VOLVO CONSTRUCTION EQUIPMENT

MATRIS REPORT

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

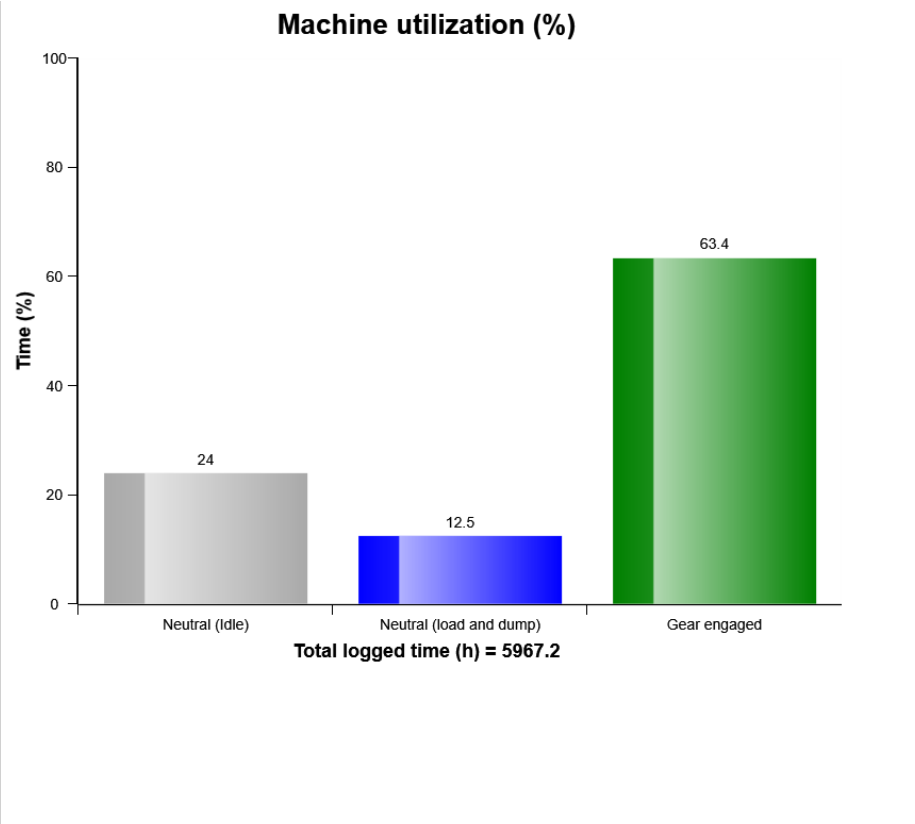
Company name	Dealer	Report Issuer
Hoffman	Hoffman 340404	
Contact name	**Technician**	**Primary Application**
	user	Mining
Site	**Workorder**	**Ground Condition**

MATRIS Reading, Summary / Recommendation

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

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
A40G	340404	5966.6	31/05/2019

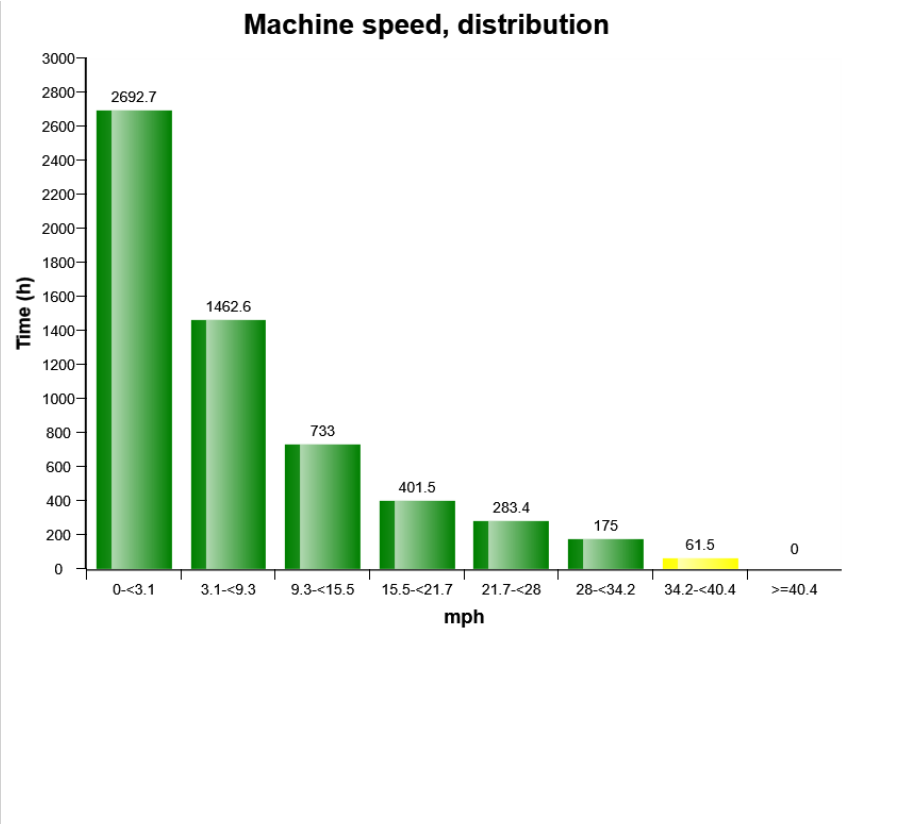


The diagram shows a simplified presentation of the machines utilization based on the relation between time in gear and time in neutral. The "Gear engaged " includes both forward and reverse gears.

This presentation of the machines utilization can only be seen as a guideline value since a full calculation of the machines utilization is more advanced. E.g. "Neutral" includes time for loading and dumping which should be seen as operating time.

High percentage of neutral time may indicate that the machine is underused due to e.g. under dimensioned loading tool or oversized hauler fleet

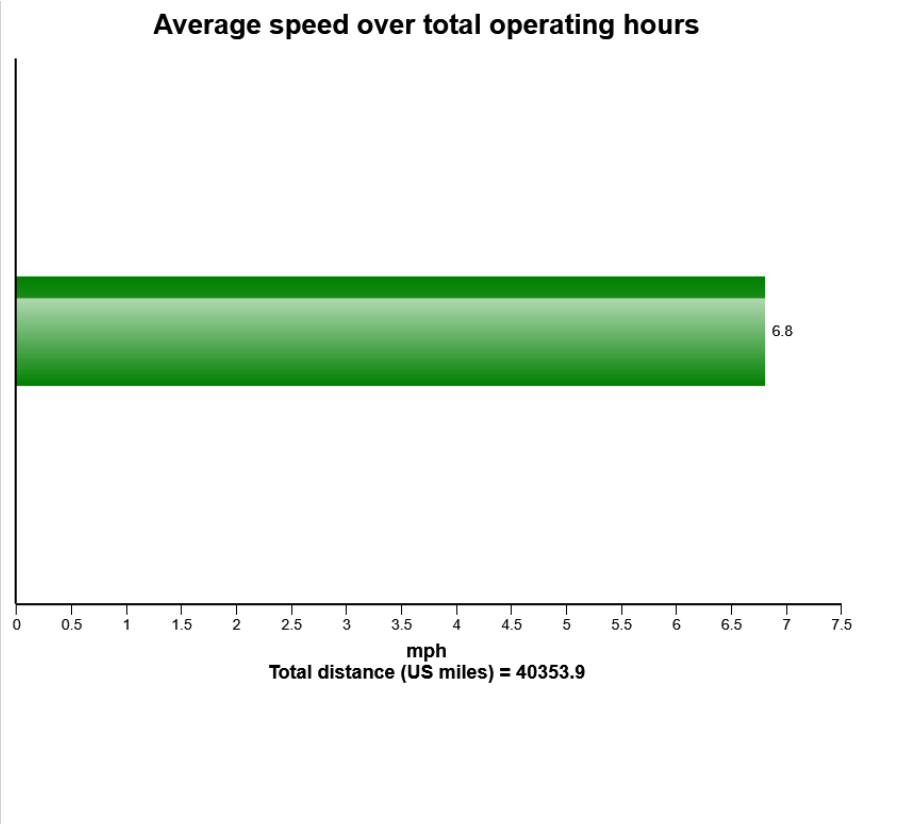
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



The presentation shows the time in hours in speed-intervals for the machine.

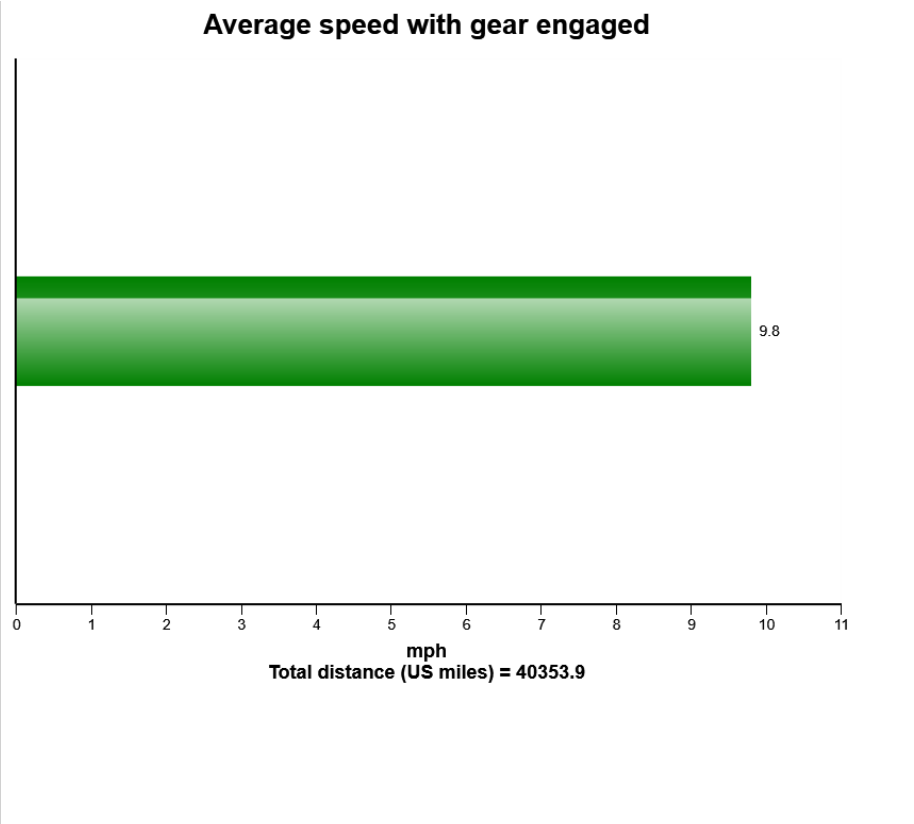
Note that the interval 0-3,1 mile/h includes machine not in motion. If the machine has been operated above 34,2 Mile/h there is a risk of engine over speed, check "Engine speed, over 2100 rpm"

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



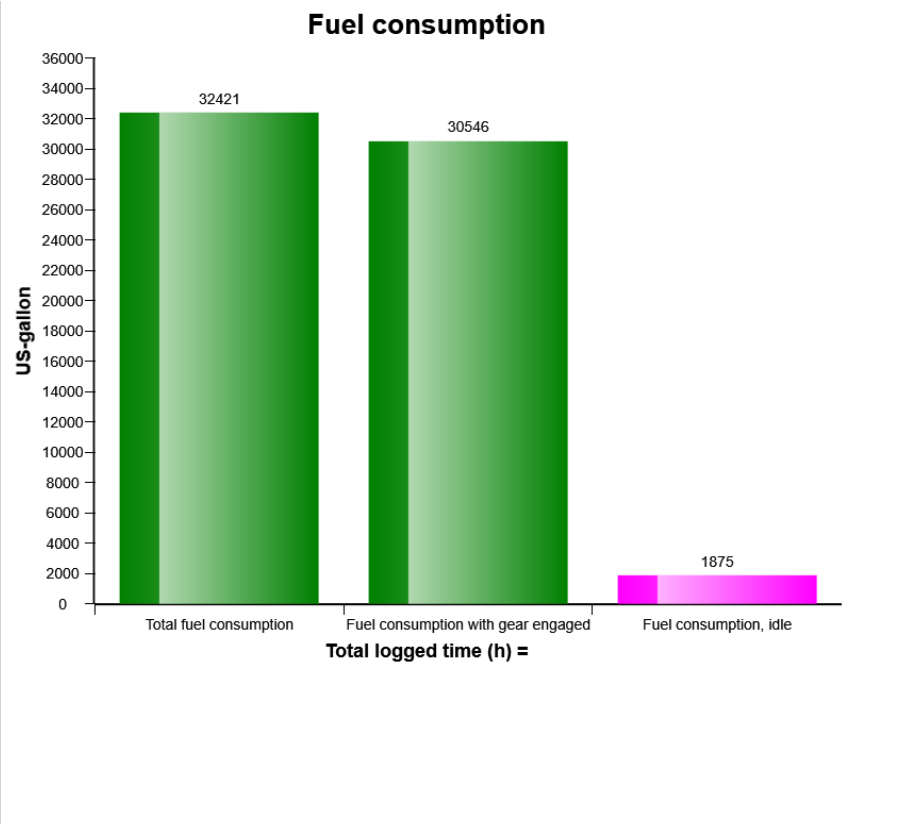
The diagram shows the machines average speed based on the total operating hours

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



The diagram shows the machines average speed based on the operating hours with gear engaged.

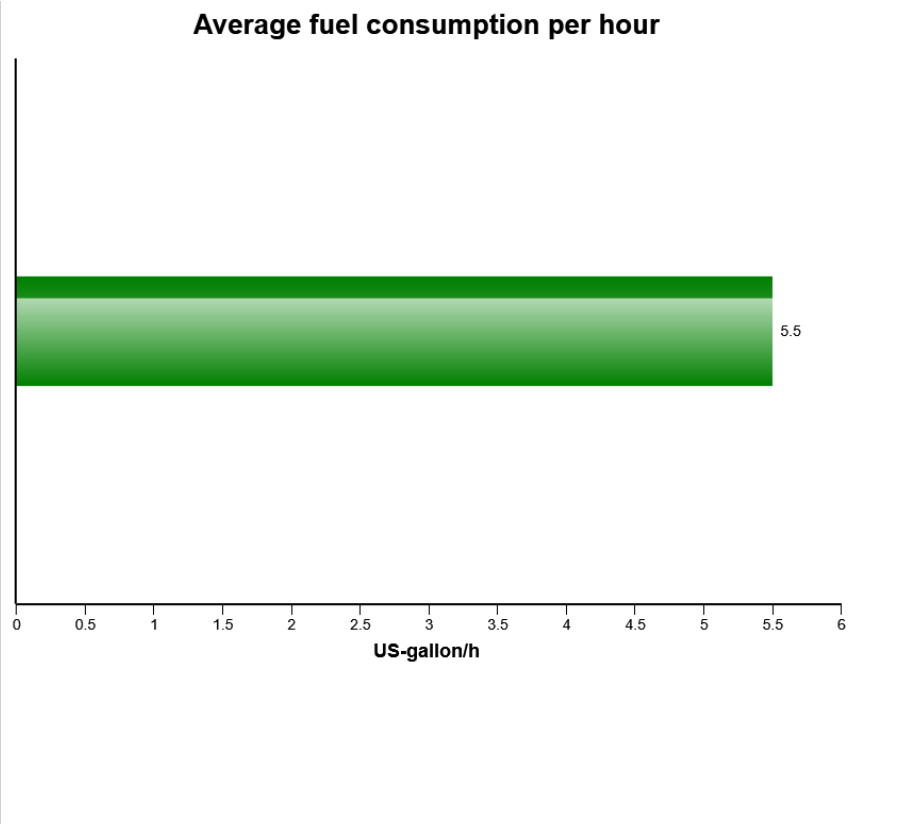
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



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

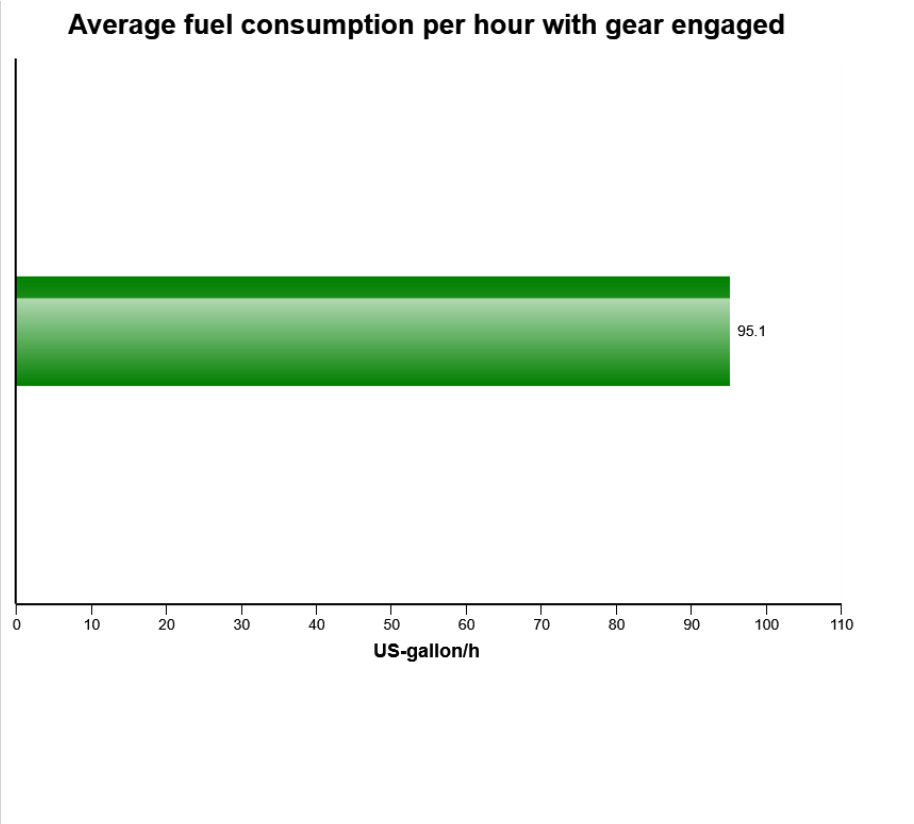
High fuel consumption during idle can indicate that the machine is not fully utilized.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



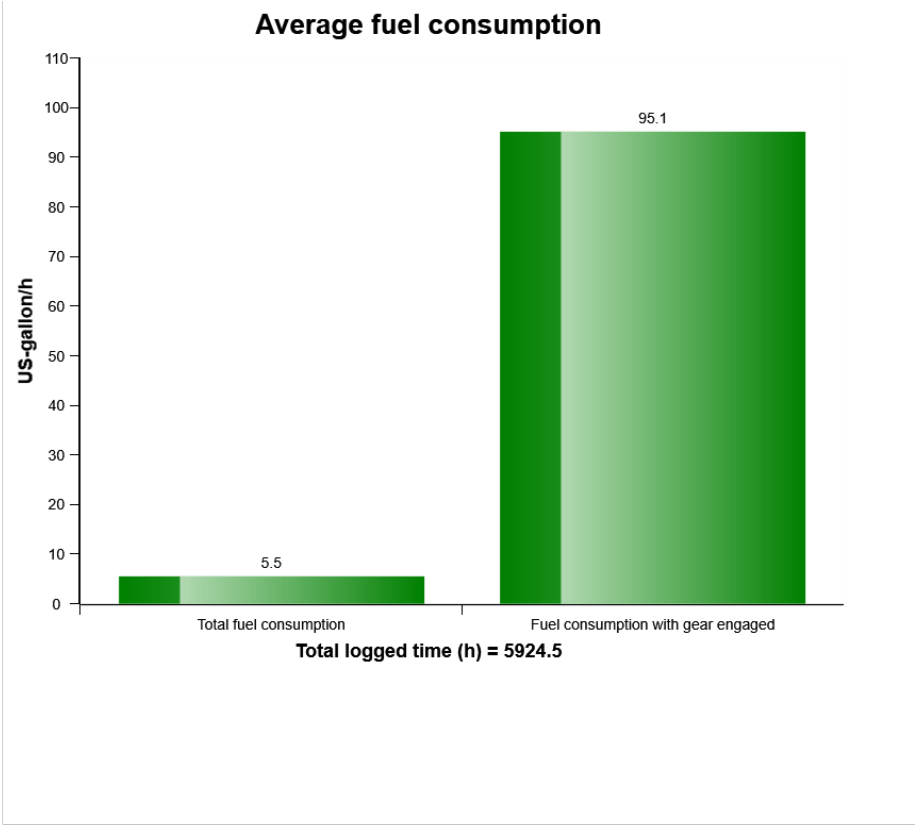
The diagram shows the average fuel consumption based on total operating hours

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



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

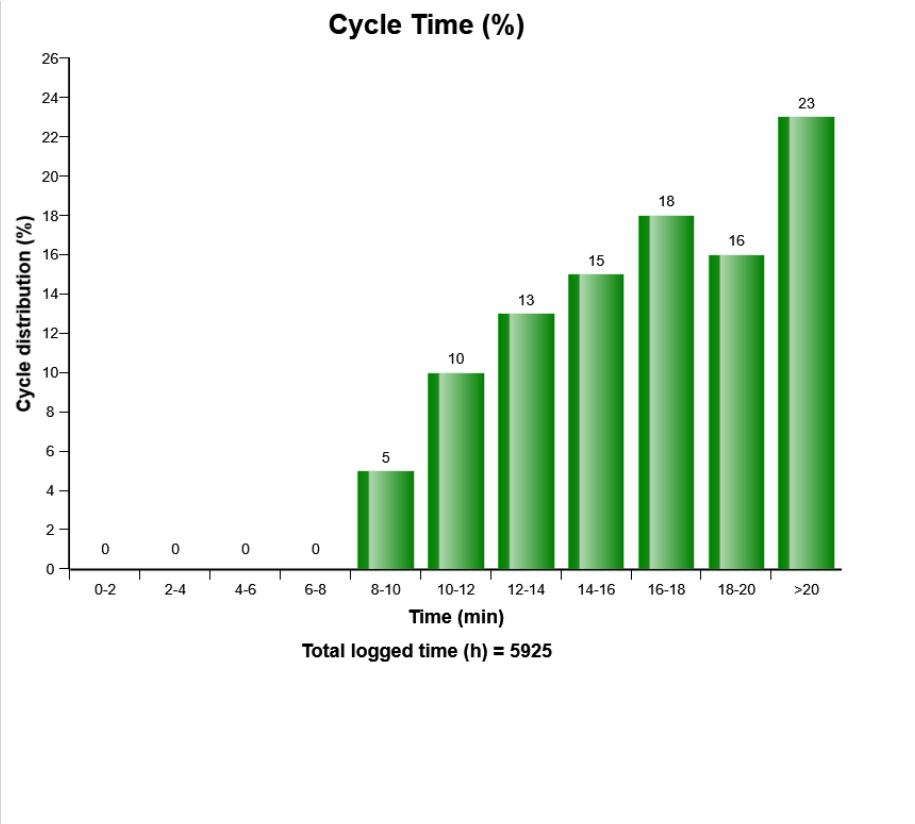
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



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

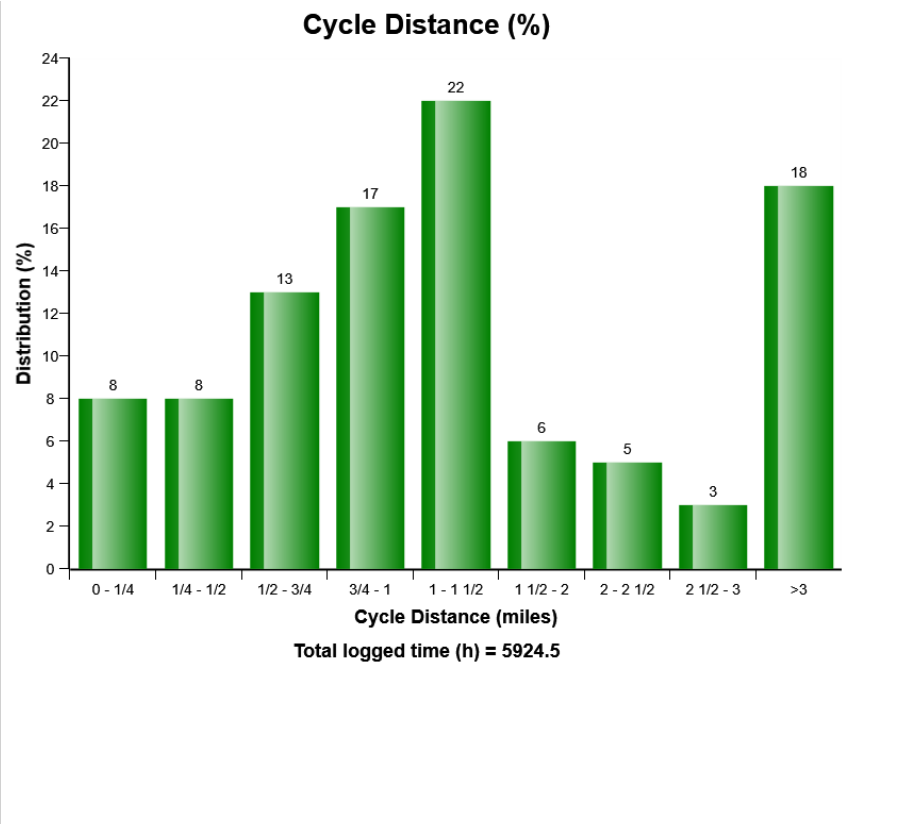
Big difference between the bars can indicate that the machine is not fully utilized, high idle lowers the total average fuel consumption.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



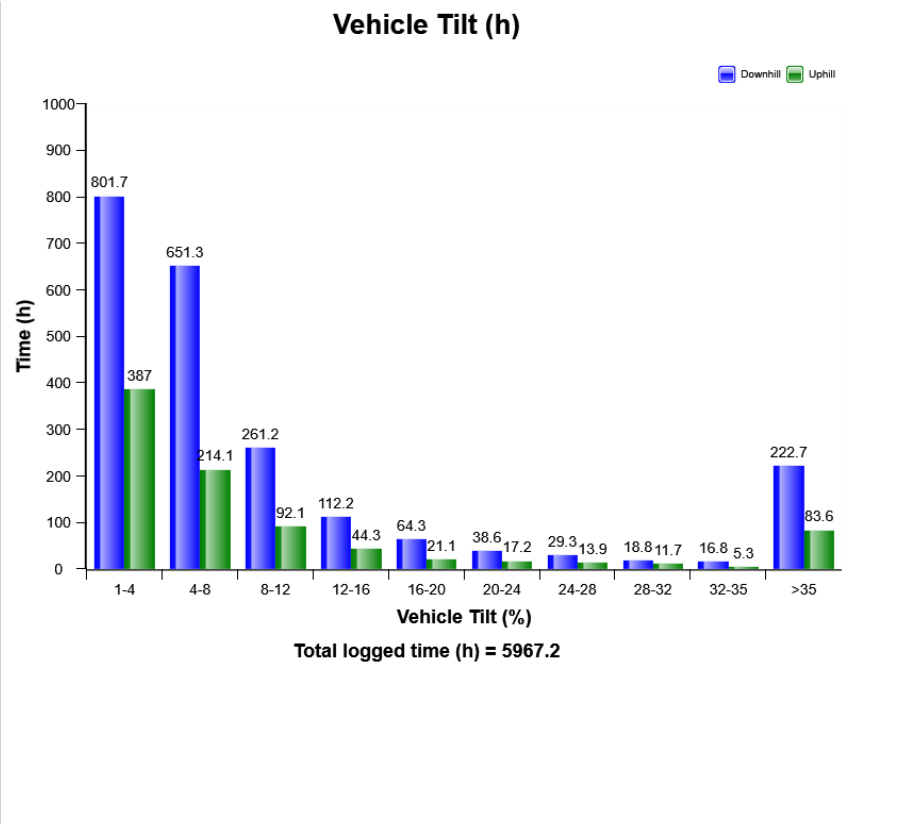
The diagram shows the distribution of the working cycle time. The time between 2 valid cycle registrations is registered. Time starts from lifting the body.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



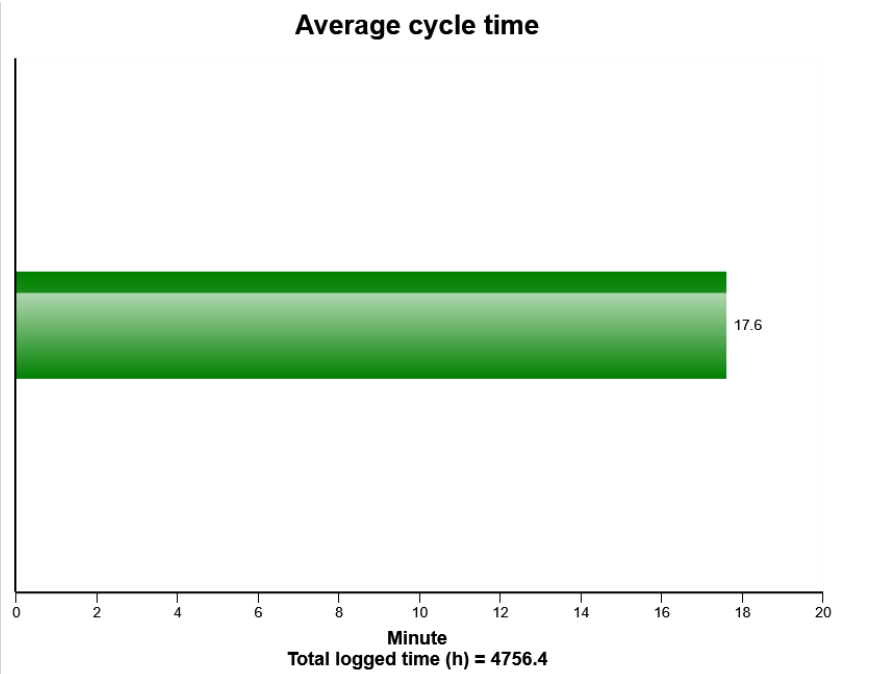
The diagram shows the distribution of the working cycle distance. The distance driven between 2 valid cycle registrations.

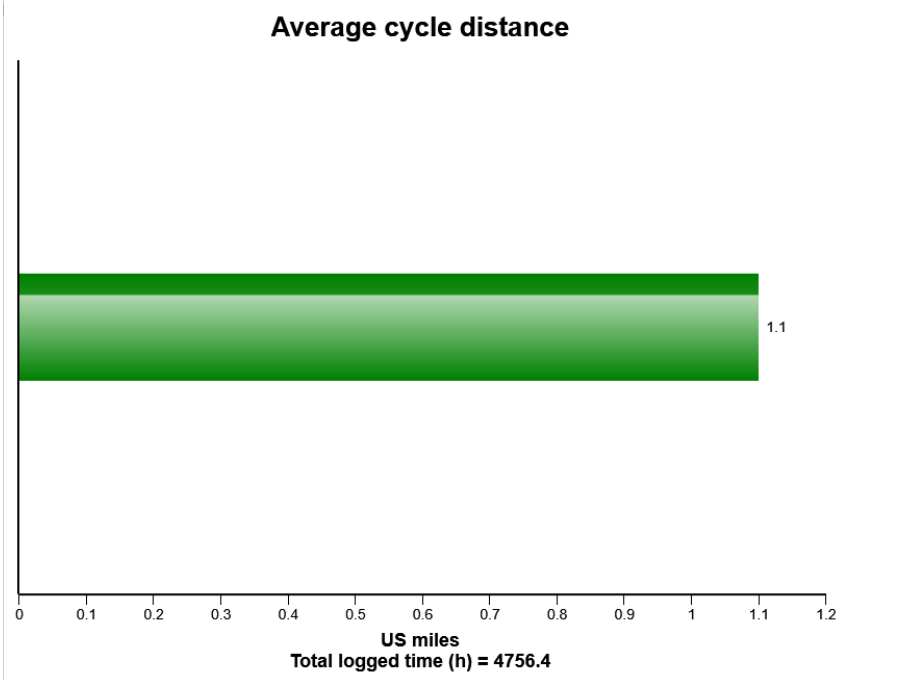
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



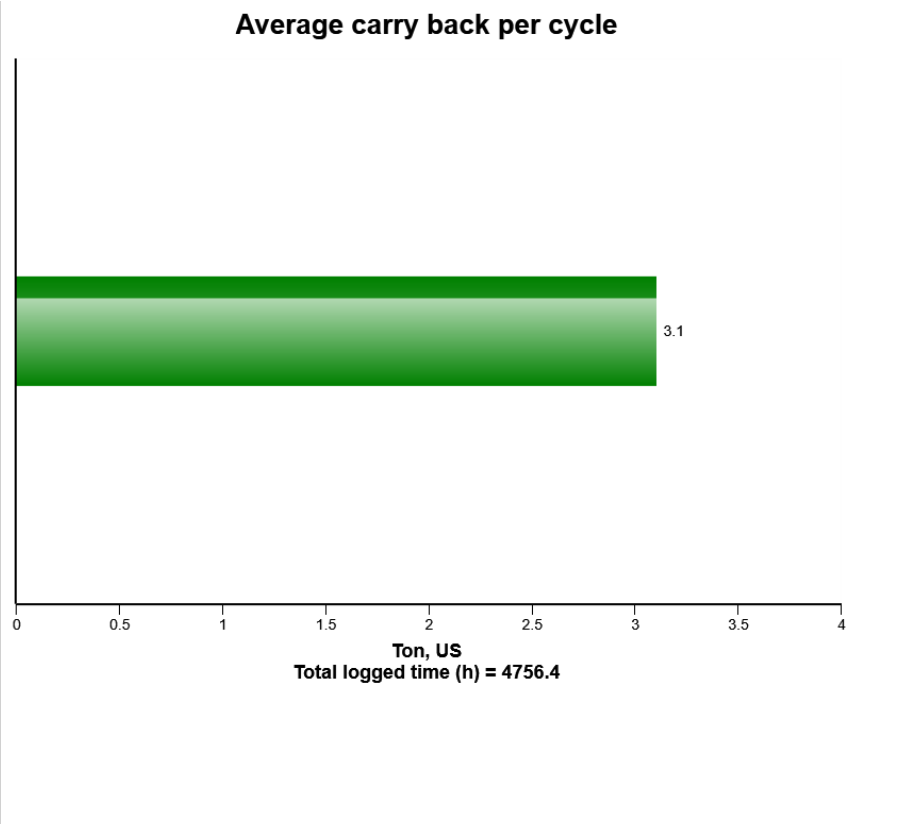
The diagram shows the distribution of the longitudinal tilt in percent (not degrees), the criteria to get registrations is that the vehicle speed exceeds 1km/h (0,62mph) and that the engine is on.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



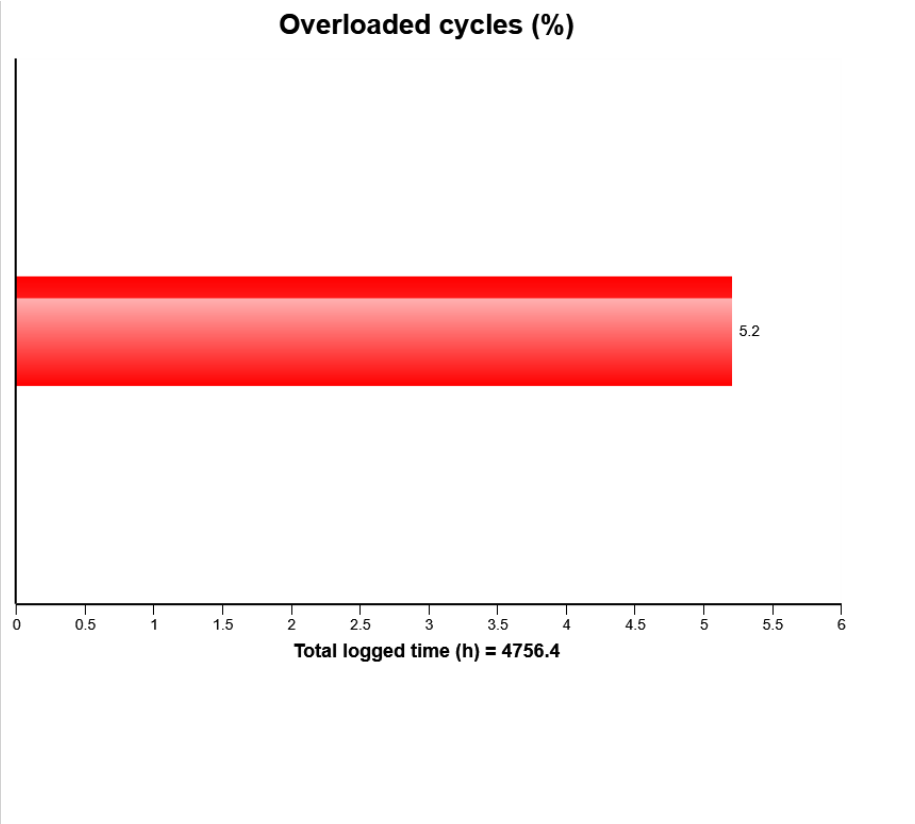


Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



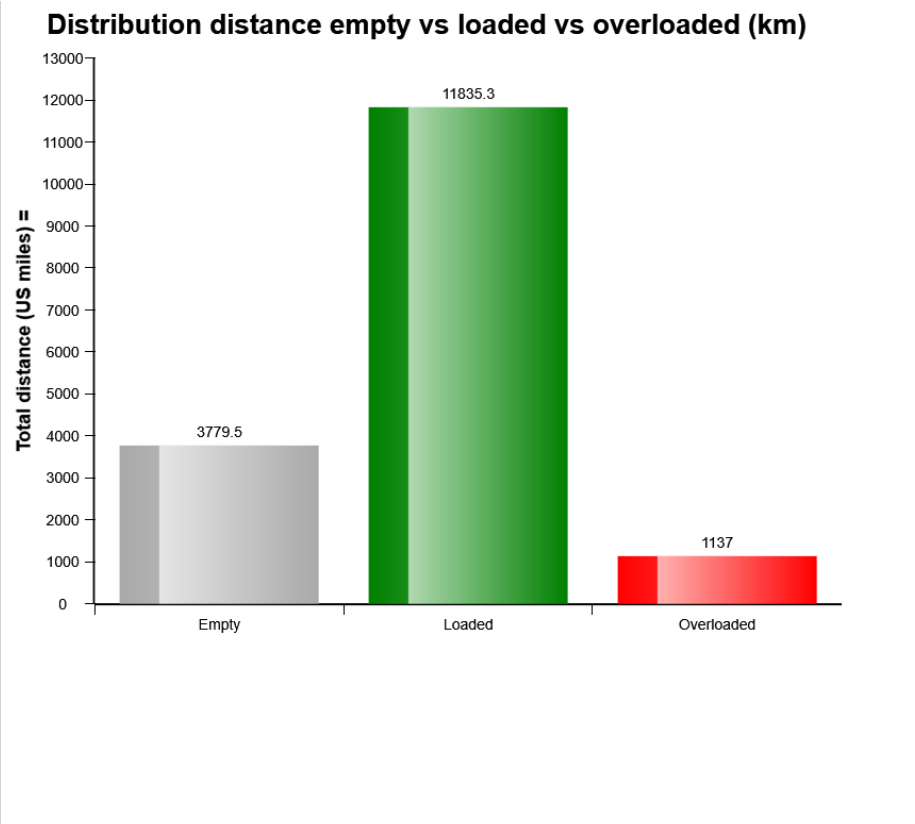
An error has occurred while processing HtmlTextBox 'htmlTextBox1':
'WordSection1' is an unexpected token. The expected token is "" or "'. Line 1, position 18.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



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

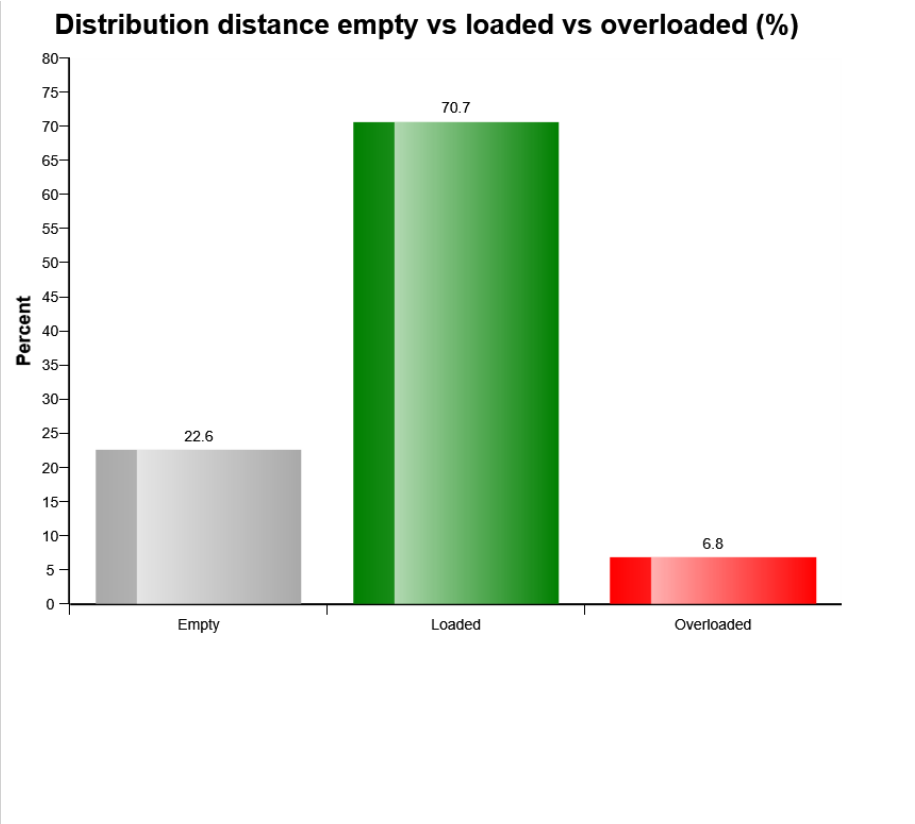
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



Much time operated with overload puts unnessesery 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.

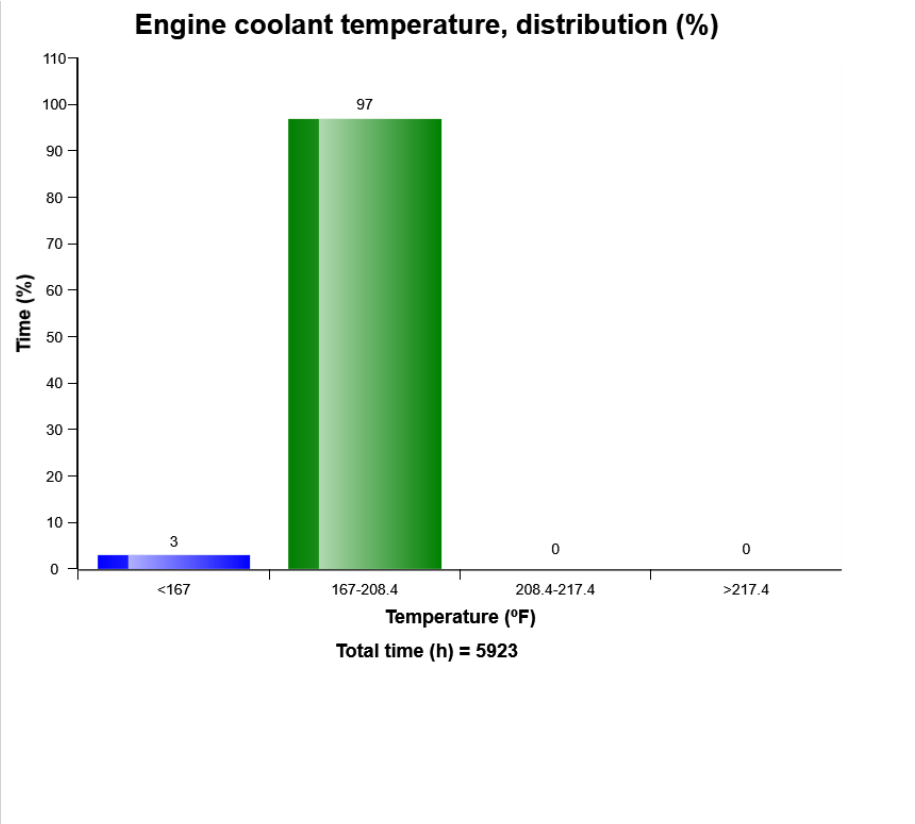
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



Much time operated with overload puts unnessesery 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
A40G	340404	5966.6	31/05/2019



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.

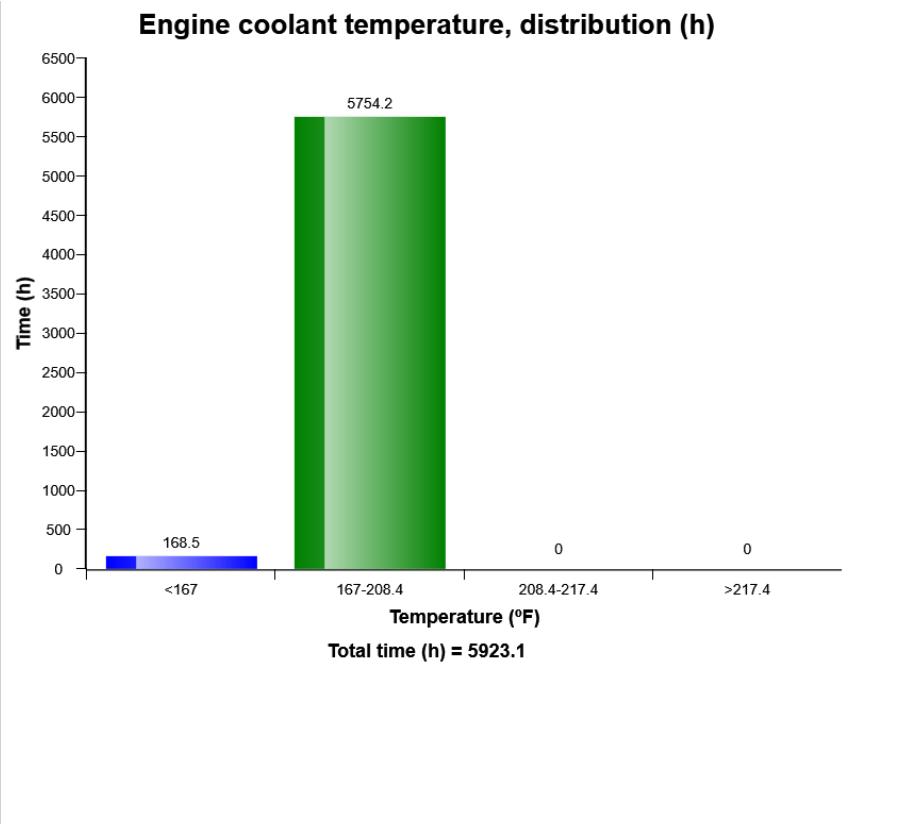
Green bar = Normal working temperature. The Major part of the registrations shall be in this region.

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	340404	5966.6	31/05/2019



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.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

It is normal to have registrations in this region.

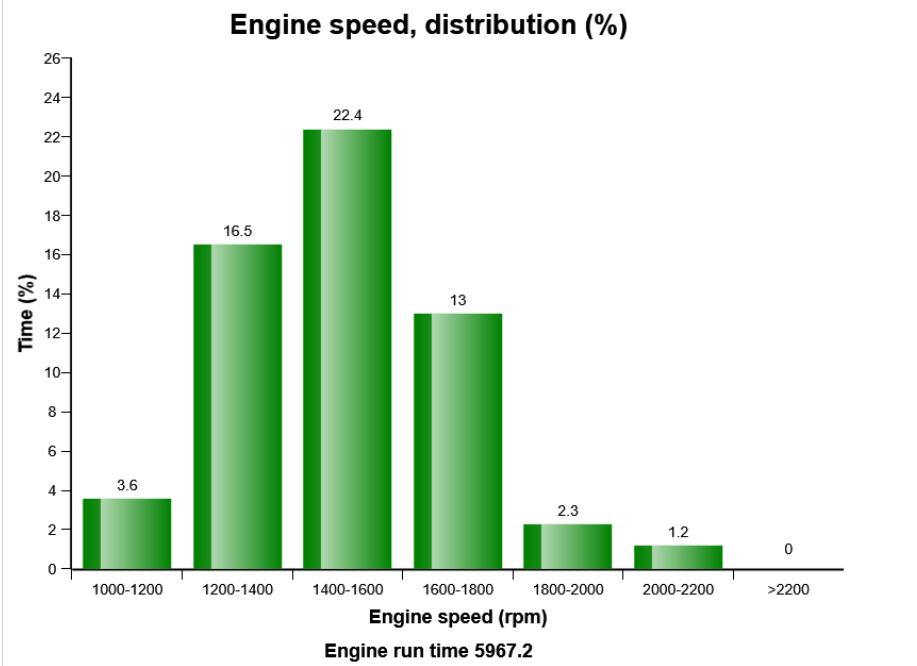
Green bar = Normal working temperature. The Major part of the registrations shall be in this region.

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

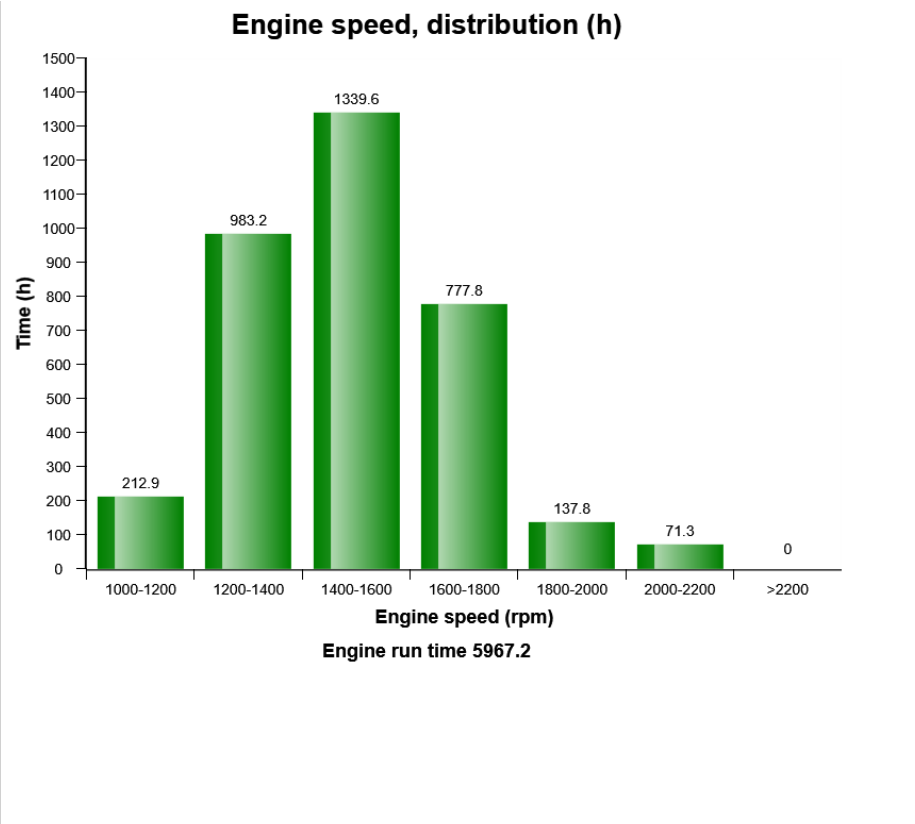
Red bar = Alarm.

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

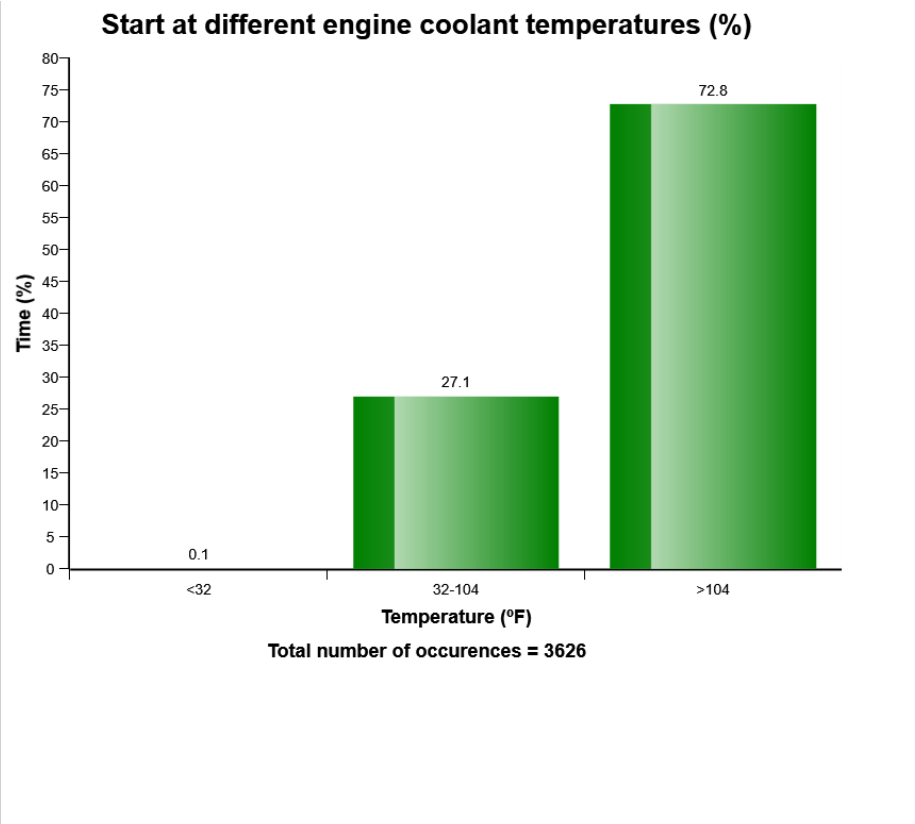
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



Definition:

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

Explanation:

Y-axis: Number of engine starts

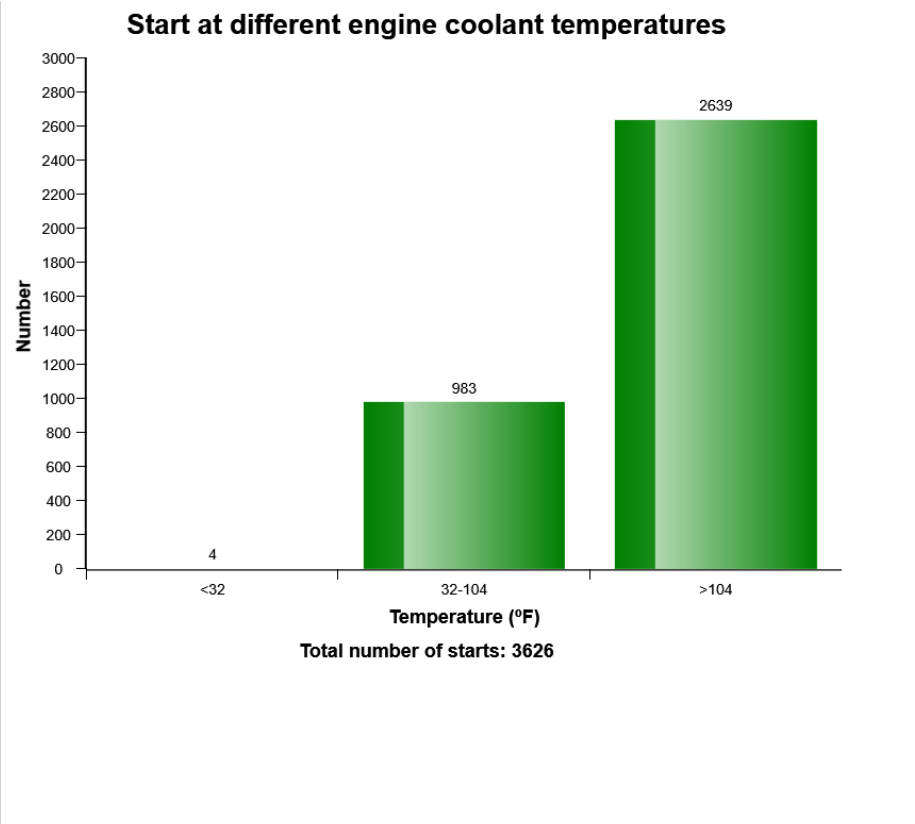
X-axis: Engine coolant temperature.

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

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.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



Definition:

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

Explanation:

Y-axis: Number of engine starts

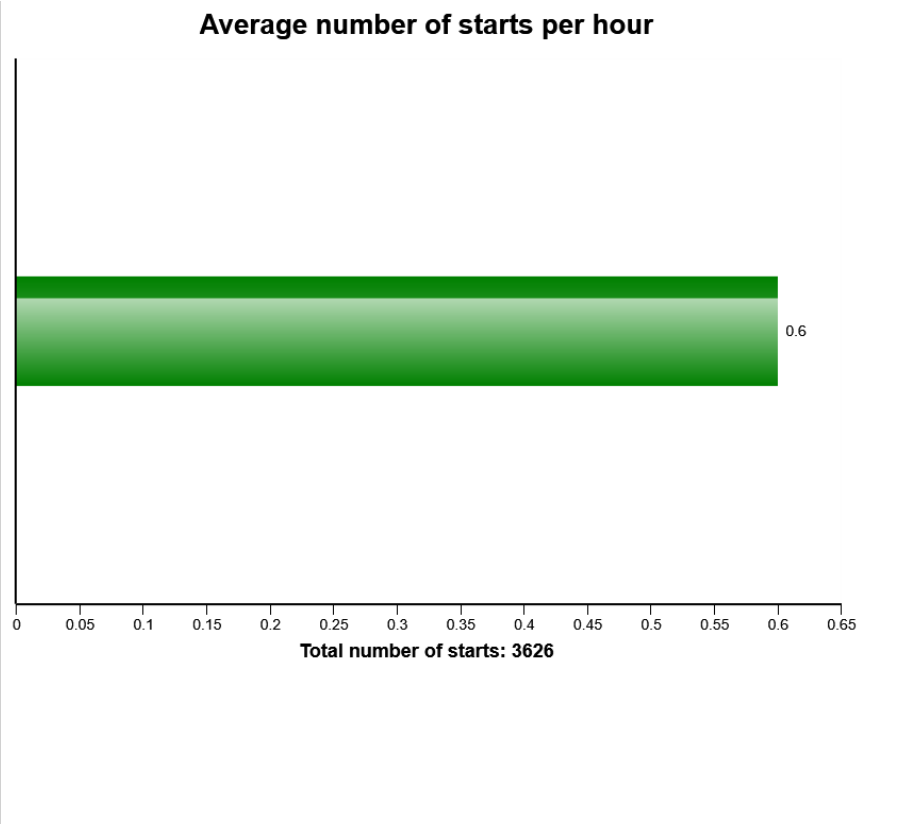
X-axis: Engine coolant temperature.

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

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.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



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.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

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

Green bar = Number of average starts per hour

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

High engine coolant temperature
Total number of occurences = 0

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (° F)
A	0	2000	0	0	0	0	0	32
B	0	2000	0	0	0	0	0	32
C	0	2000	0	0	0	0	0	32
D	0	2000	0	0	0	0	0	32
E	0	2000	0	0	0	0	0	32
F	0	2000	0	0	0	0	0	32
G	0	2000	0	0	0	0	0	32
H	0	2000	0	0	0	0	0	32
I	0	2000	0	0	0	0	0	32
J	0	2000	0	0	0	0	0	32

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 :

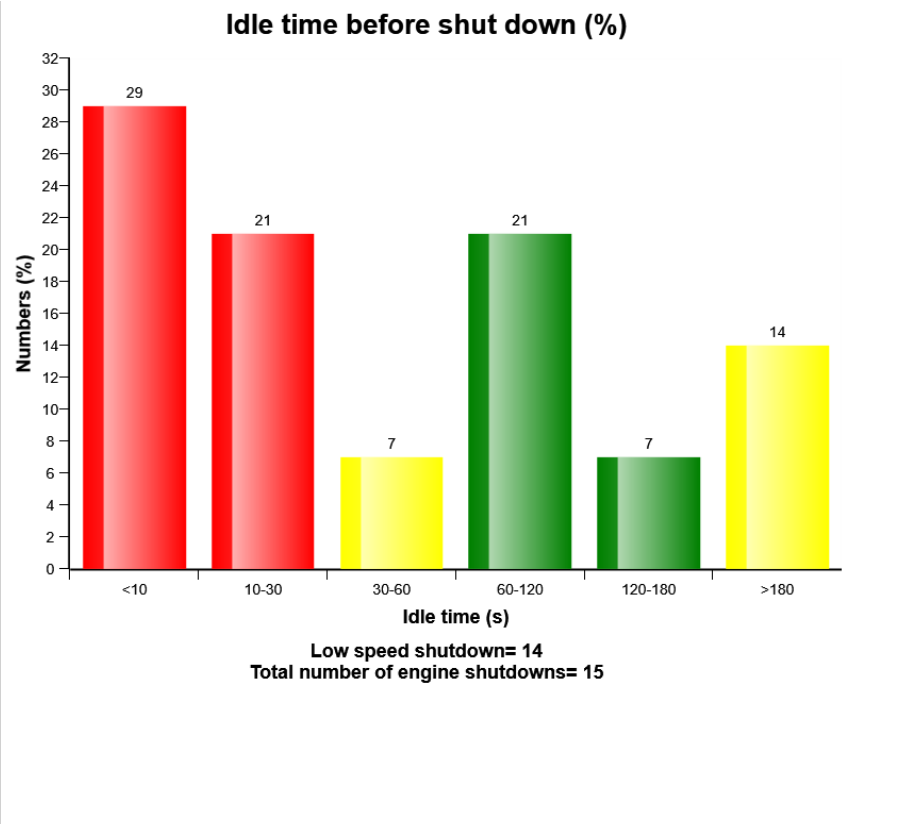
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

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

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.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



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%.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

High engine oil temperature
Total number of occurences = 0

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (° F)
A	0	2000	0	0	0	0	0	32
B	0	2000	0	0	0	0	0	32
C	0	2000	0	0	0	0	0	32
D	0	2000	0	0	0	0	0	32
E	0	2000	0	0	0	0	0	32
F	0	2000	0	0	0	0	0	32
G	0	2000	0	0	0	0	0	32
H	0	2000	0	0	0	0	0	32
I	0	2000	0	0	0	0	0	32
J	0	2000	0	0	0	0	0	32

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 :

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

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

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.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

Starter overheating
Total number of occurences = 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

Definition:

The starter can be damaged if it is overheated.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

Alarm is registered if the starter is used continuously more than 40 seconds and if it is less than five minutes since the latest alarm.

Explanation:

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

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

Low Air filter pressure
Total number of occurences = 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

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.

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.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

Regeneration ignored
Total number of ignored regenerations 0

	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

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

Regeneration aborted
Total number of occurences = 0

Op hours	Year	Month	Day	Hour	Minute	Reason
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

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

Regeneration duration
Total number of occurences = 41

Op hours	Year	Month	Day	Hour	Minute	Duration (min)
1735	2015	9	2	9	0	46
1825	2015	9	19	13	55	45
1915	2015	10	14	11	58	53
1986	2015	10	20	7	4	47
2057	2015	10	27	9	38	57
2146	2015	11	24	14	25	65
2165	2015	12	1	17	12	1
2225	2015	12	14	14	18	56
2726	2017	5	2	8	47	42
2869	2017	5	21	1	6	14
2880	2017	5	21	11	34	13
2892	2017	5	21	23	21	14
2926	2017	5	24	2	40	15
3226	2017	7	28	9	33	43
3727	2017	11	9	14	26	44
4228	2018	2	21	12	49	52
4728	2018	4	19	7	18	47
5230	2018	8	10	15	9	49
5731	2018	10	30	17	16	27
5732	2018	10	31	6	17	29

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

Water level warning in water separator
Total number of occurences = 0

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

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

High voltage
Total number of occurences = 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

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.

Criteria：

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

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

Low voltage
Total number of occurences = 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

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.

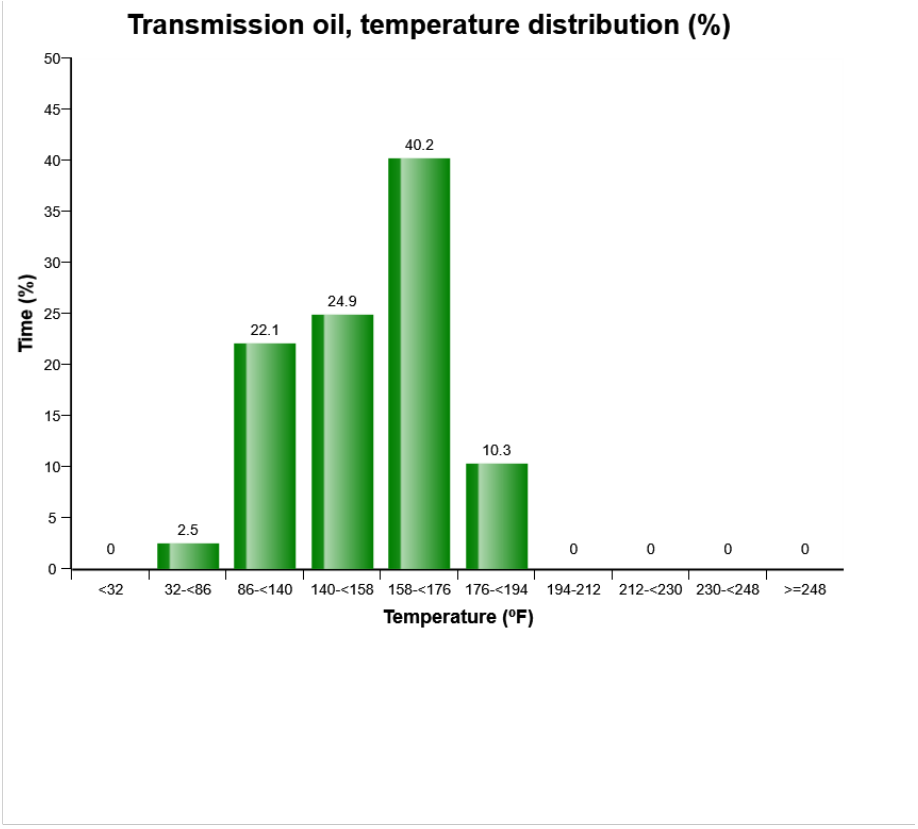
Extreme value：

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

Criteria：

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

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



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

<32ºF Temperatures below 32ºF

32-<86ºF Temperatures from 32ºF until 86ºF

86-<140ºF Temperatures from 86ºF until 140ºF

140-<158ºF Temperatures from 140ºF until 158ºF

158-<176ºF Temperatures from 158ºF until 176ºF

176-<194ºF Temperatures from 176ºF until 194ºF

194-<212ºF Temperatures from 194ºF until 212ºF

212-<230ºF Temperatures from 212ºF until 230ºF

230-<248ºF Temperatures from 230ºF until 248ºF

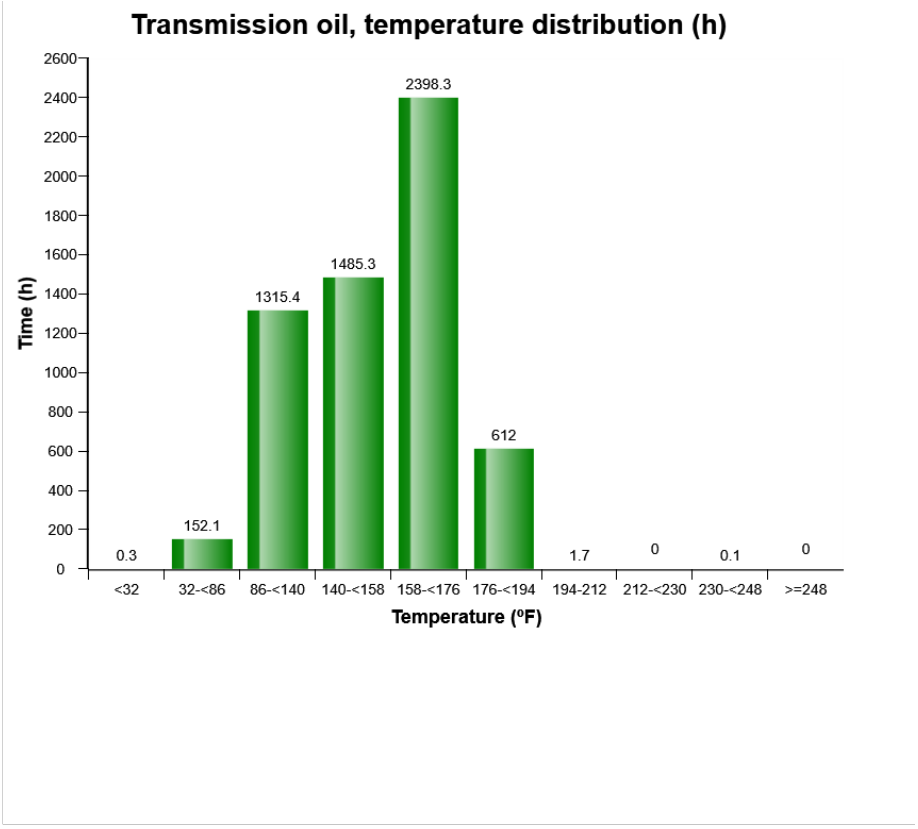
>248ºF Temperatures over 248ºF

The bar that describes temperatures from 230ºF until 248ºF is yellow and means that the oil has began to be overheated. Driver has been given orange central warning

The bar that describes >248ºF is red and means that the oil has been overheated. Driver has been given red central warning.

Oil temperatures exceeding 230ºF must be avoided since the properties of the oil are degraded

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



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

<32ºF Temperatures below 32ºF

32-<86ºF Temperatures from 32ºF until 86ºF

86-<140ºF Temperatures from 86ºF until 140ºF

140-<158ºF Temperatures from 140ºF until 158ºF

158-<176ºF Temperatures from 158ºF until 176ºF

176-<194ºF Temperatures from 176ºF until 194ºF

194-<212ºF Temperatures from 194ºF until 212ºF

212-<230ºF Temperatures from 212ºF until 230ºF

230-<248ºF Temperatures from 230ºF until 248ºF

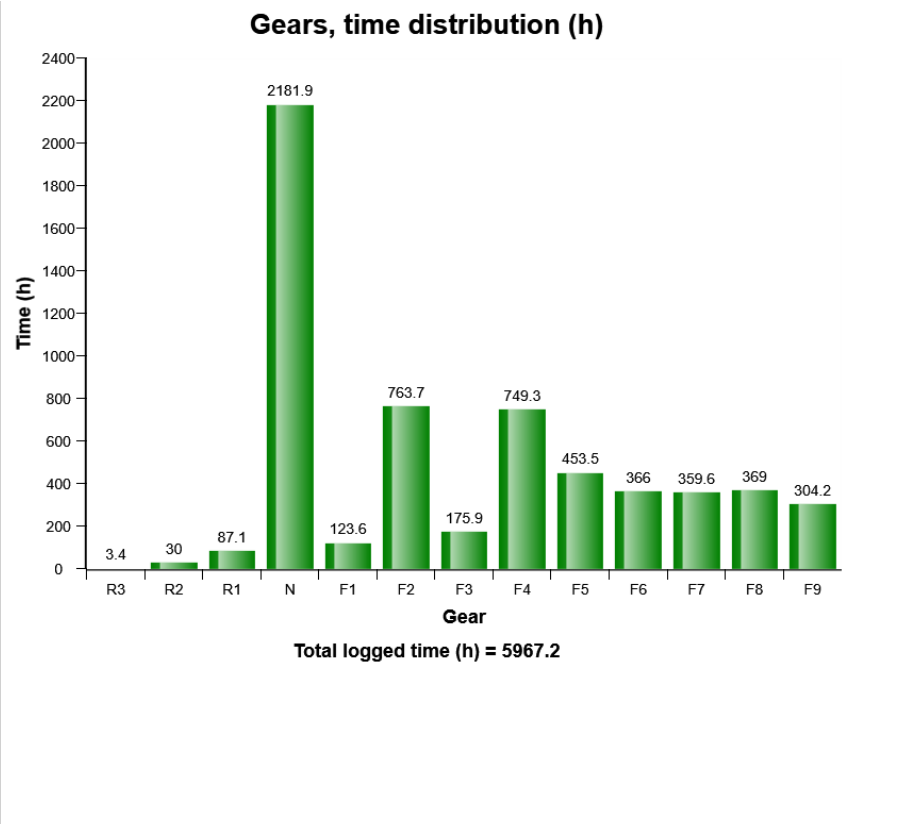
>248ºF Temperatures over 248ºF

The bar that describes temperatures from 230ºF until 248ºF is yellow and means that the oil has began to be overheated. Driver has been given orange central warning

The bar that describes >248ºF is red and means that the oil has been overheated. Driver has been given red central warning.

Oil temperatures exceeding 230ºF must be avoided since the properties of the oil are degraded

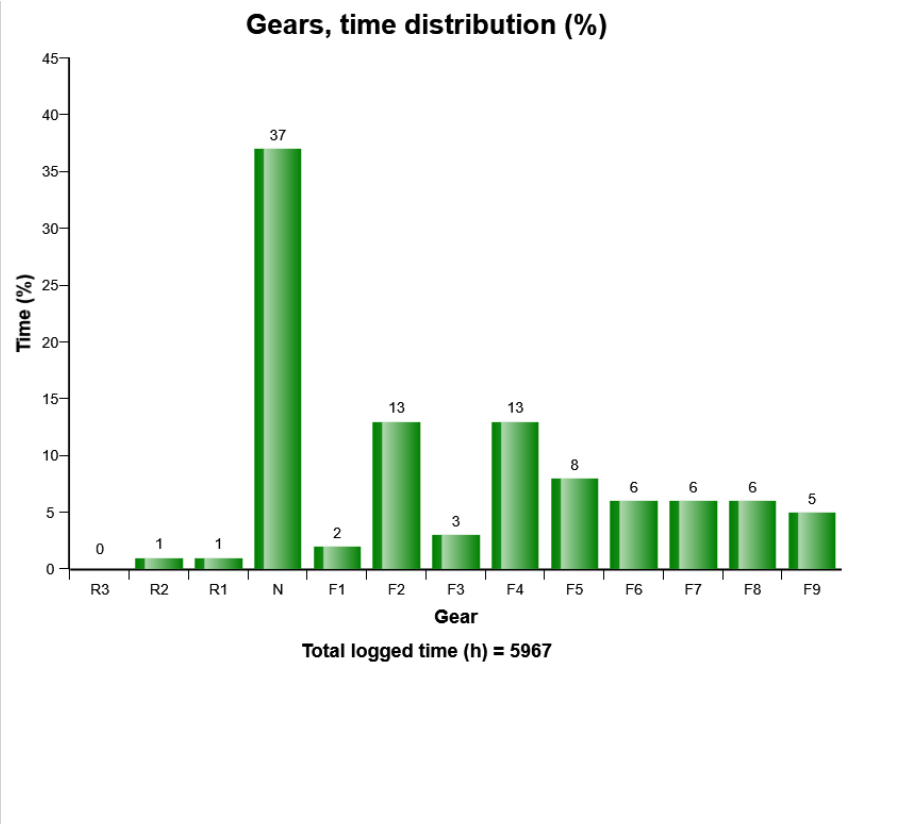
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



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.

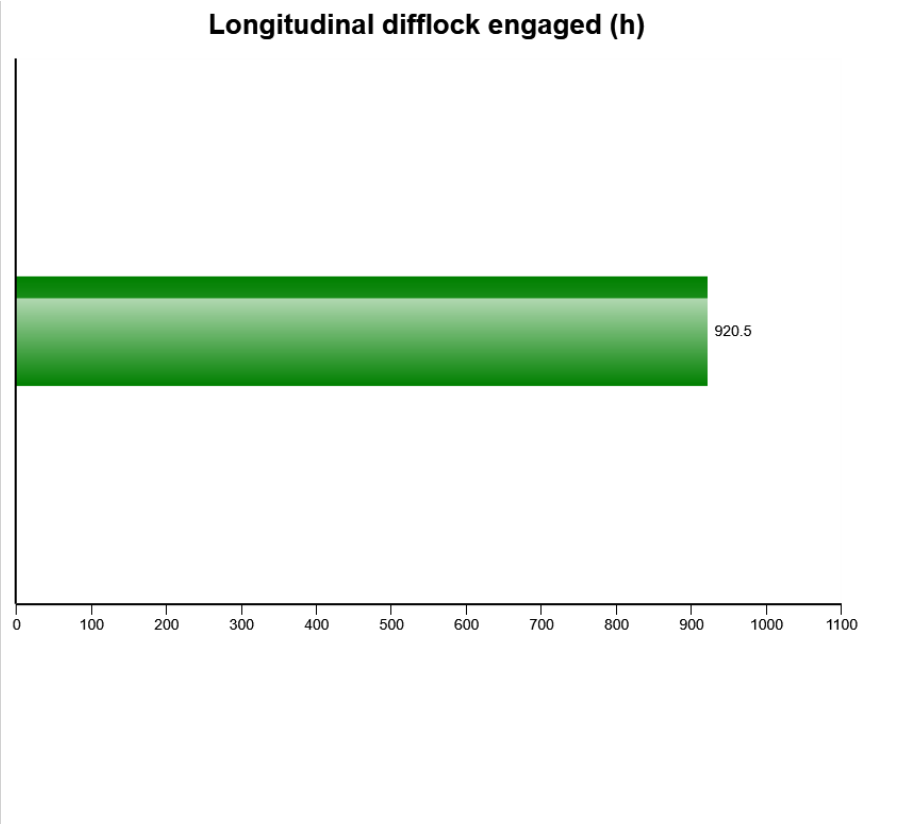
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



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

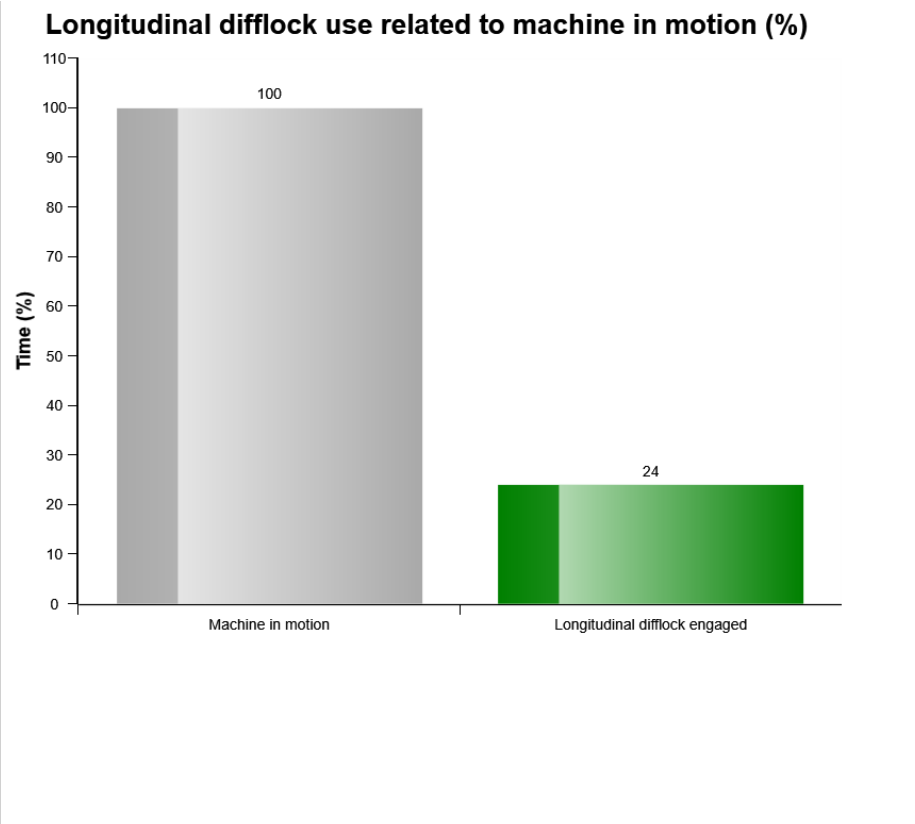
How the time is distributed between the gears depends on the operating conditions.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



The diagram shows how long time in hours the longitudinal difflock has been engaged. The presentation only shows time when the machine is moving as this is when the wear on the difflock occurs. The difflock should always be disengage when not needed to avoid unnecessary wear.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



The diagram shows the percentage of engaged longitudinal difflock in relation to machine in motion.

The longitudinal difflock should always be disengaged when not needed to reduce wear.

The normal use of the longitudinal difflock in relation to the time that the machine has been operated depends on the operating conditions. Generally, the more offroad applications the machine operates in, the higher the longitudinal difflock use shall be in relation to the time that the machine has been operated. Also operating in uphill conditions on slippery surface can require longitudinal difflock.

Also check " Longitudinal difflock engaged (h)"

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

Transmission oil pressure low
Total number of occurences = 10

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (psi)
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
1319	2015	6	27	13	4	110	144
1319	2015	7	8	7	23	320	128
1319	2015	7	8	6	21	480	133
1319	2015	6	29	11	59	0	1083
1319	2015	6	29	11	50	40	154
1319	2015	6	29	11	49	10	276
1687	2015	8	24	13	10	0	1885
1737	2015	9	1	9	25	0	1482
2131	2015	11	17	10	19	0	1285
2268	2016	8	13	11	37	0	1604

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.

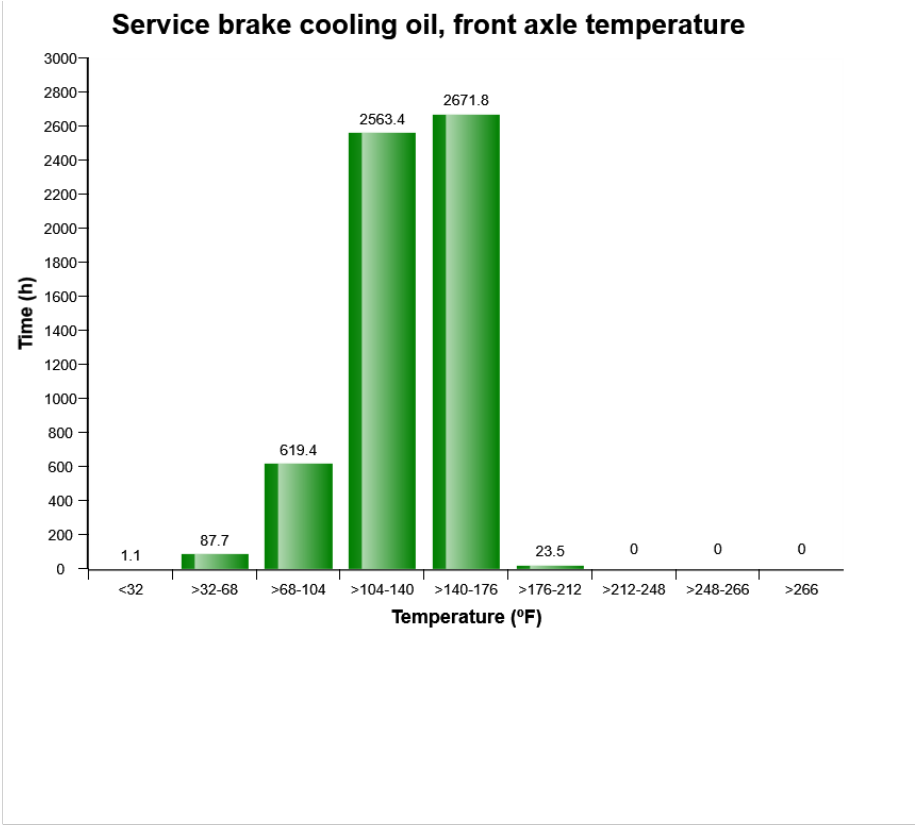
Extreme value :

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

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.”

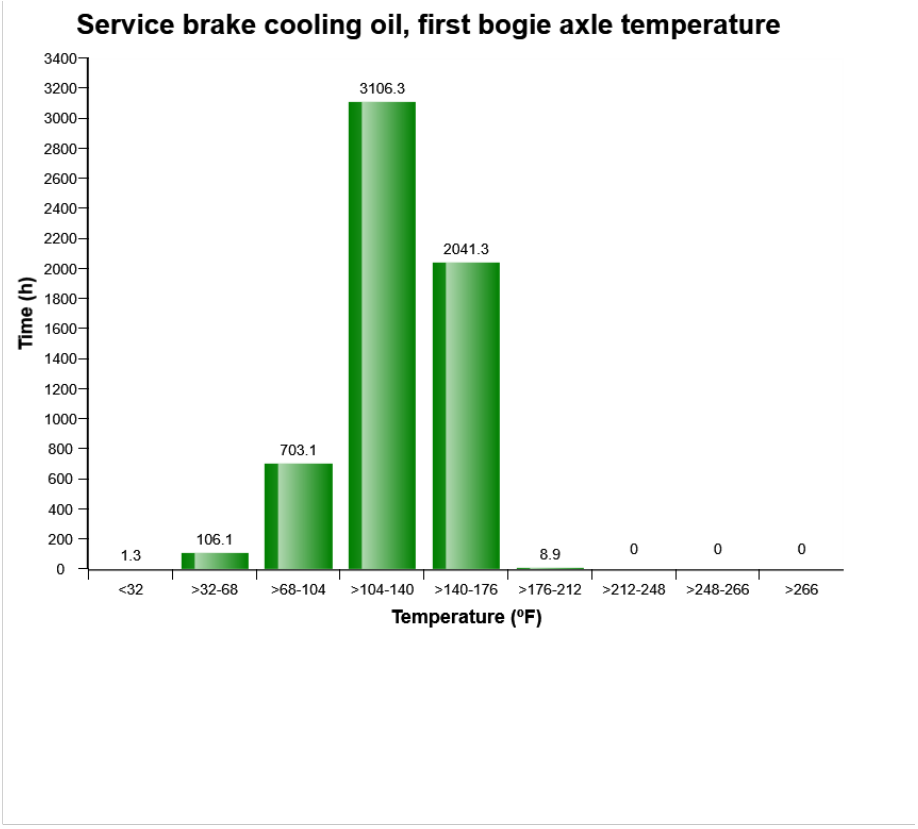
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



The diagram shows the front axle brake cooling oil temperature. The temperatures are divided into ranges, yellow bar (>248-266ºF) and red bar (>266ºF) shows abnormal temperatures. The temperature is registered in the line from the front axle to the oil cooler, that is, the warmest oil in the circuit.

The temperature shown by yellow and red bars degrade the properties of the cooling oil, and may be the result of incorrect and hard operation of the machine. Check the brake pressure distribution in the diagram "Service brake pressure, distribution (%)". If the brake cooling oil temperature is high despite normal distribution of service brake pressure, there is probably a malfunction in the brake cooling circuit

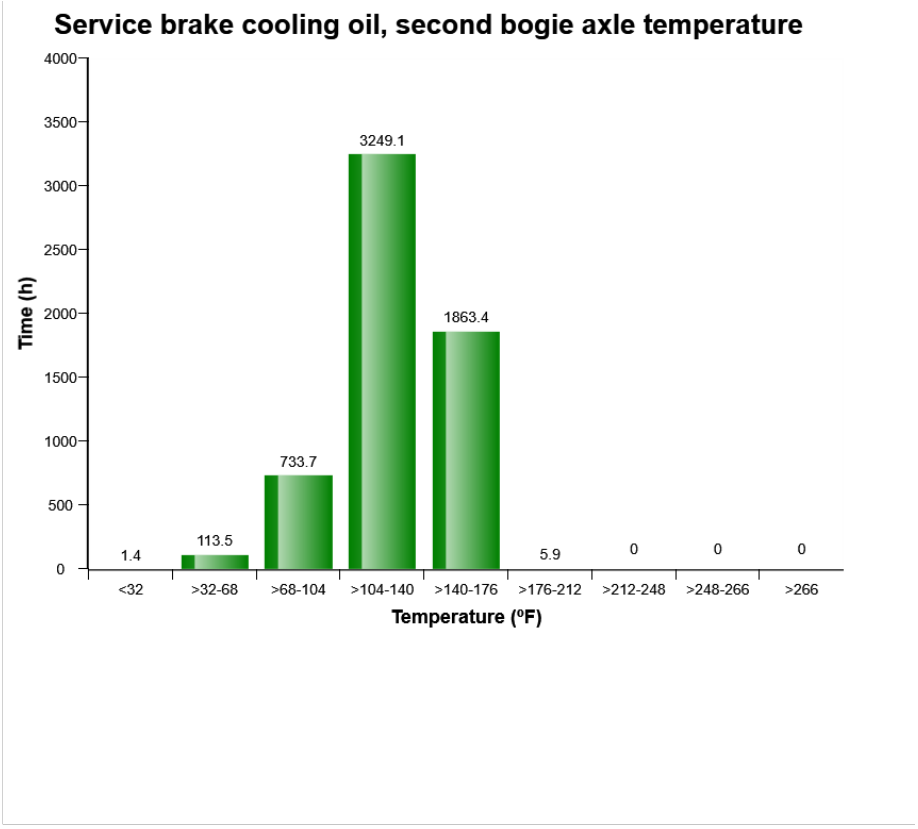
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



The diagram shows the first bogie axle brake cooling oil temperature. The temperatures are divided into ranges, yellow bar (>248-266ºF) and red bar (>266ºF) shows abnormal temperatures. The temperature is registered in the line from the first bogie axle to the oil cooler, that is, the warmest oil in the circuit.

The temperature shown by yellow and red bars degrade the properties of the cooling oil, and may be the result of incorrect and hard operation of the machine. Check the brake pressure distribution in the diagram "Service brake pressure, distribution (%)". If the brake cooling oil temperature is high despite normal distribution of service brake pressure, there is probably a malfunction in the brake cooling circuit.

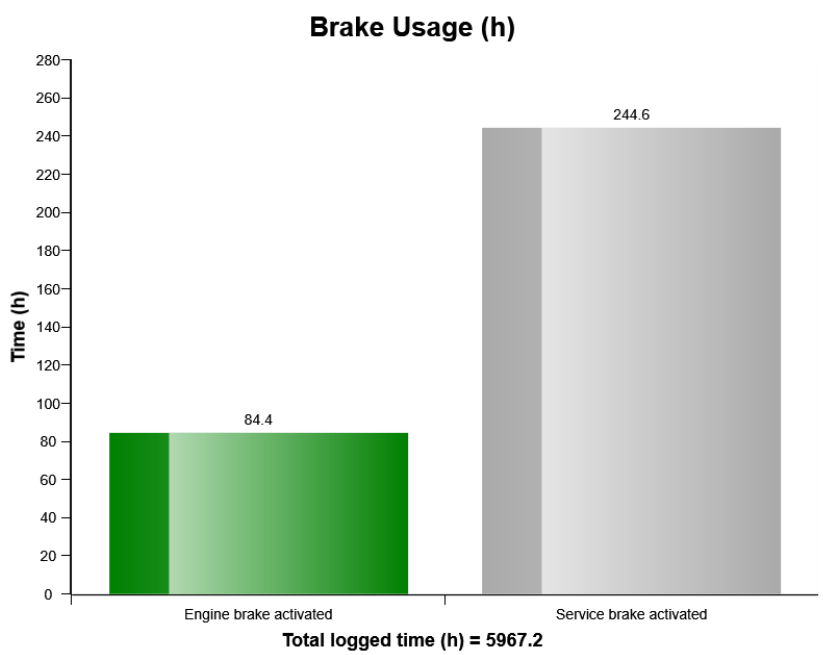
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

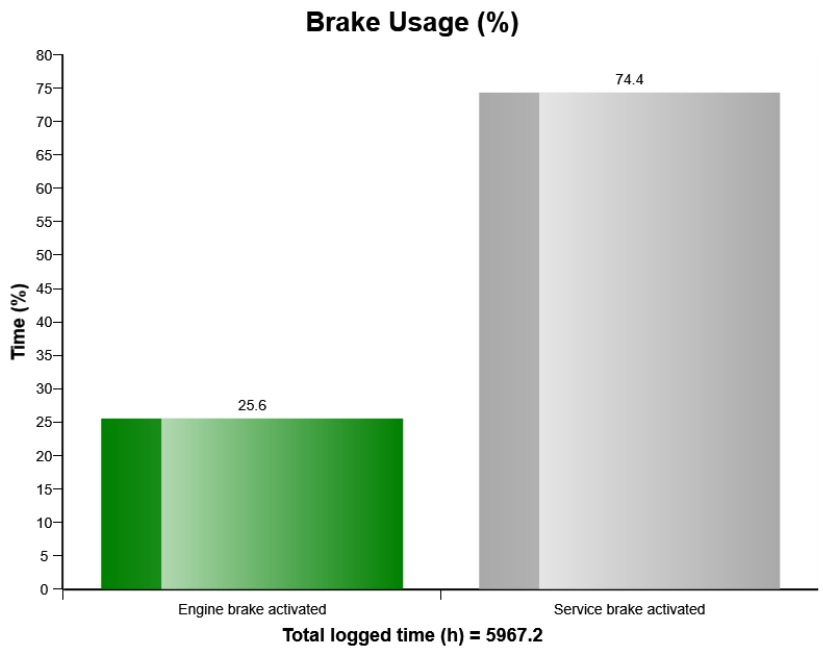


The diagram shows the front axle brake cooling oil temperature. The temperatures are divided into ranges, yellow bar (>248-266ºF) and red bar (>266ºF) shows abnormal temperatures. The temperature is registered in the line from the second bogie axle to the oil cooler, that is, the warmest oil in the circuit.

The temperature shown by yellow and red bars degrade the properties of the cooling oil, and may be the result of incorrect and hard operation of the machine. Check the brake pressure distribution in the diagram "Service brake pressure, distribution (%)". If the brake cooling oil temperature is high despite normal distribution of service brake pressure, there is probably a malfunction in the brake cooling circuit.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019





Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

Low Brake Servo Pressure
Total number of occurences = 12

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (psi)
C	2255	2015	12	22	15	17	0	2213
D	2613	2016	11	14	12	22	0	2200
E	2853	2017	5	18	6	36	0	2089
F	3194	2017	7	18	6	1	0	2064
G	3462	2017	9	26	8	0	0	2120
H	3511	2017	10	5	8	15	0	2138
I	4367	2018	3	7	7	16	0	2269
J	5436	2018	9	23	6	53	10	2200
A	5830	2018	11	8	9	3	0	2312
B	5963	2018	12	1	9	13	0	2281

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 :

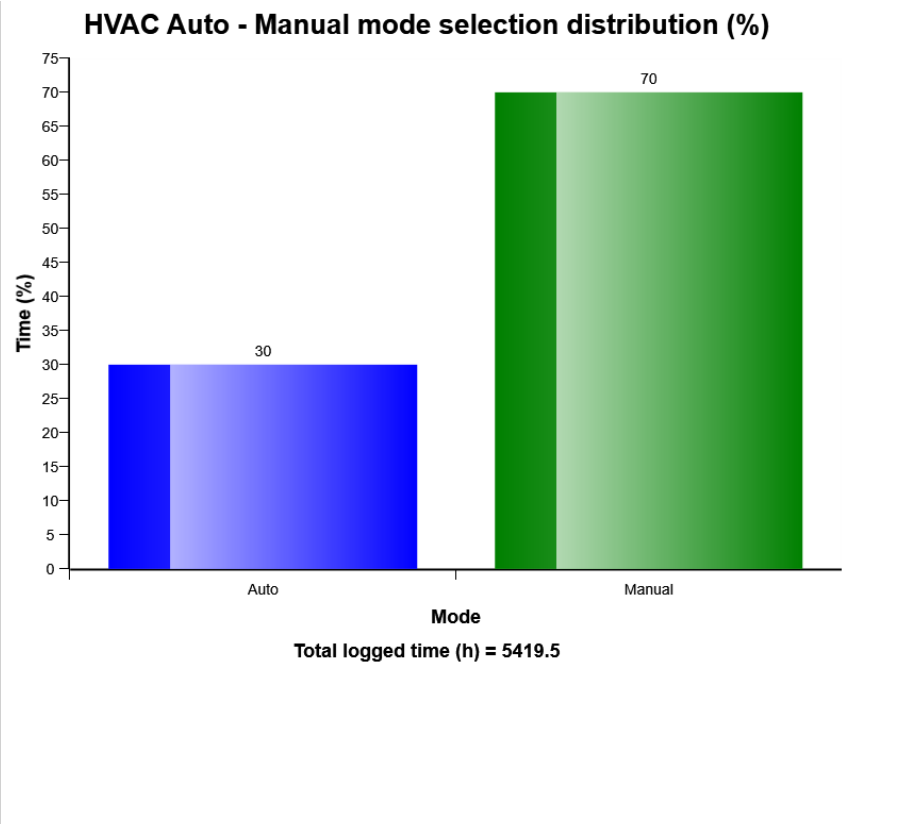
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

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

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.

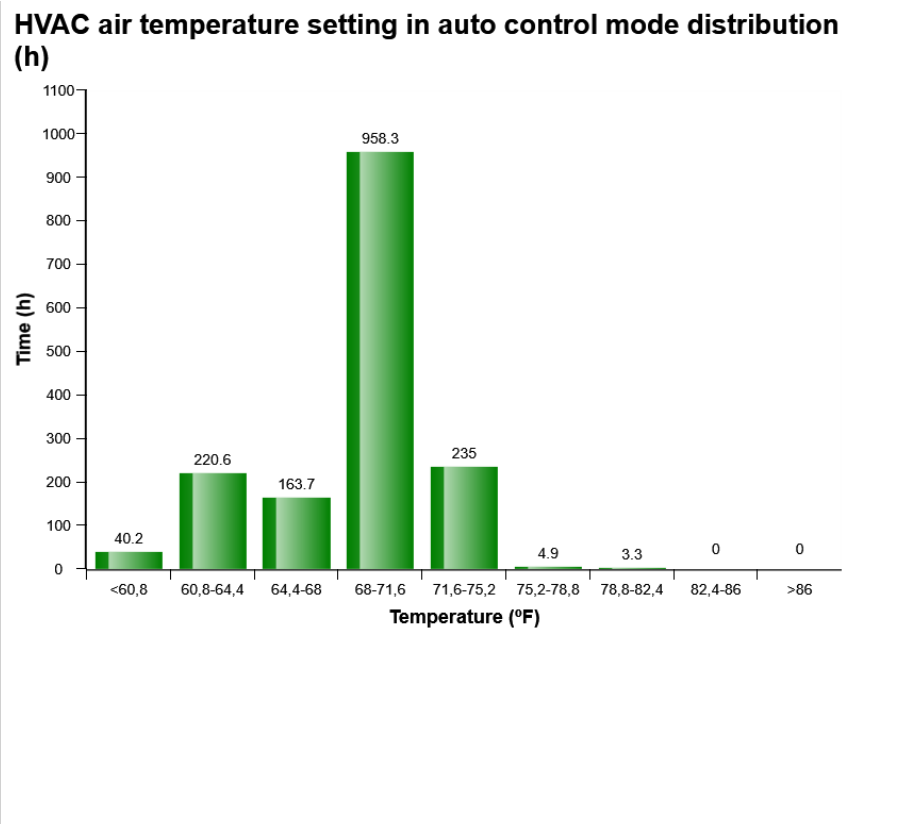
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



Definition:

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

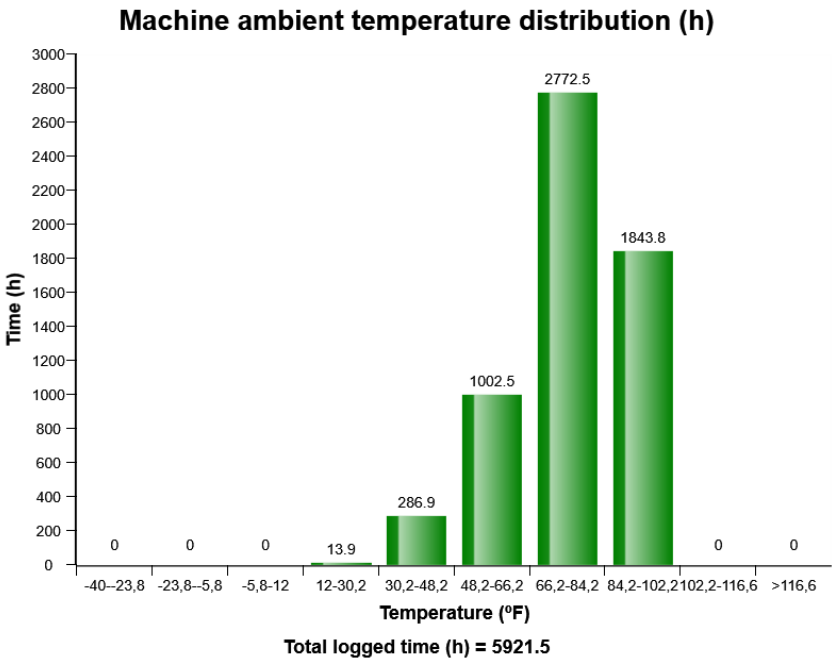
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



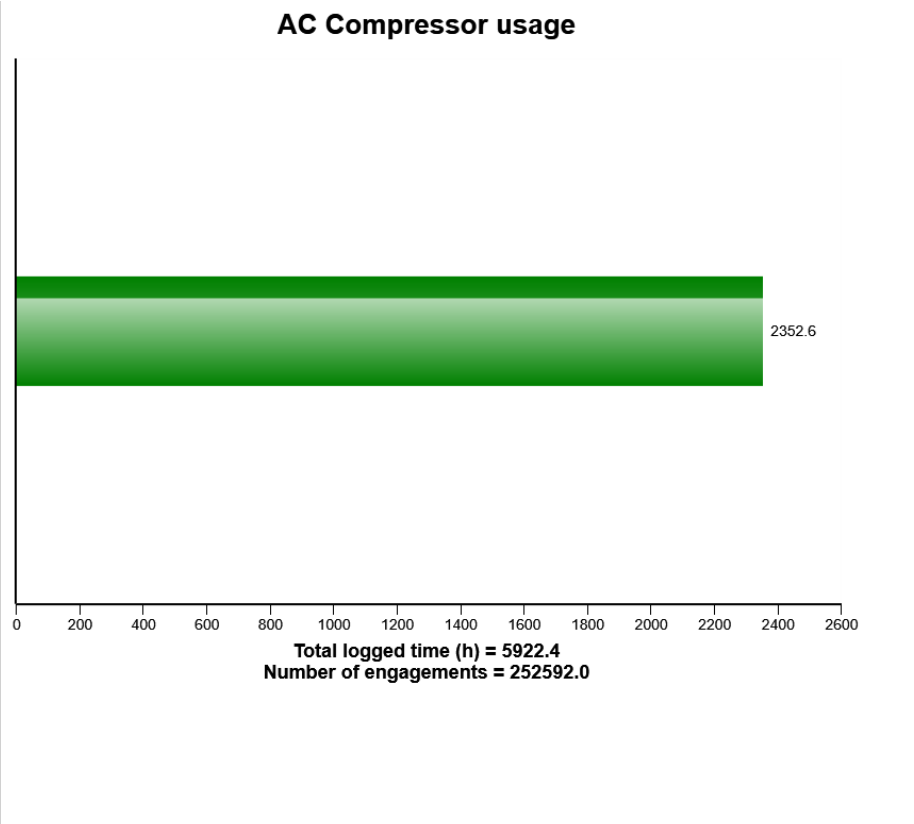
Definition:

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	340404	5966.6	31/05/2019



Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



Definition:

The graph shows the total time of AC compressor engagement.

Explanation:

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

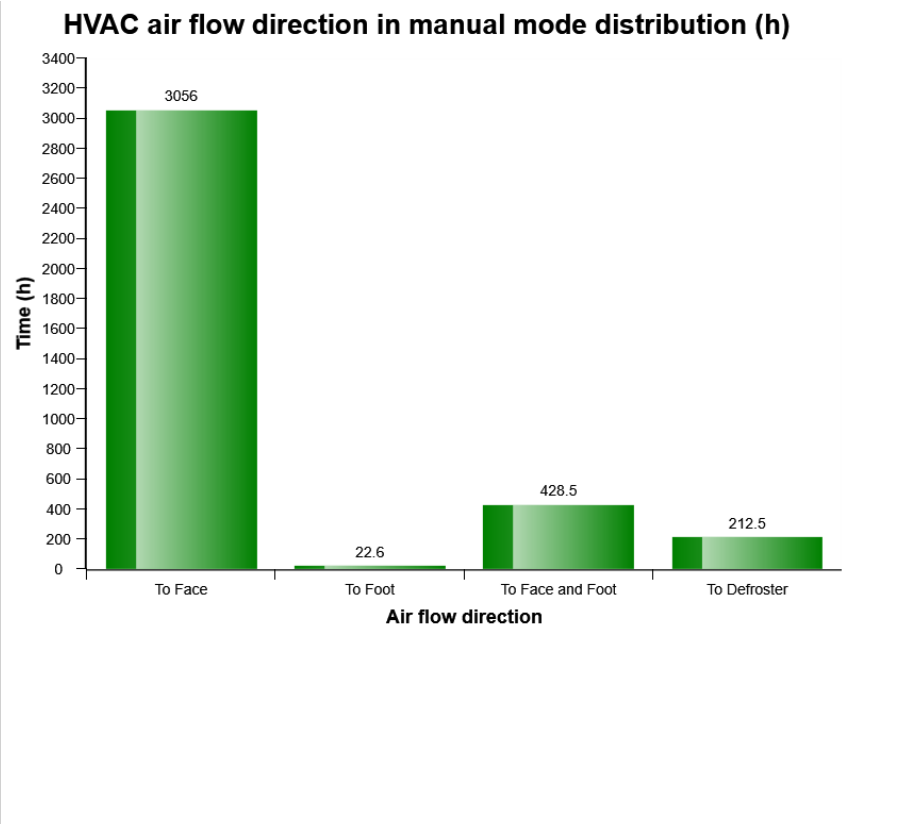
Under the graph the total engine running time (in hours) is displayed.

Total number of AC compressor activations is also displayed.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

-

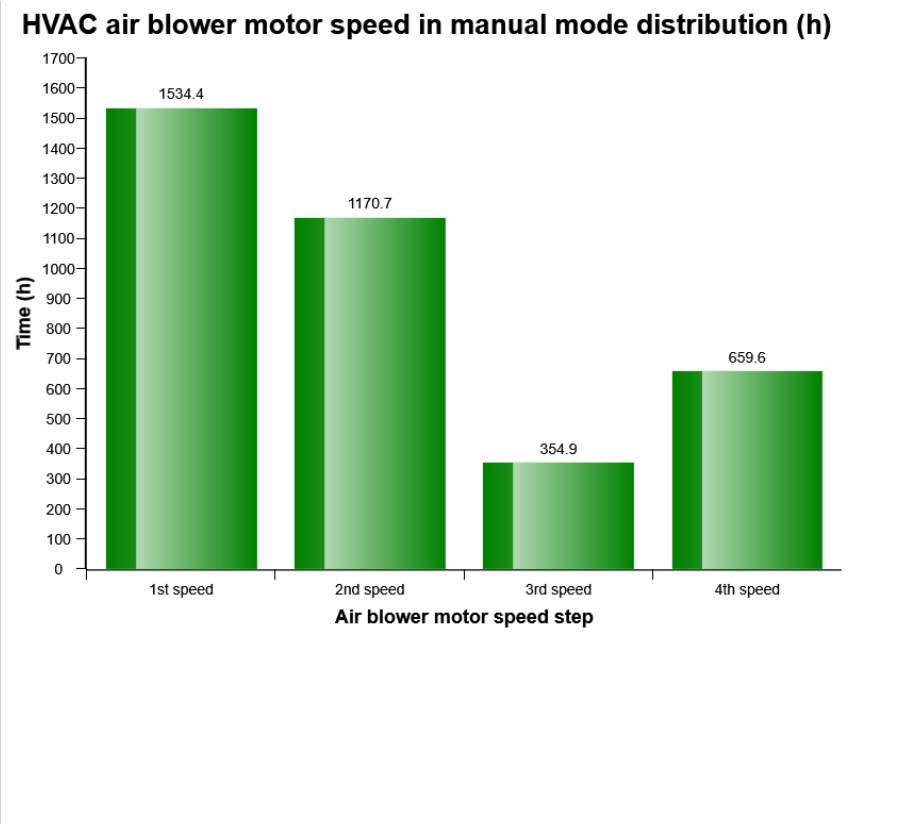
Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



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	340404	5966.6	31/05/2019



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	340404	5966.6	31/05/2019

AC High Pressure
Total number of occurences = 2606

Op hours	Year	Month	Day	Hours	Minute	Duration (sec)	Extreme (° F)
5663	2018	10	18	12	23	113	91
5663	2018	10	18	12	58	56	91
5663	2018	10	18	13	3	22	93
5664	2018	10	18	13	34	23	95
5665	2018	10	18	14	59	77	95
5666	2018	10	18	16	11	38	93
5666	2018	10	18	15	47	51	93
5666	2018	10	18	15	34	91	93
5666	2018	10	18	15	20	96	95
5666	2018	10	18	15	31	138	95
5667	2018	10	18	16	36	66	90
5671	2018	10	19	9	57	5	86
5674	2018	10	19	13	20	108	91
5675	2018	10	19	13	52	2	91
5675	2018	10	19	13	40	14	93
5846	2018	11	13	12	0	7	86
5919	2018	11	21	14	7	6	79
5925	2018	11	26	14	22	7	86
5926	2018	11	26	14	25	73	84
5927	2018	11	26	15	33	8	84

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.

Criteria：

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

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

AC Boiling Protection
Number of engagements = 0

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (° F)
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32

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.

Criteria：

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

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

AC System Cut Out Pressure
Total number of occurences = 55

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (° F)
1436	2015	7	21	17	50	10	97
1446	2015	7	22	16	32	29	99
1447	2015	7	22	17	26	5	99
1455	2015	7	23	13	26	6	100
1457	2015	7	23	15	52	11	100
1458	2015	7	23	17	25	6	100
1509	2015	7	29	14	32	8	97
1520	2015	7	30	13	24	5	97
1566	2015	8	5	15	52	5	99
1610	2015	8	12	14	2	7	91
2689	2016	12	16	11	36	636	28
3001	2017	5	31	15	19	5	93
3269	2017	8	3	14	39	4	97
3269	2017	8	3	15	10	5	97
3281	2017	8	4	17	8	4	95
3305	2017	8	8	14	38	5	95
3368	2017	8	22	16	23	4	93
5159	2018	7	26	12	0	12	91
5245	2018	8	8	13	22	5	95
5665	2018	10	18	15	0	6	95

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.

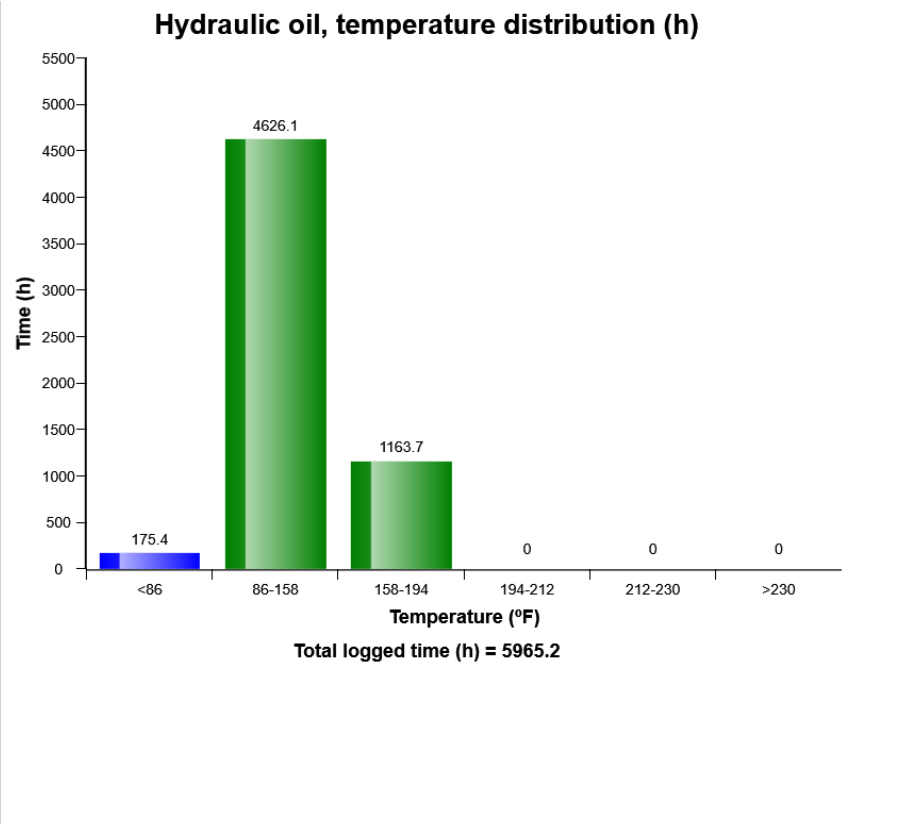
Extreme value：

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

Criteria：

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

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019



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.

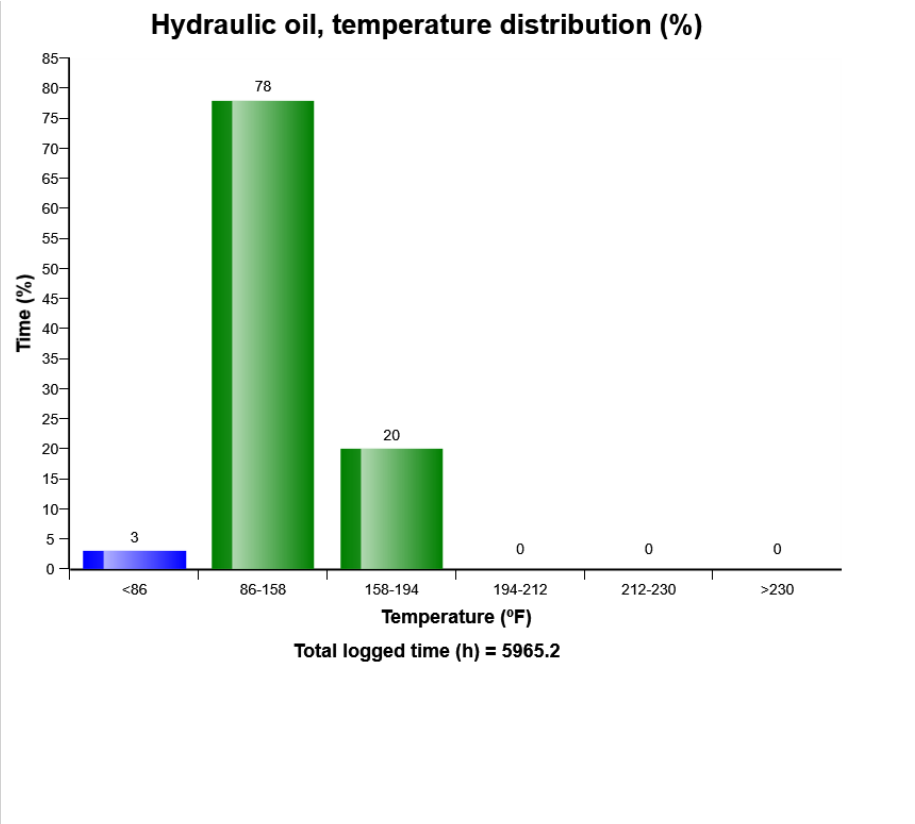
Green bar = Normal working temperature. The Major part of the registrations shall be in this region.

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	340404	5966.6	31/05/2019



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.

Machine model	SerialNo	Operating Hours	Reading Date
A40G	340404	5966.6	31/05/2019

It is normal to have registrations in this region.

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.