



Yield Reports Specification
For RG3 v2.12.0.2+

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General Safety Requirements

WARNING

The operator must thoroughly read and understand this manual before operating the saw or starting any servicing. All safety and warning instructions should be followed. This manual must be available to all operators.

1. For your own safety, read the operation manual carefully. Know your machine. Learn its applications and limitations, and any hazards specific to this machine. All personnel should be trained in the operational procedures and received safety instruction before operating this equipment. If you have not received proper training in the use of this machine, **DO NOT OPERATE THIS MACHINE**, damage to the equipment or injury to the operator is possible.
2. This machine should not be operated without all of the guards in place and safety devices in operation. Removal of any guards or disabling any of the safety devices may result in damage to the equipment or injury to the operator. If any of the guards or safety devices are missing, damaged or not working properly, **DO NOT OPERATE THIS MACHINE**, notify your supervisor immediately.
3. If the operator has any safety concerns or questions regarding the operation of this equipment, **DO NOT OPERATE THIS MACHINE**, the machine should be locked out and your supervisor notified immediately.
4. All Lock Out/Tag Out procedures must be followed before servicing or adjusting this equipment. If you have not received proper training in the Lock Out/Tag Out procedures for this machine, **DO NOT OPERATE THIS MACHINE**, damage to the equipment or injury to the operator is possible.
5. In case of any equipment malfunction or jam the machine should be powered off and locked out before clearing any materials from the operational areas of this machine. Once cleared the reset procedures need to be followed when powering up the equipment. At no time should any of the machine control systems including electrical, hydraulic or pneumatic circuits be manually overridden.
6. Check machine for damaged parts. Before continued machine use any damaged guard or part must be carefully checked for proper operation of its intended function. Check all moving parts for proper alignment, check for binding of moving parts, breakage of parts, proper secure mounting, and any other condition that may affect machine operation. Guards or other parts that are damaged must be properly repaired or re-placed.
7. Machine must be properly grounded.
8. Maintain and clean machine at recommend intervals. Intervals may need to be adjusted due to work load or material type to keep machine in top condition. Follow instructions for lubrication, setup, and changing accessories

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9. Disconnect machine from power source before, changing accessories, or any servicing activity.
10. Avoid accidental starting. Make sure switch is in the off position before connecting to power.
11. Remove any tools or loose objects from work surface of machine. Make sure any tools used for adjustment or maintenance are removed from machine before machine is restarted. Make a habit of scanning for tools and scraps every time the machine is started.
12. Keep work area clean. Cluttered work areas and workbenches increase the likelihood of an accident.
13. Do not use in dangerous environments. Do not use machine in damp or wet locations, or expose them to rain. Keep work area well illuminated.
14. Keep children away. All visitors should be kept at a safe distance from work area.
15. Make workshop childproof, with padlocks, master switches, or by removing starter keys.
16. Do not force the machine. It will function better and safer at its designed rate.
17. Use the right tools. Do not force the machine or attachments to do a job for which they were not designed. Contact the manufacturer or distributor if there is any question about the machine's suitability for a particular job.
18. Use only recommended accessories. Consult the operation manual for recommended accessories.
19. Wear proper apparel. Avoid loose clothing, gloves, neckties, rings bracelets, or jewelry which could be tangled in moving parts. Keep long hair contained to prevent entanglement. Non-slip footwear is recommended.
20. Always wear safety glasses.
21. Secure the work piece.
22. Keep proper footing and balance at all times.
23. Do not use machine while under the influence of drugs, alcohol, or any medication.
24. Always wear a face mask or dust mask if operation creates excessive dust or chips. Always operate machine in a well-ventilated area and provide proper dust removal.

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25. Never leave machine running unattended. Turn power off. Do not leave machine until it comes to a complete stop.

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Introduction

Description

Yield reports give you a board-by-board record of how well your material was used during AutoList pusher runs. When the feature is enabled, RG3 writes one line to a report file every time a board is run to completion. The report records the stock length, the total length of the parts produced, the resulting yield percentage, the operator, timestamps, and the machine settings in effect at the time of the run.

Report files are plain comma-separated text (CSV) with a `.yd3` extension. They can be opened directly in Excel or consumed by third-party reporting software. The complete file format is described in Appendix 1.

The Yield Calculation

RG3 computes yield as the length of finished parts divided by the overall length of the board:

$$Yield = Used \div Length$$

“Used” is the sum of the finished part lengths only. Everything else on the board counts against yield and is reported as scrap: the start and end trims, the saw kerf consumed by each cut, any defect regions marked or scanned out of the board, and the unusable remainder at the end of the board.

When boards are run stacked, the lengths in the report describe a single board. The part quantity, however, counts the parts produced by the entire stack.

Setup

Enabling Yield Reports

To enable yield reports, select the SETTINGS main tab on the right of the RG3 interface. Then, type “5239” in the password box and select or press “Enter” to unlock RG3 settings. Select the Software Options tab and locate the Yield group (see Figure 1). Check “Enable Yield Reports”.

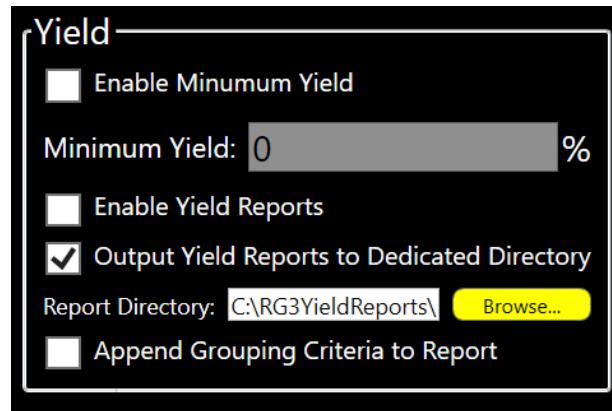


Figure 1 - Yield Settings

Choosing the Output Location

By default, “Output Yield Reports to Dedicated Directory” is checked and all report files are written to the folder shown in the Report Directory box (C:\RG3YieldReports\ unless changed). Select “Browse...” to choose a different folder.

If you uncheck “Output Yield Reports to Dedicated Directory”, each report file is instead written next to the cutlist file that produced it.

NOTE RG3 does not create the dedicated report directory for you. If the configured directory does not exist, an error message will be shown at the end of each run and no report will be written. Use “Browse...” to select an existing folder, or create the folder in Windows Explorer first.

Static Report Fields

Every yield report row can carry up to five custom fields of your choosing — a shift number, a department, a job code, or anything else you want attached to your yield data. To configure them, select the YIELD tab at the bottom of the AutoList screen (see Figure 2).

#	Name	Value
1		
2		
3		
4		
5		

Figure 2 - AutoList YIELD Tab

Each of the five fields has a Name and a Value. The Name becomes the column header in the report file; the Value is written into every row. Both persist across restarts of RG3, so a field only needs to be changed when its value actually changes — for example, at the start of a shift.

NOTE

Column headers are written only once, when a report file is first created. If you rename a field later, existing report files keep their original headers; only new report files pick up the new name.

Appending Grouping Criteria

When your cutlist is grouped, checking “Append Grouping Criteria to Report” adds three columns to the end of each row containing the values of the grouping columns for the group the board belonged to. This lets downstream reporting break yield out by material, color, or whatever else your list is grouped by.

Minimum Yield

The Yield settings group also contains the minimum yield enforcement feature. Check “Enable Minimum Yield” and enter a percentage to have RG3 check every board before it runs. If the pattern about to be cut falls below the minimum yield, RG3 shows a warning with a preview of the board and asks whether to override. If the operator overrides, the board runs normally and the report row is flagged in the YieldLimitOverridden column. If the operator declines, the board is not run.

Minimum yield enforcement works independently of report output — either can be enabled without the other.

Operators

The Operator column of the report is filled from the currently active operator. Operators are managed in the Operators group of the Software Options settings tab; the active operator is selected from the main screen. If no operator is active, the column is left blank.

Operation

Once enabled, yield reports require no interaction during normal operation. At the end of every completed board, RG3 appends one row to the report file for the current cutlist. The file is named after the cutlist — a cutlist named `KitchenA.r3d` produces `KitchenA.yd3` — so each cutlist accumulates its own history of boards, including boards run across multiple sessions or days.

A board that is aborted before all of its parts are cut is not recorded.

The same yield information is visible inside RG3 on the run history items of the AutoList screen, where each bar shows its overall length, used length, and yield percentage.

Appendix 1 - Report File Format

Report files are UTF-8 text without a byte-order mark. The first line is a header row; every following line is one board. All values, including numbers, are enclosed in double quotes and separated by commas.

All distance columns are reported in the distance unit the machine was set to when the board ran, as recorded in the Units column of the same row.¹ Timestamps use the Windows regional date/time format of the RazorGage PC.

¹In RG3 versions prior to v2.12.0.2, distance values were always written in inches regardless of the unit shown in the Units column.

Column	Description
SerialNumber	Serial number of the RazorGage machine.
Filename	Name of the cutlist that produced the run.
Units	Distance unit in effect when the board ran (e.g. in, mm). All distance columns are reported in this unit.
Operator	Full name of the active operator. Blank when no operator is selected.
(custom fields)	Five columns whose headers and values are configured on the AutoList YIELD tab. Unconfigured fields default to the headers Field1 through Field5 with blank values.
Thickness	Part thickness, taken from the mapped thickness column of the cutlist. 0 when the list has no thickness column.
Width	Part width, taken from the mapped width column of the cutlist. 0 when the list has no width column.
StockLengthType	DEFINED when the board was run at an entered stock length; REMAINING when it was run against the remaining length of the previous board.
Length	Overall length of the board.
YieldLimit	The Minimum Yield setting, as a percentage, at the time of the run.
Used	Total length of the finished parts. Saw kerf is not included.
Scrap	Length minus Used: trims, kerf, defected material, and the unusable remainder.
Yield	Used divided by Length, as a percentage with one decimal place.
YieldLimitOverridden	True when the board fell below the minimum yield and the operator chose to run it anyway; otherwise False.
StackingQty	Number of boards run stacked together.
PartQuantity	Total parts produced: parts per board multiplied by StackingQty.
StartTrim	Start trim length in effect for the board.
EndTrim	End trim length in effect for the board.
SawKerf	The machine's saw kerf setting.
HomeOffset	The machine's home offset setting.
StartTime ²	Timestamp of the start of the run.
EndTime	Timestamp of the end of the run.
GroupingCriterion1 GroupingCriterion2 GroupingCriterion3	Values of the cutlist's grouping columns for the group the board belonged to. These three columns are present only when "Append Grouping Criteria to Report" is enabled.

Table 1 - Report Columns

NOTE

Changing "Append Grouping Criteria to Report" changes the number of columns written per row, but the header of an existing report file is never rewritten. To keep files consistent, move or rename existing .y3 files after changing this option so that new runs start a fresh file.

²In RG3 versions prior to v2.12.0.2, this header was spelled StartTime.