Auto-Count 4D User Guide

Version 2026.1

Auto-Count 4D | User Guide

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.

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Introduction

Welcome to ePS Auto-Count 4D (Auto-Count). Auto-Count 4D is on your shop floor through a standard web browser. Auto-Count 4D is not tethered to a single installation on a workstation but can be accessed by any browser in your shop. Simply point the browser to a specific link and you can access Auto-Count 4D.

In this virtual environment you can have multiple instances of Auto-Count, each on a different version. Each instance can be upgraded individually. In this environment you can also have several Auto-Counts coexisting on a single server. Use this guide to explore the Auto-Count 4D interface and learn how to create runs from your MIS-generated jobs.

Contact Information

ePS Support		
Web Site:	https://communities.epssw.com	Read knowledgebase articles, stay up to date on the latest release information and enter support cases.
E-Mail:	dmi.support@epssw.com	Contact the product-specific support team.
Documentation Portal:	https://epsdoc.myprintdesk.net/DSF/	Download ePS documentation.

> **Note** For problems involving infrastructure (i.e., computers, networks, operating systems, backup software, printers, third-party software, etc.), contact the appropriate vendor. We cannot support these types of issues.

Getting Started

Auto-Count 4D is a browser-based product that is designed to be used in a touchscreen environment such as a tablet device but can also be used on a standard workstation with a mouse. The screens have hotspots that, when touched (or clicked upon), will perform an action. There are six main areas which are detailed in this guide.

	**Home** From here you will start shifts by selecting an employee or end a current shift. When a job is started there are functions within this screen to help you monitor and end the current run.
	**Run Queue** From here you can start a run. Click on a run and use the buttons to either view job details or start the run itself.
	**Reports** Run the standard reports that are also found in Plant Manager.
	**Production Log** The Production Log contains a list of all transactions related to a job that has been run in Auto-Count.
	**Materials** Enter materials (inputs and outputs) for the current job. You can also view pallet information for the job.
	**My Auto-Count** This page is a customizable view of the current job. You can choose which fields to display and how to display them.

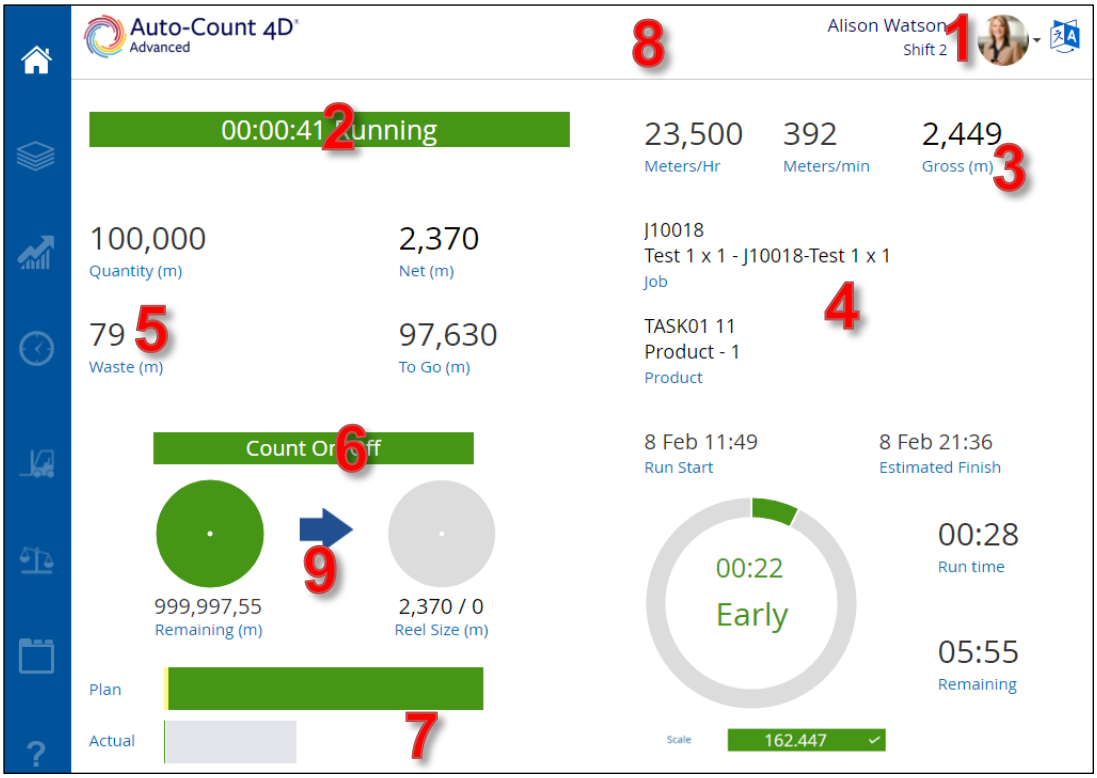
Note To learn how to use Plant Manager Browser, please see the *Plant Manager User Guide*.

Logging In

Once Auto-Count 4D is installed you simply need to open a browser window and point to the correct path to the Auto-Count you want to open. If your Administrator should have created browser bookmark links to the Auto-Count4D instance.

Home Page

The Home page is where you will start runs and monitor their progress. It is also where you log into your shift. This page has several 'hot spots' that you touch or click to open other windows for more functions and details. This streamlined interface is designed to be used on a touchpad screen, but a mouse will work just as well.



#	Click here to…
1	Open the Shift Details window to change or end the employee shift.
2	Change the Operation Code. This area will flash when the state goes into Overrun.
3	Change the unit of measure per hour and per minute. Toggle between feet, meters, and labels. (Note, Manual 4D does not support multiple UOMs.)
4	Open the Current Job window where you can view the Job Ticket, Suspend, or End the job. If your machine uses Downtime by Operator, then Auto-Count will not display the graphics like Time to Go and Run Time that are related to speed.
5	Enter waste count.
6	Enter Production. This action ends Makeready (stops counting waste) and starts the count.
7	View details on the Plan and Actual numbers.
8	This area displays messages to alert you to things like unassociated stops and down communication links. If a user does not manually clear an Alert by clicking on it, then Auto-Count 4D will clear the alert after 10 minutes. If the reason for the alert still exists, then Auto-Count will display the alert once again until someone manually clears it. There are four types of messages: Critical, Urgent, Warnings, and Information. Critical and Urgent warnings will display until the user addresses it. With critical cases the operator cannot proceed with the run until the problem is resolved. For Radius customers you will be alerted to add Materials if using traceability.
9	This displays the input and output rolls/pallets. As the input decreases the output increases. Click on either icon to open the input/output materials window icon or to end the input/output. Under the input icon, click the Remaining label to toggle to Time to Go value. This is useful so the operator can easily see how much time they have before the next splice or change.

Defining Gross and Net Units of Measure

The counting units set at the Machine Configuration level in Plant Manager are used when running a job. Gross count is the count of ‘things’ or material going into the machine. Net count is the count of ‘things’ or product coming out of the machine. Machines can have separate gross and net counters, or the net can be calculated from the gross using the job parameters. How you set up the count units at the machine configuration level is specific to your machine and workflows. For Auto-Count to count properly, you must set up the count units using these guidelines. If you aren’t seeing the correct units then check these settings and check the count settings that were sent to Auto-Count from the MIS system.

- In any scenario where the gross or net count is tied to a hardware sensor, the gross or net unit selected must be compatible with how the sensor is set up to count.
- On single count machines where the net is calculated from the gross, the net unit used will depend on the type of machine process involved. If the output from the machine is a multiple of gross, then "Pieces" should be selected as the net unit. In this case, the gross count will have a number up applied to it to calculate the net. An example of this would be a machine that consumes printed impressions but cuts these into individual output pieces.
- Finally, the MIS must be configured to send job quantities in the net unit of the machine. This is *essential* as 4D will signal the run as complete when the net count reaches the requested quantity to produce. Some systems, like Radius, send an additional Unit of Measure attribute with the job. This should also match the net unit of the machine.
- The default units displayed are from the last job loaded on the AC4D if the machine configurations are compatible. This is for ease of use if you are running several jobs in a row which have the same configuration.

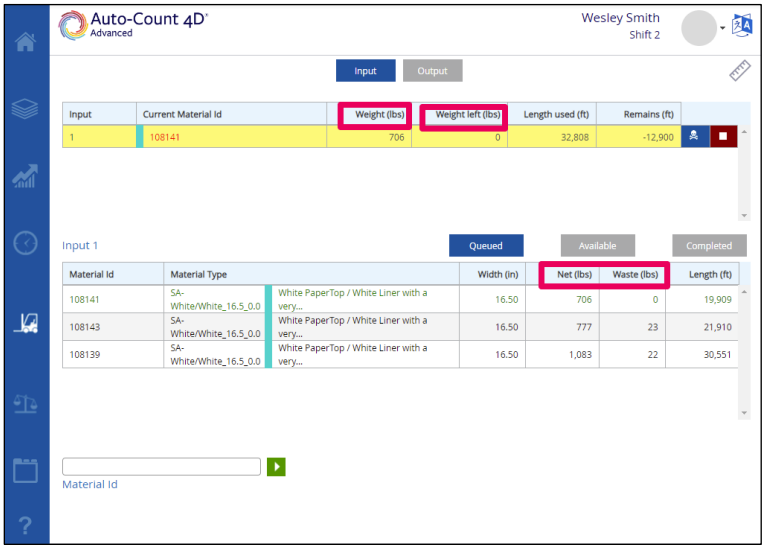
Converting Units of Measure

The Plant Manager database stores everything in metric units. To convert from weight to length, we use the calculation (GSM * width * length used). If you are not using length-based units, then Length used is (piece length * quantity).

Any measurements we send back to the MIS system is also in metric units (Kg or m).

If you do not use stock types, then we assume you are using metric also.

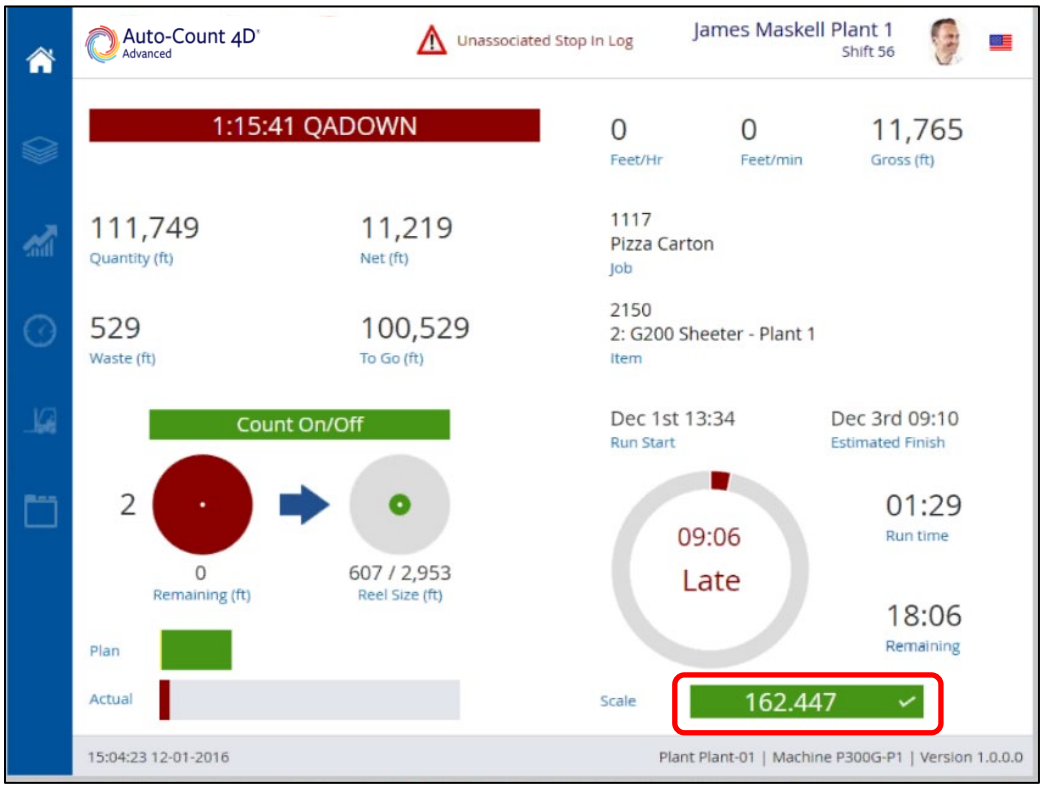
On the Input and Output screens, you can toggle weight measurements between metric and non-metric by selecting the column header.

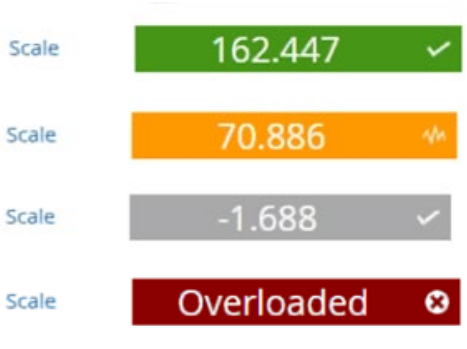


Scale Indicator

Note See the *Auto-Count Scales Setup & User Guide* for how to add a scale to an Auto-Count 4D machine. Only Auto-Count 4D Advanced machines can accommodate scales.

If your machine is connected to a scale, then the scale indicator icon on the Main page will display the amount of weight on the scale and the state of the scale.





Green = Scale is on and functioning.

Orange = Scale is noisy.

Grey = Scale is off.

Red = Scale is overloaded and attention is needed immediately.

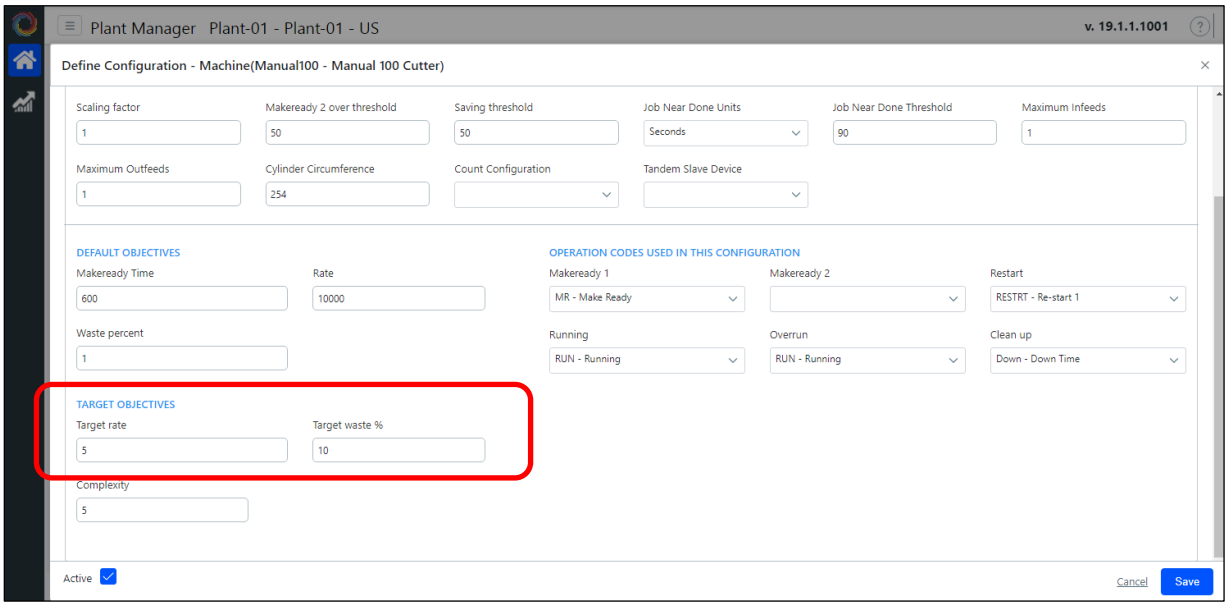
Color Changes on Home Page when Target Values Reached

> **Note** To enable this feature you must use Plant Manager Web which is in Early Adopter release. You can install it from Setep.exe and it can run side by side with the current Plant Manager desktop application.

If you set the values **Target rate** and **Target waste %** in Plant Manager Web > Machine Configuration > Target Objectives then the waste and speed indicators on the Home screen will change colors when the operator reaches those targets and a message displays telling the operator they have reached their targets.

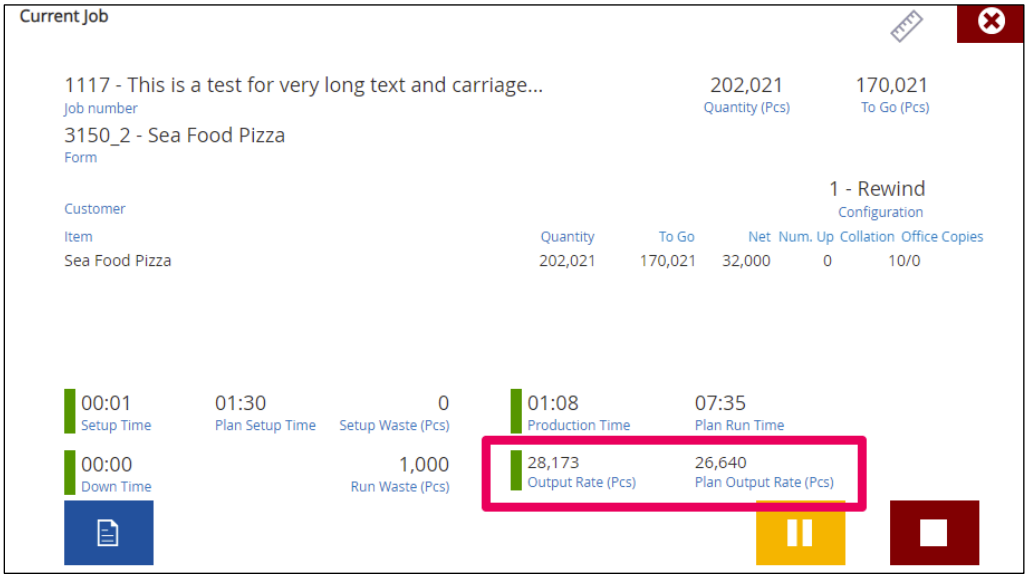
Target rate is a % value. This percentage is added to the Objective rate to create a new target rate. For example, if the objective rate is 1000 and the Target Rate % is set to 10. then the new Target Rate is 1100

The Target waste is a % of net count. So, if you have counted 1000 net copies and the Target Waste is 10%, then you will meet the target if the current amount of run waste is less than 100.

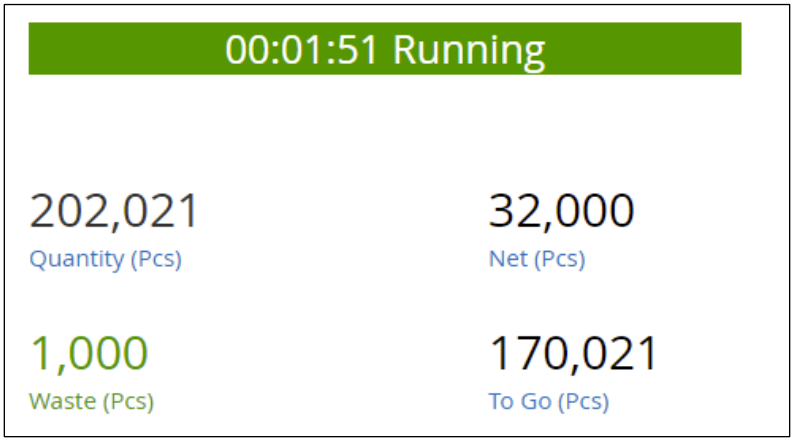


If the Output Rate target is met, then the Speed data will turn green.

The target values relate to Output Rate, which displays on the job details screen.

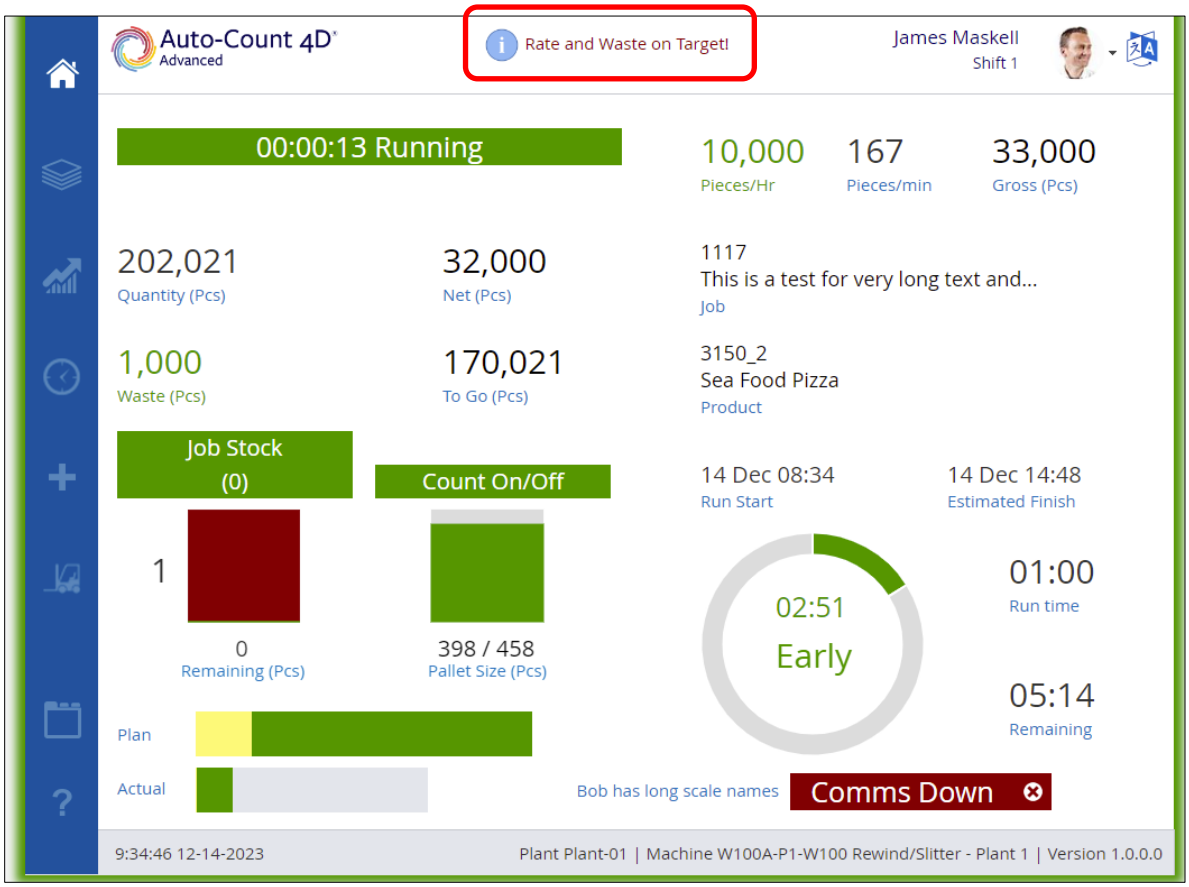


If the waste target is being met, then the waste field will turn green.



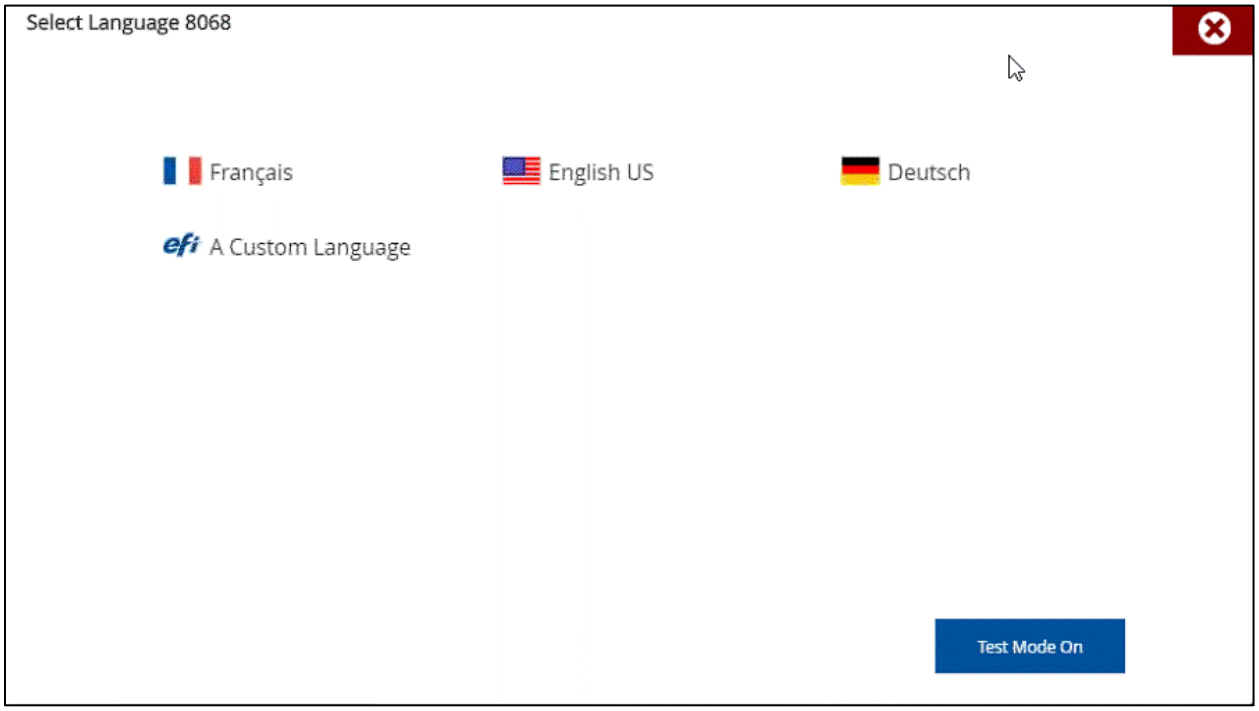
When ***both*** the Output Rate Target and Waste Target are being met, then we display the motivational message at the top of the screen and the border of the 4D screen turns green.

Note In Plant Manager Web you can customize this banner text.



Languages

To use another language, select the language icon in the upper right to open the language window. Then select the language.

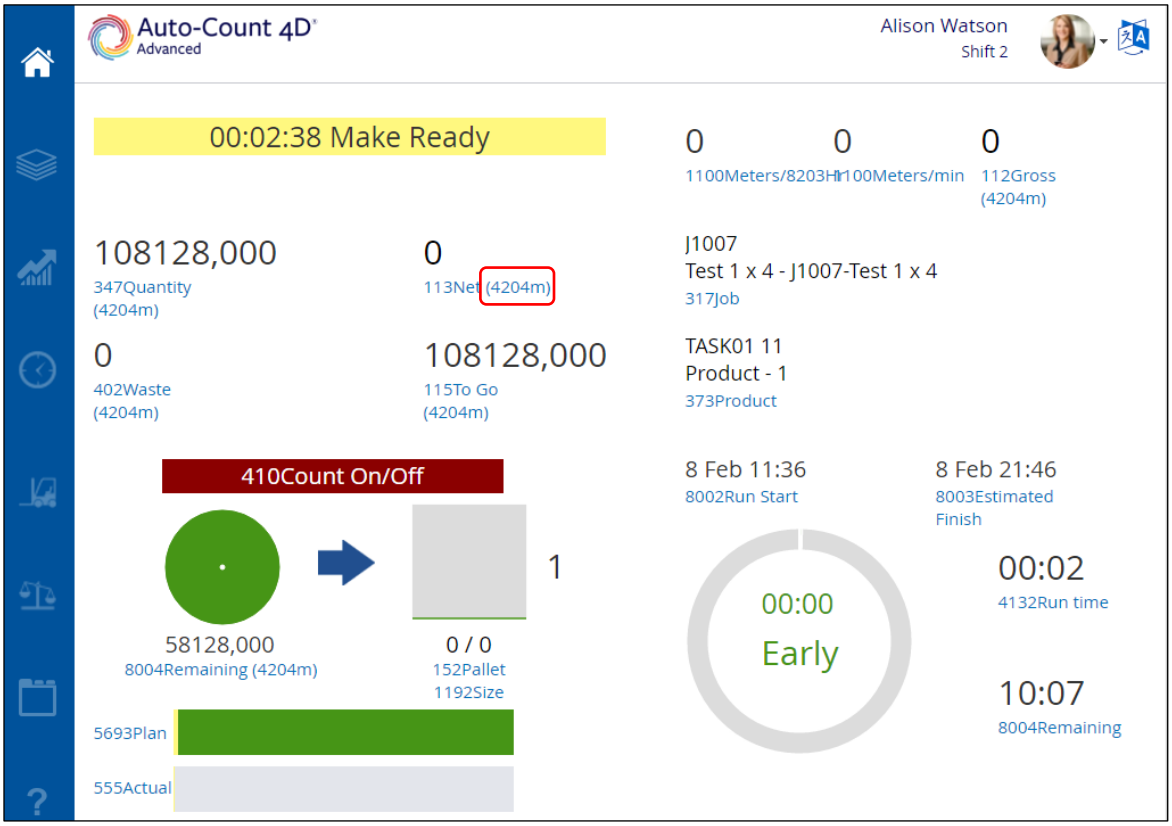


How do I add languages?

In Plant Manager Admin, open the plant/company and select Languages. Here you can select from a list of languages to display at the AC4D.

Test Mode

When you select a language and then click **Test Mode**, Auto-Count displays the message number beside the field name, so you can customize the field name in the underlying text file. For more information, please contact Support.

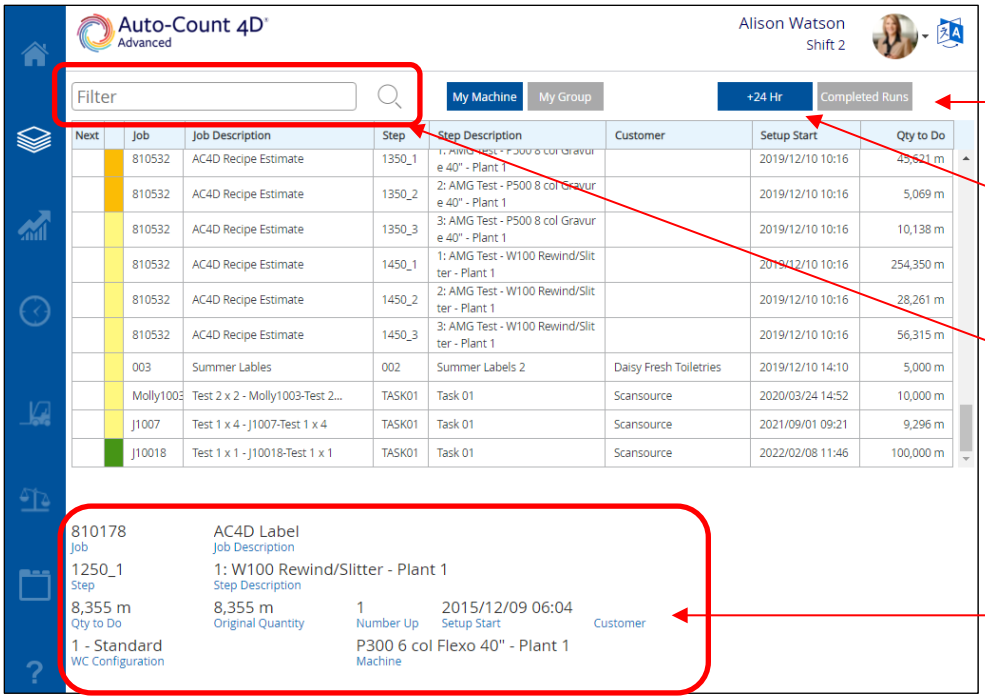


Run Queue Page

The run queue page displays runs that are ready to be loaded, are running or suspended, and completed runs. There is an option in Plant Manager Admin > Options where you can set the number of days that completed runs will be displayed before being removed from the run queue – the default value is 7 days.

You can click the column headers to sort the grid. New jobs created within the MIS system will be available in the 4D Run Queue within a minute. The first column displays a color denoting the state of the run:

- White – new
- Green – running
- Yellow – suspended (paused)
- Red – completed
- Orange – built (Happens when you add a run to My Run List but then remove it. The run remains built.)



Click here to view the last 10 completed runs.

Click here to filter on Runs set to complete within 24 hours

Enter a search string (text or numbers) to search across the columns to easily find runs.

Note: Administrators can make columns unsearchable in Plant Manager > Groups.

Click anywhere in here to start a run. This opens the Job Details window. See below for details.

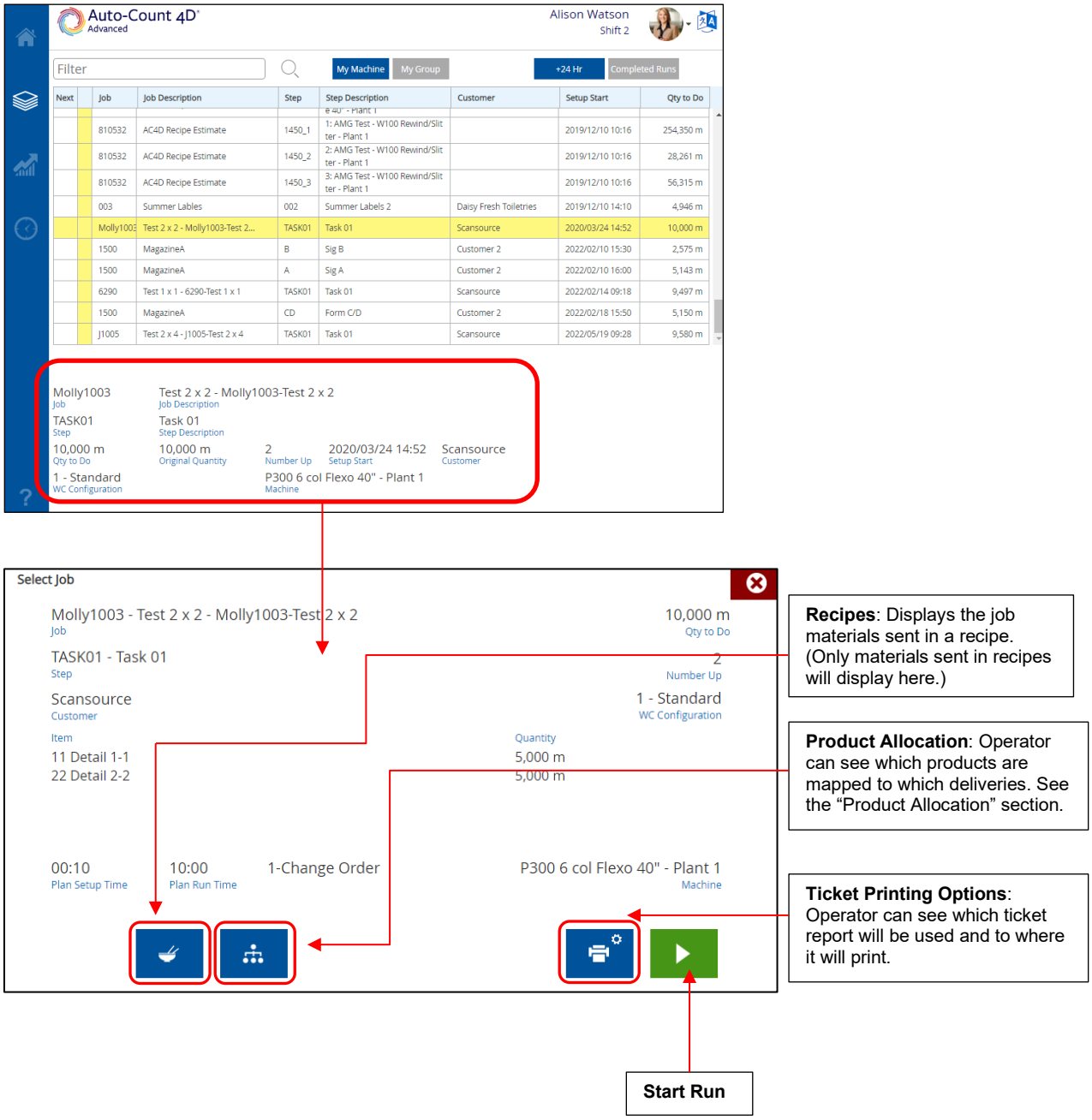
Note There is an option in Plant Manager > Define Machine > Options where a user can choose to not display the Run Queue. Users would simply search for jobs using the Job ID.

You can also create a Run Queue type Group in Plant Manager if you want to display specific columns for this machine. For example, if you want to see recipe materials for a run, you can add that to your custom run queue group. You can also make columns un-searchable. Please see the Setup Guide for details.

Completed Runs: Auto-Count will only send down the last 10 completed runs to the Run Queue. To re-start those completed runs, you must have the option **Allow users to start completed runs** enabled in Plant Manager for this Auto-Count.

Select Job Window

When you click the run information area after selecting one from the Run Queue, the Select Job window opens. From here you can see important details for the job/run. The Job ID, description, products, materials, etc.

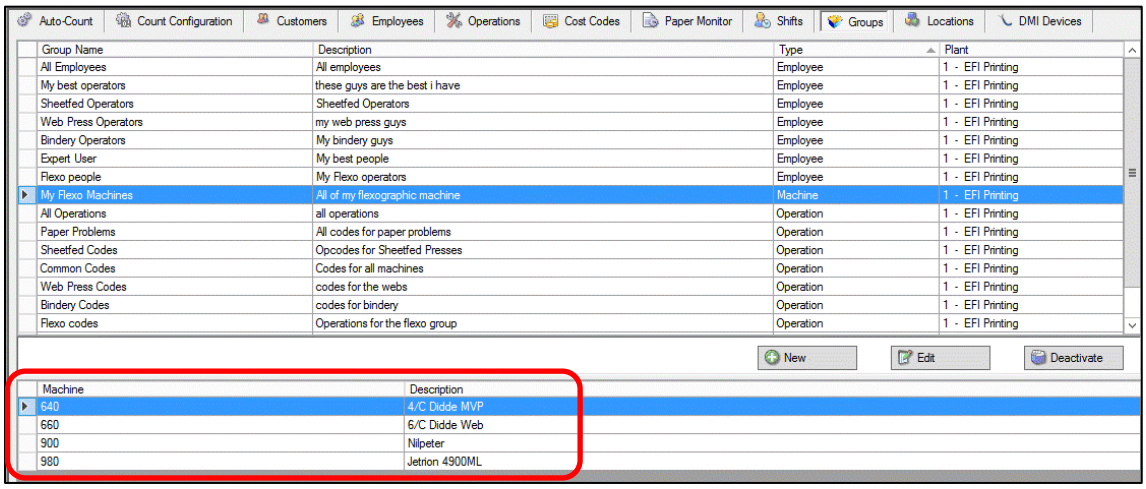


My Machine / My Group

These buttons help filter the list of displayed runs.

- **My Machine**: This is the current machine you are logged into.
- **My Groups**: To create this filter, 4D looks to any Machine Group (set up in Plant Manager) to which this machine belongs and displays runs from all machines in that group(s). This is especially useful if you create Machine Groups by type. When you move runs between these machines, you can use the My Groups button to easily find those runs and then start the run on the current machine.

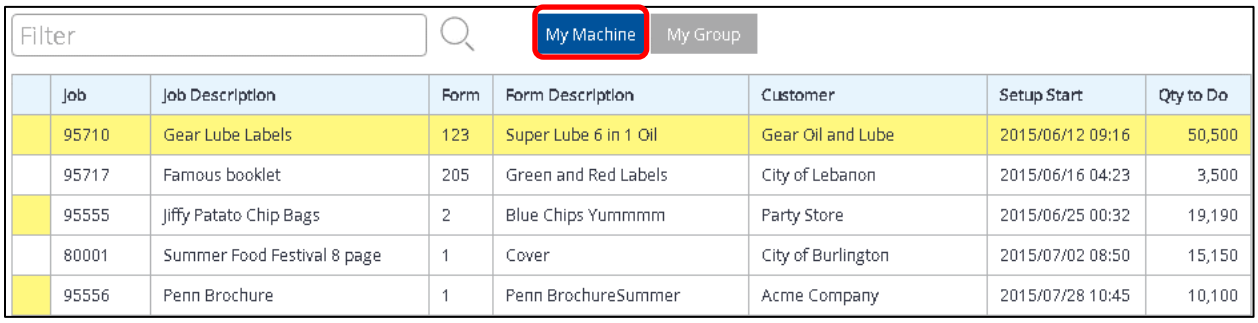
In this example, a machine group was set up in Plant Manager for all flexo type machines. There are four machines in this group.



Group Name	Description	Type	Plant
All Employees	All employees	Employee	1 - EFI Printing
My best operators	these guys are the best i have	Employee	1 - EFI Printing
Sheetfed Operators	Sheetfed Operators	Employee	1 - EFI Printing
Web Press Operators	my web press guys	Employee	1 - EFI Printing
Bindery Operators	My bindery guys	Employee	1 - EFI Printing
Expert User	My best people	Employee	1 - EFI Printing
Flexo people	My Flexo operators	Employee	1 - EFI Printing
My Flexo Machines	All of my flexographic machine	Machine	1 - EFI Printing
All Operations	all operations	Operation	1 - EFI Printing
Paper Problems	All codes for paper problems	Operation	1 - EFI Printing
Sheetfed Codes	Opcodes for Sheetfed Presses	Operation	1 - EFI Printing
Common Codes	Codes for all machines	Operation	1 - EFI Printing
Web Press Codes	codes for the webs	Operation	1 - EFI Printing
Bindery Codes	codes for bindery	Operation	1 - EFI Printing
Flexo codes	Operations for the flexo group	Operation	1 - EFI Printing

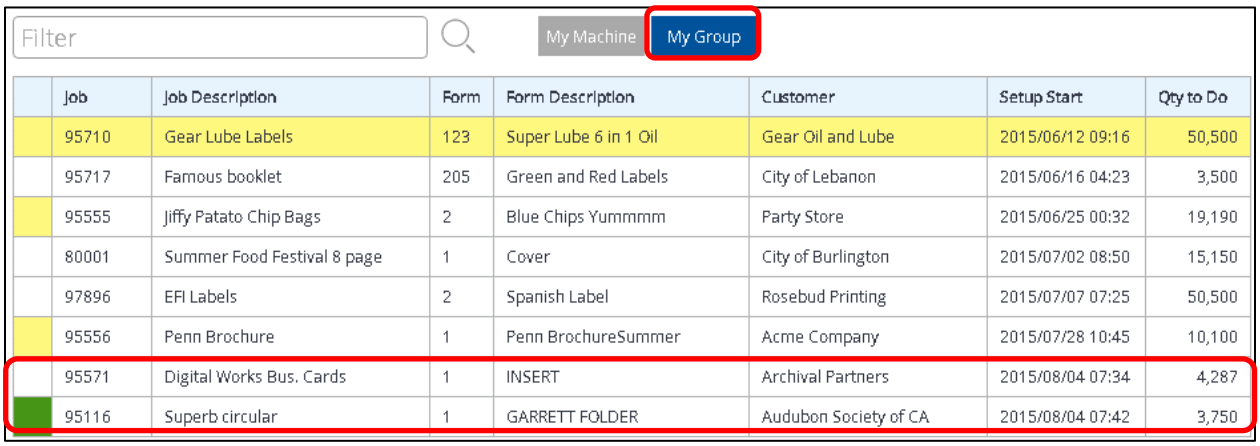
Machine	Description
640	4/C Didde MVP
660	6/C Didde Web
900	Nilpeter
980	Jetrion 4900ML

Since machine 900 is the Auto-Count you are logged into, if you select **My Groups** then it will list any runs on machines 640, 660 and 980 as well as the current machine, 900.



Job	Job Description	Form	Form Description	Customer	Setup Start	Qty to Do
95710	Gear Lube Labels	123	Super Lube 6 in 1 Oil	Gear Oil and Lube	2015/06/12 09:16	50,500
95717	Famous booklet	205	Green and Red Labels	City of Lebanon	2015/06/16 04:23	3,500
95555	Jiffy Patato Chip Bags	2	Blue Chips Yummmm	Party Store	2015/06/25 00:32	19,190
80001	Summer Food Festival 8 page	1	Cover	City of Burlington	2015/07/02 08:50	15,150
95556	Penn Brochure	1	Penn BrochureSummer	Acme Company	2015/07/28 10:45	10,100

In this example there are two additional jobs which are on other machines. Select a job to see the job details.

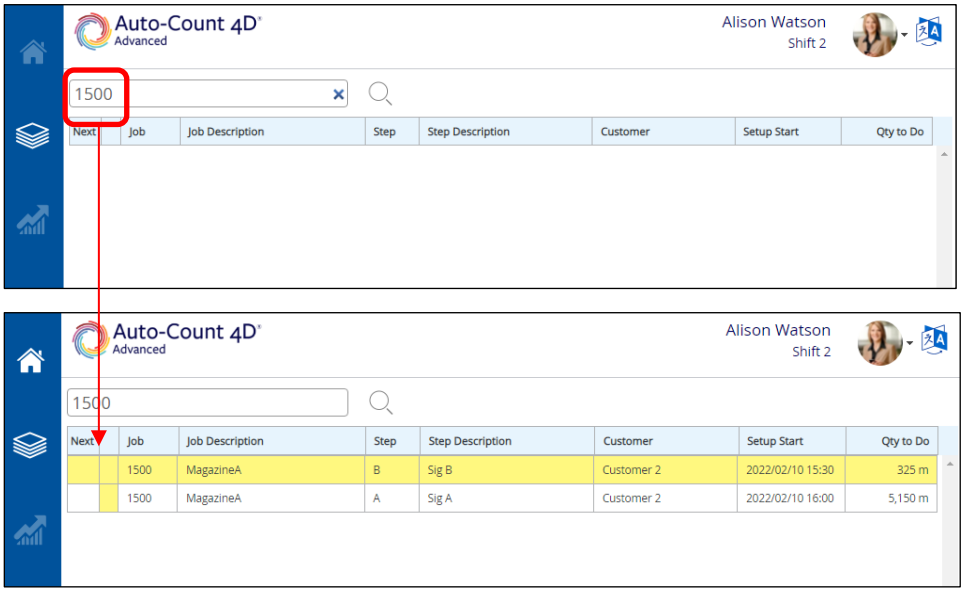


Job	Job Description	Form	Form Description	Customer	Setup Start	Qty to Do
95710	Gear Lube Labels	123	Super Lube 6 in 1 Oil	Gear Oil and Lube	2015/06/12 09:16	50,500
95717	Famous booklet	205	Green and Red Labels	City of Lebanon	2015/06/16 04:23	3,500
95555	Jiffy Patato Chip Bags	2	Blue Chips Yummmm	Party Store	2015/06/25 00:32	19,190
80001	Summer Food Festival 8 page	1	Cover	City of Burlington	2015/07/02 08:50	15,150
97896	EFI Labels	2	Spanish Label	Rosebud Printing	2015/07/07 07:25	50,500
95556	Penn Brochure	1	Penn BrochureSummer	Acme Company	2015/07/28 10:45	10,100
95571	Digital Works Bus. Cards	1	INSERT	Archival Partners	2015/08/04 07:34	4,287
95116	Superb circular	1	GARRETT FOLDER	Audubon Society of CA	2015/08/04 07:42	3,750

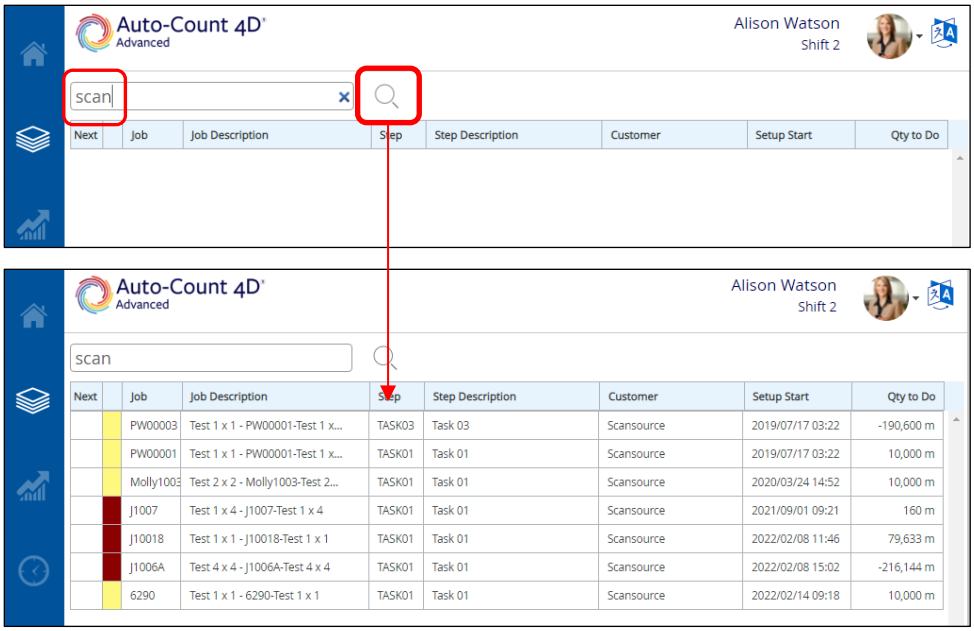
Search Runs Outside of Current Run Queue Range

You can search for a run in the database that isn't on the current run queue. Using this feature, you can add a run directly from your machine's database without having to keep a very large, downloaded run queue list which can cause performance issues with the Auto-Count. This is useful if you have the **Disable Run Queue** feature turned on.

To search for a specific Job ID when the Run Queue has been disabled, enter it in the search box and press **<Enter>**.



To search for a search string across all columns, use the spyglass icon.



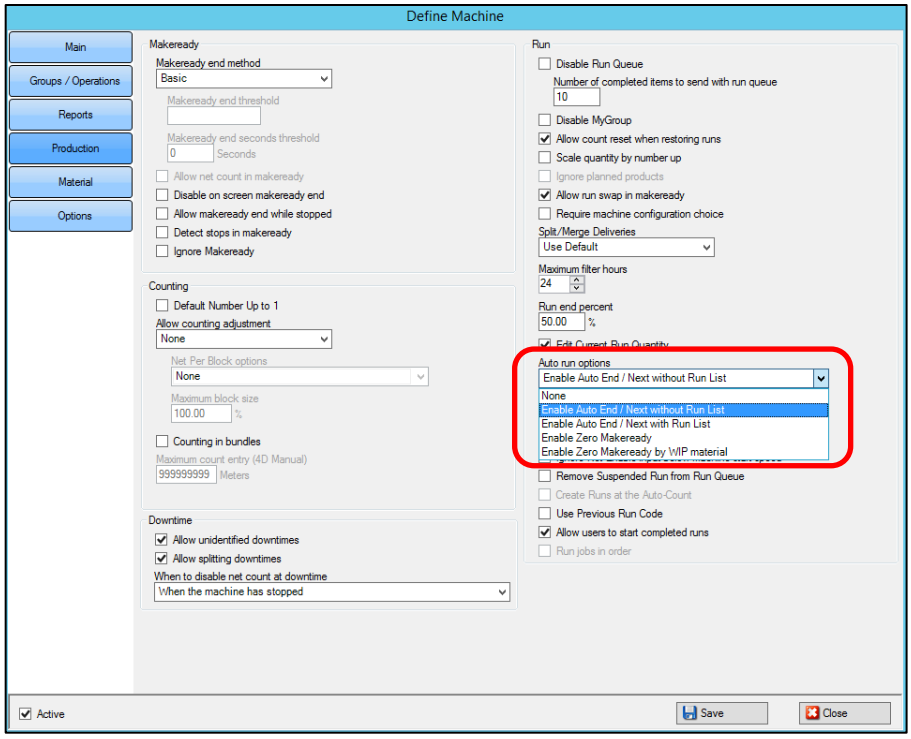
> **Note** In Plant Manager > Define Machine > Production, you can specify how many completed runs you want to display in the search results. Ten is the default.

Creating a Run List and Zero Makeready Options

Operators can choose to create a run list containing multiple runs that they want to queue so Auto-Count will automatically run them. There are two types of run lists that you can create depending on the options you choose in Plant Manager. For more details see the section below, "*Start a run automatically after current run ends*."

In **Plant Manager > Define Machine > Production** there are Auto Run options:

Run List Options	
Auto run options	Select how you want to queue and automatically switch from one run to the next.
None	Don't automatically switch runs.
Enable Auto/End Next without Run List	(Use to queue one run at a time.) This option will automatically end the current run once it is count complete and the machine stops, then it will load the next run from the Run Queue. To queue the next run, operators must select the Next column next to a run in the Run Queue. (This will not enable the Run List.) If another run is not queued, then the current run will end and go into Cleanup.
Enable Auto/End Next with Run List	(Use to queue multiple runs) This option will automatically end the current run once it is count complete and the machine stops, then it will load the next run. To queue multiple runs, click the Next column from the Run Queue. You can then click the My Run List button to adjust the run list as needed. If it is the last run in the list, then the run will go into Cleanup.
Enable Zero Makeready	(Use to queue multiple runs without stopping the machine) This option will automatically end the current run once it is count complete. With the machine still running, Auto-Count will then load the next run from the Run List directly into production, skipping makeready. If it's the last run, the run will go into Cleanup.
Enable Zero Makeready by WIP material	This option automatically ends the current run and loads the next run from the Run List when the WIP material changes, instead of changing at count complete. Auto-Count will choose the next run based on the WIP material and not the Run List order.



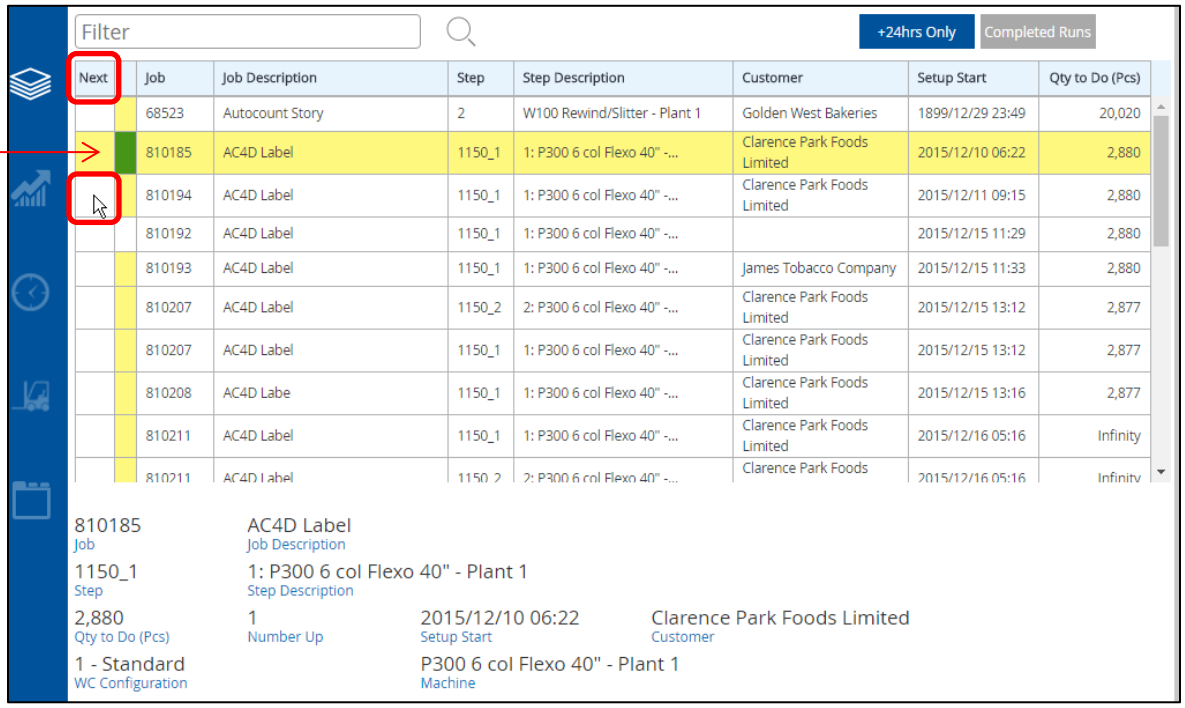
Auto/End Next

Auto-Count can use the **Auto/End Next** feature to automatically load the next run once the current run reaches count complete and the machine has stopped. In the Run Queue there is a column called **Next** which allows you to select the next run to load. This option only allows you to queue one run. See the '*Auto/End Next with Run List*' below to learn how to set up a Run List.

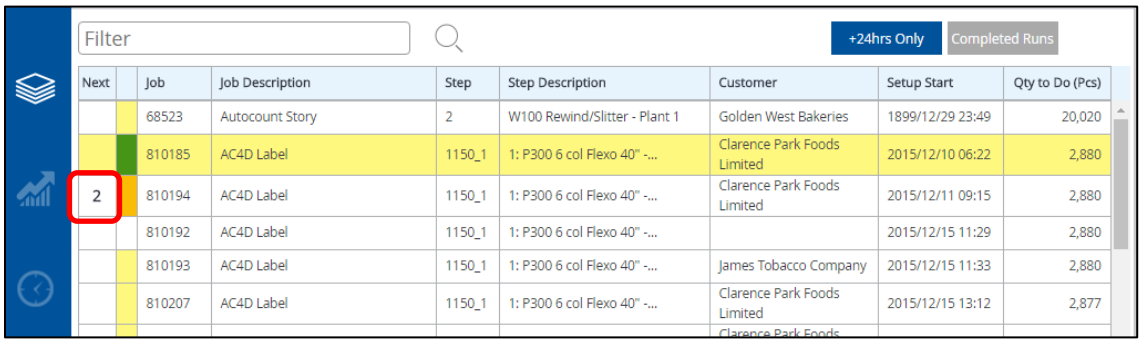
Once you have started a run, open the Run Queue. Select the **Next** column of the run you want to queue.

With current run loaded.

Select your next run.



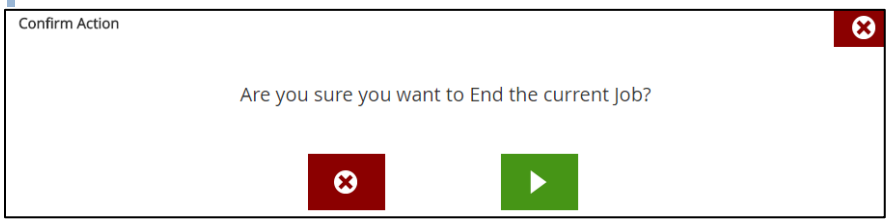
This puts a '2' in that cell to mark that as the next run to be loaded automatically.



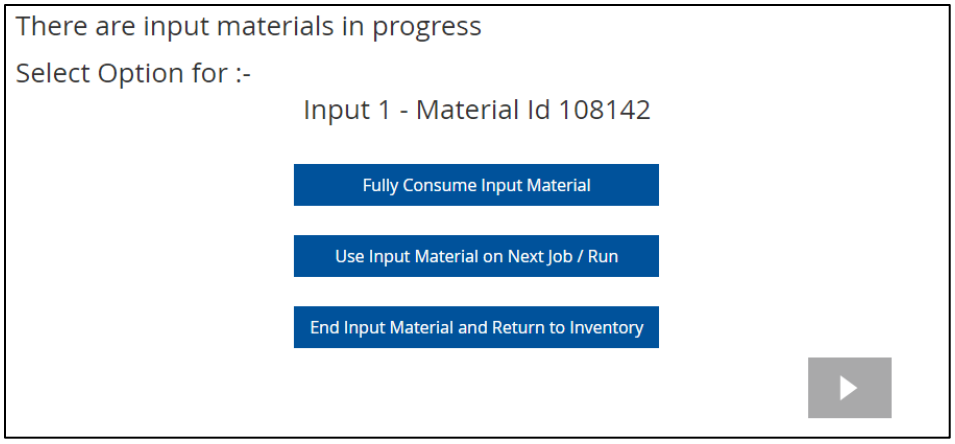
Back on the main window, if you open the Current Job window, Auto-Count displays the next job to be run.

Once the current run ends, the next job will automatically be loaded.

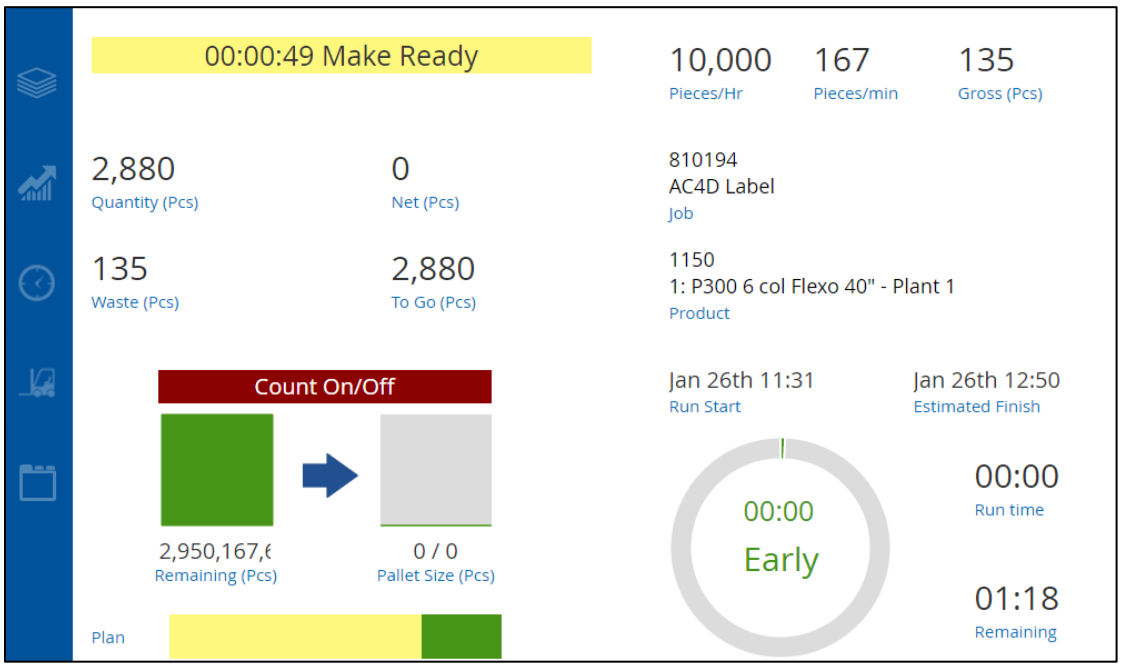
Note: When you have the Auto End Next feature enabled, Auto-Count will not need the operator to manually end the current run. As soon as the count is complete, and the machine stops, Auto-Count will load the queued run. Once the operator starts the machine again, the run continues.



If there are materials still on this run you will be asked how to use them. You can choose to use them on the next run automatically.



Once you complete the input material window the next run will automatically load.

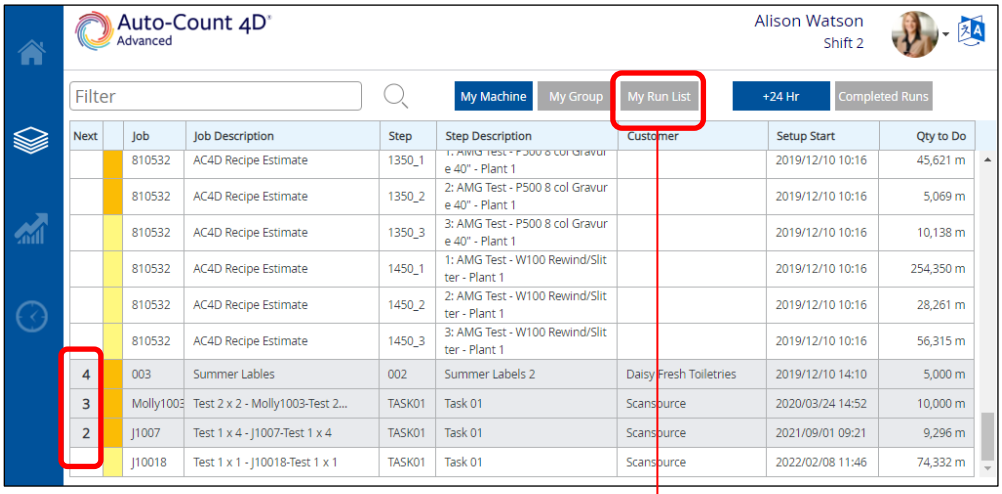


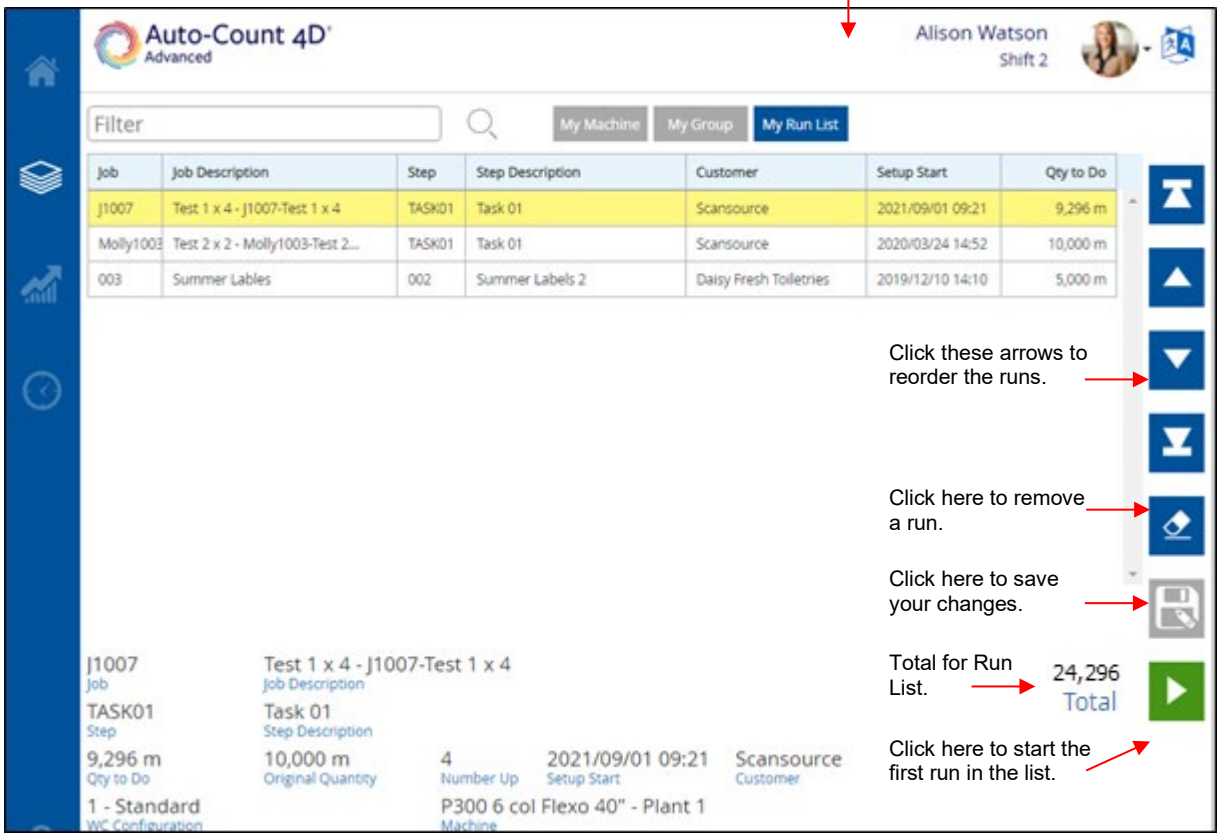
Auto/End Next with Run List

When this option is turned on, the operator can create a Run List and queue up several runs at a time. Once the count complete has been reached and the machine stops, Auto-Count will automatically load the next run in the list. A button also displays – **My Run List.** This option gives the operator time to prepare material and other makeready functions between runs. Auto-Count will then load each run, in this order, after the previous run is count complete and the machine has stopped.

First select the runs for the run queue.

Then click My Run List to change their order or delete a run from the list.





Zero Makeready

You can also choose in Plant Manager to enable Zero Makeready which is set up in the same way as Auto/End Next. But, when in Zero Makeready, Auto-Count will automatically load the next run directly into a Production state **without stopping the machine**. This means the operator does not need to stop and start the machine manually.

> **Warning** When using the Zero Makeready options, the operator will not have a chance to load the materials between runs. They are responsible for queueing up all correct material at the beginning of the ZMR run. The ZMR workflow is designed to use the same material for all loaded runs.

Zero Makeready by WIP

You can also create a Zero-Makeready run list based on WIP materials. An operator can set up a list of runs which use different WIP materials. After building a local run list the operator must scan the WIP items in the order they will be used. Subsequent WIP items will validate against any of the runs in the current run list.

In addition to this, Auto-Count can trigger the run to change based on the WIP material changing with the option – **Enable Zero Makeready by WIP materia**l. When this option is selected, then Auto-Count will automatically end the current run and load a new run from the Run List when the WIP material changes, instead of changing at count complete. Essentially when you splice in the new WIP material, Auto-Count detects this and changes the run accordingly. Auto-Count will know which run contains which WIP material and use this information to change the run. The order in which an operator scans WIP materials does not need to match the run list order so items can be entered as they arrive. For example, if you set up your run list and then scan in your materials, the run list will automatically re-order based on the order of the WIP materials that were scanned in.

Run jobs in order

In Plant Manager there is an option called **Run jobs in order**. When enabled, jobs are displayed in the Run Queue by their Setup Start Date and must be run in that order. If an operator must run a job out of order, then Auto-Count will prompt for a Supervisor override.

> **Note** This option is disabled if any of the Auto Run Options are enabled. If your MIS does not support Supervisors in Auto-Count then you may not be able to use the override feature.

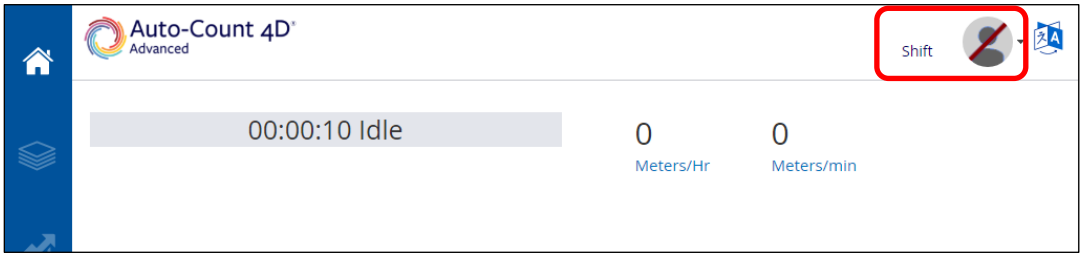
Selecting Leaders and Changing Shifts

Before you can use Auto-Count, a leader must be logged in. Once the leader is logged in, you can also set the next shift and leader.

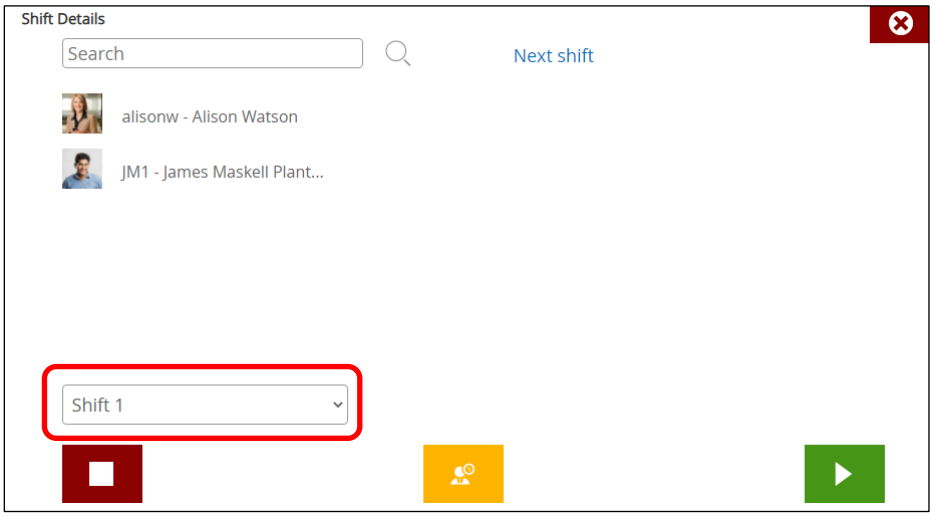
> **Note** Set up your employees and shift information in Plant Manager. For Radius users, if you have a User code set up for an employee, then users will be prompted to enter their Radius password when logging into Auto-Count 4D.
>
> Monarch Foundation users can also use their Foundation username and password to log into Auto-Count 4D.
>
> If the MIS system does not send down a shift for the employee, then Auto-Count will automatically choose Shift 1 (which the user can change) if that Shift 1 is a defined shift.

To log in a Leader and start a shift

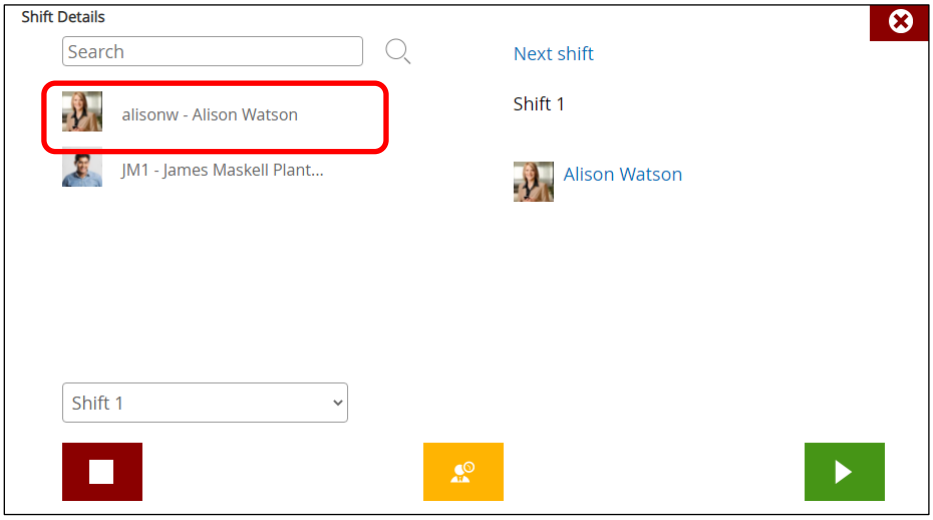
1. From the Home page click the Leader area.



2. In the Shift Details window, from the drop-down menu, choose a Shift.

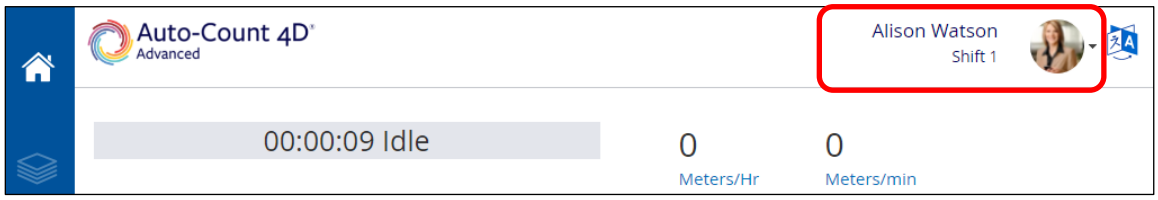


3. Next, select a leader from the list. You may use the Search field to find a Leader as well.



3. Click Start.

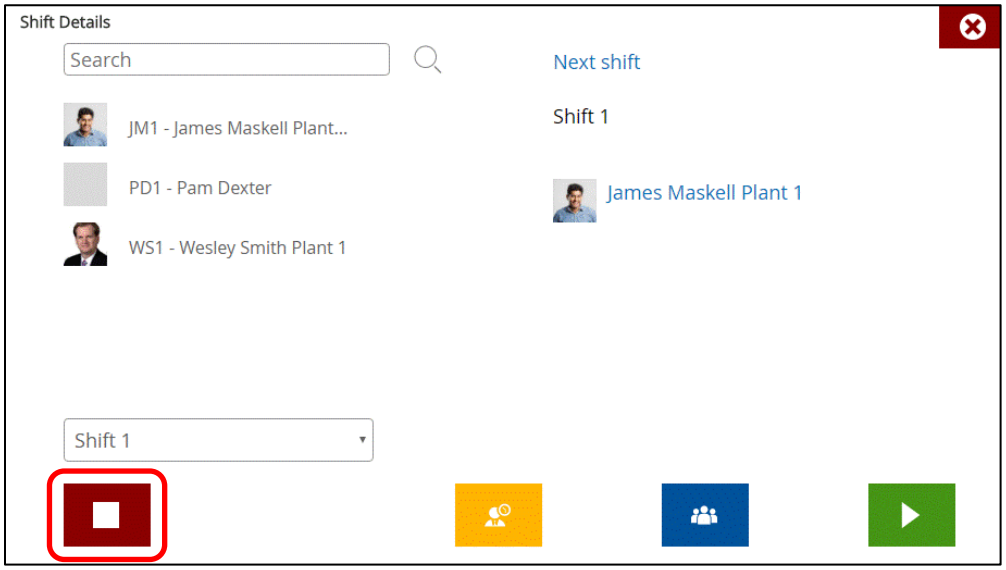
4. The Leader is now logged in.



Note For Radius users who have a User code and password set up in their Radius employee file, they will be prompted to enter their Radius password before being logged in. This functionality is not available for Radius Shop Floor.

To log out a Leader

1. Open the Shift Details window and click the stop button.

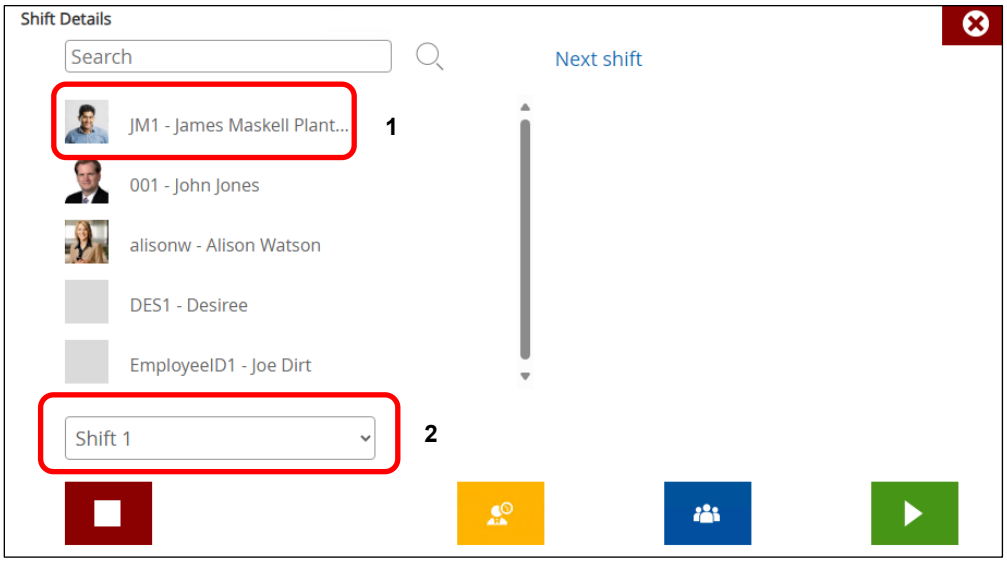


2. The leader is now logged out.

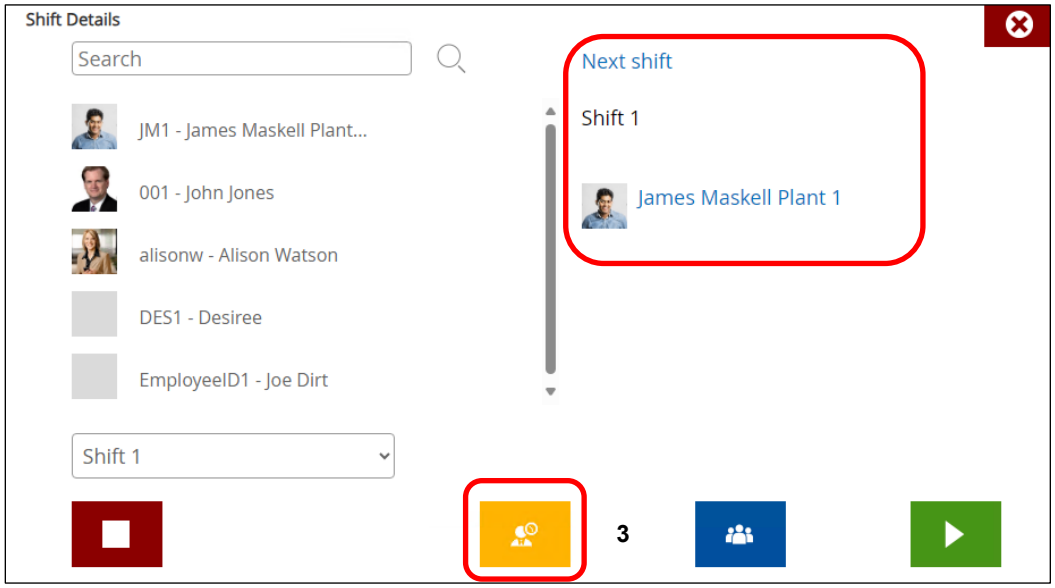
Note Unless you allow users to end a run without identifying downtimes (Plant Manager > Define Machine > Options) users will be prompted to select a reason code for all unidentified stops before logging out.

To select a leader for next shift

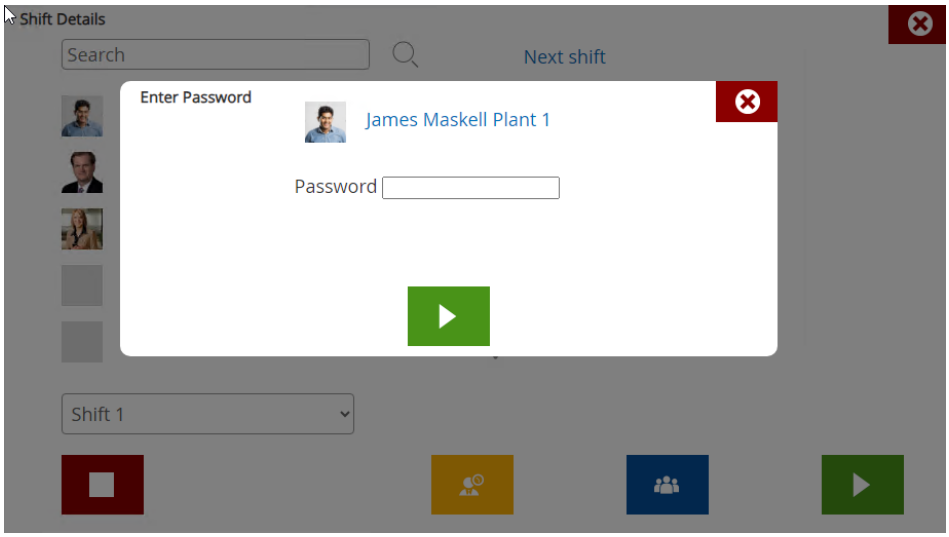
1. Open the Shift Details window and select an employee and a shift.



2. With a shift and employee now selected, click the yellow **Next Shift** button.

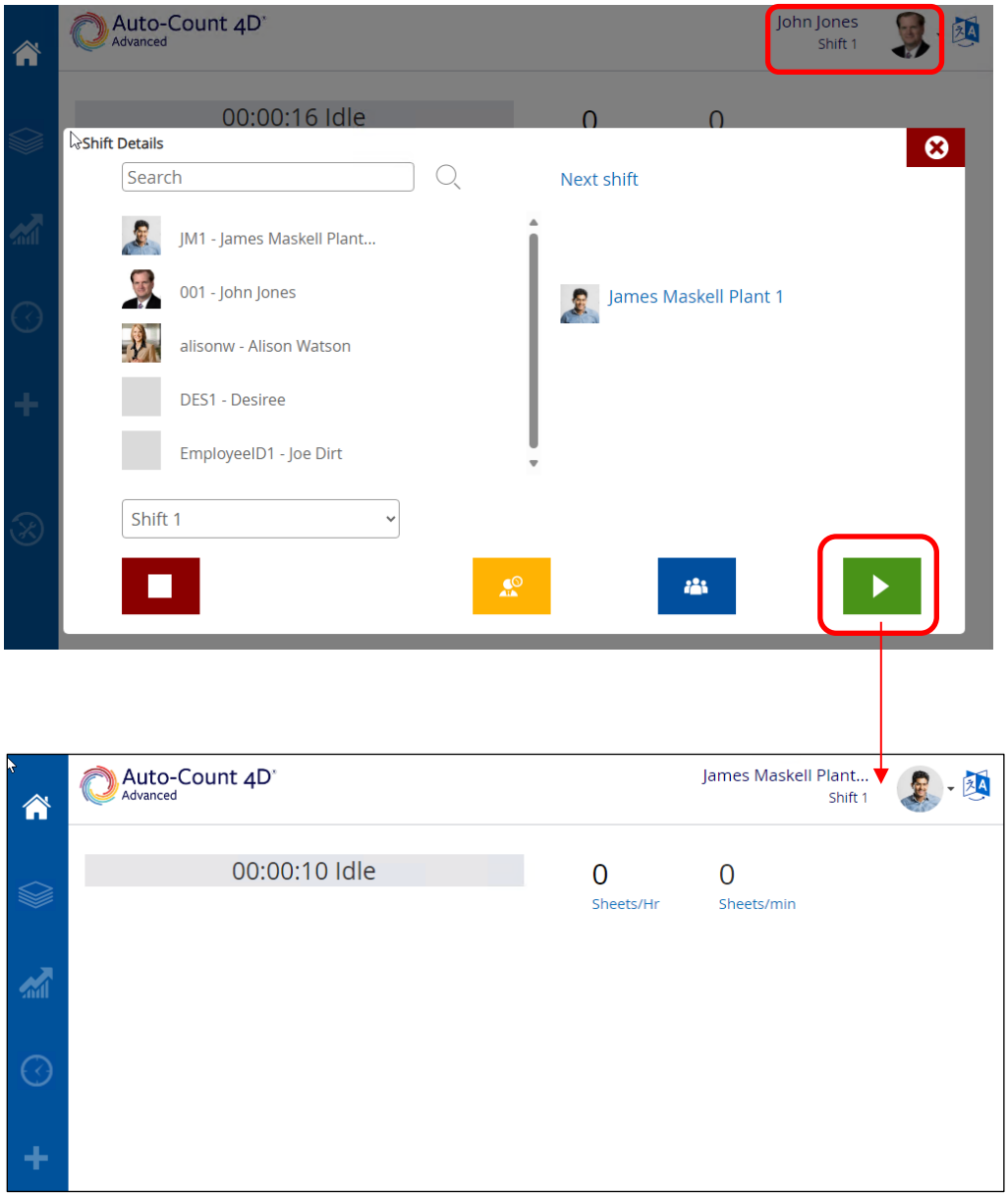


If your employee has a password, then enter it now.



3. This will close the window and return you to the main Auto-Count window, and the current leader and shift will remain the same.

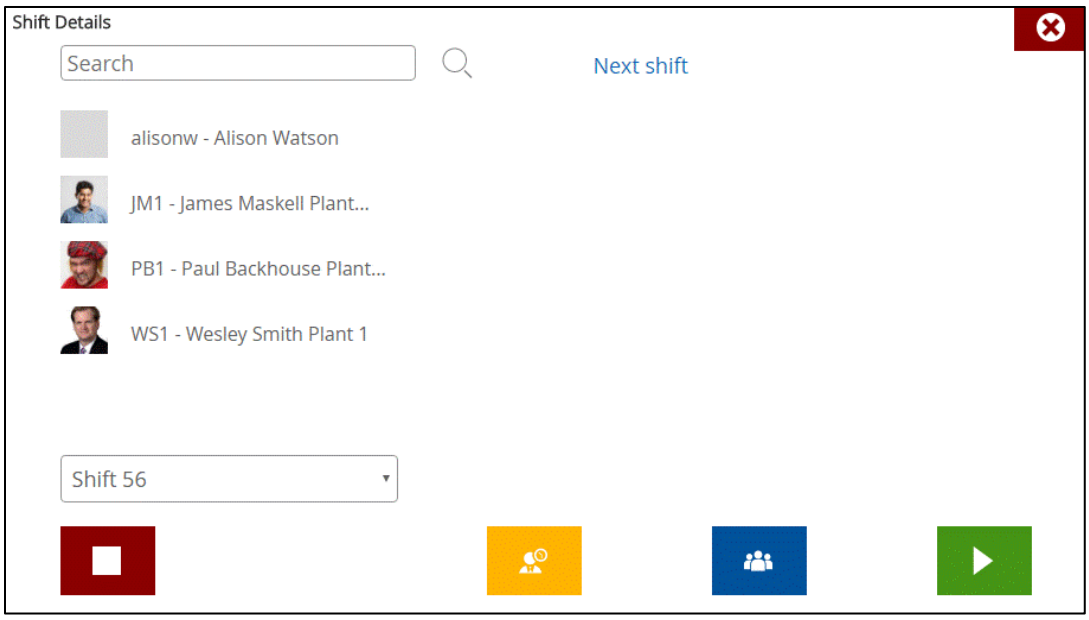
4. When you want to change the shift, simply open the Shift Details window and click the green **Start** button. The current leader will be logged out and the Leader for Next Shift will be logged in. They will be prompted to enter their password if required.


Auto-Count 4D
Advanced
John Jones
Shift 1
00:00:16 Idle
0
0
Shift Details
Search
Next shift
JM1 - James Maskell Plant...
001 - John Jones
alisonw - Alison Watson
DES1 - Desiree
EmployeeID1 - Joe Dirt
James Maskell Plant 1
Shift 1
Auto-Count 4D
Advanced
James Maskell Plant...
Shift 1
00:00:10 Idle
0
Sheets/Hr
0
Sheets/min

Machine Shift Cycles

Auto-Count 4D supports Machine Shift Cycles. Your MIS system must send the shift pattern data to Plant Manager and then you must select the option Machine Shift Cycle in the Plant Manager > Define Machine window. Auto-Count will use this information to automatically end shifts based on the times set up in your shift patterns.

Machine Shifts change shifts based on time intervals instead of employees who manually log in and out of the shift. This is a good option if you only want to track the hours the machine is running. In the Shift Details window users will see the **Current Shift** and the **Next Shift**.



Machine shift rules

- When a shift changes, Auto-Count 4D will split the operation code currently in use between the previous shift and the new shift.
- An employee must always be logged in when you use machine shift. If you run a 24/7 shop, then you can set up a 'dummy' employee to fill in the gaps when an actual employee is not logged in.
- If the Leader for Next Shift is blank when the shift changes, the Auto-Count logs out and immediately logs in the current Leader. This allows the current transaction to be repeated. You only want to collect information on the machine – not the employee. The Shift and Shift Date information for the employee will not change, only the Machine Shift will change.
- If the Leader for Next Shift is not blank when the shift changes, Auto-Count automatically logs out the current Leader and logs in the next one. The previous Leader will be allowed to edit the production allowed, if necessary.
- When the Auto-Count is not running when a Machine Shift change is supposed to occur, it logs in the correct shift as of the current time and date.

Crew Helpers

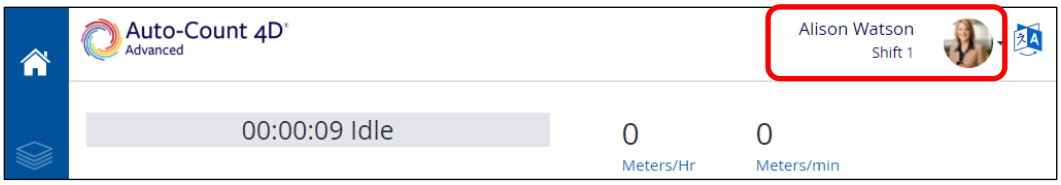
> **Note** If your MIS system requires tracking of helper crews then you will want to turn on this feature. Currently, there is not a report in Auto-Count to reflect helper tracking.

Auto-Count 4D can track crews (Helpers) that are assigned to work a run and assist the main operator (Employee) who is logged into the shift. You can create helpers from current employees or even add non-employee type helpers as needed. All transactions are still logged against the employee who is signed into the shift; Auto-Count will simply track a helper's time – when they logged on /off.

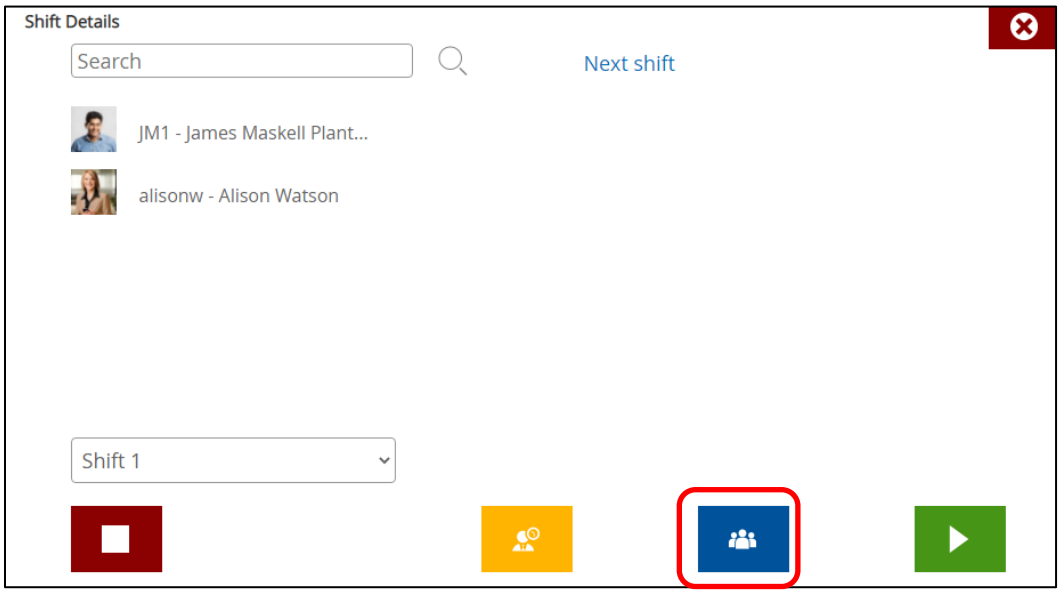
> **Note** Before you can use helpers, in Plant Manager you must create a Helper group type and assign that group to a machine. For details, please see the *Plant Manager and Auto-Count Setup Guide.*
>
> If your MIS requires that all helpers are employees in the database, then you must choose **Only known helpers** in Plant Manager.

To add helpers to an Employee

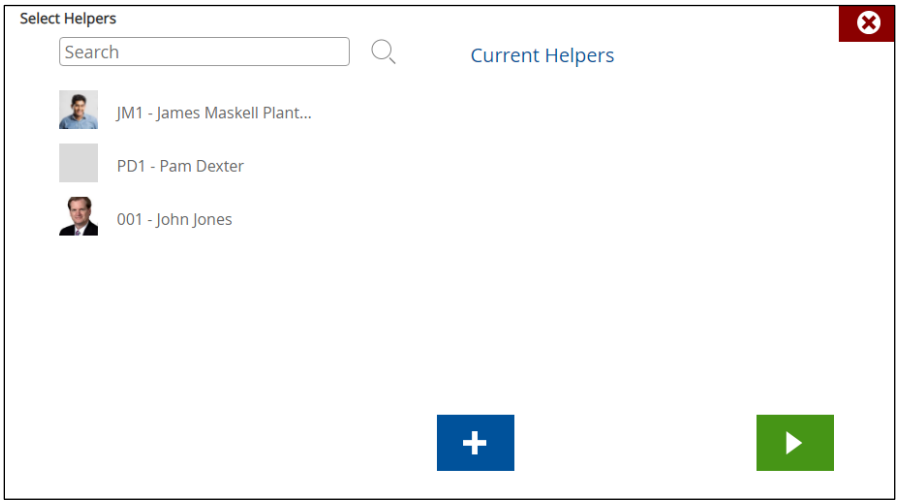
1. First, confirm that you have an employee logged in to this Auto-Count. Then open the Shift Details window by clicking here:

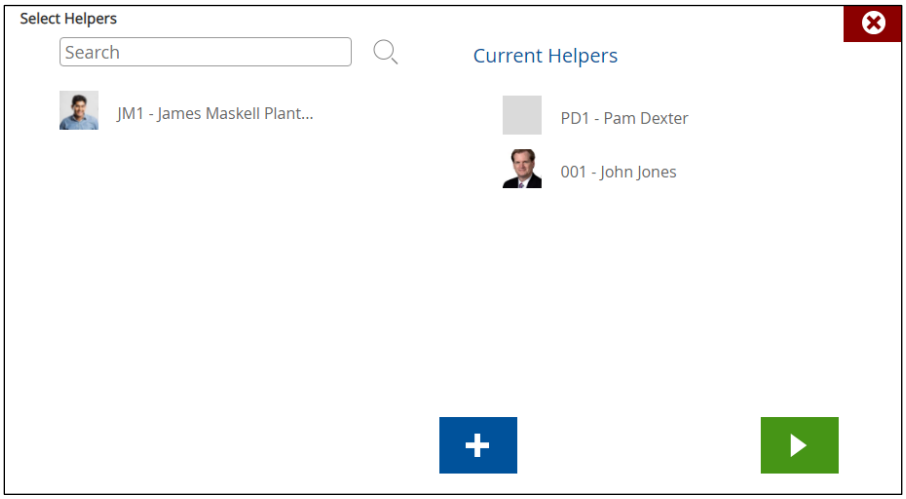


2. In the Shift Details window, click the Helpers button.



3. In the Select Helpers window, on the left side, select the helpers you want to use. As you click the names, they will automatically be added to the Current Helpers list.



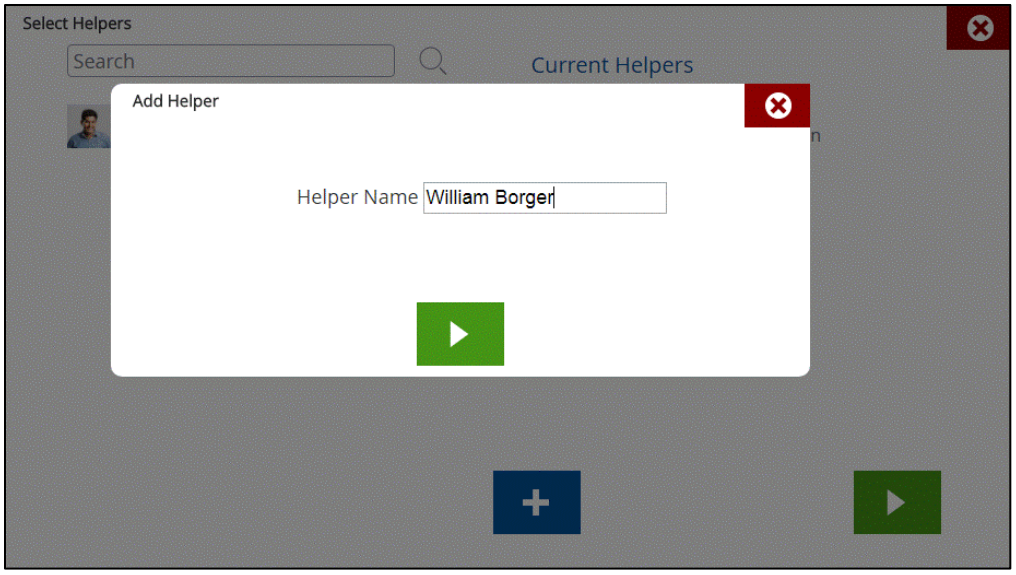


4. Click  to add the helpers to this employee.

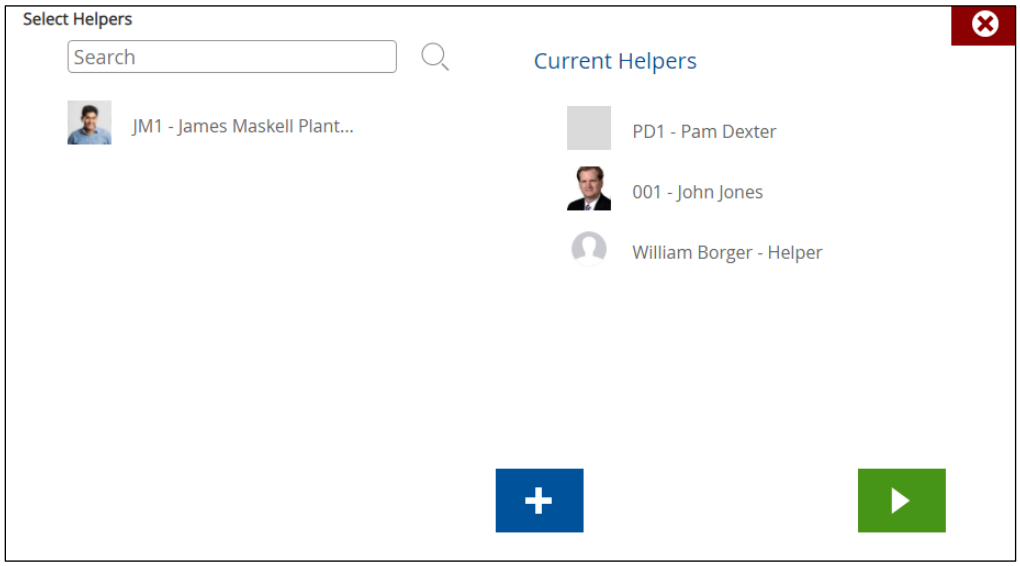
> **Note** Auto-Count will send a machine transaction to the MIS system containing Helper Log On/Off information depending on whether the employee has logged on or off.

5. (*optional*) To add helpers who are not part of your pre-set Helpers group for this machine (such as seasonal help or contractors) click the plus button under the Select Helpers window.

Then add the worker's name or any identification (alpha-numeric) that you want to use for tracking purposes.



This helper will be added to the list.



To log off helpers

1. In the Shift Details window, click the Helpers button to open the Helpers window.
2. From the left column (helpers who are logged in) select the Helper you want to log out and click  .

How Helpers are Logged Off

Auto-Count 4D will log off helpers according to how you have this feature set up. In **Plant Manager > Define Machine > Options** there are Helper options. If you do not set these options, then Auto-Count 4D will automatically log off any Helper when the main Employee logs off their shift.

If you set these options, then this is how Auto-Count 4D will handle log-offs:

Logoff helpers manually: You must manually log off the helpers regardless of when the employee logs off.

Auto log off helpers at machine shift end. Select this option to automatically log off Helpers at a machine shift end when you have the option, Log off helpers manually, enabled. This overrides the manual log off option for machine shifts only. If you end an operator type shift, the Helpers will still have to manually log off, otherwise when the main operator logs off and another operator logs on all helpers will remain logged in until they manually log out. This option was to prevent helpers from remaining logged in if using machine shifts.

Helper grace period: Enter the number of minutes for the helper grace period. The helper grace period ensures that helpers who log in before the current shift ends will not be automatically logged off when the next shift begins. For example, if this value is set to 5, then any helper who logs in with less than 5 minutes to go on the current shift will remain logged in when the next shift starts. This ensures that helpers who log in a few minutes before their shift begins will not be logged out.

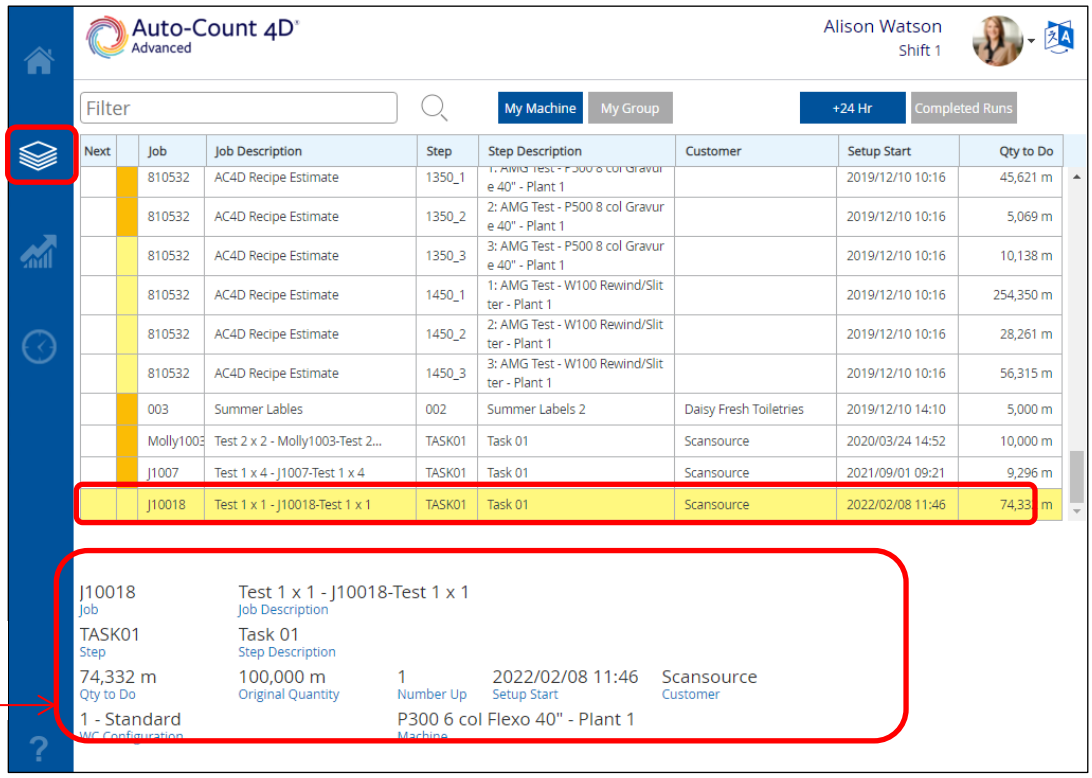
Running a Job

Once you have logged in and started a shift you can choose a run and start it. Use the Home page to keep track of the progress of the run.

> **Note** For MIS users (Radius, Foundation, Pace, etc.), jobs are runs that are sent to Auto-Count from your MIS system. You must edit job information from within your MIS system. For example, if the number of deliveries has changed from the time the MIS sent the run to Auto-Count, then the MIS must re-send an updated run with the latest information.

To start a job

1. Open the Run Queue and select a job. (The row will highlight yellow once selected.) Then click the job detail area at the bottom of the window.

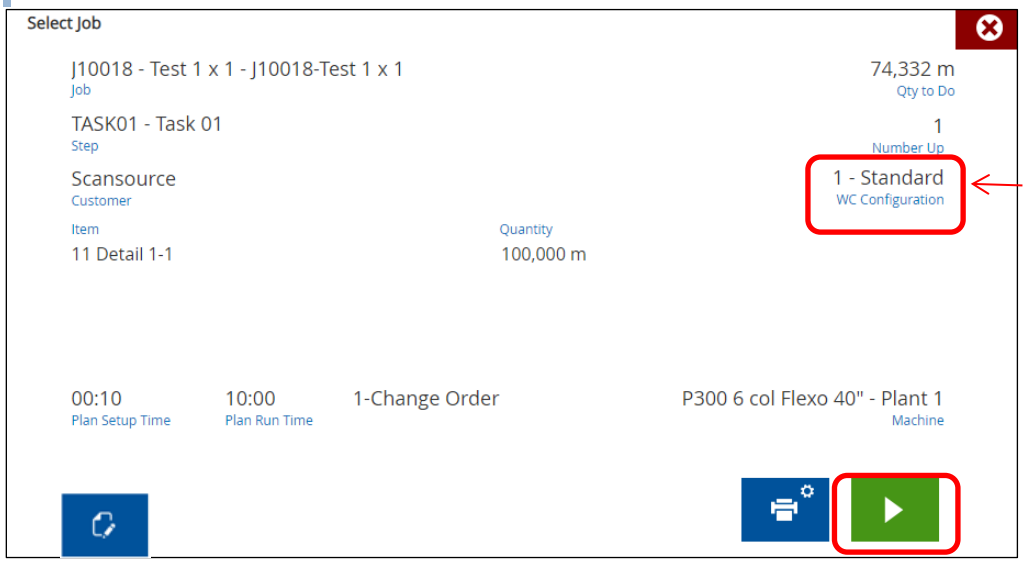


Click within here to open the Select Job window.

> **Note** The run queue can be filtered using options Maximum Filter Hours in the Define Machine window of Plant Manager.
>
> If the option **Allow users to start completed runs** is set in Plant Manager, then users can load a Completed Run. This should be used with extreme cation, as an entire job can be re-run on a machine and, if that was not intended, then a huge amount of waste will be created.

2. In the Select Job window click the **Start** button.

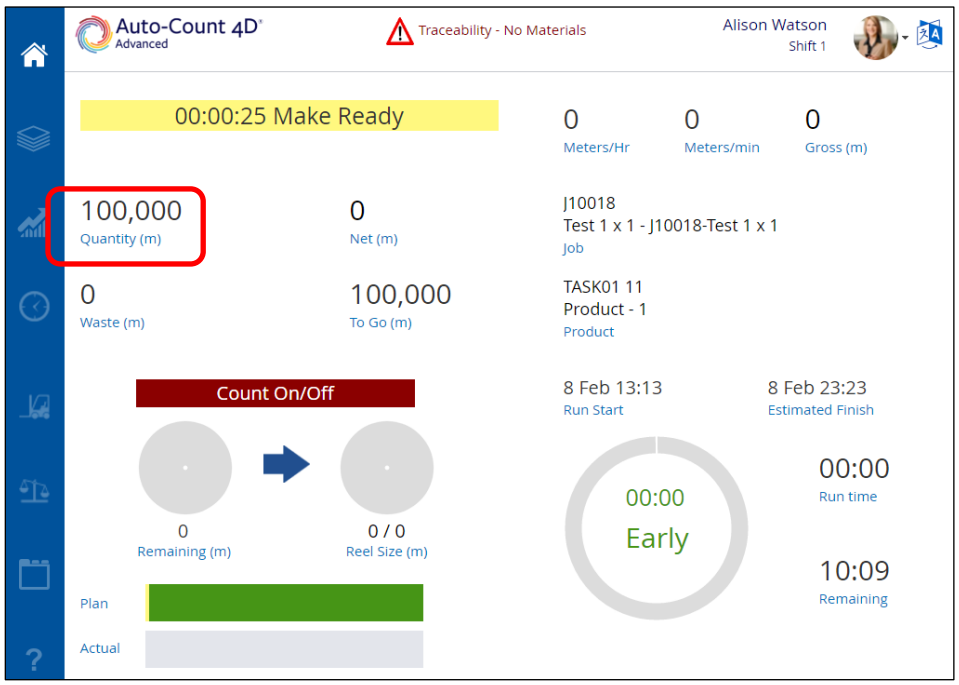
> **Note** The blue Ticket button on the left opens the Radius Production Ticket if available. In the future, other MIS job tickets may also be available from here.
>
> The blue Printer button allows you to choose a different printer for your pallet/roll tickets. See the section "*Choose a Printer*" below.
>
> If a blue Recipe button displays, then the run contains "recipes" which is basic material information sent from the MIS. For example, coatings, adhesives, paper, etc. Any material that is specifically needed for the run.



Click here to change the machine configuration.

3. The job is now loaded on the Home page.

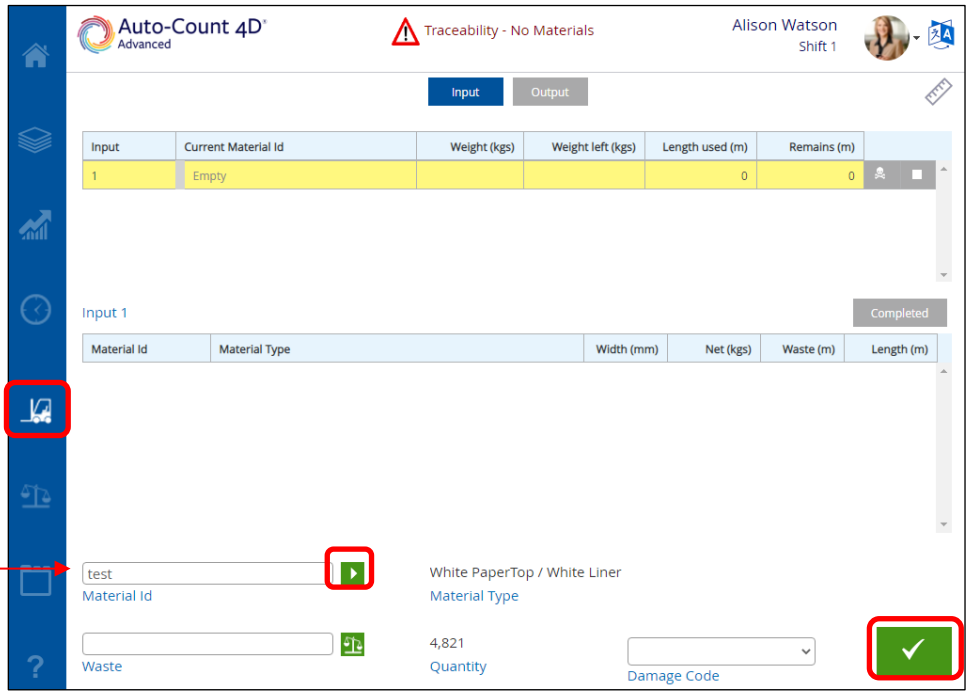
> **Radius Users** If your job requires traceability, then the home screen will alert you to add materials. See the section below, "Adding Materials."



Click here to edit run quantity if you have Edit Current Run Quantity selected for this machine in Plant Manager.

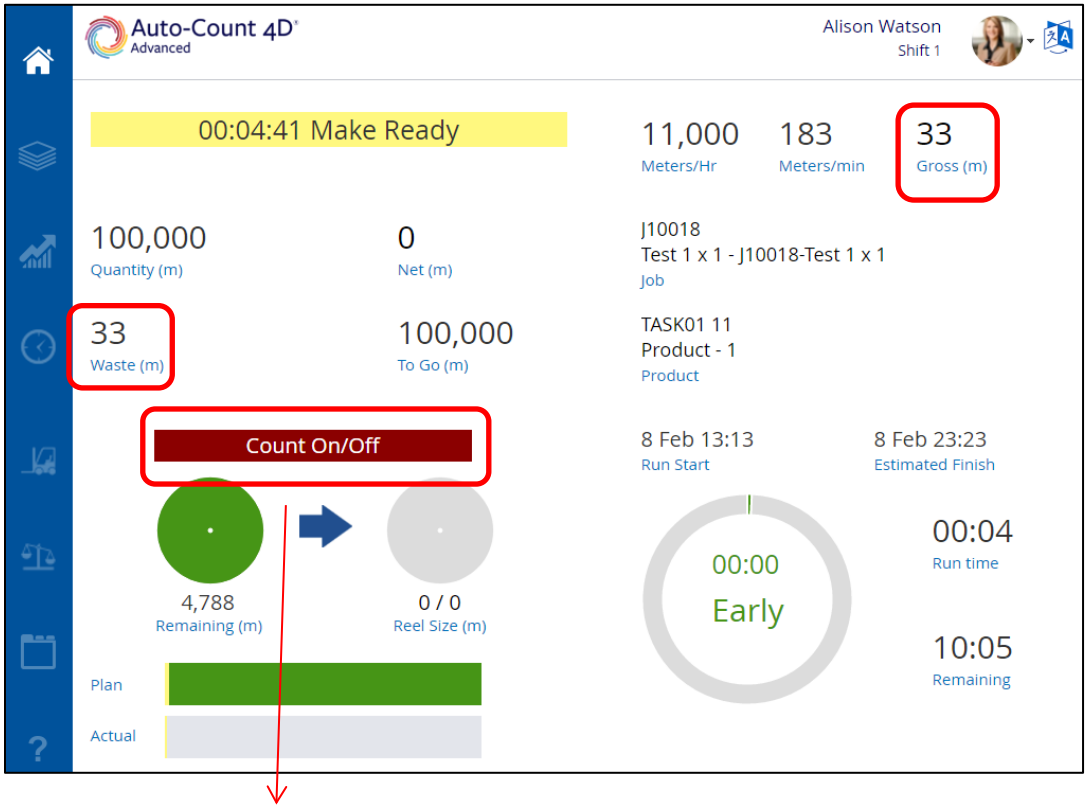
For CTI users, this value can be updated in real time when using a workflow which receives input material from the previous process which hasn't completed creating the material.

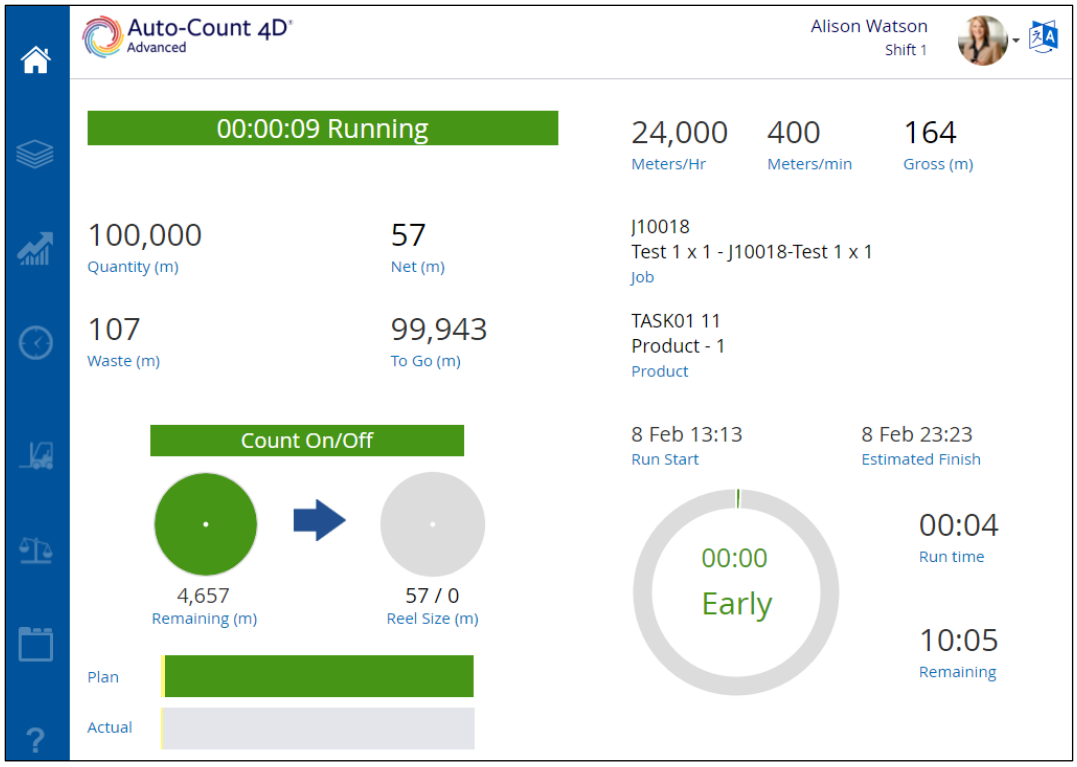
4. If you want to add rolls /materials, then open the Materials window. Please see the “Adding Materials” section below for details on how to add rolls to the job.



Scan or enter material ID and click to check if the material is available. Then click OK to add it to the input.

5. Once the machine starts running, the counts will increment. Click **Count On / Off** to go into Production.





Live Material Updates

Auto-Count can update a 'live' material if the MIS sends Inventory Balance, Material Item, and Trace Item information. Auto-Count will use this information to check if that material is currently being used on a run and update it as needed. While available to any MIS which sends this information, this feature was designed for corrugated workflows where the MIS creates a single input ID that will be consumed by the next process before it has completed being created by the first process. It is a common workflow in a corrugated environment. This feature allows the operator at the next process to see continual updates in Auto-Count on how much material is available to consume.

> **Note** To avoid getting the warning that an expected slice was missed, set the splice over/under percentage to 0 in the Plant Manager machine configuration.

Net Counts and Downtime

You can choose an option in Plant Manager which controls how you stop net count called **When to disable net count at downtime**. Your administrator can set it in one of three ways:

- **Don't disable net count when a downtime occurs**: If you do not want to stop the net count during a downtime then select this option. *(the default)*
- **Rate below stop threshold**: The net count will automatically stop counting when the machine stops.
- **Rate below stop threshold and stop seconds have elapsed**: Net count will be disabled once the stops seconds have been reached after the machine has stopped.

Product Allocation Window

Notes You must enable the internal option *EnableProductAllocation* within the AutocountOptions table of the Plantmanager SQL database for each machine. Please contact Support for assistance.

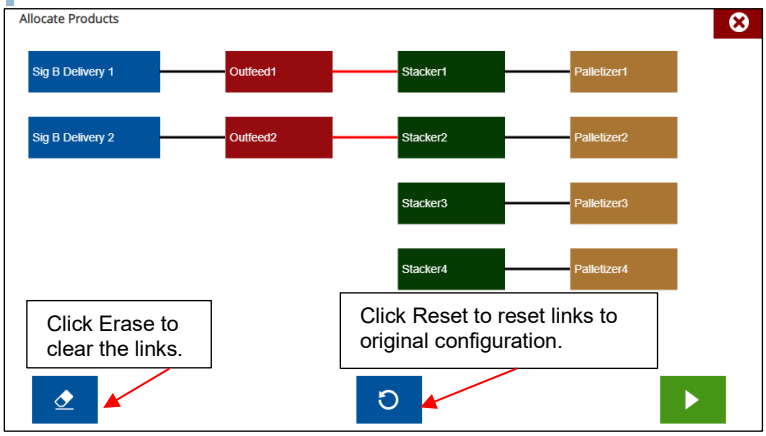
The number of stackers is defined in Plant Manager DMI Devices. Please see *Setting Up Stackers Support Note*.

If the run has multiple products and/or deliveries, then you'll see a Product Allocation button on the Select Job window which allows the operator to get a view of the products on the job. The operator must set up the product allocation at the beginning of each run, even if the run was lifted.

Choose a Stacker

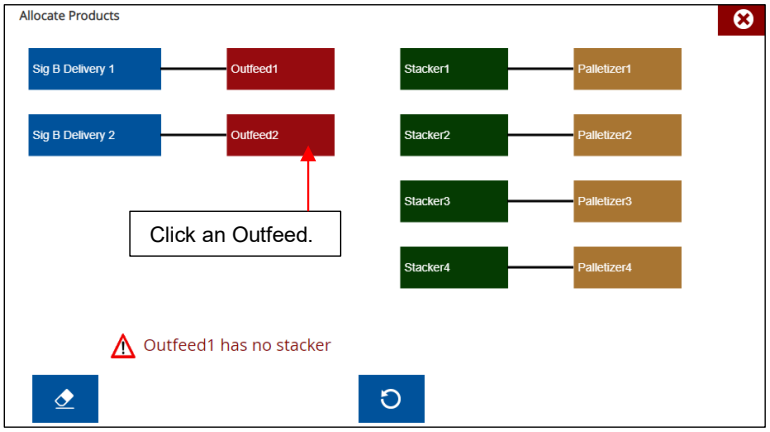
If a machine has stacker count I/O points set up, then Auto-Count will display these stackers (and their associated palletizers) in the Allocate Products window. From this window, the operator can adjust the product outfeeds and their stackers. Unlike the winders, this is not a read-only window in this workflow. You can access this window from the Job Edit and the Current Job window in the Run Queue. But you can only edit links once the job has been loaded from the Job Edit window.

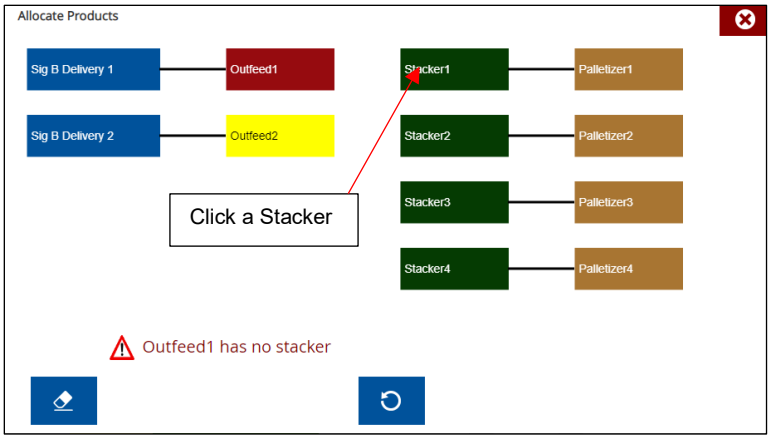
Note The Allocate Products window is not available for Monarch MIS systems in version 19.1.1.730 and earlier. Also, if you have turned on **Enable winder allocation** in Plant Manager, this window will only display winders and not stackers. See the section below – "View Winders".



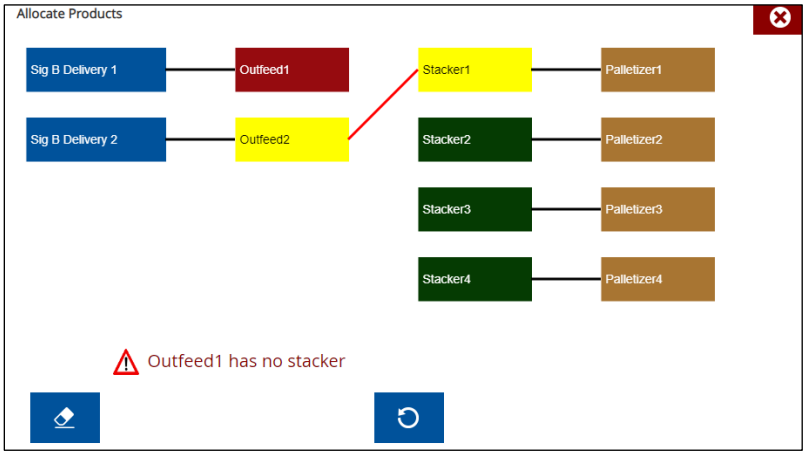
Note

Red lines can be moved.
Black lines cannot.

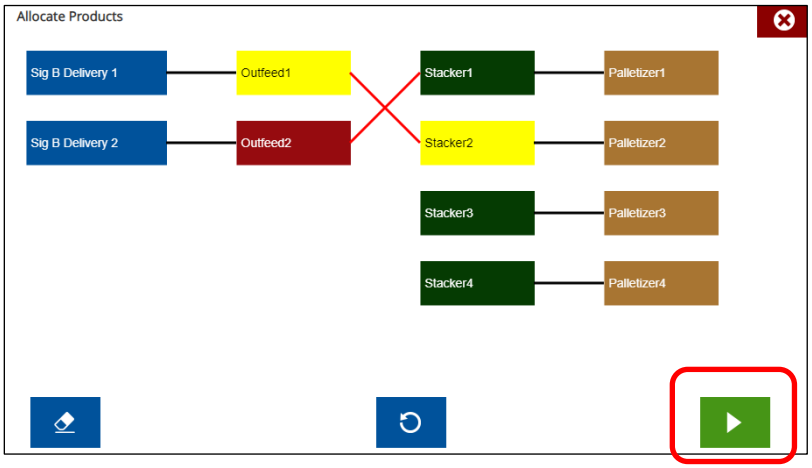




The two are now linked.



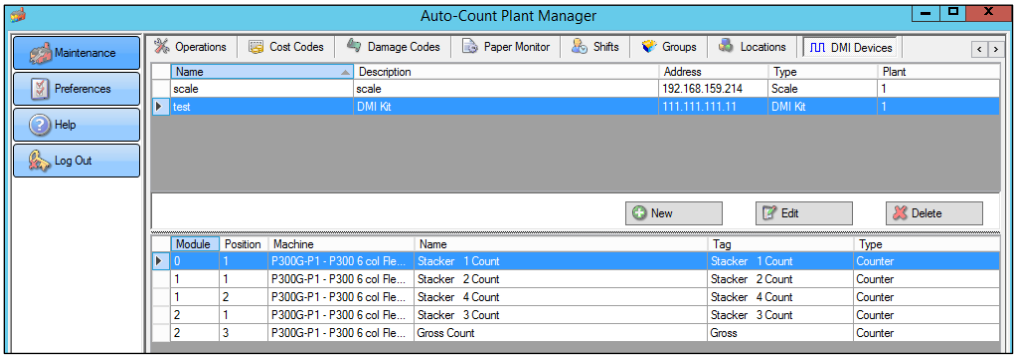
Perform the same steps to link the remaining outfeeds. Click the Save button.



Note If you change an outfeed to a different stacker in the middle of the run and there is remaining product on a stacker at the end of the run because of this change, Auto-Count will end the skid/pallet and report a partial output. If you divert an outfeed to a stacker that contains a different product (start pushing Product B to a stacker that contains Product A), then Auto-Count will end the skid/pallet as a partial for Product A and start counting outputs for Product B.

Stacker Setup

To use this feature, you must set up Stacker Count I/O points and assign them to the Auto-Count machine. Below we have set up four stackers in Plant Manager > DMI Devices.

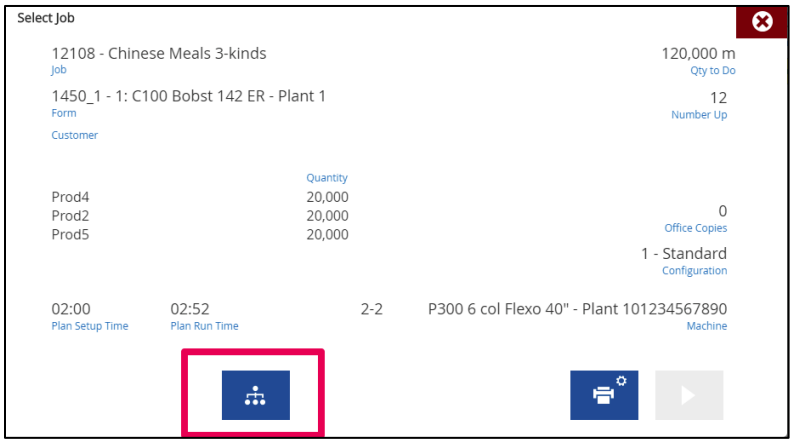


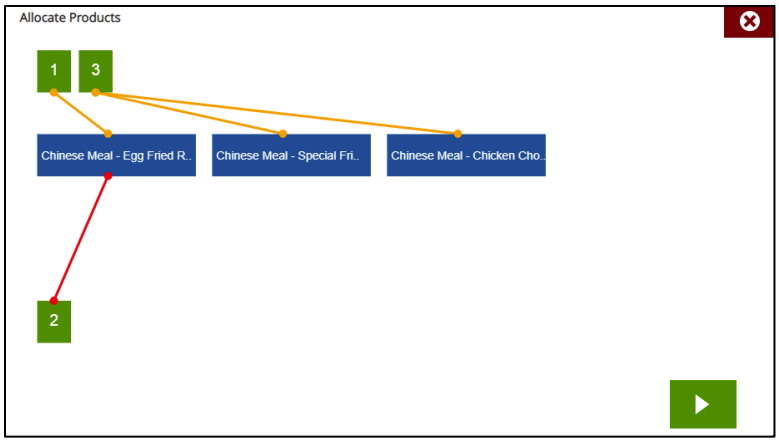
View Winders

> **Note** To view and allocate winders in 4D, you must select **Enable winder allocation** in Plant Manager > Define Machine > Options. If this is selected, then operators will only see winder allocation, not stacker allocation.

When Enable winder allocation is turned on the Allocation window displays products and their mapped deliveries with winders.

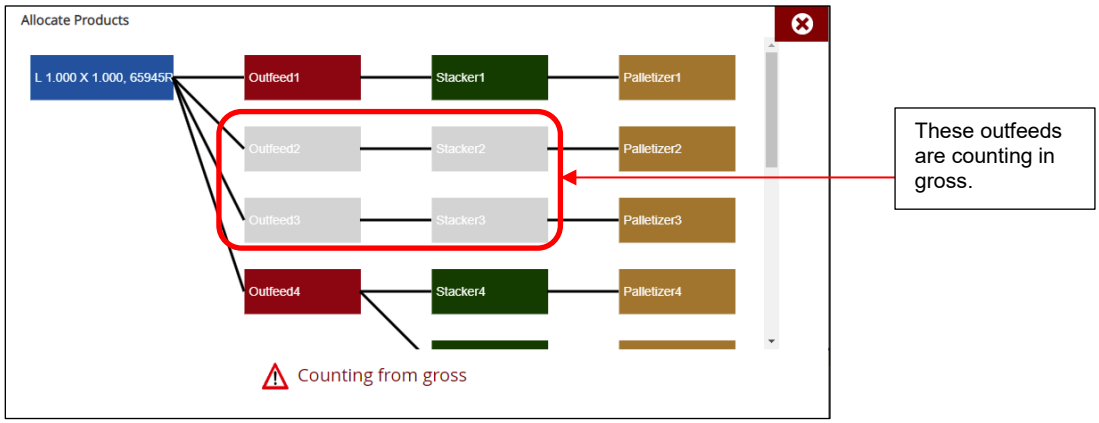
If the Winder number is present, any delivery with a Winder number of 1 is shown on the top row. Any delivery with a winder number of 2 is on the bottom row. If the Winder number is not present or is not 1 or 2, then the Odd numbered deliveries are shown at the top of the screen and the even ones at the bottom.





Counting Gross Instead of Stacker Count

If you have enabled the Plant Manager option called **Allow using gross count when net count is bad**, then the Allocate Products window will display any outfeeds which the operator has toggled to use gross count as read-only (gray). A message will also alert the operator to that some outfeeds are counting in gross. If you must change the product allocation on this screen, then the operator must toggle back to using the stacker count on all outfeeds.

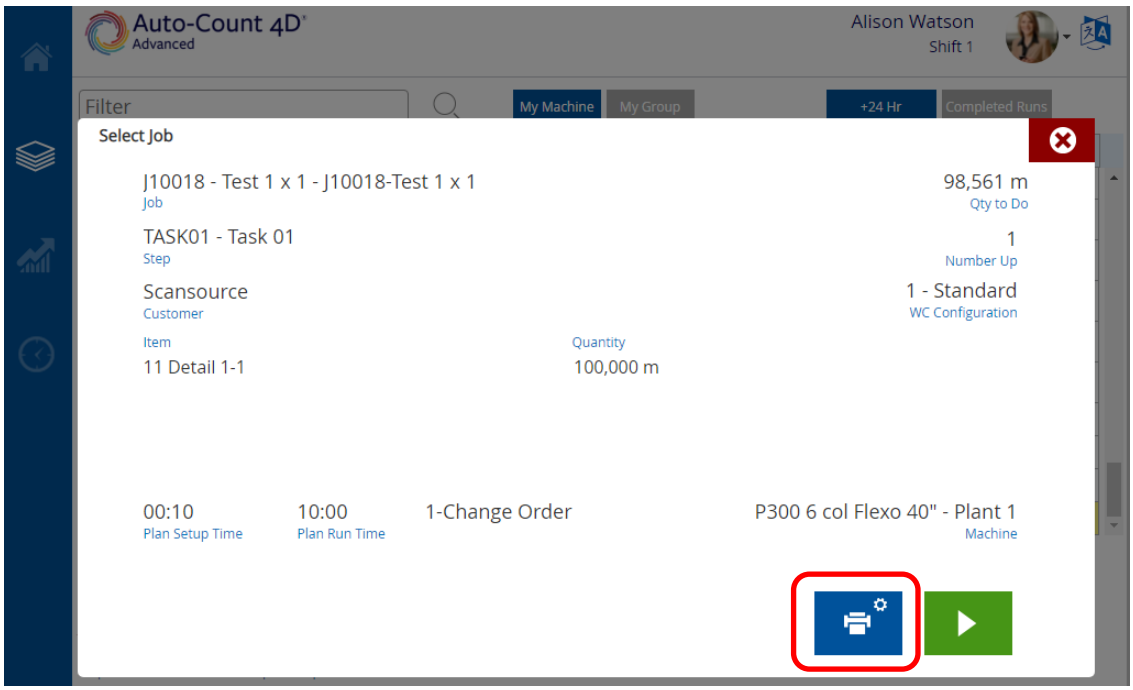


Choose a Printer

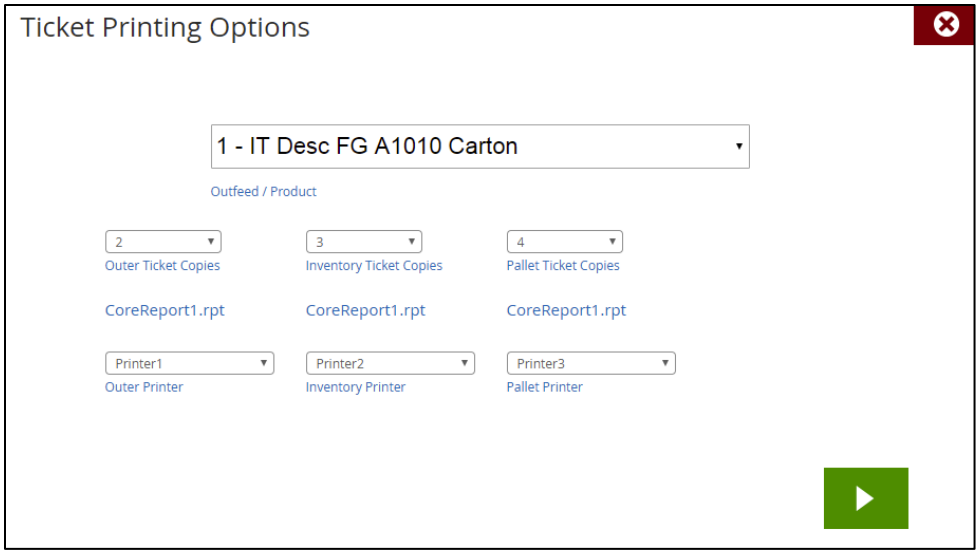
In the Select Job window there is a Printer button which allows the operator to choose a specific printer to print labels/tickets for this run. When the run is in progress, choose the Output window to change printers. To assign a group of printers specifically to be used with this machine you must set up a Printer Group in Plant Manager and then assign it to the machine.

Note If a Printer Group is assigned to this Auto-Count, then you will see those printers in the list. If no Printer Group is assigned, then you will see a list of all available printers.

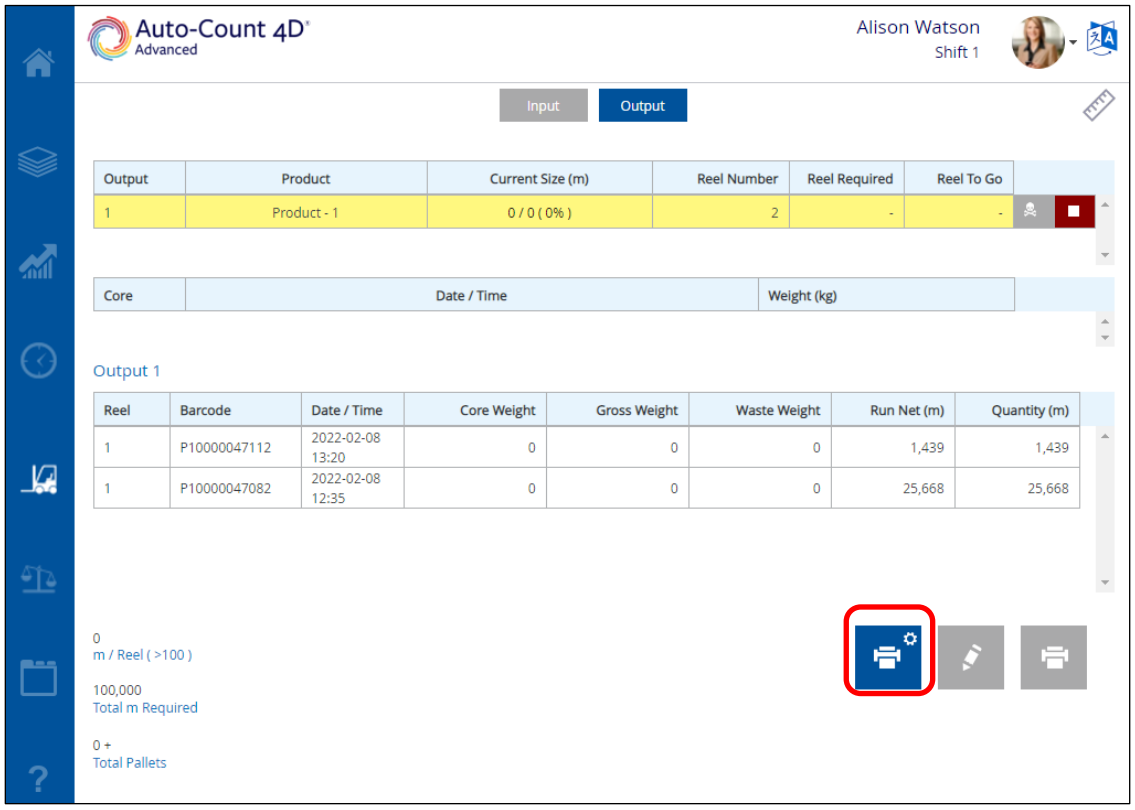
Select the printer when choosing the run.



Select the printer and number of copies (per container).



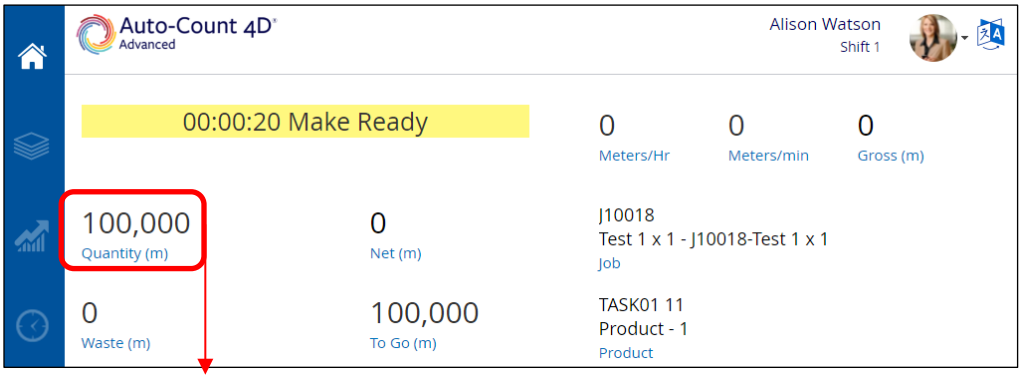
If the run is on the press and you need to change the printer, select the Output window and then choose a printer.

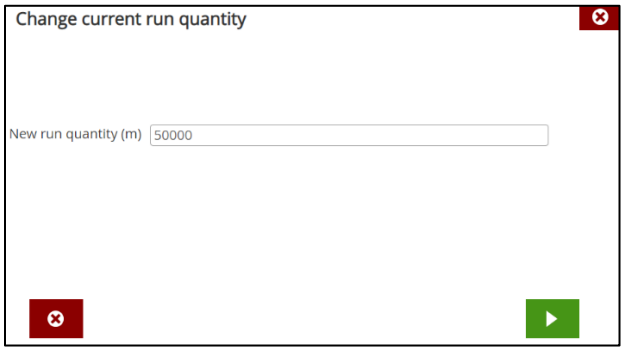


Change Current Quantity To Do

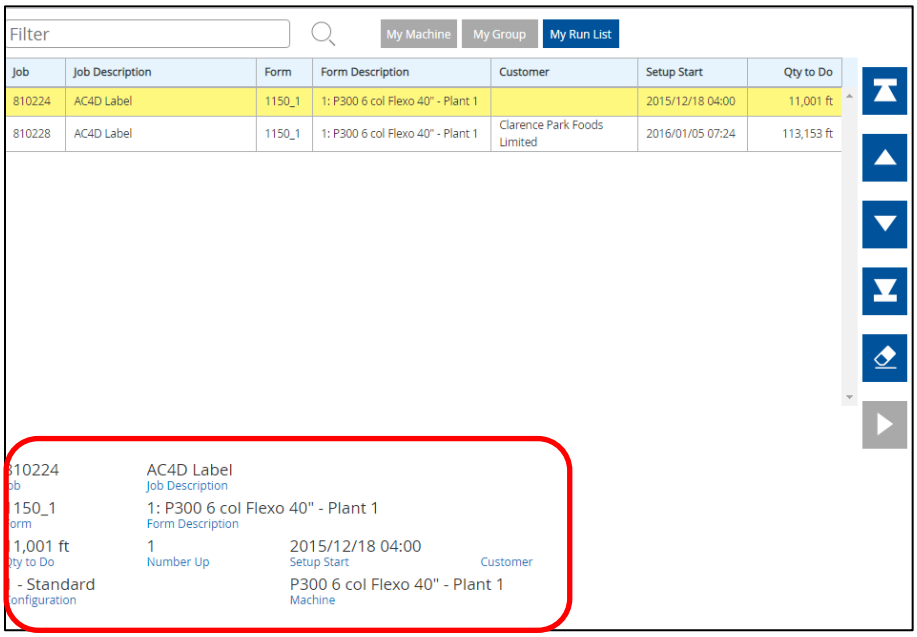
Auto-Count 4D users can enable the option in Plant Manager (Define Machine > Production > Edit Current Run Quantity) to allow operators to edit the Quantity to do on the currently loaded run. You can also change the Quantity for runs in the My Run List if this option is enabled. It is important to note that this change will not save back to the MIS system and is local to the Auto-Count.

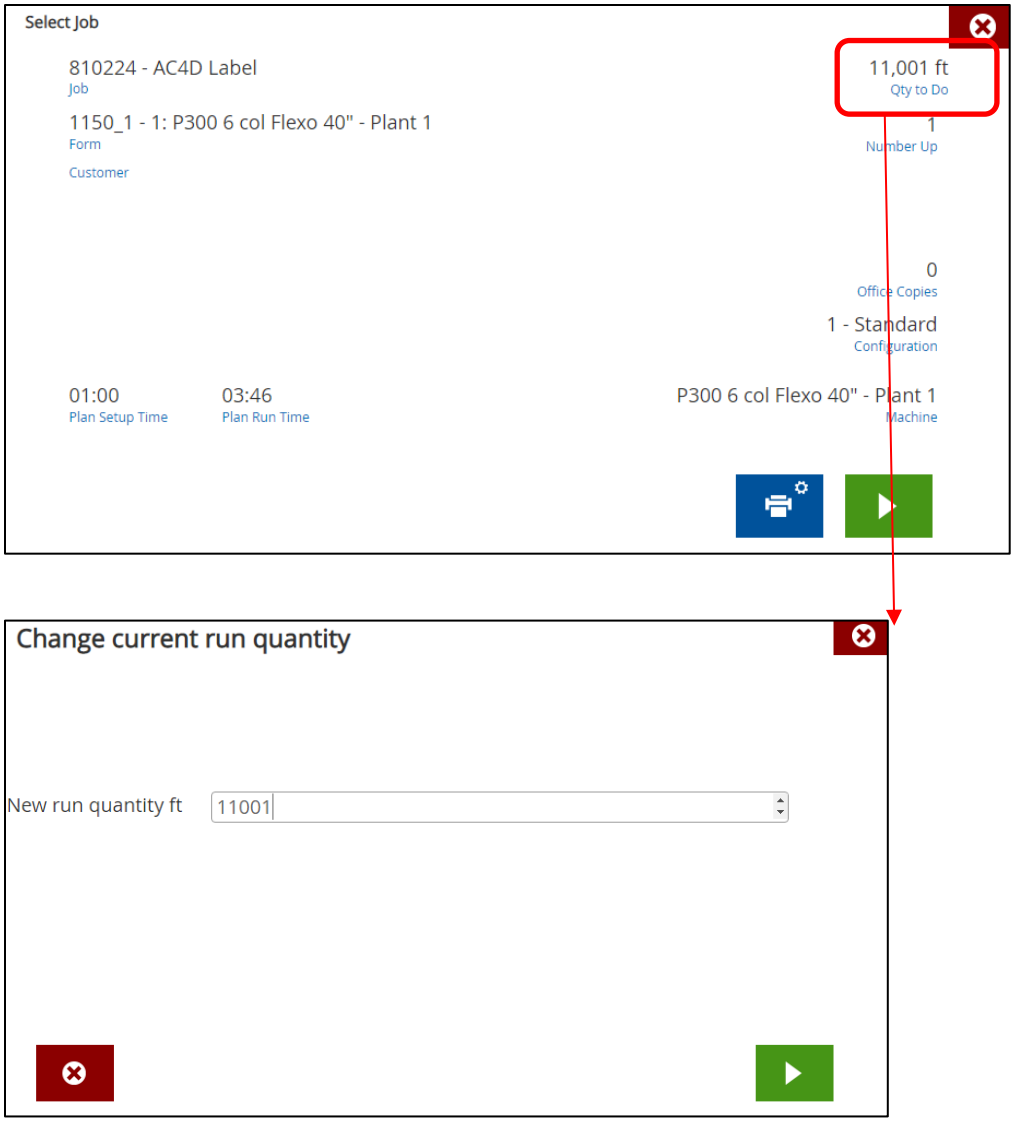
On the Main window, click the **Quantity** area to open the **Change current run quantity** window.





You can also change it from the My Run List:





Note You cannot enter a value less than the current Net count. Also, the Quantity in the Run Queue details area will always display the original value. This is by design.

When you edit a quantity, Auto-Count will log this information for tracking purposes.

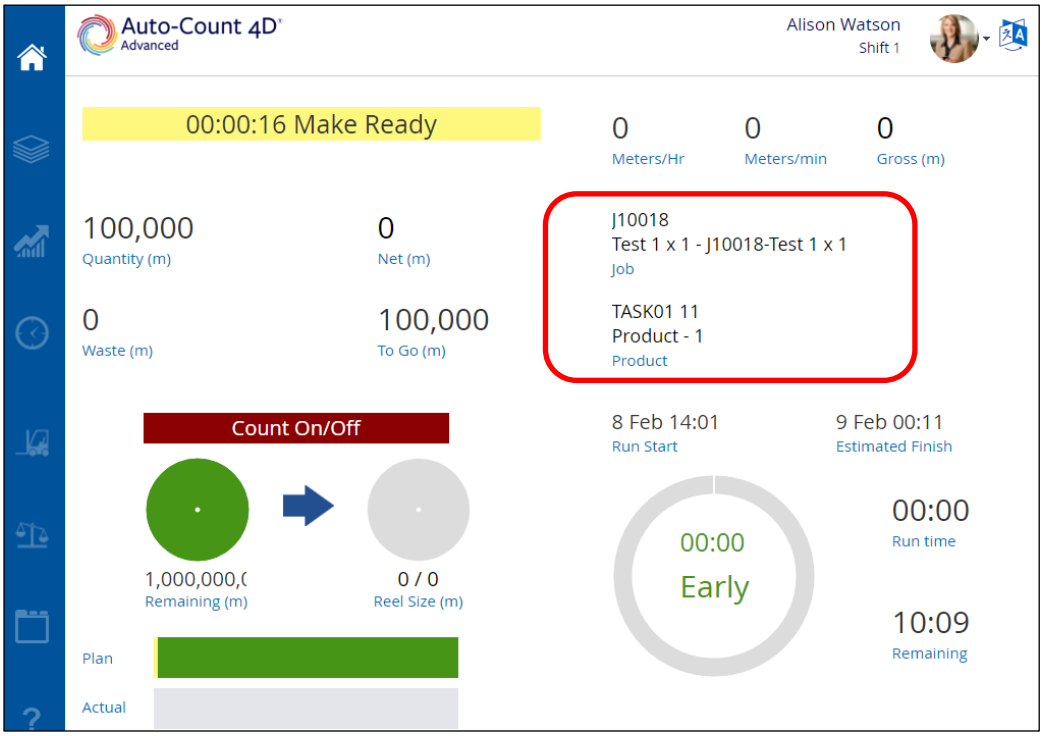
If the Qty to Do is edited locally at the Auto-Count, then any subsequent run queue updates to the Qty will be ignored.

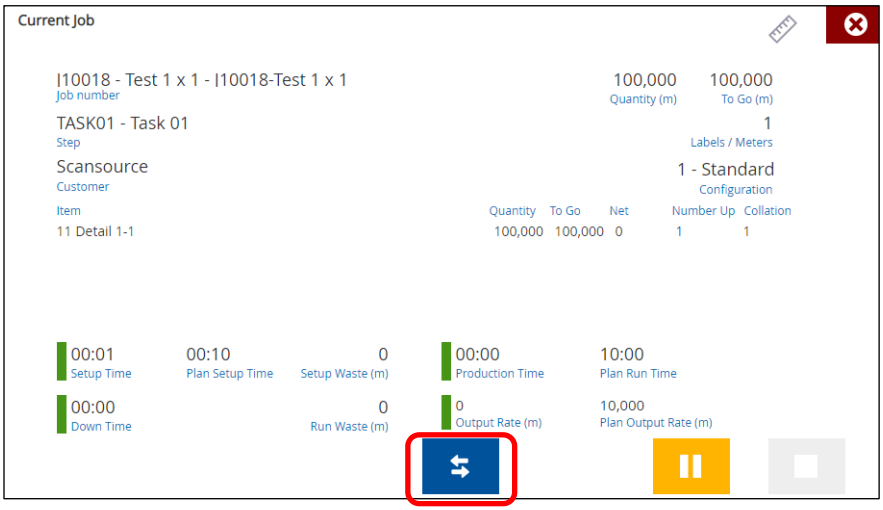
Swap a job in Makeready

Operators can choose to switch out a new run for a different run while in Makeready and Auto-Count will apply the data collected to the new run. Even if you change operation codes during makeready and swap the run, all the information will be on the new run. This is handy if an operator accidently starts the wrong run. Auto-Count will update the transactions in the Plant Manager database from the point at which the original run started until the current transaction.

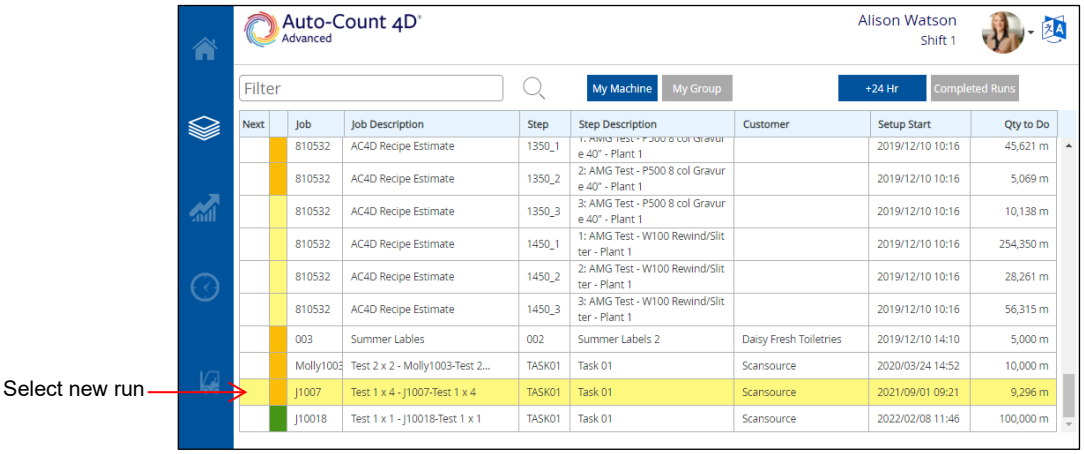
> **Note** To use this feature, the **Allow run swap in makeready** option must be selected in Plant Manager > Define Machine > Production. The job must be in Makeready, not Production, to be swapped out which means the Net count must be zero.

To swap a job simply open the Current Job window and click the Swap button.





Auto-Count will open the Run Queue window where you can select another run. Once you start that run, Auto-Count will apply any counts to the new run automatically.



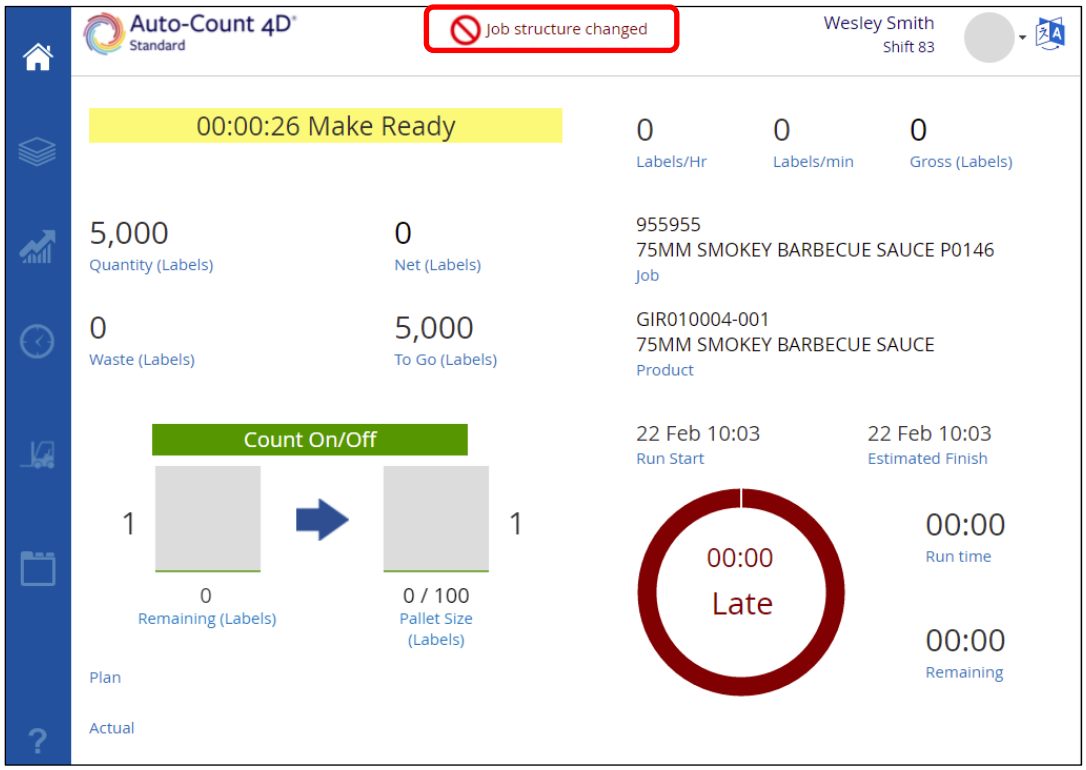
Note If you swap runs while in Makeready 2, then the new run will start in Makeready 1.

Gross Counts after Swapping a Run

The Gross Counter value is a cumulative count for a run and is displayed on the Machine Log report. When swapping from a previously lifted run, the Gross **Counter** will reflect the original gross counter value when it was lifted rather than the new run it is being swapped to. But because the original Counter value is unknown when the run is swapped, this may lead to a jump (plus or minus) in the Gross Counter value at the point where the run is swapped. Therefore, we recommended you always report on the transaction Gross **Count** rather than the Gross **Counter** value. Each individual gross transaction will always be correct.

Job Structure Change Alert

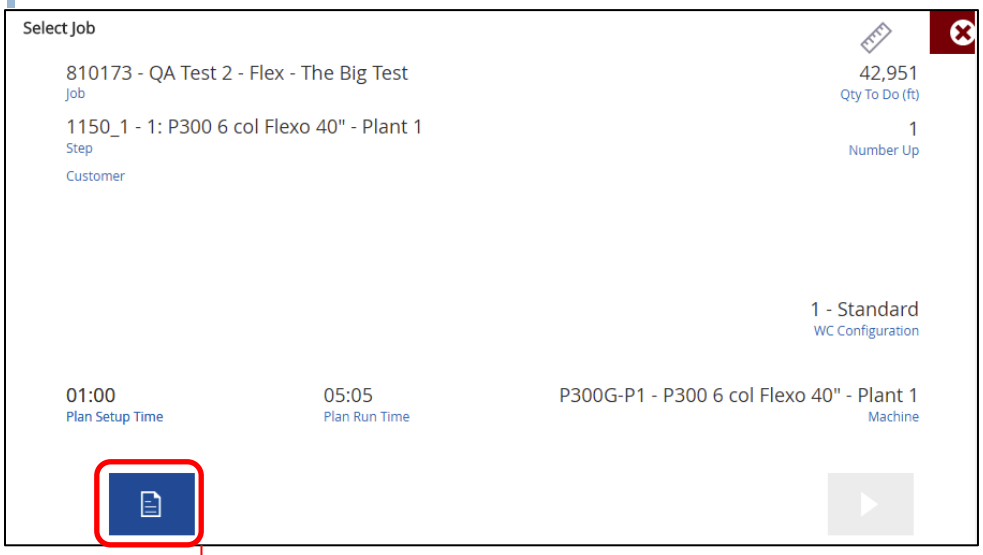
We alert the operator if the structure of the job has changed so they can make necessary adjustments. This includes outfeed changes or product changes. For example, an operator starts a job designed with one outfeed and then suspends the job because an update has been made. The updated job comes down to Auto-Count but now has two outfeeds. When the operator loads the job, Auto-Count displays a job structure change alert.

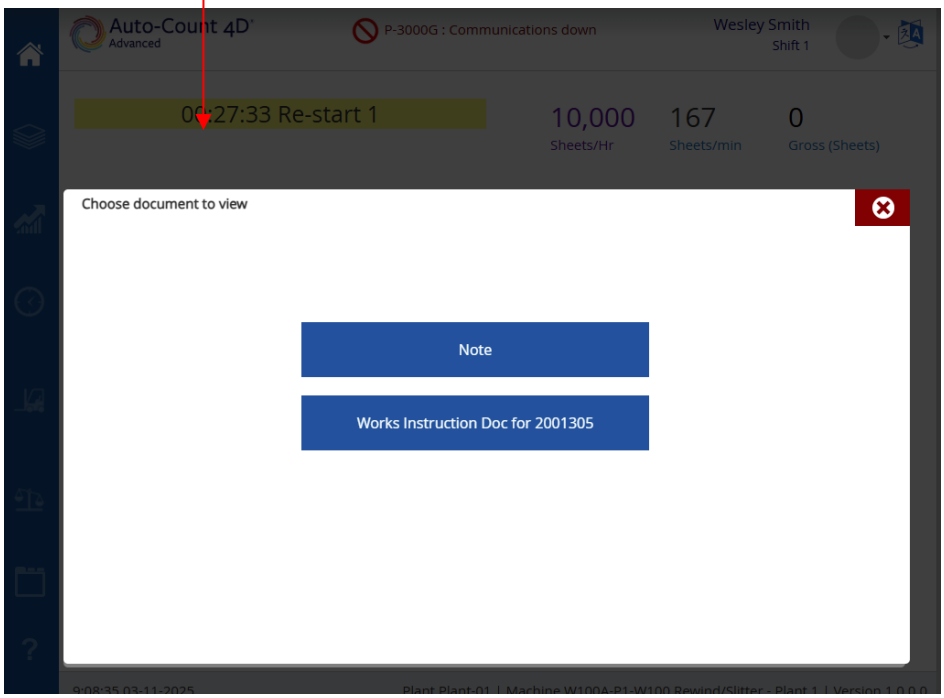


Job Documents/Work Instructions and Job Notes

If your MIS system supports this feature, users can view work documents such as CAD drawings and print cards. They can also view Job Notes if those are sent down with the job. These Job Notes can include information from PrintFlow or other important information for the run. If documents or notes are available for the job, then the Document button on the **Current Job** window will be available as the job is running. If Job Notes are available, then the button turns red so your operators don't miss important information. You can also view these from the **Select Job** window so an operator can preview these before loading the job.

> **Notes** Currently, only the Radius system sends Auto-Count Job Notes. The work instructions from Radius will always be the very latest in the system. No need to manually generate and push the latest work instructions for a job to Auto-Count.



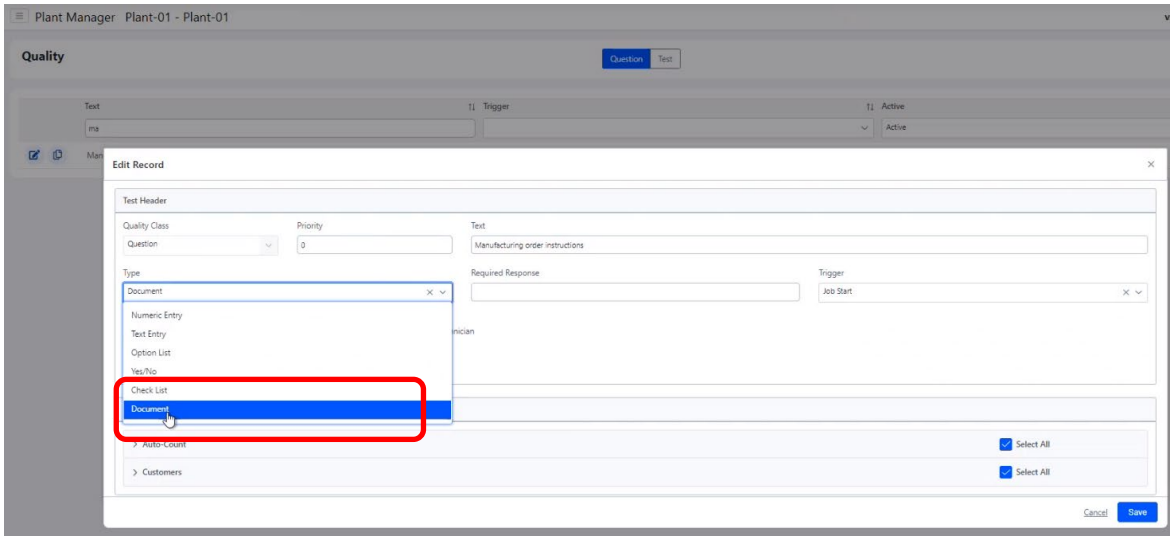


Manufacturing Instructions – Using Quality Question

Note This feature is only available if your manufacturing instructions are accessible via a URL address.

You can also create a Quality Question which will require the operator to read a document before running a job. This is very useful for when the operator must adhere to specific manufacturing instructions, especially if those instructions are updated frequently. These instructions can be any type of document like CAD instructions or simple notes. While operators are not required to open Job Documents (see section above), Manufacturing Instructions using a Quality Question as a prompt, require the operator to read the instructions before they start the job. By using a URL address to access these documents, the operator will always see the latest instructions.

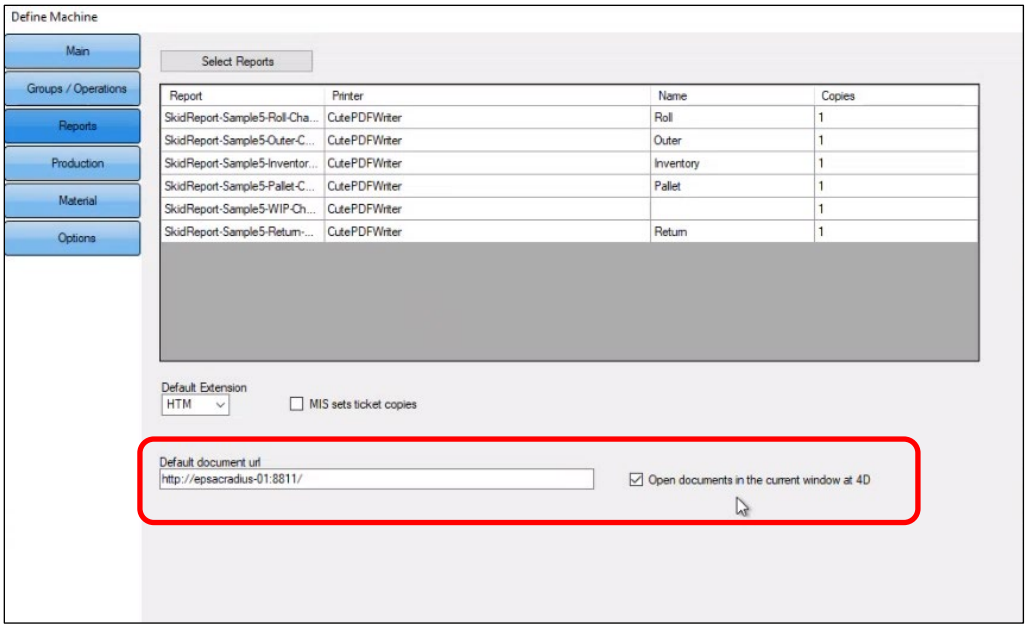
To set up this feature, create a Quality Question of type **Document**. Select the Trigger for when you require the operator to read the document. In most cases, you'll want to trigger the question immediately after the operator loads the job in AC4D so they have all the instructions necessary.



If your MIS system does not send the URL to Auto-Count, then you can set up a **Default document URL** in Plant Manager. This URL points to where the documents are stored - http://servername:portnumber/.

Important The default is *only* used if no URL is sent with the job. URL addresses sent with the job will always be used, even if there is a default URL defined.

Open documents in the current window at the 4D: You can also choose to open each document within its own window inside the AC4D user interface (i-frame) instead of opening another browser tab. This will reduce the number of open browser tabs which can be confusing and could affect performance.



You can also use these parameters in the URL address. These are placeholders, meaning the currently loaded job number, task/form number or machine number will automatically be used.

- **{machine}** uses the Auto-Count Machine ID
- **{job}** uses the Job ID
- **{task}** uses the MIS Task ID

The following examples are for Job ABC123 running on Auto-Count C100:

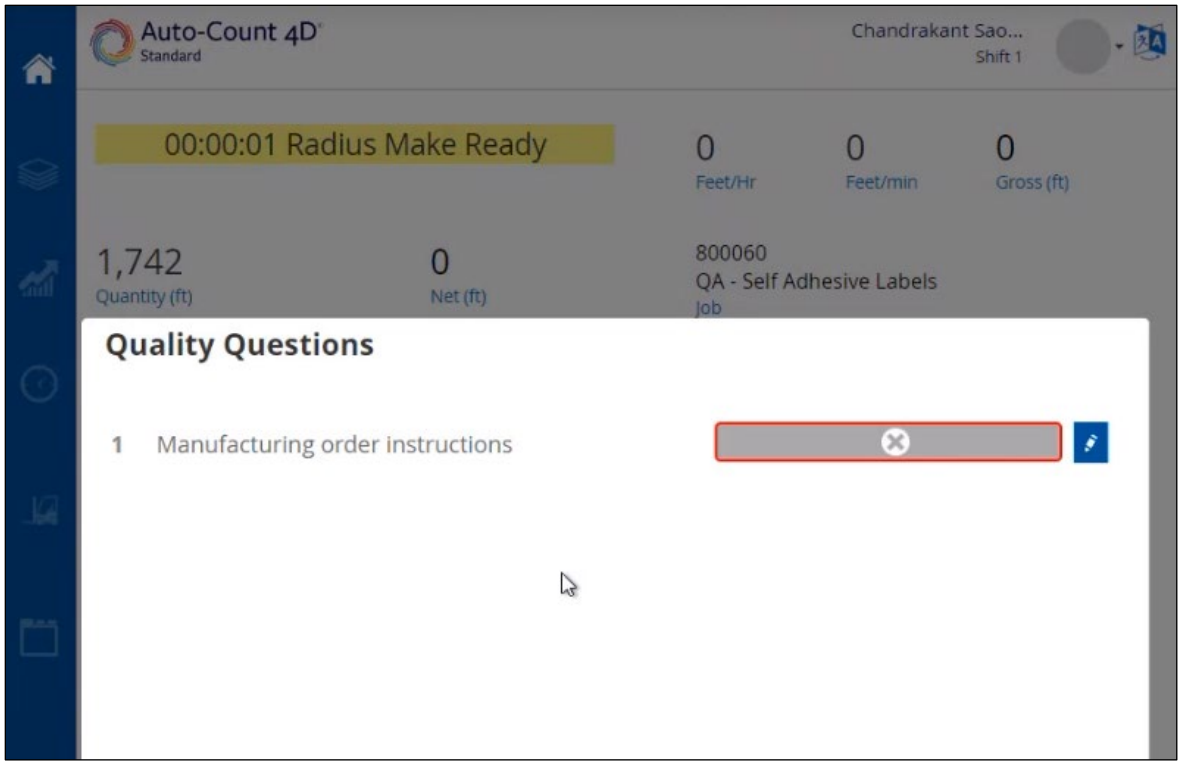
If the default URL is http://server/instructions/{machine}/{job}.pdf

Then it will become http://server/instructions/C100/ABC123.pdf

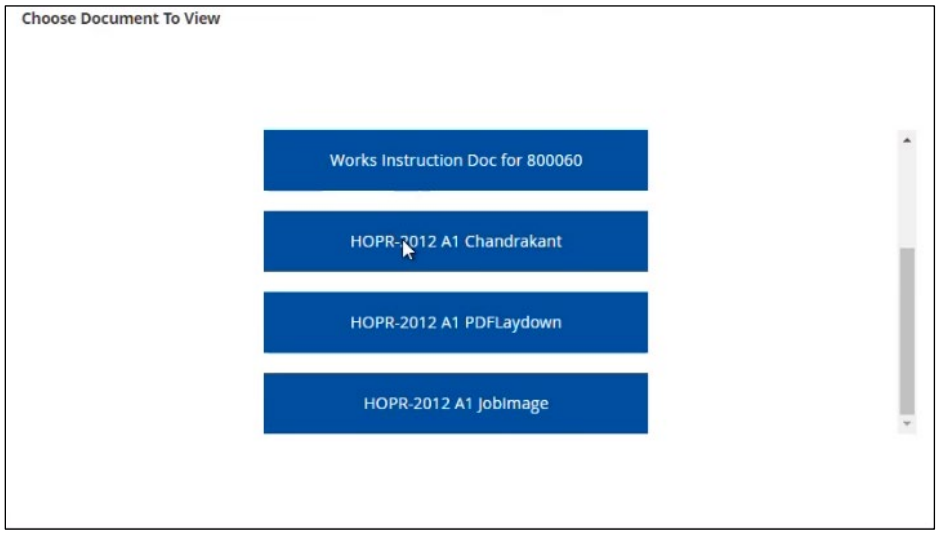
If the default URL is http://server/instructions.aspx?{job}

Then it will become http://server/instructions/aspx?ABC123

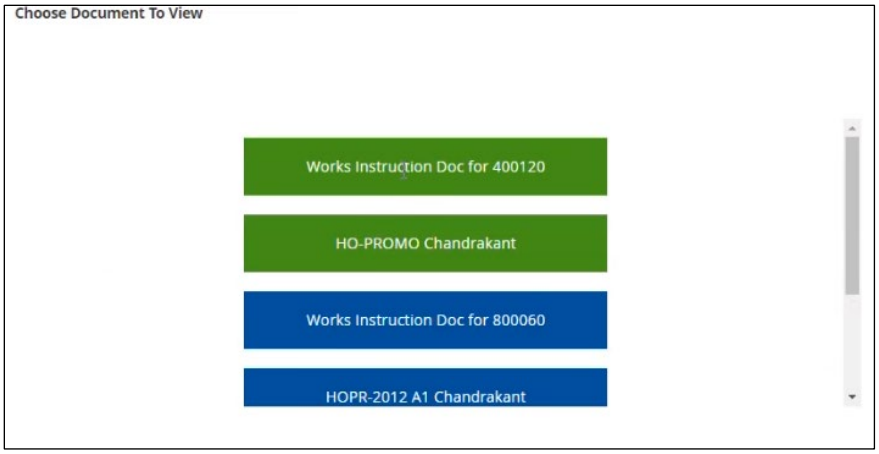
Once the feature is set up, operators will be prompted to open work instruction documents.



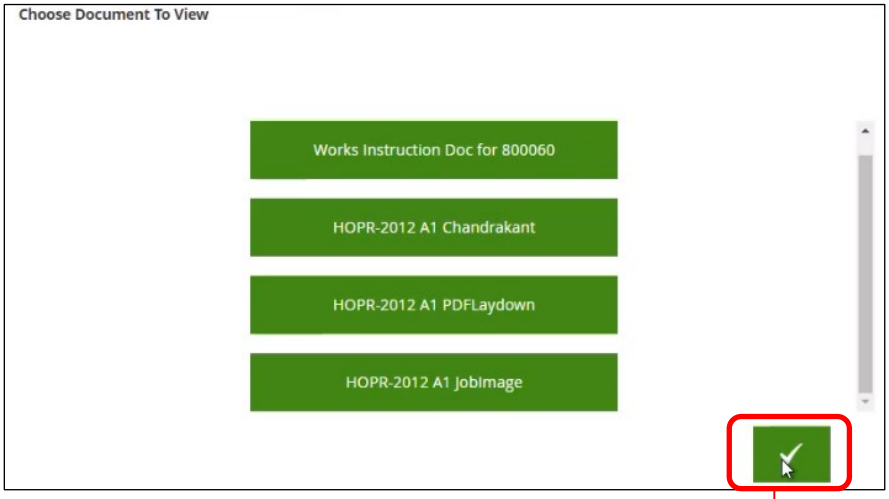
The operator will then choose a document to view.

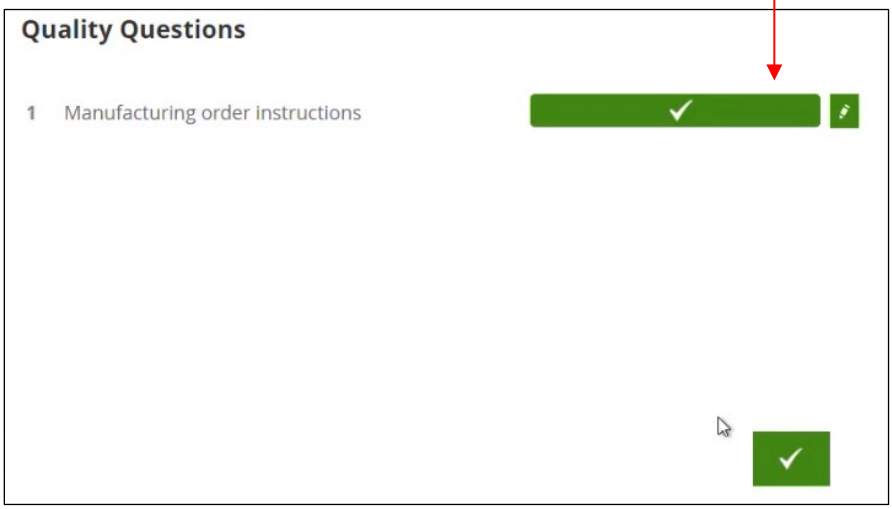


Documents that have been previously opened are displayed in green so the operator can keep track of what they've reviewed if there are several documents.



Once all the documents have been reviewed, the operator can close the documents window, complete the Quality Question and proceed with the job.





Adding Materials

You can track material as it is consumed and created (input/output) during a run. To add material, click Materials.

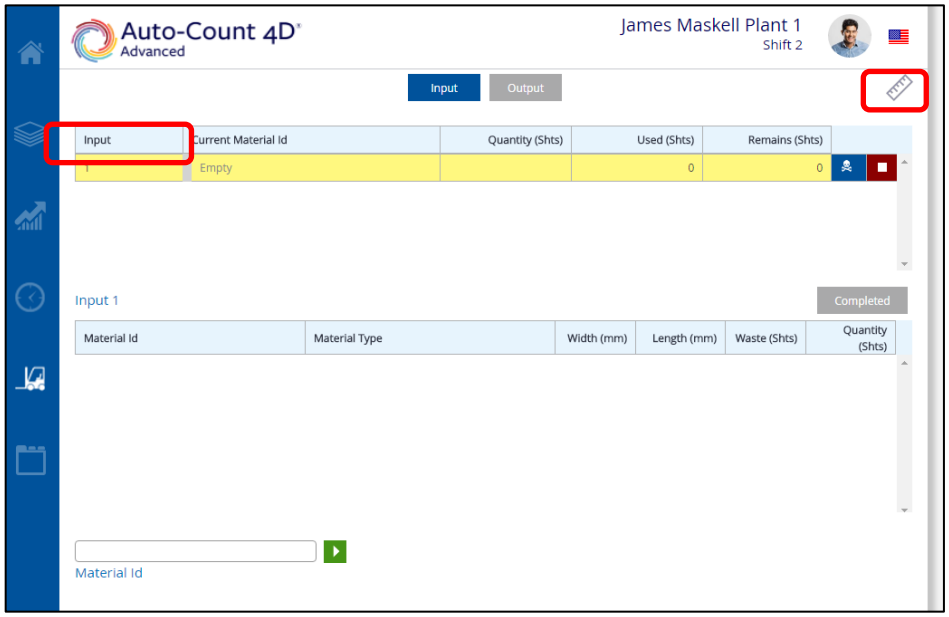
Note You must first load a job to use Materials.

Input

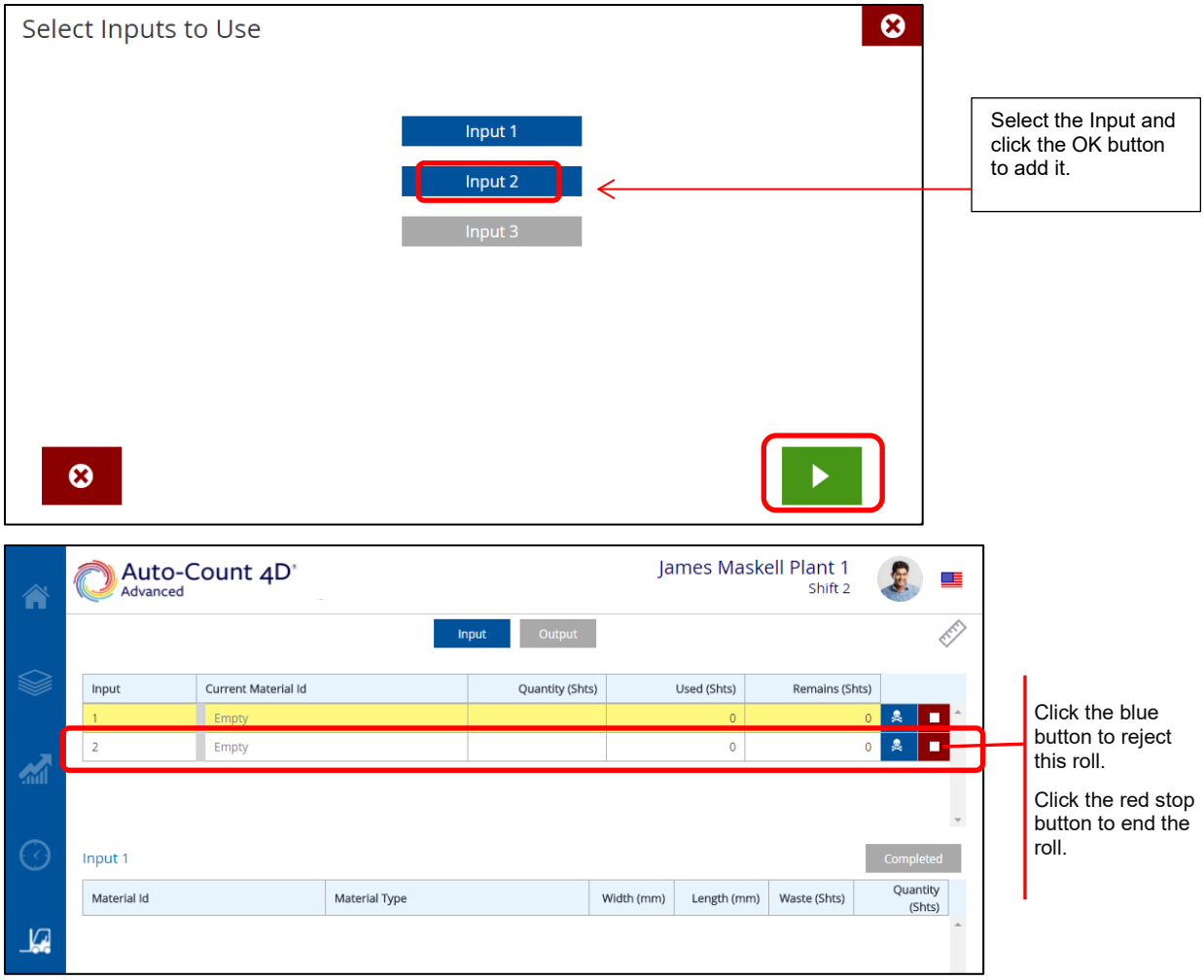
The number of inputs available is determined by the **Maximum Infeeds** value on the Define Machine window in Plant Manager.

To make an input available

Click the **Input** header.



Click the ruler icon to toggle units of measure.

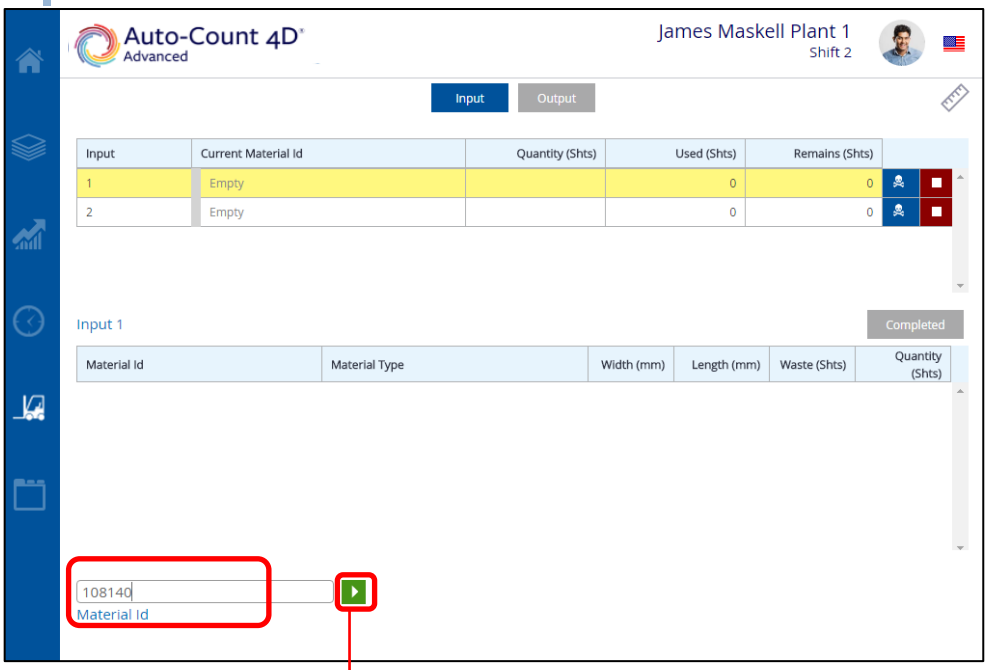


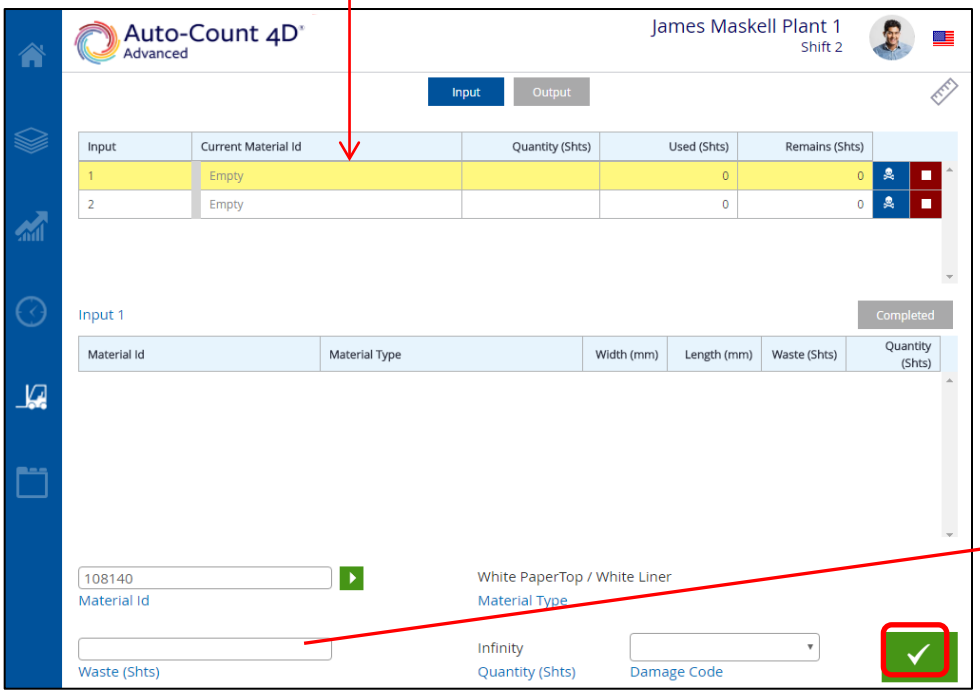
Warning When you disable an input, it will remain disabled until you manually turn it back on.

To add material to an input

1. Click **Input** and then scan or enter the **Material ID** or **Roll ID** at the bottom. Then click **OK**. 

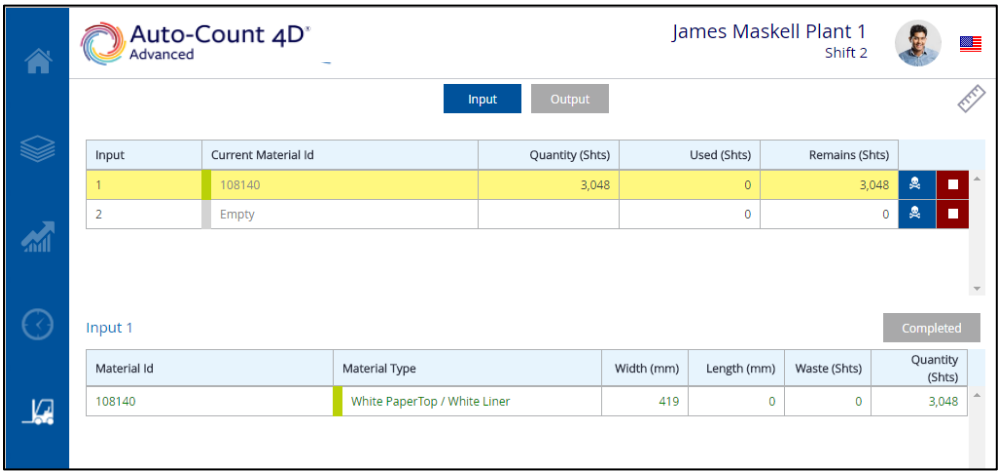
Note Roll IDs should only be used on web presses.





Note (*optional*) To enter a Damage Code select a code from the drop-down. Damage Codes are sent from your MIS system.

2. The input roll is now entered and ready for use. You can add more input rolls if needed.



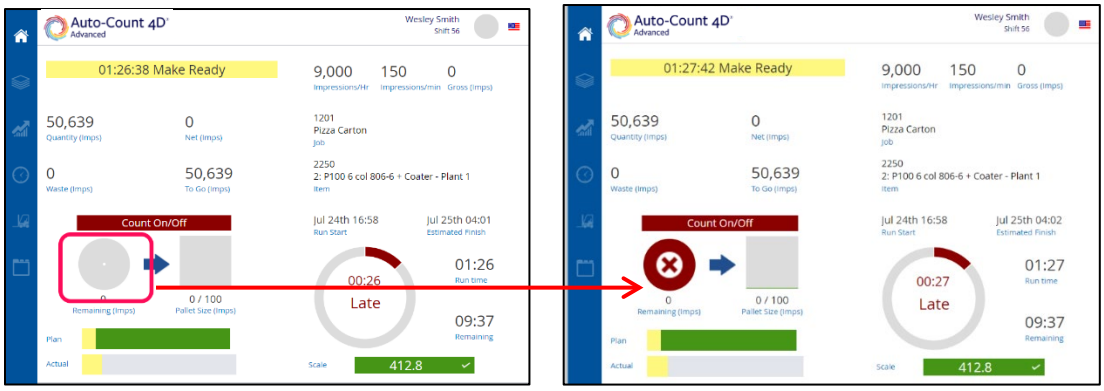
Note If you have selected **Allow material to override the input type** in the Plant Manager > Machine Definitions page, then you can select a material that is not the default material type for this machine and the Auto-Count 4D will automatically display the type of material you have specifically selected.

If you have selected **Keep input materials by default** in Plant Manager, then you can automatically use the current input material on the next run. You will not be prompted at the end of the run, instead, when you load the next run that input material will be used. Unless you have a **Keep input material timeout** minutes value (Plant Manager). This is the number of minutes that Auto-Count will keep the input materials for the next run, once the current run has ended. Beyond this timeframe, Auto-Count will not keep the material on the next run and Auto-Count will force the operator to scan a material.

To disable material usage

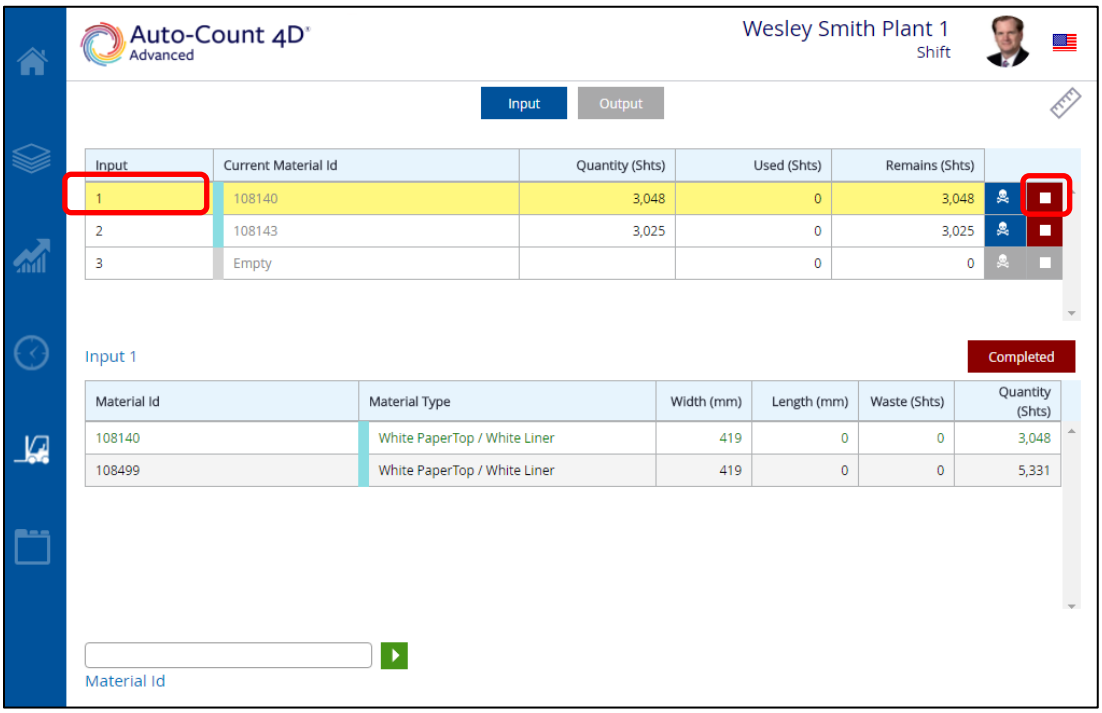
Note For non-Radius MIS systems only.

You can disable material usage during a run by simply clicking on the input icon to disable it. Once disabled, users cannot enter materials on that input.

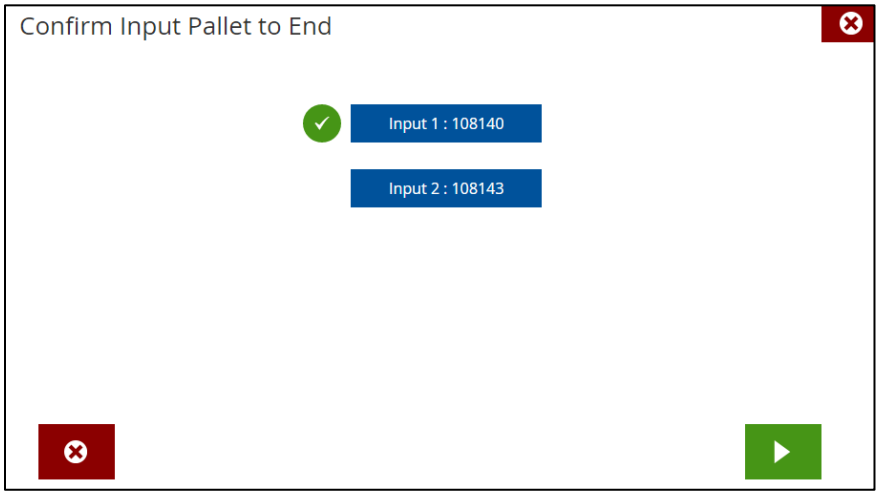


To end a roll/pallet

1. Select the input and click the end button.  .



2. Confirm that you want to end this input.



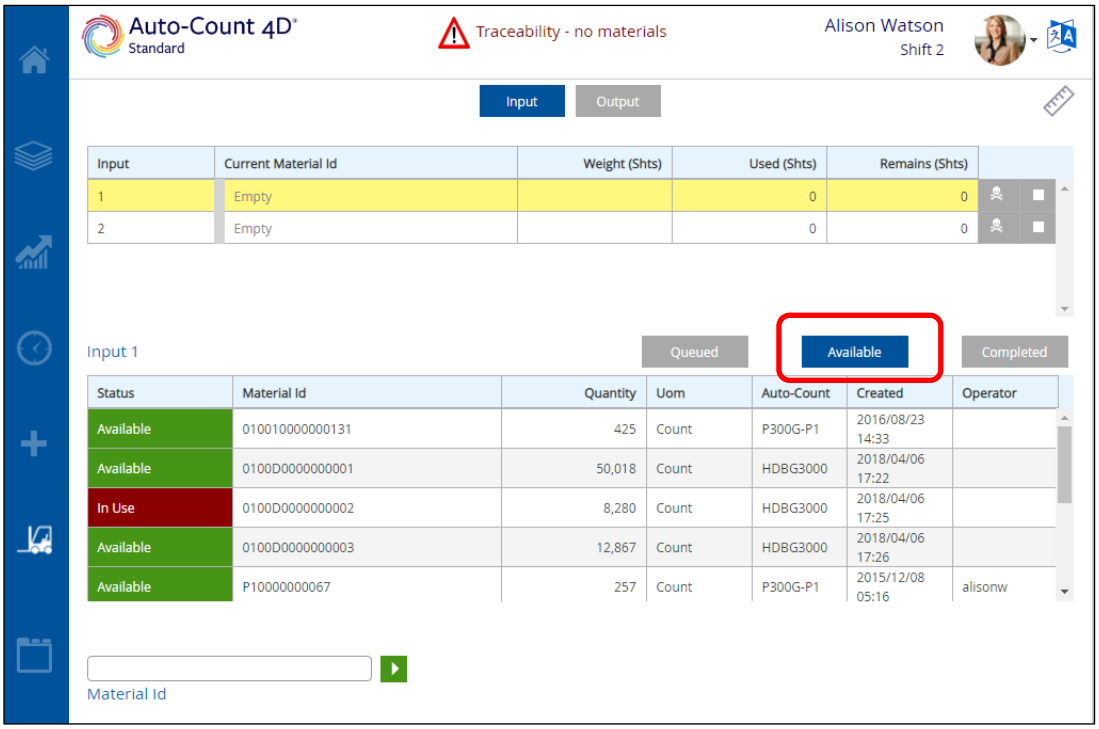
Note If you have enabled the feature **Allow returned inventory to be edited** in Plant Manager > Define Machine > Material, then the field **Current Quantity Used** displays on this window when returning material to inventory. It allows the operator to edit the quantity of material being returned to inventory when a run is ended/suspended. This does not affect counted material – just material being returned. You cannot return more than the original quantity scanned. If you enter a zero, Auto-Count will 'consume all'.

Display Available Material

If your operators need to see a list of the available materials for the currently loaded job, you can enable a setting in Plant Manager > Define Machine > Materials called **Display available materials** which adds an **Available** button to the Inputs window of AC4D. When selected, the operator will see a list of available materials for the current job and its inputs. They can also see a quantity available on the Recipe window. Auto-Count will only display the machine, operator, and date when the material item was created by an Auto-Count in the same plant. Available consumable materials will not be shown because their availability is a prerequisite for starting the job. If another machine is using the material, the status will be *In Use*.

> **Note** If there is only a single valid material in the recipe, then the available items query will default to that material and there is no need to enter a material id before viewing the available items.

You can adjust how many materials will display in the list (the maximum is 20) and how often AC4D will query the database for an updated list. These limits are required to avoid performance issues if there are many Auto-Counts with this feature. But the operator can always manually update the list by selecting the **Available** button.

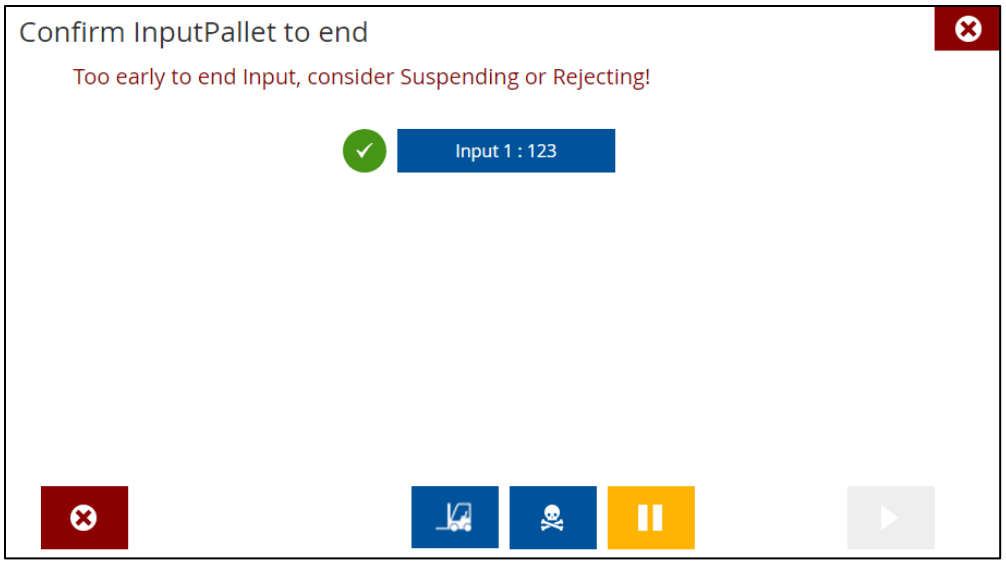


Plant Manager Database Connection Warning

When searching for materials, if the connection to the Plant Manager database is broken, Auto-Count 4D will display a message advising them to check the connection.

Why can't I end my input?

There are two main reasons why Auto-Count will warn you about ending an input. First, if the splice tolerance has not been met, then Auto-Count will warn you to either suspend or reject the material.

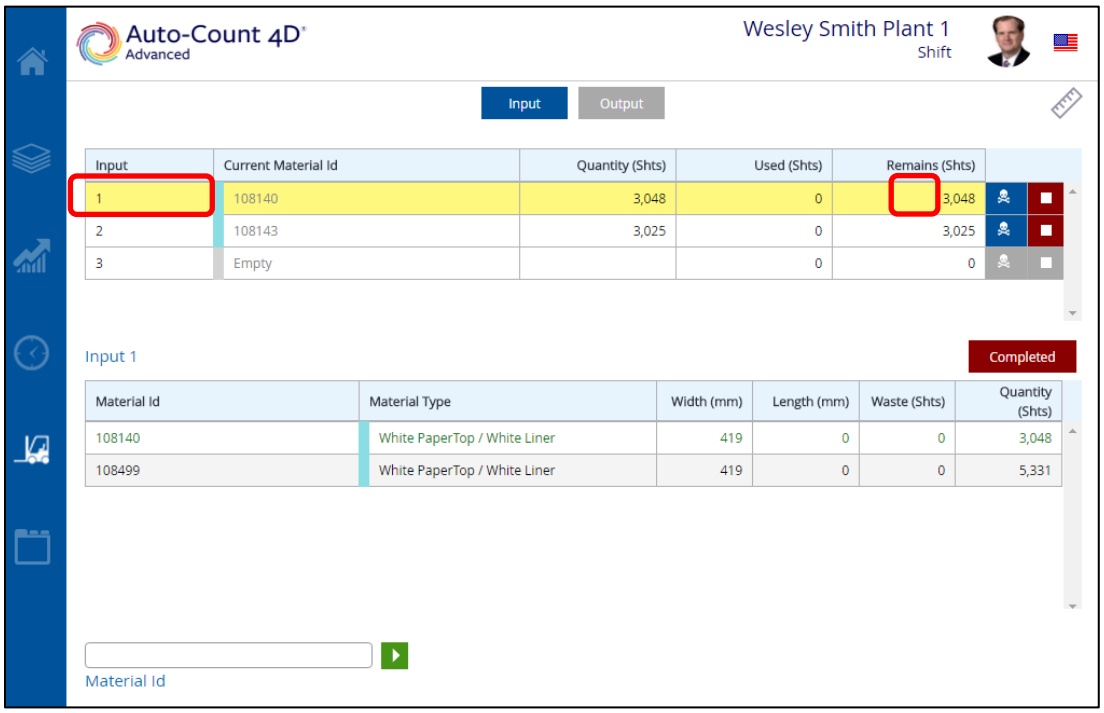


Another reason Auto-Count will not allow you to end an input is if there is not another material on that input to use. You must have at least two materials assigned to this input (not another input) before you can end or reject a material. If you end a roll during a run and there is not another roll/input set up, then Auto-Count will warn you that you must have another roll available before ending the current roll.

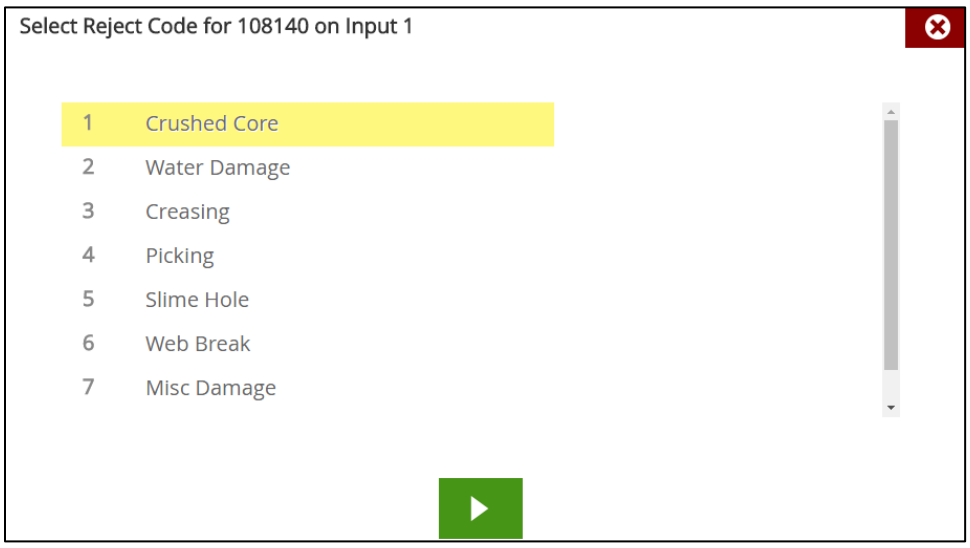
To reject a material

Note This feature is only available if your MIS system sends Damage Codes to the Plant Manager database. For more information, please contact support.

1. Select the input and click the reject button. 

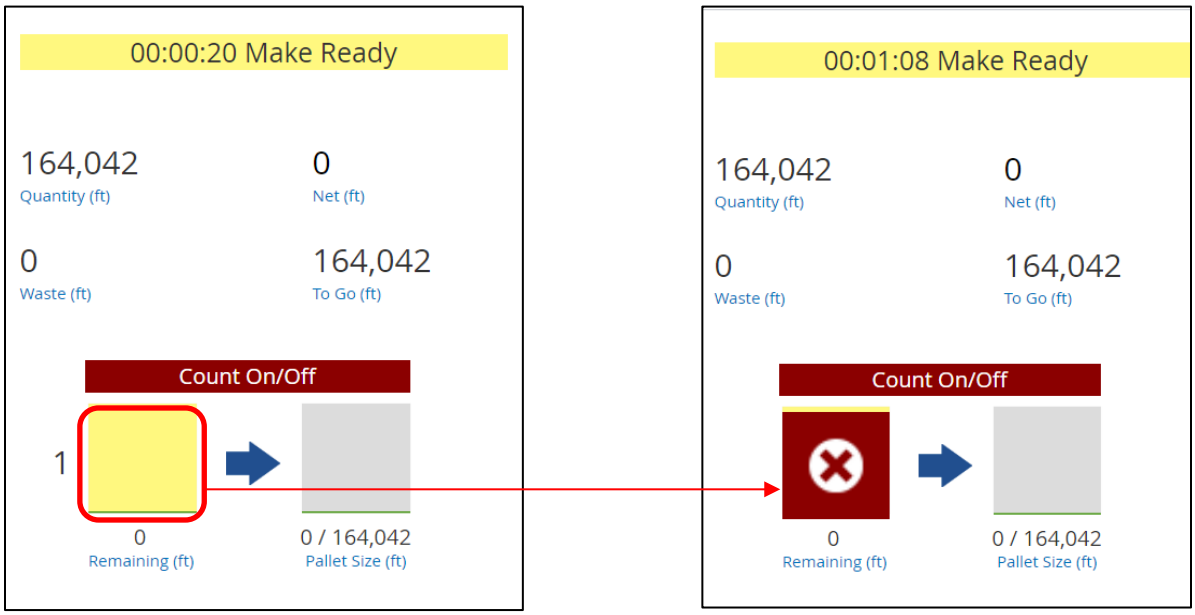


2. Select a damage code from the list. You may add this material to another input on the same job if necessary.



How can I turn off all inputs at once from the main window?

After you load a run you can easily disable all inputs directly from the main window if you have the option **Disable Input from main screen** in Plant Manager turned on. (Plant Manager > Define Machine > Materials) When this is selected, the user can click the input icon on the main window to disable all inputs at once.



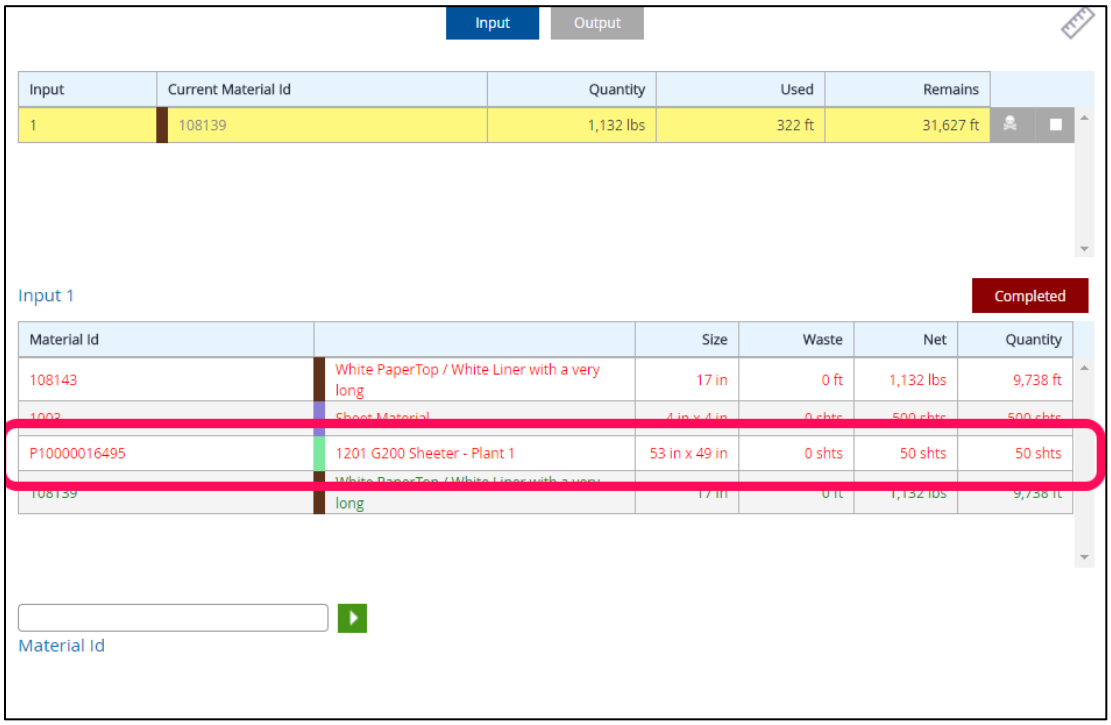
If this option is not selected and the user clicks the input button on the main window, AC4D will open the Materials > Input window.

Note In either case, **if materials are on the input**, then the user will be prompted to end the selected input.

Consume and Track Materials from Other Machines

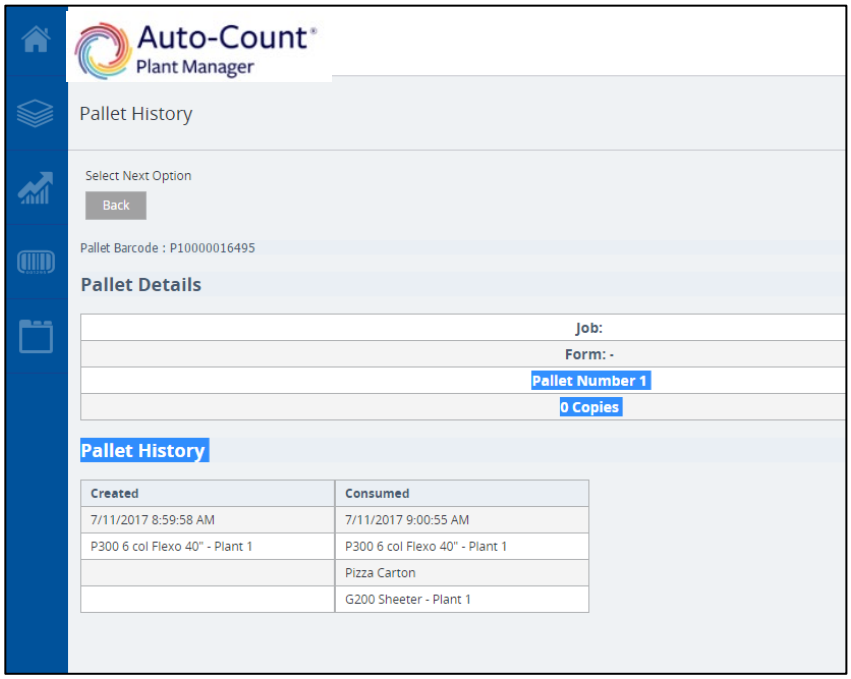
(*Non-Radius users only*) A useful feature for finished goods material is the ability to scan and use materials produced on another machine. You can then track the material using the Pallet history.

Simply scan the material and the select it. Auto-Count will display the machine ID in the material description of where the material came from.



Note Radius users already have a process for consuming previously created material and will not be able to directly scan in material from another machine.

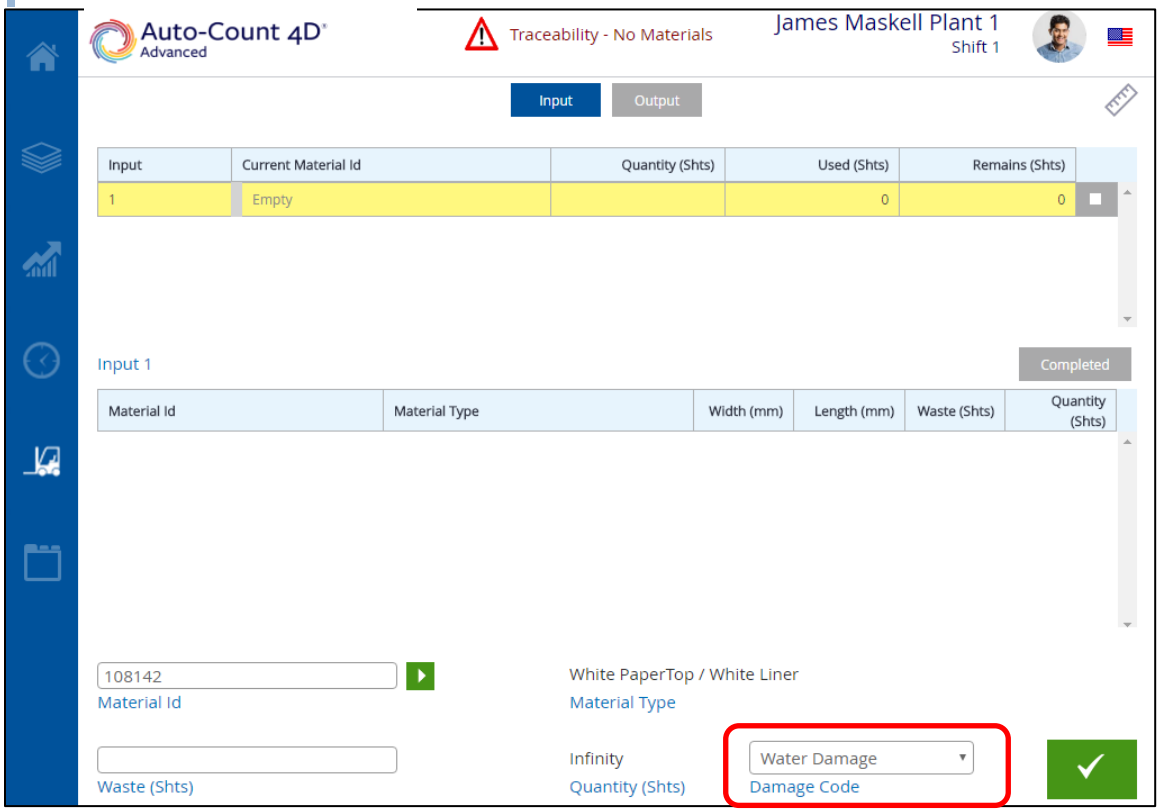
You can see the Pallet history where the material was created and consumed.



Damage Codes

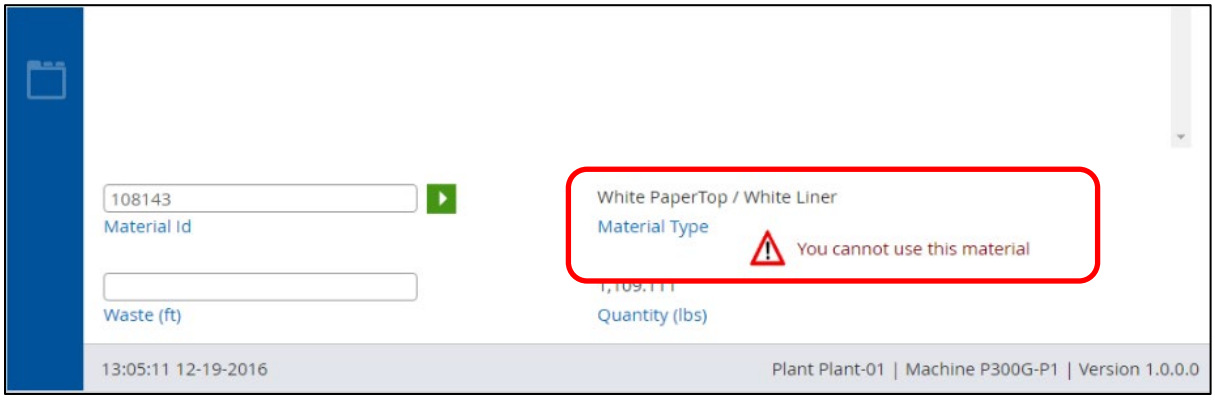
When adding Materials to a job, users can enter damage codes for the material. Simply enter the Material ID and select a damage code form the drop-down. If you input the material with a damage code, then Auto-Count will assign the wasted amount to the input as waste.

Note Damage Codes are created in Plant Manager. Do not confuse these with Quarantine codes which are applied to output material and must come from the MIS system.



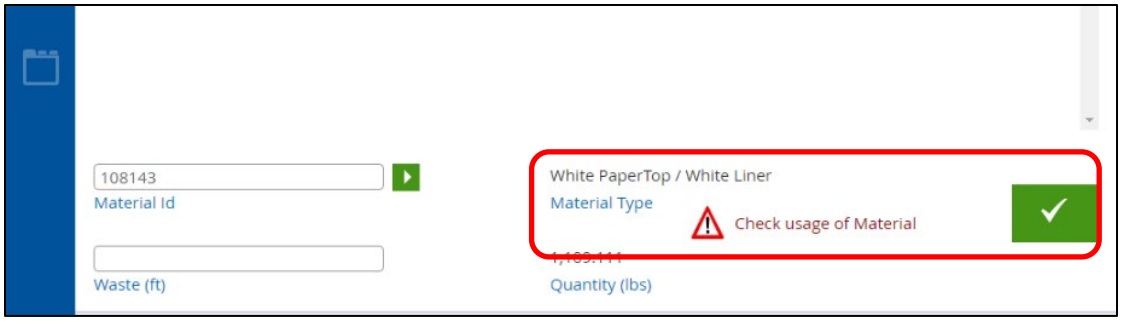
Material Validation

If you have traceability set up (typically Radius users), then the material inputs are validated when you choose them. If you choose a material which is not valid for the job, then Auto-Count will warn you. If Radius sends an Allow Different flag with the material recipe, then Auto-Count will allow the operator to choose a different material that is the same material type. For example, they can swap one ink for another but not an ink for a foil.



If the operator is required to check the material before they use it, then the following will be displayed.

Once you exit out of this window the user can then choose another material if needed to they can click the green check box and use this material on the job.



Also, if you add a material with a different length or width from the original material on the run, Auto-Count will warn the user before you can proceed.

> **Note** When Traceability is turned on, AC4D will not allow the operator to enter a Material Type ID on an infeed. They will only be able to enter or scan a specific item ID or consumable ID. This will prevent operators from mistakenly entering an item code instead of an inventory reference code which would break traceability in an MIS system like Radius.

Validate When Operator Chooses to Keep Materials

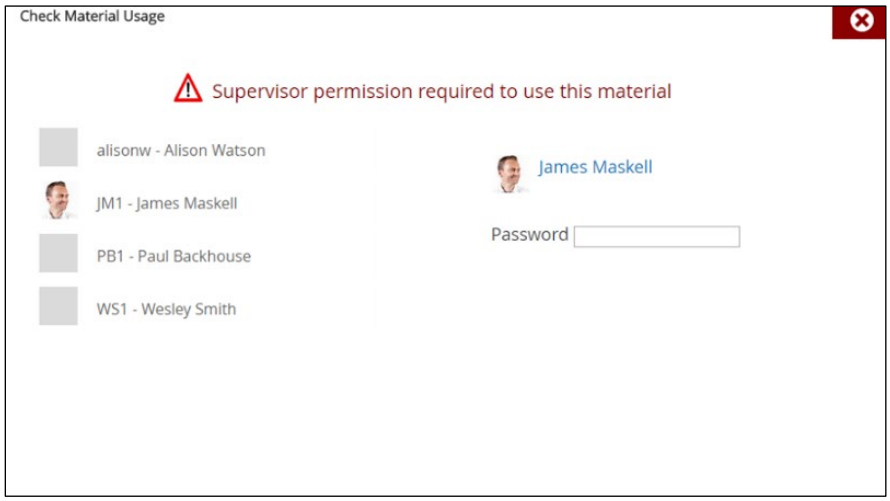
When you choose to keep materials for the next run, Auto-Count will validate the material if the next run has material validation requirements sent from the MIS system. (Unless you have Auto-Count set up to always keep material, you will be prompted at the end of each run to do something with the material.) If the next run requires a specific material and the kept material does not match, then Auto-Count will require the operator to scan in the valid material. If there is no material validation with the next run, then the kept materials will be used. Also, if you have the option **Keep input material timeframe** turned on, then Auto-Count will only validate materials within this timeframe –it will always force operators to choose a material if the keep material timeframe has expired.

> **Note** Auto-Count can only validate materials if the proper material information is sent with the run from the MIS. If the operator chooses to reset counts when loading the next run, Auto-Count will not validate kept materials.

Supervisor Password Required

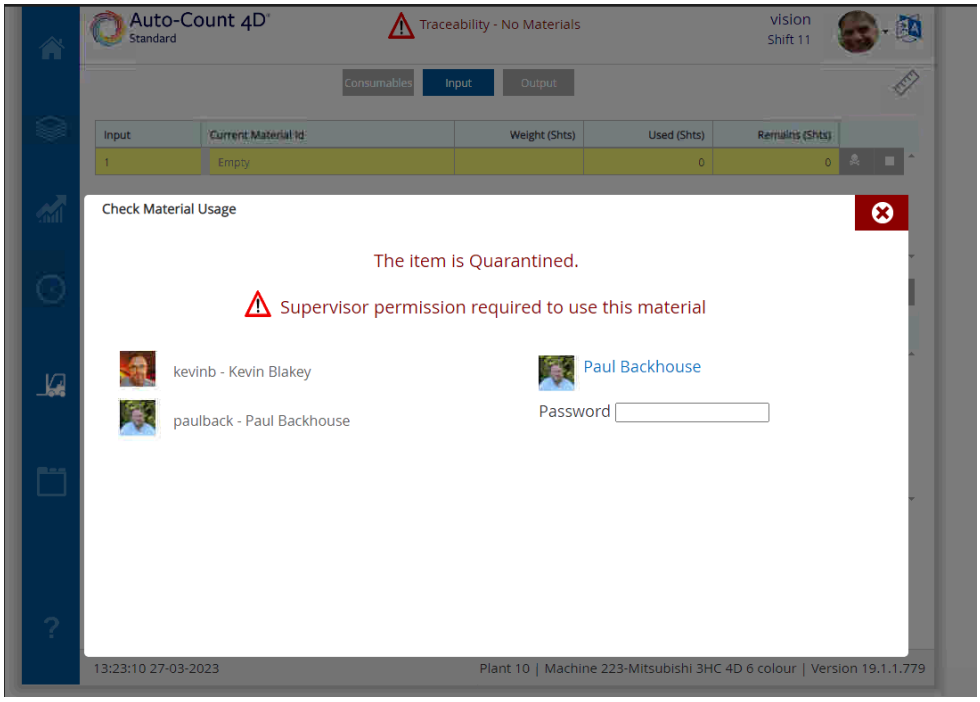
Along with Material validation, this feature also includes Supervisor validation. If a material from Radius is marked as needing Supervisor permission to be used, then Auto-Count 4D will require the operator to choose a supervisor operator and enter a password before allowing the use of the material on the job. Note, your MIS must support this feature.

For example, when the operator chooses a 'Supervisor' marked material, Auto-Count 4D will automatically ask for Supervisor permissions. The operator must select the Supervisor and enter a password before continuing. Auto-Count will store this event (Supervisor and Material ID) if you need to retrieve it later.

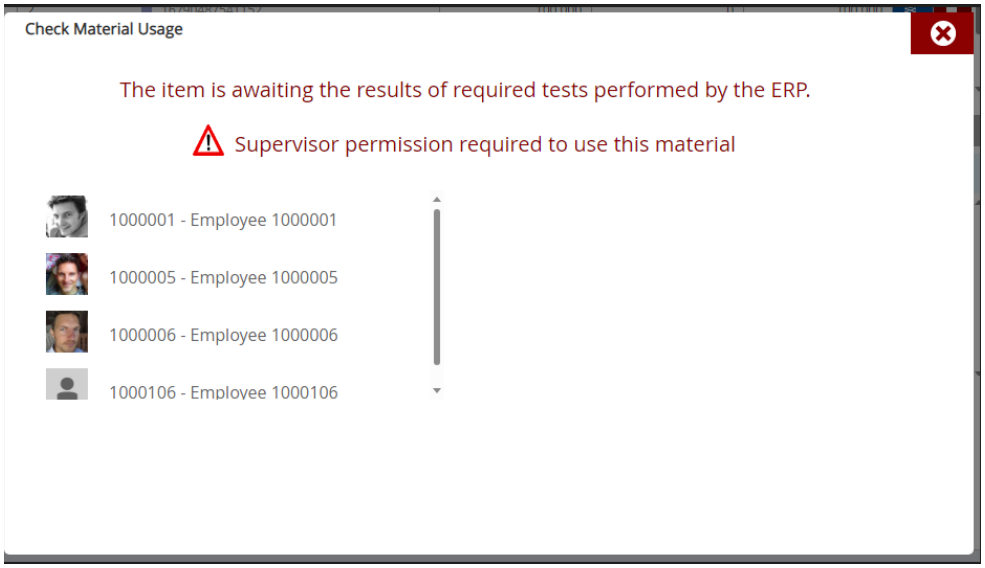


Radius Integrations: Auto-Count Alerts User if Material is Quarantined

When an operator scans an input material ID, Auto-Count can alert them as to why a material cannot be loaded onto the job. This material status information can come from Radius if Radius has quarantined a material or has tests pending. Auto-Count will display an alert message on the Inputs window when an operator selects a material that is marked as Quarantined by the Radius MIS.



If the materials are still waiting for tests to be completed, then this message will display:

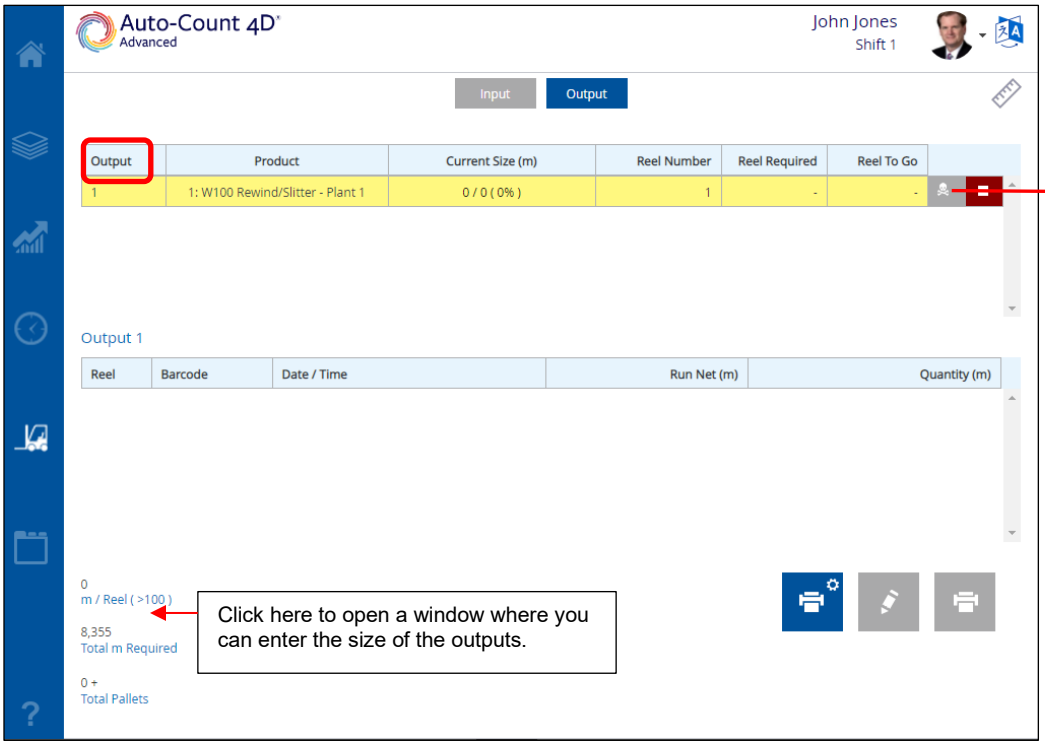


Output

Once you have set up your inputs you must set up the outputs, essentially entering the quantity that roll/pallet can have before it is considered done. Outputs are considered the product of the run or good count.

> **Note** Auto-Count will ignore the quantity on the smallest container size if there is an output signal. For example, if you have set up a knife slice output signal for a roll, then Auto-Count will use the roll quantity from the output signal rather than the roll quantity assigned to the job. This more accurate value will display on the roll/pallet history and roll/pallet labels. This will avoid the issue of having to go into the MIS system and update values to reprint the labels.

Click **Output** to add or remove outputs. To view multiple outputs, the machine configuration used must allow for multiple outputs and the job itself must contain multiple delivery information. Also, Auto-Count Manual and Auto-Count Express do not support multiple outputs.

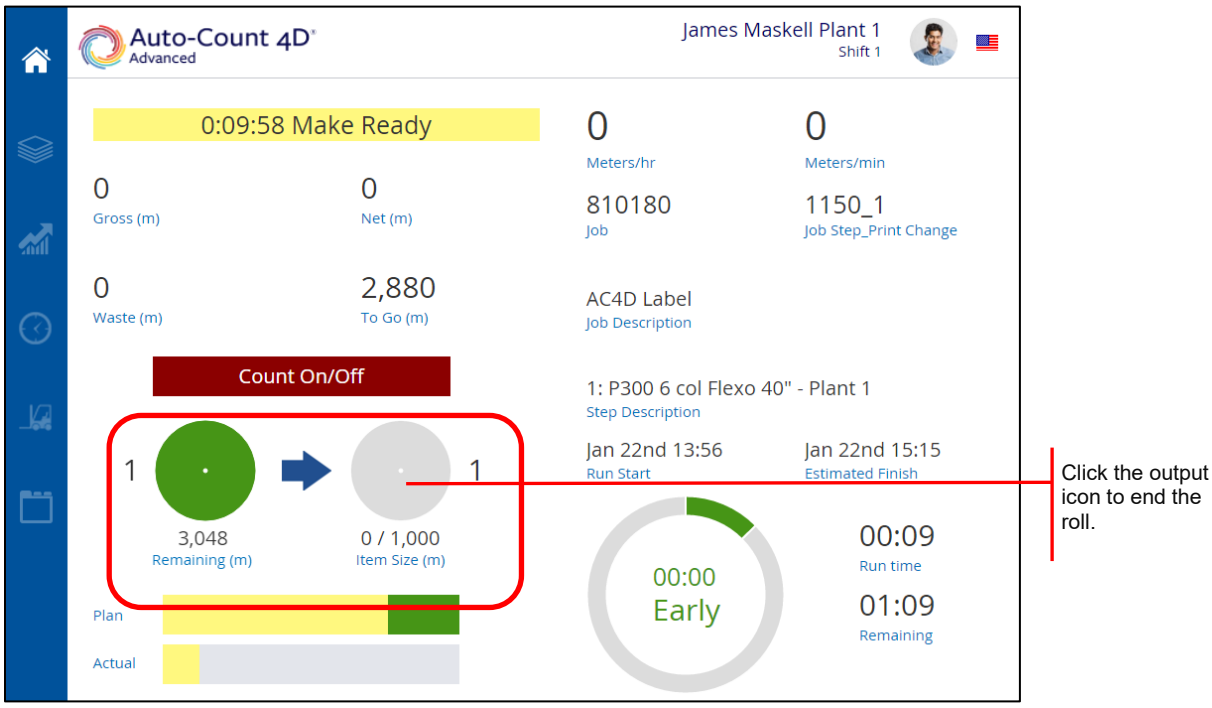


Click the Quarantine button to reject this roll. If your MIS supports quarantine codes, then one will be applied to the material. These are not the same as damage codes for when the material is placed on inputs.

Click the Quarantine button to also flag an output as needing some sort of Rework if your MIS system supports receiving rework messages.

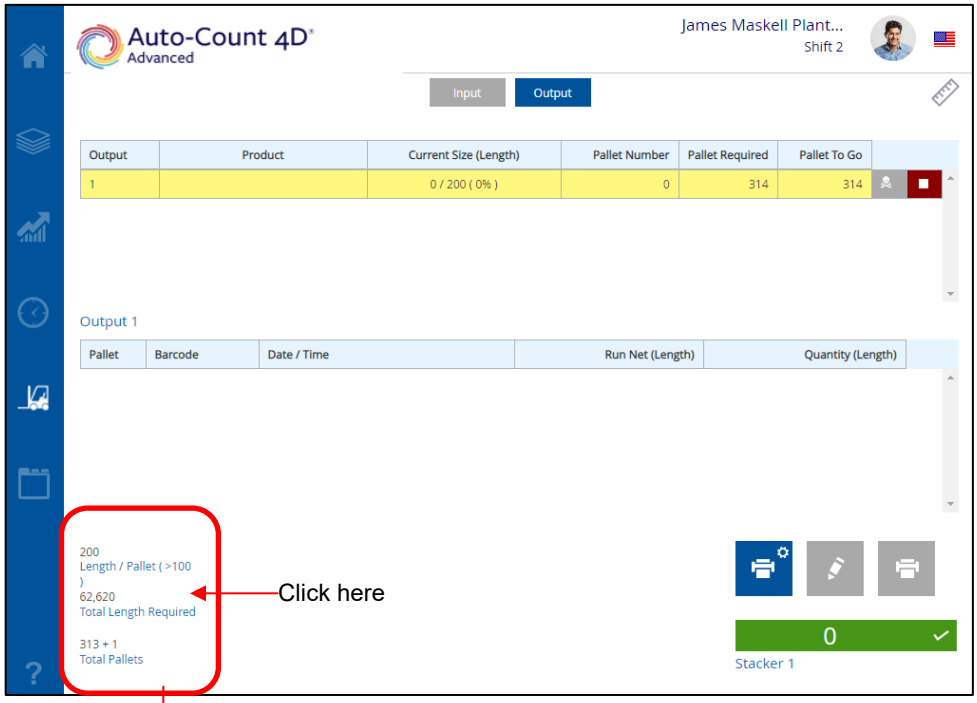
Click the red stop button to end the roll.

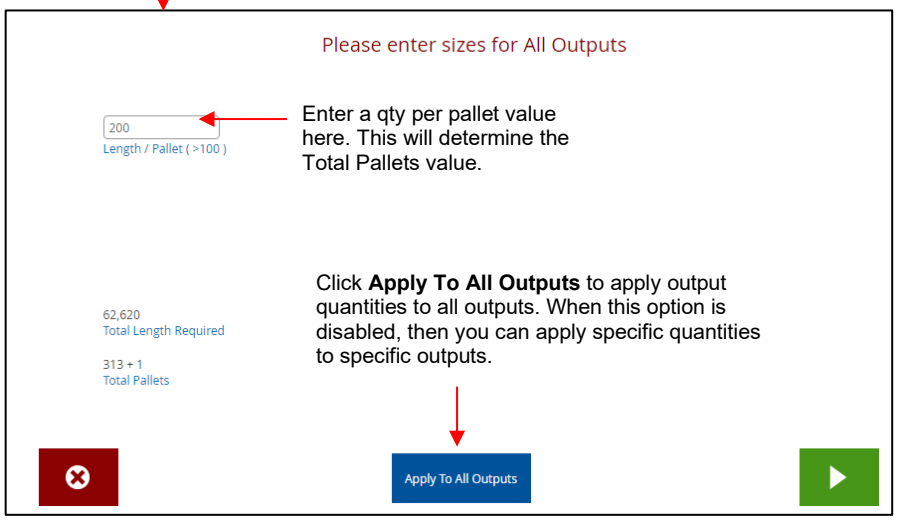
Now the rolls are set and ready for the run.



Entering Output Sizes and Ticket Quantities

You can edit the quantity per output (roll / pallet) by clicking here to open the Output size window. Entering zero simply means you must manually end the output.





Note The setting Plant Manager > Define Machine > Material > **Minimum Output Size** does not allow users to enter an output size smaller than the value set here. The default is 100. This value is unit-less meaning that it applies to whatever unit the run's output size is set to. For example,100 could be 100 pieces, meters, feet, etc. It depends on the output UOM.

If you enter '0' then you must manually end the output.

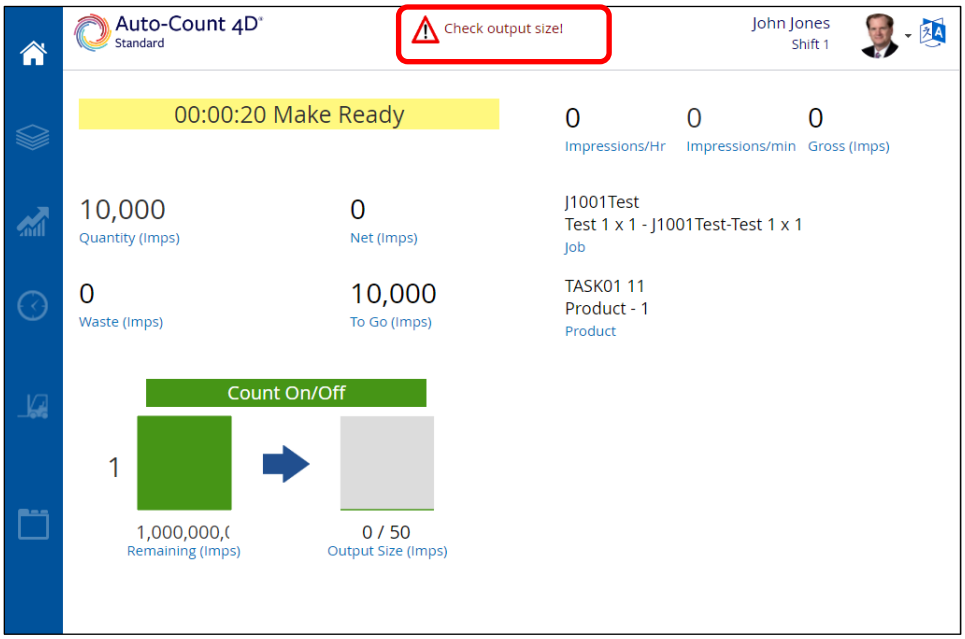
The option in Plant Manager at the machine configuration level called **Allow Packing Size Updates**, determines whether the operator can edit the pallet size or not.

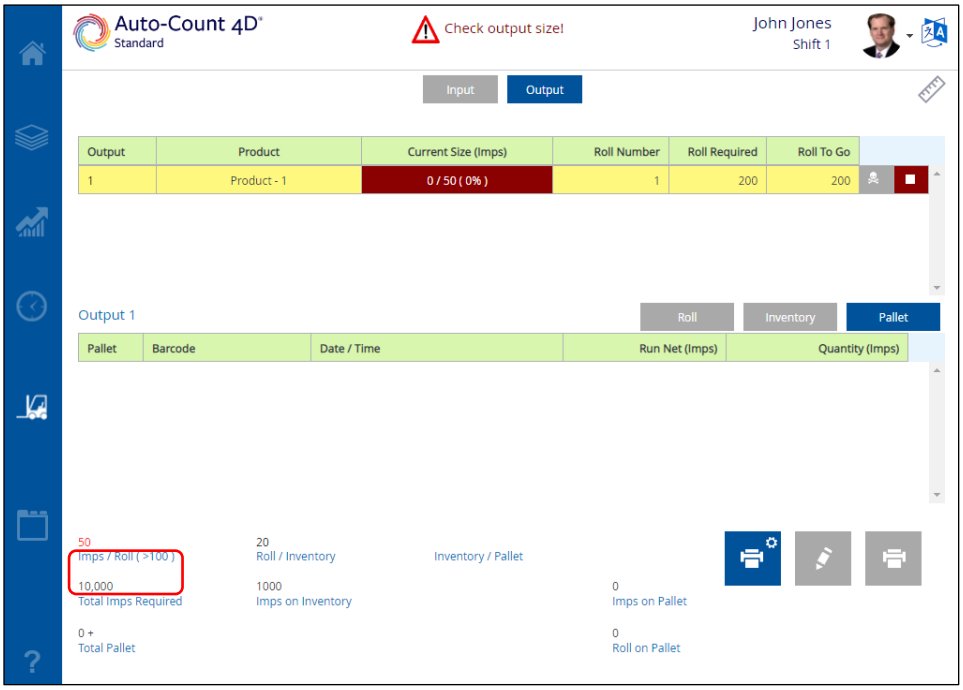
See the section below, Output Size Warning for details on the this feature.

Output Screen Alerts Operators to Size Issues

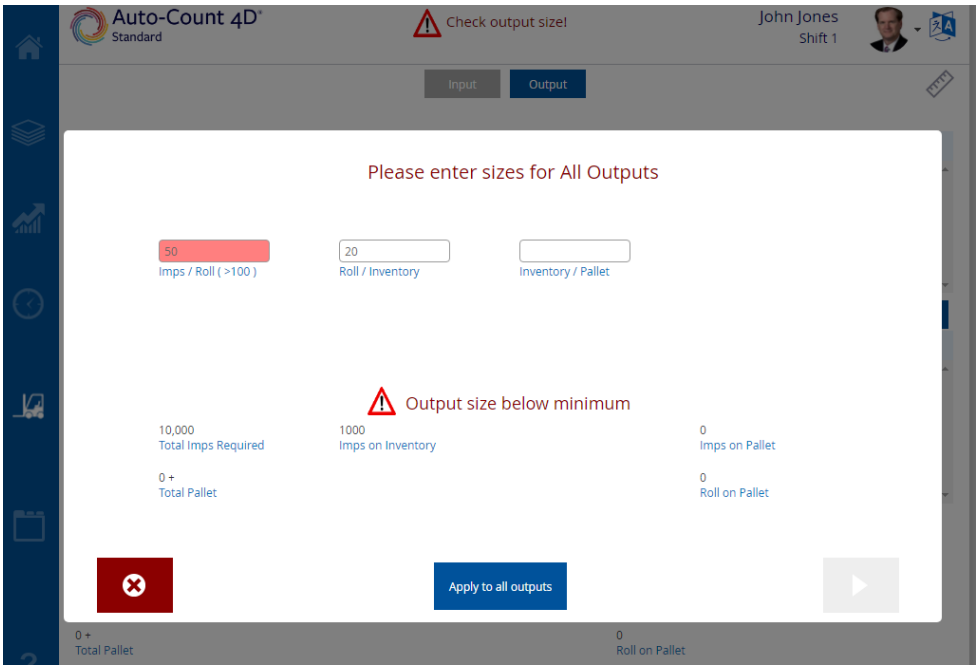
When you load a run, AC4D will alert the operator if there is an issue with the output size. There are two reasons you will see this error:

- The AC4D machine's Minimum Output Size is smaller than the output size sent with the job.
- The size of the container is smaller than the item being packed into it. For example, if we are saying a roll has a size set to 50m but the container it is being placed onto has a size set to 30m, we display the warning.

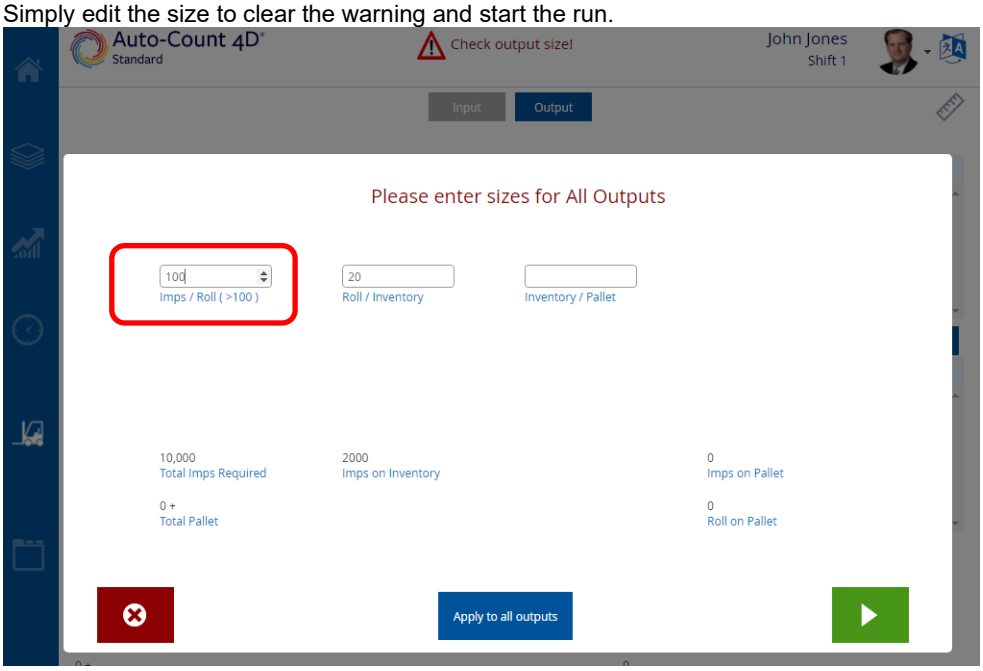




When an output size is not valid, the Current Size column cell will have a red background. Select this field to edit the size. In this case, the problem is that the machine's Minimum Output Size is larger than what was sent for this job.



Simply edit the size to clear the warning and start the run.

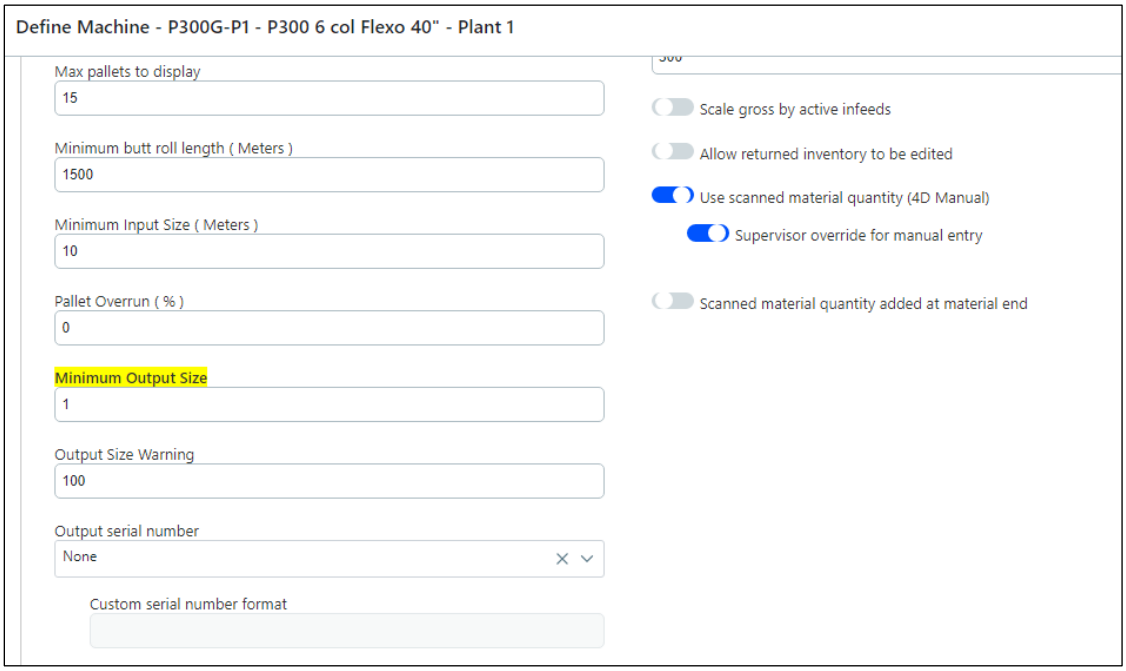


Output Size Warning

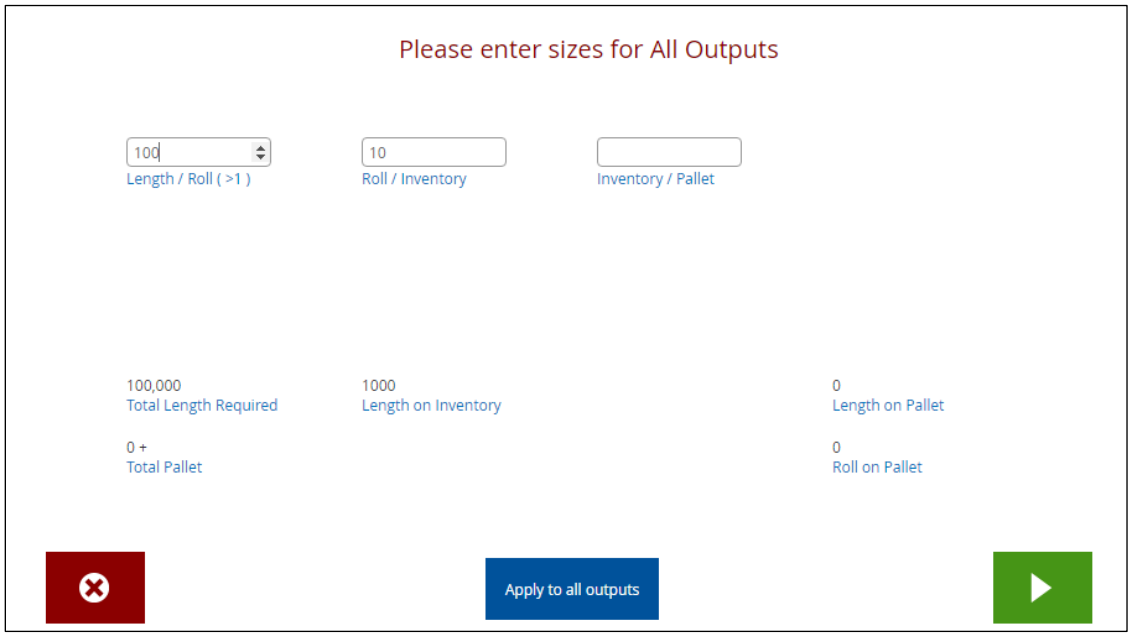
There is also an option on the Plant Manager > Auto-Count Machine > Materials page called **Output Size Warning**. The value in this field is in net units and is the threshold by which the operator will be warned that they have exceeded the recommended output size value that has been set for this machine. At the AC4D machine, if the user enters a number that is greater than the minimum output size, but is below the new Output Size Warning value, then the border turns red and a warning message displays. If the operator chooses to use that value, another warning message displays to ensure they haven't entered the wrong value.

This option is useful if the machine runs jobs where the output size must be 1 but can also run jobs where the output size is much greater. In this case the minimum output size must be set to 1 for those jobs whose outputs size must be 1 but prevents operators from automatically (out of habit) setting the size to 1 for jobs which require a higher value. The extra warnings should prompt them to double-check their output size for the current job.

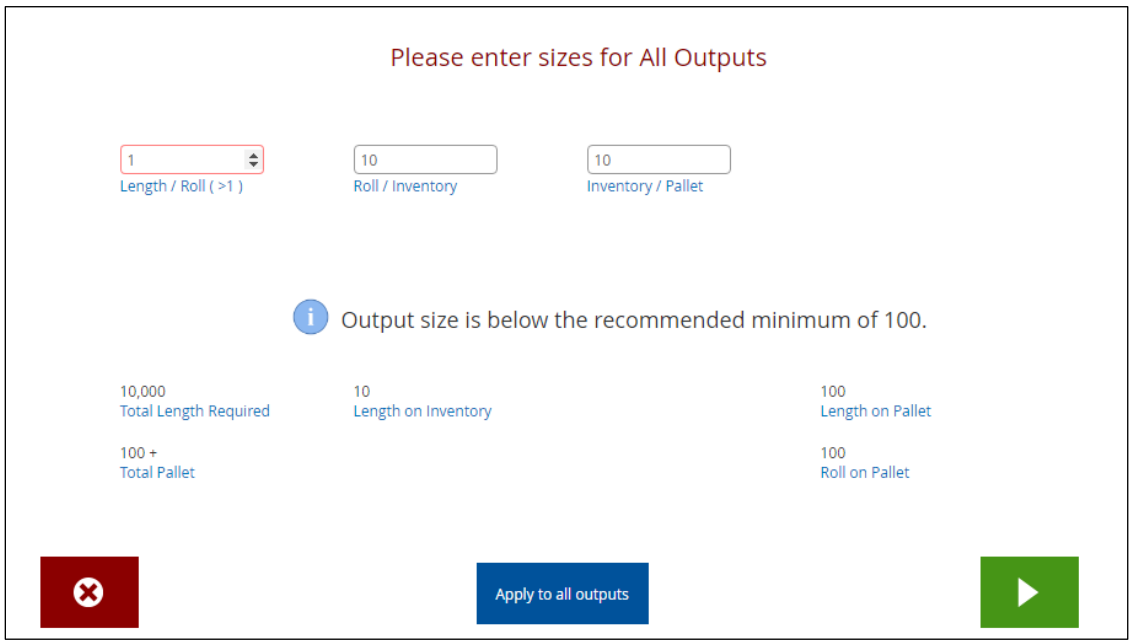
We've set up the machine to be able to use a minimum output size of 1 but the operator will get a warning if they enter any value that is below 100.



Here you will see the value is set to 100 so no warnings are displayed as both the Minimum Output Size and Output Size Warning are met.



If the operator manually enters 1 as the output size, Auto-Count will now warn them that it does not meet the minimum recommended size.

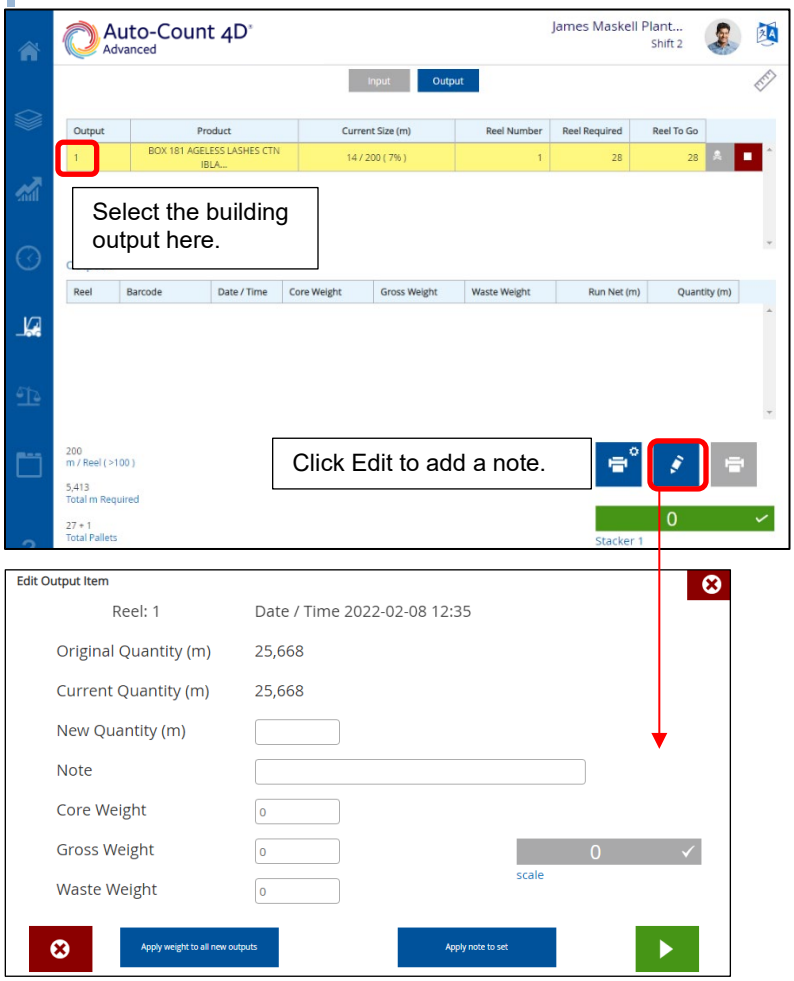


If the operator proceeds, they will be warned one more time but will be able to use the 1.

Notes for Current Outputs

Operators can add notes to a currently building output from the edit button. The note would be available even after the output has completed. If you are producing a set of outputs, for example one roll is producing four outputs at the same time, you can click **Apply note to set** and Auto-Count will copy your note to all outputs in the set that is/was produced.

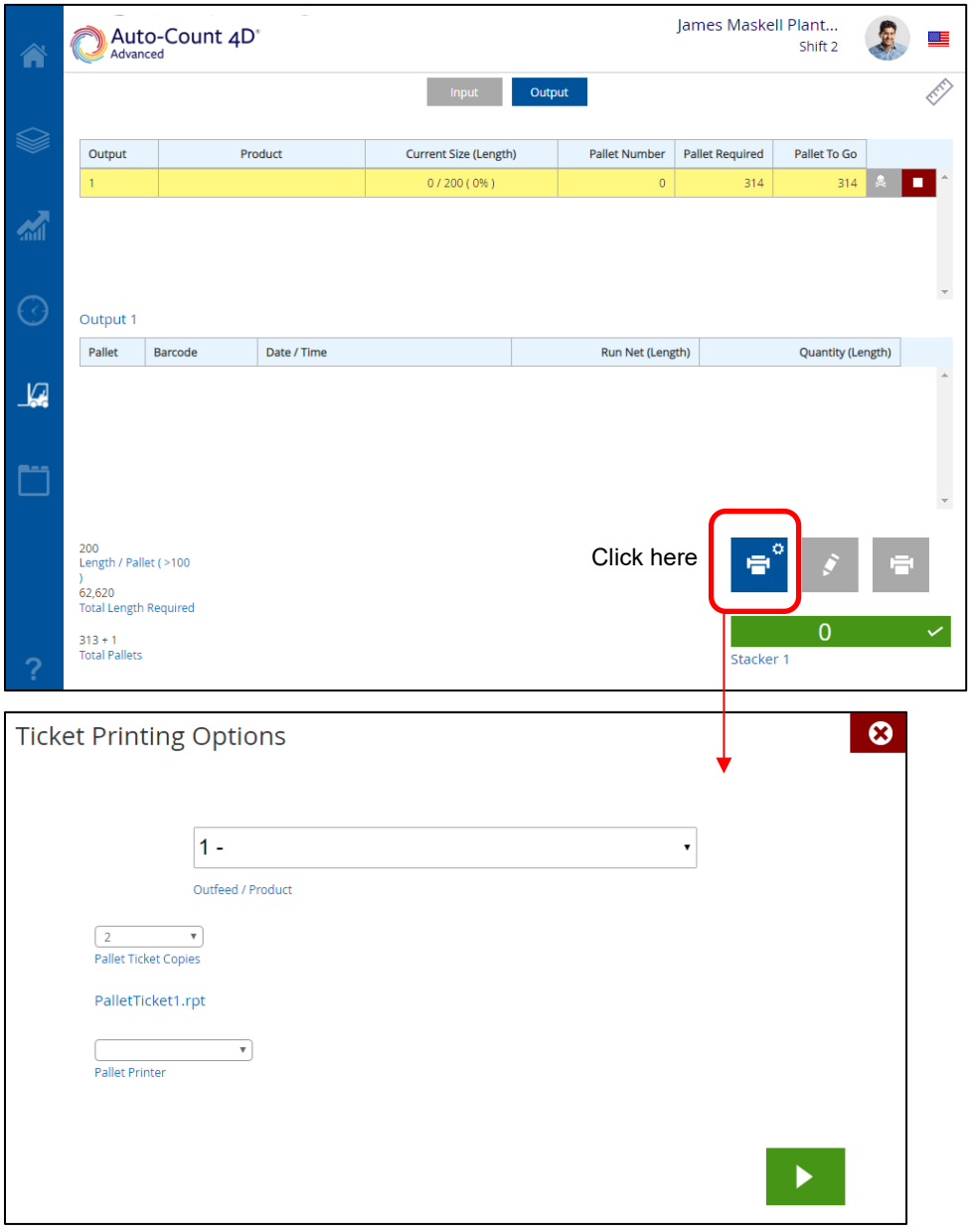
> **Note** To edit output notes at the 4D machine, you must select **Enable pallet/roll editing** in Plant Manager > Define Machine > Material. You cannot edit historical outputs on runs that have been suspended and re-started.



You can select the completed output from the bottom grid and click **Edit** to add/change the note if needed.

Ticket Printing Options

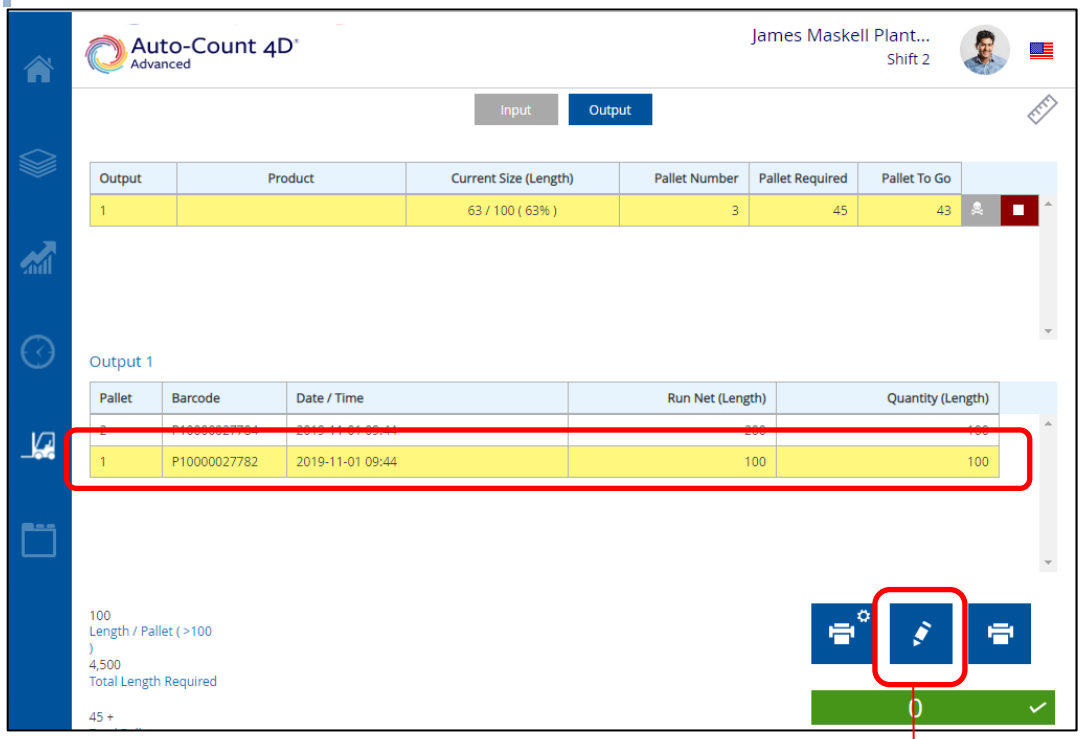
Open the Ticket Printing Options window to choose how many ticket copies per outfeed or product and to which printer they should print.

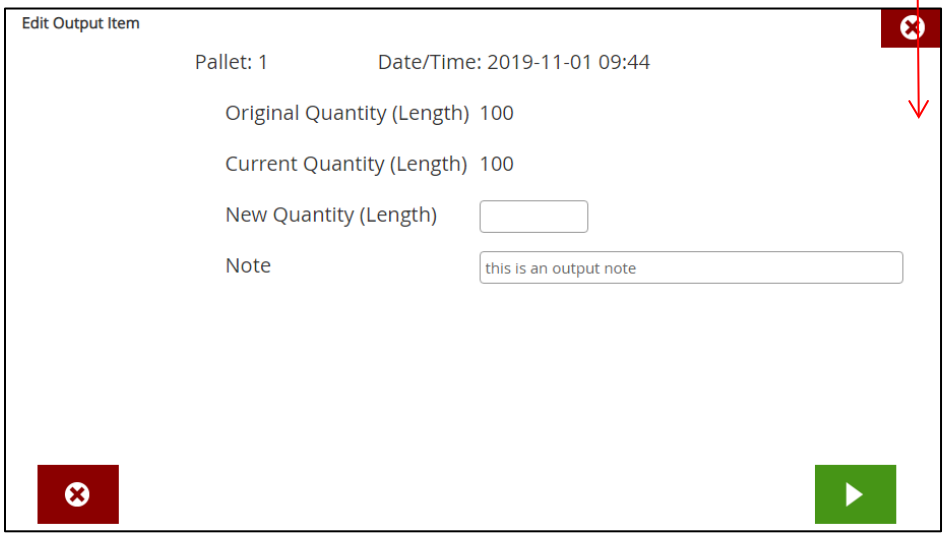


Editing Pallet/Roll Quantity and Notes

If a user must edit the pallet/roll quantity after it has been created, then the Edit Pallet/ Roll feature must be turned on in **Plant Manager > Define Machine > Material**. Once the pallet/roll has completed, the user can choose to edit the quantity as needed during the run. They can also enter a Note in this window.

> **Note** Operators can only adjust the quantity to a lower value than the current quantity. The user interface allows them to enter a higher value, but Auto-Count will not save this value. Also, the Run Net field will not update to reflect the edits, which is by design to ensure optimum efficiency. Updating this field could create load on the system when trying to update this value for many pallets.



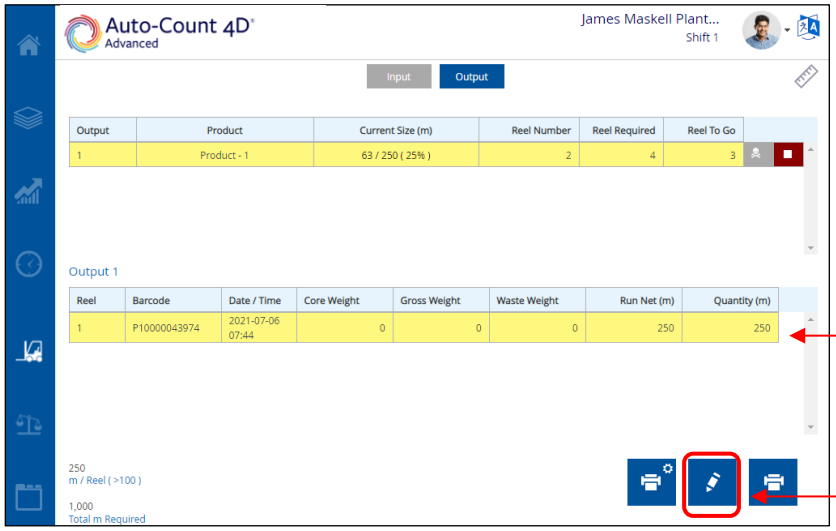


Apply Output Weights

Auto-Count can use the output weight an operator enters in the Output Edit window for subsequent outputs. There is a button in the Edit Output window called **Apply weight to all new outputs.** When selected (green checkbox), it will apply the newly edited weight to any new outputs produced.

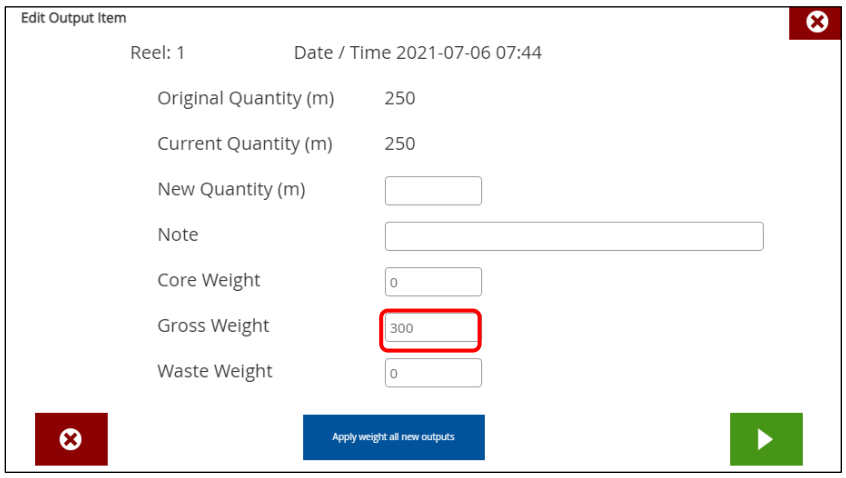
> **Note** To see this button, your machine in Plant Manager must be configured with the options **Enable pallet/roll editing** and **Enable output weighing**.

In this example, the first output was just created. We'll select it and add a weight. Then we'll click the new button **Apply weight to all new outputs** to apply it to the remaining outputs.



1. Select the output.

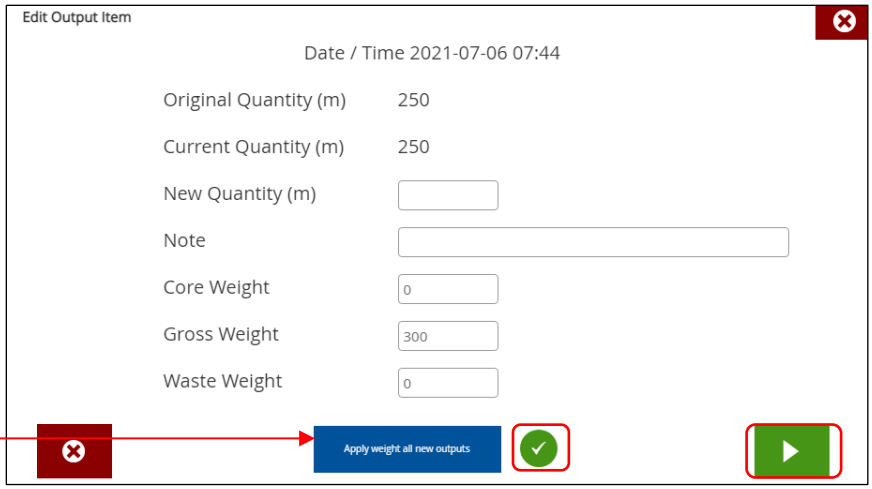
2. Click the Edit button.

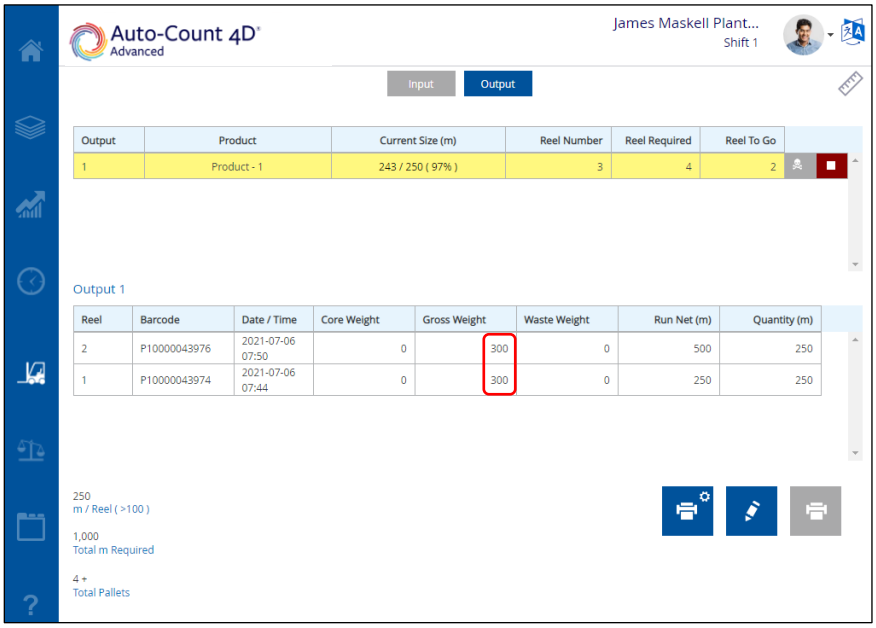


Enter the weight. In this example well just enter a gross weight.

1. Click to apply weight to the remaining outputs to be built. A green checkmark displays.

2. Then click OK.





The gross weight of reel 2 is automatically '300'. All remaining outputs will retain this weight unless you manually edit the weight again.

Note This feature is per delivery, so you must apply the weight on each delivery individually. It is only across outputs, not across deliveries.

This feature only applies the weight to additional outputs, not completed ones. For example, if you have 5 reels completed and you adjust reel 1, then the next reel built, reel 6, will get the new weight. Reels 2 through 5 are already built and you must manually edit them.

Serial Numbers

For those workflows which require serialized pallet tickets, you can use the option **Enable automatic serial number** in Plant Manger > Define Machine > Material. When this option is enabled, Auto-Count will automatically create (sequentially numbered) serial numbers for each output. These serial numbers are sent to the MIS system where they can be used on pallet tickets.

The format for the serial number is <Machine Number> - <0000x>. For example, P100S – 00001, P100S – 00002, P100S – 00003, etc. If you have multiple containers only container 1 gets a serial number. If you lift the run and load it onto another machine, then Auto-Count will recognize this and create serial numbers starting with that machine number.

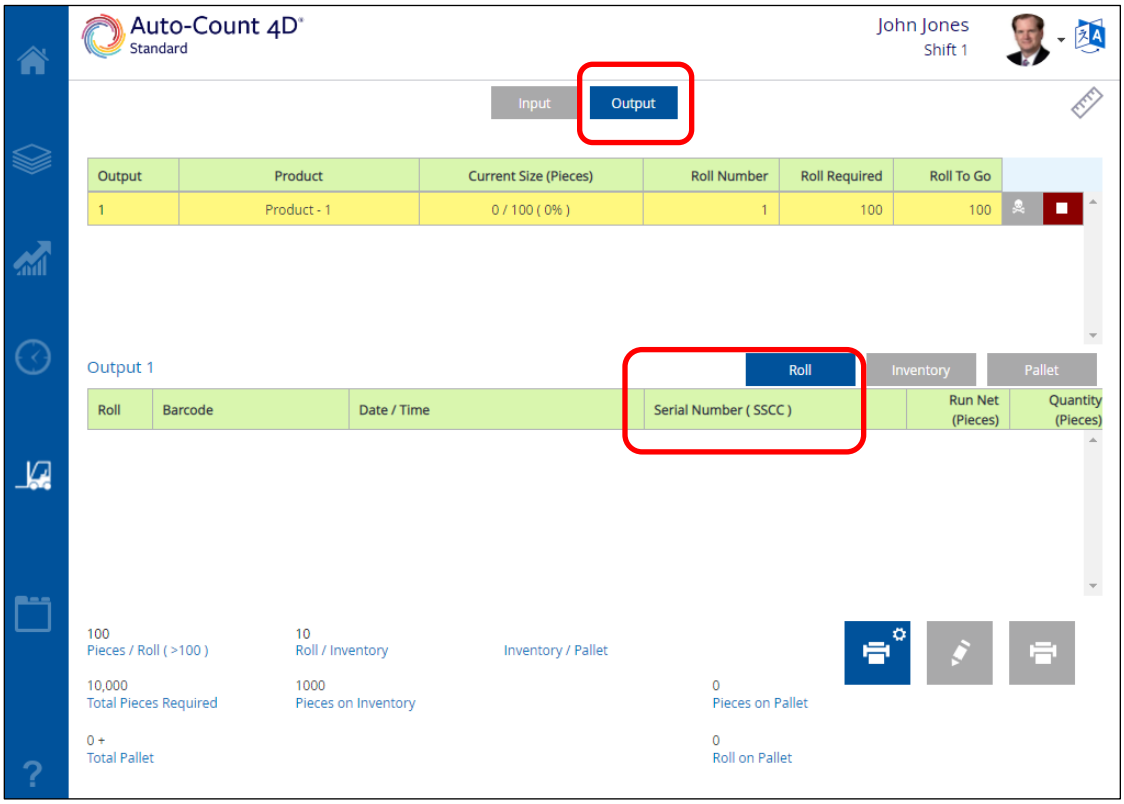
> **Note** Your MIS system must have the ability to receive and use these auto-generated serial numbers to take advantage of this feature.

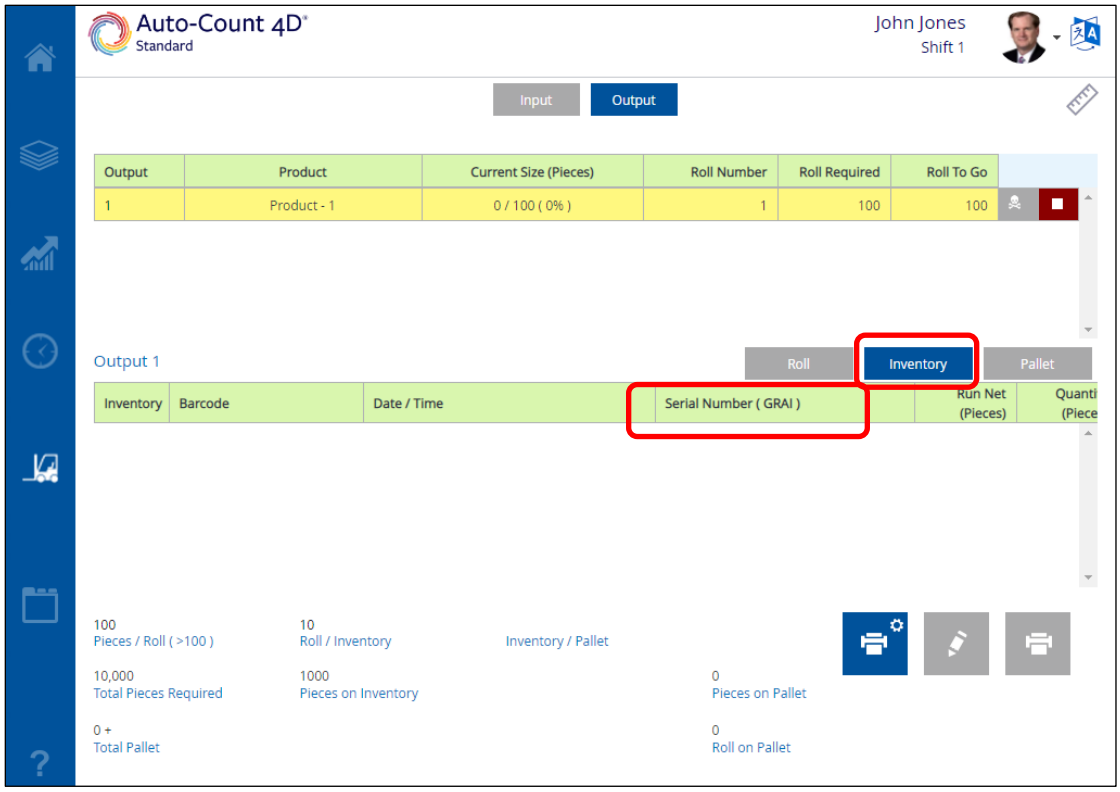
Using SSCC and GRAI Serial Numbers

The MIS system, currently only Radius, sends Auto-Count a notification of when outputs must use an SSCC or GRAI serial number in the Run Queue Product message. In the example below, there are three container levels in the RunQueueDropContainer node of the message - Roll, Inventory, and Pallet. From the SerialNumberFormat attribute, you can see that the Roll level requires SSCC serial numbers and the Pallet level requires GRAI serial numbers.

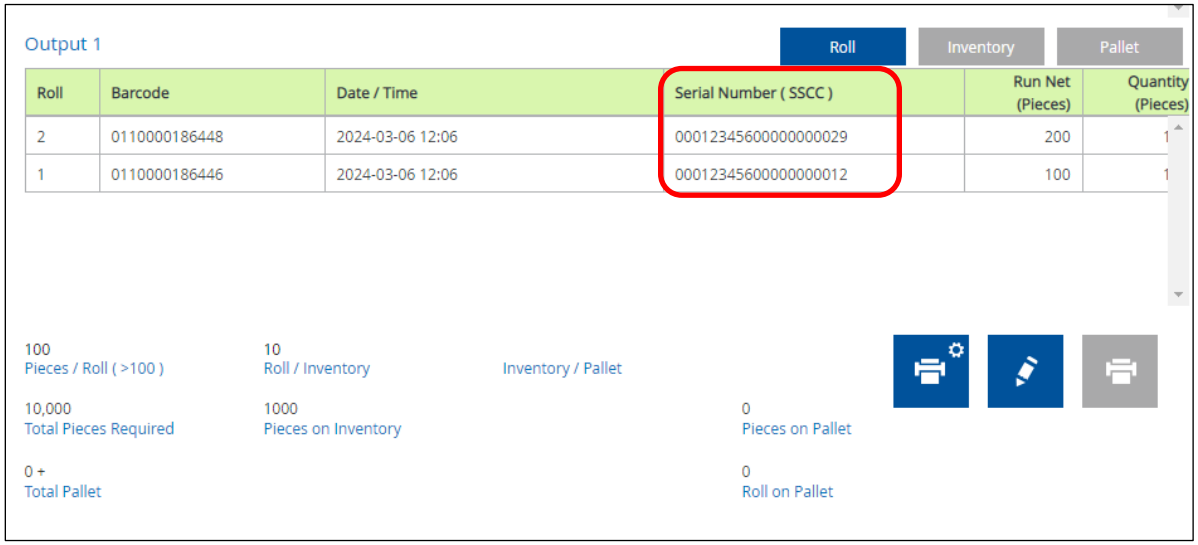
```
<RunQueueDrop DropIndex="1" DropQty="0" QtyPerPallet="1000" PalletNumber="0" Routing="" SpecialInstructions="" Address1="" Address2="" Address3="" Address4="" QtyPerLog="0"
 LogsPerLayer="0" LayersPerPallet="0" DeleteRecord="false">
  <RunQueueDropContainer ContainerIndex="1" Quantity="100" Description="Roll" SerialNumberFormat="SSCC" Printer="" Ticket="" TicketCopies="0" DeleteRecord="false"/>
  <RunQueueDropContainer ContainerIndex="2" Quantity="1000" Description="Inventory" SerialNumberFormat="GRAI" Printer="" Ticket="" TicketCopies="0" DeleteRecord="false"/>
  <RunQueueDropContainer ContainerIndex="3" Quantity="-1" Description="Pallet" Printer="" Ticket="" TicketCopies="0" DeleteRecord="false"/>
 </RunQueueDrop>
</RunQueueProduct>
```

When you load this example job, you'll see a Serial Number column for those output containers which require either SSCC or GRAI serial numbers.

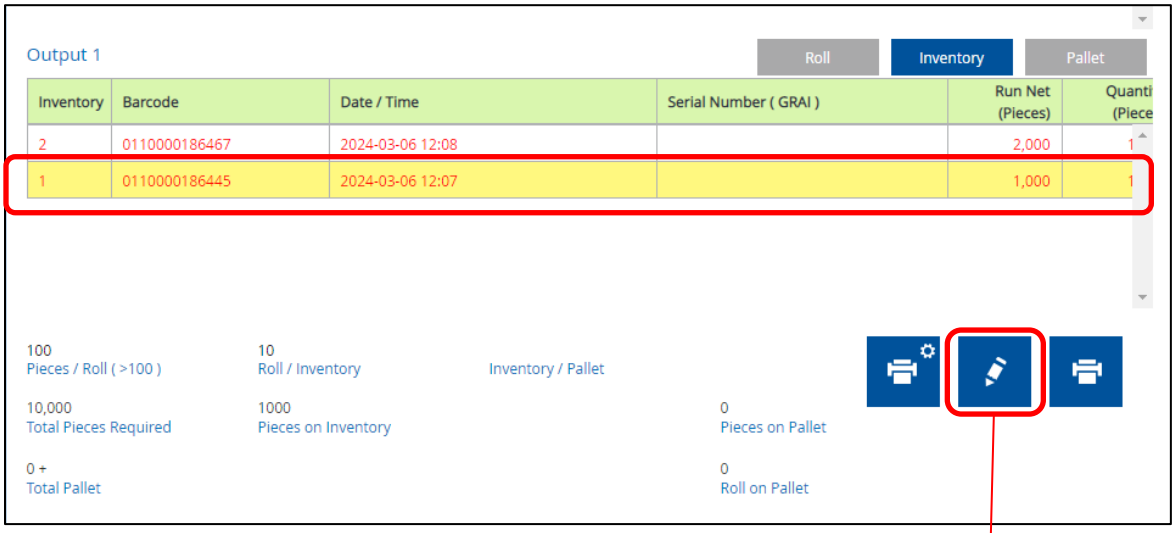


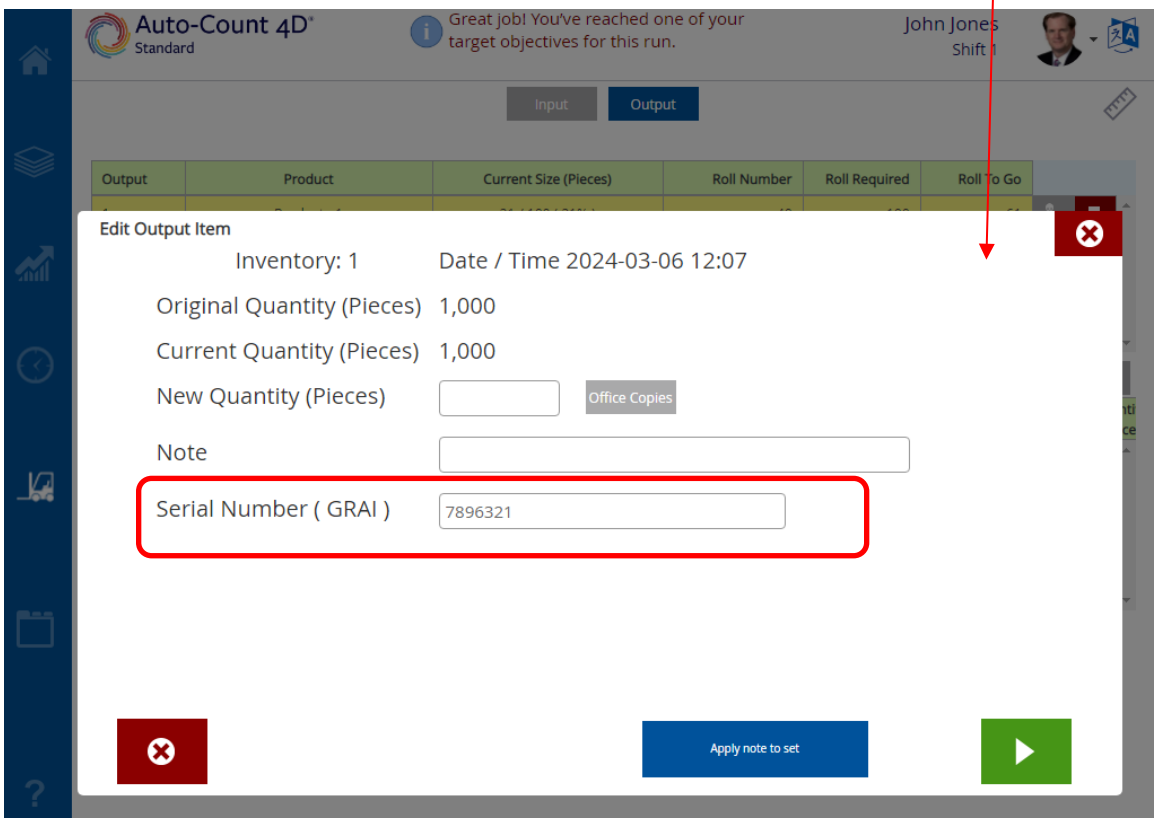


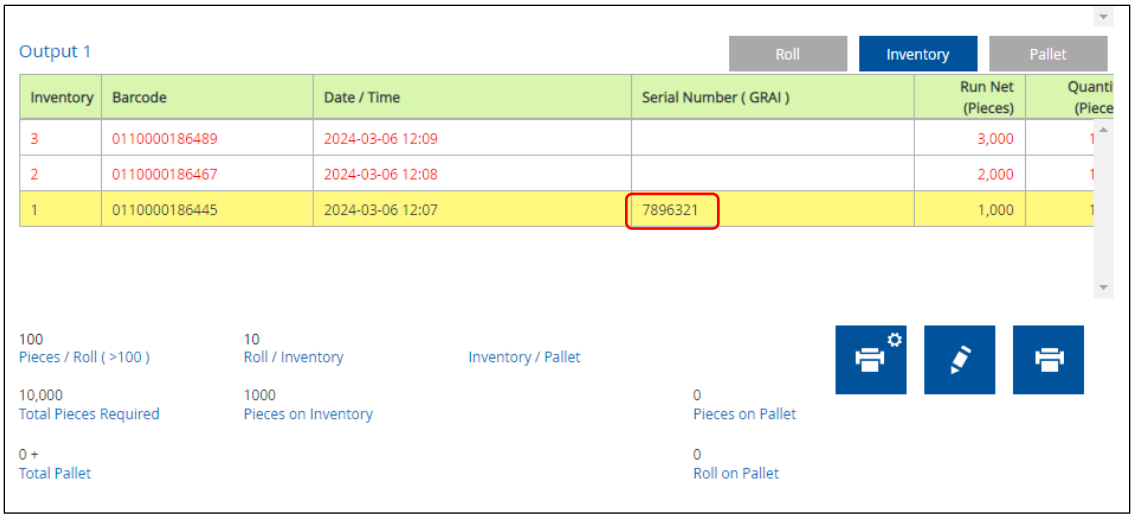
Once the job is in production and completing outputs, Auto-Count will automatically generate SSCC serial numbers.



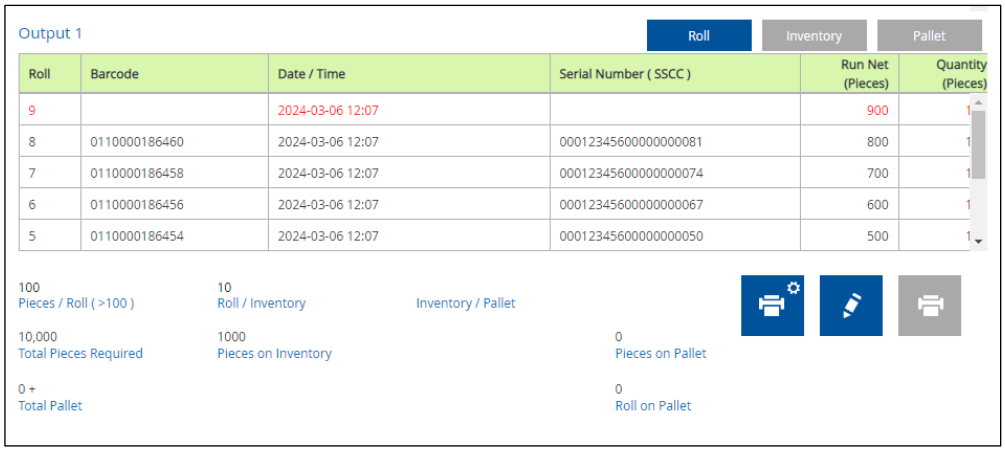
For GRAI serial numbers, the column remains empty until the operator selects an output and clicks the Edit button to add a GRAI code.







Note Until Auto-Count generates the SSCC serial number, the Barcode and Serial Number (SSCC) columns will be empty and the text in the row will be red to alert the operator. The serial number will automatically display once Auto-Count finishes generating it. In this example, Roll 9 has completed but Auto-Count has not yet generated the barcode and SSCC serial number.



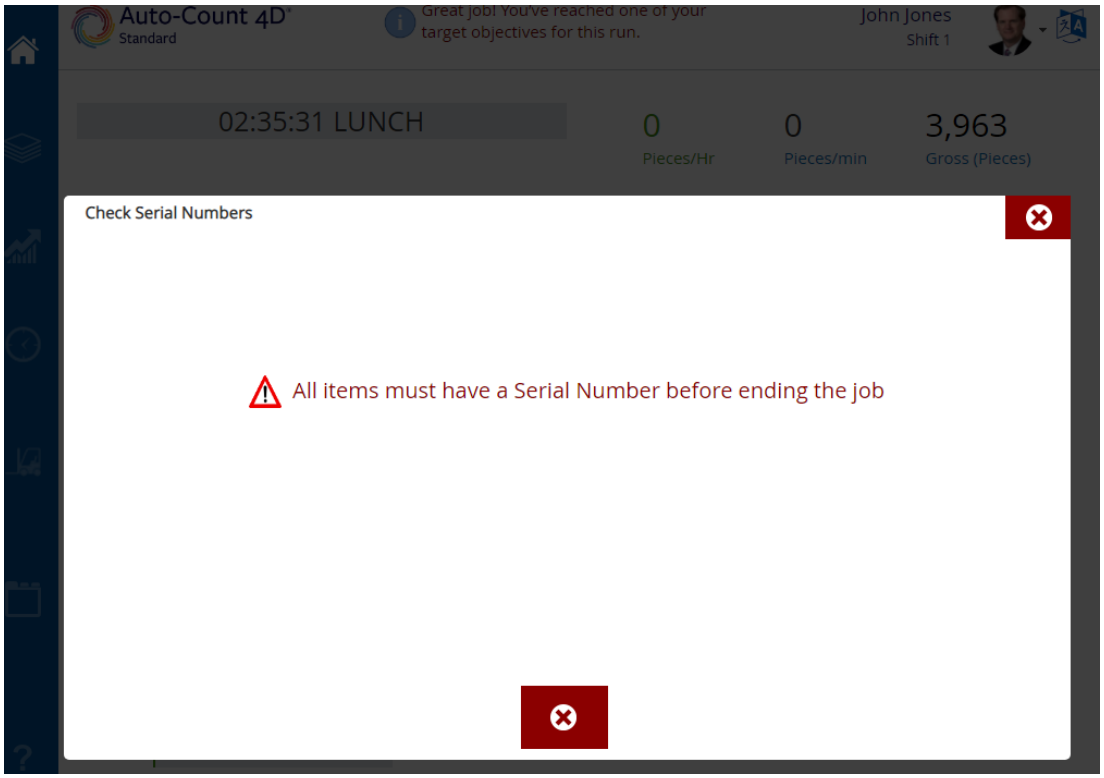
Auto-Count will continue to generate internal barcodes that can be used on tags and reports. These barcodes also use the Barcode Prefix set up in Plant Manager Admin. But the internal barcode is not connected to the SSCC serial number.

Output 1

Roll | Inventory | Pallet

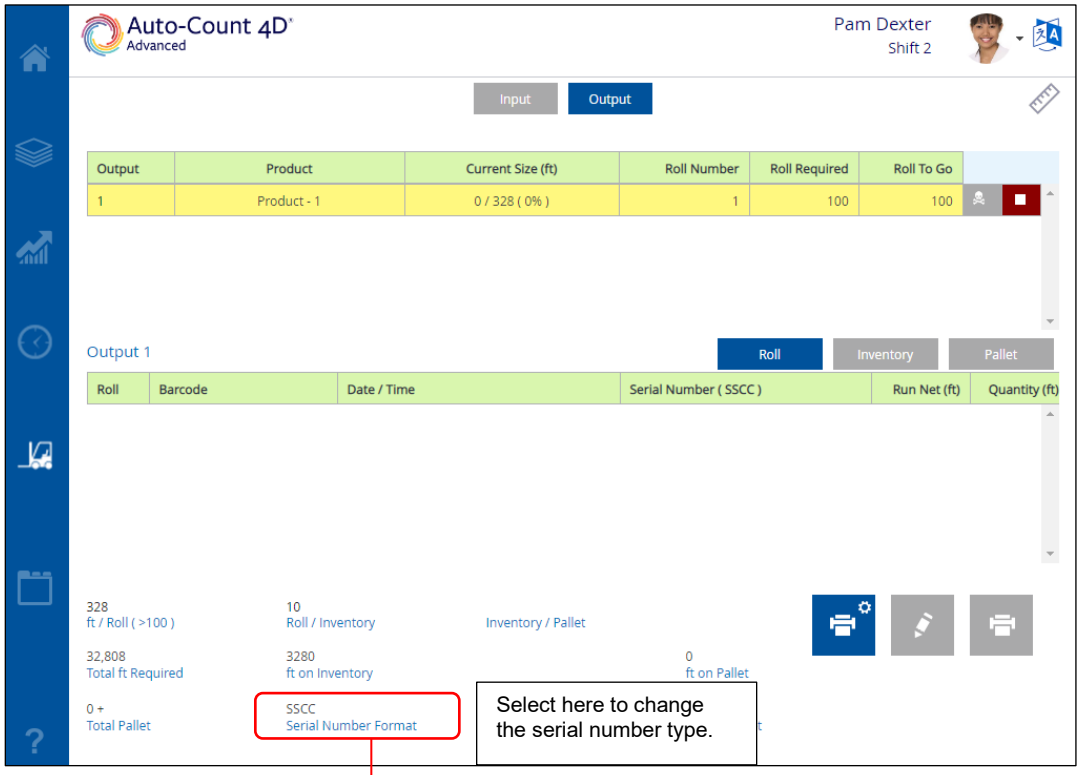
Roll	Barcode	Date / Time	Serial Number (SSCC)	Run Net (Pieces)	Quantity (Pieces)
5	0110000189860	2024-03-18 15:46	00155550000000000052	500	
4	0110000189858	2024-03-18 15:46	00155550000000000045	400	
3	0110000189856	2024-03-18 15:45	00155550000000000038	300	
2	0110000189853	2024-03-18 15:45	00155550000000000021	200	
1	0110000189851	2024-03-18 15:45	00155550000000000014	100	

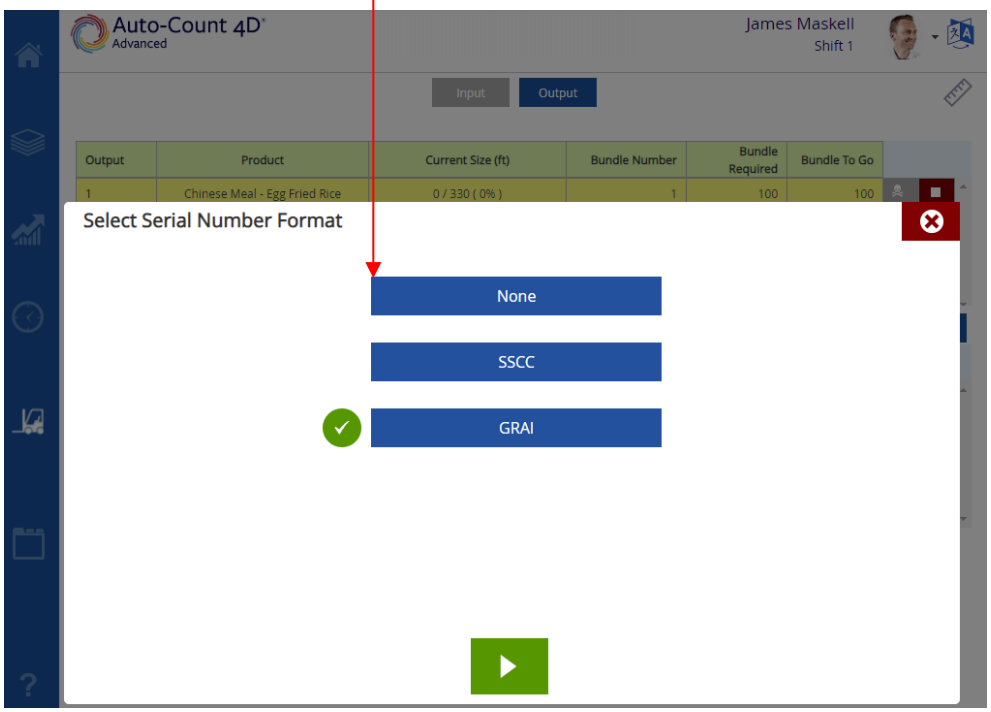
Unless you have enabled the Plant Manager Web option, **Do not force GRAI code entry at AC4D**, then you must ensure that all outputs designated to have a GRAI serial number are entered or you cannot end or suspend the job.



Changing Serial Number Type

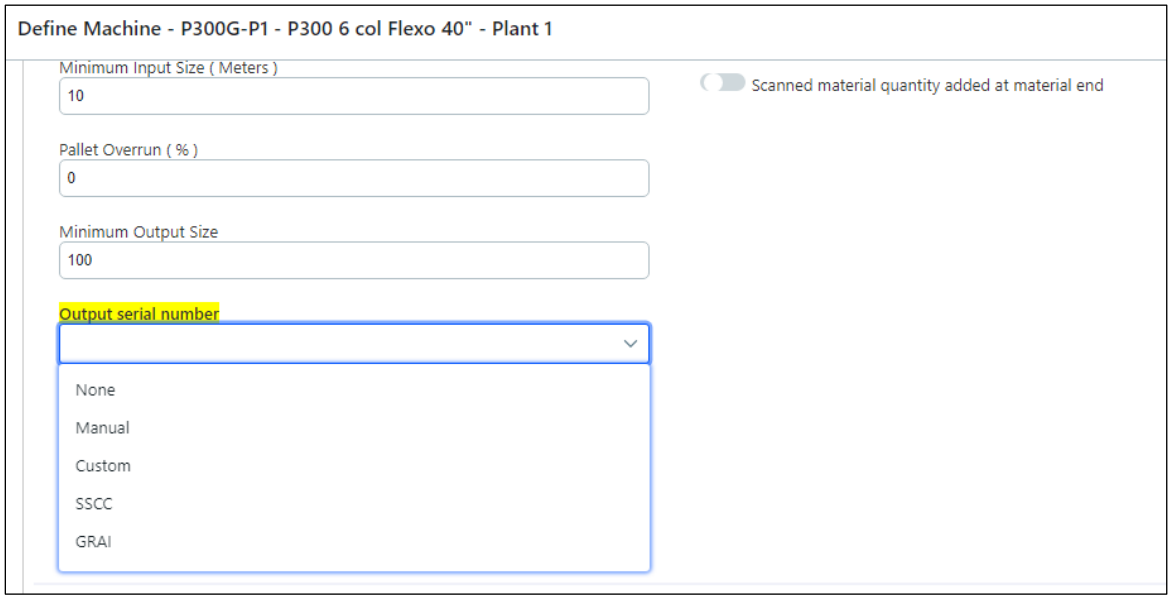
The MIS sends the serial number information (none, SSCC or GRAI) to Auto-Count, but the operator may change these requirements when they load the job in Auto-Count. Note, you can only change the serial code type before any net count has been recorded. Basically, before you enter production. To do this, navigate to the Output window and click the bar code type on the bottom. In this example it is GRAI. This opens an edit window where you can change the serial number type at the job.





Setting the Output Serial Number at the Machine

You can manually enable or disable serial number formats on outputs from the new option **Define Machine > Material > Output Serial Number** if your MIS system does not send the SSCC or GRAI information with the job.

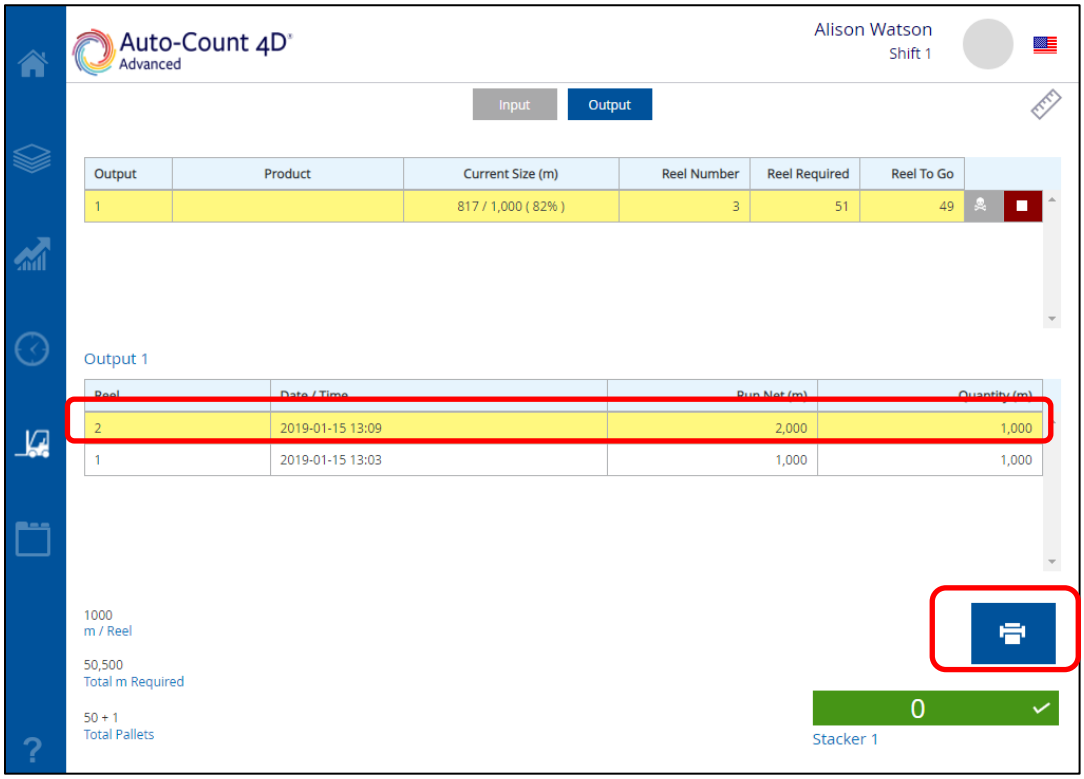


Note If you set up a machine to use output serial numbers, you cannot change the serial number type at the AC4D. You can only change the serial number type at the AC4D if your MIS sends the serial number type with the job information.

- **Manual**: Select this option to manually enter serial numbers on each output. To enter the serial number, you must edit the output from the Materials window in AC4D.
- **Custom**: You can define how you want to display serial numbers for jobs on this machine. You can enter any text or use the fields found in the Support Note Radius Serialization.
- **SSCC**: This option will use automatically generate SSCC serial numbers on this machine. The SSCC values are defined in Plant Manager Admin.
- **GRAI**: This option will use GRAI code serial numbers which are scanned or entered by the operator. You cannot end a job until all outputs have a GRAI code assigned to them.

Reprinting Pallet Tickets

If you must reprint a pallet ticket, then select the output and click the Printer icon.



Using a Bookmark to Reprint Tickets on Completed Jobs

> **Note** To use this feature, you must install Plant Manager Browser (Shop Floor) and have Report Service running on the computer where you are reprinting tickets.

You can also create a bookmark to launch the Reprint feature (also found in Packing Station) which allows operators to search for completed jobs. Use the following to create the bookmark.

http://<*yourservername*>/PlantManager/PWCScript.aspx?dir=PackingStation&script=ReprintPallet.xml&display=embed&SSOToken=yXQpMDsRJeVzHTIEwBmk75a8t5sQ5kWEtLIprmgPV7I%3D

If you want to access Shop Floor (Plant Manager Browser) on the same computer as the Reprint bookmark, then we recommend you use a separate Chrome Profile for the Reprint bookmark or incognito mode so it does not interfere with the login of Shop Floor. If you use the reprint bookmark and then open a Shop Floor bookmark, the default user will be logged in automatically.

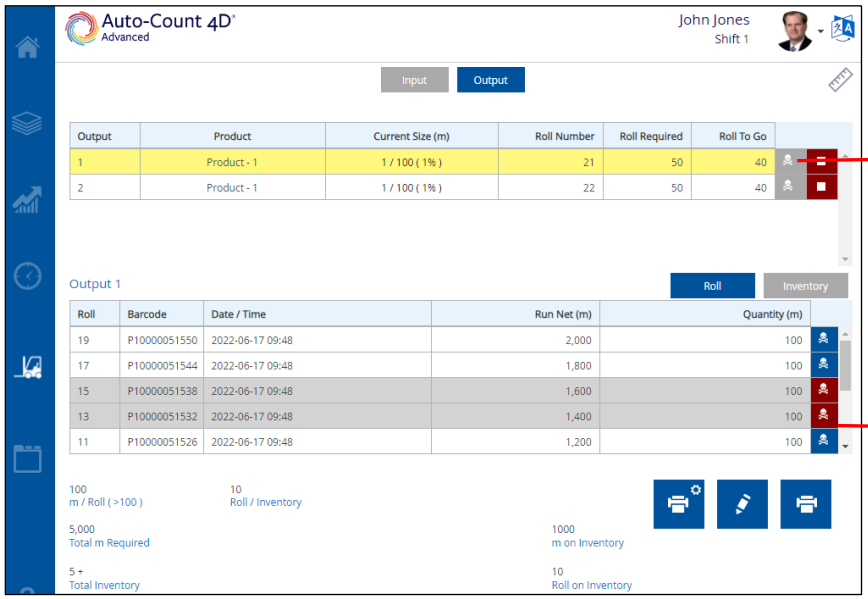
If you want to use the same browser instance as Shop Floor with your Reprint bookmarklet and have no issue with Shop Floor being automatically logged in after using the Reprint bookmark, then you must also add &display=normal to the end of the Shop Floor bookmark. Otherwise, the side menu in Shop Floor will not be available.

Quarantine Outputs

> **Note** Your MIS system must use Quarantine codes and send them to Auto-Count to use the Quarantine feature. Contact your ePS representative for details.
>
> You can disable the quarantine button in Plant Manager at the machine configuration level if you send quarantine codes to Auto-Count but do not want your shop floor operators to use the quarantine button because you have a different business process.

The operators may need to reject the output roll and choose a quarantine code. These are *not the same as damage codes* for when the material is placed on inputs. You can quarantine a currently build output or a completed output. When you quarantine an item, Auto-Count will record the quantity on the quarantined roll and send that to the MIS system with a quarantine flag. The remaining material is then put back into inventory. Quarantine information is sent in the Machine Pallet Command message back to the MIS.

When operators quarantine individual completed outputs (rolls), Auto-Count will remove the quarantined output from the pallet and fill in with the next available completed roll. At the inventory level the quarantined quantity is removed from the container.

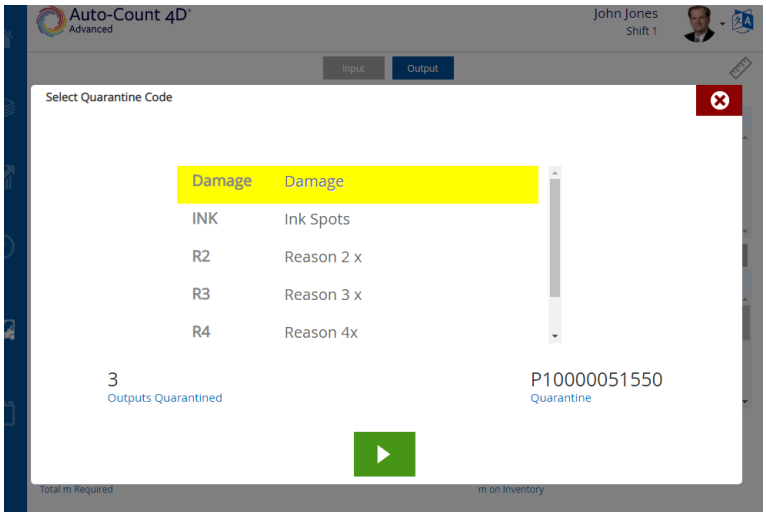


Click the Quarantine button to reject this roll. If your MIS supports quarantine codes, then one will be applied to the material and sent back to the MIS.

Click the Quarantine button to also flag an output as needing some sort of Rework if your MIS system supports receiving rework messages. See the *Rework* section for details.

Click the red stop button to end the roll.

Select the quarantine button on a specific output. Then choose a code. A window displays the total number of currently quarantined outputs.



There is an option in Plant Manager called **Force a specific item to replace a quarantined output**. When selected it will force the operator to enter a barcode for a specific output to replace a quarantined one. Otherwise, Auto-Count will automatically use the next completed output to replace the one you've quarantined.

Automatic Roll Splicing

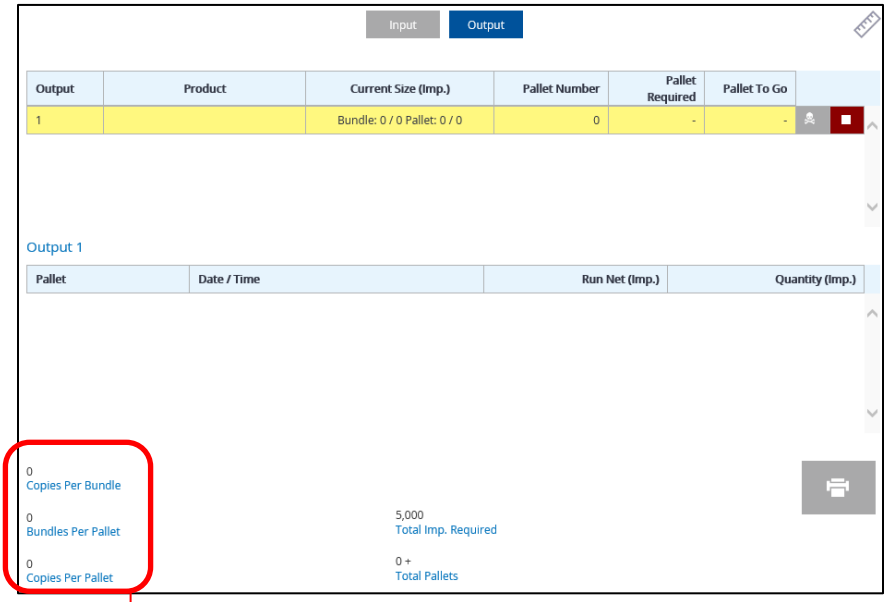
You can set splice percentage values in Plant Manager > Define Machine > Material to create a window of length in which automatic roll splices are expected. With an early unexpected splice - if the user selects Quarantine then the Auto-Count will record the usage the moment the splice was received. The rest will be put back into inventory. Any material usage since the splice will go on to the next material item. With a late splice, if the user decides to end the current material then Auto-Count will fully consume that item (remaining amount will be set to 0 and the amount used will be the full amount) and any usage over that is put onto the next item.

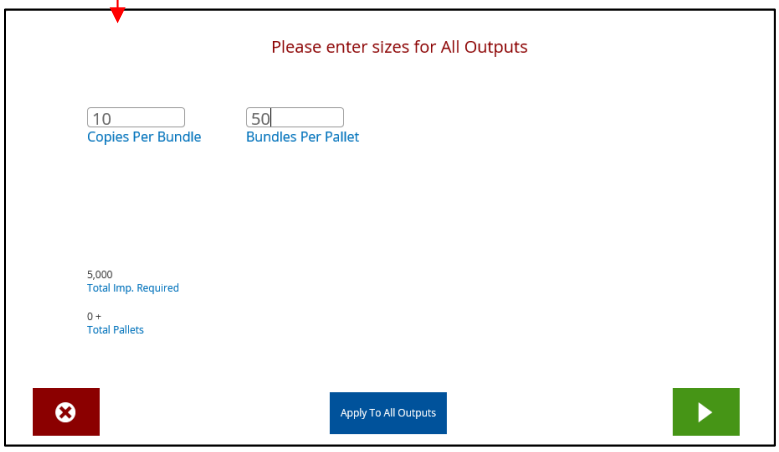
Counting in Bundles

Operators can set the bundle size for runs which produce bundles. This information (number of bundles and bundle size) can be displayed on a custom Pallet Ticket report.

> **Note** There is a setting in Plant Manager > Define Machine > Production called **Counting in bundles**. You must first select this option so the operator can enter the bundle information.

Once the user opens the Outputs screen from the Material window they can click on the new Copies Per Bundle area.





Restoring Outputs

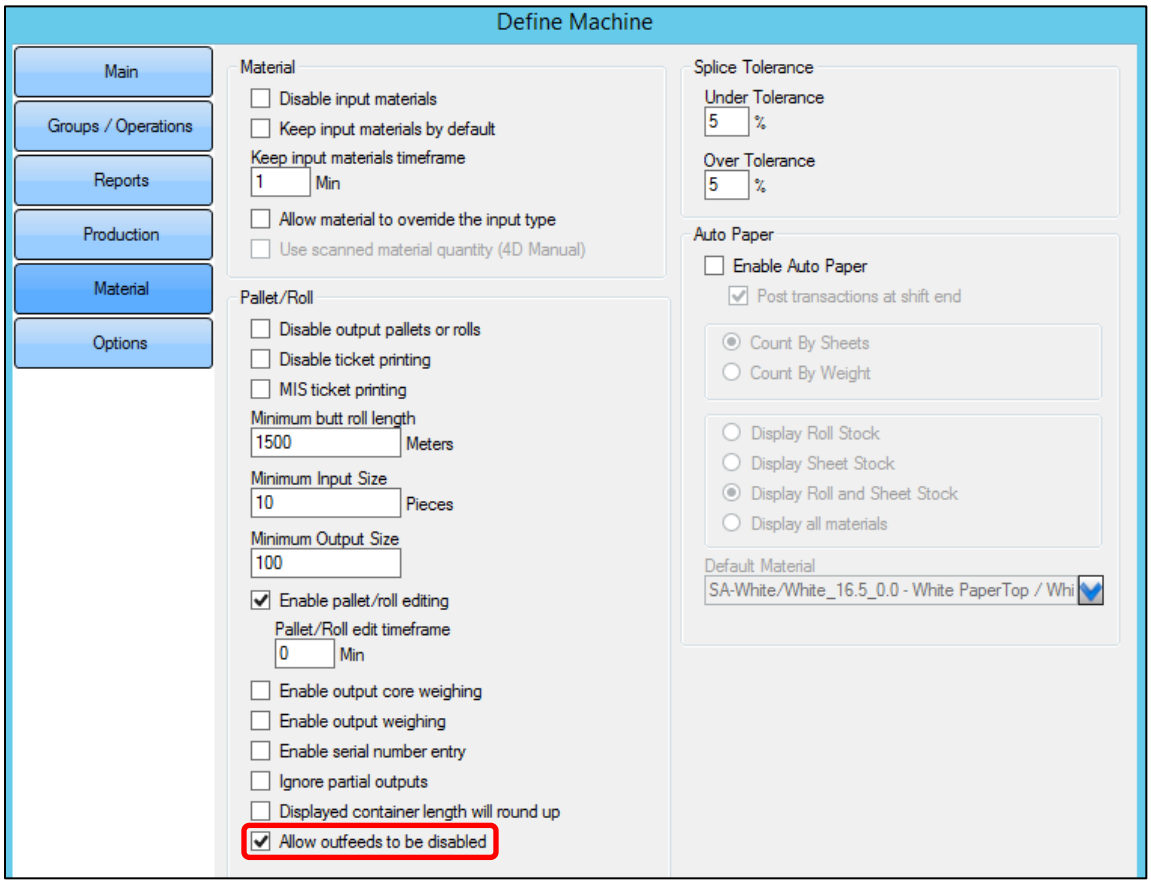
If a run has been lifted and then re-started, operators can also see what was previously produced on the Outputs window.

Warning If the operator resets the counts to zero when re-loading the run, these previous outputs will no longer be retained.

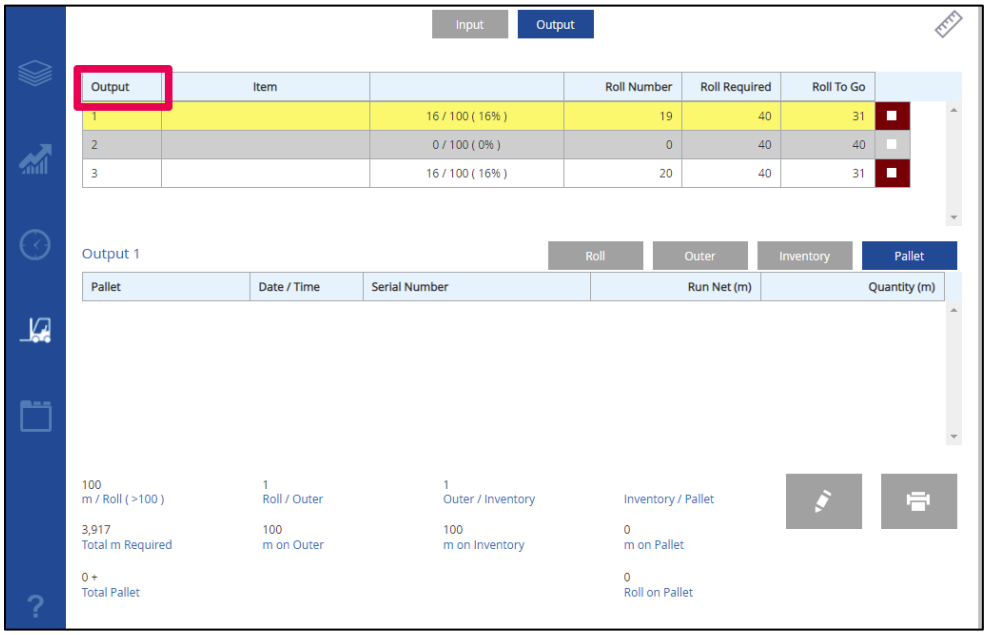
Disable Outfeeds

Sometimes the operator needs to turn off an output in the middle of a run because available stock or material changes and you must change the number of streams.When you select the option in Plant Manager (Define Machine > Material > **Allow outfeeds to be disable**), you can disable outputs during a run.

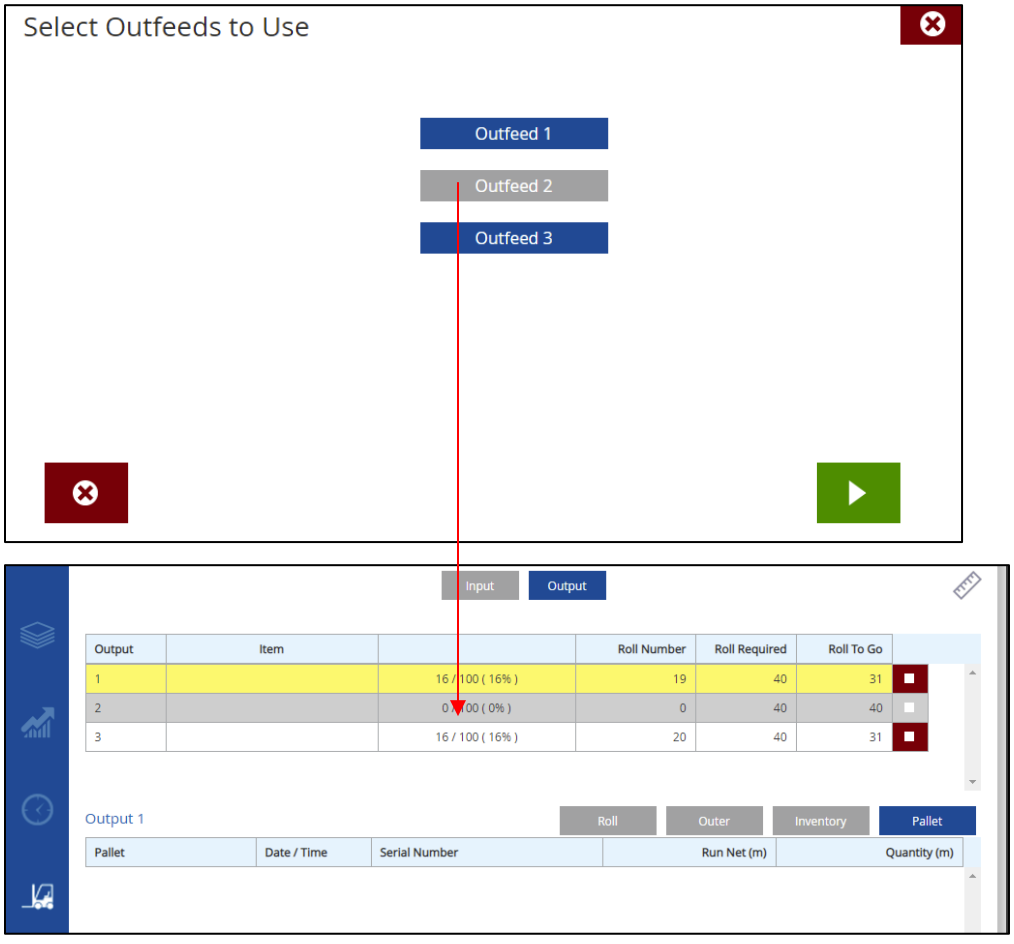
When selected, users can disable outfeeds (and associated stackers and palletizers) during a run. Once disabled, Auto-Count will end the output and no longer generate counts.



To disable the output click the Outputs label.



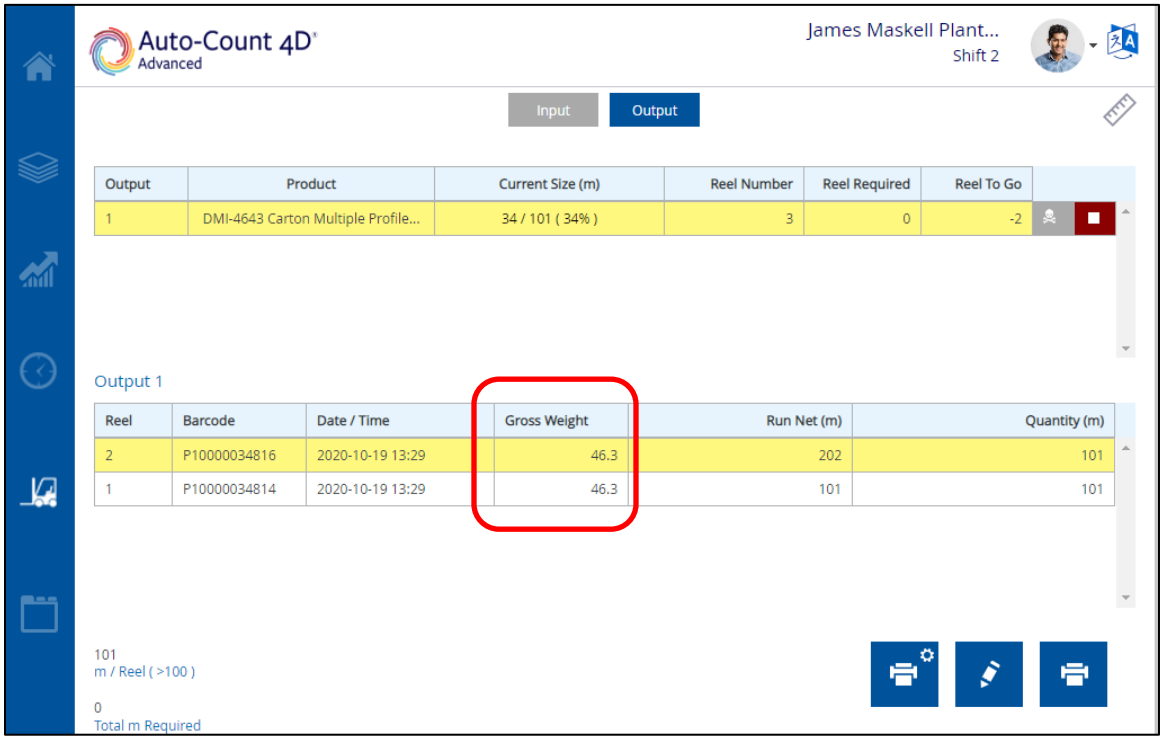
Then select the output that you want to disable.



Calculated Output Weight

If the MIS sends Auto-Count the Product information (product qty, width, length and gsm) to calculate output weight, then Auto-Count can send the calculated weight back to the MIS in the Machine Pallet command message. For rolls, Auto-Count uses length, width and gsm to calculate weight. For other output types it uses length, width, gsm and items per output. Note, Auto-Count will only calculate output weight if Output Weighing (manually taking the weight) is not turned on.

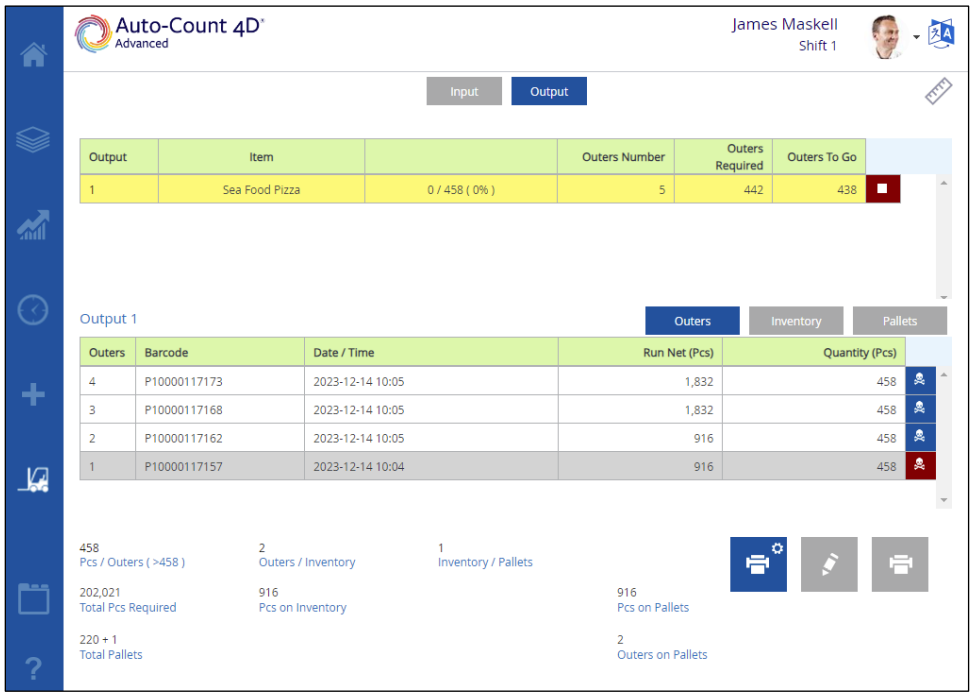
This value also displays on the Auto-Count 4D outputs page as the column – **Gross Weight**. We also display it on the Edit Output window.



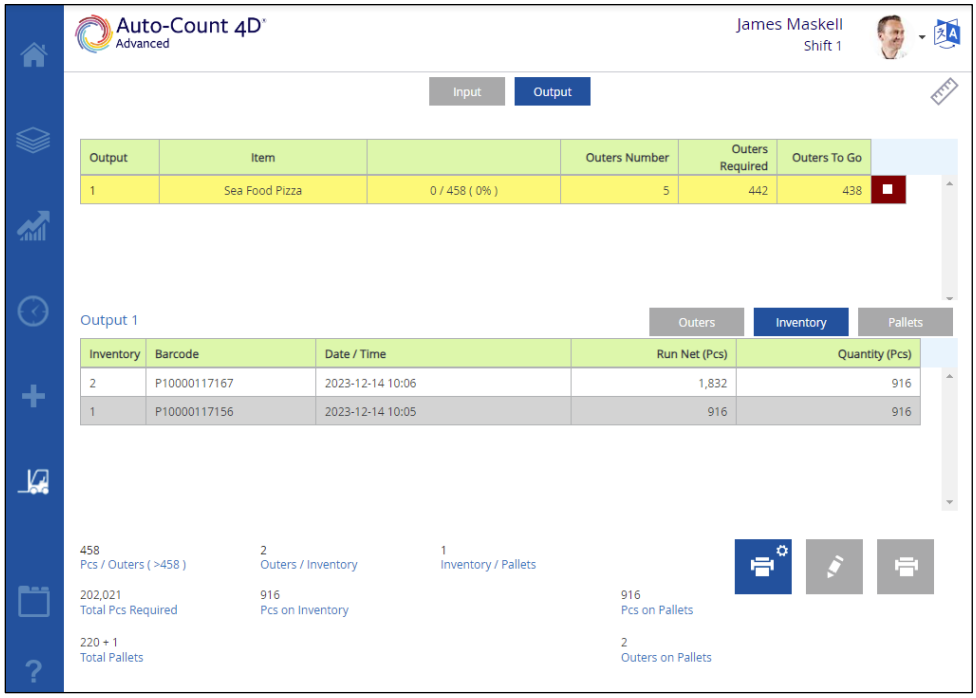
Color Change in Output List for Quarantined Outers

When using a full batch signal to create outers and you quarantine an item, Auto-Count will display the quarantined outer with a gray background in the list of outers so the operator can easily see quarantined outers.

When an item at the lowest level is Quarantined:



The item it was packed onto will also be marked as Quarantined, shown by the grey background here on the first item on **inventory** level.



Consumption Ratio from Material Recipes

> **Note** Material recipes are created and sent from the MIS system. Check with your system to verify it sends recipe messages to AC4D. For Radius MIS systems the recipe is sent in the JobDefinitionCommand message.

If a Job has a material recipe that contains the same material(s) on different layers, then Auto-Count will ask the operator which material to select when they scan the material onto an input. This feature is necessary because the same material type may be used on different inputs at different consumption ratios. For example, substrate type A is used with a 1 to 1 consumption ratio per gross pulse on input 1 but it is also used with a 2 to 1 consumption ratio per each gross pulse on input 2. The operator must choose the correct material based on the recipe sent to Auto-Count or material counts could be incorrect. This feature helps them do this.

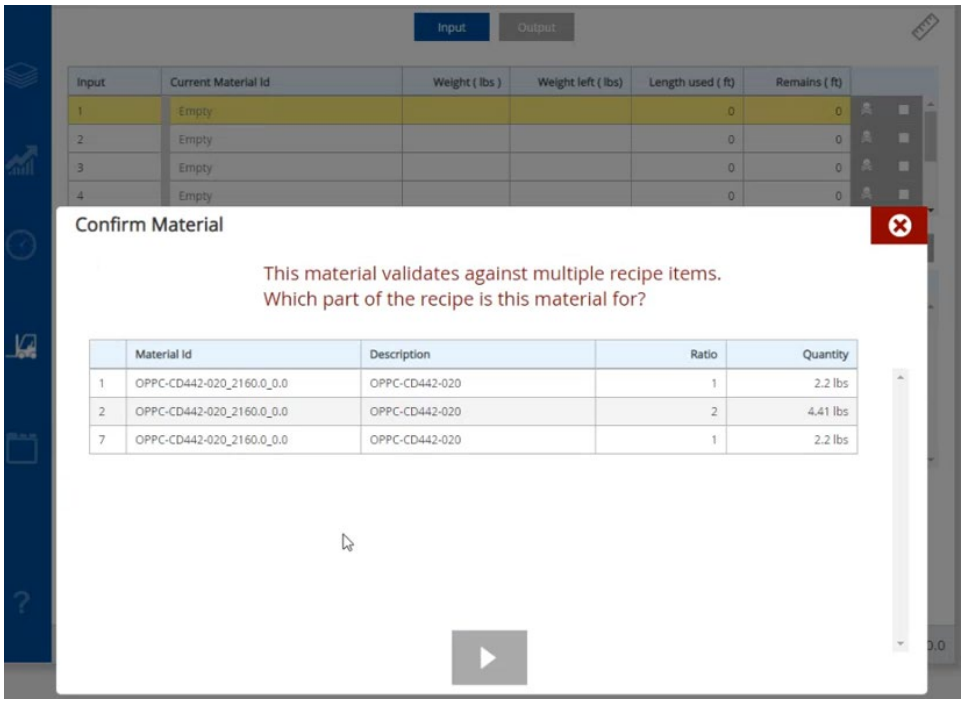
This recipe has three material items on seven different layers because they are using different consumption ratios. Highlighted in this example is material item CD442.

```
<Recipe Priority="1" DeleteRecord="false">
  <RecipeItem MaterialType="Substrate" MaterialId="OPPC-CD442-020_2160.0_0.0" MaterialDescription="OPPC-CD442-020" DeleteRecord="false" AllowDifferentWidth="Ask" AllowDifferentL
  <RecipeItem MaterialType="Substrate" MaterialId="OPPC-CD442-020_2160.0_0.0" MaterialDescription="OPPC-CD442-020" DeleteRecord="false" AllowDifferentWidth="Ask" AllowDifferentL
  <RecipeItem MaterialType="Substrate" MaterialId="PE-285E-60KGS_2160.0_0.0" MaterialDescription="PE-285E-60KGS" DeleteRecord="false" AllowDifferentWidth="Ask" AllowDifferentLer
  <RecipeItem MaterialType="Substrate" MaterialId="PE-285E-60KGS_2160.0_0.0" MaterialDescription="PE-285E-60KGS" DeleteRecord="false" AllowDifferentWidth="Ask" AllowDifferentLer
  <RecipeItem MaterialType="Substrate" MaterialId="PE-285E-40_2160.0_0.0" MaterialDescription="PE-285E-40" DeleteRecord="false" AllowDifferentWidth="Ask" AllowDifferentLength="A
  <RecipeItem MaterialType="Substrate" MaterialId="PE-285E-40_2160.0_0.0" MaterialDescription="PE-285E-40" DeleteRecord="false" AllowDifferentWidth="Ask" AllowDifferentLength="A
  <RecipeItem MaterialType="Substrate" MaterialId="OPPC-CD442-020_2160.0_0.0" MaterialDescription="OPPC-CD442-020" DeleteRecord="false" AllowDifferentWidth="Ask" AllowDifferentL
```

Here you can see the consumption ratios are not the same per layer.

```
gth="Ask" AllowDifferent="No" LayerNumber="1" TraceabilityOn="true" ConsumeInMakeready="true" Quantity="310.0" GrossQuantity="310.0" ItemMeasure="Weight"/>
gth="Ask" AllowDifferent="No" LayerNumber="2" TraceabilityOn="true" ConsumeInMakeready="true" Quantity="620.0" GrossQuantity="310.0" ItemMeasure="Weight"/>
h="Ask" AllowDifferent="No" LayerNumber="3" TraceabilityOn="true" ConsumeInMakeready="true" Quantity="310.0" GrossQuantity="310.0" ItemMeasure="Weight"/>
h="Ask" AllowDifferent="No" LayerNumber="4" TraceabilityOn="true" ConsumeInMakeready="true" Quantity="930.0" GrossQuantity="310.0" ItemMeasure="Weight"/>
." AllowDifferent="No" LayerNumber="5" TraceabilityOn="true" ConsumeInMakeready="true" Quantity="310.0" GrossQuantity="310.0" ItemMeasure="Length"/>
." AllowDifferent="No" LayerNumber="6" TraceabilityOn="true" ConsumeInMakeready="true" Quantity="620.0" GrossQuantity="310.0" ItemMeasure="Length"/>
gth="Ask" AllowDifferent="No" LayerNumber="7" TraceabilityOn="true" ConsumeInMakeready="true" Quantity="310.0" GrossQuantity="310.0" ItemMeasure="Weight"/>
```

When the operator scans material CD442 on input one, Auto-Count will ask them to choose the correct material. The operator can choose based on the per gross ratio value.

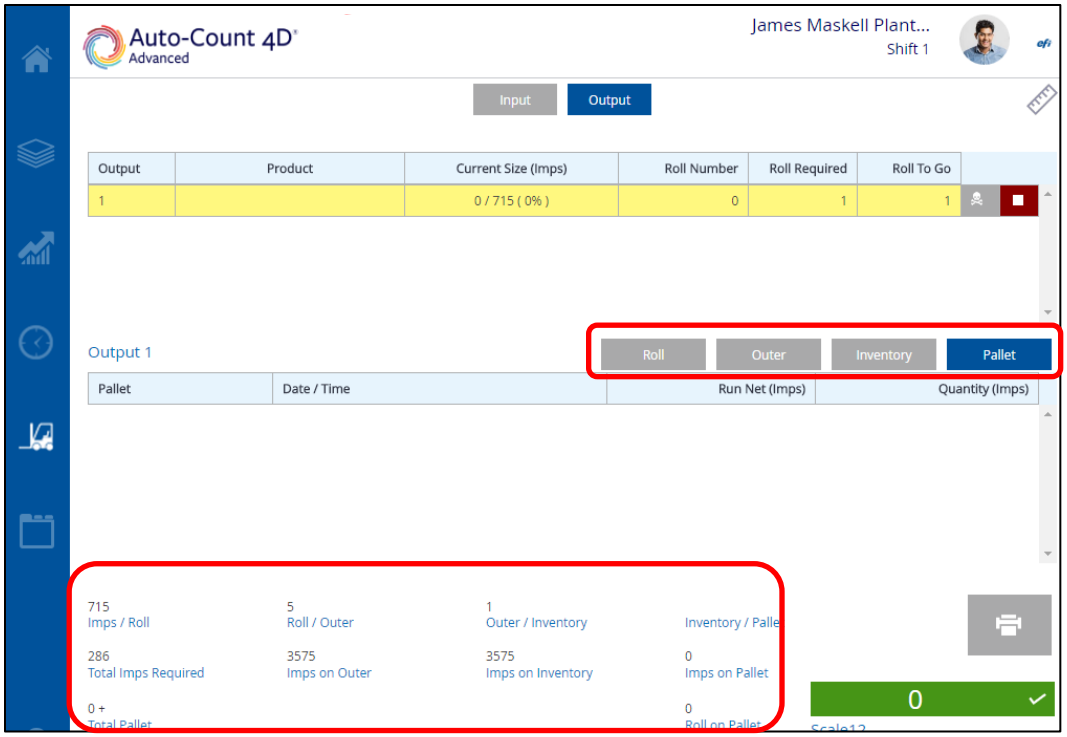


How does AC4D calculate gross quantity?

Ac4D uses the ratio of the **Quantity / Gross Quantity** to determine how much material should be consumed for each gross count. These values come from the recipe sent by the MIS.

Multiple Container Materials

If your MIS system sends Auto-Count information for multiple containers to be created for a run, you will see these in the Output window. The example below displays the Pallet level.



In this example, there are four values that the MIS system sent to Auto-Count 4D. Click on the containerization tabs to view information at that output level.

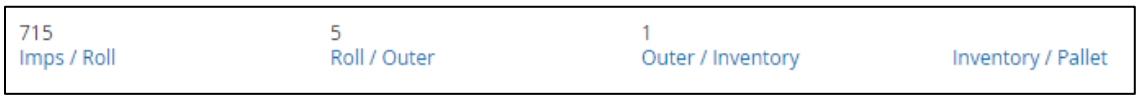
Rolls – with a quantity complete of 715

Outer – with a quantity complete of 3570

Inventory - with a quantity complete of 3570 (an extra label for inventory)

Pallet – with no quality to complete because the operator will manually enter this value.

Below is how the Output window displays this information.



Container 1:
715 impression per roll

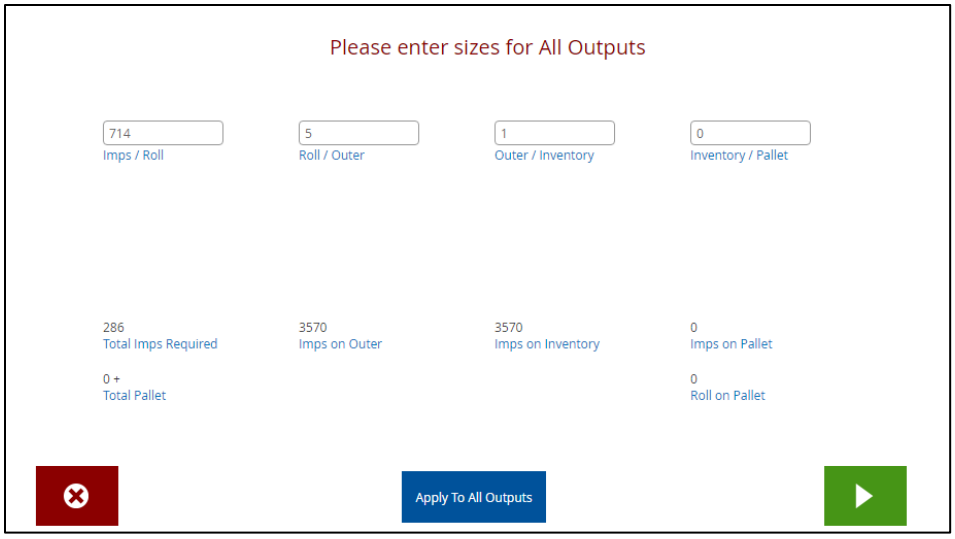
Container 2:
5 rolls in one outer box

Container 3:
1 Box Label

Container 4:
Total inventory per pallet

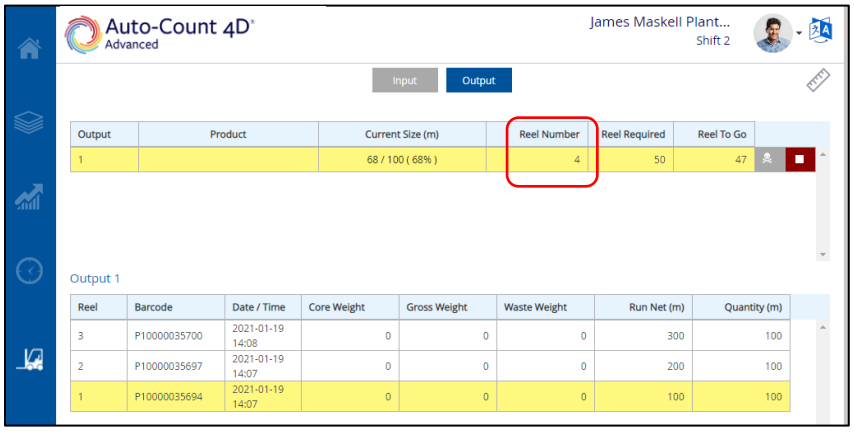
Depending on your Auto-Count machine configuration settings, you can update these values by clicking in this area to open an edit window.

> **Note** In Plant Manager > Define Machine > Main and Define Configuration windows there is an option called **Read only units: Primary net** and **Secondary Net**. If one or both are selected, then the user will not be able to adjust those values here.
>
> Please see the *Auto-Count Setup Guide* for details.

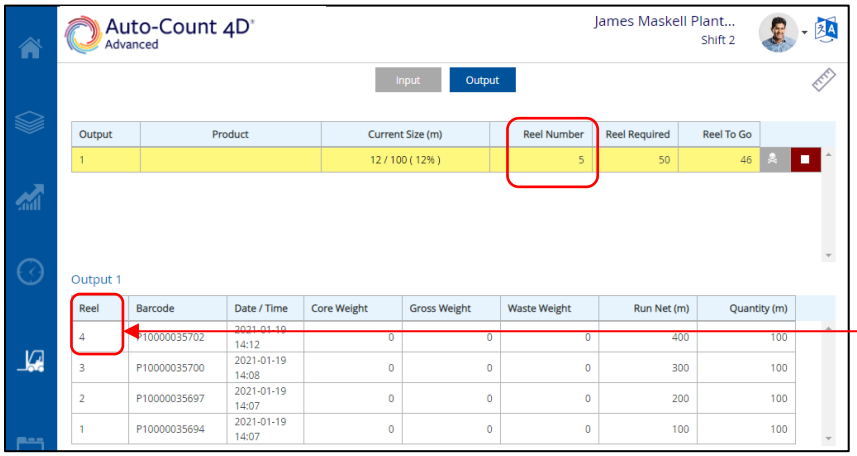


Roll Number Column Display

We will display the roll number of the currently building output. Once the output completes, it will display in the lower grid of completed rolls with that same roll number. If nothing is building, it displays the next number in the sequence.



Currently building Roll/Reel number.

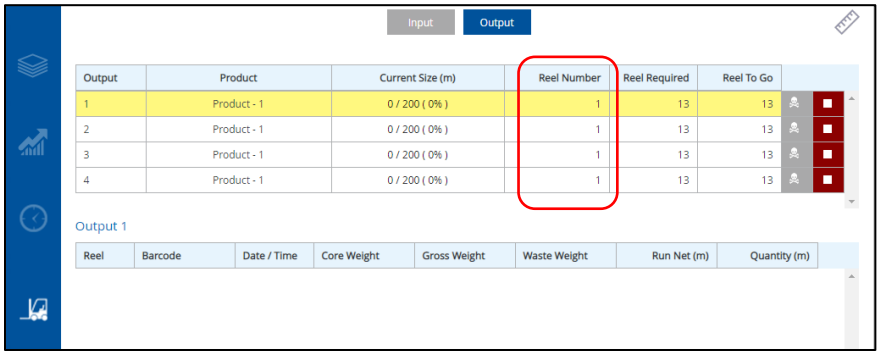


Currently building Roll/Reel number.

Finished output 4 now displays here.

What about multiple outputs – same product? If you have more than one output with the same product, then the Roll Number column will still display the currently building roll number for each output. Until an output starts,

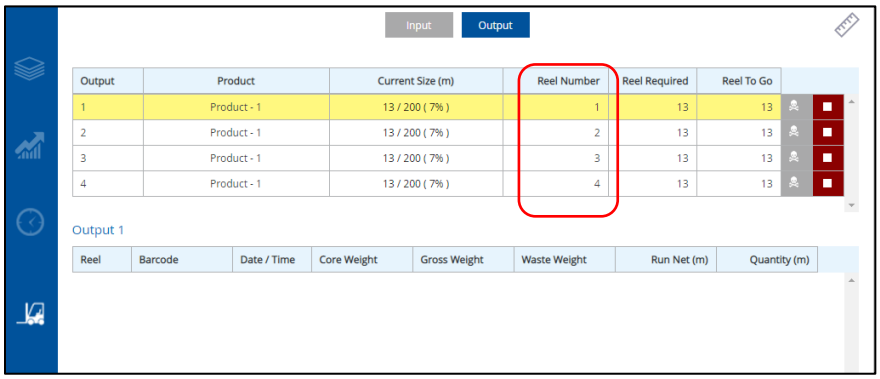
we display the next available number for this product. At the start of the job when no outputs are building, the roll number will display as '1' across all outputs as shown below because that is the next available number.



Output	Product	Current Size (m)	Reel Number	Reel Required	Reel To Go
1	Product - 1	0 / 200 (0%)	1	13	13
2	Product - 1	0 / 200 (0%)	1	13	13
3	Product - 1	0 / 200 (0%)	1	13	13
4	Product - 1	0 / 200 (0%)	1	13	13

Reel	Barcode	Date / Time	Core Weight	Gross Weight	Waste Weight	Run Net (m)	Quantity (m)

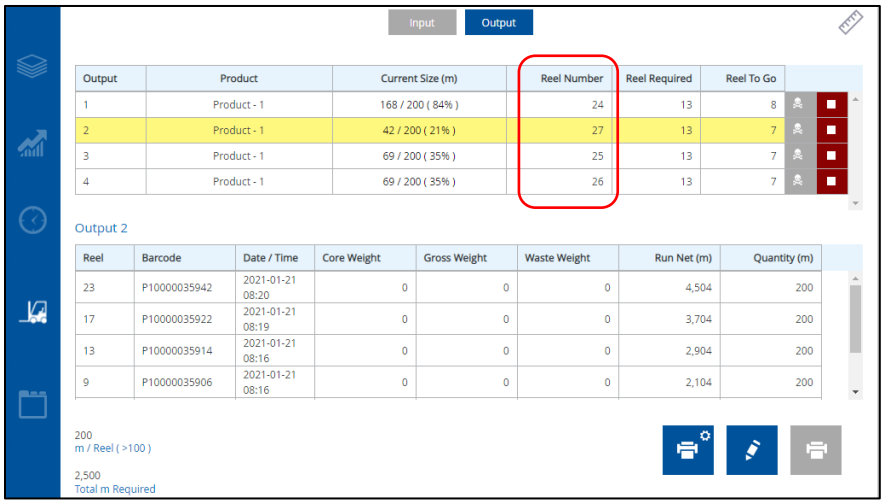
Once the run starts and the outputs are building, Auto-Count will sequence the roll numbers per output as they are started. Once each output completes, it will automatically use the next one in the sequence.



Output	Product	Current Size (m)	Reel Number	Reel Required	Reel To Go
1	Product - 1	13 / 200 (7%)	1	13	13
2	Product - 1	13 / 200 (7%)	2	13	13
3	Product - 1	13 / 200 (7%)	3	13	13
4	Product - 1	13 / 200 (7%)	4	13	13

Reel	Barcode	Date / Time	Core Weight	Gross Weight	Waste Weight	Run Net (m)	Quantity (m)

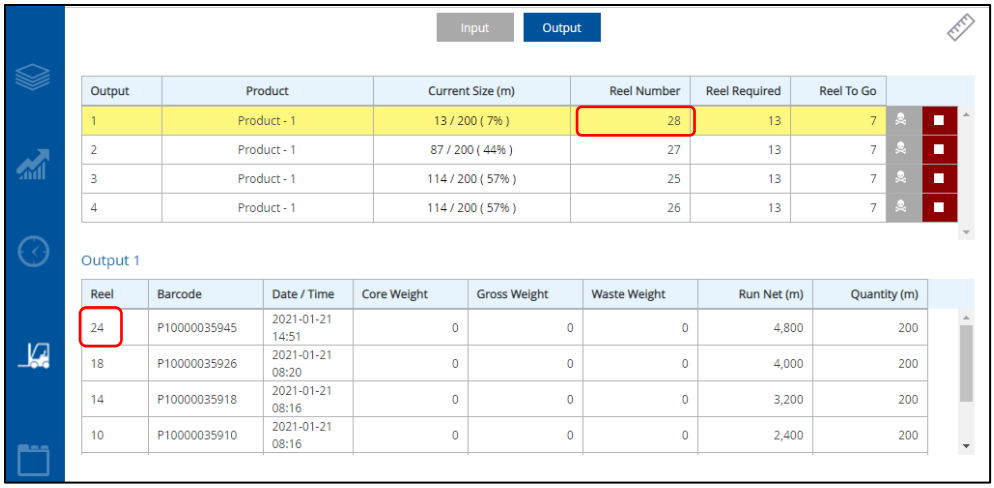
What if the outputs start building at different times? Outputs can be started and stopped at different times. Auto-Count will always allocate the next roll number accordingly. In this example of a single product – 4 output job, the outputs were started at different intervals as noted by the Current Size percentage and To Go values. When output one (84% completed) ends before the other outputs it will then use Roll Number 28. The next output to complete after that would use Roll Number 29 and so forth. The example also highlights Output 2 completed rolls. When you select an output on the top grid, the bottom grid displays that output's complete rolls.



Output	Product	Current Size (m)	Reel Number	Reel Required	Reel To Go
1	Product - 1	168 / 200 (84%)	24	13	8
2	Product - 1	42 / 200 (21%)	27	13	7
3	Product - 1	69 / 200 (35%)	25	13	7
4	Product - 1	69 / 200 (35%)	26	13	7

Reel	Barcode	Date / Time	Core Weight	Gross Weight	Waste Weight	Run Net (m)	Quantity (m)
23	P10000035942	2021-01-21 08:20	0	0	0	4,504	200
17	P10000035922	2021-01-21 08:19	0	0	0	3,704	200
13	P10000035914	2021-01-21 08:16	0	0	0	2,904	200
9	P10000035906	2021-01-21 08:16	0	0	0	2,104	200

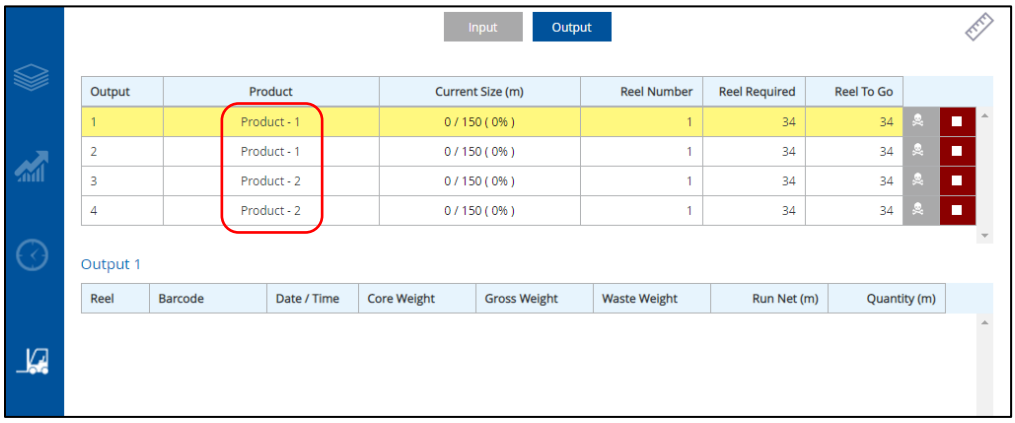
Now that output one has completed, Roll 24 displays in the completed output grid and output one is now building Roll Number 28.



Output	Product	Current Size (m)	Reel Number	Reel Required	Reel To Go
1	Product - 1	13 / 200 (7%)	28	13	7
2	Product - 1	87 / 200 (44%)	27	13	7
3	Product - 1	114 / 200 (57%)	25	13	7
4	Product - 1	114 / 200 (57%)	26	13	7

Reel	Barcode	Date / Time	Core Weight	Gross Weight	Waste Weight	Run Net (m)	Quantity (m)
24	P10000035945	2021-01-21 14:51	0	0	0	4,800	200
18	P10000035926	2021-01-21 08:20	0	0	0	4,000	200
14	P10000035918	2021-01-21 08:16	0	0	0	3,200	200
10	P10000035910	2021-01-21 08:16	0	0	0	2,400	200

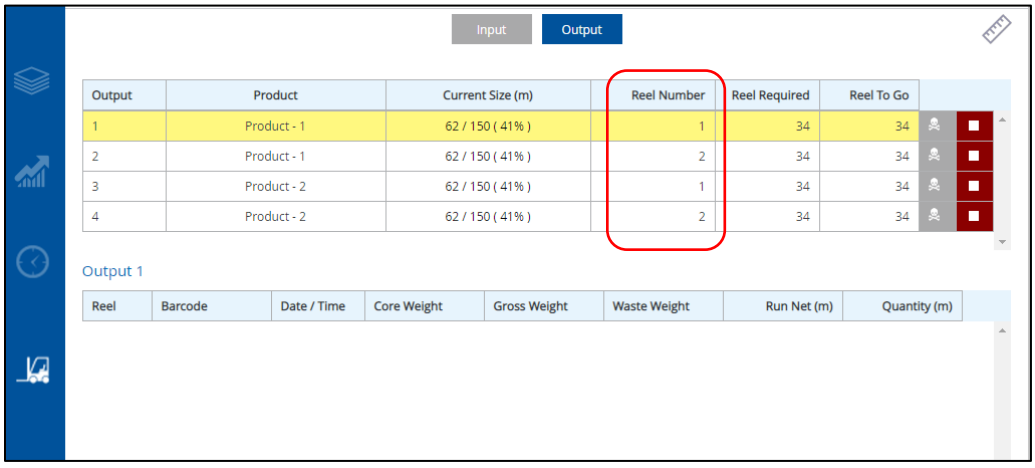
What about multiple outputs – different products? If you have multiple outputs and multiple products on one run, then the roll numbers will be on a per product basis. This means Auto-Count will keep track of the roll number for each product, they are not dependent on each other. In this example, we have four outputs and two products – each product assigned to two outputs.



Output	Product	Current Size (m)	Reel Number	Reel Required	Reel To Go
1	Product - 1	0 / 150 (0%)	1	34	34
2	Product - 1	0 / 150 (0%)	1	34	34
3	Product - 2	0 / 150 (0%)	1	34	34
4	Product - 2	0 / 150 (0%)	1	34	34

Reel	Barcode	Date / Time	Core Weight	Gross Weight	Waste Weight	Run Net (m)	Quantity (m)

Once the run starts and the outputs are building, Auto-Count assigns the roll numbers per product, in sequence.

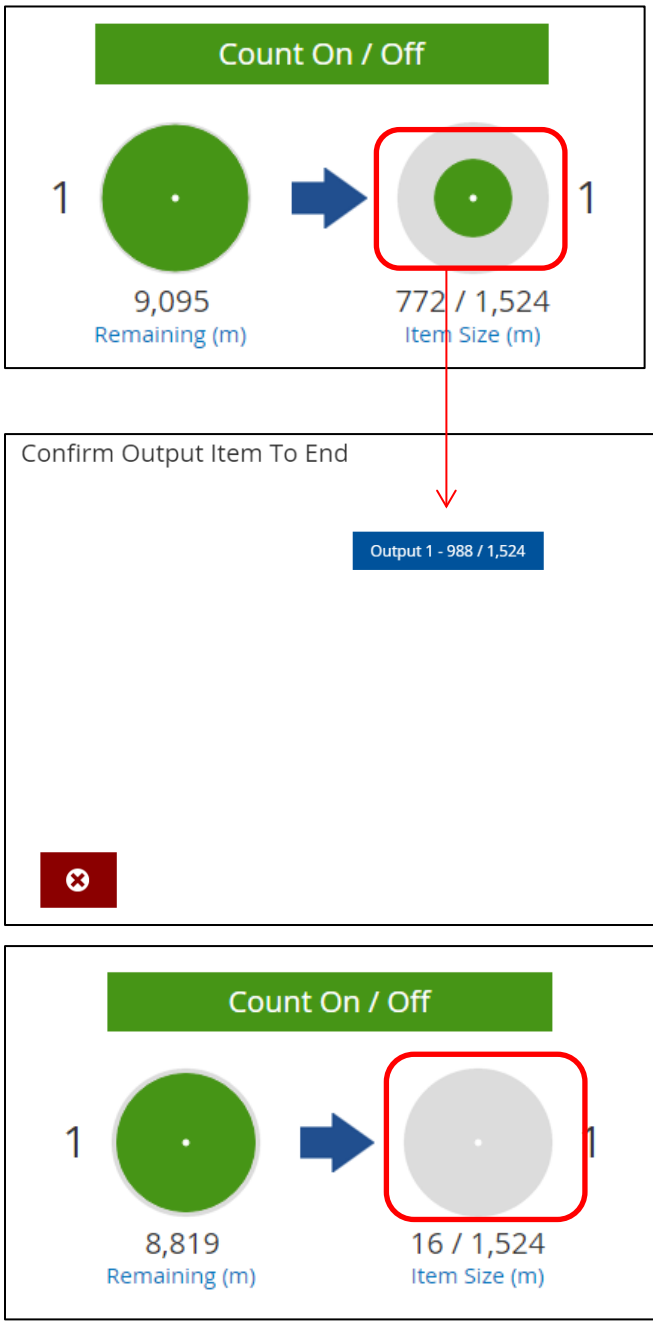


Output	Product	Current Size (m)	Reel Number	Reel Required	Reel To Go
1	Product - 1	62 / 150 (41%)	1	34	34
2	Product - 1	62 / 150 (41%)	2	34	34
3	Product - 2	62 / 150 (41%)	1	34	34
4	Product - 2	62 / 150 (41%)	2	34	34

Reel	Barcode	Date / Time	Core Weight	Gross Weight	Waste Weight	Run Net (m)	Quantity (m)

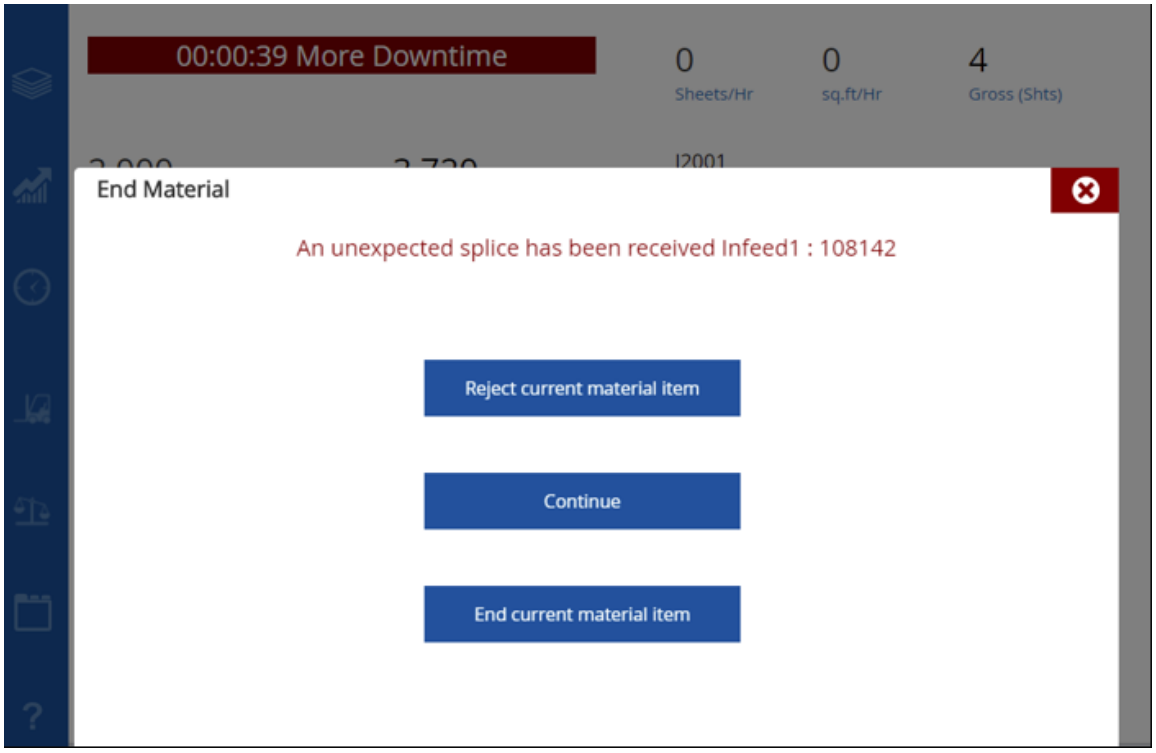
Ending rolls during a run

During a run you can manually end the input and output rolls. Simply click on the roll you want to end and click  .



What to do with Materials when you end a roll early?

Auto-Count will ask the operator what they want to do with the remaining material if they end an input. They must choose to either reject the remaining material, continue using the material or end the material and set the remaining amount to zero.



Auto Paper

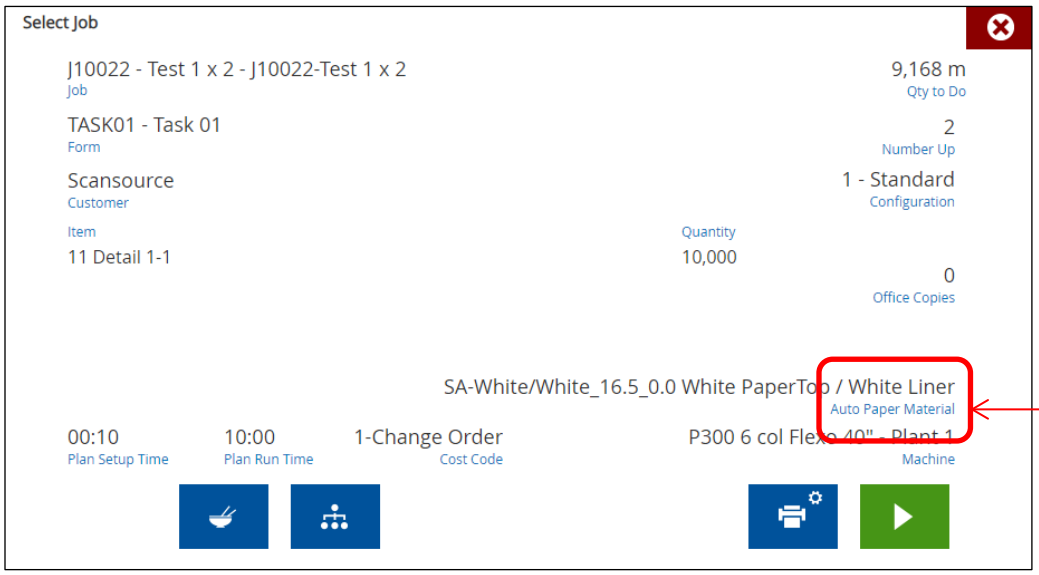
The Auto Paper feature automatically creates paper consumption transactions from the gross count during a run. The materials must be sent with the run from your MIS system for this feature to operate properly. If an additional infeed counter is set up for the machine, then Auto-Count will use the infeed counter as the basis for the count UOM.

Note You must turn on this feature at the machine level in the Machine > Options window in Plant Manager.

When Auto Paper is turned on, Auto-Count will use the material which has been set up for this run or use a default material. You can also choose multiple materials when you set up the run or add and delete materials during the run as needed. If there is no material, then the user will be prompted to select one.

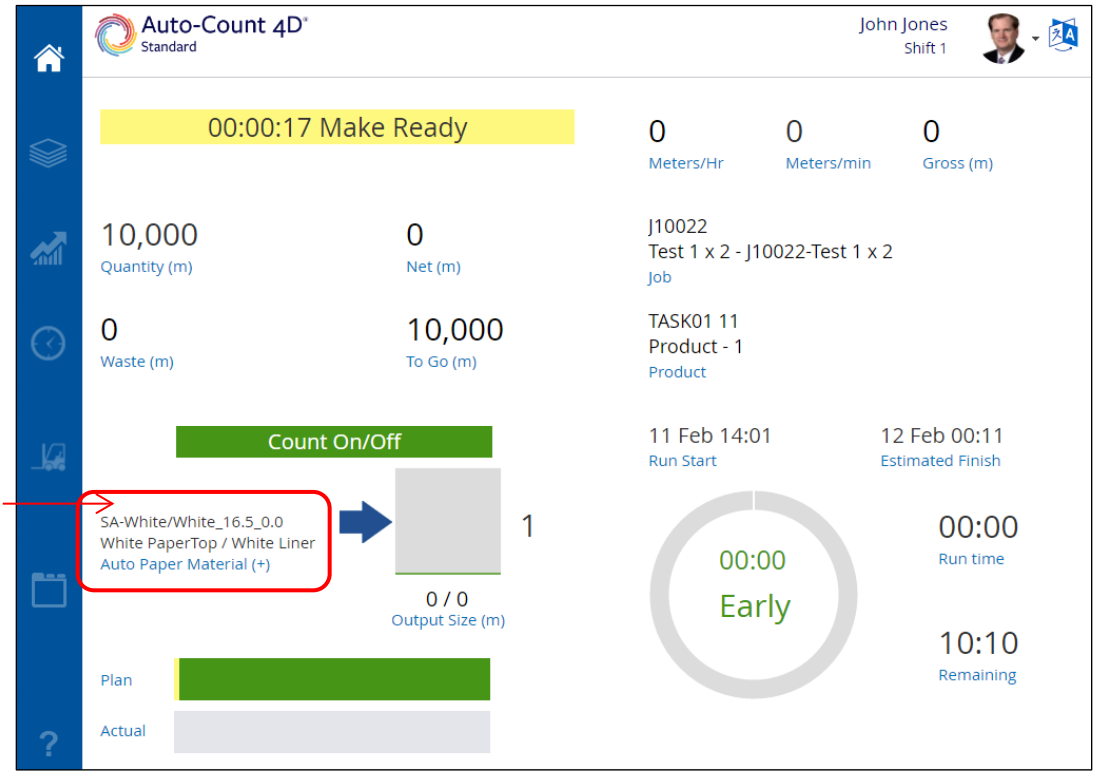
To use Auto Paper

1. Select a run from the Run Queue. If a material has already been set up for the job you will see it here, otherwise you must select a material. Click **Not Selected** to open the material window.



2. Select the material from the list. Then click  to add it. Use the red X button to remove material from the job.

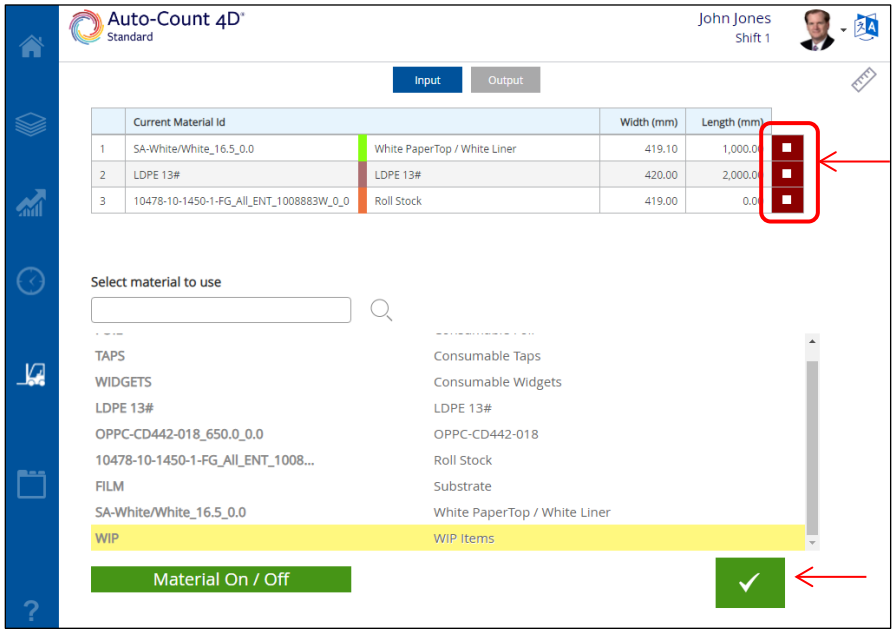
3. In the Main window you will see the material for the run and a (+) indicating if there are multiple materials on this run.



Press here to open Materials Input window

Note To update the materials, press the material in the window to open the Materials window or press the **Materials** button (Forklift Truck.)

4. In the Input Materials window you can add or delete materials as needed.



Delete materials.

Add materials.

Auto Paper Materials

When Auto Paper is enabled, you can choose a default paper to use if no material is sent with the run. But there are criteria which must be met for these materials to be available for use with Auto Paper:

- Any Stock from the Plant Manager Material table will be available if it has a Material Type of **Paper** or **Stock**. If the material type is Stock, then you must also have a **StockTypeID** defined in the database to display it at the Auto-Count 4D.
- Stock types are only available to the machine if they are in a Stock Type Group associated with that machine. You can set these up in Plant Manager > Groups.

Queuing the Next Run

You can use the Next column in the Run Queue to queue up the another run to load automatically once the first run is complete. When this feature is used, we recommend that you also turn on the feature in Plant Manager called **Use paper setup for each run** (Define Machine > Production) By enabling this feature, Auto-Count will automatically load the Auto Paper material assigned to that run instead of using the paper assigned to the first run or the default material.

Notes for Infeed Counts

When you set up a machine with an additional infeed counter (I/O point set up as infeed), then Auto-Count will use this counter instead of the gross counter. These are the rules for this type of set up.

- If Auto Paper is configured to count in sheets, then Auto-Count will sum the values from the infeed counters. Any scaling should be added to the I/O Point.
- If Auto Paper is configured to consume weight, then the calculation used depends on the infeed type. For a Roll type infeed, the weight returned will be based on the kg per meter and the infeed counter must report meters (or be scaled to meters). For a non-Roll infeed type, the calculation will assume kg per sheet and will expect the infeed to be counting sheets. To compute weight, Auto-Count will use the piece length, width and gsm of the sheets.
- Length reporting is not supported, although if the counter is configured per meter, then configuring for sheets will return the number of meters but with a unit of measure of count.

Using Roll/Reel Stands

Note Users must log in at the main Auto-Count 4D and load a run before they can use the reel stand.

You must assign a scale to a roll stand using Plant Manager. Each scale can be assigned one press delivery or one or more roll stands. But the same scale may not be assigned to a delivery and a roll stand in the same configuration.

If you use a roll stand and then want to load a run that does not require a roll stand you must reset the Auto-Count by restarting the Auto-Count service.

Please review the *Auto-Count 4D Reelstand – Quick Start Guide* for more information.

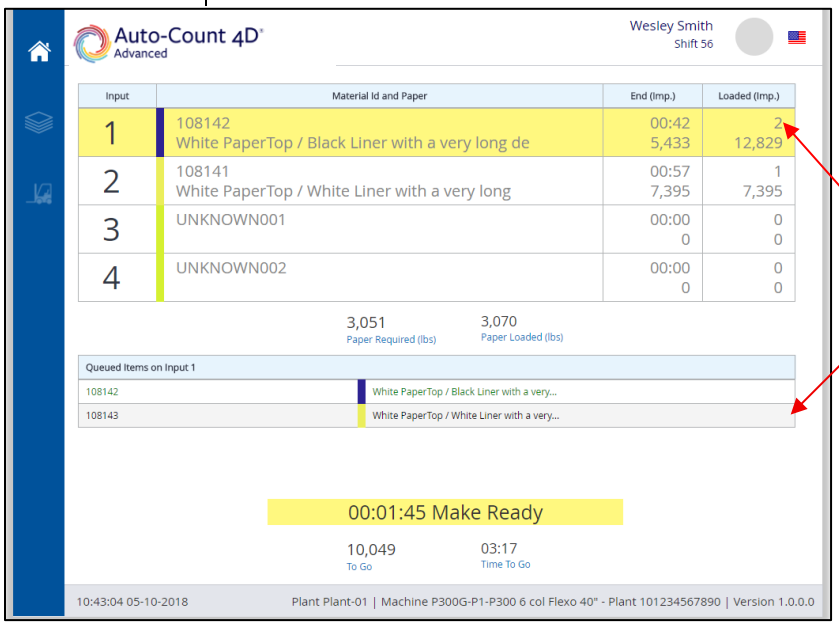
Auto-Count 4D supports the use of up to two roll stand terminals. The browser at the reelstand/rollstand station will have a bookmark to the reelstand/rollstand. Simply adjust the main Auto-Count's bookmark and add the highlighted text (below) after the /ui/.

http://*4D machine name*/AutoCount /*machine web socket port*/ui/reelstand.html#/home.

Home

This page lists the inputs and their corresponding materials. The Material Id of the currently running material item is shown along with its corresponding Paper Type description. This window displays up to four inputs and if there are more than four then a scroll bar will appear at the side.

End	The amount of time until the roll is estimated to end (estimated splice time) along with the number of actual copies / impressions. The copies / impressions will be shown in the unit the machine is counting in.
Loaded	The actual number of material items that have been entered for the input, along with the number of copies / impressions which will be produce for that material. This allows the operator to review this value against the number of copies **To Go** at the bottom of the screen. Again, the Copies / Impressions will be shown in the unit the machine is counting in.
Paper Required	The amount of paper (in Weight) which is required to complete the job across all inputs.
Paper Loaded	The amount of paper (in Weight) which has been entered and is currently unused.
To Go	Quantity of material yet to be completed.
Time To Go	Estimated time to go to complete the run. You can choose how to calculate this value from Plant Manager > Define Machines > Options.

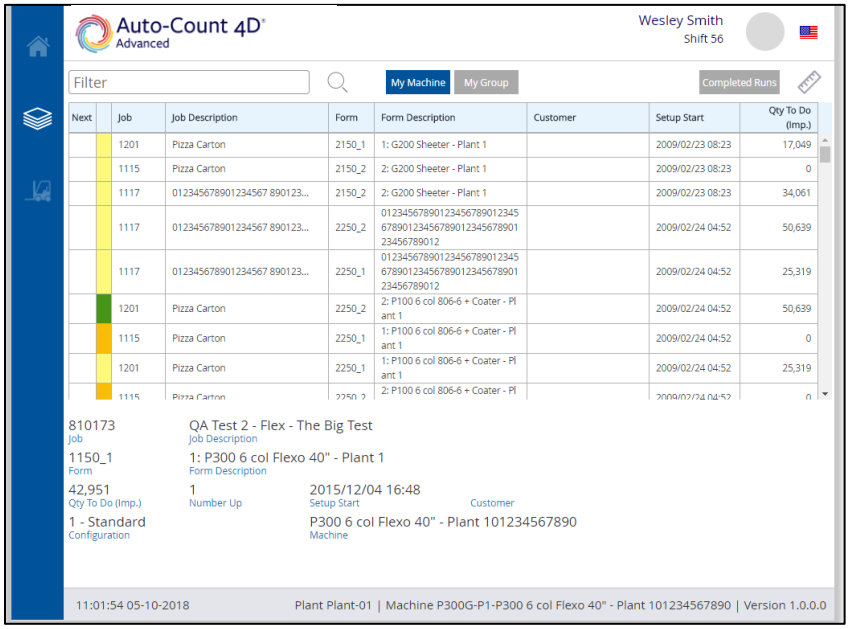


Touch the input to select it. The details for the input display in the lower half of the window.

Note If this machine is set to be a sheetfed, then the weights will display as number of sheets.

Run Queue

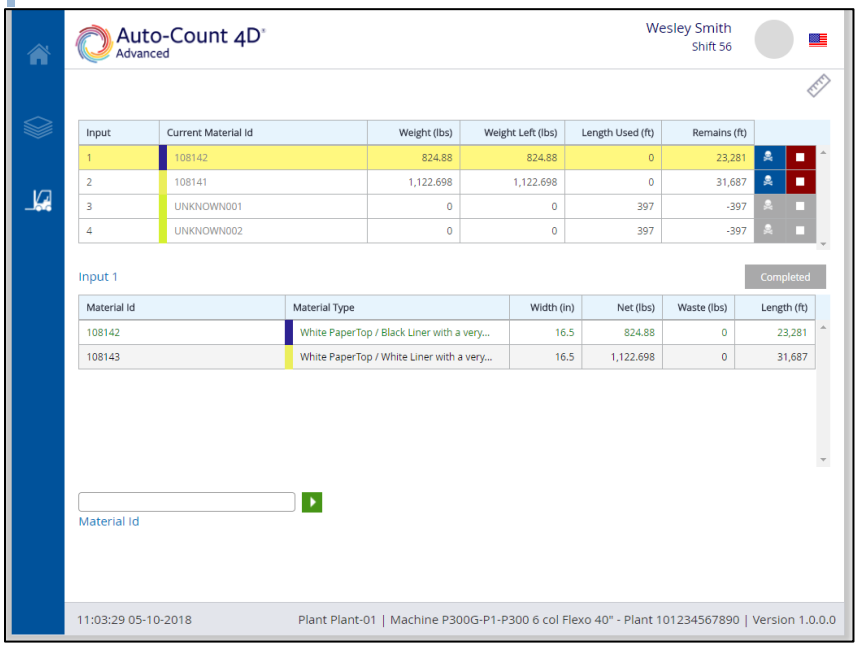
The Run Queue window is display-only and allows the operator to view the run queue and the details of a selected run.



Materials

The Materials window is the same as it is in Auto-Count 4D console. Users can enter materials for this roll stand directly from this display.

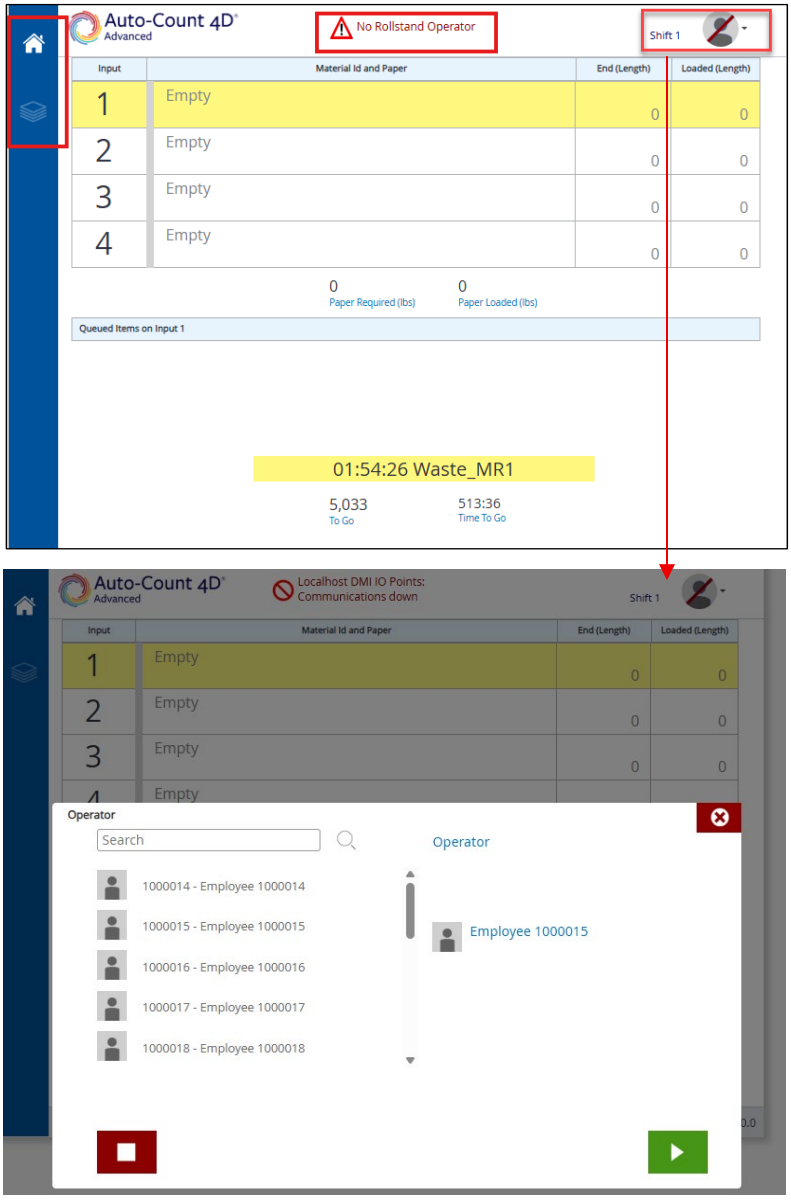
Note Once you are using the Roll Stand, you will enter materials here and not at the Auto-Count. You will only see Output materials at the Auto-Count. If you close the Reelstand window and want to return to using the AC4D Inputs tab, you must restart the AC4D service.



Logging into Rollstand

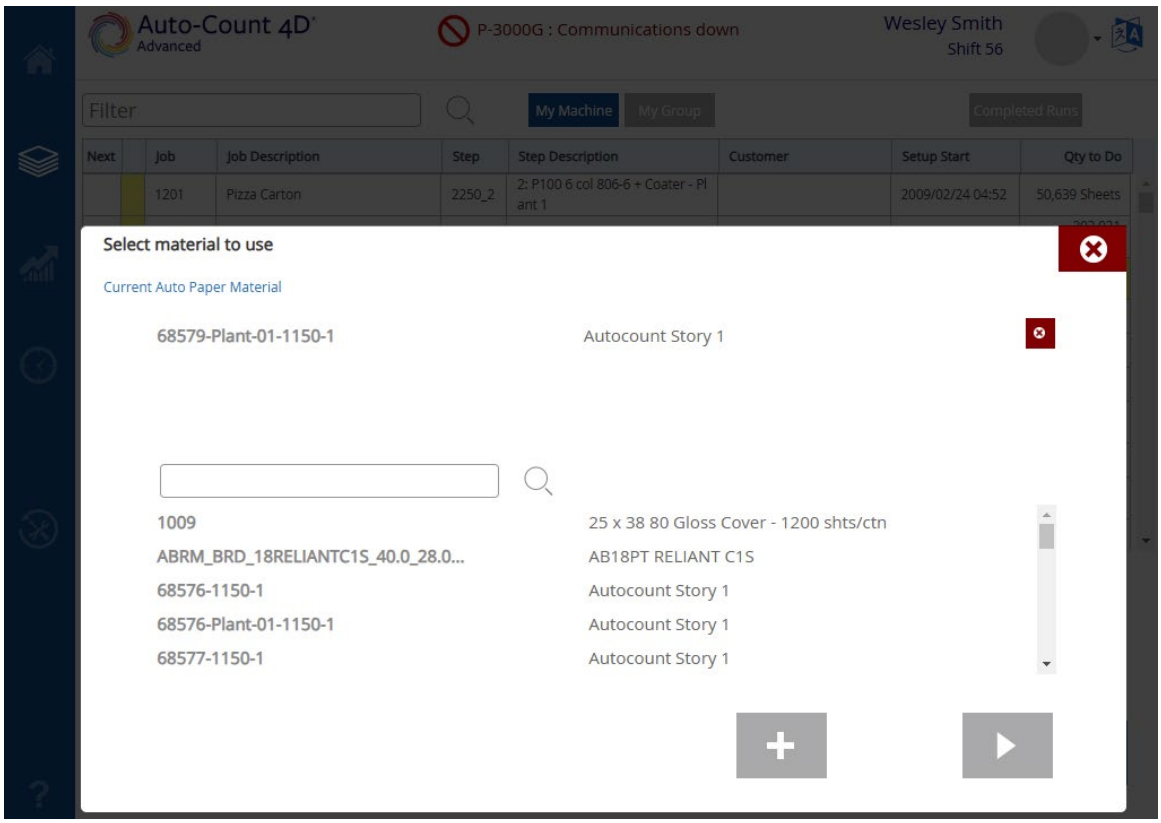
There is a Plant Manager option called '*Enable Rollstand Operator*' which, when enabled, requires the reelstand/rollstand operator to log in to the Reelstand/Rollstand screen. This feature allows material usage to be tracked against this user instead of the press operator.

When no operator is logged in, you can only view the home screen and run queue. The message will display at both the rollstand and AC4D indicating that there is no current operator. Simply touch the Employee icon to open the log in window.

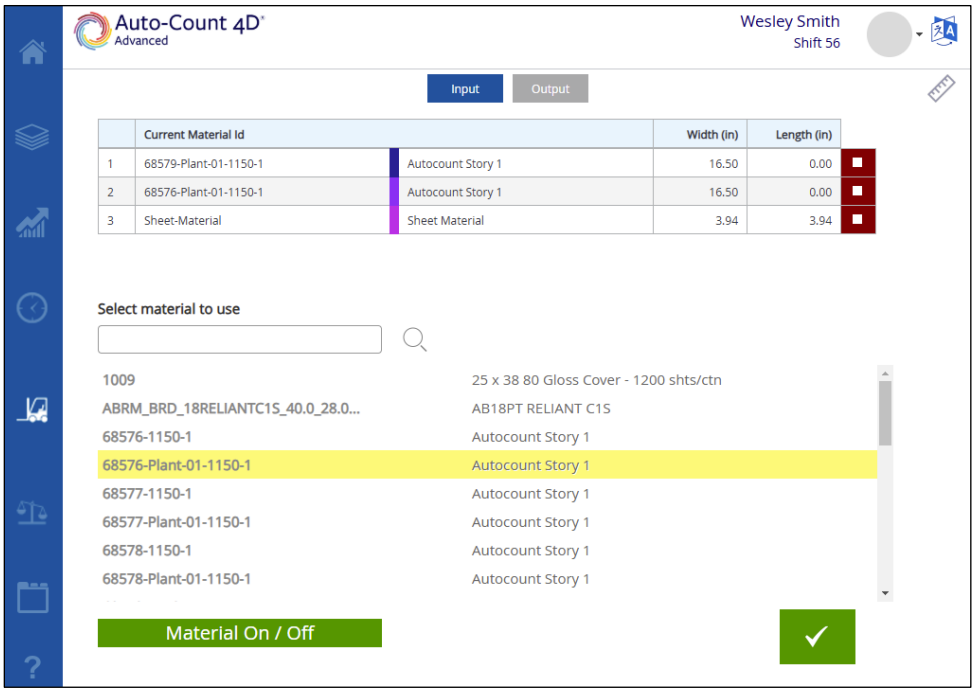


Multiple Auto Paper Materials

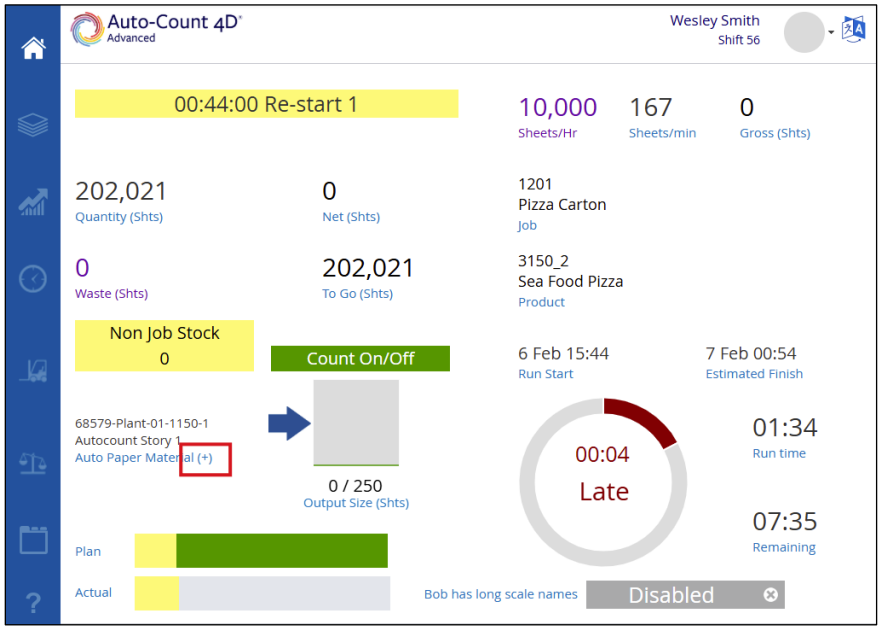
Operators can also select multiple materials when using the Auto Paper feature. Select a run in the Run Queue and select Auto Paper to choose materials. The default material for the run is listed at the top of the window. To add additional materials, select from the list and press the **Add** button. You can also remove materials if needed.



During the run you can add or change materials from the Input window.

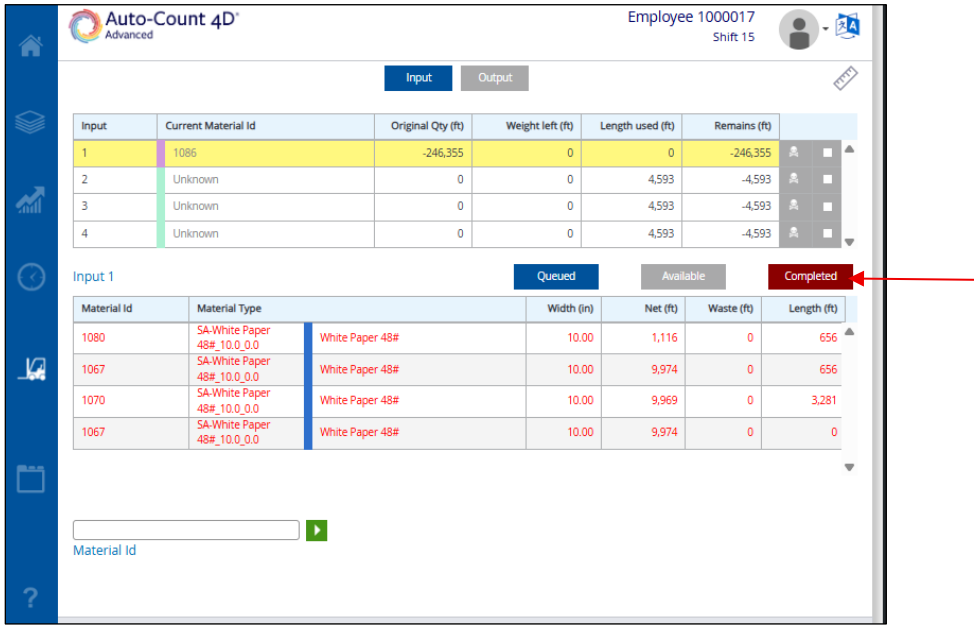


On the Main window the first material is displayed but a button displays to denote other materials are also in use.

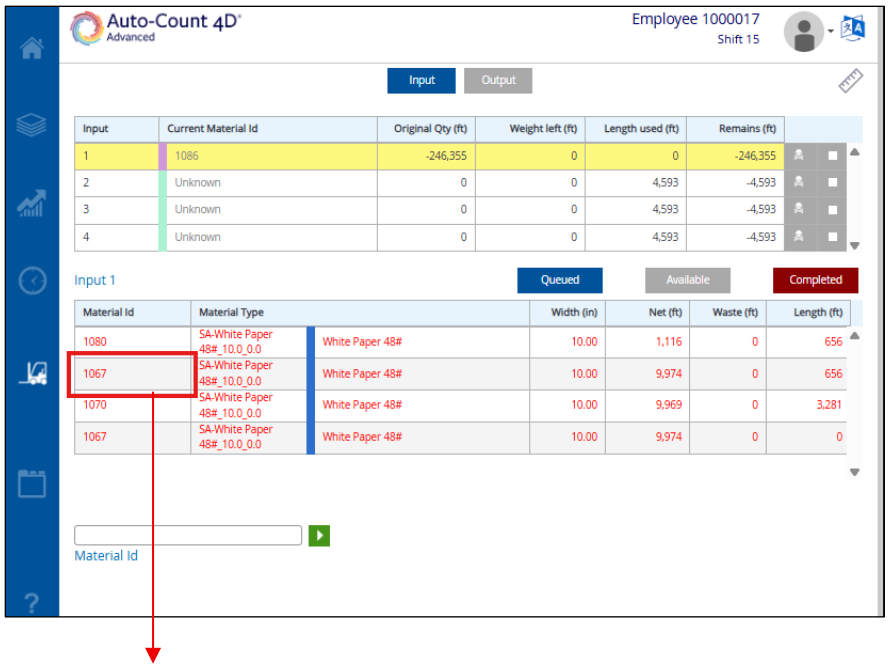


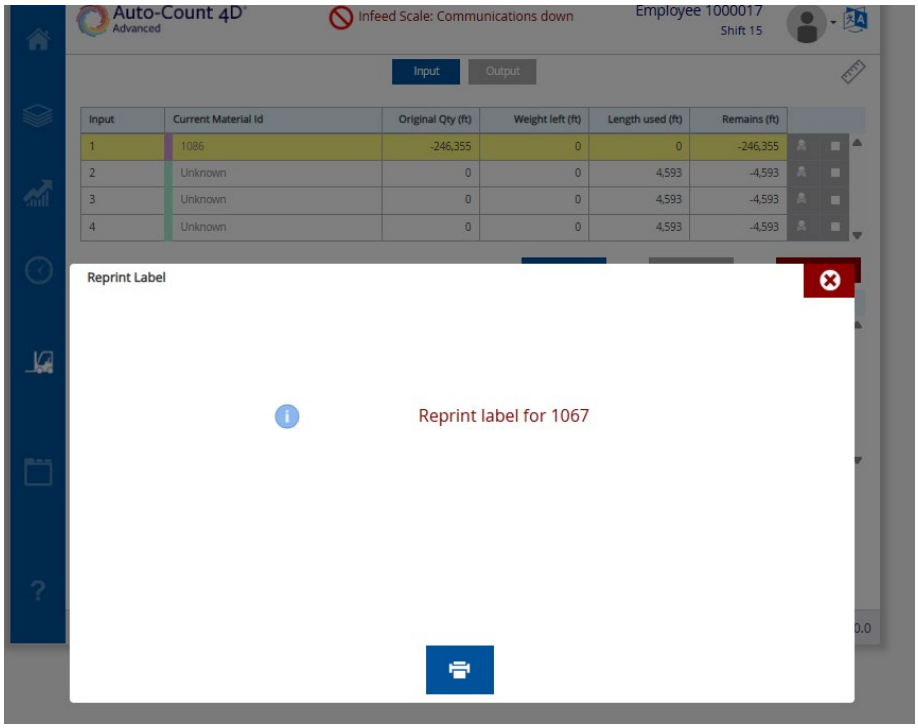
Reprint Labels/Tags

Select the **Completed** button. Note, you can only reprint items which have completed.



Click or touch the Material ID to open the reprint window.



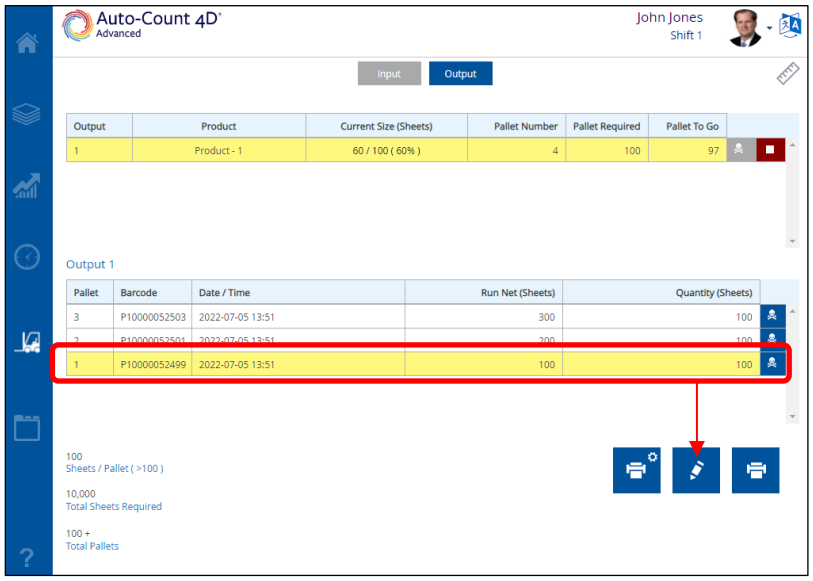

Auto-Count 4D
Advanced
Infeed Scale: Communications down
Employee 1000017
Shift 15
Input
Output
Input
Current Material Id
Original Qty (ft)
Weight left (ft)
Length used (ft)
Remains (ft)
1
1086
-246,355
0
0
-246,355
2
Unknown
0
0
4,593
-4,593
3
Unknown
0
0
4,593
-4,593
4
Unknown
0
0
4,593
-4,593
Reprint Label
Reprint label for 1067

Using Office Copies

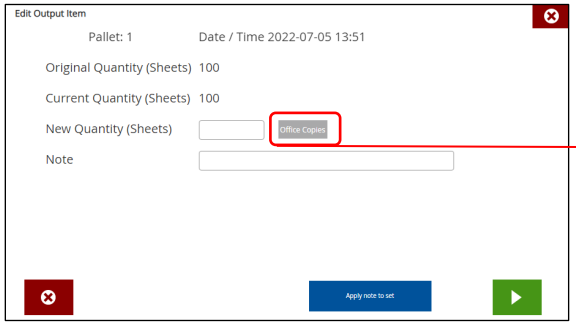
Operators often must pull copies from outputs for quality checks or to send to a customer for approval. You can use the Office Copies feature to pull this type of good copy from outputs. In Auto-Count 4D, Office Copies are treated as a special type of net count. If you remove office copies from a container, they are not considered waste but are placed in their own container which ends when the run ends. Many customers will set up a button that the operator will push to start counting office copies.

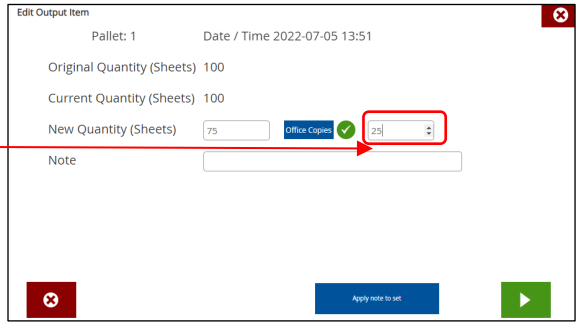
> **Note** Office Copies can only be used for Net counts that are *not in length-based* units of measure like pieces, impressions, sheets, or each.
>
> If you must suspend a job and then restore it, the Office Copies value is automatically reset to zero. Auto-Count doesn't save this value for restored runs. This includes restored outputs. You cannot use Office Copies on an output which was restored from a lifted run.
>
> To identify office copy pallets, Skidtype is set to 1 in the TxnSkid table of the Plant Manager database.
>
> To use this feature, you must select **Enable pallet/roll editing** in Plant Manager.

To use office copies, select an output pallet and select the Edit button.



Then click **Office Copies** and enter the number of copies removed from the output pallet. The New Quantity field will automatically adjust. In this example we've taken 25 sheets from the output so the adjusted output quantity will be 75.





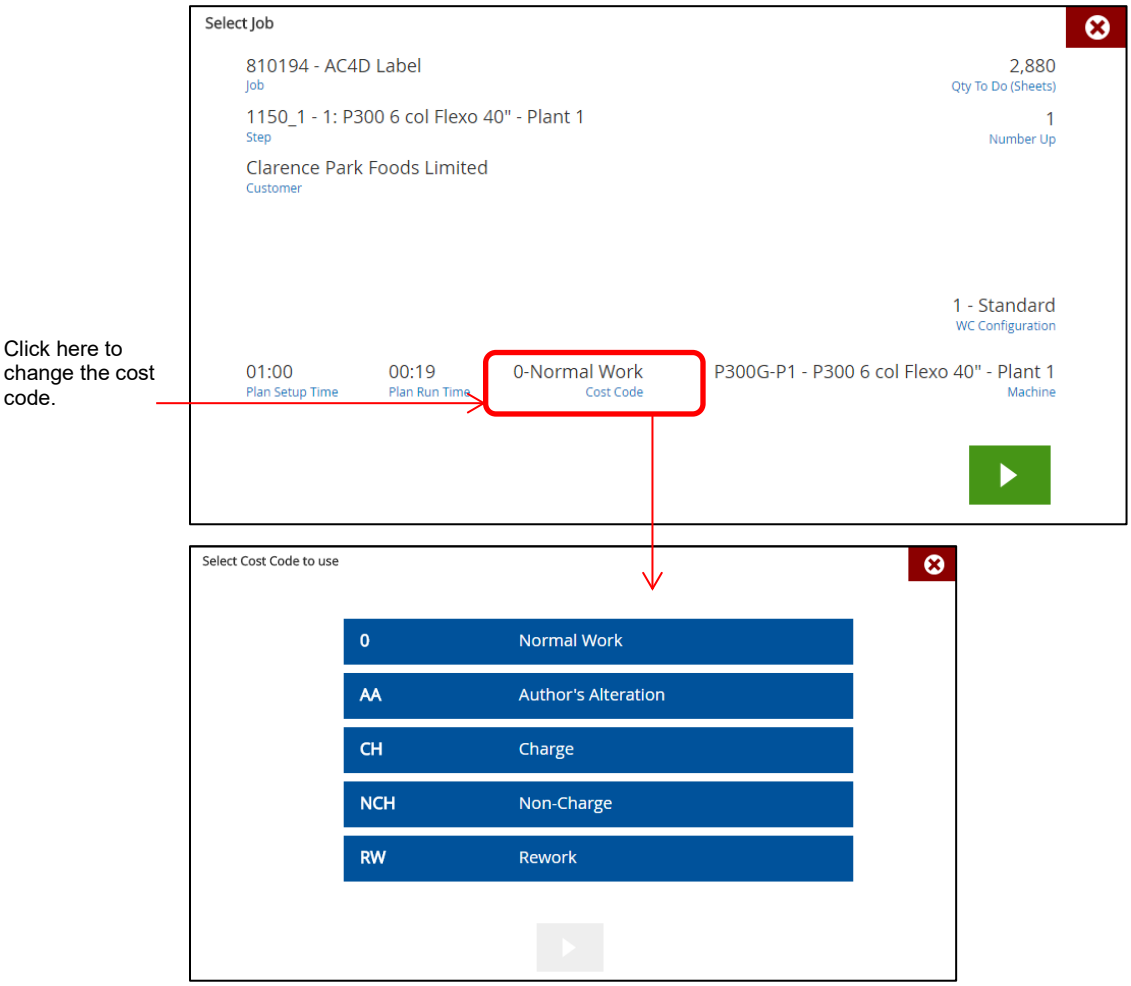
> **Note** You can also add back net quantity to the pallet by entering a value in the New Quantity field. For example, if you've taken 25 sheets off for office copies but then want to add back 25 sheets to that pallet, simple enter 100 in the New Quantity field.

You can see the total office copies for the run in the Current Run overview window from the Home screen.

Changing the Cost Code

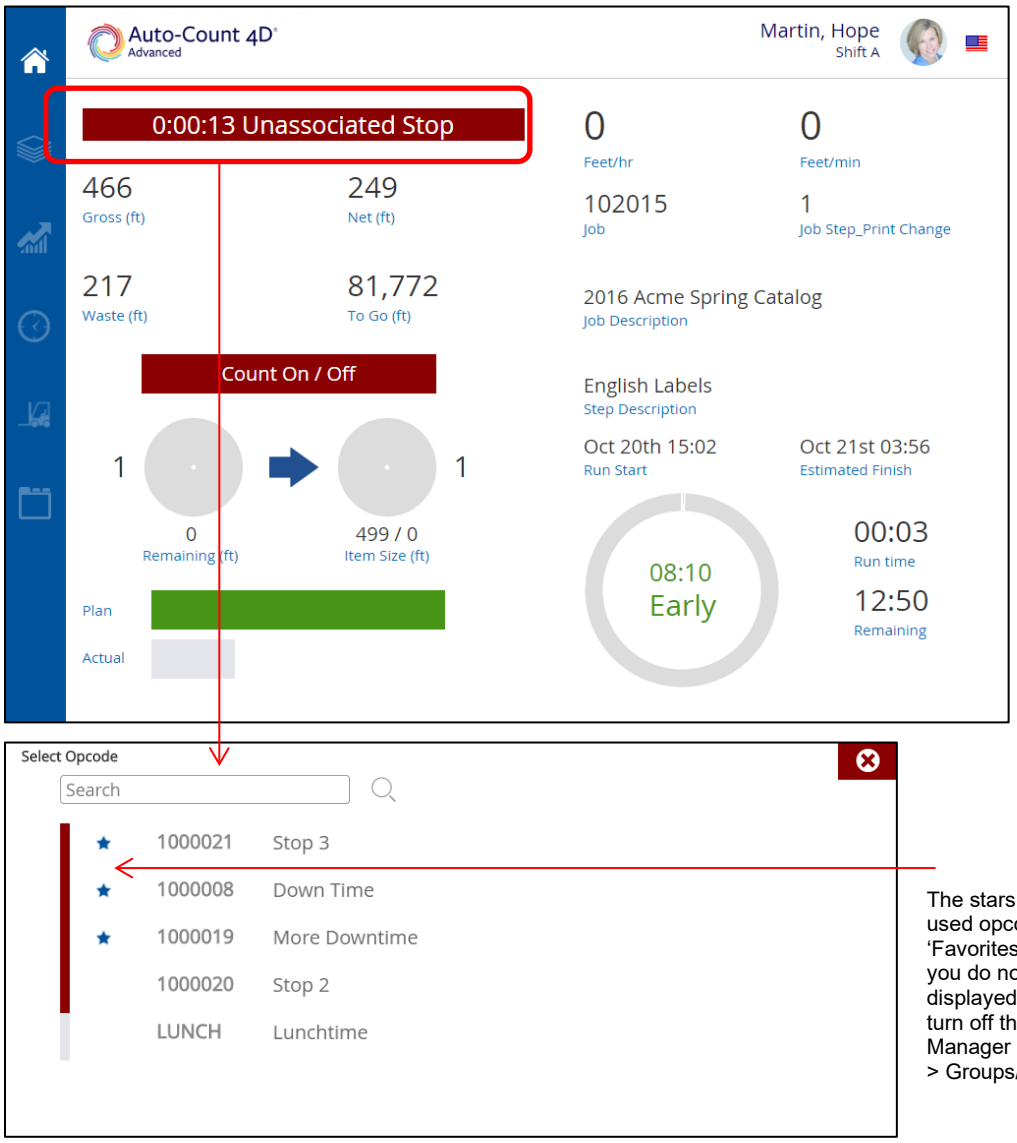
Users can select a cost code before starting a run. Cost codes indicate the type of work being performed (such as rework, normal, AA, chargeable, non-chargeable, etc.) These cost codes come from your Plant Manager database and can be managed from the Maintenance > Cost Codes page

> **Note** Cost Codes default to the defined Default as set in Plant Manager or the first one entered if no default exists.



Changing the Operation Code

During a run you can click on the Operation Code to change it.



The stars denote the most used opcodes – or 'Favorites' of this operator. If you do not want these displayed at the top, then turn off this option in Plant Manager > Define Machine > Groups/Operations.

Note You may also change the opcode from the Production Log. Please see the Production Log section below for more details.

Inhibit Gross/Net on Operation Codes

In Plant Manager > Operations > Define Operation, you can set up operation codes to automatically inhibit gross or net counts while in use. Auto-Count will disable net and/or gross counts if the machine is in this operation code and display the alert – *Count Disabled*.

This is useful if your operators go on break and change the operation code to lunch, or the equivalent in your plant. When they return, they may forget to change the operation code back to makeready or production and resume the job. With this option in place, Auto-Count will alert them that they are not counting gross and/or net which prompts them to change the operation code.

Use Previous Run Code

There is an option in Plant Manager, Use Previous Run Code which allows you to use the run code which the operator chose during the run when coming out of a stop rather than the default run code. For example, if the operator chose Run Code A and the machine stops and goes into a Stop Code, once the machine restarts and production begins again, Auto-Count will use Run Code A instead of the default run code.

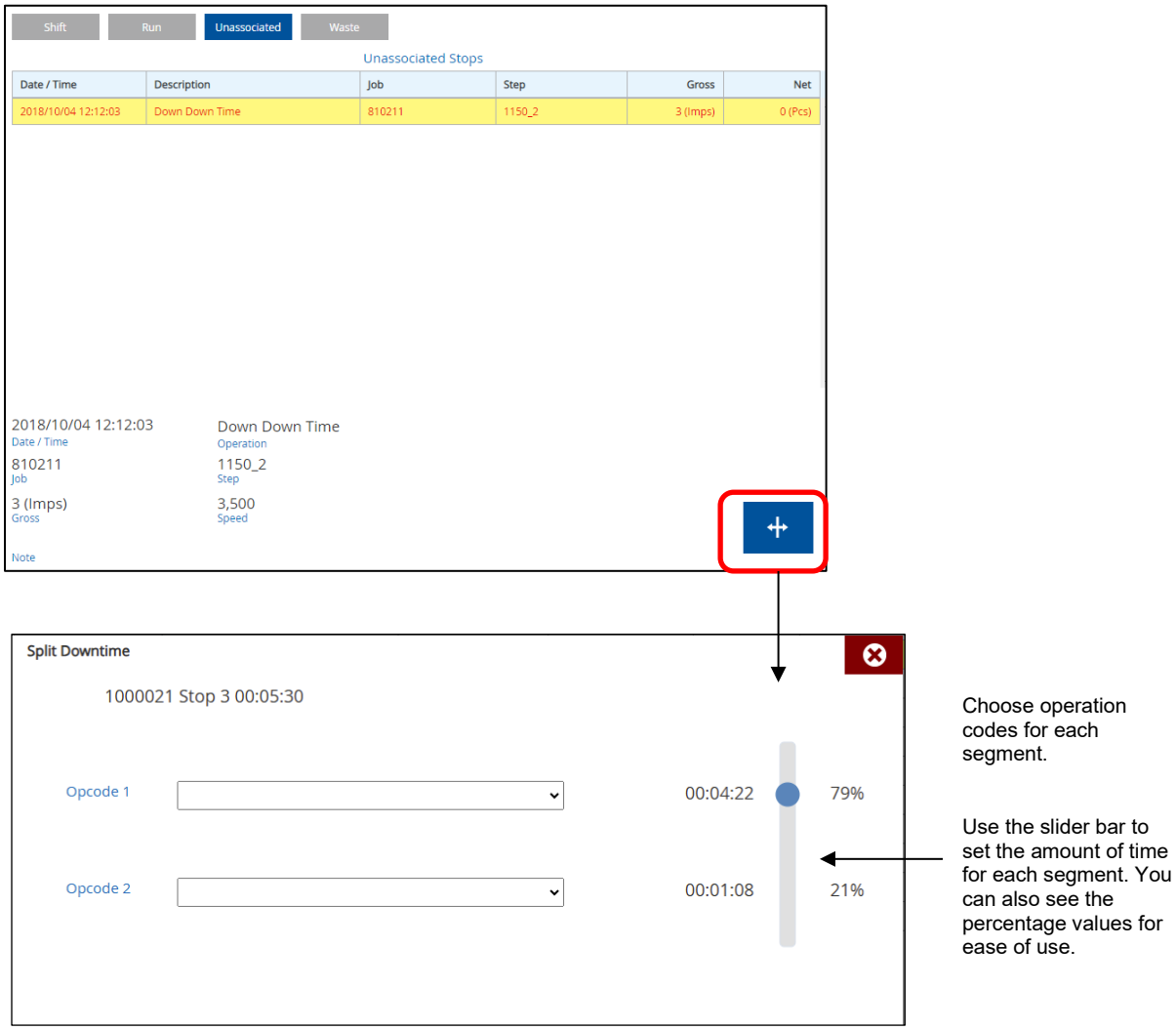
Note, that if an operator is in Overrun and adjusts waste (negatively) to go back into production then Auto-Count will use the last chosen run code.

Split Downtime Events

You can split a downtime event into multiple events with different reason codes and durations from the Production Log. To use this feature, turn on the option **Plant Manager > Define Machine > Production > Allow splitting downtimes**.

> **Note** This only applies to Downtimes that are more than two minutes long. So, a one minute downtime could not be split and a two minute downtime could only be split once.

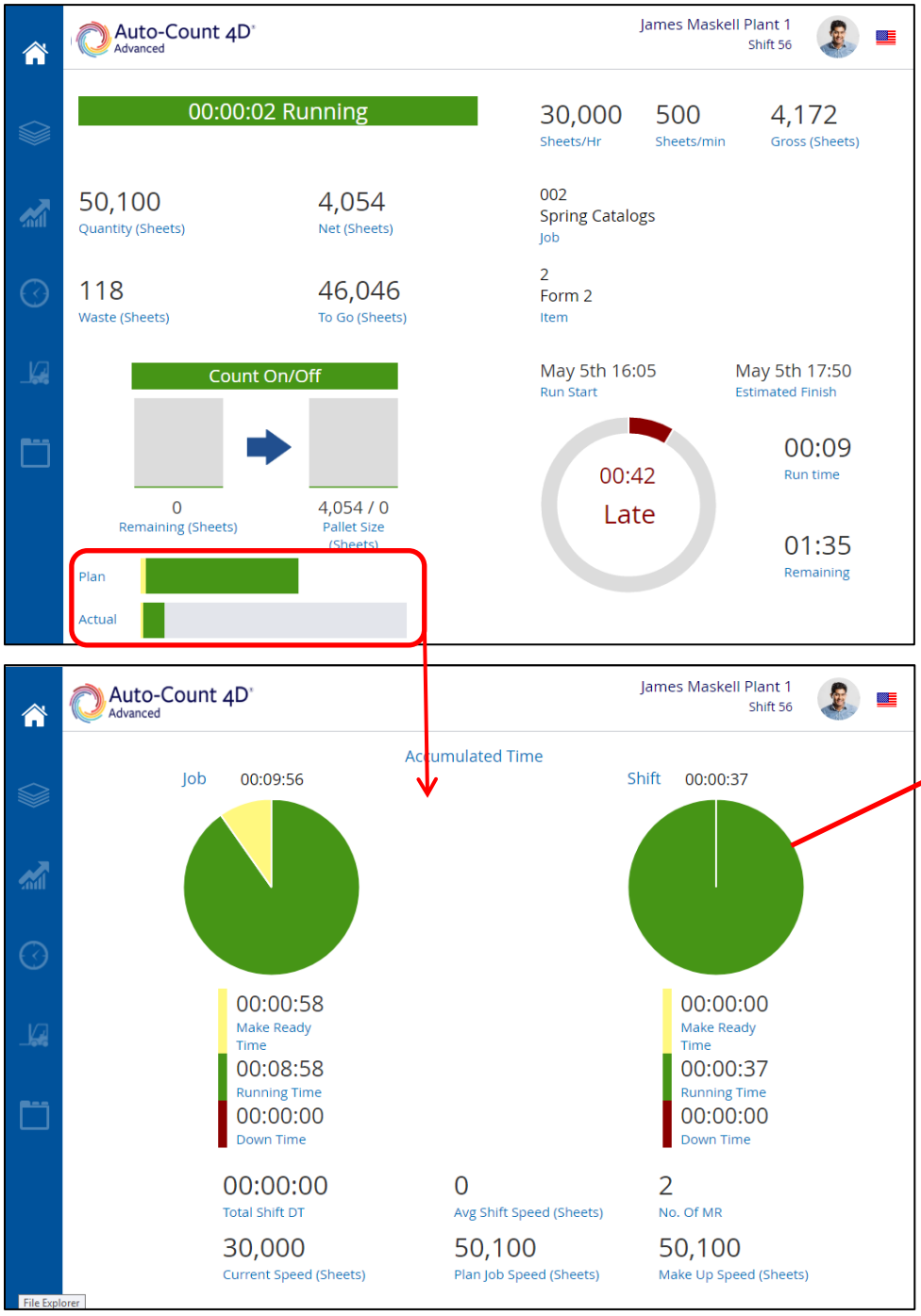
Once a downtime occurs and it is longer than two minutes, you will be able to click the Split button in the Production Log.



Then select an operation code for each segment and use the slider bar on the right to set the amount of time for each segment.

View a Current Run Dashboard

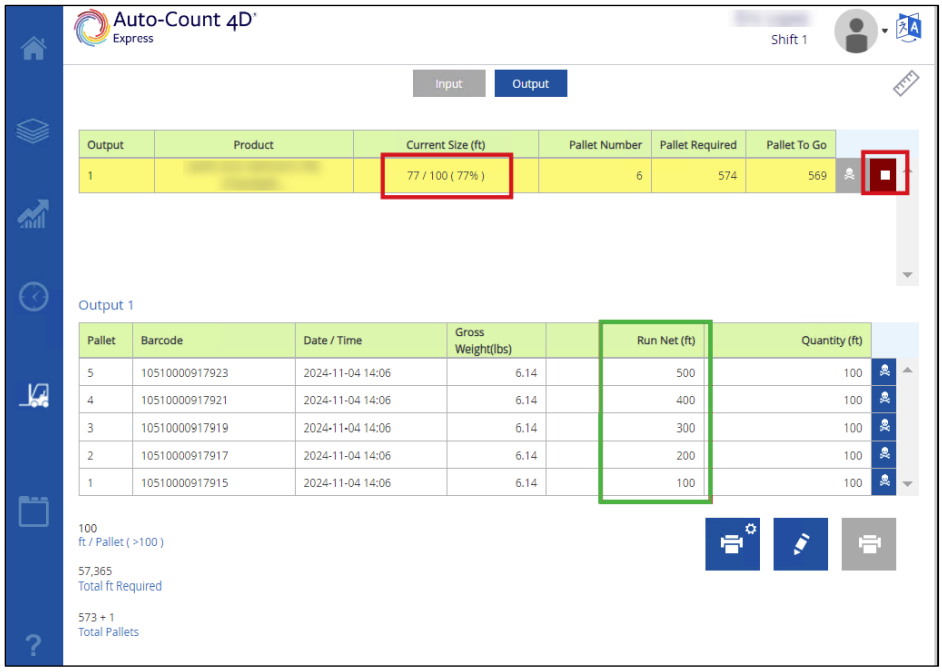
During a run if the operator wants to display a dashboard of the current statistics on the run, they simply click in the plan area to open a dashboard of job details and shift details.

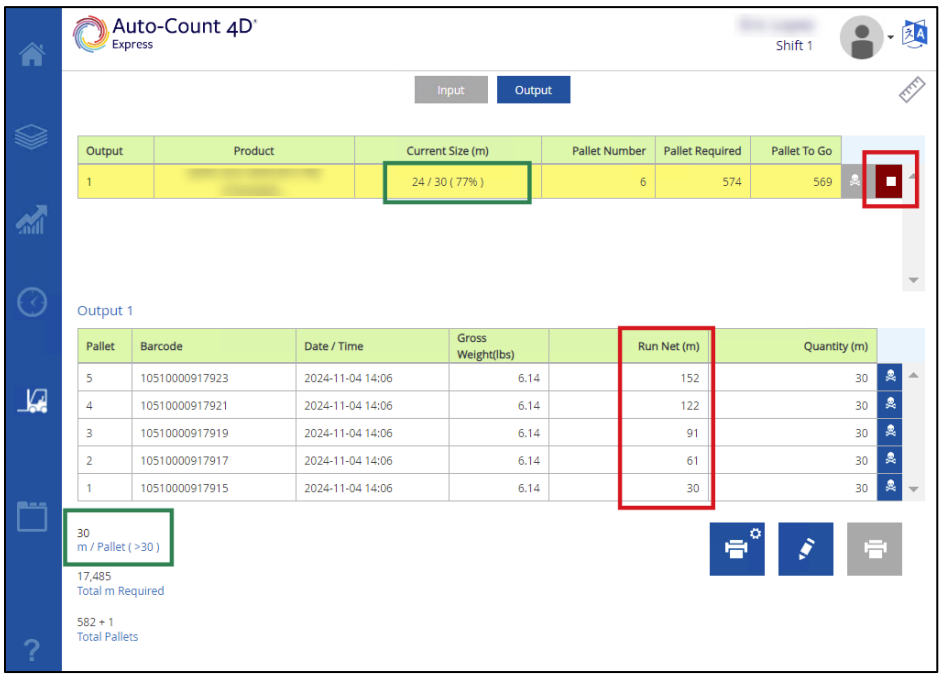


This area details shift information. Any white slivers denote time

Toggling Between Units of Measure in AC4D

Auto-Count 4D allows operators to toggle the units of measure (ruler icon). When toggling length-based units, it is often confusing as the calculations may not be as expected. Due to display values being rounded to the nearest whole numbers, the values may not always seem correct. But they are being properly calculated behind the scenes. Below is an example of the Run Net value toggled between the main unit of measure of imperial (feet) and the secondary unit of measure of metric (meters). The expected unit of measure for metric starts at 30 meters which is roughly 100 feet, but because this is a rounded number behind the scenes, each subsequent output value will be off by the rounded value (30, 61, 91, etc.).

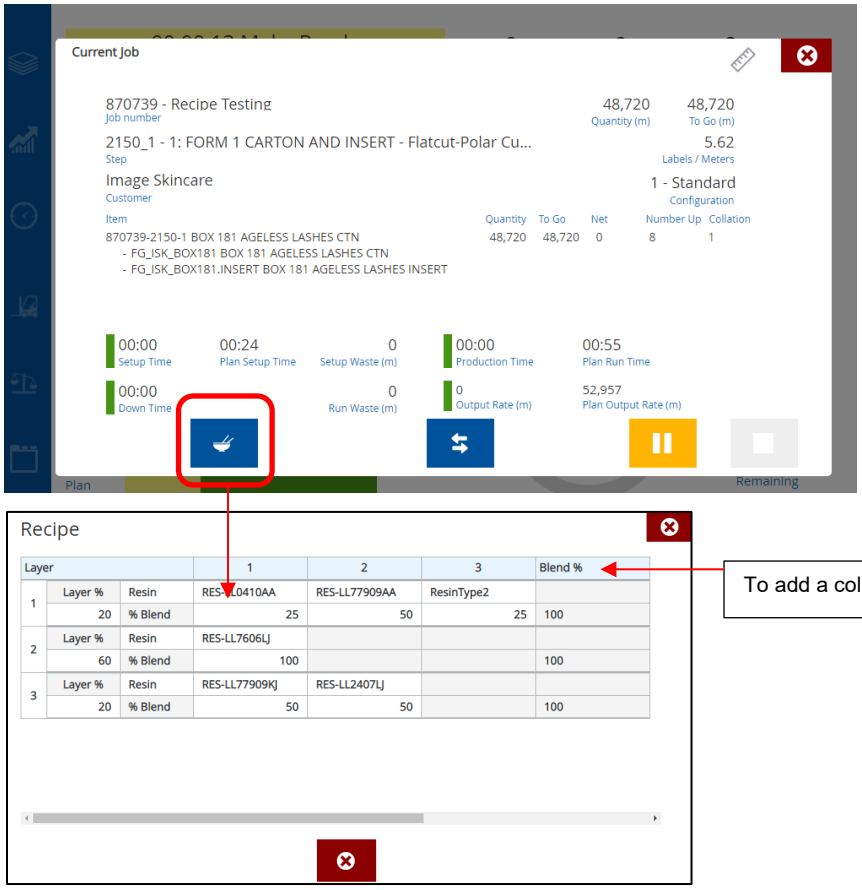




Material Recipes

> **Note** This feature must be supported by your MIS system. Currently, the Radius MIS is the only system supporting this option. For Radius MIS systems the recipe is sent in the JobDefinitionCommand message.

(*Radius users*) Flexible Packaging and other types of customers can send the extrusion information with the run (in what we call recipes) and have Auto-Count display this information from the Select/Current Job details window via a **Recipes** button.

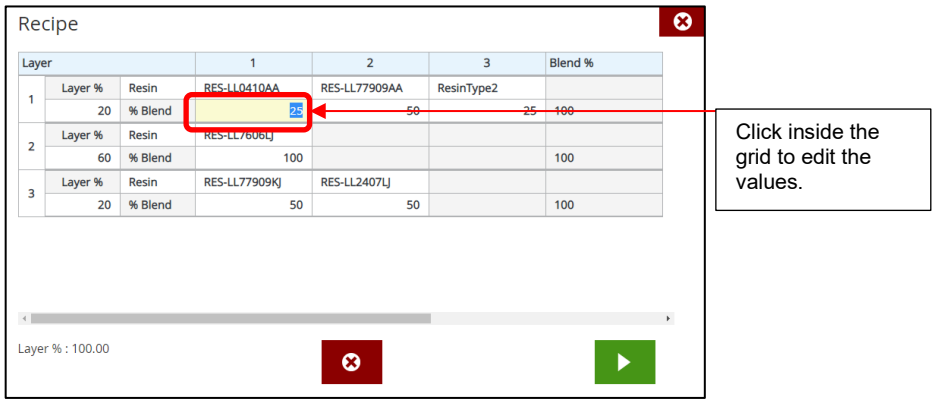


To add a column, click Blend%

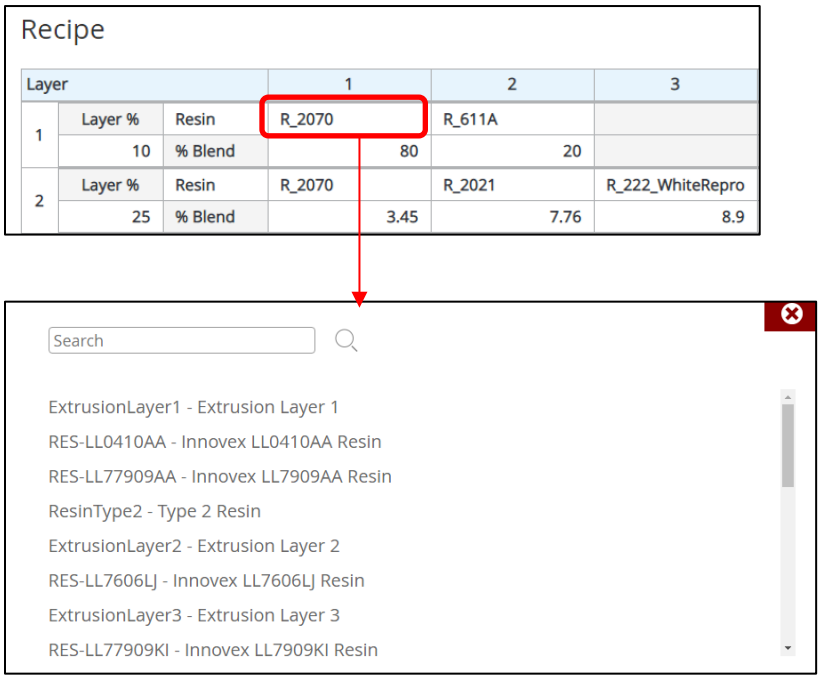
Editing Resin Materials

Along with being able to view the flexible resin materials, operators can edit the recipes after they load the run which includes the resin codes, layer % and hopper % values. The updated recipe will be sent back to the MIS.

> **Note** Currently, resin consumption is not counted by Auto-Count. Operators can simply edit the recipe mix for the resin which was sent from the MIS system.



To change the layer value, click on the layer and then choose a different one.



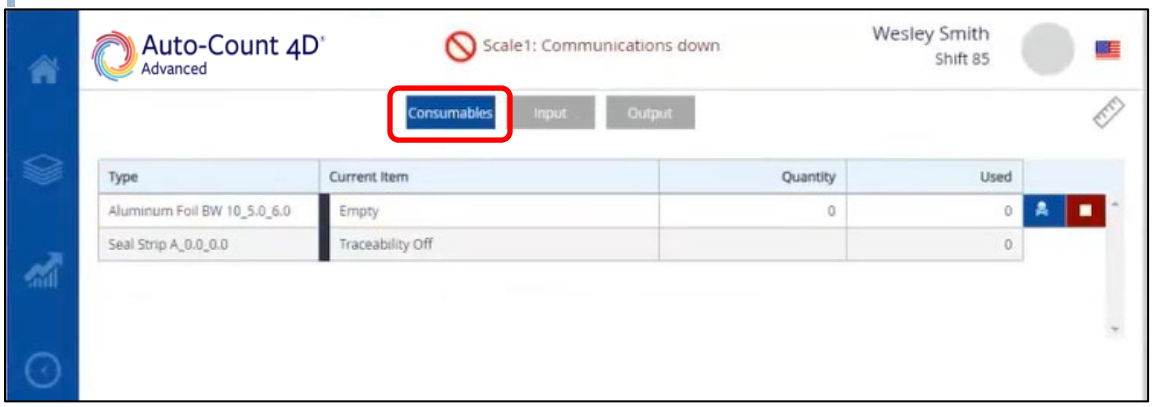
You can also add columns by clicking the Blend column header.

Consume Different Material Types

Auto-Count can recognize materials other than a substrate when sent as a recipe item from an MIS system. The material being consumed cannot be counted in a traditional sense of pieces or length, but rather, it is an indirect counting based on the gross count of the main substrate. Unlike a traditional substrate it is more important to track usage on the job for a consumable material. For example, you may need to keep track of the amount of glue used for every gross count of the main substrate. Auto-Count can consume the material and maintain traceability if required and send this information back to the MIS. This functionality is useful for the flexible packaging workflow as you can now count all materials used in this process.

If the run contains a recipe with the consumable materials, then the operator will be able to access those consumables from the Materials page. A button called **Consumables** has been added. For materials which do not require traceability, Auto-Count consumes the material in the same manner as material is consumed for an Auto-Paper run – the gross count is tracked and then sent to the MIS at the end of the run.

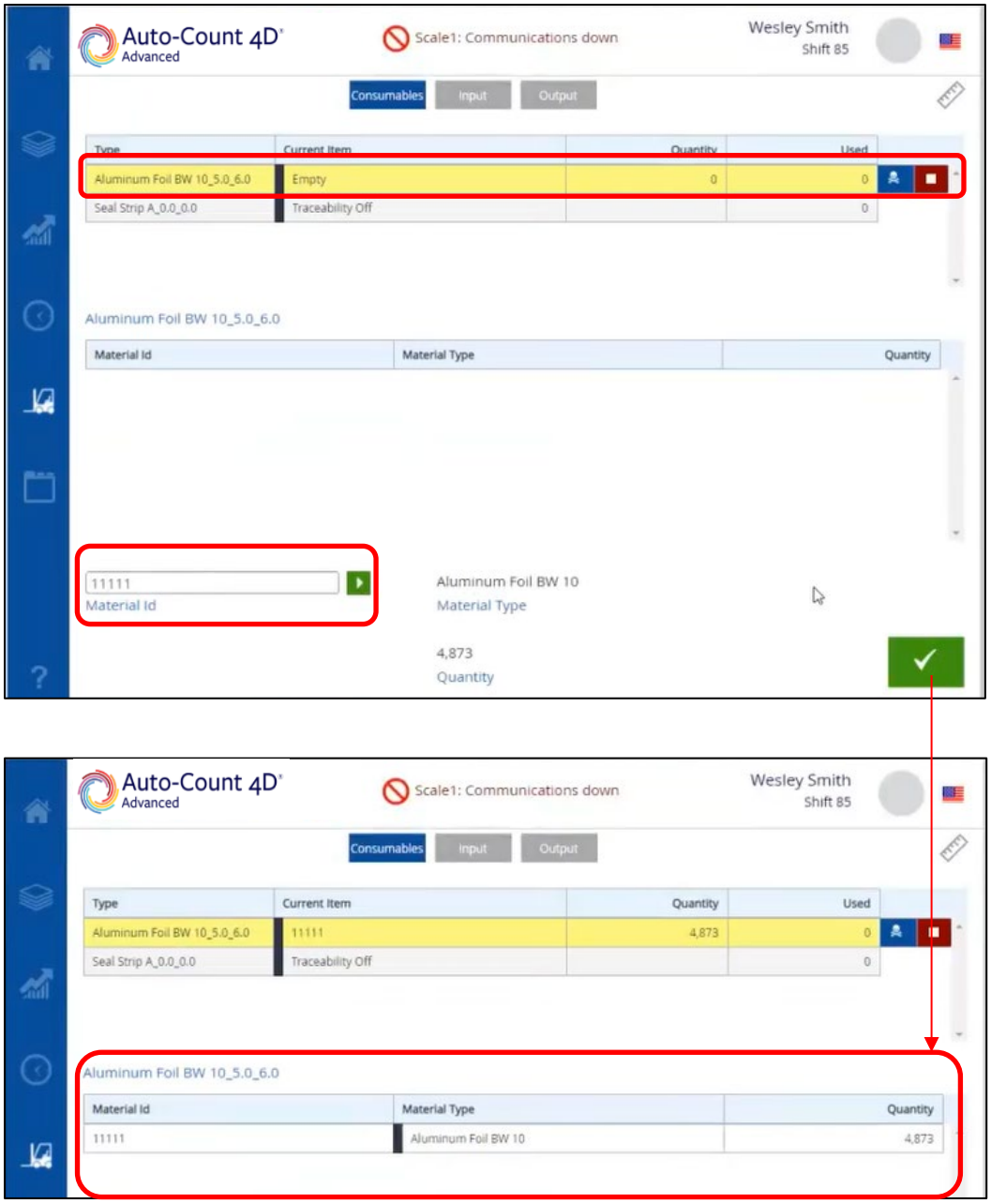
Note Currently, only the Radius MIS sends Auto-Count consumable type material in the Job Definition message.



If traceability is required on the item, the operator must enter a specific material ID for the item much as they do for paper substrate.

If traceability is required on the item, the operator would select the item from the top grid and then scan or enter a material ID in the lower half of the window to add the material.

Consumable materials are automatically ended once the current material quantity is consumed. Auto-Count will then load the next consumable material from the list of queued materials. The operator can manually end the material if needed.

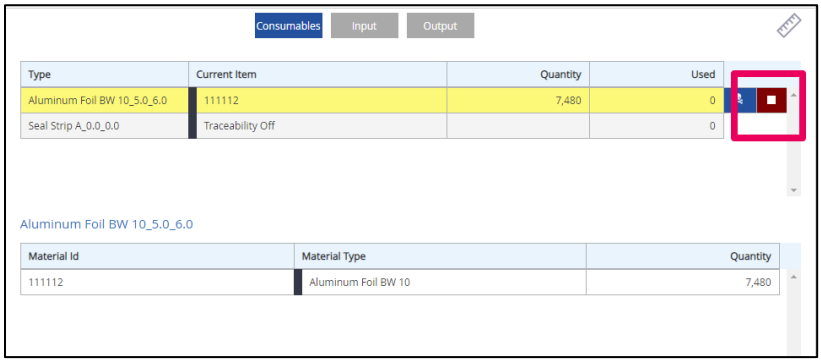


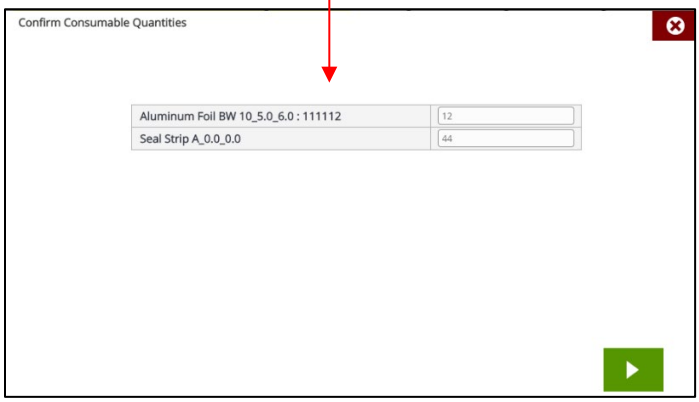
Operators can queue multiple materials on the bottom grid if needed, much like paper.

Editing Consumable Material Values at the end of a Run

Now that Auto-Count can count secondary materials (Consumables). These material calculations will be approximate and will not be accurate in all cases. In these cases, operators must edit the calculated consumption of secondary materials when the job ends or is suspended to ensure that costing and inventory is correct.

When ending an output on the Consumables (secondary materials) window, Auto-Count will allow the operator to edit the consumed quantity.





Where do different material types display in my Auto-Count?

Auto-Count handles materials on a run differently depending on the material "type" specified by the MIS. For example, the Radius MIS system can send Auto-Count over thirty types of material, but they all fit into four main categories recognized by Auto-Count.

Material Category	How it's used in Auto-Count
Primary (Substrate, Laminate, Paper)	The primary materials used. Always entered/displayed on the main input page in 4D. They are consumed using the Gross count of the machine.
WIP (work in process)	Primary material from a previous process. Also entered on the main input page and consumed in the same way as Substrate. However, WIP can be used to trigger some special behaviors, for example, trigger a run change when the WIP changes. Runs with different WIP requirements can be queued together while those with different substrates cannot.
Resin	This material type is specifically for extrusion processes. These are sent in a job recipe and viewed in the recipe window.
Consumables	Anything else not one of the above. These are displayed on a separate consumables window. Consumables are consumed using a ratio supplied by the MIS. The ratio does not have to be 1:1 with the gross count, for example 3 staples to a book, or 10 cm of foil per meter of gross.

The table below shows which types of material display on which window in Auto-Count. The MIS sends the material types to Auto-Count. (In Radius the material type is called the Job Step Type.)

Inputs	Consumables	Recipe
Laminate	Adhesive	Extrusion
Substrate	ClickCharge	Resin
WIP	Coating	
Blank – when no material type is sent.	CoatMix	
	DieCosts	
	Foil	
	Freight	
	Ink	
	Lining	
	OrderCharge	
	OrigDets	
	OrigMat	
	OutworkMat	
	Packing	
	Plates	
	PouchBag	
	ServiceCosts	
	Sundry	
	WindowPatch	
	WorkCentreMat	
	(everything else)	

Adding a Run to an Existing Job

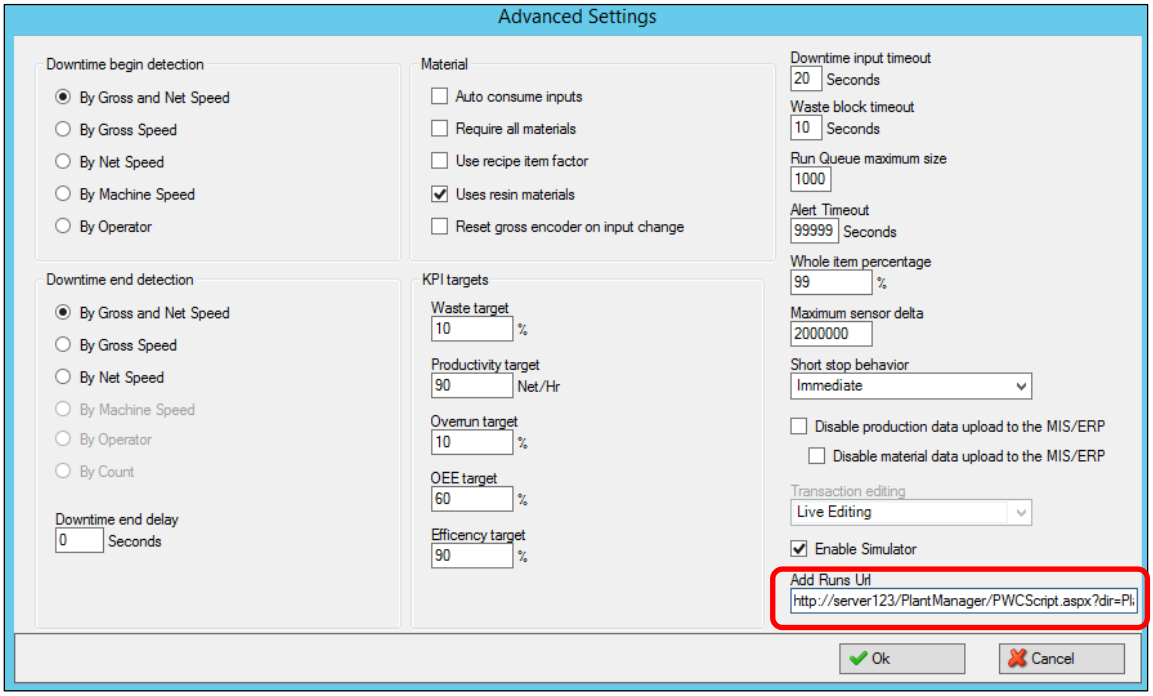
> **Note** The Add Runs feature is not available for Radius integrations.

Sometimes it is necessary to add an additional task to an existing run. For example, you may have a job that includes folding, but the original job sent by the MIS system did not include this task. The operator can simply add the folding task to the run queue. The Add Run feature will open in a separate browser tab due to security constraints.

Setup

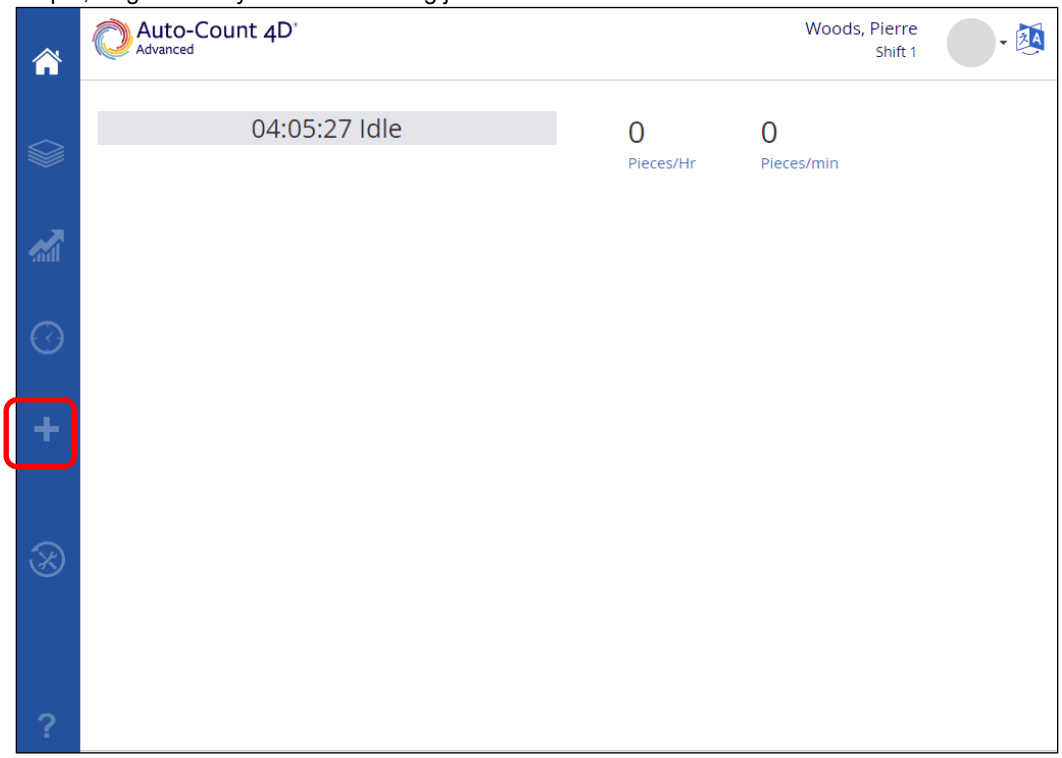
You can enable this feature in Plant Manager > Define Machine > Production > **Create runs at the Auto-Count**. If your Auto-Count 4D is not installed on the same computer as the Plant Manager Browser, then you must enter the URL to the Plant Manager Browser server in the Advanced Settings window in **Add runs Url** using this link where [server] is the name of the server machine where you installed Plant Manager Browser:

http://[*server*]/PlantManager/PWCScript.aspx?dir=PlantManager&script=AddRuns.xml&display=embed

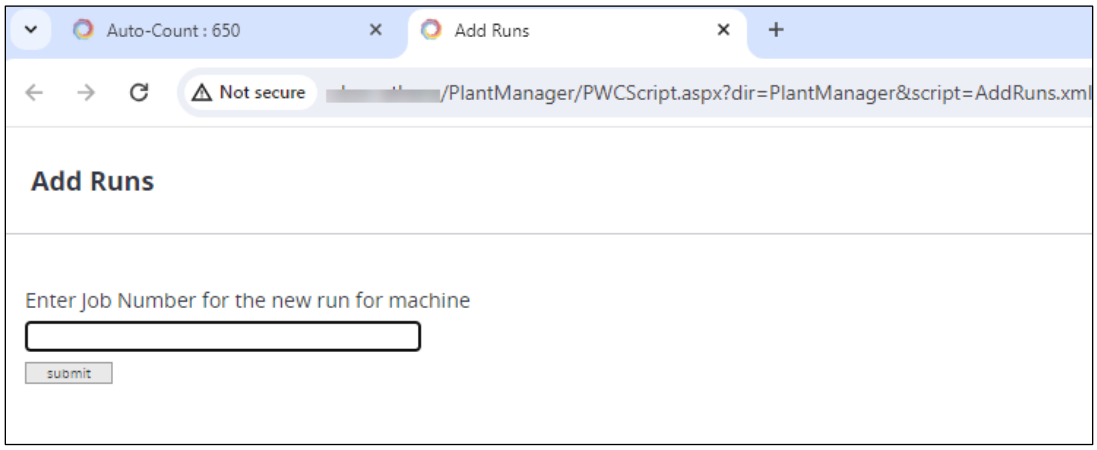


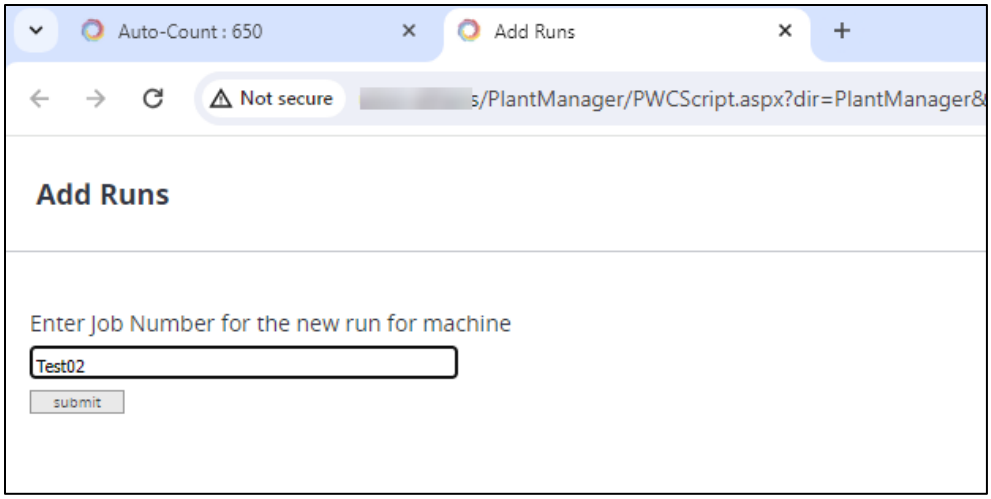
It also requires Reporting Service to be on the same machine as Plant Manager Browser (to locate PLMB) and that you run Plant Manager Configuration to obtain the correct scripts.

When enabled, the operator can click the Add Run icon which opens a new tab. Follow the prompts to add a simple, single delivery run to an existing job.

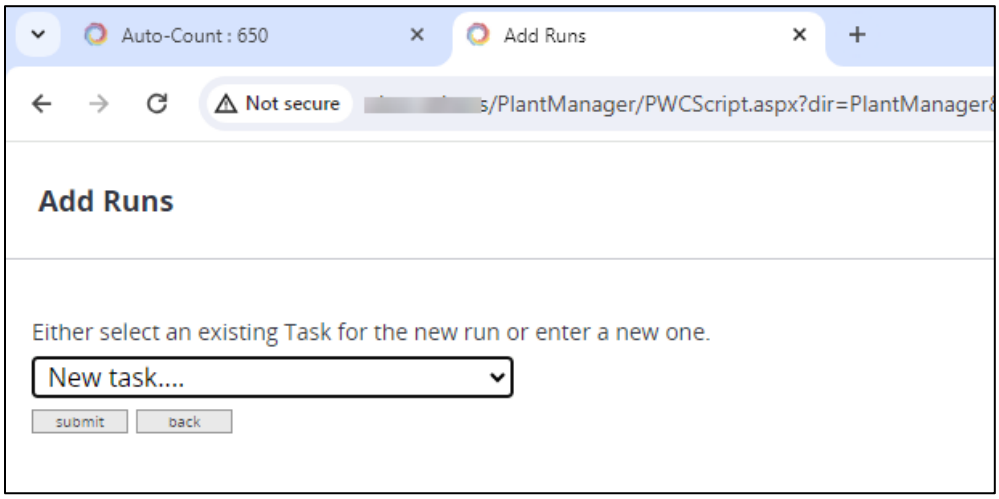


Enter an existing **Job Number for which you want to add the new task**.

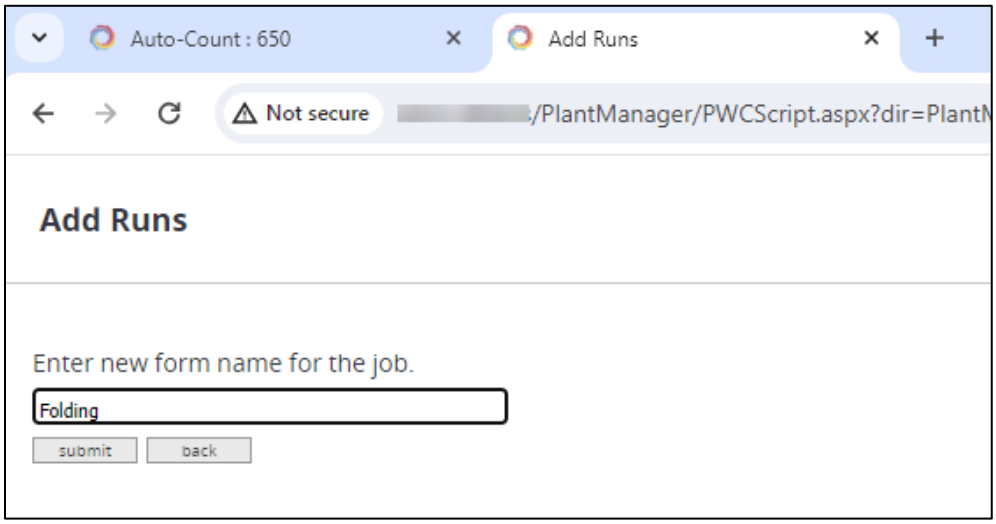




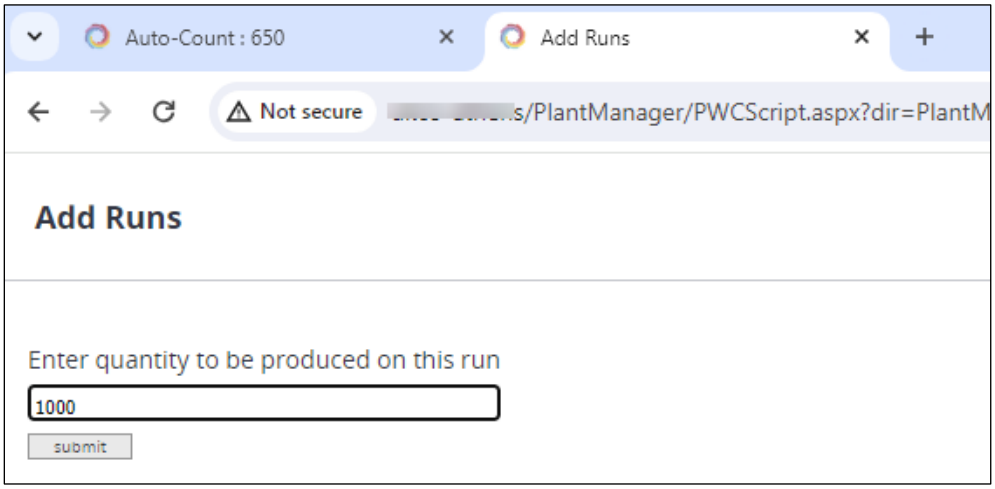
From the drop-down, select New task to enter a new task or select an existing task on the run. In this example we'll choose New task. Click **Submit**.



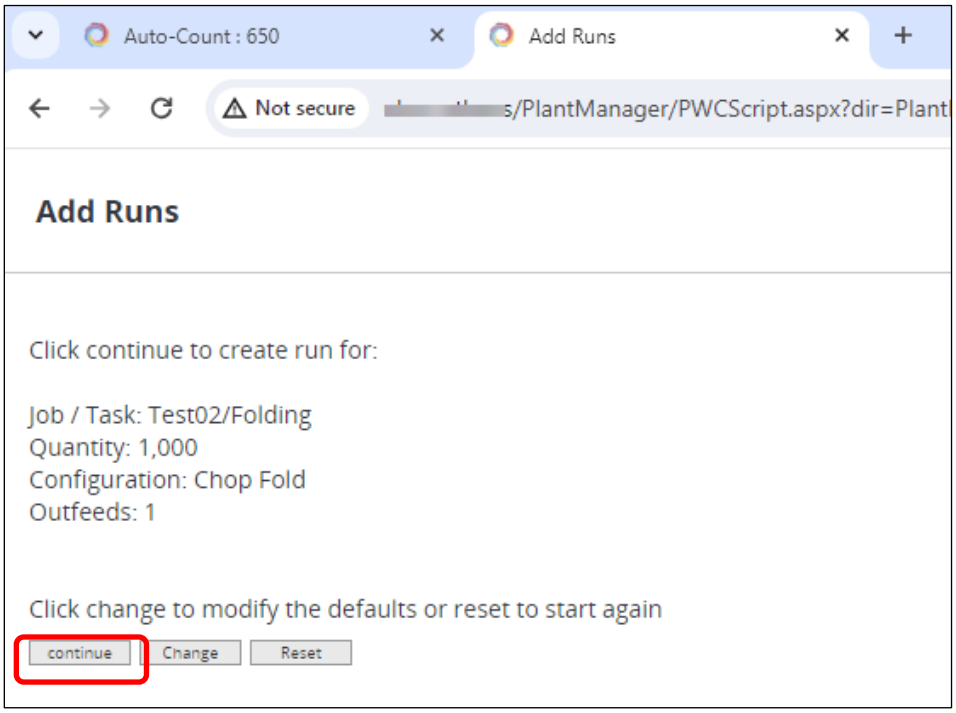
Enter a form name and click **Submit**.



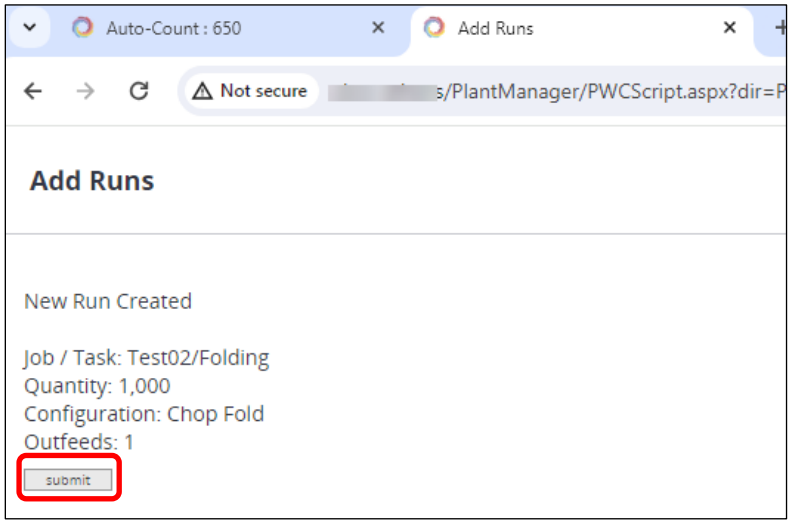
Enter the task quantity and click **Submit**.

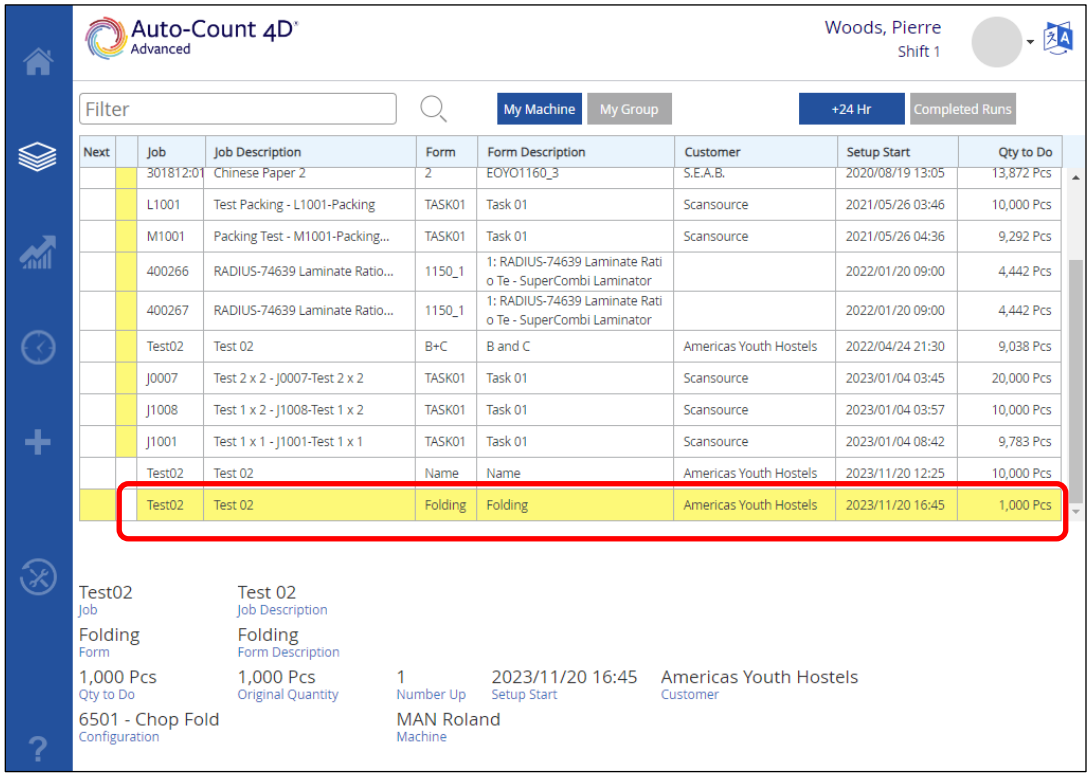


Click **continue** to create the run. Click **change** to modify the defaults or **reset** to start again. We'll click continue.



Click Submit and now back on the Auto-Count 4D tab you will see the new run in the Run Queue.





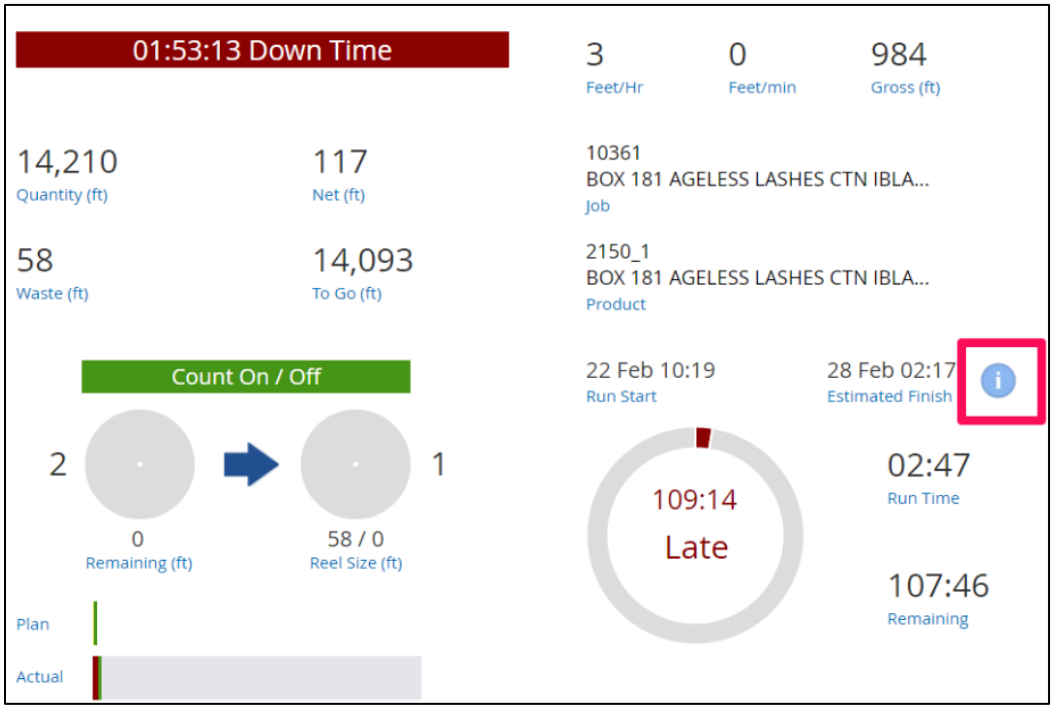
Add Run – Default to First Machine Configuration

When using the Add Run feature to create a job in the run queue, Auto-Count will automatically choose the first Machine Configuration by default for that job. The operator will not have to manually choose a configuration for those machines which only have one configuration.

> **Note** For machines with multiple configurations, operators will have to ensure they pick the correct machine configuration.

Viewing Shuts (PrintFlow)

If you are using PrintFlow scheduling, then Auto-Count can receive the shut and shift pattern information from PrintFlow to calculate Time to Go values. To turn on this feature you must select **Include Scheduled Shuts** from the Plant Manager > Define Machine > Options page. When using this feature, Auto-Count 4D will display an information icon in the Time to Go area of the main window. From there you can click the icon to display which shuts are included in the time to go calculation.

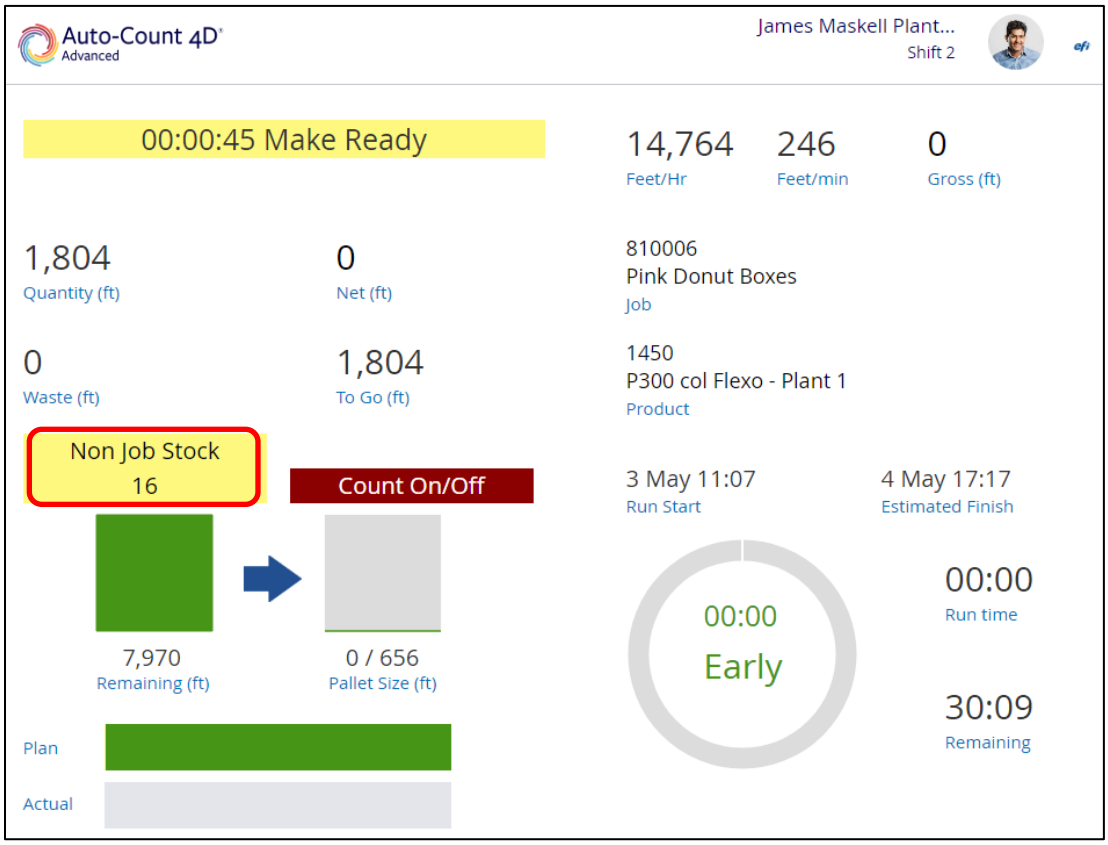


Non Job Stock

If the machine you are using is configured to use the Non Job stock feature, then a Non Job Stock button will display on the screen. (To set this feature, open Plant Manager and select the machine. Then open the Define Machine > Options page and choose Enable Non Job Stock.) The value shown is the current non-job stock for this job. When this button is yellow, then you are counting Non Job Stock. When this button is green, then you are counting Job (good) Stock and the non-job stock is shown in parenthesis and will not increment.

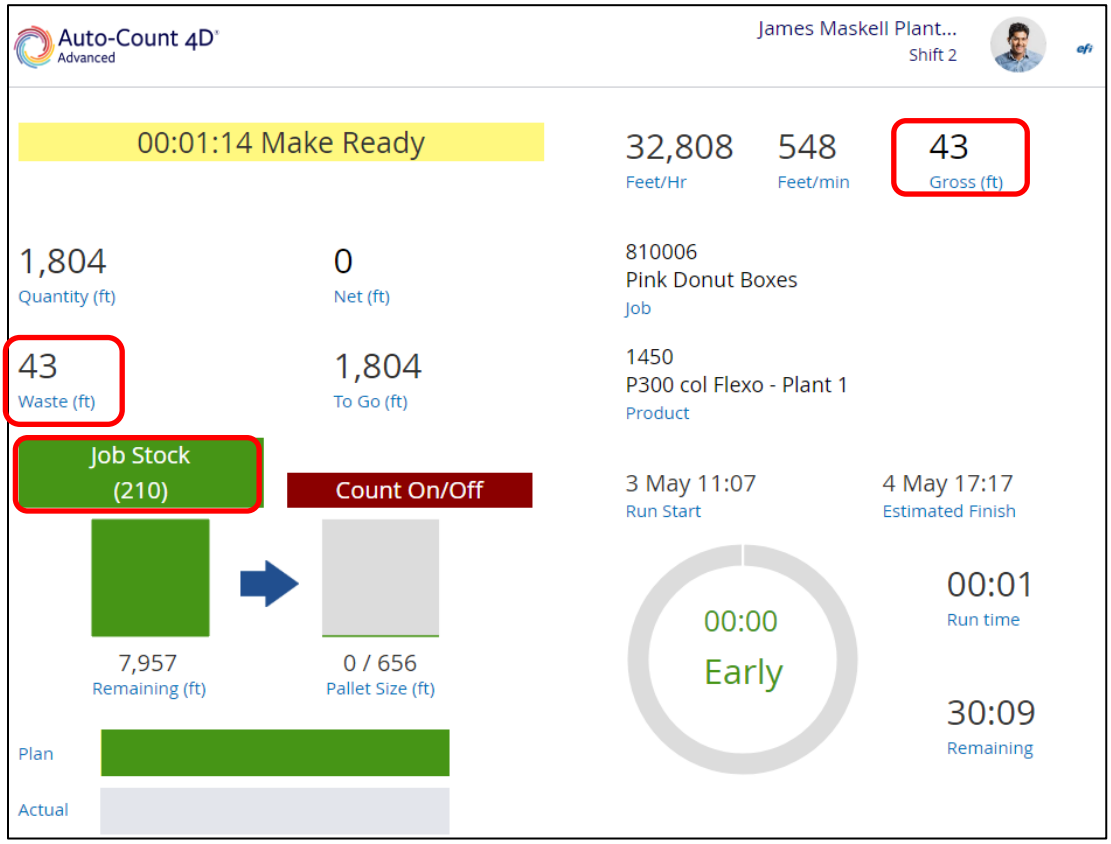
This feature allows the user to stop the Auto-Count gross, net, and waste counters while running non-job stock material through the machine. Using the Non Job Stock toggle button will ensure the operator does not overstate their counts while using waste sheets. This toggle can be used during Makeready or Run to go back and forth between job stock and non job stock usage.

Below, the machine is in a Non Job Stock state in Makeready and is not counting Waste, Net, or Gross.



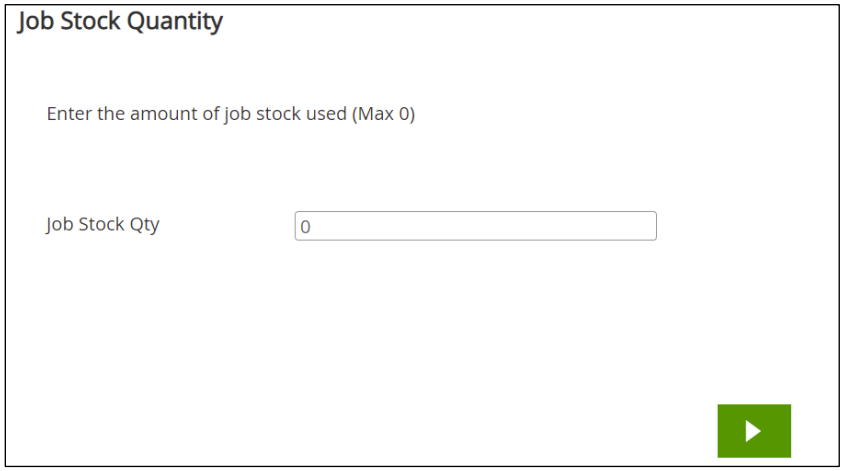
Click Non Job Stock to start counting material for the job.

Below, you can see the waste and gross counts have started in a Makeready state now that job stock is being counted. The Non Job Stock is 210.



Only use Non Job Stock in makeready: Select this option in Plant Manager when setting up the machine to only use non job stock while in makeready (you can still use job stock in makeready.) Once the run goes into production, only job stock can be used.

The user will be prompted to enter the amount of job stock which was used. Often, an operator will make an adjustment and then put job stock in the machine to confirm if the adjustments are correct. To count this material of job stock, they are prompted to enter it before leaving Makeready. The amount entered as job stock at make ready end cannot be more than the Non Job Stock counted so far.

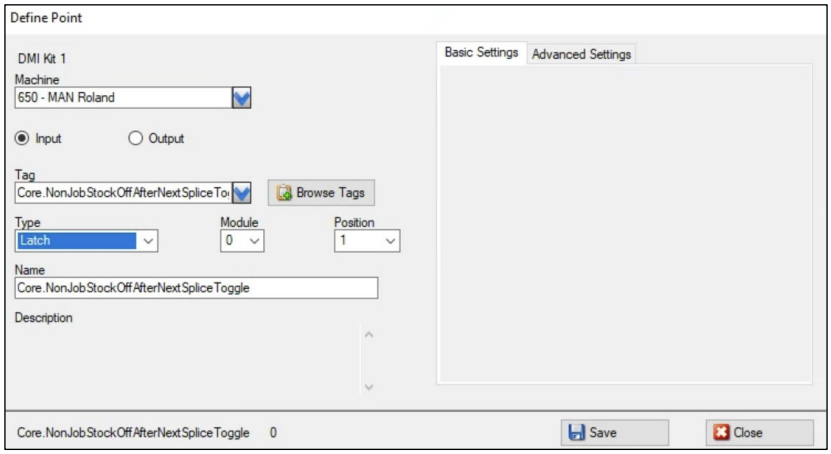


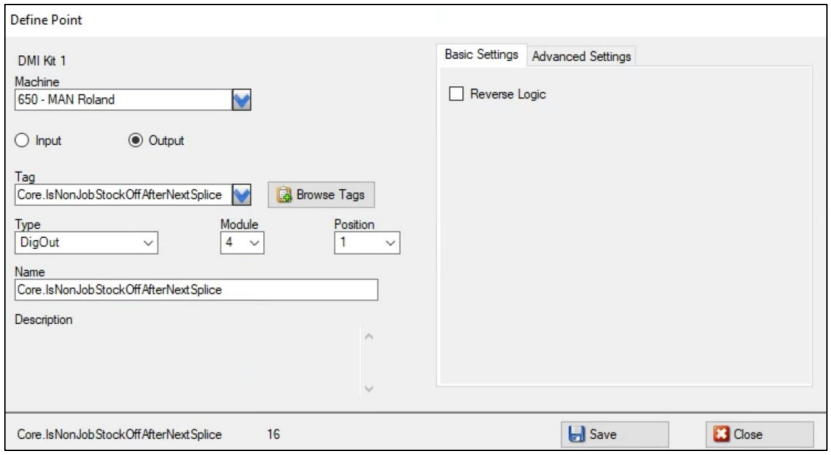
Automatic Splice in Non Job Stock Mode

If you work in a high-speed roll to roll manufacturing environment, you can set up Auto-Count to automatically detect when the non-job stock material has been spliced out for good material and automatically switch from Non Job Stock mode to normal good count mode. This means the operator can set up the materials, both non job stock and good stock, enable the Non Job Stock mode and start the machine. When there is an input slice, then Auto-Count automatically turns off the use of Non Job Stock and starts to count good material without operator intervention.

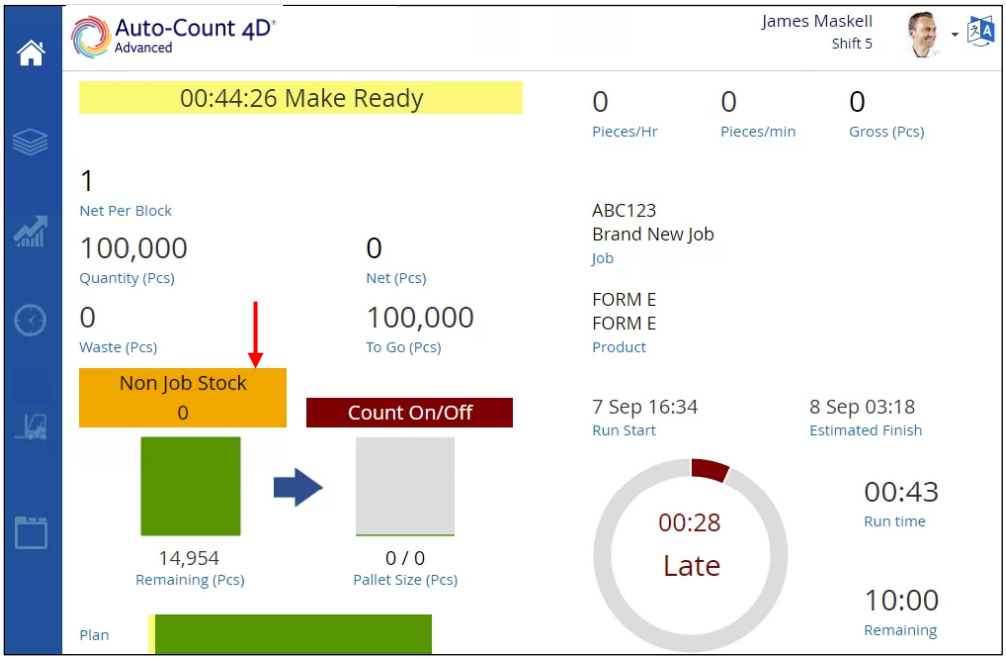
Set Up Note

To set this up, simply define an input point and output point using the *NonJobStockOffAfterNextSplice* tags which are wired to your input sensors. See below:





When the operator enables Non Job Stock mode and the input point above is triggered, Auto-Count will display the Non Job Stock button in orange to indicate that this automatic splice mode has been enabled.



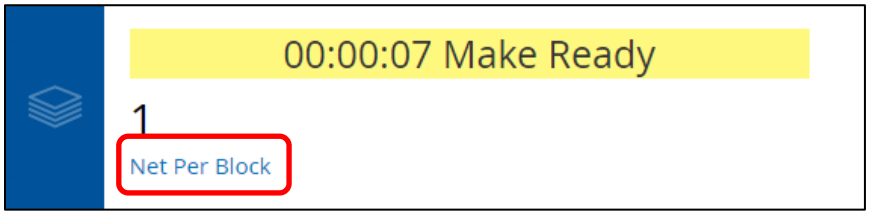
Net/Gross Per Block

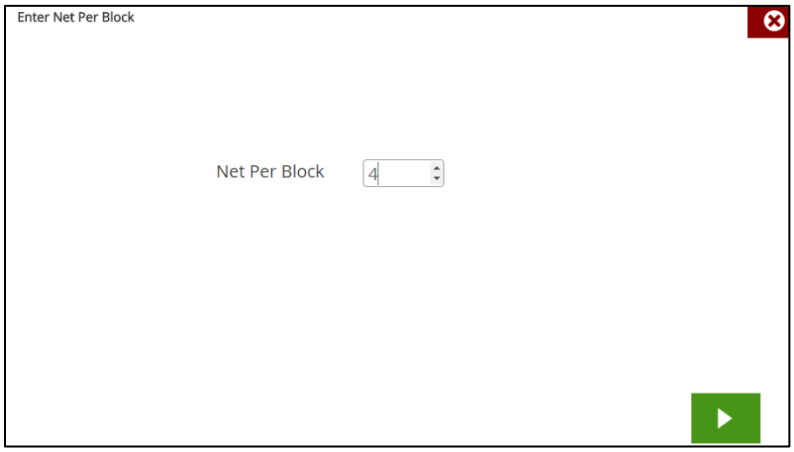
If you have set the option in **Plant Manager > Define Machine > Production > Allow counting adjustment**, then users can set a Net per Block, Gross per Block, or both during the run. For example, you would use this option if you were counting blocks of material coming out of a finishing type machine like boxes of envelopes. To learn more about all the variations of Net Per Block, please see the section "Setting up Net Per Block and Batch Counting" in the *Plant Manager and Auto-Count Setup Guide*.

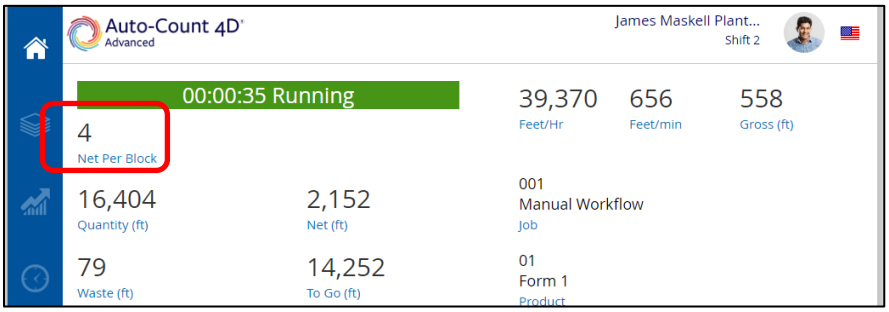
After you load the run you will be prompted to set the Per Block count (depending on what you choose – net, gross or both). In the example below, we have set it to count Net per Block. When you open the Main window, you can set the count by clicking on the Net Per Block label.

> **Note** Only set it at the beginning of the run – not during the run or the Net/Gross values may not be accurate. Also, to count Net Per Block you must have a net sensor set up.

Click here to enter the Net Per Block.







Known Issue: When using scale by inner container, do not edit the lowest level container. We'll disable this in a future sprint.

Setting Net Per Block by Secondary Container

If your machine is configured to set Net Per Block by the secondary level container, then the net per block value will be set to the secondary output container quantity. Operators can adjust this value by editing the secondary container in the Output window.

Maximum Block Size

There is an option called Maximum Block Size (Plant Manager > Define Machine > Production) which allows you to set a percentage of the run quantity to do as a threshold for entering Net/Gross per block values. For example, if you set this value to 50%, then an operator will get a warning message if they enter a Net/Gross Per Block value that is greater than 50% of the total quantity for that run This feature helps to prevent operators from entering incorrect values.

> **Note** While you can toggle the UOM display on screen, Auto-Count will calculate the percentage based on the unit of the machine. If the Auto-Count machine is set to metric counting, then this value will be in meters. If it is counting in Imperial, then the value will be feet.
>
> The percent value is based on the original Qty to do on the run. If the operator loads the run and edits the Qty to do, Auto-Count will not use the new value to calculate the percent threshold.

Net Per Block Set by MIS

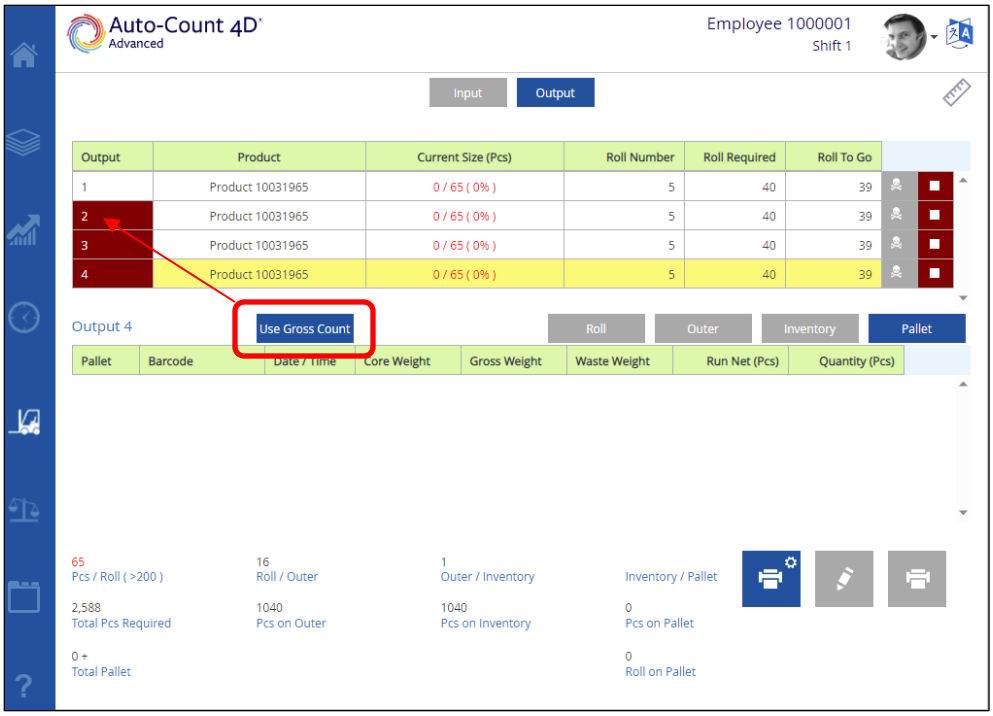
In Plant Manager, there is a feature called **Net Per Block set by MIS**. If you are using this, then Auto-Count will use the container size sent by the MIS system to set the Net Per Block. If you try to change the Net Per Block from the main window, Auto-Count will warn you to use the Output screen to change the container size, which will then update the Net Per Block.

Net Per Block by MIS can also count across multiple outputs with varying output sizes using one button. Use the Latch Input called **Outfeed All Button Count** wired to a single button. When pressed it will count all outfeeds at their respective output quantity (NPB). For example, if the operator pushes this button, Auto-Count will count Net Per Block across all outputs (outfeeds). The Net Per Block value for each output would be set automatically using the container size of the lowest level of packaging, for example, rolls.

(AC4D Advanced) Toggle Between Gross and Net

If you have a machine with a gross counter and a net counter, then you can use an AC4D Advanced machine to toggle between using both net and gross to just using gross. An example of when to use this is if a stacker count is incorrect due to some production issue the operator must quickly switch to just using the gross count for net to keep the overall counts as accurate as possible.

When this option is enabled in Plant Manager, the operator will see a new button on the Output screen called Use Gross Count. When the operator toggles to using gross, the operation code assigned to this type of workflow is displayed at the AC4D (and logged) so the operator is aware when the net counter has been switched off. The red outputs indicate which deliveries are counting in gross. You can set this up at the machine level (push the button for all deliveries to us gross) or per delivery. If using per delivery, then the operator would choose the delivery on screen and click the Use Gross Count button on screen. Click the button again to turn this off and use both gross and net counters.



Set Up

In Plant Manager on the Define Machine > Groups page for AC4D Advanced machines, select **Allow using gross count when net count is bad** and **Use gross count opcode**. This allows an operator to choose the on-screen toggle button called **Use Gross Count** to switch the counts to use just the current gross count and stop using net counts on that output. Use the following inputs and outputs for this feature.

You can also use a DigIn or Latch type inputs wired at the machine to toggle between using gross and net counters or just the gross counter. Note that when using a DigIn switch at the machine itself, the operator doesn't need to use the on-screen toggle button.

Inputs

"Core.Outfeeds[].UseGrossCount" Type="DigIn"

"Core.Outfeeds[].UseGrossCountToggle" Type="Latch"

"Core.Outfeeds[all].UseGrossCount" Type="DigIn"

"Core.Outfeeds[all].UseGrossCountToggle" Type="Latch"

Outputs

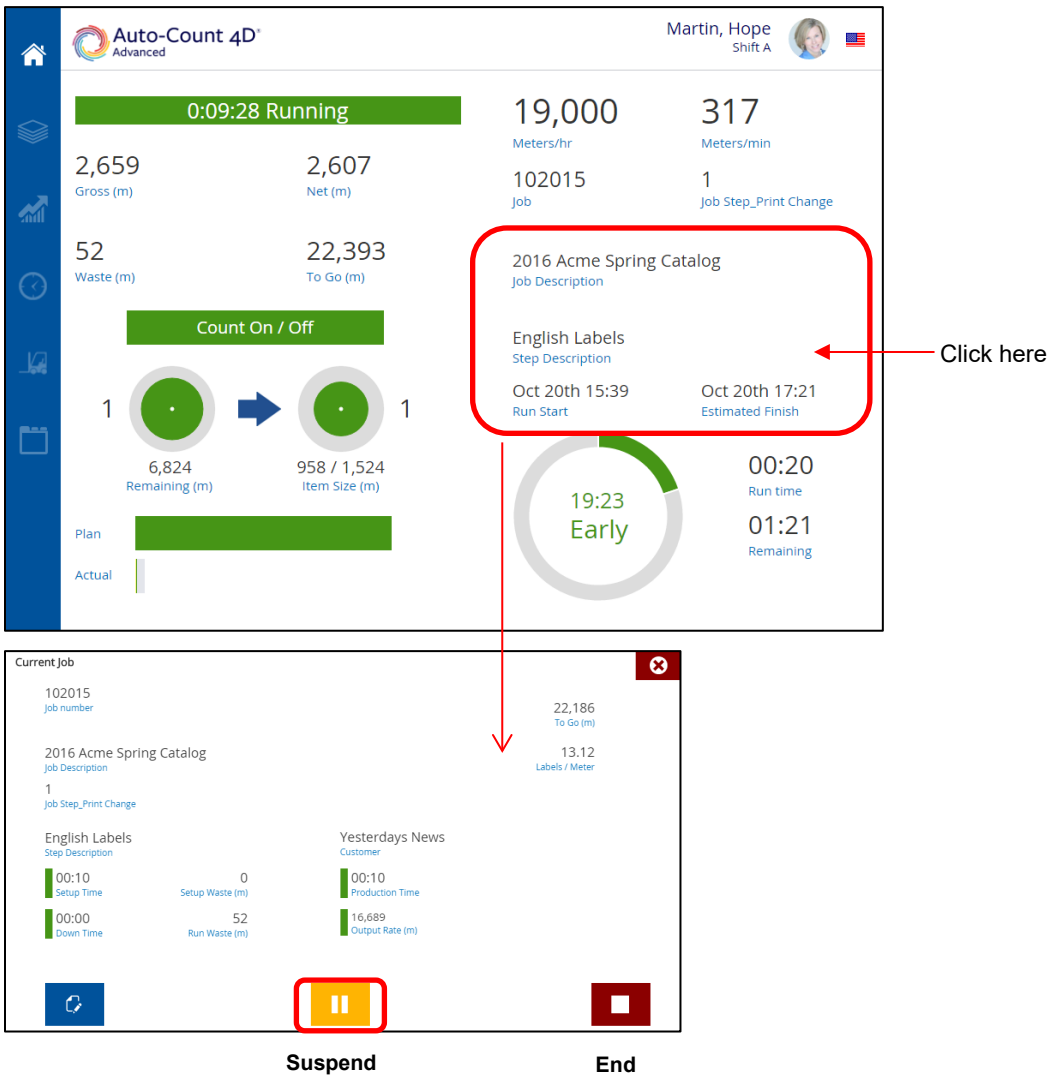
"Core.UsingGrossCount" Type="DigOut"

"Core.Outfeeds[].UseGrossCountToggle_Out" Type="Pulse"

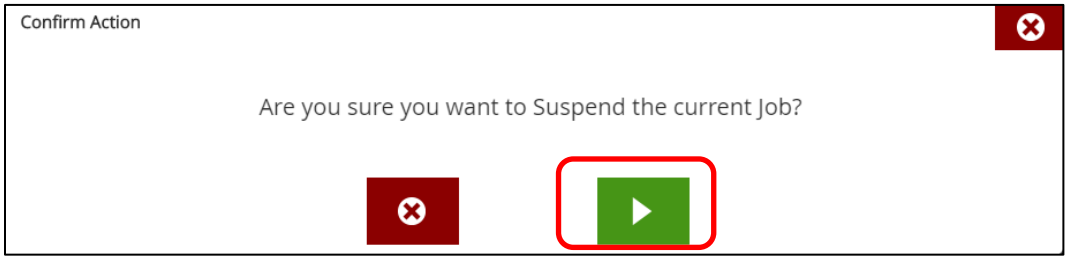
"Core.Outfeeds[all].UseGrossCountToggle_Out" Type="Pulse"

Suspend a Run

During production if you need to suspend a run just click in the job detail area to open the Current Job window and click the Suspend button.

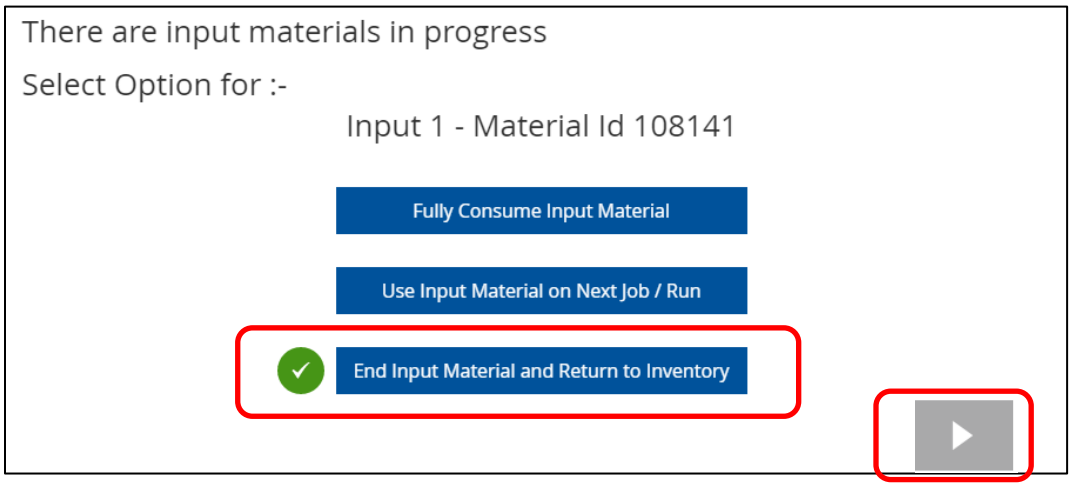


Confirm that you want to suspend the run.

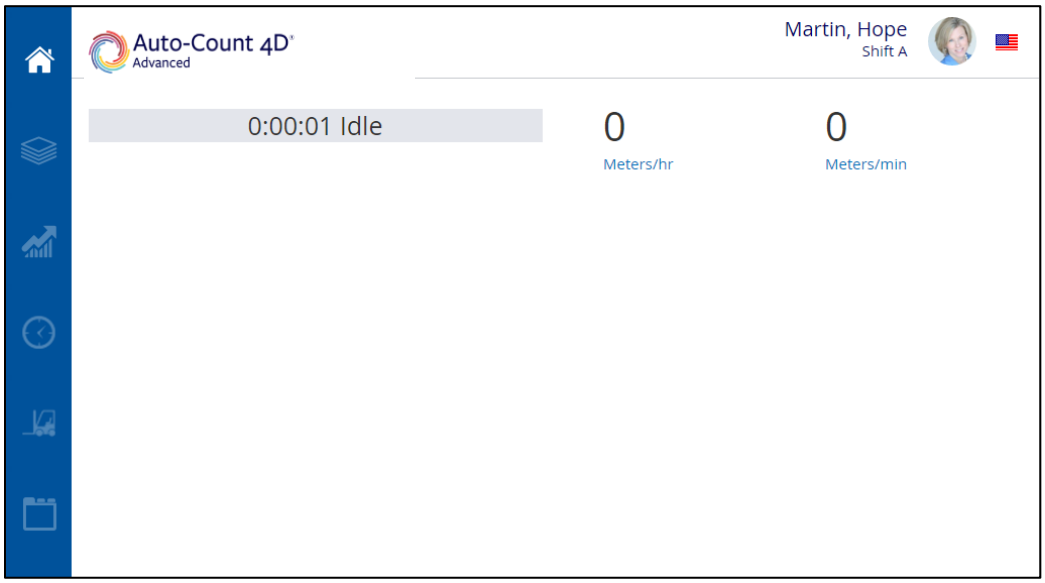


If you have materials that are not consumed on this run you can choose how you want to handle them. You must choose an option to continue unless you have Auto-Count set up to automatically keep input materials. See the section below, "*Keep Materials by Default*."

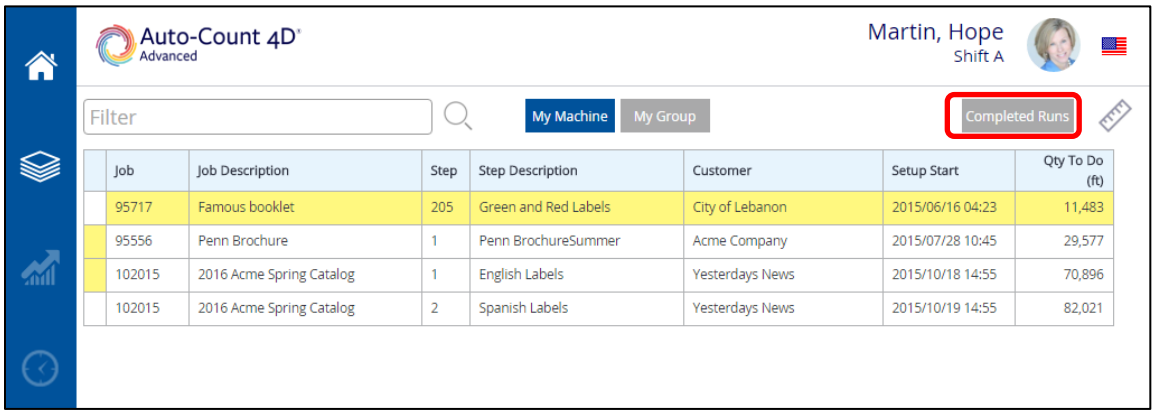
Select one and click **OK**.



The Home page is back to Idle mode.

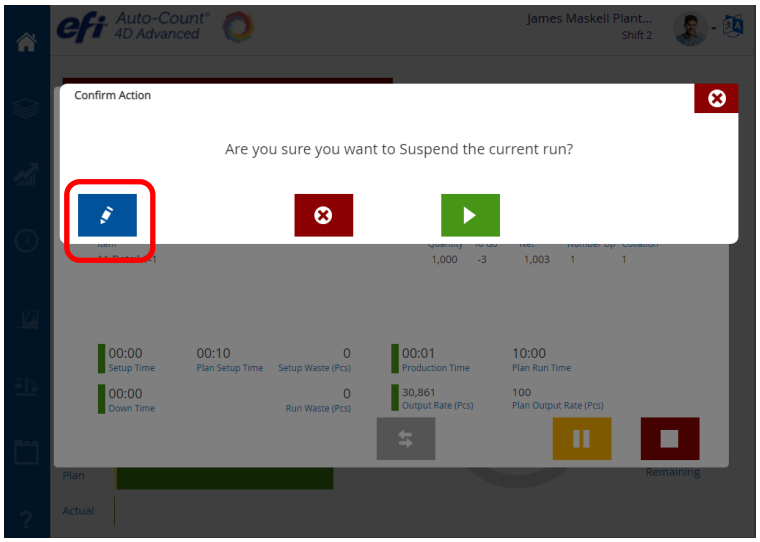


And the Run Queue displays the job as Suspended (yellow). Completed jobs are shown in red. Use the Completed Runs toggle button to view them.



Notes for Suspended Runs

There is a Notes button on the Suspend window where operators can add a note when they suspend (lift) a run. This note is sent to the MIS in the Suspend Run machine event and is stored in the TxnEvent database table.



Keep Materials by Default

There is an option which you can turn on in Plant Manager > Define Machine > Materials called **Keep input materials by default**. If this is turned on, then Auto-Count will not prompt you at the end of the run, but instead, will automatically use the current input material on the next run.

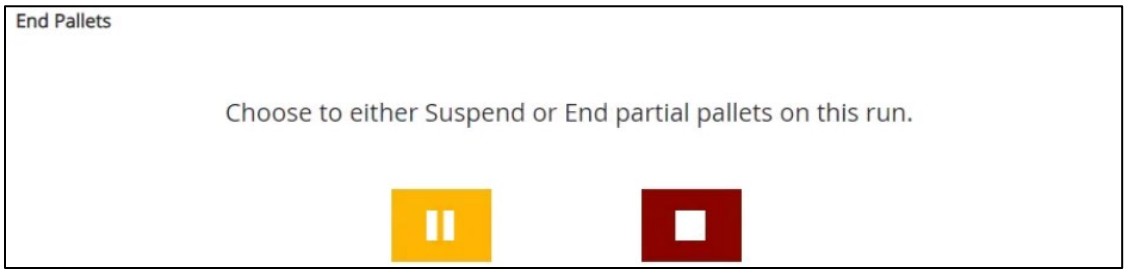
There is also another option you can enable in Plant Manager called **Keep input materials timeframe.** This is the number of minutes that Auto-Count will keep the input materials for the next run once the current run has ended. Beyond this timeframe, Auto-Count will not keep the material on the next run and Auto-Count will force the operator to scan a material. Enter '0' to disable this option.

> **Note** Material validation is available when the MIS sends Auto-Count a specific material to be used with the run. Therefore, if you have this feature turned on and the operator loads a run which requires a specific material to be used, Auto-Count will use the kept material only if it matches the required material for that run
>
> If you have Keep input materials timeframe turned on, then Auto-Count will only keep the materials for the next run within this timeframe. Otherwise, materials will not be kept for the next run.

Allow Users to Suspend Pallets

You can use an option in Plant Manager > Define Machine > Production called **Allow users to suspend pallets**. When enabled, this option allows you to suspend partial pallets when you suspend a run. Suspended pallets will be restored when you restore the run.

When this option is turned on the operator will be prompted to suspend or end any partial pallets when they suspend a run.



Note When restoring a run, if the operator chooses to reset all counts, then the partial output will not be restored.

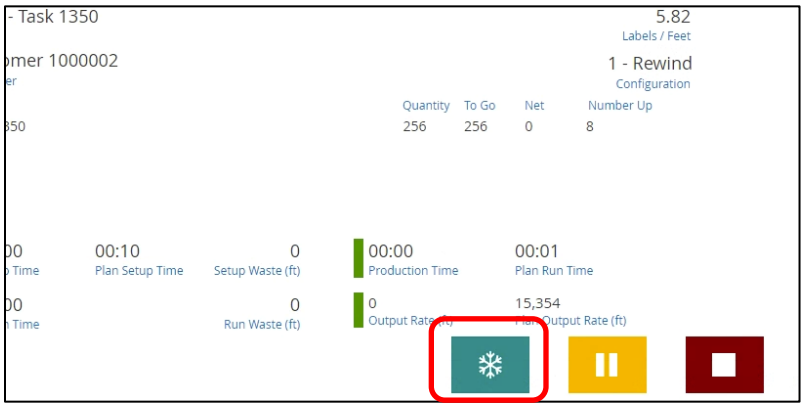
Virtual Rolls

If you are using a Full Batch signal to count items like rolls, then Auto-Count will ensure that any in progress 'virtual' rolls will be restored with their partial counts after you suspend and restore the run. For example, if the operator is packing rolls into a box and using a Full Batch signal to count the packed rolls, Auto-Count continues to keep track of the rolls which have been completed by the machine but are sitting on the table waiting to be packed by the operator. We call these 'virtual' rolls. They have physically been produced but have not been packed in a box yet. Once the operator restores the run, Auto-Count will restore these 'virtual' rolls as seen on the Input page in the top grid.

Freeze a Run

You also have the option to remove suspended runs (freeze) from the run queue list, often considered a long suspend rather than just a few minutes suspend. Once the run is ready again, the MIS must update Auto-Count to display the run in the queue. This option is enabled in Plant Manager in the Define Machine > Production page (Remove Suspended Run from Run Queue). Use this option if you need to prevent your operators from picking suspended jobs to load.

When a user suspends a run, they will now have a new option to 'freeze' the run. This will suspend the run and remove it from the run queue list. Once the MIS sends a 'thaw' message, Auto-Count will change the job status from Frozen back to Suspended and it will display on the Run Queue again. If a run is completed, then it cannot be frozen or thawed.



MIS Can Send Updates to Automatically Freeze/Unfreeze Runs in The Run Queue

(Not all MIS systems have this integration feature with Auto-Count, please consult your Support Representative.)

An MIS system, like Radius, sends an xml message called RunQueueCommand which contains a RunQueue node with a Status field. This is how the MIS updates Auto-Count with tasks and runs. When the MIS sends Auto-Count a status of 'Frozen' for a particular task/run, then Auto-Count will put the run in a long-term suspended state (frozen) and remove it from the run queue. The run can either be currently suspended or on the press. If the MIS sends a status of 'Thaw' for a task/run, then Auto-Count will put the run back into a suspended status and display it in the run queue. Any run with status of NewRun which is not in the released ScheduleCommand message (the schedule) is set to Hidden. Any run with status of Edited, Built, OnPress, Suspended, which is not in the released ScheduleCommand is set to Frozen.

Stops during a Run

There are different reasons why an operator must stop a job during a run. Auto-Count 4D handles these stops in a specific manner depending on the type of stop which was made. You can manage operation codes from the Production Log. Below are the types of stops and how 4D handles these stops.

Short Stop: If you have Stop Seconds (Plant Manager > Machine Configuration) set and the machine stops and re-starts before those stop seconds have elapsed, the downtime disappears and the original running operation continues as if there were no break.

Long Stop: If the stop lasts longer than the set Stop Seconds, then the stop is recorded. Auto-Count will send the MIS a transaction with the end time for the current operation code along with a stop code and time the stop occurred (which is the Stop Seconds value.)

I**nterrupted Stop**: If an operator ends their shift or logs in/out while the stop is still "pending", then the stop is canceled. The previous operation is extended to include the time accrued in the stop code. If the conditions that created the stop still exist, a new pending stop will be started and will become a real stop after the value of Stop Seconds has elapsed.

Redefined Stop: If a "pending" stop is redefined as a real stop code, the pending stop becomes the new operation code. The previous operation code is ended at the time the pending stop started and the new opcode used for the time so far associated with the stop.

Clean Up Stop: If the operator changes the operation code during a Clean Up, then the Clean Up code will be redefined as the new code. The Clean Up code, in this case, will disappear just as an unidentified stop does during production.

> **Note** There are two options in Plant Manager which affect how you can identify downtimes: **Allow Unidentified Downtimes** and **Split Downtimes**. Please see the *Auto-Count Setup Guide* for details.

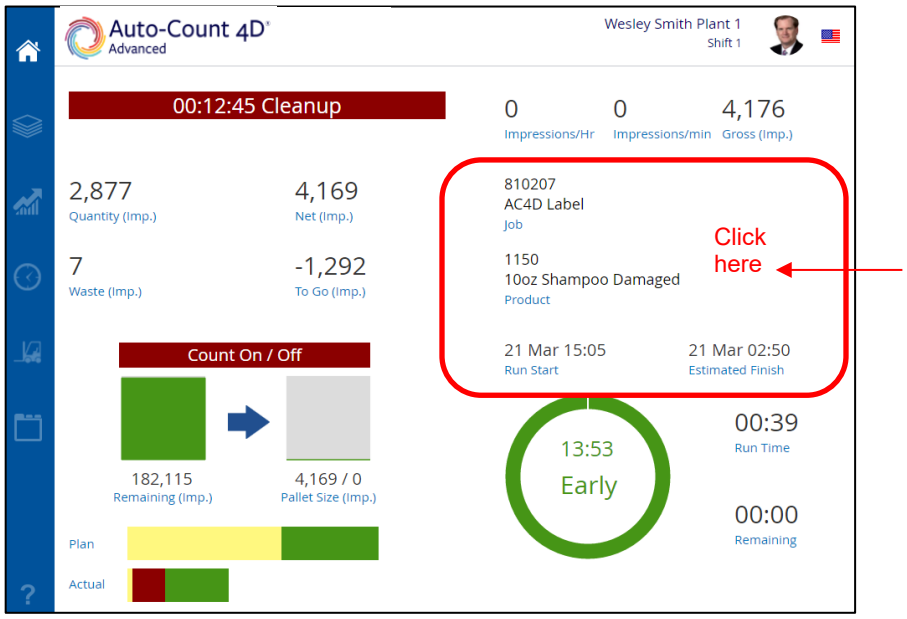
When to stop net during downtime

There is an option in Plant Manager > Define Machine > Production called **When to disable net count at downtime**. Choose this option to select when you would like to stop the net count when a downtime occurs.

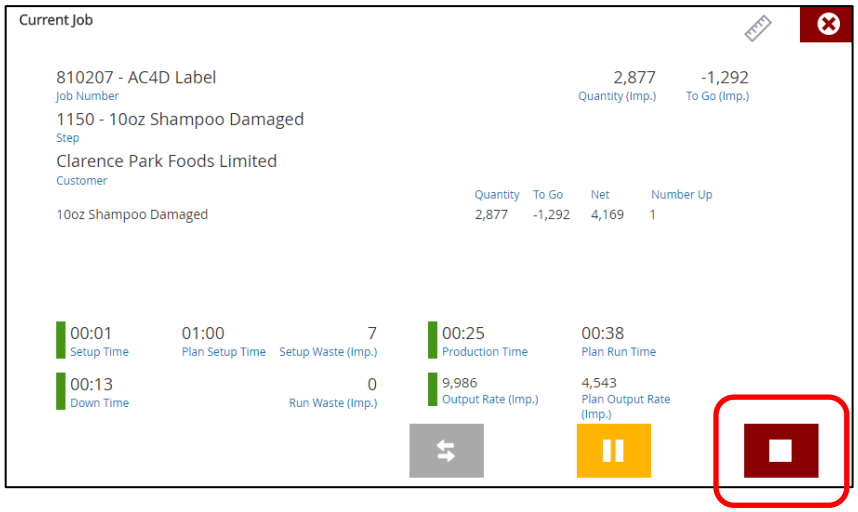
- **Don't disable net count when a downtime occurs**: If you do not want to stop the net count during a downtime then select this option. (default)
- **Rate below stop threshold**: The net count will automatically stop counting when the machine stops.
- **Rate below stop threshold and stop seconds have elapsed**: Net count will be disabled once the stops seconds have been reached after the machine has stopped.

End a Run

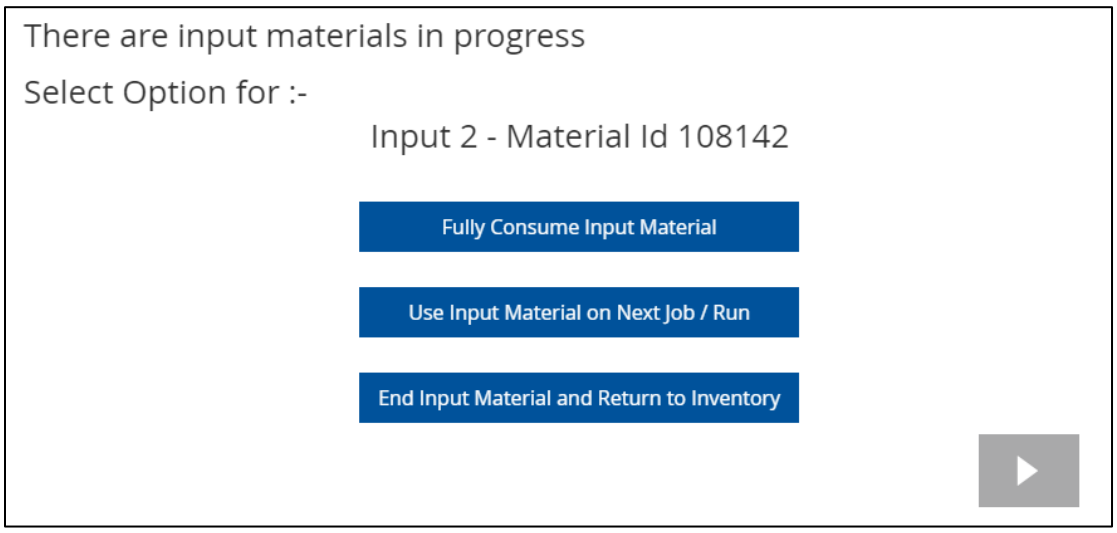
To end a run, open the Current Job window and click **End**.



Click the **End** button.



If you have materials that are not consumed on this run you can choose how you want to handle them as described above in “Suspend a Run”.



Note You will not be able to end the job until you choose how you want to handle any leftover material unless you have the **Keep Materials by Default** option turned on. See the section above “*Keep Materials by Default*” for details.

Also, Auto-Count will not allow the operator to carry over any material to the next job if the remaining length is less than the Minimum Butt Roll value set in Plant Manager. (Length-based materials only)

The only exception is if the operator manually adjusts the inventory value when ending the job and if the length entered is less than the minimum butt roll length then the roll will be returned to inventory with the manually adjusted value rather than being consumed.

To end the job, click the green **OK** button. To cancel this action click the red cancel button.

The Main window will automatically go back to Idle.

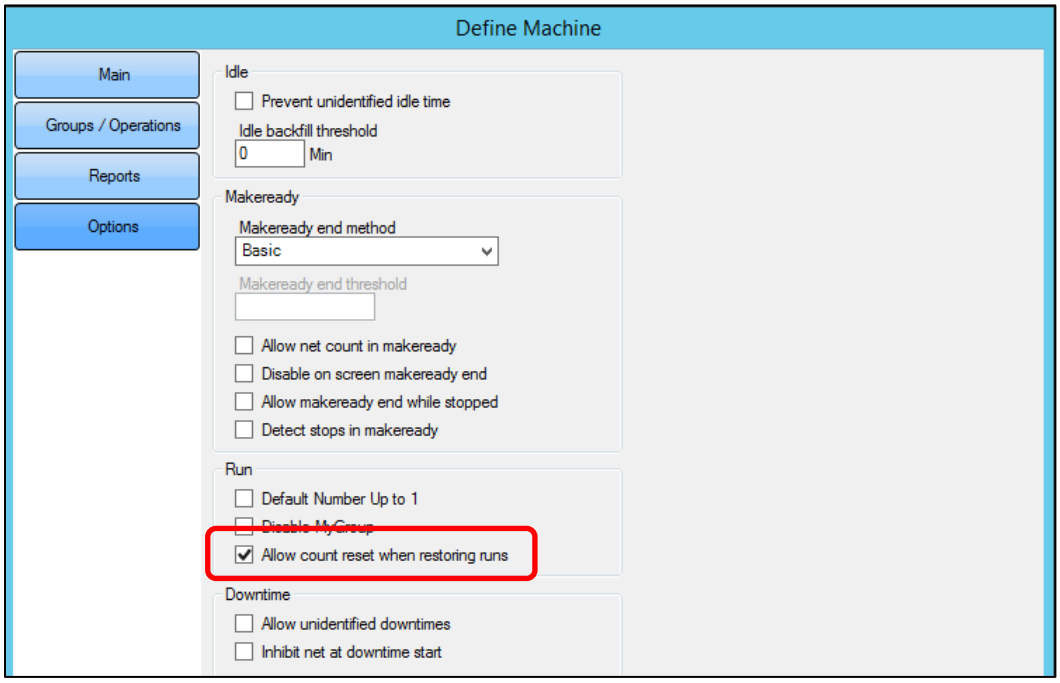
Ignore Partial Outputs

For certain workflows you may not want to send partial outputs (not containers) to the MIS system at the end of a run. To do this you must enable the option **Ignore partial outputs** in Plant Manager.

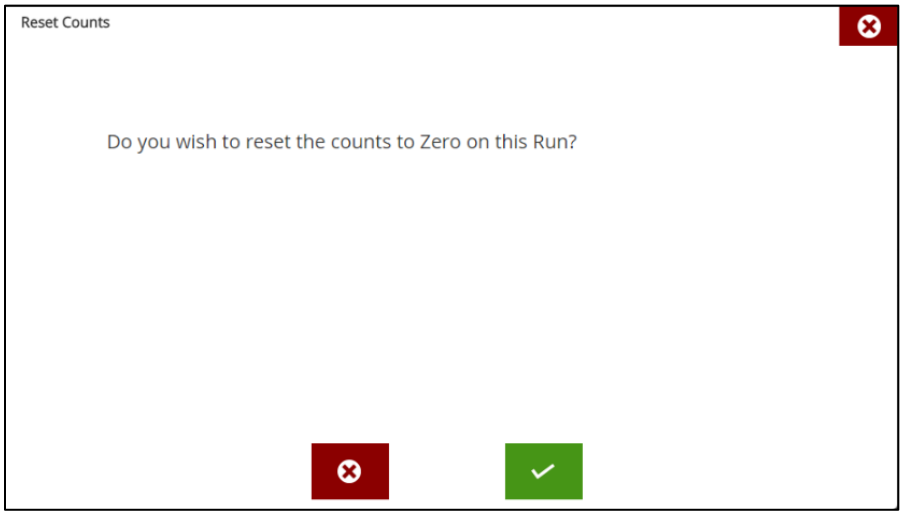
> **Note** If you use this option and are creating master rolls, you must manually end the last roll output before ending the run, otherwise it will not be sent to the MIS system.

Restoring Counts on a Suspended Job

If you want to be able to reset all counts when restarting a suspended job, then you must select the option **Allow count resets when restoring runs** in Plant Manger > Define Machine > Options window.



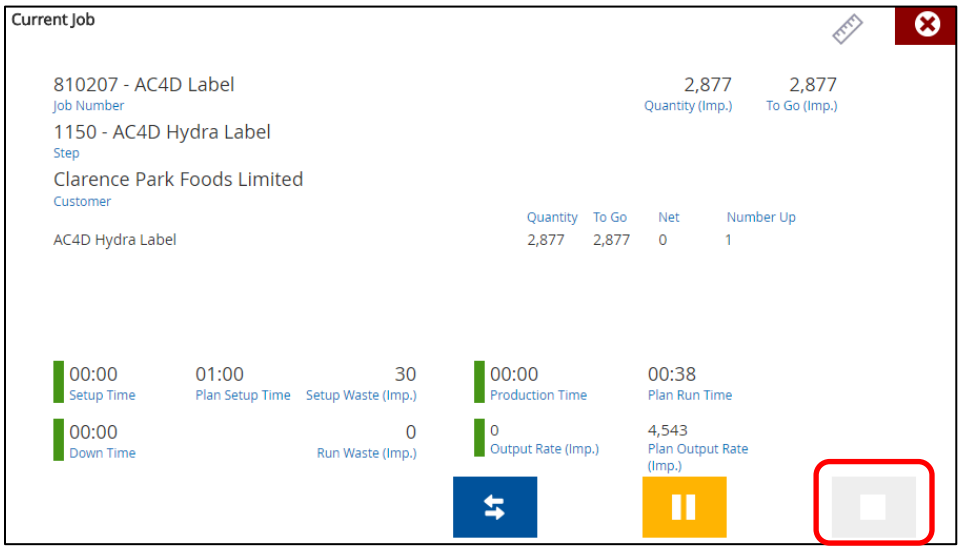
When this option is selected, users will be asked if they want to reset counts before re-starting a suspended job. If the user chooses to reset counts, the run will begin with zero count.



Run End Complete

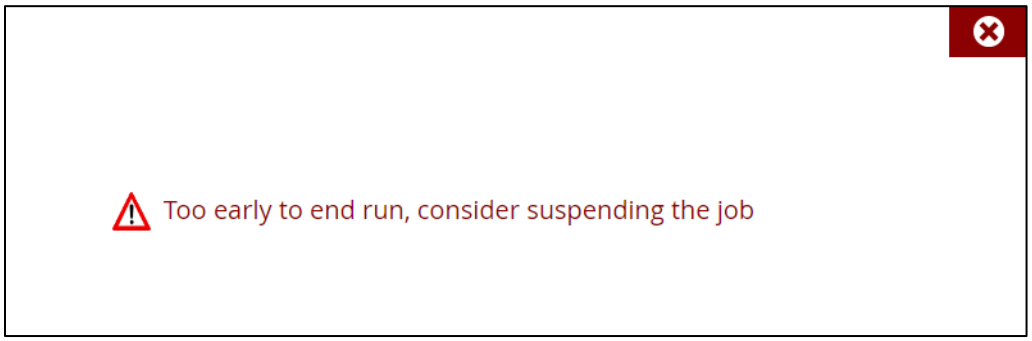
You can use an option to warn users if a run is considered complete or not. To set this option go to Plant Manager > Define Machine > Production and select **Run end percent**. This value is the percent at which the run is considered complete. If a user tries to end the run before this value is complete, then Auto-Count will warn them that the run is not complete and not allow them to end the run. If the To Go value on the run is met (100%) and the user tries to suspend the job, then Auto-Count will warn them that they should end the job since the complete value has been met. See examples below:

When a user tries to End a run which has not met the Run end percent threshold, then Auto-Count will make the Stop button grayed out and if the user tries to press it then Auto-Count will warn them not to end the run.

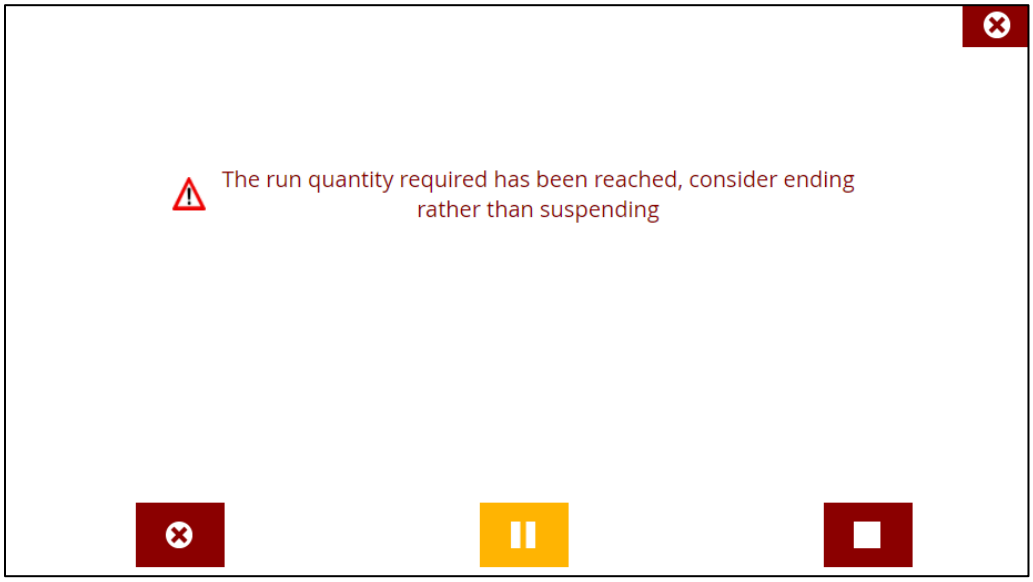


This button is unavailable because the Run end percent was not met yet.

If the user still presses the Stop button:



Once the run has met the End run threshold and the To Go value, if a user tries to suspend they will get this message:



Quality Questions and Tests

These questions are created and sent from the MIS. The user then encounters these questions while setting up a job on the Auto-Count and the answers are sent back to the MIS database. These quality questions collect useful information on the job. They can be sent at a run level or a task level.

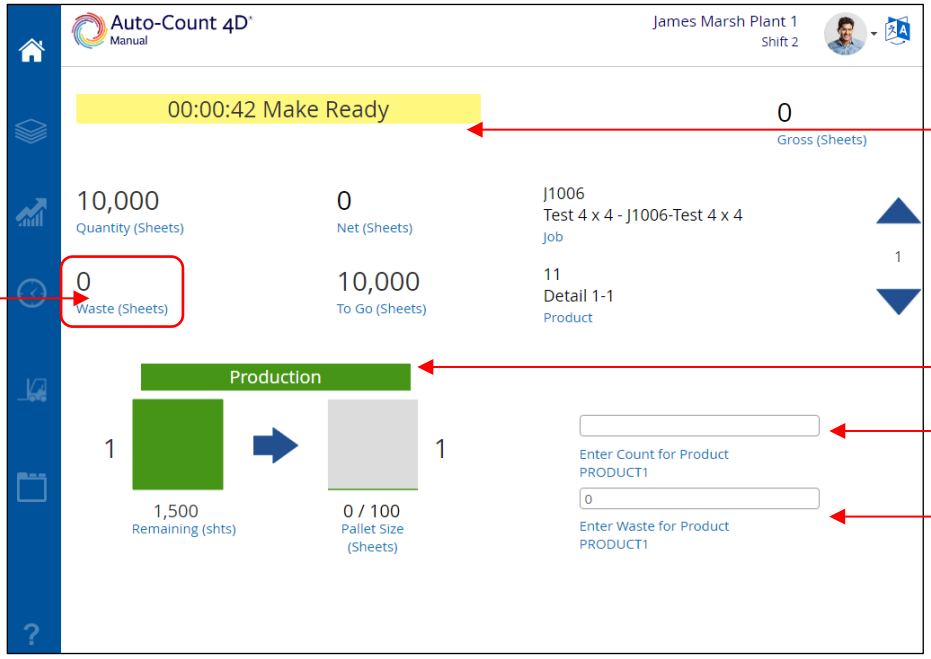
During production, operators are often required to perform quality checks and tests before proceeding with a run or during a run. Auto-Count can display these tests and questions on the screen for the operator to complete. Auto-Count 4D can process quality questions from an MIS system. You can also install and use the AC4D Quality Module to create WIP quality tests and questions for your operators.

> **Note** The AC4D Quality Module is license-specific module of Auto-Count and requires a password to successfully install and use. For more information on Quality Questions and Tests, please see the *Auto-Count Quality Module User Guide*.

Also, we have included a Quality Questions report in the **ReportSamples.zip** that comes with each installation.

4D Manual

Auto-Count 4D Manual is an Auto-Count type where all counts are done by hand. Operators typically enter the counts and waste values into the Auto-Count. When using Auto-Count 4D the Main window displays as follows:



Click here to enter waste.

Look here for the state of the machine – Makeready or Running.

If MR End Method is set to Basic, then click here to go into Production.

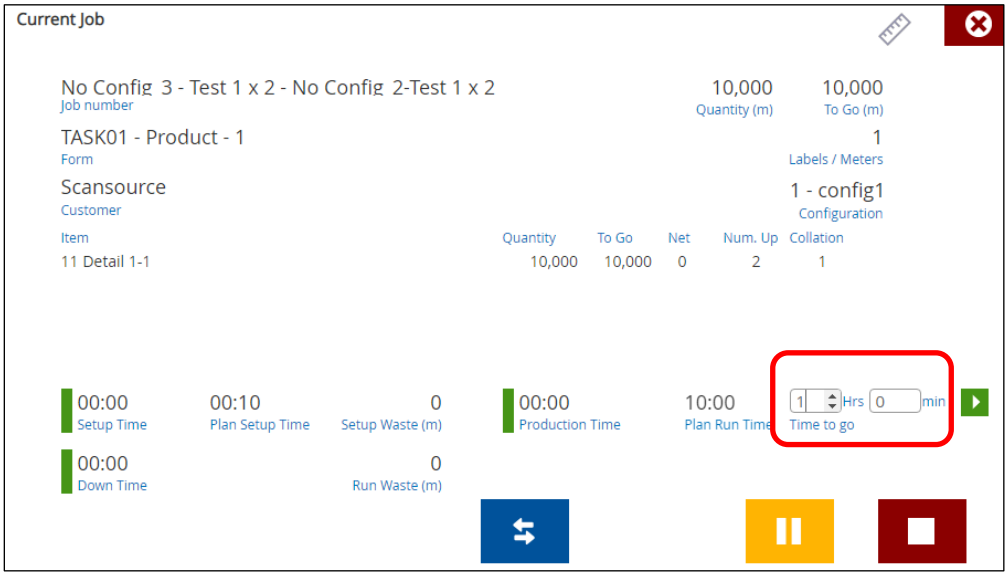
Users manually enter counts here.

Enable the option in Plant Manager called **Remove Enter Waste Field** if you want only users to click the waste value to enter waste.

Note In versions before 19.1.1.701, there were only two Makeready End Method options in Plant Manager for AC4D Manual machines – Basic and Gross Count. In this release, AC4D machines can now use the Makeready End Method functionality of Basic, Net Count, Gross Count and Gross Pulse. The default Make Ready End Method for 4D Manual is Basic, meaning the operator must press the Count button to end makeready. This allows Make Ready waste to be entered using the Count field. Because of this change, if you want the 4D Manual to automatically go into Production when a count is entered, you must change the Make Ready End method to Gross Pulse.

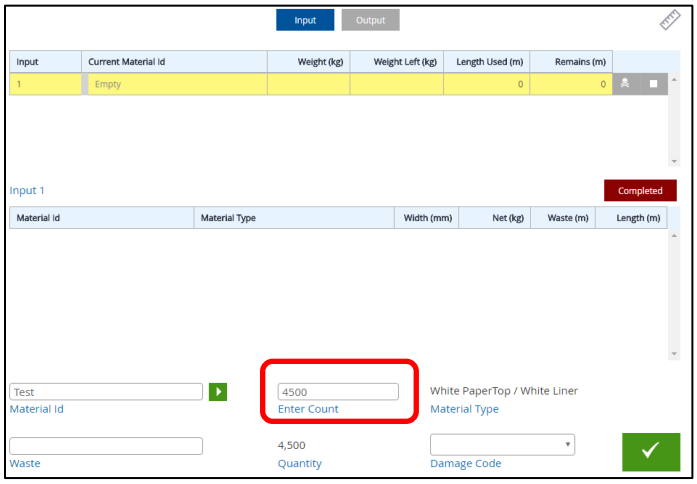
Time to Go

Because Manual machines do not have a speed value, the operator can manually update the Time to Go value on the Current job window.



Scan Gross Count of Pallet Automatically in 4D Manual

There is a feature which can be turned on where an operator can scan a pallet of sheetfed material and use that quantity to automatically be used as the Gross count. This feature is found in Plant Manager > Define Machine > Material and is called **Use scanned material quantity (4D Manual)**. When this feature is turned on an Enter Count field displays on the Material page and contains the quantity after you scan the material. You can always adjust this value as needed in the new Enter Count field.



Waste

Weighing Infeed Waste *(Auto-Count Advanced only)*

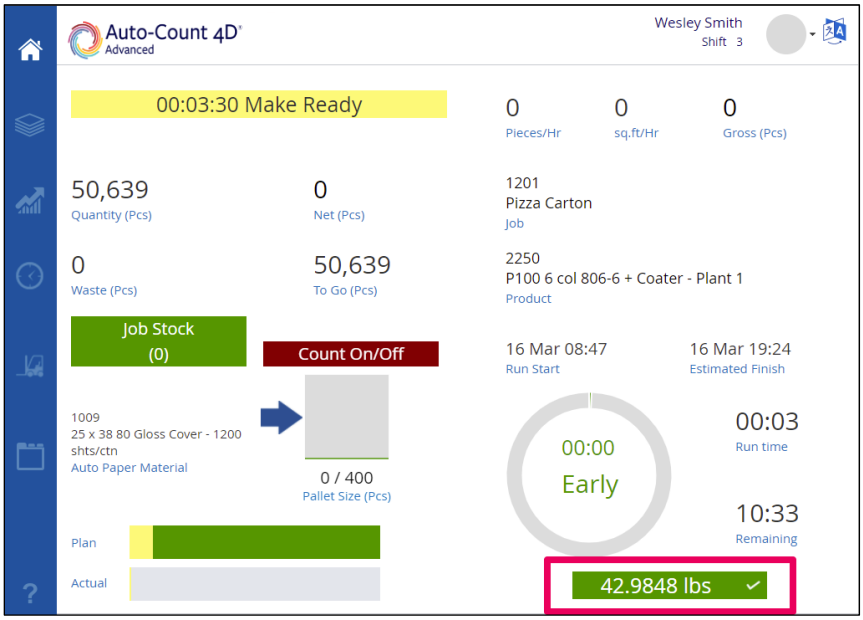
Auto-Count can calculate an accurate net count by deducting the waste count from the gross count. To achieve an accurate waste count, you must tell the system what one piece/impression weighs. You do this by taking a waste sample before you go into production. The system divides the amount of increased weight on the scale by the number of pieces (usually twenty) that were placed on the scale. Every time waste is thrown on the scale, the system divides the weight increase by the impression weight to determine how many pieces were thrown away. From this information, Auto-Count can obtain an accurate net count, assuming all waste is placed on the scale.

Note The delivery must be assigned to a scale.

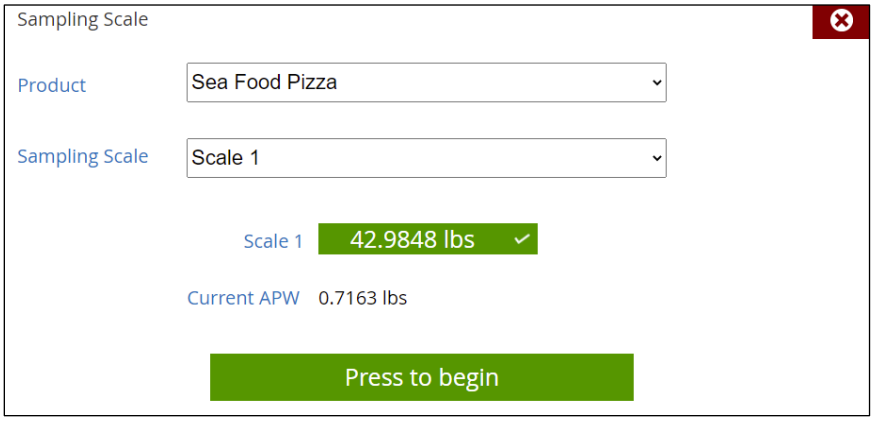
We suggest that you perform a sample each time you start a run (after Makeready is finished). The Auto-Count uses the new sample weight to calculate the waste from the time you sampled forward. Auto-Count will re-calculate the waste in the bin for the initial sample on a run. It will not re-adjust the weight for additional samples on that run.

To take a waste sample

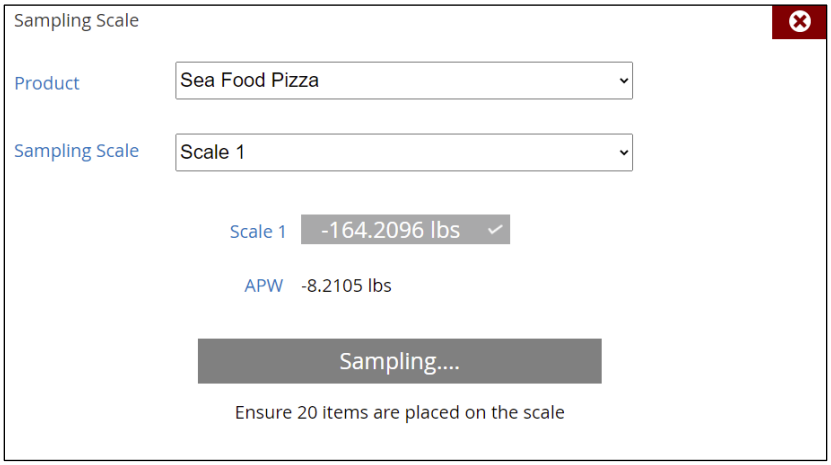
1. From the Home screen (or the Materials screen) click the scale button.



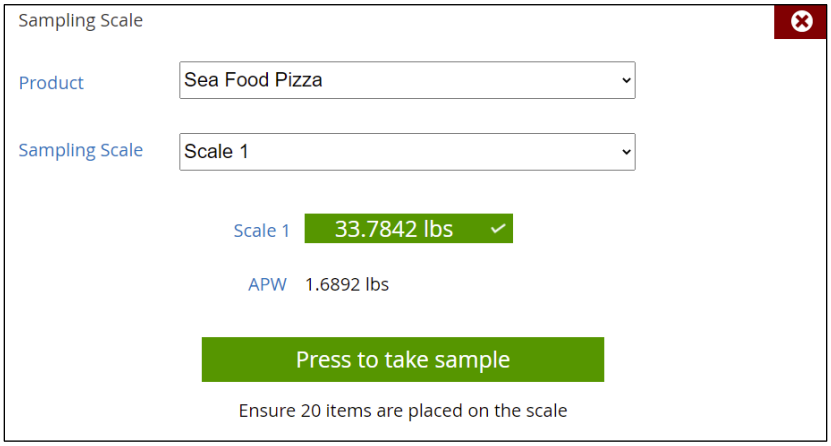
2. On the Sample screen select the product you are sampling and the scale you are using. Then click **Press to begin**.



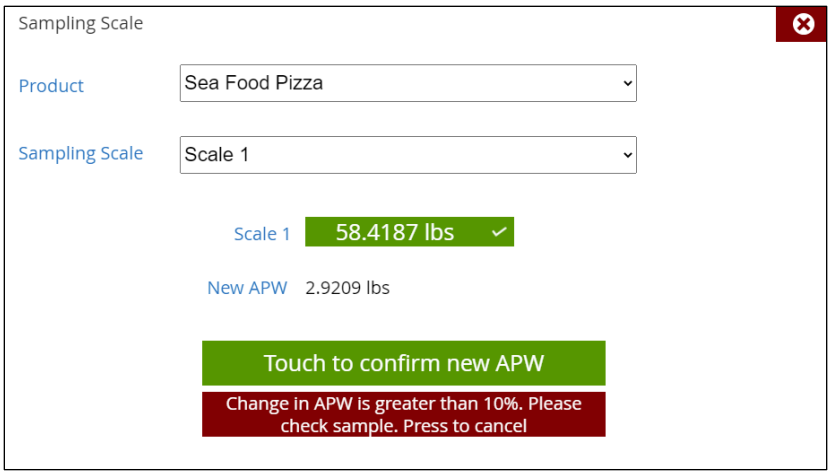
Until the scale is steady and receiving a positive reading, the button is disabled and labeled 'Sampling' and the user is reminded to place the appropriate number of items on the scale. The APW will dynamically update as the scale changes.



3. Once the scale is steady, select **Press to take sample**.



The 4D will validate the reading and warn you if the change in APW is more than 10%



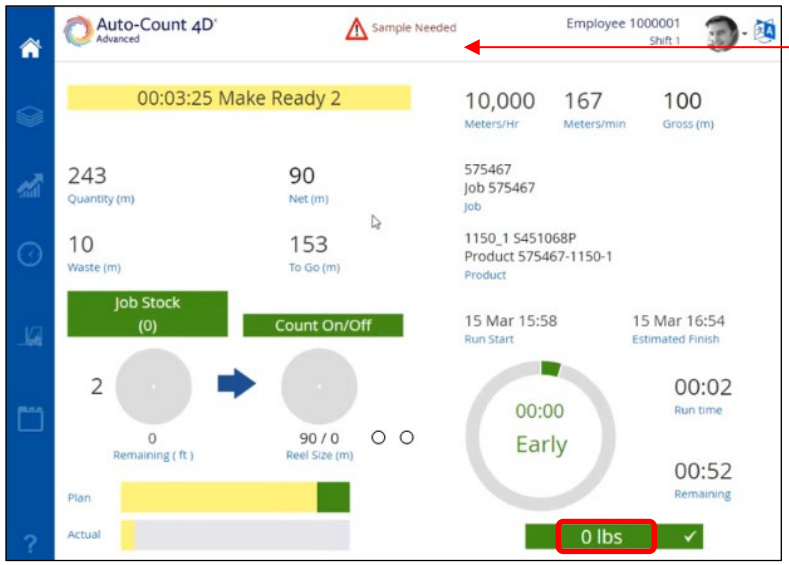
4. Select Touch to confirm new APW to use that Average Piece Weight for calculating waste weight during the run. Otherwise, click the red ‘x’ to close the window and cancel the sampling.

Weighing Waste During Makeready

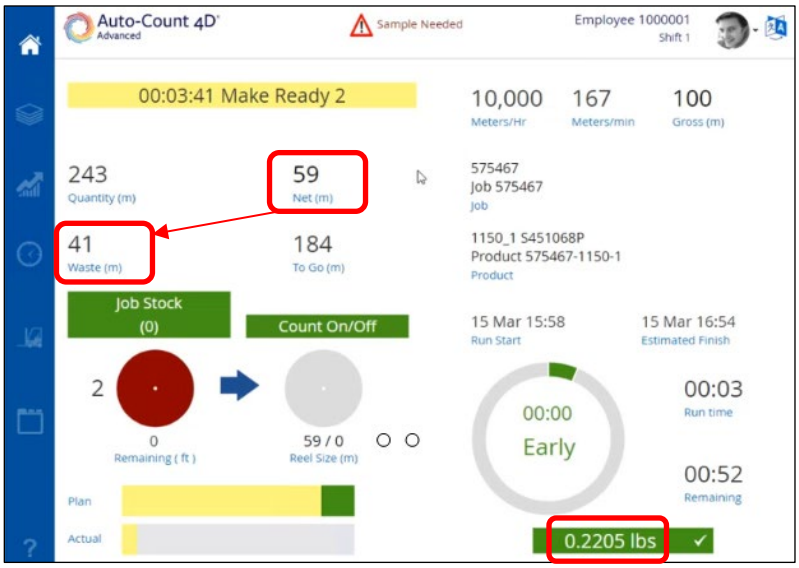
This is an Auto-Count 4D Advanced feature.

You can set up your Auto-Count 4D to weigh waste during Makeready. To use this feature, you must have **Allow net count in makeready** enabled in Plant Manager for this machine and have waste scales (infeed scales) defined at the machine configuration. Typically, you would have a gross sensor set up as well.

In this example, the scale is zero. Once waste is put on the infeed scale, Auto-Count reduces Net and increases Waste according to the weight detected.

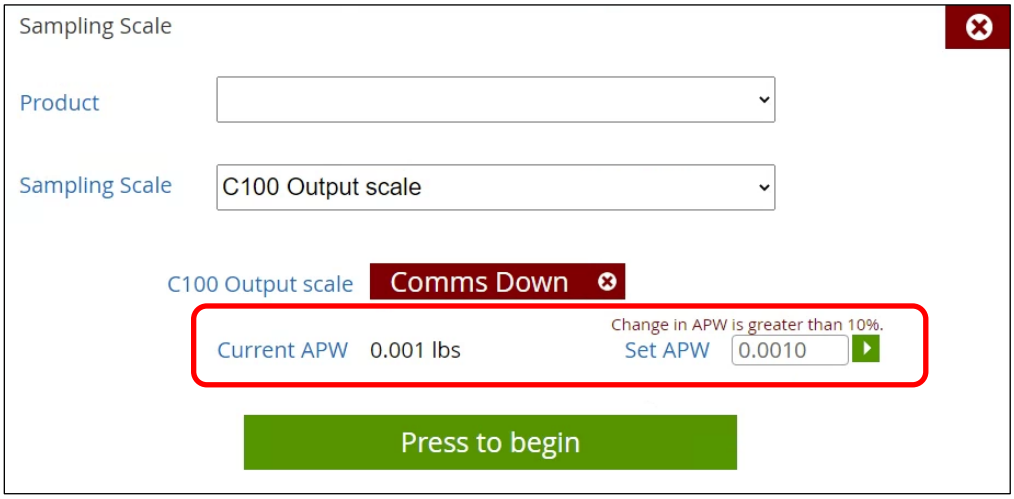


If you have enabled Sample Weighing and Auto-Count detects a gross count, then this alert will display.



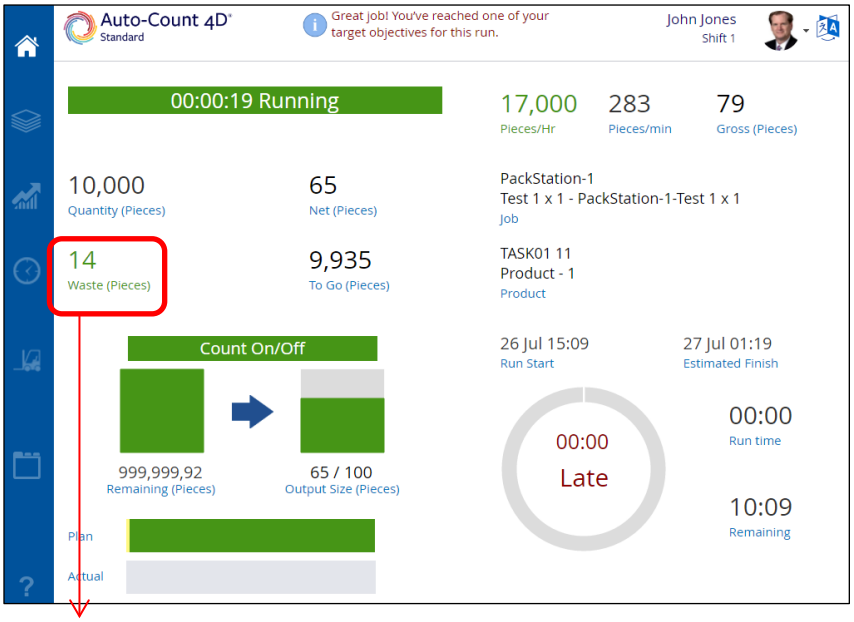
Manually Add Average Piece Weight (APW)

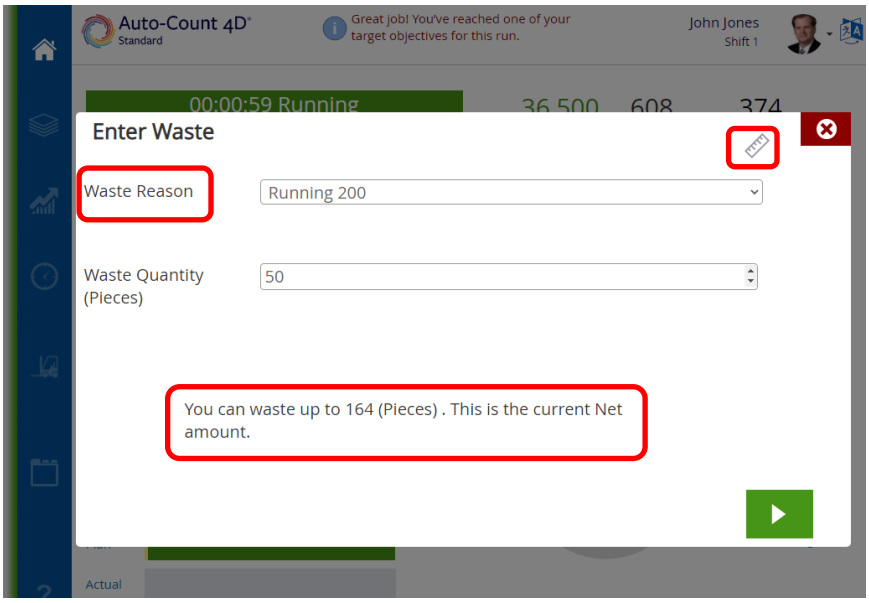
Auto-Count 4D Advanced machines also allow operators to manually enter an average piece weight (APW) which is useful if the scale is unavailable for any reason. (Average piece weight is used to calculate waste.) Auto-Count will warn the operator if the APW entered is greater than 10% of the previous APW weight.



Manually Add Infeed Waste

During a run you can click on waste to add waste counts as needed. The waste entered will reduce the Net count and increase the To Go count by your waste value. You can also enter negative waste quantity if necessary.

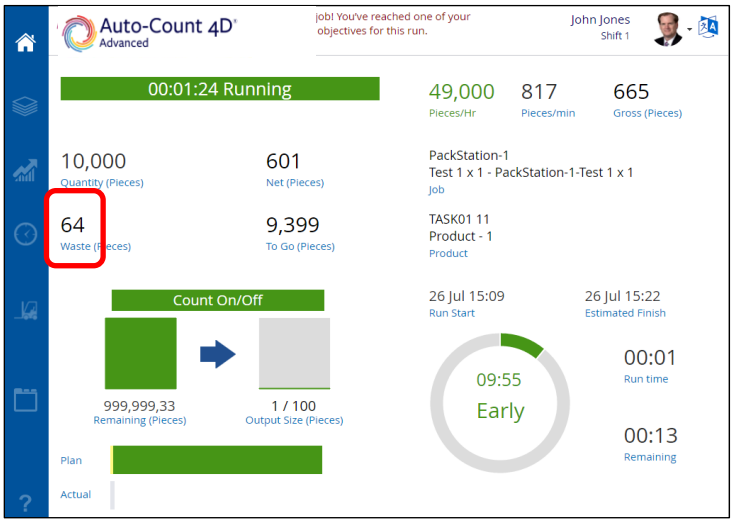




Click the ruler icon to toggle units of measure. The default UOM is the units on the Home screen.

Enter a Reason Code and the quantity of waste.

Auto-Count tells the operator how much they can waste based on current counts.



Ignore Waste Reason Categories

In Plant Manager > Define Machine > Options, if the option **Ignore waste reason categories** is selected then operators may select any waste reason code during a run. Without this option, you can only add waste reasons which match the state of the AC4D machine, for example you can only select makeready waste reason codes while in makeready and only run waste codes while in production. But this option allows any reason code to be used irrespective of its category.

Adding Scrap Waste – Unrecorded Waste

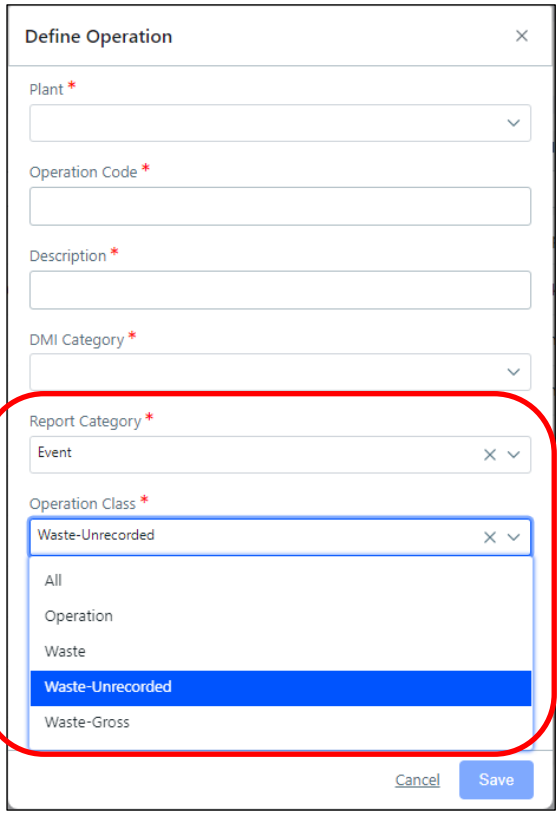
> **Note** This feature is only available with the Radius MIS system which sends operation codes with the proper waste code. You must use Plant Manager Web to set the waste code.

There are two operation class codes for waste. **Waste unrecorded** is used to assign waste that is not counted against the gross or net (unrecorded). **Waste – Gross** is used for waste that is assigned to gross. Operators manually assign these codes by choosing the specific code from the Waste window. This feature was designed for workflows like the extrusion process where you want to capture the waste from your extruders, but you may not want to add that waste to the job. You simply want to track it for other purposes like recycling and other cost efficiencies.

The following waste operation classes are used to track scrap waste. You must select Report Category of Event to display these new waste classes.

Waste Unrecorded: When the operator chooses an opcode with this class, Auto-Count creates a MachineEvent (TxnEvent). The operator enters a weight which is sent to the MIS as an event attached to the MachineSummary message along with the chosen waste reason. This is not displayed in the production waste log and does not affect gross or net counts. Radius can report against this value as needed.

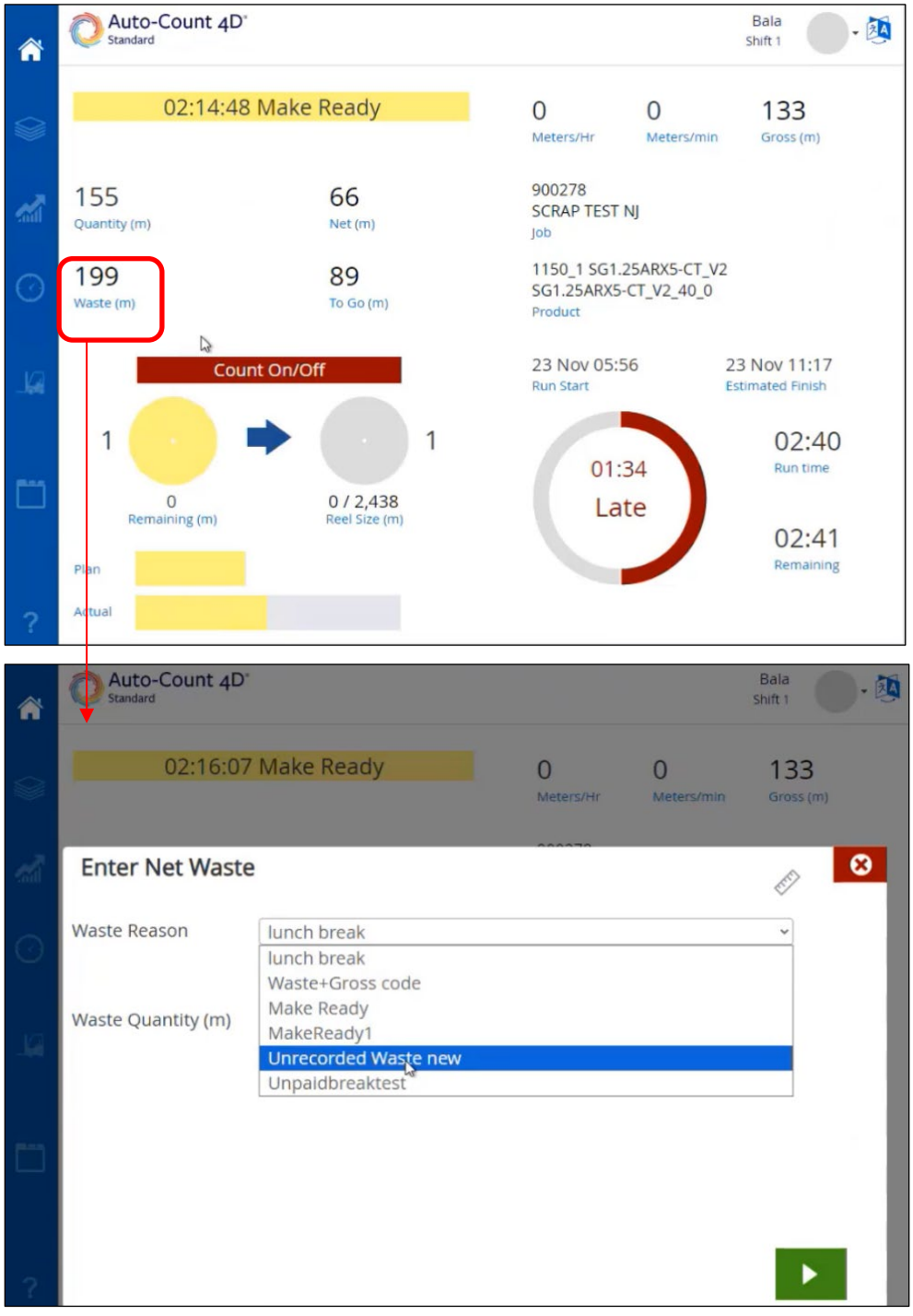
Waste Gross: When the operator chooses an opcode with this class, Auto-Count adds count to the gross, increasing the waste count. (Typically, we would subtract good count from net count.) Auto-Count sends a MachineWaste (TxnWaste) entry the same as way we do for manual waste entry. The weight entered will be sent to the MIS included in the MachineSummary gross count when the operation ends. If the MIS is listening for MachineWaste, then we also send this as a MachineWaste attached to the MachineSummary along with the chosen waste reason. It should also be visible in the production waste log.



You must select Report Category of **Event** to display these new waste classes.

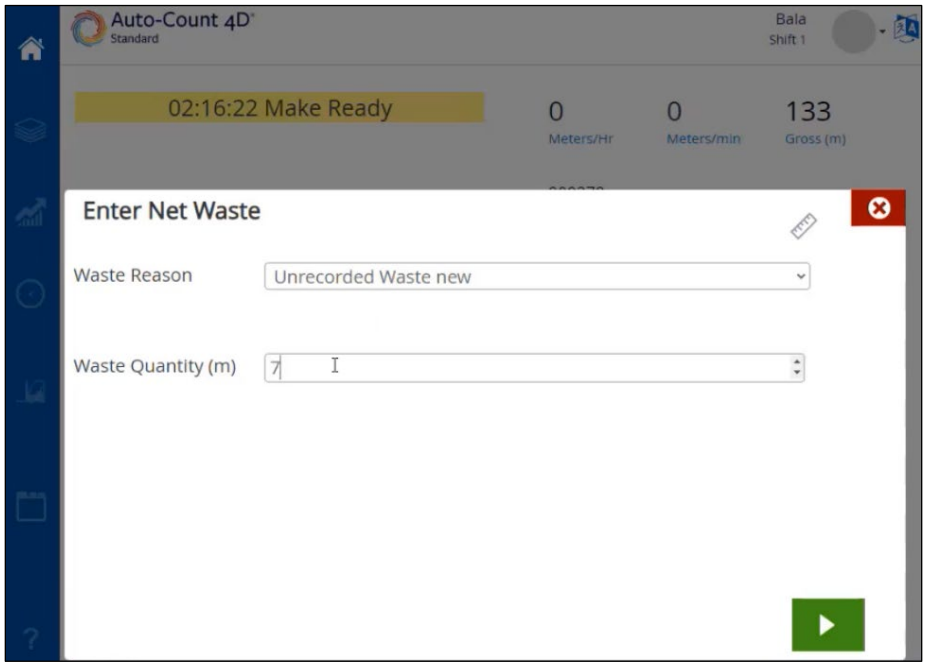
Unrecorded Waste

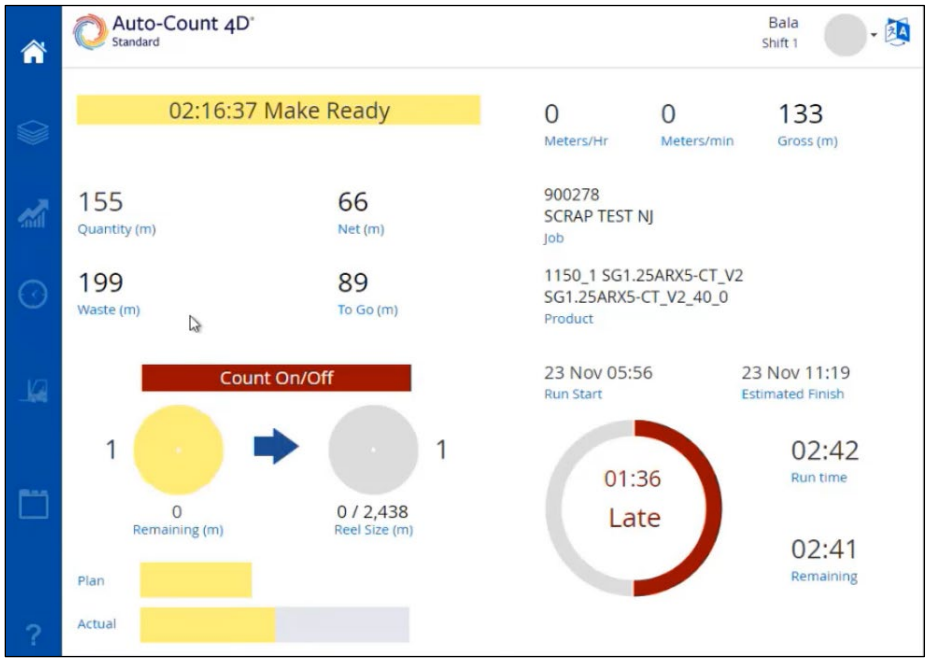
In this example we have loaded a job and are in Makeready. The operator wants to enter waste that is not recorded against the net or gross values. When they enter waste, it will be recorded and sent to the MIS but none of the values on the run will be affected.



The operator must select the operation code with the class of Waste Unrecorded. You must train operators to choose the correct opcode.

In this example the operator entered 7 meters of unrecorded waste. None of the values on the run (net, gross, waste) were changed.

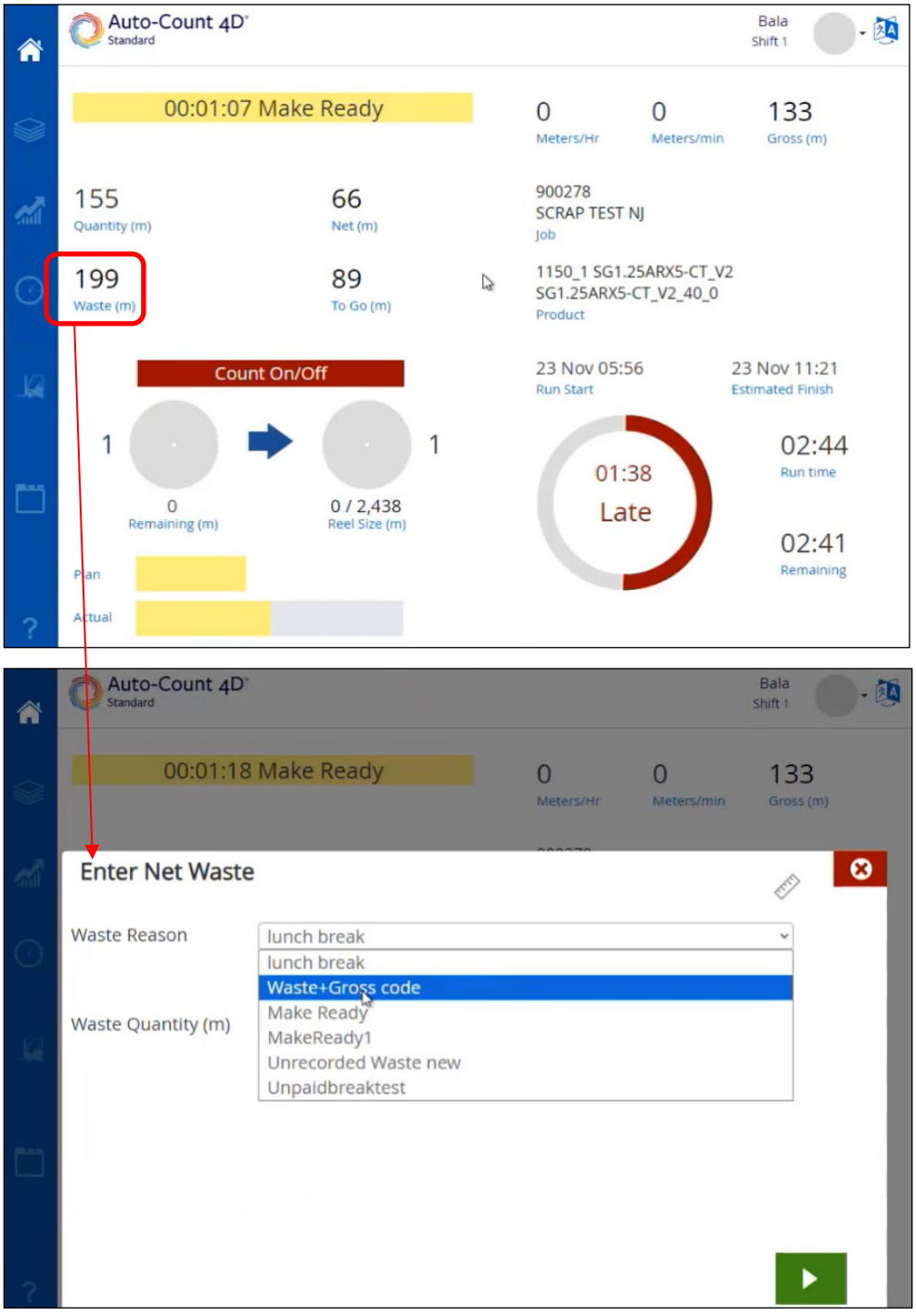




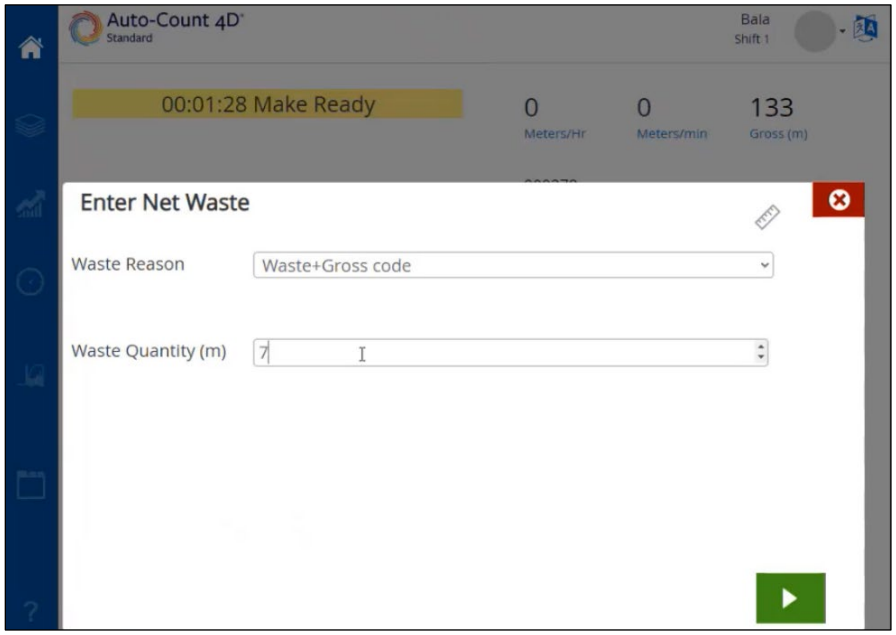
Auto-Count sends the Machine Transaction Command message containing this unrecorded waste information. The event code is 43.

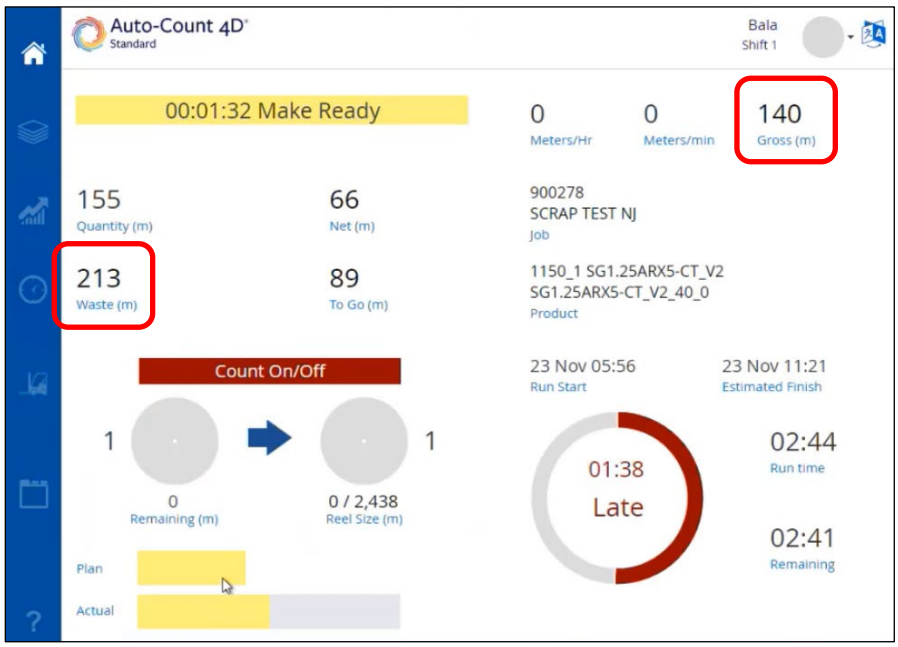
Waste Against Gross Only

In this example, we want to record waste against the gross only. The job has a number up of 2 and is in Makeready. Again, the operator must select the correct operation code which is assigned the waste class of Waste Gross.Only the waste and gross quantities will update.



The operator enters 7 meters of waste and the waste and gross values are updated.





The event code is 20 in the Machine Transaction command sent to the MIS system.

Mandatory Waste Codes

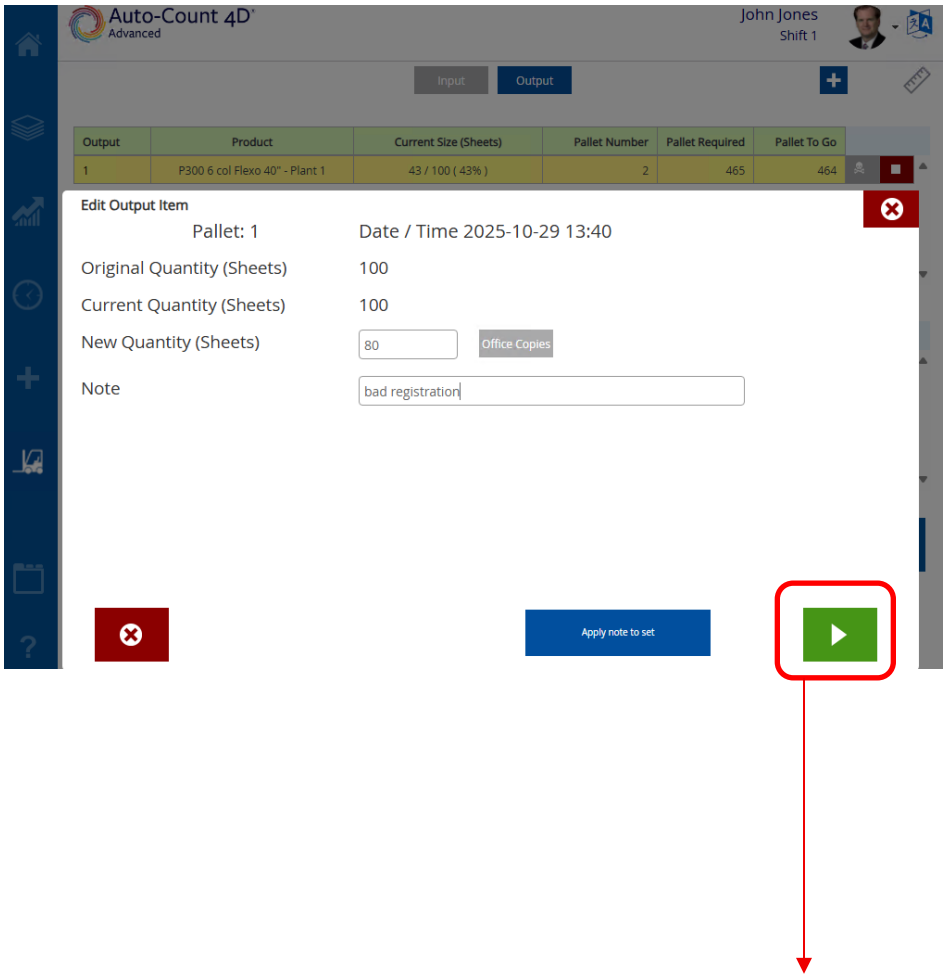
Select this Plant Manager option in the Machine > Options window to require your operators to define waste during production. Auto-Count will notify the operator they must define a reason for waste in the Production Log if it detects that there is no waste or stop code associated with the waste block. The operator will only be warned that a waste block must be identified if the waste has an operation/running code and not a waste code. Also, Auto-Count will not allow an operator to log off if there are unidentified waste codes.

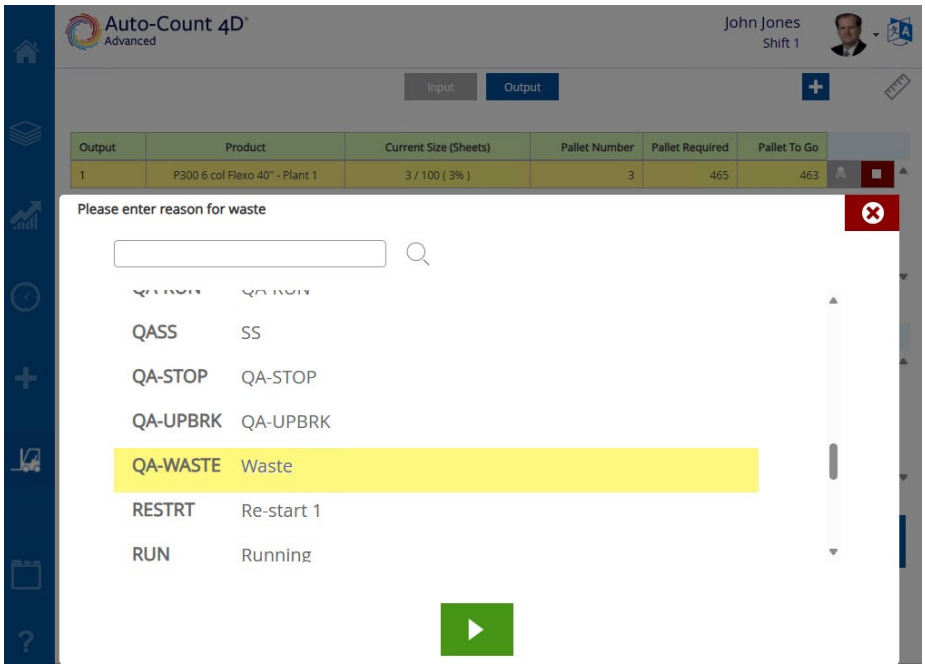
Certain MIS systems send the waste codes to Auto-Count, like the Corrugated system. If your MIS does not send waste codes to Auto-Count, then enter a stop code to define the waste.

(Radius) Waste Reason Codes When Editing an Output

When editing a pallet, if the operator enters a quantity that is lower than the current quantity, then they will be asked to select a Waste reason before they can save the updated pallet information. This allows Radius to receive and use a more refined level of waste from a job.

When reducing the quantity on an output, in this example from 100 to 80, you will be automatically prompted to enter a reason code to save the new pallet information.

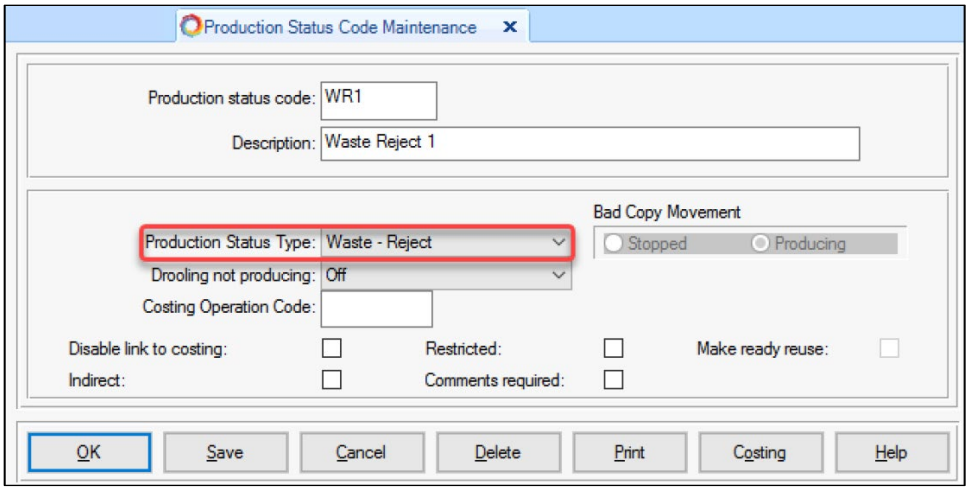




Settings in Radius

You must properly define your operation codes in Radius (Production status codes). In Radius navigate to **SFDC > Setup > Production Status Codes**. For those operation codes that you want to use for waste tracking, update the Production Status Type field to either **Waste - Reject** or **Wast - Scrap**.

Then bulk sync the updated codes to Plant Manager so the operator at the AC4D can select these waste codes. Once the sync is complete, the Operation Class in Plant Manager will be *Waste* for these codes.



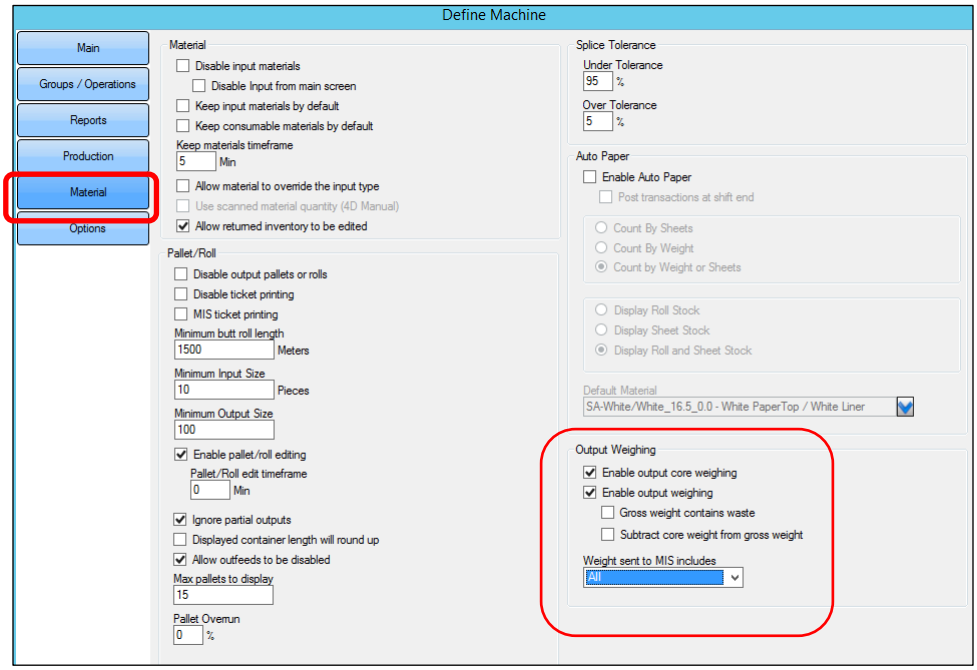
Note For details on how to set this up in Radius, please see the *AC4D Run Waste Management* release note document.

Weighing Cores and Outputs *(AC4D Advanced)*

You can configure Auto-Count to weigh an output such as a pallet or roll to help determine waste and actual amounts. (See *Scales Setup & User Guide*.) You can set up this feature to weigh both the full roll/pallet and the core of the roll/empty pallet. These values will be sent to the MIS system. This feature is very useful for rewinder machines where an operator must first weigh the core of a roll before material is rewound onto that core and weighed again as a completed roll. You can also weigh waste after a roll is completed and good product has been weighed and taken off the roll.

> **Note** Only AC4D Advanced type of Auto-Counts can use scales, but other Auto-Count types (Manual/Express/Standard) can manually enter the core, gross and waste weight in the Output Edit window if you have both **Enable pallet/roll editing** and **Enable output weighing** enabled.

To set up this feature, open Plant Manager and edit the Auto-Count machine. On the Materials window select one or both options below:



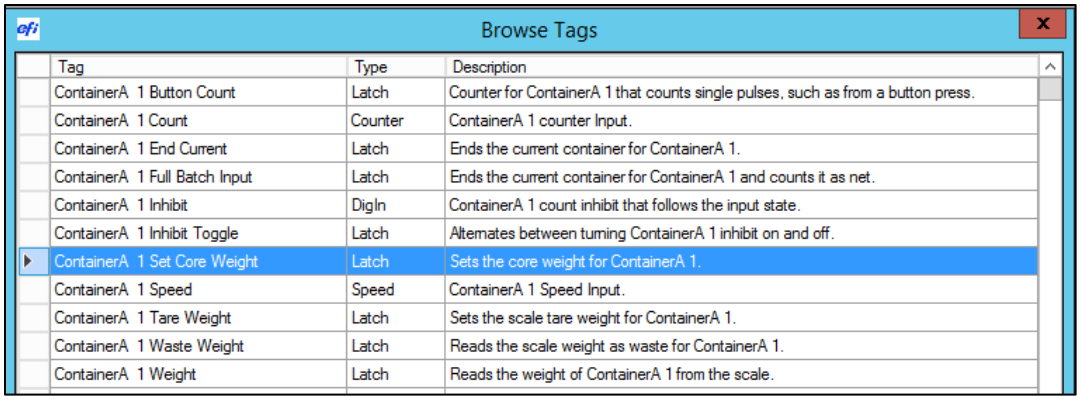
Output core weighing will weigh an empty pallet or core roll.

Output weighing will weigh the completed or full roll/pallet.

> **Note** Select **Gross weight contains waste** if your gross weight typically includes waste weight as well. For example, if your workflow includes weighing an output before waste is removed. When selected, Auto-Count will remove the waste weight from the gross before sending it to the MIS. This is used for live scales.
>
> Select **Subtract core weight from gross weight** to weigh only the material on the scale – not the core. This assumes you have weighed the core prior to the output being built and completed. This is used for live scales.
>
> Weight sent to MIS: Choose how to calculate the weight that is sent to the MIS. This option only affects the weight value sent to the MIS - what Auto-Count saves in the database (gross, core and waste weights) remains the same. This option may be used with live scales or manually entered weights. But we suggest if using only live scale weights, then use the options above instead.

When you set up inputs for the device there are four types of inputs assigned to Container tags.

- **Set Core Weight**: Set this input (button) to weigh a roll core.
- **Tare Weight**: Set this input (button) to zero out the scale.
- **Waste Weight**: Set this input (button) to weigh waste.
- **Weight**: Set this input (button) to weigh the gross weight.

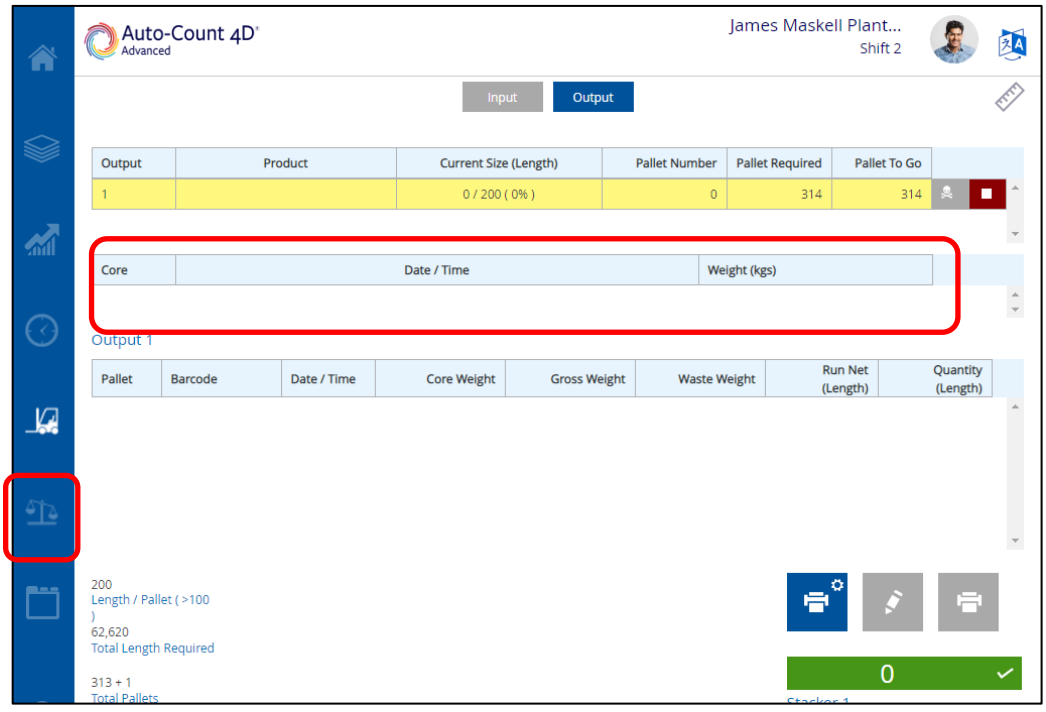


Note You cannot share output scales between machines. But you can share that one scale between a single machine's deliveries/outputs.

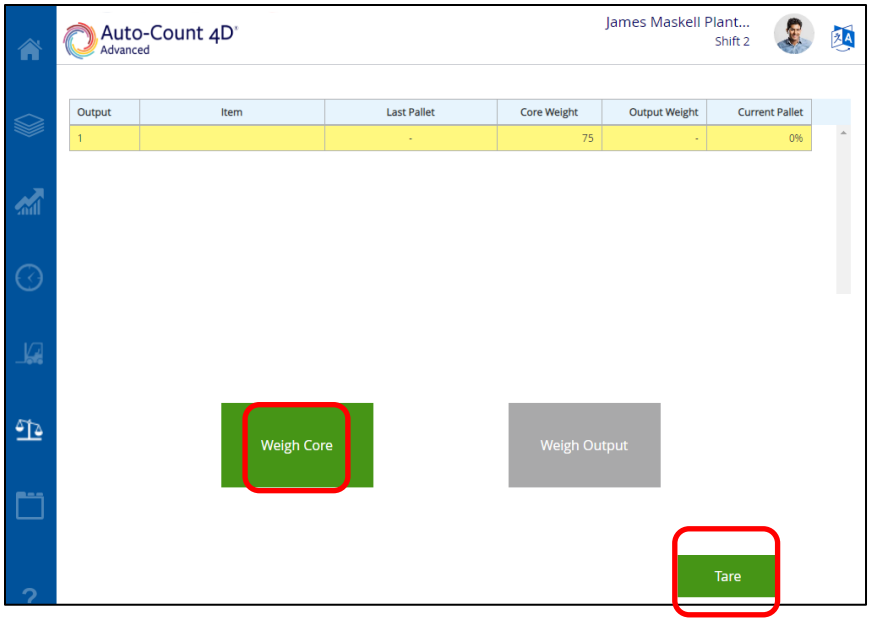
When mapping scales to sensors, output sensors are for good product and outfeed sensors are for waste.

Weighing Core and Outputs Workflow

Once the run is loaded, a Core section in the Material Outputs window displays the core information. There is also a scales icon on the left side menu that opens the Output Weighing window where the operator will press the buttons to weigh cores and outputs.



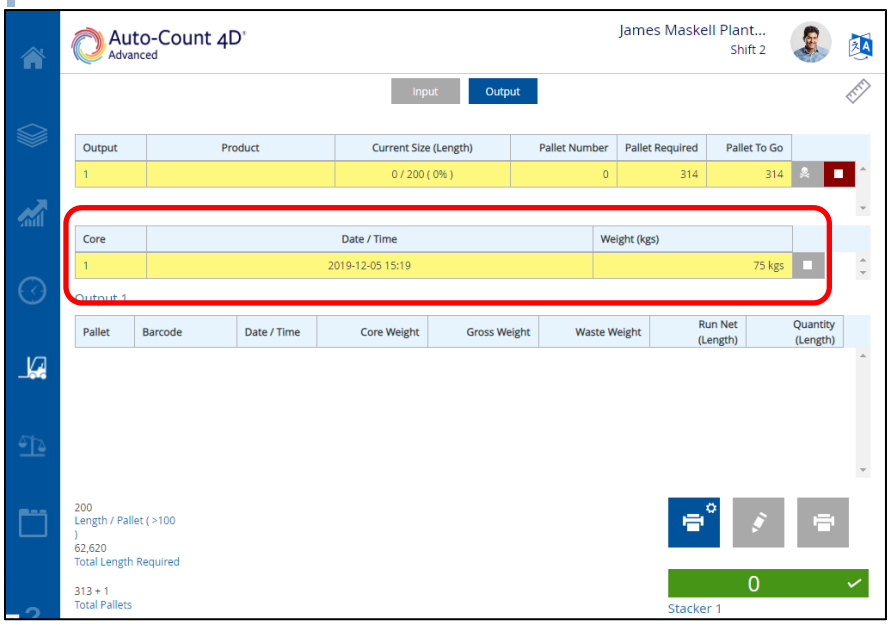
The operator will put the core on the scale, select the output in the grid where that core resides, and then click **Weigh Core** to capture the weight. In this example, the core weight for output 1 is 75. Core can be a roll core or a pallet depending on the run. Typically, after weighing the core the operator will Tare the scale.



Use the **Tare** button to zero out the scale. The scale will ignore any weight currently on it, like a bin or cradle and will report zero. This is used to zero out the scale and weigh the packaging (not the core or empty pallet.)

On the Output window you can now see the core weight information.

Note The first core weight will carry over to each core automatically. There is no need to weigh each core on the run as Auto-Count assumes they will be the same weight. If you weigh another core, then Auto-Count will use that as the default going forward.



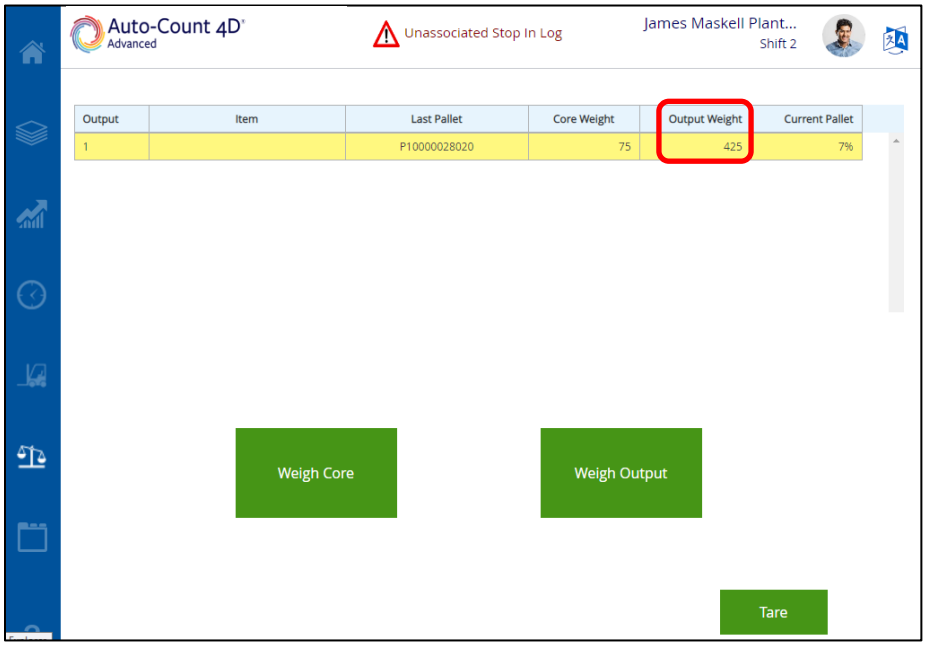
Note When you click Weigh Core, you are weighing the core for the output which will be built next. Once an output is complete, use the Weigh Output button to weight the last finished output. You cannot use the Weigh Core button to weigh cores on completed outputs.

Once the run starts and outputs are created, the operator can use the Weigh Output button to obtain that weight.

Note The operator must be aware of when an output has completed so they can weigh it immediately before the next output finishes.

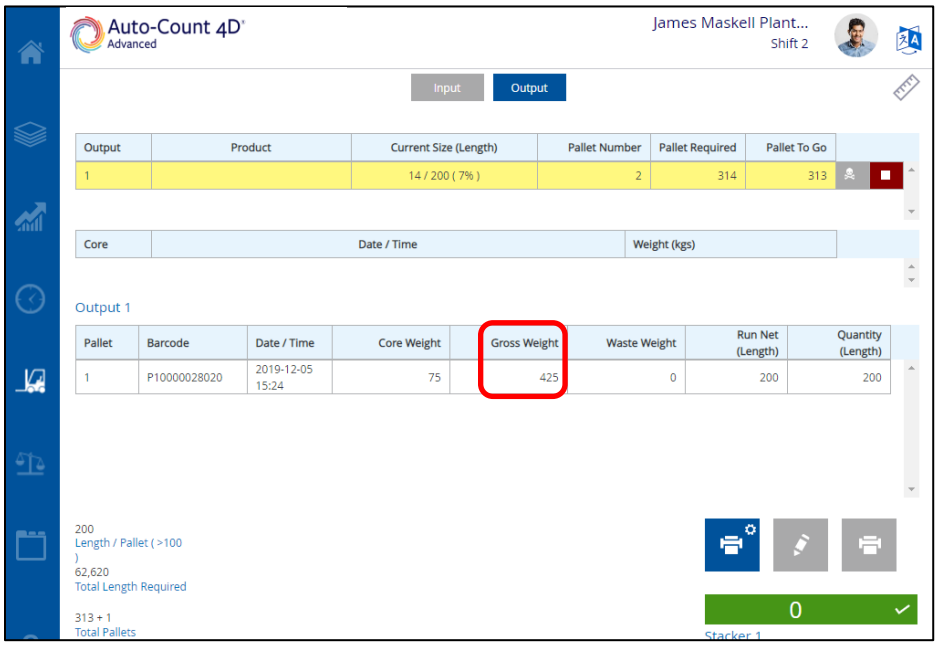
Tickets The operator must manually print the inventory reference ticket for a pallet once all rolls are weighed and on the pallet.

In this example the first output was weighed at 425.

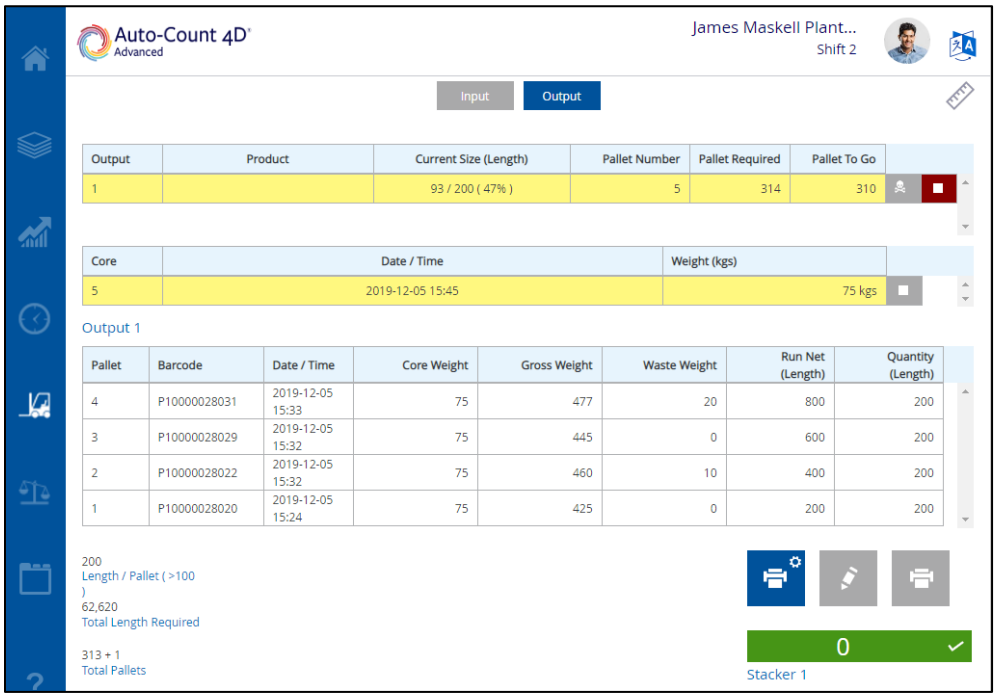


This value is also on the Output page where the operator can edit it if necessary.

Note The current weight of an output displays on the Edit Output window.



Once the output ends, Auto-Count will display finished outputs in the bottom list and the next core will be in process. In this example there are four finished pallets and the fifth core is in use.

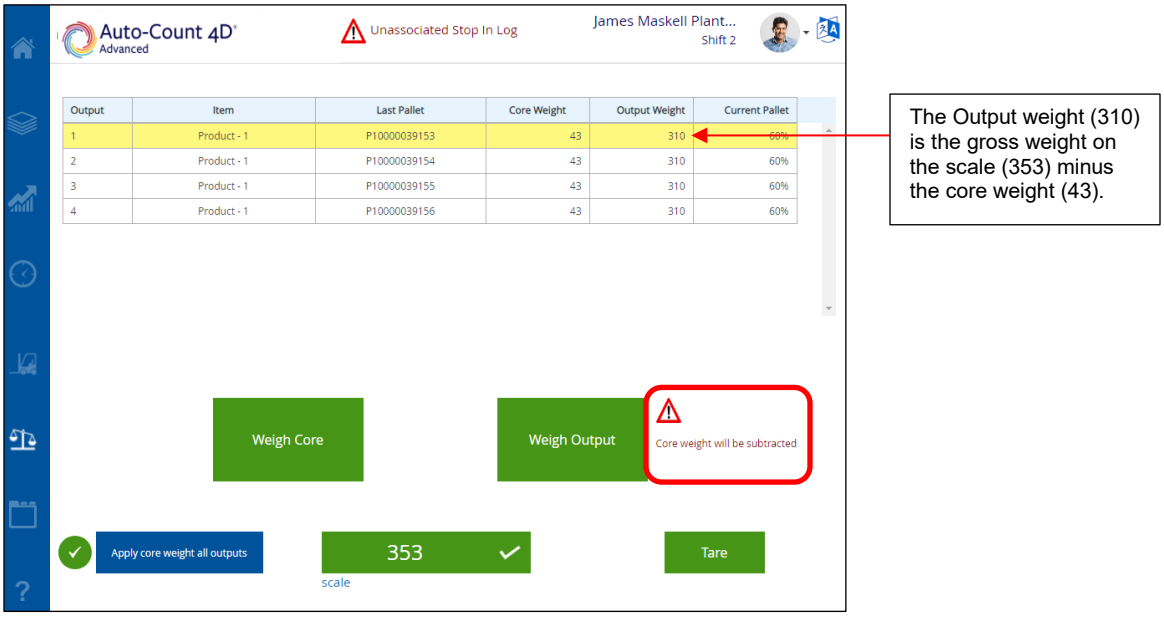


Once they weigh the finished roll, that value will display as the **Gross Weight**. Essentially, the gross weight is the core weight plus the material weight which was wound onto that roll. Then when they remove the good product and weigh the material waste that was leftover, that value will display as the **Waste Weight**.

> **Note** *Gross Weight*: The complete weight of something (in this example including waste).
>
> *Net Weight*: The weight without the packaging.
>
> T*are Weight*: The weight of the packaging only.
>
> *Waste Weight*: The weight of any waste prior to packaging.
>
> *Actual Weight:* The shipping weight of the item; gross weight less waste.
>
> Auto-Count does record an Actual weight which can be used for shipping purposes or other reasons. This is the Gross weight minus the Waste weight (Gross-Waste = Actual). This information is stored in the XML sent back to the MIS.
>
> When the Tare weight is set, it means the scale will ignore any weight currently on it, like a bin or cradle and will report zero. This is used to zero out the scale and weigh the packaging (not the core or empty pallet.)

Subtract Core Weight from Gross Weight

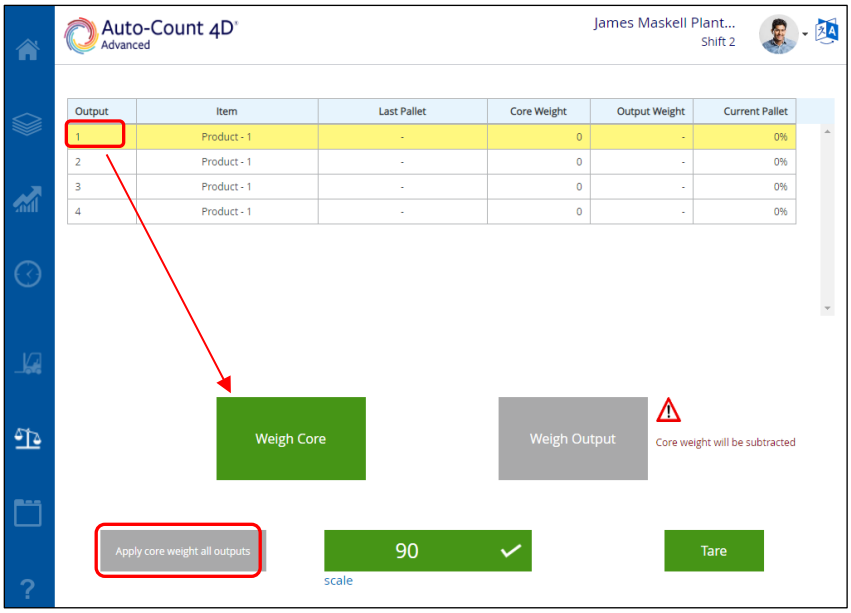
On the Define Machine > Materials page, select the option **Subtract core weight from gross weight** to always have Auto-Count subtract a core weight from the total gross weight of an output. This way only the weight of the material will be reported by Auto-Count. When enabled, a message will display on the Weighing screen to warn users that the core weight is not included.



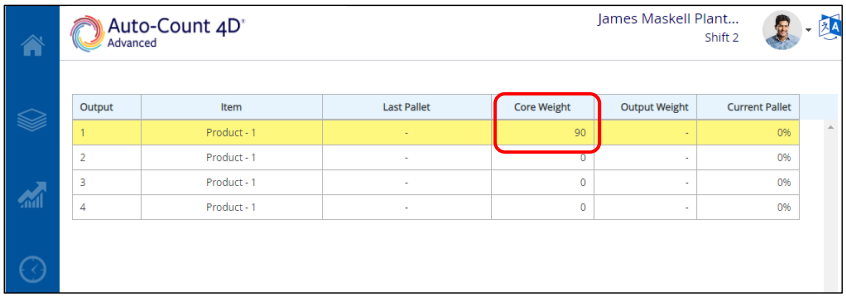
Apply Core Weight Across All Outputs / Weight Output Cores Individually

There is also a toggle button on this window which, when enabled, applies the core weight across all outputs (see above example).

If you want to weigh each output individually, then toggle off this button, select each output and click **Weigh Core**.



With the toggle disabled, select an output. Then Click Weight Core.



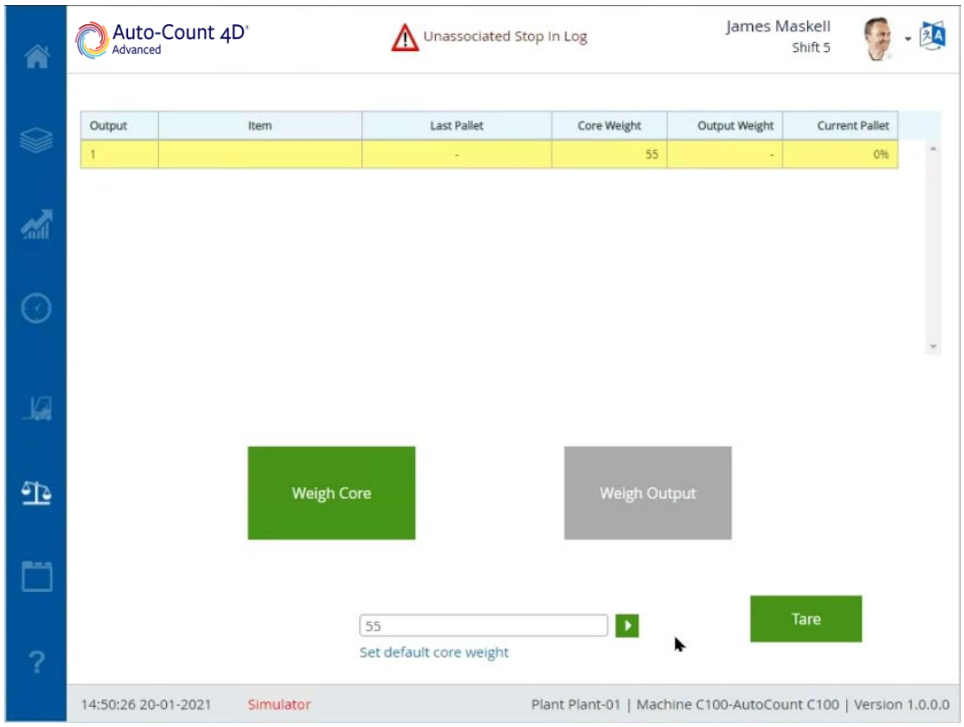
Just Output 1 now has a core weight.

Note If you select **Enable output core weighing** in Plant Manager > Define Machine > Materials, Auto-Count will persist the core weight from one run to the next.

Enter a Default Core Weight

If you do not have a scale enabled on the output, then you can still enter a core weight. This is often used when cores have a known weight, and the operator simply needs to enter that weight instead of having to weigh each individual core. In this case, the weight entered is also used for all subsequent cores on the run.

When no scale is enabled, the operator can manually enter the default core weight from the weigh screen.



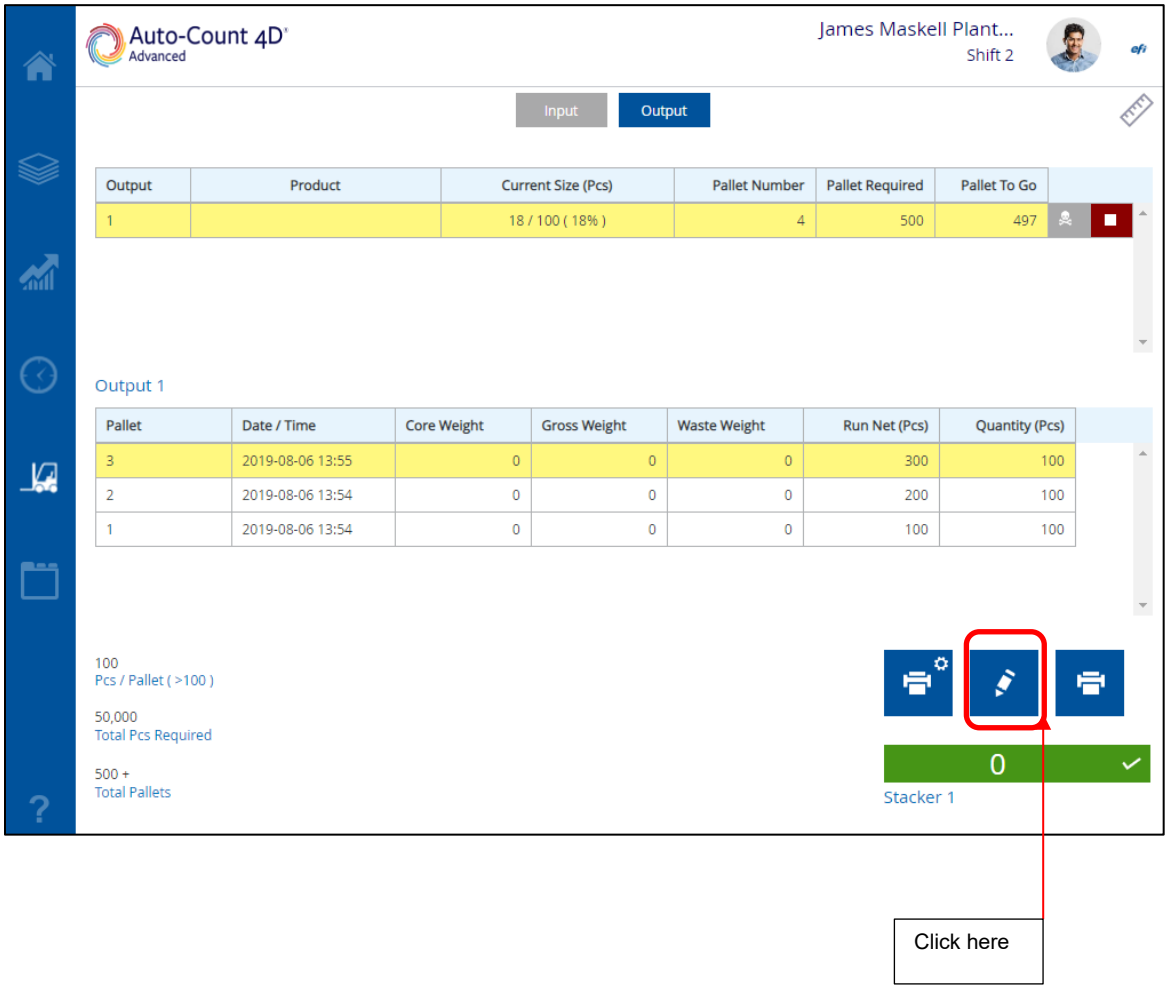
Calculated Output Weight

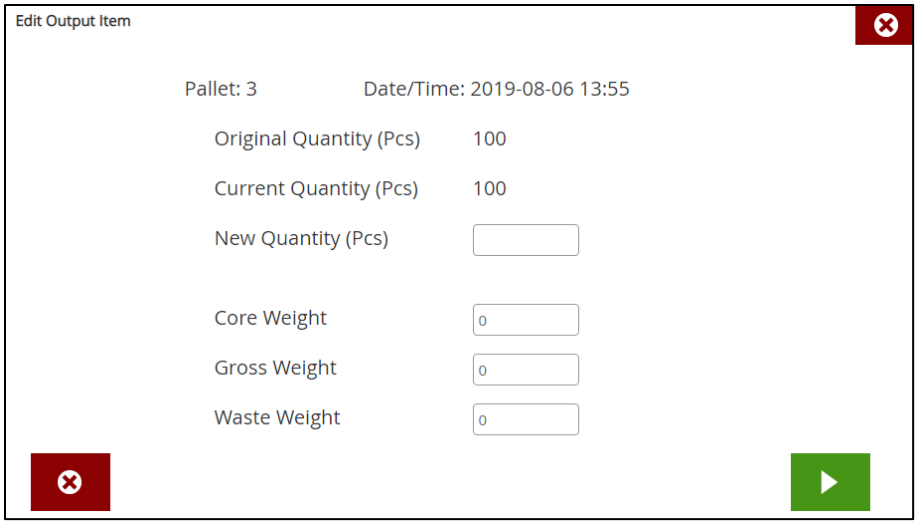
(This is a Radius only feature currently.) Radius can send Product information to calculate output weight. This information is sent back to Radius in the Machine Pallet command message. To calculate roll output weight, Auto-Count uses *length*, *width* and *gsm*. For other output types it uses *length*, *width*, *gsm* and *items per output*. Note, Auto-Count will only calculate output weight if Output Weighing (manually taking the weight - **Enable output weighing**) is not turned on. We display this calculated weight in the Gross Weight column on the Outputs screen. See the next section for details.

Adding Weight Manually To Outputs

You can also manually enter core, gross and waste weight on outputs if you do not have scales set up for the machine on which you are running the job. You must have the Plant Manager option **Enable output weighing** selected to use the manual weigh feature.

Once an output has been created, open the Edit Output Item window and enter the weight. You can also use this feature to edit values which have been weighed by a scale (see section above.)





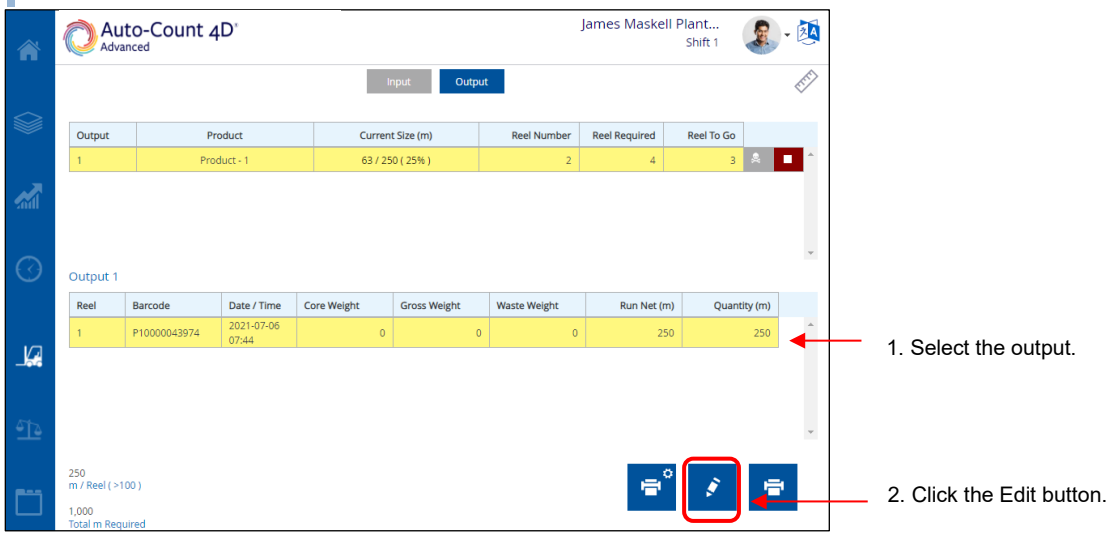
Apply weight to all new outputs

Operators can manually edit a single output and select the button **Apply weight to all new outputs**. This also works for a single delivery or across a web to multiple deliveries producing the same output.

When selected (green checkbox), it will apply the newly edited weight to any new outputs produced.

In this example, the first output was just created. We'll select it and add a weight. Then we'll click the new button **Apply weight to all new outputs** to apply it to the remaining outputs.

Note To see this button your machine in Plant Manager must be configured with the options **Enable pallet/roll editing** and **Enable output weighing**.

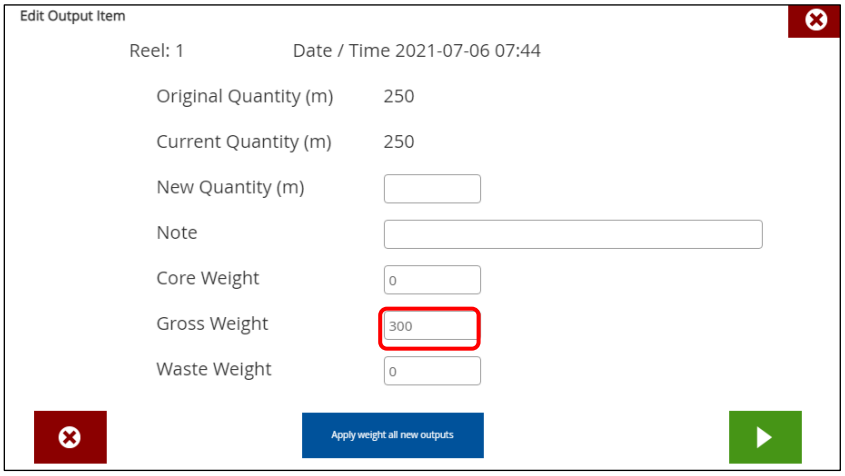


Note This feature only applies the weight to additional outputs, not completed ones. For example, if you have 5 reels completed and you adjust reel 1, then the next reel built, reel 6, will get the new weight. Reels 2 through 5 are already built and you must manually edit them.

If the apply to all button is selected, then the current set of rolls will get the same weight and all subsequent rolls for the same width of product, will get the same weight. Any adjustments to the roll will get populated upwards to the above container.

If the apply to all button is not selected, then the modified weight will only affect the selected roll and new rolls will not inherit the edited weight.

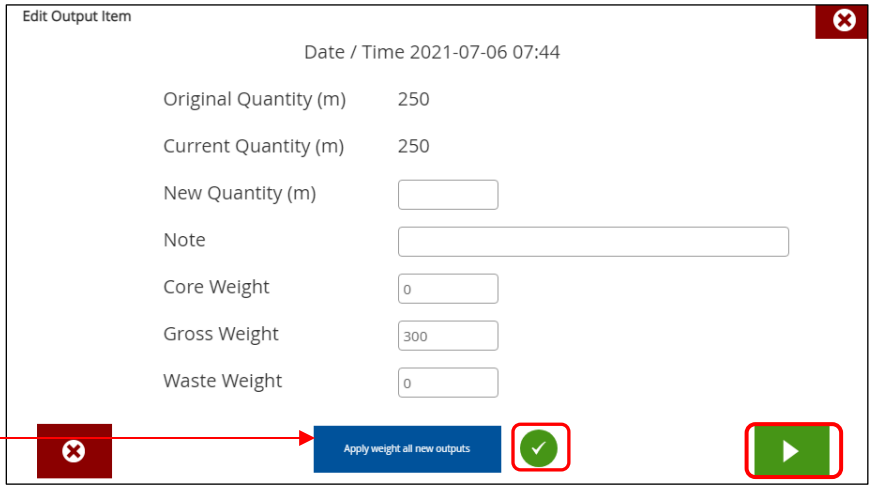
If a job has multiple products of different widths, then only rolls of the same width will be affected by the apply to all button. To enable the behavior for different width products, you must edit the weight for each product individually and select the apply to all button.



Enter the weight. In this example well just enter a gross weight.

1. Click to apply weight to the remaining outputs to be built. A green checkmark displays.

2. Then click OK.

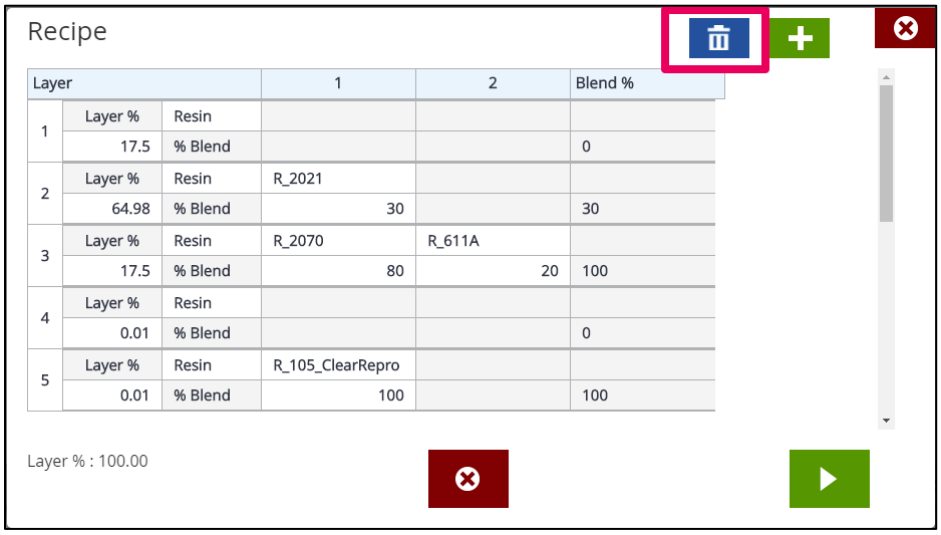


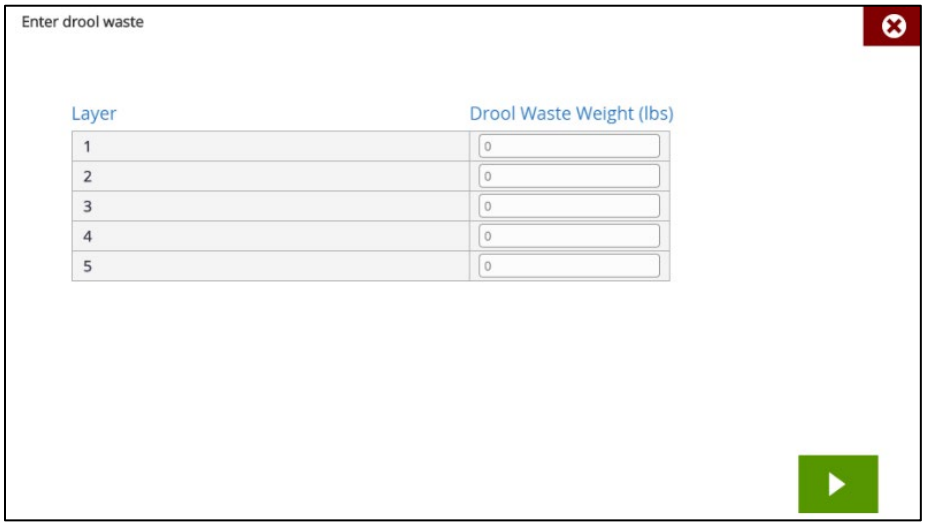
(Radius) Drool and Purge Waste

You can collect drool and purge information from your extruders. Drool scrap is the resin which comes out of the extruder head while the blend is being mixed. Purge scrap is the resin which is pushed through the extruder head at the end of a job or as part of the transition to the next recipe. (The boundary between purge waste at the end of one job and drool waste at the beginning of the next is often subjective.)

To be able to issue the resins for drool and purge scrap, Radius must know the weight of the scrap, whether it is drool or purge, the mixture/recipe number if the operator has changed it and whether that weight applies to a single layer in the recipe or to all layers.

On the Job Details > Recipe screen, there is a button which opens the Drool Waste window.





Here the operator will enter any waste weight required against the necessary layer(s). Click the OK button  to send this waste information to the MIS. It is sent in the Machine Transaction Command message in the Machine Event node.

Note Each time the user enters this screen the values will be zero. Auto-Count does not keep track of the cumulative waste.

Purge waste is recorded at the end of a job. When the operator suspends or ends the current run, then Auto-Count will prompt the user to enter any purge waste values which will also be sent back to the MIS in the Machine Transaction Command.

Rework

Auto-Count can track rework and send that information to the MIS system for single-layer runs. Rework is important to track because it is another form of waste since the original product did not meet the customer's standards or yours. For example, part of a roll may have been damaged before or during the run and you had to cut out the bad material, rewind the roll and put it through the machine a second time. Or you may need to check a pallet of material by hand for defects detected during the run. You'll want to use the Rework feature to capture labor costs for these types of unplanned steps on a run.

Once you start rework on an item, a new pallet ID is created with the original job information. If more rework is necessary on this item, you must perform rework on the latest pallet ID that was created.

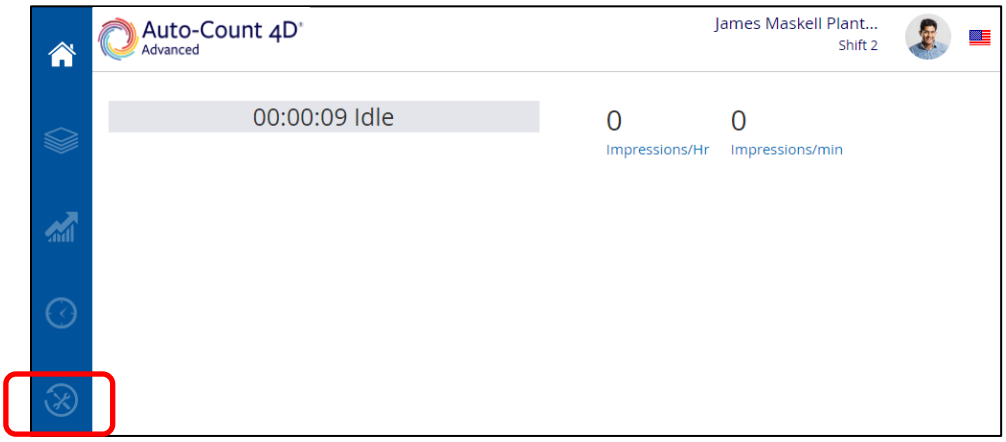
Notes To use Rework your MIS system must support this feature and you must turn it on in Plant Manager > Auto-Count > Define Machines > Options > Enable Rework on this machine.

Rework functionality only works with single layer runs – not multi-container runs. You cannot perform rework on an item that is in a container. You should use the **Rework Station** if you must rework an item that is currently in a container. You will either move the item to another container or scrap it using Packing or Rework Station. Please see the *Auto-Count 4D Pack, Weigh, Rework Station User Guide* for details.

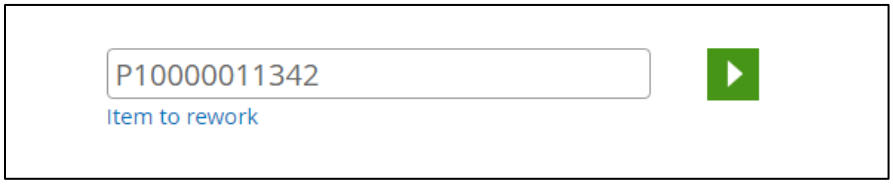
Ensure that the product you are reworking goes to a compatible machine. For example, if you created the product on a roll to sheet machine, you cannot rework the sheet product on the same machine because the infeed is not compatible. Auto-Count will prompt you to choose a machine configuration.

To perform rework

1. With the feature turned on, ensure the operator is logged on and the machine is in Idle.
2. Click the Rework button.



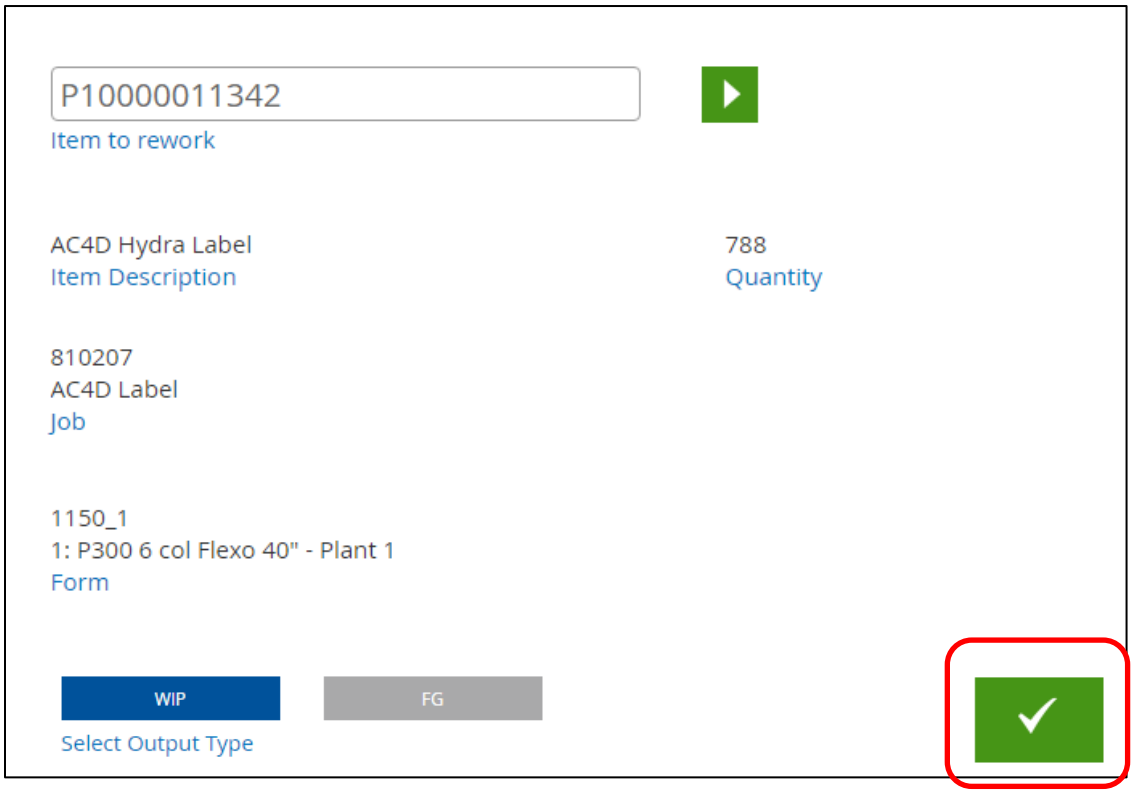
3. Scan the pallet barcode or enter the pallet ID.



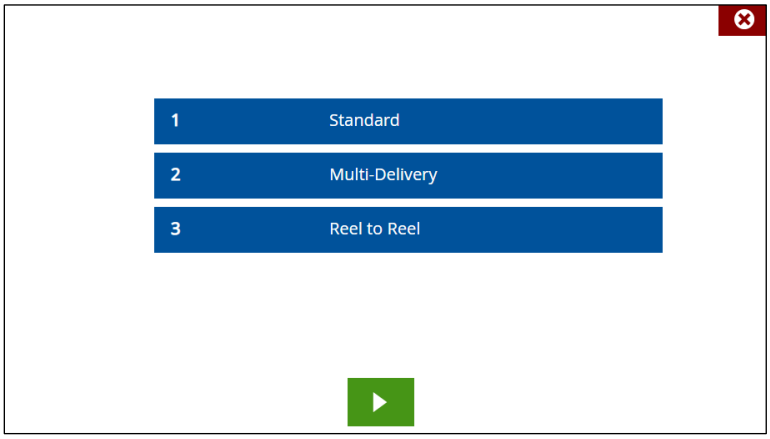
Here you can review the summary of the item you want to rework and the quantity. Select the type of output you are producing (WIP or Finished Goods) and click OK. If they choose to rework as Finished Goods outputs, the MIS can receive them as inventory items, as the original job containerization is used (like rolls into boxes onto pallets).

> **Warning** Only select the Finished Goods button if this output was the last and final operation and contained packing information. If you select the FG button, you cannot rework this output again on the AC4D. Also, you will not be able to scan this output onto the next machine as an input.

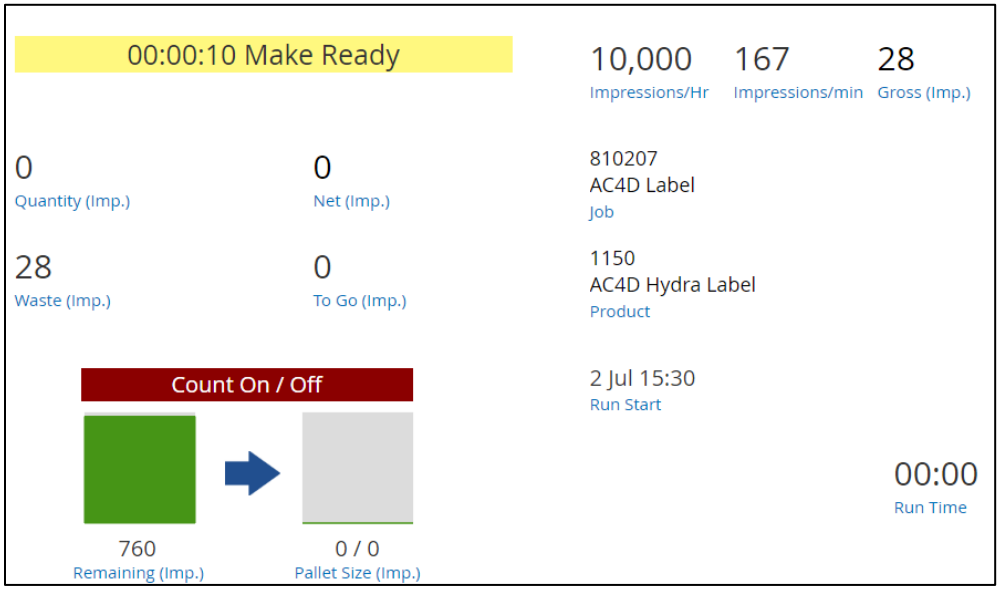
If they select WIP, then the usual rework workflow is used, and the output is considered WIP. Most MIS systems will not receive WIP items as inventory because it is considered an intermediate step in the larger job. WIP is often used when you rewind a roll on the same machine. Finished Goods is used when the output you are creating (rewinding or other process) is considered inventory and all processes are finished.

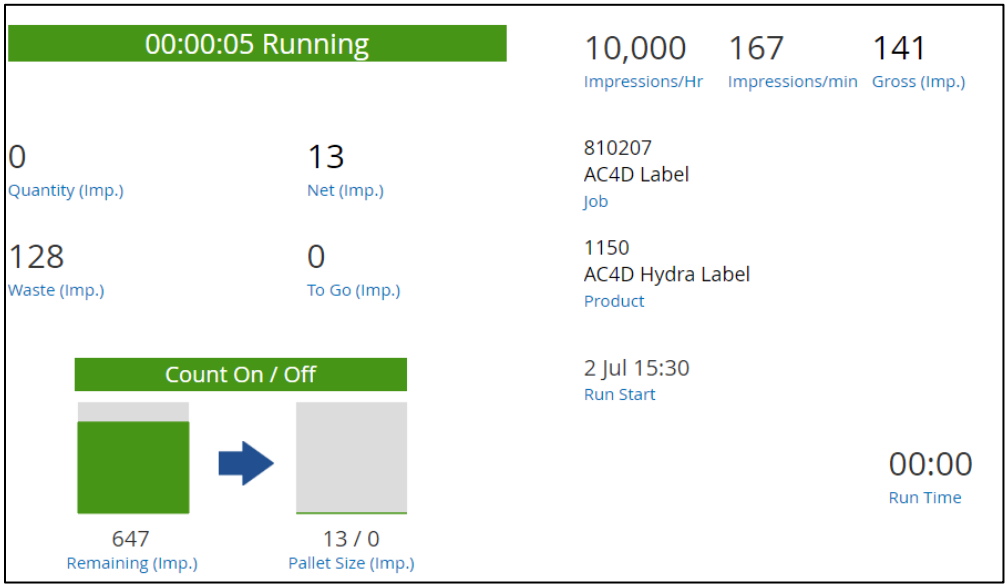


You will be prompted to choose a machine configuration if this machine has more than one.



4. Now you can perform the rework as needed on this pallet or roll. Auto-Count displays a zero quantity to go because you are reworking the known quantity. The gross quantity is the number of items you are reworking.





Once you complete the rework, Auto-Count sends this information, along with the original job information so they are tied together, to the MIS system (for example, Radius) where a new task is created for this work.

Notes You can only rework multiple rolls/pallets that are on the same job at the same time.

When a Rework type run is complete, Auto-Count will always fully consume the material and not give the user any other options as it does for normal runs.

The value for Time to Go will always be zero for Rework runs since they cannot go into an overrun state due to the nature of the work.

The Suspend button will not be available on Rework runs.

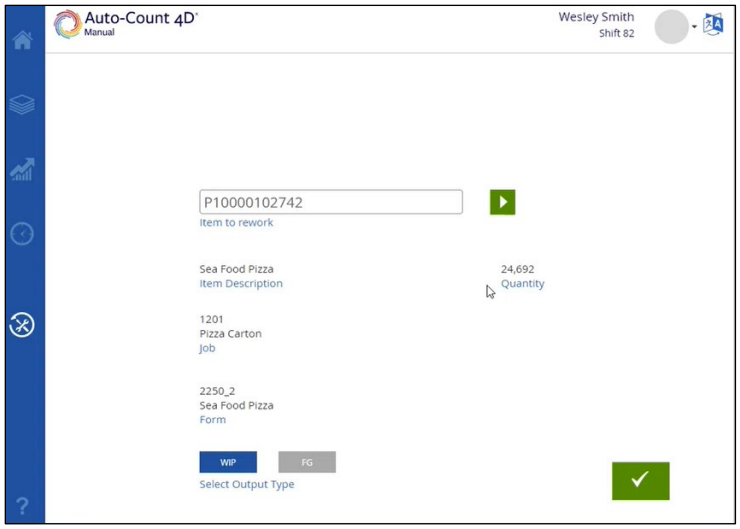
Select Output Type

For certain workflows, like rewinding many small rolls into one larger roll to produce a Finished Goods inventory item, it is necessary for the operator to specify what type of output they are reworking at the 4D – WIP or Finished Goods. If they choose to rework as Finished Goods outputs, the MIS can receive them as inventory items, as the original job containerization is used (like rolls into boxes onto pallets).

> **Note** Only select the Finished Goods button if this output was the last / final operation containing packing information.

If they select WIP, then the usual rework workflow is used, and the output is considered WIP. Most MIS systems will not receive WIP items as inventory because it is considered an intermediate step in the larger job. WIP is often used when you rewind a roll on the same machine. Finished Goods is used when the output you are creating (rewinding or other process) is considered inventory and all processes are finished.

This rework workflow is used on AC4D Manual machines.



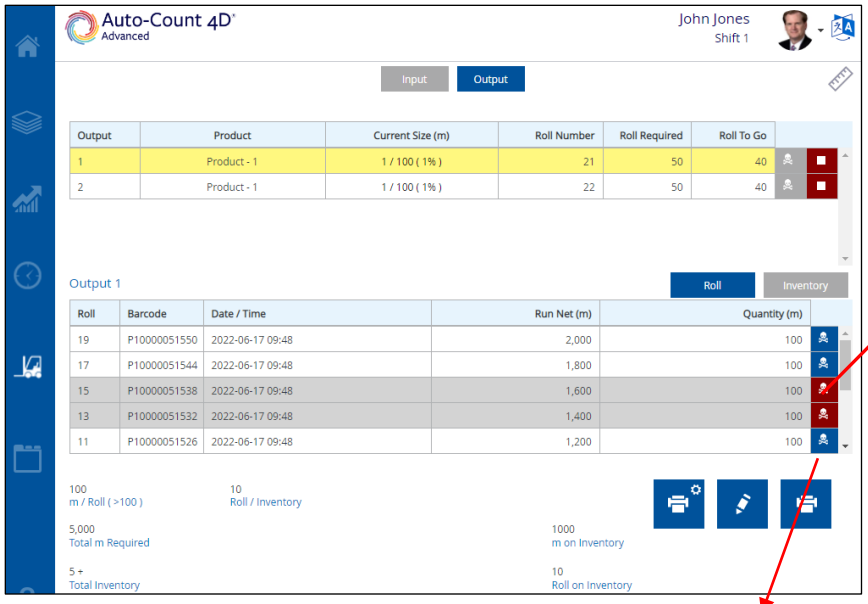
Quarantining Outputs to send to the MIS

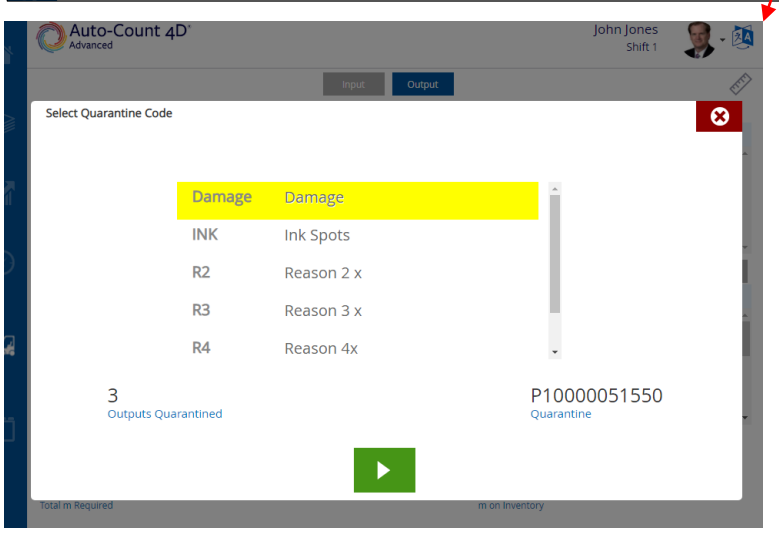
Another workflow you can implement is to quarantine an output which then sends it to the MIS system with a quarantine flag. From there the MIS can rework the roll as needed.

> **Note** Your MIS system must use Quarantine codes and send them to Auto-Count to use the Quarantine feature. Currently, Radius MIS can send quarantine codes to Auto-Count.

The operators may need to reject the output roll and choose a quarantine code. These are *not the same as damage codes* for when the material is placed on inputs. You can quarantine a currently build output or a completed output. When you quarantine an item, Auto-Count will record the quantity on the quarantined roll and send that to the MIS system with a quarantine flag. The remaining material is then put back into inventory. Quarantine information is sent in the Machine Pallet Command message back to the MIS.

When operators quarantine individual completed outputs (rolls), Auto-Count will remove the quarantined output from the pallet and fill in with the next available completed roll. At the inventory level the quarantined quantity is removed from the container.





Click the Quarantine button to flag an output as needing some sort of Rework.

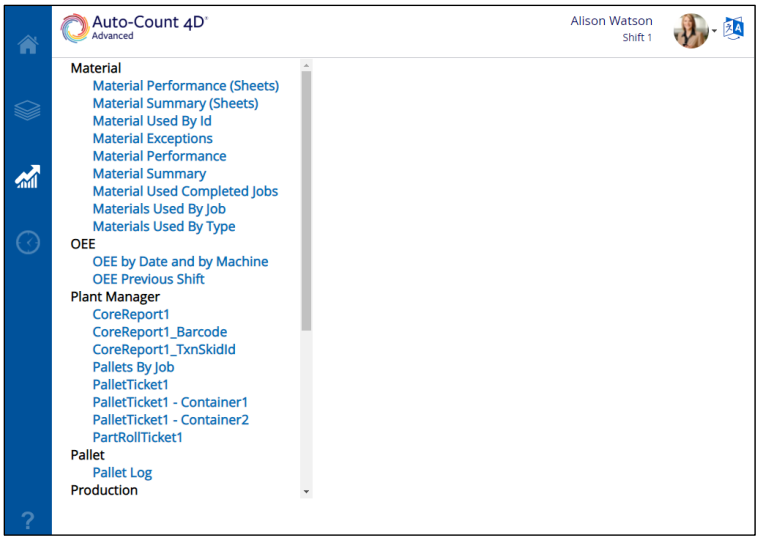
Click Quarantine for a specific output. Then choose a code. This window displays the total number of currently quarantined outputs.

There is an option in Plant Manager called **Force a specific item to replace a quarantined output**. When selected it will force the operator to enter a barcode for a specific output to replace a quarantined one. Otherwise, Auto-Count will automatically use the next completed output to replace the one you've quarantined.

Reports

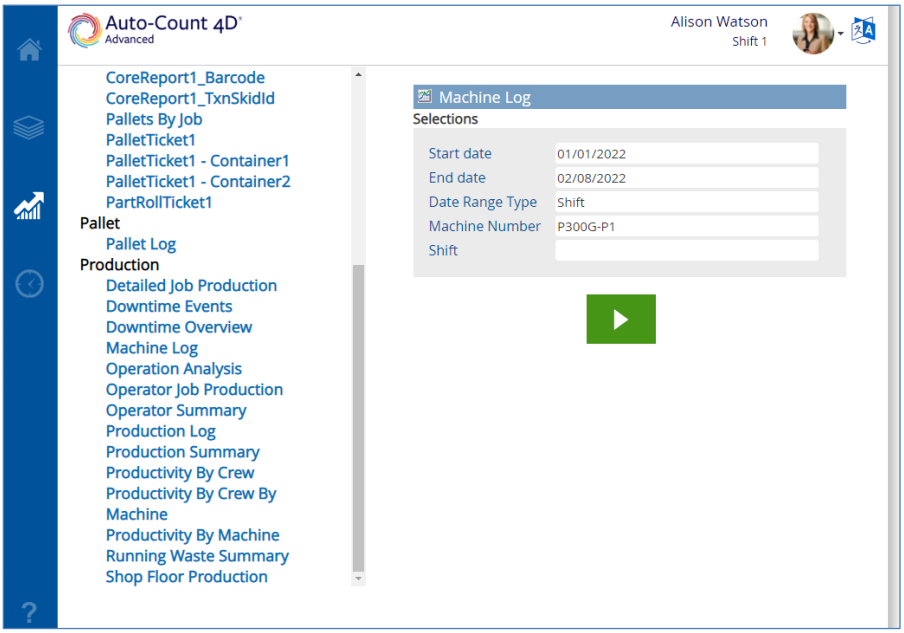
> **Note** To display reports in AC4D you must first create a Report Group in Plant Manager and assign that group to the AC4D machine. The default will be to display no reports.

Auto-Count 4D comes with several built-in reports. From the Reports area you can access Material, Pallet and Production reports.



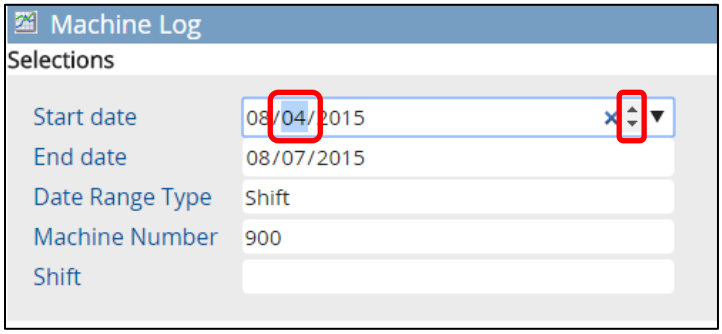
To run a report

1. Select a report from the list.
2. Enter the necessary information for that report.

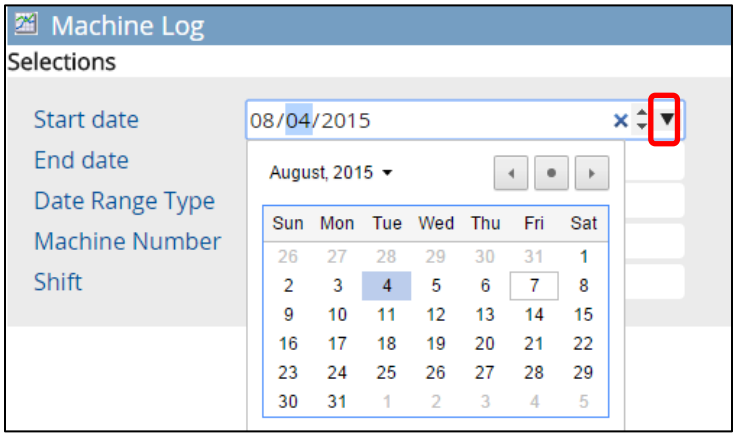


When you enter a field, controls may display to help you select data. You can use the <Tab> key to scroll through the fields.

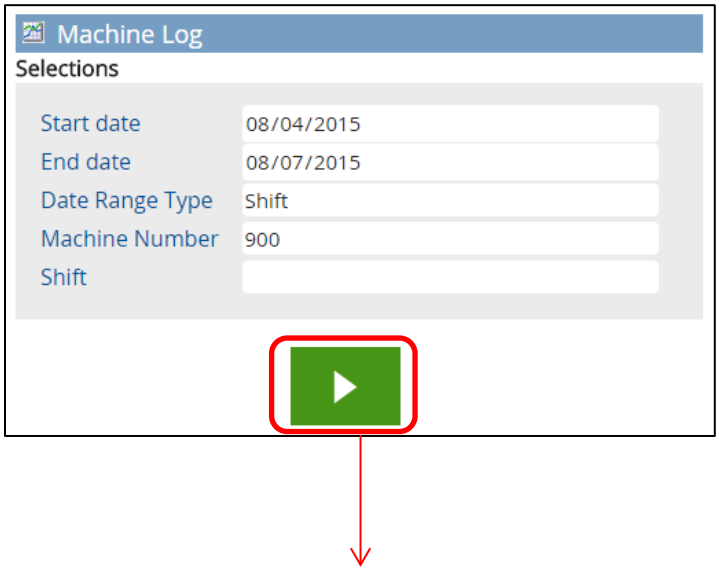
In this example for choosing dates, place your curser in the month, day or year and then use the smaller up/down arrows to select a value. You may also simply type in the value if you do not want to use the arrows.



To display a calendar from which to choose dates, simply click the large down arrow.



3. Click the green button to generate the report. The reports display in a separate web browser tab or window.



Machine Log

Shift Date Range 2015-08-04 - 2015-08-07
All Shifts
Machine 900 - Nilpeter

Date	Time	Operation	Gross	Activity	Description
8/4/2015	11:06 - 11:07			Idle	
8/4/2015	11:07		0	Shift A started Bob Howard logged in	
8/4/2015	11:07 - 11:10			Idle	
8/4/2015	11:10		0	Run started	95710 - Gear Lube Labels 102 - Fantastic 3 in1 Oil #276
8/4/2015	11:10 - 11:15			Idle	
8/4/2015	11:15			Run ended	
8/4/2015	11:15			Task Complete	95710 - Gear Lube Labels 102 - Fantastic 3 in1 Oil #276
8/4/2015	11:15 - 11:16			Idle	
8/4/2015	11:16		0	Run started	95555 - Jiffy Patato Chip Bags 2 - Blue Chips Yummmm
8/4/2015	11:16 - 11:18			Idle	
8/4/2015	11:18 - 11:19			Idle	
8/4/2015	11:19 - 11:23			Idle	
8/4/2015	11:23 - 11:26			Idle	
8/4/2015	11:26		21,014	Bob Howard logged out Martin, Hope logged in	
8/4/2015	11:26 - 14:53			Idle	
8/4/2015	14:53		21,014	Run suspended	
8/4/2015	14:53 - 14:54			Idle	
8/4/2015	14:54		0	Run started	95556 - Penn Brochure 1 - Penn BrochureSummer
8/4/2015	14:54 - 14:56			Idle	
8/4/2015	14:56		82	Run suspended	
8/4/2015	14:56 - 14:56			Idle	
8/4/2015	14:56		0	Run started	95555 - Jiffy Patato Chip Bags 2 - Blue Chips Yummmm
8/4/2015	14:56 - 14:56			Idle	
8/4/2015	14:56			Run suspended	
8/4/2015	14:56 - 15:02			Idle	
8/4/2015	15:02		0	Run started	95116 - Superb circular 1 - GARRETT FOLDER

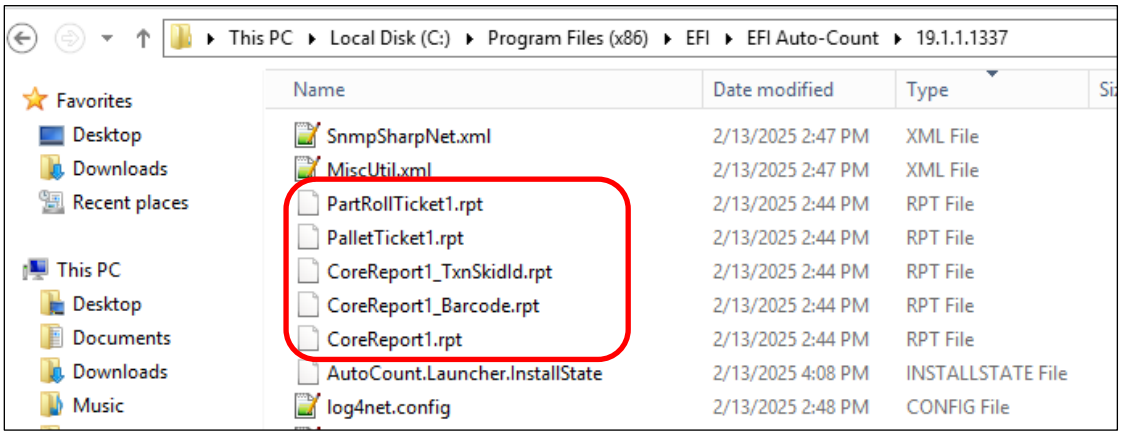
Add custom pallet/label tickets for Auto-Count 4D

For Auto-Count 4D, users must add custom pallet/label tickets to be used during production. The Reports tab will be enabled so you can select your reports. Before you can add tickets you must first create them and then put them in the directory where Auto-Count 4D can access them. Auto-Count 4D comes with a set of basic reports from which you can use to create your own reports using Crystal Reports.

> **Note** If you enable reports and their printers in this area, then Auto-Count will only use these printers during a run even if you have other printers assigned to this Auto-Count (Plant Manager > Groups > Printer Groups.)

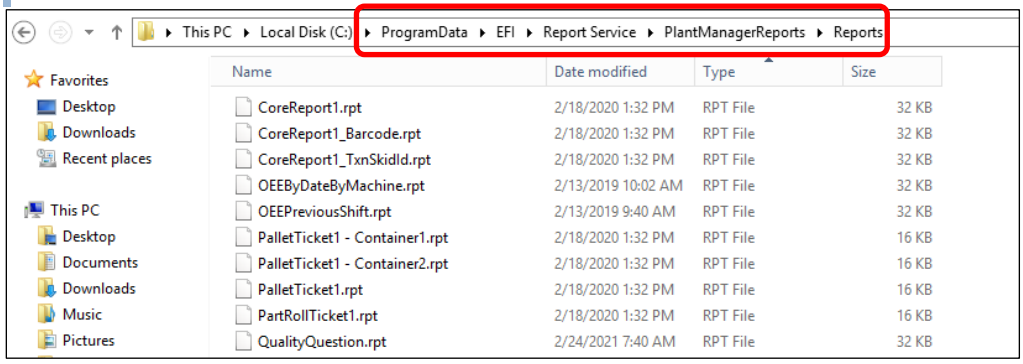
To add skid ticket reports to Auto-Count 4D

1. You must create a custom ticket/label report using the generic report which comes with your Auto-Count 4D. Navigate to the Auto-Count 4D directory below to access these reports:
   C:\Program Files (x86)\EFI\EFI Auto-Count*release version.*
2. From this directory select the Crystal Report files you want to modify. Take them into Crystal Reports and modify them to your needs.

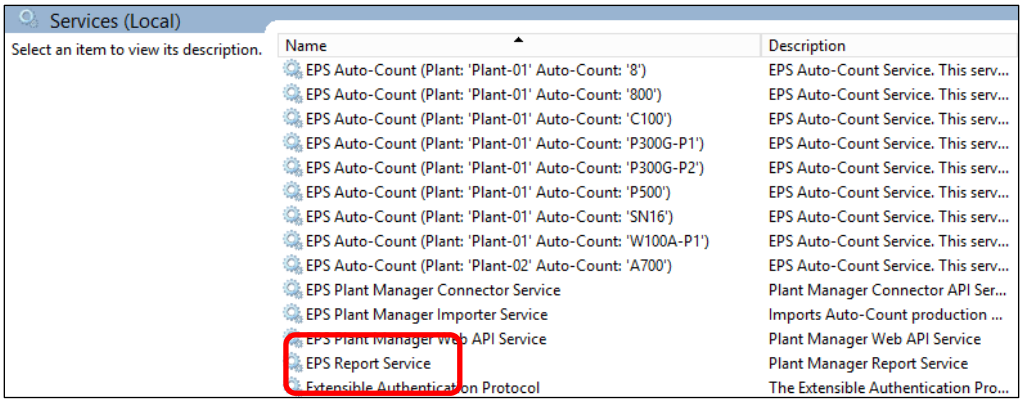


3. Once you have modified these reports, place them in the Reports folder here:
C:\ProgramData\EFI\Report Service\PlantManagerReports\Reports

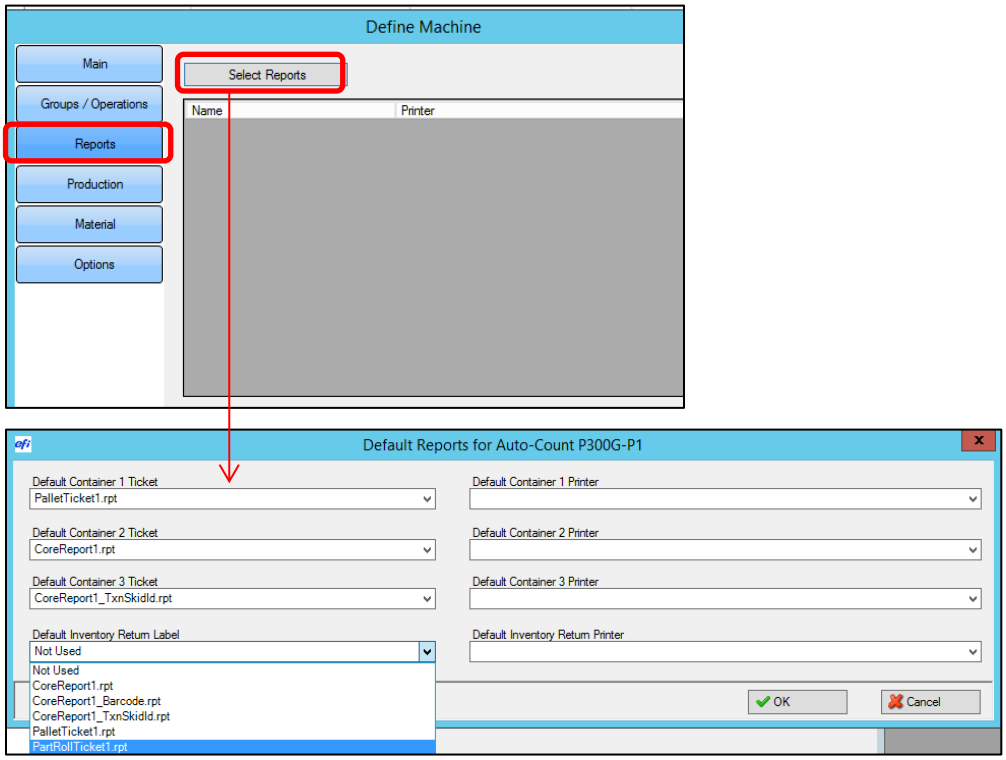
Note The ProgramData directory is typically 'hidden'. You may have to unhide directories to view it.



4. Open Windows Services and restart Report Services so the new reports are available in Plant Manager.



5. Now you can select these reports for your Auto-Count 4D machine in Plant Manager.



Select the printer you want to use for each report as well.

Default Container Tickets (1,2,3): This is the label which will be generated for the container. If you only need a basic skid/pallet ticket for a single output, then you would only need the Default Container 1 Ticket. If you need more than one label for different containers then assign these reports to the correct label/ticket. See the next section on “Container Tickets” below.

Default Inventory Return: This label is generated for partial rolls produced that will be going back to inventory.

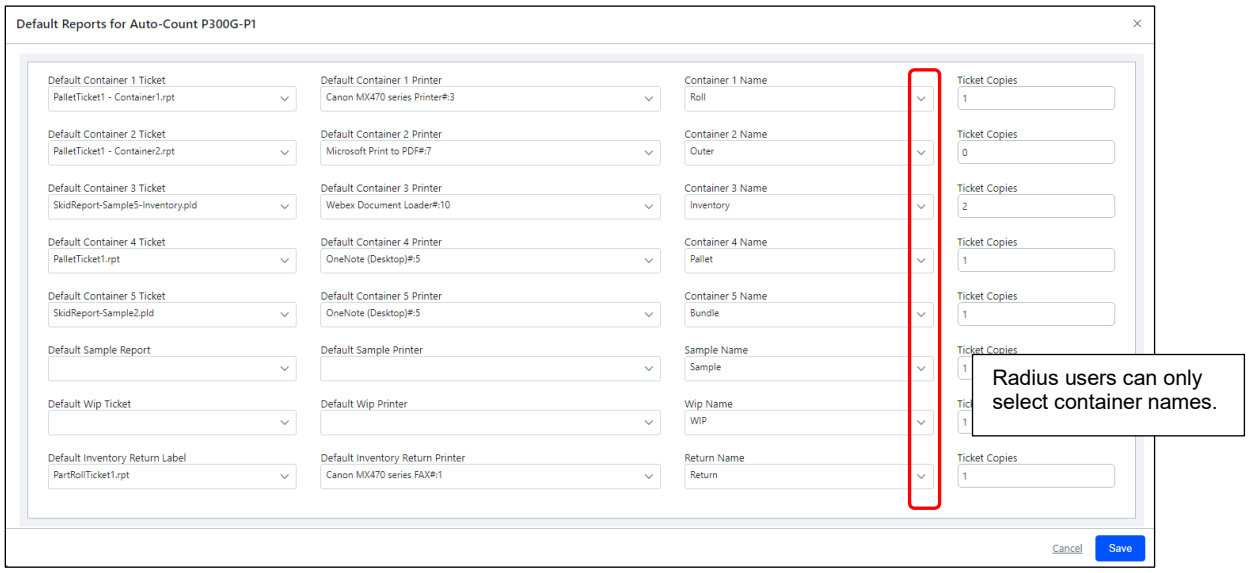
Report Setup

(4D only) Select **Reports** to choose the default pallet tickets/labels and printers for this Auto-Count. If you've set up Printer Groups, then those printers will be available from which to choose.

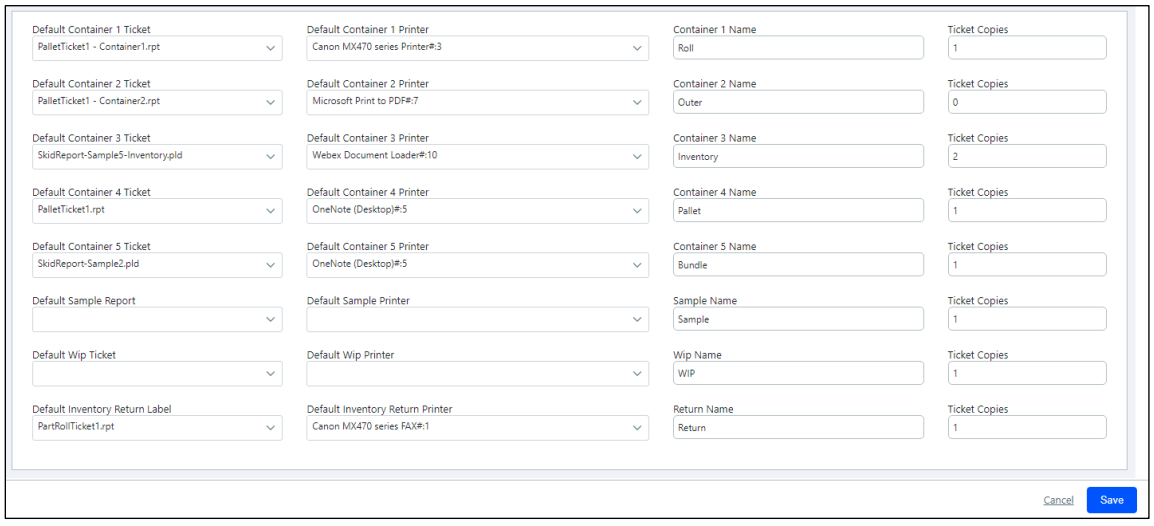
Packaging Customers

For packaging customers who use Radius or any Vertical Applications Suite customers, the Default Reports window will clearly display container levels. Non-Radius users can edit the Container Name to more clearly represent your manufacturing process. Radius users must select from a drop down and cannot enter free-form text in the Container Name. The default names are displayed below. (Sample Report can be used to generate a report after a sample is taken for those workflows which require sampling.) You can also choose Bundle instead of Roll for the lowest level container.

Radius

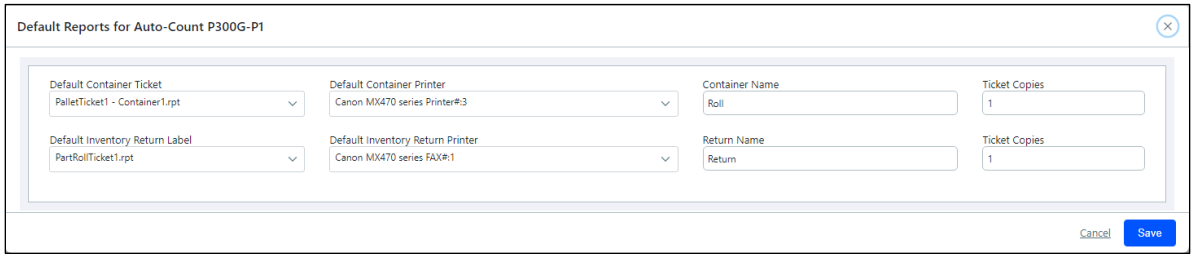


Vertical Applications



Non-Packaging Users

For our non-Packaging MIS systems (Monarch, Pace, etc) Auto-Count will display a simplified window.



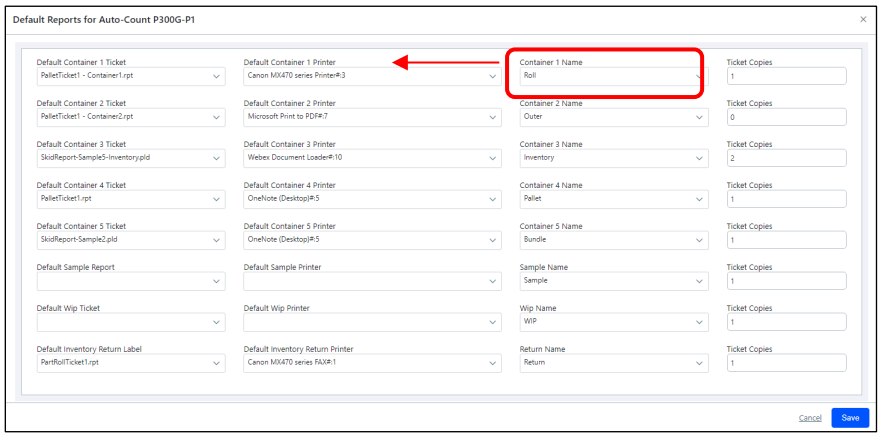
How Auto-Count Selects Reports

Auto-Count uses reports based on how you set up reports in Plant Manager.

Note If your ticket is set to Not Used, then Auto-Count completely ignores it.

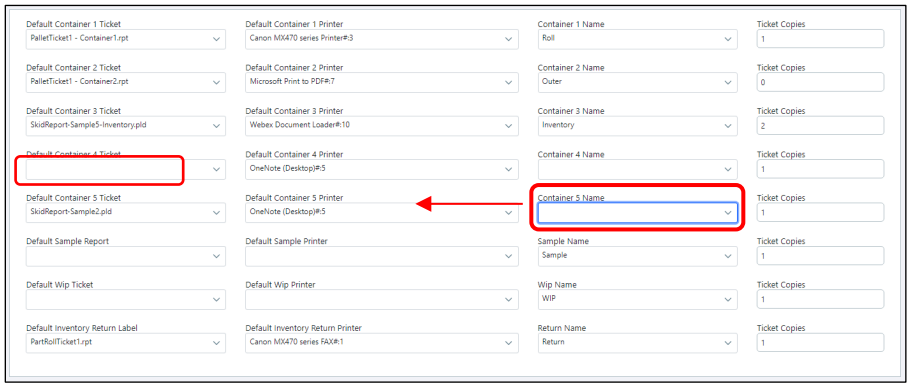
The workflow is as follows:

1 If the MIS sends a container name, then Auto-Count will use that name to match it to a report/printer.



If the MIS system sends the container name=**Roll**, then Auto-Count will find the Container name Roll and use that ticket and printer.

2 If no container name is sent with the job, then Auto-Count will use the report/printer combination that has a blank container name.



If no container name is sent, then Auto-Count uses the first <blank> Container Name.

In this example, it would use container level 5- PalletTicket1 printed to the MS XPS Document Writer.

Note It did not use container 4 because that is set to not used.

3 If steps 1 and 2 are not met, then Auto-Count will simply uses container level 1.

Report Setup – Use Machine Reports

At the machine level on the Define Machine > Reports window you can set up reports and at the Machine Configuration level you can also set up reports. This can be confusing, so we've added an option to the Machine Configuration screen called **Use Machine Reports**.

When this option is selected, Auto-Count will only use the reports that you set up at the Machine level (Define Machine > Reports) and not the reports at the configuration level. If you want to use Machine Configuration reports, then do not select this option.

> **Note** If you do not select this option and you do not define any reports here at the machine configuration level, then Auto-Count will not use any reports.

Production Log Report

Understanding Units Displayed

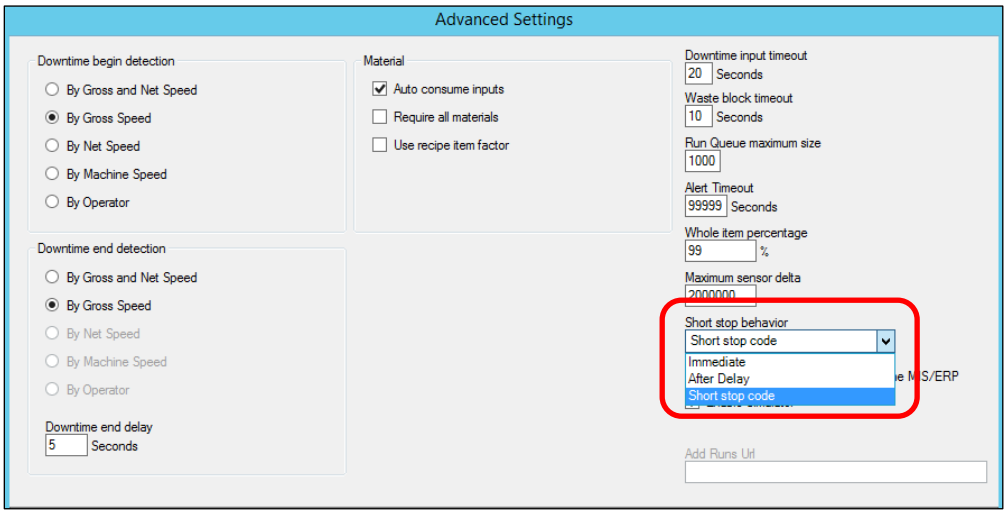
The Production Log report will display length only when both gross and net units are length. If the gross unit is in length (feet/meters) and the net count is in pieces, then this report will display units in pieces.

> **Note** When both values (net and gross) are length, Auto-Count records are meters in the database and then can convert to feet for display purposes. If either unit is not length-based, then the units recorded in the database will be those used on the Auto-Count machine configuration, with length converted to items using the piece length.

Understanding Short Stops and Micro Stops

Short stops are stops that do not exceed the Stop Seconds set in the machine configuration. For example, if your machine configuration has stop seconds set to 30, then any machine stop that is less than 30 seconds is considered a short stop. Capturing this short stop data is useful as it is often the largest reason for downtime in a bindery and can be hard to track otherwise. The Production Log report displays Short Stop information but what it displays depends on how you have set up Short Stops in Plant Manager.

In Plant Manager > Define Machine > Options > Advanced, your system administrator has set up how to handle short stops in your system.



Immediate: When the machine stops during production this option goes into unidentified stop immediately. If the machine starts before the Stop Seconds have elapsed, then Auto-Count redefines the unidentified stop as the previous production code. You may need to merge consecutive productive opcode in the production log. If the stop lasts longer than Stop Seconds, then the operator is asked to pick a stop code. With this option the short stop time is included in the overall production time on reports.

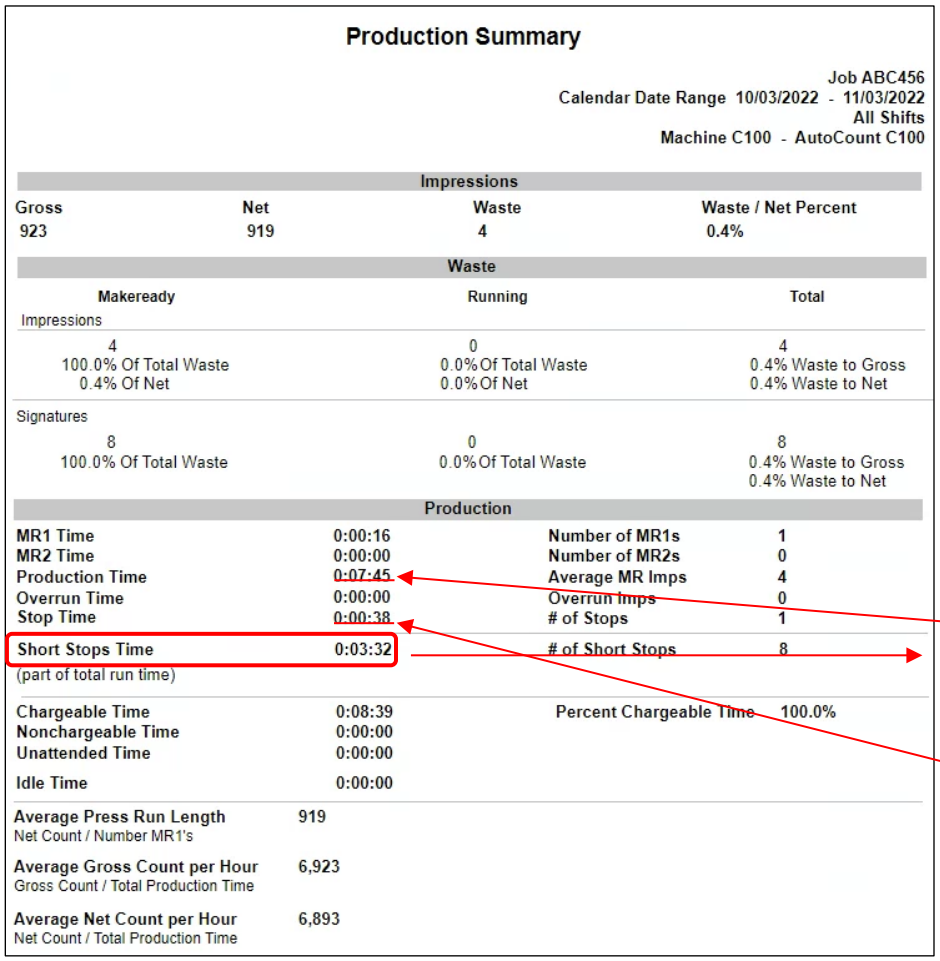
After Delay: When the machine stops during production this option does not change the operation code until Stop Seconds have elapsed. If the machine starts before the delay expires, then nothing has happened so nothing needs to be redefined. If the stop lasts longer than Stop Seconds, then the machine will switch into

unassociated stop and the user is asked to pick a stop code as soon as the delay expires. With this option the short stop time is included in the overall production time on reports.

Short Stop Code: If the machine starts before the delay expires, then the stop is assigned the stop code. If the stop lasts longer than the configured Stop Seconds, then the operation code is redefined as an unassociated stop and the operator is asked to pick a stop code. If you use this option, then short stop time will be included in the overall down time in reports.

> **Note** If Stop Seconds is 0 then all options would act in the same way and any stop would create an unidentified stop code.

These settings affect how the Production Log report (and the Performance Dashboard display) calculates time.



Production Summary

Job ABC456
Calendar Date Range 10/03/2022 - 11/03/2022
All Shifts
Machine C100 - AutoCount C100

Impressions

Gross	Net	Waste	Waste / Net Percent
923	919	4	0.4%

Waste

	Makeready	Running	Total
Impressions	4 100.0% Of Total Waste 0.4% Of Net	0 0.0% Of Total Waste 0.0% Of Net	4 0.4% Waste to Gross 0.4% Waste to Net
Signatures	8 100.0% Of Total Waste	0 0.0% Of Total Waste	8 0.4% Waste to Gross 0.4% Waste to Net

Production

MR1 Time	0:00:16	Number of MR1s	1
MR2 Time	0:00:00	Number of MR2s	0
Production Time	0:07:45	Average MR Imps	4
Overrun Time	0:00:00	Overrun Imps	0
Stop Time	0:00:38	# of Stops	1
Short Stops Time (part of total run time)	0:03:32	# of Short Stops	8
Chargeable Time	0:08:39	Percent Chargeable Time	100.0%
Nonchargeable Time	0:00:00		
Unattended Time	0:00:00		
Idle Time	0:00:00		

Average Press Run Length Net Count / Number MR1's	919
Average Gross Count per Hour Gross Count / Total Production Time	6,923
Average Net Count per Hour Net Count / Total Production Time	6,893

If using Immediate or After Delay short stop settings, then Short Stops Time is part of the overall *Production* time.

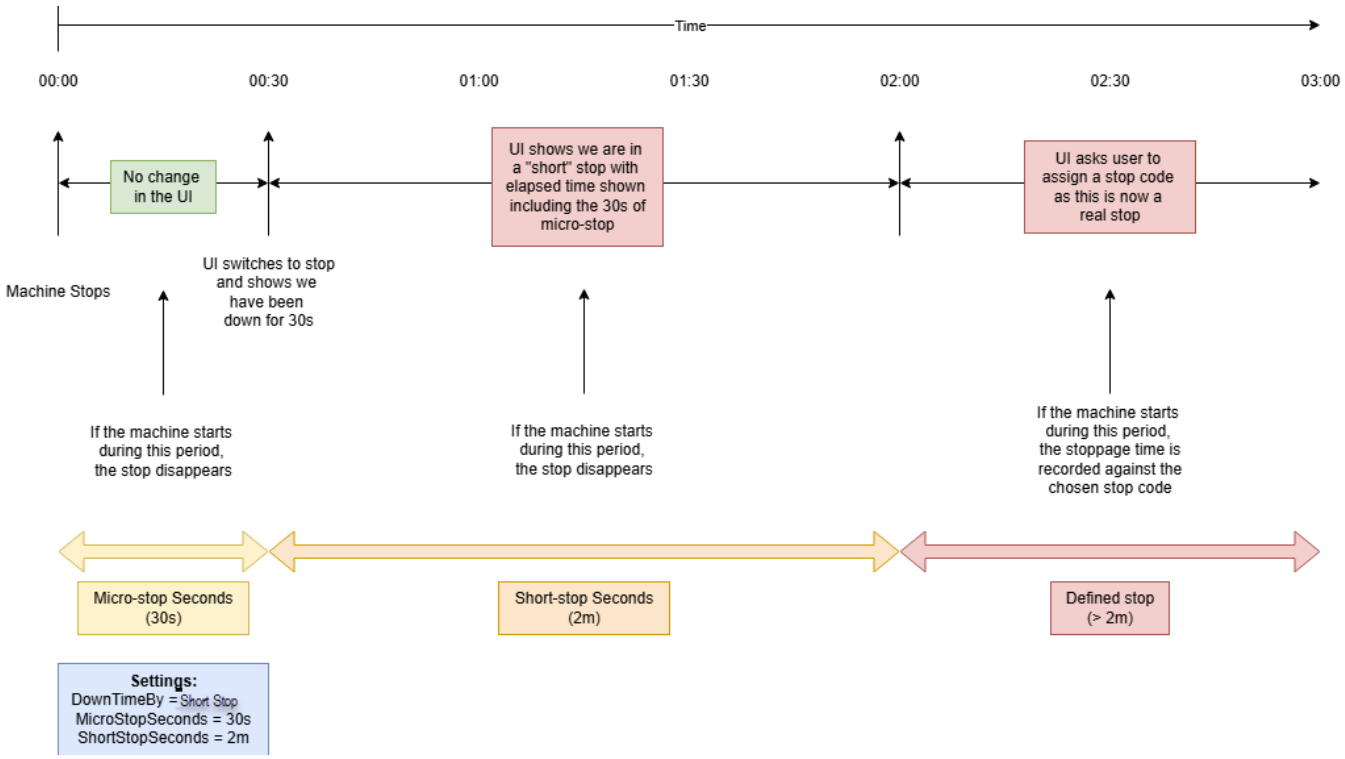
If using the Short Stop Code setting, then the Short Stops Time value is part of the overall *Stop* time.

Micro Stops: If you require very short stops during production but you do not want to constantly redefine these stops or otherwise have them recorded like we do with Short Stops, then using micro stops is beneficial. This is especially useful in certain corrugated operations when operators must hand feed material into a machine at regular intervals.

When in a micro stop, Auto-Count 4D continue to display the Production code on the operator screen and the seconds within the preset micro stop period will be included as production time. If the stop exceeds the predefined micro stop timeframe, then Auto-Count will go into a stop code on the screen. If you have the Short Stop feature enabled, then it be considered a short stop and be recorded as such unless the short stop seconds are exceeded, in which case, it becomes a real stop requiring a stop code. If you use Short Stops, Auto-Count will use the Short Stop Behavior setting you've set in Plant Manager Web when dealing with the short stop after the micro stop.

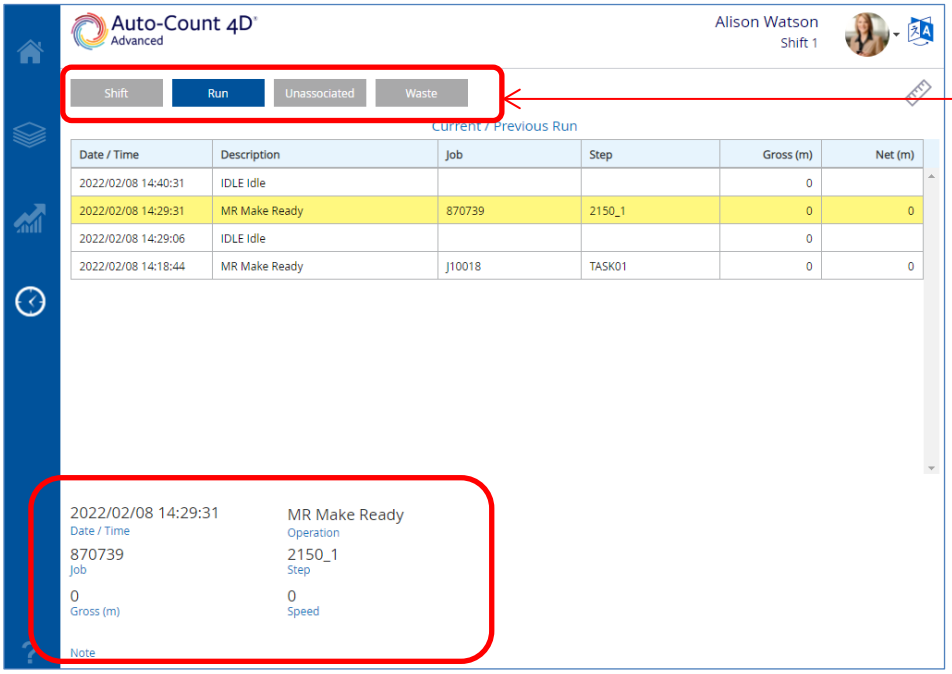
> **Note** To use micro stops, navigate to Plant Manager Web > Auto-Count > Machine Configuration > Default tab and enter a value in the **Micro Stop Seconds** field.

The diagram below best describes how the short stop and micro stop feature works. This assumes you have set your Short Stop Behavior to Short Stop.

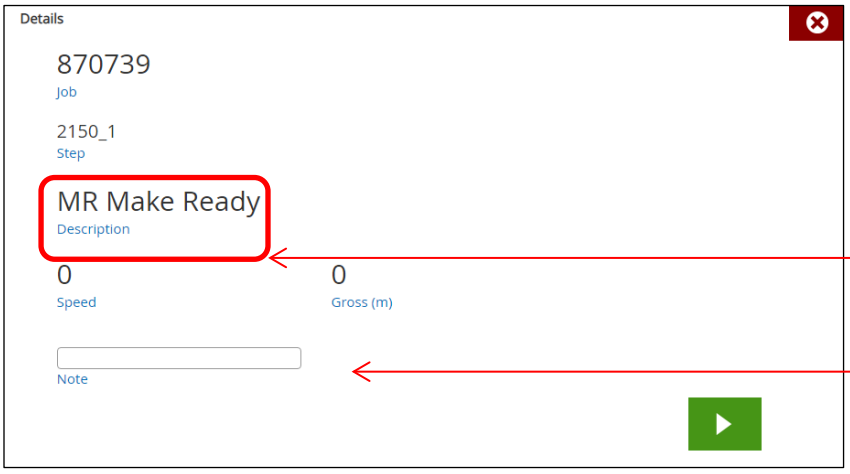


Production Log

The Production Log contains a list of all transactions related to running a job in Auto-Count. Click the details area at the bottom to open the Detailed Info window. Here you can add a note to the transaction or change the operation code.



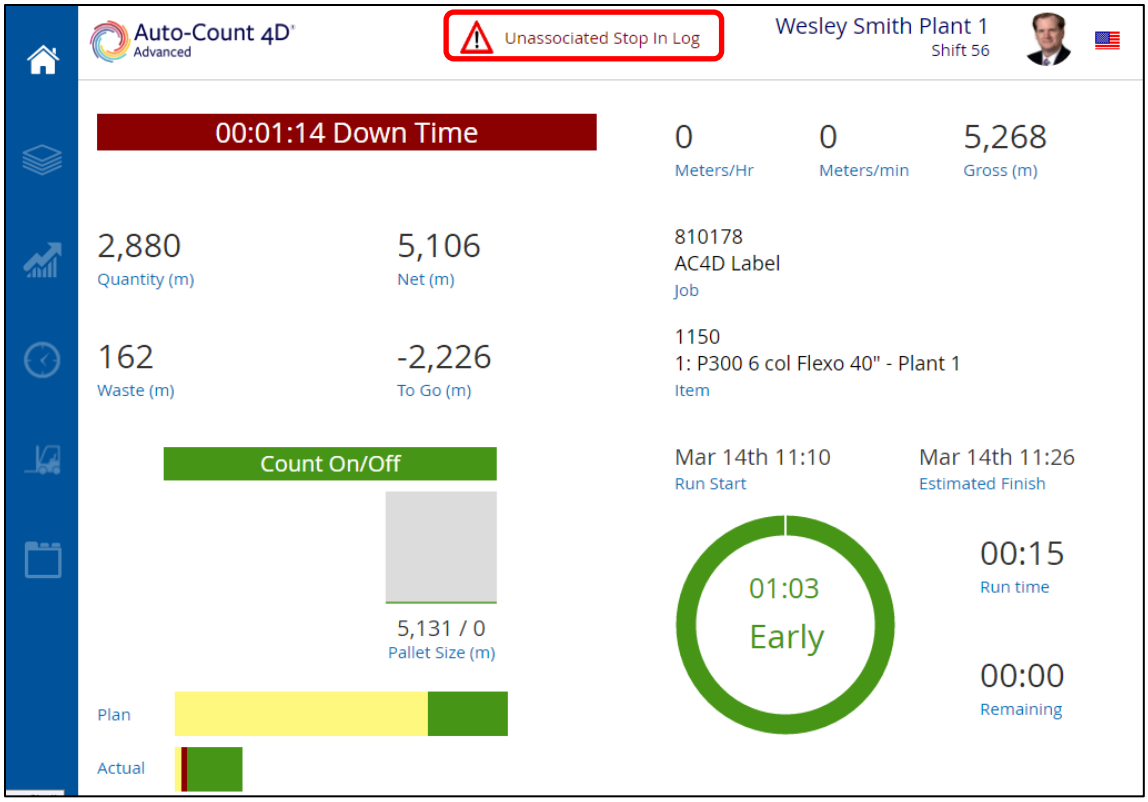
Use these filter buttons to customize your display.

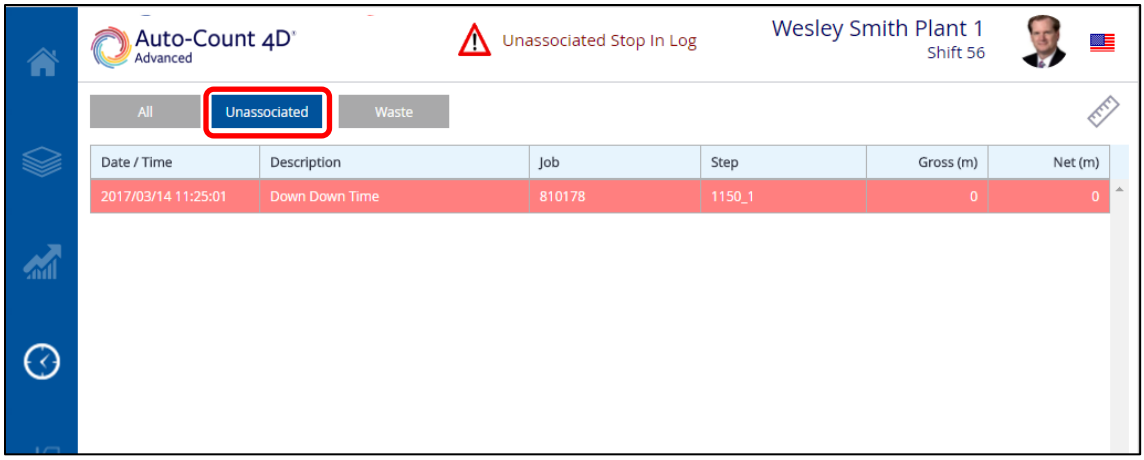


Click here to change the Operation Code.

Enter a Note as needed.

Note Warnings will display in the title bar area notifying you of an Unassociated Stop. Click **Unassociated** to quickly list those stops and to re-code them as necessary.





Filters

You can filter the Production Log to view only those transactions you want to see.

Shift: Filter by current and previous shift (*default*)

Run: Filter by current and previous run

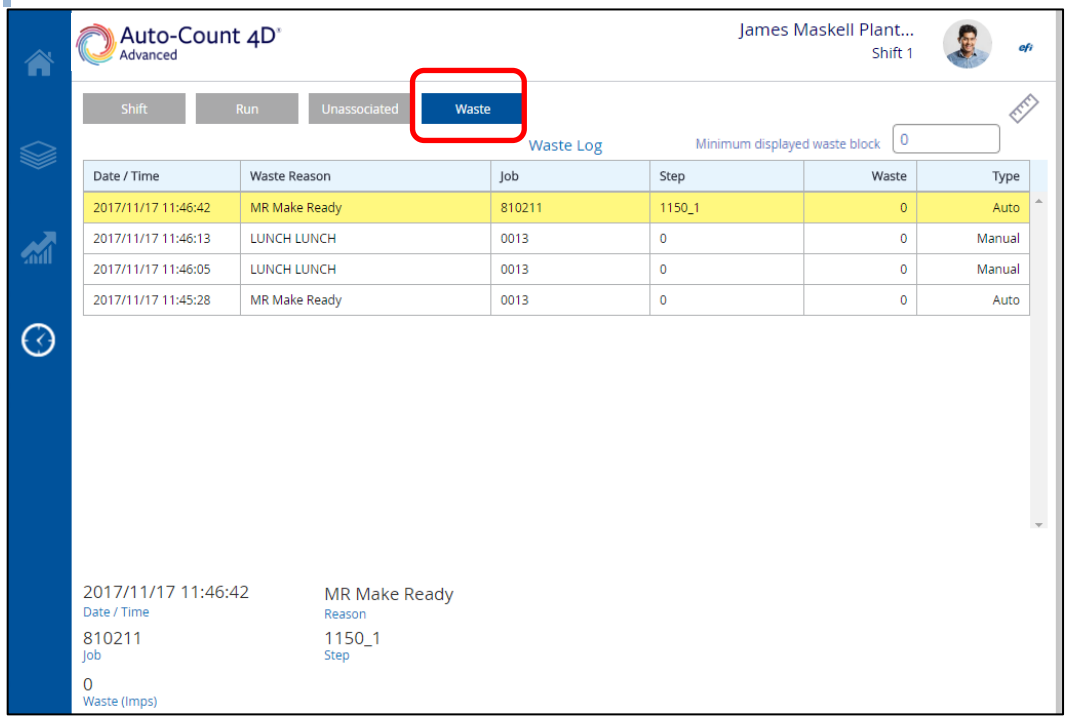
Unassociated: Display only Unassociated stops. (See above)

Waste: Display only Waste transactions.

Waste Log

Select **Waste** to open the Waste Log where you can track waste transactions on jobs. To filter the list, enter a waste quantity in the **Minimum displayed waste block** field. In this way you can filter out all events with a zero waste quantity or search for those waste events higher than a specific value. The default value is 0 when you enter the screen.

Note First you must select either the Shift or Run to view waste only for those criteria.



Also, if a production log entry has waste associated with it and a user edits the operation code for that production log item, the corresponding waste will also be updated with the same opcode.

Note This will only occur if the opcodes in both the Production Log and Waste Log match. If they differ then the Waste Log entry is left as it was.

Waste Blocks

Auto-Count records waste in what we call 'blocks' and transmits these waste blocks to the user interface (Waste Log) and the MIS system (XML messages). A waste block starts when any non-manual waste is detected. This happens when the gross count is increasing but the net count is stopped. If there is no more waste detected for a duration of 90 seconds, then Auto-Count ends that waste block and assigns it the current operation code and product detail information. The waste block will end before those 90 seconds if an operator manually enters waste for that product. By default, any waste block is assigned the same reason code as the current operation code. For example, if waste was detected during 'Code A', then in the waste log you will see 'Code A' as the waste reason. You can edit this from the waste log screen in the Production Log.

Where can I find waste values?

Auto-Count 4D: Click the Waste tab of the Production Log

Plant Manager SQL Database: In the *TxnWaste* table which is linked to the *TxnDetail* table.

API XML Messages: *MachineWaste* under *MachineDetail* nodes in the *MachineTransactionCommand* xml message. (You can view these from Plant Manager Connector)

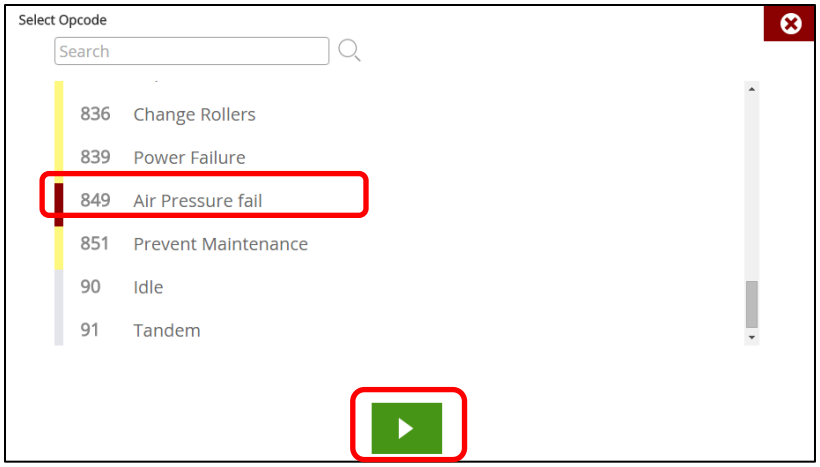
Changing Production Codes

> **Note** If your machine has the option Do not redefine Clean-Up code enabled in Plant Manager, then the operator can change a Clean Up code to another code, but Auto-Count will retain the Clean Up code and its time in the production log. If the option is not selected, which is the default behavior, the new code replaces the Clean Up code in the log and takes on the time accrued under the clean up code before it was redefined.

To change the Production Code of a transaction, double-click the item in the grid to open the Detailed Info window.

Date	Description	Job	Step	Gross (ft)	Net (ft)
2015-10-20 16:10	40 Unassociated Stop			0	
2015-10-20 16:09	30 Running	95556	1	148	135
2015-10-20 16:09	40 Unassociated Stop	95556	1	0	0
2015-10-20 16:08	30 Running	95556	1	43	36
2015-10-20 16:08	Start Of Run	95556	1	0	0
2015-10-20 16:06	90 Idle			0	
2015-10-20 16:05	Start Of Run	102015	1	436	3
2015-10-20 16:01	90 Idle			0	
2015-10-20 15:49	End Of Run Lift	102015	1	11,296	11,125
2015-10-20 15:39	Start Of Run	102015	1	0	0
2015-10-20 15:37	90 Idle			0	
2015-10-20 15:28	Start Of Run	102015	1	0	0

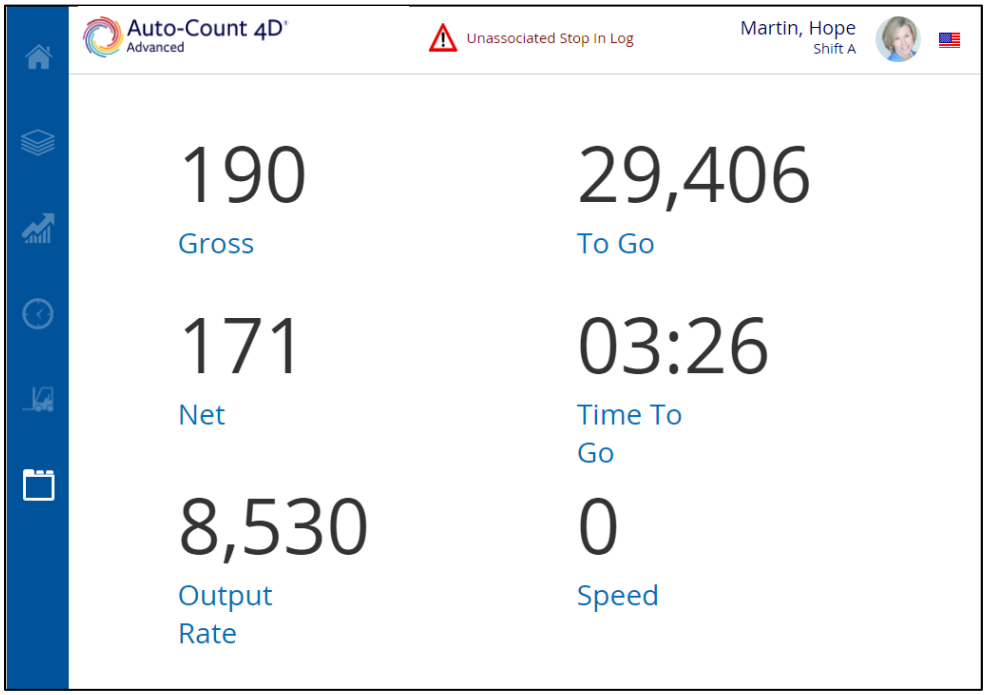
From here click on the code itself and then choose a new one.

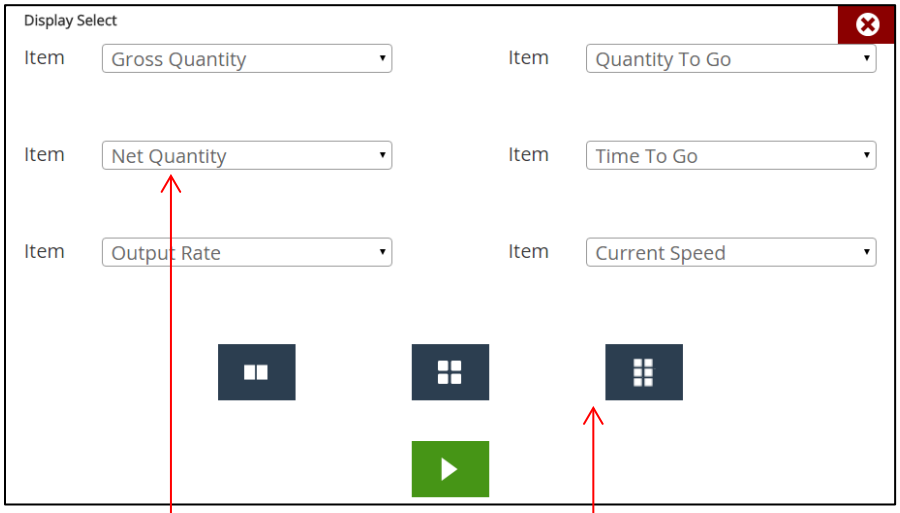


Warning: (*Radius MIS*) Currently, Radius will update operation codes from Auto-Count only when the operator defines the opcode during the stop. For example, if the operator defines the unidentified stop at some later point in time after the undefined stop ends, then Radius will not update its event history to match.

My Auto-Count

The My Auto-Count page displays the most important run values in large font so users can monitor the job with ease. To modify this view, click any of the items and select another value.





Change the item to display using the drop-down.

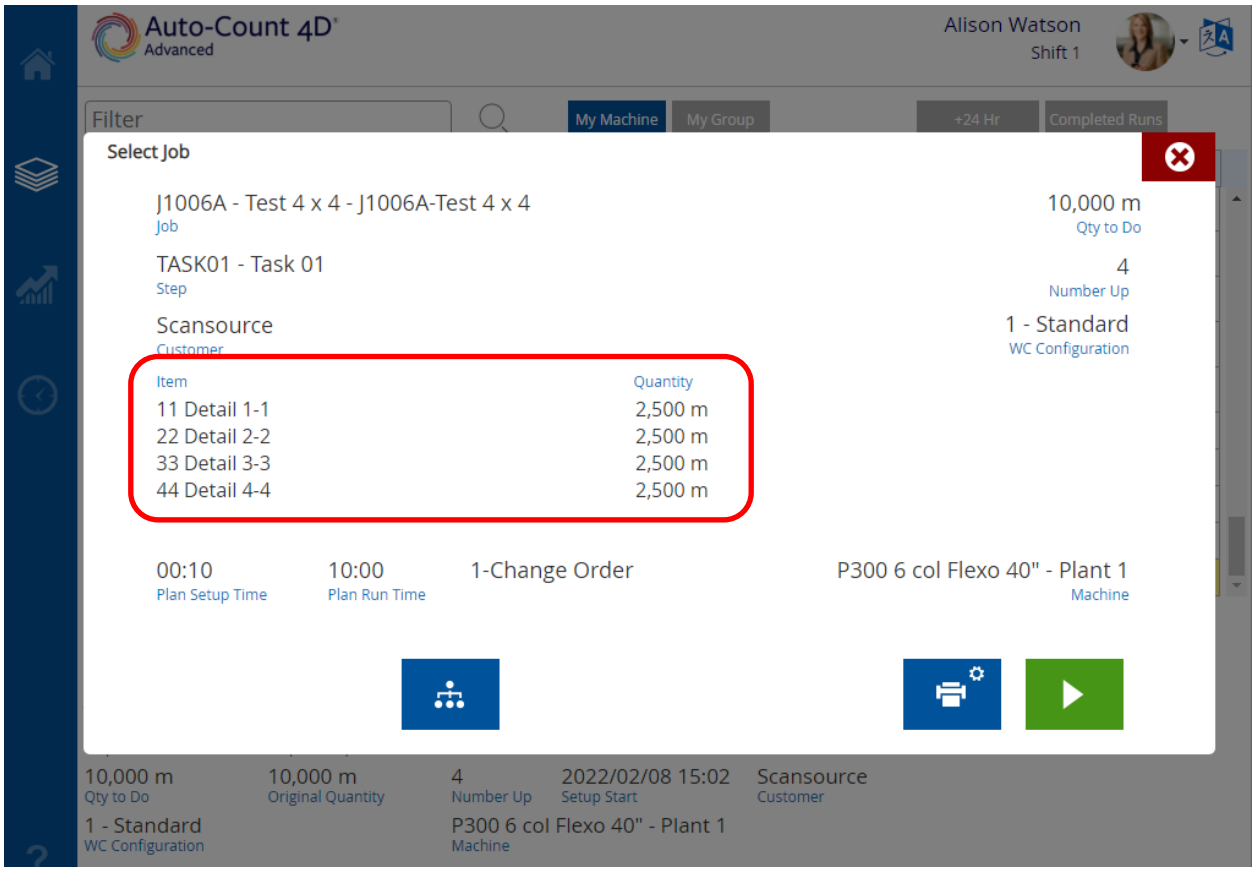
Click one of these formats to display 2, 4, or 6 items at a time.

Running Multiple Product Jobs

When a job/run contains multiple products on a sheet, the Auto-Count 4D will properly display the multiple products for the operator. In this example below we are running a job that has 8 up of product 1 and 2 up of product 2.

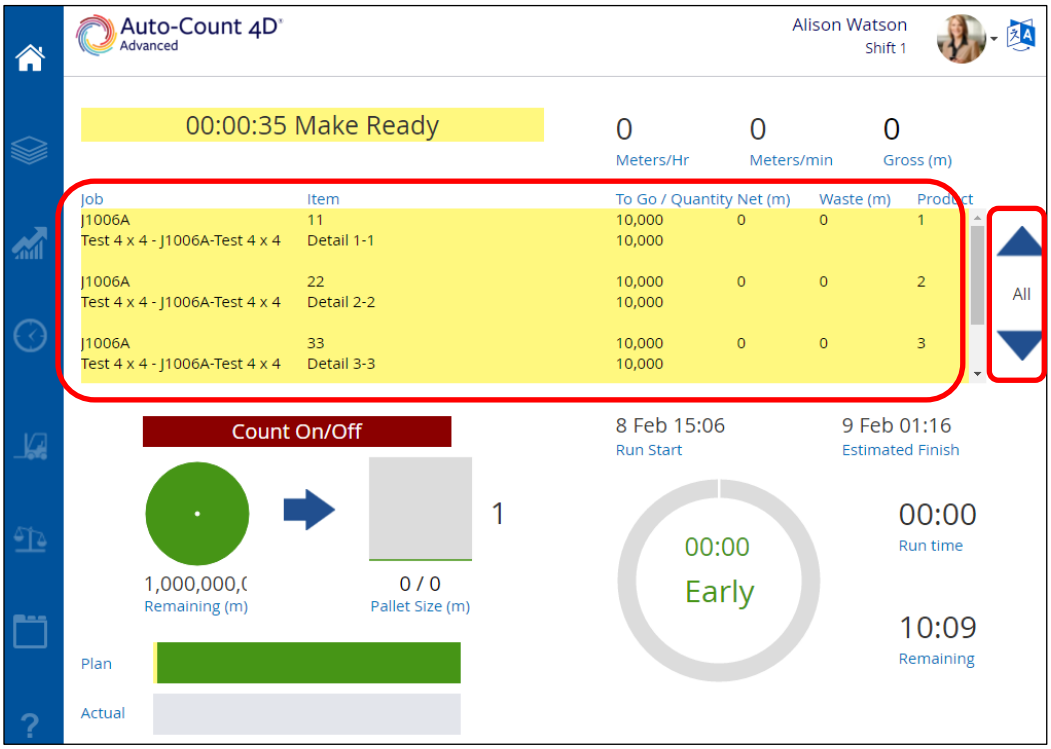
> **Note** Multiple Product jobs are also available in Auto-Count Manual but the interface is slightly different than shown below, but the concept is the same.

Select Job Window with Multiple Products

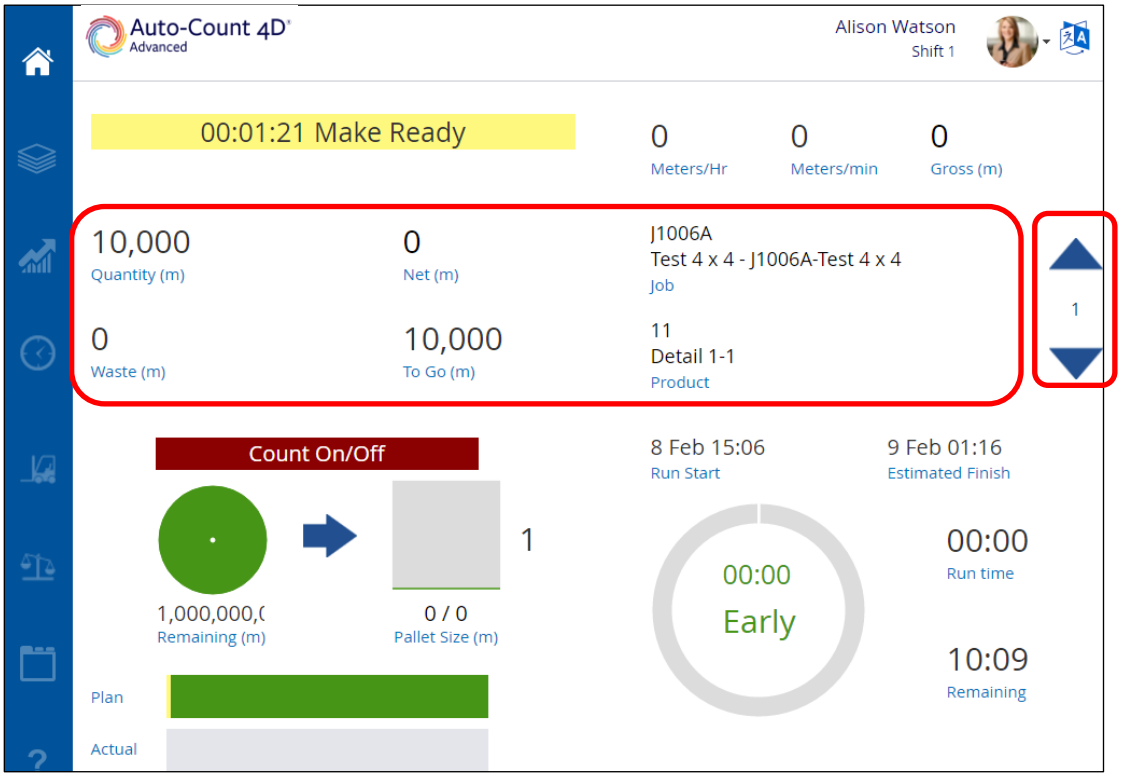


Main Window with Multiple Products

Here you can display **All** products (as shown below).

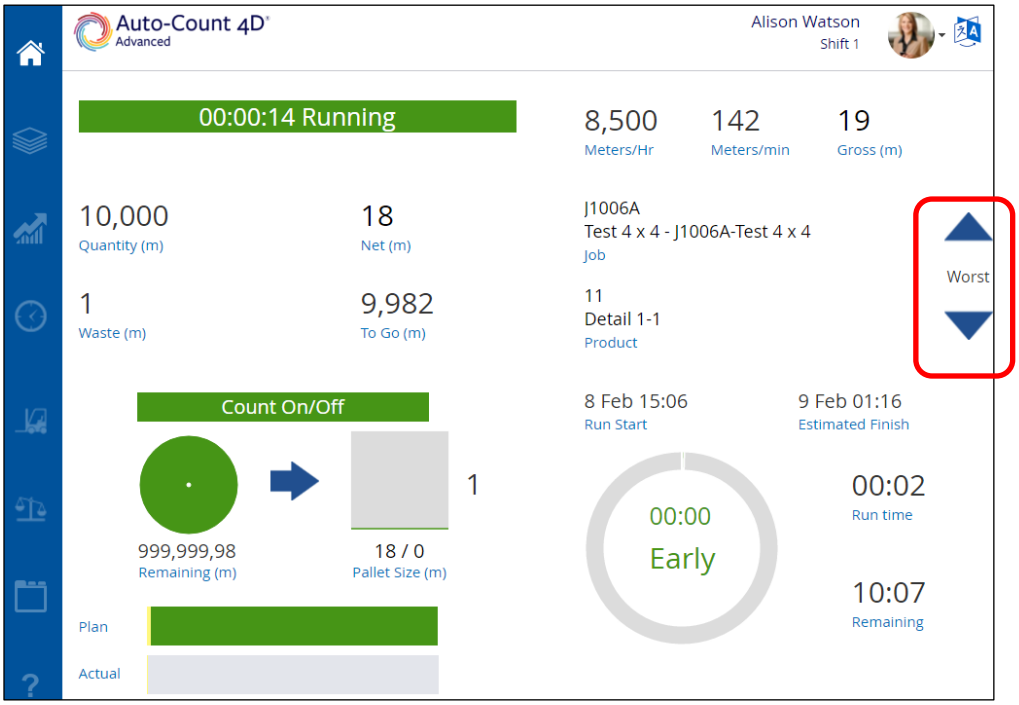


You can use the scroll buttons to display each product individually.



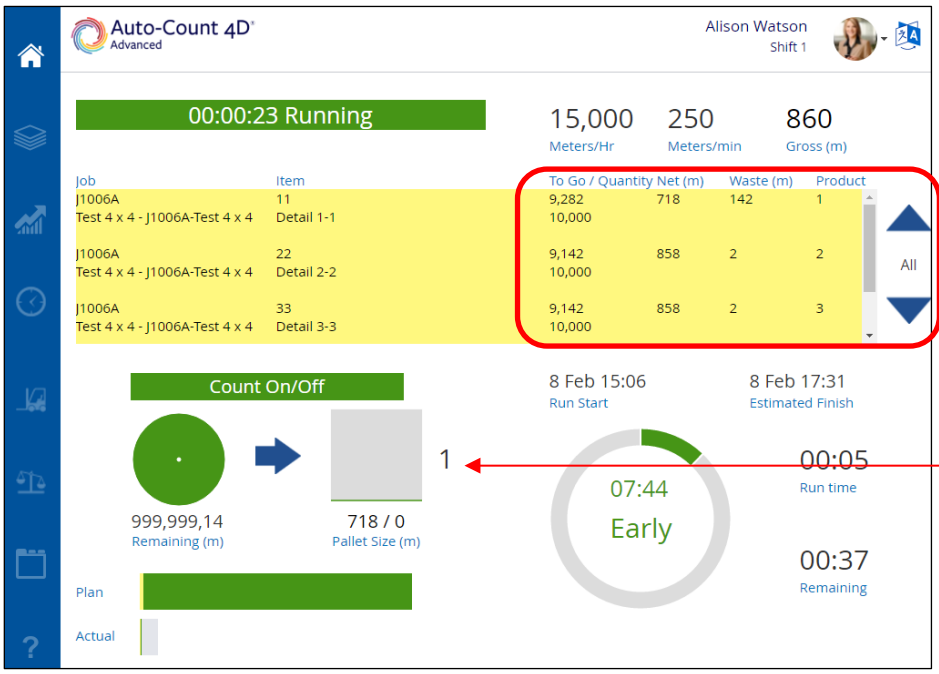
Worst Performing

You can also display the worst performing product which is a useful tool. Auto-Count determines the 'worst' product as the one that has the higher To Go value. Or more simply put, the product that will finish last.



Running the Job with Multiple Products

Once the job is in production you will see each product (All display) increment per the Number Up value.



If the outputs are different quantities, then the Home page will display the output with the largest quantity to do.

Once the job is complete you may end the job. You will see the products and their final values for the run.

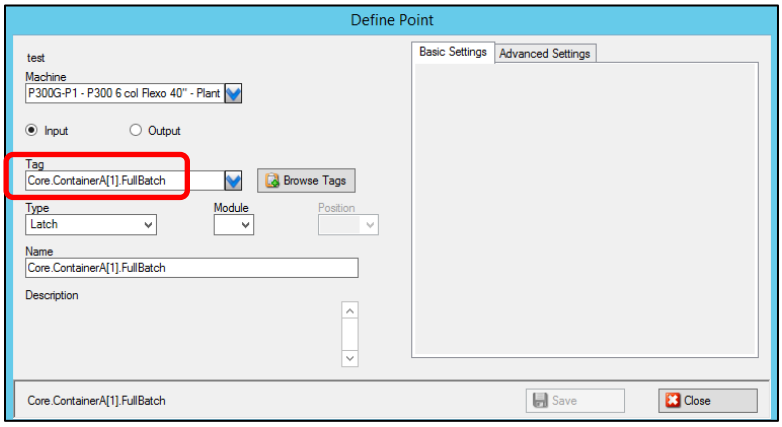
Counting by Container

We've enabled Auto-Count to count by container when certain complex workflows are used. For example, if you are producing rolls which then get packed into a box, Auto-Count will keep track of how many rolls are being produced and keep track of completed boxes.

> **Note** Container is a generic term as the nest of containers varies from job to job. Level 1 doesn't always mean a roll, it could be a bundle or something else. We always create one output which is the smallest container, e.g. roll in your example.
>
> Container A is the internal name for what that roll goes into, e.g. an outer.
>
> Container B is the internal name for what that outer goes into, e.g. an inventory.
>
> Container C is the internal name for what that inventory goes into, e.g. a pallet.

Hardware Setup

To take advantage of this counting method, you must use a Full Batch input for Containers instead of a Net counter. If you want to batch by Stackers and/or Palletizers those would need the Full Batch inputs assigned to them instead.



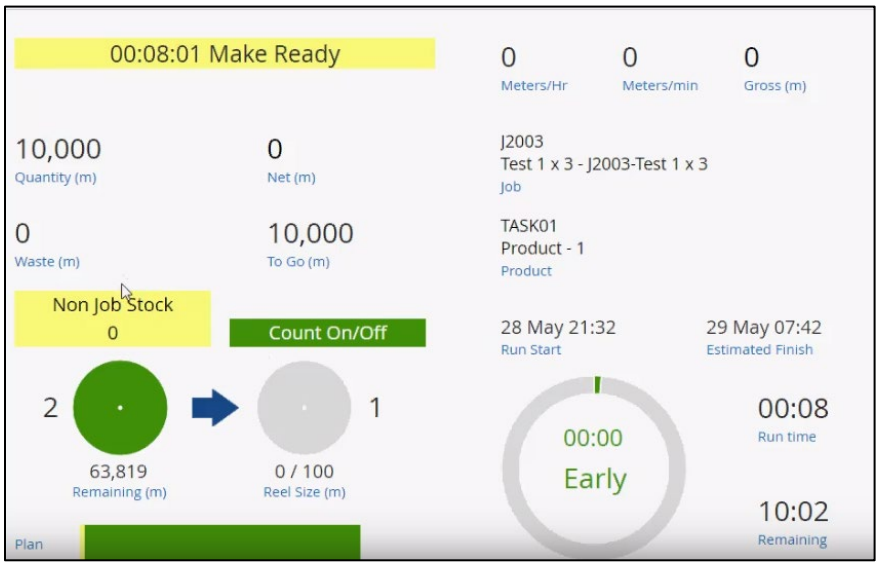
> **Warning** Do not turn on Net/Gross per Block when using the Counting by Container type of workflow since this method already counts in batches.

Take, for example, this workflow:

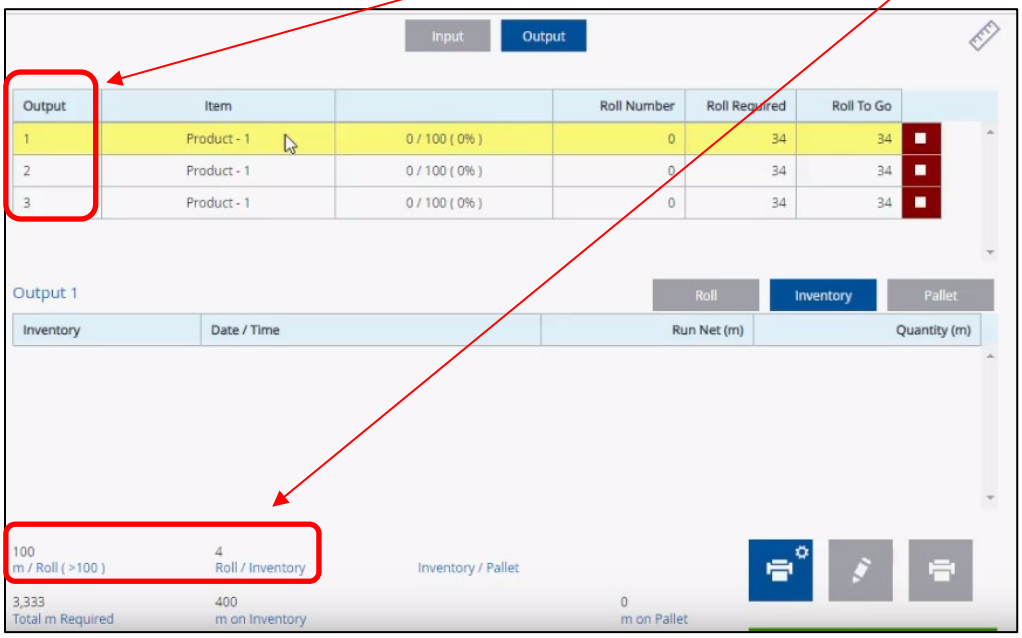
- Three deliveries producing 100-meter rolls. (Roll container)
- 4 Rolls = 1 Box (Inventory container)

> **Note** In this scenario, because only three rolls are being produced from three deliveries at a time, Auto-Count is aware that there could be rolls produced but not yet in boxes. Once Auto-Count detects that enough meters (rolls) has been produced to pack a box, it will calculate that when you end an output.

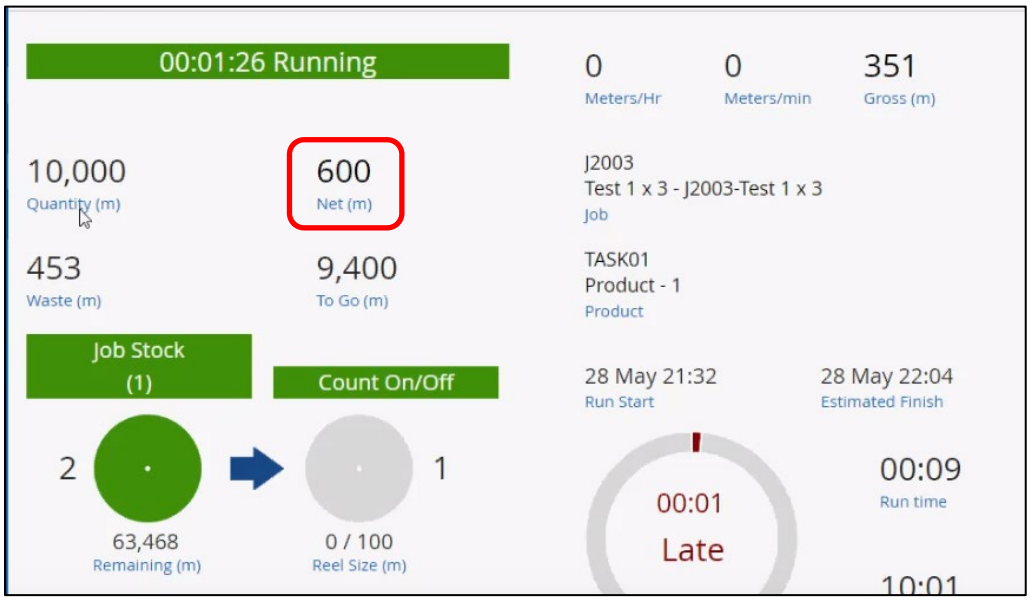
This is the start of the run:



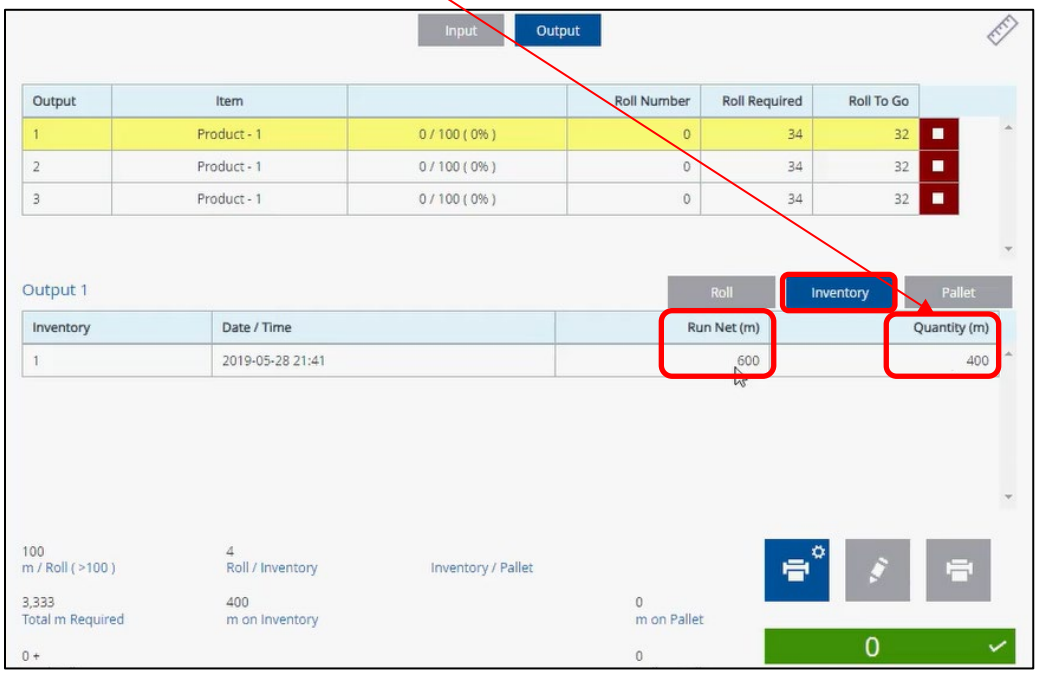
Materials > Outputs screen displays three deliveries with 100 meters per roll and four rolls in a box.



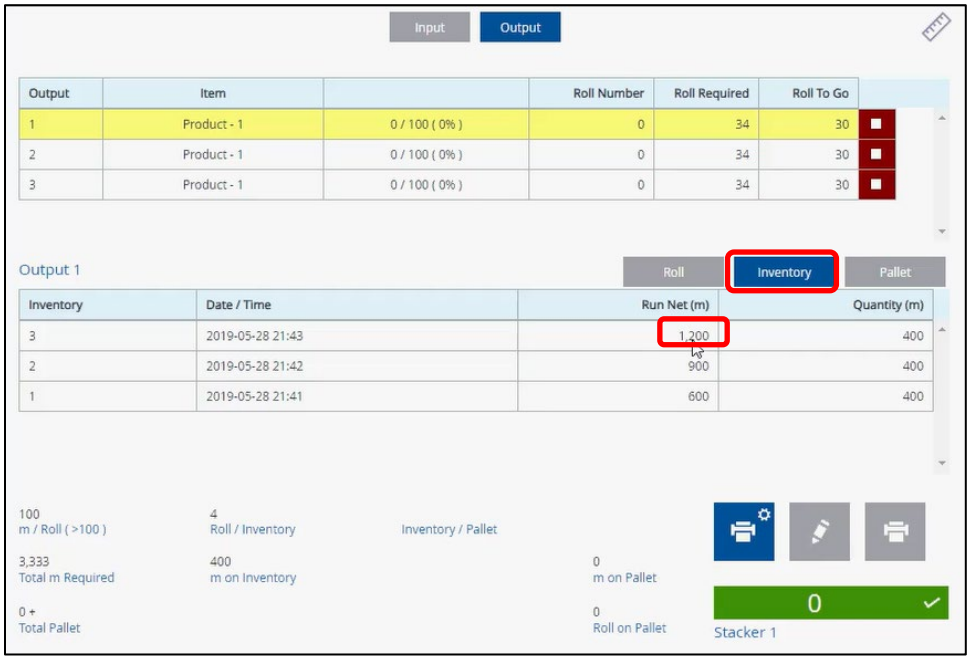
Now end the roll at this point where Auto-Count has counted 600 meters (6 rolls):



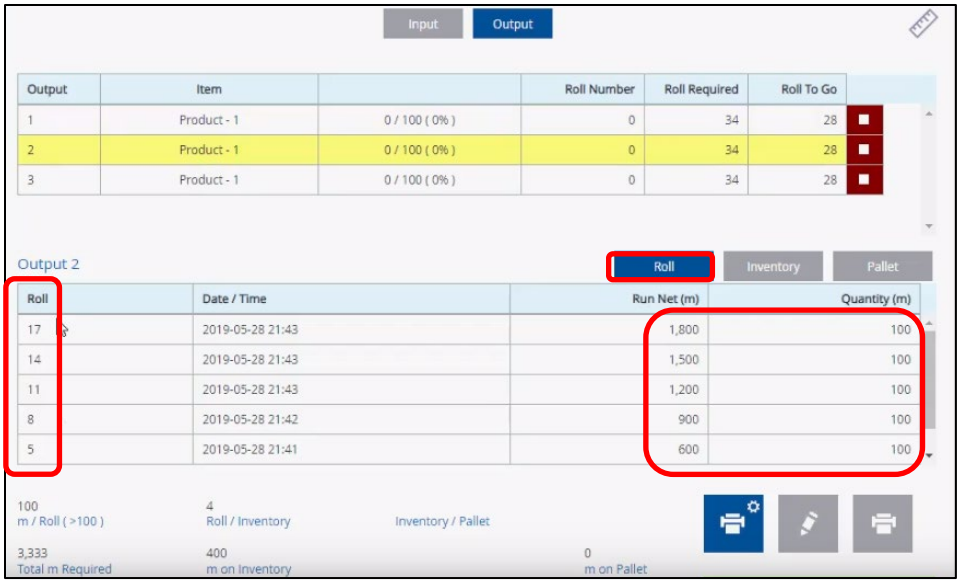
Auto-Count will calculate that one box (4 rolls = 400m) has been produced and there are two (200 meters) rolls on the table waiting to be packed since 600 (Run Net)-400=200 (2 rolls).



The run continues and now you are at 1,200 meters consumed in total, so Auto-Count will count 3 boxes (1,200m = 12 rolls) with no leftovers waiting to be packed. Note, this display is still at the Inventory level.



Now the run has produced 1,600 meters. Let's look at the roll level to see how Auto-Count is keeping track of the rolls themselves. The rolls being produced are incrementing by 3 (because there are three deliveries) and the counts are by roll.



Counting Gross with No Sensor

When a machine does not have a gross sensor but has a full batch net counter, Auto-Count can calculate the Gross from the Net. With this workflow, the gross and net counts will increment properly when outputs are created. The packaged net counts (FullBatch) will increment the Gross quantity and, therefore, consume the input material. Anything not consumed from the input will be considered waste. This assumes the machine is set up with the options Downtime by Operator and Makeready End method is Net Pulse.