedule is reached first will trigger the checklist.

To help you do this, there are now two tabs in the Schedule window:

- The **Date** tab works the same as the date schedule tool did in previous versions, except that the Frequency field no longer appears on this tab.
- The **Cumulative Readings** tab lets you define a schedule based on one or more cumulative reading types.



Note To display the Cumulative Readings tab, you need to select an asset and a component in the header of the maintenance template first.

You'll use the schedule tool differently depending on what you want the maintenance template to do:

- **Record cumulative readings:** When scheduling a maintenance template designed to record cumulative readings for a component, you'll use the Date tab the same way you did in previous versions. For example, you could schedule the checklist to be due daily at a specific time.
- **Schedule with cumulative readings:** When scheduling a maintenance template to become due when selected cumulative reading values are reached, you'll use the

new Cumulative Readings tab.

The screenshot shows a software interface titled "Schedule" with a "Cumulative Readings" tab selected. Below the tab is a blue button labeled "Add Reading Type". Underneath, there are four input fields: "Reading Type" (a dropdown menu with "Select a reading type" selected), "Est Daily Usage" (with "Est Daily Usage" entered), "Frequency" (with "Frequency" entered), and "Due" (an empty field with a red "X" icon). At the bottom right, there are "Clear" and "Save" buttons.

Add a cumulative reading item to a maintenance template used to record readings

Previously, you could add a Running Hours checklist item to a maintenance template designed to record readings for a component. In Version 1.17, the Running Hours item has been renamed to Cumulative Reading. When you add this item to the template, you can select any of the cumulative reading types defined in the system.



Important To prevent unusable or inaccurate data from accumulating in your system, we strongly recommend that you use a cumulative reading type only once per component within your maintenance templates used to record readings.

The screenshot shows a maintenance template editor. On the left is a sidebar with various categories: Category, Grouped Category, Enter a description, Instruction, Replaced | Ok, Done, Crew Selection, Fail | Pass, No | Yes | N/A, Cumulative Reading, Reading, and Part Usage. The "Cumulative Reading" option is highlighted. In the main area, there is a list item "1.1 Port main engine running hours". A dropdown menu is open for this item, showing a search bar and three options: "Fuel Used (gal)", "Mileage (M)", and "Running Hours (hr)". A yellow arrow points from the "Cumulative Reading" option in the sidebar to the dropdown menu. The main area also shows a "Record the following" header and a "Select a component" dropdown.

Schedule a maintenance template based on cumulative readings

You can build maintenance templates with schedules based on cumulative reading types.

To schedule a template based on cumulative readings

1. In the maintenance template header, select an asset and a component, then click **Create a Schedule**.



Note The component you select will supply the cumulative reading values that determine when your maintenance template is due.

2. On the **Cumulative Readings** tab, click **Add Reading Type**.
3. From the **Reading Type** list, select the cumulative reading type you want to use for scheduling.



Note This list will display the reading types you defined on the Setup > Operations > Reading Types tab. Each reading type can have only one schedule item per template. If you use all of the available cumulative reading types, the Add Reading Type button becomes disabled.

4. In the **Est Daily Usage** field, enter the expected typical daily usage rate for that reading type.



Example If you selected Running Hours in the Reading Type list, and the component you selected runs 24 hours a day, you would enter 24. If the component only runs 12 hours a day, enter 12.



Note The closer you get to typical usage values for this field, the more accurate the system will be when estimating when a checklist will be due.

5. In the **Frequency** field, enter how often this maintenance checklist will be due, based on the reading type.



Example This could be 500 hrs for Running Hours or 6000 gallons for Fuel Used, whatever is required. Once you enter this information, the system will calculate the estimated due interval and display this value in the Due field.

6. Click **Save** when you're done configuring the schedule.

A checklist that is scheduled to be due when target cumulative reading values are reached works in conjunction with other checklists used to record cumulative readings for the selected component. The system adds those recorded reading values to the values in the Due fields.

Asset	Component	Schedule	Frequency (date)	Effective Date	Following Occurrence
*Plissken	Fuel Transfer Pump (Pump)	Scheduled	Monthly	07/01/2019	
Frequency (Running Hours)	Due (Running Hours)	Est Daily Usage (Running Hours)	Frequency (Fuel Used)	Due (Fuel Used)	Est Daily Usage (Fuel Used)
500 hr	476 hr	18 hr	6000 gal	5850 gal	200 gal

More about cumulative reading maintenance templates

Here are a few more tips to keep in mind when you're building maintenance templates that use cumulative reading types:

- You can use a Grouped Reading Category in templates designed to record readings when the same reading value will be added to multiple components. All fields in a grouped reading category will use the same cumulative reading type.
- For simplicity, clarity, and accuracy, we recommend keeping maintenance templates designed to record cumulative readings for a component separate from maintenance templates scheduled based on cumulative reading types.

Complete maintenance checklists with cumulative readings

Completing a maintenance checklist where you record cumulative reading values for a component is basically the same as in previous versions, except that you might be recording readings for more cumulative reading types than just running hours.

More about this feature

Existing maintenance templates migrated

When you update to Version 1.17, any existing maintenance checklists scheduled based on cumulative readings will be migrated with a default Est Daily Usage value of 24 hours. If the component related to template averages fewer running hours per day, you can edit the template schedule to use a different value. The closer you get to typical usage values for this field, the more accurate the system will be when estimating when a checklist will be due.

Improved visibility about when maintenance is due

Since you can now schedule maintenance checklists using more than one cumulative reading type, we updated the interface to show you more information about your cumulative reading type values and when your checklists are due. For more information, see the article *Improved visibility about when maintenance is due*.

Updates to reports

We also updated the Components, Maintenance Templates, and Maintenance Checklists reports to display the new cumulative reading types. For more information, see the article *Updates to the Components, Maintenance Templates, and Maintenance Checklists reports*.

Initialize cumulative reading values and set due values

Now that you might have more than one cumulative reading type in your system, the procedure for initializing those values and setting the due values has changed. For more information, see the *Initialize cumulative reading values and set due values* article, which walks you through the process.