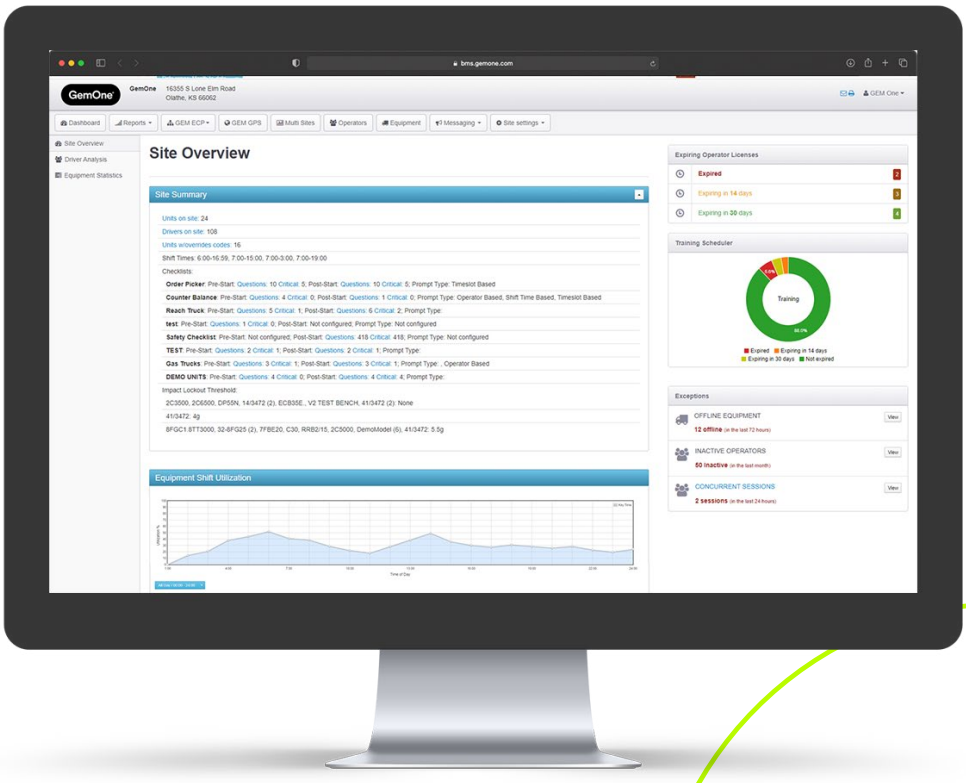
GemOne®

EN

Sapphire Portal

Procedure Manual

Version 1.0 - March 2024



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1 - Introduction

1.1 - Purpose

The purpose of this document is to explain how to use and navigate the Sapphire portal.
It will cover administrative tasks, widgets, reports, and analytics.

1.2 - Scope

This document is to be used by personnel accessing the Sapphire portal.
It includes not not limited to dealerships, end customers, and GemOne staff.

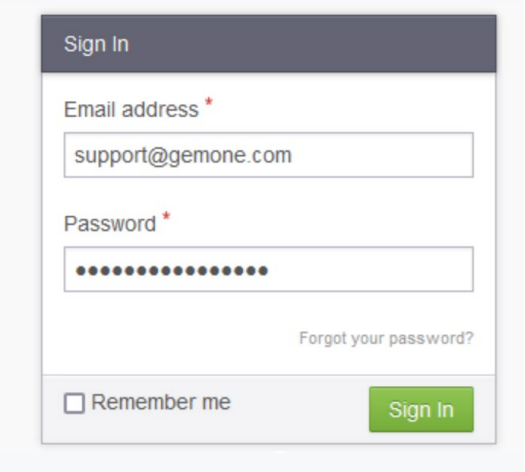
2 - Information

2.1 - Accessing the Portal

The Sapphire portal can be accessed via
http://sapphire.gemonecorp.com/login

Login details are case sensitive.

Contact the system administrator or
GemOne if access to the portal is required.



2.1 - Basic Features

These features are available throughout different sections of the portal via plugins.

2.2.1 Table Exporting

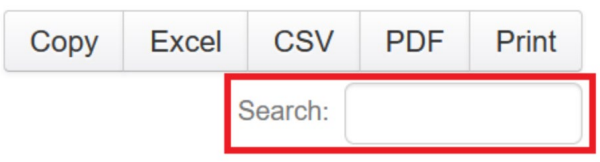
Tables throughout the portal can be exported using one of the following buttons.

Users can either:

- Copy contents of the table
- Export the table to an Excel spreadsheet
- Export the table with a .csv format
- Export the table to a .pdf format
- Print the contents of the table

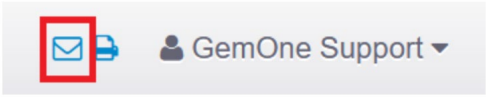
Appropriate software is required to open .xlxs , .csv , and .pdf files.

2.2.2 Searching



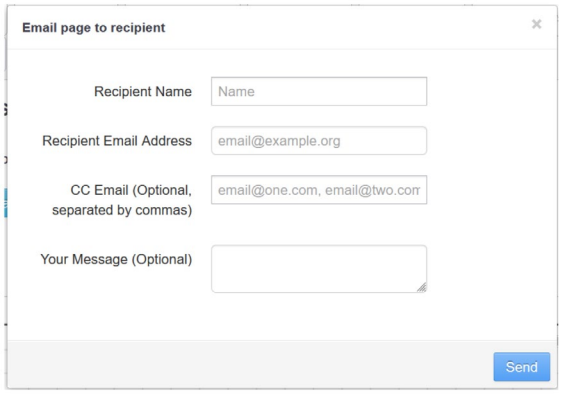
Search bars can be found throughout the portal. They are typically found below the table export section. Entering words into the search bar will filter results.

2.2.3 Emailing



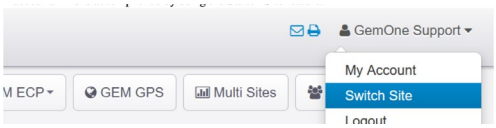
Pages on the portal can be emailed by using the mail icon. This is found on the top right of the page next to the username.

A pop-up will appear allowing users to fill in the recipient details. Once this is filled out, click on the Send button to email the page to the recipient.



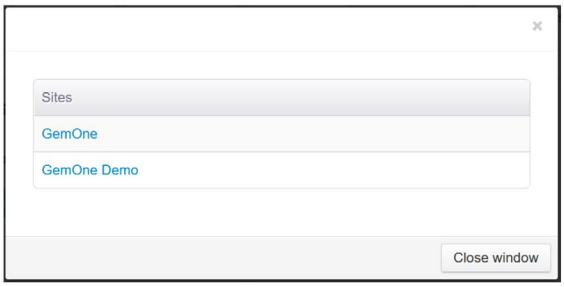
2.2.4 Switching Sites

Users with access to multiple customers can switch between different sites using the same account. This is accomplished by using the Switch Site feature.



Click on the user account on the top right and then on Switch Site.

A pop-up will appear and then clicking on any of the sites will load the new information.

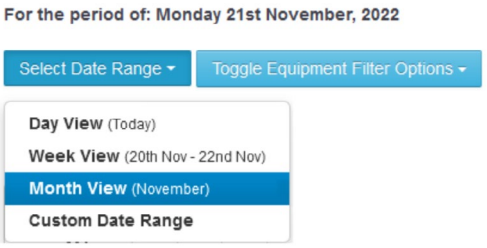


Subscriptions are unique to each customer and will need to be set up per customer. Contact the system administrator if access to additional sites is required.

3 - Site Overview Dashboard

The main dashboard contains utilization, impact, and checklist information about operators and equipment. The following points are common for most graphs across all dashboards:

- Reports can be loaded by clicking on the title of the widget.
- Data presented in widgets will be for the current day.
- Date ranges can be changed after clicking into the report.
- The latest point will display data from the previous hour.



3.1 Site Summary

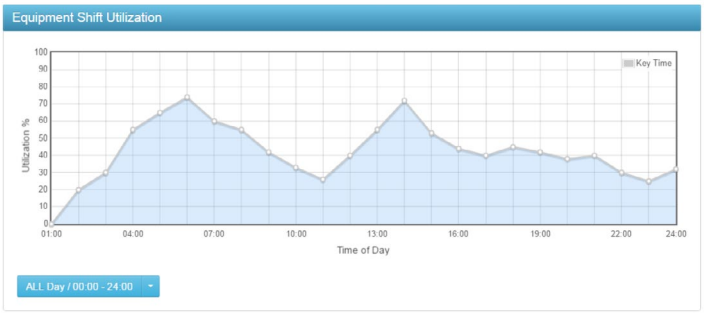
The Site Summary widget displays key configuration information about operators and equipment. It will list:

1. **Units on site:** the total number of equipment with sapphire modules.
2. **Drivers on site:** the total number of drivers with PIN or RFID access.
3. **Units w/override codes:** the total number of units that have override codes set up.
4. **Shift times:** what shifts are set up for the site.
5. **Checklist:** the checklist group and how it has been configured.
6. **Impact lockout threshold**: the impact lockout threshold set for units.

This widget will show the current snapshot at the time the page is loaded.

3.2 Equipment Shift Utilization

Equipment Shift Utilization shows **key hours** of all **active equipment** across the day.



It is broken into hourly blocks with each block representing the previous hour. For example, 07:00 represents data from 06:00 to 07:00.

Looking at the graph, there is 60% utilization at 07:00. If there is one active unit, 60% of 60 minutes equals 36 minutes. The average utilization for 06:00 to 07:00 is 36 minutes.

Only active equipment is used in the calculation. A module is determined to be active if it has made a connection to the GemOne server.

3.2.1 Equipment Shift Utilization Report

This report will show a breakdown of the equipment, key hours, and corresponding input timers.

Details	Fleet No	Key Time	Seat Time Input 1	Forward Input 2	Reverse Input 3	Input 4
	W07	14:24:02	11:24:16	07:08:24	02:20:38	00:00:00
	W13	09:55:28	08:59:31	06:23:55	02:54:26	00:00:00
	W14	09:21:26	08:50:15	08:05:59	01:03:44	00:00:00
	W18	09:20:36	08:40:41	07:32:02	01:30:19	00:00:00
	W04	07:57:00	06:55:40	05:17:18	01:48:09	00:00:00
	W15	07:48:02	05:39:57	04:13:22	00:58:33	00:00:00
	W10	06:37:04	05:34:54	04:58:31	00:54:24	00:00:00
	W05	06:18:25	05:29:51	04:48:01	01:34:39	00:00:00
	W17	05:35:46	04:53:27	03:25:40	00:49:28	00:00:00
	W22	05:20:08	03:16:10	02:16:13	00:52:01	00:00:00
	Total	**82:37:57**	**69:44:42**	**54:09:25**	**14:46:21**	**00:00:00**

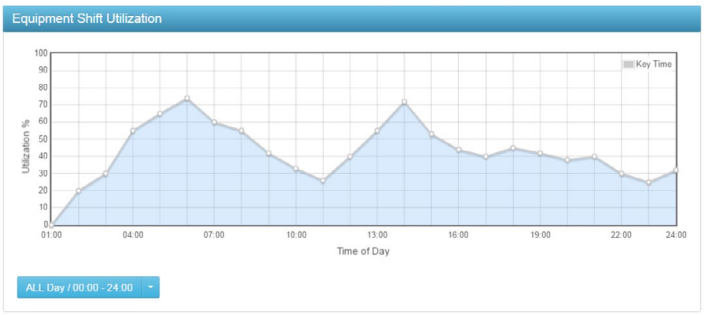
Input timers depend on how inputs have been installed at the equipment. Input names depend on how the model type has been set up on the portal. Contact GemOne for any questions regarding inputs.

The table above shows key hours with input timers.
This is useful to demonstrate how the equipment is being used.
For example:

- Equipment W07 with key time of 14 hours, seat time of 11 hours, forward time of 7 hours, and reverse time of 2 hours.
- The breakdown shows the operator was on the seat ~80% of the time and driving for 80% of the time they were seated.

3.3 Most Productive Equipment

Most Productive Equipment displays **key hour utilization** for the most and least active equipment.



Data at each point is a percentage of the previous hour; similar to the Equipment Shift Utilization widget.

The most active is represented by a blue line while the least active is represented by a yellow line. Usage patterns can be obtained by looking at the most and least active equipment. The widget quickly highlights who two pieces of equipment should be rotated. The most active should be utilized less while the least active should be utilized more.

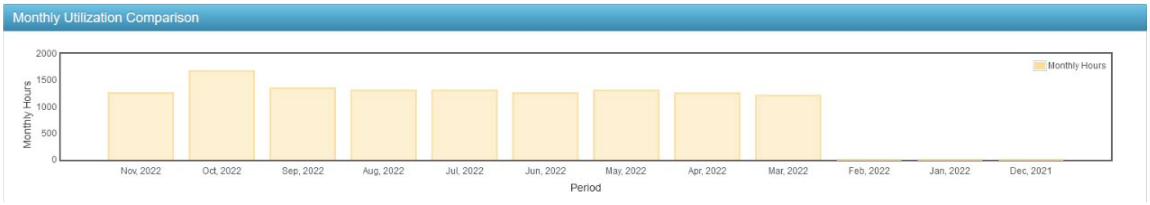
3.3.1 Most Productive Equipment Report

This report will show a breakdown of equipment and corresponding key hours for each.

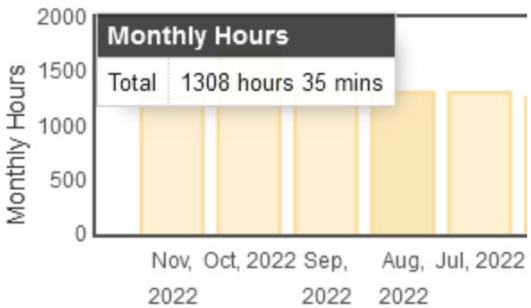
Clicking on the equipment name will bring up the equipment history page.

#	Equipment	Key Time
1	S1	20:43:14
2	S2	15:03:04
3	S3	00:12:34
4	S4	19:28:19
5	S5	21:01:17
6	S6	18:32:55

3.4 Utilization Comparison



Utilization Comparison displays **accumulated key hours** from all equipment for each month. Hovering over a column will display accumulated key hours for that month.
Data can be used to identify peaks and troughs throughout the year.



3.4.1 Utilization Comparison Report

The table compares data from the previous month to the month prior.

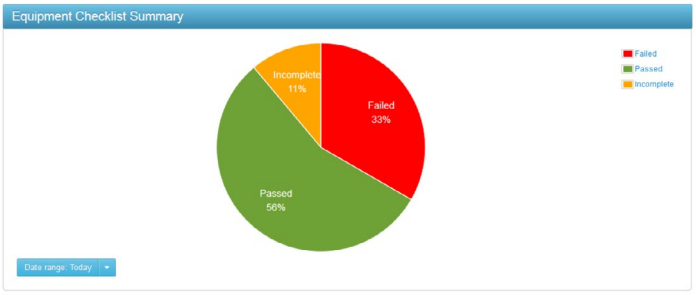
#	Equipment	Difference from Sep, 2022 to Oct, 2022	Hours Oct, 2022	Hours Sep, 2022
1	GEM2528	22.71% ↑	383 hours 52 mins	312 hours 49 mins
2	GEM2970	27.30% ↑	285 hours	223 hours 52 mins
3	GEM3584	24.84% ↑	290 hours 19 mins	232 hours 33 mins
4	GEM5582	22.08% ↑	291 hours	238 hours 22 mins
5	GEM2282	23.40% ↑	279 hours 7 mins	226 hours 11 mins
6	GEM3429	23.53% ↑	142 hours 26 mins	115 hours 18 mins
Total		-18.07% ↓	**1105 hours 20 mins**	**1349 hours 5 mins**

Looking at the image, GEM2528 shows an increase of 22.71% of key hour utilization from September-22 to October-22.

The hours have increased from 312 hours and 49 minutes to 383 hours and 52 minutes.

3.5 Equipment Checklist Summary

Equipment Checklist Summary displays checklist results from equipment.



This includes all checklists ranging from passed, incomplete, to failures.

All checklist results will contain the equipment, operator, and time completed.

This information can be seen by clicking into the checklist report.

3.5.1 Equipment Checklists Summary Report

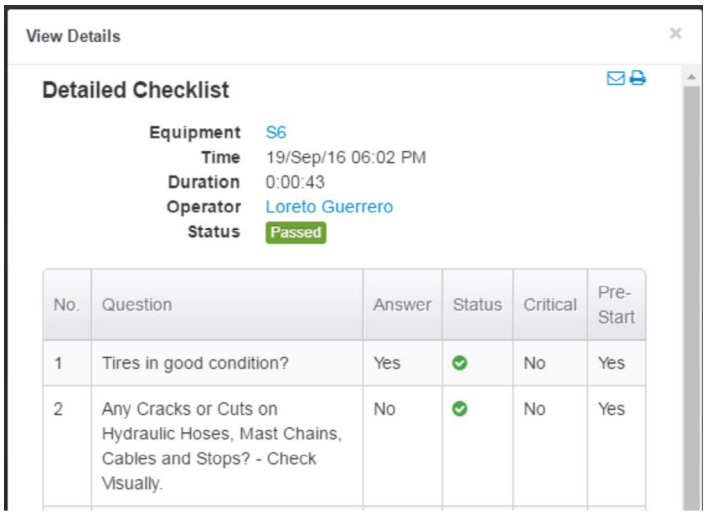
The report contains a detailed view of the checklist results.

Equipment	Time	Operator	Status	Failures	Duration	Detailed View	Comments
GEM3584	November 21, 2022 18:00	Anna May	Critical Failure	Are the forks free from damage?	0:03:37		Add New Comment
GEM5582	November 21, 2022 18:00	Anna May	Failed	Are the forks free from damage?	0:01:41		Add New Comment
GEM3429	November 21, 2022 18:00	Anna May	Incomplete	Is the battery damaged? (cracked case, bare cables, or split insulation) **Not Answered**	0:03:13		Add New Comment
GEM2282	November 21, 2022 18:00	Henry Allan	Incomplete	Is the battery damaged? (cracked case, bare cables, or split insulation) **Not Answered**	0:04:09		Add New Comment
GEM3429	November 21, 2022 18:00	Anna May	Passed		0:03:37		Add New Comment

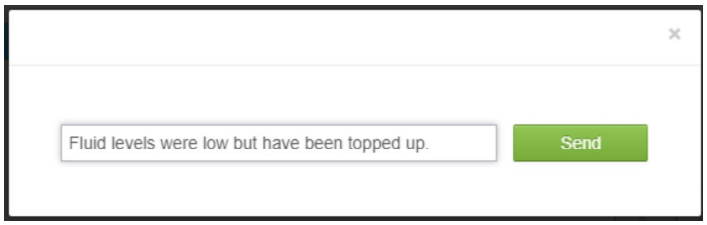
The report will list basic details such as the equipment, time completed, operator that was logged in, the status of the checklist, any failed questions, and also the duration of the checklist.

Users can also add comments to the checklist or view a detailed response.

Comments can be added to checklist results by clicking on the **Add New Comment** button. This can be found on the right hand column of the report.



The detailed response will load up each individual question and the corresponding answer selected.



There are four different checklist results that may appear on this page:

1. **Passed**
   Checklist completed without any failures.
2. **Failed**
   Checklist completed with failure of question(s) with a non-critical status.
3. **Critical Fail**
   Checklist failed with a critical status question.
4. **Incomplete**
   Checklist started, not completed, and equipment turned off.

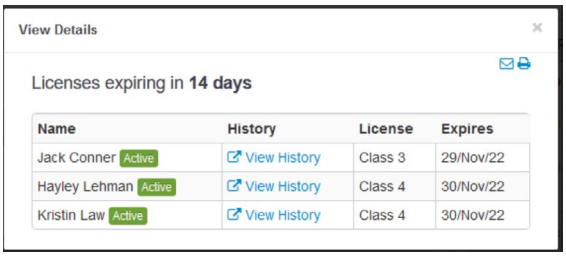
3.6 Expiring Operator Licenses

Expiring Operator Licenses shows operators who either have an expired license, license expiring in 14 days, or license expiring in 30 days.

License information for operators need to be filled out in order for this widget to populate.

Clicking on any of the categories will load a pop-up with license information. The image below shows three operators that will have their license expire within 14 days. Once the license is **expired**, the portal will **deny** that operator from accessing equipment. This will remain until their license information has been updated.

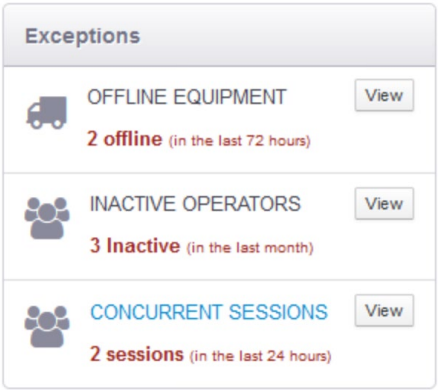
This information can also be emailed across. Refer to the subscriptions section below for more information.



Operators **will not** be denied access from equipment if license details are not filled in.

3.7 Exceptions

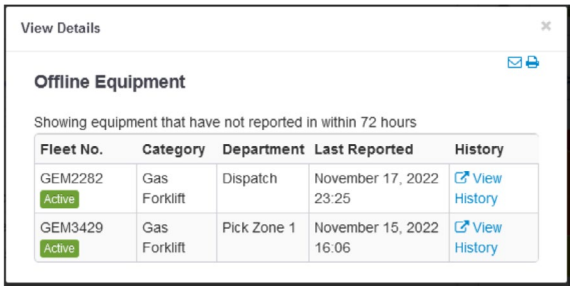
Expiring Operator Licenses shows operators who either have an expired license, license expiring in 14 days, or license expiring in 30 days.



3.7.1 Offline Equipment

Equipment will appear in this list if the device has **not connected** into the server in the **last 72 hours**.

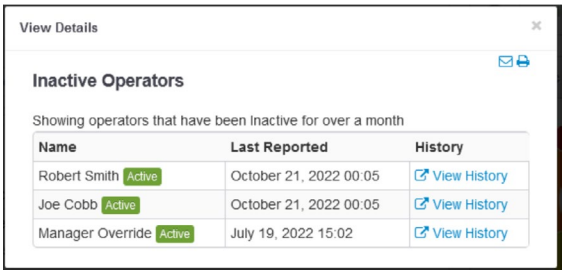
Clicking on the view button will display information about the equipment and the last reported date.



A valid connection from the module to the portal is required in order for the module to not appear offline.

3.7.2 Inactive Operators

Operators will appear in this list if their access code has not been used in the last **month**.

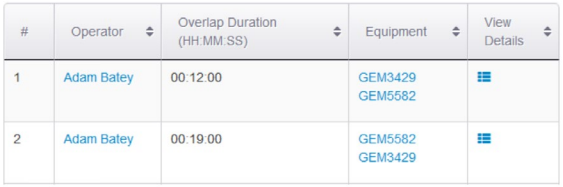


If an operator appears in this list, it does not mean their ID cannot access equipment. It just means they have not accessed equipment in over one month.

3.7.3 Concurrent Sessions

Concurrent sessions will show operators who are logged into **multiple equipment** at the same time.

This will highlight any operators who are sharing codes.

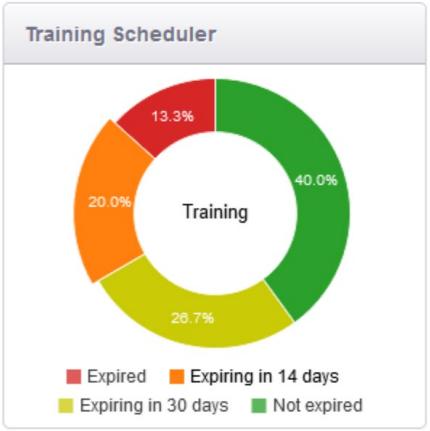


The module will **not deny** operators from **accessing** multiple equipment at the same time. It will only report it on the portal.

3.8 Training Scheduler

Training dates can be allocated to operators and it will populate this widget. Unlike license expiry dates, training dates will not affect the operation of the equipment. Operators can still access the equipment with an expired training date.

There may be a local site procedure that requires training and this training scheduler can help with that process.



The widget will show:

1. Not expired - dates are still valid.
2. Expiring in 14 days - dates will expire within 14 days.
3. Expiring in 30 days - dates will expire within 30 days.
4. Expired - dates have already expired.

4. Driver Analysis Dashboard

4.1 Operator Utilization

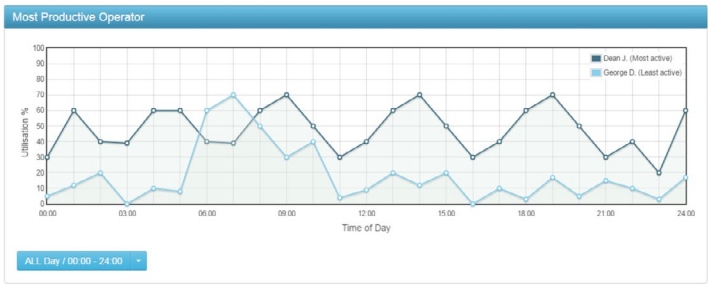
Operator Utilization displays **key hour utilization** relative to the number of hours available for each shift. Looking at the widget above, the average utilization for the previous day is 28.27% while the shift from 3:00 to 15:00 is 37.43%. It highlights shift 3:00 to 15:00 contains ~9% more utilization.

4.2 Most Productive Operator

Most Productive Operator show **key hour utilization** for the most and least operator.

Data at each point is a percentage of the previous hour.

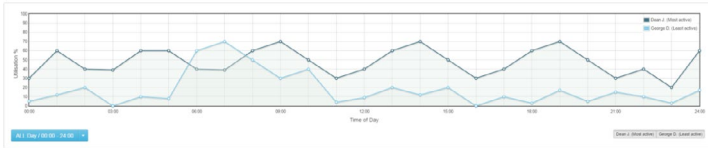
A dark blue line represents the most active while a light blue represents the least active. Looking at the image, Dean has 60% utilization at 01:00AM which corresponds to 36 minutes of activity.



4.2.1 Most Productive Operator Report

This report shows a breakdown of operators and their corresponding key hours.

Clicking on an operator will load the operator history.



#	Operator	Key Time
1	Jamale Wesley	11:37:25
2	Leonard Glibert	10:51:59
3	Edward Brown	10:15:05
4	Alex Ramos	10:03:11

4.3 Operator Checklist Statistics

Operator Checklist Statistics show the **completion rate** and **exceptions** of checklists for the current day. These values are an average across all operators and will reset on a **daily** basis. Clicking on any of these will bring up the report.

Completion Rate is determined by whether or not an operator **completes** the checklist. Shutting down the module without completing a checklist will decrease the completion rate.

Checklist Exceptions will increase if an operator **fails** or **critically fails** a checklist.

4.3.1 Completion Rate

This table shows checklist statistics for each operator. The report will categorize the results into one of the five categories and then calculate completion rate.

Operator	Not Completed		Completed				
	Not Configured	Incomplete	Pass	Fail	Critical Fail	Total	Completion Rate
Leonard Gilbert	0% (0)	0% (0)	33% (1)	67% (2)	0% (0)	3	100%
Mario Trujillo	0% (0)	0% (0)	50% (1)	50% (1)	0% (0)	2	100%
Valentin Lopez	0% (0)	0% (0)	50% (1)	50% (1)	0% (0)	2	100%
Alberto Fuentes	0% (0)	0% (0)	100% (1)	0% (0)	0% (0)	1	100%

The default date will be set for the current day but it can be changed using the filter.

This information can be used to determine if operators are completing the checklist questions. It can also be used as an indicator to determine whether or not a question needs to be worded differently.

4.3.2 Checklist Exceptions

This table displays all operators that have either failed or critically failed a checklist. It will list what equipment they were on and the time of failure.

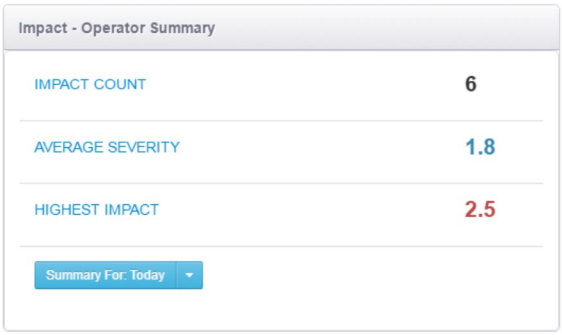
Operator	Equipment	Session Start	Check Status
Thomas Richardson	W05	20/Sep/16 04:17 AM	Failed
Douglas Hill	S2	20/Sep/16 06:06 AM	Failed
Leonard Glibert	S5	20/Sep/16 06:06 AM	Failed
Jimmy Frazier	S4	20/Sep/16 06:07 AM	Failed

Clicking on either the operator or equipment will load the corresponding history page.

If additional information is required, refer to the Equipment Checklist Summary widget above.

4.4 Impact – Operator Summary

Impact – Operator Summary widget provides a **snapshot** of all impacts that have occurred across **all operators**.

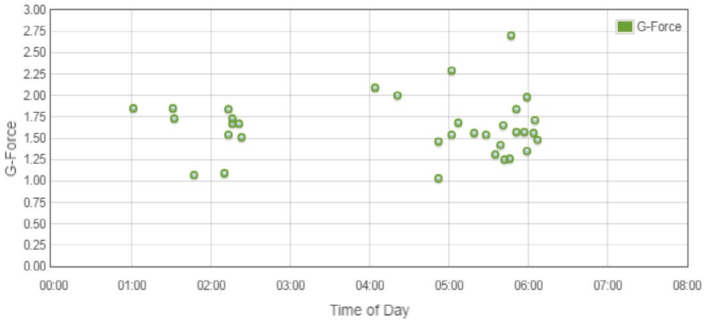


It will list the count, average severity, and highest impact.

The default date for this widget will be the current day but it can be changed using the drop down box. Clicking on any of the fields will load the impact report.

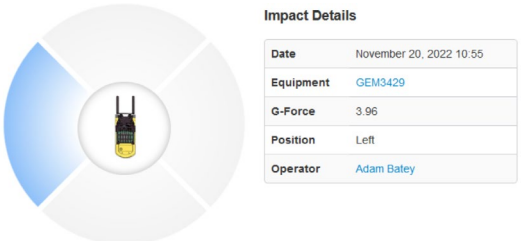
4.4.1 Impact Report

The first portion of the report is the scatter graph. The x-axis is the **time of day** while the y-axis is the impact **severity**.



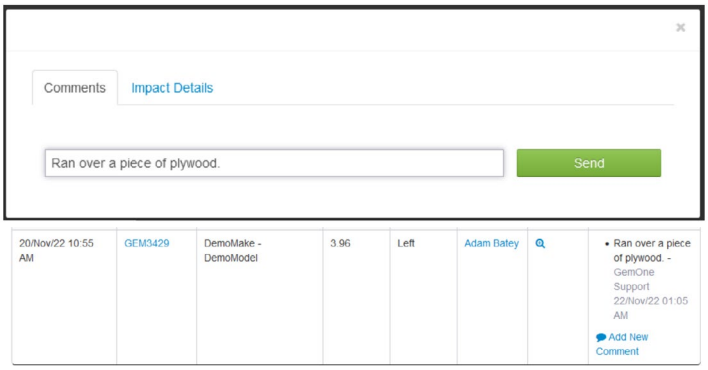
This can be used to identify outliers to highlight exceptions.

Clicking on any of the data points will load operator information regarding that impact. It will list the time of impact, equipment, severity, position, and operator involved.



Comments can also be added to an impact by changing the tab.

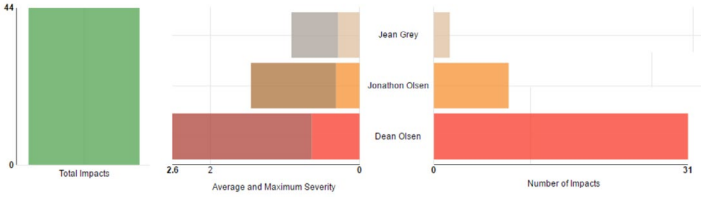
Comments can then be viewed in the report next to each line.



Comments can only be deleted by the user that added the comment.

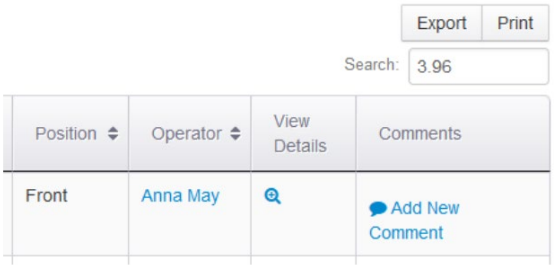
1. Column graph
Total impacts

This represents all impacts that have occurred for the selected date range.



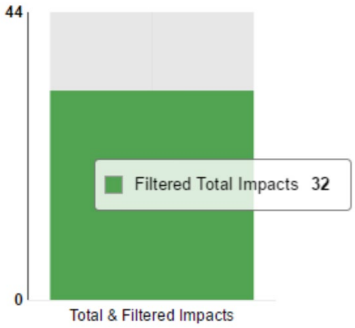
The column will remain green with all impacts unless results are filtered. Use the **search** feature located on the bottom right to **filter** results.

Filtered results will be displayed as a fraction of the total number of impacts. For example, filtering for Dean Olsen will display the following:



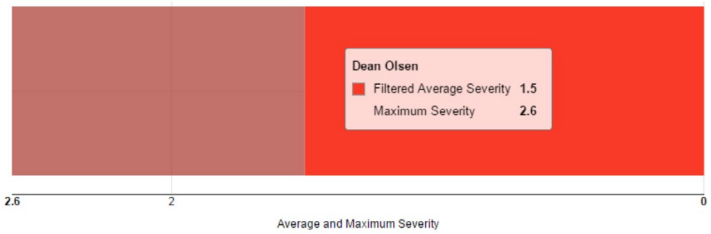
Filtering the report will also affect the scatter and bar graphs.

Hovering over the graph will display the actual quantity.



2. Bar graph - Average and maximum severity with number of impacts per operator

Up to **15 operators** with the **most impacts** will appear in this widget and they are arranged in an **ascending** order.

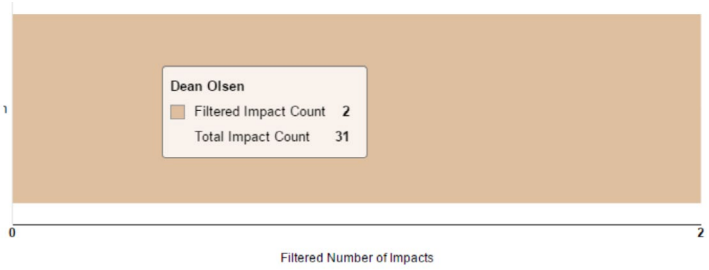


In the image, Dean has the most impacts with 31 while Jean has the least.

The **average** and **maximum** severity of impacts is listed for each operator. This can be found in the left hand side bar graph. Looking at the image above, Dean has an average of 1.5g and a maximum of 2.6g.

The **number of impacts** for each operator can be seen in the right hand side bar graph.

The value will display the accumulated total unless results are filtered.



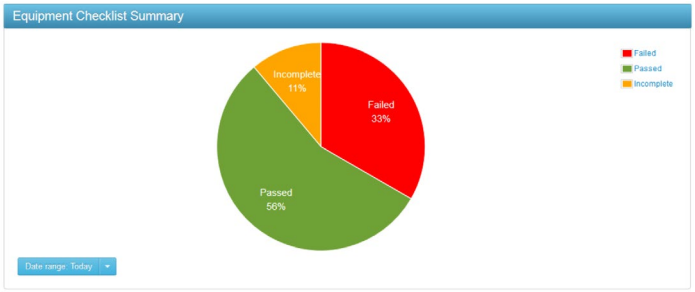
Results can be filtered to any field available in the table.
The image above is filtered for Dean Olsen for Front impacts only.

5 - Equipment Statistics

5.1 Equipment Checklists Summary

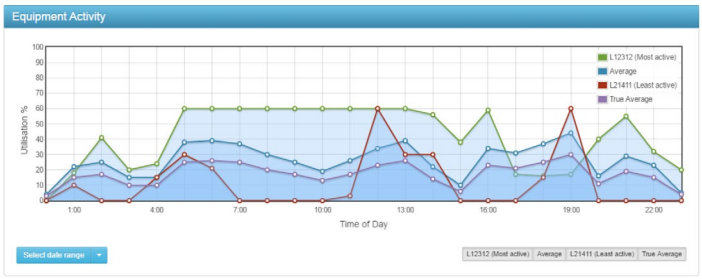
This is the same widget found on the Site Overview dashboard.

Refer to section above for more information.



5.2 Equipment Activity

Equipment Activity displays **key hour utilization** in two groups; most and least active, and average with true average.



Most and **Least** active is similar to Most Productive Equipment where it displays the most active equipment and the least active equipment.

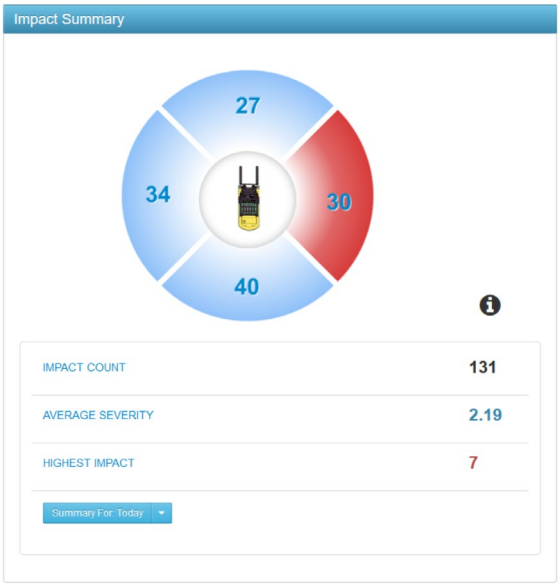
The most active is the green line while the least average is the red line.

Average is the average for active equipment while **true average** is for all equipment regardless of the online status. If the true average is a lot lower than the average, it could possibly mean equipment is not being utilized efficiently.

Since there are 4 lines in total, the graph will display a lot of information at once. Individual lines can be filtered by clicking on the tiles located on the bottom right. De-selecting a tile will hide that line and selecting it will display again.

5.3 Impact Summary

Impact Summary displays impact information for all equipment.



There are four quadrants in the image above; forward, back, left, and right. These **quadrants** are a **count** of impacts that have occurred in that quadrant.

If a quadrant is highlighted **red**, it means the **highest** impact has occurred in that quadrant.

The default date rate is set for the current date but it can be changed using the drop down box. Clicking on either the title or any of the individual fields will load the report. Refer to section 4.4.1 for detailed information about the impact report.

5.4 Offline Equipment

A piece of equipment will be classified as offline if it has not connected into the server in over **72 hours**.

Additional information such as the last operator and last connection date is also included in the widget. **Notes** can be added to equipment if it appears in this widget.

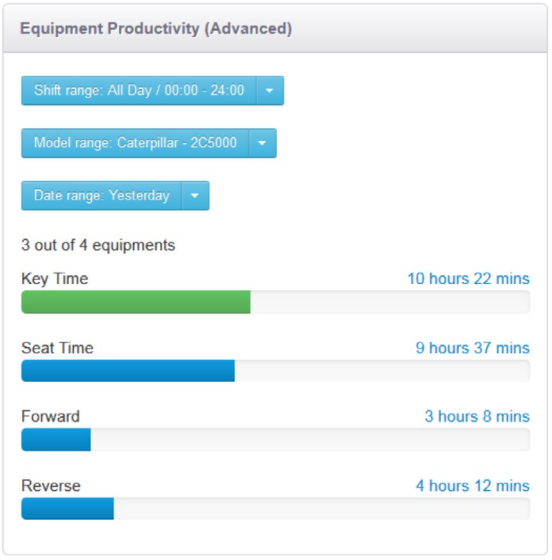
Clicking on the operator name will load information about the operator. Information includes their equipment access information and license details.

5.5 Equipment Productivity (Advanced)

Equipment Productivity (Advanced) displays **key** and **input** utilization information based on **model types**.

It will list the accumulated total for each model type.

The purpose of this information is to determine if a certain model type is being under or over utilized. For example, if the reach trucks are utilized 400% more than counter balance trucks, some counter balance trucks can be swapped for additional reach trucks.



If a breakdown of **individual** equipment is required, refer to the **Equipment Shift Utilization** report. Refer to section **3.2.1** for a detailed explanation.

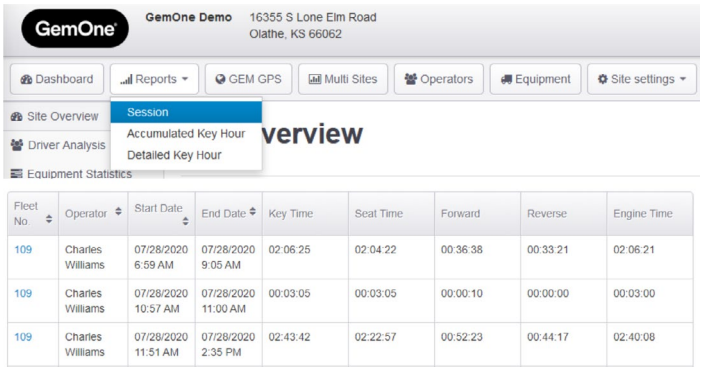
6 - Reports

Live reports can be run using the portal to extract the most current information using the reports tab.

6.1 Session Report

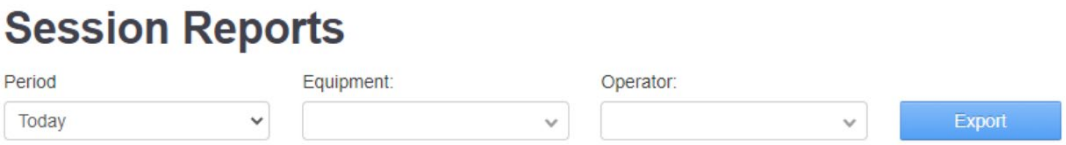
This report shows a breakdown of every session generated by the module.

It will list the start time, stop time, and duration of key and input hours.

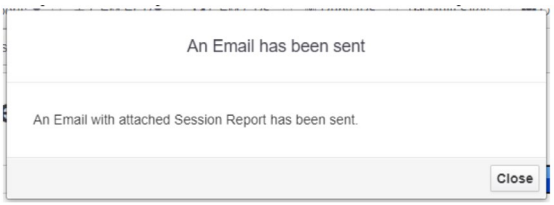


A session is generated when an operator logs into a piece of equipment, and then turns off the equipment.

The report can be customized by selecting a certain operator or equipment for a certain date or date range.



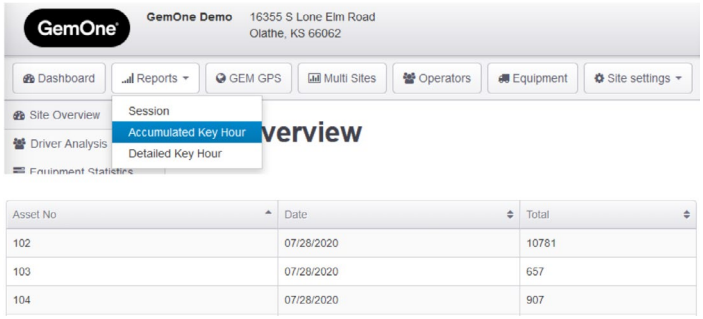
The report can also be exported. It will be sent as a .csv attachment to the portal user.



6.2 Accumulated Key Hour Report

This report lists all the equipment with their corresponding key hours.

The total is an accumulated total at the time the report is run.

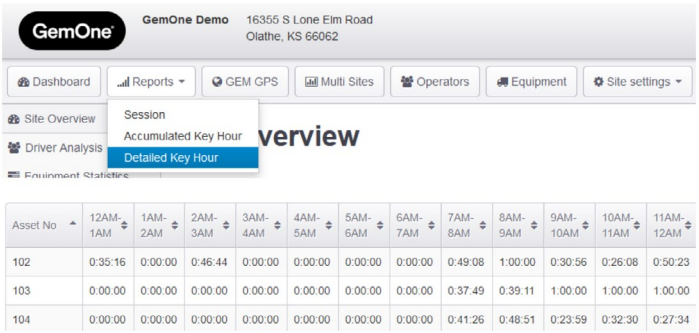


Asset No	Date	Total
102	07/28/2020	10781
103	07/28/2020	657
104	07/28/2020	907

Users can also subscribe to this report to be emailed on a daily, weekly, or monthly basis. This is done via the subscriptions page.
See the subscription section below for additional information.

6.3 Detailed Key Hour Report

This report shows how many key hours have been used for each hour block for each piece of equipment.



Asset No	12AM-1AM	1AM-2AM	2AM-3AM	3AM-4AM	4AM-5AM	5AM-6AM	6AM-7AM	7AM-8AM	8AM-9AM	9AM-10AM	10AM-11AM	11AM-12AM
102	0:35:16	0:00:00	0:46:44	0:00:00	0:00:00	0:00:00	0:00:00	0:49:08	1:00:00	0:30:56	0:26:08	0:50:23
103	0.00.00	0.00.00	0.00.00	0.00.00	0.00.00	0.00.00	0.00.00	0.37.49	0.39.11	1.00.00	1.00.00	1.00.00
104	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:41:26	0:48:51	0:23:59	0:32:30	0:27:34

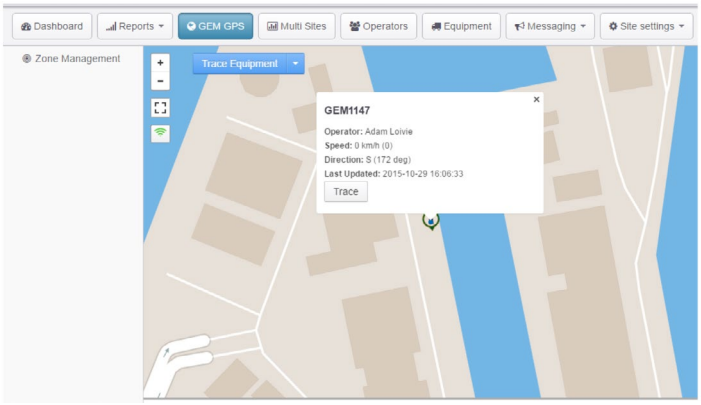
Users can also subscribe to this report to be emailed on a daily, weekly, or monthly basis. This is done via the subscriptions page.
See the subscription section below for additional information.

7. GPS

This tab is only available to customers with GPS hardware.

Users are able to track equipment using this section of the portal.

Users can also set up GPS zones on the portal and trace the route operators are driving.

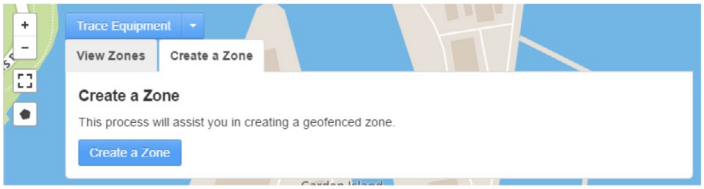


Contact GemOne if GPS is required.

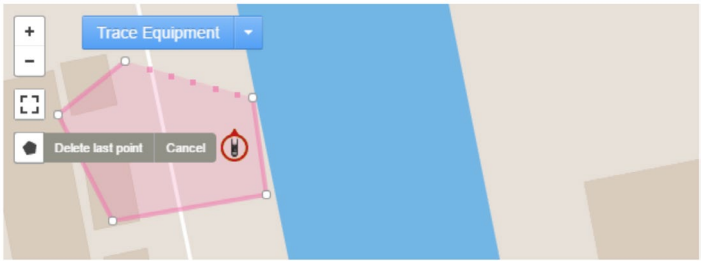
7.1 Zone Management

Up to 5 zones can be set for each customer. This is done by drawing a zone using up to 5 points on the map. Once created, the zone is sent and stored on the module.

1. Create a new zone .



1. Select up to 5 points to form the zone .

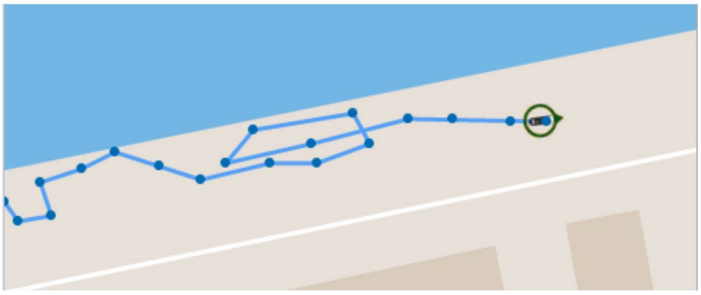


2. Allocate a name to the zone and click create>

7.2 Route Tracing

For every GPS message that is sent from the module, a dot is placed on the map.

Route tracing will connect these dots.



8 - Multisite

The multisite tab is available to users with access to multiple customers. It provides a snapshot of multiple customers giving a high level comparison for key metrics.

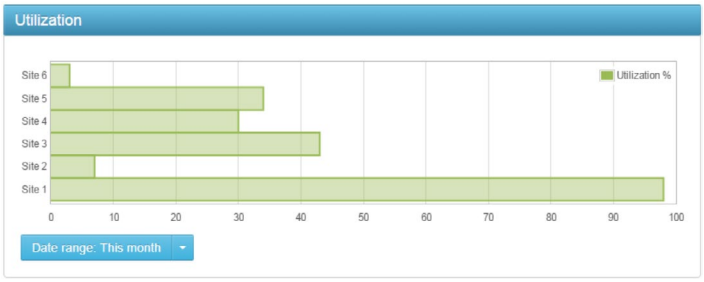
It will compare:
1. Utilization
2. Impact average
3. Checklist completion rate
4. Checklist exceptions
5. Expired licenses
6. Offline Equipment

Please contact GemOne to set up multisite for users.

8.1 Utilization

Average key hour utilization across all equipment for the month is displayed.

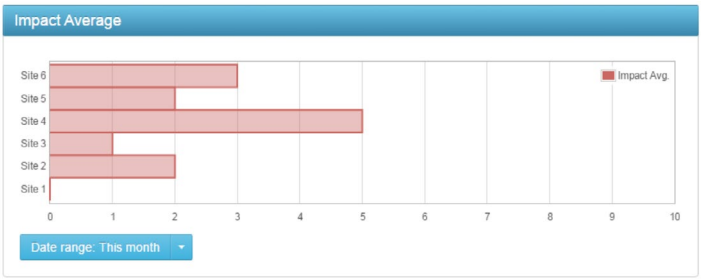
The percentage is determined by how many hours has been utilized compared to the number of hours available.



Only active equipment will be used for the calculation.

8.2 Impact Average

Average impact **severity** across all equipment for the **month** is displayed. The date can be changed if required using the drop down menu.

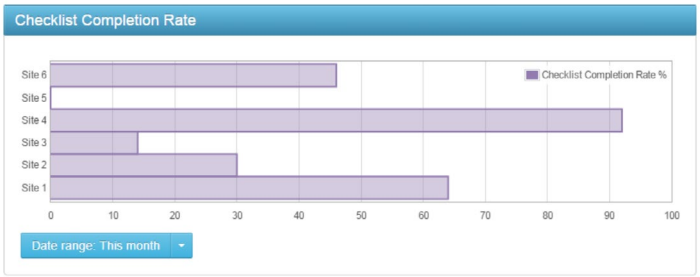


8.3 Checklist Completion Rate

Average checklist completion rate across all equipment for the month is displayed.

This value will be lower if an operator does not complete a checklist.

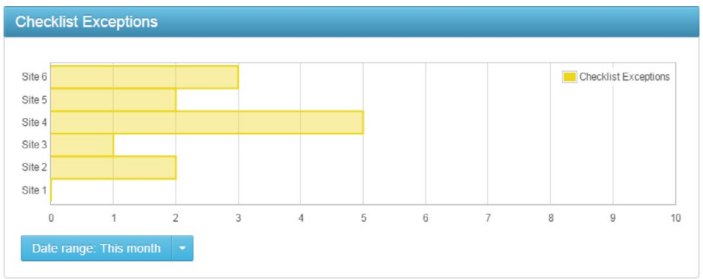
A completed checklist can be passed, failed, or critical fail.



8.4 Checklist Exceptions

The number of **failed** and **critically failed** checklists that have occurred will be **accumulated** here.

The default date range is for the **month**. The date can be changed if required using the drop down menu.

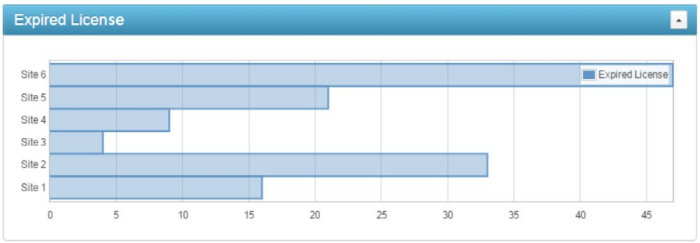


Incomplete checklists will not add to the count.
Only failed or critically failed checklists will count.

8.5 Expired License

A count of all expired operator licenses is displayed here.

It is a **current snapshot** for the customer and will only decrease once license information is updated.

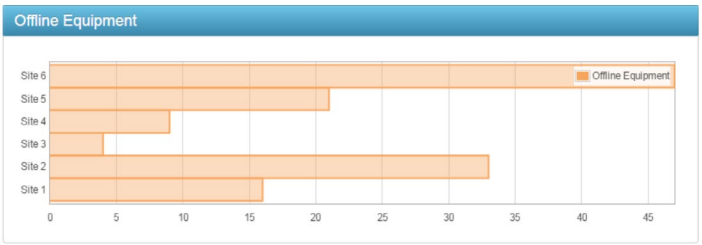


Operators with expiring licenses will not be added to this count. Only operators with expired licenses will count.

8.6 Offline Equipment

A count of all offline equipment is displayed here.

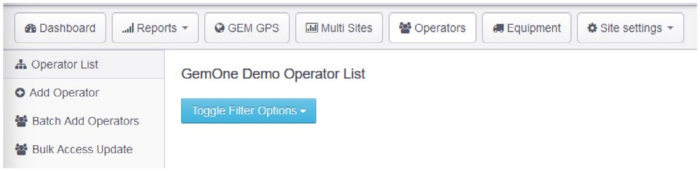
It is a **current snapshot** for the customer and will only decrease once the equipment connects back into the server.



Equipment will be considered offline if it has not connected into the server in 72 hours.

9 - Operators

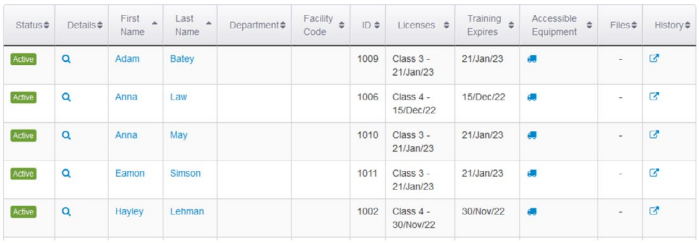
The operators tab is used to add operators into the portal. This will allow those operators access to the equipment.



Items such as the ID, license details, and access rights can be all managed from this page.

9.1 Operator List

All operators will appear on this list if they have been set up with either a PIN or RFID card. This table provides all basic information regarding the operator including their department, license information, training information, and access matrix.



Status	Details	First Name	Last Name	Department	Facility Code	ID	Licenses	Training Expires	Accessible Equipment	Files	History
Active		Adam	Batey			1009	Class 3 - 21/Jan/23	21/Jan/23		-	
Active		Anna	Law			1006	Class 4 - 15/Dec/22	15/Dec/22		-	
Active		Anna	May			1010	Class 3 - 21/Jan/23	21/Jan/23		-	
Active		Eamon	Simson			1011	Class 3 - 21/Jan/23	21/Jan/23		-	
Active		Hayley	Lehman			1002	Class 4 - 30/Nov/22	30/Nov/22		-	

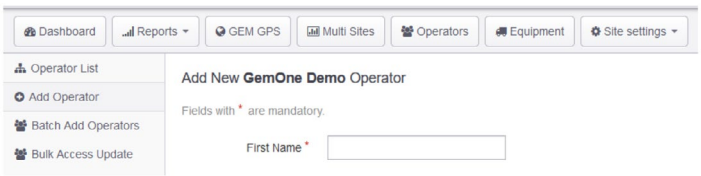
Clicking on an operator will load a new page and the details can be edited. Override codes are set up at the equipment level. See the equipment section below for additional information.

The accessible equipment list shows what equipment the operator can access.

This can be updated from the access matrix for each under. See section below for details on how to update the access matrix.

9.2 Add Operator

Click **Add Operator** and fill out the form to create a new operator.



Fields marked with an asterisk are mandatory.

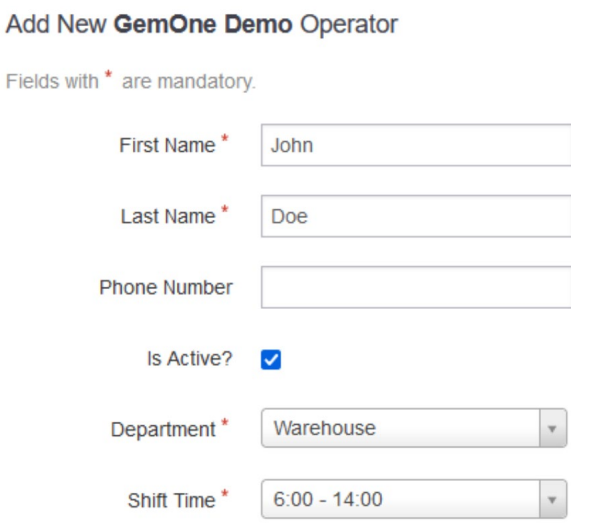
9.2.1 General Details

Fill out the basic details such as the name, department, and shift time.

The shift time does not lock the operator down to operate equipment within that shift. The shift time in the example above has a shift time from 6:00AM to 2:00PM but the operator can operate the equipment outside those hours as well.

Set the ID type to CARD or PIN depending on the type of access required.

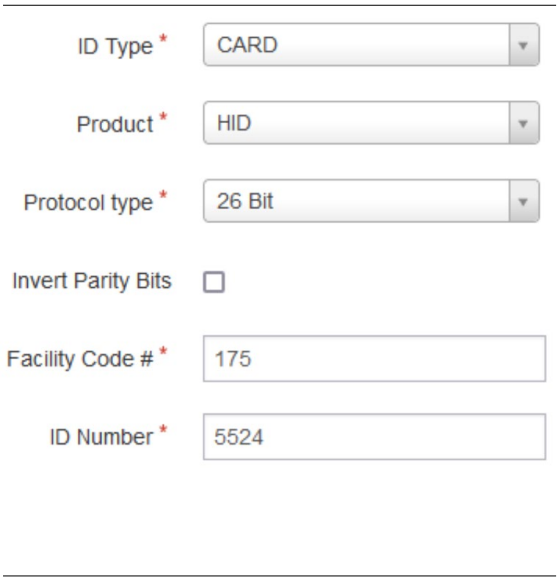
The Sapphire module does require RFID hardware if CARD were to be used.



9.2.2 Card Option

The CARD option will be the following as a standard 26 bit card/fob/sticker:

- ID Type: CARD
- Product: GEM RFID
- Protocol Type: 26 bit
- Invert Parity Bits: Unchecked (No)
- Facility Code #: This is batch dependant
- ID Number: This is the card or fob ID

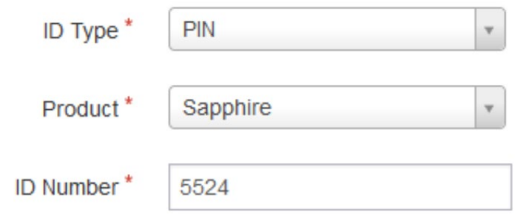


Contact GemOne if the facility code or card ID number is unknown.

9.2.3 PIN Option

The PIN option will be the following:

- ID Type: PIN
- Product: Sapphire
- ID Number: PIN to be used



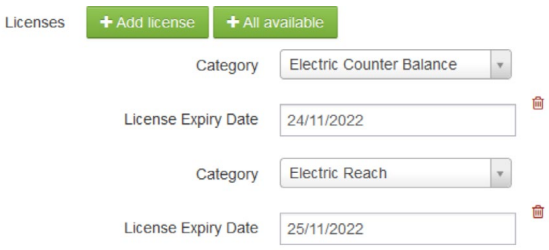
9.2.4 Training

A training date can be allocated to an operator for local site training dates.

This does not affect the operation of the equipment and is only used to remind the site training has occurred.

9.2.5 Licenses

License expiry dates can be added against operators. These dates can affect the operation of the equipment.



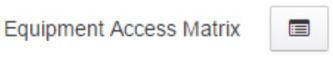
If the date is expired, the server will send a command to prevent that operator accessing the equipment.

Different dates can be added to different categories.
For example, Class I can have a different date to Class II.

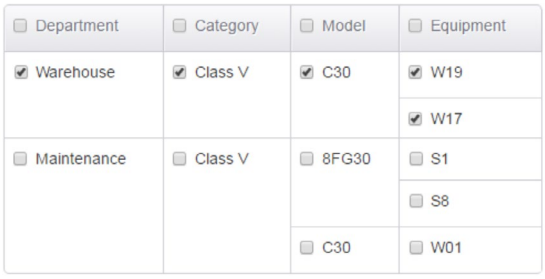
Operators will not be denied if a date is not allocated to an operator.

9.2.6 Equipment Access Matrix

This section determines what **equipment** the **operator** can or cannot **access**.



Checking a tile will allow access and removing will deny access.

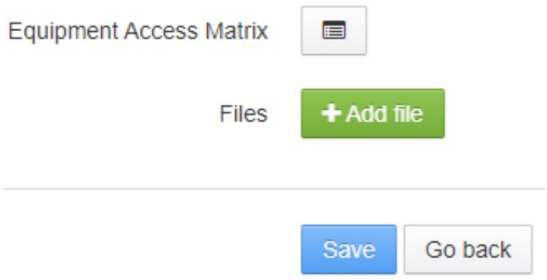


The image shows the operator has access to all equipment in the warehouse department but cannot access any equipment in the maintenance department.

Checking a box on the left will mark all corresponding boxes on the right. For example, checking the 8FG30 box will also check equipment S1 and S8.

9.2.7 Uploading Files

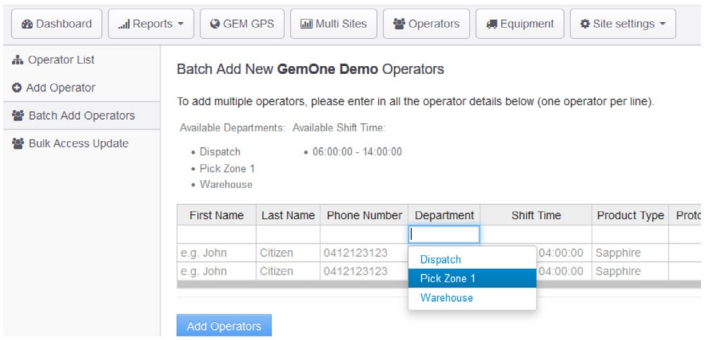
Files can be uploaded against each operator. They will be stored on the server and can be downloaded from the sapphire portal.



Files such as a copy of their training or license details can be uploaded here. This section can be found at the bottom of the page when adding or editing an operator.

9.3 Batch Add Operators

Multiple operators can be added into the portal simultaneously using this page.



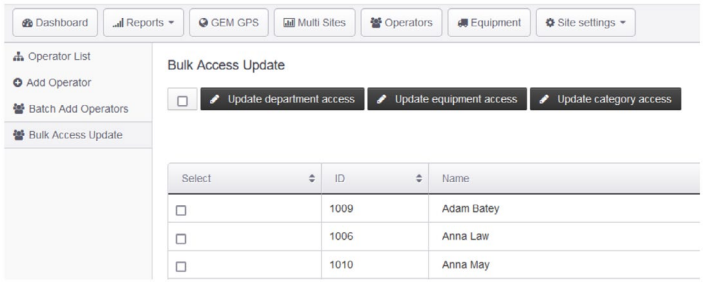
Parameters will be the same as adding operators individually.

Users can select departments, shift times, and other parameters using the drop down option. Cells can be copied from one row to another or from an external sheet.

If information is copied from a spreadsheet, parameters must match the parameters available on the portal.

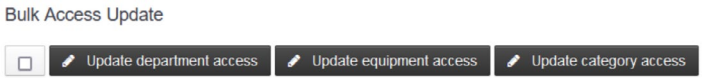
9.4 Bulk Access Update

Multiple access matrix details can be bulk updated for operators. Some use cases would be to remove access from selected operators from a piece of equipment, add access for all users to all equipment etc.



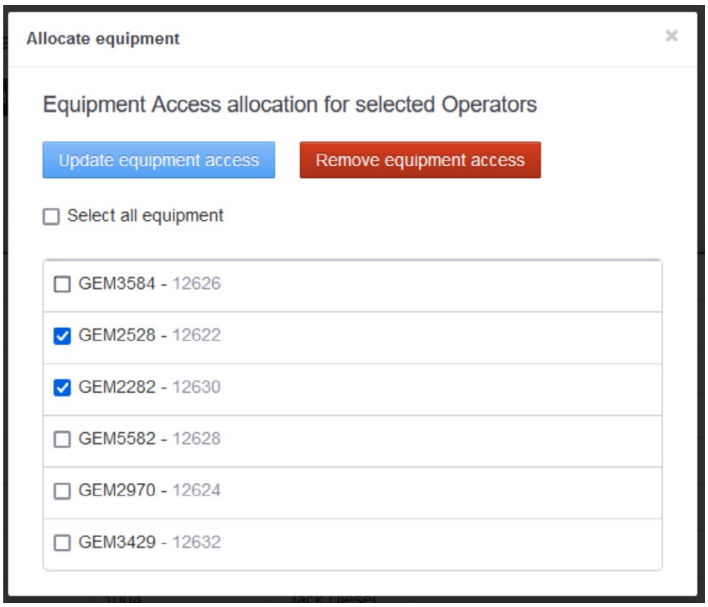
1. Select the operator(s) that need to be updated.

2. Select how they need to be updated. It can be either by department, equipment, or category. The example will use equipment.



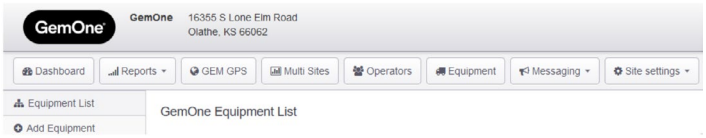
3. Select the required equipment.

   Clicking update all add access to the selected equipment and clicking remove will remove access from the selected equipment.



10 - Equipment

Equipment and module information can be accessed and managed from this page.

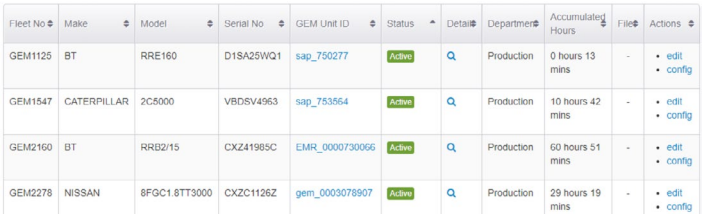


Details such as fleet numbers, serial numbers, make & model of equipment, accumulated hours, and sending configuration messages can be done from this page.

This is also where a module is linked to the equipment. The fleet number will be used throughout the portal for reporting.

10.1 Equipment List

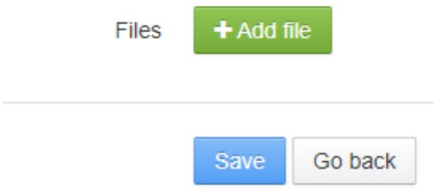
Clicking on either the GEM Unit ID or edit button will allow users to edit equipment or module details.



Fleet No	Make	Model	Serial No	GEM Unit ID	Status	Detail	Department	Accumulated Hours	File	Actions
GEM1125	BT	RRE160	D1SA25WQ1	sap_750277	Active		Production	0 hours 13 mins	-	edit config
GEM1547	CATERPILLAR	2C5000	VBDSV4963	sap_753564	Active		Production	10 hours 42 mins	-	edit config
GEM2160	BT	RRB2/15	CXZ41985C	EMR_0000730066	Active		Production	60 hours 51 mins	-	edit config
GEM2278	NISSAN	8FGC1.8TT3000	CXZC1126Z	gem_0003078907	Active		Production	29 hours 19 mins	-	edit config

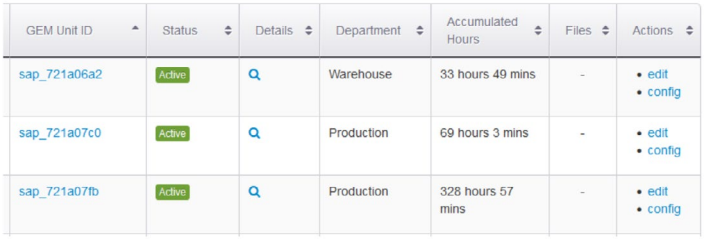
It is important that modules are tied to the correct fleet and serial number for accurate reporting.

Files can be uploaded against each equipment. They will be stored on the server and can be downloaded from the sapphire portal.
This section can be found at the bottom of the page when adding or editing a module.



10.2 Configuration Options

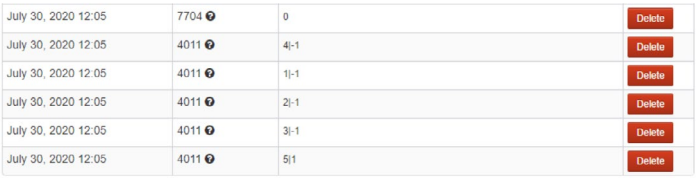
The equipment configuration page can be accessed by clicking on the config button on the right hand side of the table.



GEM Unit ID	Status	Details	Department	Accumulated Hours	Files	Actions
sap_721a06a2	Active		Warehouse	33 hours 49 mins	-	• edit • config
sap_721a07c0	Active		Production	69 hours 3 mins	-	• edit • config
sap_721a07fb	Active		Production	328 hours 57 mins	-	• edit • config

This will bring up various options that can be sent from the portal to the device.

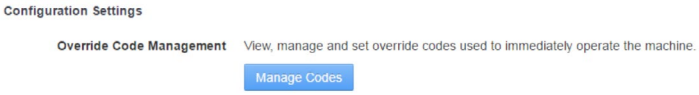
Messages sent from the portal will appear at the bottom of the page in the following table.



July 30, 2020 12:05	7704	0	Delete
July 30, 2020 12:05	4011	4|-1	Delete
July 30, 2020 12:05	4011	1|-1	Delete
July 30, 2020 12:05	4011	2|-1	Delete
July 30, 2020 12:05	4011	3|-1	Delete
July 30, 2020 12:05	4011	5|1	Delete

10.2.1 Override Code Management

Override codes are set up for each piece of equipment.

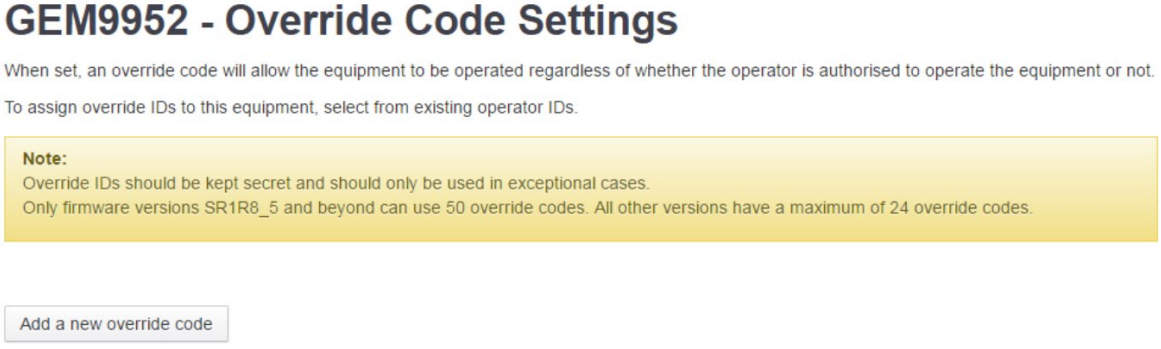


A PIN or RFID CARD must be added as an operator before it can be added as an override code. The page allows users to select operators from the list and add them as override codes.

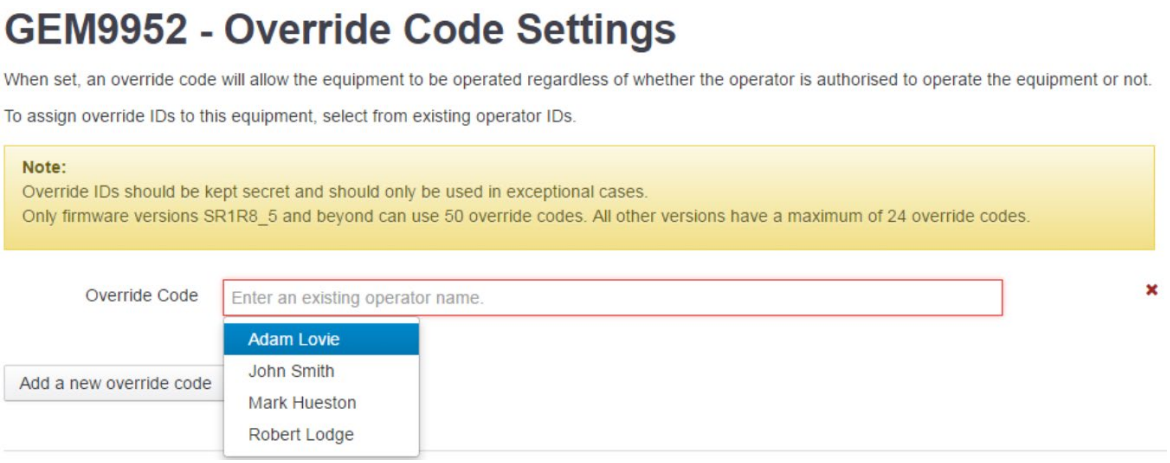
Changes made on the portal must also be synchronized with the module. Saving the list will resend the override code list to equipment.

Override codes are required to unlock a module after it has been locked out. It will also bypass a checklist if used.

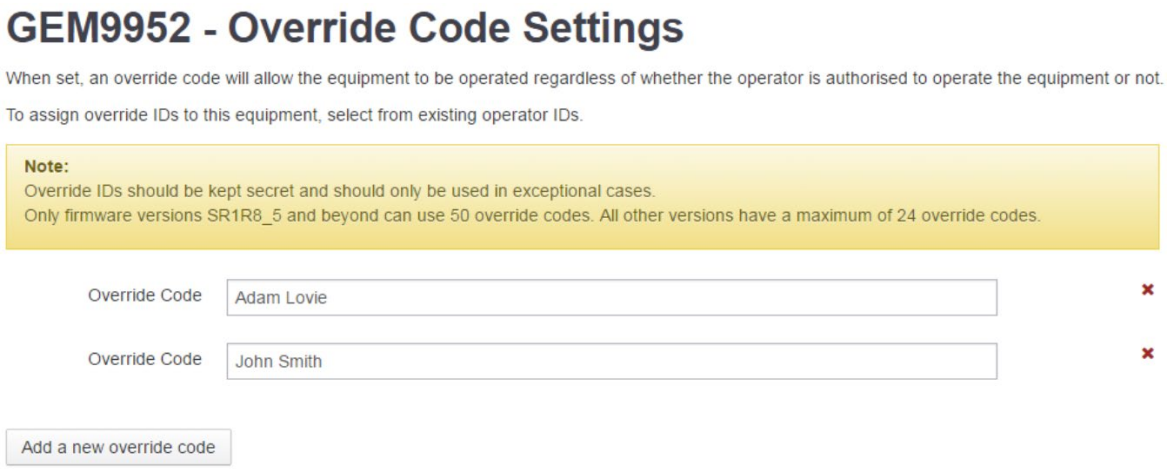
1. Click ‘Add a new override code’ to add a line.



2. Select or search for an operator for the first override code slot .

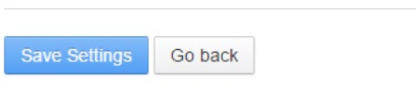


3. If additional override codes are required, add additional lines and select additional operators .



4. Click ‘Save Settings’ once override codes have been set.
   This will queue up an override code list to the module .

5. Override codes can be removed from the list by clicking the ‘X’ on the right hand side and then ‘Save Settings’ .

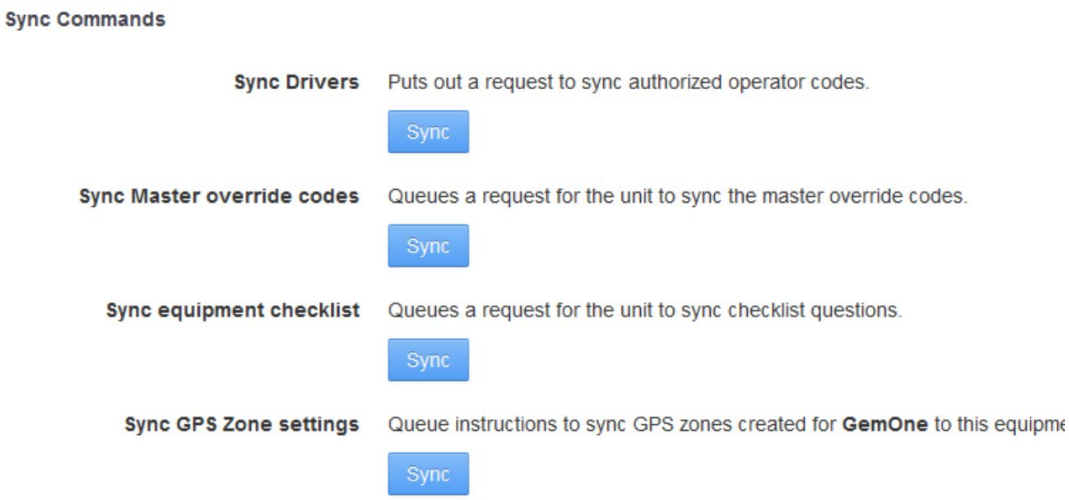


Any changes made on the portal must be synchronized with the module.

10.2.2 Sync Buttons

These will queue information to send to the module. Items such as **drivers**, **override codes**, **checklist questions**, and **GPS zone**s can be sent to the module. This is important for modules to operate correctly.

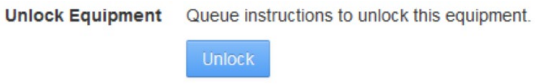
Syncing any of these messages will queue the command and it will download at the module as it is being used.



Modules must be powered On and connected into the server to download information.

10.2.3 Unlock Equipment

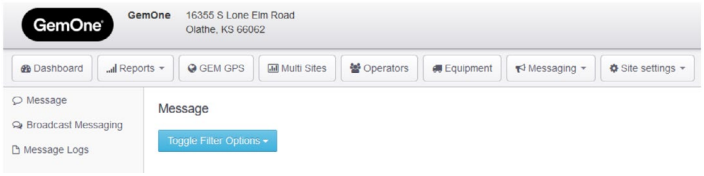
Equipment can be **unlocked remotely** using this feature. This will allow website users to remotely unlock a module without having to physically log into the module using their override code.



Messages can be pushed across faster at the module by attempting to log in using 9 under technician. Contact GemOne for any assistance.

11. Messaging

Messages can be sent to individual equipment or multiple equipment.



The portal user can enter a message with a **72 character limit** and select **4 canned responses**. A free text field allows a custom response and it has a limit of 16 characters.

The character limit also includes spaces.

Once the message is sent from the portal , it will process on the Sapphire module and the operator will select one of the 4 responses as their answer.

If a message is delivered but the operator does not answer it, 'Message timed out' will be populated under 'Response Time'. The operator has 10 minutes to answer the message before it is marked as 'Message timed out'.

11.1 Message

Equipment	Make	Model	Serial No	Department	Send Message
GEM3654	TOYOTA	32-8FG25	OKPJM151	Production	
GEM5214	MLA	FD50NT	CVXC498A1	Production	

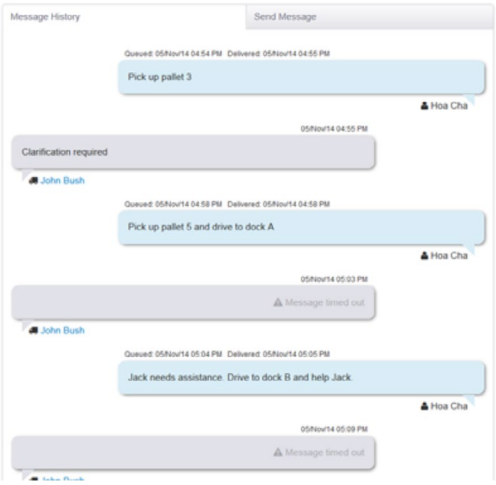
Individual messages can be sent to equipment using this section.

Clicking on the blue speech icon will load the page to send a message across. This will queue the message and it will process once the module connects into the server and downloads the message.

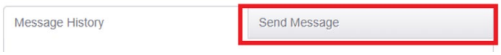
1. Click on the blue speech icon to send a message.

Equipment	Make	Model	Serial No	Department	Send Message
GEM3654	TOYOTA	32-8FG25	OKPJM151	Production	
GEM5214	MLA	FD50NT	CVXC498A1	Production	

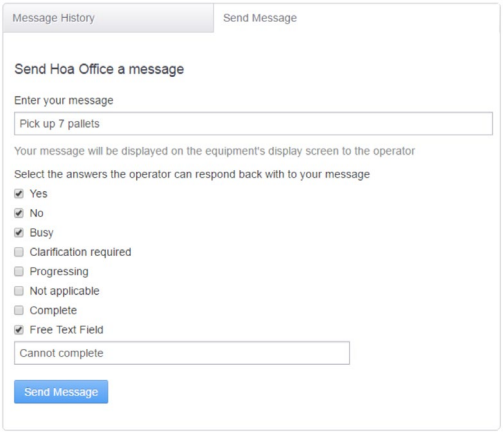
2. The message history for the equipment will load.



3. Switch to the Send Message tab to send a new message.



4. Enter the message, select 4 responses and then send the message.



11.2 Broadcast Messaging

Select Equipment

Equipment	Make	Model	Serial No	Department	Select All
GEM5214	MLA	FD50NT	CVXC498A1	Production	☐
GEM3654	TOYOTA	32-8FG25	OKPJM151	Production	☐

Similar to the individual messaging, broadcast messaging requires the equipment to be online with a valid operator. Users are able to select 1 or more equipment to send messages.

The same message limit of **72 characters** and **4 responses** also apply to broadcast messaging.

11.3 Messaging Logs

Logs of all messages that have been sent from the portal are kept here. It will list the equipment, operator at the time, message, response, and the response time.

Equipment	Operator	Queued	Delivered	Message	Response	Response Time
GEM9952	GEM Support	11/Nov/15 02:54 PM	11/Nov/15 02:54 PM	Spill in warehouse. Proceed with caution		Message timed out
GEM8521	Bob Bobbo	11/Nov/15 11:53 AM	11/Nov/15 11:53 AM	Turn left up ahead	Clarification required	Message timed out
GEM9952	GEM Support	29/Sep/15 11:29 AM	29/Sep/15 11:29 AM	Can you see this message Veronica?	Yes	3min. 4sec.
GEM9952	GEM Support	12/Nov/15 09:02 AM	12/Nov/15 09:04 AM	Pick up 7 pallets		Message timed out

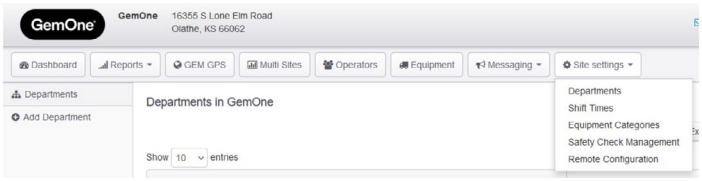
12.Site Settings

This tab contains information that is local to the customer. Site specific information such as departments, shift times, equipment categories, and checklists can be configured here.

The page also allows for remote configuration settings such as impact lockout thresholds, auxiliary alarm thresholds, driver lists, checklists, and override codes to be sent to equipment.

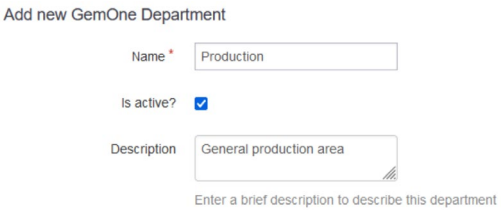
12.1 Departments

Departments are allocated to both operators and equipment. They are mandatory in order to add operators or equipment into the portal.

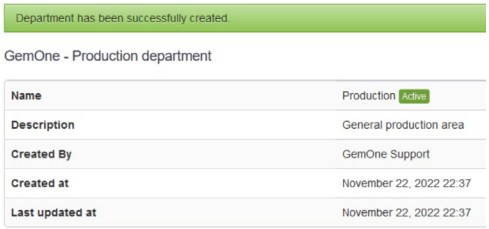


12.1.1 Adding Departments

1. Enter the department name, brief description, and check the 'Is active?' box.

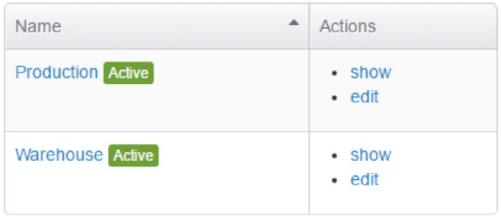


2. Create the department and a confirmation screen will appear.

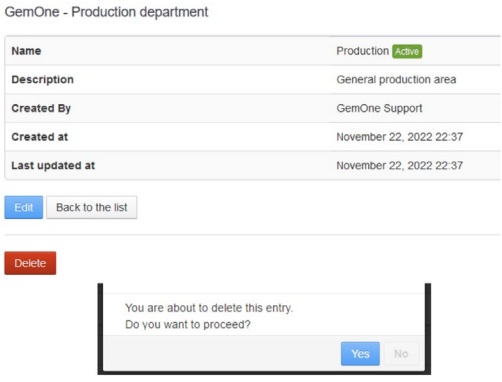


12.1.2 Deleting Departments

1. Select a department from the list to remove.

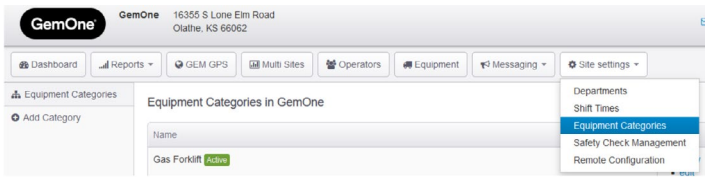


2. Click 'Delete' located on the bottom left .
3. Select 'Yes' to the prompt to delete the department.



12.2 Shift Times

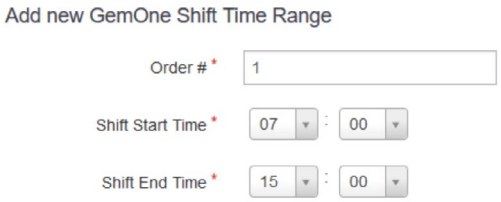
Shift times are allocated to operators. Shifts are mandatory in order to add operators into the portal. A start and end of a shift is required to create a new shift time.



This **does not** restrict an operator to **access** equipment to their shift time. Operators can access equipment regardless of what shift they are allocated to.

12.2.1 Adding Shift Times

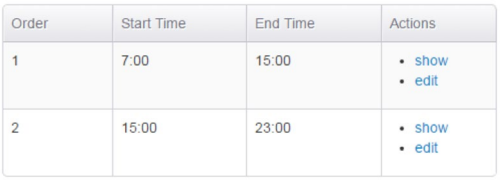
1. Enter the order, start, and end time of the shift. The order will affect the position it appears in on the list. Order 1 will appear at the top of the list.



2. Create the shift and a confirmation screen will appear.

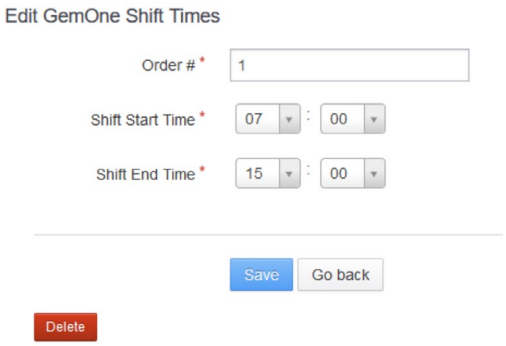
12.2.2 Deleting Shift Times

1. Select a shift from the list to remove. Click on edit.

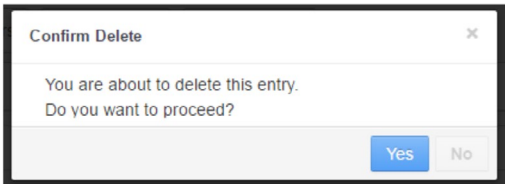


Order	Start Time	End Time	Actions
1	7:00	15:00	• show • edit
2	15:00	23:00	• show • edit

2. Click ‘Delete’ located on the bottom left.



3. Select ‘Yes’ to the prompt to delete the shift.



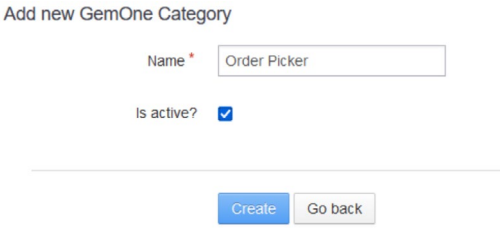
12.3 Equipment Categories

Equipment categories are the type of equipment that is available on site.

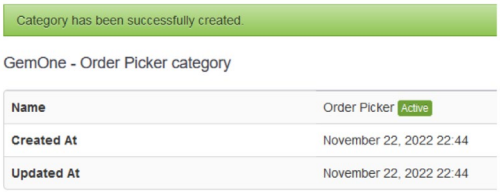
Equipment categories also assist in driver access management as categories can be added or removed from an operator.

12.3.1 Adding Equipment Categories

1. Enter category name and check the 'Is active?' box.

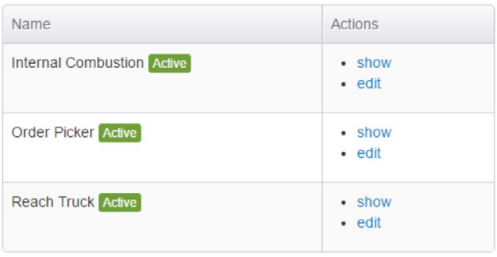


2. Create the category and a confirmation screen will appear.

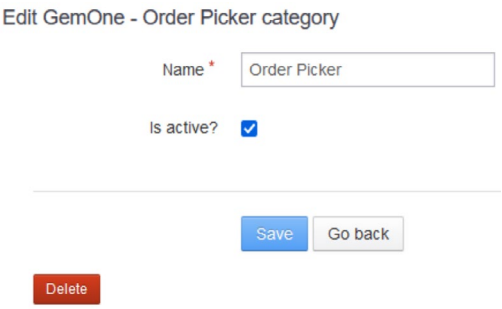


12.3.2 Deleting Equipment Categories

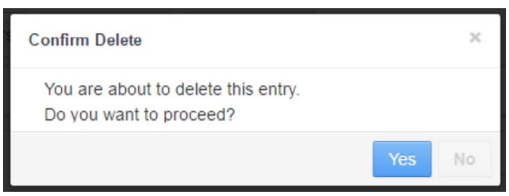
1. Select a category from the list to remove.



2. Click 'Delete' located on the bottom left.

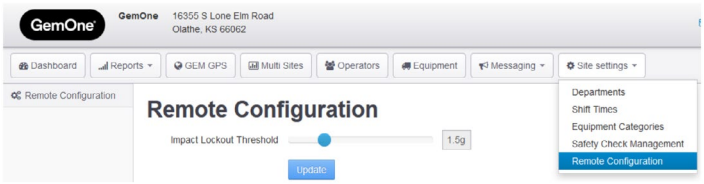


3. Select 'Yes' to the prompt to delete the equipment category.



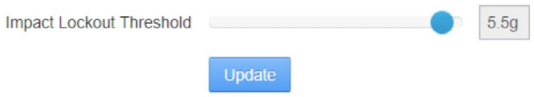
12.4 Remote Configuration

Remote configuration allows the user to send commands remotely to equipment. Users can synchronize drivers, manage override codes, synchronize checklists and prompts, unlock modules, set auxiliary alarm thresholds, and set impact lockout thresholds.



12.4.1 Impact Lockout Threshold

Sapphire modules have an impact lockout threshold.

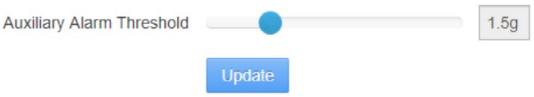


This value determines what severity of impact will lock out the module. Use this section of the portal to change the value remotely. Minimum value is 1.0g and maximum value is 6.0g with 0.5g increments.

Locked out modules will not shutdown the equipment upon impact. The user will be able to move the equipment to a safe area before turning the key off. An override code will be required to unlock the module once the key is off.

12.4.2 Auxiliary Alarm Threshold

Sapphire V2 modules will have an auxiliary alarm threshold.



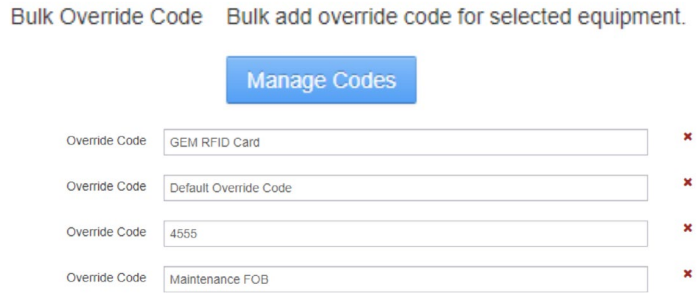
This value determines what severity of impact will activate the auxiliary device without locking out the module. The auxiliary device will remain activated until the driver turns the key to off and then logs back into the device.

12.4.3 Bulk Override Code

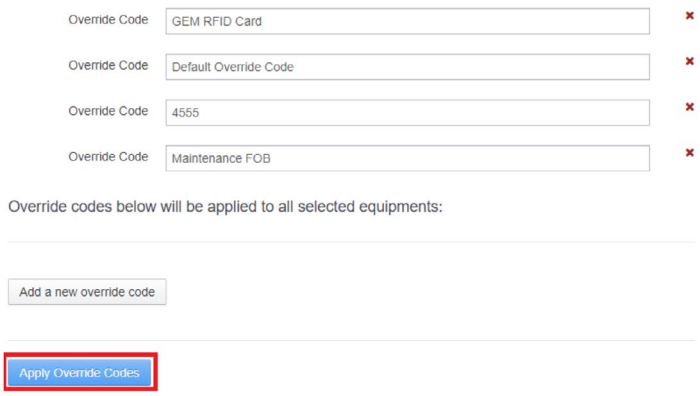
Override codes can be updated and applied to all modules on site. Override codes are typically the same throughout the site. This page allows the same list to be applied to all modules on site.

1. Scroll to the bottom of the page and select the required equipment.

2. Scroll back to the top and then click Manage Codes.



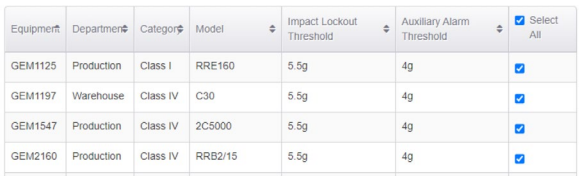
3. Add or edit override codes as required and then click Apply Override Codes to save the changes.

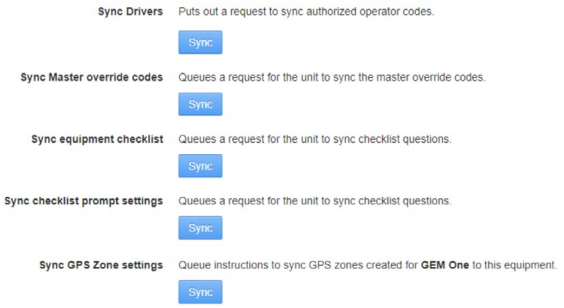


12.4.4 Synchronizing Commands

Configuration commands can be synchronized by selecting the equipment first and then synchronizing the relevant setting.

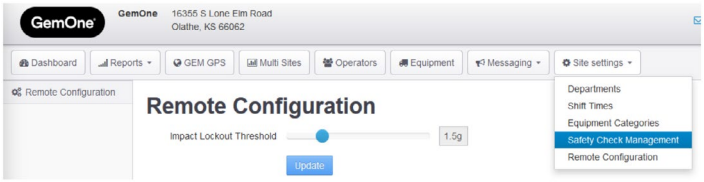
Clicking sync or unlock will queue the command and it will process as the module is being used.





13 - Site Settings - Safety Check Management

Users can create, customize, and manage checklist questions for their equipment. A default list will be loaded for all modules and users have the ability to customize questions if required.

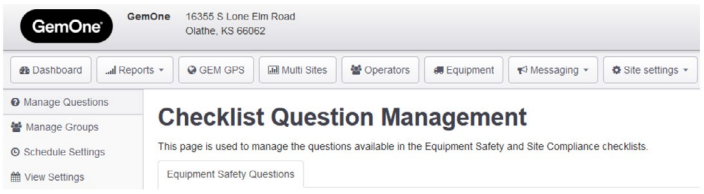


Any changes made to checklist questions on the portal must be synchronized with the module.

13.1 Manage Questions

Questions are added to a general pool and are allocated to checklist groups at a later stage.

Checklist questions are only allocated a 'Yes' or 'No' answer at this point.



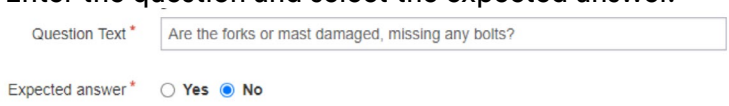
Different languages can be used for questions.

It is important to have a combination of YES or NO answers in the set of questions.

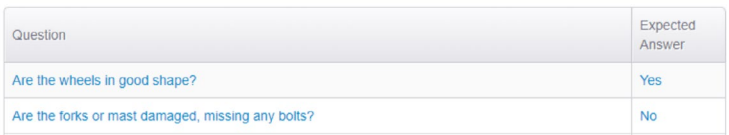
13.1.1 Adding a question to the pool

The character limit for questions is 127 characters including spaces.

1. Enter the question and select the expected answer.

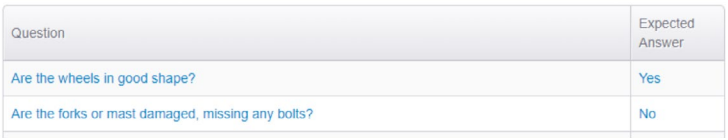


2. Click 'Create' and the question will be added into the general pool.

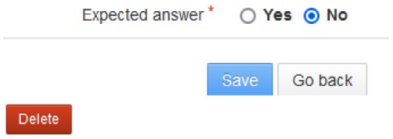


13.1.2 Deleting a question from the pool

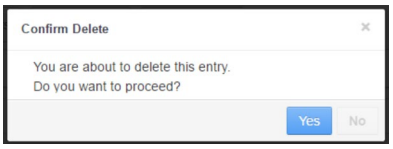
1. Select a question from the pool to remove.



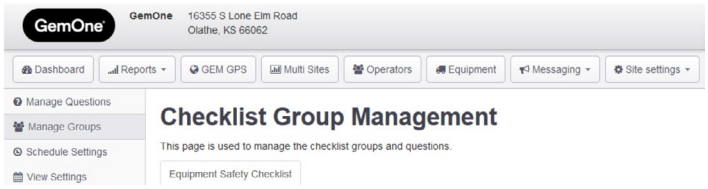
2. Click 'Delete' located on the bottom left.



3. Select 'Yes' to the prompt to delete the equipment category.



13.2 Manage Groups

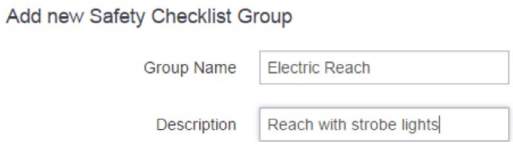


Checklist groups are created for different equipment. This allows users to allocate different questions to different groups. An internal combustion gas forklift will have a different set of questions to an electric order picker.

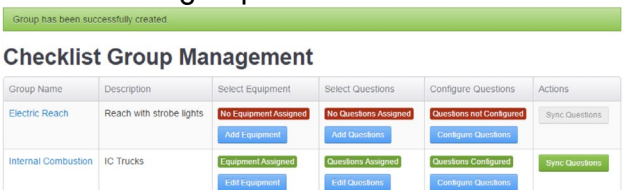
Equipment may also have different attachments and require specific questions. This page allows users to customize the checklist questions to suit their fleet.

13.2.1 Creating a checklist group

1. Enter the group name and a brief description



2. Create the group and a confirmation screen will appear

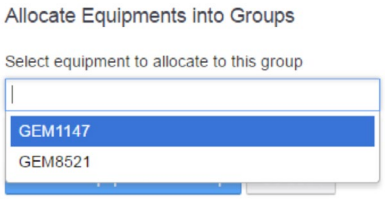


A new checklist group requires configuration. The image above shows the difference between a group that has been configured (green) and one that has not (red). Each stage will change from red to green as it is completed.

13.2.2 Select Equipment

Equipment must be allocated to one checklist group in order for the system to report correctly. A piece of equipment can also only be allocated to one group.

1. Select the equipment from the list of available equipment.



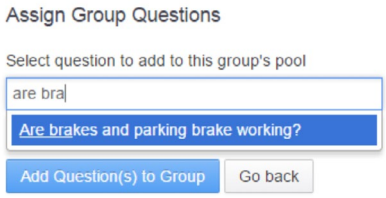
2. Add equipment into the group as required and save by clicking 'Allocate Equipment to Group'.

3. Equipment has now been allocated to the group. The status of the column changes to Equipment Assigned.

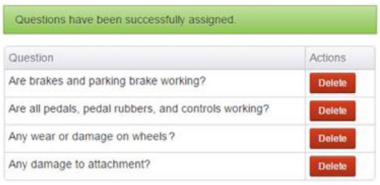
13.2.3 Select Questions

Questions that have been added into the pool are now allocated to checklist groups. The same questions can be allocated to different groups but it cannot be allocated twice within the same group.

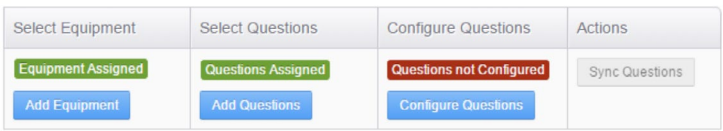
1. Select or search for questions to be added. More than one question can be added at the same time.



2. Select all the required questions and save by clicking 'Allocate question(s) to Group'.



3. Questions have now been allocated to the group.
   The status of the column changes to Questions Assigned.



13.2.4 Configure Questions

Configuring questions will determine the type of question, the order they appear and whether or not they are critical.

Question Priority	Question	Expected Response	Enable Critical	Enable Pre-Start	Move Position
1	Any wear or damage on wheels?	No	☑	☑	Move Up Move Down
2	Any damage to attachment?	No	☐	☑	Move Up Move Down
3	Are all pedals, pedal rubbers, and controls working?	Yes	☐	☐	Move Up Move Down
4	Are brakes and parking brake working?	Yes	☑	☐	Move Up Move Down

- Enable Critical – setting critical status to question.
- Disabling will set non-critical status.
- Enable Pre-start – setting pre-start status to question.
- Disabling will set post-start status.

Critical – will **lock** out equipment if the answer is unexpected.
Non-critical – will **not lock** out equipment if the answer is unexpected.
Pre-start – questions must be answered **before** equipment can be started.
Post-start – question answered **after** equipment has been started.

13.2.5 Critical Questions

Questions can be configured to have a critical status. Critical questions will lock out the equipment from normal operation if the answer is unexpected. The operator will be informed as the display will display a message saying it has been locked out.

Sapphire modules will not stop the equipment after a lockout. It will close the auxiliary relay upon lockout and will activate the strobe/alarm if present and installed.

Once the module has been locked out and the key has been turned to the off position, a normal operator PIN or card will not be authorized to access the equipment. An override code will be required to unlock the equipment.

13.2.6 Pre-Start Critical Questions

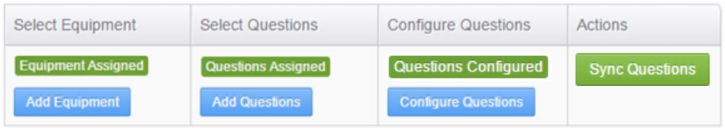
Pre-start questions are answered **prior** to the equipment being started. If the operator answers a pre-start critical question unexpectedly, the equipment will be locked out and it cannot be started.

13.2.7 Post-Start Critical Questions

Post-start questions are answered after the equipment has been started. If the operator answers a post-start critical question unexpectedly, the equipment will lock out. Since the equipment has already been started, the operator can still operate the equipment. The module will enter lockout mode after the key has been turned off.

Override codes will be required to unlock equipment after it has been locked out due to failing a critical checklist question.

13.2.8 Synchronise Questions



After the configuring questions, the questions are now ready to be sent to the modules. Click the 'Sync Questions' button to queue the checklist questions

Any changes made to checklist questions on the portal must be synchronized with the module.

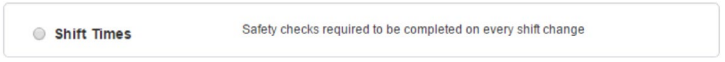
Checklist questions will sit in a queue until the module is able to download them. The equipment must be powered On and connected into the server to download the list.

13.3 Schedule Settings

A checklist schedule will determine when a checklist appears on the module. This page can be used to set the type of prompt.

There are four options to select from:
1. Shift Based – at every shift change.
2. Time Based – defined time slots.
3. Operator Based – every change of operator.
4. No Prompt – no checklist required.

13.3.1 Shift Times

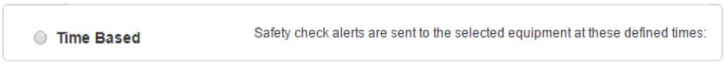


Checklist will prompt for the first operator that logs on after the start of a shift.
Up to four shift times can be sent to the module.

- Shift is from 6:00AM-2:00PM.
- Operator A operates the equipment from 5:50AM to 6:15AM. No checklist prompt will occur because the session started at 5:50AM.
- Operator A logs in again at 6:20AM and the checklist prompt will occur. This is the first operator that logs on after the start of a shift (6:00AM) so a prompt occurs.

Checklist prompts **will not** occur during a session. It only prompts for the first operator that logs in after the start of the shift.

13.3.2 Time Based



Checklist will prompt for the first operator that logs on after the set time. Up to four time slots can be allocated for a module.

- Time prompts are set up twice a day for 10:00AM and 4:00PM.
- Operator A logs on the equipment from 9:59AM to 1:00PM. No prompt occurs · Operator A logs in again at 1:20PM and the prompt will occur. This is because it is the first time an operator logs in after the scheduled time.
- No one operators the equipment from 1:20PM to 4:00PM.
- Operator A logs into the equipment at 4:30PM and an equipment safety checklist will need to be completed.

Checklist prompts **will not** occur during a session. It only prompts for the first operator that logs in after the start of the shift.

13.3.3 Operator Based

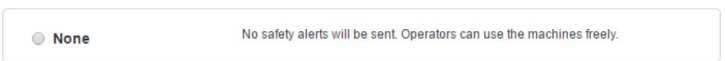
Equipment Safety Checklists will prompt for every change of operator.

- Operator A logs on in the morning and they will be prompted to complete an equipment safety checklist.
- Operator B logs on immediately after operator A. Since there is a change in operator, Operator B will also be prompted to complete an equipment safety checklist
- Operator A logs on again immediately after Operator B. Although Operator A. already completed a check earlier, since there is a change of operator, Operator A is required to complete another equipment safety checklist.

Operators will need to complete a checklist if there is a change of operator regardless of whether or not they completed one earlier. The checklist will reset once a day. If only one operator drives the same equipment daily, they still need to complete daily checklists.

13.3.4 None

Checklist will not prompt for any operator that logs into the Sapphire module.



All checklists will be ad-hoc. Pressing the checklist button on the module will start the checklist.

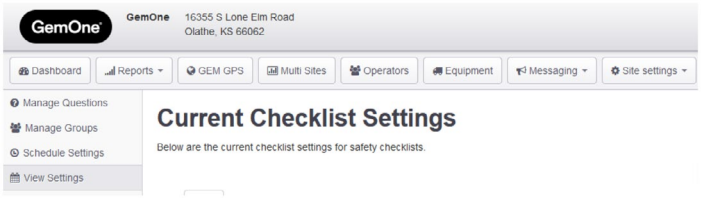
The drive inhibit relay will close immediately after logging in if no prompts are set up.

13.4 View Settings

A summary of the checklist configuration can be seen from this table.

It will list what group equipment belongs to, the type of prompt and corresponding times.

Clicking on the modify button will load the schedule settings page.

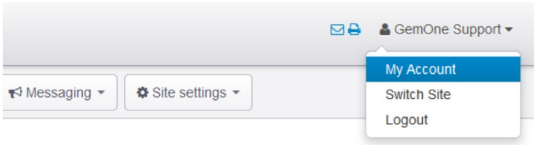


Equipment	Equipment Checklist Group	Schedule Type	Timeslot A	Timeslot B	Timeslot C	Timeslot D	Modify
GEM1147	Electric Reach	Timeslot Based	06:00:00	16:00:00	Not Set	Not Set	
GEM6614	Internal Combustion	Timeslot Based	06:00:00	16:00:00	Not Set	Not Set	
GEM8521	Electric Reach	Timeslot Based	06:00:00	16:00:00	Not Set	Not Set	
GEM9952	Internal Combustion	Timeslot Based	06:00:00	16:00:00	Not Set	Not Set	

14. User Accounts

14.1 Account Details

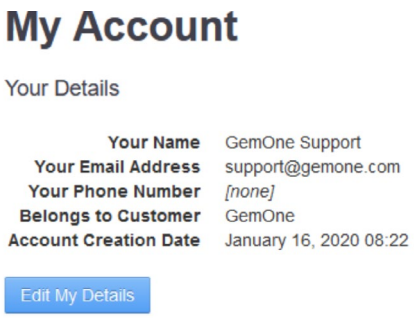
User account details can be viewed by clicking on the name in the top right of the screen and then selecting the first option. Basic information and **subscriptions** can be managed here.



14.1.1 Basic Information

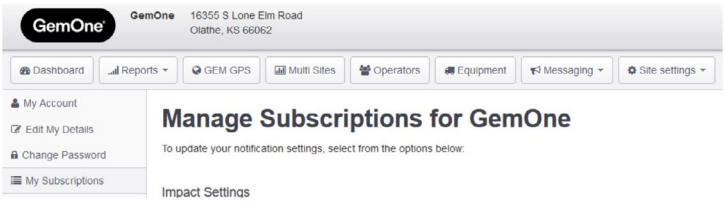
Account name, email address, and passwords can be changed using 'Edit My Details' and 'Change Password'.

A summary of the account will also be listed under 'Your Details'.



14.2 Subscriptions

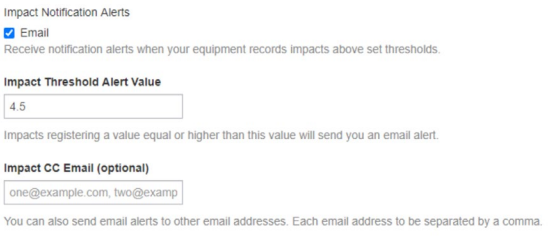
Various types of email subscriptions can be set up there.



The following are available:
1. Impact notifications.
2. Checklist notifications.
3. Other notifications.

14.2.1 Impact Notification Alerts

A threshold is set in the value field. Any equipment that triggers an impact over the set threshold will also generate an email alert.



Additional emails can be input into the cc field if that person does not require access to the portal but requires email alerts.

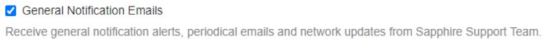
Impact threshold value can have one decimal point.
The impact threshold value range is from 1.0g to 6.0g

The email will include the equipment, impact severity, and operator.
The following email will be sent to users:

> *An impact for equipment* **SP1321** *just registered an impact reading of* **4.57** *by operator* **Mark Lovie**.
>
> *To view more information about this impact, click here to view the impact details on the Sapphire portal.*
>
> *You are receiving this email because you are subscribed to receive email alerts when this equipment registers an impact reading greater than 4.5.*

14.2.2 Checklist Notifications

A failed checklist alert will only trigger for checklists that have **failed** or **critically failed** a checklist. Incomplete checklists will not trigger an email alert.



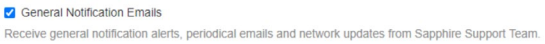
The email alert will include the equipment, operator, time of failure, and question(s) that were failed.

The following email will be sent to users:

> *Operator Marisol Parra has failed a Safety Checklist.*
>
> *Time: 15/Sep/16 05:03 PM*
> *Equipment: 36593*
> *Status: Failed*
>
> *Failed Questions:*
> *· Is the protective guard damaged? Answered: Yes (Expected: No)*
>
> *You are receiving this email because you are subscribed to receive email alerts for failed safety checklists.*

14.2.3 Other Notifications

This includes updates about the Sapphire product or any general changes.



14.2.4 Hour Meter Reports

This subscription allows users to receive an email report for their site containing the accumulated key hours.

Users can select to use either the asset or fleet number and choose their corresponding frequency.

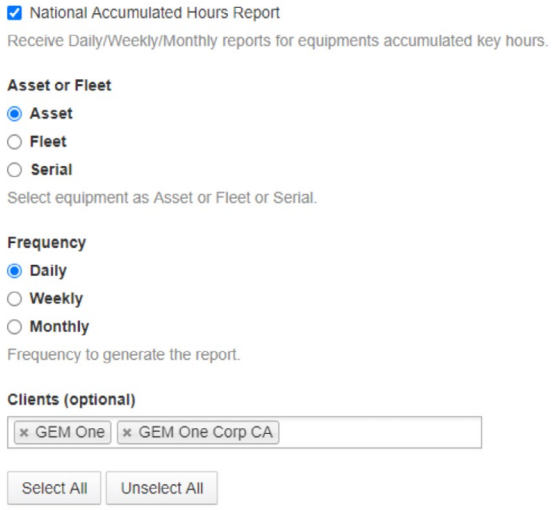
The report will be a .csv attachment that comes in via email.

14.2.5 National Hour Meter Reports

This report will contain accumulated key hour readings, last connection, last impact, and checklist passed rates. This option allows users to select multiple clients (if applicable) to be included on a single report.

Users can select from the asset, fleet, or serial number with frequencies of daily, weekly, or monthly. The list of sites will depend on the user account and which sites are linked.

The report will be a .csv attachment that comes in via email.

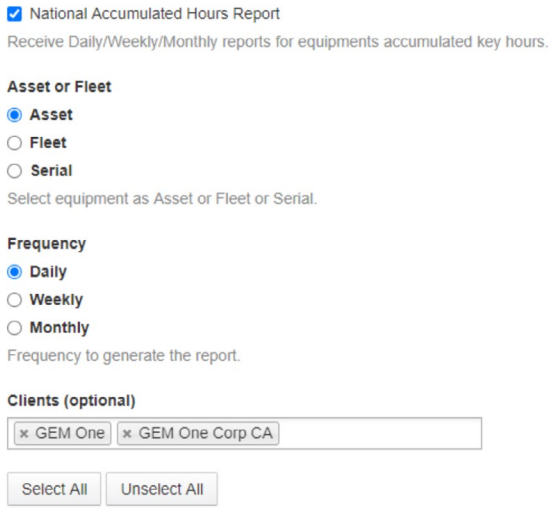


14.2.6 National Equipment Shift Utilization Report

This report will contain the key and input hours for the selected frequency.
This option allows users to select multiple clients (if applicable) to be included on a single report.

Users can select from the asset, fleet, or serial number with frequencies of daily, weekly, or monthly. The list of sites will depend on the user account and which sites are linked.

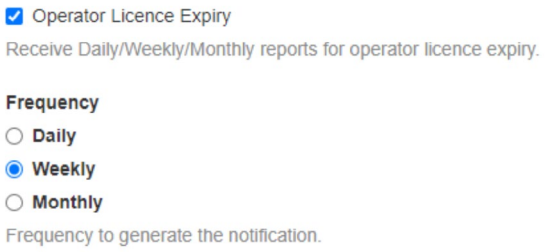
The report will be a .csv attachment that comes in via email.



14.2.7 Operator License Expiry Support

This report will contain license information from operators. It will list operators who have licenses expiring in 30 days, 14 days, and have already expired.

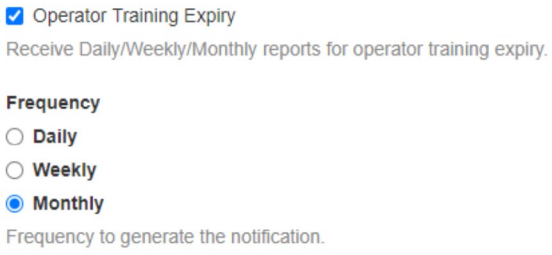
Users can select subscription frequencies from daily, weekly, or monthly.



14.2.8 Operator Training Expiry Support

This report will contain training information from operators. It will list operators who have training dates expiring in 30 days, 14 days, and have already expired.

Users can select subscription frequencies from daily, weekly, or monthly.



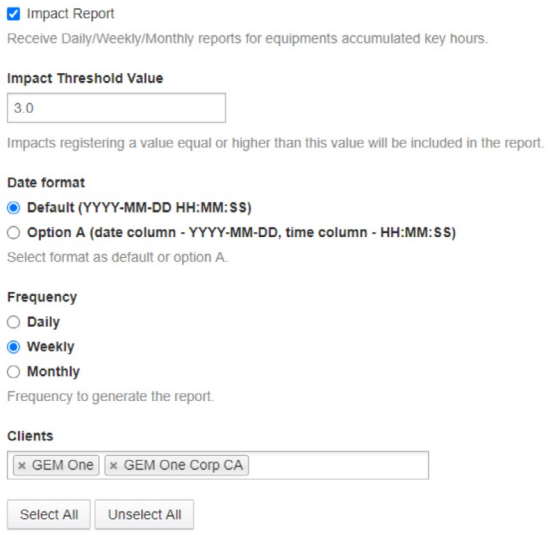
14.2.9 Impact Report

This report will contain impact data for the selected frequency. The operator name, equipment, and threshold reading will be available.

Users can also set the threshold for the report so only impacts above that threshold are included.

Multiple clients can be added to the report if applicable.

The report will be a .csv attachment that comes in via email.



15 - Support

In case of issues, questions or feedback, feel free to contact our support team.

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