VOLVO CONSTRUCTION EQUIPMENT

MATRIS REPORT

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

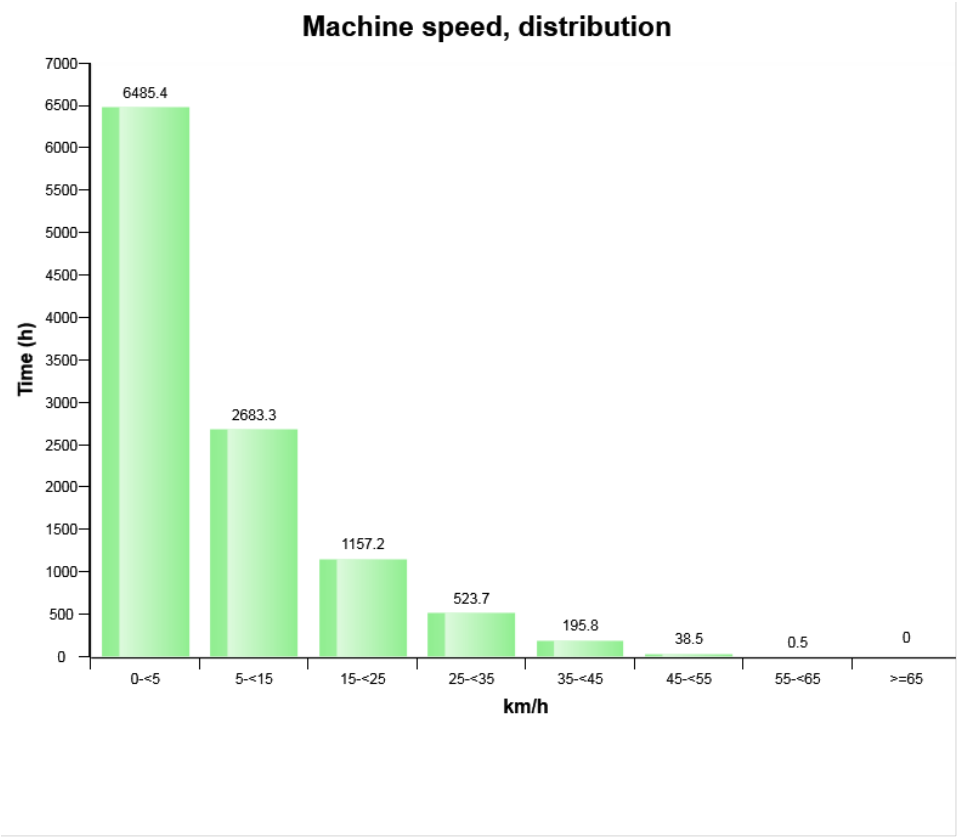
Company name	Dealer	Report Issuer
aaron		
Contact name	**Technician**	**Primary Application**
Aaron Golborne	PTT 2.05	Earth moving construction
Site	**Workorder**	**Ground Condition**

MATRIS Reading, Summary / Recommendation

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

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

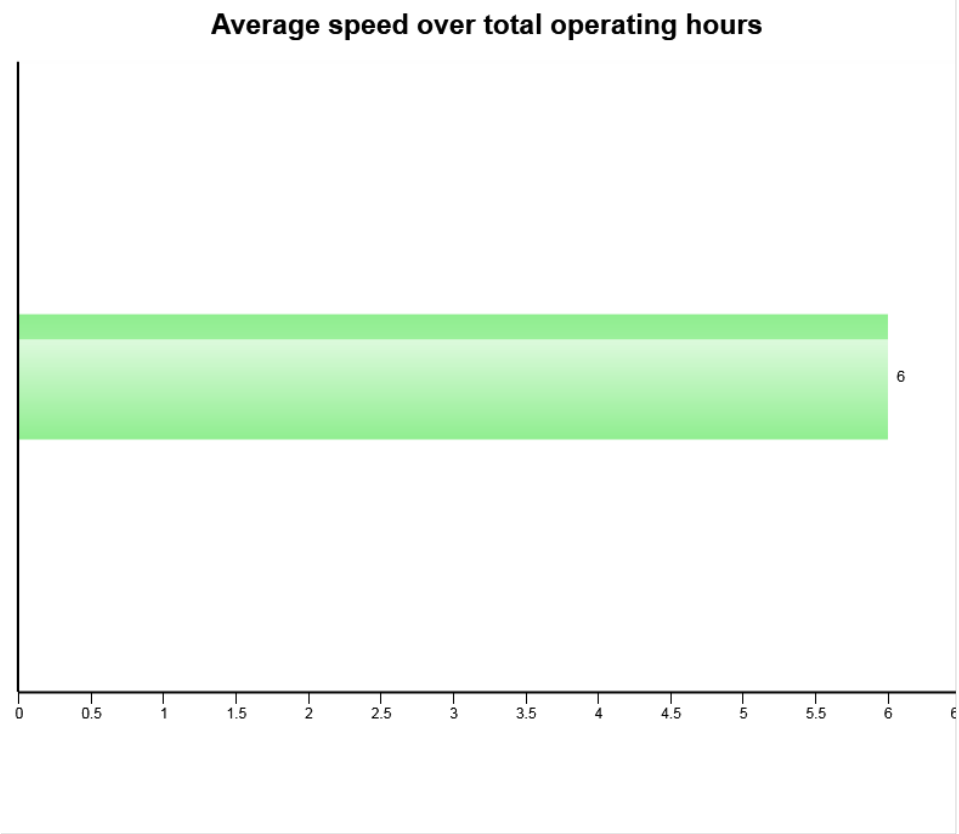
Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



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

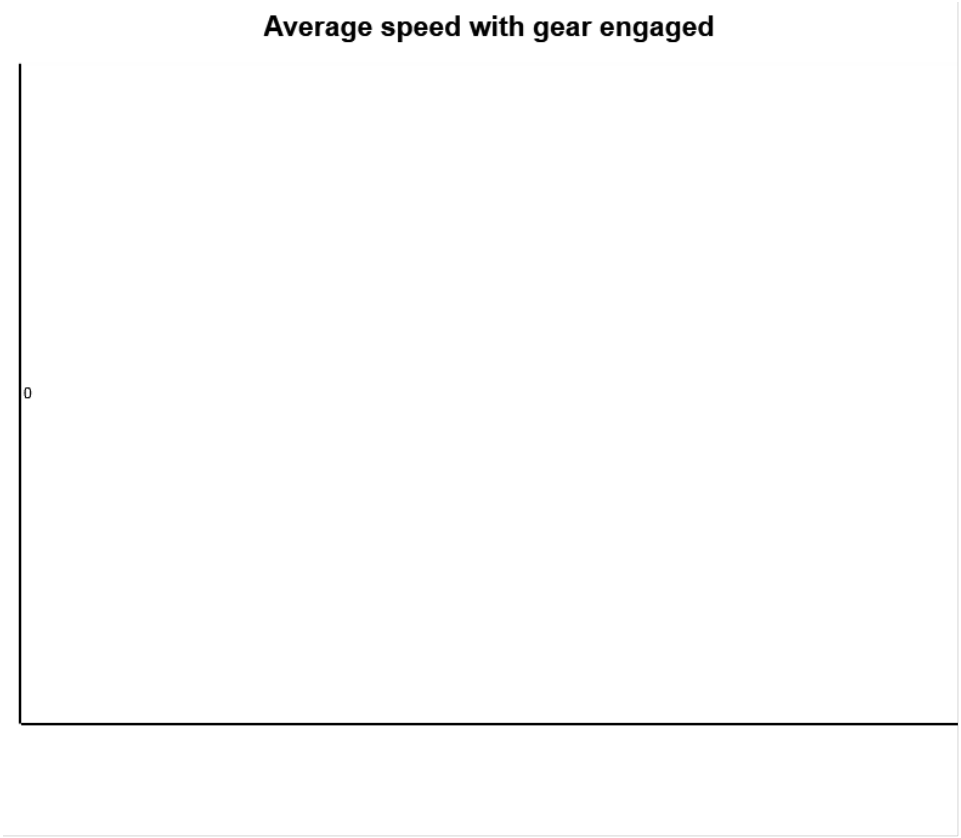
Note that the interval 0-5 km/h includes machine not in motion. If the machine has been operated above 55 km/h there is a risk of engine over speed.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



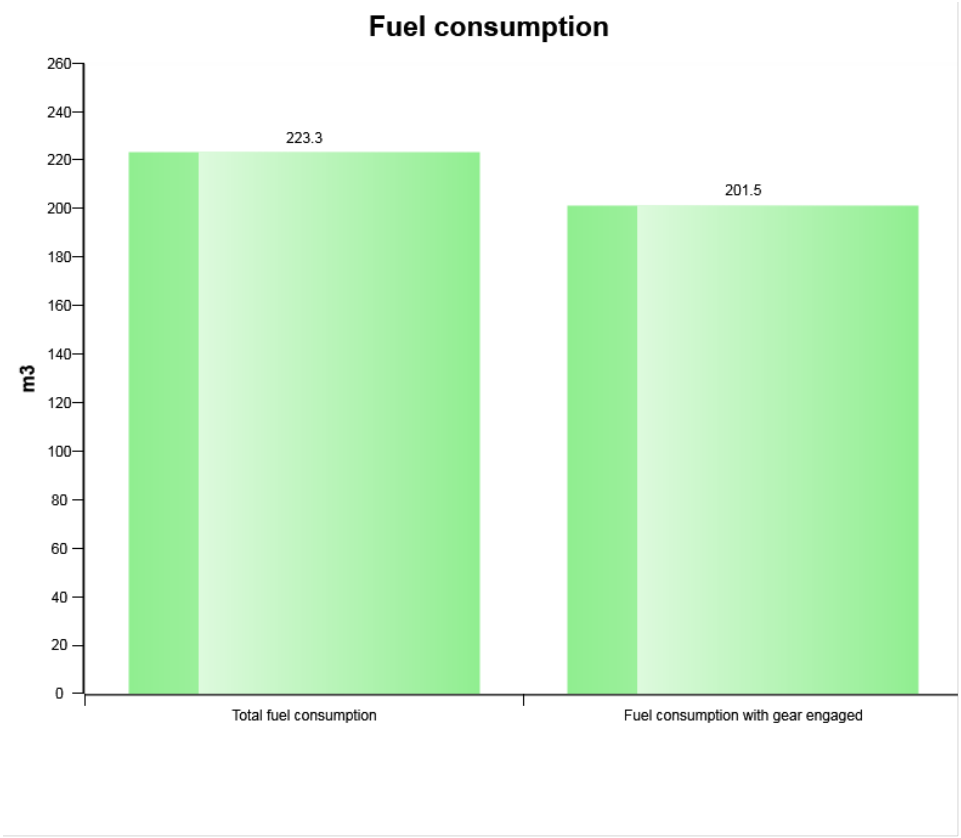
The diagram shows the machines average speed based on the total operating hours.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



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

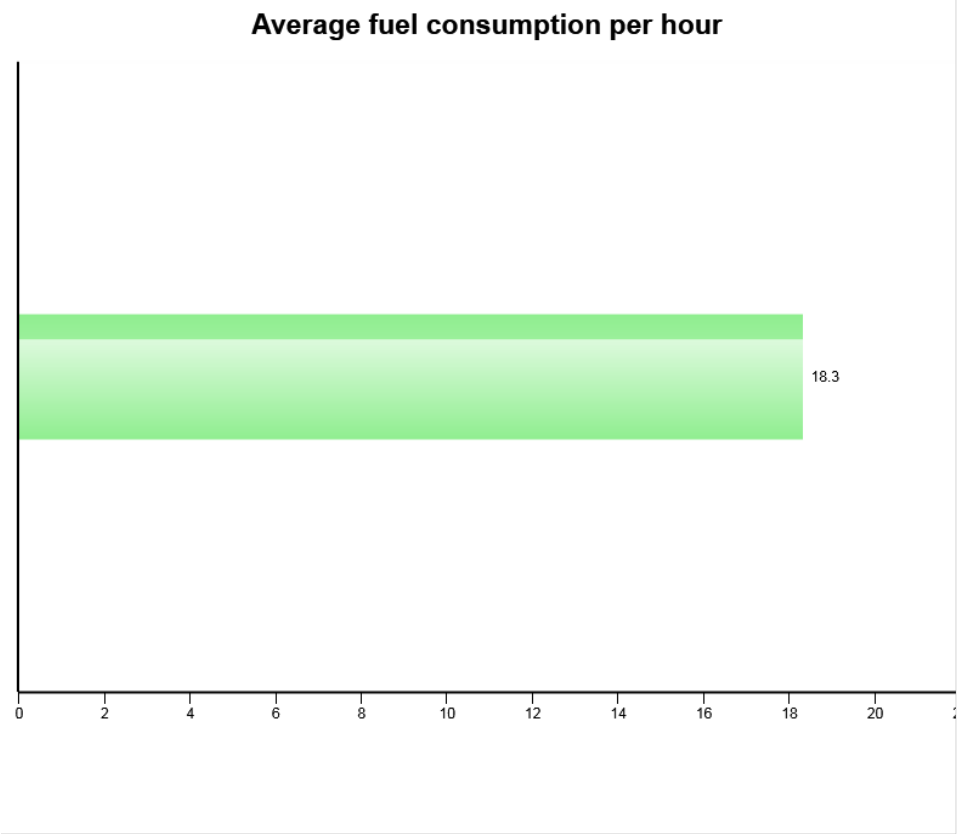
Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



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

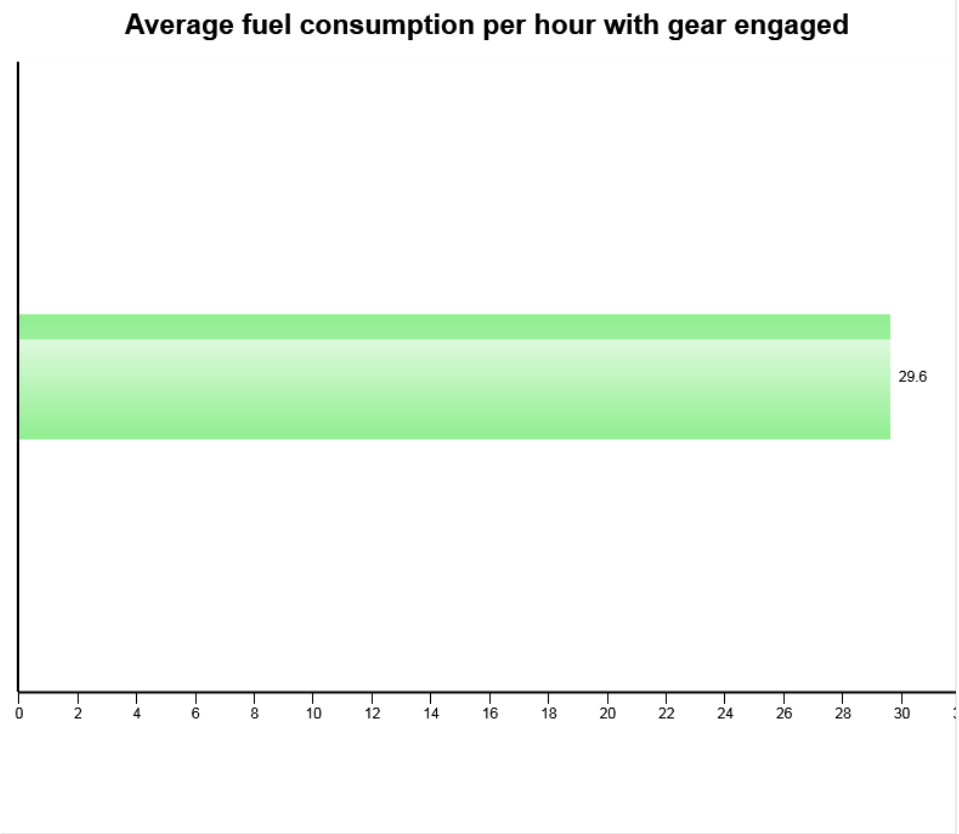
Large differences between the bars can indicate that the machine is not fully utilized. This can depend on long waiting-times.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



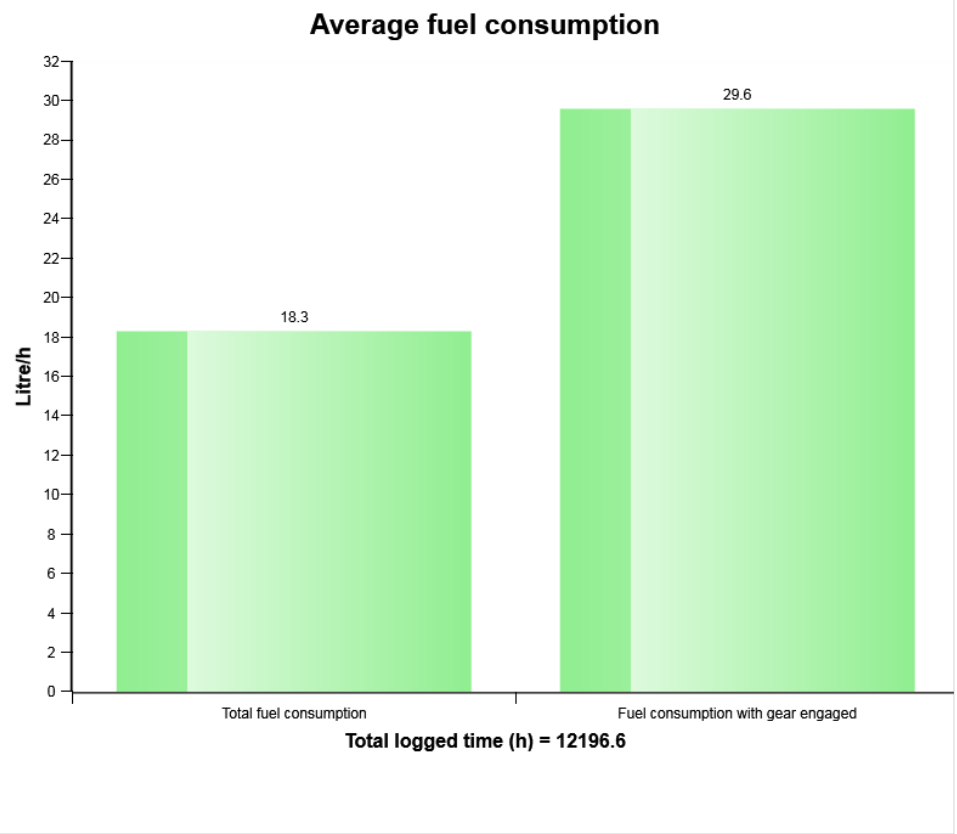
The diagram shows the average fuel consumption based on total operating hours.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



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

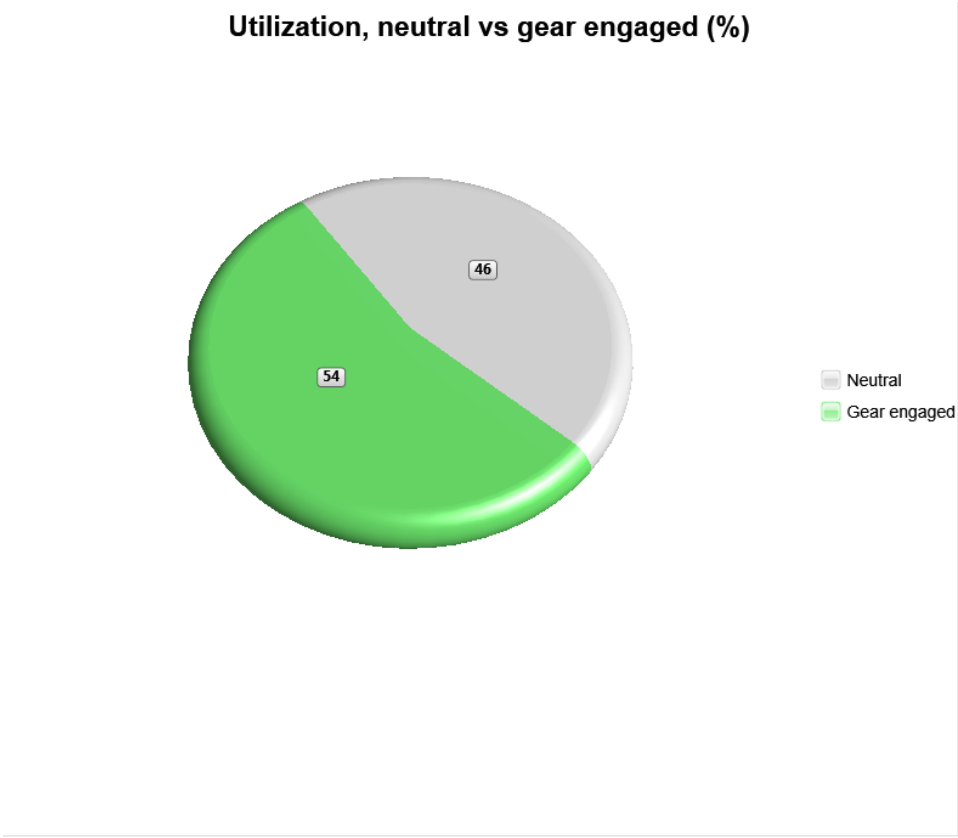
Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



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.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

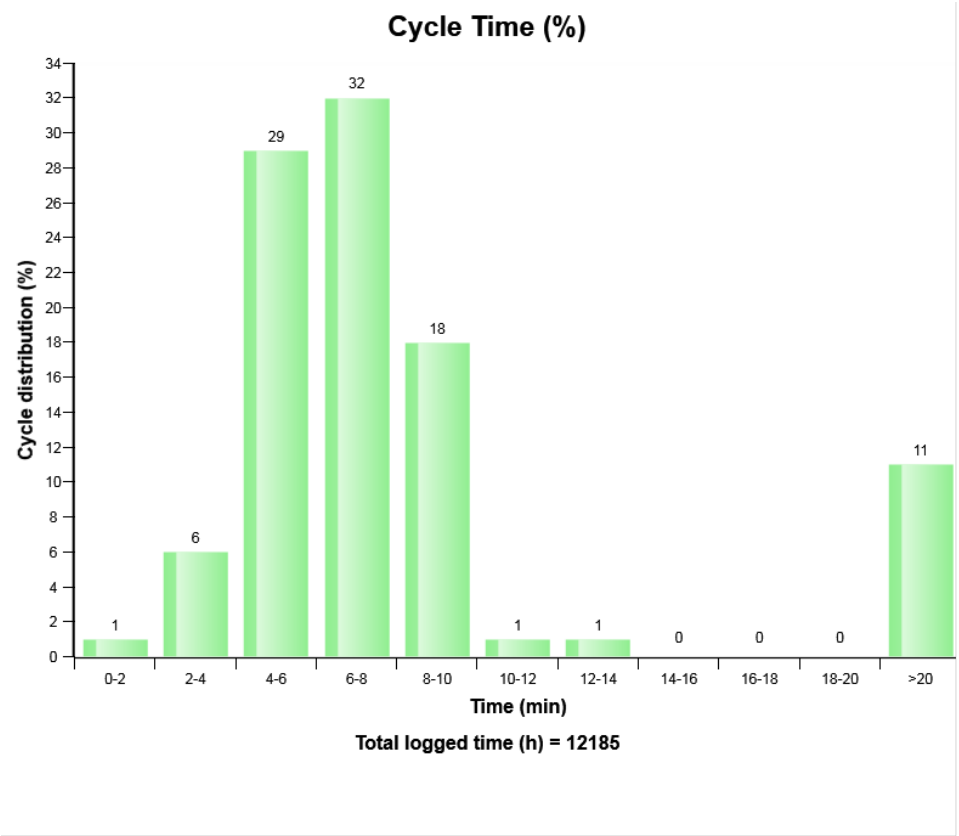


The diagram shows a simplified presentation of the machines utilization based on the relation between time in gear and time in neutral. The "Gear engaged " includes both forward and reverse gears.

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.

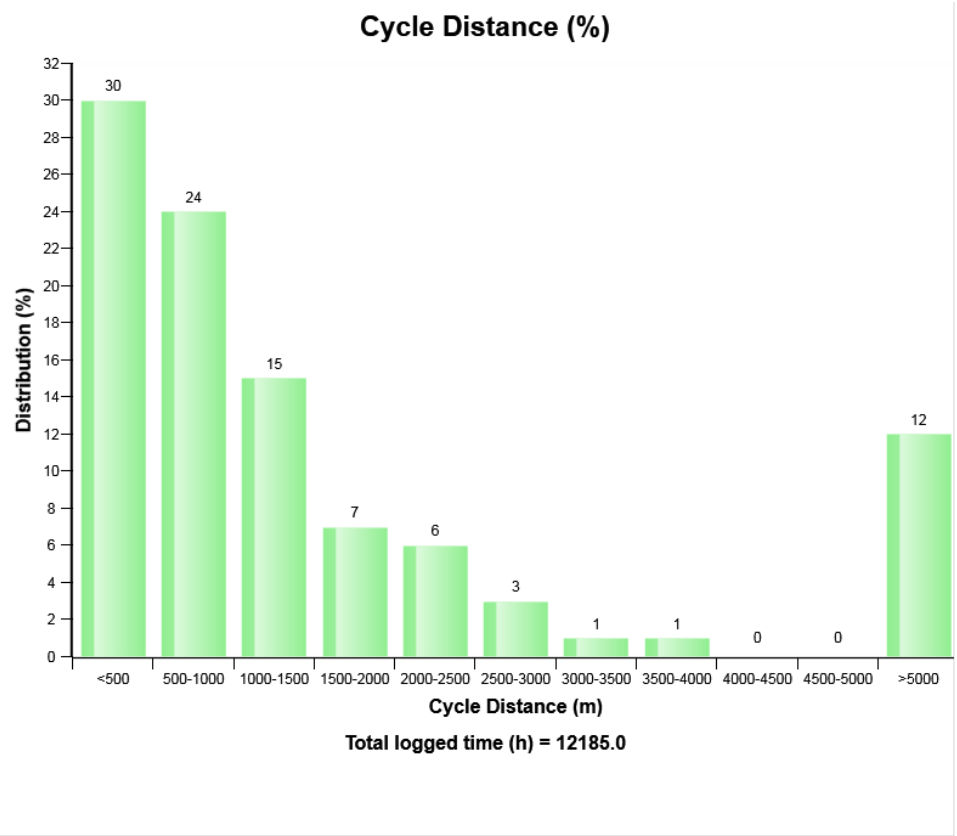
High percentage of neutral time may indicate that the machine is underused due to e.g. under dimensioned loading tool or oversized hauler fleet

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



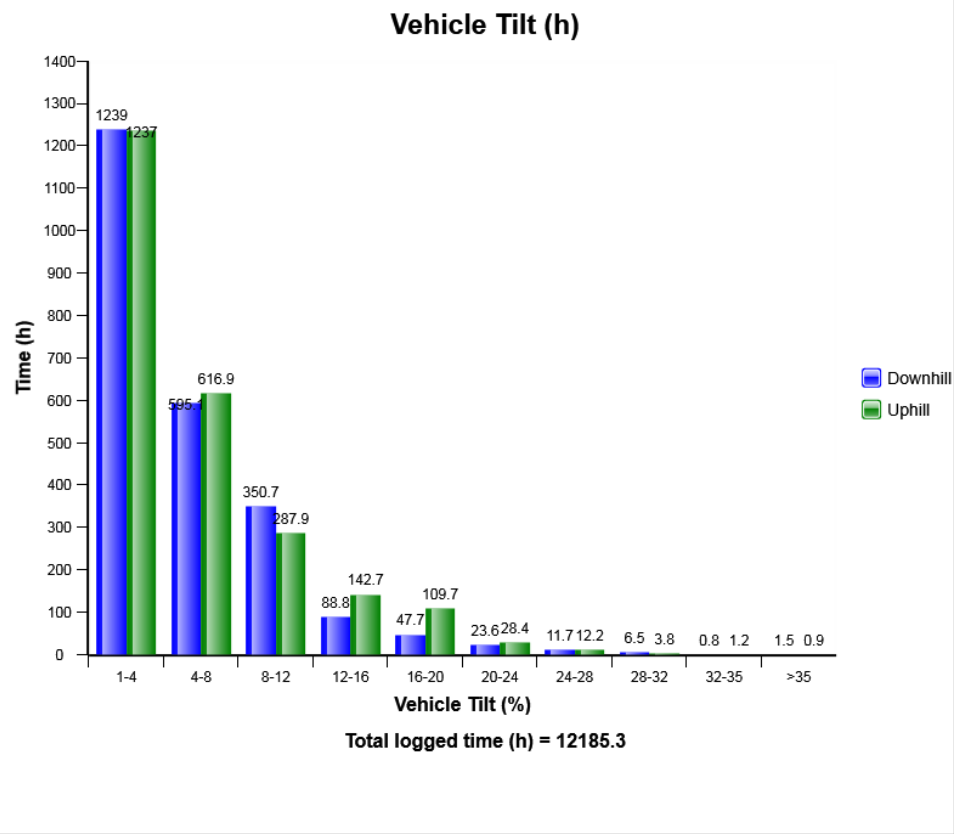
The diagram shows the distribution of the working cycle time . The time between 2 valid cycle registrations.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



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
A30D	14941	12183.85	31/05/2020



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
A30D	14941	12183.85	31/05/2020

Tip Lever in Hold
Total number of occurences = 29507

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (km/h)
I	12182	2020	5	20	20	0	200	4
H	12182	2019	8	4	11	32	128	14
F	12183	2020	5	21	17	2	28	9
G	12183	2020	5	21	17	11	53	3
J	12183	2020	5	20	20	4	58	9
B	12183	2020	5	21	11	26	25	4
A	12183	2020	5	20	20	7	76	7
C	12183	2020	5	21	16	18	99	22
E	12183	2020	5	21	16	57	217	22
D	12183	2020	5	21	16	55	29	6

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 :

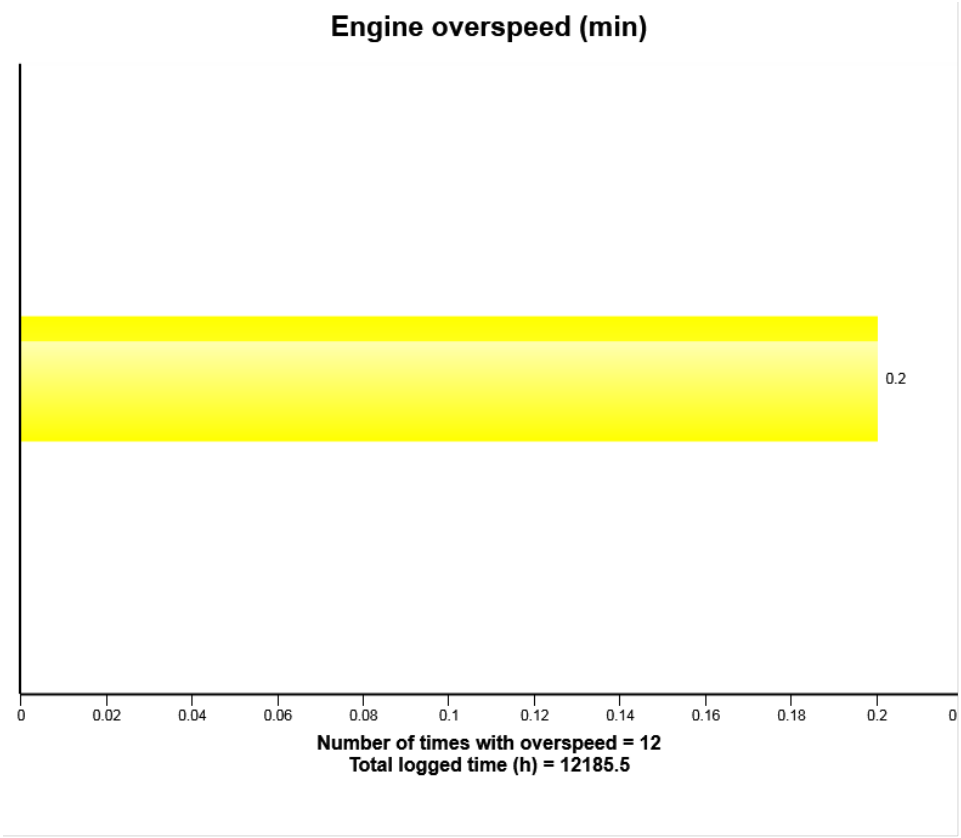
The extreme value column displays the most extreme value during the event.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

Criteria :

If the body is down and the gearshift lever is moved out of "Neutral" with "Tipping lever" in hold an orange central warning is shown after 10 seconds. This warning will be recorded as one occurrence.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



The diagram shows how long time in minutes that the engine-speed has exceeded 2200 rpm for A35E or 2100 rpm for A40E. Information regarding how many times the engine speed has been above 2200 or 2100 rpm is noted below the diagram.

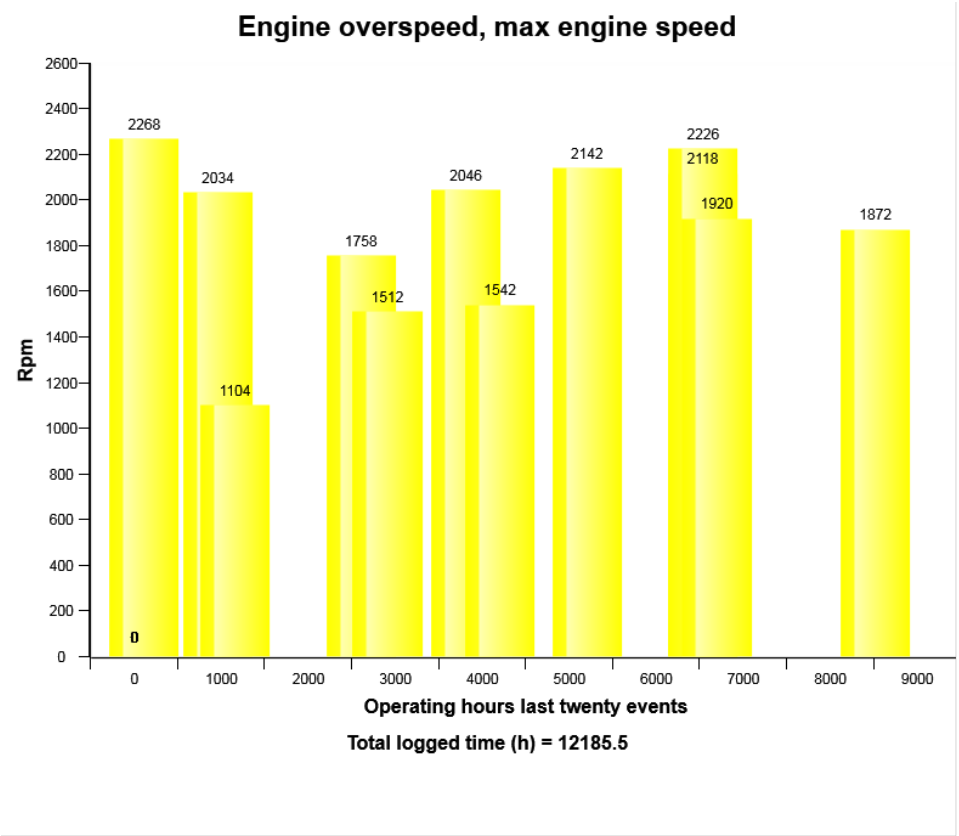
Over-speeding is always damaging. If the engine speed has exceeded 2200 or 2100 rpm several times, this indicates that over-speeding has occurred during short time periods. However, it is more serious if over-speeding has continued for a longer time at a few occasions as this may indicate continuous over-speeding, for example, during operation on downhill grades.

Over-speeding may cause serious damage to the engine and transmission.

Check to see if the machine has been operated with the Hold function activated. Operation with activated Hold function increases the risk for over-speeding during operation on downhill grades.

Note that red central warning is shown in cab over 2300 rpm for A35E and 2200 rpm for A40E. At 2200 or 2100 rpm in 2 seconds orange central warning is shown. Overspeeding can also be added if the engine is speeded when cold, check "Engine overspeed, max engine speed"

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



The diagram shows the maximum engine-speed the last twenty times the engine have exceeded 2200 rpm (A35E) or 2100 rpm (A40E) (over-speed)

Over-speeding is always damaging. The higher over-speed, the more damaging it is to the engine. If the same over-speed occurs with regular intervals it can indicate that the machine is not properly operated.

Check to see if the machine has been operated with the Hold function activated. Operation with activated Hold function makes it easier for over-speeding to occur during operation on downhill grades.

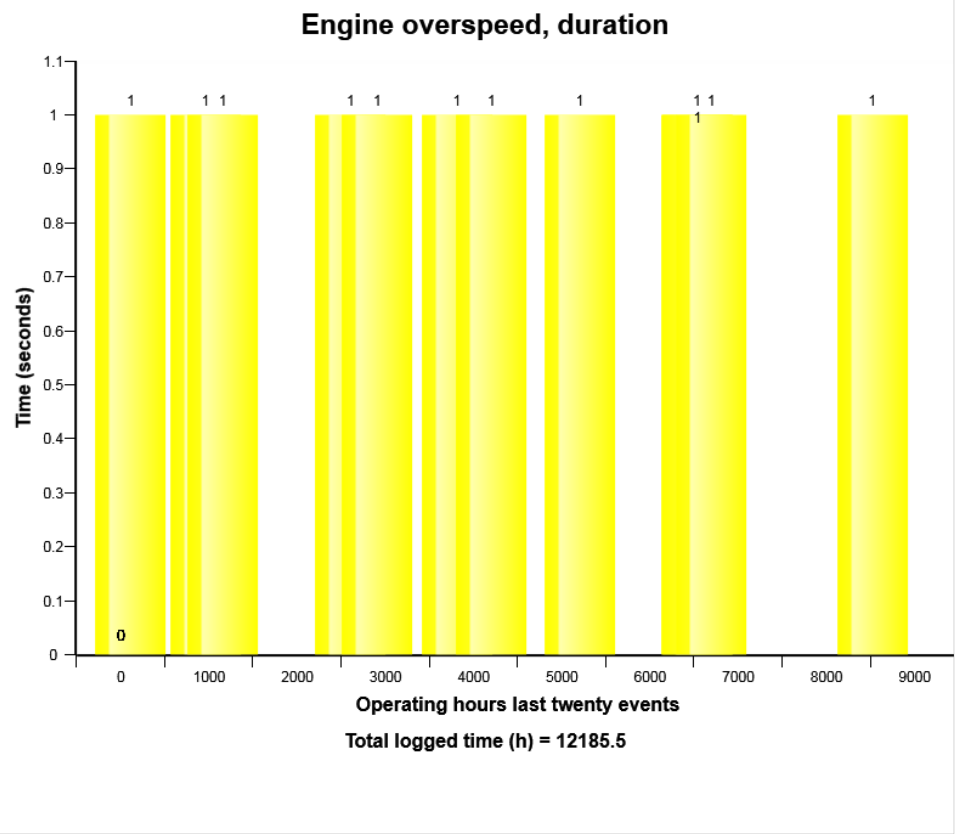
To see the duration of the over-speed on each interval check " Engine overspeed, duration"

Over-speeding may cause serious damage to the engine and transmission

Note that red central warning is shown in cab over 2300 rpm (A35E) or 2200 rpm (A40E). At 2200 rpm (A35E) or 2100 rpm (A40E) in 2 seconds orange central warning is shown.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



The diagram shows how long time in seconds that the engine speed has exceeded 2200 rpm (A35E) or 2100 rpm (A40E) (over-speed) the last twenty times related to the total operating hours when it occurred.

Over-speeding is always damaging. The longer the over-speed, the more damaging it is to the engine. If the same over-speed occurs with regular intervals it can indicate that the machine is not properly operated

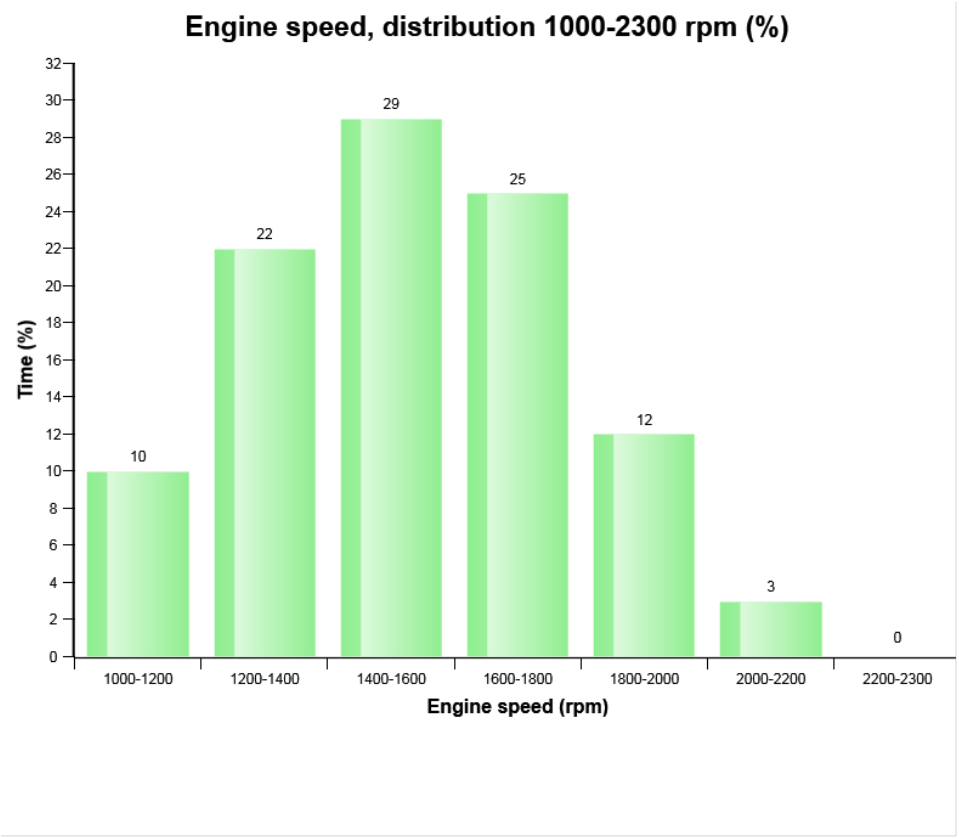
Check to see if the machine has been operated with the Hold function activated. Operation with activated Hold function makes it easier for over-speeding to occur during operation on downhill grades.

To see the maximum engine-speed on each interval check " Engine overspeed, max overspeed"

Over-speeding may cause serious damage to the engine and transmission.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



The diagram shows the percentage distribution that the engine has operated in various engine speed ranges between 1000 and 2300 rpm.

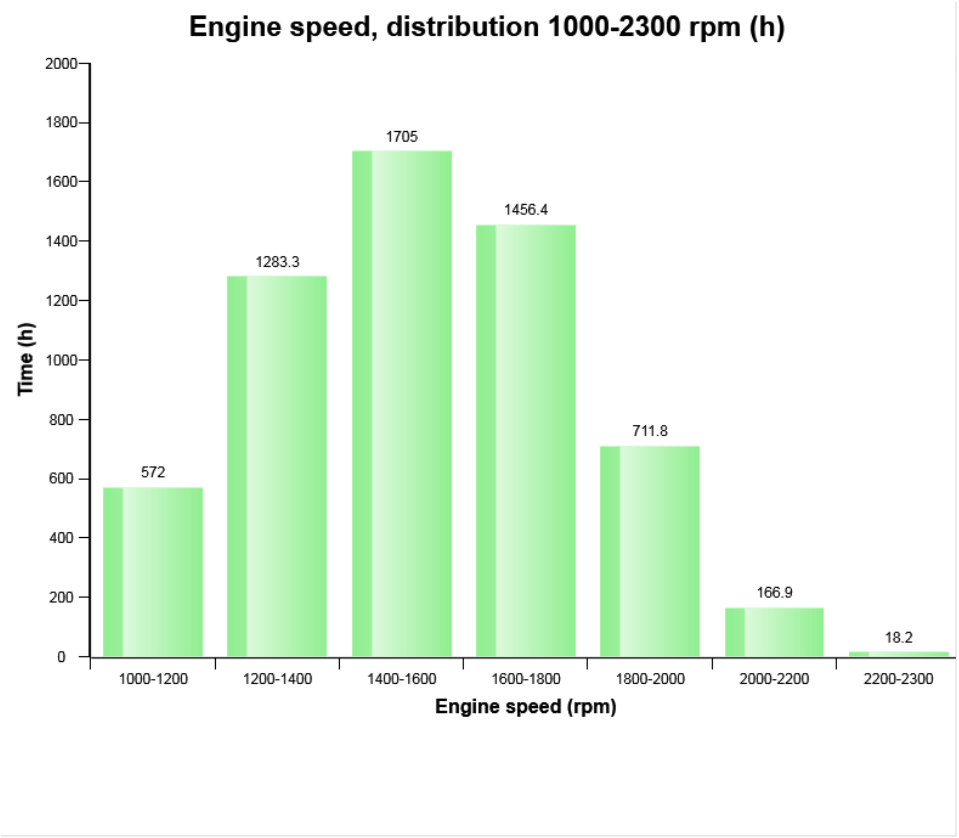
The gear-shifting program of the machine strives to utilise the engine optimally, which means that the normal operating engine speed range is 1100-2250 rpm. Due to the engine characteristics and function of the gear-shifting program, the distribution of the engine speeds should be skewed towards the left in the diagram.

If the distribution is skewed to the right in the diagram, this may indicate that the machine has been operated frequently:

- At high-speed applications.
- With shift inhibitor (Hold) activated.

Therefore, check the "Machine speed, distribution". This is not necessarily abnormal but there is a risk that the engine has been over-speeding, check the diagram "Engine speed, over 2300 rpm".

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



The diagram shows the time that the engine has operated in various engine speed ranges between 1000 and 2300 rpm.

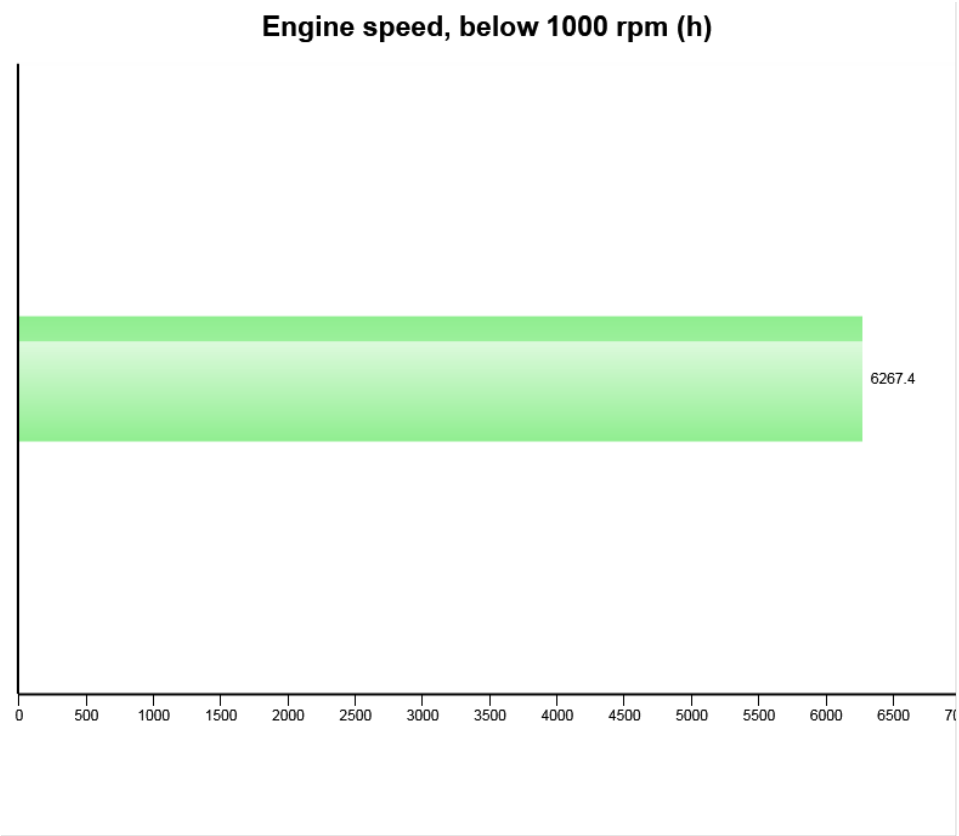
The gear-shifting program of the machine strives to utilise the engine optimally, which means that the normal operating engine speed range is 1100-2250 rpm. Due to the engine characteristics and function of the gear-shifting program, the distribution of the engine speeds should be skewed towards the left in the diagram.

If the distribution is skewed to the right in the diagram, this may indicate that the machine has been operated frequently:

- At high-speed applications.
- With shift inhibitor (Hold) activated.

Therefore, check the "Machine speed, distribution". This is not necessarily abnormal but there is a risk that the engine has been over-speeding, check the diagram "Engine speed, over 2300 rpm".

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



The diagram shows how long time the engine speed has been below 1000 rpm.

Long time at idle speed may indicate that the loading time is too long, the loading time should not exceed 1.5 minutes (1 minute and 30 seconds).

Long time at idle speed may also be the result of machines being warmed up for a long time or engines not being turned off during e.g. breaks.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

High engine coolant temperature
Total number of occurences = 2

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (° C)
G	0	2000	0	0	0	0	0	0
F	0	2000	0	0	0	0	0	0
I	0	2000	0	0	0	0	0	0
H	0	2000	0	0	0	0	0	0
J	0	2000	0	0	0	0	0	0
E	0	2000	0	0	0	0	0	0
C	0	2000	0	0	0	0	0	0
D	0	2000	0	0	0	0	0	0
A	2946	2010	4	28	15	25	57	110
B	2946	2010	4	28	15	27	124	117

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
A30D	14941	12183.85	31/05/2020

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
A30D	14941	12183.85	31/05/2020

Low engine oil pressure
Total number of occurences = 0

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

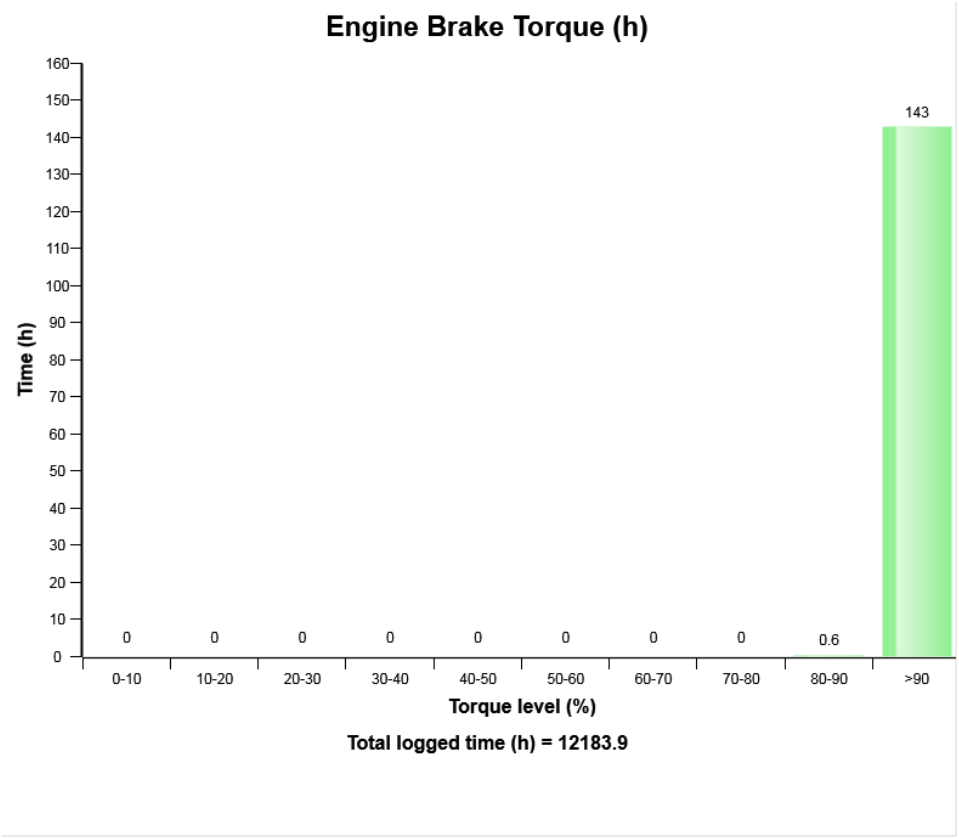
The extreme value column displays the most extreme value during the event.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

Criteria :

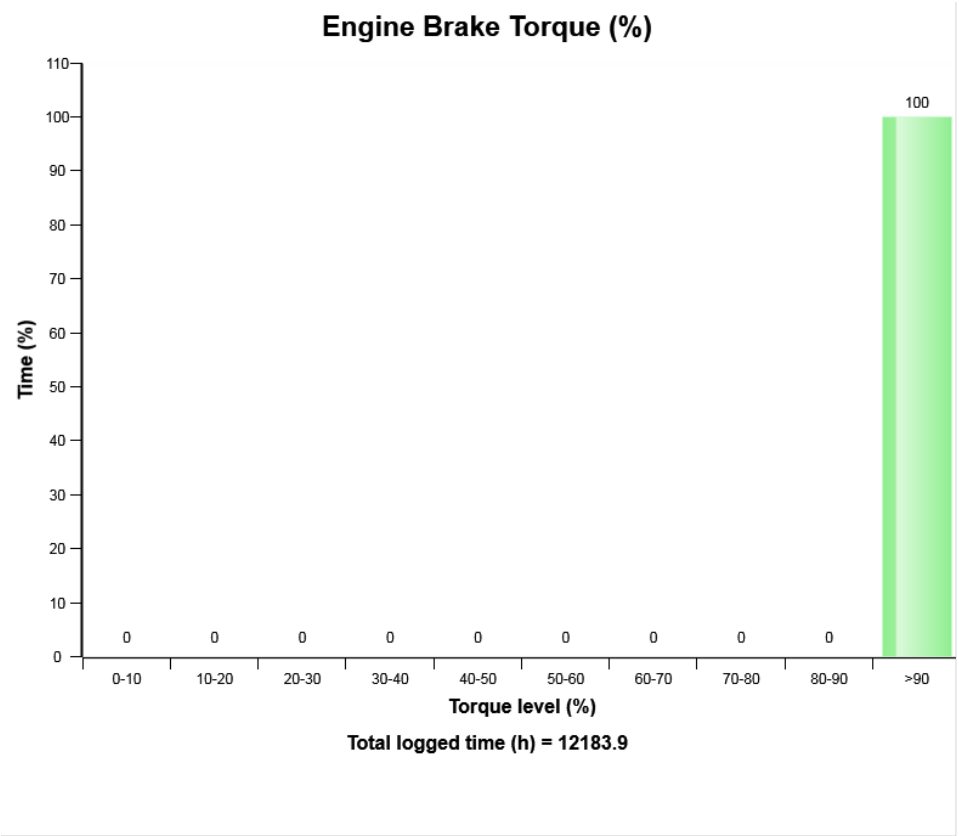
In order for an occurrence of low engine oil pressure to be recorded in a data point and the count to increment by 1, the engine oil pressure state must change from “normal” or “error” to “low.” The event of low transmission oil pressure will end when the status changes from “low” back to “normal” or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

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



The diagram shows the Engine Brake usage in terms of percent up to maximum torque.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



The diagram shows the Engine Brake usage in terms of percent up to maximum torque.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

High engine oil temperature
Total number of occurences = 0

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

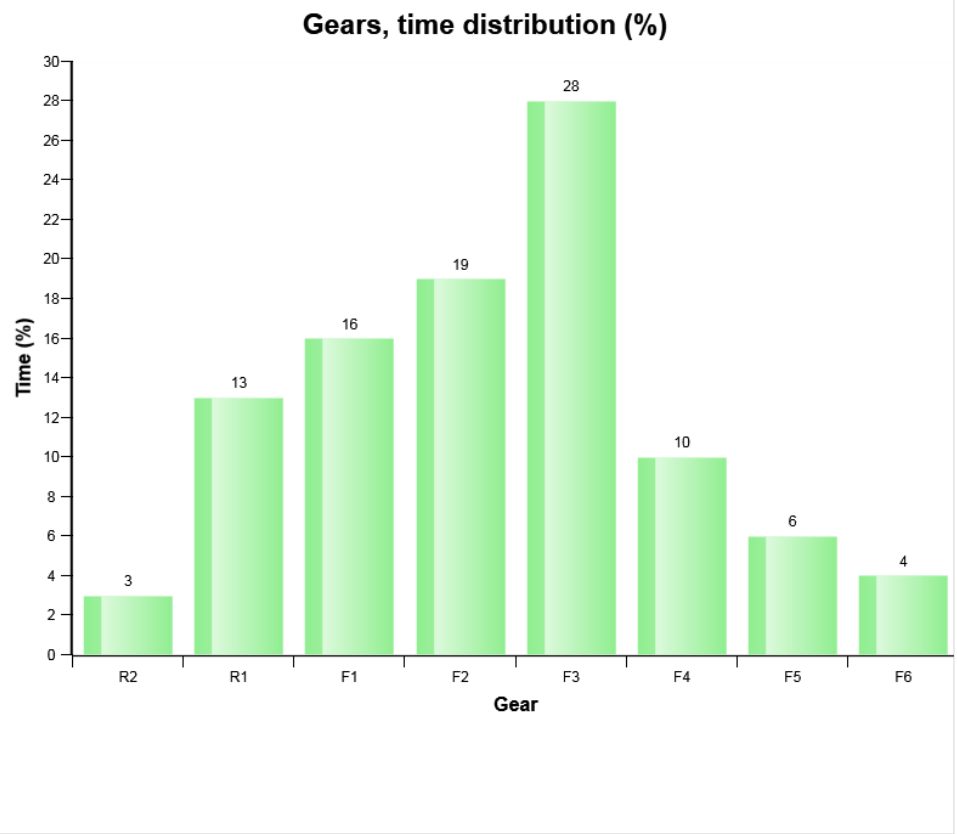
The extreme value column displays the most extreme value during the event.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

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
A30D	14941	12183.85	31/05/2020



The diagram shows the time for each gear R2, R1, F1, F2, F3, F4, F5 and F6. Each bar represents a gear, see explanation below.

R2 = 2nd gear Reverse

R1 = 1st gear Reverse

F1 = 1st gear Forward

F2 = 2nd gear Forward

F3 = 3rd gear Forward

F4 = 4th gear Forward

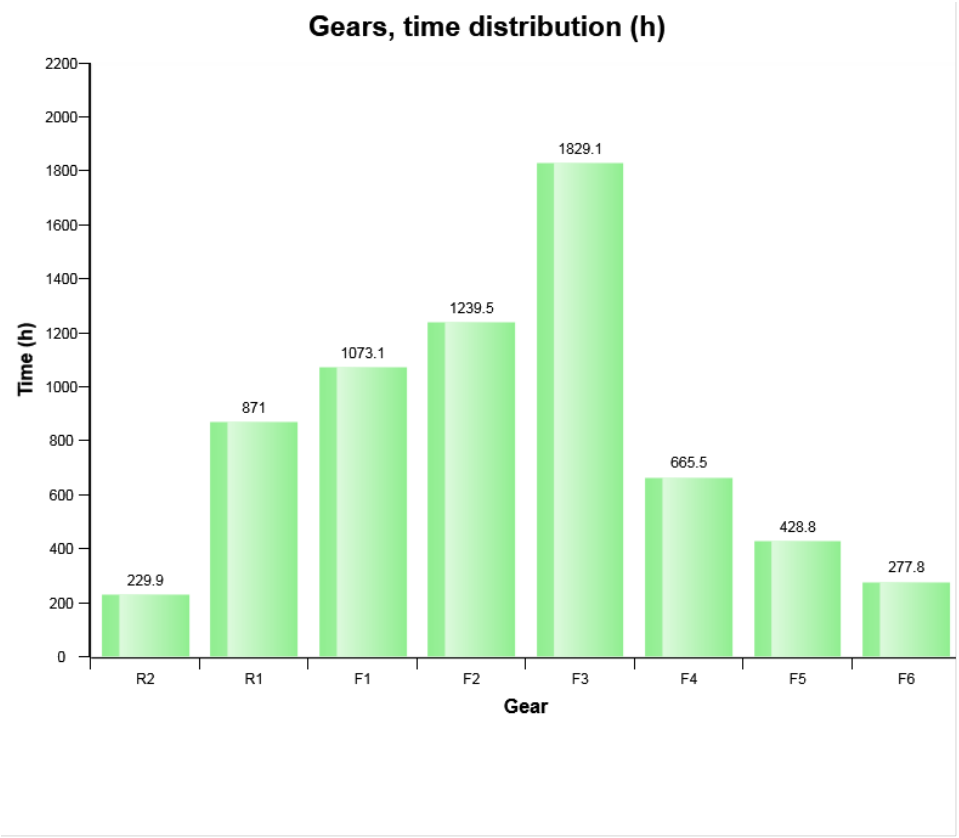
F5 = 5th gear Forward

F6 = 6th gear Forward

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

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

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



The diagram shows the time for each gear R2, R1, F1, F2, F3, F4, F5 and F6. Each bar represents a gear, see explanation below.

R2 = 2nd gear Reverse

R1 = 1st gear Reverse

F1 = 1st gear Forward

F2 = 2nd gear Forward

F3 = 3rd gear Forward

F4 = 4th gear Forward

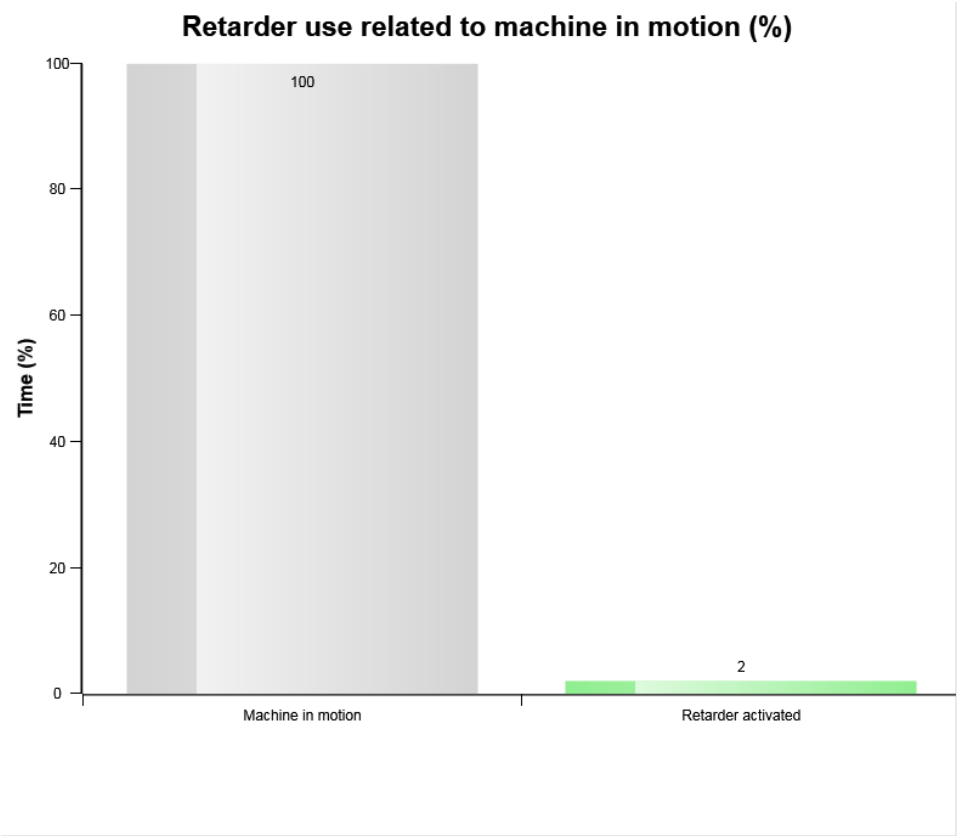
F5 = 5th gear Forward

F6 = 6th gear Forward

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

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

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



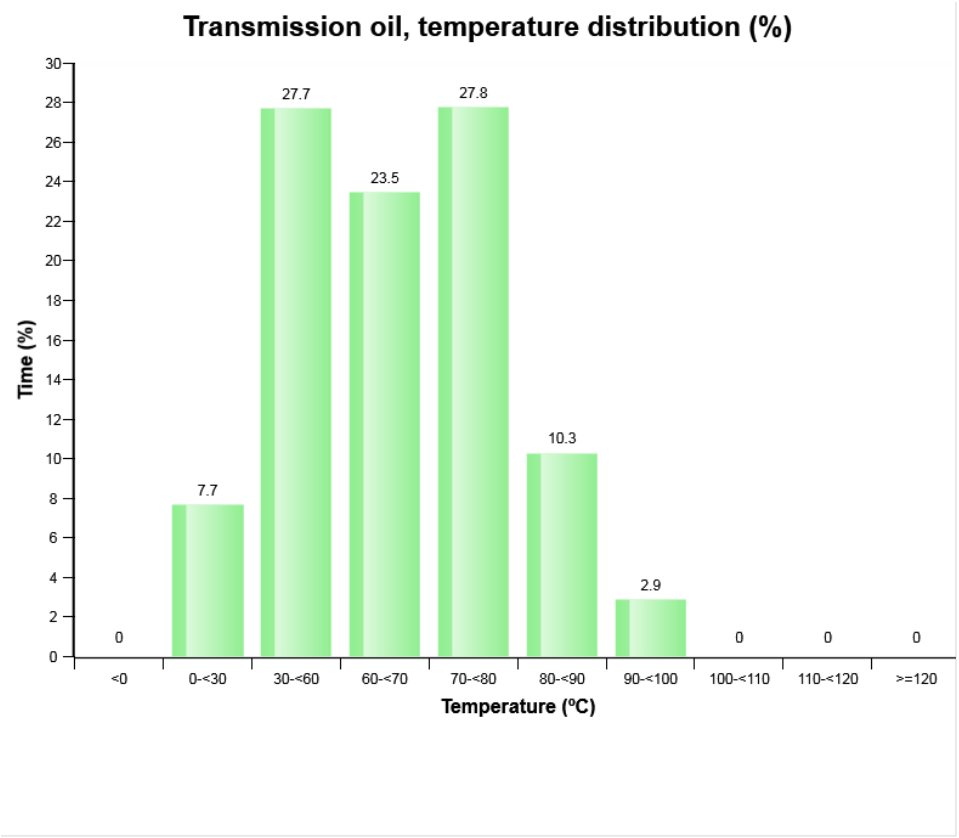
The diagram shows the percentage of retarder use in relation to machine in motion on all gears.

The retarder should always be used when braking for the best operating economy.

The normal use of the retarder in relation to the time that the machine has been operated depends on the operating conditions. Generally, the more downhill grades that the machine operates on, the higher the retarder use should be in relation to the time that the machine has been operated. Low retarder use may result in excessive brake wear.

Also check "Retarder and servicebrake (%)"

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



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

<0ºC Temperatures below 0ºC

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

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

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

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

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

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

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

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

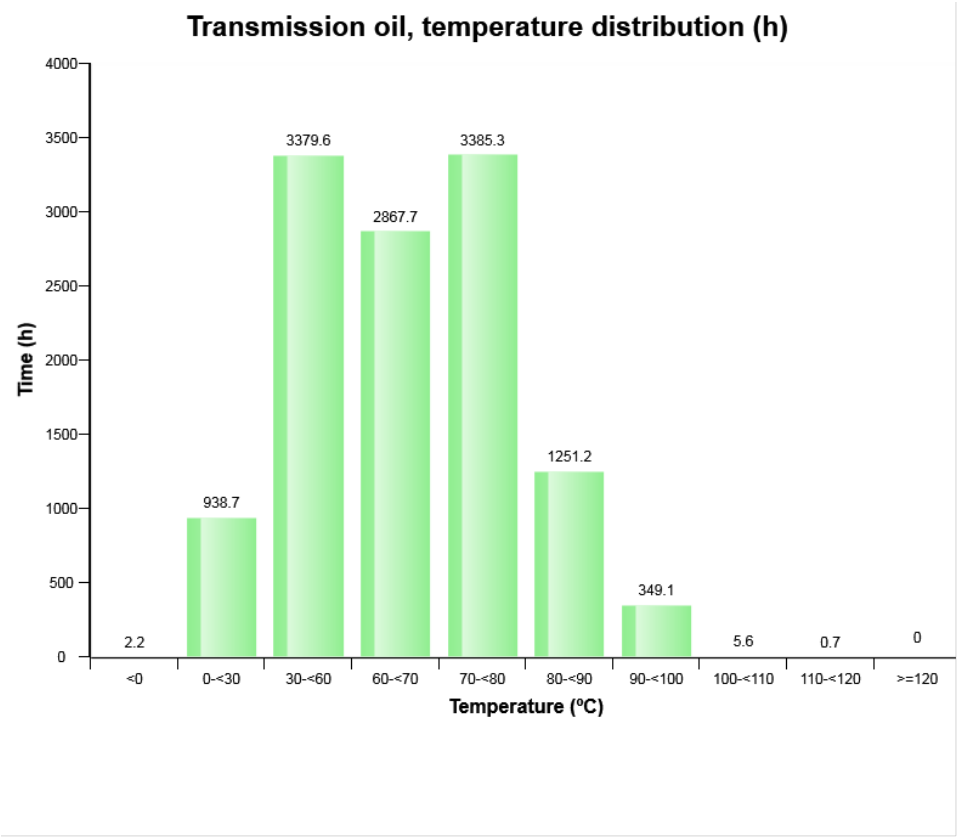
≥120°C Temperatures over 120ºC

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

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

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

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



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

<0ºC Temperatures below 0ºC

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

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

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

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

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

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

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

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

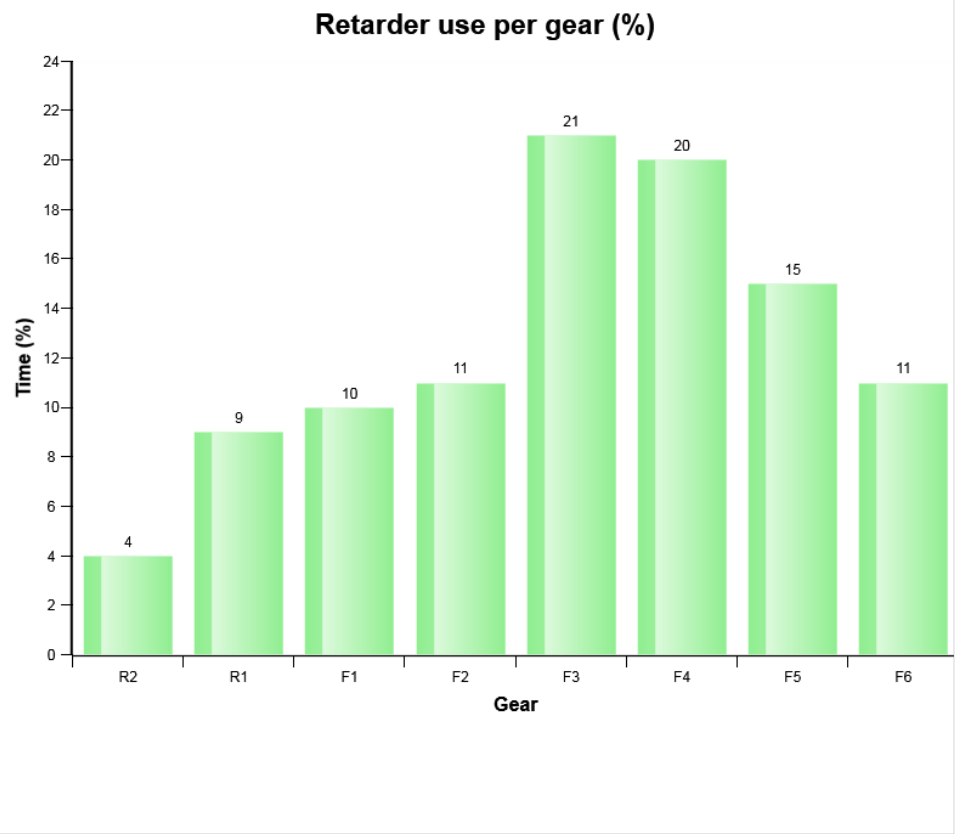
≥120°C Temperatures over 120ºC

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

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

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

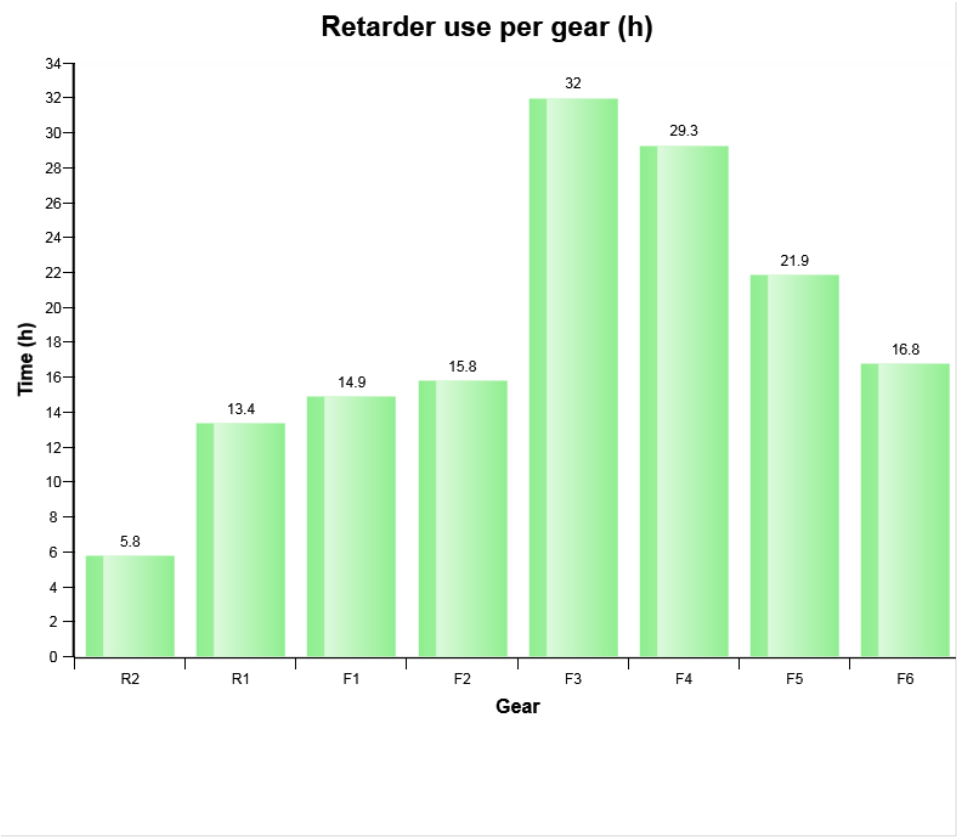
Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



The diagram shows the time in percent of retarder in use related to respective gear.

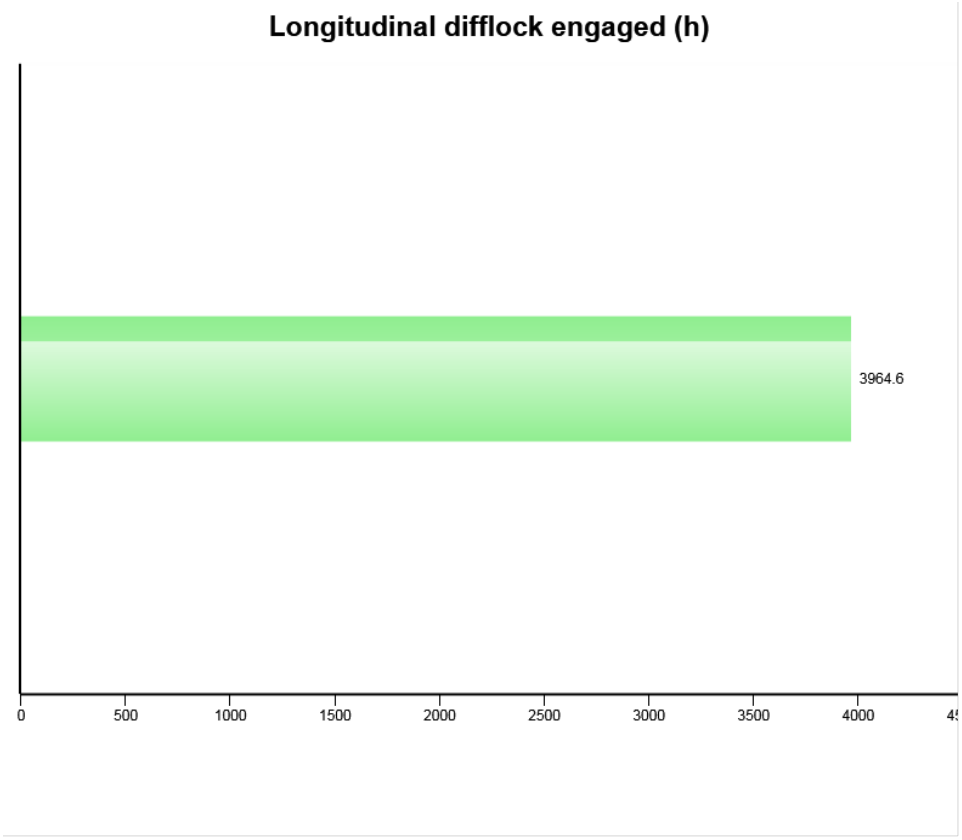
-

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



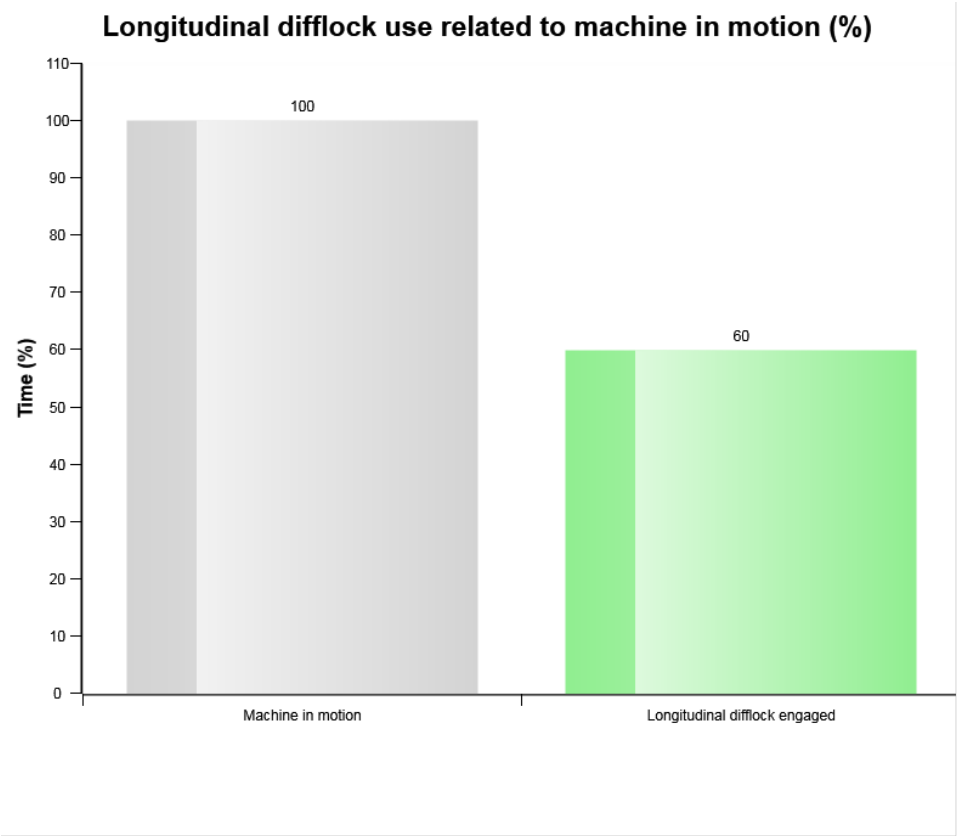
The diagram shows the time of retarder in use related to respective gear.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



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
A30D	14941	12183.85	31/05/2020



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
A30D	14941	12183.85	31/05/2020

Hold Activations Event
Total number of occurences = 4365

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)
F	0	2019	4	5	10	55	0
G	12035	2019	4	5	15	55	0
H	12039	2019	4	6	8	48	1
I	12039	2019	4	6	8	51	4
J	12044	2019	4	24	15	0	2
A	12053	2019	5	22	8	14	1
B	12087	2019	7	1	14	33	1
C	12123	2019	7	5	17	16	0
D	12140	2019	7	10	8	8	0
E	12144	2019	7	10	13	24	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.

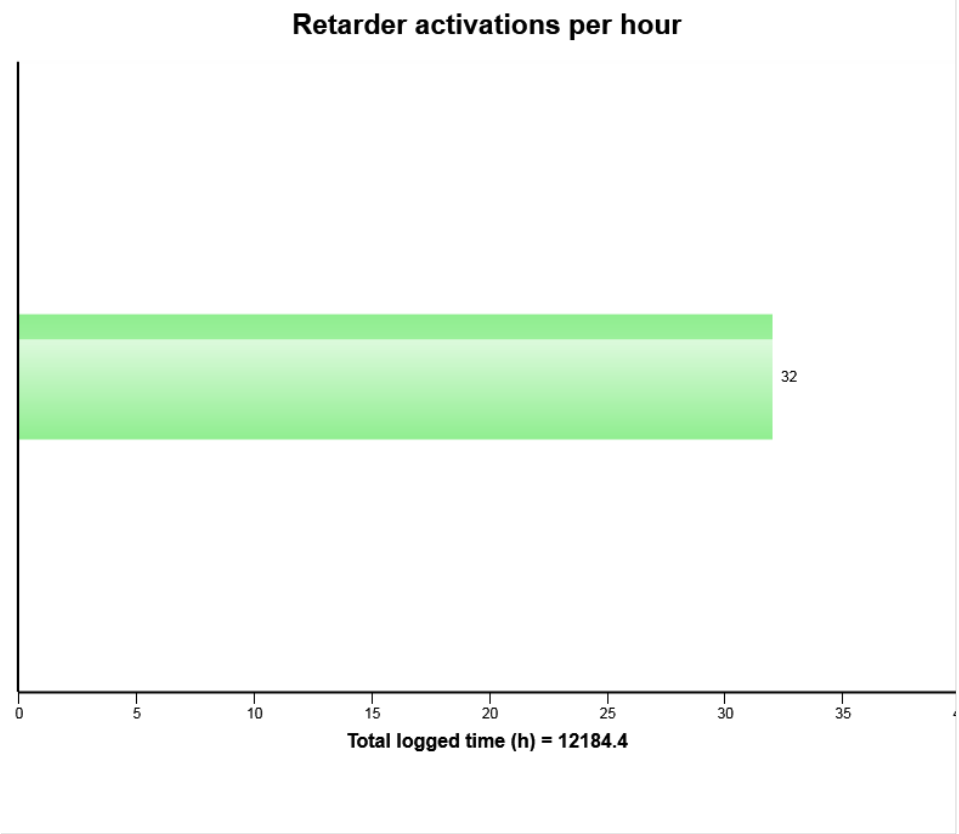
The duration is counted as long as the criteria is fulfilled.

Criteria :

The criteria to get an registration, is that the Hold function is active and that the diesel engine is

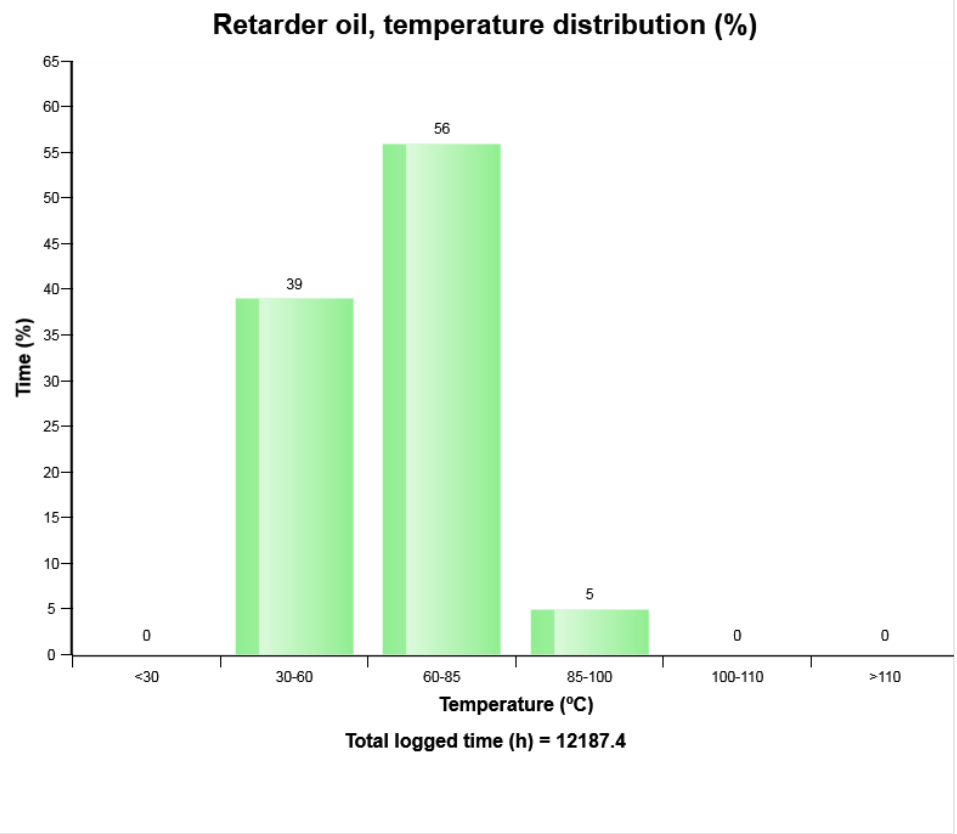
running.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



The diagram shows the number of times per hour that the retarder has been activated with the pedal.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



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.

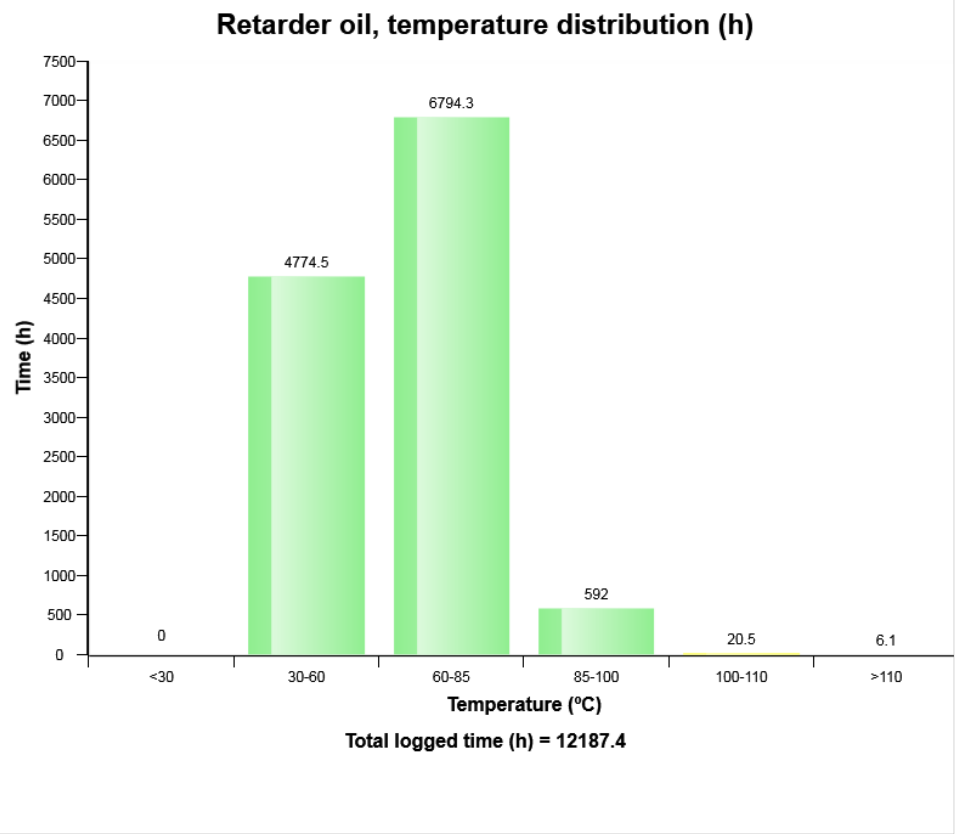
Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

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
A30D	14941	12183.85	31/05/2020



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.

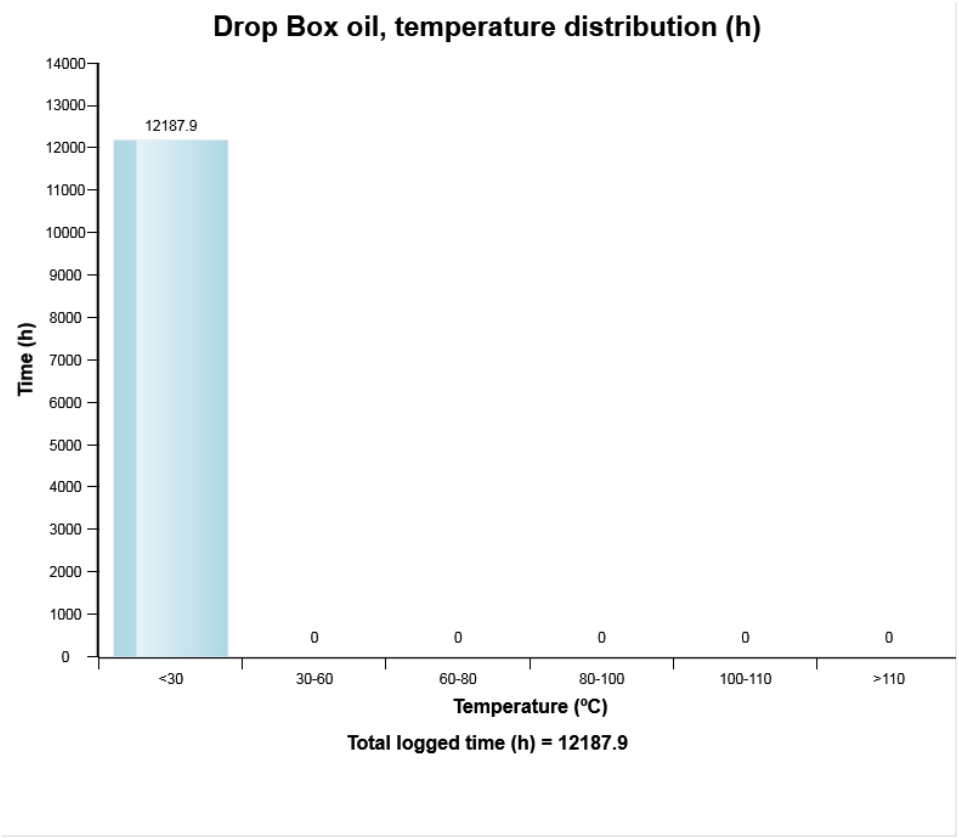
Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

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
A30D	14941	12183.85	31/05/2020



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.

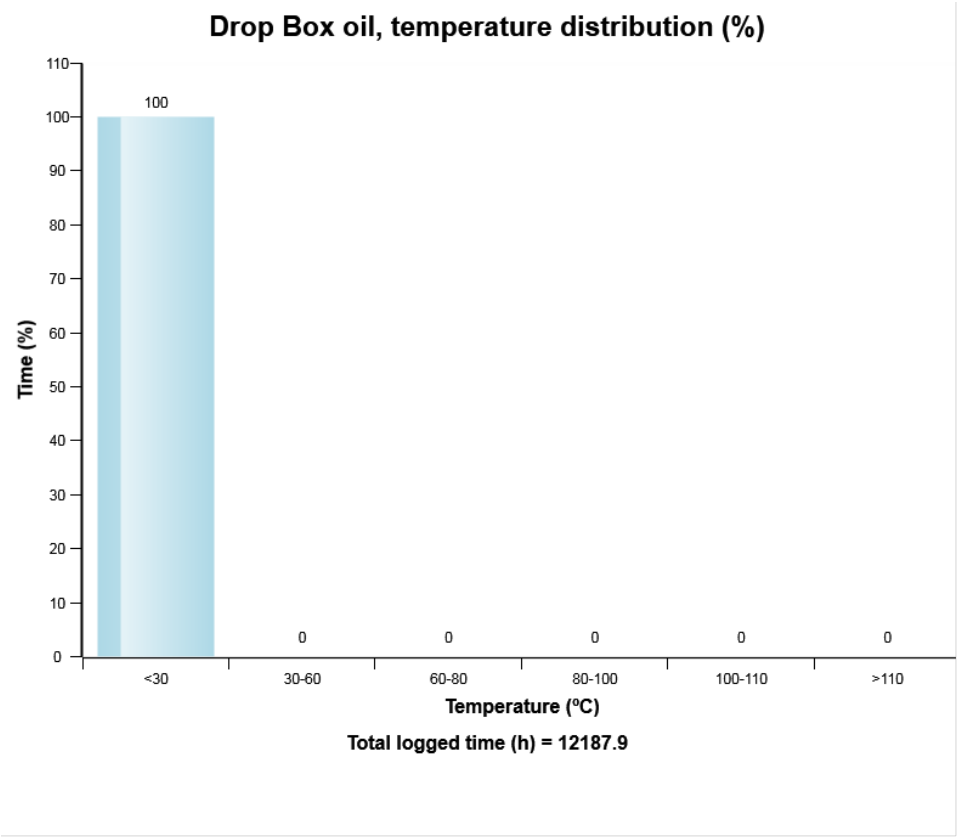
Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

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
A30D	14941	12183.85	31/05/2020



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.

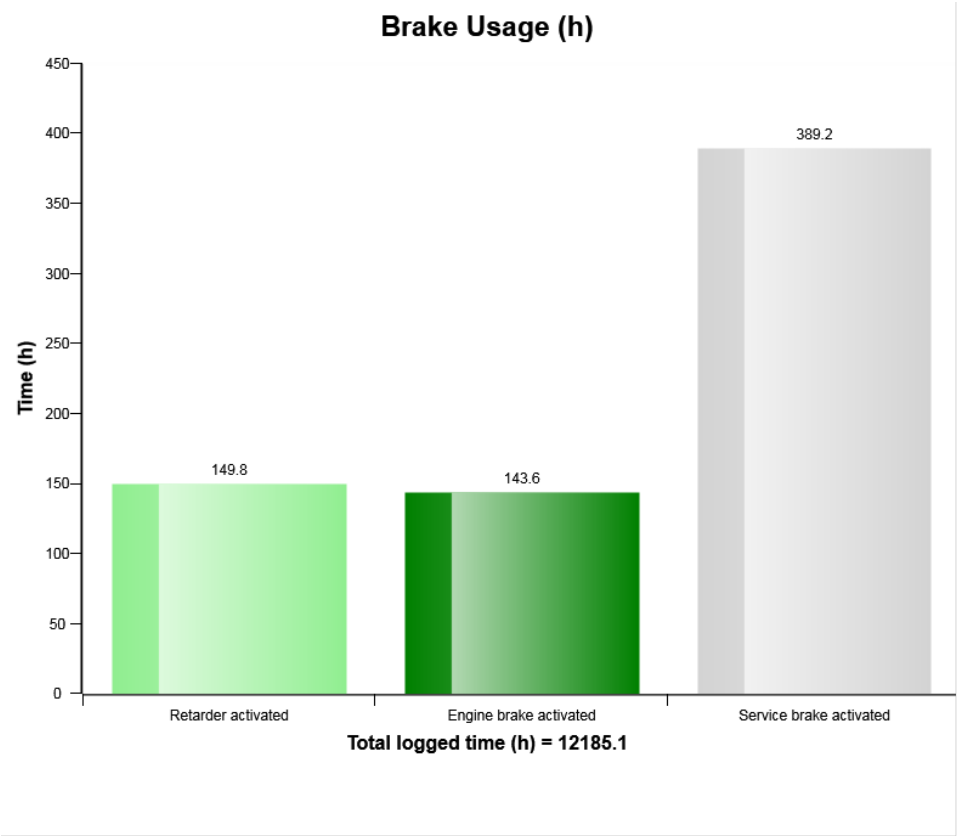
Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

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.

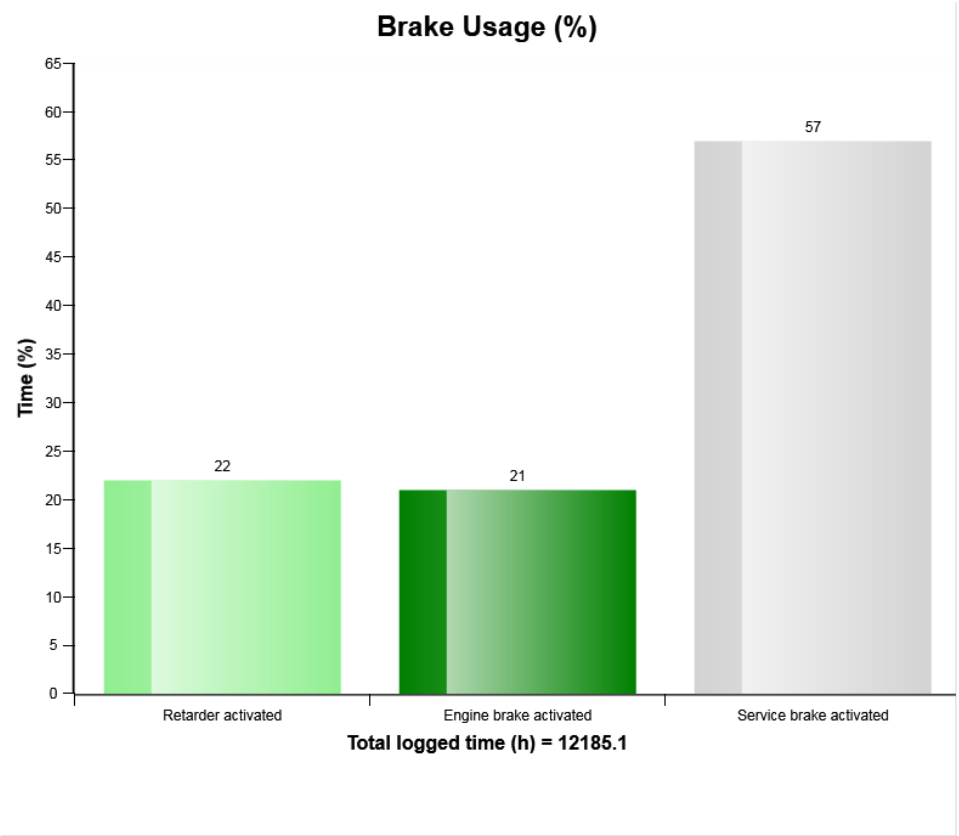
Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



The diagram shows the total time for activated retarder, engine brake and the total time for activated service brake (exceeding 4 bar).

A high proportion of retarder and engine brake use indicates correct and efficient operation.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020



The diagram shows the total time for activated retarder, engine brake and the total time for activated service brake (exceeding 4 bar).

A high proportion of retarder and engine brake use indicates correct and efficient operation.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

Low Brake Servo Pressure
Total number of occurences = 31

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (bar)
J	0	2019	5	13	16	20	3	3
H	0	2019	1	14	15	45	3	4
I	0	2019	2	21	11	41	2	4
A	0	2019	5	13	16	20	12	4
B	0	2016	8	31	9	20	7	4
C	26	2017	3	16	18	5	56	1
D	30	2017	3	17	12	46	8	3
E	481	2017	5	25	18	39	1	4
G	855	2017	12	18	15	35	8	4
F	855	2017	12	18	15	34	2	4

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 :

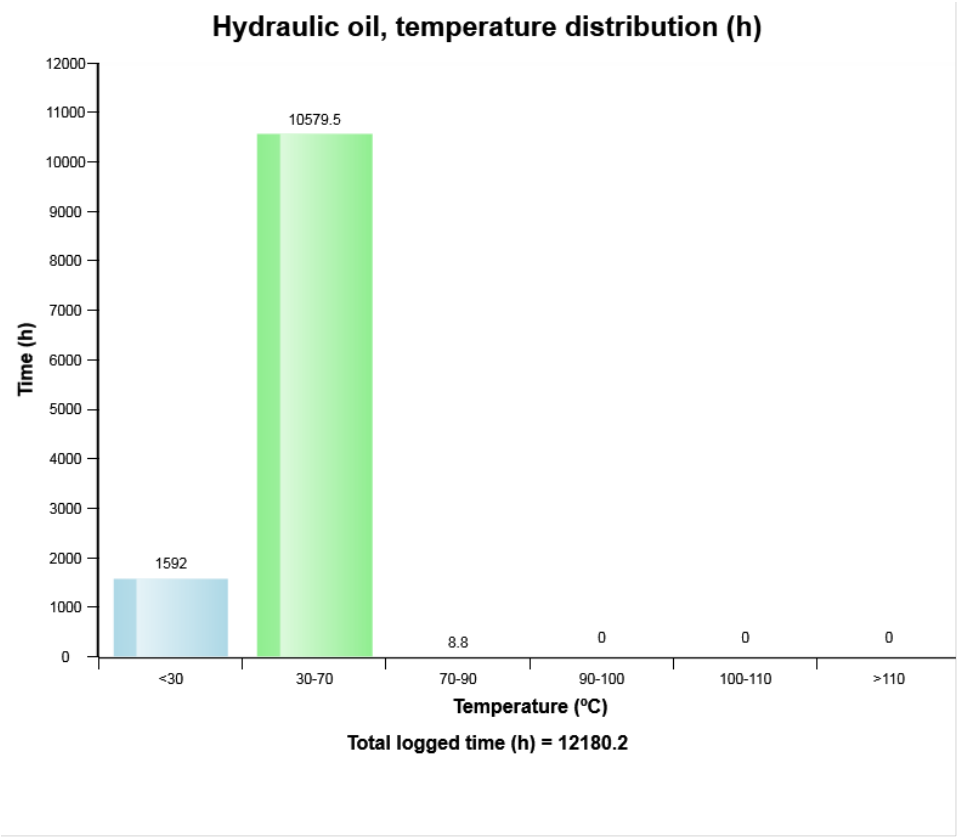
The extreme value column displays the most extreme value during the event.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

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
A30D	14941	12183.85	31/05/2020



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.

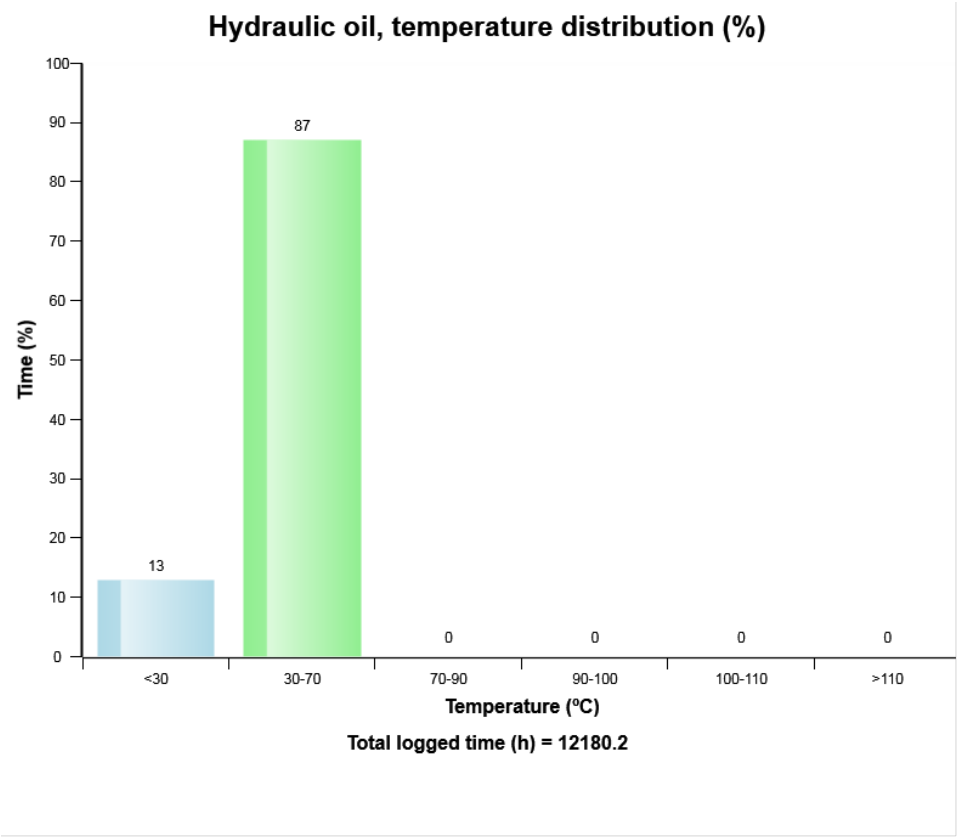
Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

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
A30D	14941	12183.85	31/05/2020



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.

Machine model	SerialNo	Operating Hours	Reading Date
A30D	14941	12183.85	31/05/2020

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
A30D	14941	12183.85	31/05/2020