

# VOLVO CONSTRUCTION EQUIPMENT MATRIS REPORT

Machine model <b>A40G</b>	SerialNo <b>340469</b>	Operating Hours <b>4217.4</b>	Reading Date <b>28/05/2019</b>
Company name <b>volvo</b>	Dealer <b>arnold machinery</b>	Report Issuer	
Contact name <b>mike seifert</b>	Technician <b>CE Tech</b>	Primary Application <b>Earth moving construction</b>	
Site	Workorder	Ground Condition	

MATRIS Reading, Summary / Recommendation

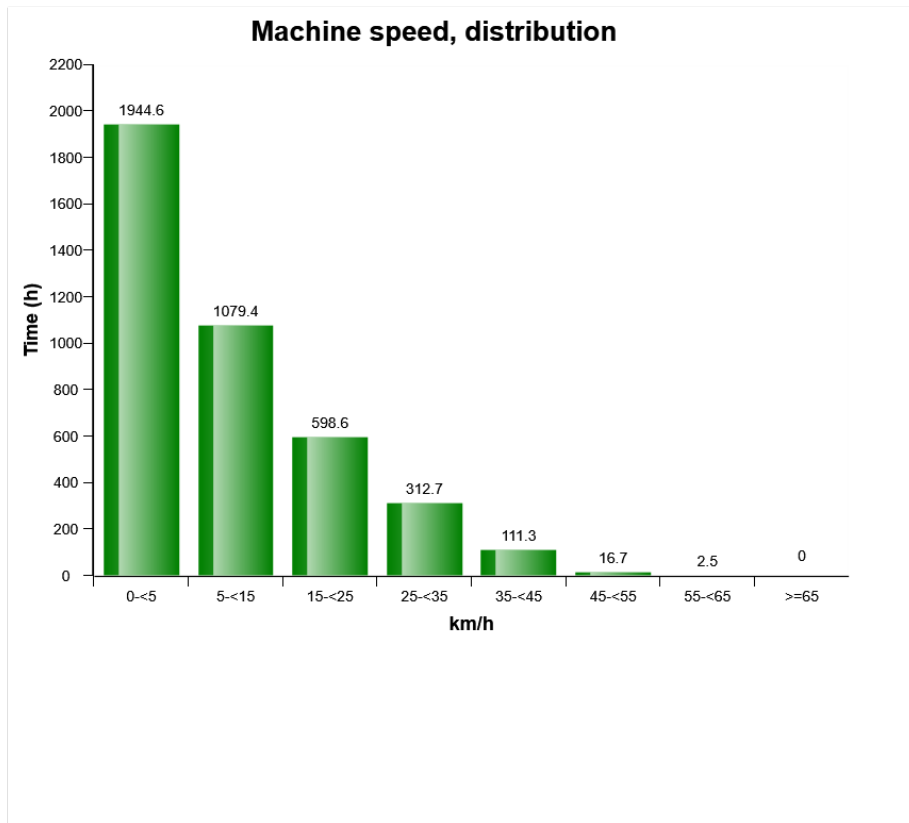


Machine model	SerialNo	Operating Hours	Reading Date
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Main equipment	Type	Equipment
	Tyre size/class	Sold without tyres
	Body extensions	Not mounted
	Tail-gate	Not mounted
	Extra spillguard	Not mounted
	Wear plates	Not mounted
	Pattern	None



Machine model	SerialNo	Operating Hours	Reading Date
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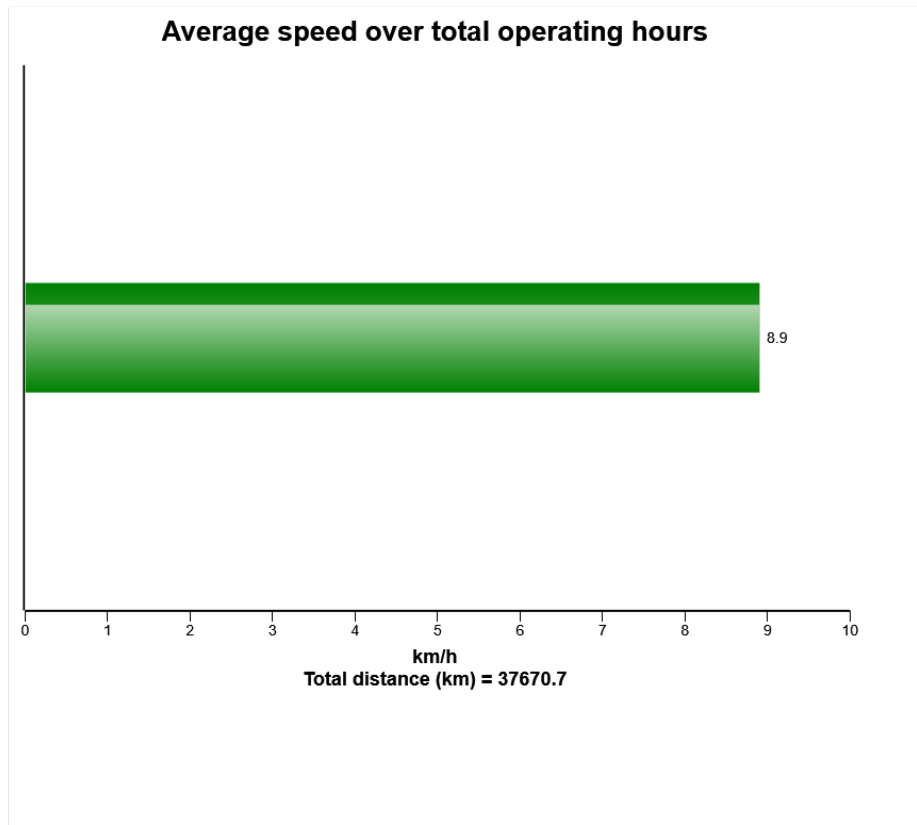


The presentation shows the time in hours in speed-intervals for the vehicle

Note that the interval 0-5 km/h includes machine not in motion. If the machine has been operated above 55 km/h there is a risk of engine over speed.



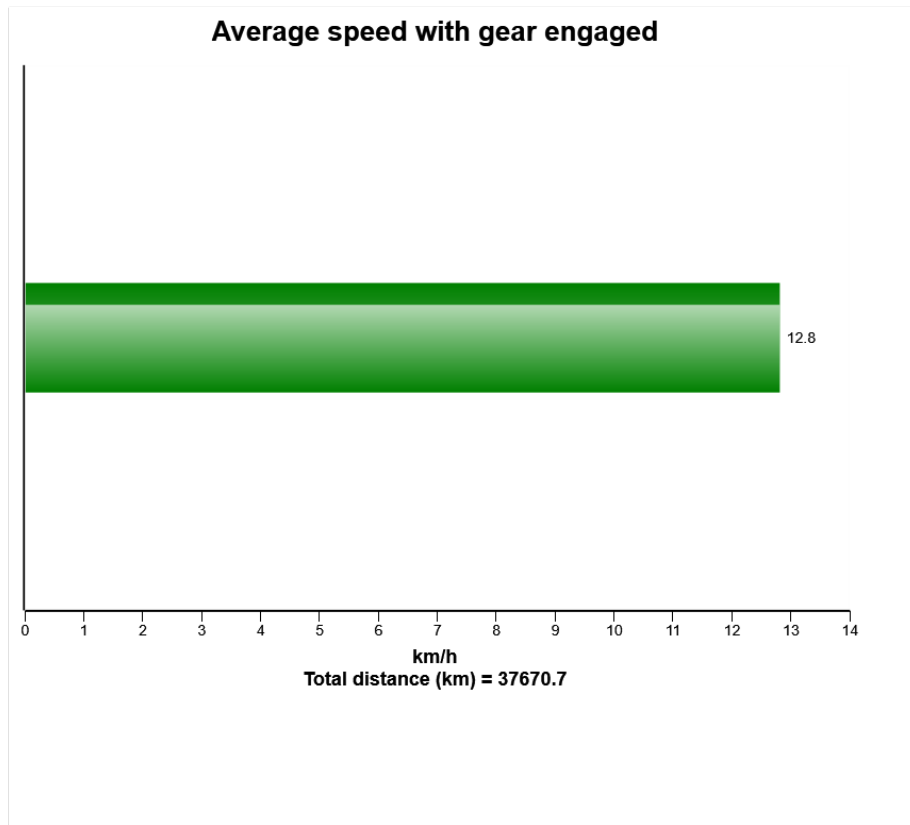
Machine model	SerialNo	Operating Hours	Reading Date
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The diagram shows the machines average speed based on the total operating hours.



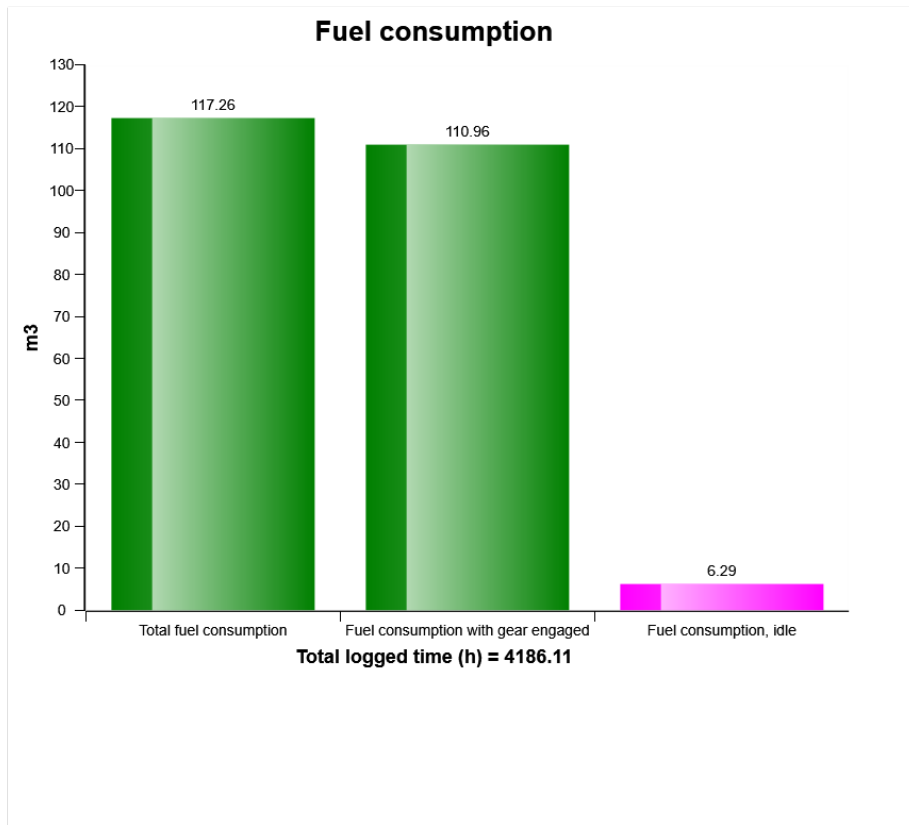
Machine model	SerialNo	Operating Hours	Reading Date
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The diagram shows the machines average speed based on the operating hours with gear engaged.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

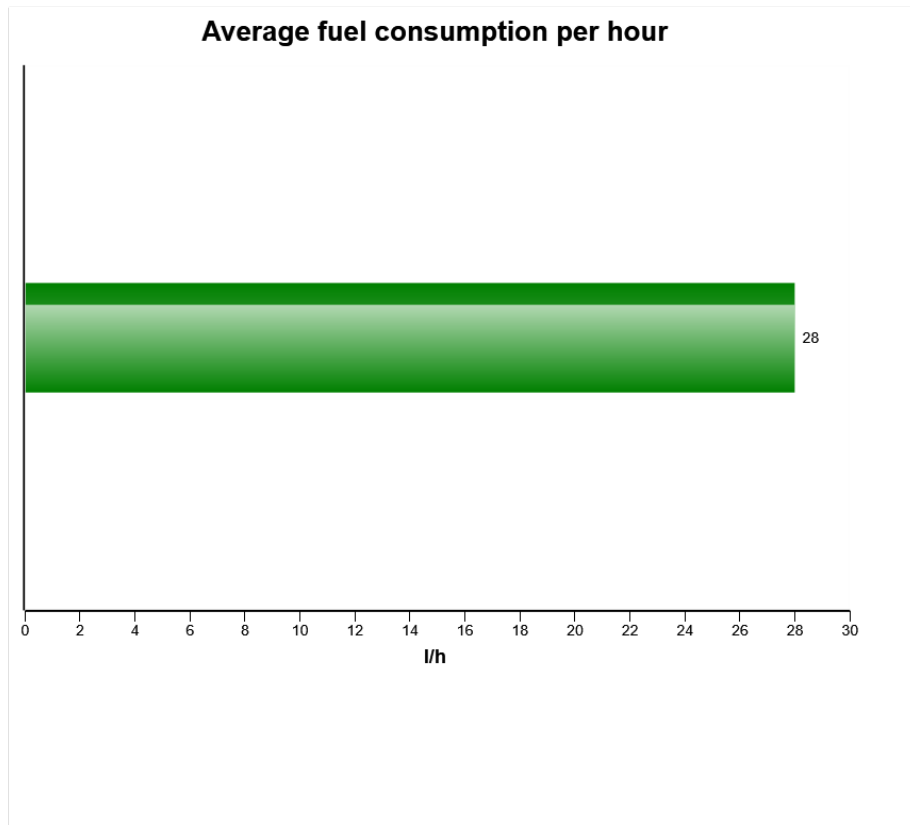


The diagram shows the total fuel consumption, fuel consumption with gear engaged and fuel consumption during idle.

High fuel consumption during idle can indicate that the machine is not fully utilized.



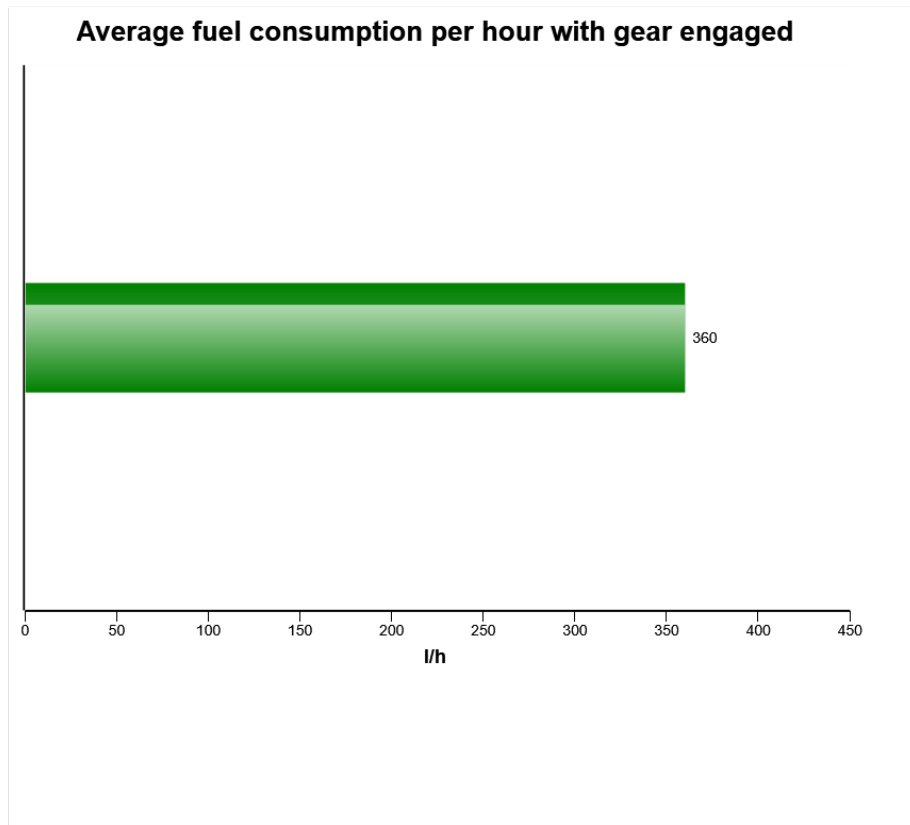
Machine model	SerialNo	Operating Hours	Reading Date
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The diagram shows the average fuel consumption based on total operating hours.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

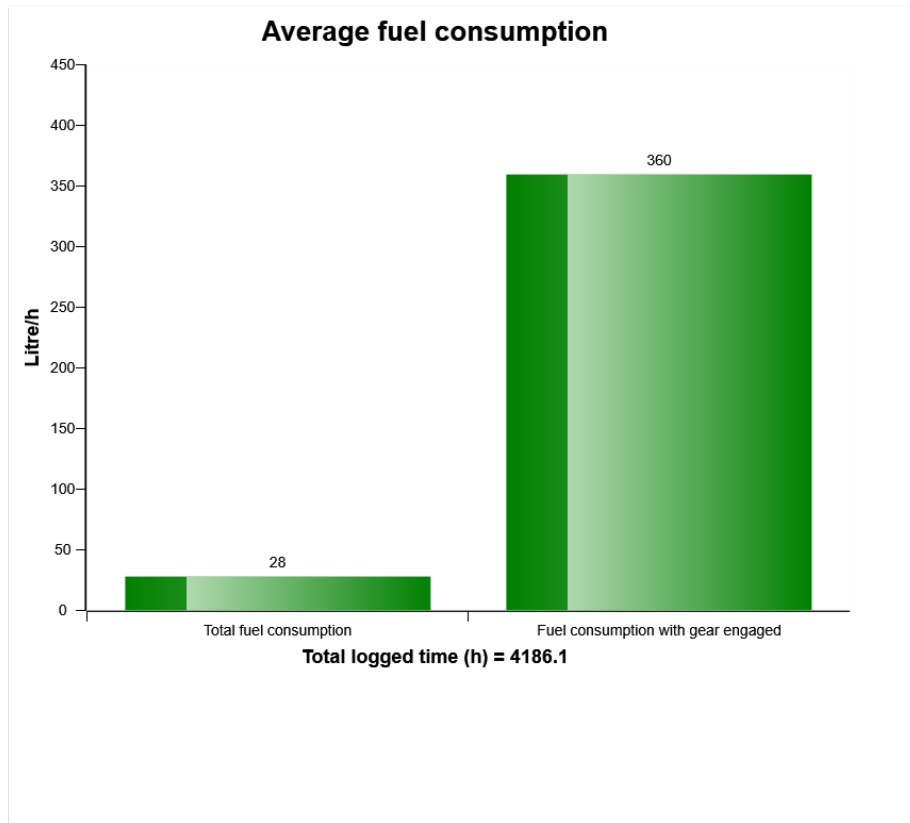


The diagram shows the average fuel consumption based on the operating hours with gear engaged.





Machine model	SerialNo	Operating Hours	Reading Date
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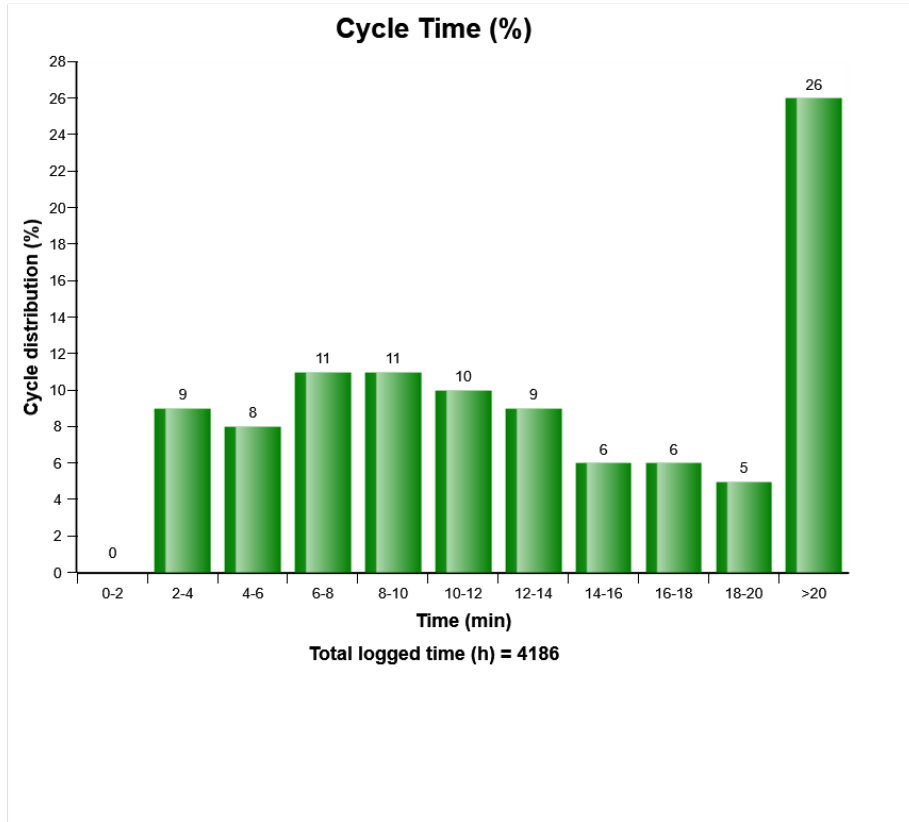


The diagram shows the total average fuel consumption versus average fuel consumption with gear engaged.

Big difference between the bars can indicate that the machine is not fully utilized, high idle lowers the total average fuel consumption.



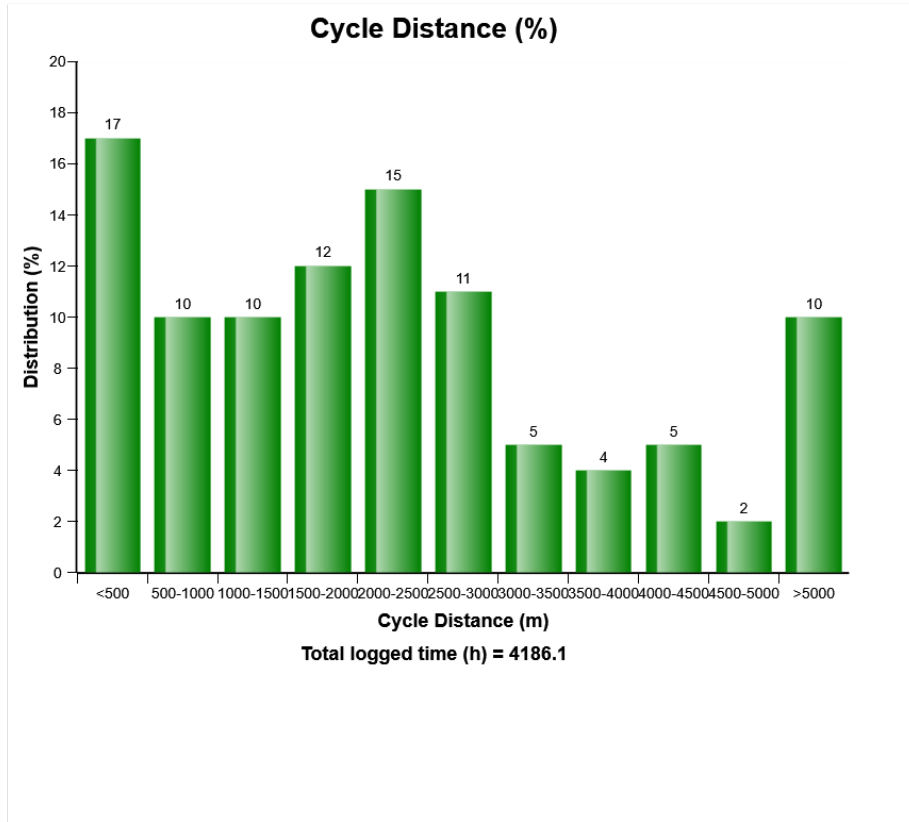
Machine model	SerialNo	Operating Hours	Reading Date
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The diagram shows the distribution of the working cycle time. The time between 2 valid cycle registrations is registered. Time starts from lifting the body.



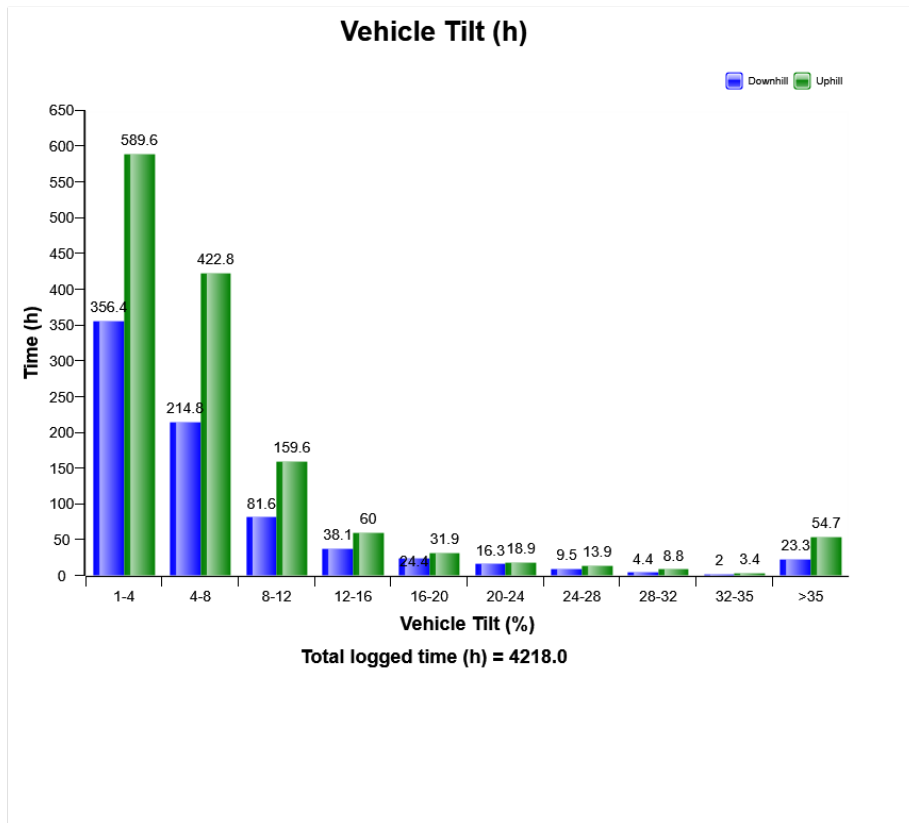
Machine model	SerialNo	Operating Hours	Reading Date
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The diagram shows the distribution of the working cycle distance. The distance driven between 2 valid cycle registrations.



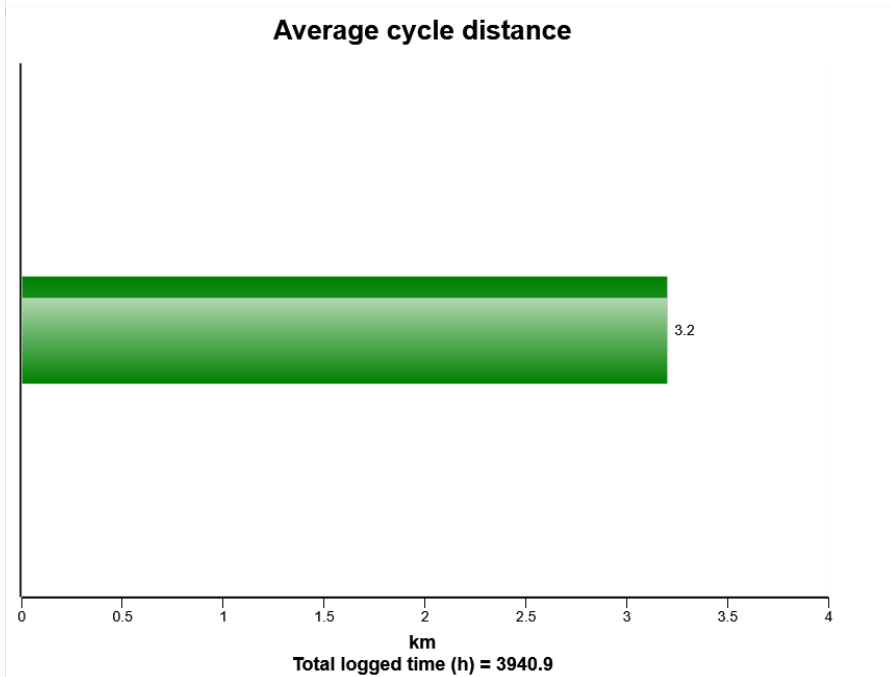
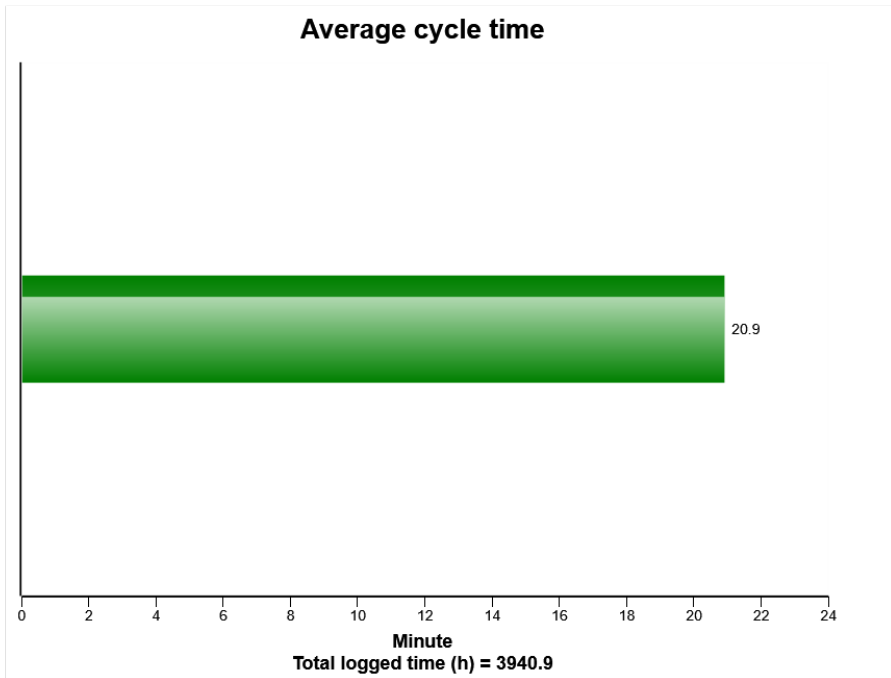
Machine model	SerialNo	Operating Hours	Reading Date
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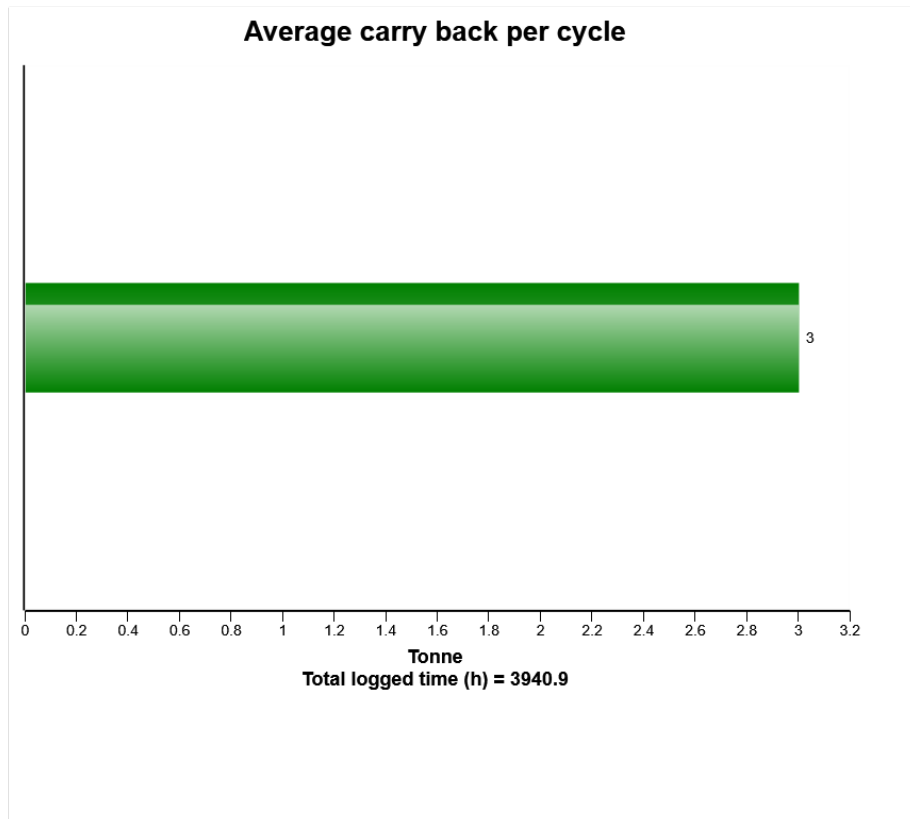
The diagram shows the distribution of the longitudinal tilt in percent (not degrees), the criteria to get registrations is that the vehicle speed exceeds 1km/h (0,62mph) and that the engine is on.



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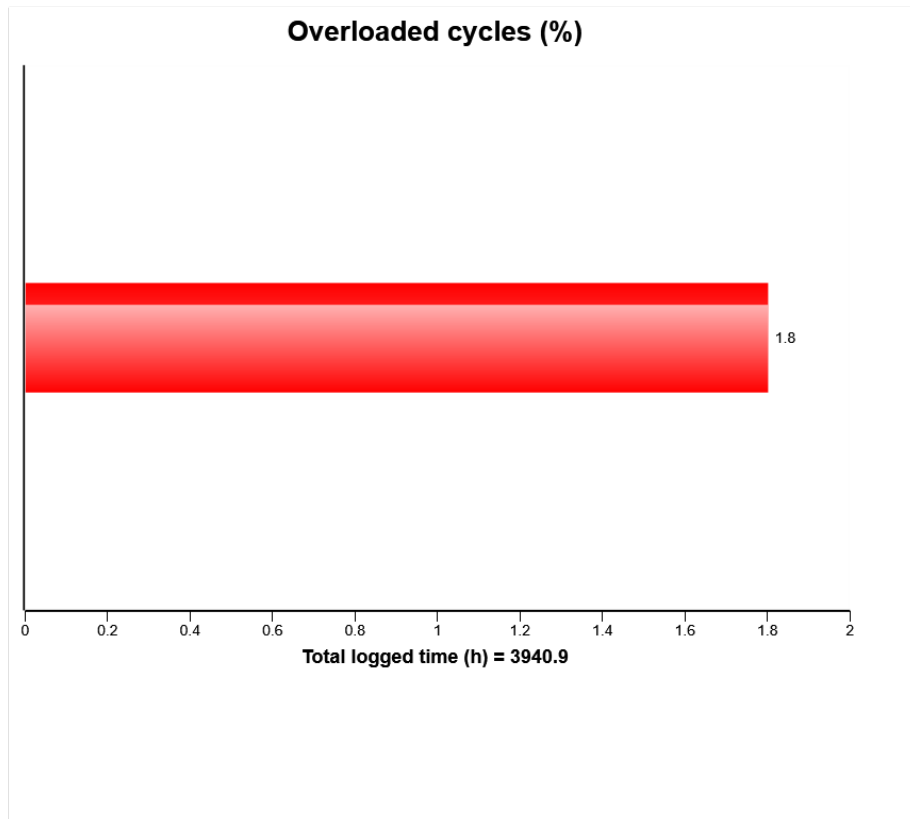
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



An error has occurred while processing HtmlTextBox 'htmlTextBox1':  
'WordSection1' is an unexpected token. The expected token is "" or "". Line 1, position 18.



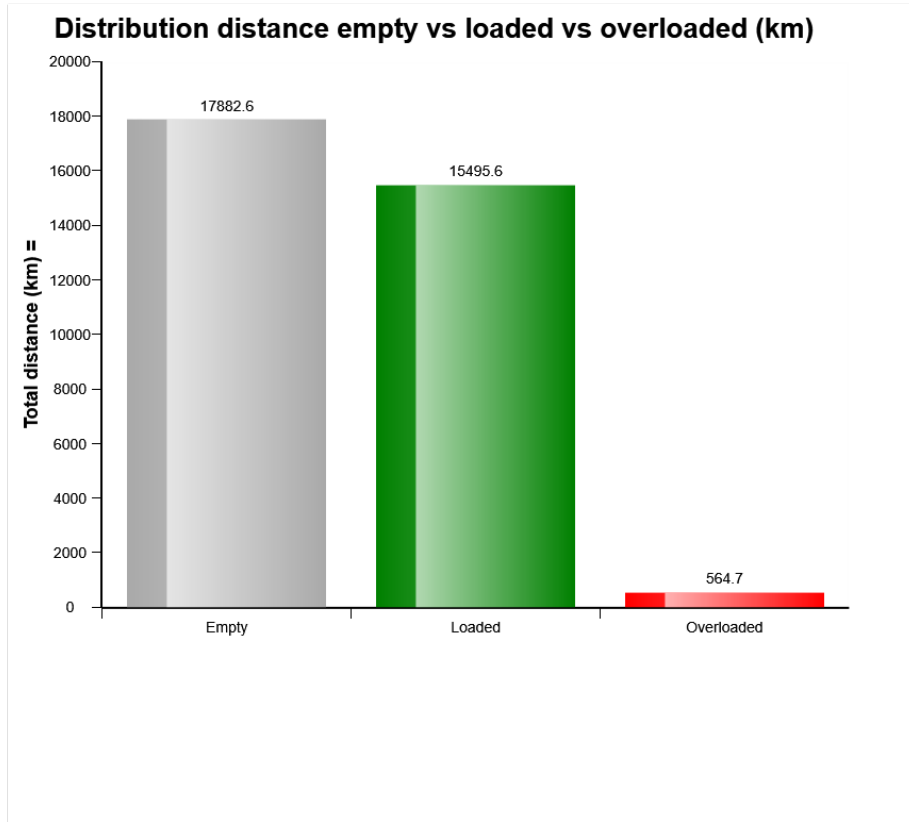
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



An error has occurred while processing HtmlTextBox 'htmlTextBox1':  
The ':' character, hexadecimal value 0x3A, cannot be included in a name. Line 1, position 656.



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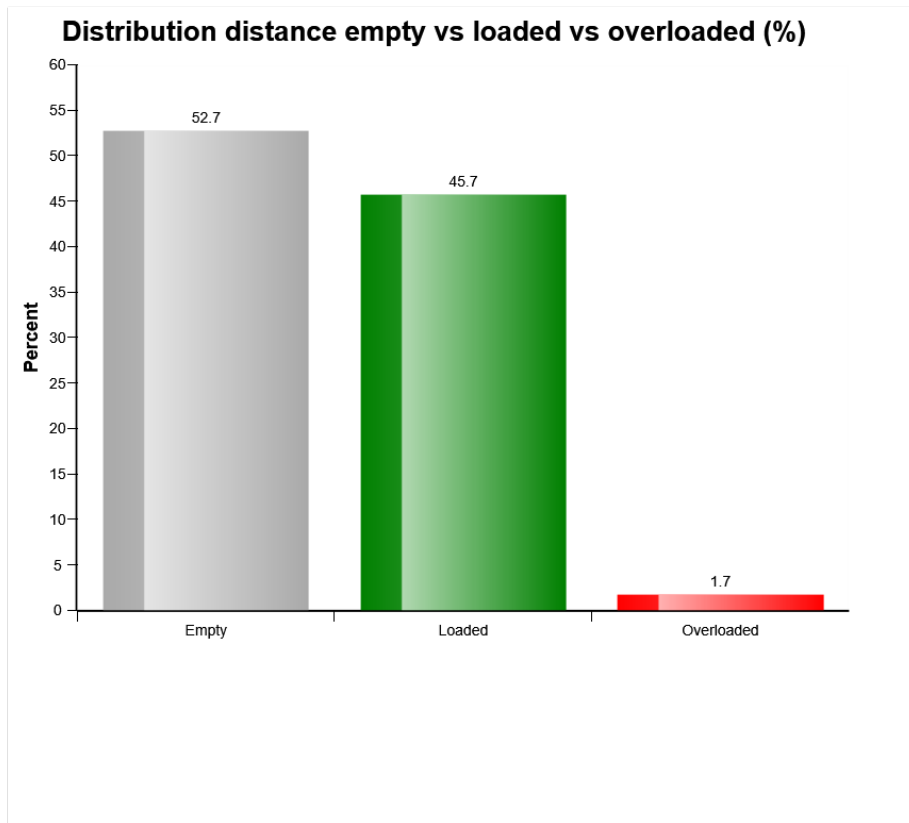
Much time operated with overload puts unnecessary stress to the machine which could lead to shorter machine life and higher repair and maintenance cost.

Much time operated empty could indicate that the machine has been operated a lot when not in production.





Machine model	SerialNo	Operating Hours	Reading Date
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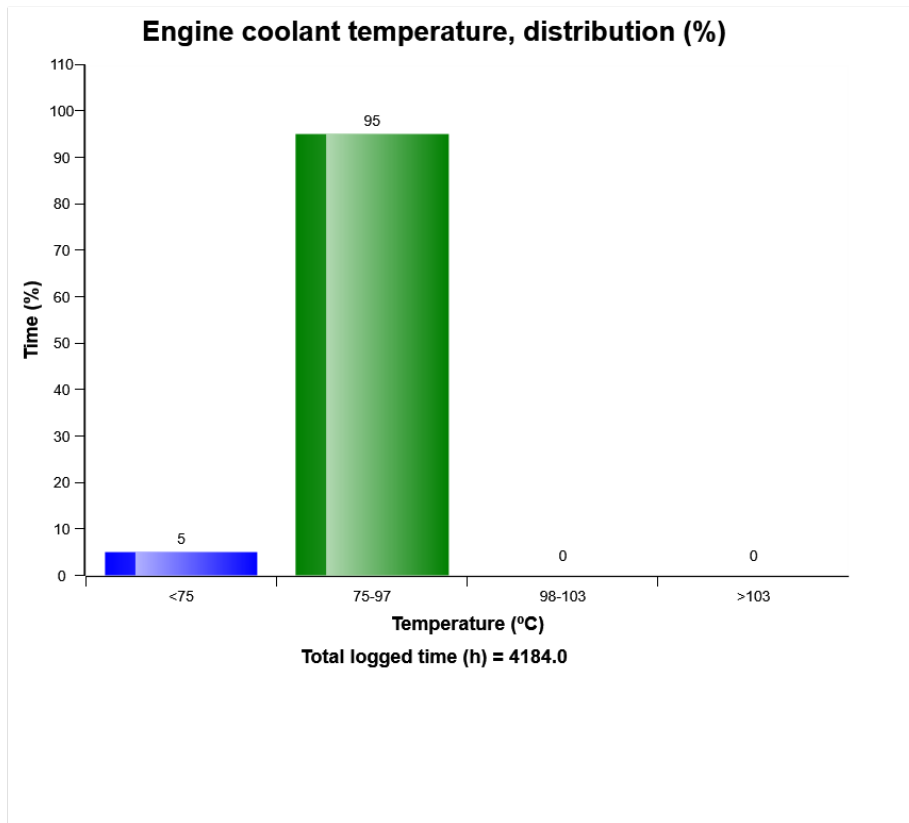


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Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



**Definition:**

The graph shows the time distribution of the temperature, while engine running.

**Explanation:**

Y-axis: Time

X-axis: Temperature distribution in classes.

Blue bar = Warm-up phase.

During the engine warm-up phase, this temperature region is passed.

It is normal to have registrations in this region.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

**Green bar** = Normal working temperature. The Major part of the registrations shall be in this region.

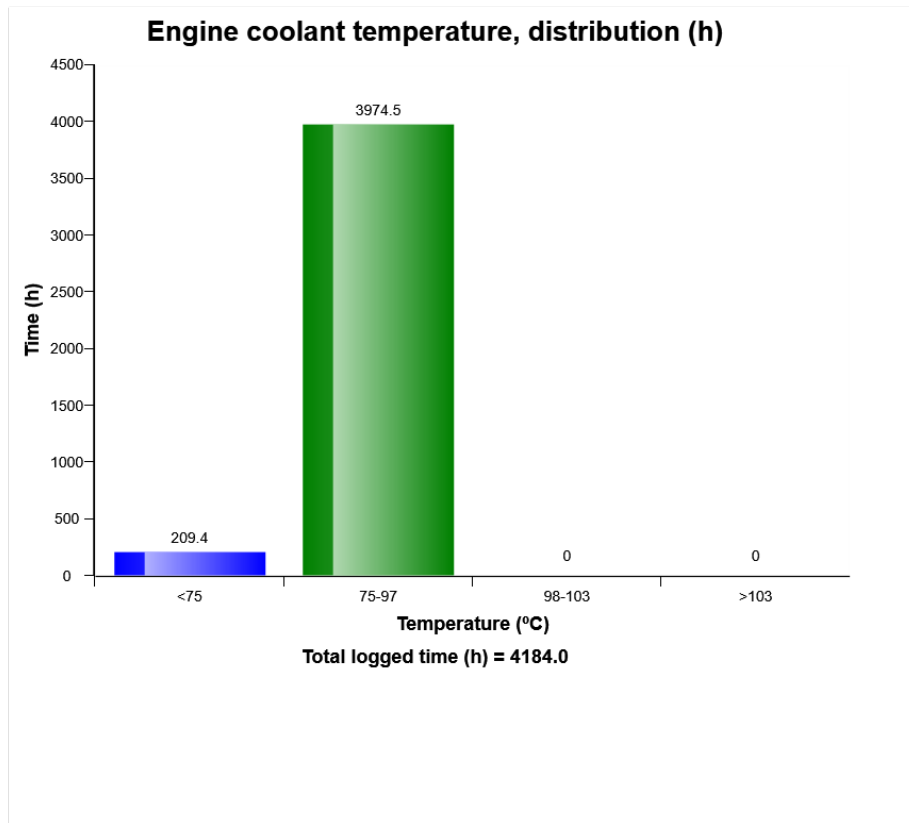
**Yellow bar** = High working temperature. It is normal to have some registrations in this region.

**Red bar** = Alarm.

Registrations in this region is not normal, running in this region may cause severe damage.



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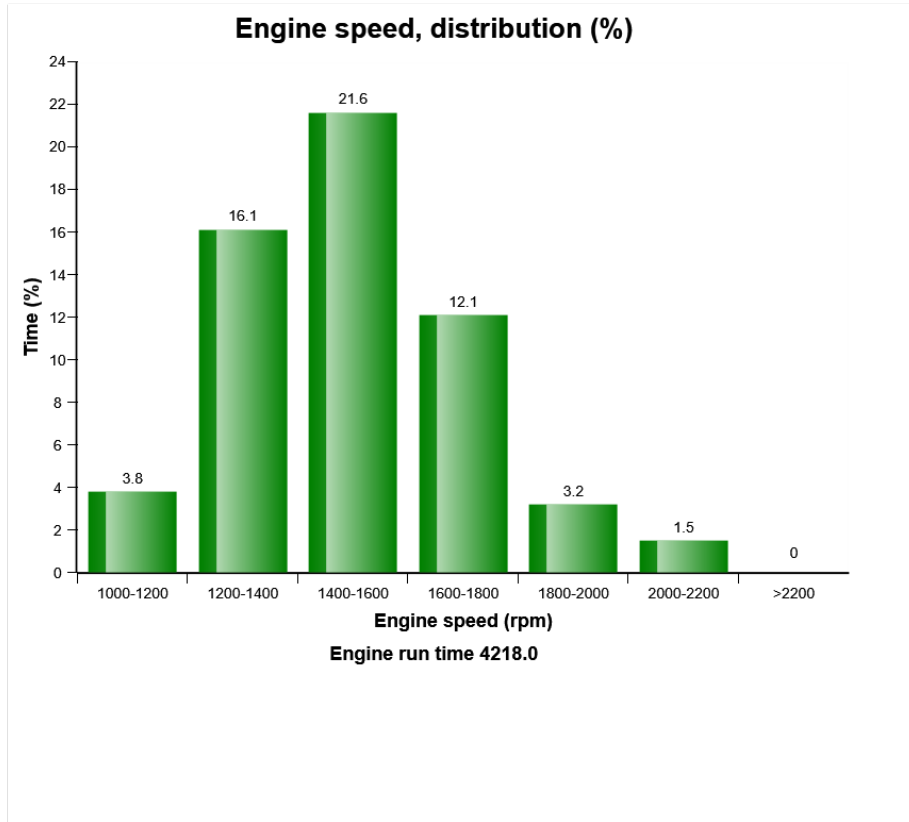
**Yellow bar** = High working temperature. It is normal to have some registrations in this region.

**Red bar** = Alarm.

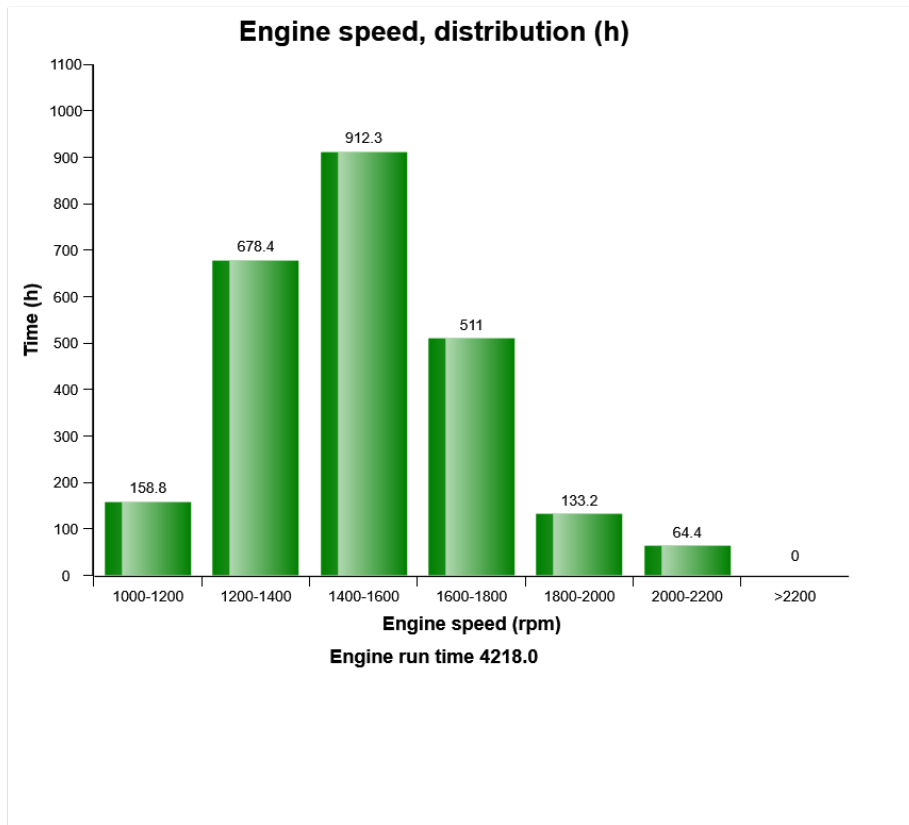
Registrations in this region is not normal, running in this region may cause severe damage.



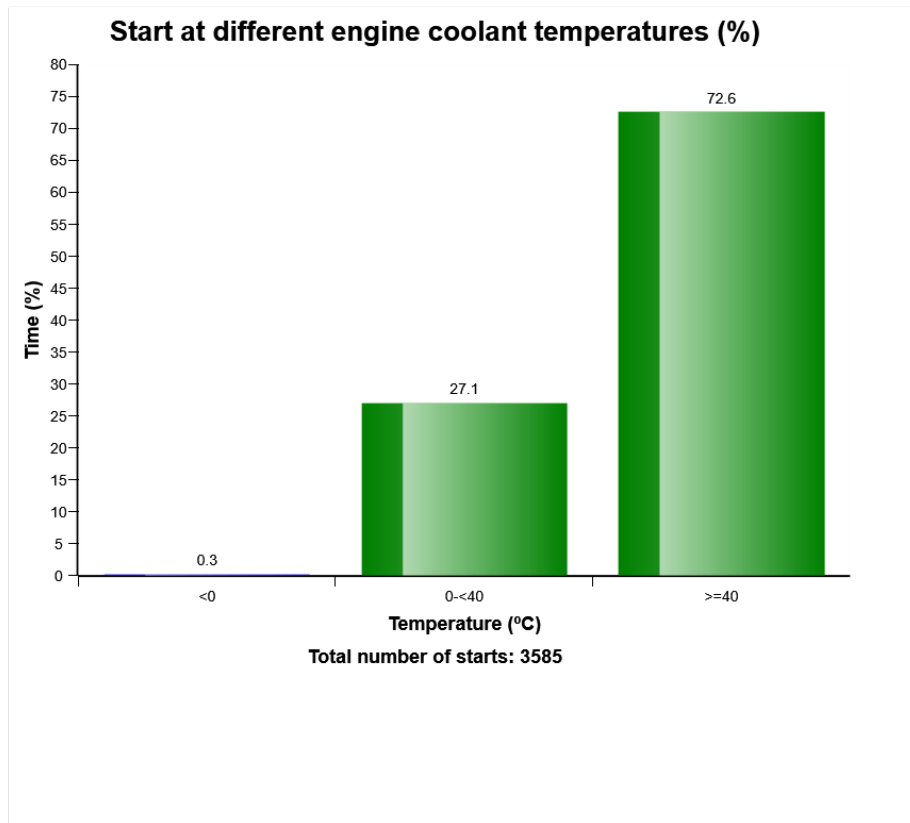
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Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



**Definition:**

The graph shows the distribution of engine coolant temperature, at the starting moment.

**Explanation:**

Y-axis: Number of engine starts

X-axis: Engine coolant temperature.

A great proportion of engine wear is due to cold starts. Try to avoid extremely cold starts. Try using an electric coolant heater.





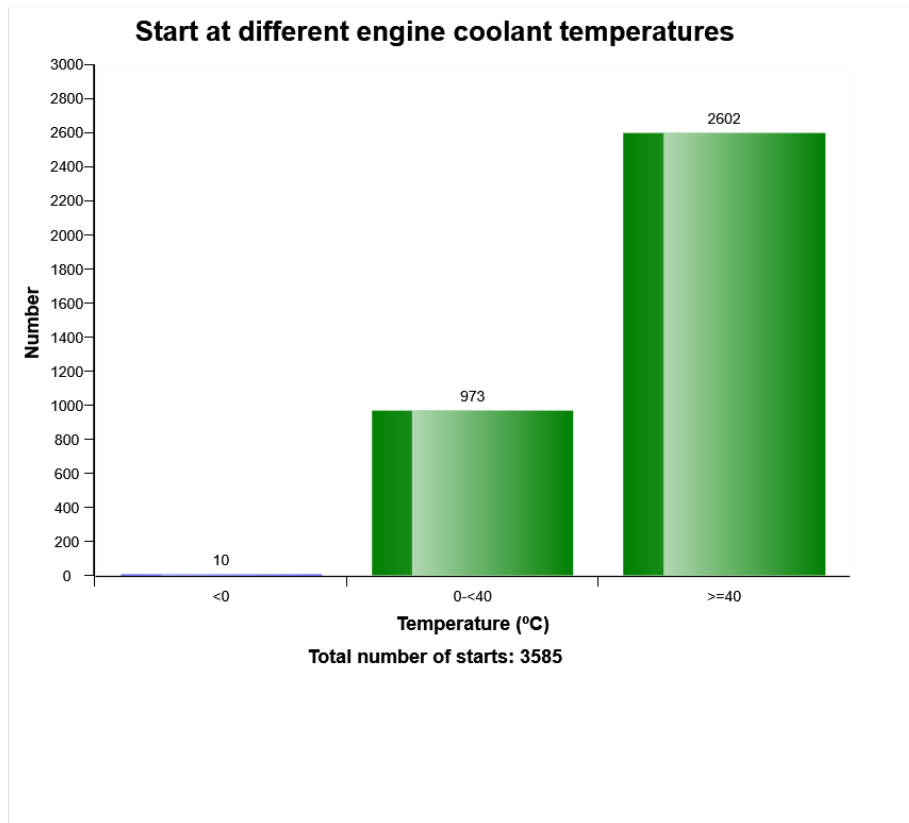
Machine model	SerialNo	Operating Hours	Reading Date
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Under the graph the total number of engine starts is displayed.

Also see " *Number of starts / hour*" to get a complete picture of engine starting.



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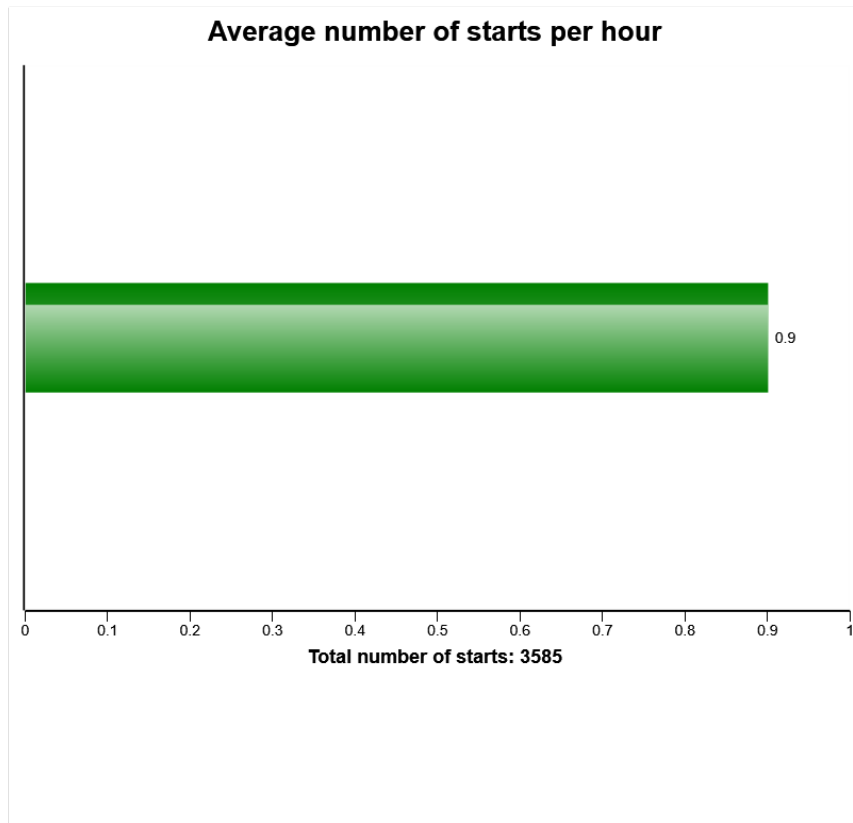
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Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



**Definition:**

The graph describes the average number of engine starts per engine running hour.

**Explanation:**

X-axis: Number of average starts per hour.

The actual time used for calculation, is time with engine on

If the fuel consumption is high one reason may be that the engine is not turned off often enough, perhaps machine is left idling for long periods. Check " Machine utilization".

The value can vary a lot depending on in which application the machine is used.

To see at which different temperatures engine is started see" Start at different engine temperatures."



Machine model	SerialNo	Operating Hours	Reading Date
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Green bar = Number of average starts per hour



Machine model	SerialNo	Operating Hours	Reading Date
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**High engine coolant temperature  
Total number of occurrences = 0**

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)
<b>A</b>	0	2000	0	0	0	0	0
<b>B</b>	0	2000	0	0	0	0	0
<b>C</b>	0	2000	0	0	0	0	0
<b>D</b>	0	2000	0	0	0	0	0
<b>E</b>	0	2000	0	0	0	0	0
<b>F</b>	0	2000	0	0	0	0	0
<b>G</b>	0	2000	0	0	0	0	0
<b>H</b>	0	2000	0	0	0	0	0
<b>I</b>	0	2000	0	0	0	0	0
<b>J</b>	0	2000	0	0	0	0	0

**Definition :**

This type of table shows the latest occasions when a specific event has occurred. When a specified criteria is fulfilled a registration is made. Each table row corresponds to one occasion. Operating hours is displayed in the first column, followed by year, month, day, hour and minute to show when an event has occurred.

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed.

**Duration :**

**The duration of each event is shown after the timestamp of the event.**

**The duration is counted as long as the criteria is fulfilled.**

**Extreme value :**

**The extreme value column displays the most extreme value during the event.**





Machine model	SerialNo	Operating Hours	Reading Date
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**Criteria :**

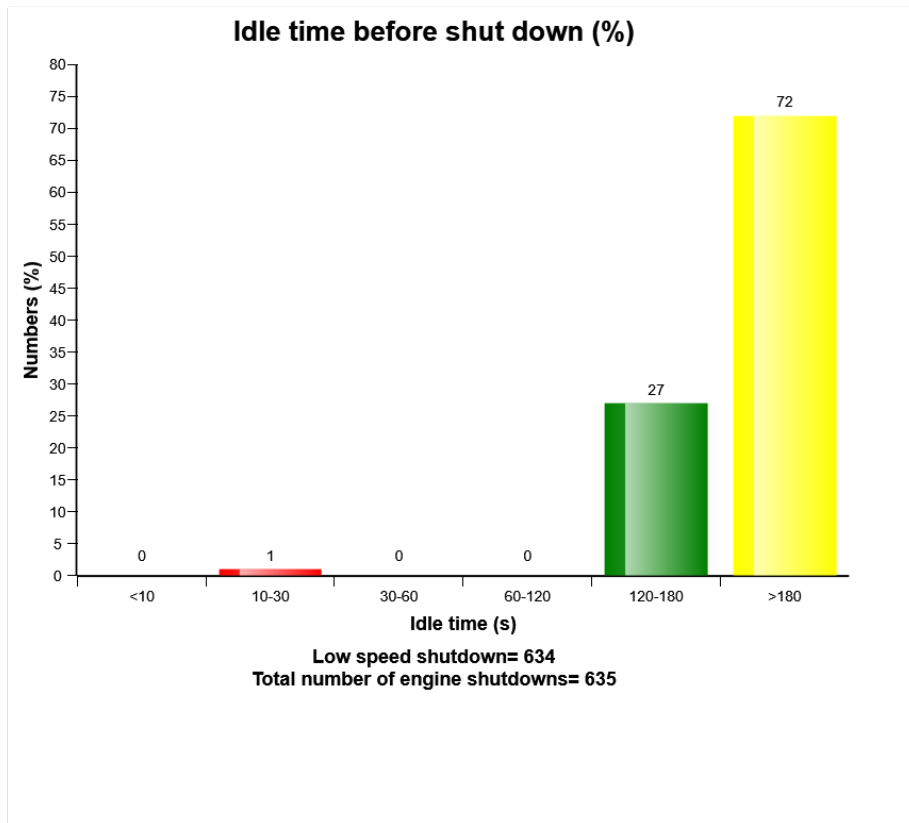
The criteria to get an registration, is that the alarm signal for high engine coolant temperature is active and that the diesel engine is running.







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**Definition:**

This graph shows the distribution of delayed time at low idle speed until the engine is turned off.

The delayed time distribution for each bar is shown on top of its column in percentage.

The sum of bars is 100%.



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**High engine oil temperature  
Total number of occurrences = 0**

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)
<b>A</b>	0	2000	0	0	0	0	0
<b>B</b>	0	2000	0	0	0	0	0
<b>C</b>	0	2000	0	0	0	0	0
<b>D</b>	0	2000	0	0	0	0	0
<b>E</b>	0	2000	0	0	0	0	0
<b>F</b>	0	2000	0	0	0	0	0
<b>G</b>	0	2000	0	0	0	0	0
<b>H</b>	0	2000	0	0	0	0	0
<b>I</b>	0	2000	0	0	0	0	0
<b>J</b>	0	2000	0	0	0	0	0

Definition :

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Duration :

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Extreme value :

**The extreme value column displays the most extreme value during the event.**



**Extreme (°  
C)**

0

0

0

0

0

0

0

0

0

0



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**Criteria :**

The criteria to get an registration, is that the alarm signal for high engine oil temperature is active and that the diesel engine is running.





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**Starter overheating**  
**Total number of occurrences = 0**

Op hours	Year	Month	Day	Hour	Minute
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0

**Definition:**

The starter can be damaged if it is overheated.

Alarm is registered if the starter is used continuously more than 40 seconds and if it is less than five



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minutes since the latest alarm .

### Explanation:

X-axis: Number of times that the starter alarm has been activated.





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**Low Air filter pressure**  
**Total number of occurrences = 0**

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0

**Definition :**

This type of table shows the latest occasions when a specific event has occurred. When a specified criteria is fulfilled a registration is made. Each table row corresponds to one occasion. Operating hours is displayed in the first column, followed by year, month, day, hour and minute to show when an



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event has occurred.

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed.

Duration :

**The duration of each event is shown after the timestamp of the event.**

**The duration is counted as long as the criteria is fulfilled.**

Criteria :

The criteria to get an registration, is that the alarm signal for air filter clogged is active, and that the diesel engine is running.



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**Regeneration ignored**  
**Total number of ignored regenerations 0**

	Op hours	Year	Month	Day	Hour	Minute
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0



**Duration  
(min)**

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0



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**Regeneration aborted**  
**Total number of occurrences = 0**

<b>Op hours</b>	<b>Year</b>	<b>Month</b>	<b>Day</b>	<b>Hour</b>	<b>Minute</b>	<b>Reason</b>
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0



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**Regeneration duration**  
**Total number of occurrences = 10**

Op hours	Year	Month	Day	Hour	Minute	Duration (min)
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
496	2016	1	6	12	43	44
703	2016	2	19	15	47	46
848	2016	3	23	14	28	42
1349	2016	7	27	13	51	47
1852	2017	6	6	21	20	37
1853	2017	6	6	22	8	30
2354	2018	1	20	16	10	51
2905	2018	5	1	9	9	62
3406	2018	7	28	13	37	50
3907	2018	10	17	12	57	53



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

**Water level warning in water separator**  
**Total number of occurrences = 7**

Op hours	Year	Month	Day	Hour	Minute	Duration (min)
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
572	2016	1	16	5	13	0
1080	2016	5	26	10	22	0
1302	2016	7	20	7	21	0
2913	2018	5	1	18	2	0
3191	2018	6	27	8	5	0
3313	2018	7	16	7	24	0
3960	2018	10	29	18	8	0



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

**High voltage**  
**Total number of occurrences = 0**

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme value
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0

**Definition :**

This type of table shows the latest occasions when a specific event has occurred. When a specified criteria is fulfilled a registration is made. Each table row corresponds to one occasion. Operating hours is displayed in the first column, followed by year, month, day, hour and minute to show when





Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

an event has occurred.

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed

**Duration :**

The duration of each event is shown after the timestamp of the event.

The duration is counted as long as the criteria is fulfilled.

**Extreme value :**

The extreme value column displays the most extreme value during the event.

**Criteria :**

Logging is performed when, Alarm high system voltage , is active.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

**Low voltage**  
**Total number of occurrences = 0**

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme value
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0

**Definition :**

This type of table shows the latest occasions when a specific event has occurred. When a specified criteria is fulfilled a registration is made. Each table row corresponds to one occasion. Operating hours is displayed in the first column, followed by year, month, day, hour and minute to show when



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

an event has occurred.

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed

**Duration :**

The duration of each event is shown after the timestamp of the event.

The duration is counted as long as the criteria is fulfilled.

**Extreme value :**

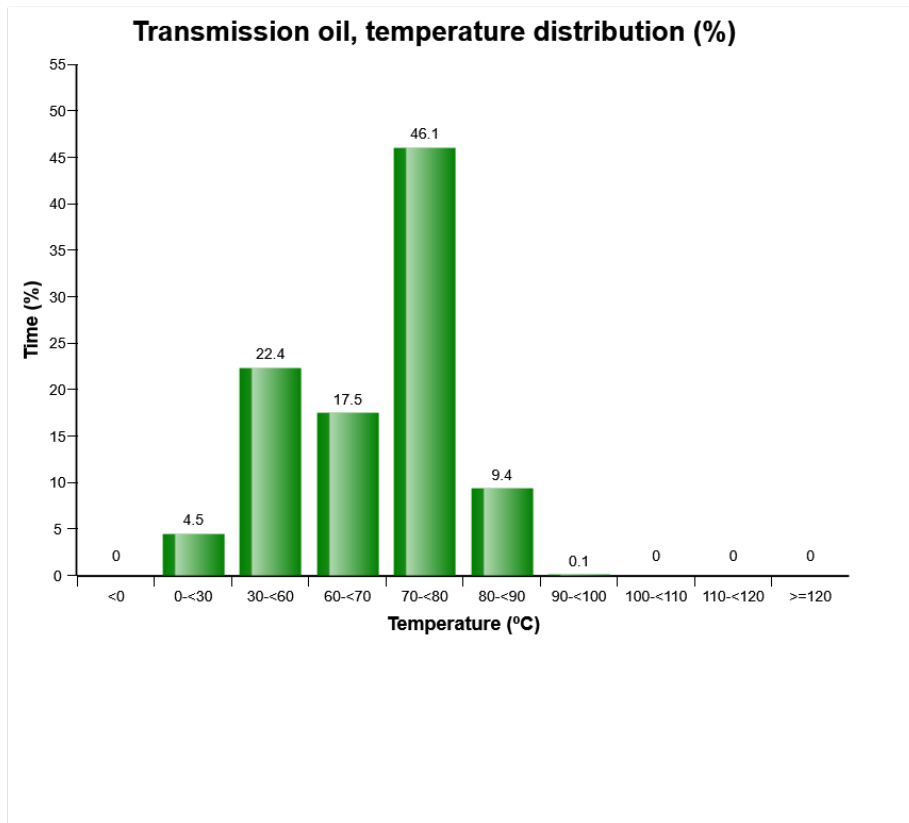
The extreme value column displays the most extreme value during the event.

**Criteria :**

Logging is performed when, Alarm low system voltage , is active.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



The diagram shows the transmission oil temperature in various temperature ranges. The time is displayed in the following ten temperature ranges:

<0°C Temperatures below 0°C

0 - <30°C Temperatures from 0°C until 30°C

30-<60°C Temperatures from 30°C until 60°C

60-<70°C Temperatures from 60°C until 70°C

70-<80°C Temperatures from 70°C until 80°C

80-<90°C Temperatures from 80°C until 90°C

90-<100°C Temperatures from 90°C until 100°C



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

100-<110°C Temperatures from 100°C until 110°C

110-<120°C Temperatures from 110°C until 120°C

≥120°C Temperatures over 120°C

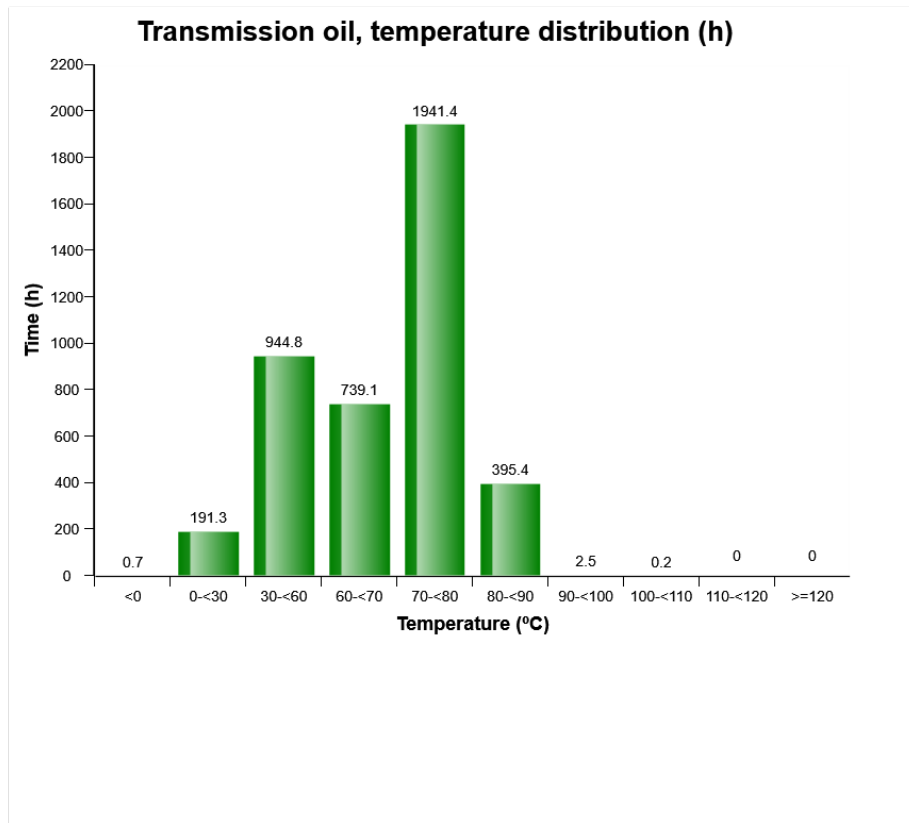
The bar that describes temperatures from 110°C until 120°C is yellow and means that the oil has begun to be overheated. Driver has been given orange central warning

The bar that describes >120°C is red and means that the oil has been overheated. Driver has been given red central warning.

Oil temperatures exceeding 110°C must be avoided since the properties of the oil are degraded



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



The diagram shows the transmission oil temperature in various temperature ranges. The time is displayed in the following ten temperature ranges:

<0°C Temperatures below 0°C

0 - <30°C Temperatures from 0°C until 30°C

30-<60°C Temperatures from 30°C until 60°C

60-<70°C Temperatures from 60°C until 70°C

70-<80°C Temperatures from 70°C until 80°C

80-<90°C Temperatures from 80°C until 90°C

90-<100°C Temperatures from 90°C until 100°C



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

100-<110°C Temperatures from 100°C until 110°C

110-<120°C Temperatures from 110°C until 120°C

≥120°C Temperatures over 120°C

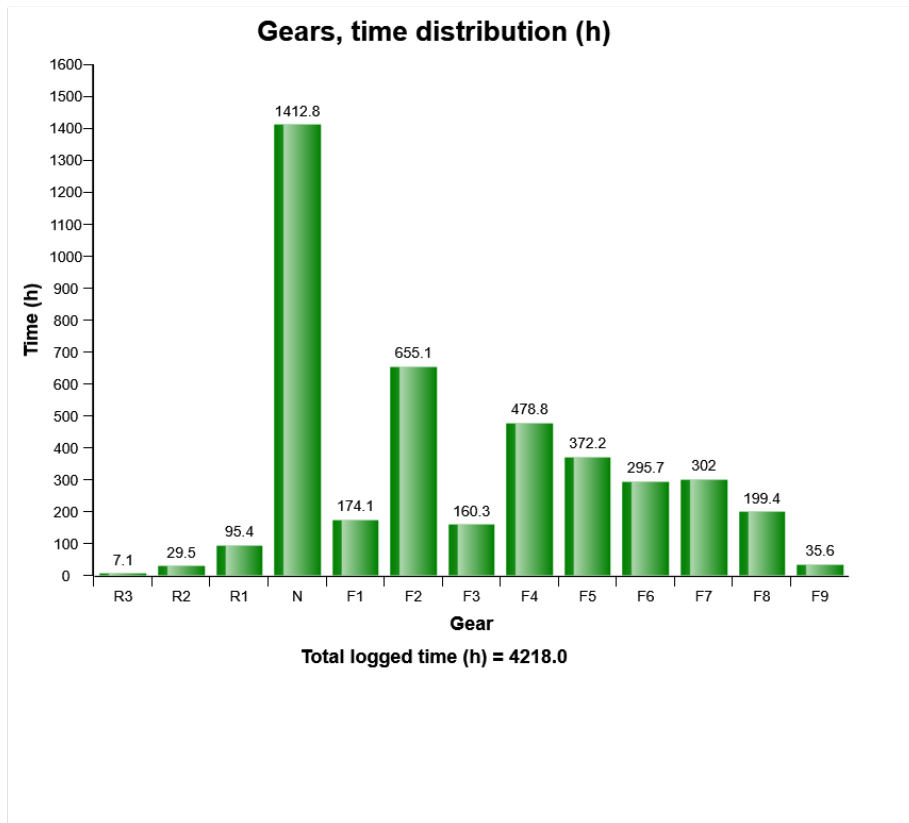
The bar that describes temperatures from 110° C until 120°C is yellow and means that the oil has begun to be overheated. Driver has been given orange central warning

The bar that describes >120°C is red and means that the oil has been overheated. Driver has been given red central warning.

Oil temperatures exceeding 110°C must be avoided since the properties of the oil are degraded



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



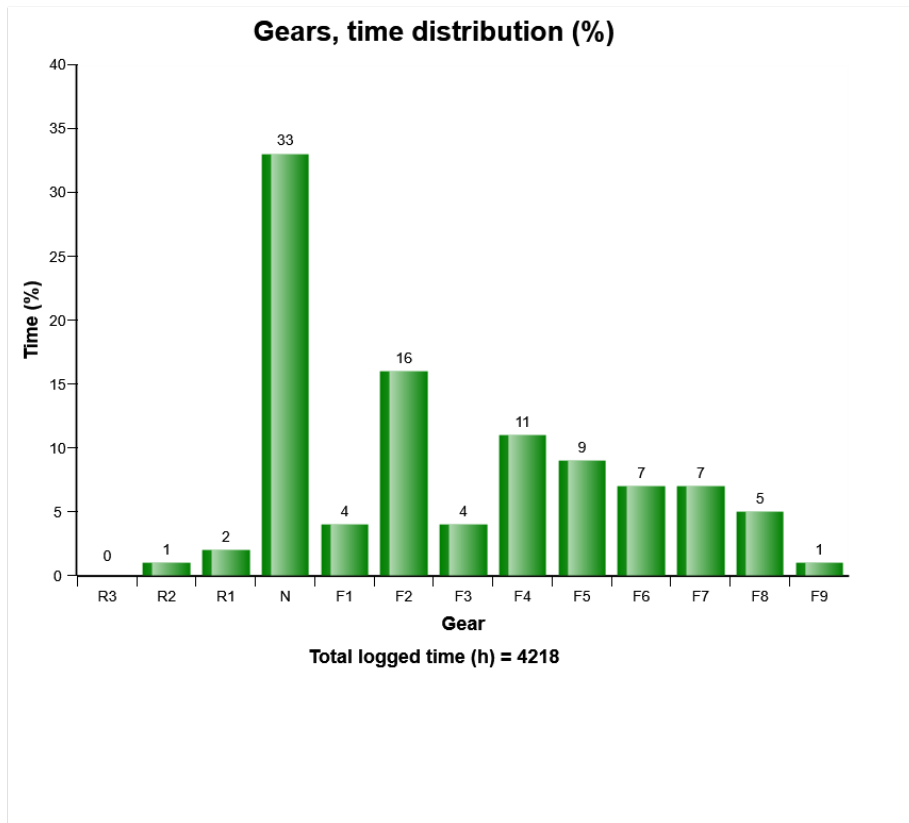
The diagram shows the time for each gear. Each bar represents a gear.

How the time is distributed between the gears depends on the operating conditions.





Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



The diagram shows the time for each gear. Each bar represents a gear.

How the time is distributed between the gears depends on the operating conditions.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

**Transmission oil pressure low  
Total number of occurrences = 6**

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (bar)
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
0	2000	0	0	0	0	0	0.0
283	2015	7	14	17	53	30	28.9
283	2015	7	14	17	51	90	18.7
284	2015	7	14	19	9	0	125.6
1566	2016	10	7	8	23	0	223.1
2008	2017	7	14	2	6	80	36.6
2999	2018	5	10	12	41	0	140.3

**Definition :**

This type of table shows the latest occasions when a specific event has occurred. When a specified criteria is fulfilled a registration is made. Each table row corresponds to one occasion. Operating hours is displayed in the first column, followed by year, month, day, hour and minute to show when an



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

event has occurred.

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed.

Duration :

**The duration of each event is shown after the timestamp of the event.**

**The duration is counted as long as the criteria is fulfilled.**

Extreme value :

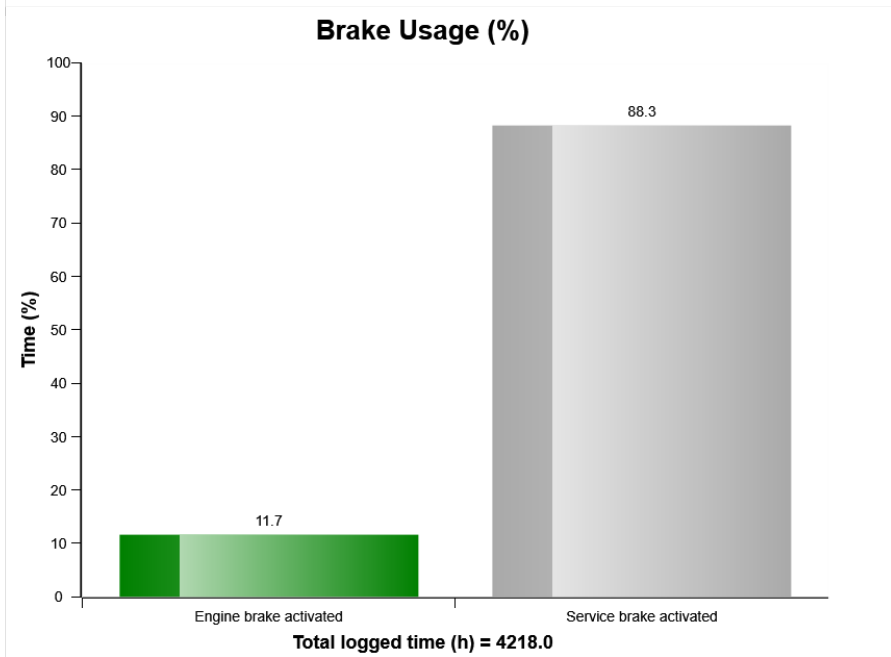
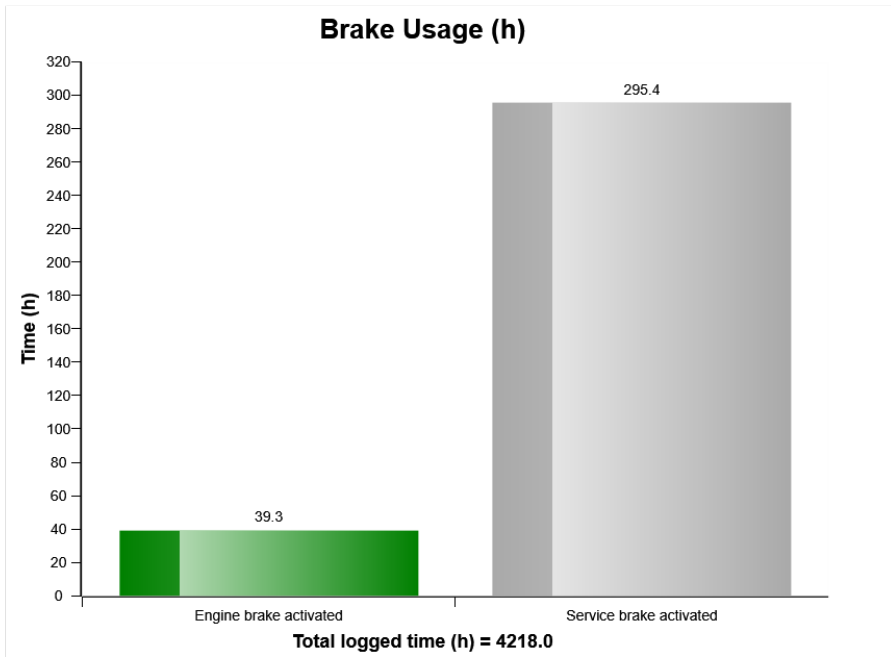
**The extreme value column displays the most extreme value during the event.**

Criteria :

In order for an occurrence of low transmission oil pressure to be recorded in a data point and the count to increment by 1, the transmission oil pressure state must change from "normal" or "error" to "low." The event of low transmission oil pressure will end when the status changes from "low" back to "normal" or "error."



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

**Low Brake Servo Pressure**  
**Total number of occurrences = 33**

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)
<b>D</b>	1323	2016	7	21	17	5	0
<b>E</b>	1467	2016	9	12	11	50	9
<b>F</b>	1468	2016	9	12	15	53	0
<b>G</b>	1565	2016	10	7	7	15	9
<b>H</b>	1823	2017	5	30	19	35	0
<b>I</b>	2248	2018	1	2	6	47	0
<b>J</b>	2432	2018	2	21	9	43	0
<b>A</b>	2433	2018	2	26	7	30	0
<b>B</b>	3840	2018	10	8	7	24	0
<b>C</b>	4215	2019	3	21	3	36	10

Definition :

**This type of table shows the latest occasions when a specific event has occurred. When a specified criteria is fulfilled a registration is made. Each table row corresponds to one occasion. Operating hours is displayed in the first column, followed by year, month, day, hour and minute to show when an event has occurred.**

**The rows are not ordered chronological (The latest event may be in the middle).**

**Only one event per minute is registered.**

**Over the table the total number of events is displayed**

Duration :

**The duration of each event is shown after the timestamp of the event.**

**The duration is counted as long as the criteria is fulfilled.**

Extreme value :

**The extreme value column displays the most extreme value during the event.**



**Extreme  
(bar)**

155
149
146
152
109
154
158
128
141
141



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

**Criteria :**

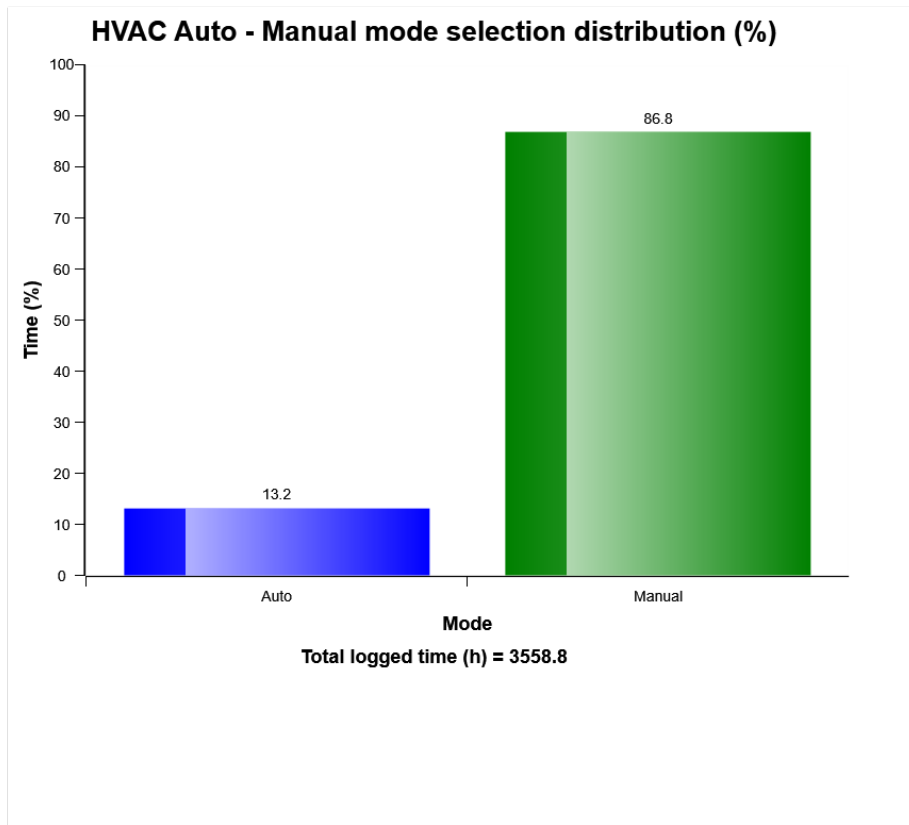
In order for an occurrence of low brake servo pressure to be recorded in a data point and the count to increment by 1, the low brake servo pressure state must be alarm. Gear not in Neutral and engine must be on.







Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



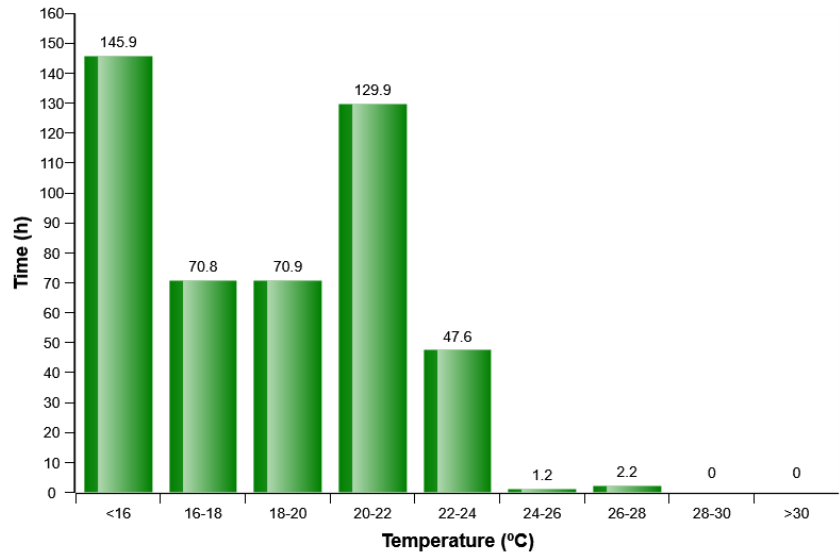
**Definition:**

The diagram describes auto-manual mode selection distribution of HVAC system in machine while it Works. The share of each mode compared to Total time of HVAC operation is displayed.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

**HVAC air temperature setting in auto control mode distribution (h)**

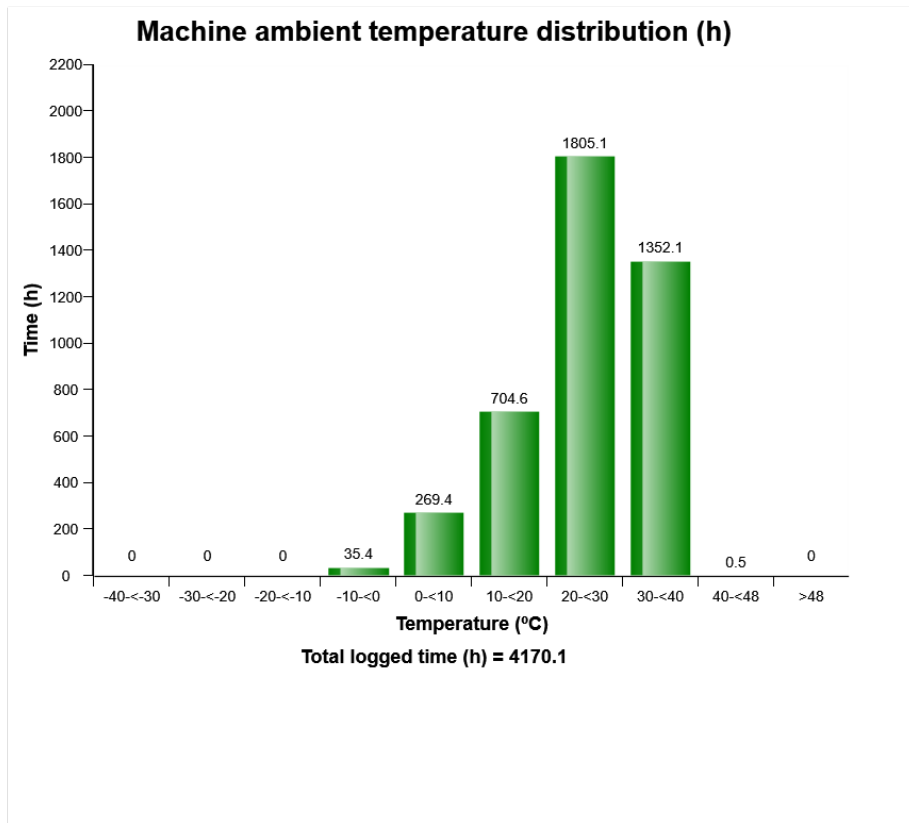


**Definition:**

The diagram describes air temperature setting distribution for HVAC auto control mode established by operator in Cabin



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

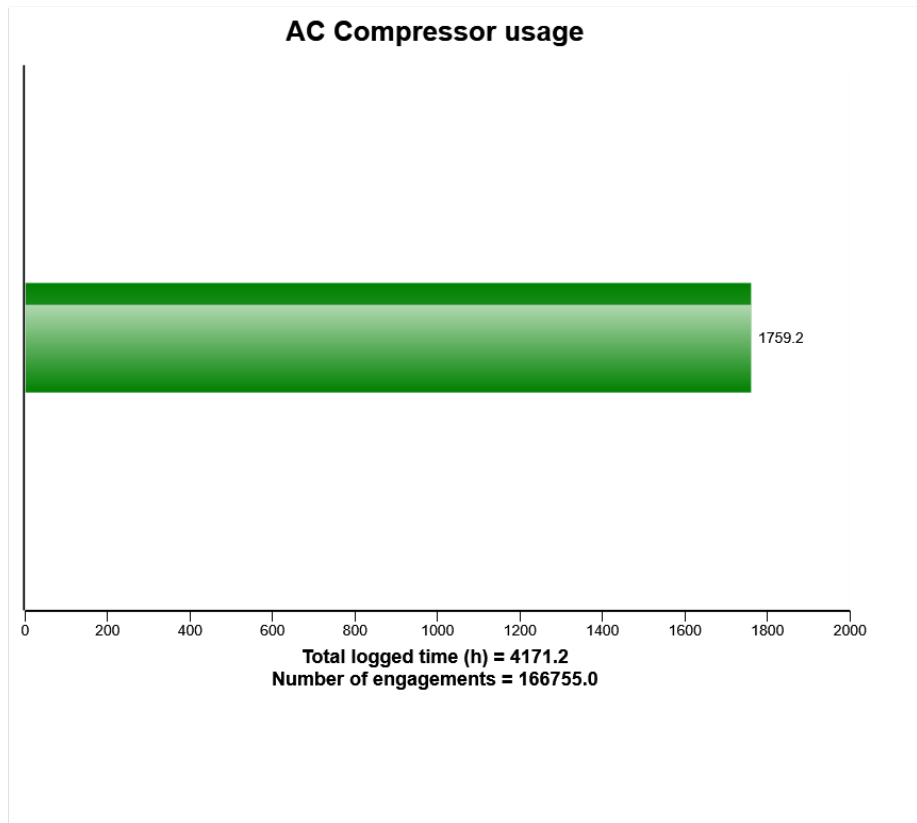


**Definition:**

The diagram describes ambient temperature distribution of the machine while machine operates.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



**Definition:**

The graph shows the total time of AC compressor engagement.

**Explanation:**

Green bar: Total time in hours, AC compressor has been engaged.

Under the graph the total engine running time (in hours) is displayed.

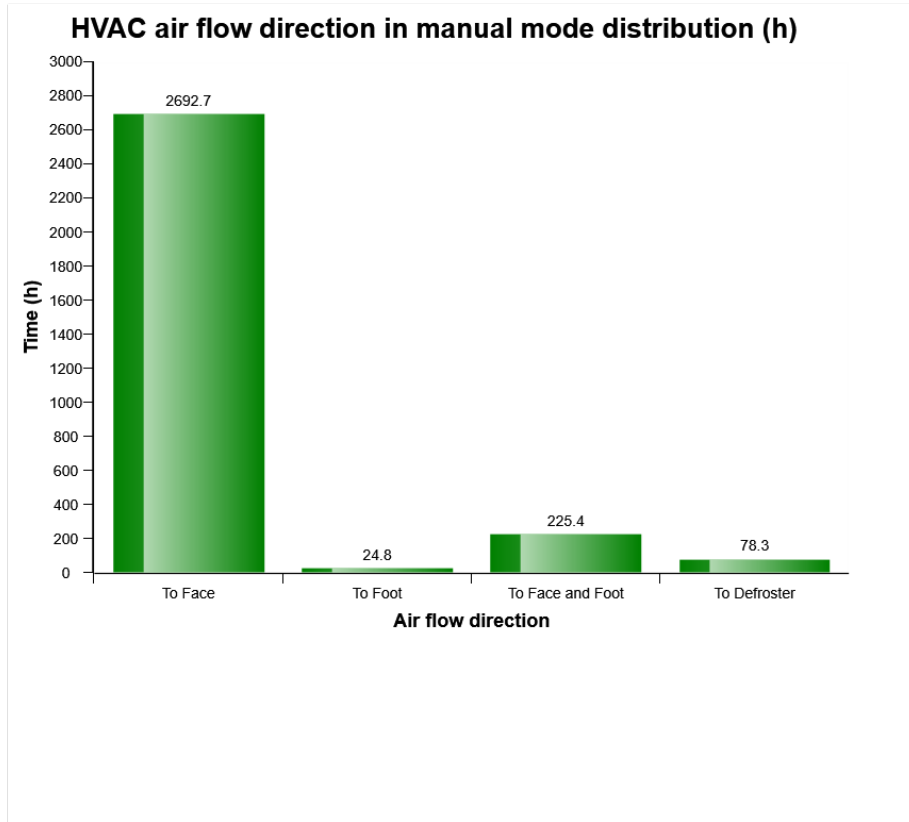
Total number of AC compressor activations is also displayed.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

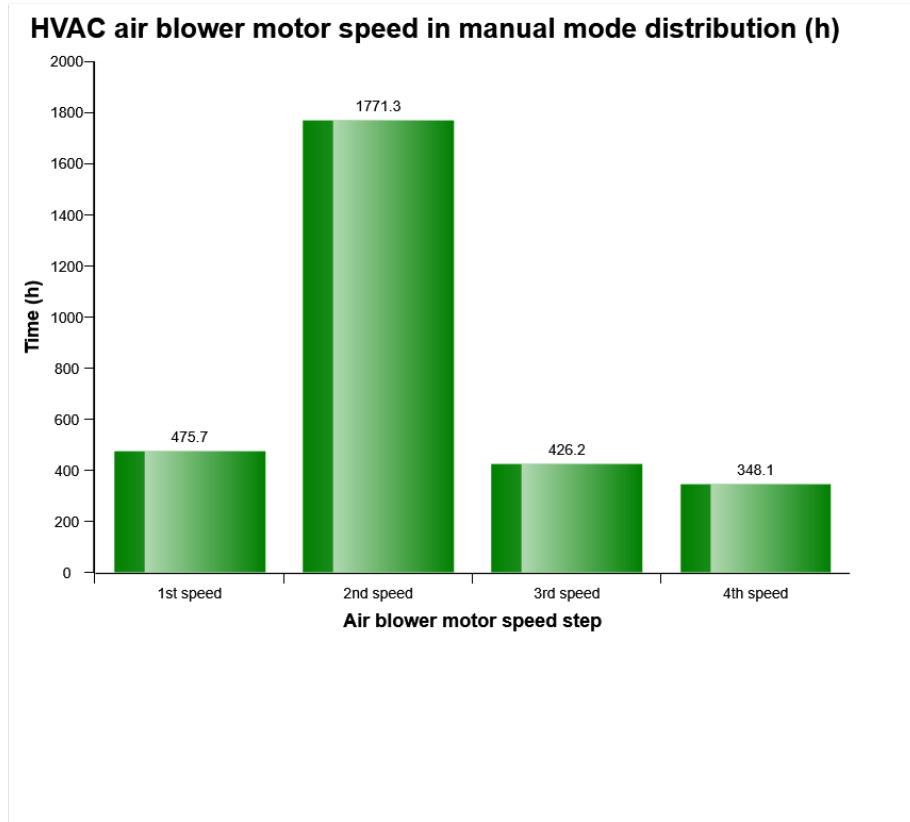


**Definition:**

The diagram describes air flow direction distribution for HVAC manual control mode established by operator in Cabin.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



**Definition:**

The diagram describes air blower motor speed distribution for HVAC manual control mode established by operator in Cabin.







Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

an event has occurred.

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed

**Duration :**

The duration of each event is shown after the timestamp of the event.

The duration is counted as long as the criteria is fulfilled.

**Extreme value :**

The extreme value column displays the most extreme value during the event.

**Criteria :**

Logging is performed when, High AC Pressure signal is active. Ambient temp is viewed.





Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

an event has occurred.

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed

**Duration :**

The duration of each event is shown after the timestamp of the event.

The duration is counted as long as the criteria is fulfilled.

**Extreme value :**

The extreme value column displays the most extreme value during the event.

**Criteria :**

Logging is performed when, Boiling protection signal is active. Ambient temp is viewed.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

**AC System Cut Out Pressure**  
**Total number of occurrences = 50**

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (° C)
4199	2018	11	29	11	31	1931	16
4200	2018	11	29	12	28	9292	18
4202	2018	11	29	15	12	5392	20
4204	2018	11	30	6	44	8244	20
4206	2018	11	30	9	11	-60838	16
4207	2018	11	30	10	30	6009	23
4209	2018	11	30	12	29	1687	26
4210	2018	11	30	13	0	7403	29
4212	2018	11	30	15	12	7288	27
4214	2018	12	2	16	43	1448	28
4214	2018	12	2	15	37	95	25
4214	2002	10	25	21	41	126	25
4214	2018	12	13	14	18	139	23
4214	2018	12	13	12	22	85	22
4214	2018	12	10	7	55	98	23
4214	2018	12	3	14	2	5	25
4214	2018	12	3	13	59	4	25
4214	2018	12	3	13	56	9	23
4214	2002	10	31	19	36	1911	19
4215	2019	3	7	1	59	123	13

**Definition :**

This type of table shows the latest occasions when a specific event has occurred. When a specified criteria is fulfilled a registration is made. Each table row corresponds to one occasion. Operating hours is displayed in the first column, followed by year, month, day, hour and minute to show when



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

an event has occurred.

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed

**Duration :**

The duration of each event is shown after the timestamp of the event.

The duration is counted as long as the criteria is fulfilled.

**Extreme value :**

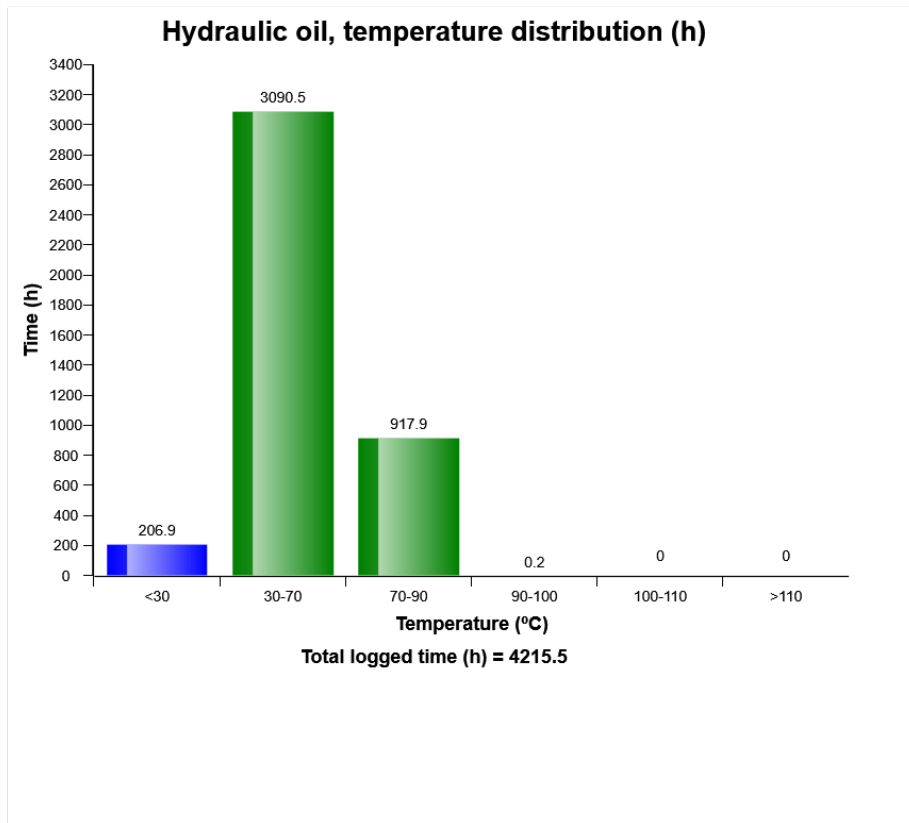
The extreme value column displays the most extreme value during the event.

**Criteria :**

Logging is performed when, AC cut out pressure signal is active. Ambient temp is viewed.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



**Definition:**

The graph shows the time distribution of the temperature, while engine running.

**Explanation:**

Y-axis: Time

X-axis: Temperature distribution in classes.

Blue bar = Warm-up phase.

During the engine warm-up phase, this temperature region is passed.

It is normal to have registrations in this region.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

**Green bar** = Normal working temperature. The Major part of the registrations shall be in this region.

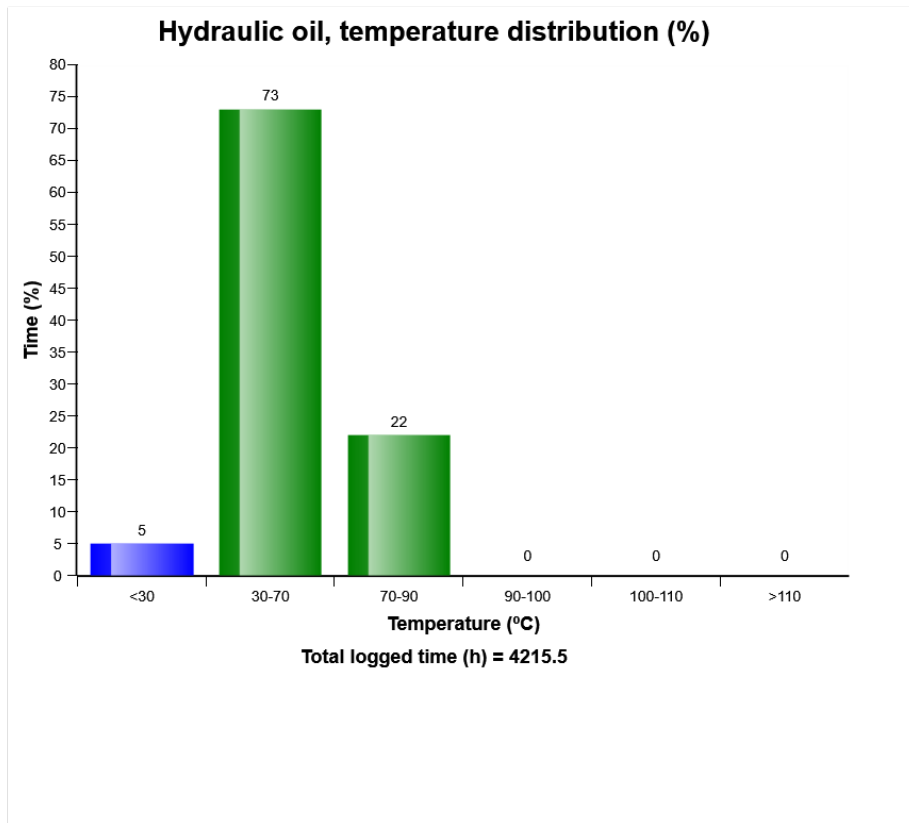
**Yellow bar** = High working temperature. It is normal to have some registrations in this region.

**Red bar** = Alarm.

Registrations in this region is not normal, running in this region may cause severe damage.



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019



**Definition:**

The graph shows the time distribution of the temperature, while engine running.

**Explanation:**

Y-axis: Time

X-axis: Temperature distribution in classes.

Blue bar = Warm-up phase.

During the engine warm-up phase, this temperature region is passed.

It is normal to have registrations in this region.





Machine model	SerialNo	Operating Hours	Reading Date
A40G	340469	4217.4	28/05/2019

**Green bar** = Normal working temperature. The Major part of the registrations shall be in this region.

**Yellow bar** = High working temperature. It is normal to have some registrations in this region.

**Red bar** = Alarm.

Registrations in this region is not normal, running in this region may cause severe damage.

