

**Sales model:** L120F                      **Serial no:** 66417

**Customer name** jc evans                      **Date:** 4/26/2012

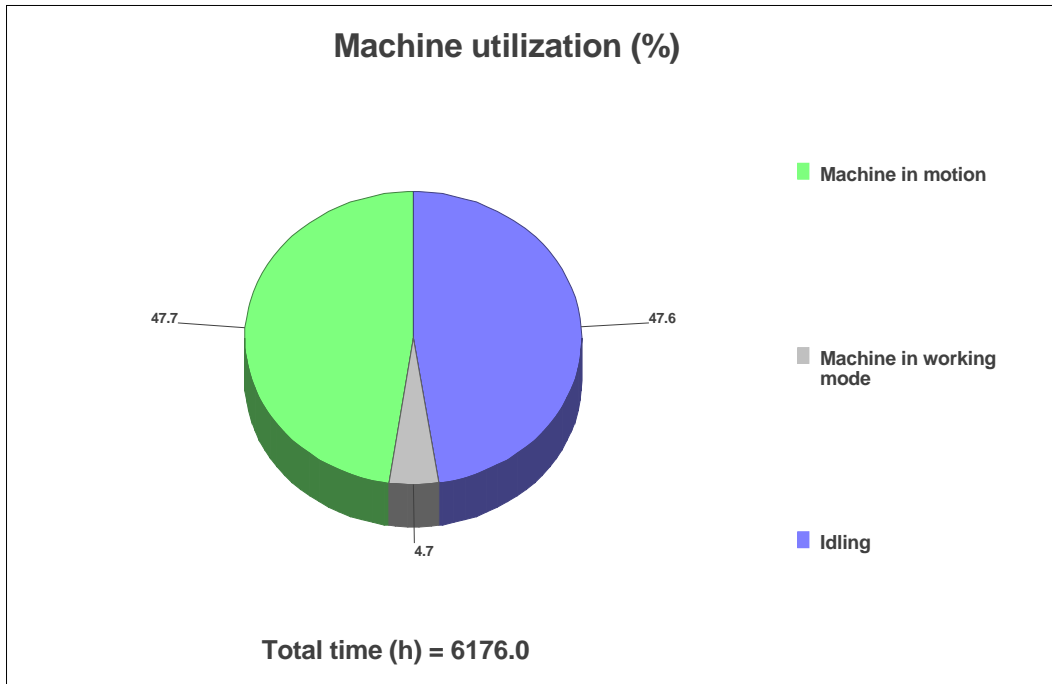
**Country:** United States                      **Operating hours:** 6175.3

**Reading date:** 04/24/2012                      **Workorder:**

**Primary application:** Dozing, Land clearing (e.g. coal, chips)

**Note:**

<b>Main equipment:</b>	<b>Type:</b>	<b>Equipment</b>
	Tyre size/class	23,5-25 L3
	Extra Counterweight	Counterweight 1
	Boom Suspension System	Mounted
	Attachment Interface	Pin-on
	Main Attachment	Sold without attachment
	Ballast	None
	Chains	Not mounted
	Differential lock, text till "gömd" hotspot	Not mounted



**Definition:**

The graph shows the distribution of the operating time for the machine. The operating time is defined as the time with engine on.

Blue sector = Engine speed less than idling or equal to idling and machine speed less than 0.5 km/h(0.3 mph)

Gear level position: Neutral, forward or reverse.

Green sector = Machine in motion.

Engine speed larger than idling and machine speed larger than 0.5 km/h(0.3 mph).

Gear level position: Forward or reverse.

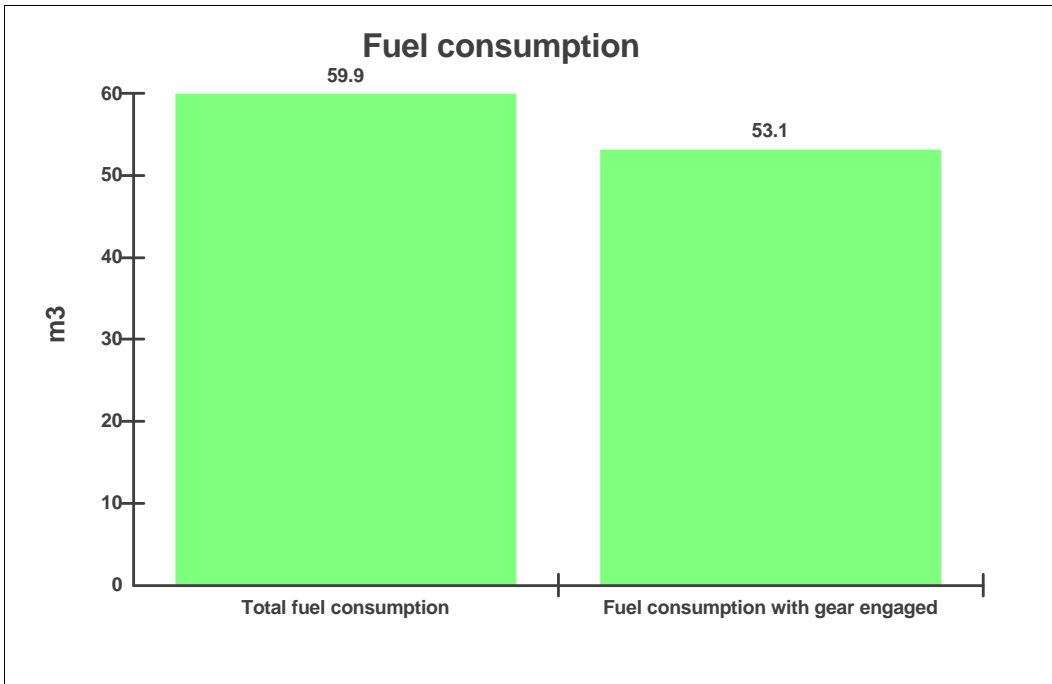
One typical situation is material transportation, in bucket or long distance transportation.

Grey sector = Engine in working mode.

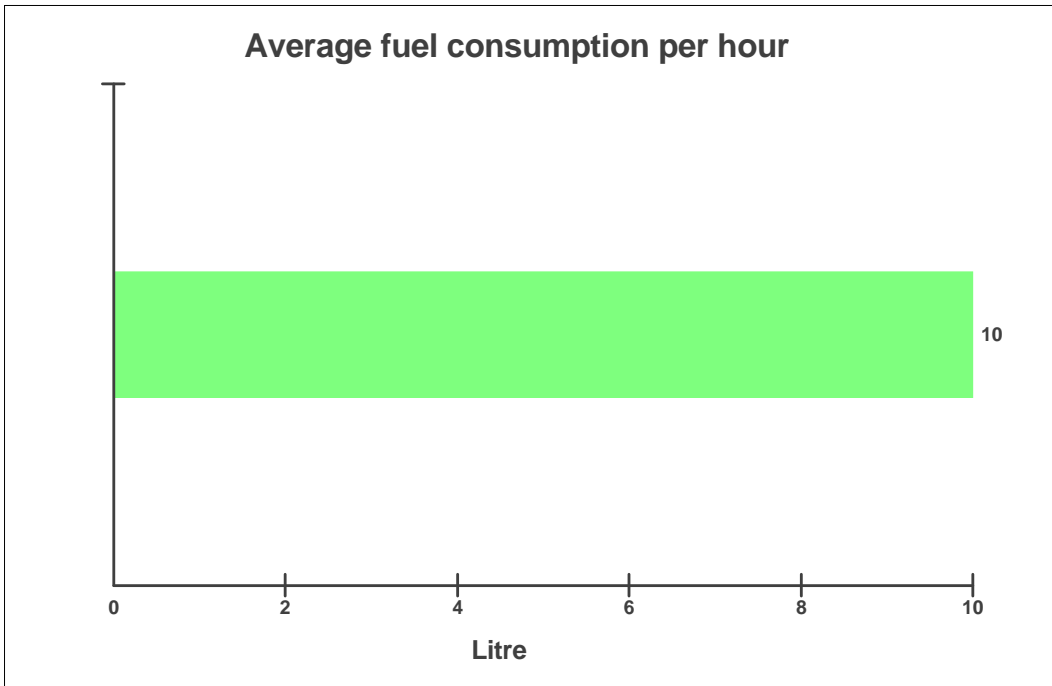
Engine speed larger than idling and machine speed less than 0.5 km/h(0.3 mph).

Gear level position: Forward or reverse.

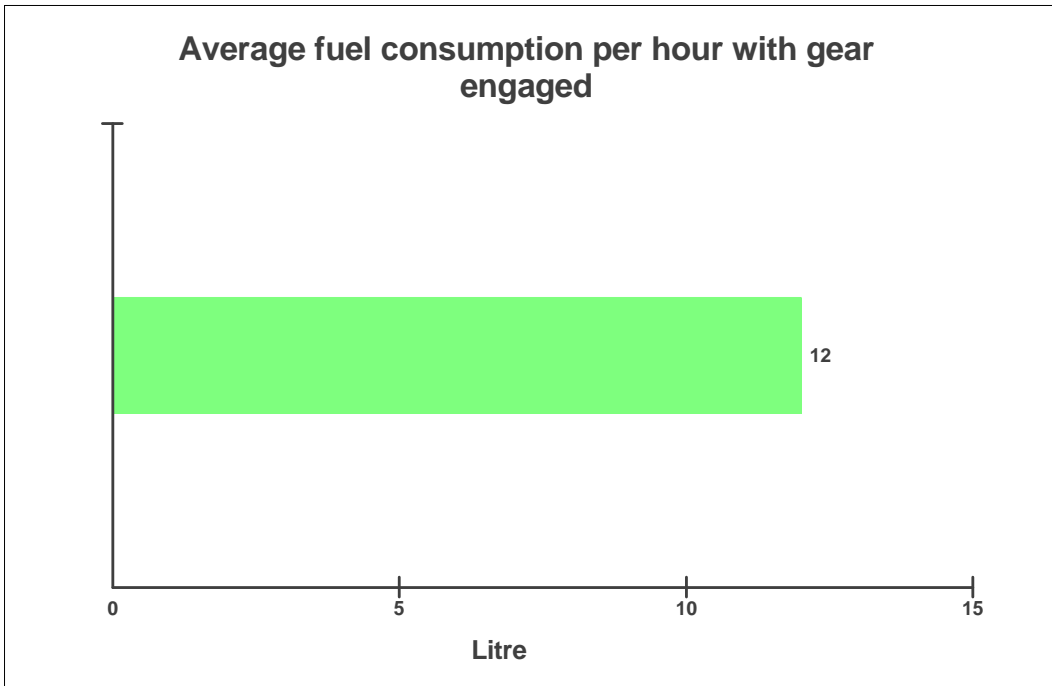
Typical application is loading and unloading of the bucket.



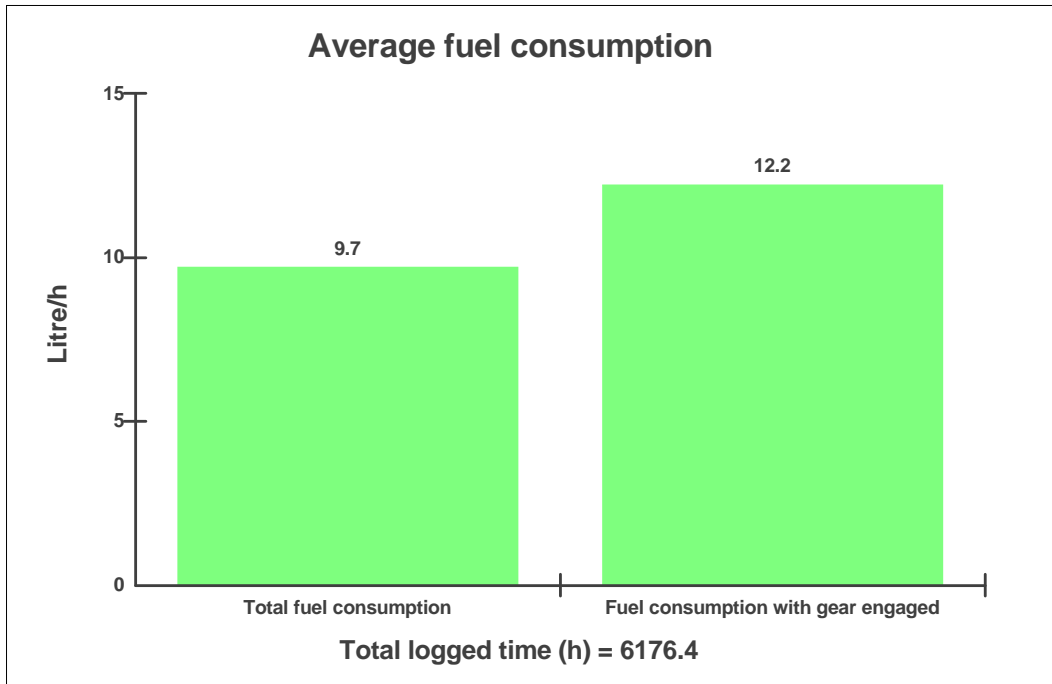
The diagram shows the total fuel consumption and fuel consumption with gear engaged. Large differences between the bars can indicate that the machine is not fully utilized. This can depend on long waiting-times.



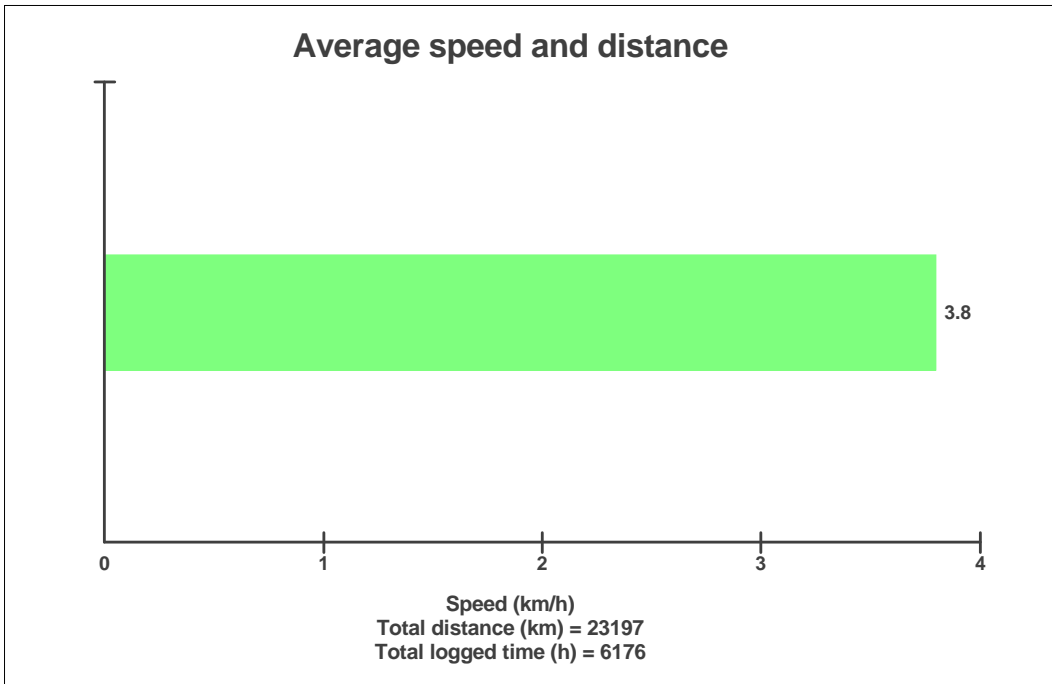
The diagram shows the average fuel consumption based on total operating hours.



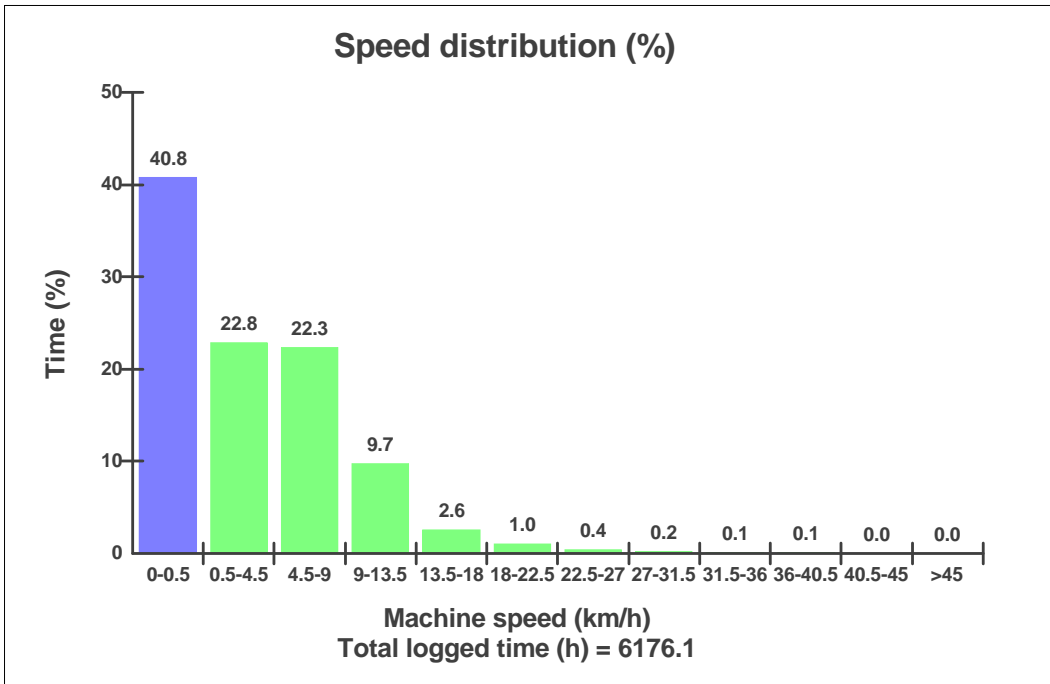
The diagram shows the average fuel consumption based on the operating hours with gear engaged.



The diagram shows the total fuel consumption and fuel consumption with gear engaged. Large differences between the bars can indicate that the machine is not fully utilized. This can depend on long waiting-times.



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



**Definition:**

This graph describes the machine speed distribution.

The sum of all bars = 100% of machine speed time.

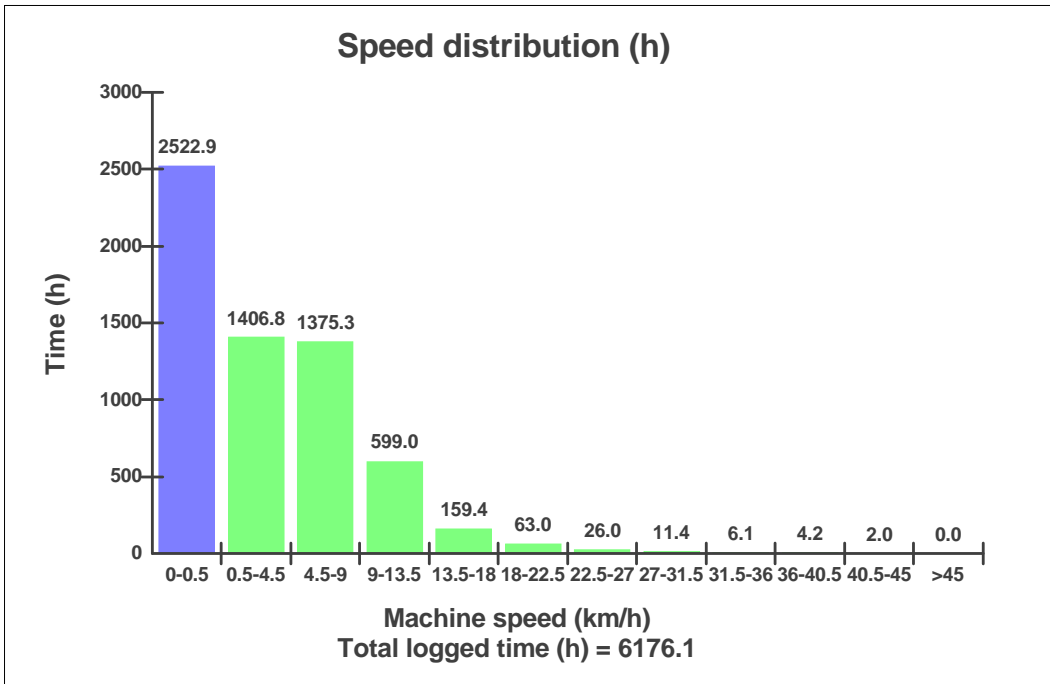
Under the graph total time with engine on, in hours, is displayed.

**Explanation:**

Y-axis: Time, specified for each speed interval.

X-axis: Machine speed, divided into speed intervals.





**Definition:**

This graph describes the machine speed distribution.

The sum of all bars = 100% of machine speed time.

Under the graph total time with engine on, in hours, is displayed.

**Explanation:**

Y-axis: Time, specified for each speed interval.

X-axis: Machine speed, divided into speed intervals.

**Engine ECU information****Engine ECU information**

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<b>ECU MID</b>	<b>128</b>
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<b>Hardware Part No</b>	<b>60100000</b>
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<b>Hardware Issue</b>	<b>6</b>
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<b>Software Part No</b>	<b>60101024</b>
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<b>Software Issue</b>	<b>1</b>
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<b>Serial no</b>	<b>7211101</b>
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<b>Dataset 1 Part No</b>	<b>12331171</b>
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<b>Dataset 1 Issue</b>	<b>1</b>
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<b>Dataset 2 Part No</b>	<b>12335130</b>
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<b>Dataset 2 Issue</b>	<b>1</b>
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**Definition:**

This presentation displays the different part numbers for the ECU software and hardware.

**Vehicle ECU information**

**Vehicle ECU information**

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<b>ECU MID</b>	<b>187</b>
<b>Hardware Part No</b>	<b>11443500</b>
<b>Hardware Issue</b>	<b>1</b>
<b>Software Part No</b>	<b>11380013</b>
<b>Serial no</b>	<b>7213125</b>
<b>Dataset 1 Part No</b>	<b>11443454</b>
<b>Dataset 2 Part No</b>	<b>11443934</b>

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**Definition:**

This presentation displays the different part numbers for the ECU software and hardware.

**Climate ECU information**

**Climate ECU information**

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<b>ECU MID</b>	<b>146</b>
<b>Hardware Part No</b>	<b>11443400</b>
<b>Hardware Issue</b>	<b>3</b>
<b>Software Part No</b>	<b>11380026</b>
<b>Serial no</b>	<b>7194117</b>
<b>Dataset 1 Part No</b>	<b>11443261</b>
<b>Dataset 2 Part No</b>	<b>11443741</b>

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**Definition:**

This presentation displays the different part numbers for the ECU software and hardware.

**Telematic ECU information**

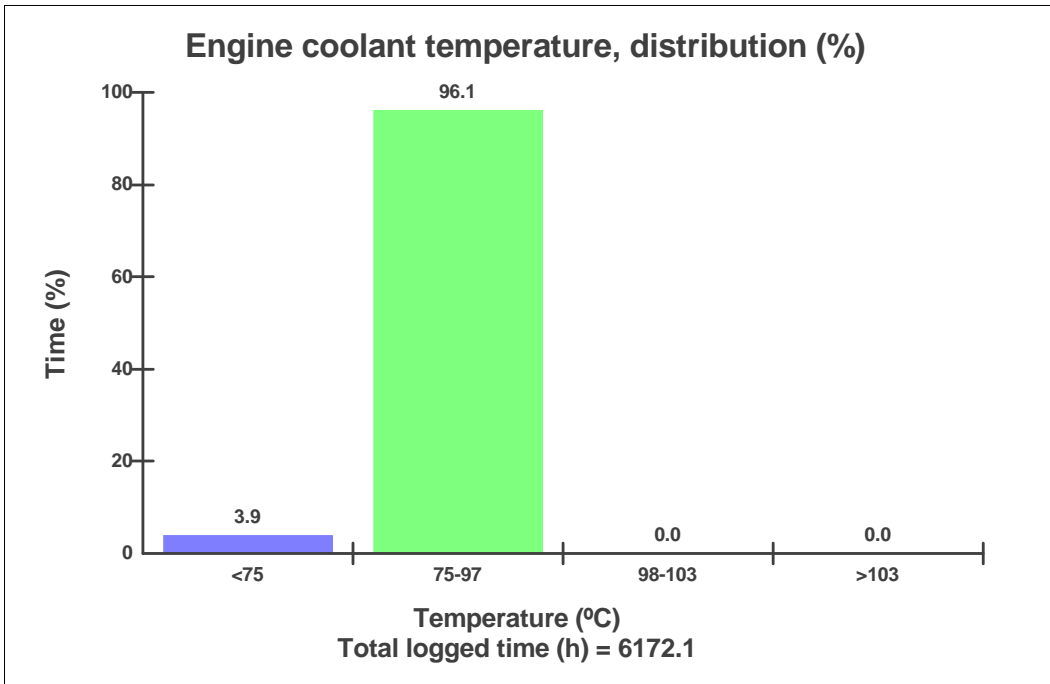
**Telematic ECU information**

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<b>ECU MID</b>	<b>142</b>
<b>Hardware Part No</b>	<b>11443950</b>
<b>Hardware Issue</b>	<b>1</b>
<b>Software Part No</b>	<b>11381234</b>
<b>Serial no</b>	<b>7201005</b>
<b>Dataset 1 Part No</b>	<b>11443692</b>
<b>Dataset 2 Part No</b>	<b>11443969</b>

**Definition:**

This presentation displays the different part numbers for the ECU software and hardware.



**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.

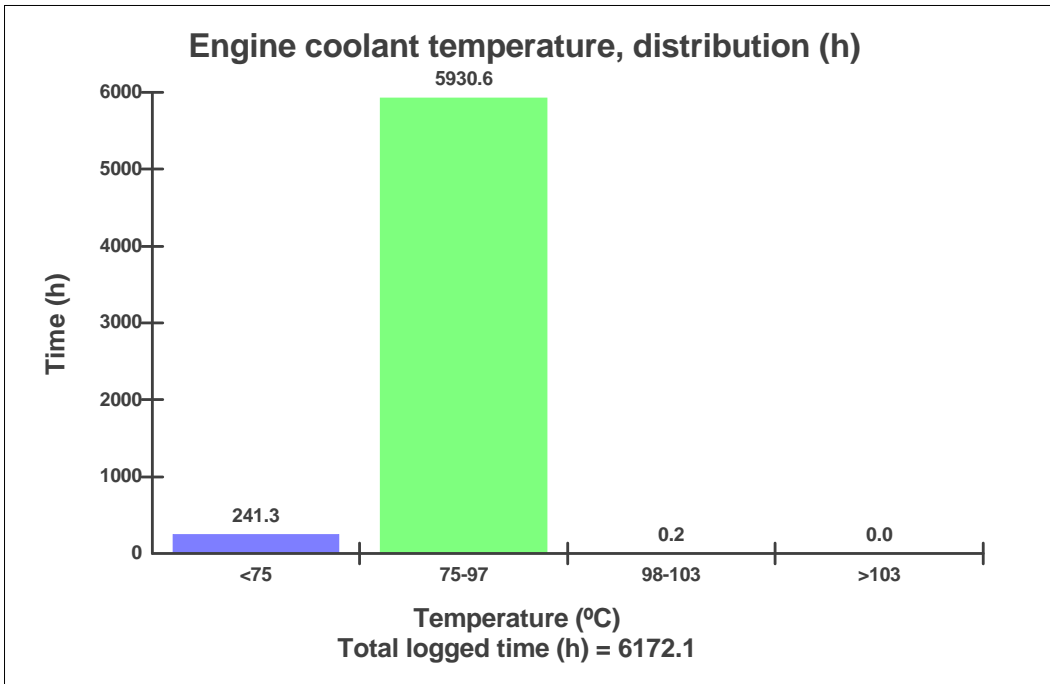
It is normal to have registrations in this region.

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.



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

**Explanation:**

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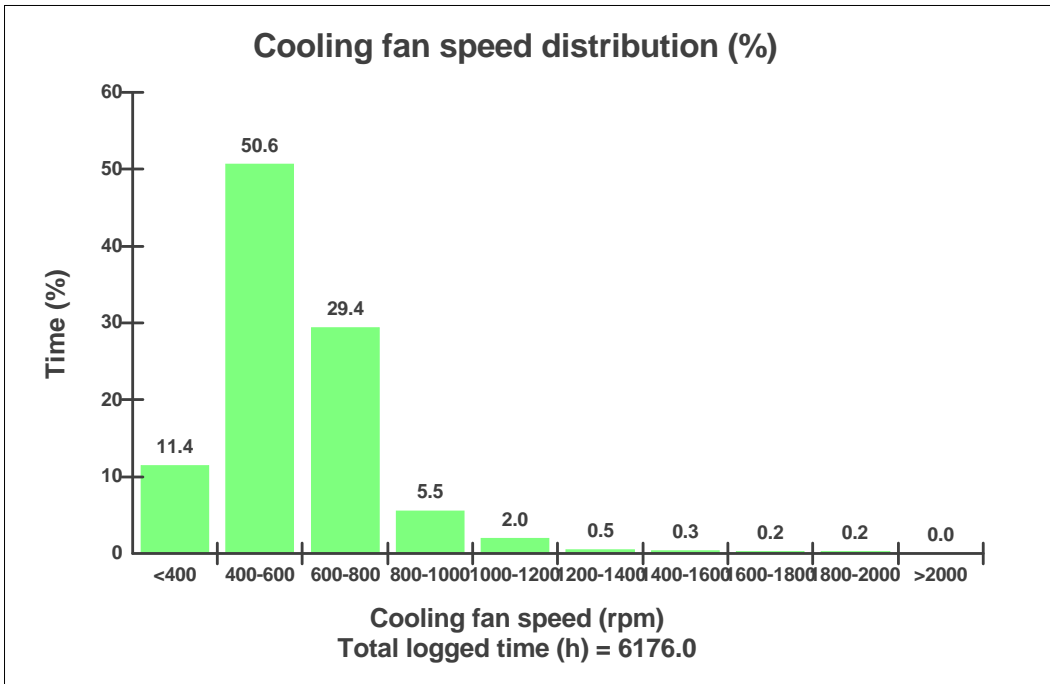
It is normal to have registrations in this region.

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.

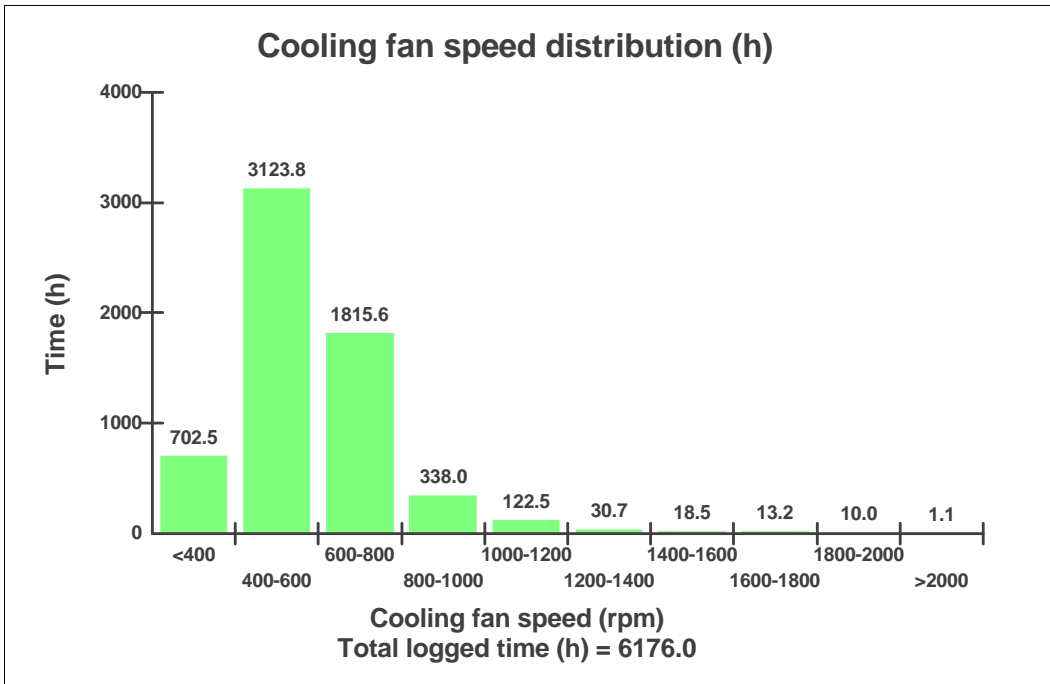
Red bar = Alarm.

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

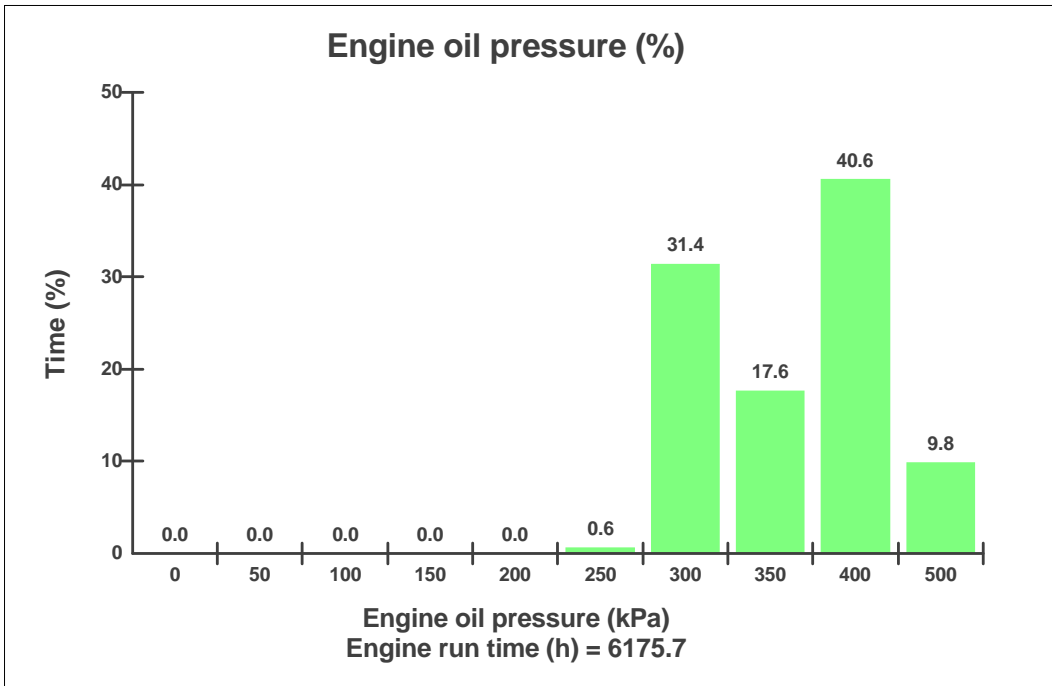


The diagram shows the time distribution for the cooling fan in different rpm ranges.

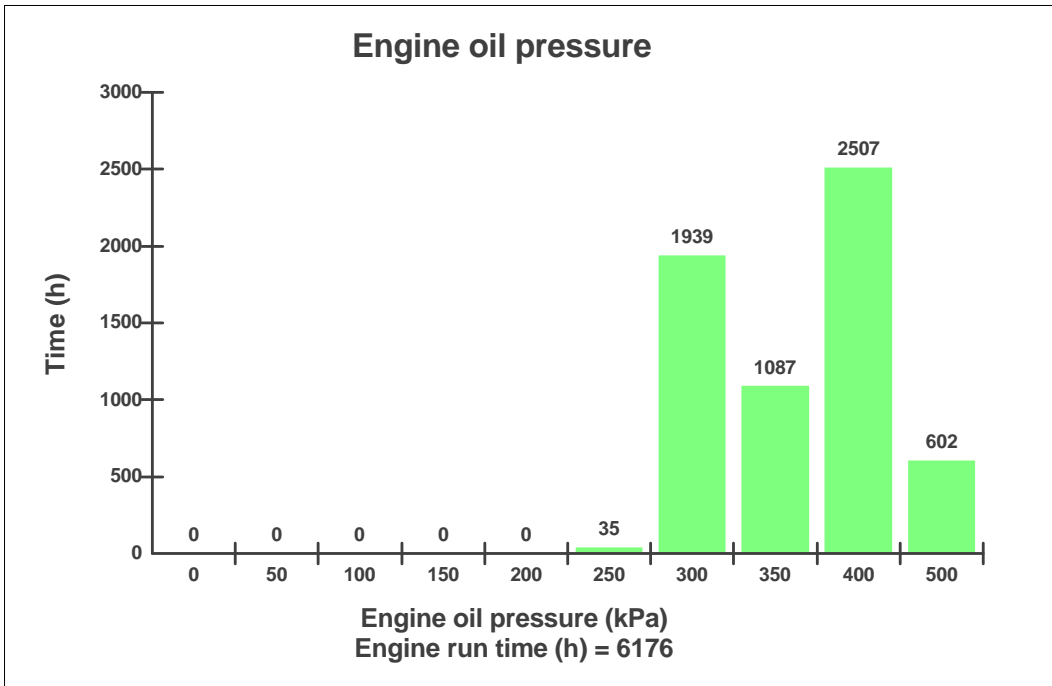




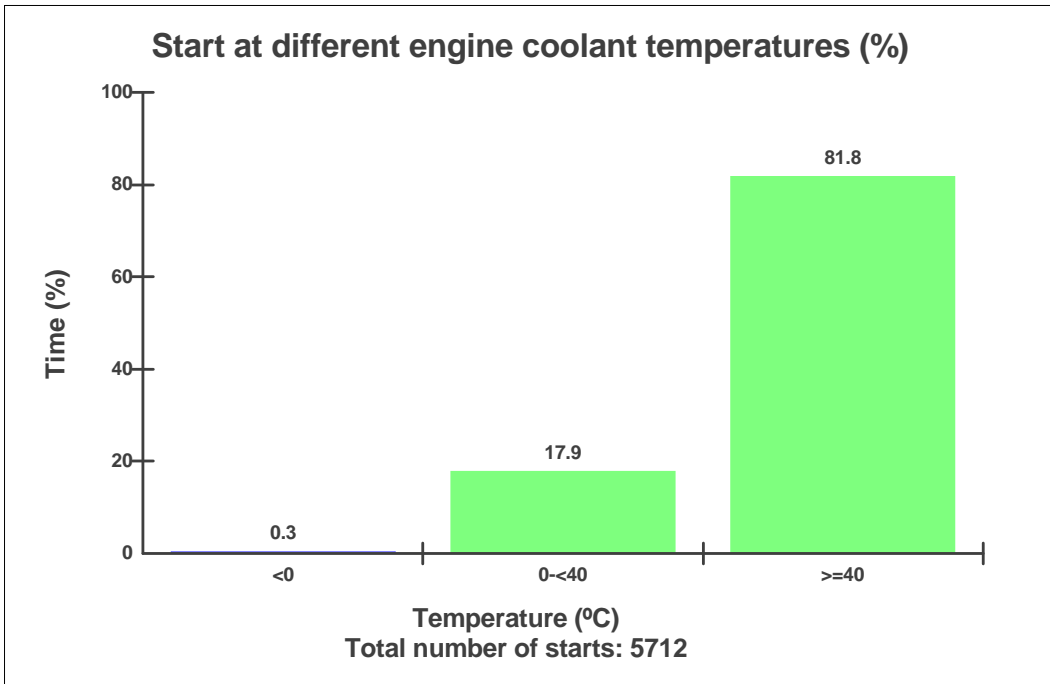
The diagram shows the time distribution for the cooling fan in different rpm ranges.



No explanation available!



No explanation available!



**Definition:**

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

**Explanation:**

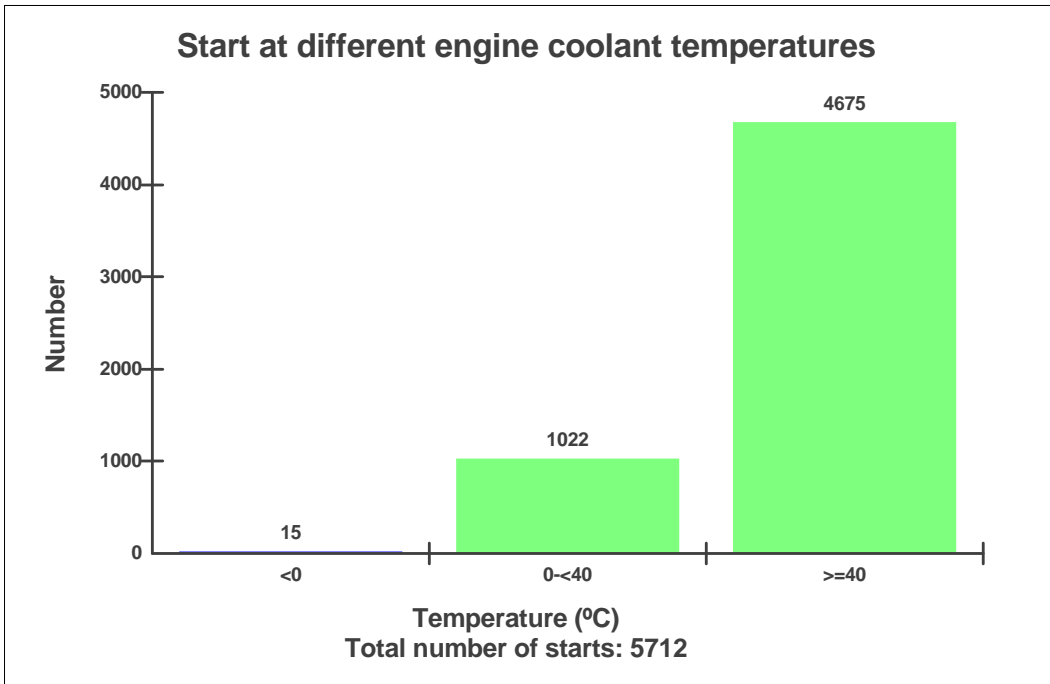
Y-axis: Number of engine starts

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.



**Definition:**

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

**Explanation:**

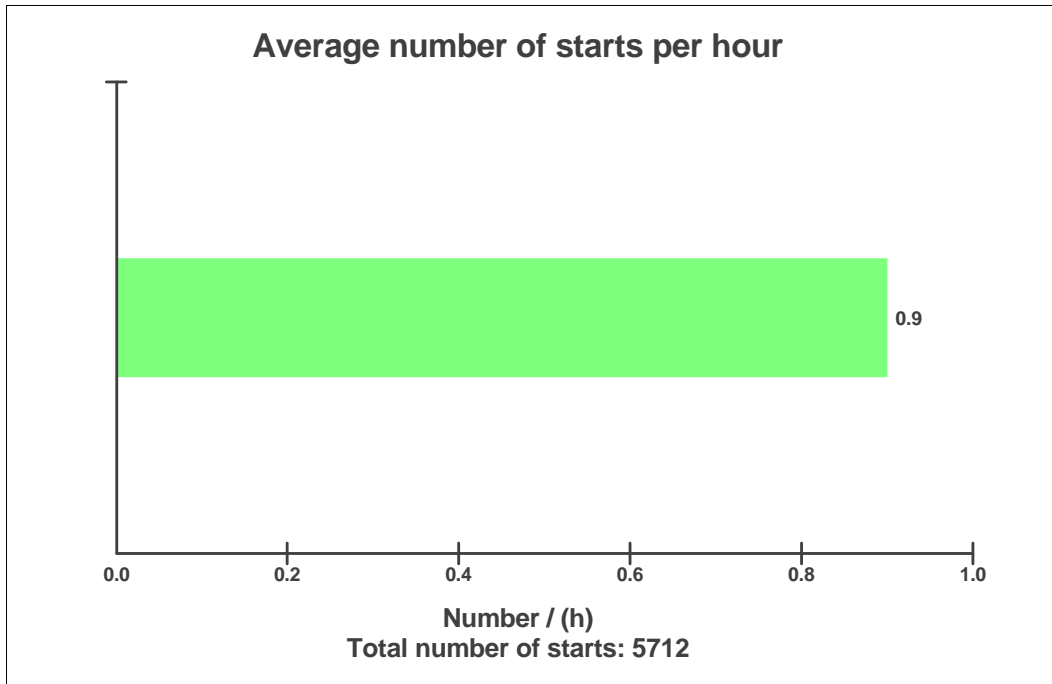
Y-axis: Number of engine starts

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.

**Definition:**

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

**Explanation:**

X-axis: Number of average starts per hour.

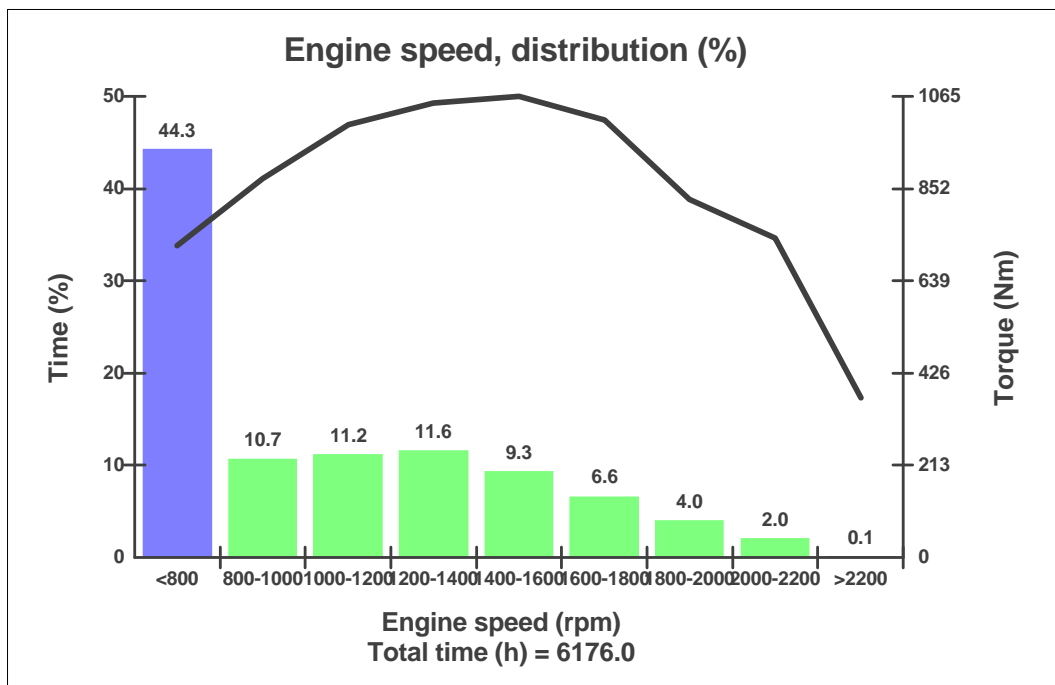
The actual time used for calculation, is time with engine on

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."

Green bar = Number of average starts per hour



**Definition:**

The graph describes the engine speed distribution, compared with the engine torque curve. The sum of all bars = total time of engine running.

**Explanation:**

Y-axis\_1: Engine running time.

Y-axis\_2: Torque (Nm)

X-axis: Engine speed in rpm.

Black curve = Engine torque curve. The highest part of the torque curve points out at which engine speed that the engine is strongest. To use the machine most efficient, keep the engine speed in the highest part of the torque curve. See below examples:

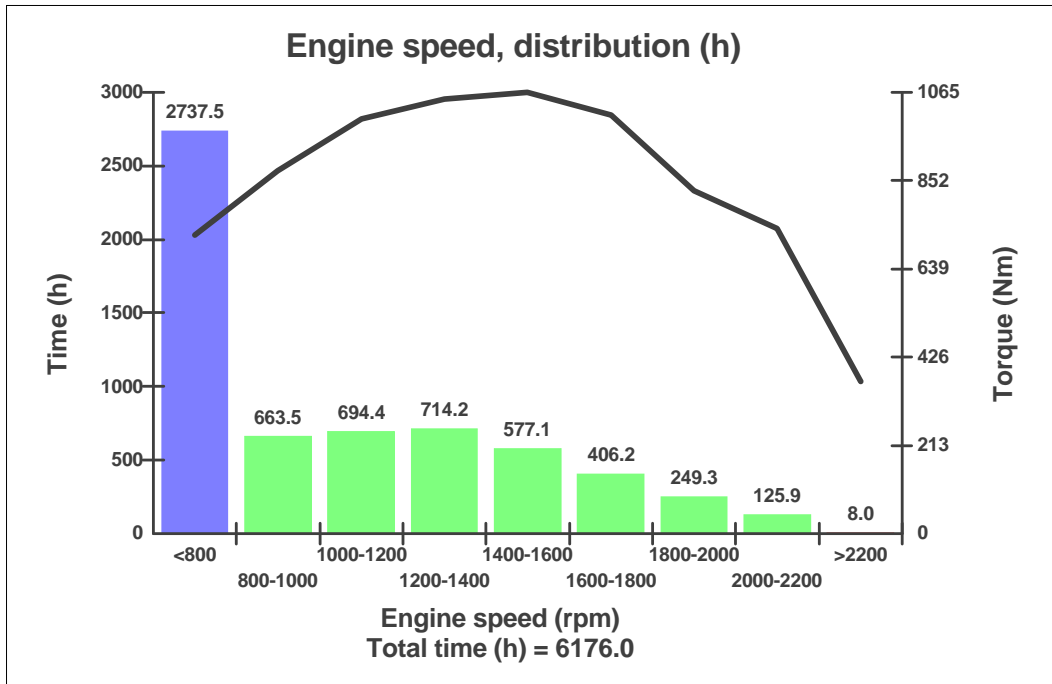
Blue bar = Idling interval.

Green bars = Normal engine speed range.

Red bar = The engine speed has exceeded the maximum design speed.

Never exceed the maximum engine design speed.

Exceeding the maximum design speed may cause severe damage to the engine.



**Definition:**

The graph describes the engine speed distribution, compared with the engine torque curve. The sum of all bars = total time of engine running.

**Explanation:**

Y-axis\_1: Engine running time.

Y-axis\_2: Torque (Nm)

X-axis: Engine speed in rpm.

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Never exceed the maximum engine design speed.

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**Low Engine Oil Pressure**  
**Low Engine Oil Pressure**  
 Total number of occurrences = 0

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (bar)
*	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

**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 engine oil pressure to be recorded in a data point and the count to increment by 1, the engine 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."



**Low engine oil level at start**  
**Low engine oil level at start**  
**Total number of occurrences = 0**

	<b>Op hours</b>	<b>Year</b>	<b>Month</b>	<b>Day</b>	<b>Hour</b>	<b>Minute</b>
*	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:**

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

**Criteria:**

In order for an occurrence of low engine oil level to be recorded in a data point and the count to increment by 1, an Alarm shall have been received at start up of machine



**High engine coolant temperature**

**High engine coolant temperature**

**Total number of occurrences = 0**

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (°C)
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

**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:**

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.



**Low Air filter pressure****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

**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.





**Starter overheating****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

**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 minutes since the latest alarm.

**Explanation:**

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



**High voltage****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	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

**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.



**Low voltage**

**Low voltage**

**Total number of occurrences = 1**

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme value
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
82	2008	1	17	14	24	20	0

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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.

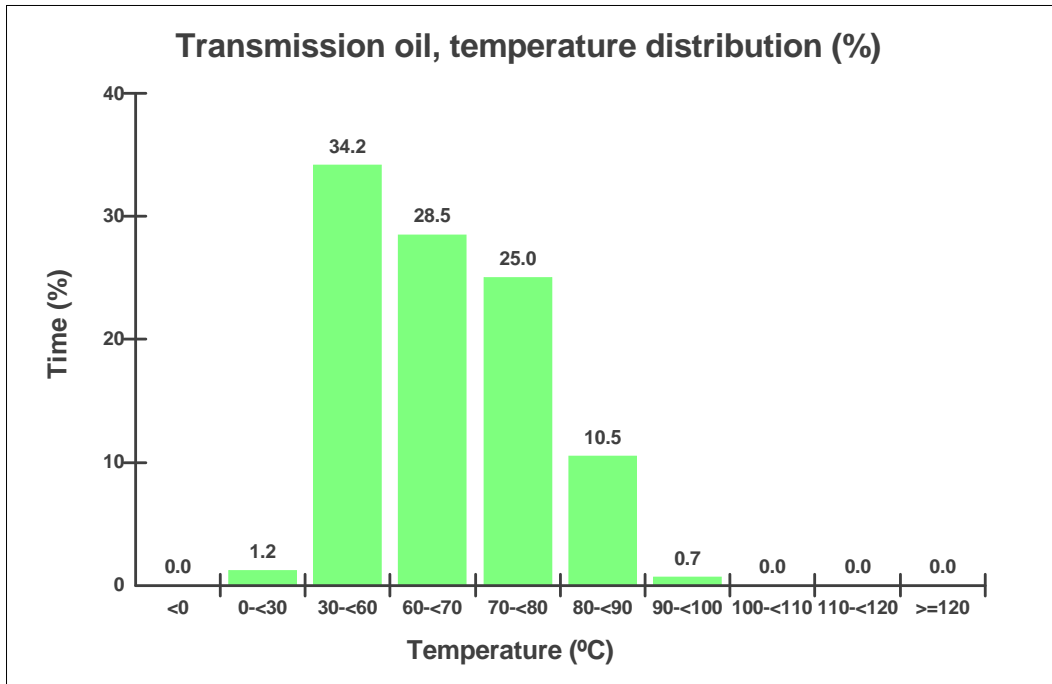
The duration is counted as long as the criteria is fulfilled.

**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.



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

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

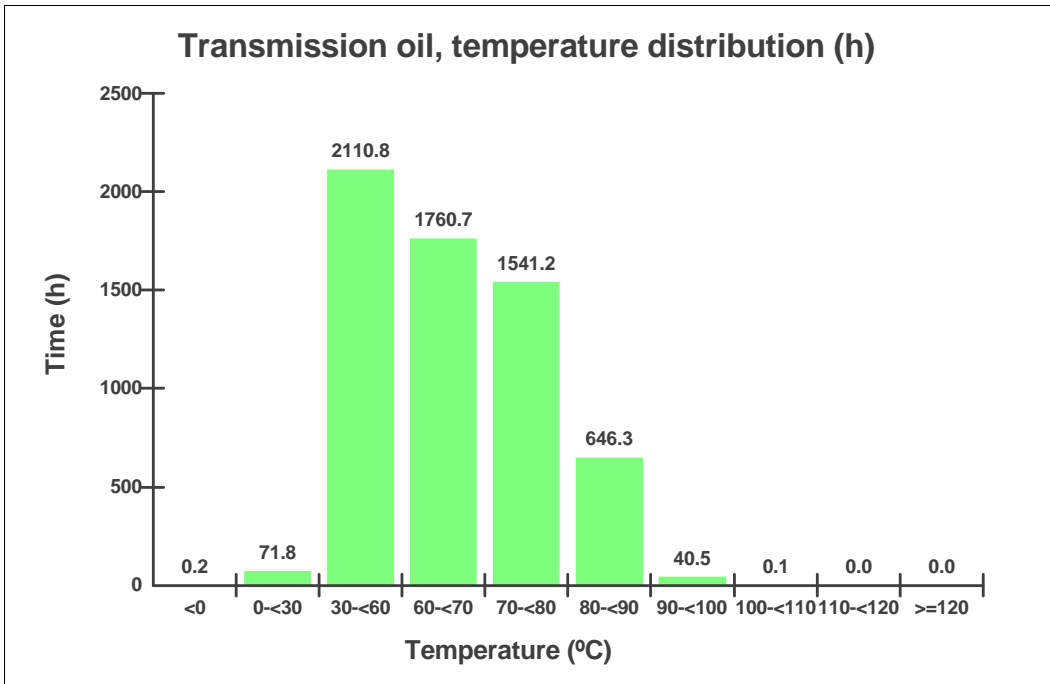
110-<120°C Temperatures from 110°C until 120°C

>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



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
- 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





**Transmission oil temperature high**

**Transmission oil temperature high**

**Total number of occurrences = 0**

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (°C)
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

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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 high transmission oil temperature to be recorded in a data point and the count to increment by 1, the high transmission oil temperature state must change from "normal" or "error" to "high." The event of high transmission oil temperature will end when the status changes from "high" back to "normal" or "error."



**Transmission oil pressure low**  
**Transmission oil pressure low**  
**Total number of occurrences = 2**

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (bar)
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	2007	8	10	21	4	2	2
<b>5937</b>	<b>2011</b>	<b>1</b>	<b>20</b>	<b>17</b>	<b>39</b>	<b>0</b>	<b>5</b>

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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.

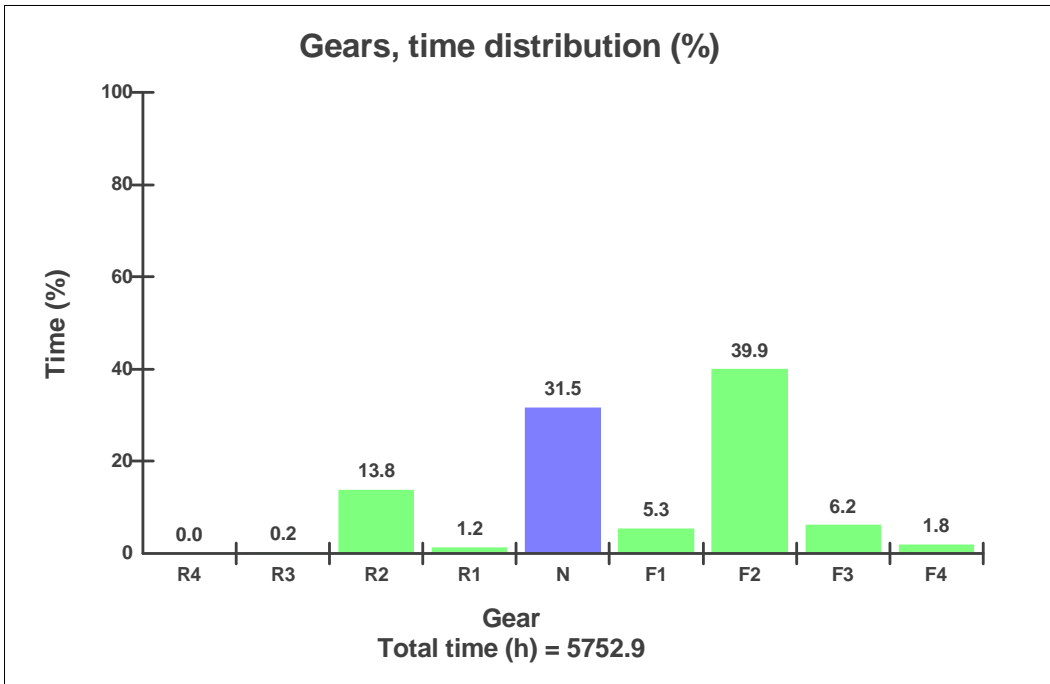
The duration is counted as long as the criteria is fulfilled.

**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."



**Definition:**

The graph describes the distribution of the usage of the different gears, expressed as percentage of total engine running time.

The sum of all bars = 100% = total engine running time.

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

**Explanation:**

Y-axis: Engine running time, in percent.

X-axis: Active gear.

Green bars:

R1 = First reverse gear

R2 = Second reverse gear

R3 = Third reverse gear

R4 =Fourth reverse gear

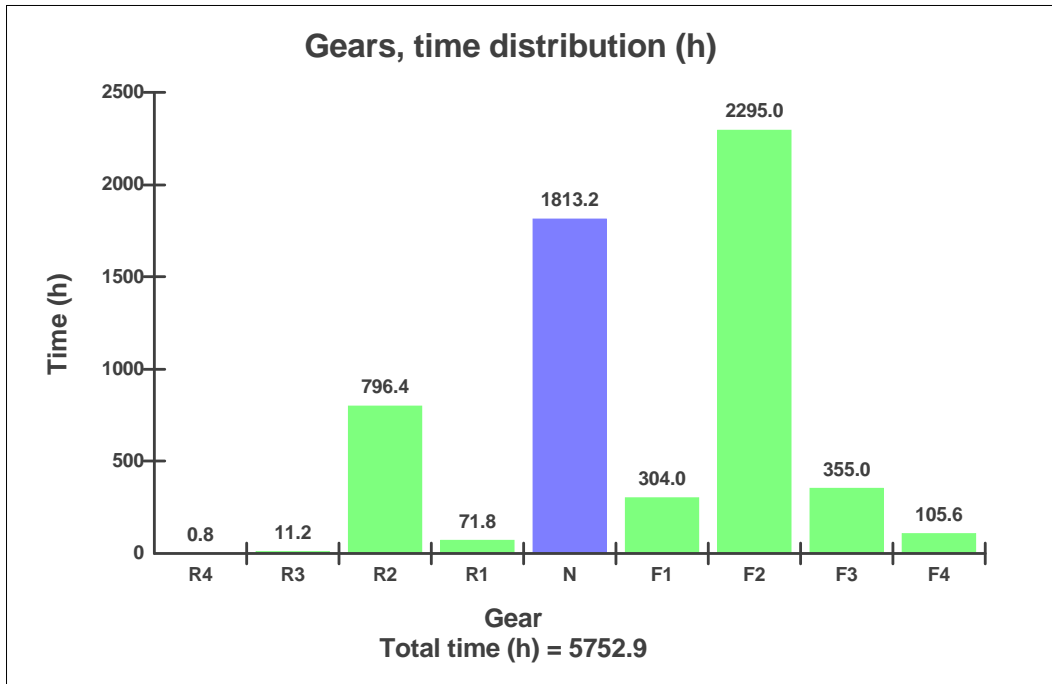
N = Neutral position

F1=First forward gear

F2=Second forward gear

F3=Third forward gear

F4=Fourth forward gear



**Definition:**

The graph describes the distribution of the usage of the different gears, expressed as total running time for each gear..

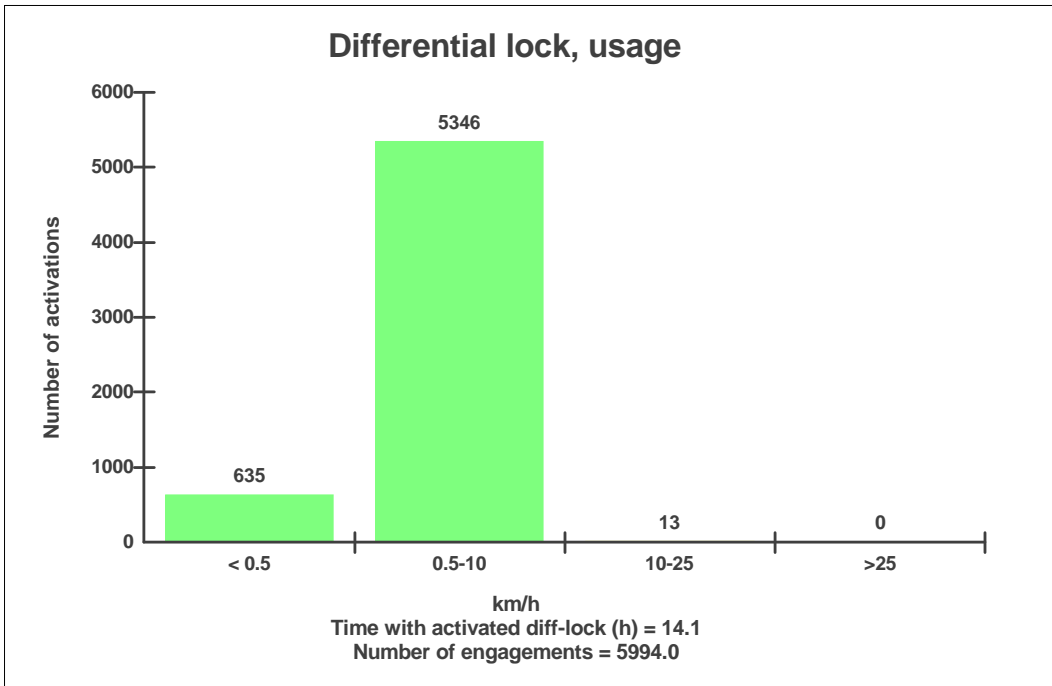
The sum of all bars = Total engine running time.

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

**Explanation:**

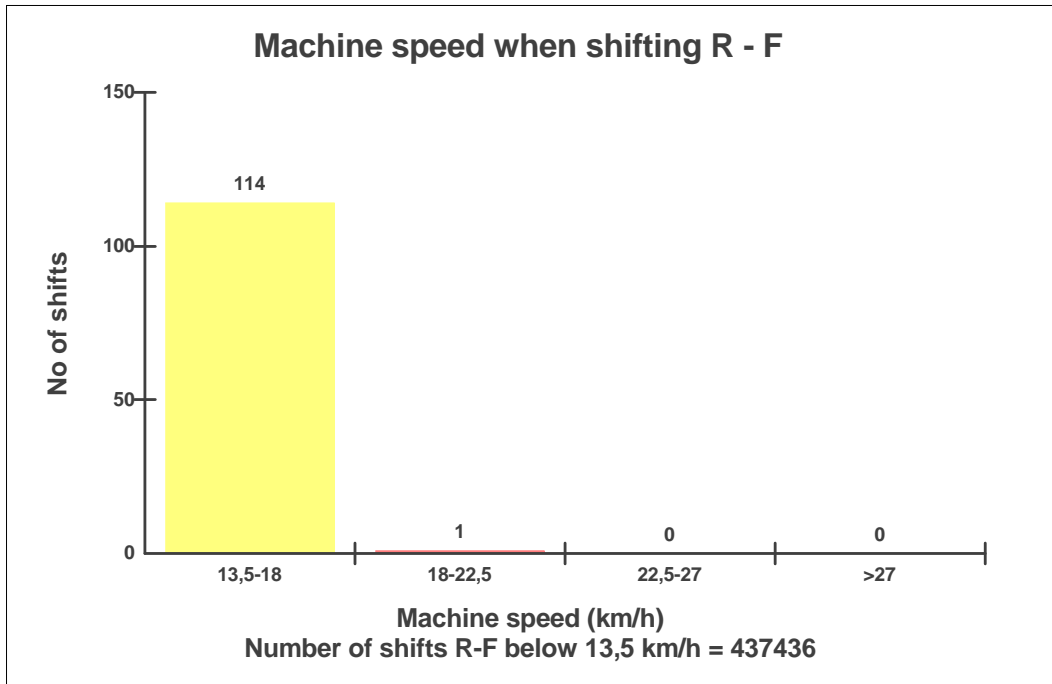
Y-axis: Engine running time, in hours.

X-axis: Active gear.



**Definition:**

The diagram show, number of times the differential lock has been engaged at each speed interval



**Definition:**

The graph shows the machine speed at direction shift, reverse to forward (R-F)

**Explanation:**

Y-axis: Number of shifts (reverse-forward)

X-axis: Machine speed in km/h.

Under the graph the total number of directional gear shifts R-F below 13,5 km/h is displayed.

Transmission wear depends on current speed when shifting direction. Less machine speed when shifting direction generally cause less wear on the transmission.

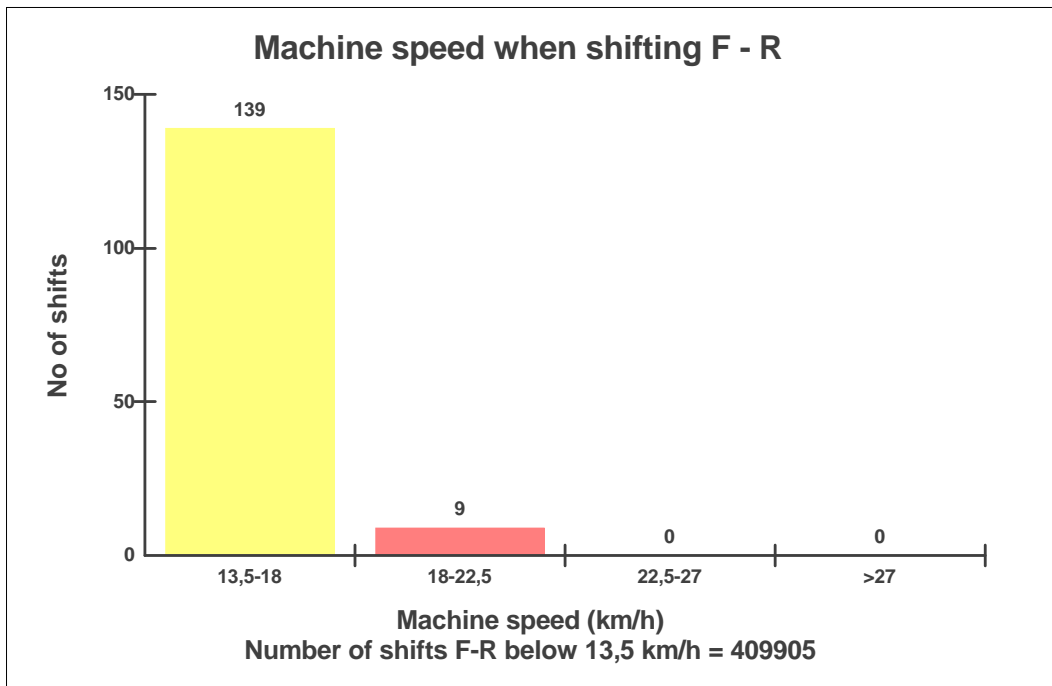
Yellow bar = From 13,5km/h to 18 km/h

Red bar = From 18km/h to 22,5 km/h

Red bar = From 22,5km/h to 27 km/h

Red bar = Over 27 km/h



**Definition:**

The graph shows the machine speed at direction shift, forward to reverse (F-R).

**Explanation:**

Y-axis: Number of shifts (forward to reverse)

X-axis: Machine speed in km/h.

Under the graph the total number of directional gear shifts F-R below 13,5 km/h is displayed.

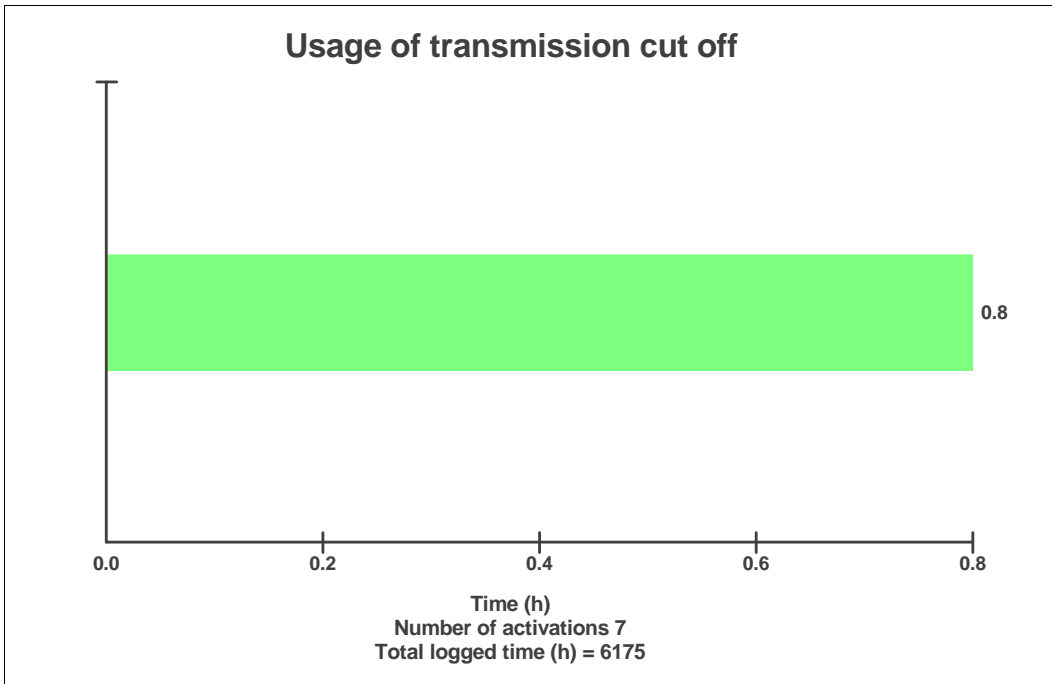
Transmission wear depends on current speed when shifting direction. Less machine speed when shifting direction generally cause less wear on the transmission.

Yellow bar = From 13,5km/h to 18 km/h

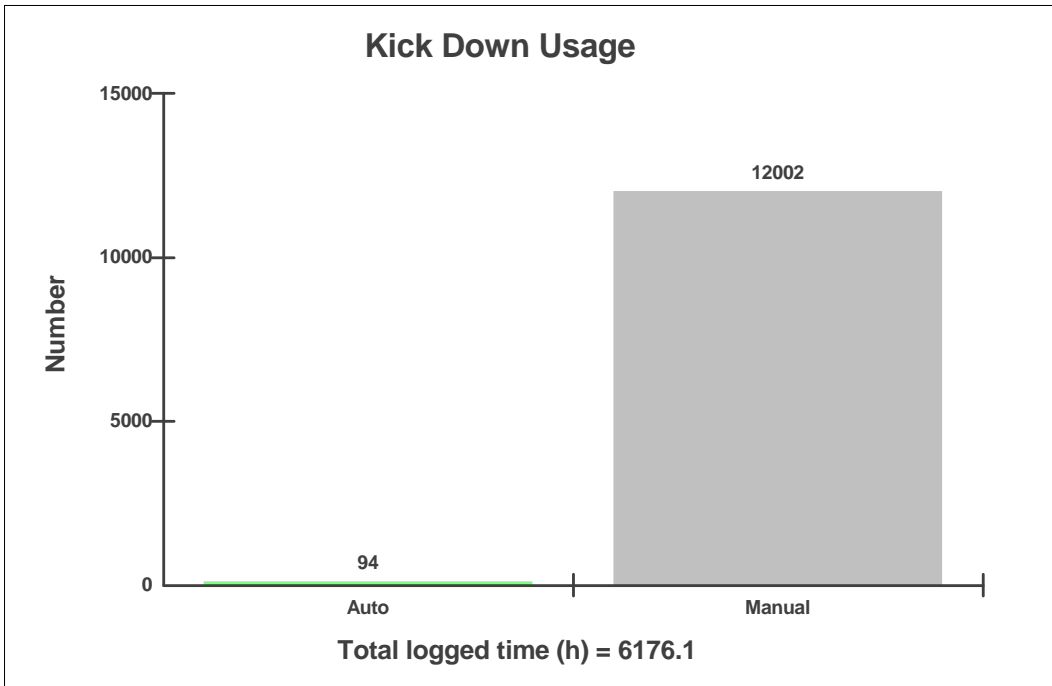
Red bar = From 18km/h to 22,5 km/h

Red bar = From 22,5km/h to 27 km/h

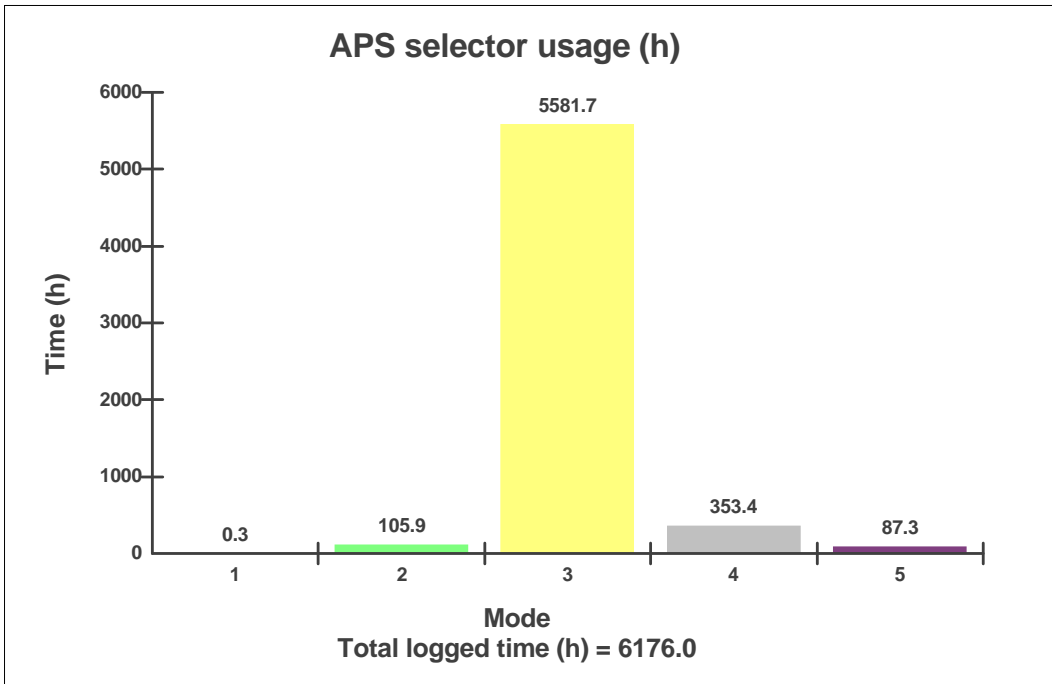
Red bar = Over 27 km/h



The diagram shows the time that the transmission cut off has been ON.  
Below the diagram total number of activations is presented.



The diagram shows the distribution between Auto and Manual activations of the Kick down function.



The diagram shows the time distribution for the different APS modes.

For WLO:

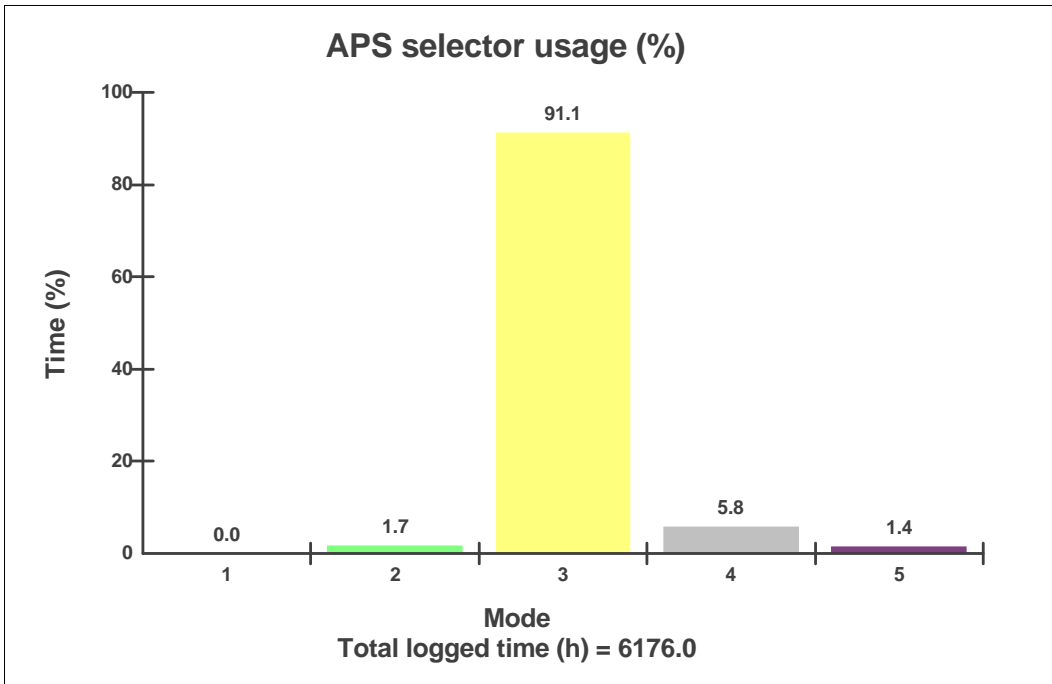
Mode1 = Light

Mode2 = Normal

Mode3 = Heavy

Mode4 = Auto

Mode5 = Service.



The diagram shows the time distribution for the different APS modes.

For WLO:

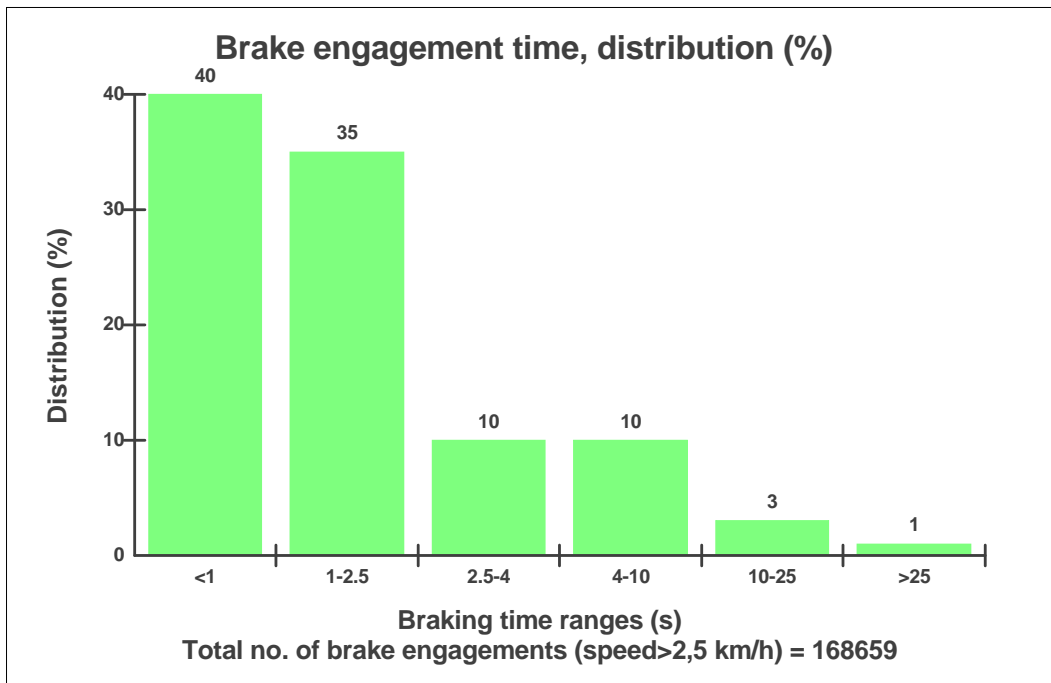
Mode1 = Light

Mode2 = Normal

Mode3 = Heavy

Mode4 = Auto

Mode5 = Service.

**Definition:**

The graph describes the duration of brake engagements: Distribution in percent.

This chart illustrates time with higher brake pressure than 5.0 bar (72.5 psi) and machine speed exceeding 2.5 km/h (1.55 mph).

The sum of bars=100% of brake engagements.

**Explanation:**

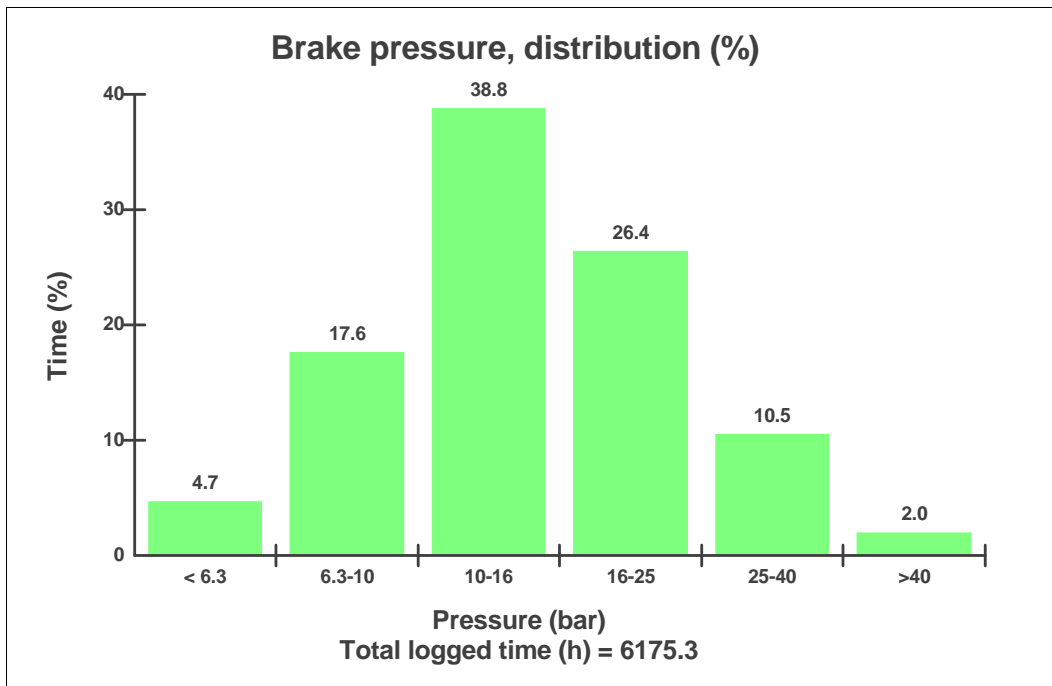
Y-axis: Percentage of times that the brake has been engaged in each class.

X-axis: Brake engagement time range in seconds.

The distribution of the bars throughout the ranges reflects the operator's way of handling the machine.

To get a greater understanding of how the brake is used also study the presentation "Brake pressure distribution".

Green bars = Brake engagement duration in separate ranges



**Definition:**

The graph describes the brake pressure distribution.

The sum of bars=100% of brake engagements.

**Explanation:**

Y-axis: Percentage of times that the brake has been engaged.

X-axis: Brake pressure distribution in bar.

The distribution of the bars throughout the ranges reflects the operator's way of handling the machine. A concentration in the lower ranges indicates that the machine is being operated correctly.

A concentration in the highest range indicates that the machine is operated hard and in an inefficient manner.

To get a greater understanding of how the brake is used also study the presentation "Brake engagement time".

Green bars = Brake pressure ranges

## AC High Pressure

## AC High Pressure

Total number of occurrences = 263

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (°C)
5456	2010	9	26	13	37	3	30
6165	2011	2	13	16	50	43	31
6175	2011	3	19	15	46	53	35
6175	2011	3	2	13	50	3	32
6175	2011	2	22	12	51	29	31
6175	2011	5	21	0	59	74	30
6175	2011	3	19	17	23	0	36
6176	2011	3	11	14	8	21	33
6176	2011	2	22	15	53	52	35
6176	2011	2	22	14	7	44	32
6177	2011	2	22	17	27	34	34
6177	2011	2	22	17	10	41	35
6177	2011	3	29	16	10	2	33
6178	2011	3	11	15	55	42	35



**AC High Pressure**

**AC High Pressure**

**Total number of occurrences = 263**

<b>Op hours</b>	<b>Year</b>	<b>Month</b>	<b>Day</b>	<b>Hour</b>	<b>Minute</b>	<b>Duration (sec)</b>	<b>Extreme (°C)</b>
6178	2011	3	1	15	3	34	35
6178	2011	2	14	15	59	33	30
6179	2011	3	11	16	57	43	35
6179	2011	2	14	16	16	18	30
6179	2011	2	15	16	22	33	31
6180	2011	3	11	17	29	44	35

**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.

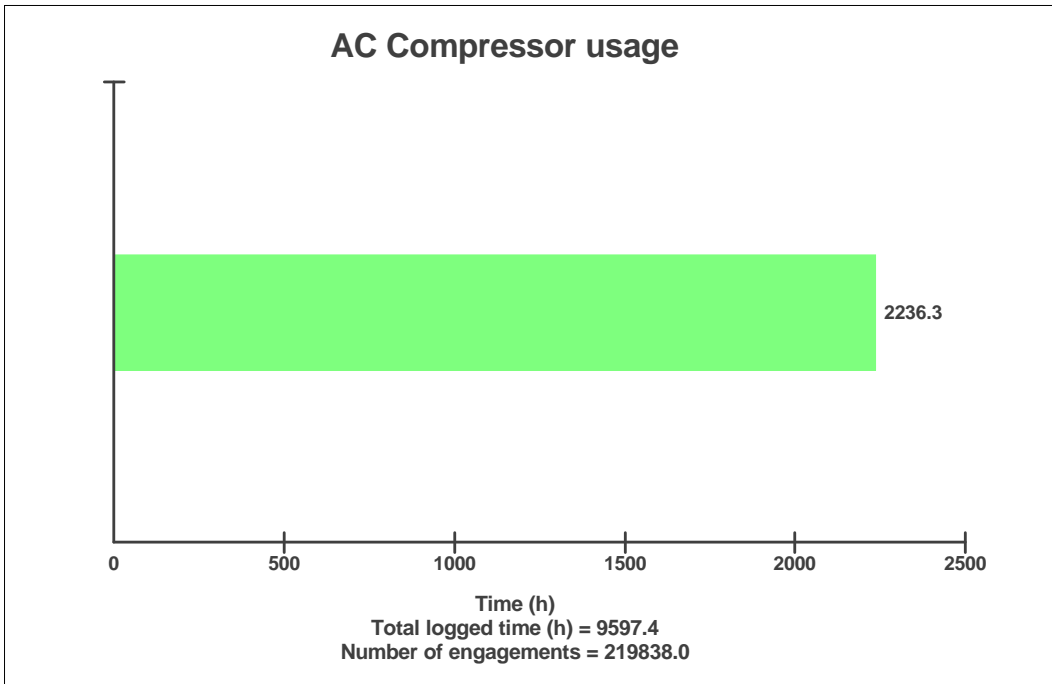
The duration is counted as long as the criteria is fulfilled.

**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.



**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.



**AC Boiling Protection**  
**AC Boiling Protection**  
**Number of engagements = 0**

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (°C)
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

**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.

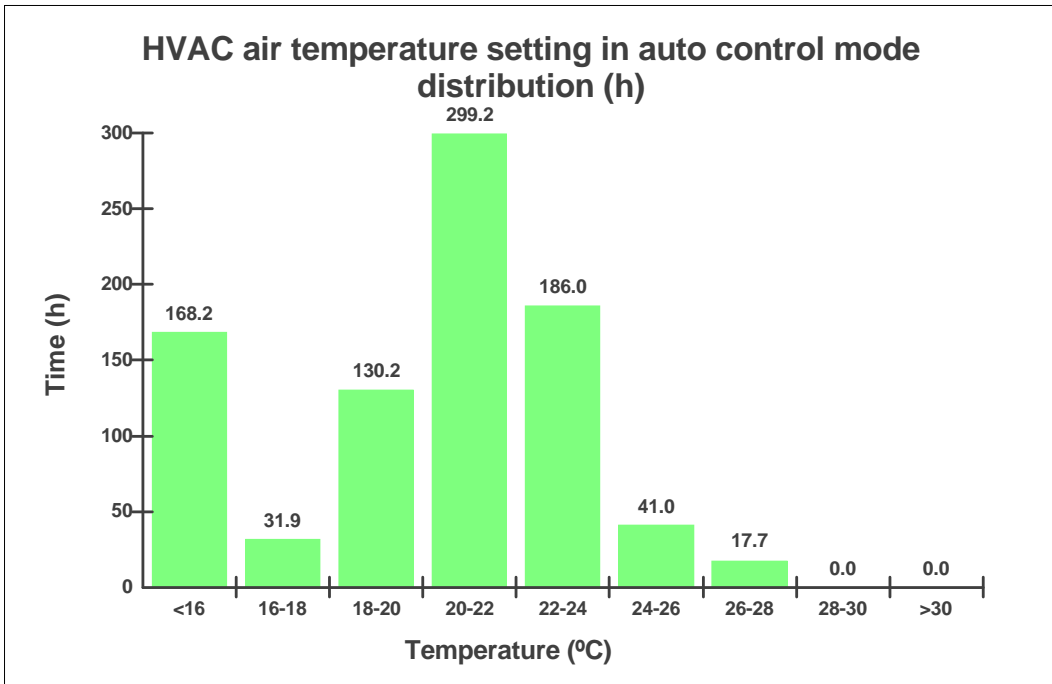
The duration is counted as long as the criteria is fulfilled.

**Extreme value:**

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

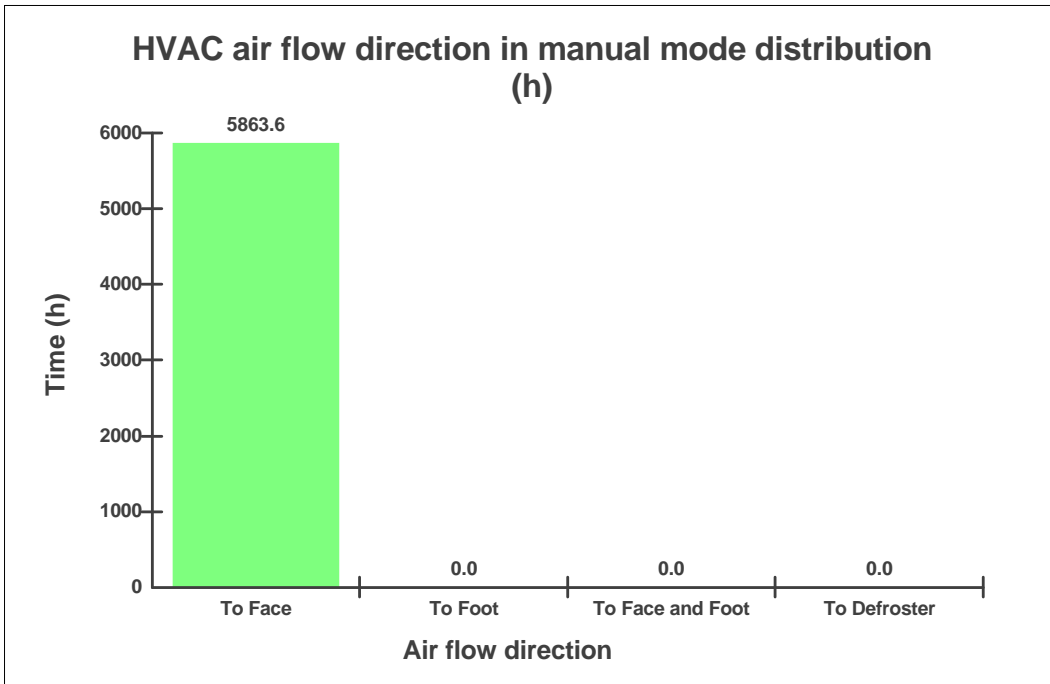
**Criteria:**

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



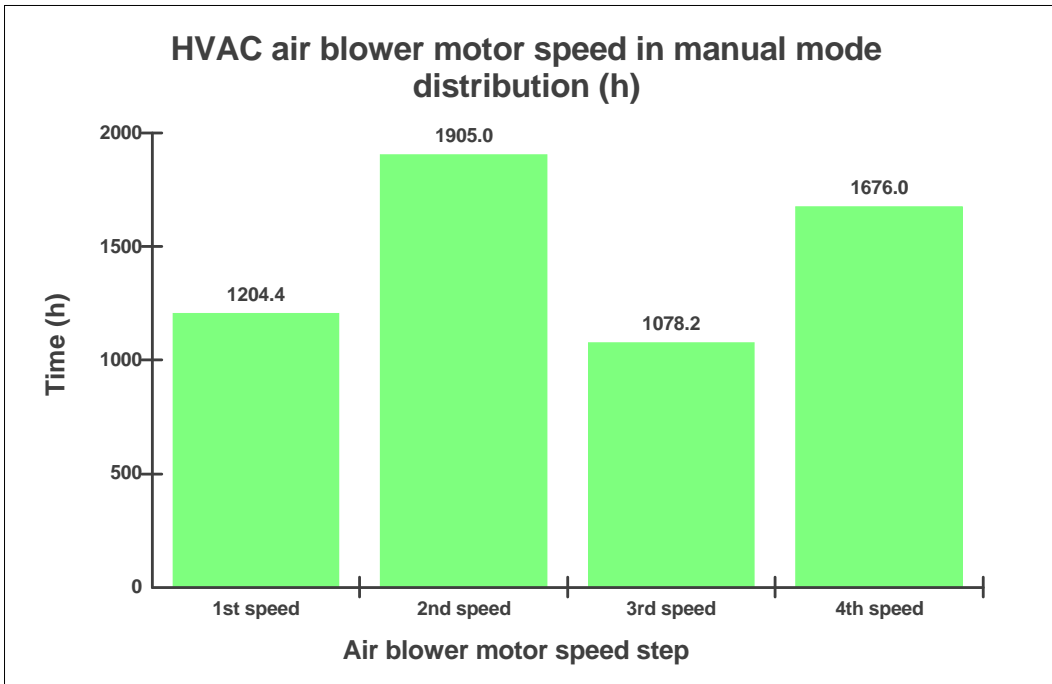
**Definition:**

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



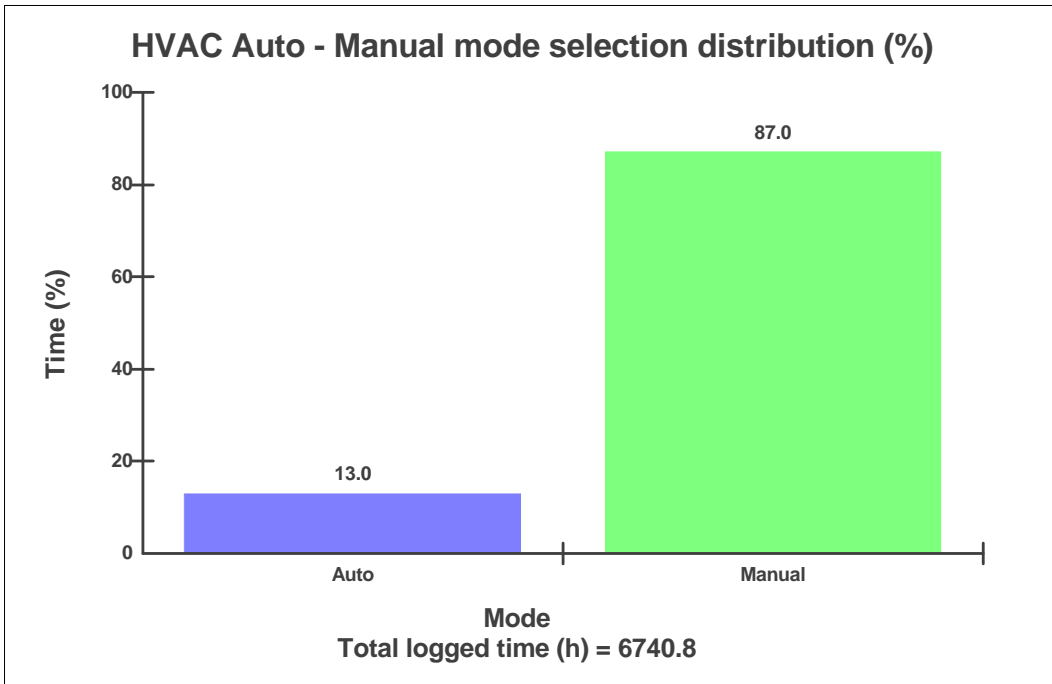
**Definition:**

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



**Definition:**

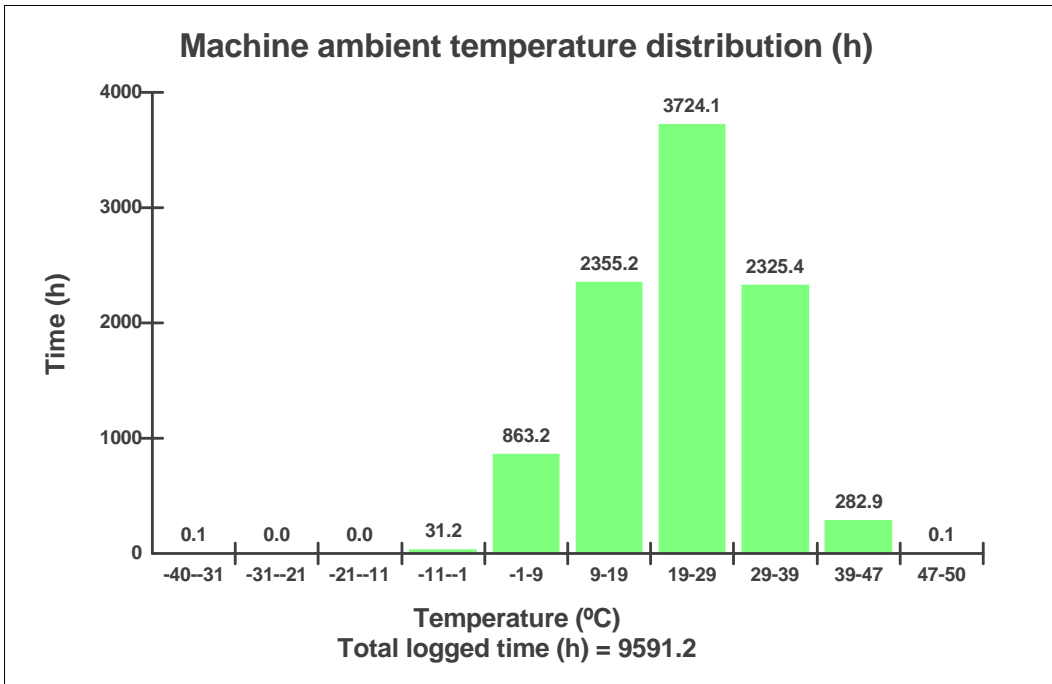
The diagram describes air blower motor speed distribution for HVAC manual control mode established by operator in Cabin.



**Definition:**

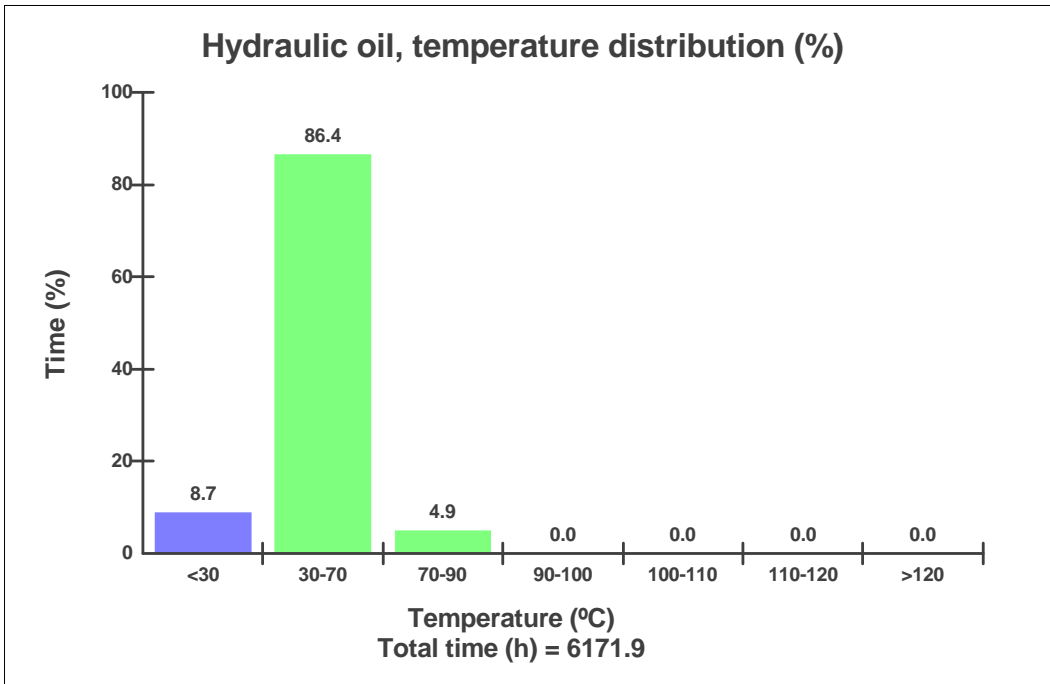
The diagram describes auto-manual mode selection distribution of HVAC system in machine while it Works. The share of each mode compared to Total time of HVAC operation is displayed.





**Definition:**

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



**Definition:**

The graph describes hydraulic oil temperature distribution.

The sum of bars = Engine total running time.

Under the graph the total engine running time is displayed.

The value of each bar presented above the bars with one decimal.

**Explanation:**

Y-axis: Engine running time in percent of time.

X-axis: Oil temperature distribution in °C.

Blue bar = Below 30°C, warming-up phase.

Green bar = From 30° C to 70°C, normal working temperature

Green bar = From 70° C to 90°C, normal working temperature

Green bar = From 90° C to 100°C, normal working temperature

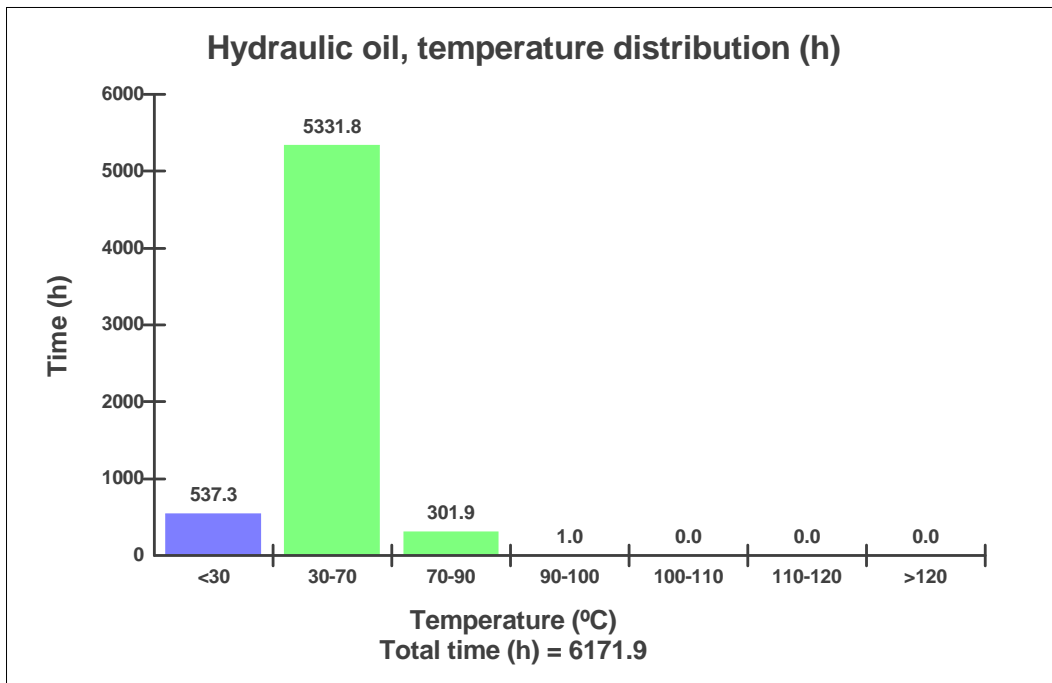
Yellow bar = From 100° C to 110°C, high working temperature

Red bar = From 110°C to 120°, To high temperature

Red bar = Over 120°, Alarm

Temperature in this area is not normal.

Temperature over 120°C may cause severe damages on the hydraulic system.

**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.



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

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (°C)
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

**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 hydraulic oil temperature , is active.



**Low Hydraulic Oil Level****Low Hydraulic Oil Level**

Total number of occurrences = 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

**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

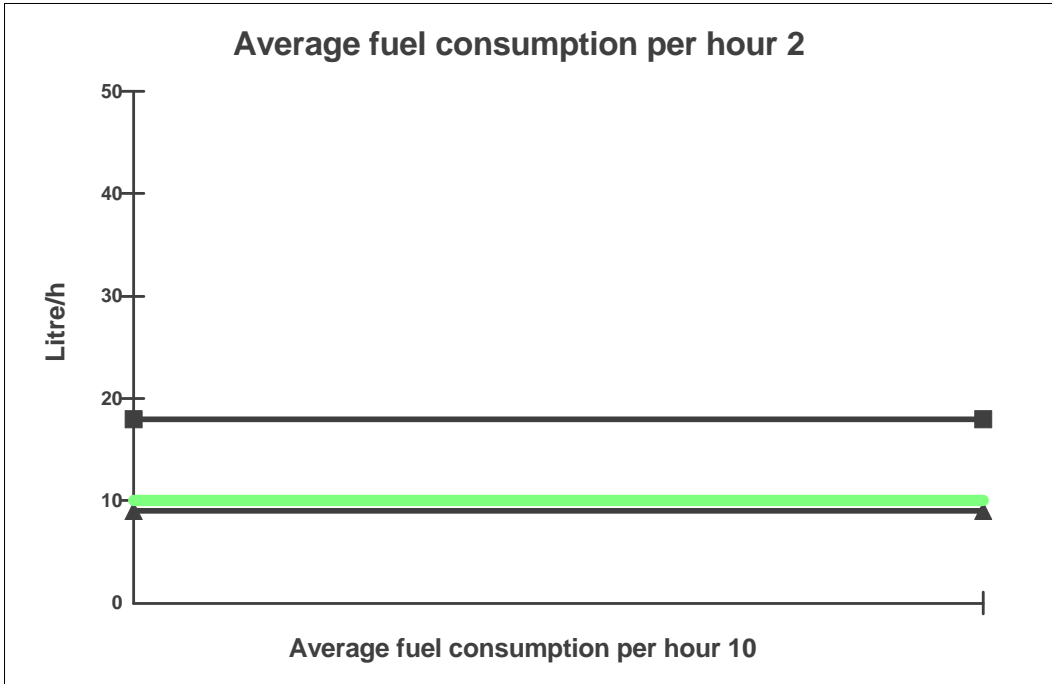
**Duration:**

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 a registration, is that the Alarm signal for low hydraulic oil level is active and that the diesel engine is running.



No explanation available!