

VOLVO CONSTRUCTION EQUIPMENT MATRIS REPORT

Machine model EC380E	SerialNo 310133	Operating Hours 4731.1	Reading Date 3/6/2017
Company name VFS-Lease-Return	Dealer Flagler / Penn Jersey	Report Issuer	
Contact name	Technician Steve McDaniel	Primary Application Civil engineering/Heavy construction	
Site	Workorder	Ground Condition	

MATRIS Reading, Summary / Recommendation



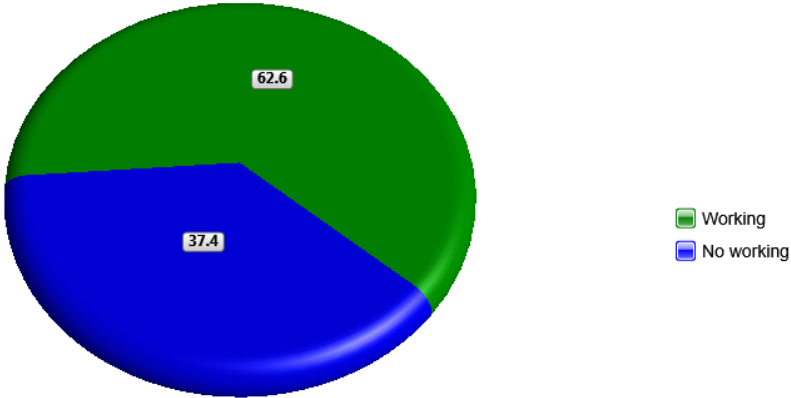
Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

Main equipment	Type	Equipment
	Track chain	
	Hydraulic Fluid	
	X1 Piping	
	X3 piping	
	Main Attachment	
	Attachment Interface	
	Hose Rupture Valve on Boom	
	Hose Rupture Valve on Arm	
	X1 return filter	



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Machine utilization (%)



Total logged time (h) = 4730.9

Definition:

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

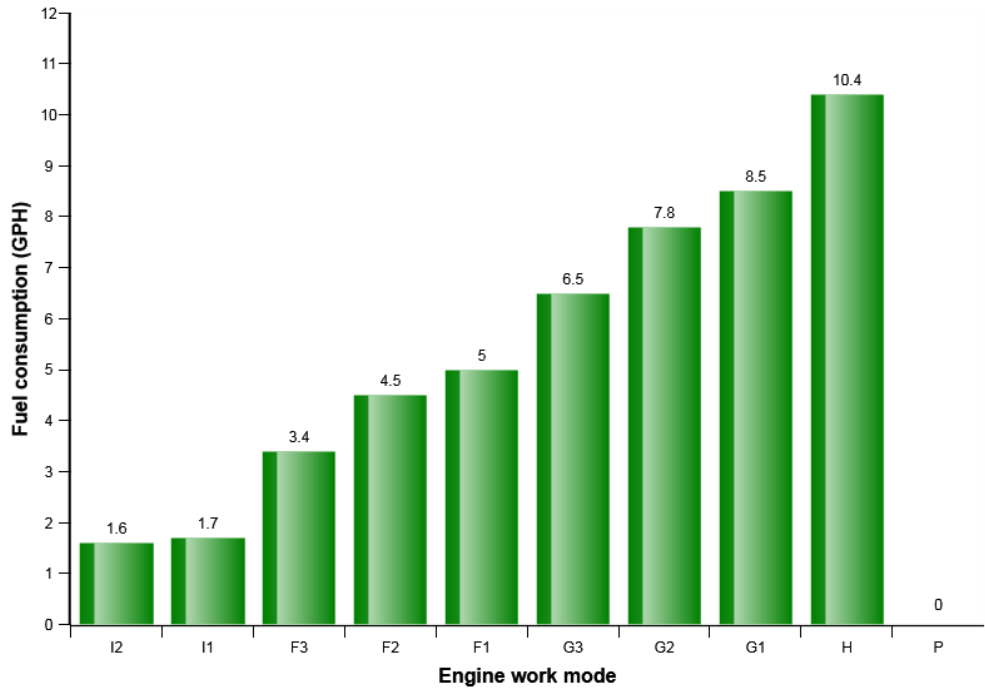
Blue sector = Engine is running, but attachments and tracks are not moved or operated .

Green sector = Machine in work with the move of attachments and tracks



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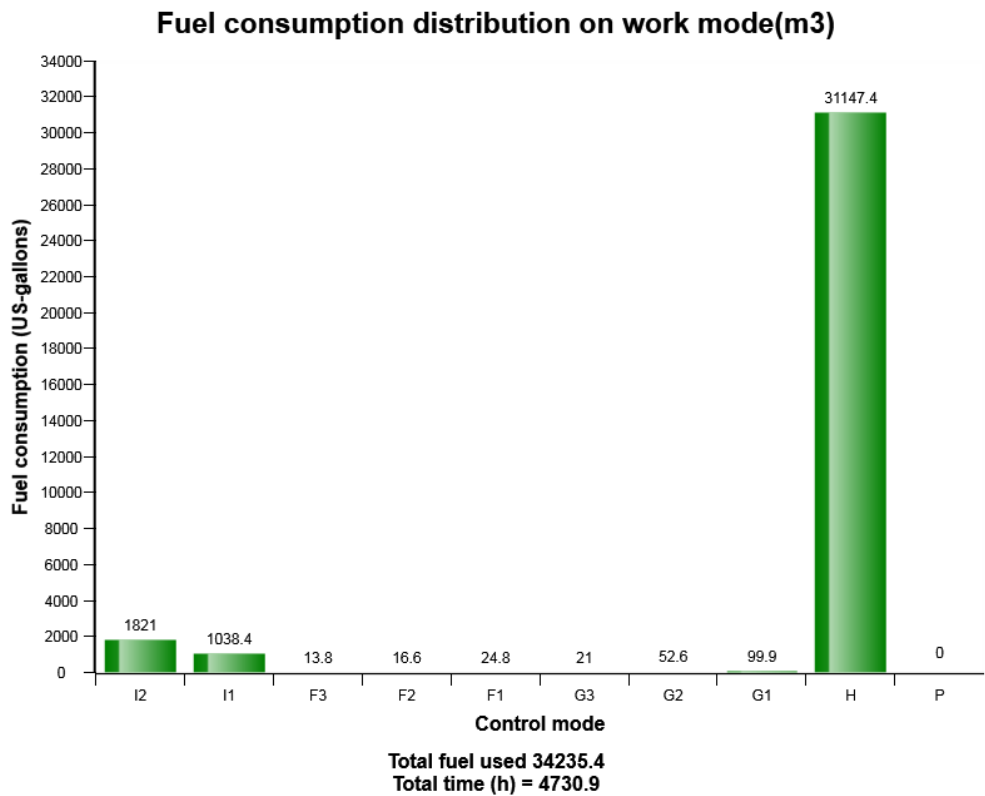
Fuel consumption distribution on work mode



Fuel consumption (GPH) = 7.2
 Fuel used (US-Gallons) = 34235.4



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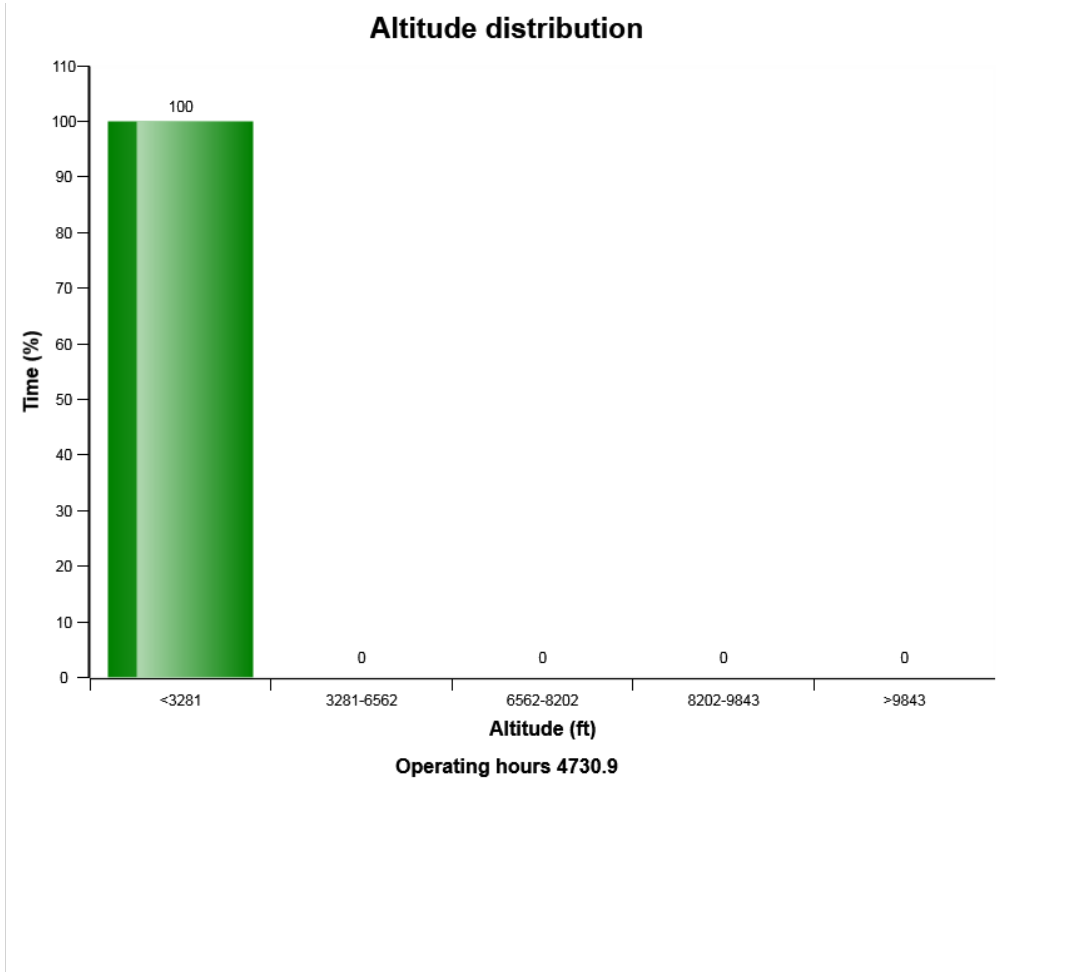
Definition:

The diagram describes the amount of fuel consumed per engine speed mode distribution.

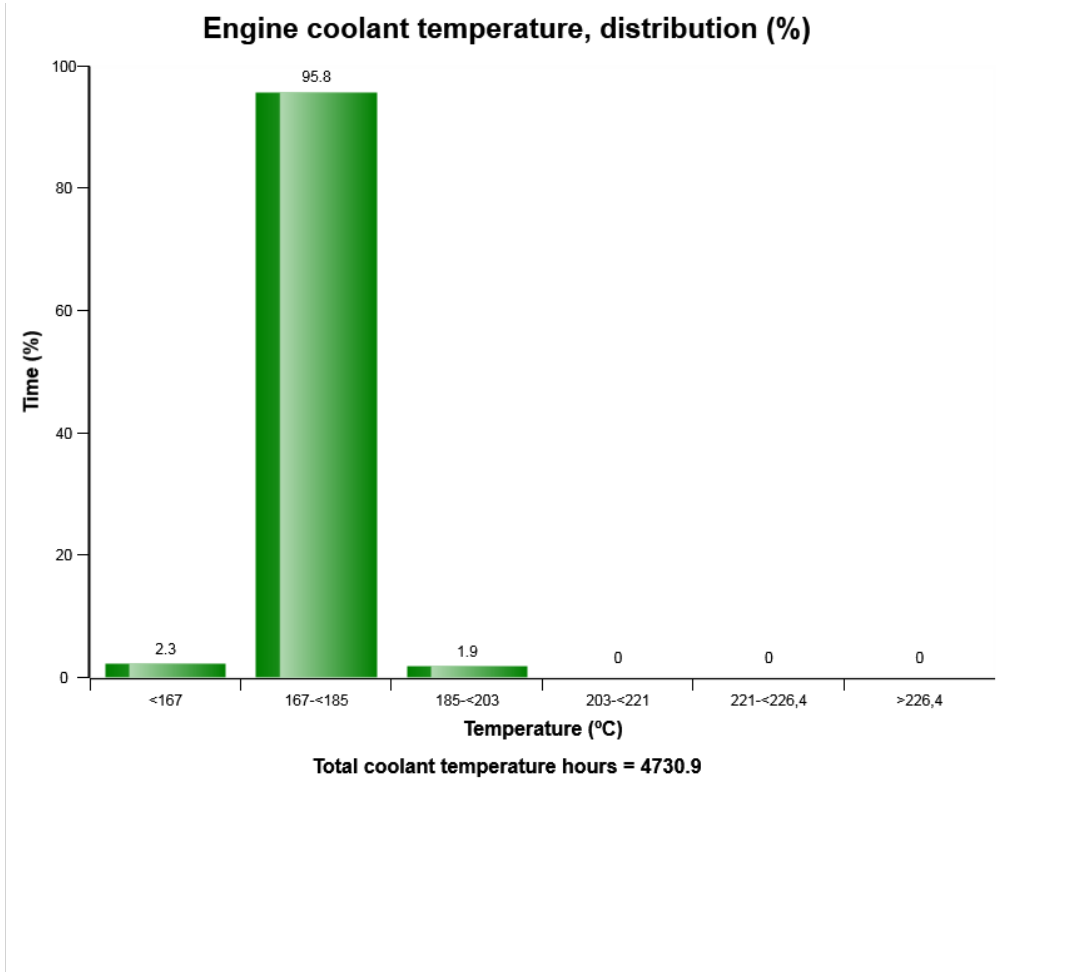
Total amount of fuel consumed (m3) in above means that the sum of the fuel while it consumed for engine ON. The values above distribution were calculated from theoretical calculation with logged data in V-ECU so it can be some different from actual performance in field.



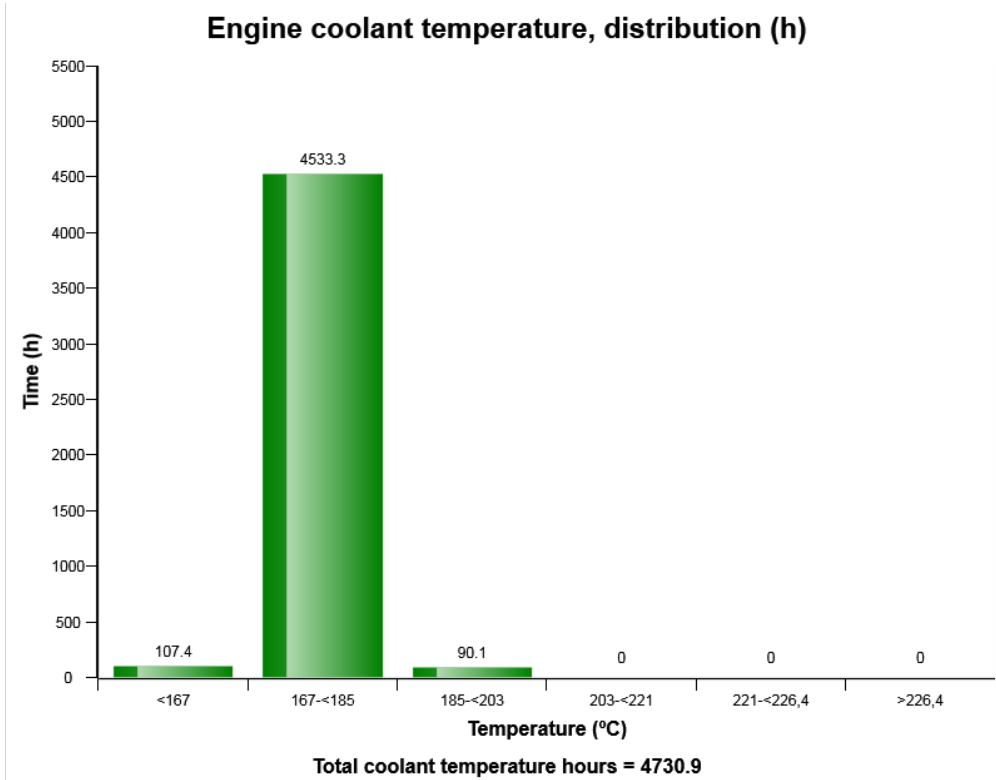
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Machine model	SerialNo	Operating Hours	Reading Date
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Definition:

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



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region.

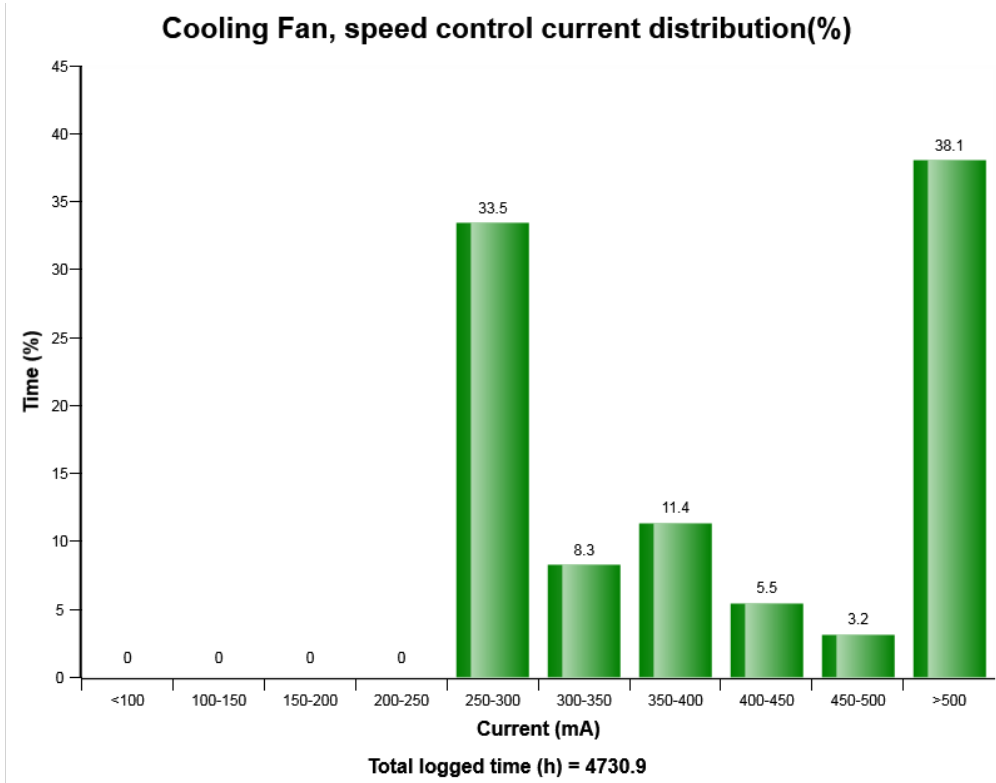
Yellow bar = High working temperature. It is normal to have some registrations in this region.

Red bar = Alarm.

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



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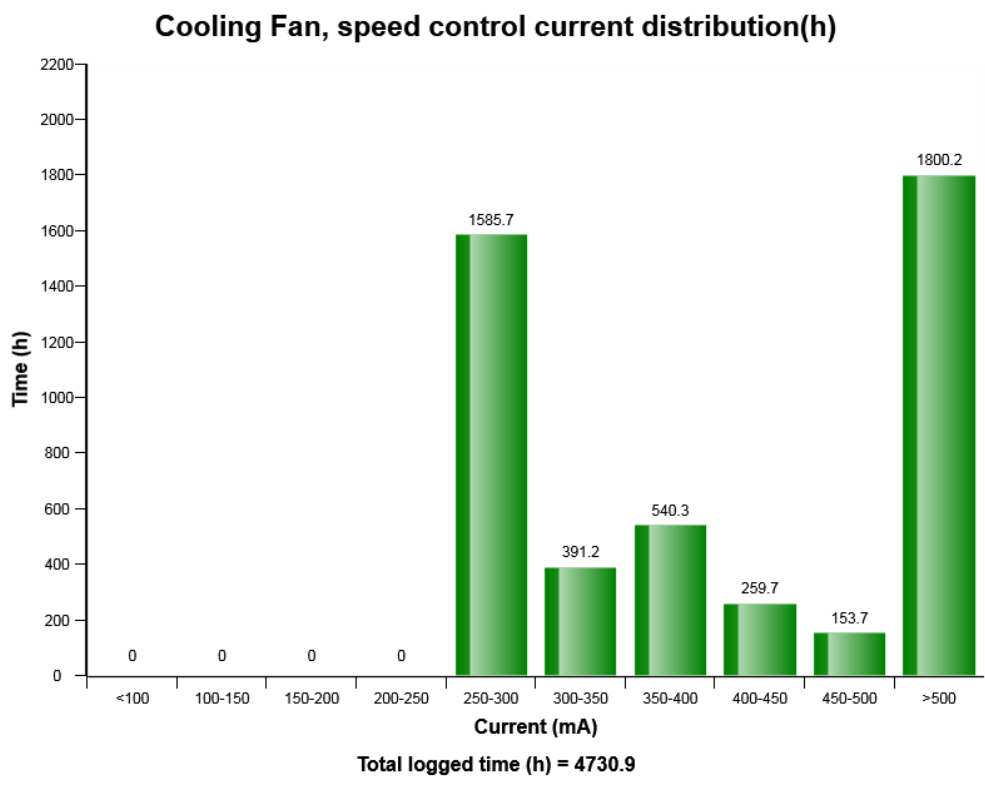
Definition:

The diagram describes Hydraulic Cooling fan speed control, Current (mA) distribution, on fan speed Control..

Total time (hours) in above means the sum of the time for Hydraulic Cooling fan operation.



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Definition:

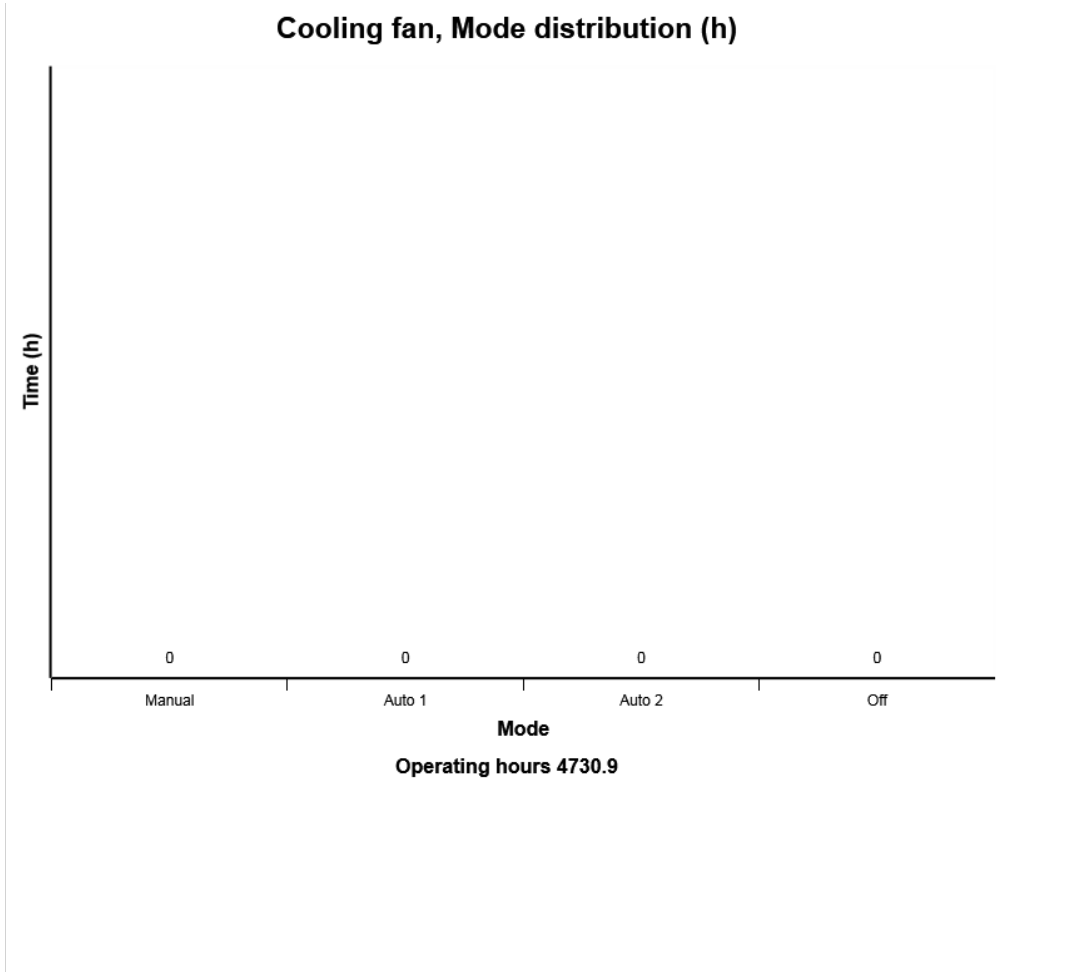
The diagram describes Hydraulic Cooling fan speed control, Current (mA) distribution, on fan speed Control..

Total time (hours) in above means the sum of the time for Hydraulic Cooling fan operation.



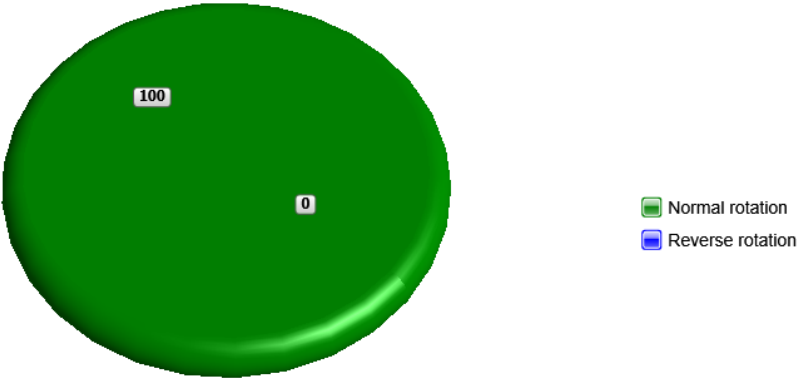
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Cooling fan, Mode distribution (h)



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Cooling fan, Normal-Reverse rotation distribution (%)

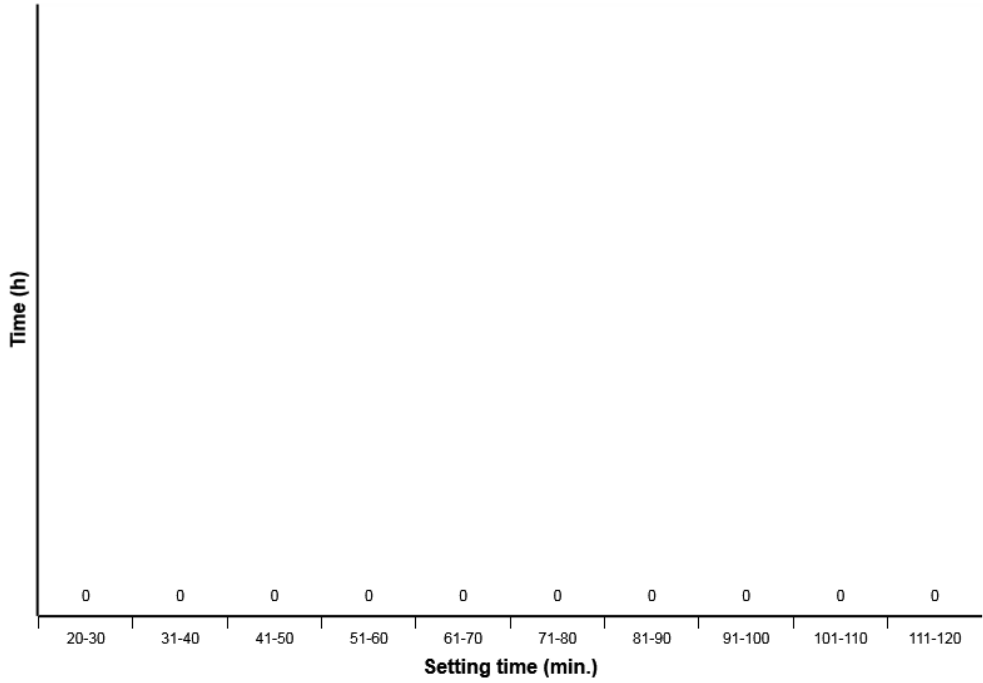


Total operating time (h) = 4730.9



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Reverisble fan, Time setting distribution (h) at Auto 1 mode

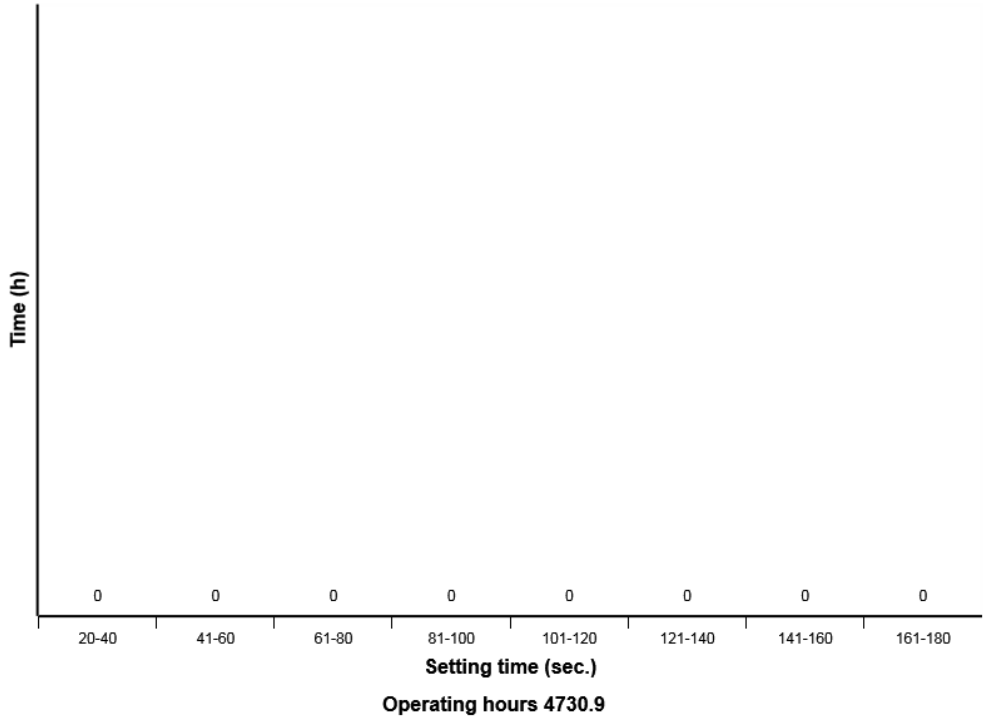


Total operating time at Auto 1 mode (h) = 4730.9



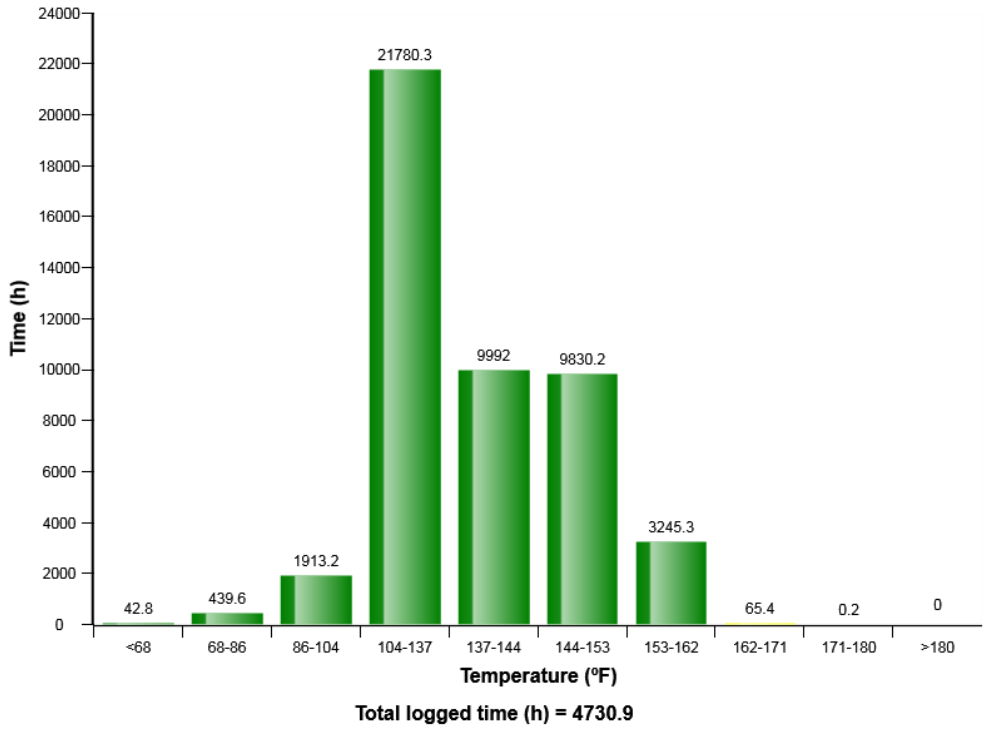
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Reversible fan, Time setting distribution (h) at Manual mode

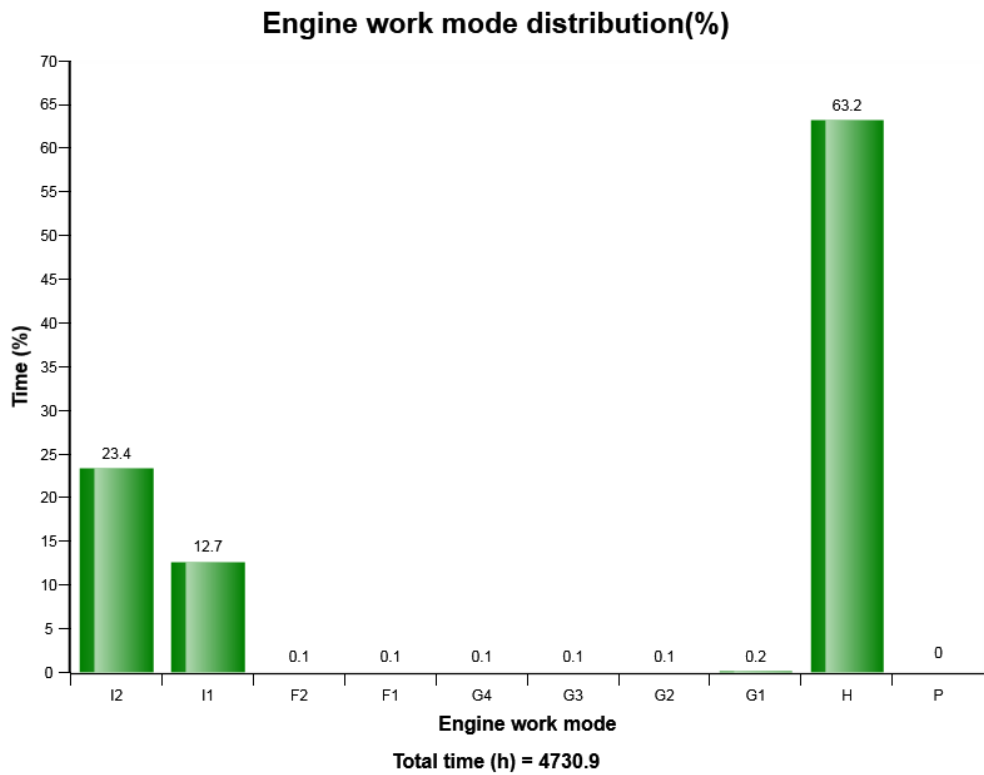


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Engine boost air temperature distribution (h)



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Definition:

This diagram shows the distribution of the engine work mode in time percent.

Distribution of each work mode is shown on top of the column in percentage.

Explanation:

Y-axis: The percentage of the operating hours on each work mode.

X-axis: The engine work mode (10 step in total)

Distribution of each work mode is shown on top of the column in percentage.

The sum of time distribution in percentage is 100

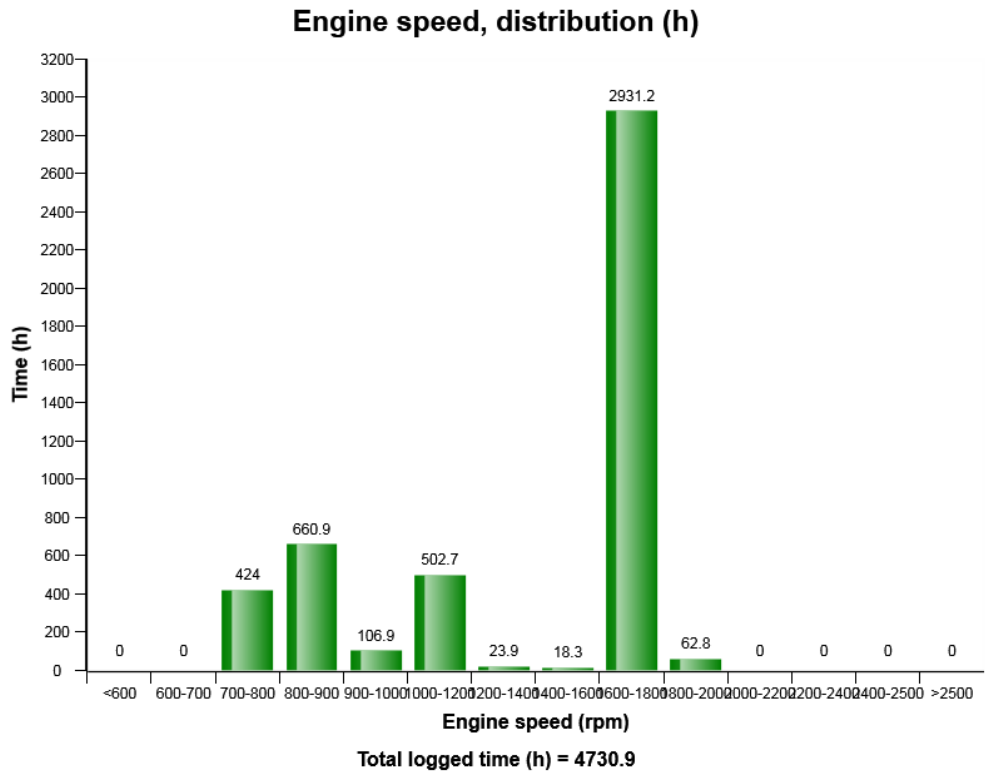


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Total time (h) is listed below the diagram



Machine model	SerialNo	Operating Hours	Reading Date
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Definition:

The graph describes the engine speed distribution, in hours.

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

Explanation:

Y-axis: Engine running time in hours.

X-axis: Engine speed in rpm.

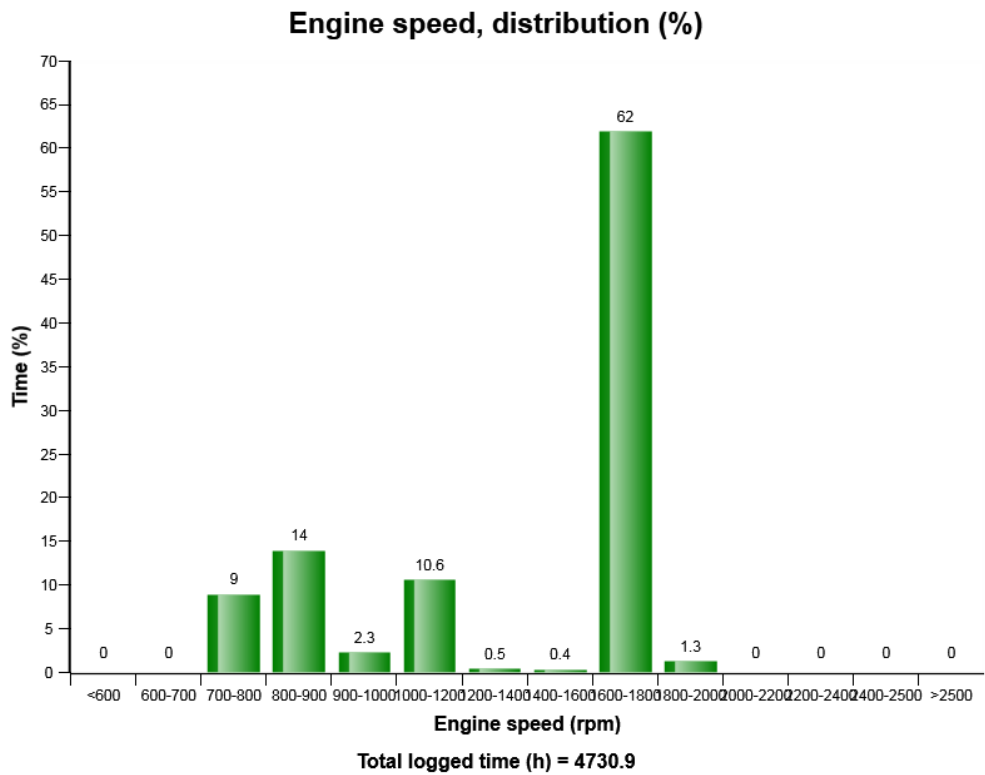
Green bars = Normal engine speed range.

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

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



Machine model	SerialNo	Operating Hours	Reading Date
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Definition:

The graph describes the engine speed distribution in percent of time.

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

Explanation:

Y-axis: Engine running time in percent.

X-axis: Engine speed in rpm.

Green bars = Normal engine speed range

Blue bar = Idling interval.

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

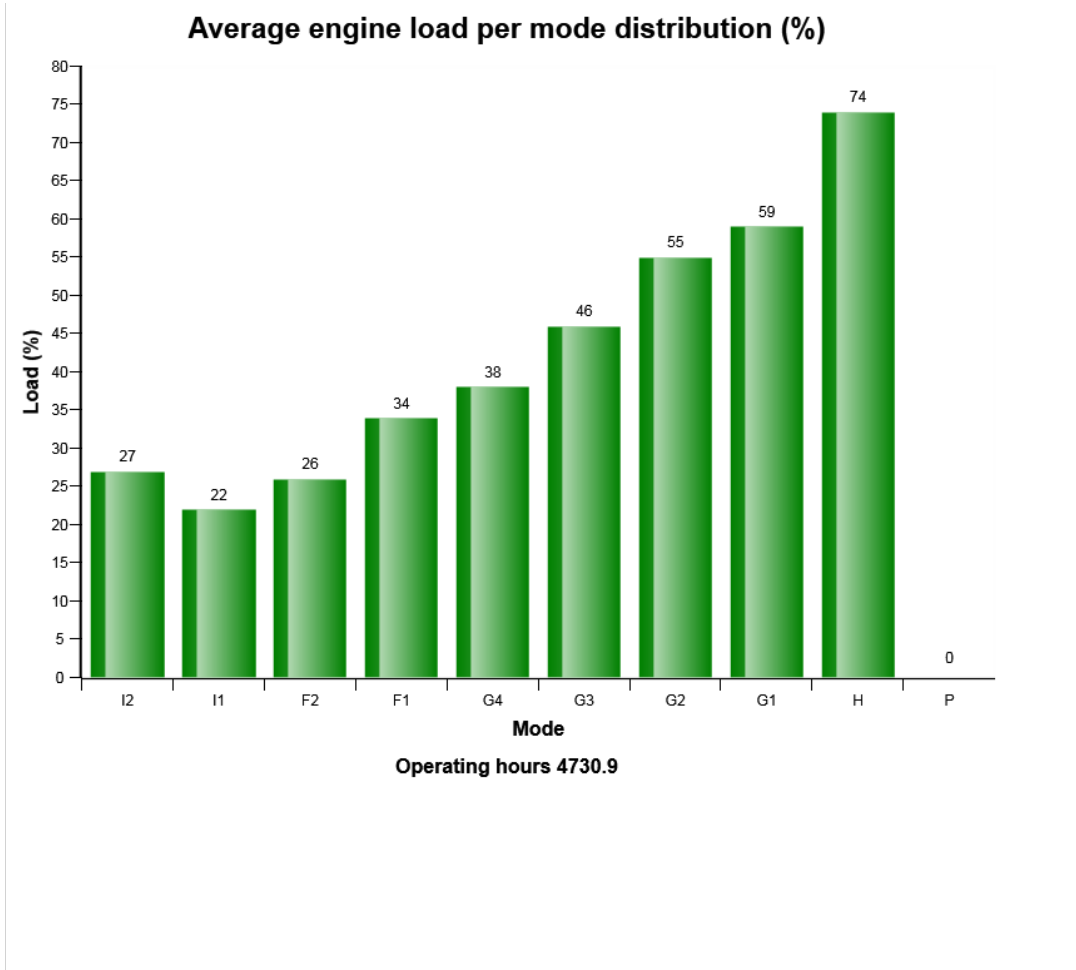


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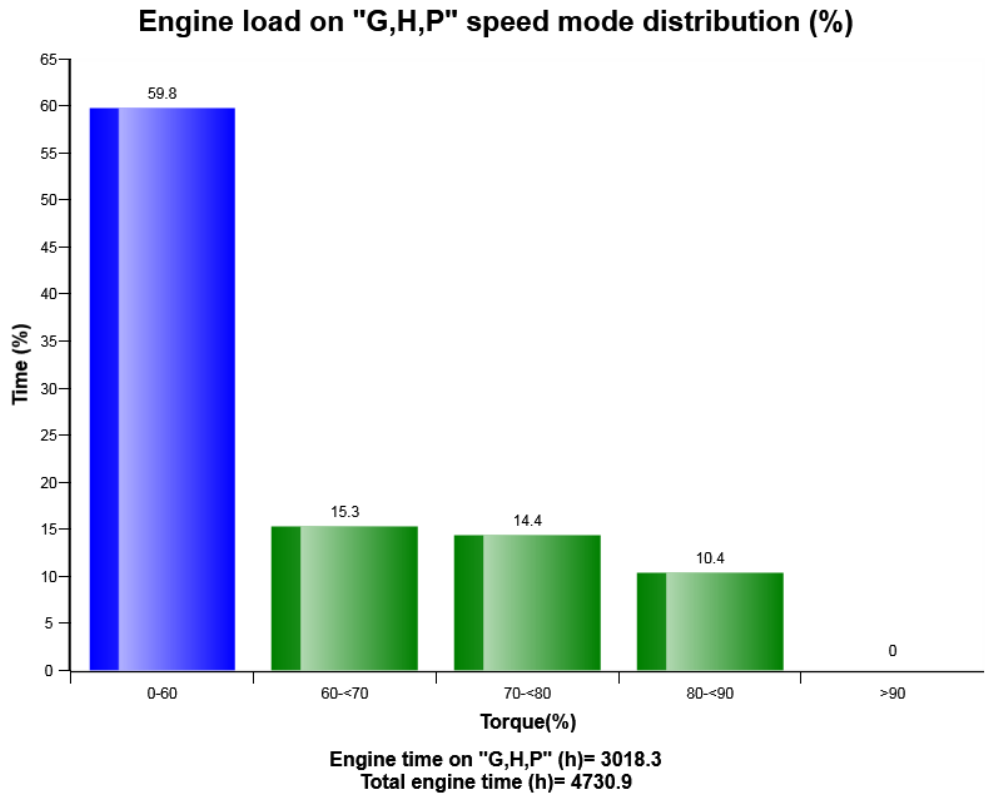
Exceeding the maximum design speed may cause severe damage to the engine



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This graph shows the distribution of the engine load.

Blue bar: Low load

Green bar: Normal load

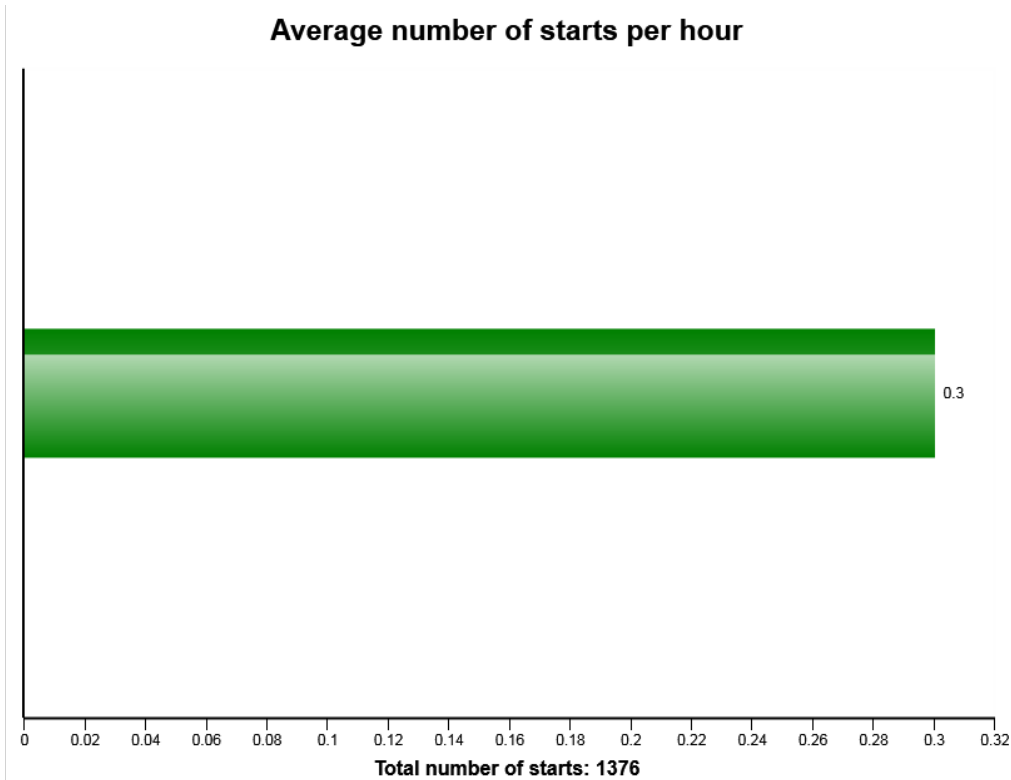
Yellow bar: Excessive load

Load distribution for each bar is shown on top of its column in percentage.

The sum of bars is 100%.



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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."

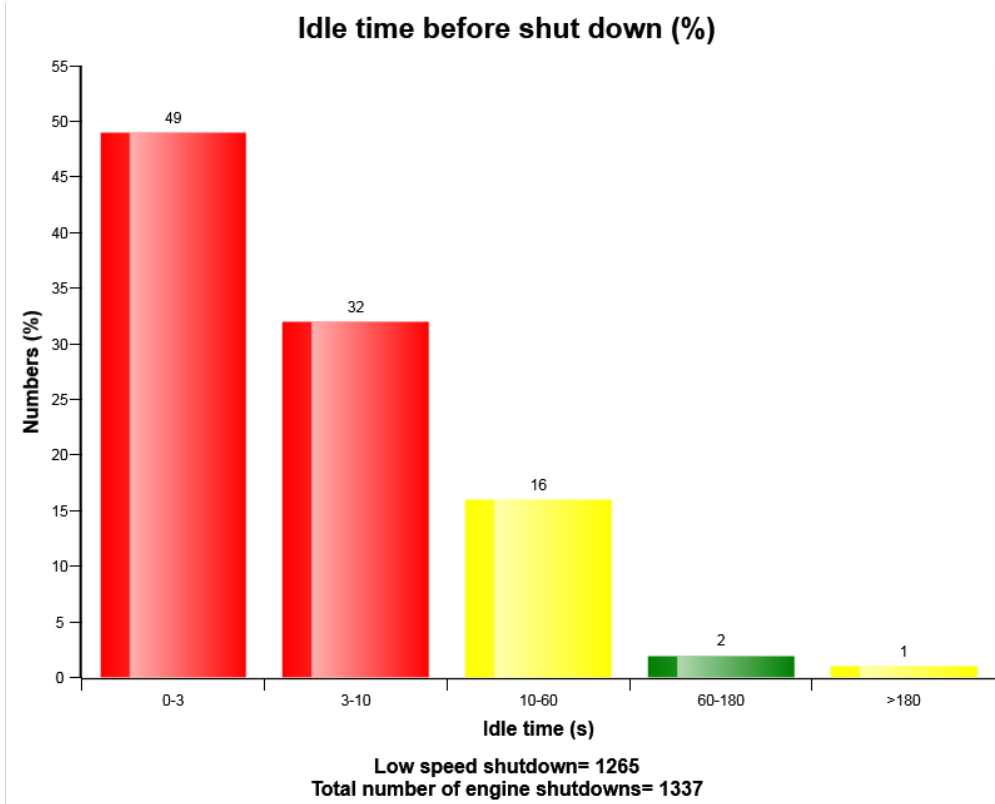


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Green bar = Number of average starts per hour



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Definition:

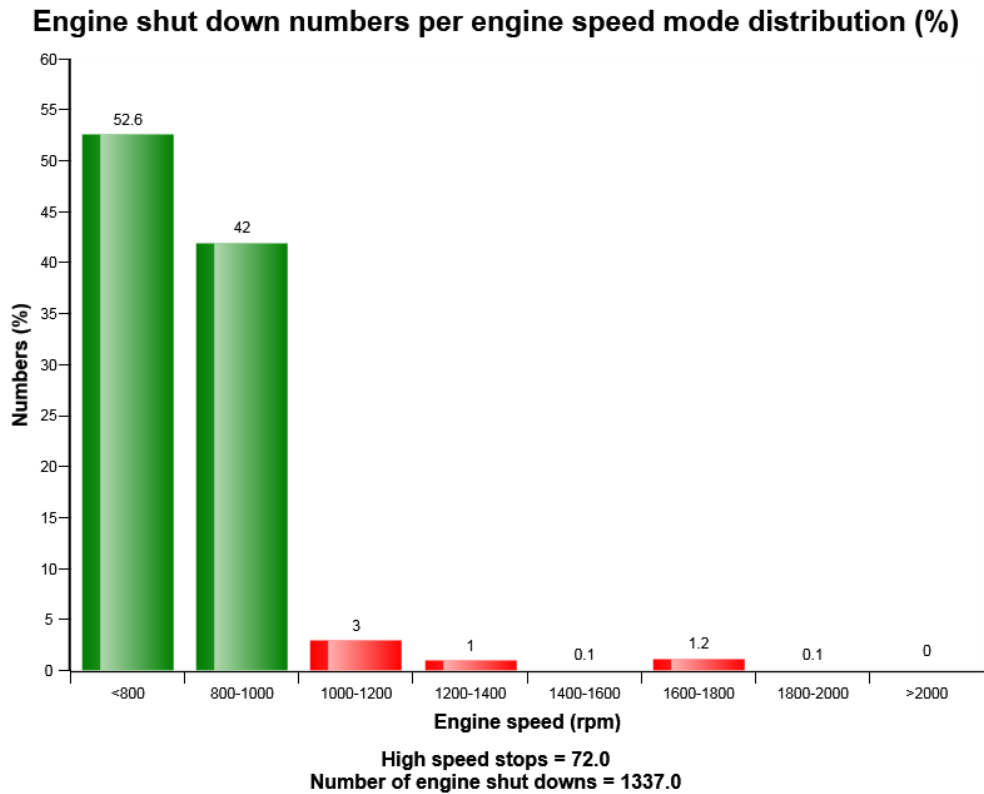
This graph shows the distribution of delayed time at low idle speed until the engine is turned off.

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

The sum of bars is 100%.



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Definition:

The diagram shows the number of stops at high idle (I1 ~ P mode).

Green bars = Normal engine stop

Red bars = Abnormal engine stop

Engine stops at a high idle can cause server damage to the turbo charger due to shortage of the oil lubrication. The engine should be stopped at low idle(I2 mode).

Explanation:

Y-axle: Number of engine stop at each work mode.

X-axle: Work mode.



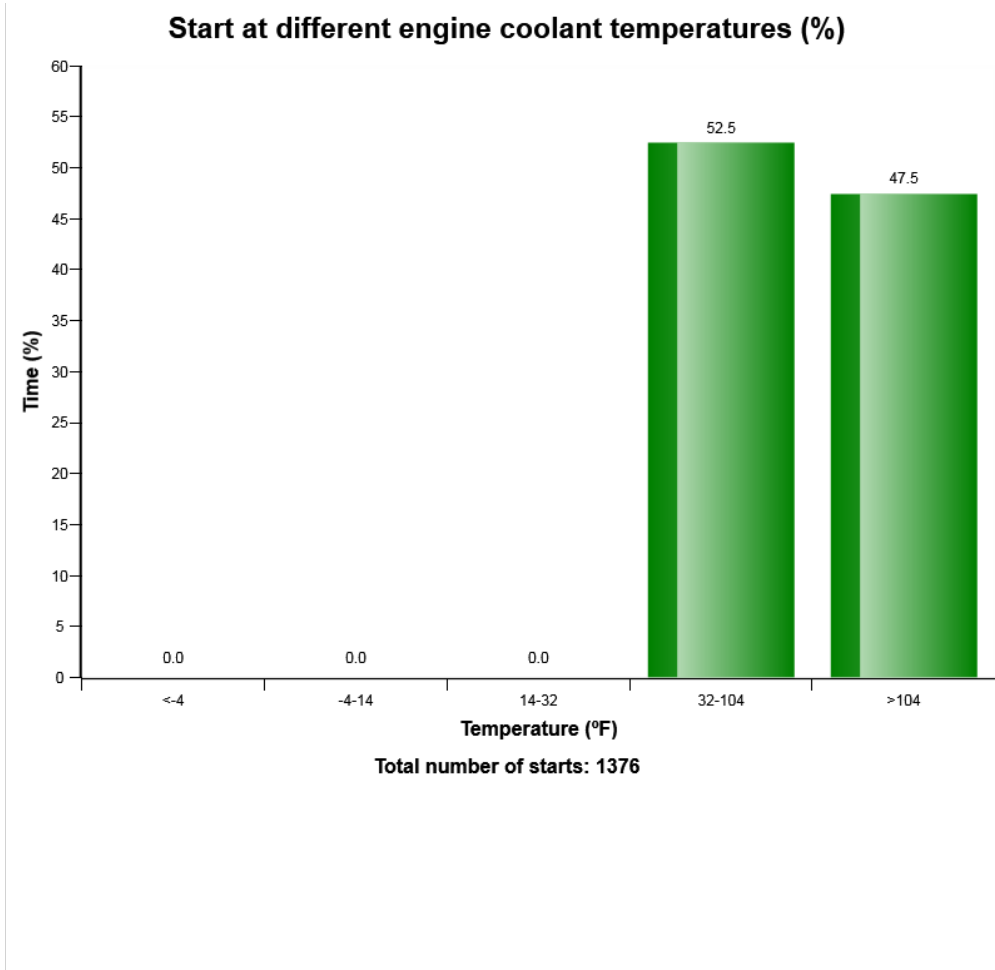
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Distribution of each work mode is shown on top of its column in number.

Total number of shut down is listed below the diagram.



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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.

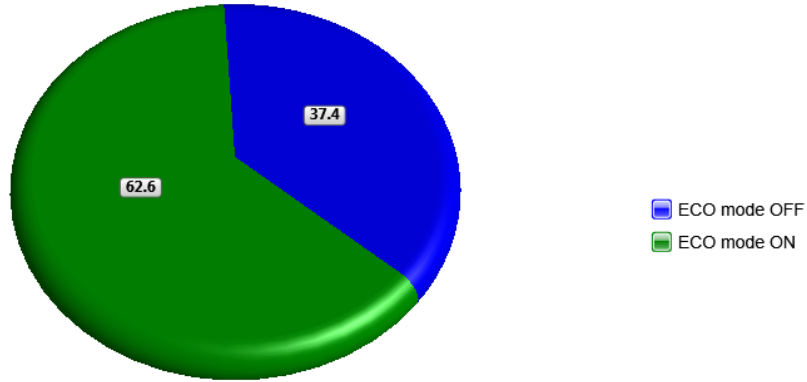


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Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

ECO mode distribution (%)



Total engine time (h)= 4730.9



Machine model	SerialNo	Operating Hours	Reading Date
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Low coolant level
Total number of occurrences = 2304

Op hours	Year	Month	Day	Hour	Minute	Duration (minutes)
* 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
* 40	2012	31	10	16	5	0
* 1310	2015	16	8	16	97	0
* 1842	2018	23	2	16	123	0
* 8485	2016	21	1	16	180	0
* 9222	2011	7	3	16	208	0
* 9731	2016	8	3	16	221	0
* 12323	2017	20	1	16	169	0
* 13086	2015	21	2	16	98	0
* 13355	2005	8	3	16	213	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



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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 coolant level to be recorded in a data point, the count to increment by 1 the engine coolant level state must change from "normal" to "low."



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

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



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Low Engine Oil Pressure
Total number of occurrences = 3072

	Op hours	Year	Month	Day	Hour	Minute	Duration (seconds)	Extreme (psi)
*	2576	2007	15	2	17	56	2	0
*	3633	2007	11	2	17	35	2	0
*	4110	2012	21	2	17	99	3	0
*	4906	2006	10	2	17	25	3	0
*	4908	2009	28	2	17	122	2	0
*	5916	2010	13	2	17	43	1	29
*	7446	2006	27	2	17	112	3	0
*	8448	2006	16	2	17	65	3	0
*	8759	2006	17	2	17	75	3	0
*	9273	2013	23	2	17	110	3	0
*	9474	2006	20	2	17	83	2	0
*	9736	2006	21	2	17	94	2	0
*	10298	2016	27	2	17	122	3	0
*	11827	2009	2	3	17	122	3	0
*	12034	2007	14	2	17	49	2	0
*	12333	2013	23	2	17	110	2	0
*	13057	2008	23	2	17	107	3	0
*	13340	2006	22	2	17	102	2	0
*	14095	2014	21	2	17	100	3	0
*	14375	2006	13	2	17	39	2	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



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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."



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Fuel Filter Clogging
Total number Fuel filter clogging = 256

Op hours	Year	Month	Day	Hour	Minute	Duration (minutes)
* 7698	2009	23	5	15	231	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0
* 0	2000	0	0	0	0	0



Machine model	SerialNo	Operating Hours	Reading Date
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Low Air filter pressure
Total number of occurrences = 0

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

Definition :

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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.



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High Charge air temperature
Total number of occurrences = 0

Op hours	Year	Month	Day	Hour	Minute	Duration (seconds)	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	321
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



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hours is displayed in the first column, followed by year, month , day , hour and minute to show when an event has occurred.

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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 :

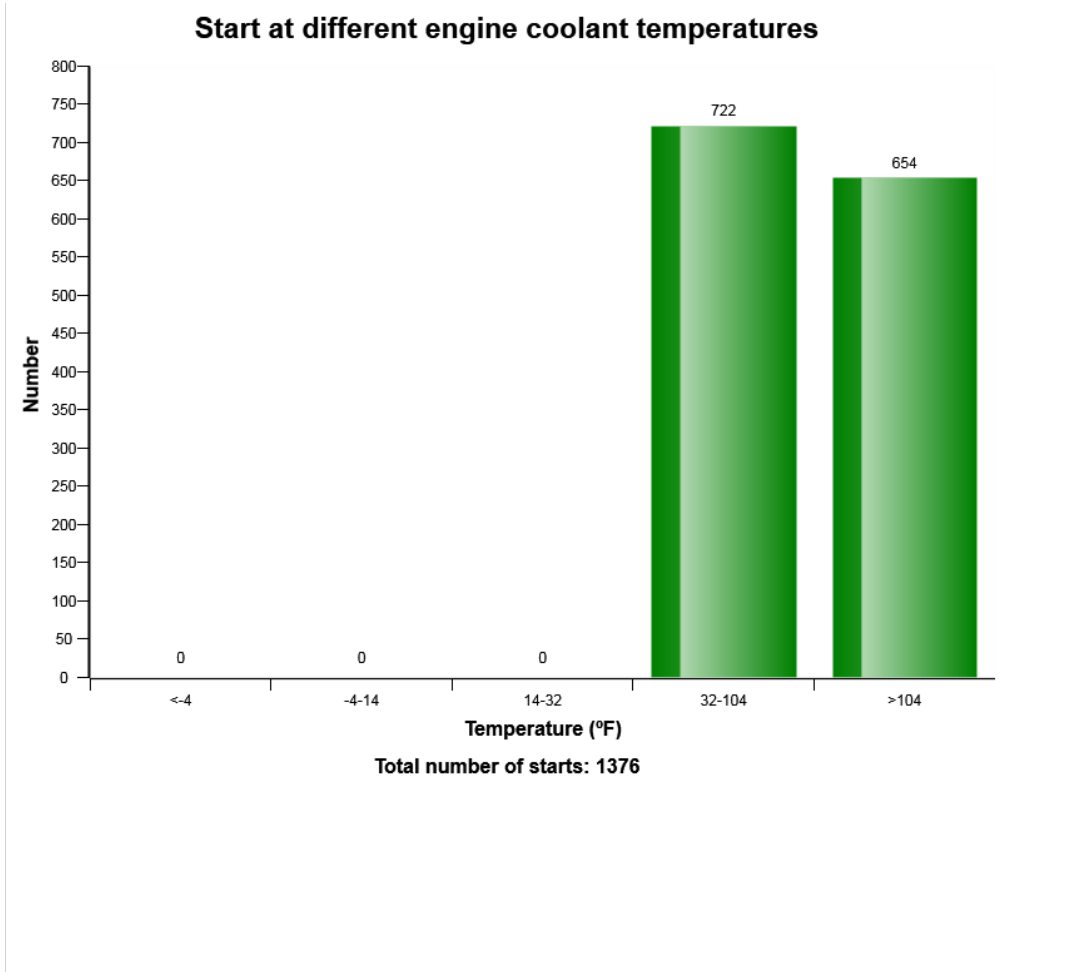
The extreme value column displays the most extreme value during the event.

Criteria :

In order for an occurrence of high engine charge air temperature to be recorded and the count to increment by 1, the engine charge air temperature must change from "normal" to "high." The event of high engine charge air temperature will end when the status changes from "high" back to "normal."



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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.



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Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

Regeneration aborted
Total number of occurrences = 2560

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
* 1295	2018	6	2	15	67	1
* 1556	2008	8	2	15	80	2
* 2081	2008	8	2	15	80	2
* 2104	2007	8	2	15	79	2
* 4656	2015	6	2	15	65	2
* 5430	2012	16	2	16	70	2
* 5942	2015	6	2	15	65	2
* 9770	2015	6	2	15	65	2
* 9986	2011	28	4	16	78	2
* 12063	2015	7	2	15	77	2



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

Regeneration ignored
Total number of occurrences = 2816

	Op hours	Year	Month	Day	Hour	Minute	Duration (min)
*	2576	2007	15	2	17	56	522
*	3633	2007	11	2	17	35	245
*	4110	2012	21	2	17	99	114
*	4906	2006	10	2	17	25	611
*	4908	2009	28	2	17	122	4
*	5916	2010	13	2	17	43	362
*	7446	2006	27	2	17	112	570
*	8448	2006	16	2	17	65	612
*	8759	2006	17	2	17	75	506
*	9273	2013	23	2	17	110	0
*	9474	2006	20	2	17	83	606
*	9736	2006	21	2	17	94	300
*	10298	2016	27	2	17	122	5
*	11827	2009	2	3	17	122	6
*	12034	2007	14	2	17	49	445
*	12333	2013	23	2	17	110	137
*	13057	2008	23	2	17	107	192
*	13340	2006	22	2	17	102	306
*	14095	2014	21	2	17	100	87
*	14375	2006	13	2	17	39	206



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

Regeneration duration
Total number of occurrences = 0

Op hours	Year	Month	Day	Hour	Minute	Duration (min)
* 23	2016	30	1	16	212	51
* 788	2011	8	2	15	83	42
* 789	2008	8	2	15	80	5
* 2101	2007	8	2	15	79	0
* 3622	2015	6	2	15	65	9
* 4631	2011	28	4	16	78	21
* 5691	2019	3	9	15	210	35
* 6177	2016	7	1	16	90	51
* 7176	2019	17	3	15	6	50
* 8735	2015	7	2	15	76	13
* 8964	2016	3	5	16	79	9
* 9525	2015	6	2	15	65	1
* 9776	2016	26	8	15	148	51
* 10523	2017	3	2	16	249	51
* 10530	2016	25	1	16	194	51
* 11307	2018	10	3	15	202	37
* 13065	2016	11	2	16	46	51
* 13079	2017	6	2	15	67	14
* 13079	2011	16	2	16	70	65
* 14853	2017	9	3	16	234	50



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

High engine coolant temperature
Total number of occurrences = 0

Op hours	Year	Month	Day	Hour	Minute	Duration (seconds)	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
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



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

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.



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

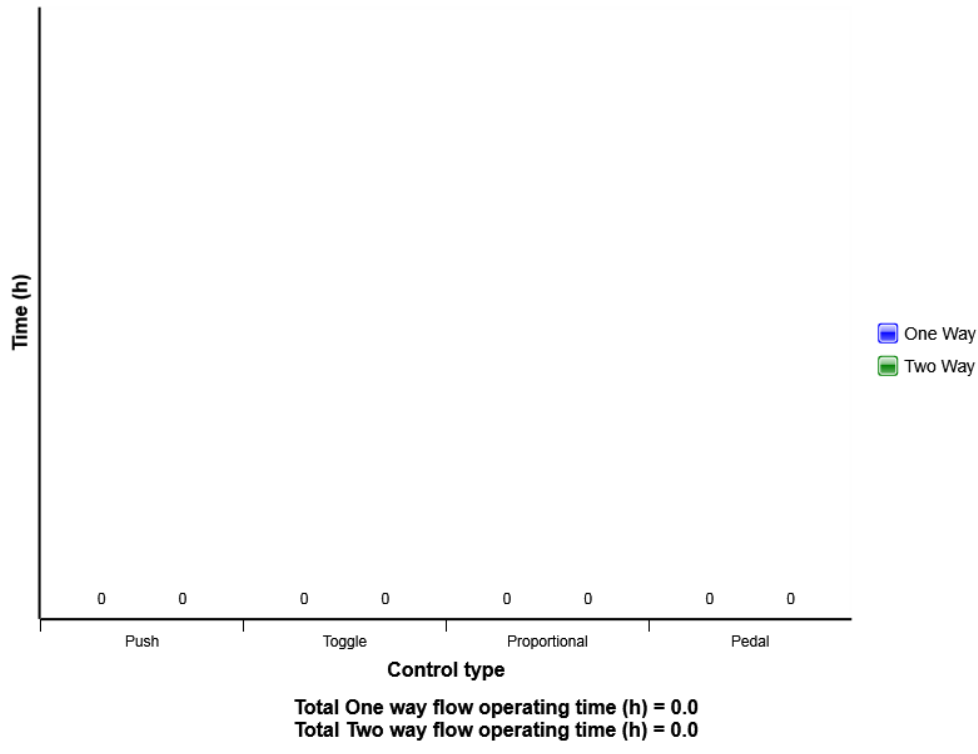
Water level warning in water separator
Total number of occurrences = 0

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
* 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



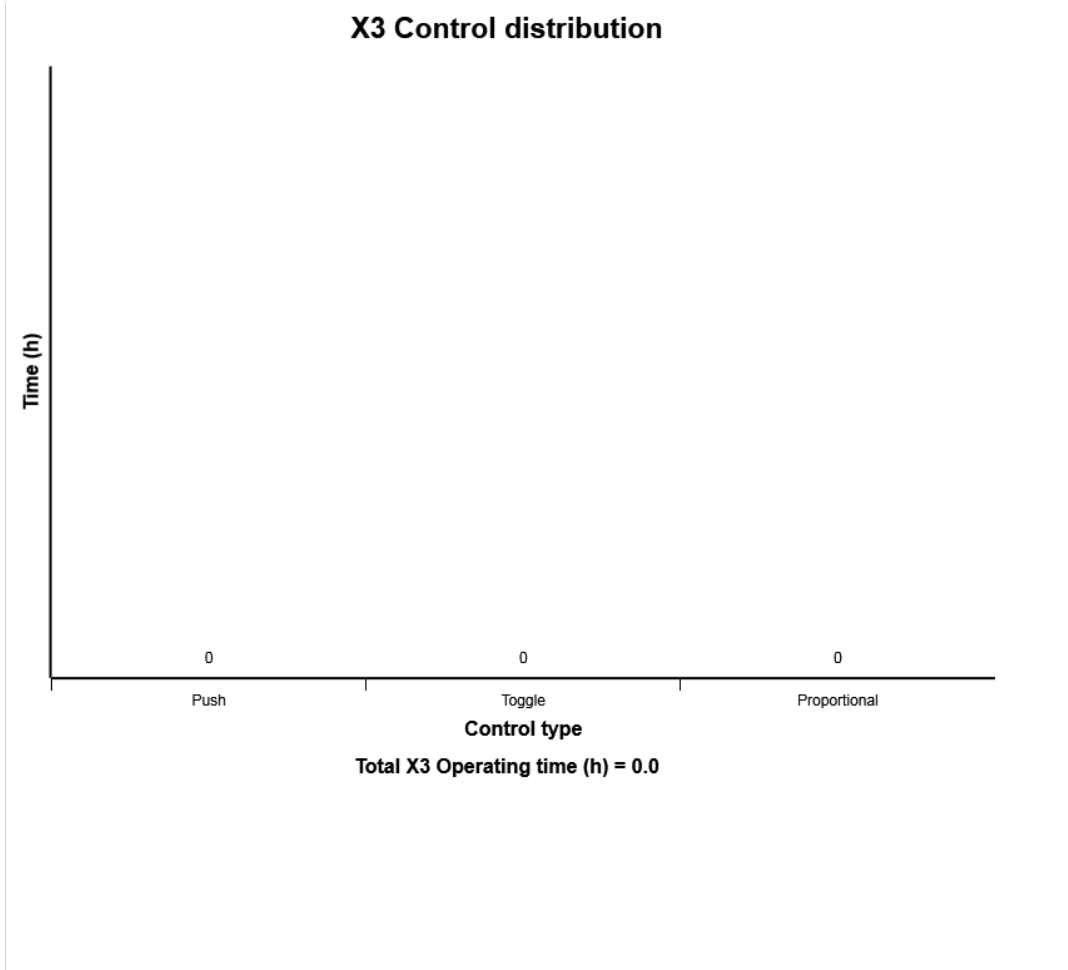
Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

X1 control distribution

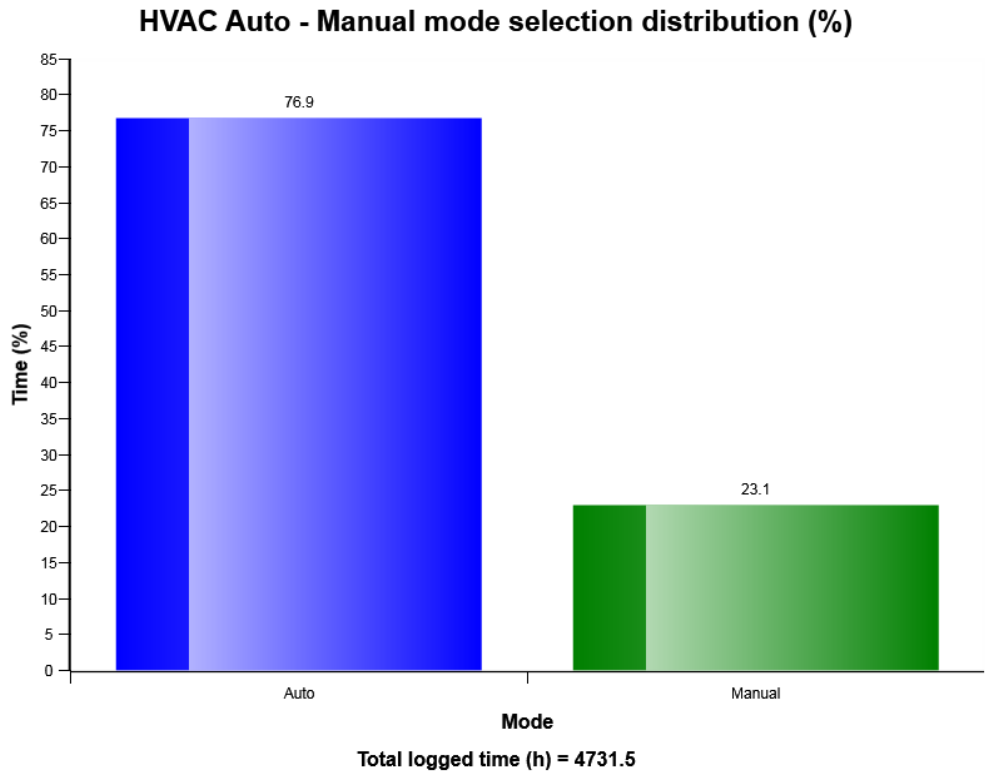


Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

X3 Control distribution



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

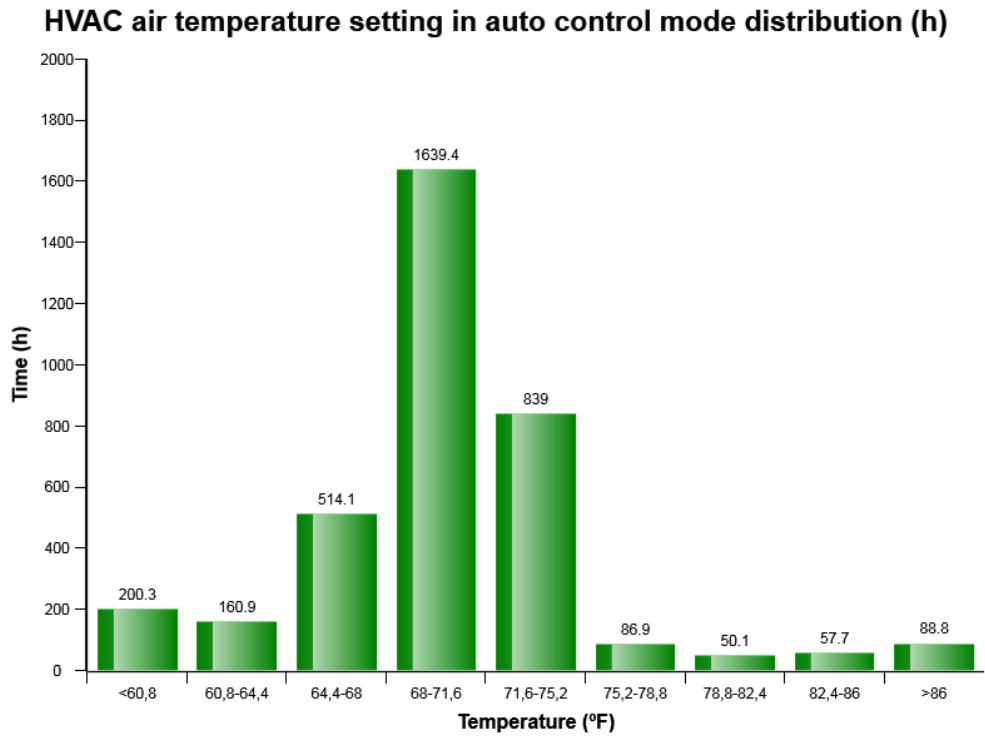


Definition:

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



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017



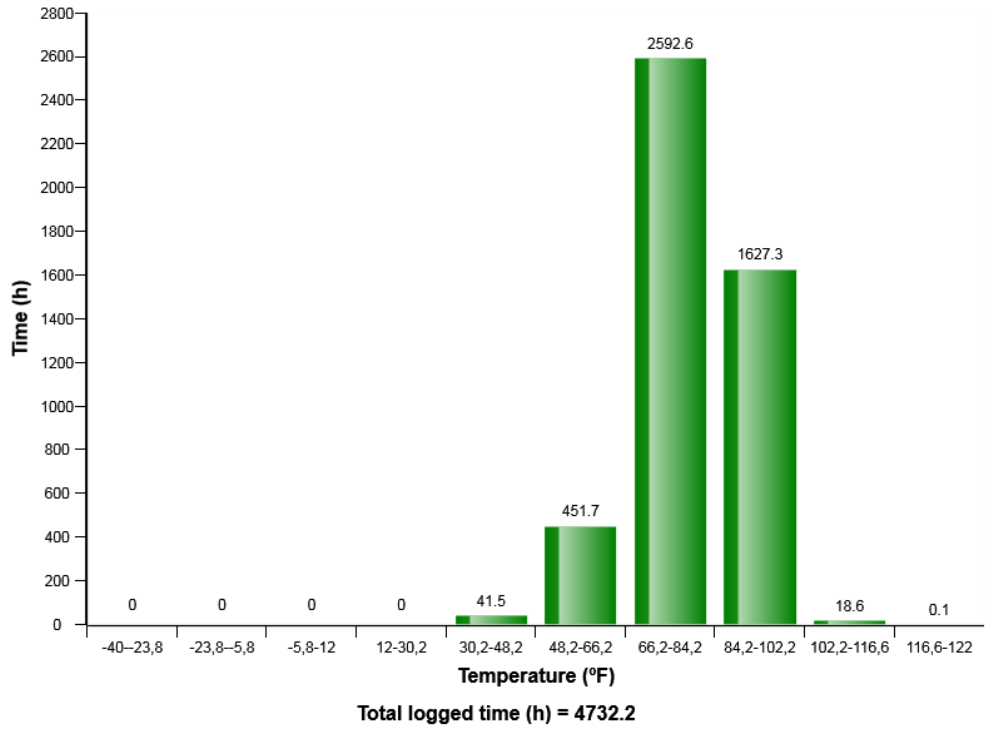
Definition:

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

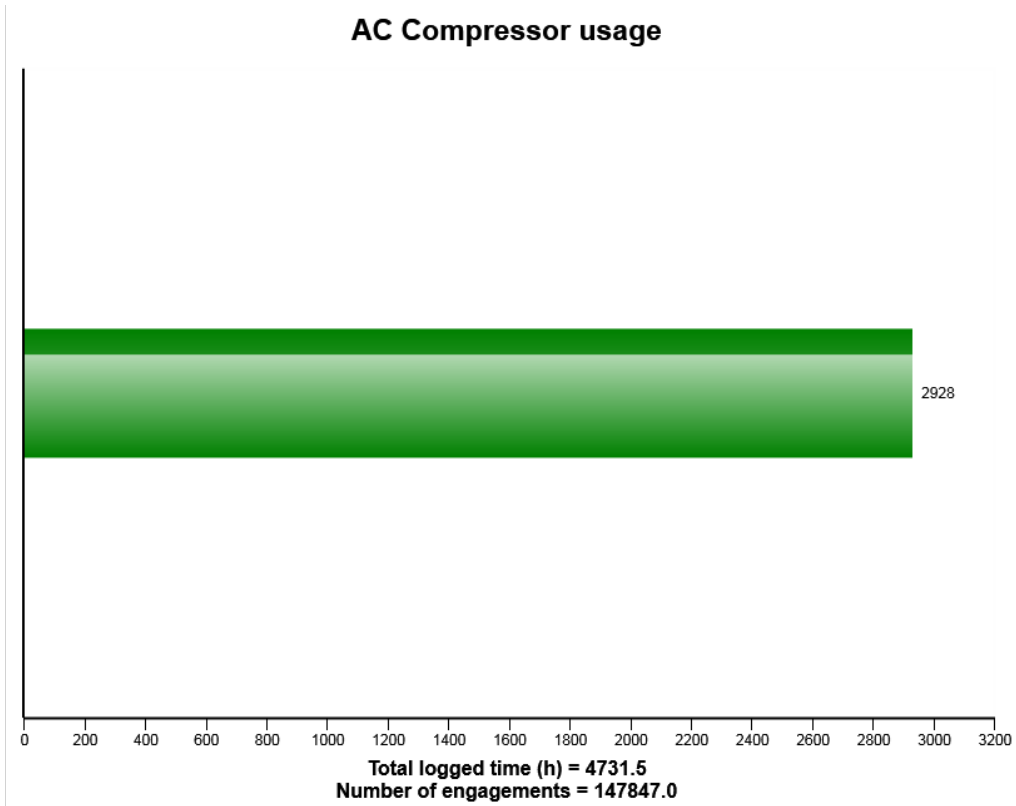


Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

Machine ambient temperature distribution (h)



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017



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.

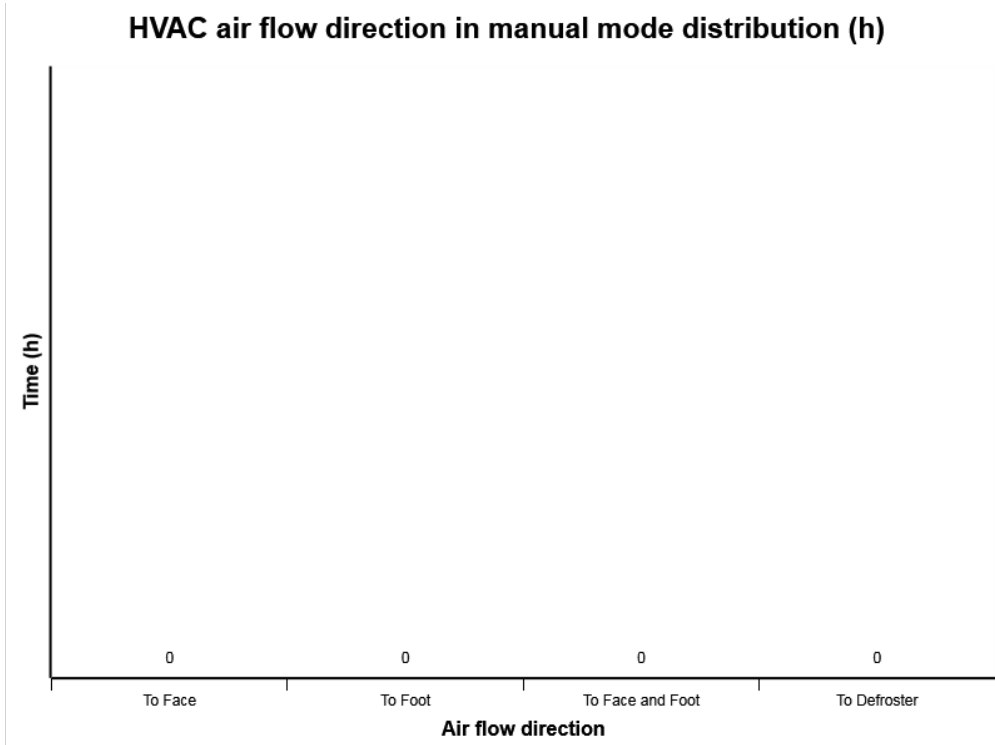
Total number of AC compressor activations is also displayed.



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017



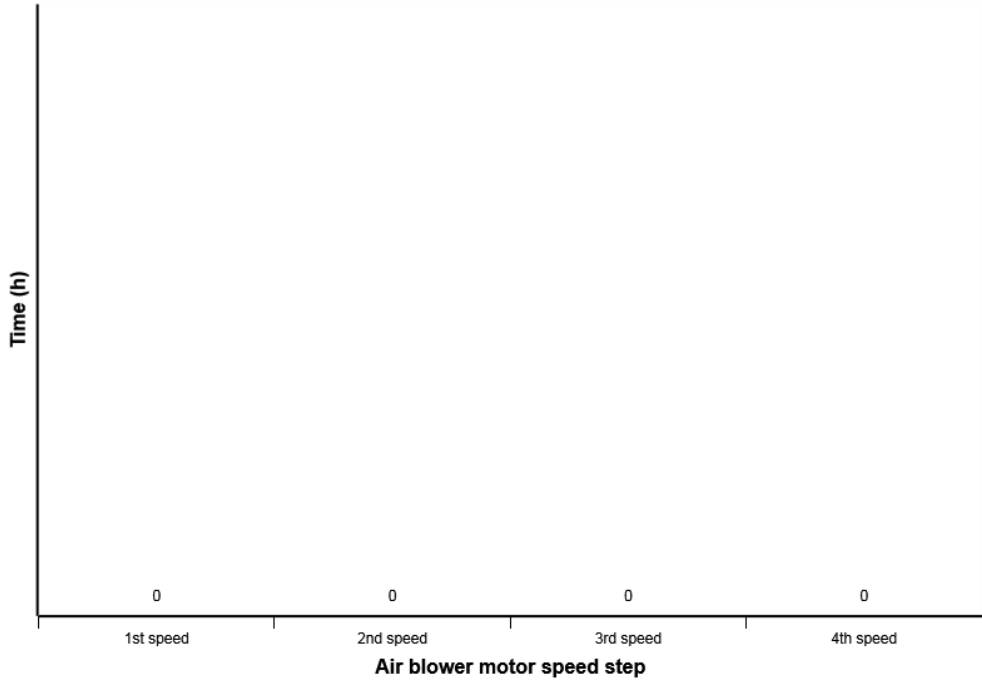
Definition:

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



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

HVAC air blower motor speed in manual mode distribution (h)



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
EC380E	310133	4731.1	3/6/2017

AC High Pressure
Total number of occurrences = 0

Op hours	Year	Month	Day	Hour	Minute	Duration (seconds)	Ambient temperature (°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
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



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

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
EC380E	310133	4731.1	3/6/2017

AC System Cut Out Pressure
Total number of occurrences = 0

Op hours	Year	Month	Day	0	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
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



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

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 :

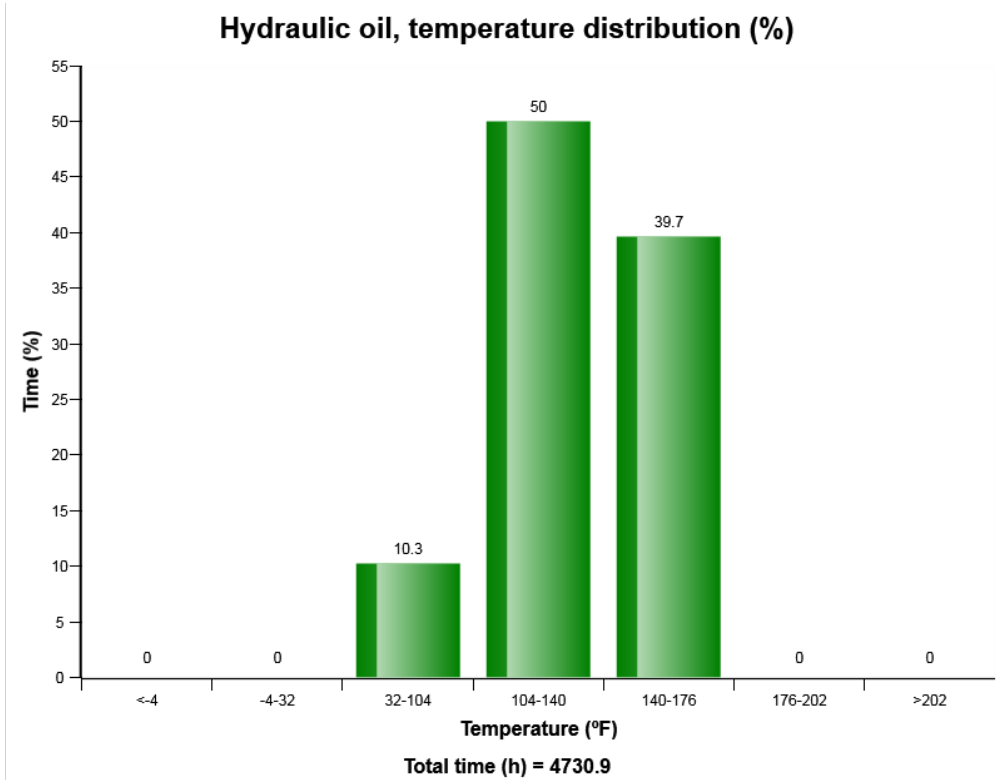
The extreme value column displays the most extreme value during the event.

Criteria :

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



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017



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



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

region.

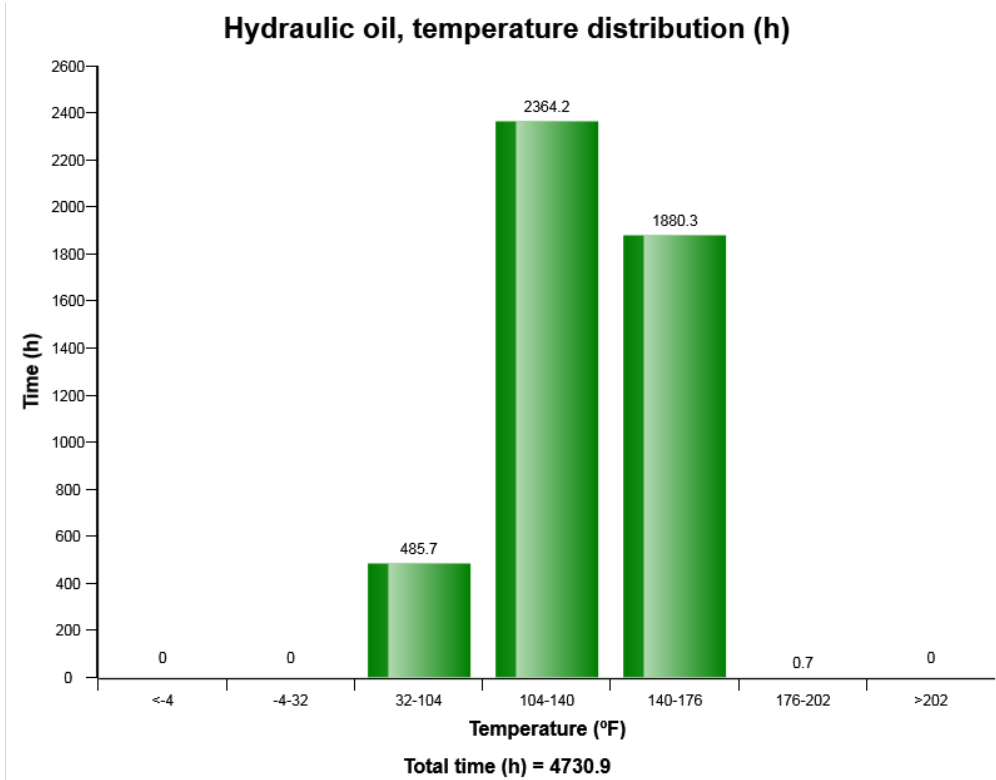
Yellow bar = High working temperature. It is normal to have some registrations in this region.

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
EC380E	310133	4731.1	3/6/2017



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



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

region.

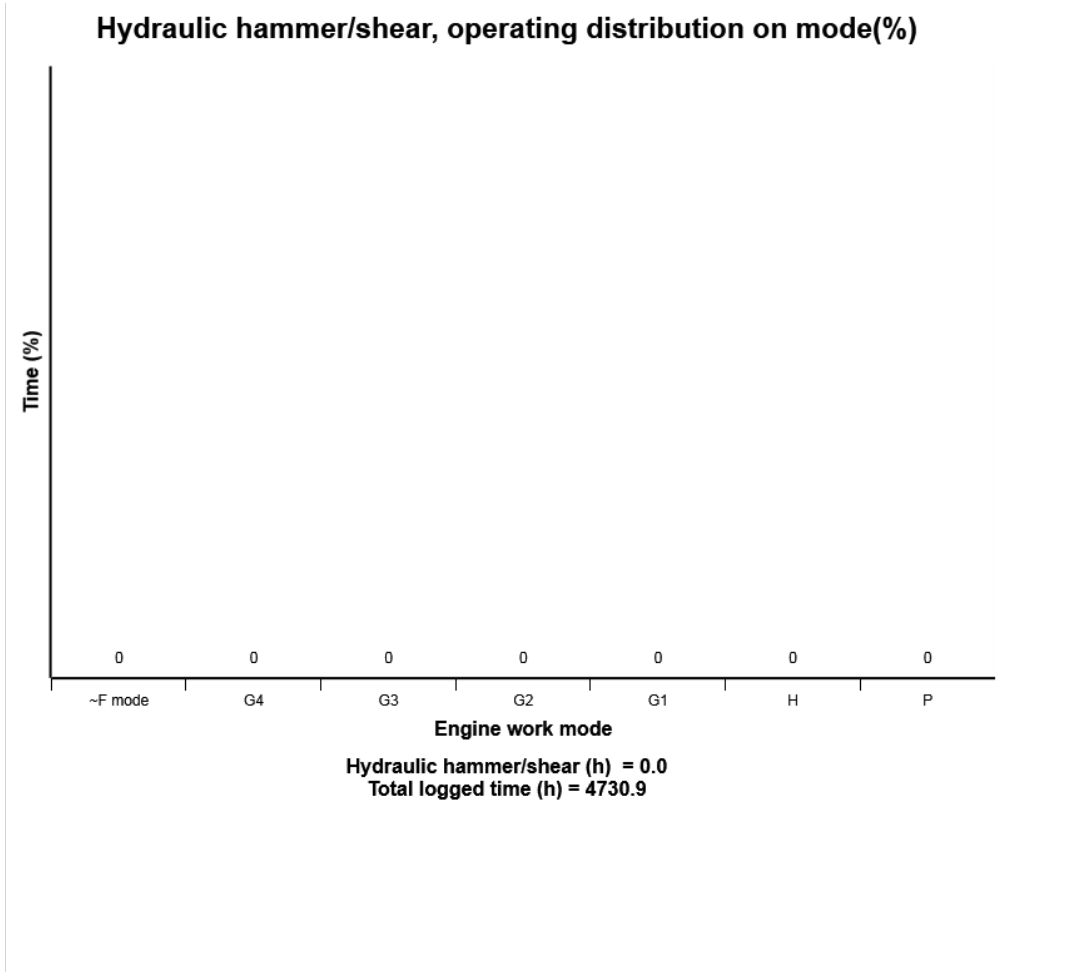
Yellow bar = High working temperature. It is normal to have some registrations in this region.

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
EC380E	310133	4731.1	3/6/2017



Definition:

The graph describes the operating hours (%) for hydraulic hammer/shears on each engine control mode .

Recommended to use green column mode of the hammer operation.

I2 = Idle 2

I1 = Idle 1

F3= Fine control 3

F2= Fine control 2

F1= Fine control 1



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

G3 = General 3

G2 = General 2

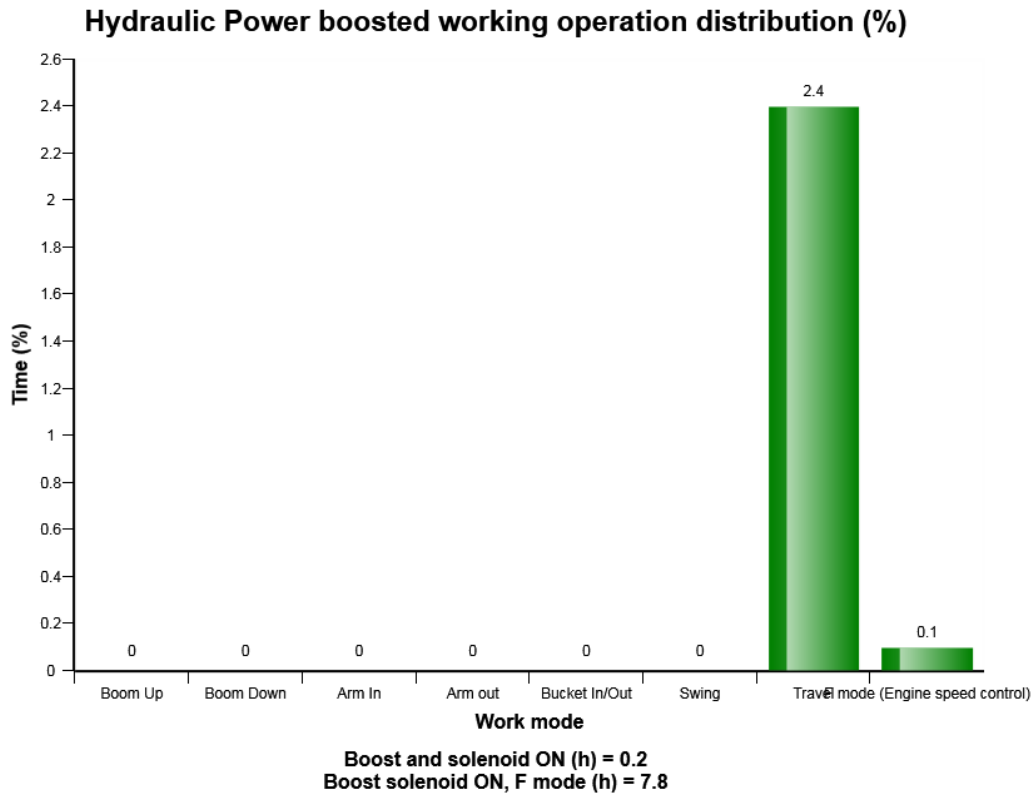
G1 = General 1

H = Heavy Duty

P = Power max



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017



Definition:

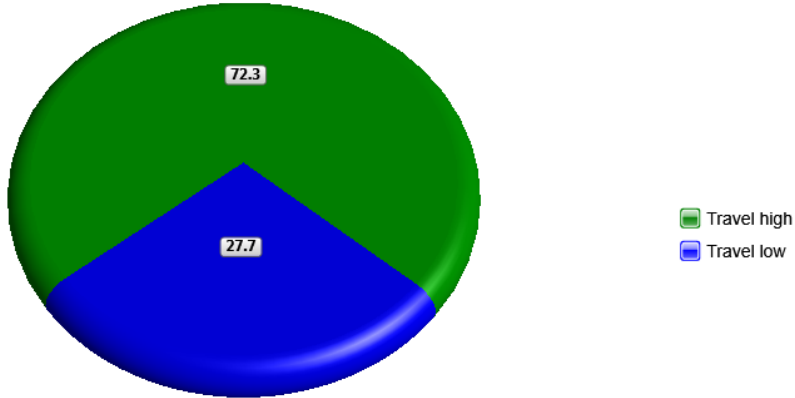
The diagram describes Power boosted operating time distribution, when main relief pressure increases on working operation modes. In this diagram, the sum of time (%) of each working operation mode can exceed 100%. It means that customer has been operated several working operations at the same time.

Total operating time with power boosted (hours) in above means sum of the time for Hydraulic Power boosted operation. The base for the percentage calculation is Total operating time with power boost. Time(%) on each working operation mode except travel and F mode above is the time, after the operator press power boost button on the joystick and until main relief pressure is recovered to default pressure.



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

Travel speed, high/low (%)



Total travel time (h) = 235.9
Travel time / Operating hours (%) = 5.0

Definition:

This graph shows operating hour distributions on each travel speed for total travel time.

Blue sector: Travel switch in low position

Green sector: Travel switch in high position

Explanation:

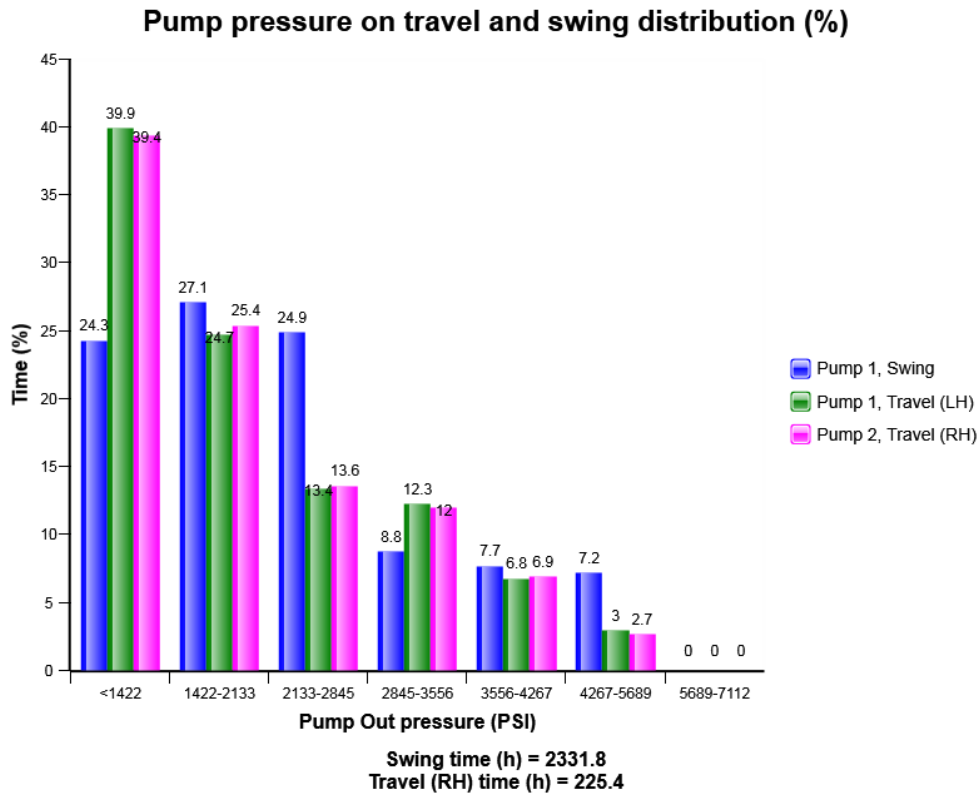
Distribution of each travel time is shown on right of its sector in percentage

The sum of travel time in percentage is 100

Total travel time is listed below the diagram



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

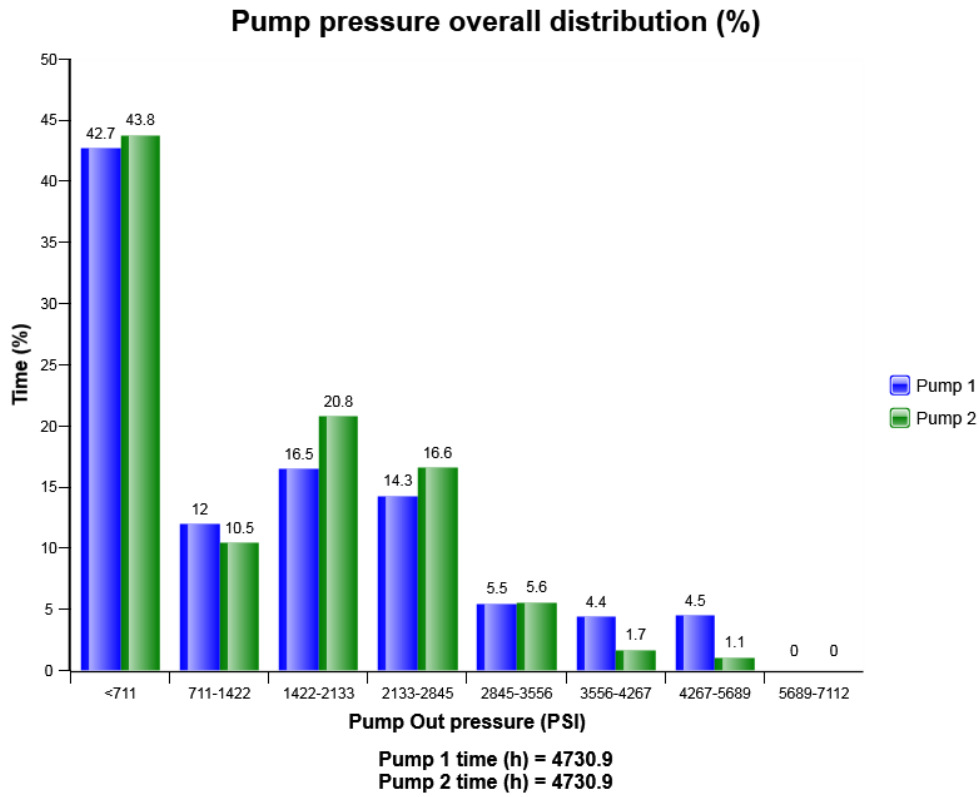


Definition:

The diagram describes Pump outlet pressure of 2 Pumps for travel and swing operation distribution. In case operator use several operations at the same time, this pressure distribution for travel and swing operation can be different from actual operating pressure distribution for travel and swing operation in field.



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

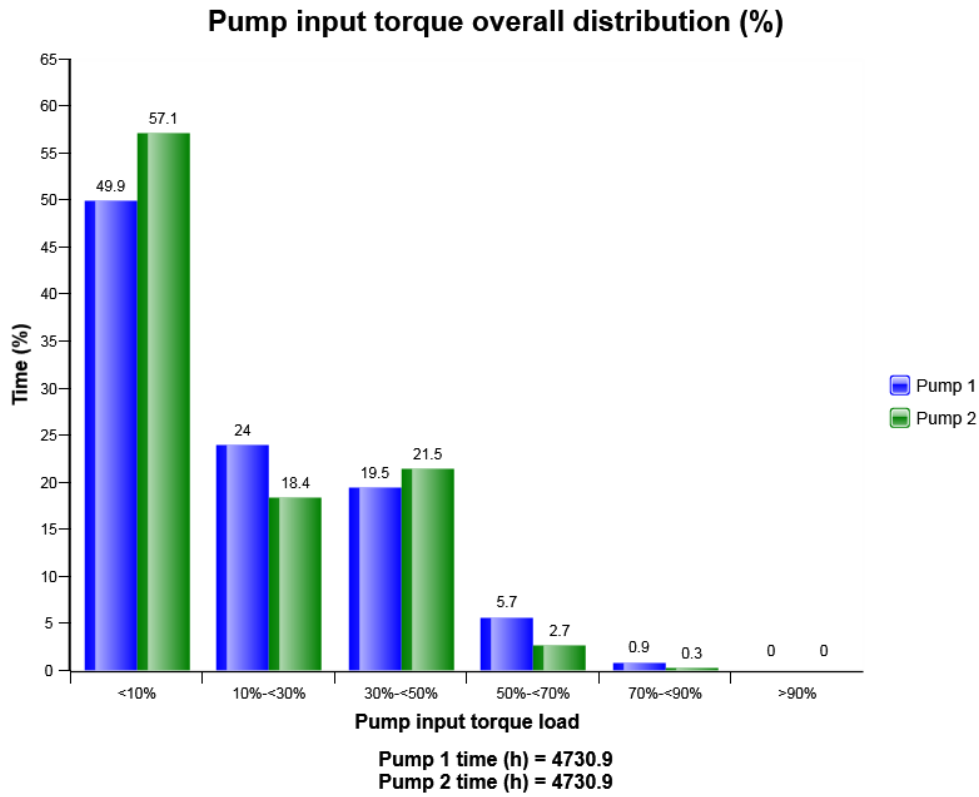


Definition:

The diagram describes Pump outlet pressure of 2 Pumps distribution.



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

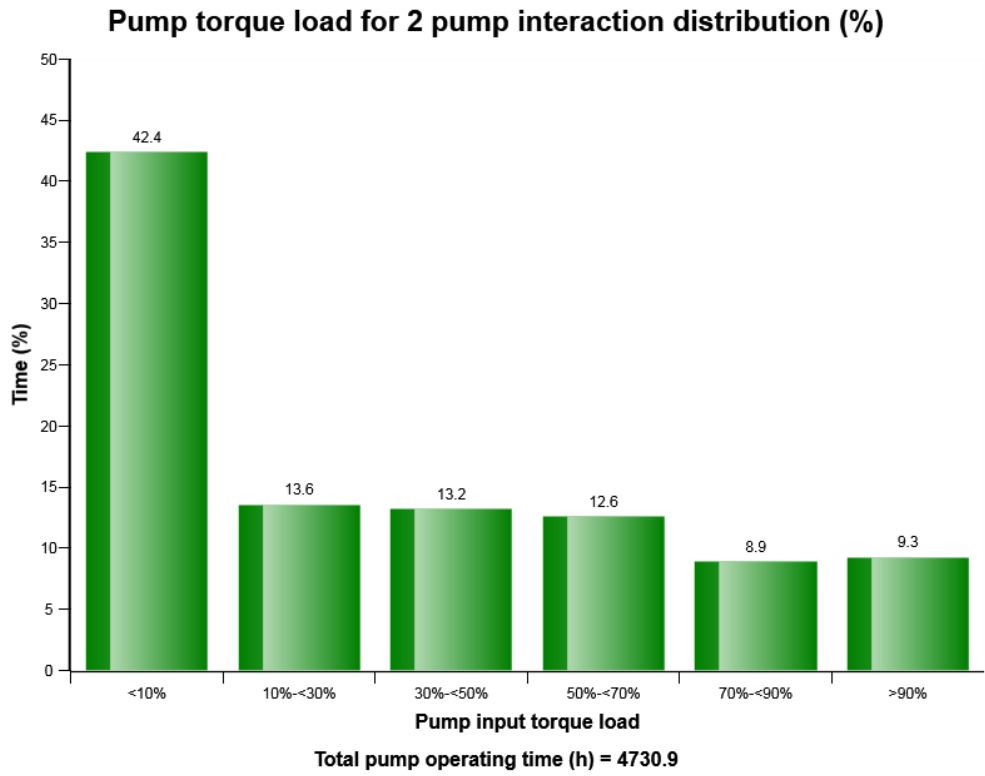


Definition:

The diagram describes Pump torque load of 2 Pumps distribution.



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017



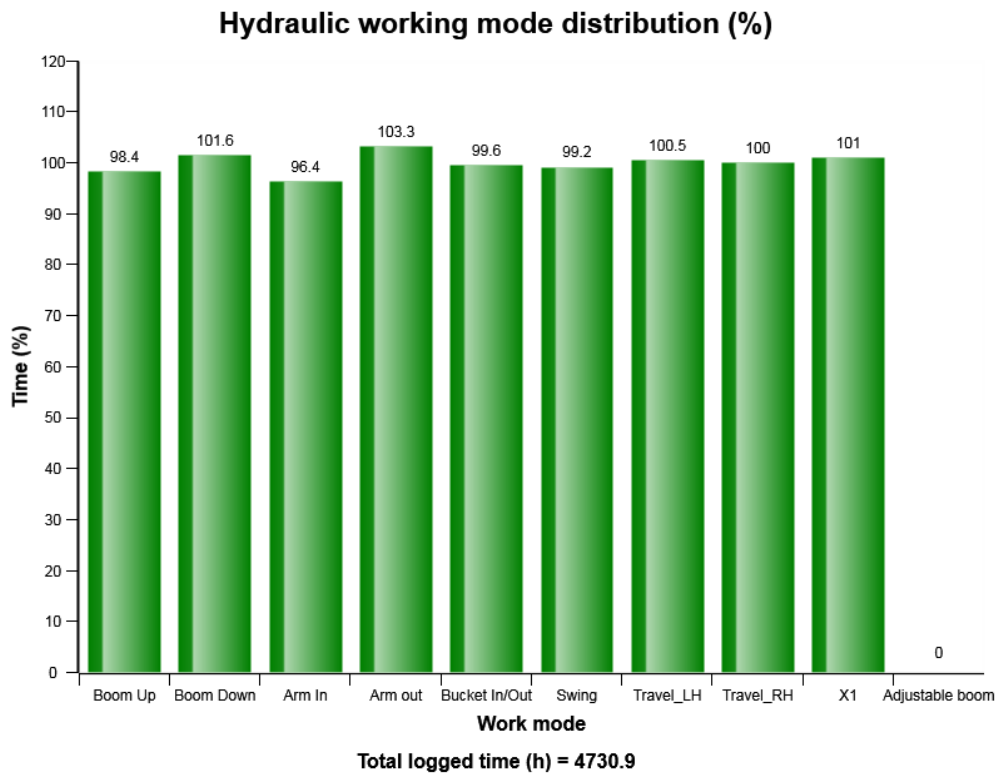
Definition:

This is to see total torque load distribution of 2 pumps when it operates 2 pumps at the same time.

The diagram describes total Pump torque load for 2 Pump's interaction distribution



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

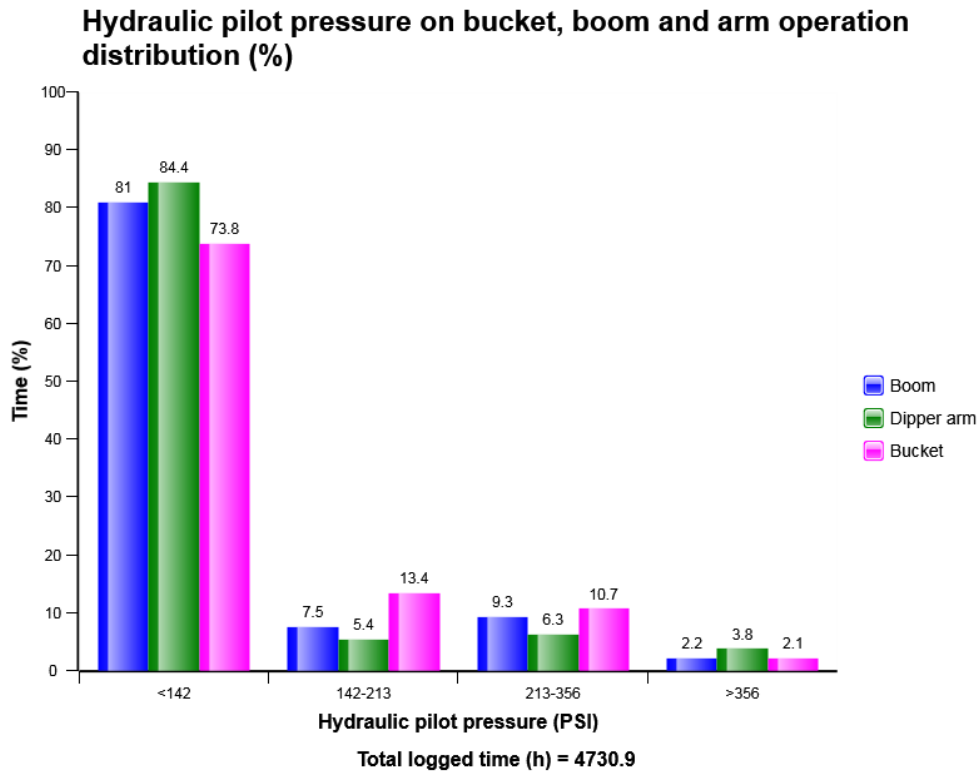


Definition:

The diagram describes hydraulic working operation mode distribution.



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

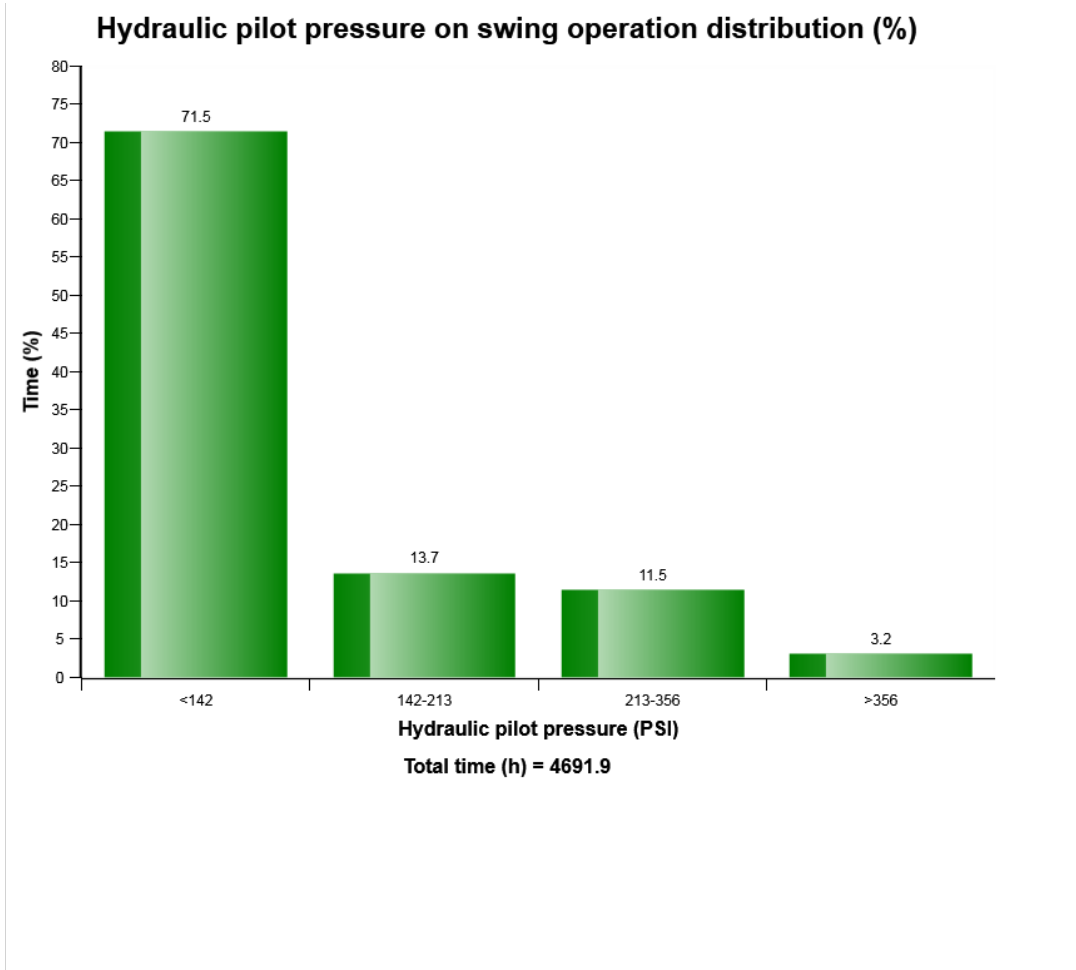


Definition:

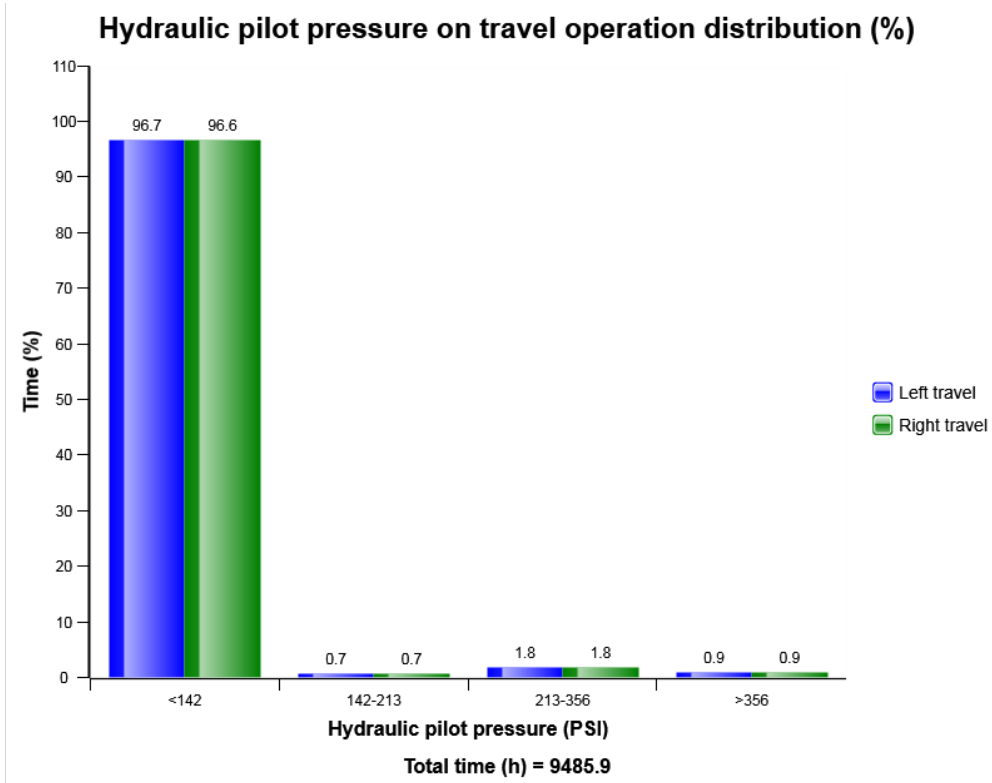
The diagram describes the distribution of hydraulic pilot pressure in specified operation _____



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017



Definition:

The diagram describes the distribution of hydraulic pilot pressure in specified operation _____



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

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 :

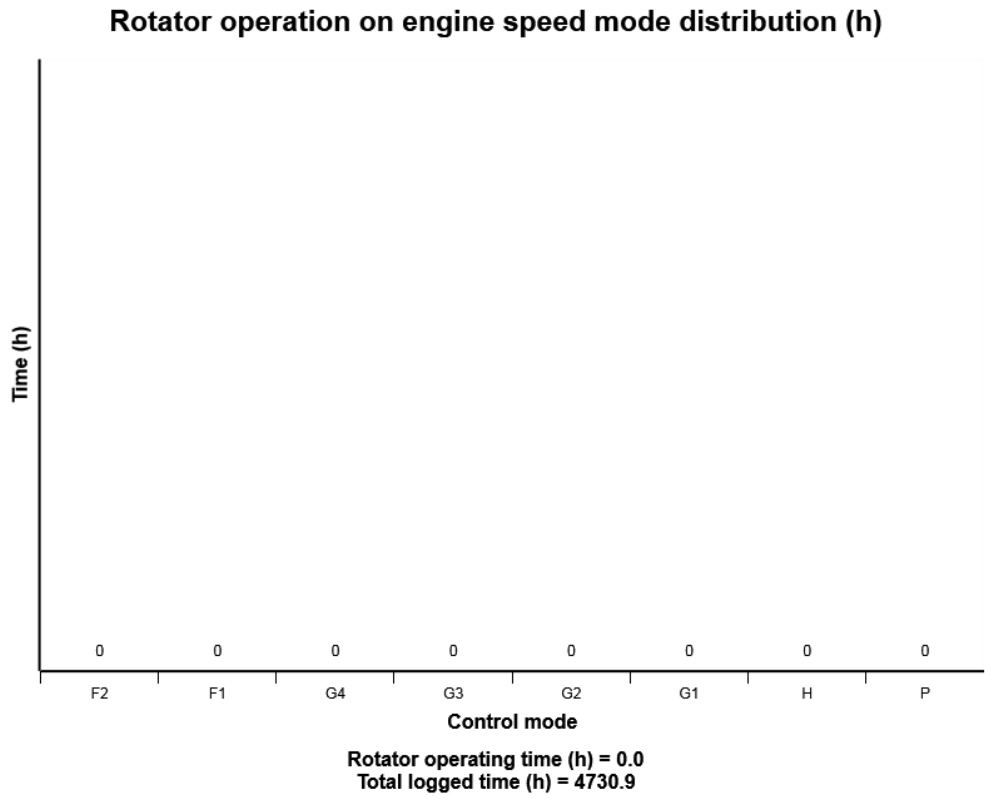
The extreme value column displays the most extreme value during the event.

Criteria :

Logging is performed when, Alarm high hydraulic oil temperature , is active.



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017



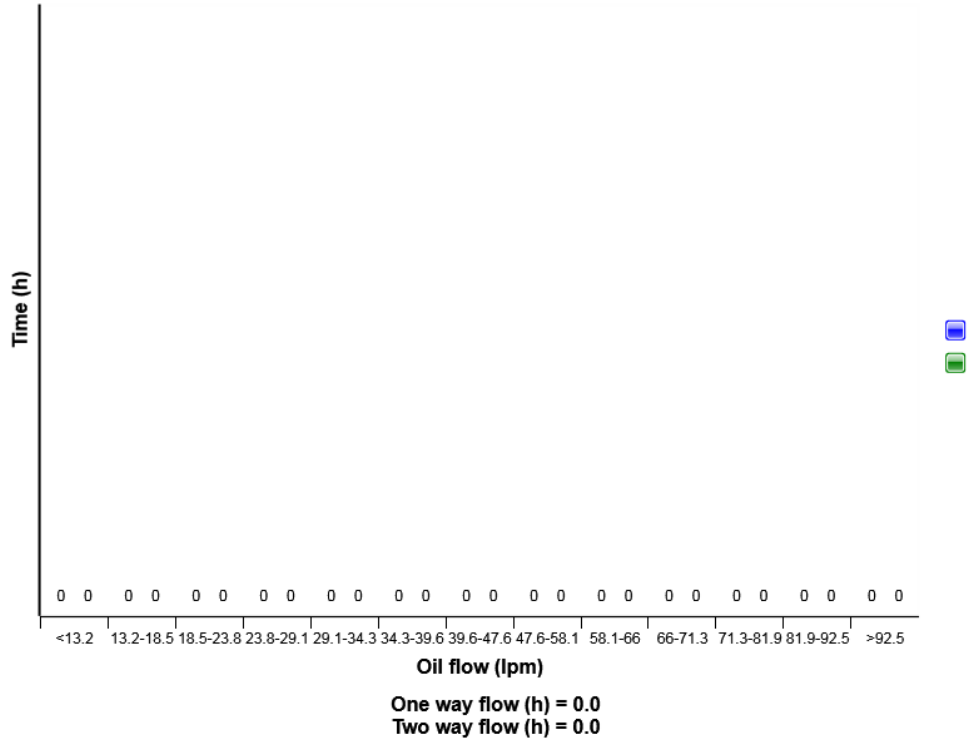
Definition:

The diagram describes the distribution of Rotator operating hours on mode.



Machine model	SerialNo	Operating Hours	Reading Date
EC380E	310133	4731.1	3/6/2017

X1 hydraulic oil flow control distribution



Definition:

The diagram describes X1 hydraulic oil flow control distribution of the machine while machine operates.

