

# VOLVO CONSTRUCTION EQUIPMENT MATRIS REPORT

Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018
Company name	Dealer	Report Issuer	
Alta Equipment			
Contact name	Technician	Primary Application	
	steve.horn	Site Preparation	
Site	Workorder	Ground Condition	
	swo189019		

MATRIS Reading, Summary / Recommendation

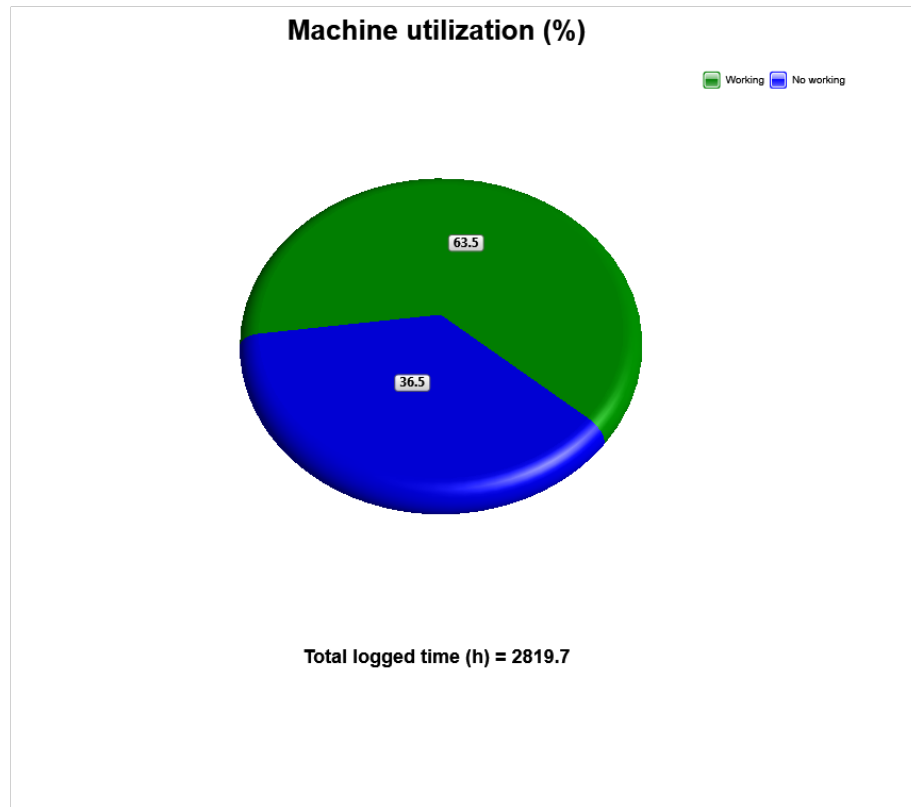


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Main equipment	Type	Equipment
	Track chain	
	Hydraulic Fluid	
	X3 piping	
	Main Attachment	
	Attachment Interface	
	X1 Piping	
	Hose Rupture Valve on Boom	
	Hose Rupture Valve on Arm	
	X1 return filter	



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



### Definition:

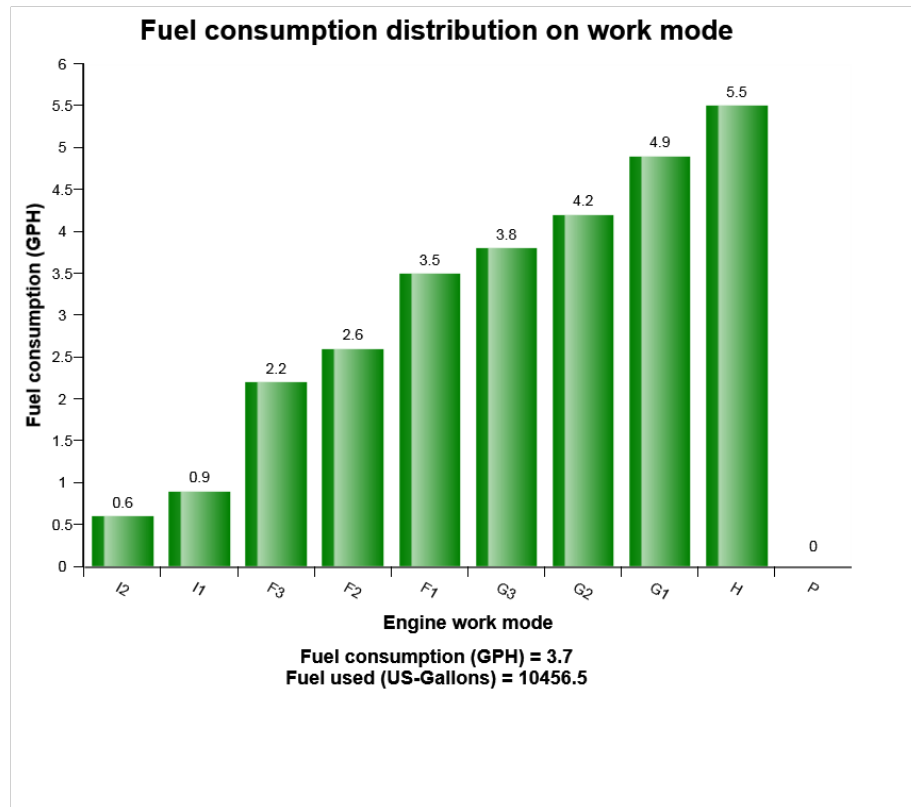
The graph shows the distribution of the operating time for the machine. The operating time is defined as the time with engine on

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

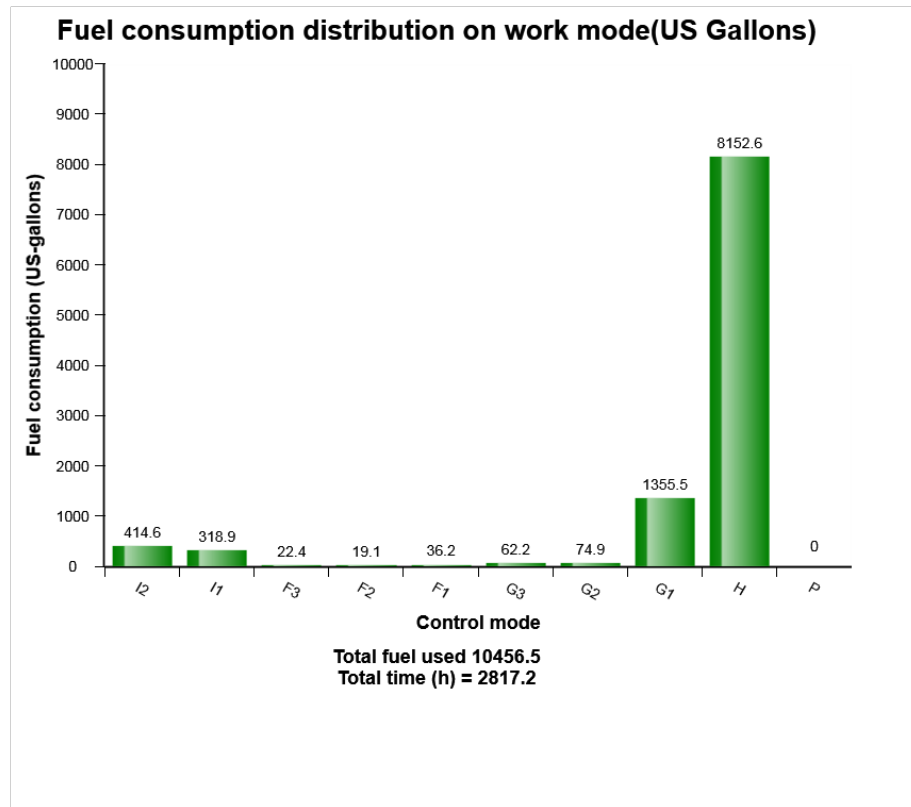
**Green sector** = Machine in work with the move of attachments and tracks



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



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EC250E	310117	2818.7	11/16/2018



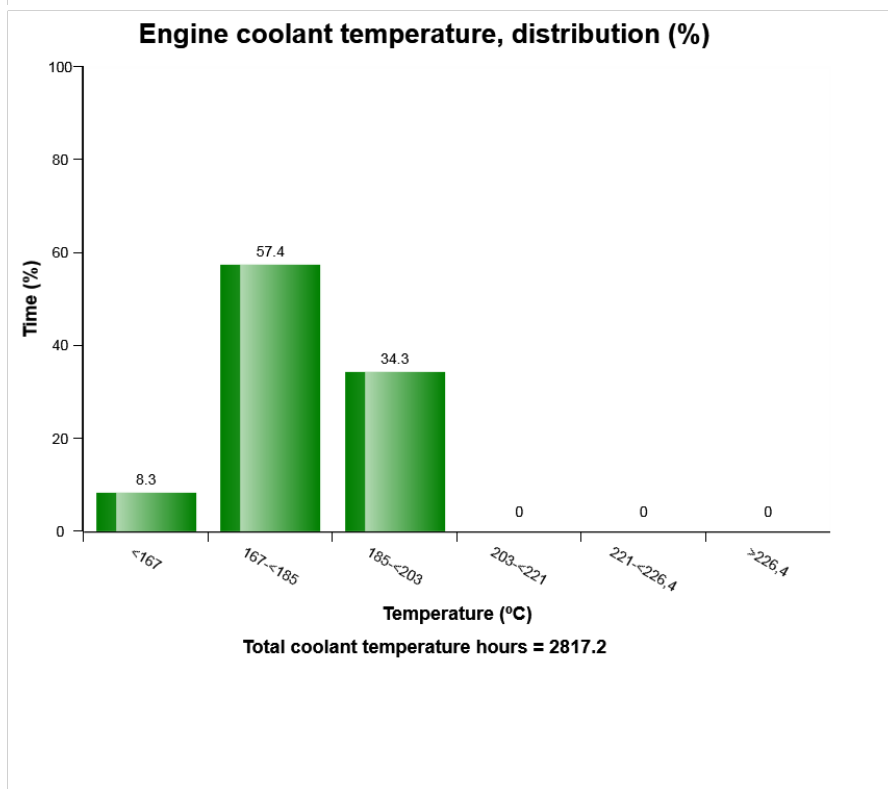
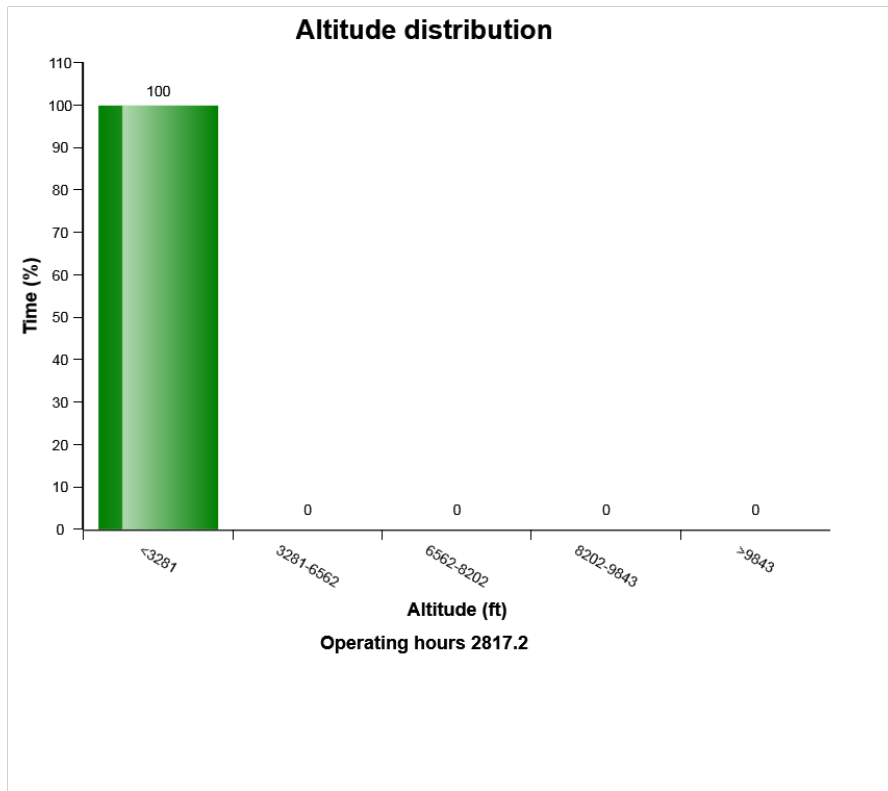
### Definition:

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

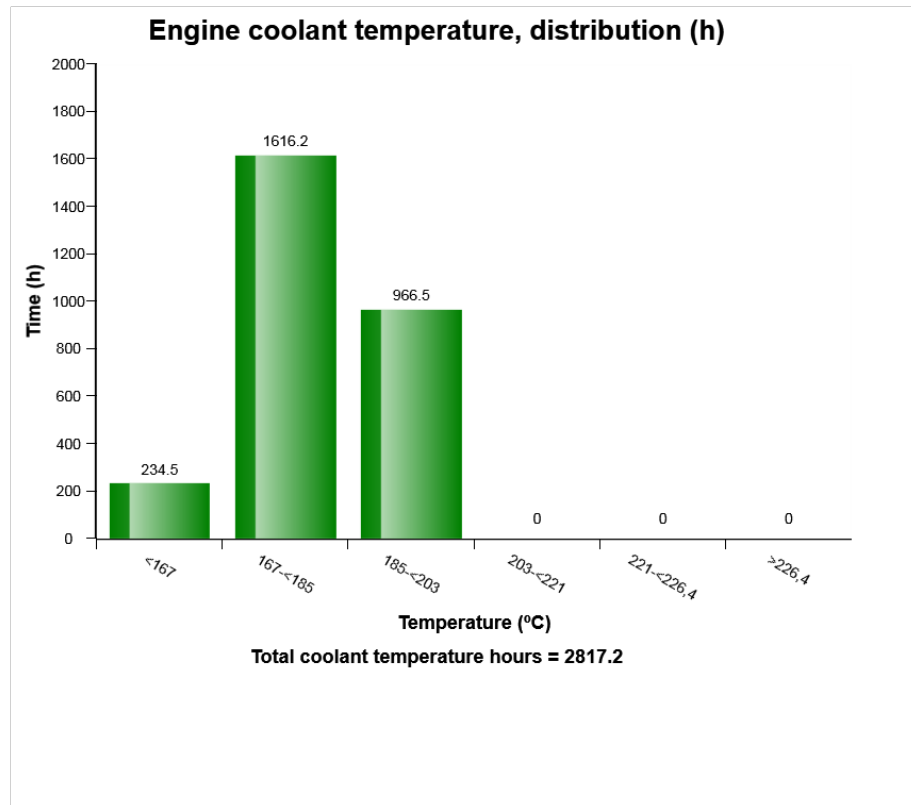
Total amount of fuel consumed (m3) in above means that the sum of the fuel while it consumed for engine ON. The values above distribution were calculated from theoretical calculation with logged data in V-ECU so it can be some different from actual performance in field.



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



### Definition:

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

### Explanation:

Y-axis: Time

X-axis: Temperature distribution in classes.

Blue bar = Warm-up phase.

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



Machine model	SerialNo	Operating Hours	Reading Date
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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.

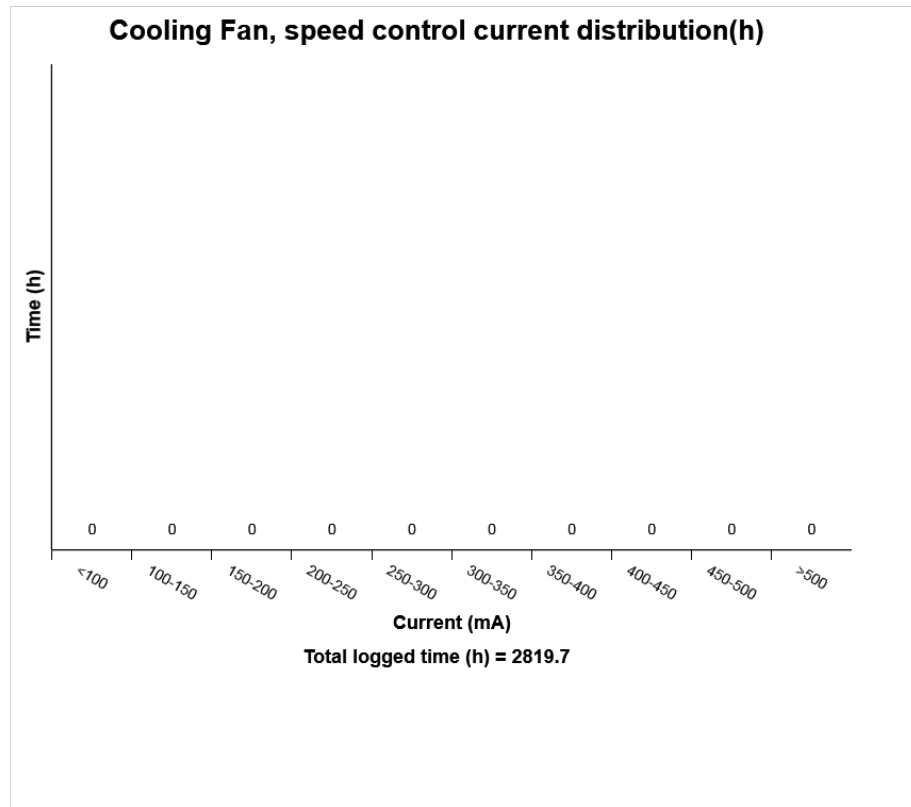
**Red bar** = Alarm.

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





Machine model	SerialNo	Operating Hours	Reading Date
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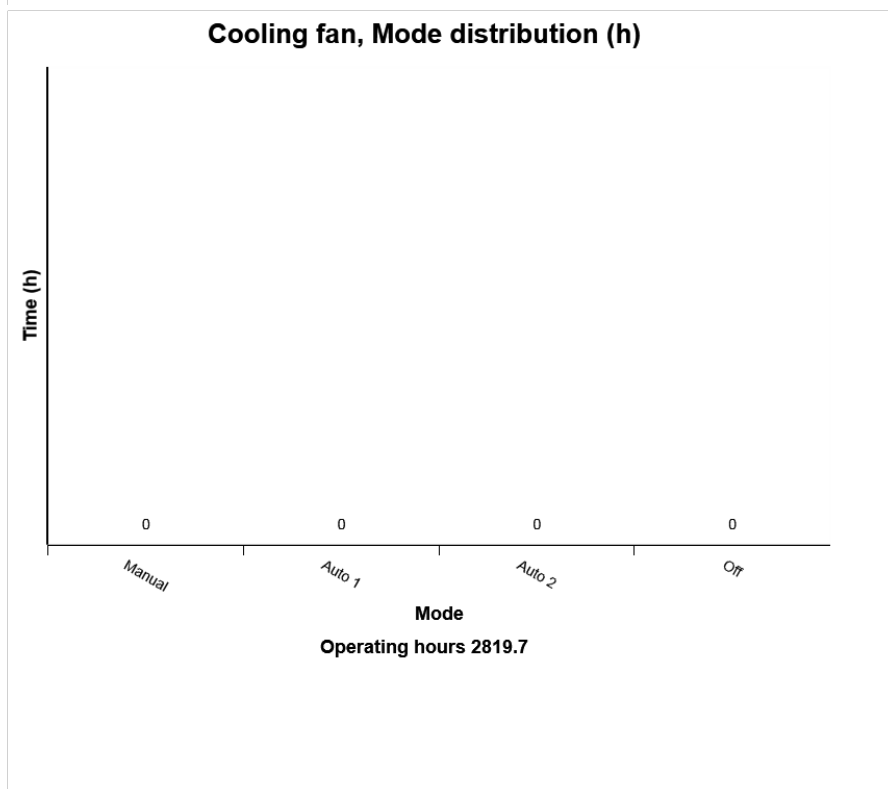
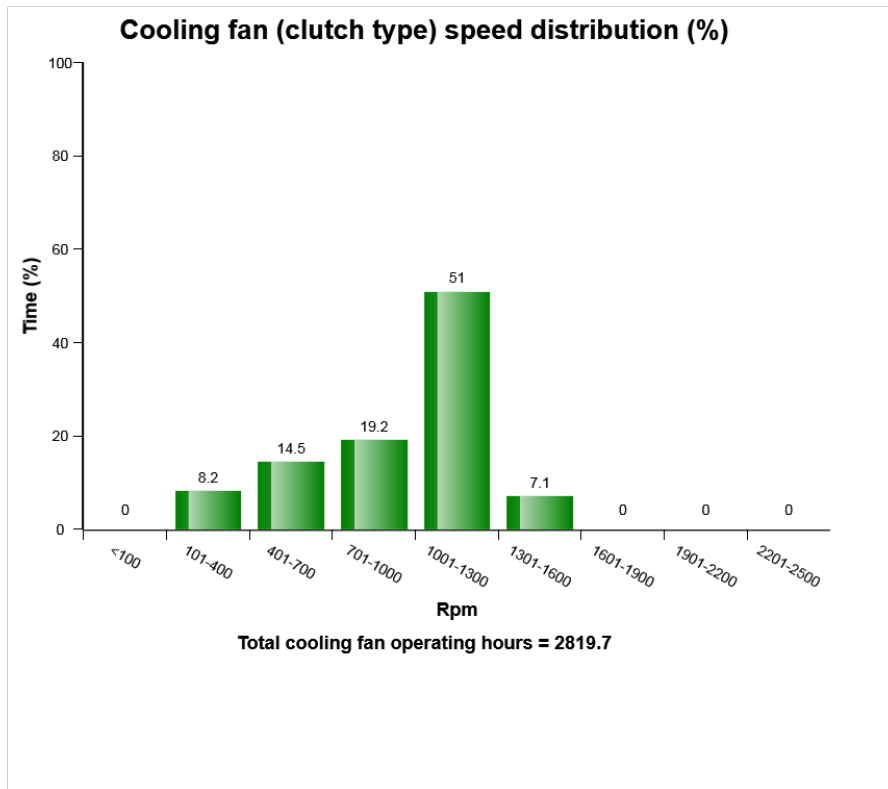
### Definition:

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.



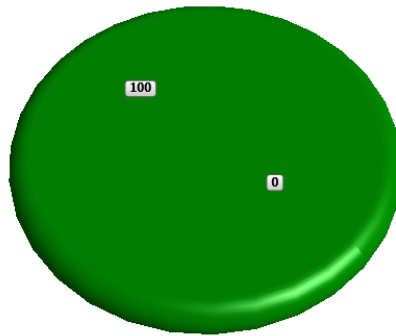
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EC250E	310117	2818.7	11/16/2018

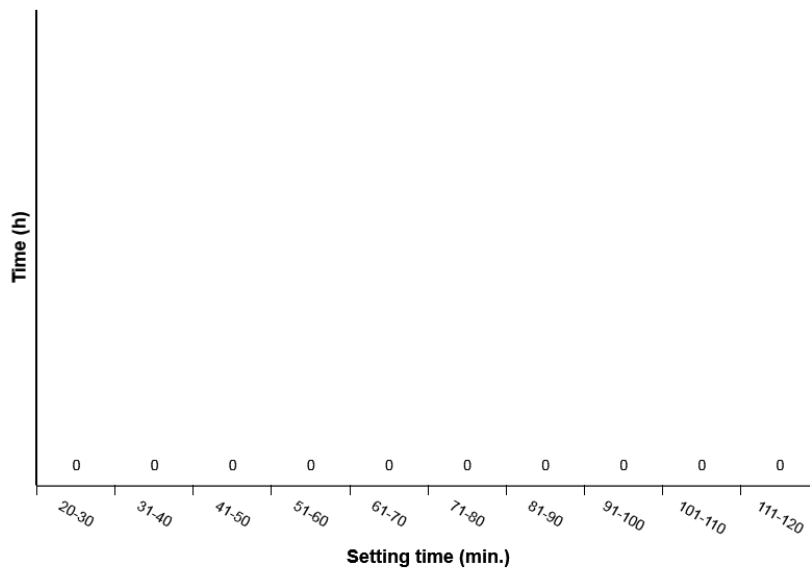
### Cooling fan, Normal-Reverse rotation distribution (%)

Normal rotation Reverse rotation



Total operating time (h) = 2819.7

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

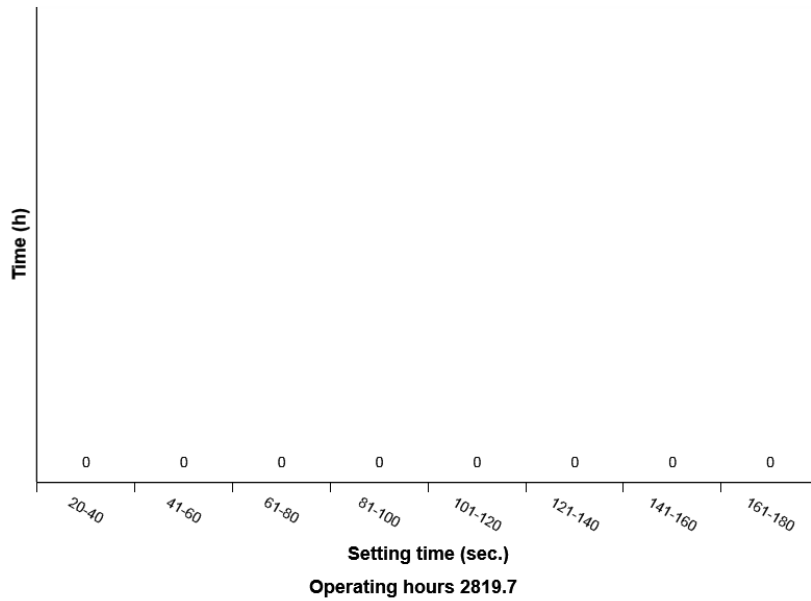


Total operating time at Auto 1 mode (h) = 2819.7

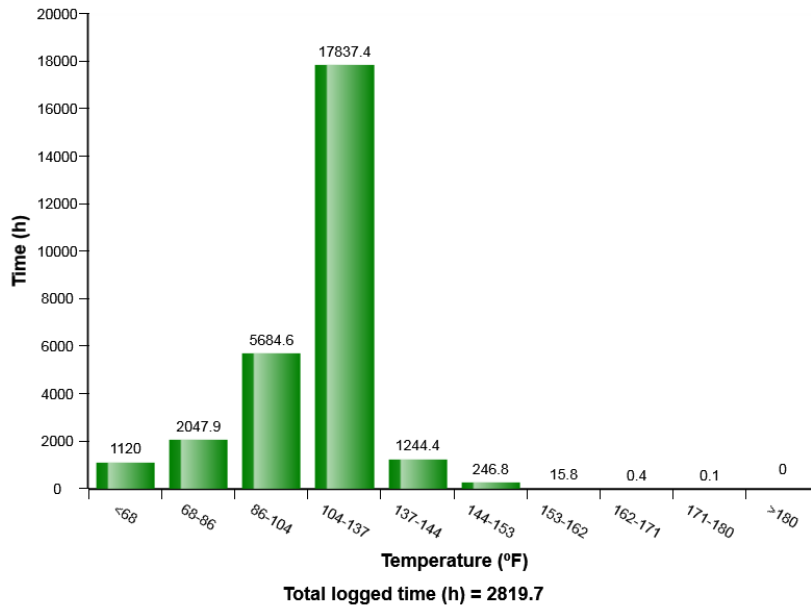


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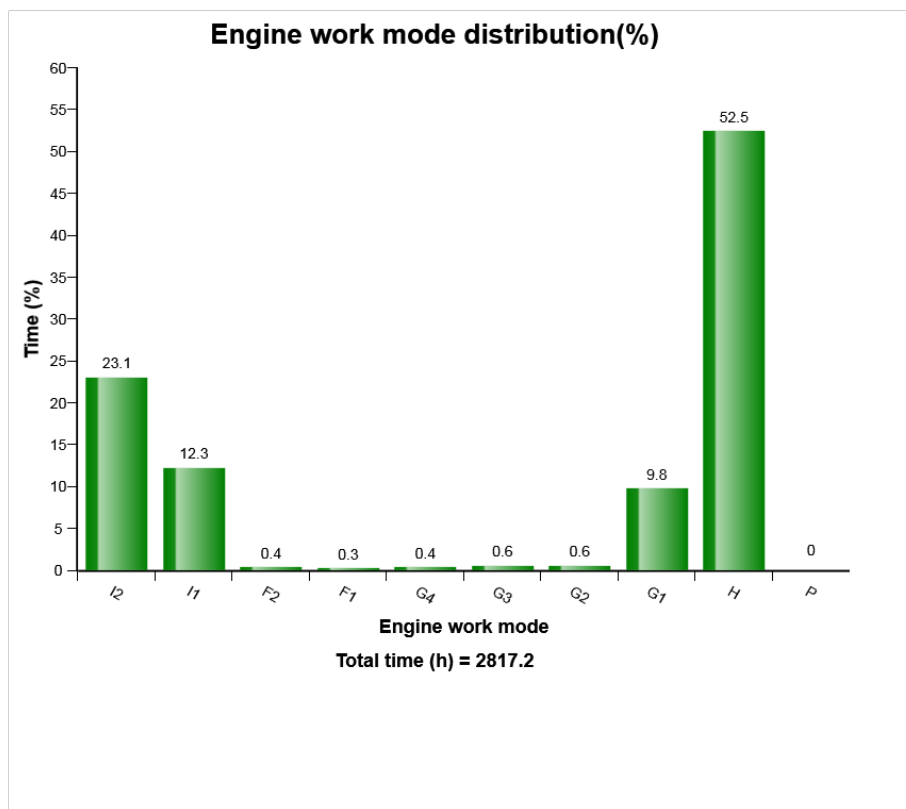
### Reversible fan, Time setting distribution (h) at Manual mode



### Engine boost air temperature distribution (h)



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



### 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)



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

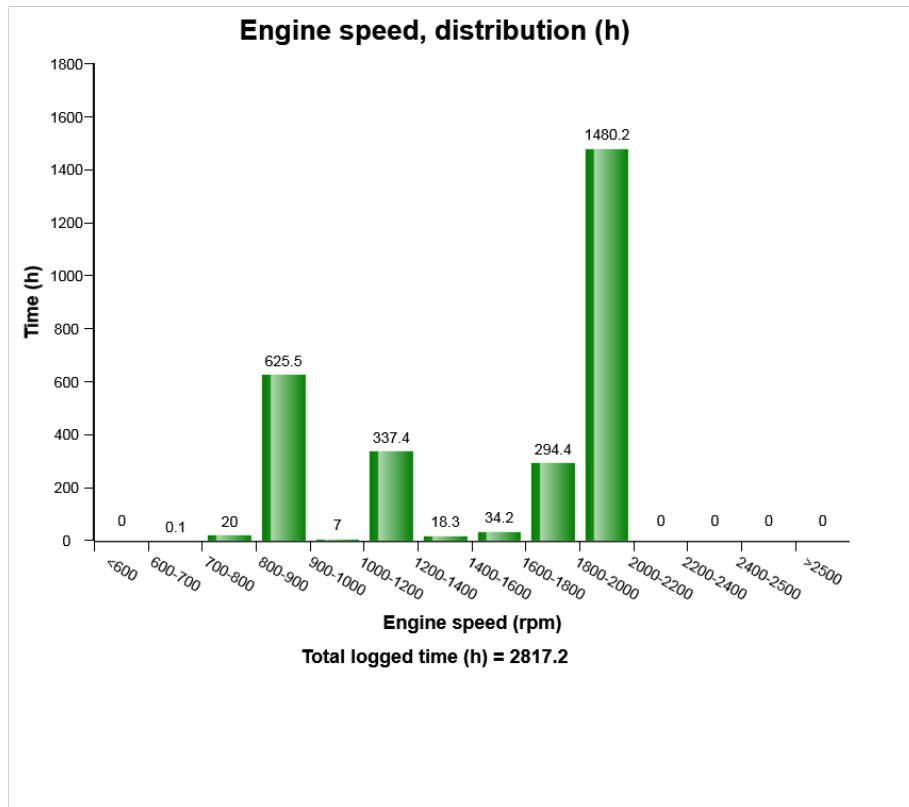
Distribution of each work mode is shown on top of the column in percentage.

The sum of time distribution in percentage is 100

Total time (h) is listed below the diagram



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



### 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.



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

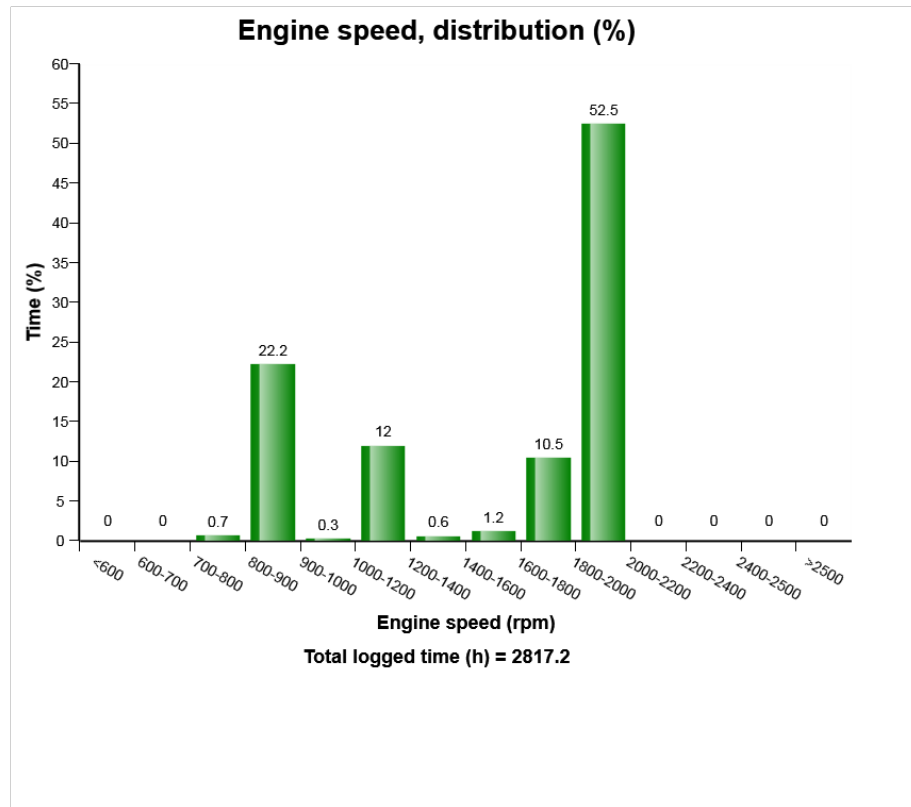
Red bars =The engine speed has exceeded the maximum design speed.

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





Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



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.



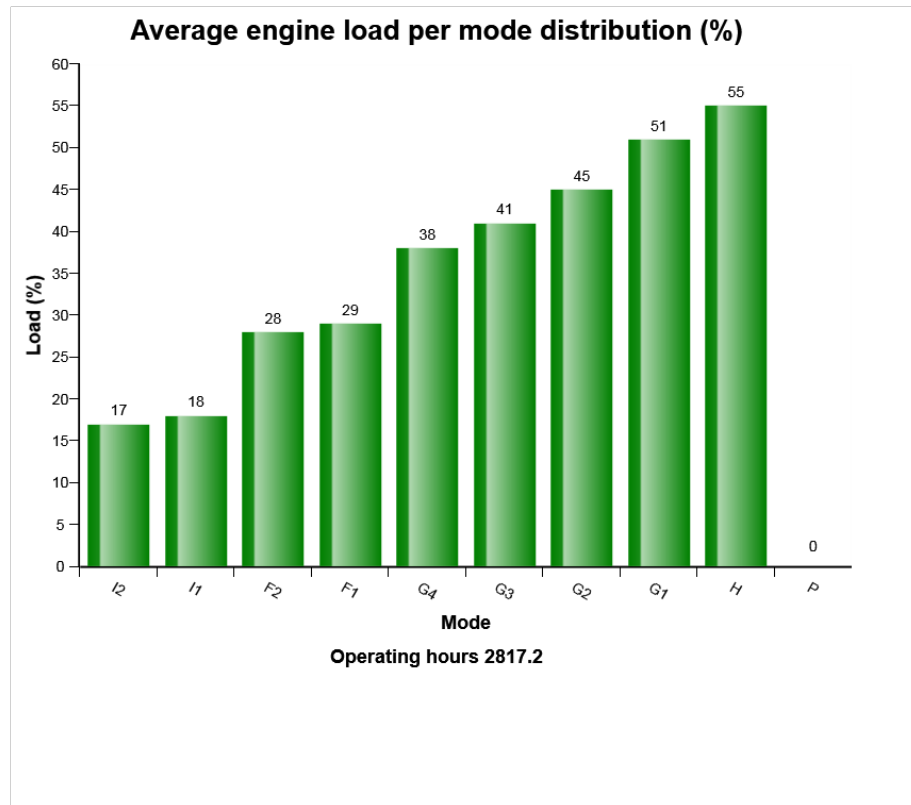
Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

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

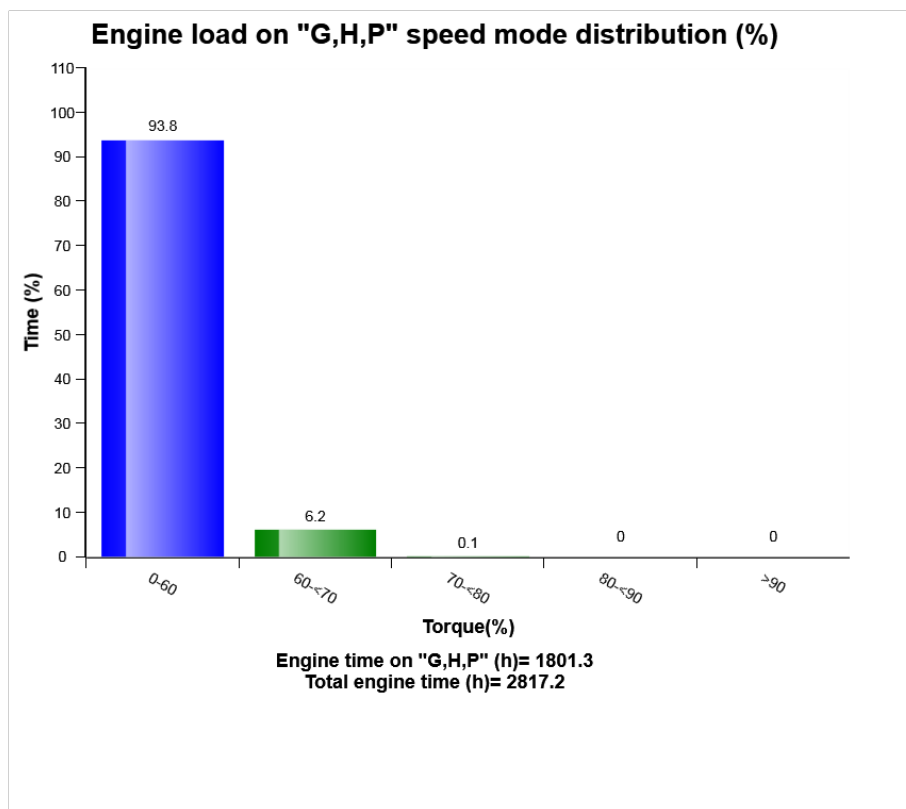
Exceeding the maximum design speed may cause severe damage to the engine



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



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EC250E	310117	2818.7	11/16/2018



This graph shows the distribution of the engine load.

Blue bar: Low load

Green bar: Normal load

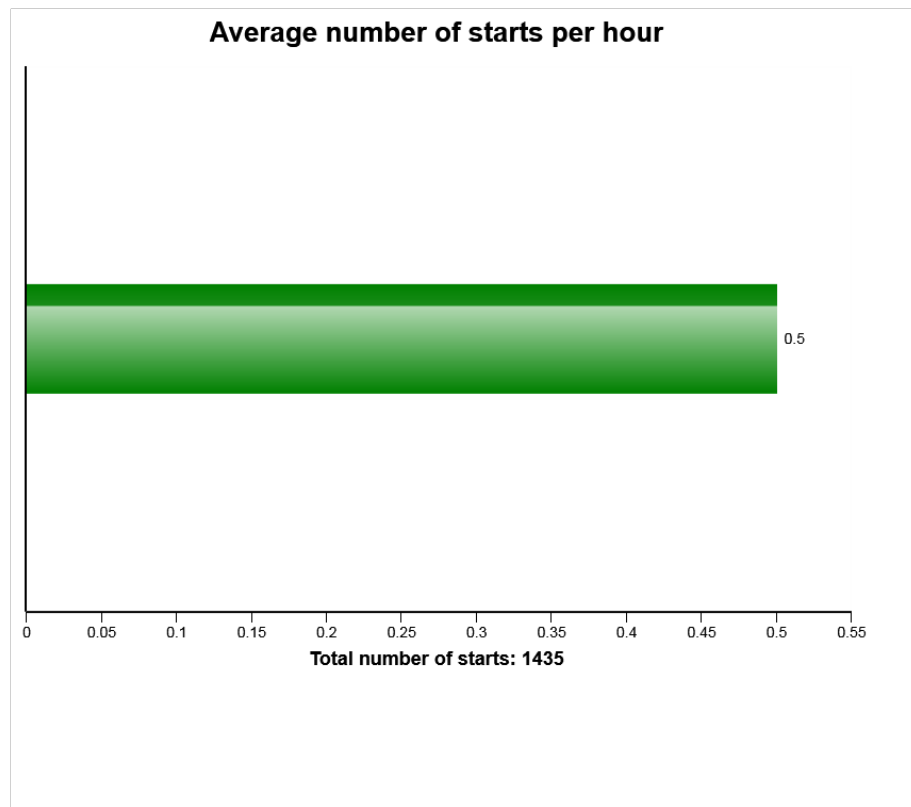
Yellow bar: Excessive load

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

The sum of bars is 100%.



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



### Definition:

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

### Explanation:

X-axis: Number of average starts per hour.

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

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

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



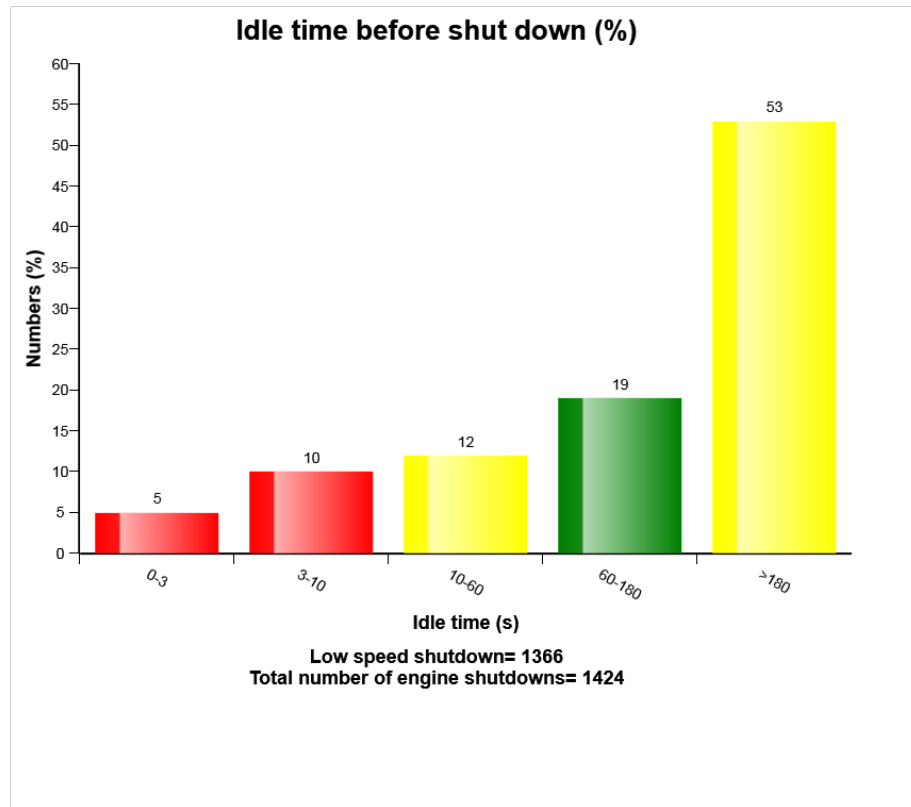
Machine model	SerialNo	Operating Hours	Reading Date
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To see at which different temperatures engine is started see" Start at different engine temperatures."

Green bar = Number of average starts per hour



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



### Definition:

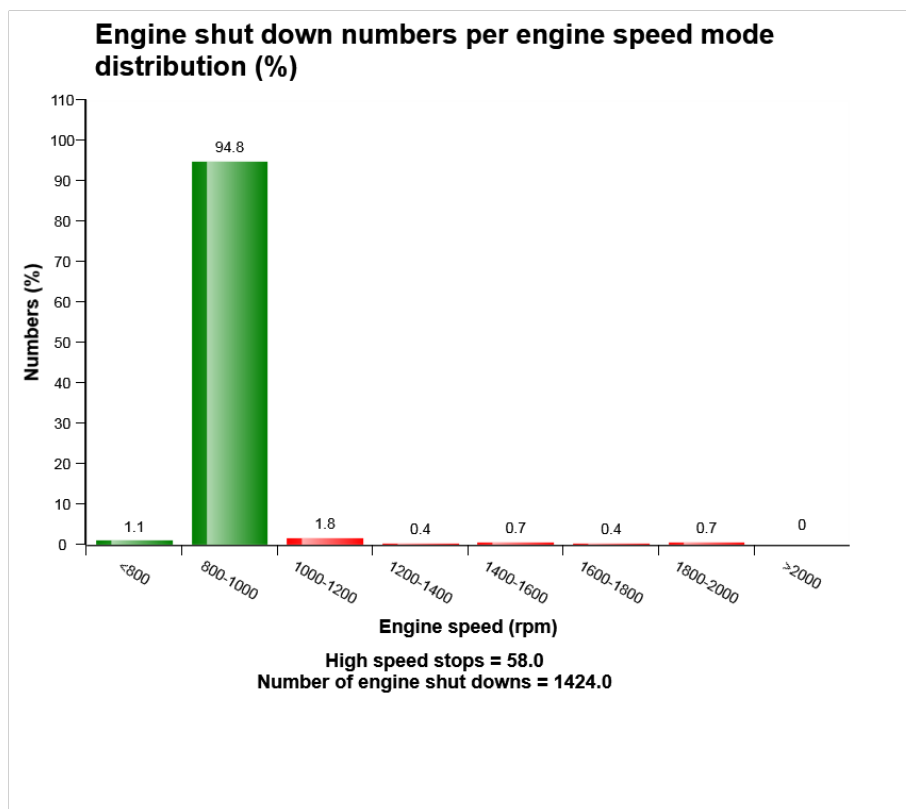
This graph shows the distribution of delayed time at low idle speed until the engine is turned off.

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

The sum of bars is 100%.



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



### 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.





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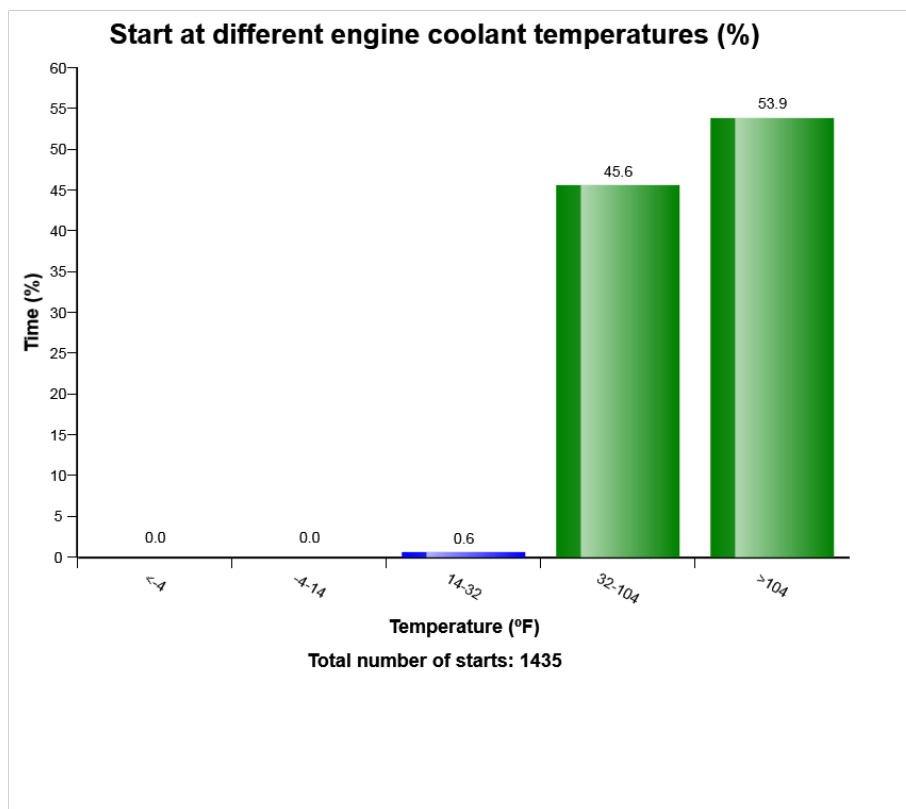
X-axe: Work mode.

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

Total number of shut down is listed below the diagram.



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



#### Definition:

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

#### Explanation:

Y-axis: Number of engine starts

X-axis: Engine coolant temperature.

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



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

Under the graph the total number of engine starts is displayed.

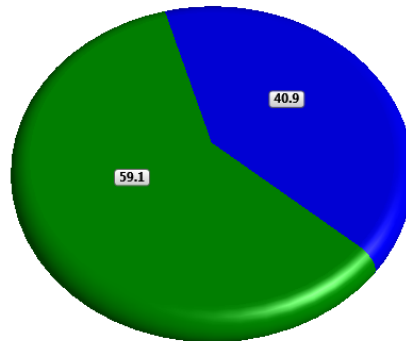
Also see " *Number of starts / hour*" to get a complete picture of engine starting.



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

### ECO mode distribution (%)

ECO mode OFF ECO mode ON (h)



Total engine time (h)= 2819.7



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

**Low coolant level**  
**Total number of occurrences = 3072**

	Op hours	Year	Month	Day	Hour	Minute	Duration (minutes)
*	52	2016	1	3	18	108	21
*	3101	2014	23	4	18	199	1
*	4362	2014	27	4	18	210	1
*	4869	2008	1	5	18	217	0
*	4885	2014	27	4	18	211	1
*	5686	2011	16	11	18	3	9
*	6197	2015	25	4	18	203	0
*	6699	2017	1	3	18	109	1
*	6927	2007	2	3	18	109	3
*	7197	2015	25	4	18	203	4
*	7722	2016	1	3	18	109	8
*	8506	2015	25	4	18	203	0
*	9260	2007	2	3	18	109	14
*	10809	2016	1	3	18	109	19
*	11787	2008	2	3	18	109	0
*	12849	2012	15	11	18	3	7
*	13321	2017	1	3	18	109	1
*	13615	2008	4	5	18	237	0
*	13841	2009	2	3	18	109	11
*	14093	2014	19	4	18	175	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



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

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
EC250E	310117	2818.7	11/16/2018

**Low engine oil level at start**  
**Total number of occurrences = 512**

	Op hours	Year	Month	Day	Hour	Minute
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	0	2000	0	0	0	0
*	1566	2010	4	7	17	66
*	13865	2012	4	7	17	67

**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
EC250E	310117	2818.7	11/16/2018

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

### 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







Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

**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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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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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 :

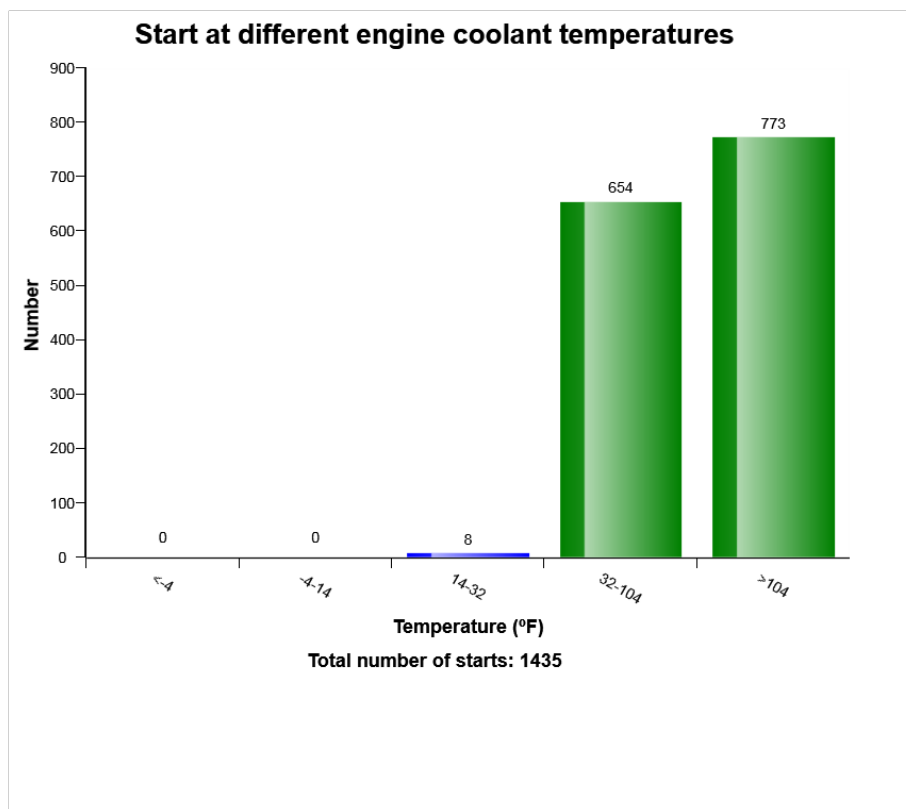
The extreme value column displays the most extreme value during the event.

### Criteria :

In order for an occurrence of 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.”



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



#### Definition:

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

#### Explanation:

Y-axis: Number of engine starts

X-axis: Engine coolant temperature.

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





Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

Under the graph the total number of engine starts is displayed.

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



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

**Regeneration aborted**  
**Total number of occurrences = 3328**

	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
*	1582	2010	6	3	17	12	2
*	2056	2016	7	9	16	220	2
*	2330	2016	7	9	16	220	2
*	3840	2010	6	3	17	12	1
*	4619	2016	7	9	16	220	2
*	9527	2015	7	9	16	220	2
*	9749	2015	6	3	17	13	2
*	10542	2015	6	3	17	13	2
*	11302	2015	6	3	17	13	2
*	12577	2015	7	9	16	220	2
*	14092	2009	6	3	17	12	2
*	14869	2015	7	9	16	220	2
*	14892	2009	6	3	17	12	2



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

**Regeneration ignored**  
**Total number of occurrences = 3840**

	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
*	518	2017	30	6	17	54	48
*	524	2013	27	12	17	9	40
*	1314	2014	8	9	16	226	42
*	2822	2013	8	9	16	226	1
*	4661	2008	14	11	16	58	40
*	5121	2008	1	7	17	55	50
*	7438	2015	7	9	16	220	159
*	8745	2007	3	8	16	5	43
*	10510	2007	8	9	16	222	229
*	11787	2015	6	3	17	13	6
*	13349	2009	6	3	17	12	22
*	13610	2015	6	3	17	13	0
*	14092	2015	6	3	17	13	42
*	14853	2014	6	3	17	12	1
*	15161	2014	6	3	17	12	46



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

**Regeneration duration**  
**Total number of occurrences = 3328**

	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
*	535	2013	27	12	17	9	40
*	776	2010	6	3	17	12	12
*	1581	2014	8	9	16	226	40
*	2332	2015	6	3	17	13	35
*	4662	2008	14	11	16	58	40
*	7692	2008	1	7	17	55	40
*	7699	2015	7	9	16	220	8
*	9483	2007	3	8	16	5	40
*	10244	2015	7	9	16	220	9
*	12055	2015	6	3	17	13	5
*	13577	2009	6	3	17	12	6
*	13881	2015	7	9	16	220	23
*	14366	2015	6	3	17	13	41





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EC250E	310117	2818.7	11/16/2018

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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 :

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.



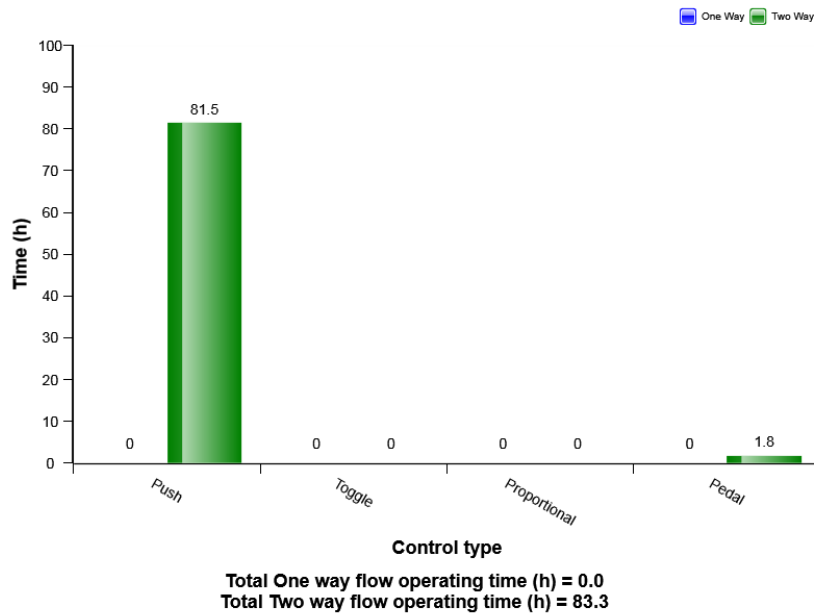
Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

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

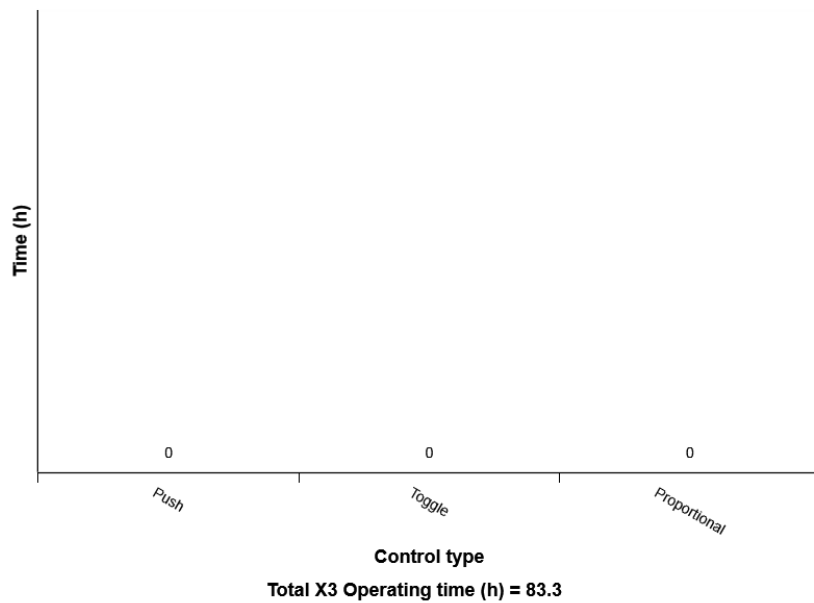
[illegible]

Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

### X1 control distribution

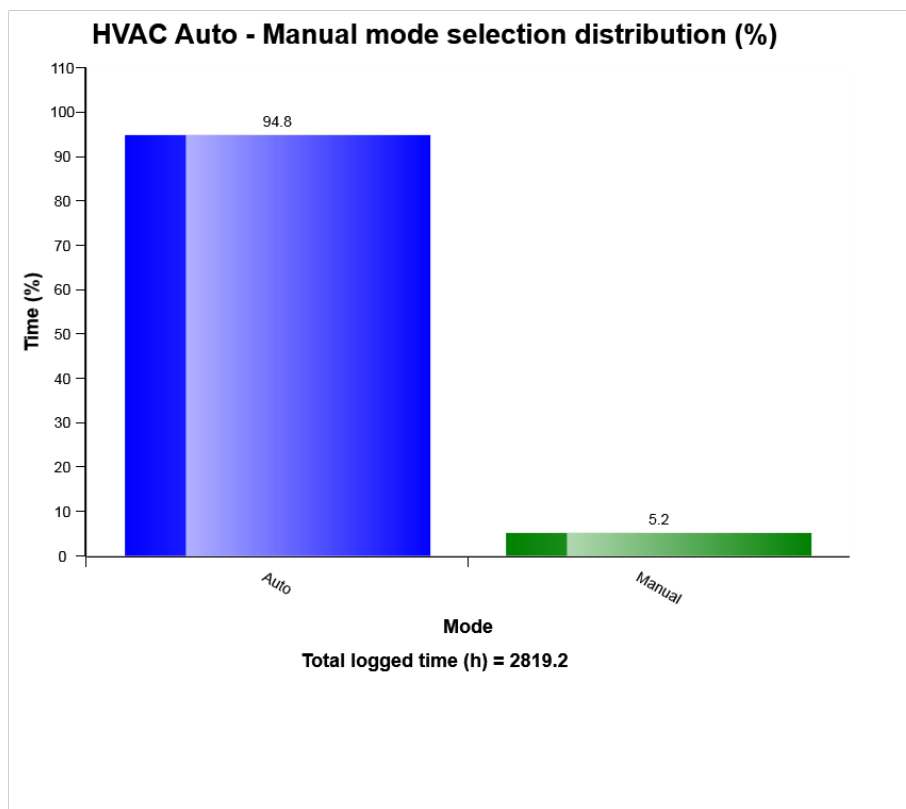


### X3 Control distribution





Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



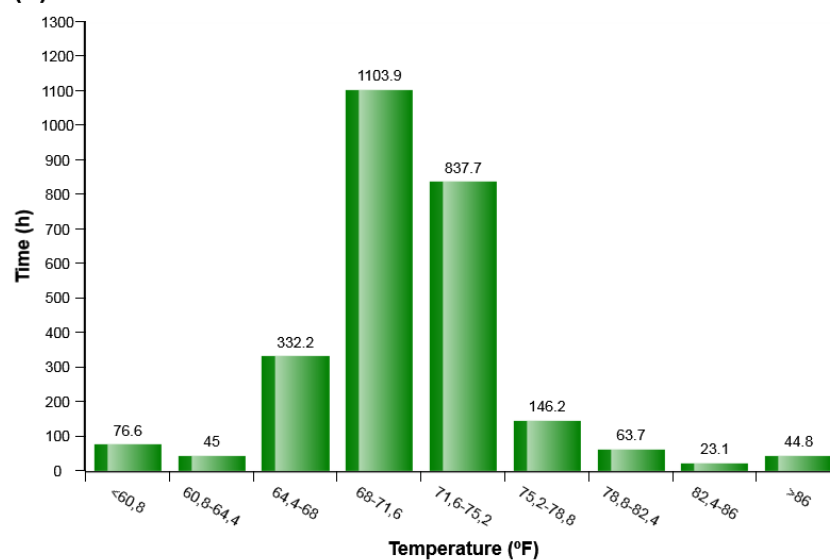
#### Definition:

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
EC250E	310117	2818.7	11/16/2018

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

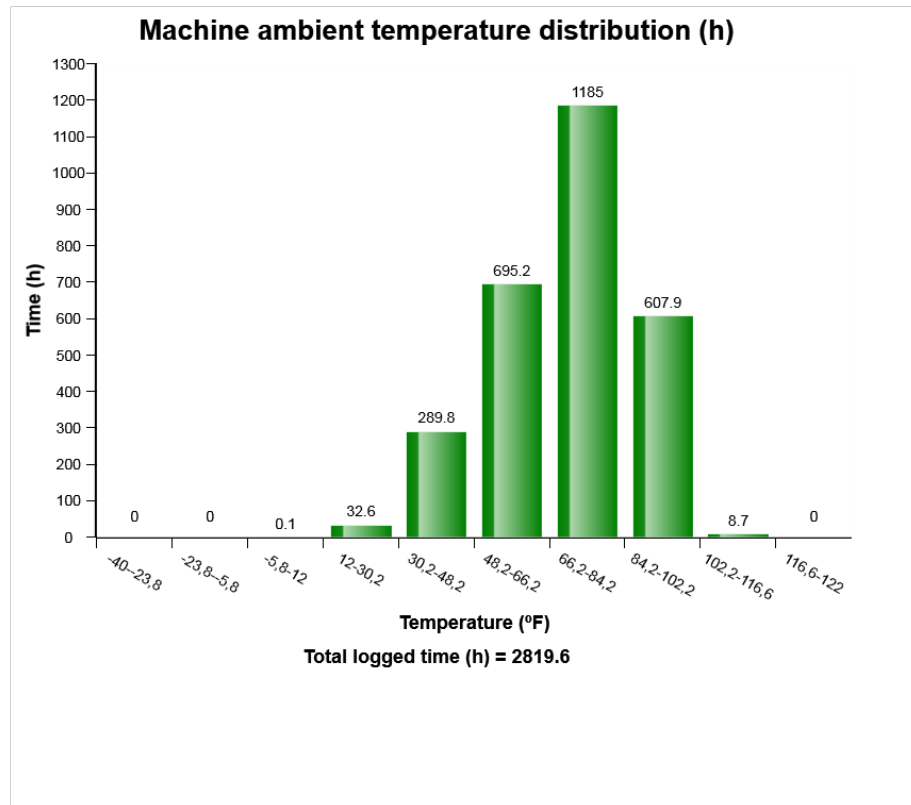


#### Definition:

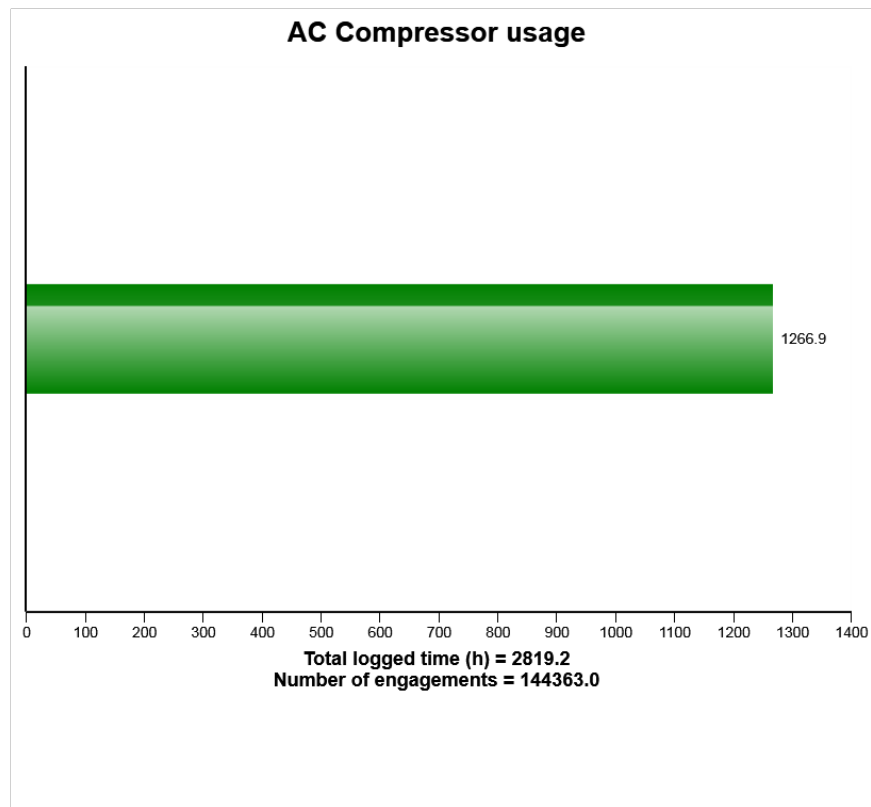
The diagram describes air temperature setting distribution for HVAC auto control mode established by operator in Cabin



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



#### 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.

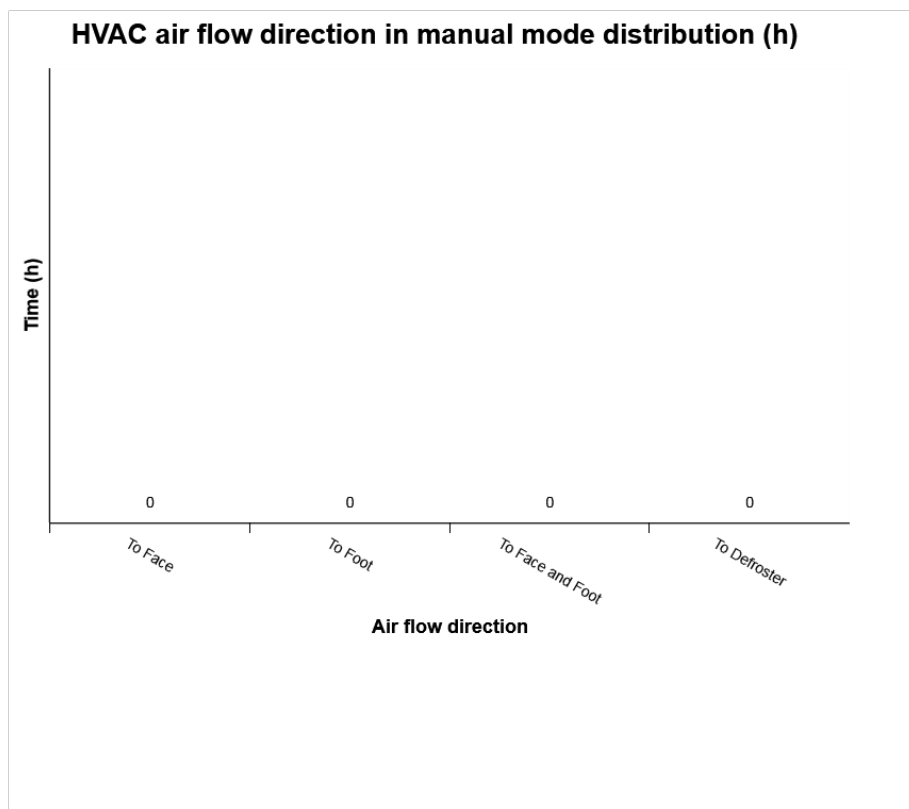


Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

-



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

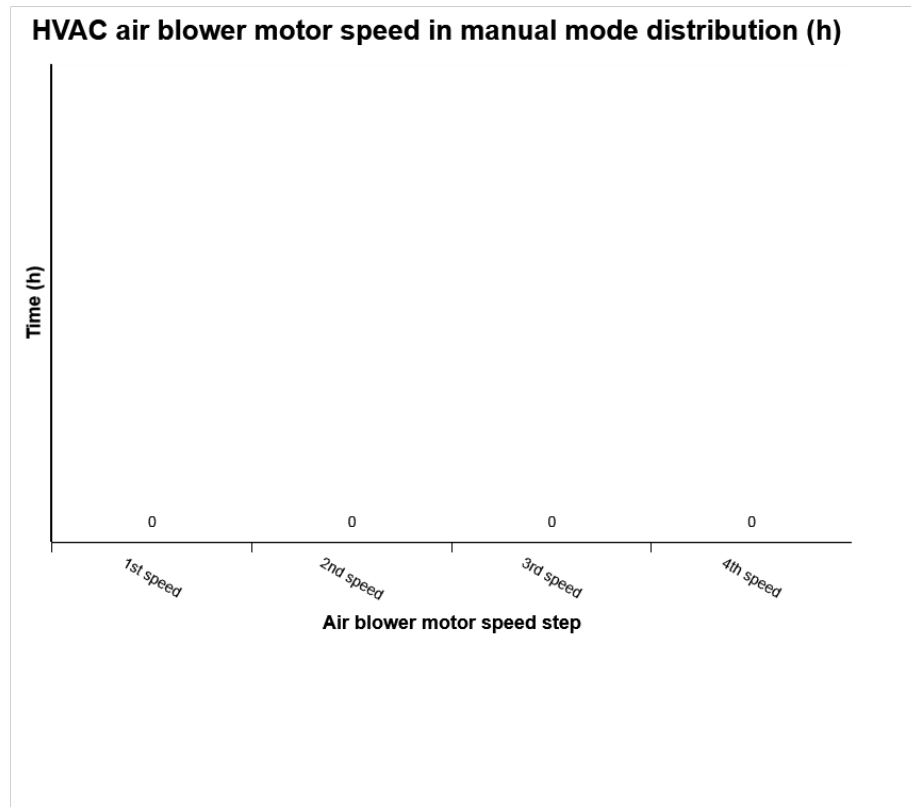


### Definition:

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



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



#### 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
EC250E	310117	2818.7	11/16/2018

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
EC250E	310117	2818.7	11/16/2018

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 :**

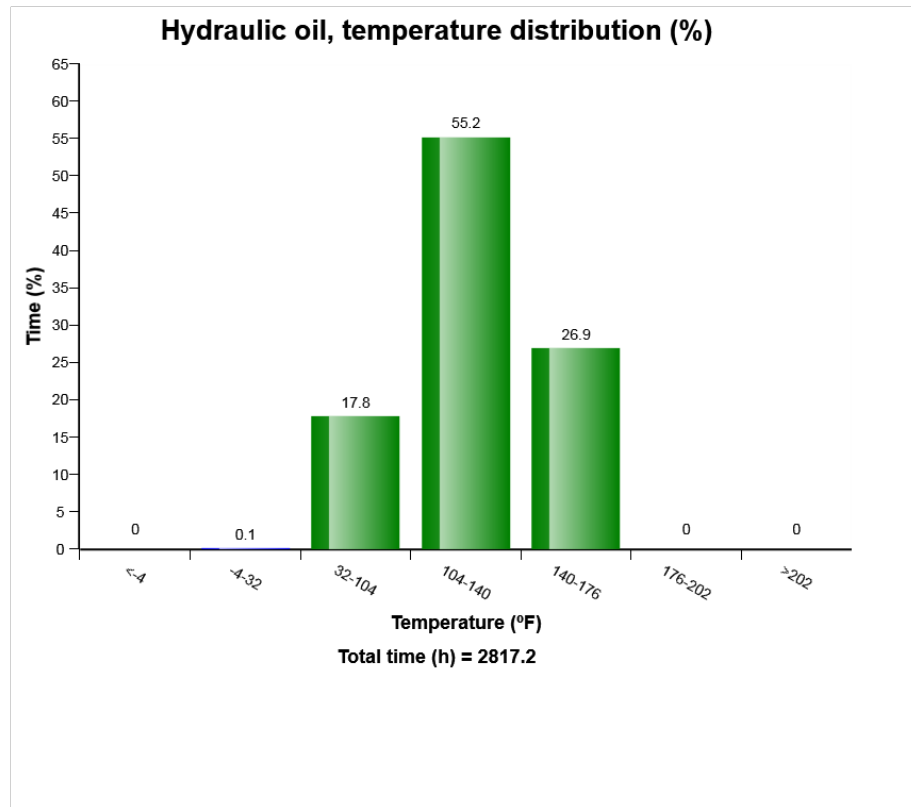
The extreme value column displays the most extreme value during the event.

**Criteria :**

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



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



#### Definition:

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

#### Explanation:

Y-axis: Time

X-axis: Temperature distribution in classes.

Blue bar = Warm-up phase.

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



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

It is normal to have registrations in this region.

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

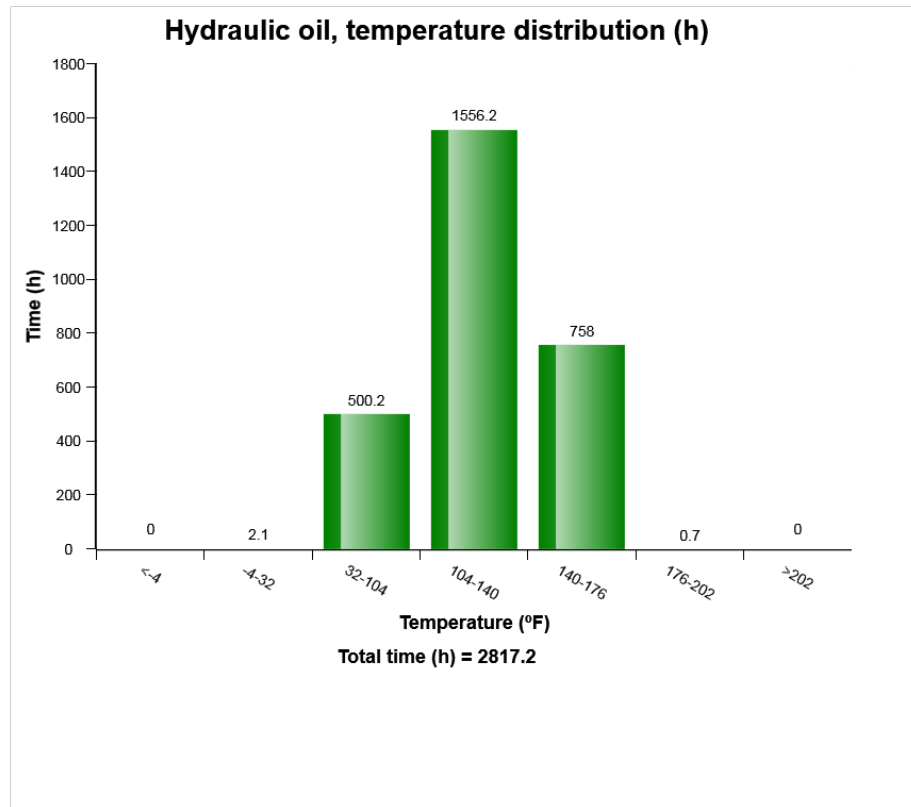
**Yellow bar** = High working temperature. It is normal to have some registrations in this region.

**Red bar** = Alarm.

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



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



### Definition:

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

### Explanation:

Y-axis: Time

X-axis: Temperature distribution in classes.

Blue bar = Warm-up phase.

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



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

It is normal to have registrations in this region.

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

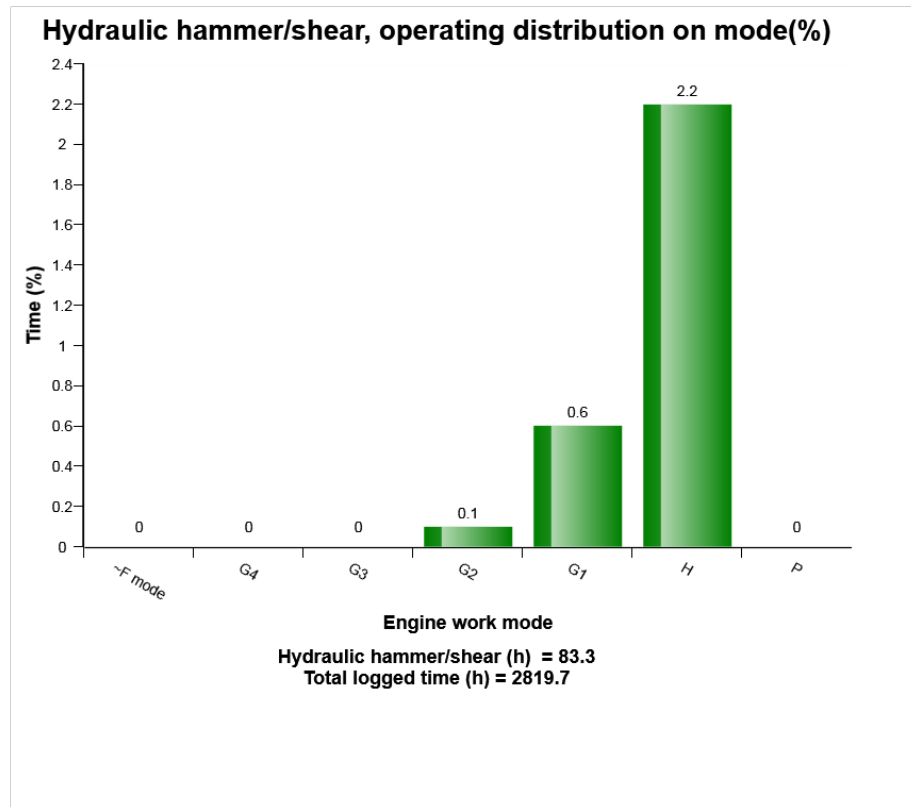
**Yellow bar** = High working temperature. It is normal to have some registrations in this region.

**Red bar** = Alarm.

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



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



### 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





Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

F1= Fine control 1

G3 = General 3

G2 = General 2

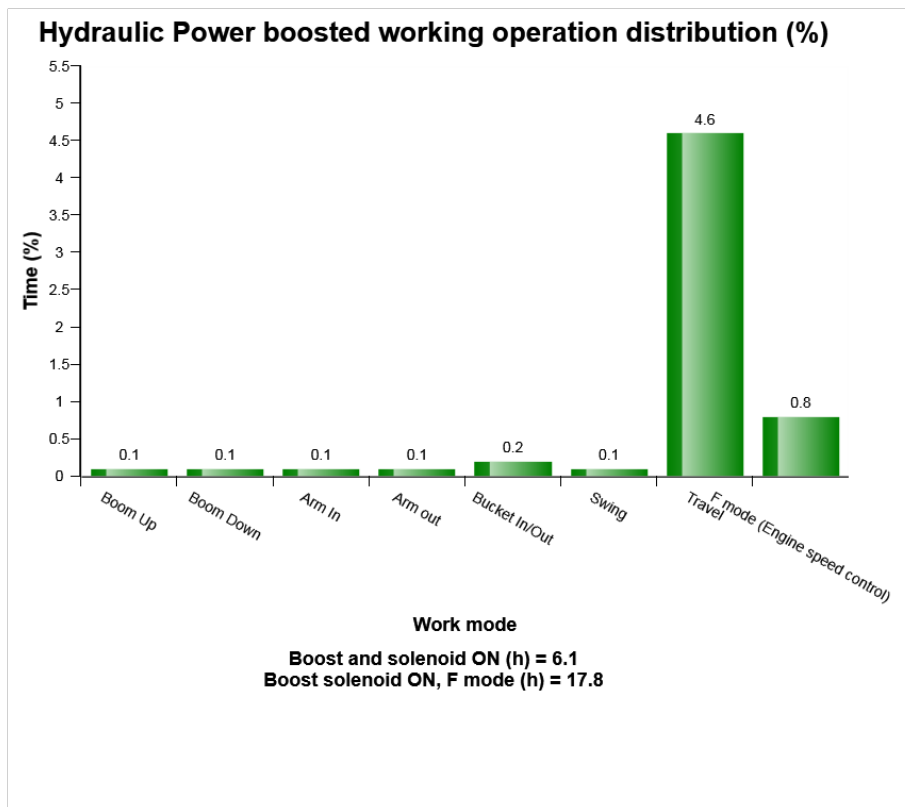
G1 = General 1

H = Heavy Duty

P = Power max



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



### 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.

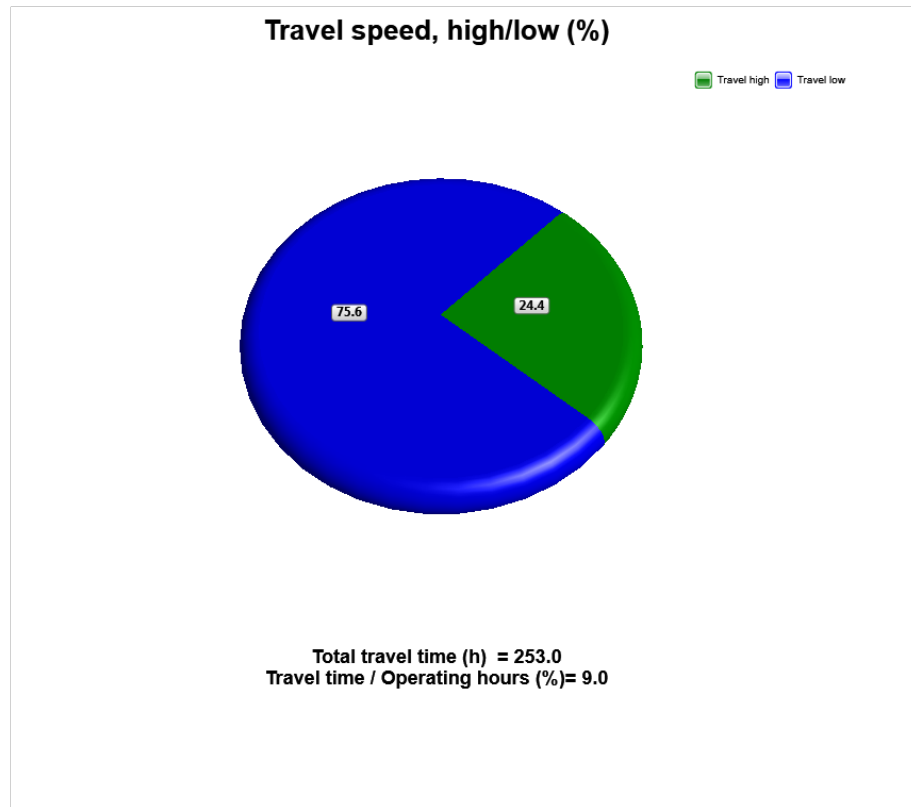
Total operating time with power boosted (hours) in above means sum of the time for Hydraulic Power boosted operation. The base for the percentage calculation is Total operating time with power boost. Time(%) on each working operation mode except travel and F mode above is the time, after the operator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



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



#### 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

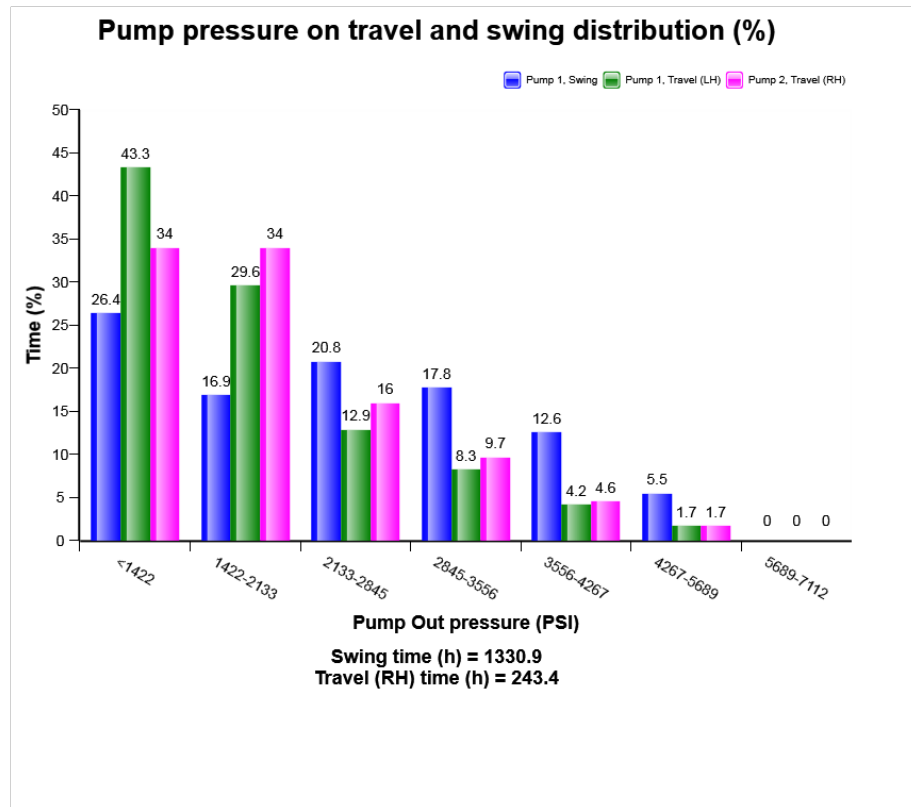


Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

Total travel time is listed below the diagram



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

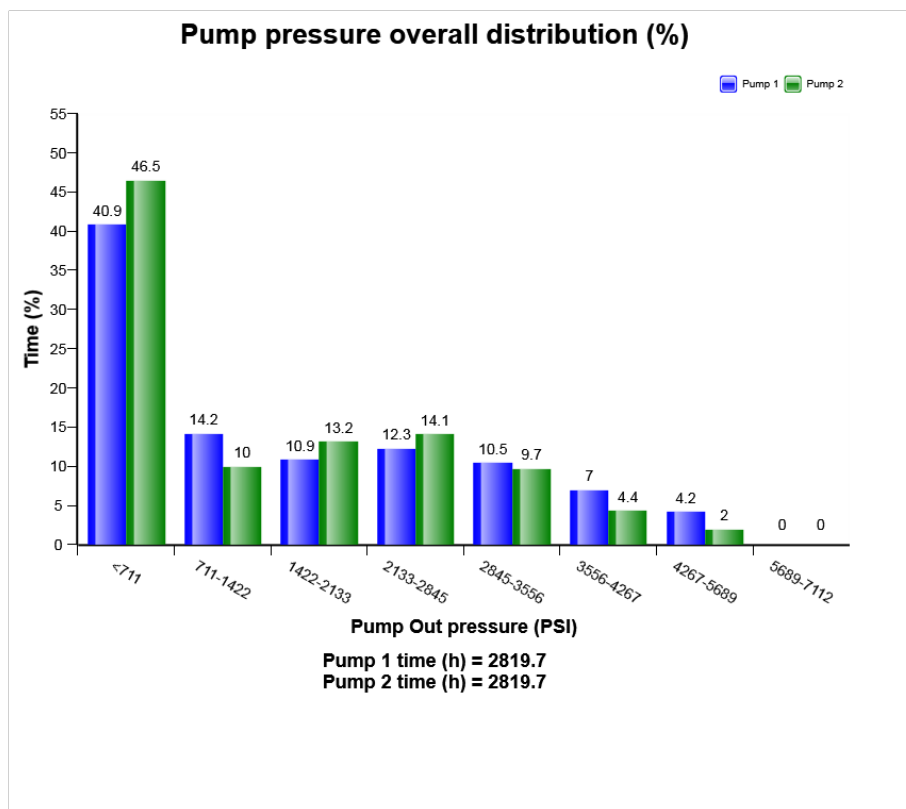


### Definition:

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
EC250E	310117	2818.7	11/16/2018

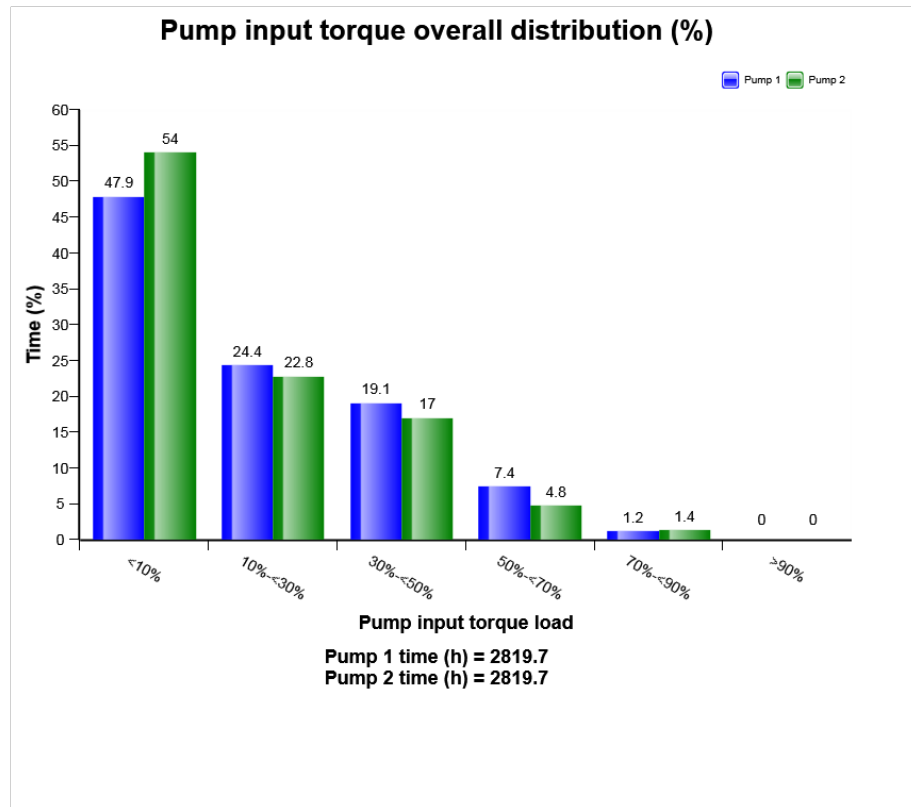


#### Definition:

The diagram describes Pump outlet pressure of 2 Pumps distribution.



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



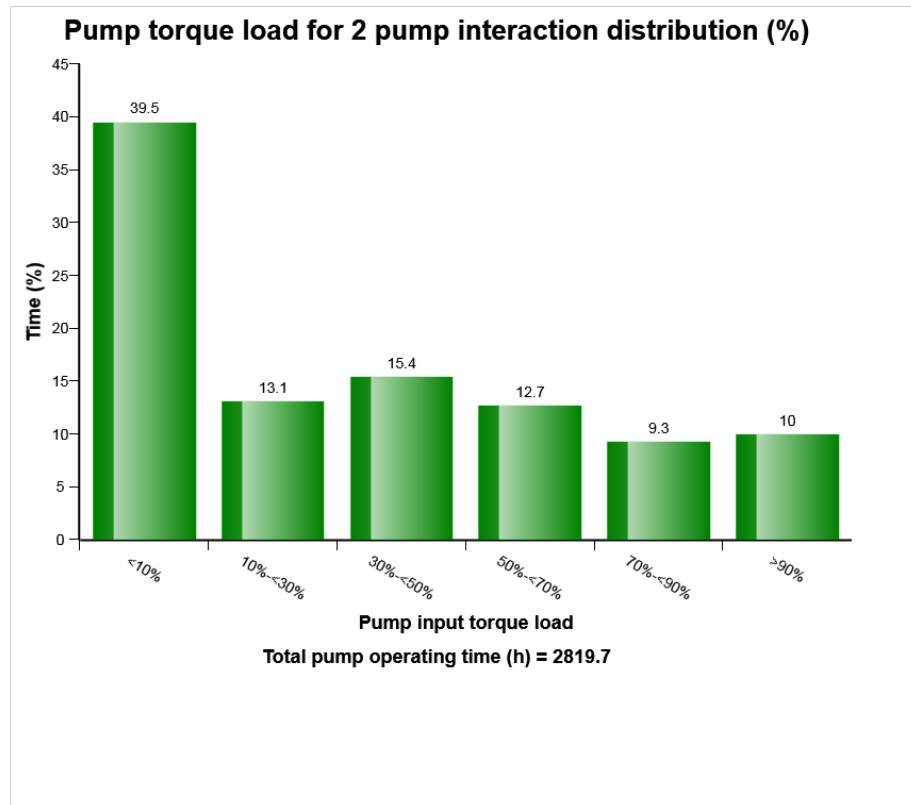
#### Definition:

The diagram describes Pump torque load of 2 Pumps distribution.





Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



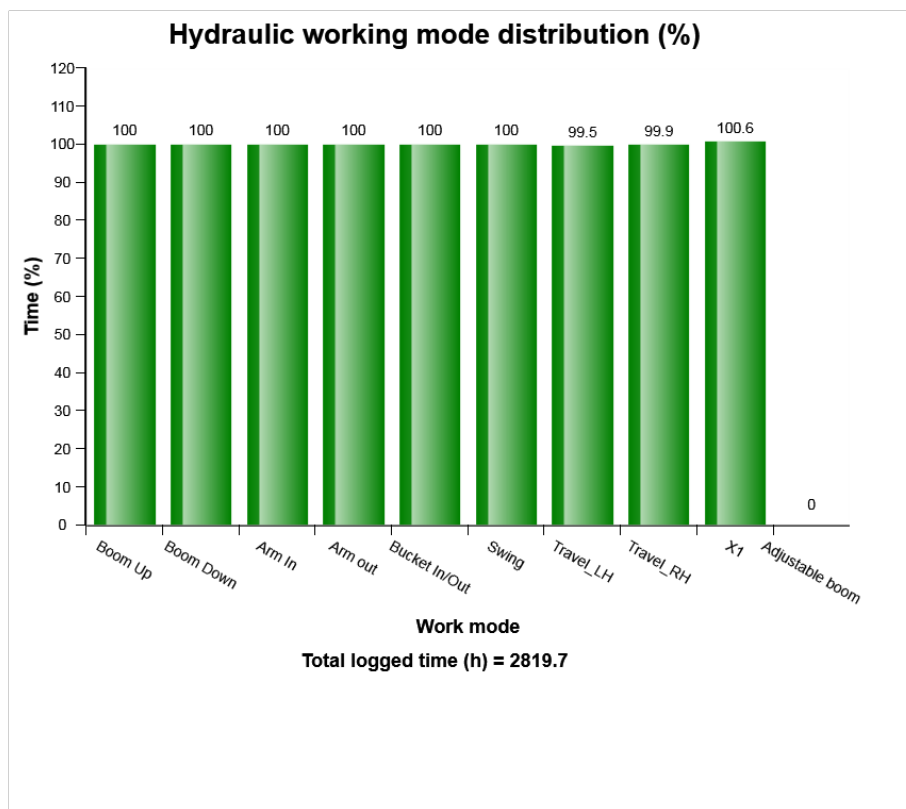
### Definition:

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
EC250E	310117	2818.7	11/16/2018

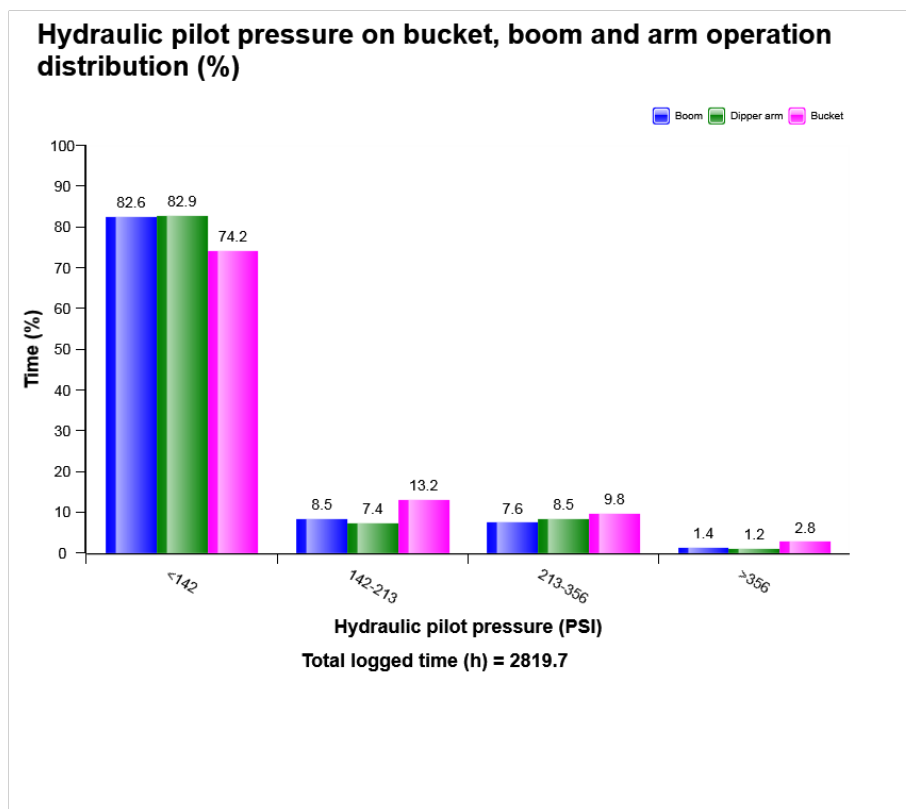


### Definition:

The diagram describes hydraulic working operation mode distribution.



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

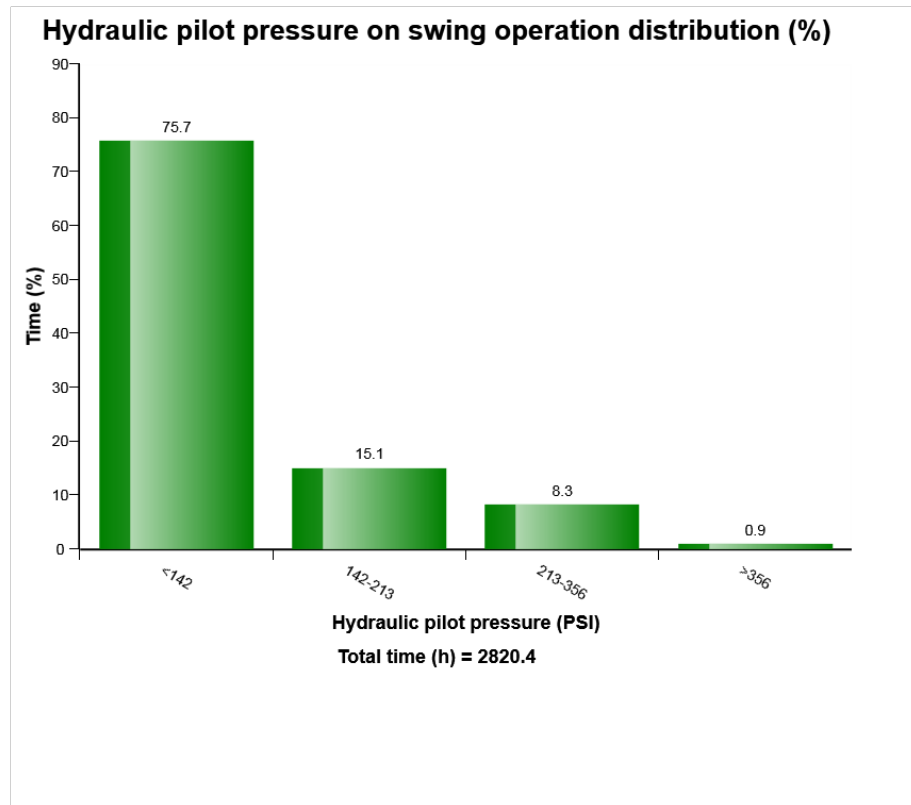


#### Definition:

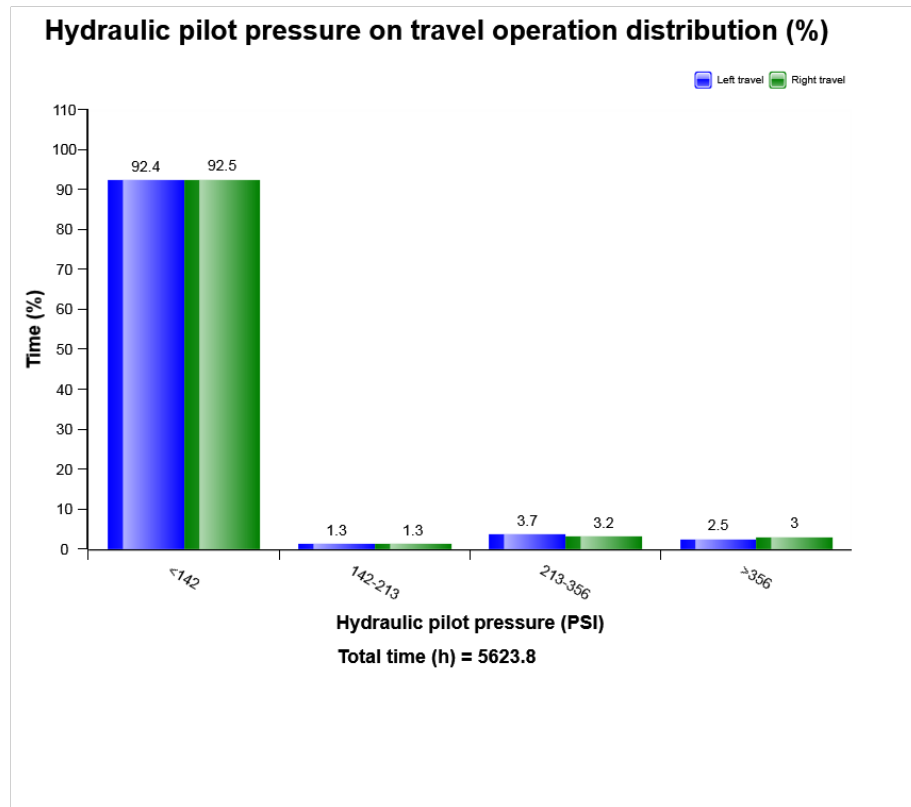
The diagram describes the distribution of hydraulic pilot pressure in specified operation



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



### Definition:

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





Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018

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 :**

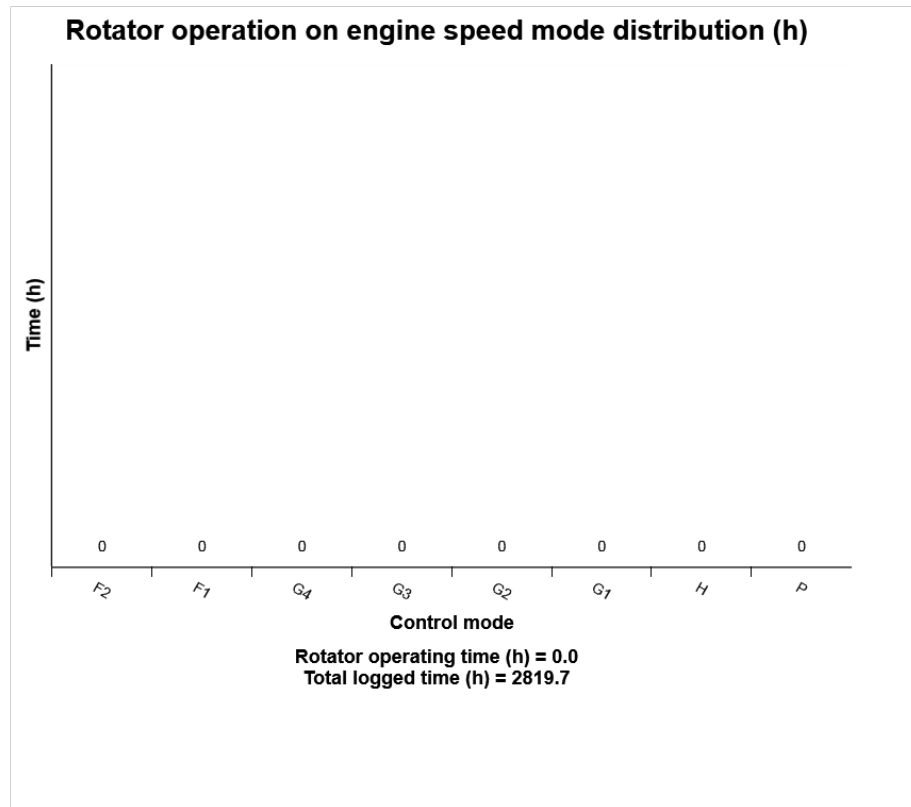
The extreme value column displays the most extreme value during the event.

**Criteria :**

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



Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



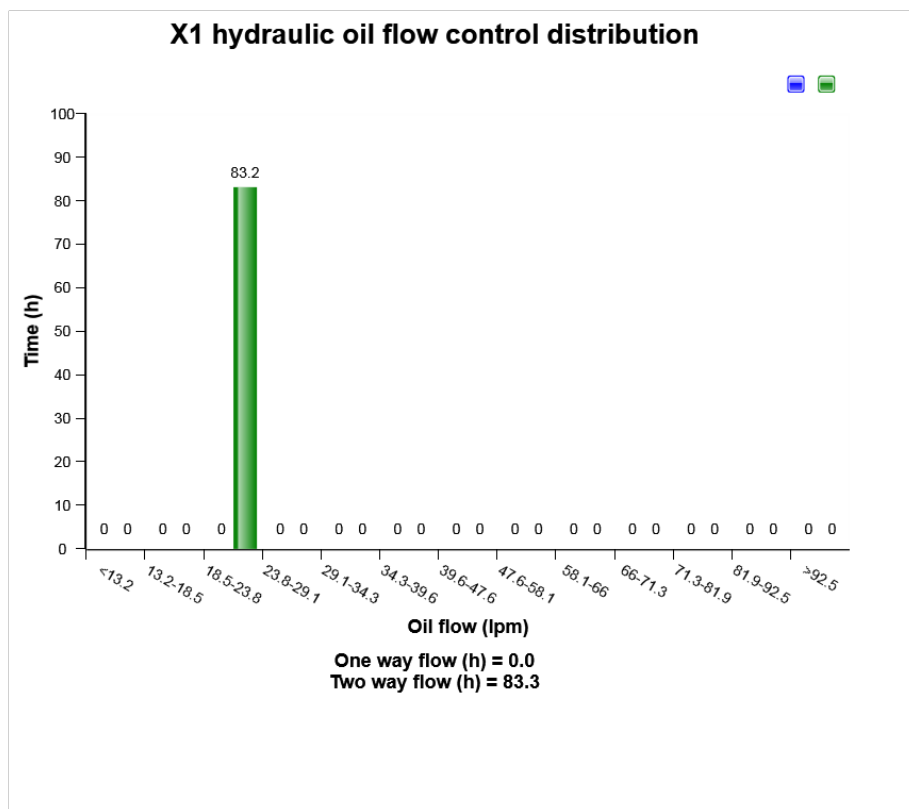
### Definition:

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





Machine model	SerialNo	Operating Hours	Reading Date
EC250E	310117	2818.7	11/16/2018



### Definition:

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

