# VOLVO CONSTRUCTION EQUIPMENT MATRIS REPORT

Machine model	SerialNo		Operating Hours		Reading Date
A25F	80034		4244.6		11/23/2015
Company name	•	Dealer		Report Issuer	
Asset Appraisal					
Contact name		Technician		Primary Ap	plication
		appraiser		Earth n	noving construction
Site Workorder			Ground Co	ndition	

MATRIS Reading, Summary / Recommendation

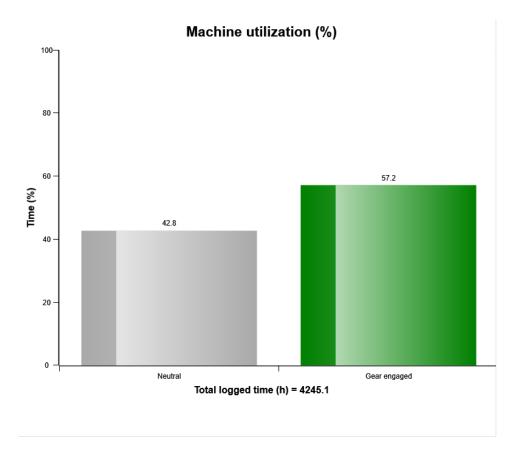


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Main equipment	Туре	Equipment
	Tyre size/class	Sold without tyres
	Body extensions	Not mounted
	Tail-gate	Not mounted
	Extra spillguard	Not mounted
	Wear plates	Not mounted
	Pattern	None



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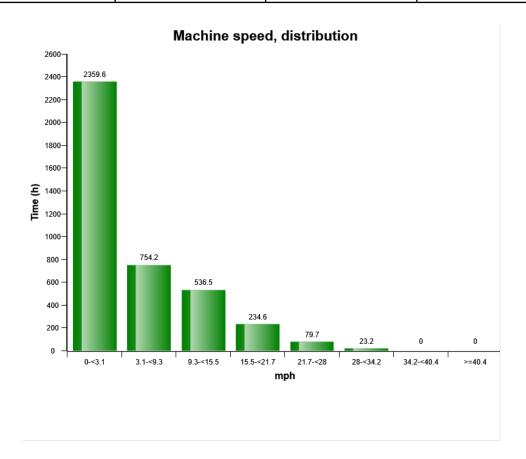
The diagram shows a simplified presentation of the machines utilization based on the relation between time in gear and time in neutral. The "Gear engaged" includes both forward and reverse gears.

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



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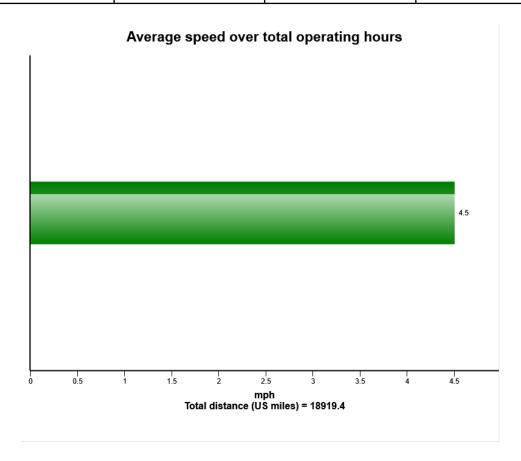


The presentation shows the time in hours in speed-intervals for the machine.

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



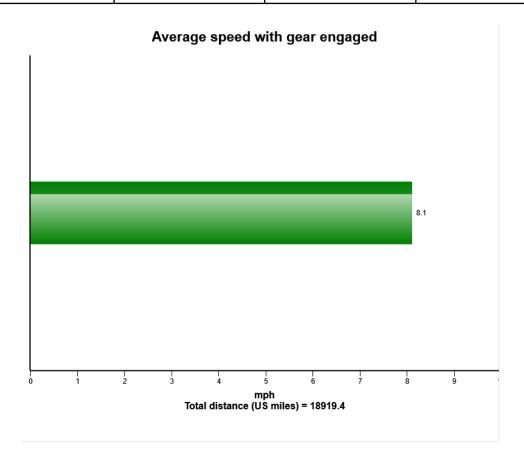
Machine model	SerialNo	Operating Hours	Reading Date
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The diagram shows the machines average speed based on the total operating hours



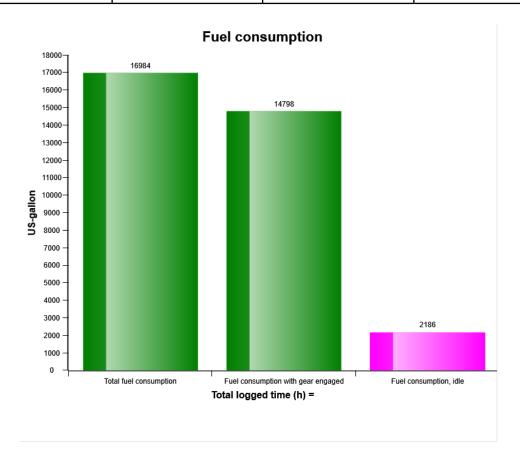
Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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



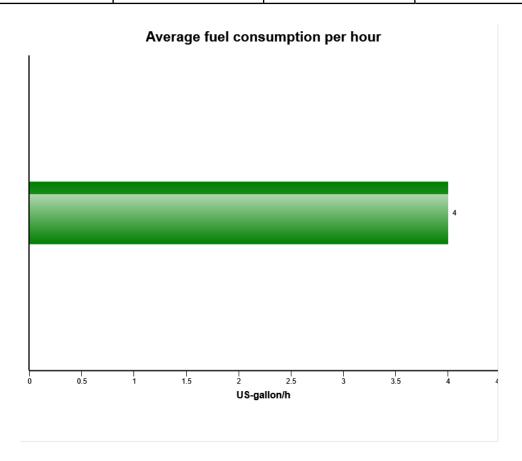
Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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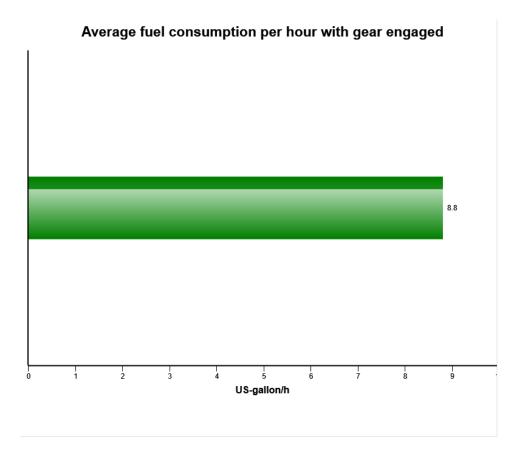
Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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



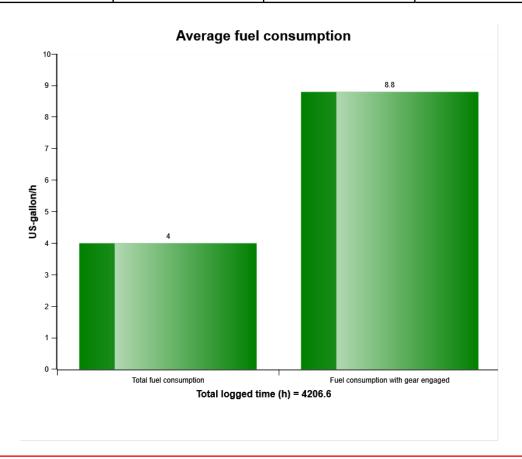
Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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



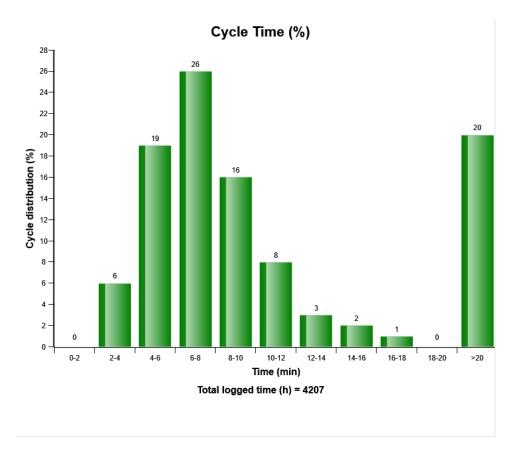
Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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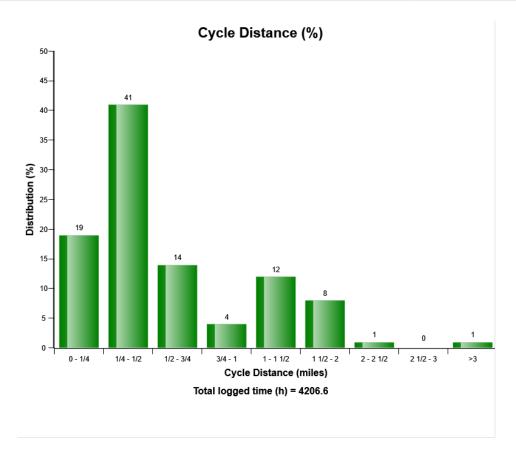
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A25F	80034	4244.6	11/23/2015



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



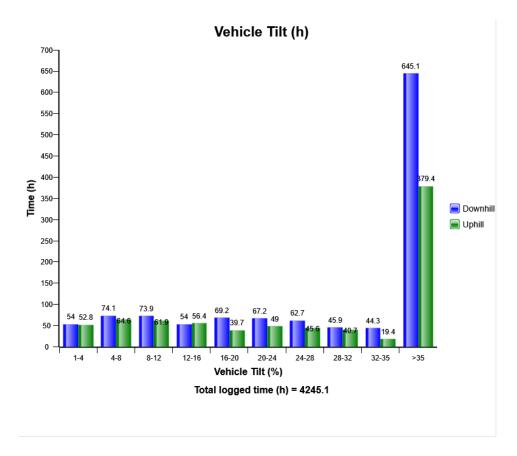
Machine model	SerialNo	Operating Hours	Reading Date
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The diagram shows the distribution of the working cycle distance. The distance driven between 2 valid cycle registrations.



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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
A25F	80034	4244.6	11/23/2015

## Regeneration ignored Total number of ignored regenerations 56

	Op hours	Year	Month	Day	Hour	Minute	Duration (min)
*	3414	2015	1	20	10	1	0
*	3414	2015	1	19	13	6	5
*	3414	2015	1	19	12	56	7
*	3414	2015	1	19	13	53	15
*	3414	2015	1	20	14	48	31
*	3414	2015	1	19	15	43	0
*	3414	2015	1	20	13	2	1
*	3414	2015	1	20	12	54	0
*	3414	2015	1	20	10	43	0
*	3414	2015	1	20	13	27	4
*	3415	2015	1	20	15	19	4
*	3415	2015	1	20	15	23	0
*	3415	2015	1	20	15	27	6
*	3415	2015	1	20	15	36	41
*	3415	2015	1	20	15	33	2
*	3416	2015	1	21	8	11	4
*	3416	2015	1	21	14	57	1
*	3416	2015	1	21	15	6	4
*	3416	2015	1	21	15	10	7
*	3416	2015	1	21	15	19	6



Machine model	SerialNo	Operating Hours	Reading Date
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## Regeneration aborted Total number of aborted regenerations 0

	Op hours	Year	Month	Day	Hour	Minute
*	3697	2015	3	20	12	36
*	3722	2015	3	23	15	9
*	3788	2015	4	1	11	29
*	3788	2015	4	1	11	28
*	3788	2015	4	1	11	21
*	3788	2015	4	1	10	45
*	3824	2015	4	8	10	36
*	3946	2015	5	9	8	21
*	4022	2015	6	3	13	2
*	4023	2015	6	3	13	28
*	4051	2015	6	8	10	59
*	4073	2015	6	17	13	50
*	4123	2015	6	26	10	57
*	4138	2015	6	28	13	40
*	4142	2015	7	7	11	54
*	4143	2015	7	8	12	44
*	4182	2015	8	27	13	26
*	4183	2015	9	8	7	12
*	4198	2015	9	18	10	54
*	4199	2015	9	18	11	40



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

### Regeneration duration Total number of occurences = 608

	Op hours	Year	Month	Day	Hour	Minute	Duration (min)
*	4051	2015	6	8	10	59	6
*	4052	2015	6	8	11	58	38
*	4063	2015	6	11	11	45	50
*	4073	2015	6	17	14	10	36
*	4073	2015	6	17	13	50	0
*	4087	2015	6	19	14	40	35
*	4099	2015	6	22	11	58	47
*	4109	2015	6	23	12	32	37
*	4123	2015	6	26	11	0	55
*	4123	2015	6	26	10	57	3
*	4131	2015	6	27	10	43	42
*	4138	2015	6	28	13	40	8
*	4142	2015	7	7	11	54	4
*	4143	2015	7	8	12	44	1
*	4144	2015	7	30	9	16	38
*	4157	2015	8	10	12	22	37
*	4168	2015	8	14	12	11	37
*	4182	2015	8	27	13	26	9
*	4183	2015	9	8	7	12	51
*	4198	2015	9	18	10	54	46



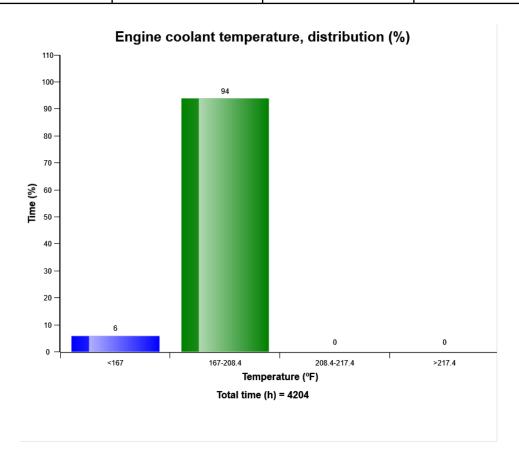
Machine model	SerialNo	Operating Hours	Reading Date
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### Regeneration intervals Total number of occurences = 2801

• 4205       2015       10       29       18       38       2         • 4205       2015       10       30       10       15       1         • 4205       2015       10       30       16       35       7         • 4205       2015       10       31       10       57       1         • 4205       2015       10       31       10       59       13         • 4206       2015       11       5       9       27       2         • 4206       2015       11       5       9       11       5         • 4206       2015       11       4       15       13       4         • 4206       2015       11       4       12       45       4         • 4206       2015       11       4       10       42       3         • 4206       2015       11       3       14       11       1         • 4206       2015       11       3       9       1       0         • 4206       2015       11       3       10       57       0         • 4206       2015       11       3 <td< th=""><th></th><th>Op hours</th><th>Year</th><th>Month</th><th>Day</th><th>Hour</th><th>Minute</th><th>Duration (min)</th></td<>		Op hours	Year	Month	Day	Hour	Minute	Duration (min)
4205       2015       10       30       16       35       7         4205       2015       10       31       10       57       1         4205       2015       10       31       10       59       13         4206       2015       11       5       9       27       2         4206       2015       11       5       9       11       5         4206       2015       11       4       15       13       4         4206       2015       11       4       12       45       4         4206       2015       11       4       10       42       3         4206       2015       11       3       14       11       1         4206       2015       11       3       9       1       0         4206       2015       11       3       10       57       0         4206       2015       11       3       8       23       4         4206       2015       11       3       8       23       4         4206       2015       11       2       17       25	*	4205	2015	10	29	18	38	2
* 4205	*	4205	2015	10	30	10	15	1
• 4205       2015       10       31       10       59       13         • 4206       2015       11       5       9       27       2         • 4206       2015       11       5       9       11       5         • 4206       2015       11       4       15       13       4         • 4206       2015       11       4       12       45       4         • 4206       2015       11       4       10       42       3         • 4206       2015       11       3       14       11       1         • 4206       2015       11       3       9       1       0         • 4206       2015       11       3       10       57       0         • 4206       2015       11       16       16       21       22         • 4206       2015       11       3       8       23       4         • 4206       2015       11       2       17       3       5         • 4206       2015       11       2       17       3       5         • 4206       2015       10       31       11<	*	4205	2015	10	30	16	35	7
* 4206	*	4205	2015	10	31	10	57	1
* 4206	*	4205	2015	10	31	10	59	13
* 4206	*	4206	2015	11	5	9	27	2
* 4206       2015       11       4       12       45       4         * 4206       2015       11       4       10       42       3         * 4206       2015       11       3       14       11       1         * 4206       2015       11       3       9       1       0         * 4206       2015       11       3       10       57       0         * 4206       2015       11       16       16       21       22         * 4206       2015       11       3       8       23       4         * 4206       2015       11       2       17       25       0         * 4206       2015       11       2       17       3       5         * 4206       2015       10       31       11       23       3         * 4206       2015       11       3       13       47       1	*	4206	2015	11	5	9	11	5
* 4206       2015       11       4       10       42       3         * 4206       2015       11       3       14       11       1         * 4206       2015       11       3       9       1       0         * 4206       2015       11       3       10       57       0         * 4206       2015       11       16       16       21       22         * 4206       2015       11       3       8       23       4         * 4206       2015       11       2       17       25       0         * 4206       2015       11       2       17       3       5         * 4206       2015       10       31       11       23       3         * 4206       2015       11       3       13       47       1	*	4206	2015	11	4	15	13	4
* 4206       2015       11       3       14       11       1         * 4206       2015       11       3       9       1       0         * 4206       2015       11       3       10       57       0         * 4206       2015       11       16       16       21       22         * 4206       2015       11       3       8       23       4         * 4206       2015       11       2       17       25       0         * 4206       2015       11       2       17       3       5         * 4206       2015       10       31       11       23       3         * 4206       2015       11       3       13       47       1	*	4206	2015	11	4	12	45	4
* 4206       2015       11       3       9       1       0         * 4206       2015       11       3       10       57       0         * 4206       2015       11       16       16       21       22         * 4206       2015       11       3       8       23       4         * 4206       2015       11       2       17       25       0         * 4206       2015       11       2       17       3       5         * 4206       2015       10       31       11       23       3         * 4206       2015       11       3       13       47       1	*	4206	2015	11	4	10	42	3
* 4206       2015       11       3       10       57       0         * 4206       2015       11       16       16       21       22         * 4206       2015       11       3       8       23       4         * 4206       2015       11       2       17       25       0         * 4206       2015       11       2       17       3       5         * 4206       2015       10       31       11       23       3         * 4206       2015       11       3       13       47       1	*	4206	2015	11	3	14	11	1
* 4206       2015       11       16       16       21       22         * 4206       2015       11       3       8       23       4         * 4206       2015       11       2       17       25       0         * 4206       2015       11       2       17       3       5         * 4206       2015       10       31       11       23       3         * 4206       2015       11       3       13       47       1	*	4206	2015	11	3	9	1	0
* 4206       2015       11       3       8       23       4         * 4206       2015       11       2       17       25       0         * 4206       2015       11       2       17       3       5         * 4206       2015       10       31       11       23       3         * 4206       2015       11       3       13       47       1	*	4206	2015	11	3	10	57	0
* 4206     2015     11     2     17     25     0       * 4206     2015     11     2     17     3     5       * 4206     2015     10     31     11     23     3       * 4206     2015     11     3     13     47     1	*	4206	2015	11	16	16	21	22
* 4206     2015     11     2     17     3     5       * 4206     2015     10     31     11     23     3       * 4206     2015     11     3     13     47     1	*	4206	2015	11	3	8	23	4
* 4206 2015 10 31 11 23 3 * 4206 2015 11 3 13 47 1	*	4206	2015	11	2	17	25	0
* 4206 2015 11 3 13 47 1	*	4206	2015	11	2	17	3	5
	*	4206	2015	10	31	11	23	3
* 4206 2015 11 23 10 3 20	*	4206	2015	11	3	13	47	1
4200 2010 11 20 10 3 20	*	4206	2015	11	23	10	3	20



Machine model	SerialNo	Operating Hours	Reading Date	
A25F	80034	4244.6	11/23/2015	



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.

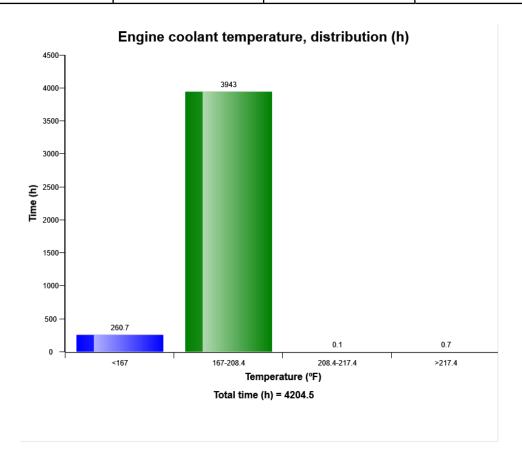
Yellow bar = High working temperature. It is normal to have some registrations in this region.

Red bar = Alarm.

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



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

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X-axis: Temperature distribution in classes.

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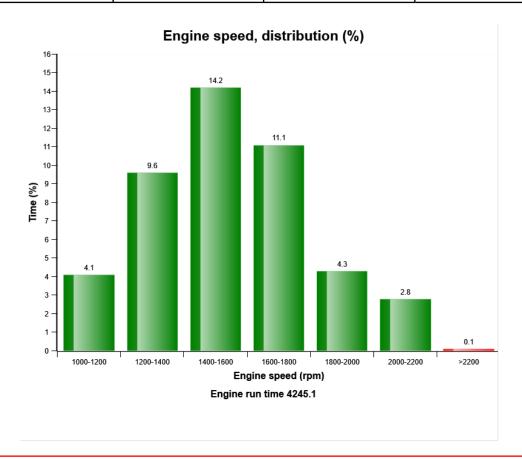
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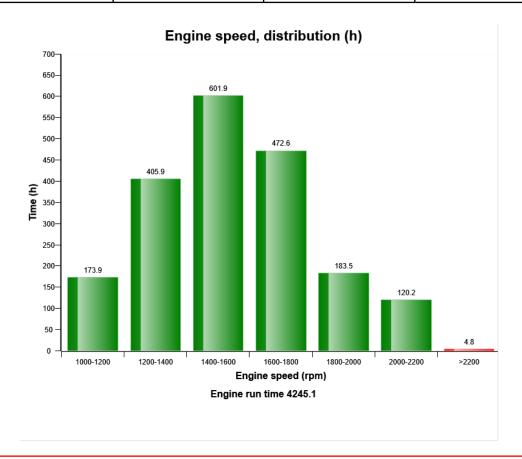
Machine model SerialNo		Operating Hours	Reading Date	
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An error has occurred while processing HtmlTextBox 'htmlTextBox1': 'WordSection1' is an unexpected token. The expected token is '"' or '". Line 1, position 18.



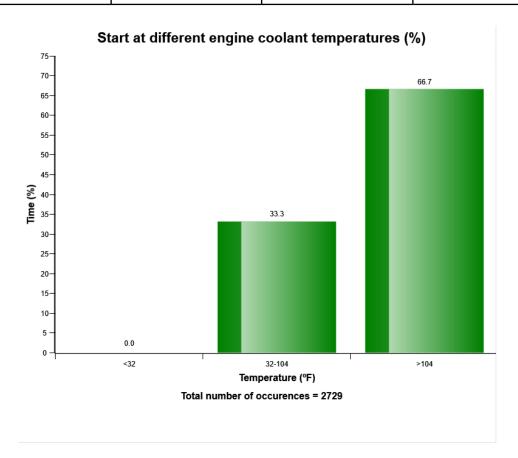
Machine model SerialNo		Operating Hours	Reading Date	
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An error has occurred while processing HtmlTextBox 'htmlTextBox1': 'WordSection1' is an unexpected token. The expected token is '" or ". Line 1, position 18.



Machine model	fachine model SerialNo		Reading Date	
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The graph shows the distribution of engine coolant temperature, at the starting moment.

#### **Explanation:**

Y-axis: Number of engine starts

X-axis: Engine coolant temperature.

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

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

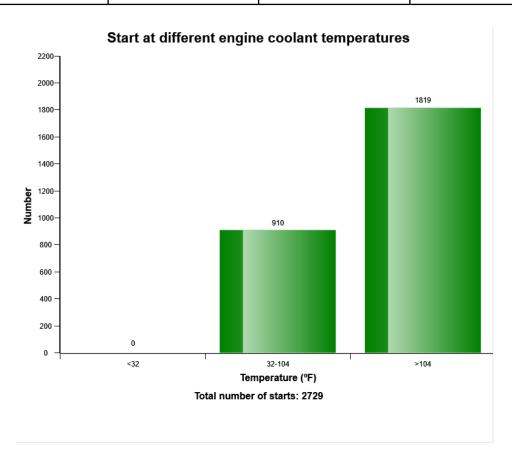
Also see " Number of starts / hour" to get a complete picture of engine starting.



Machine model	SerialNo	Operating Hours	Reading Date	
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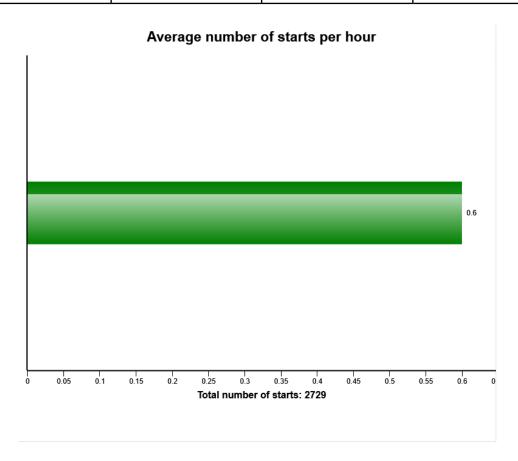
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A25F	80034	4244.6	11/23/2015	



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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#### High engine coolant temperature Total number of occurences = 4

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (° F)
E	0	2000	0	0	0	0	0	32
F	0	2000	0	0	0	0	0	32
G	0	2000	0	0	0	0	0	32
Н	0	2000	0	0	0	0	0	32
I	0	2000	0	0	0	0	0	32
J	0	2000	0	0	0	0	0	32
Α	2817	2014	9	16	11	10	187	248
В	2817	2014	9	16	11	56	860	255
С	2817	2014	9	16	12	19	520	237
D	2817	2014	9	16	14	15	527	251

#### 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 :



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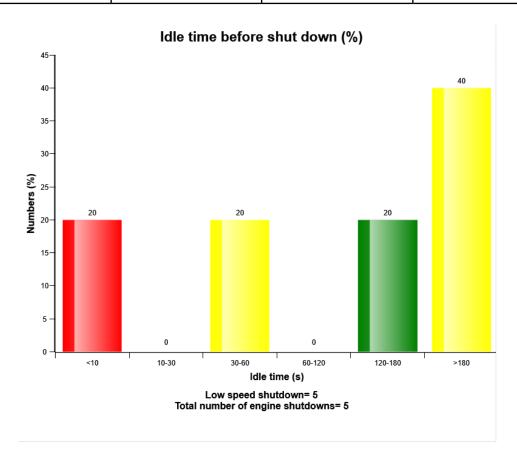
The extreme value column displays the most extreme value during the event.

#### 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	
A25F	80034	4244.6	11/23/2015	



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
A25F	80034	4244.6	11/23/2015

### High engine oil temperature Total number of occurences = 0

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (° F)
A	0	2000	0	0	0	0	0	32
В	0	2000	0	0	0	0	0	32
С	0	2000	0	0	0	0	0	32
D	0	2000	0	0	0	0	0	32
E	0	2000	0	0	0	0	0	32
F	0	2000	0	0	0	0	0	32
G	0	2000	0	0	0	0	0	32
Н	0	2000	0	0	0	0	0	32
I	0	2000	0	0	0	0	0	32
J	0	2000	0	0	0	0	0	32

#### Definition :

This type of table shows the latest occasions when a specific event has occurred. When a specified criteria is fulfilled a registration is made. Each table row corresponds to one occasion. Operating hours is displayed in the first column, followed by year, month, day, hour and minute to show when an event has occurred.

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed

Duration:

The duration of each event is shown after the timestamp of the event.

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

Extreme value :



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

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

#### Criteria:

The criteria to get an registration, is that the alarm signal for high engine oil temperature is active and that the diesel engine is running.



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

### Starter overheating Total number of occurences = 0

Op hours	Year	Month	Day	Hour	Minute
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0
0	2000	0	0	0	0

#### Definition:

The starter can be damaged if it is overheated.



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

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

#### Explanation:

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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

# Low Air filter pressure Total number of occurences = 1

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
0	2000	0	0	0	0	0
2949	2014	10	10	13	6	5167

## 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
A25F	80034	4244.6	11/23/2015

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

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed.

#### Duration:

The duration of each event is shown after the timestamp of the event.

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

#### Criteria:

The criteria to get an registration, is that the alarm signal for air filter clogged is active, and that the diesel engine is running.



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

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

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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

# High voltage Total number of occurences = 453

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme value
4180.0	2015.0	8.0	27.0	11.0	8.0	2.0	35.6
4180.0	2015.0	8.0	27.0	11.0	3.0	33.0	40.6
4180.0	2015.0	8.0	27.0	11.0	2.0	1.0	30.2
4180.0	2015.0	8.0	27.0	10.0	57.0	38.0	37.0
4180.0	2015.0	8.0	27.0	10.0	56.0	1.0	31.4
4181	2015	8	27	12	19	51	34
4181.0	2015.0	8.0	27.0	12.0	2.0	1.0	31.2
4181.0	2015.0	8.0	27.0	12.0	10.0	86.0	38.0
4181.0	2015.0	8.0	27.0	12.0	17.0	1.0	35.0
4181.0	2015.0	8.0	27.0	12.0	32.0	40.0	35.6
4181.0	2015.0	8.0	27.0	12.0	31.0	1.0	29.8
4181.0	2015.0	8.0	27.0	12.0	27.0	7.0	36.3
4181.0	2015.0	8.0	27.0	12.0	22.0	2.0	34.7
4182.0	2015.0	8.0	27.0	12.0	43.0	31.0	34.2
4182.0	2015.0	8.0	27.0	12.0	55.0	0.0	29.9
4182.0	2015.0	8.0	27.0	12.0	57.0	55.0	34.3
4182.0	2015.0	8.0	27.0	12.0	40.0	17.0	32.1
4182.0	2015.0	8.0	27.0	12.0	38.0	1.0	35.8
4182.0	2015.0	8.0	27.0	12.0	48.0	4.0	38.5
4182.0	2015.0	8.0	27.0	12.0	52.0	28.0	37.5

### 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
A25F	80034	4244.6	11/23/2015

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

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed

#### Duration:

The duration of each event is shown after the timestamp of the event.

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

#### Extreme value :

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

#### Criteria:

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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

# Low voltage Total number of occurences = 10

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme value
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
1769	2013	12	2	11	13	0	286
3347	2014	12	29	9	54	1	177
3347	2014	12	29	9	54	0	85
3349	2015	1	2	8	49	1	106
3825	2015	4	8	12	42	4619	80
3826	2015	4	9	15	57	79	142
3826	2015	4	8	14	43	1053	75
4097	2015	6	22	9	20	0	291
4106	2015	6	23	9	33	11	232
4118	2015	6	24	14	34	5	183

## 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
A25F	80034	4244.6	11/23/2015

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

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed

#### Duration:

The duration of each event is shown after the timestamp of the event.

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

#### Extreme value :

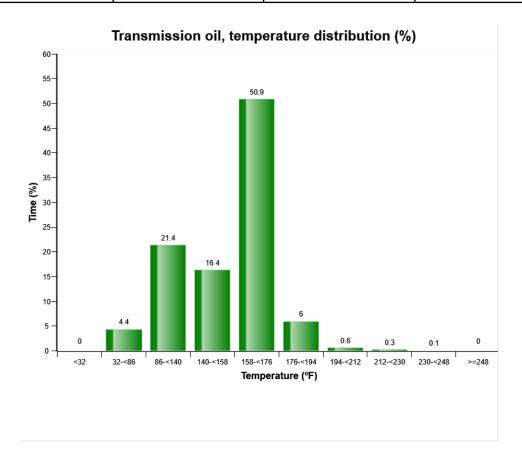
The extreme value column displays the most extreme value during the event.

#### Criteria:

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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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

<32°F Temperatures below 32°F

32-<86°F Temperatures from 32°F until 86°F

86-<140°F Temperatures from 86°F until 140°F

140-<158°F Temperatures from 140°F until 158°F

158-<176°F Temperatures from 158°F until 176°F

176-<194°F Temperatures from 176°F until 194°F

194-<212°F Temperatures from 194°F until 212°F



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

212-<230°F Temperatures from 212°F until 230°F

230-<248°F Temperatures from 230°F until 248°F

>248°F Temperatures over 248°F

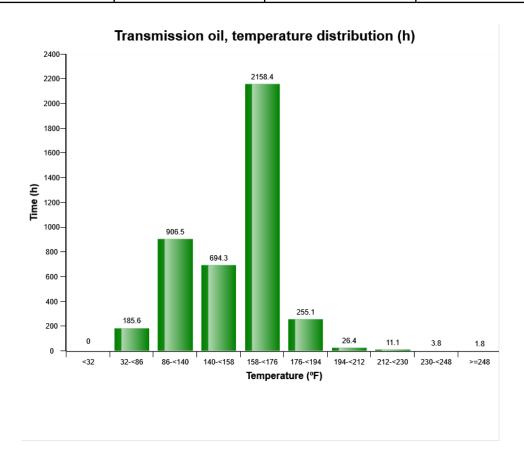
The bar that describes temperatures from 230°F until 248°F is yellow and means that the oil has began to be overheated. Driver has been given orange central warning

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

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



Machine model	SerialNo	Operating Hours	Reading Date	
A25F	80034	4244.6	11/23/2015	



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

<32°F Temperatures below 32°F

32-<86°F Temperatures from 32°F until 86°F

86-<140°F Temperatures from 86°F until 140°F

140-<158°F Temperatures from 140°F until 158°F

158-<176°F Temperatures from 158°F until 176°F

176-<194°F Temperatures from 176°F until 194°F

194-<212°F Temperatures from 194°F until 212°F



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

212-<230°F Temperatures from 212°F until 230°F

230-<248°F Temperatures from 230°F until 248°F

>248°F Temperatures over 248°F

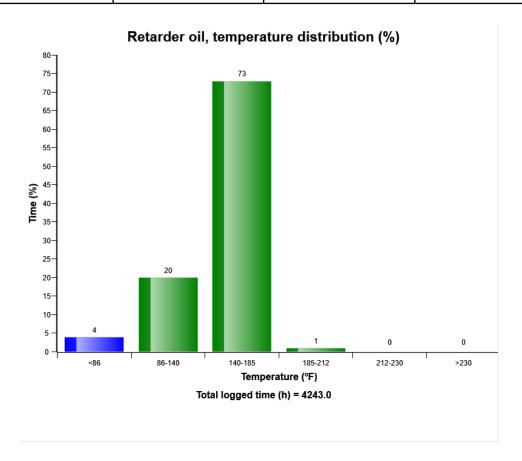
The bar that describes temperatures from 230°F until 248°F is yellow and means that the oil has began to be overheated. Driver has been given orange central warning

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

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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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
A25F	80034	4244.6	11/23/2015

region.

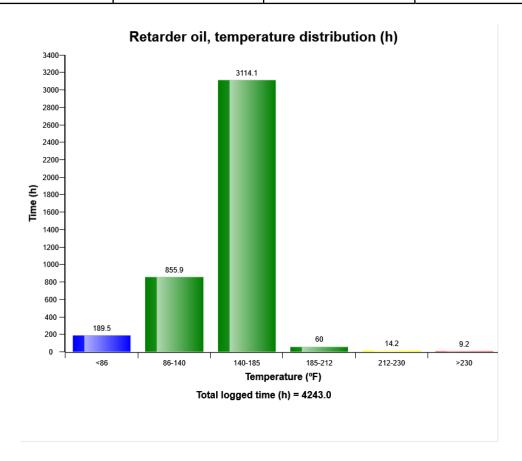
Yellow bar = High working temperature. It is normal to have some registrations in this region.

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
A25F	80034	4244.6	11/23/2015



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
A25F	80034	4244.6	11/23/2015

region.

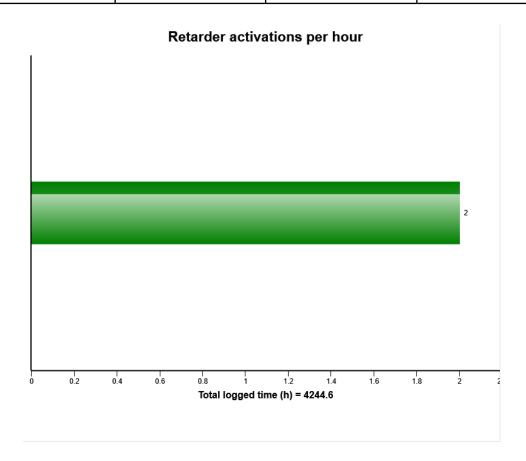
Yellow bar = High working temperature. It is normal to have some registrations in this region.

Red bar = Alarm.

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



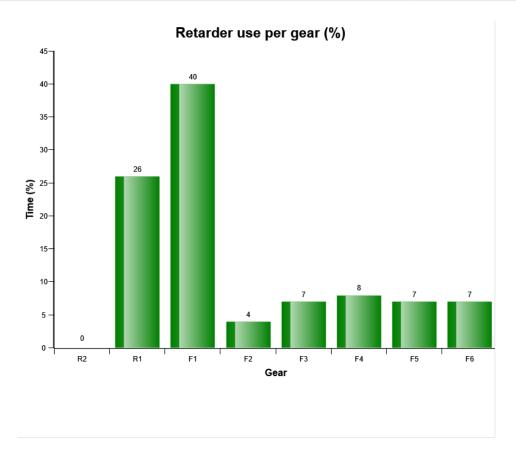
Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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
A25F	80034	4244.6	11/23/2015

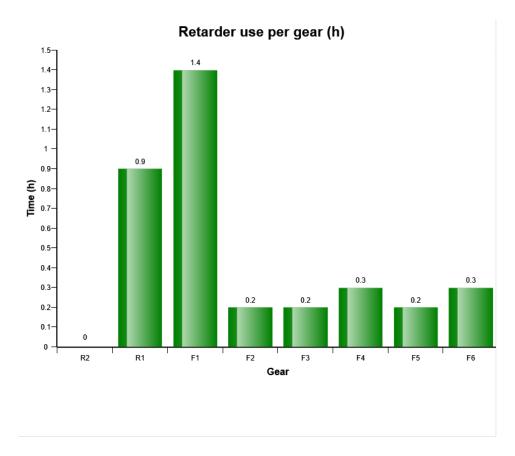


The diagram shows the time in percent of retarder in use related to respective gear.

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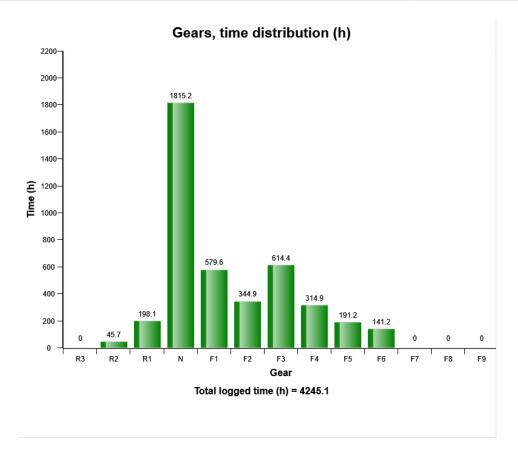
Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

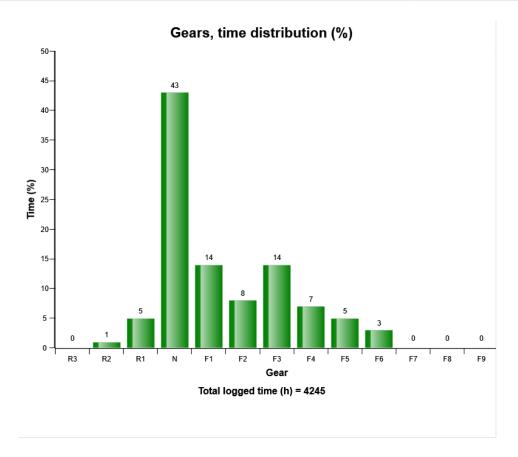


The diagram shows the time for each gear. Each bar represents a gear.

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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

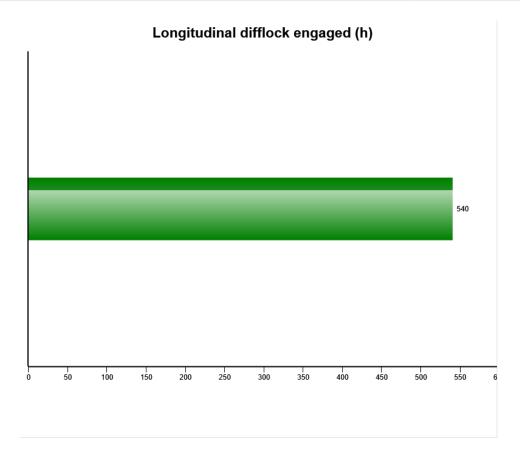


The diagram shows the time for each gear. Each bar represents a gear.

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



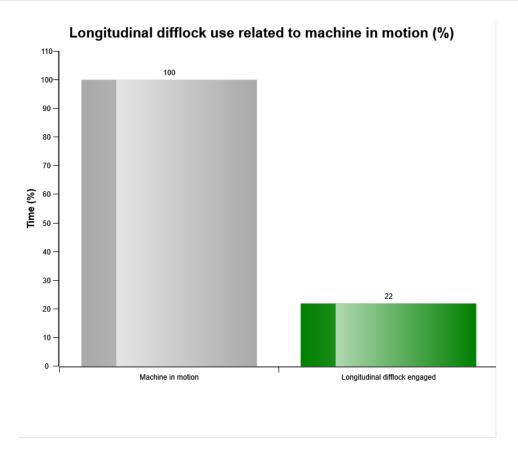
Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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
A25F	80034	4244.6	11/23/2015



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
A25F	80034	4244.6	11/23/2015

# Transmission oil pressure low Total number of occurences = 10

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (psi)
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
0	2000	0	0	0	0	0	0
1747	2013	11	16	11	3	0	792
2233	2014	4	28	14	30	0	872
2273	2014	5	8	13	45	0	1095
2437	2014	7	1	7	10	0	888
2557	2014	7	26	8	34	0	935
2627	2014	8	7	8	15	0	988
2717	2014	8	22	13	7	0	1009
2735	2014	8	26	9	2	0	1275
2787	2014	9	5	15	21	10	1403
3564	2015	2	16	15	40	0	1313

## 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
A25F	80034	4244.6	11/23/2015

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

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed.

#### Duration:

The duration of each event is shown after the timestamp of the event.

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

#### Extreme value :

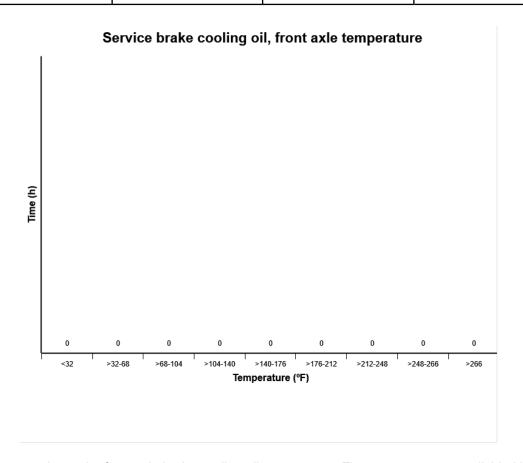
The extreme value column displays the most extreme value during the event.

#### Criteria:

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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

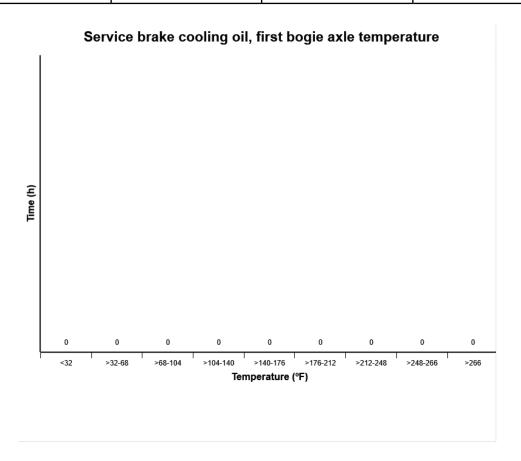


The diagram shows the front axle brake cooling oil temperature. The temperatures are divided into ranges, yellow bar (>248-266°F) and red bar (>266°F) shows abnormal temperatures. The temperature is registered in the line from the front axle to the oil cooler, that is, the warmest oil in the circuit.

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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

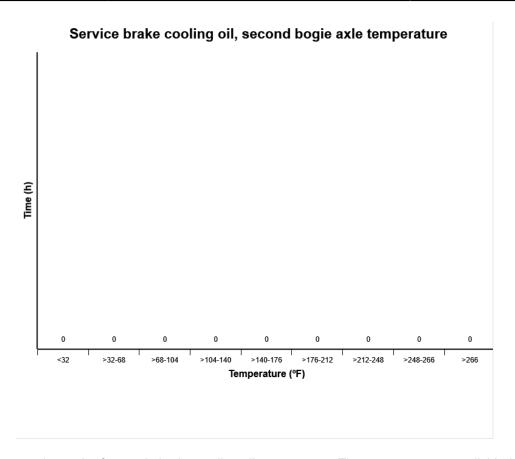


The diagram shows the first bogie axle brake cooling oil temperature. The temperatures are divided into ranges, yellow bar (>248-266°F) and red bar (>266°F) shows abnormal temperatures. The temperature is registered in the line from the first bogie axle to the oil cooler, that is, the warmest oil in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

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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

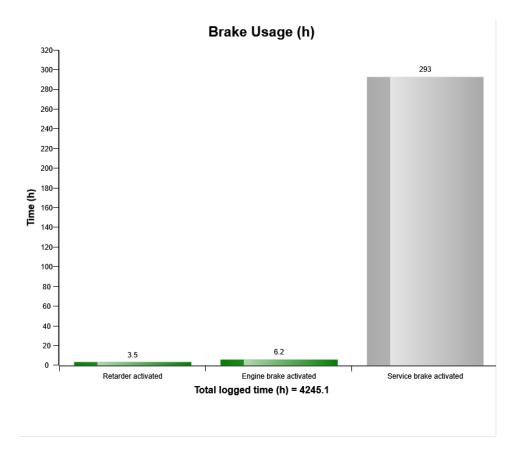


The diagram shows the front axle brake cooling oil temperature. The temperatures are divided into ranges, yellow bar (>248-266°F) and red bar (>266°F) shows abnormal temperatures. The temperature is registered in the line from the second bogie axle to the oil cooler, that is, the warmest oil in the circuit.

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



Machine model	SerialNo	Operating Hours	Reading Date	
A25F	80034	4244.6	11/23/2015	

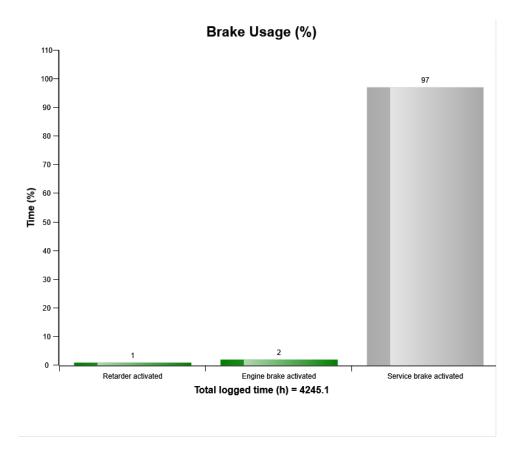


The diagram shows the total time for activated retarder, engine brake and the total time for activated service brake (exceeding 4 bar).

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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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
A25F	80034	4244.6	11/23/2015

# Low Brake Servo Pressure Total number of occurences = 34

	Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (psi)
E	4106	2015	6	15	10	44	10	1915
F	4106	2015	6	15	10	44	20	1915
G	4106	2015	6	15	12	45	0	1612
A	4107	2015	6	17	9	6	10	25
В	4107	2015	6	17	9	8	0	19
С	4107	2015	6	17	9	56	128	19
D	4107	2015	6	17	11	9	0	1643
Н	4107	2015	6	16	12	18	0	25
I	4107	2015	6	16	12	18	0	19
J	4107	2015	6	17	9	6	0	25

### Definition :

This type of table shows the latest occasions when a specific event has occurred. When a specified criteria is fulfilled a registration is made. Each table row corresponds to one occasion. Operating hours is displayed in the first column, followed by year, month, day, hour and minute to show when an event has occurred.

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed

Duration:

The duration of each event is shown after the timestamp of the event.

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

Extreme value :



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

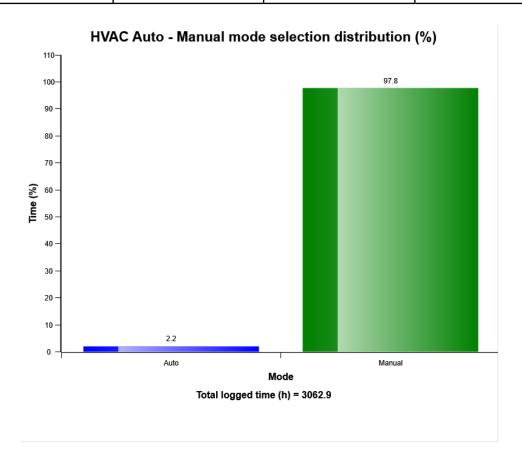
The extreme value column displays the most extreme value during the event.

### Criteria:

In order for an occurrence of low brake servo pressure to be recorded in a data point and the count to increment by 1, the low brake servo pressure state must be alarm. Gear not in Neutral and engine must be on.



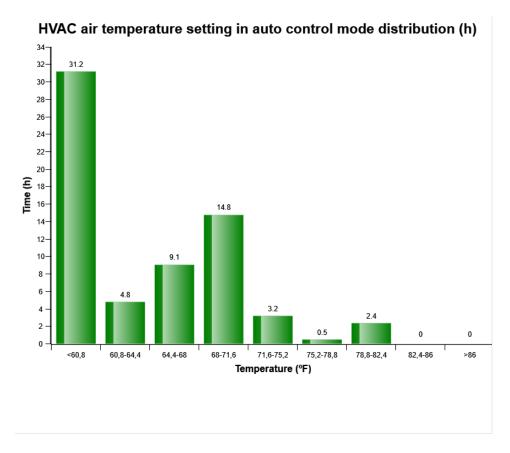
Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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



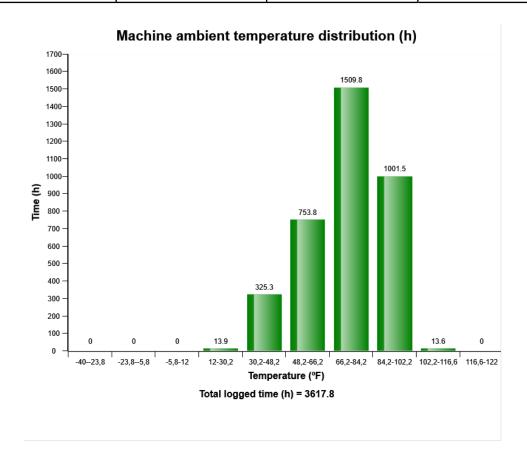
Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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

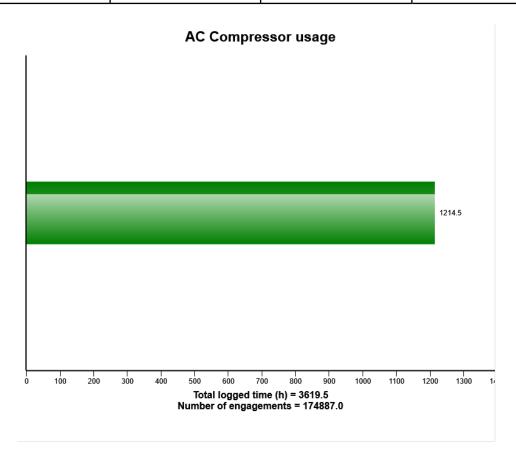


Machine model	SerialNo	Operating Hours	Reading Date	
A25F	80034	4244.6	11/23/2015	





Machine model	SerialNo	Operating Hours	Reading Date	
A25F	80034	4244.6	11/23/2015	



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.

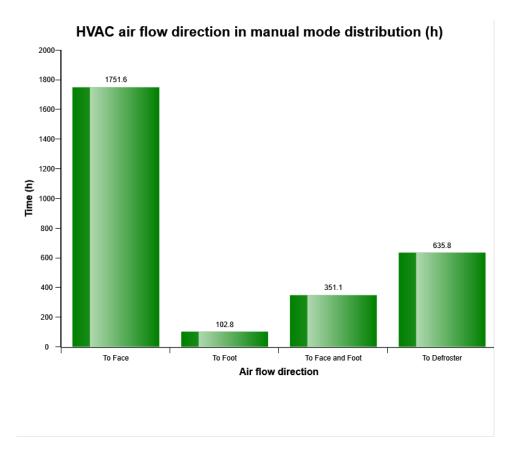


Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

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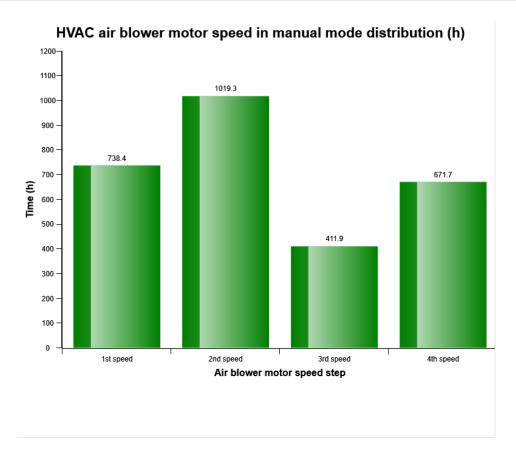
Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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
A25F	80034	4244.6	11/23/2015

# AC High Pressure Total number of occurences = 9

0	Year	Month	Day	Hours	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
4106	2015	6	15	12	47	202	75
4106	2015	6	15	10	44	42	90
4106	2015	6	15	10	29	517	86
4106	2015	6	15	10	25	122	84
4107	2015	6	17	9	57	-65367	91
4107	2015	6	17	8	34	160	86
4107	2015	6	16	12	14	143	91
4107	2015	6	16	10	59	148	91
4107	2015	6	16	10	18	166	88

# 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
A25F	80034	4244.6	11/23/2015

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
A25F	80034	4244.6	11/23/2015

# AC Boiling Protection Number of engagements = 0

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

# 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
A25F	80034	4244.6	11/23/2015

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

The rows are not ordered chronological (The latest event may be in the middle).

Only one event per minute is registered.

Over the table the total number of events is displayed

#### Duration:

The duration of each event is shown after the timestamp of the event.

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

#### Extreme value :

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

#### Criteria:

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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015

# AC System Cut Out Pressure Total number of occurences = 8

Op hours	Year	Month	Day	Hour	Minute	Duration (sec)	Extreme (° F)
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
0	2000	0	0	0	0	0	32
4106	2015	6	15	12	49	51	75
4106	2015	6	15	10	44	23	90
4106	2015	6	15	10	25	76	84
4107	2015	6	17	9	57	133	91
4107	2015	6	17	8	34	123	86
4107	2015	6	16	12	14	102	91
4107	2015	6	16	10	59	88	91
4107	2015	6	16	10	19	134	88

# 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
A25F	80034	4244.6	11/23/2015

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 :

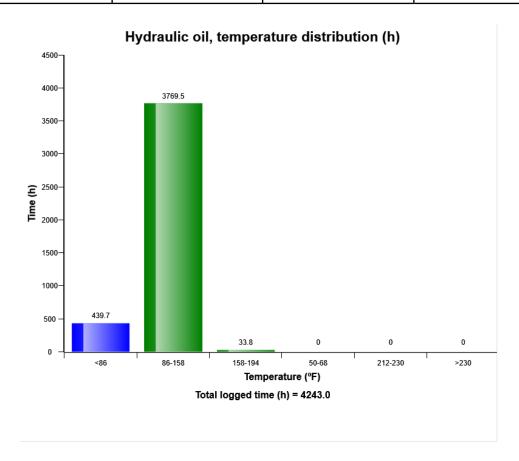
The extreme value column displays the most extreme value during the event.

#### Criteria:

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



Machine model	SerialNo	Operating Hours	Reading Date
A25F	80034	4244.6	11/23/2015



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
A25F	80034	4244.6	11/23/2015

region.

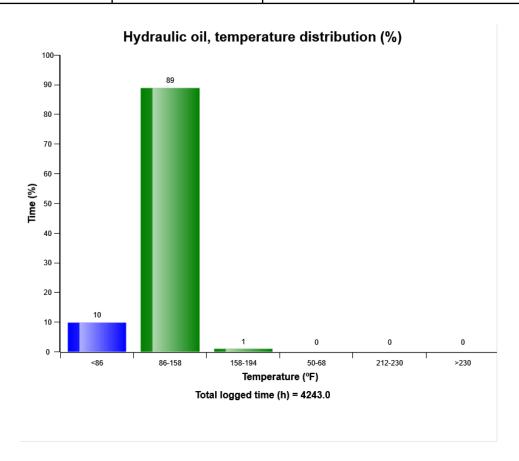
Yellow bar = High working temperature. It is normal to have some registrations in this region.

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	
A25F	80034	4244.6	11/23/2015	



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