VOLVO CONSTRUCTION EQUIPMENT

# MATRIS REPORT

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

| Company name | Dealer | Report Issuer |
|---|---|---|
| Asset Appraisal Services | | |
| **Contact name** | **Technician** | **Primary Application** |
| | ERIROUT | Earth moving construction |
| **Site** | **Workorder** | **Ground Condition** |
| | | |

MATRIS Reading, Summary / Recommendation

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

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

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
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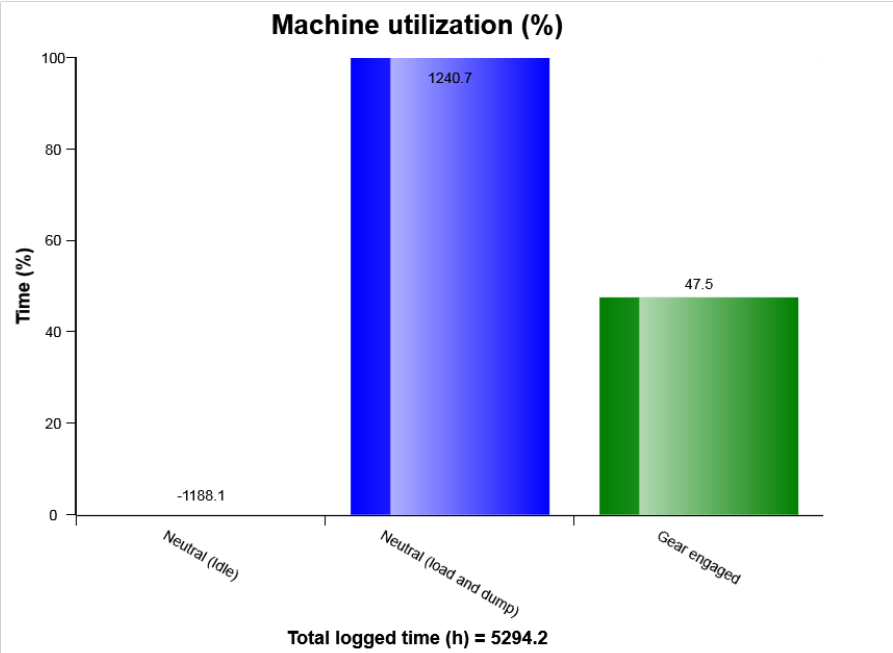


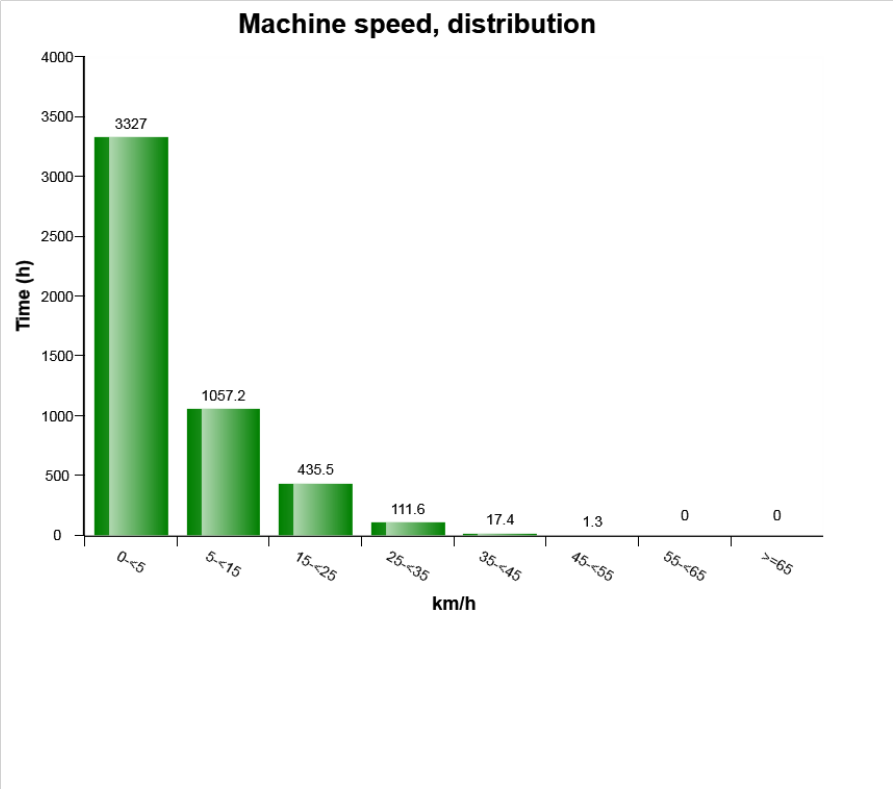

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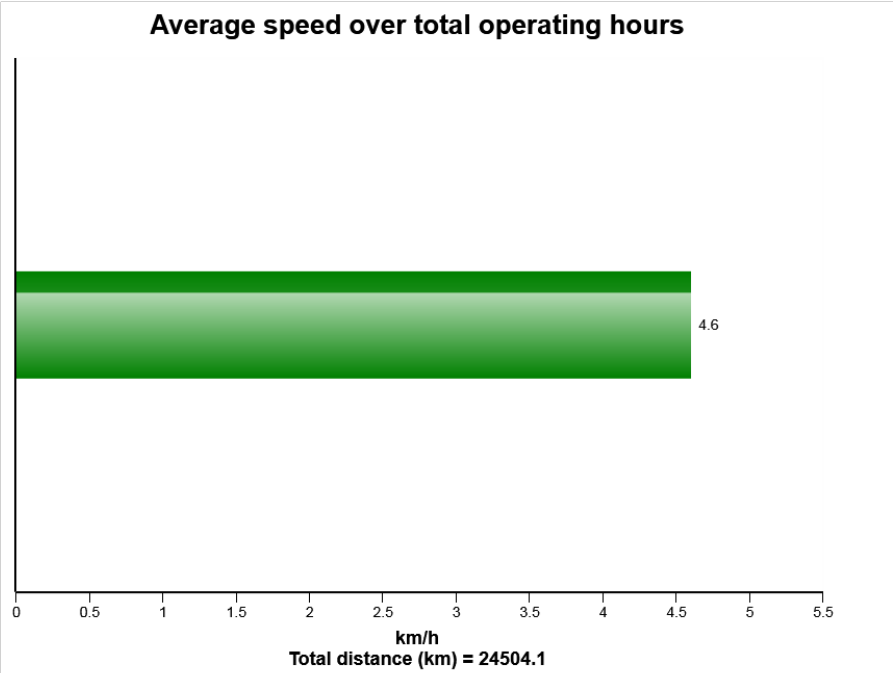


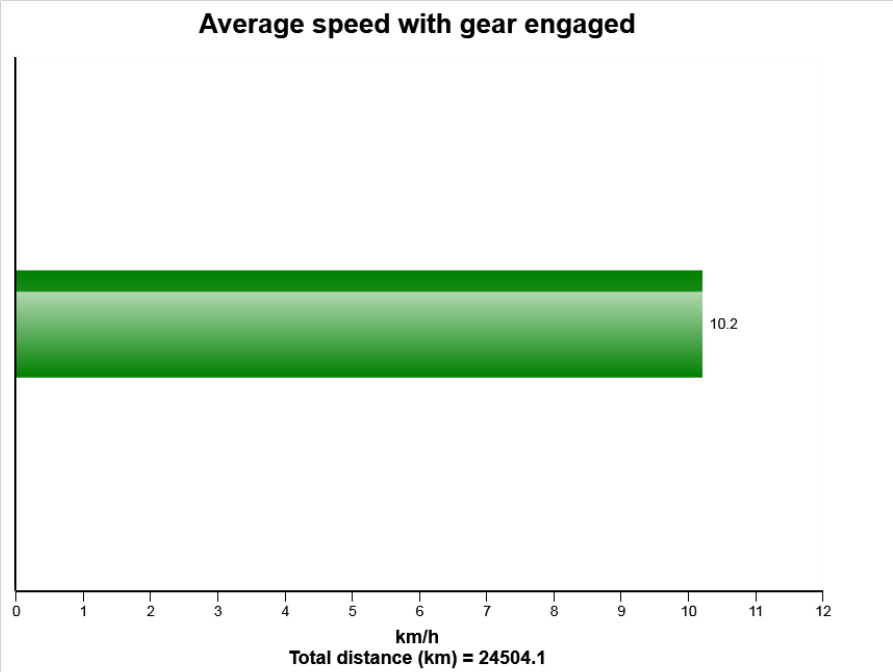

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|---|---|---|---|
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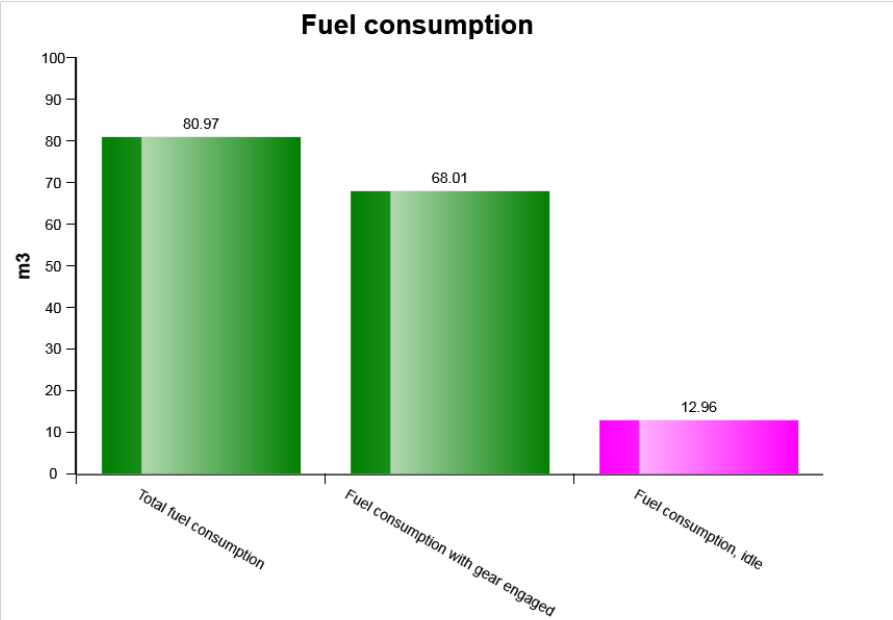


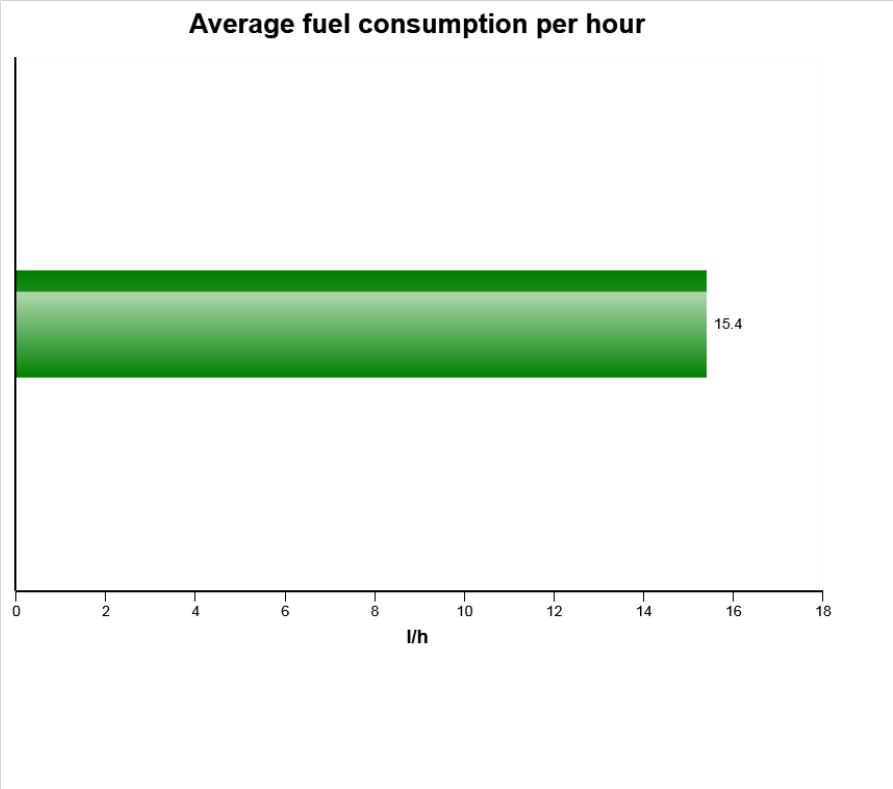

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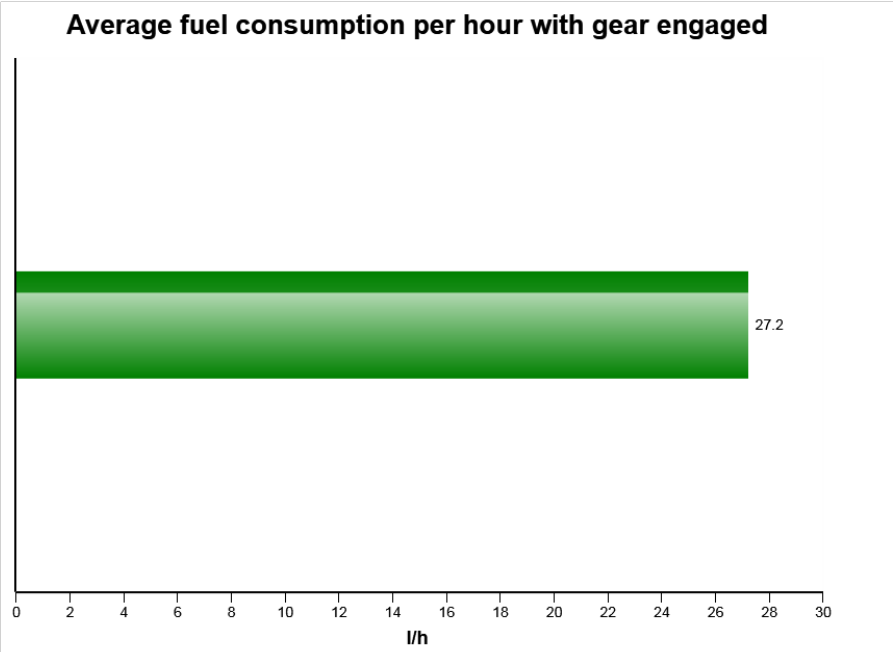
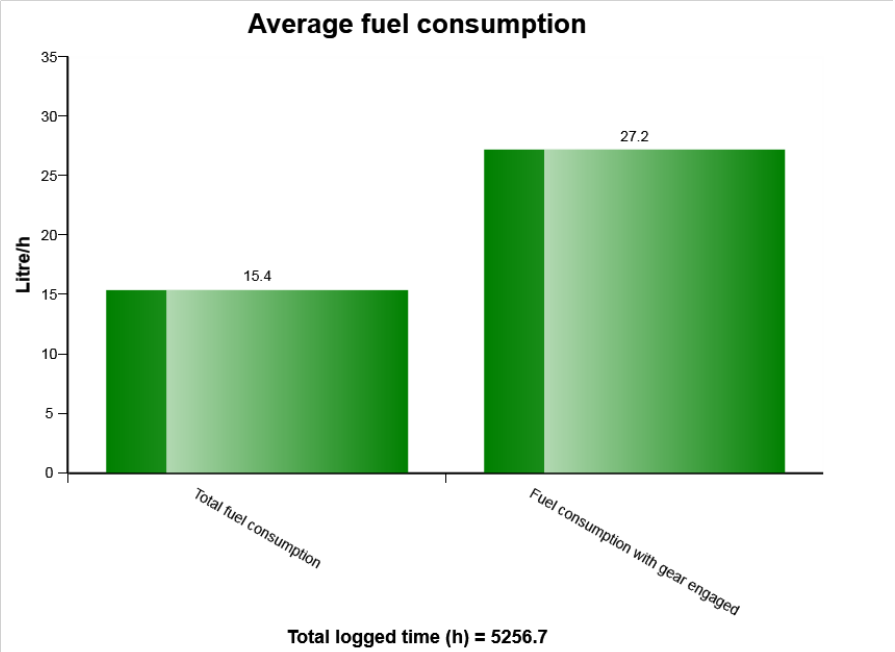
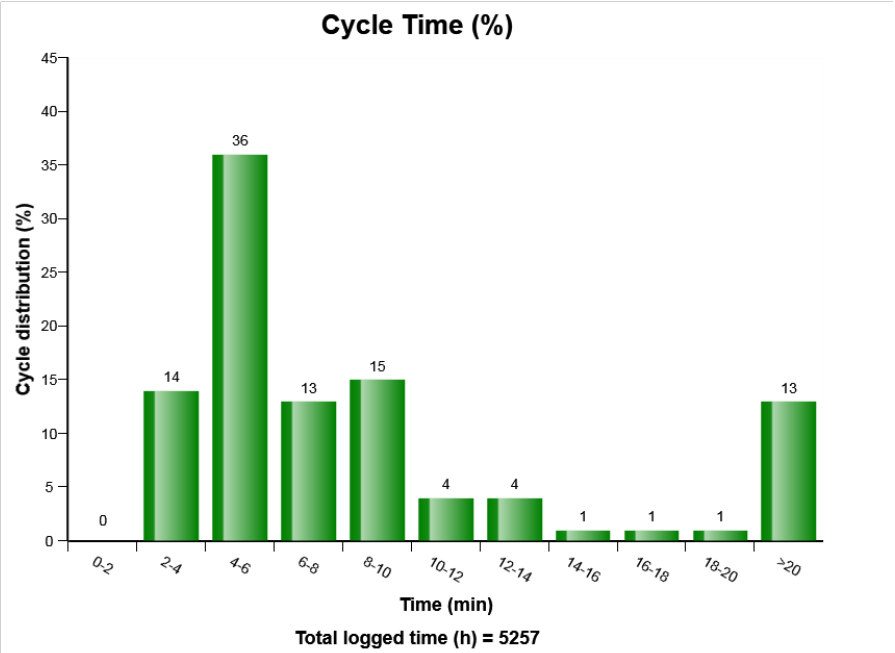
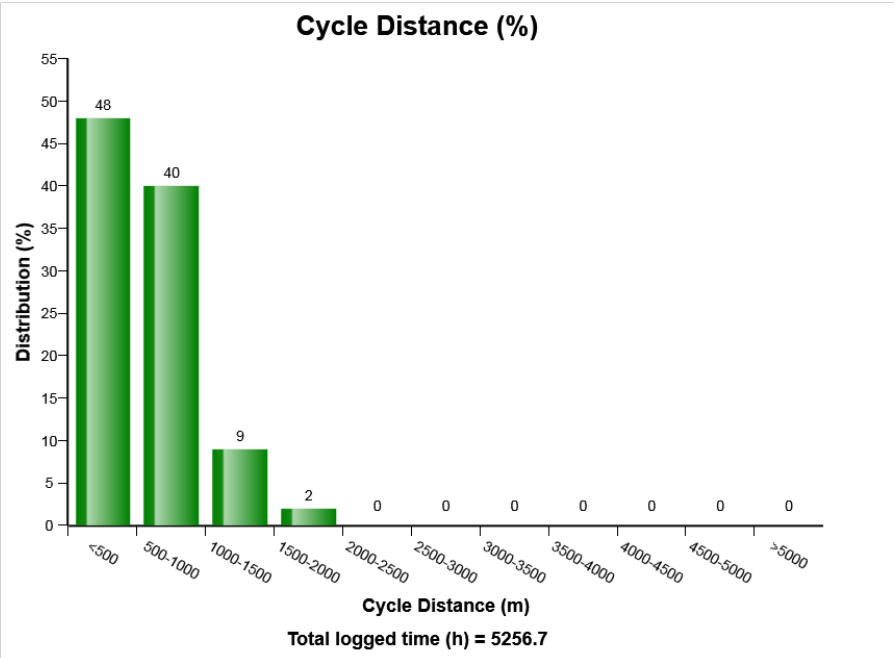



**Total logged time (h) = 5256.7**

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |



| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
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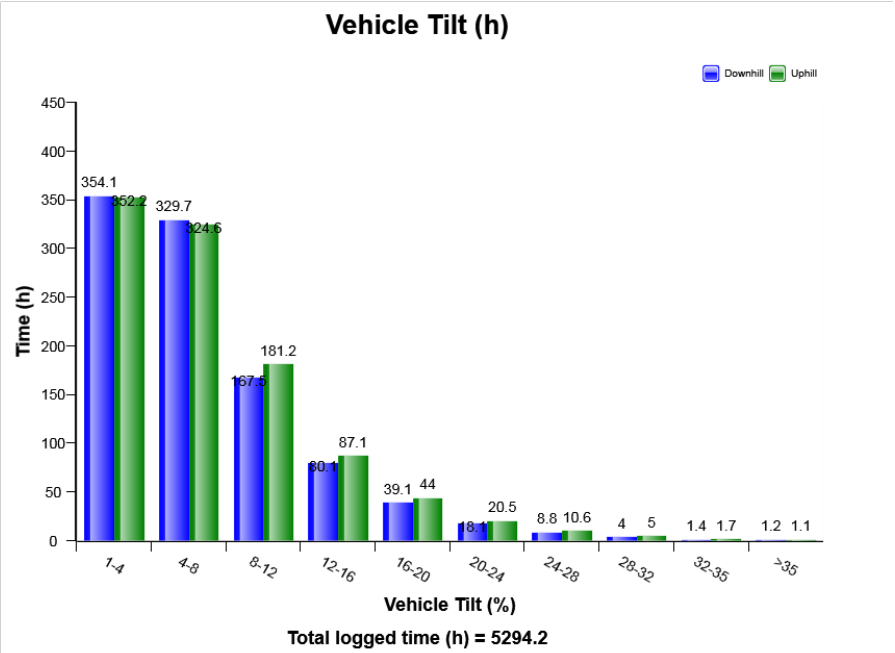
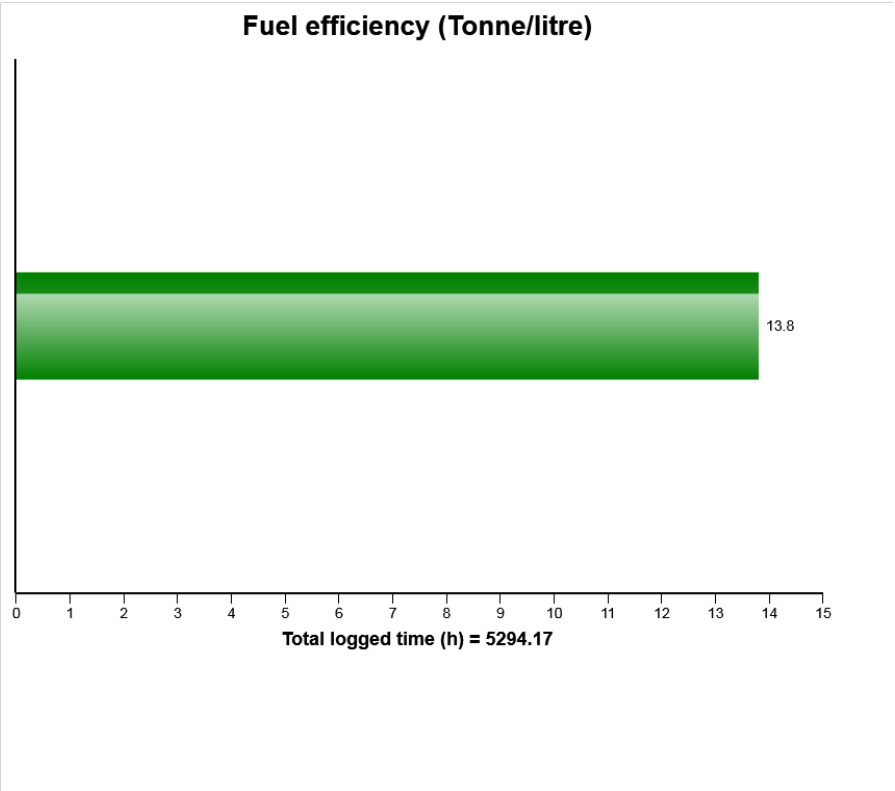
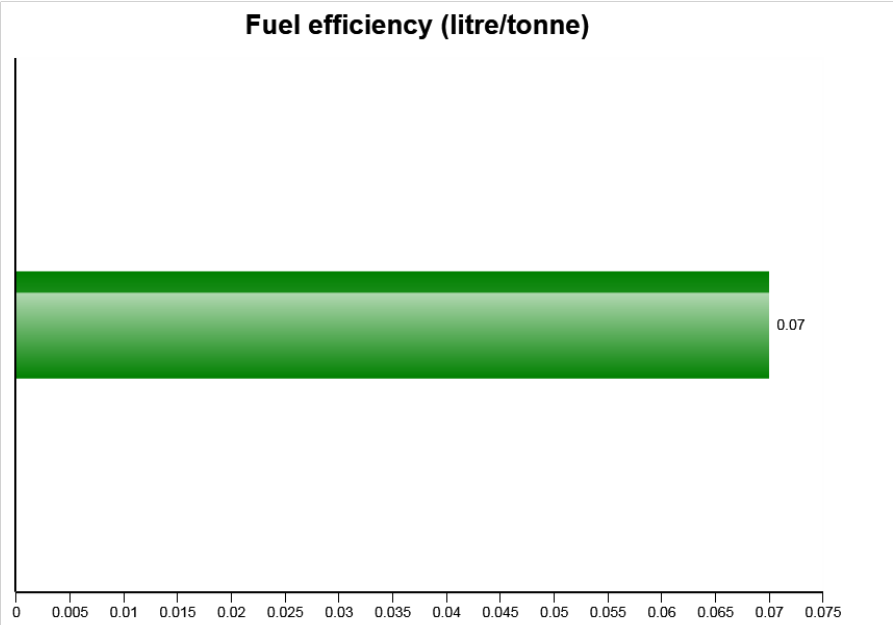
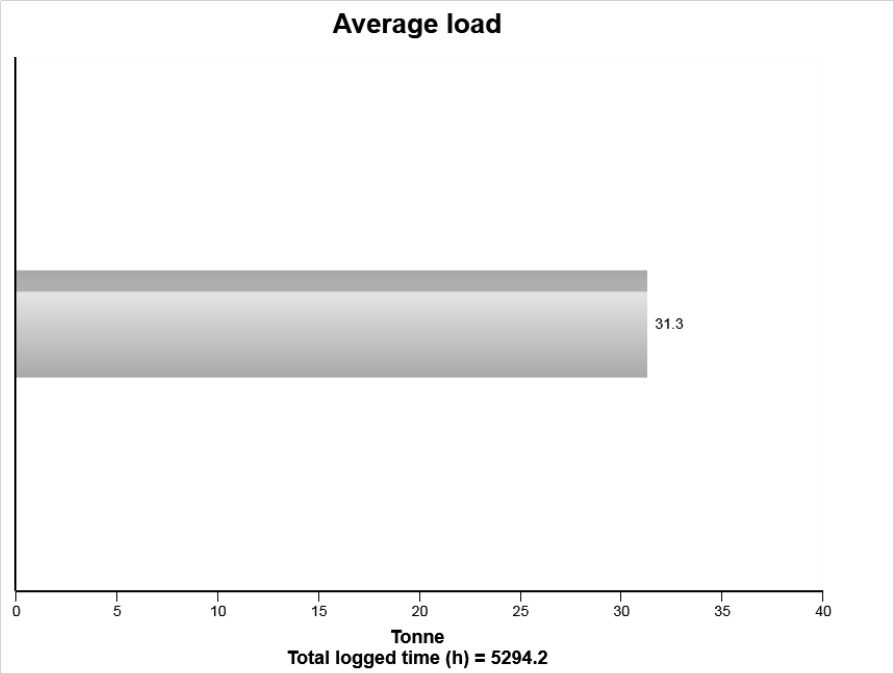
## Accumulated performance
## Total logged time (h) =

| | |
|---|---|
| **Total logged time (h) =** | 5294.2 |
| **Total fuel consumption** | 80983.9 |
| **Production (tonne)** | 1117903.7 |
| **Tonne/h** | 211.2 |
| **Tonne/litre** | 13.8 |
| **Litre/tonne** | 0.1 |
| **Number of cycles** | 35714 |
| **Cycles overloaded (%)** | 0.1 |
| **Load utilisation / cycle (%)** | 80.3 |

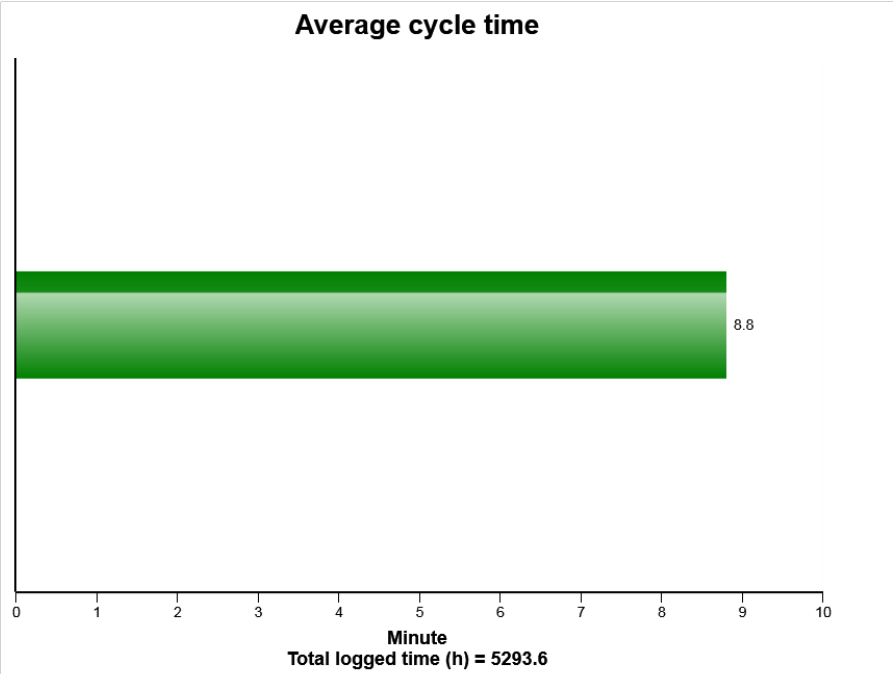

Vehicle Tilt (h)
Downhill
Uphill
Time (h)
450
400
350
300
250
200
150
100
50
0
354.1
352.2
329.7
324.6
167.6
181.2
80.1
87.1
39.1
44
18.1
20.5
8.8
10.6
4
5
1.4
1.7
1.2
1.1
1-4
4-8
8-12
12-16
16-20
20-24
24-28
28-32
32-35
>35
Vehicle Tilt (%)
Total logged time (h) = 5294.2

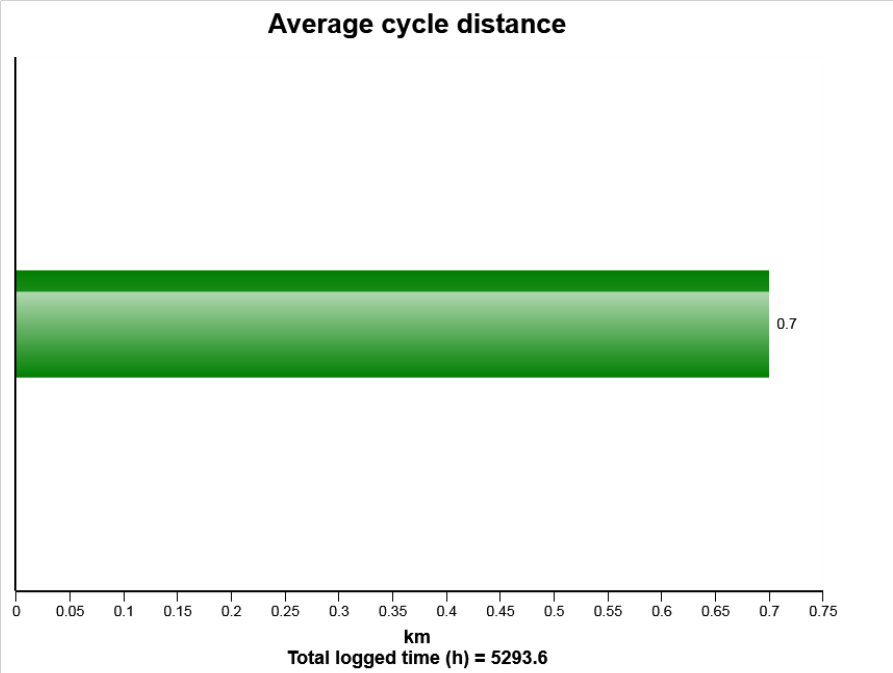

Fuel efficiency (Tonne/litre)
13.8
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Total logged time (h) = 5294.17

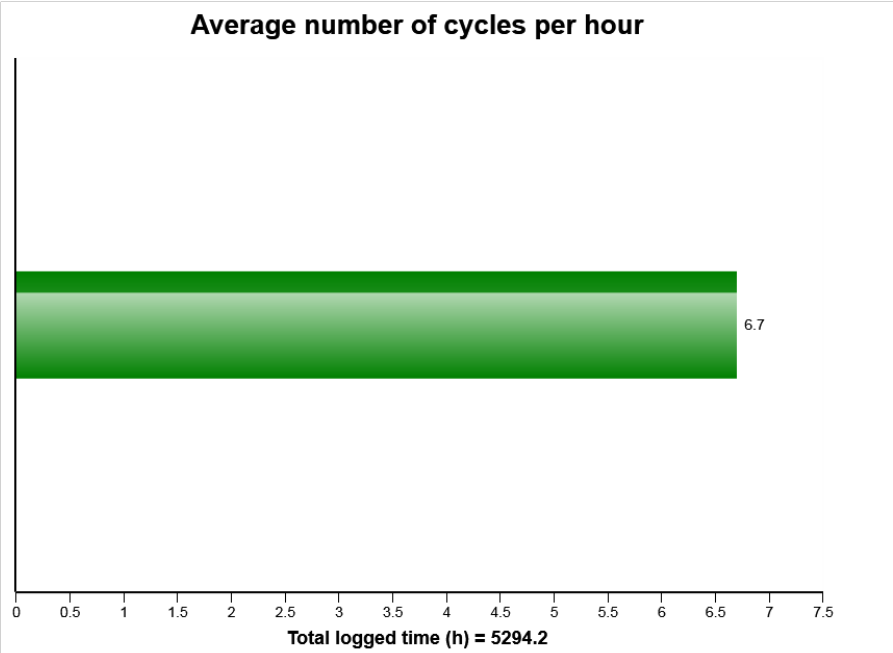

Fuel efficiency (litre/tonne)
0.07
0
0.005
0.01
0.015
0.02
0.025
0.03
0.035
0.04
0.045
0.05
0.055
0.06
0.065
0.07
0.075
Total logged time (h) = 5294.17

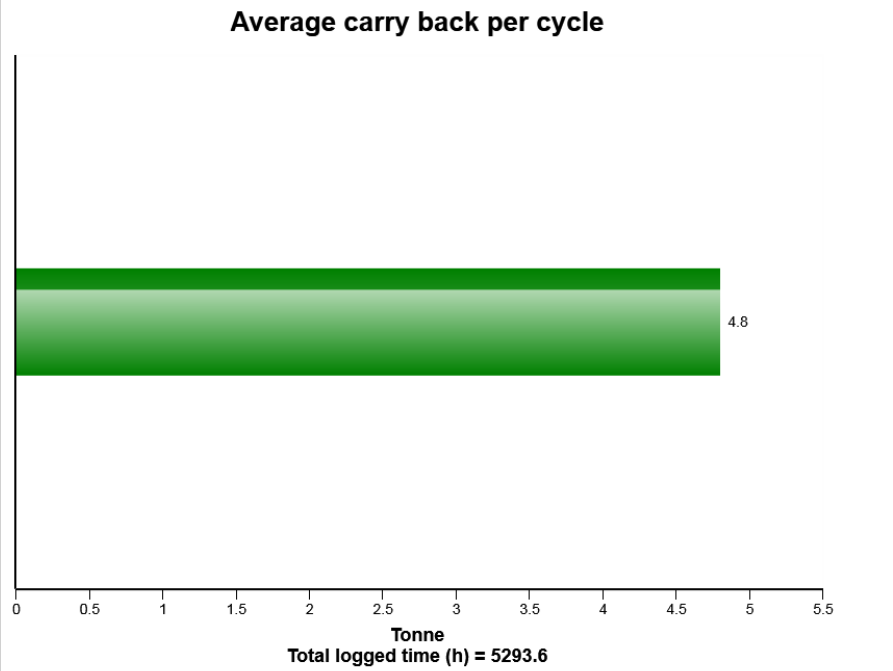

Average load
31.3
0
5
10
15
20
25
30
35
40
Tonne
Total logged time (h) = 5294.2

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

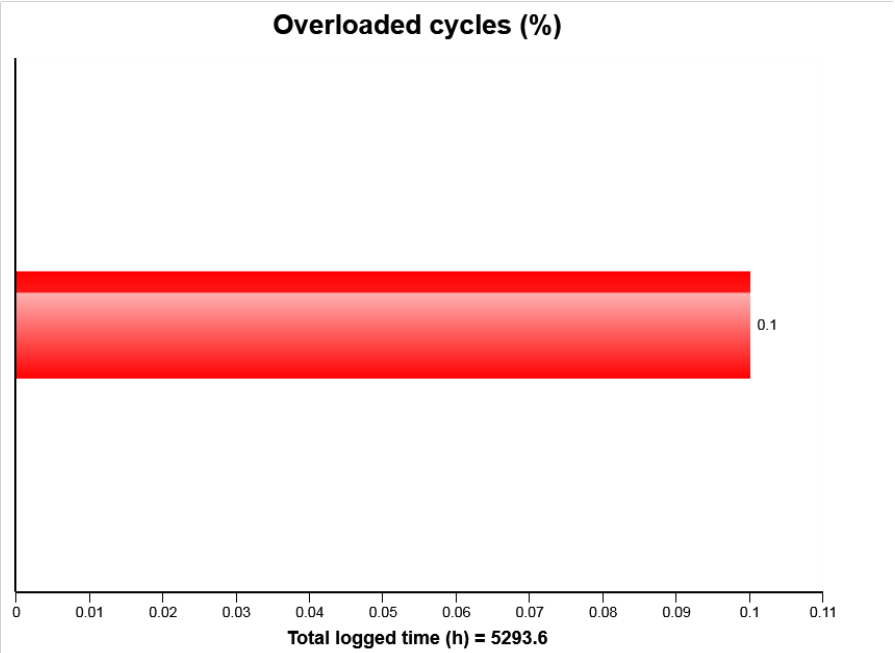


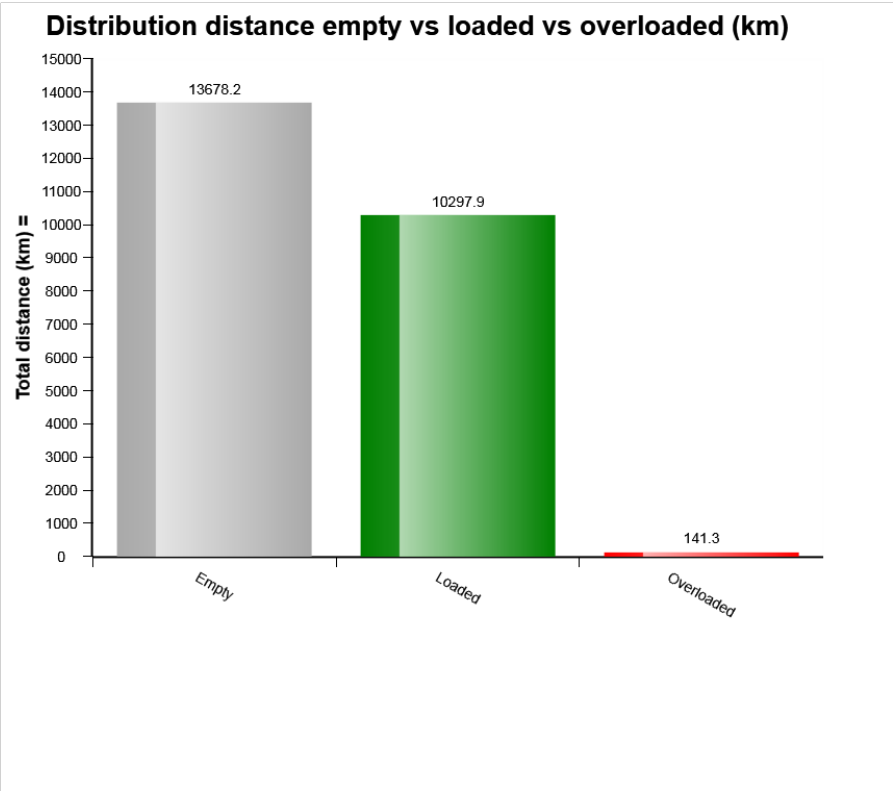



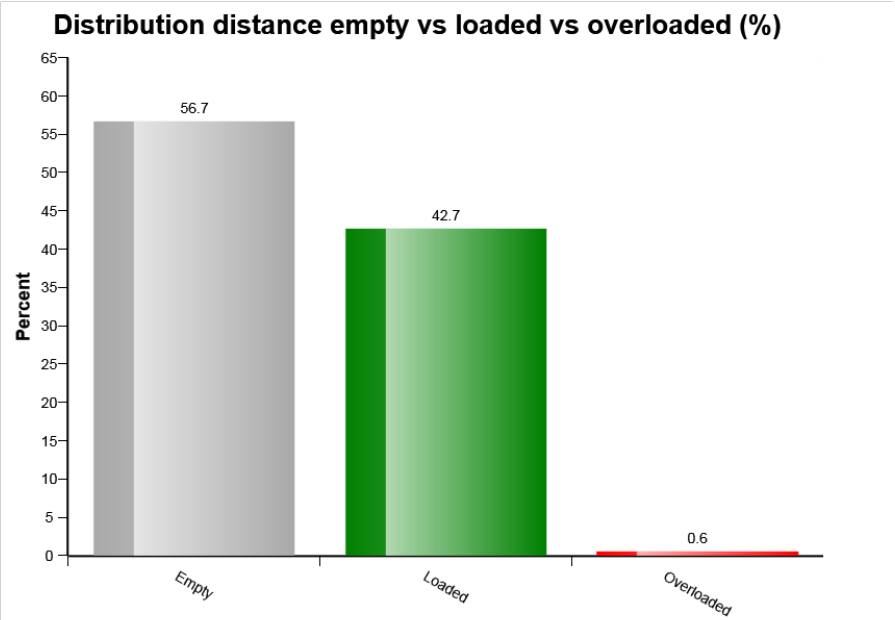

Average number of cycles per hour
6.7
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6
6.5
7
7.5
Total logged time (h) = 5294.2

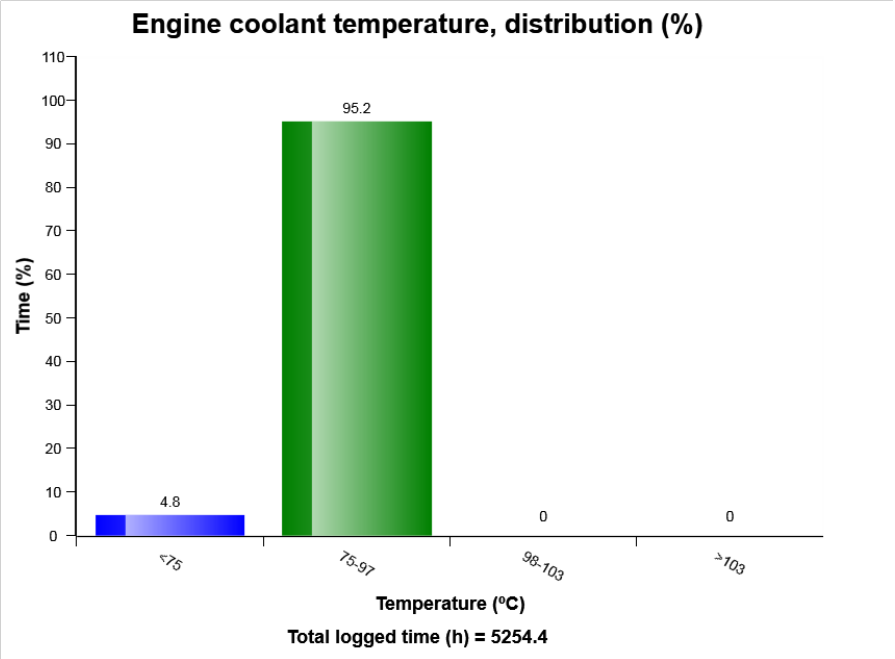

Average carry back per cycle
4.8
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
Tonne
Total logged time (h) = 5293.6

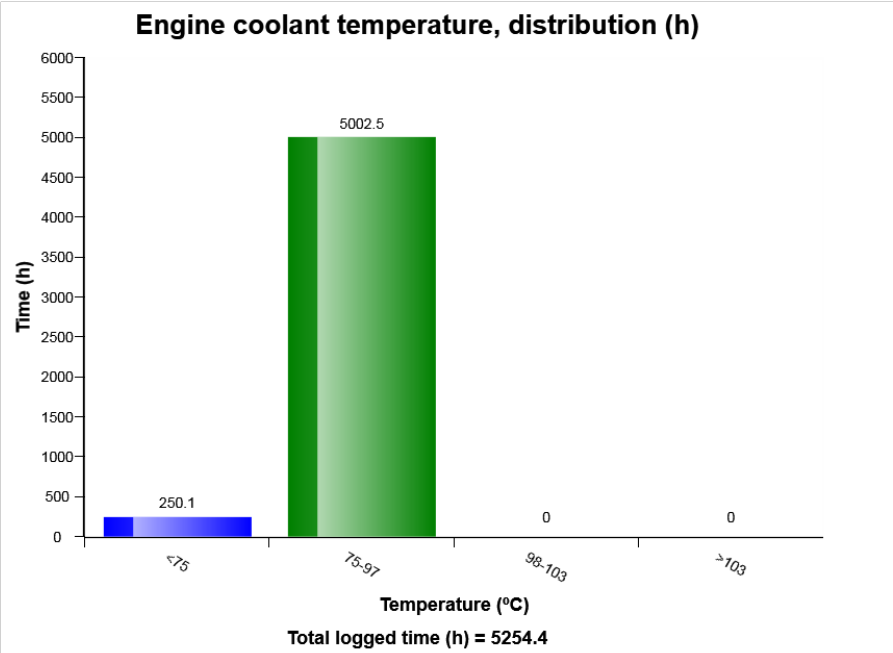
| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

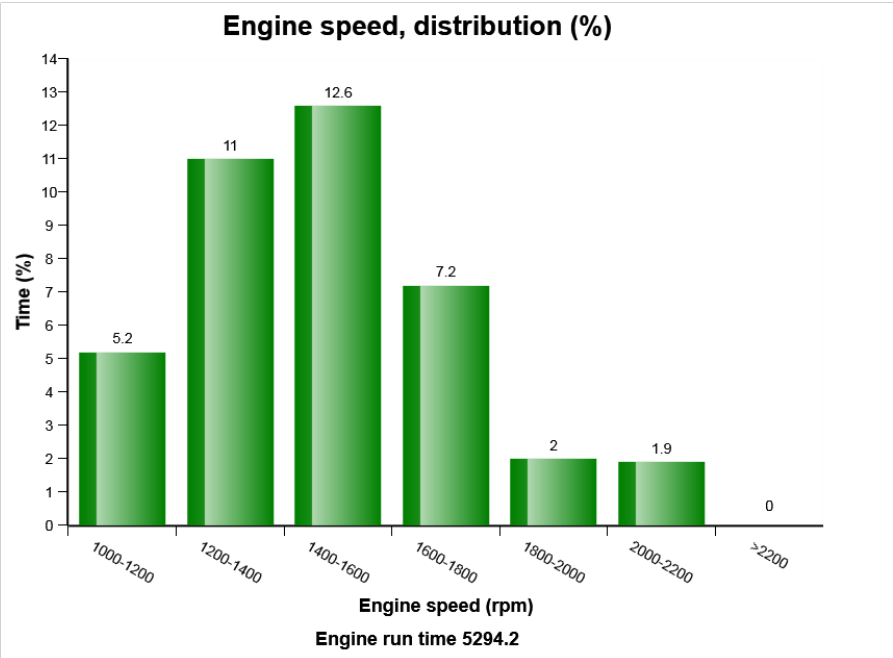


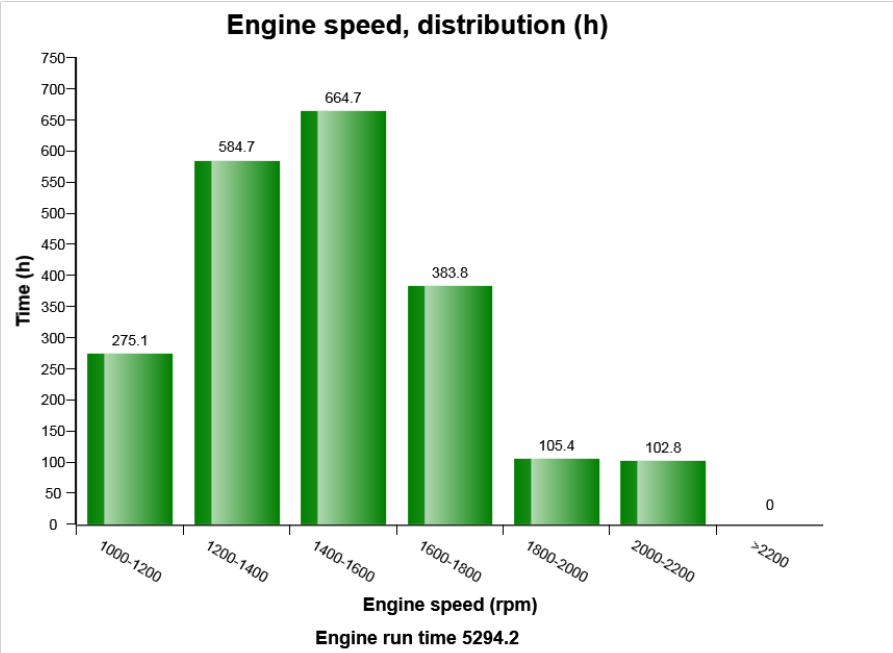



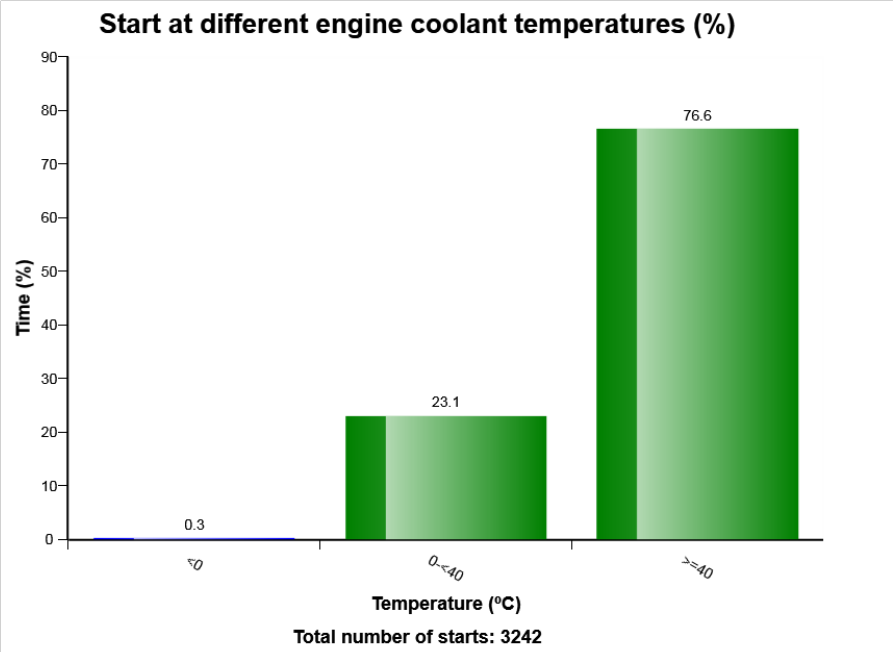

Distribution distance empty vs loaded vs overloaded (%)
Percent
65
60
55
50
45
40
35
30
25
20
15
10
5
0
56.7
42.7
0.6
Empty
Loaded
Overloaded

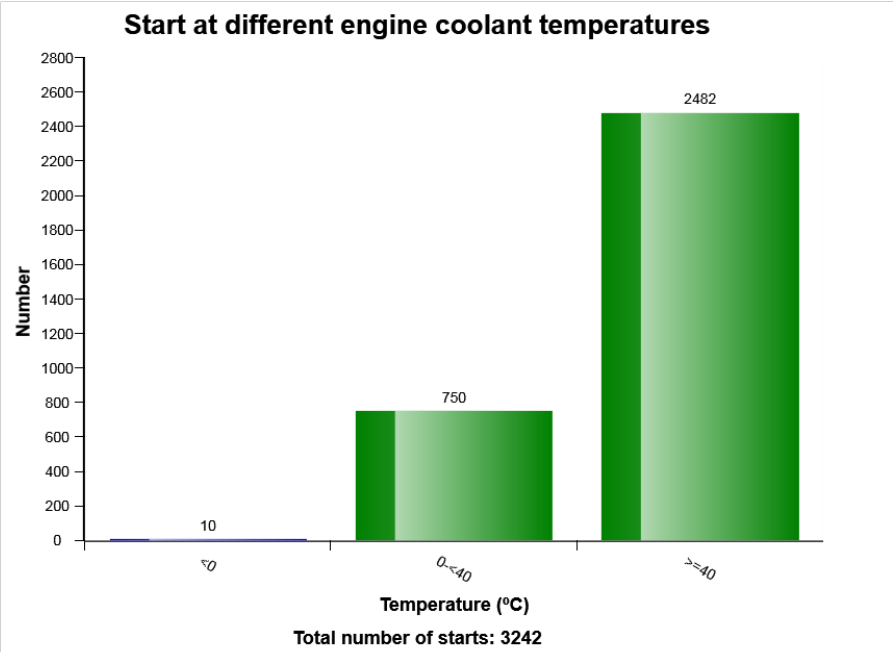

Engine coolant temperature, distribution (%)
Time (%)
110
100
90
80
70
60
50
40
30
20
10
0
4.8
95.2
0
0
<75
75-97
98-103
>103
Temperature (°C)
Total logged time (h) = 5254.4

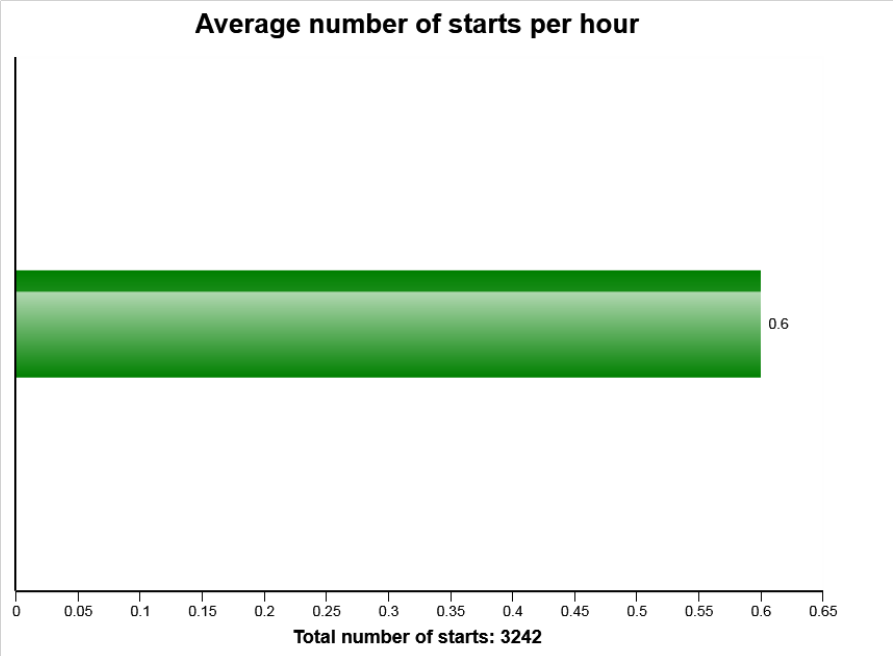

Engine coolant temperature, distribution (h)
Time (h)
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
250.1
5002.5
0
0
<75
75-97
98-103
>103
Temperature (°C)
Total logged time (h) = 5254.4


Engine speed, distribution (%)
Time (%)
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
5.2
11
12.6
7.2
2
1.9
0
1000-1200
1200-1400
1400-1600
1600-1800
1800-2000
2000-2200
>2200
Engine speed (rpm)
Engine run time 5294.2


Engine speed, distribution (h)
Time (h)
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
275.1
584.7
664.7
383.8
105.4
102.8
0
1000-1200
1200-1400
1400-1600
1600-1800
1800-2000
2000-2200
>2200
Engine speed (rpm)
Engine run time 5294.2


Start at different engine coolant temperatures (%)
Time (%)
90
80
70
60
50
40
30
20
10
0
0.3
23.1
76.6
<0
0-<40
>=40
Temperature (°C)
Total number of starts: 3242


Start at different engine coolant temperatures
Number
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
10
750
2482
<0
0-<40
>=40
Temperature (°C)
Total number of starts: 3242


Average number of starts per hour
0.6
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
0.55
0.6
0.65
Total number of starts: 3242

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

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

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

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
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## High engine oil temperature
## Total number of occurences = 0

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

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

## 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 |
| 0 | 2000 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 |

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

## Low Air filter pressure
## Total number of occurences = 0

| Op hours | Year | Month | Day | Hour | Minute | Duration (sec) |
|---|---|---|---|---|---|---|
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 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 |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

## Regeneration ignored
## Total number of ignored regenerations 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 |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

## Regeneration aborted
## 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 |
| 0 | 2000 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 |

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

## Regeneration duration
## Total number of occurences = 123

| Op hours | Year | Month | Day | Hour | Minute | Duration (min) |
|---|---|---|---|---|---|---|
| 4976 | 2018 | 7 | 24 | 15 | 23 | 46 |
| 4989 | 2018 | 7 | 28 | 13 | 47 | 66 |
| 4994 | 2018 | 7 | 29 | 8 | 44 | 46 |
| 5017 | 2018 | 7 | 31 | 14 | 16 | 47 |
| 5024 | 2018 | 8 | 4 | 11 | 15 | 14 |
| 5033 | 2018 | 8 | 5 | 11 | 7 | 22 |
| 5050 | 2018 | 8 | 7 | 11 | 13 | 13 |
| 5063 | 2018 | 8 | 11 | 8 | 53 | 37 |
| 5068 | 2018 | 8 | 11 | 14 | 18 | 48 |
| 5079 | 2018 | 8 | 14 | 10 | 30 | 28 |
| 5100 | 2018 | 8 | 26 | 10 | 31 | 55 |
| 5109 | 2018 | 8 | 27 | 10 | 52 | 39 |
| 5127 | 2018 | 9 | 1 | 13 | 27 | 48 |
| 5145 | 2018 | 9 | 3 | 15 | 3 | 49 |
| 5153 | 2018 | 9 | 4 | 13 | 20 | 48 |
| 5192 | 2018 | 9 | 22 | 16 | 31 | 44 |
| 5204 | 2018 | 9 | 24 | 9 | 42 | 49 |
| 5236 | 2018 | 10 | 1 | 14 | 13 | 28 |
| 5237 | 2018 | 10 | 1 | 14 | 45 | 38 |
| 5244 | 2018 | 10 | 2 | 11 | 6 | 44 |

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

## Water level warning in water separator
## Total number of occurences = 1

| Op hours | Year | Month | Day | Hour | Minute | Duration (min) |
|---|---|---|---|---|---|---|
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 |
| 2133 | 2017 | 2 | 17 | 10 | 39 | 0 |

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

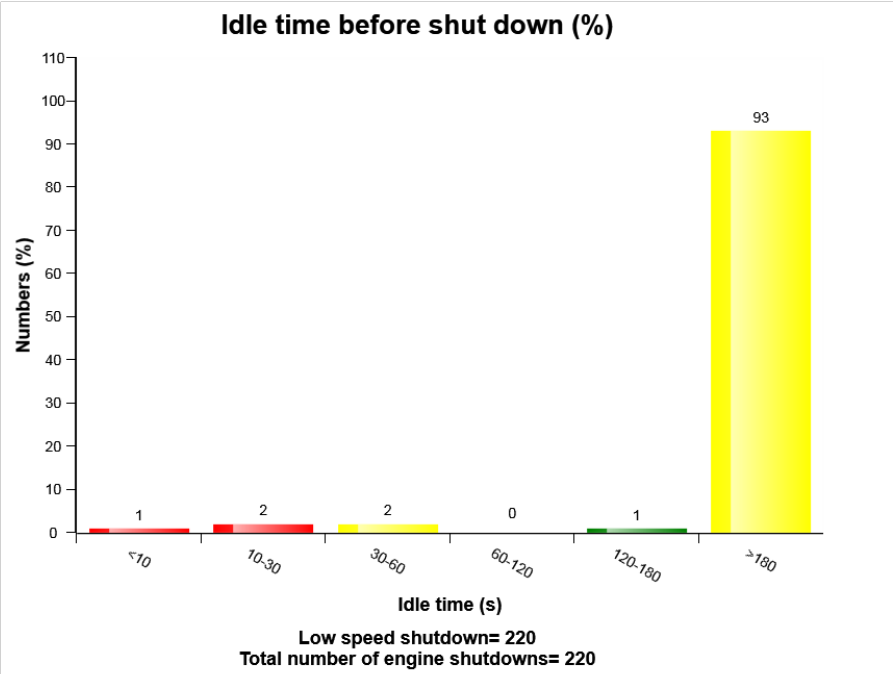
## High voltage
## Total number of occurences = 0

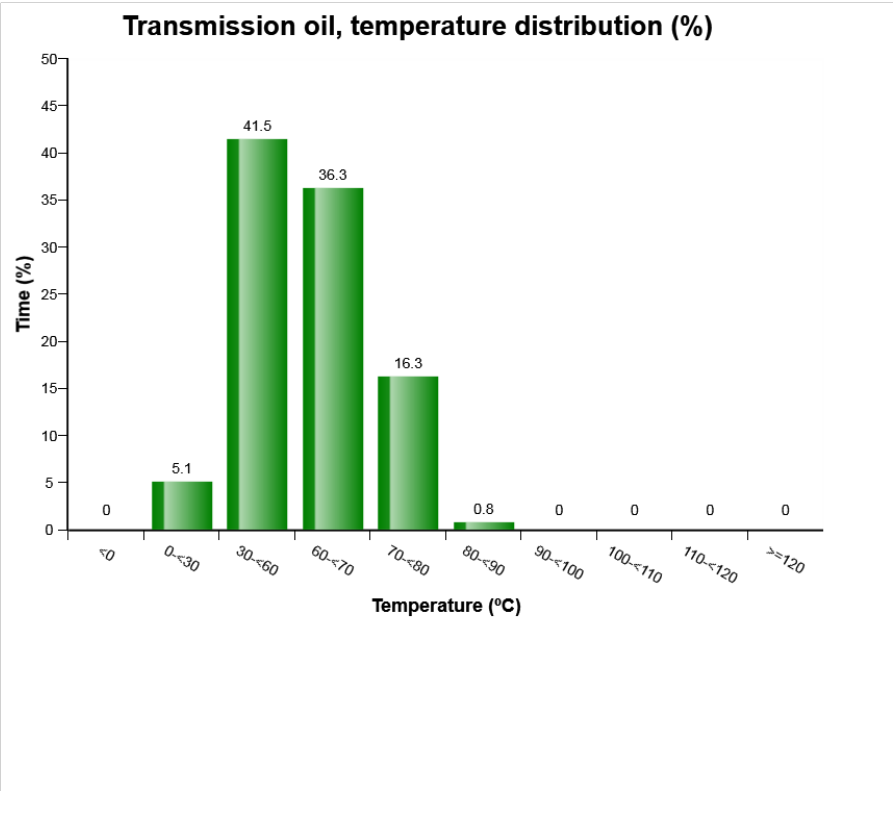
| Op hours | Year | Month | Day | Hour | Minute | Duration (sec) | Extreme value |
|---|---|---|---|---|---|---|---|
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |

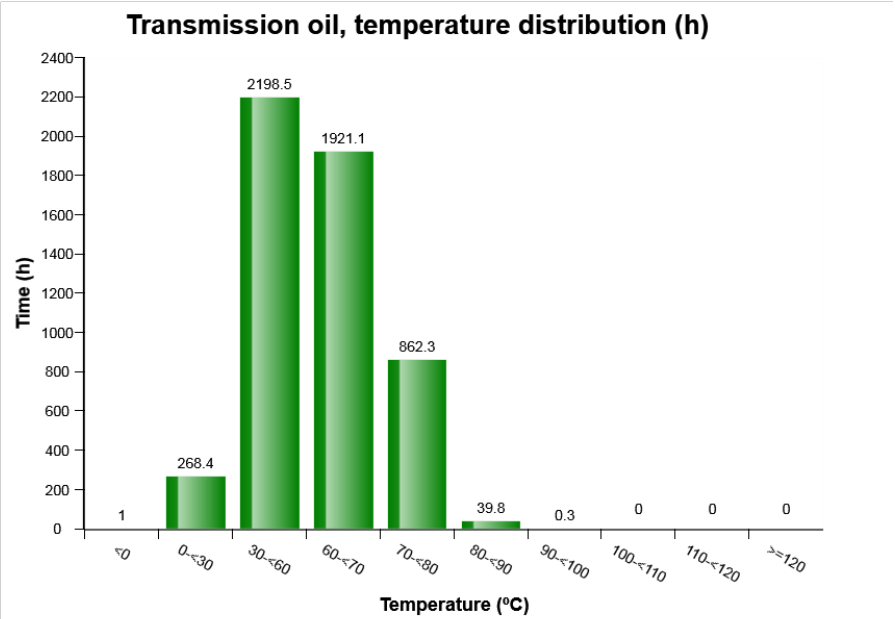
| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

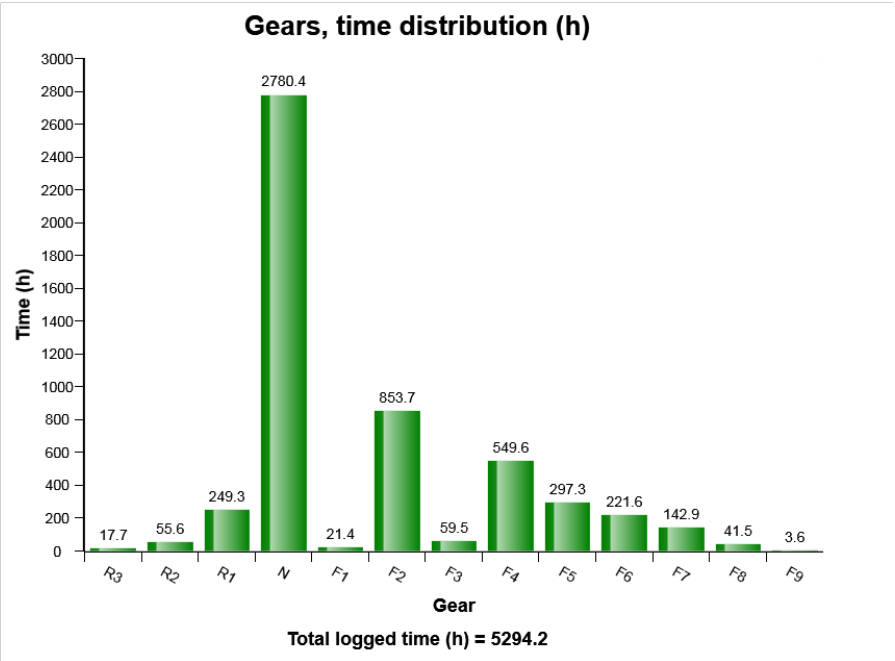
## Low voltage
## Total number of occurences = 0

| Op hours | Year | Month | Day | Hour | Minute | Duration (sec) | Extreme value |
|---|---|---|---|---|---|---|---|
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |

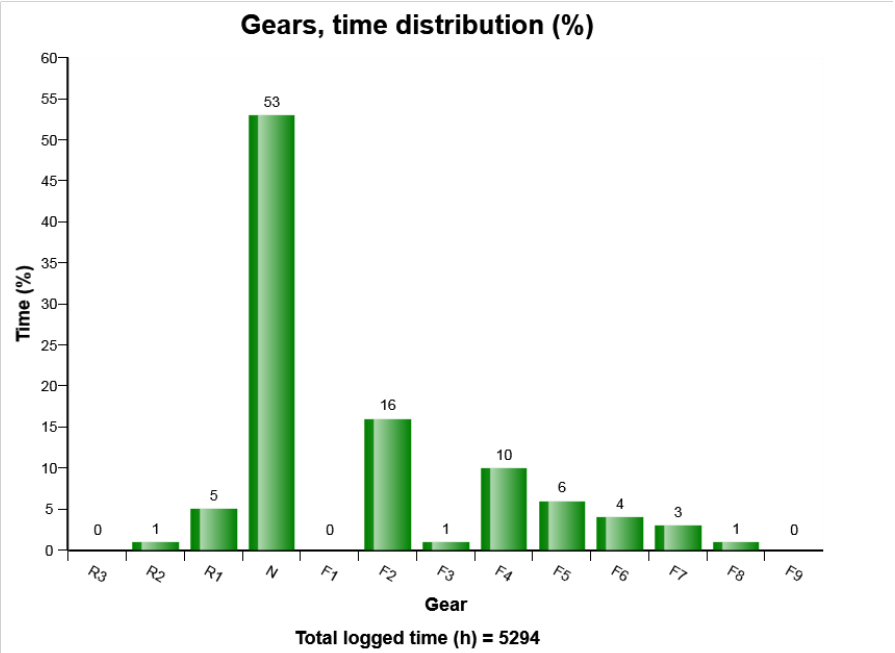

Idle time before shut down (%)
Numbers (%)
110
100
90
80
70
60
50
40
30
20
10
0
1
2
2
0
1
93
<10
10-30
30-60
60-120
120-180
>180
Idle time (s)
Low speed shutdown= 220
Total number of engine shutdowns= 220

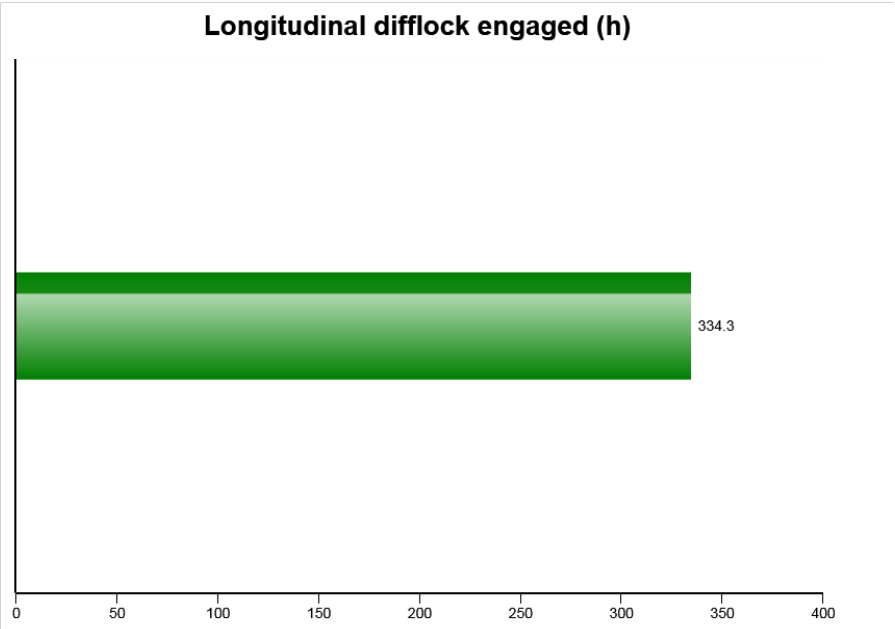

Transmission oil, temperature distribution (%)
Time (%)
50
45
40
35
30
25
20
15
10
5
0
0
5.1
41.5
36.3
16.3
0.8
0
0
0
0
<0
0-<30
30-<60
60-<70
70-<80
80-<90
90-<100
100-<110
110-<120
>=120
Temperature (°C)




**Total logged time (h) = 5294.2**

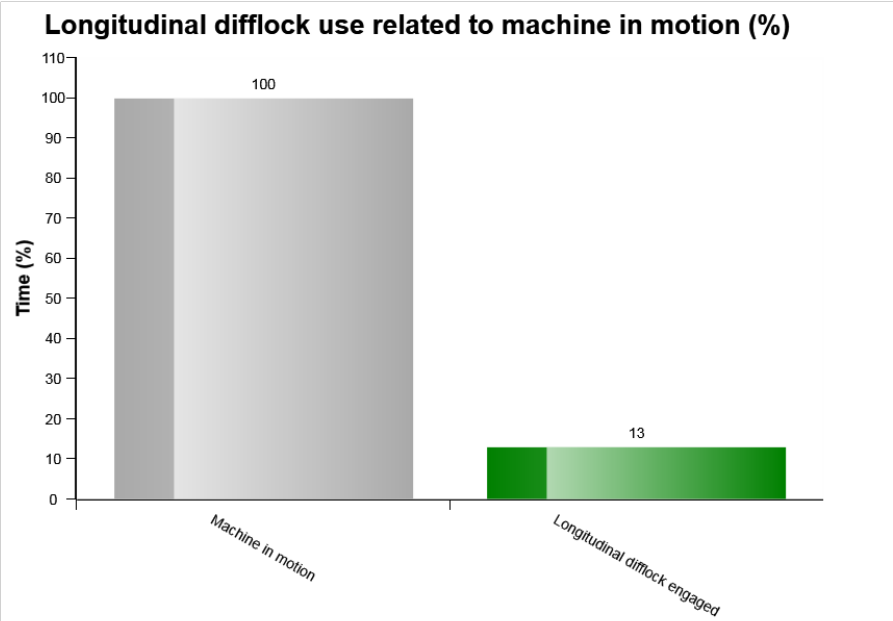

Gears, time distribution (%)
Time (%)
60
55
50
45
40
35
30
25
20
15
10
5
0
0
1
5
53
0
16
1
10
6
4
3
1
0
R3
R2
R1
N
F1
F2
F3
F4
F5
F6
F7
F8
F9
Gear
Total logged time (h) = 5294

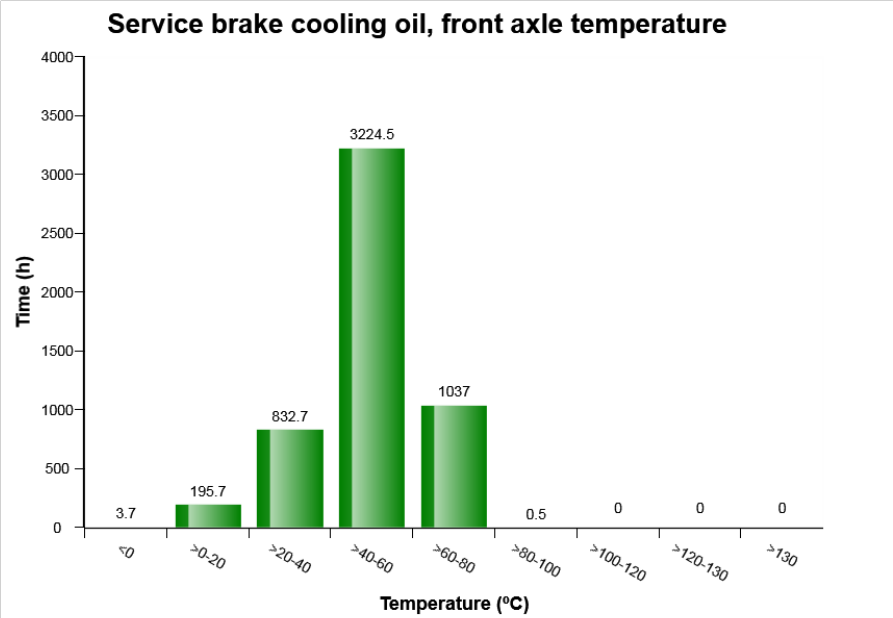

Longitudinal difflock engaged (h)
334.3
0
50
100
150
200
250
300
350
400

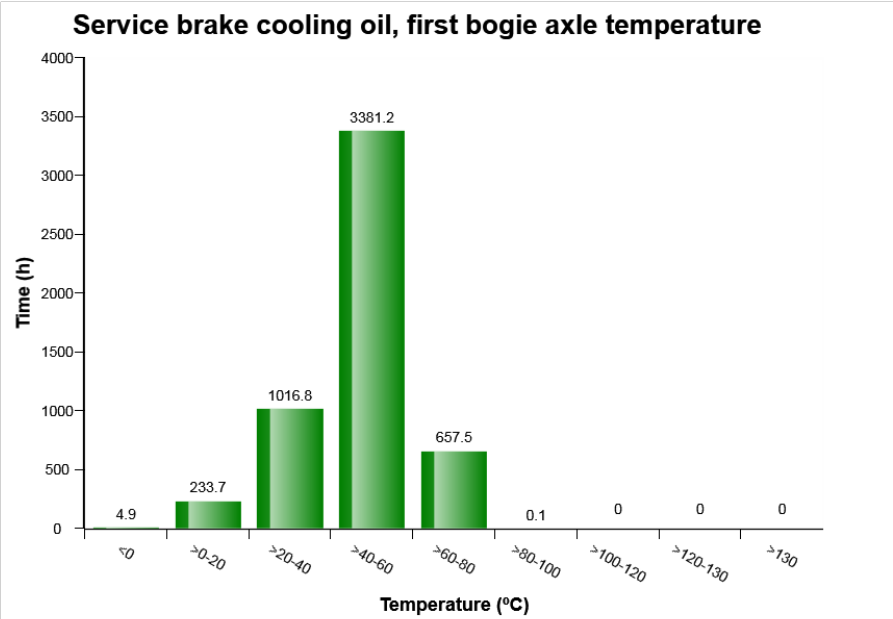
| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

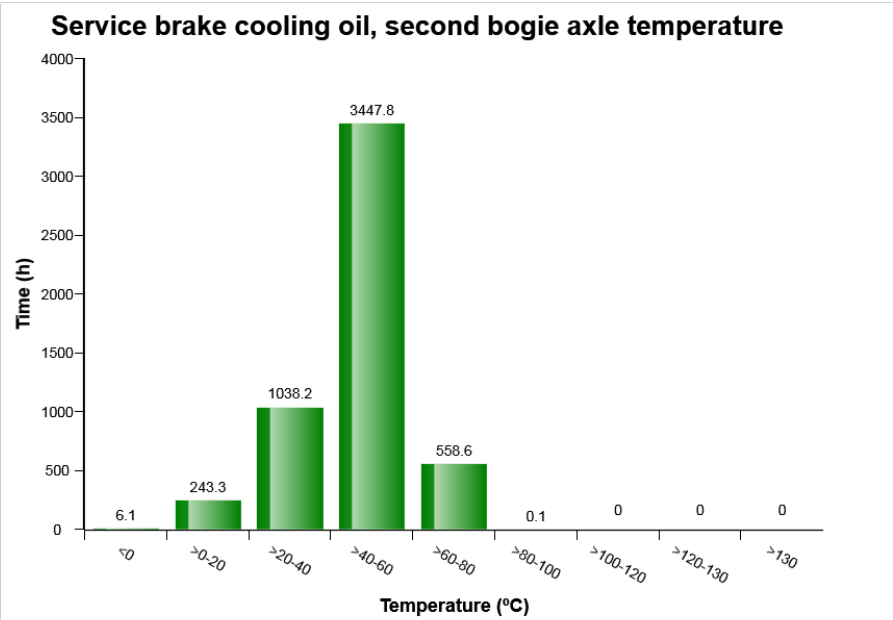
## Transmission oil pressure low
## Total number of occurences = 16

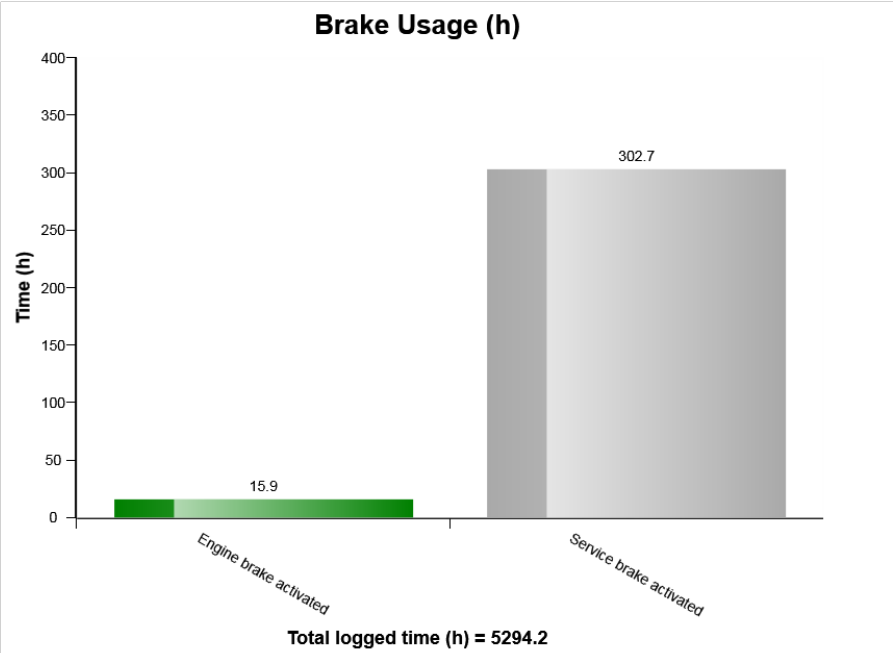
| Op hours | Year | Month | Day | Hour | Minute | Duration (sec) | Extreme (bar) |
|---|---|---|---|---|---|---|---|
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 409 | 2016 | 2 | 29 | 0 | 33 | 0 | 87.9 |
| 770 | 2016 | 4 | 28 | 16 | 30 | 0 | 74.7 |
| 970 | 2016 | 6 | 12 | 16 | 49 | 0 | 116.1 |
| 1166 | 2016 | 8 | 11 | 10 | 2 | 0 | 85.7 |
| 1167 | 2016 | 8 | 11 | 10 | 23 | 0 | 87.2 |
| 1221 | 2016 | 8 | 19 | 9 | 48 | 10 | 115.4 |
| 1936 | 2016 | 12 | 21 | 18 | 7 | 10 | 71.8 |
| 2071 | 2017 | 2 | 1 | 15 | 22 | 0 | 66.7 |
| 2091 | 2017 | 2 | 8 | 9 | 17 | 0 | 96.7 |
| 2289 | 2017 | 3 | 11 | 13 | 48 | 0 | 48.4 |
| 2433 | 2017 | 4 | 5 | 11 | 38 | 0 | 144.3 |
| 2590 | 2017 | 5 | 3 | 8 | 42 | 0 | 101.1 |
| 3358 | 2017 | 10 | 3 | 13 | 36 | 10 | 63.4 |
| 3471 | 2017 | 10 | 19 | 17 | 23 | 0 | 62.3 |
| 3642 | 2017 | 11 | 16 | 12 | 24 | 0 | 51.6 |
| 4862 | 2018 | 6 | 26 | 15 | 31 | 0 | 101.5 |

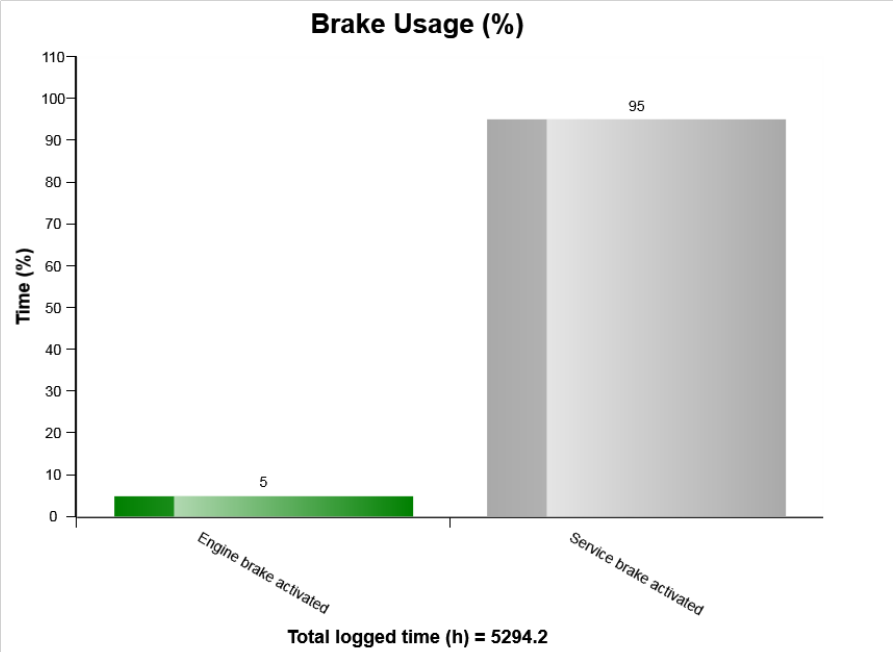

Longitudinal difflock use related to machine in motion (%)
Time (%)
110
100
90
80
70
60
50
40
30
20
10
0
100
13
Machine in motion
Longitudinal difflock engaged


Service brake cooling oil, front axle temperature
Time (h)
4000
3500
3000
2500
2000
1500
1000
500
0
3.7
195.7
832.7
3224.5
1037
0.5
0
0
0
<0
>0-20
>20-40
>40-60
>60-80
>80-100
>100-120
>120-130
>130
Temperature (°C)


Service brake cooling oil, first bogie axle temperature
Time (h)
4000
3500
3000
2500
2000
1500
1000
500
0
4.9
233.7
1016.8
3381.2
657.5
0.1
0
0
0
<0
>0-20
>20-40
>40-60
>60-80
>80-100
>100-120
>120-130
>130
Temperature (°C)


Service brake cooling oil, second bogie axle temperature
Time (h)
4000
3500
3000
2500
2000
1500
1000
500
0
6.1
243.3
1038.2
3447.8
558.6
0.1
0
0
0
<0
>0-20
>20-40
>40-60
>60-80
>80-100
>100-120
>120-130
>130
Temperature (°C)

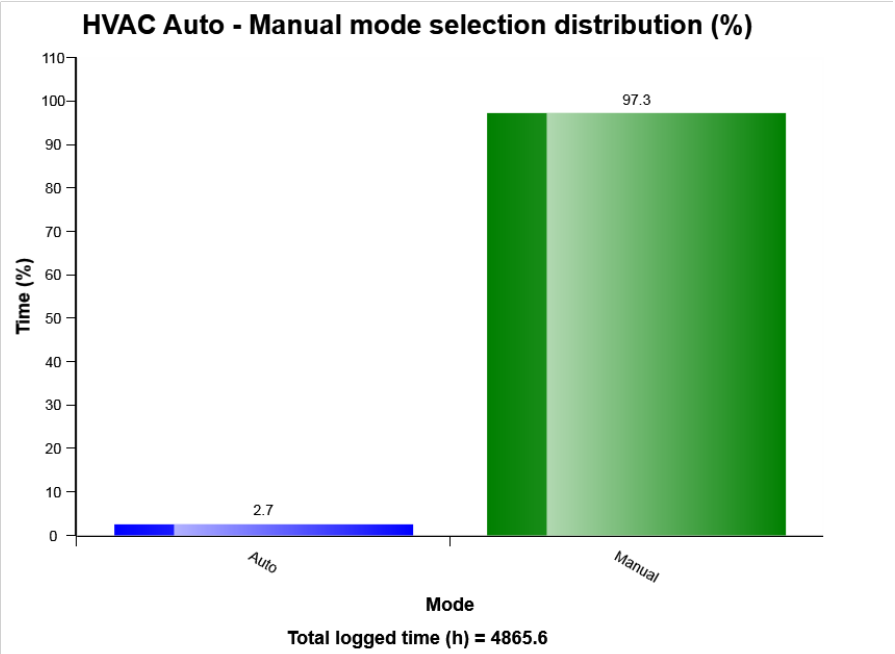

Brake Usage (h)
Time (h)
400
350
300
250
200
150
100
50
0
302.7
15.9
Engine brake activated
Service brake activated
Total logged time (h) = 5294.2

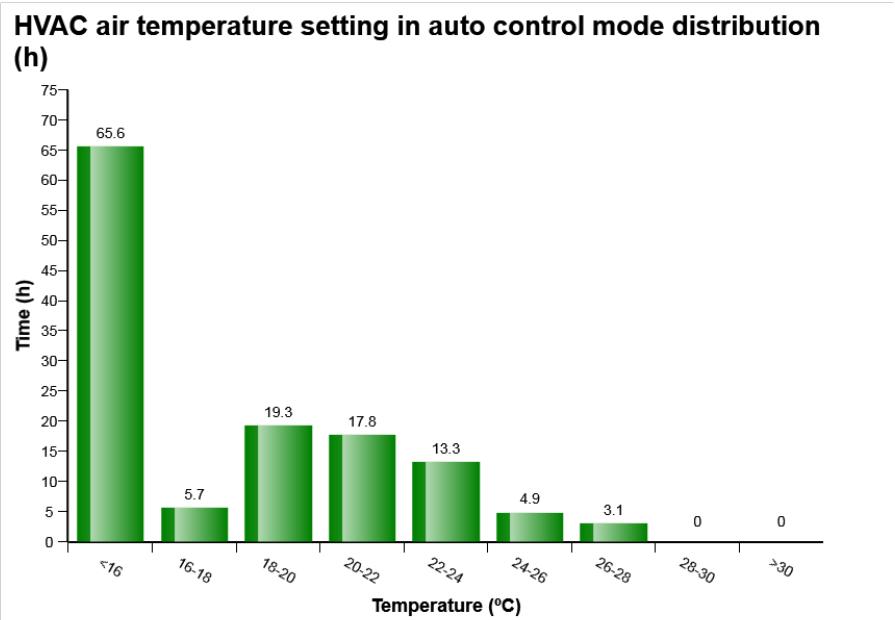

Brake Usage (%)
Time (%)
110
100
90
80
70
60
50
40
30
20
10
0
95
5
Engine brake activated
Service brake activated
Total logged time (h) = 5294.2

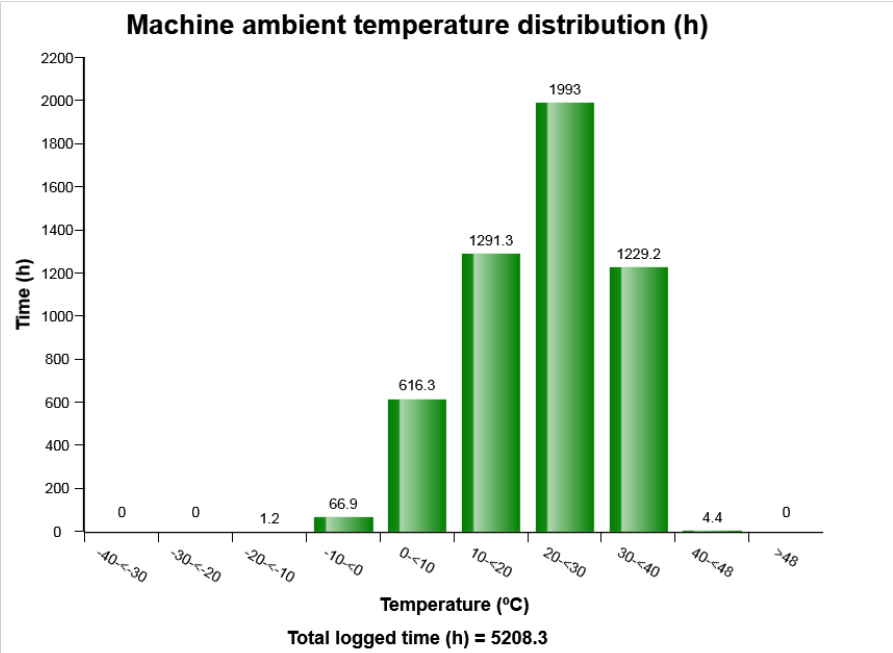
| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

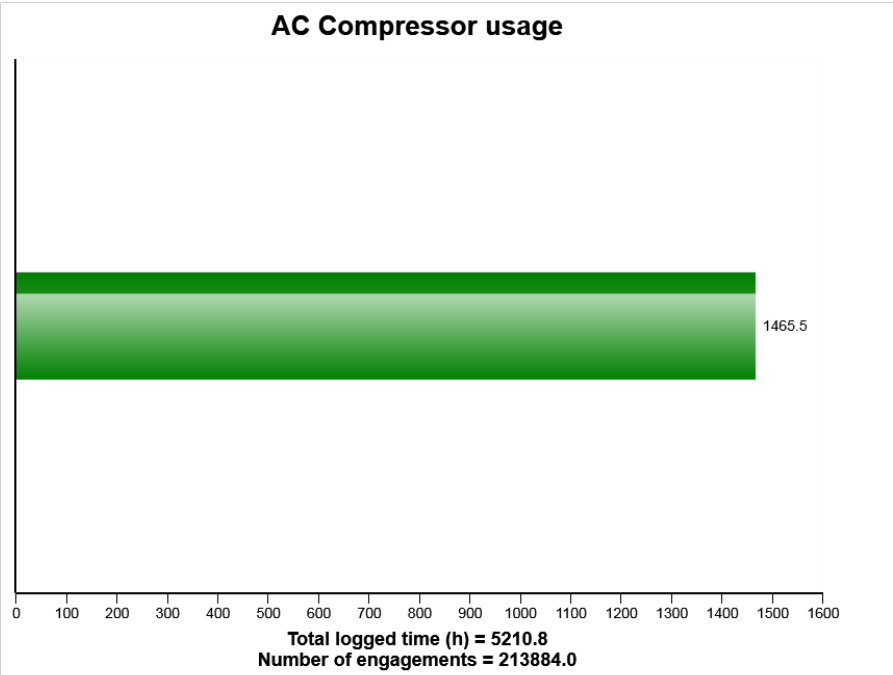
## Low Brake Servo Pressure
## Total number of occurences = 6

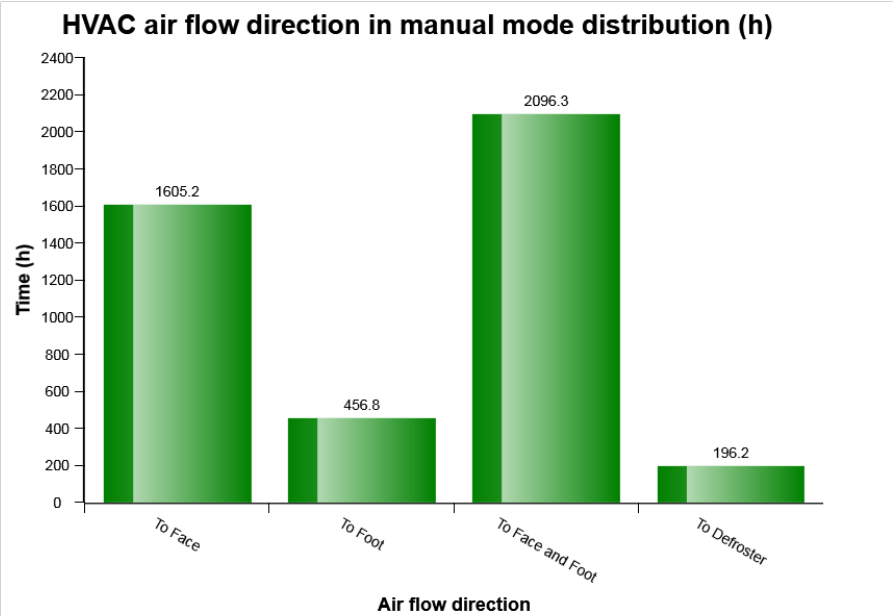
| | Op hours | Year | Month | Day | Hour | Minute | Duration (sec) | Extreme (bar) |
|---|---|---|---|---|---|---|---|---|
| **A** | 0 | 2015 | 10 | 1 | 6 | 17 | 0 | 153 |
| **G** | 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| **H** | 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| **I** | 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| **J** | 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| **B** | 1043 | 2016 | 6 | 24 | 9 | 29 | 0 | 156 |
| **C** | 1502 | 2016 | 10 | 4 | 7 | 20 | 0 | 154 |
| **D** | 1936 | 2016 | 12 | 26 | 7 | 51 | 0 | 159 |
| **E** | 2285 | 2017 | 3 | 11 | 8 | 22 | 0 | 156 |
| **F** | 3090 | 2017 | 8 | 3 | 9 | 44 | 9 | 147 |

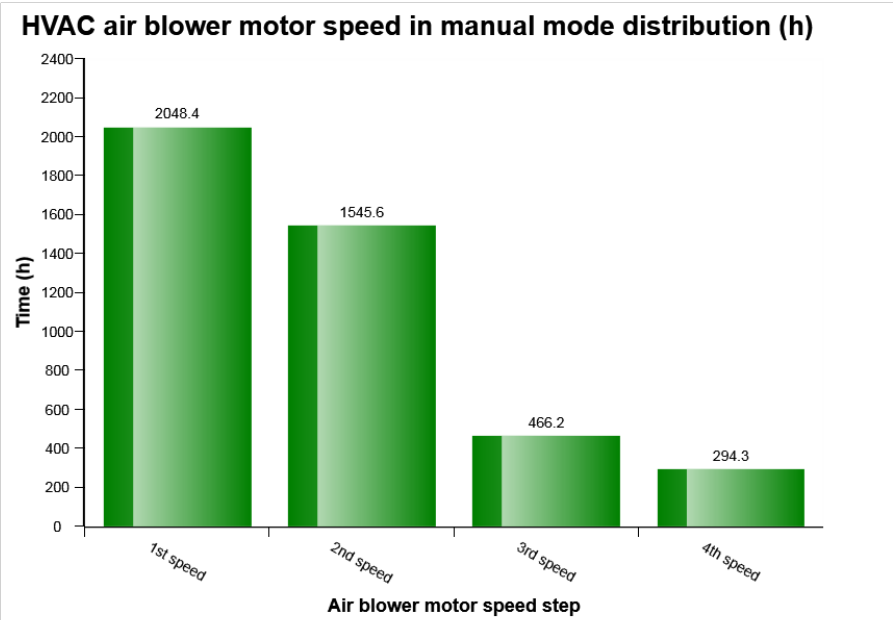

HVAC Auto - Manual mode selection distribution (%)
Time (%)
110
100
90
80
70
60
50
40
30
20
10
0
97.3
2.7
Auto
Manual
Mode
Total logged time (h) = 4865.6


HVAC air temperature setting in auto control mode distribution (h)
Time (h)
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
65.6
5.7
19.3
17.8
13.3
4.9
3.1
0
0
<16
16-18
18-20
20-22
22-24
24-26
26-28
28-30
>30
Temperature (ºC)


Machine ambient temperature distribution (h)
Time (h)
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
0
0
1.2
66.9
616.3
1291.3
1993
1229.2
4.4
0
-40-<-30
-30-<-20
-20-<-10
-10-<0
0-<10
10-<20
20-<30
30-<40
40-<48
>48
Temperature (°C)
Total logged time (h) = 5208.3


AC Compressor usage
1465.5
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
Total logged time (h) = 5210.8
Number of engagements = 213884.0


HVAC air flow direction in manual mode distribution (h)
Time (h)
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1605.2
456.8
2096.3
196.2
To Face
To Foot
To Face and Foot
To Defroster
Air flow direction


HVAC air blower motor speed in manual mode distribution (h)
Time (h)
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
2048.4
1545.6
466.2
294.3
1st speed
2nd speed
3rd speed
4th speed
Air blower motor speed step

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

## AC High Pressure
## Total number of occurences = 327

| Op hours | Year | Month | Day | Hour | Minute | Duration (sec) | Extreme (° C) |
|---|---|---|---|---|---|---|---|
| 5034 | 2018 | 7 | 29 | 13 | 49 | 16 | 34 |
| 5035 | 2018 | 7 | 29 | 14 | 44 | 23 | 35 |
| 5037 | 2018 | 7 | 29 | 16 | 55 | 12 | 37 |
| 5041 | 2018 | 7 | 30 | 10 | 58 | 11 | 32 |
| 5044 | 2018 | 7 | 30 | 15 | 27 | 389 | 38 |
| 5044 | 2018 | 7 | 30 | 14 | 59 | 852 | 38 |
| 5045 | 2018 | 7 | 30 | 16 | 7 | 127 | 37 |
| 5045 | 2018 | 7 | 30 | 15 | 57 | 83 | 38 |
| 5045 | 2018 | 7 | 30 | 15 | 52 | 115 | 38 |
| 5045 | 2018 | 7 | 30 | 15 | 47 | 110 | 38 |
| 5046 | 2018 | 7 | 30 | 16 | 50 | 76 | 37 |
| 5046 | 2018 | 7 | 30 | 17 | 9 | 163 | 37 |
| 5046 | 2018 | 7 | 30 | 16 | 56 | 259 | 37 |
| 5054 | 2018 | 7 | 31 | 16 | 9 | 27 | 36 |
| 5054 | 2018 | 7 | 31 | 16 | 7 | 80 | 36 |
| 5055 | 2018 | 7 | 31 | 16 | 27 | 9 | 35 |
| 5055 | 2018 | 7 | 31 | 16 | 17 | 10 | 35 |
| 5086 | 2018 | 8 | 7 | 12 | 19 | 29 | 33 |
| 5090 | 2018 | 8 | 7 | 17 | 11 | 17 | 36 |
| 5191 | 2018 | 9 | 4 | 15 | 37 | 16 | 36 |

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

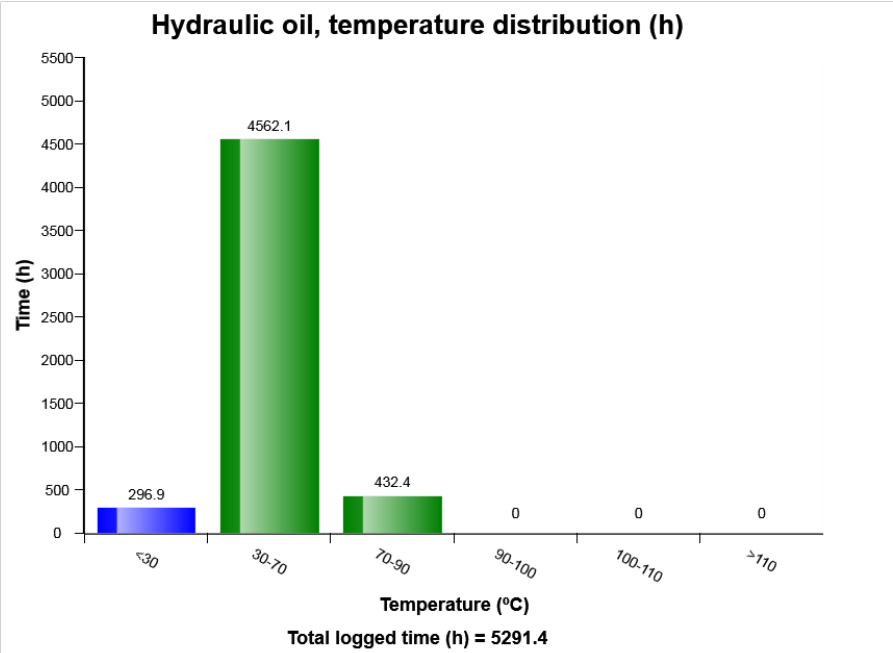
## AC Boiling Protection
## Number of engagements = 0

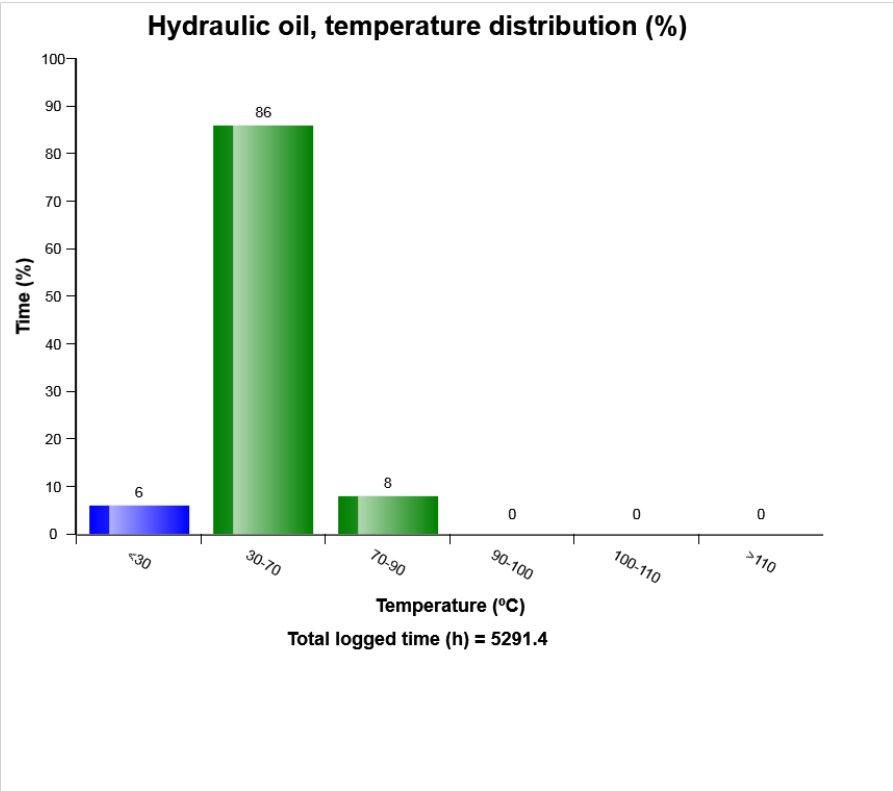
| Op hours | Year | Month | Day | Hour | Minute | Duration (sec) | Extreme (° C) |
|---|---|---|---|---|---|---|---|
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 |
| 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 |

| Machine model | SerialNo | Operating Hours | Reading Date |
|---|---|---|---|
| A40G | 341031 | 5293.6 | 11/30/2018 |

## AC System Cut Out Pressure
## Total number of occurences = 12

| Op hours | Year | Month | Day | Hour | Minute | Duration (sec) | Extreme (° C) |
|---|---|---|---|---|---|---|---|
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1647 | 2016 | 10 | 27 | 16 | 1 | 4958 | 26 |
| 1649 | 2016 | 10 | 28 | 7 | 16 | 4412 | 9 |
| 1650 | 2016 | 10 | 28 | 8 | 36 | 3212 | 0 |
| 1651 | 2016 | 10 | 28 | 9 | 35 | -58726 | 16 |
| 1653 | 2016 | 10 | 28 | 12 | 18 | 10446 | 22 |
| 1656 | 2016 | 10 | 30 | 7 | 50 | 4446 | 26 |
| 1657 | 2016 | 10 | 30 | 9 | 14 | -60056 | 16 |
| 1660 | 2016 | 10 | 30 | 12 | 29 | 9310 | 30 |
| 1662 | 2016 | 10 | 30 | 15 | 16 | 9380 | 27 |
| 1665 | 2016 | 10 | 31 | 7 | 41 | 5218 | 26 |
| 1666 | 2016 | 10 | 31 | 9 | 14 | 674 | 16 |
| 2939 | 2017 | 7 | 11 | 16 | 20 | 979 | 35 |


Hydraulic oil, temperature distribution (h)
Time (h)
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
296.9
4562.1
432.4
0
0
0
<30
30-70
70-90
90-100
100-110
>110
Temperature (°C)
Total logged time (h) = 5291.4


Hydraulic oil, temperature distribution (%)
Time (%)
100
90
80
70
60
50
40
30
20
10
0
6
86
8
0
0
0
<30
30-70
70-90
90-100
100-110
>110
Temperature (°C)
Total logged time (h) = 5291.4