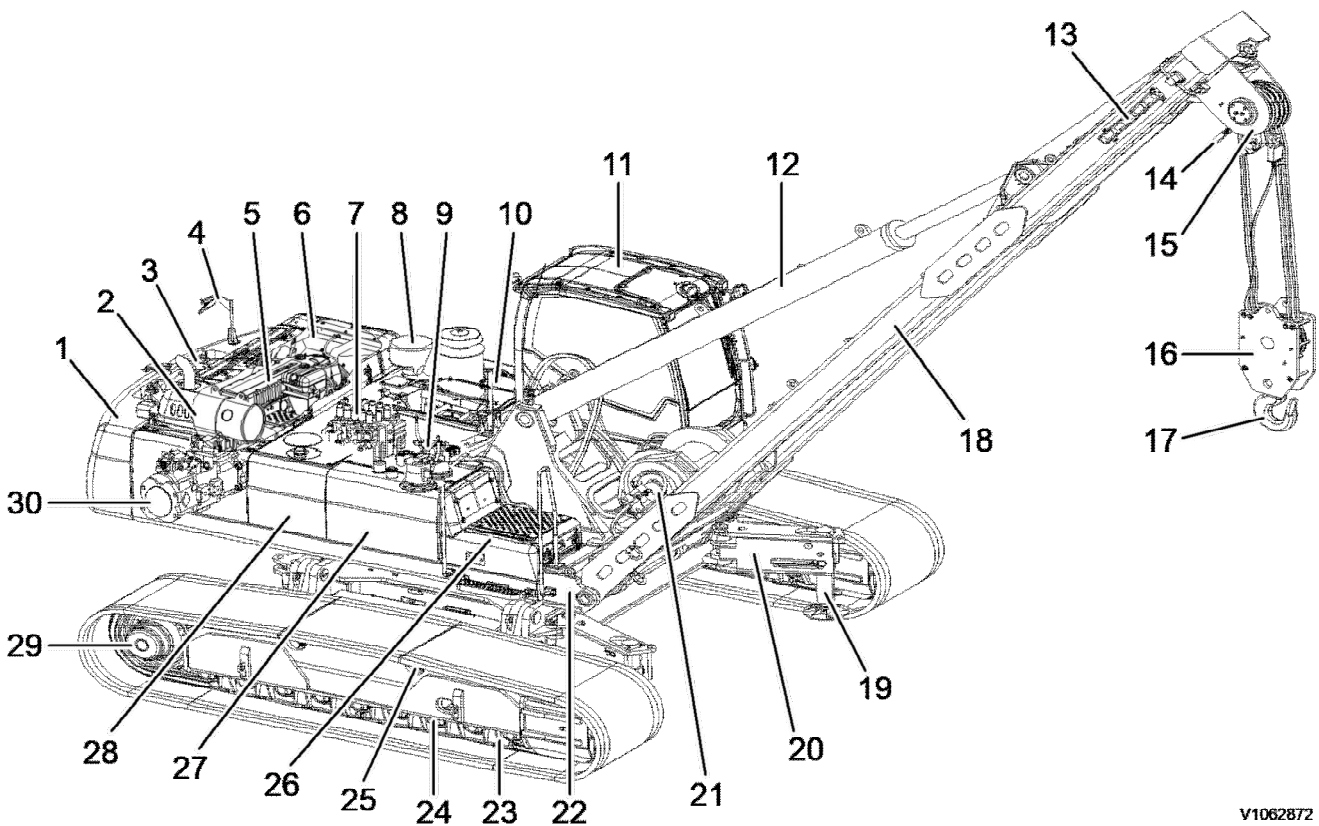


|  |                               |   |                           |
|--|-------------------------------|---|---------------------------|
| Document Title:<br><b>Machine view</b> | Function Group:<br><b>000</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>        |                               |   |                           |

## Machine view

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |



V1062872

**Figure 1**

Component position

|                                   |                     |
|-----------------------------------|---------------------|
| 1 Counterweight                   | 16 Load block       |
| 2 Muffler                         | 17 Lifting hook     |
| 3 Support and link                | 18 Boom             |
| 4 Rear view mirror                | 19 Jack up cylinder |
| 5 Engine                          | 20 Jack up box      |
| 6 Radiator and charged air cooler | 21 Winch and motor  |
| 7 Main control valve              | 22 Adapter          |
| 8 Air cleaner                     | 23 Track guard      |
| 9 Slew motor and gearbox          | 24 Bottom roller    |
| 10 Oil cooler                     | 25 Top roller       |

Product: PL4611 Volvo Pipelayers Service Manual

Full Download: <https://www.arepairmanual.com/downloads/pl4611-volvo-pipelayers-service-manual/>

|    |                       |    |                         |
|----|-----------------------|----|-------------------------|
| 11 | Operator cab          | 26 | Battery                 |
| 12 | Boom cylinder         | 27 | Fuel tank               |
| 13 | Light bar             | 28 | Hydraulic tank          |
| 14 | Anti-two block switch | 29 | Track motor and gearbox |
| 15 | Flag block            | 30 | Main pump               |

Sample manual. Download All 2013 pages at:

<https://www.arepairmanual.com/downloads/pl4611-volvo-pipelayers-service-manual/>

|  |                               |   |                           |
|--|-------------------------------|---|---------------------------|
| Document Title:<br><b>Product plates</b> | Function Group:<br><b>000</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>          |                               |   |                           |

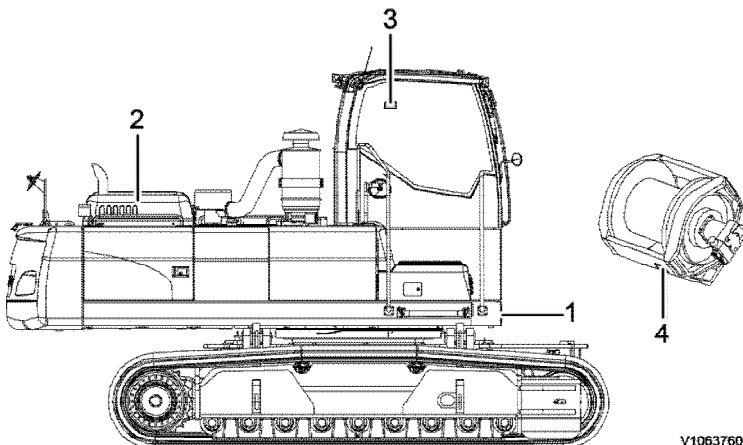
## Product plates

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

Please refer to the figure below to locate the machine product plate (1), engine product plate, cab product plate (3) and winch product plate (4).

Always use the Product Identification Number (PIN) provided on the vehicle and/or engine plates for troubleshooting purposes and/or when ordering spare parts.



**Figure 1**

Product plate

### Machine product plate

This plate with Product Identification Number, PIN, for the complete machine indicates the model designation, serial number and when applicable, machine weight, engine power, manufacturing year and CE approval. The plate is positioned on the right side of the upper frame.

### Engine product plate

The engine product plate contains type designation, part and serial numbers. It is positioned on the engine inside the rear engine cover on the right side of the machine.

### Winch product plate

The winch product plate is located on the face of the tie bar on the winch and indicates the product model and serial number.

### Cab product plate

The cab product plate is attached on the inside of the cab and indicates the product number, serial number, model type, and weight.

|   |                               |   |                           |
|---|-------------------------------|---|---------------------------|
| Document Title:<br><b>Volvo standard tightening torques</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                             |                               |   |                           |

## Volvo standard tightening torques

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

The tightening torques in the following tables apply to bolts and nuts with tensile strength. The tables should be used as a general instruction for tightening bolts and nuts without specified values. The charts contains values for course thread bolts and nuts.

Torque values should be increased with  $\approx 10\%$ , for flange bolts.

All standard torques for bolts are without surface treatment.

The standard torque for bolts lubricated with oil should be reduced with 20% of the given value.

### Standard tightening torque charts

| Bolt size<br>Metric Coarse<br>Threads | Tensile strength 8.8 |          | Tensile strength 10.9 |          |
|---------------------------------------|----------------------|----------|-----------------------|----------|
|                                       | (Nm)                 | (lbf ft) | (Nm)                  | (lbf ft) |
| M5                                    | 6                    | 4        | 8                     | 6        |
| M6                                    | 10                   | 7        | 14                    | 11       |
| M8                                    | 25                   | 18       | 35                    | 26       |
| M10                                   | 50                   | 37       | 70                    | 52       |
| M12                                   | 87                   | 64       | 122                   | 90       |
| M14                                   | 139                  | 103      | 195                   | 144      |
| M16                                   | 213                  | 157      | 299                   | 220      |
| M18                                   | 293                  | 216      | 413                   | 305      |
| M20                                   | 416                  | 307      | 585                   | 432      |
| M24                                   | 719                  | 530      | 1010                  | 745      |
| M27                                   | 1060                 | 782      | 1490                  | 1100     |
| M30                                   | 1140                 | 840      | 2025                  | 1493     |
| M36                                   | 2500                 | 1844     | 3600                  | 2653     |

| Bolt size Inch<br>SAE Coarse<br>Threads | Tensile strength 5 |      | Tensile strength 8 |      |
|---|--------------------|------|--------------------|------|
|   | (lbf ft)           | (Nm) | (lbf ft)           | (Nm) |
| 1/4                                     | 10                 | 13,6 | 14                 | 19   |
| 5/16                                    | 21                 | 28,5 | 29                 | 39,3 |
| 3/8                                     | 37                 | 50,2 | 52                 | 70   |
| 7/16                                    | 59                 | 80   | 84                 | 114  |
| 1/2                                     | 90                 | 122  | 128                | 174  |
| 9/16                                    | 130                | 176  | 184                | 250  |
| 5/8                                     | 180                | 244  | 254                | 345  |

|       |      |      |      |      |
|-------|------|------|------|------|
| 3/4   | 320  | 434  | 451  | 612  |
| 7/8   | 515  | 700  | 728  | 988  |
| 1     | 775  | 1052 | 1091 | 1480 |
| 1 1/8 | 953  | 1290 | 1545 | 2100 |
| 1 1/4 | 1344 | 1823 | 2180 | 2960 |
| 1 3/8 | 1600 | 2170 | 2650 | 3600 |
| 1 1/2 | 2000 | 2714 | 3200 | 4340 |

### Hydraulic connections, general

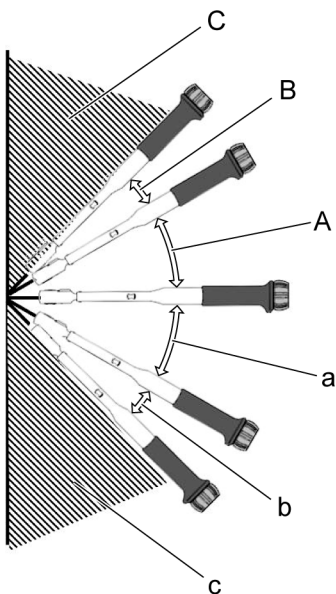
Before fitting pipe couplings, plugs and hoses:

- Make sure that the sealing surfaces are clean and free from pores or scratches.
- Check elastic seal rings for defects.
- Oil in threads, sealing surfaces and contact surfaces except for ORFS-connections (ORFS = O-Ring Face Seal).

### Applying Torque correction factor by tool angle

| Tool angle          | Correction factor |            |
|---------------------|-------------------|------------|
|                     | ORFS              | Stud-end   |
| Allowable tolerance | ±10%              | - 0%, +10% |
| ±0° ~ ±30°          | 5% over torque    |            |
| ±30° ~ ±45°         | 20% over torque   |            |
| ±45°                | NOT allowable     |            |

### Tool access angle



V1223202

**Figure 1**

Tool access angle

A: +0° ~ +30°

B: +30° ~ +45°

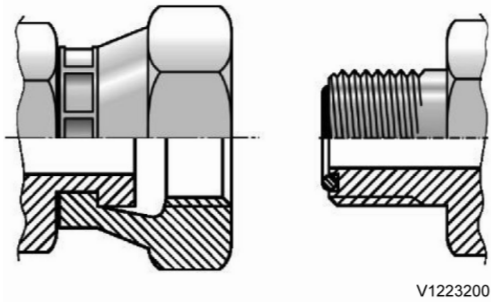
C: +45°

a: -0° ~ -30°

b: -30° ~ -45°

c: -45°

**ORFS female swivel fitting**

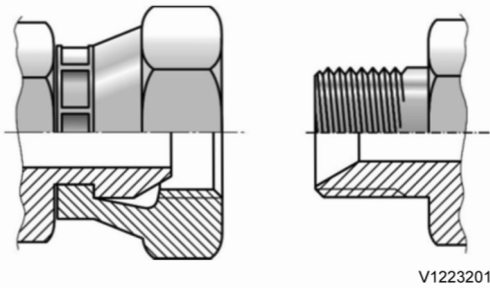


**Figure 2**

| Thread<br>s type | Assembl<br>y<br>position | Threads          | Standard torque |             | ±0° ~ ±30°  |             | ±30° ~ ±45° |             |
|------------------|--------------------------|------------------|-----------------|-------------|-------------|-------------|-------------|-------------|
|                  |                          |                  | (Nm)            | (lbf ft)    | (Nm)        | (lbf ft)    | (Nm)        | (lbf ft)    |
| UN-<br>UNF       | ORFS                     | UNF<br>9/16-18   | 29 ±3           | 21.4 ±2.2   | 30.5 ±3.1   | 22.1 ±2.2   | 36.5 ±3.7   | 26.9 ±2.7   |
|                  |                          | UN<br>11/16-16   | 44 ±4           | 32.5 ±3.0   | 46.2 ±4.6   | 34.1 ±3.4   | 55.4 ±5.5   | 40.9 ±4.1   |
|                  |                          | UN<br>13/16-16   | 63 ±6           | 46.5 ±4.4   | 66.2 ±6.6   | 48.8 ±4.9   | 79.4 ±7.9   | 58.6 ±5.9   |
|                  |                          | UNS<br>1-14      | 106 ±8          | 78.2 ±5.9   | 111.3 ±11.1 | 82.1 ±8.2   | 133.6 ±13.4 | 98.5 ±9.9   |
|                  |                          | UN<br>1 3/16-12  | 140 ±12         | 103.3 ±8.9  | 147.0 ±14.7 | 108.4 ±10.8 | 176.4 ±17.6 | 130.1 ±13.0 |
|                  |                          | UN<br>1 7/16-12  | 175 ±15         | 129.1 ±11.1 | 183.8 ±18.4 | 135.6 ±13.6 | 220.5 ±22.1 | 162.6 ±16.3 |
|                  |                          | UN<br>1 11/16-12 | 270 ±20         | 199.1 ±14.8 | 283.5 ±28.4 | 209.1 ±20.9 | 340.2 ±34.0 | 250.9 ±25.1 |
|                  | Stud-end                 | UNF<br>7/16-20   | 21 +2.1         | 15.4 +1.5   | 22.1 +2.2   | 16.3 +1.6   | 26.5 +2.7   | 19.5 +2.0   |
|                  |                          | UNF<br>1/2-20    | 37 +3.7         | 27.3 +2.7   | 38.9 +3.9   | 28.7 +2.9   | 46.6 +4.7   | 34.4 +3.4   |
|                  |                          | UNF<br>9/16-18   | 47 +4.7         | 34.7 +3.5   | 49.4 +4.9   | 36.4 +3.6   | 59.2 +5.9   | 43.7 +4.4   |
|                  |                          | UNF<br>3/4-16    | 81 +8.1         | 59.7 +6.0   | 85.1 +8.5   | 62.8 +6.3   | 102.1 +10.2 | 75.3 +7.5   |
|                  |                          | UNF<br>7/8-14    | 141 +14.1       | 104.0 +10.4 | 148.1 +14.8 | 109.2 +10.9 | 177.7 +17.8 | 131.1 +13.1 |
|                  |                          | UN<br>1 1/16-12  | 189 +18.9       | 139.4 +13.9 | 198.5 +19.9 | 146.4 +14.6 | 238.1 +23.8 | 175.6 +17.6 |
|                  |                          | UN<br>1 5/16-12  | 284 +28.4       | 209.5 +21.0 | 298.2 +29.8 | 219.9 +22.0 | 357.8 +35.8 | 263.9 +26.4 |
| UN<br>1 5/8-12   | 347 +34.7                | 255.9 +25.6      | 364.4 +36.4     | 268.8 +26.9 | 437.2 43.7  | 322.5 +32.3 |             |             |

|                |           |             |             |             |             |             |
|----------------|-----------|-------------|-------------|-------------|-------------|-------------|
| UN<br>1 7/8-12 | 425 +42.5 | 313.5 +31.4 | 446.3 +44.6 | 329.2 +32.9 | 535.5 +53.6 | 395.0 +39.5 |
|----------------|-----------|-------------|-------------|-------------|-------------|-------------|

**G thread 30° cone female swivel fitting**



**Figure 3**

| Thread<br>s type | Assembl<br>y<br>position | Threads     | Standard torque |             | ±0° ~ ±30°  |             | ±30° ~ ±45° |             |
|------------------|--------------------------|-------------|-----------------|-------------|-------------|-------------|-------------|-------------|
|                  |                          |             | (Nm)            | (lbf ft)    | (Nm)        | (lbf ft)    | (Nm)        | (lbf ft)    |
| PF               | ORFS                     | G 1/4-19    | 25 ±2.5         | 18.4 ±1.8   | 26.3 ± 2.6  | 19.4 ±1.9   | 31.5 ±3.2   | 23.2 ±2.3   |
|                  |                          | G 3/8-19    | 49 ±4.9         | 36.1 ±3.6   | 51.5 ± 5.2  | 38.0 ±3.8   | 61.7 ±6.2   | 45.5 ±4.6   |
|                  |                          | G 1/2-14    | 59 ±5.9         | 43.5 ±4.4   | 62.0 ± 6.2  | 45.7 ±4.6   | 74.3 ±7.4   | 54.8 ±5.5   |
|                  |                          | G 3/4-11    | 119 ±11.9       | 87.8 ±8.8   | 125.0 ±12.5 | 92.2 ±9.2   | 149.9 ±15.0 | 110.6 ±11.1 |
|                  |                          | G 1-11      | 140 ±14         | 103.3 ±10.3 | 147.0 ±14.7 | 108.4 ±10.8 | 176.4 ±17.6 | 130.1 ±13.0 |
|                  |                          | G 1 1/4-11  | 173 ±17.3       | 127.6 ±12.8 | 181.7 ±18.2 | 134.0 ±13.4 | 218.0 ±21.8 | 160.8 ±16.1 |
|                  |                          | G 1 1/2-11  | 205 ±20.5       | 151.2 ±15.1 | 215.3 ±21.5 | 158.8 ±15.9 | 258.3 ±25.8 | 190.5 ±19.1 |
|                  | Stud-end                 | G 1/8-19    | 22 +2.2         | 16.2 +1.6   | 23.1 +2.3   | 17.0 +1.7   | 27.7 +2.8   | 20.4 +2.0   |
|                  |                          | G 1/4-19    | 52 +5.2         | 38.4 +3.8   | 54.6 +5.5   | 40.3 +4.0   | 65.5 +6.6   | 48.3 +4.8   |
|                  |                          | G 3/8-19    | 85 +8.5         | 62.7 +6.3   | 89.3 +8.9   | 65.9 +6.6   | 107.1 +10.7 | 79.0 +7.9   |
|                  |                          | G 1/2-14    | 105 +10.5       | 77.4 +7.7   | 110.3 +11.0 | 81.4 +8.1   | 132.3 +13.2 | 97.6 +9.8   |
|                  |                          | G 3/4-11    | 210 +21         | 154.9 +15.5 | 220.5 +22.1 | 162.6 +16.3 | 264.6 +26.5 | 195.2 +19.5 |
|                  |                          | G 1-11      | 400 +40         | 295.0 +29.5 | 420.0 +42.0 | 309.8 +31.0 | 504.0 +50.4 | 371.7 +37.1 |
|                  |                          | G 1 1/4-11  | 525 +52.5       | 387.2 +38.7 | 551.3 +55.1 | 406.6 +40.7 | 661.5 +66.2 | 487.9 +48.8 |
| G 1 1/2-11       | 630 +63.1                | 464.7 +46.5 | 661.5 +66.2     | 487.9 +48.8 | 793.8 +79.4 | 585.5 +58.6 |             |             |

|   |                               |   |                           |
|---|-------------------------------|---|---------------------------|
| Document Title:<br><b>Measurement conversion tables</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                         |                               |   |                           |

## Measurement conversion tables

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

### Length

| Unit | cm     | m      | km       | in      | ft      | yd      | mile     |
|------|--------|--------|----------|---------|---------|---------|----------|
| cm   | 1      | 0.01   | 0.00001  | 0.3937  | 0.03281 | 0.01094 | 0.000006 |
| m    | 100    | 1      | 0.001    | 39.37   | 3.2808  | 1.0936  | 0.00062  |
| km   | 100000 | 1000   | 1        | 39370.7 | 3280.8  | 1093.6  | 0.62137  |
| in   | 2.54   | 0.0254 | 0.000025 | 1       | 0.08333 | 0.02777 | 0.000015 |
| ft   | 30.48  | 0.3048 | 0.000304 | 12      | 1       | 0.3333  | 0.000189 |
| yd   | 91.44  | 0.9144 | 0.000914 | 36      | 3       | 1       | 0.000568 |
| mile | 160930 | 1609.3 | 1.6093   | 63360   | 5280    | 1760    | 1        |

1 mm = 0.1 cm, 1 mm = 0.001 m

### Area

| Unit            | cm <sup>2</sup> | m <sup>2</sup> | km <sup>2</sup> | a        | ft <sup>2</sup> | yd <sup>2</sup> | in <sup>2</sup> |
|-----------------|-----------------|----------------|-----------------|----------|-----------------|-----------------|-----------------|
| cm <sup>2</sup> | 1               | 0.0001         | -               | 0.000001 | 0.001076        | 0.000012        | 0.155000        |
| m <sup>2</sup>  | 10000           | 1              | 0.000001        | 0.01     | 10.764          | 1.1958          | 1550.000        |
| km <sup>2</sup> | -               | 1000000        | 1               | 10000    | 1076400         | 1195800         | -               |
| a               | 0.01            | 100            | 0.0001          | 1        | 1076.4          | 119.58          | -               |
| ft <sup>2</sup> | -               | 0.092903       | -               | 0.000929 | 1               | 0.1111          | 144.000         |
| yd <sup>2</sup> | -               | 0.83613        | -               | 0.008361 | 9               | 1               | 1296.00         |
| in <sup>2</sup> | 6.4516          | 0.000645       | -               | -        | 0.006943        | 0.000771        | 1               |

1 ha = 100 a, 1 mile<sup>2</sup> = 259 ha = 2.59 km<sup>2</sup>

### Volume

| Unit                      | cm <sup>3</sup> = cc | m <sup>3</sup> | Liter   | in <sup>3</sup> | ft <sup>3</sup> | yd <sup>3</sup> |
|---------------------------|----------------------|----------------|---------|-----------------|-----------------|-----------------|
| cm <sup>3</sup> = m liter | 1                    | 0.000001       | 0.001   | 0.061024        | 0.000035        | 0.000001        |
| m <sup>3</sup>            | 1000000              | 1              | 1000    | 61024           | 35.315          | 1.30796         |
| Liter                     | 1000                 | 0.001          | 1       | 61.024          | 0.035315        | 0.001308        |
| in <sup>3</sup>           | 16.387               | 0.000016       | 0.01638 | 1               | 0.000578        | 0.000021        |
| ft <sup>3</sup>           | 28316.8              | 0.028317       | 28.317  | 1728            | 1               | 0.03704         |
| yd <sup>3</sup>           | 764529.8             | 0.76453        | 764.53  | 46656           | 27              | 1               |

1 gal(US) = 3785.41 cm<sup>3</sup> = 231 in<sup>3</sup> = 0.83267 gal(UK)

## Weight

| Unit | g       | kg      | t        | oz      | lb      |
|------|---------|---------|----------|---------|---------|
| g    | 1       | 0.001   | 0.000001 | 0.03527 | 0.0022  |
| kg   | 1000    | 1       | 0.001    | 35.273  | 2.20459 |
| t    | 1000000 | 1000    | 1        | 35273   | 2204.59 |
| oz   | 28.3495 | 0.02835 | 0.000028 | 1       | 0.0625  |
| lb   | 453.592 | 0.45359 | 0.000454 | 16      | 1       |

1 tonne(metric) = 1.1023 ton(US) = 0.9842 ton(UK)

## Pressure

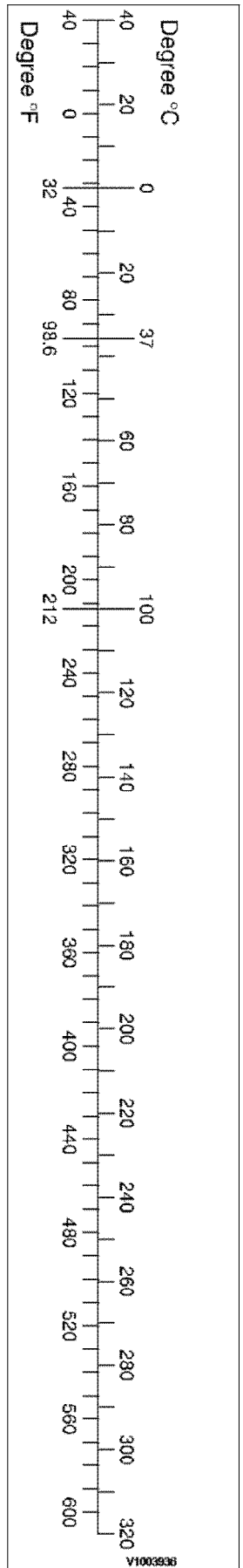
| Unit                | kgf/cm <sup>2</sup> | bar     | Pa=N/m <sup>2</sup> | kPa     | lbf/in <sup>2</sup> | lbf/ft <sup>2</sup> |
|---------------------|---------------------|---------|---------------------|---------|---------------------|---------------------|
| kgf/cm <sup>2</sup> | 1                   | 0.98067 | 98066.5             | 98.0665 | 14.2233             | 2048.16             |
| bar                 | 1.01972             | 1       | 100000              | 100     | 14.5037             | 2088.6              |
| Pa=N/m <sup>2</sup> | 0.00001             | 0.001   | 1                   | 0.001   | 0.00015             | 0.02086             |
| kPa                 | 0.01020             | 0.01    | 1000                | 1       | 0.14504             | 20.886              |
| lbf/in <sup>2</sup> | 0.07032             | 0.0689  | 6894.76             | 6.89476 | 1                   | 144                 |
| lbf/ft <sup>2</sup> | 0.00047             | 0.00047 | 47.88028            | 0.04788 | 0.00694             | 1                   |

1 kgf/cm<sup>2</sup> = 735.56 Torr(mmHg) = 0.96784 atm

## Approximate conversions

| SI                                     | Conversion | Non-SI                 | Conversion | SI                       |
|--|------------|------------------------|------------|--------------------------|
| Unit                                   | Factor     | Unit                   | Factor     | Unit                     |
| <b>Torque</b>                          |            |                        |            |                          |
| newton meter (N·m)                     | x 10.2     | = kgf·cm               | x 0.8664   | = (lbf·in)               |
| newton meter (N·m)                     | x 0.74     | = lb·ft                | x 1.36     | = N·m                    |
| newton meter (N·m)                     | x 0.102    | = kgf·m                | x 7.22     | = (lbf·ft)               |
| <b>Pressure (Pa = N/m<sup>2</sup>)</b> |            |                        |            |                          |
| kilopascal (kPa)                       | x 4.0      | = in. H <sub>2</sub> O | x 0.249    | = kPa                    |
| kilopascal (kPa)                       | x 0.30     | = in. Hg               | x 3.38     | = kPa                    |
| kilopascal (kPa)                       | x 0.145    | = psi                  | x 6.89     | = kPa                    |
| (bar)                                  | x 14.5     | = psi                  | x 0.069    | = (bar)                  |
| (kgf/cm <sup>2</sup> )                 | x 14.22    | = psi                  | x 0.070    | = (kgf/cm <sup>2</sup> ) |
| (newton/mm <sup>2</sup> )              | x 145.04   | = psi                  | x 0.069    | = (bar)                  |
| megapascal (MPa)                       | x 145      | = psi                  | x 0.00689  | = MPa                    |
| <b>Power (W = J/s)</b>                 |            |                        |            |                          |
| kilowatt (kW)                          | x 1.36     | = PS (cv)              | x 0.736    | = kW                     |
| kilowatt (kW)                          | x 1.34     | = HP                   | x 0.746    | = kW                     |
| kilowatt (kW)                          | x 0.948    | = Btu/s                | x 1.055    | = kW                     |
| watt (W)                               | x 0.74     | = ft·lb/s              | x 1.36     | = W                      |

Note: ( ) non-si unit

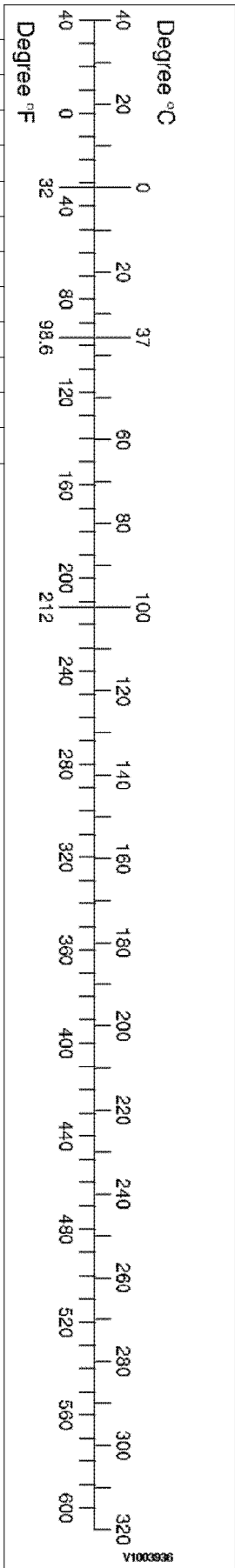


**Approximate conversions**

| SI Unit | Conversion Factor | Non-SI Unit | Conversion Factor | SI Unit |
|---------|-------------------|-------------|-------------------|---------|
|         |                   |             |                   |         |

|  |         |                      |                        |                    |
|--|---------|----------------------|------------------------|--------------------|
| Energy (J = N·m)                               |         |                      |                        |                    |
| kilojoule (kJ)                                 | x 0.948 | = Btu                | x 1.055                | = kJ               |
| joule (J)                                      | x 0.239 | = calorie            | x 4.19                 | = J                |
| Velocity and Acceleration                      |         |                      |                        |                    |
| meter per sec <sup>2</sup> (m/s <sup>2</sup> ) | x 3.28  | = ft/s <sup>2</sup>  | x 0.305                | = m/s <sup>2</sup> |
| meter per sec (m/s)                            | x 3.28  | = ft/s               | x 0.305                | = m/s              |
| kilometer per hour (km/h)                      | x 0.62  | = mph                | x 1.61                 | = km/h             |
| Horse power/torque                             |         |                      |                        |                    |
| BHP x 5252 rpm = TQ (lb·ft)                    |         |                      | TQ x rpm 5252 = B.H.P. |                    |
| Temperature                                    |         |                      |                        |                    |
| °C = (°F - 32) / 1.8                           |         | °F = (°C x 1.8) + 32 |                        |                    |
| Flow Rate                                      |         |                      |                        |                    |
| liter/min (dm <sup>3</sup> /min)               | x 0.264 | = US gal/min x 3.785 |                        | = liter/min        |

Note: ( ) non-si unit



|   |                               |   |                           |
|---|-------------------------------|---|---------------------------|
| Document Title:<br><b>Specification, filling capacities</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                             |                               |   |                           |

## Specification, filling capacities

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

### Refill capacities

| Reservoir               | Kind of fluid | Approximate refill capacities |
|-------------------------|---------------|-------------------------------|
|                         |               | Litres (US gal)               |
| Engine oil pan          | Engine oil    | 42 (11)                       |
| Hydraulic oil tank      | Hydraulic oil | 270 (71)                      |
| Hydraulic system, total | Hydraulic oil | 525 (139)                     |
| Slew gearbox (each)     | Gear oil      | 6.0 (1.6)                     |
| Track gearbox (each)    | Gear oil      | 6.0 (1.6)                     |
| Fuel tank               | Diesel fuel   | 685 (181)                     |
| Slew ring gear          | Grease        | 45 (11.8)                     |
| Cooling system          | Coolant       | 60 (16)                       |
| Oil bath pre-cleaner    | Engine oil    | 8.5 (2.25)                    |

- Specified capacity: Total amount of oil including oil for components and oil in piping.
- Refill capacity: Amount of oil needed to refill reservoir during periodic inspection and maintenance.

|  |                               |   |                           |
|--|-------------------------------|---|---------------------------|
| Document Title:<br><b>Engine, specifications</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                  |                               |   |                           |

## Engine, specifications

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

### Specifications

| Item                 | Unit                      | Specifications  |              |
|----------------------|---------------------------|---|--------------|
| Make                 | –                         | Volvo   |              |
| Model                | –                         | D12DEAE3  |              |
| Type                 | –                         | 4–stroke, 6–cylinder, straight, water cooled, direct injection, diesel engine, turbocharged, inter cooled |              |
| Rated output (Net)   | kW (HP) (PS) / rpm        | 235 (316) (320) / 1800  |              |
| Maximum torque (Net) | Nm (kgf m) (lbf ft) / rpm | 1500 (153) (1107) / 1350  |              |
| Number of cylinder   | –                         | 6   |              |
| Bore × Stroke        | mm (inch)                 | 131 × 150 (5.1 × 5.9)   |              |
| Total displacement   | Liter (US gal)            | 12.13 (3.2)   |              |
| Compression ratio    | –                         | 18.1 : 1  |              |
| Low idle (No–load)   | rpm                       | 800 ± 40  |              |
| High idle (No–load)  |                           | 1900 ± 40   |              |
| Firing order         | –                         | 1 – 5 – 3 – 6 – 2 – 4   |              |
| Nozzle pressure      | MPa (psi) (bar)           | 26 (3771) (260)   |              |
| Valve clearance      | Intake                    | mm (inch)   | 0.2 (0.0079) |
|                      | Exhaust                   |   | 0.7 (0.0275) |

|  |                               |   |                           |
|--|-------------------------------|---|---------------------------|
| Document Title:<br><b>Engine, weight</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>          |                               |   |                           |

## Engine, weights

Showing Selected Profile

| <b>Valid for serial numbers</b> |                        |                            |                           |
|---------------------------------|------------------------|----------------------------|---------------------------|
| <b>Model</b>                    | <b>Production site</b> | <b>Serial number start</b> | <b>Serial number stop</b> |
| PL4611 Volvo                    |                        |                            |                           |

|                      |                    |
|----------------------|--------------------|
| Engine, dry, approx. | 1250 kg (2756 lbs) |
|----------------------|--------------------|

|   |                               |   |                           |
|---|-------------------------------|---|---------------------------|
| Document Title:<br><b>Valve clearance, specifications</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                           |                               |   |                           |

## Valve system specifications

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

| Intake, mm (inch) | Exhaust, mm (inch) |
|-------------------|--------------------|
| 0.2 (0.008)       | 0.7 (0.0275)       |

|   |                               |   |                           |
|---|-------------------------------|---|---------------------------|
| Document Title:<br><b>Valve mechanism, tightening torques</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                               |                               |   |                           |

## Valve mechanism, tightening torques

Showing Selected Profile

| <b>Valid for serial numbers</b> |                        |                            |                           |
|---------------------------------|------------------------|----------------------------|---------------------------|
| <b>Model</b>                    | <b>Production site</b> | <b>Serial number start</b> | <b>Serial number stop</b> |
| PL4611 Volvo                    |                        |                            |                           |

|                                 |                           |
|---------------------------------|---------------------------|
| Lock nut, valve adjusting screw | 60 ±10°                   |
| Lock nut, double rocker arm     | 25 ±3 Nm (18 ±2 lbf ft)   |
| Drain nipple, double rocker arm | 6 ±1 Nm (4,4 ±0,7 lbf ft) |

|  |                               |   |                           |
|--|-------------------------------|---|---------------------------|
| Document Title:<br><b>Valve mechanism, double rocker arm</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                              |                               |   |                           |

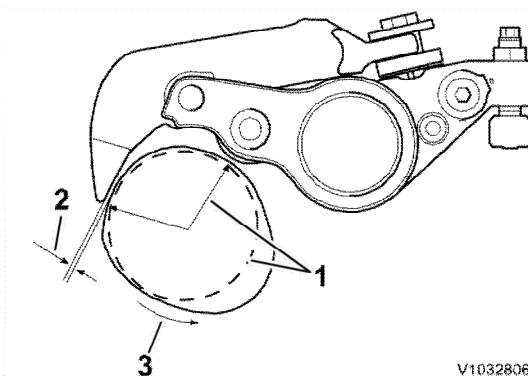
## Valve mechanism, double rocker arm

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

| Valve mechanism  |                             |
|--|-----------------------------|
| Inlet valves, valve clearance                                    | 0.20 mm                     |
| Exhaust valves (IEGR), valve clearance                           | 0.70 mm                     |
| Clearance between double rocker arm and base circle on camshaft. | Measure with gauge 88820003 |

### Clearance measured between double rocker arm and base circle on camshaft.



**Figure 1**

Checking clearance between double rocker arm and base circle

1. Base circle
2. Clearance
3. Camshaft's rotational direction

### Checking and adjusting internal double rocker arm

Checking and adjustment, if needed, of the double rocker arm's clearance shall take place after 1000 hours. Thereafter together with [Valves, adjusting](#) every 4000 hours.

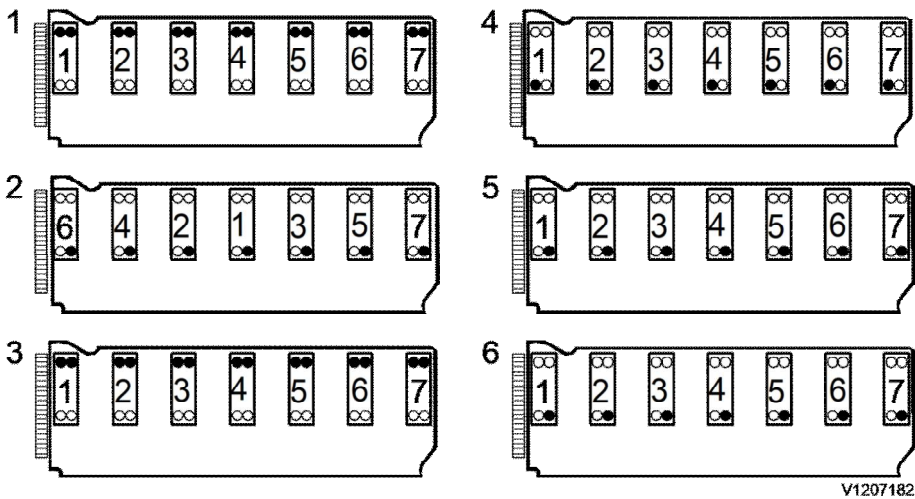
|  |                               |   |                           |
|--|-------------------------------|---|---------------------------|
| Document Title:<br><b>Rocker arm shaft, tightening torques</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                                |                               |   |                           |

## Rocker arm shaft, tightening torques

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

### Camshaft and rocker arm shaft



**Figure 1**

|  |                         |
|--|-------------------------|
| Step 1: Tighten the bolts in numerical order according to the figure   | 15 ±5 Nm (12 ±4 lbf ft) |
| Step 2: Tighten the bolts in numerical order according to the figure<br><b>NOTE!</b><br>Tighten the bolts in steps to ensure that the rocker arm shaft comes down without bending. | 60 ±5 Nm (44 ±4 lbf ft) |

|  |                                    |
|--|------------------------------------|
| Step 3: Angle-tighten the bolts in numerical order according to the figure           | 90° ±5°                            |
| Step 4: Tighten + angle-tighten the bolts in numerical order according to the figure | 15 ±5 Nm (12 ±4 lbf ft) + 120° ±5° |
| Step 5   | Loosen the bolts                   |
| Step 6: Tighten + angle-tighten the bolts in numerical order according to the figure | 15 ±5 Nm (12 ±4 lbf ft) + 120° ±5° |

|  |                                       |   |                           |
|--|---------------------------------------|---|---------------------------|
| Document Title:<br><b>Lubrication specifications</b> | Function Group:<br><b>system, 030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                      |                                       |   |                           |

## Lubrication system, specifications

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

### Specifications

| Item                               | Unit              | Specifications            |
|------------------------------------|-------------------|---------------------------|
| Type                               | –                 | Gear driven               |
| Lubrication                        | –                 | Forced circulation        |
| Oil pressure                       | Regulator valve   | kgf/cm <sup>2</sup> (psi) |
| Oil filters                        | Full-flow filters | EA                        |
|                                    | By-pass filter    | EA                        |
| Engine oil pan capacity (Low/high) | Liter             | 34 / 39                   |
|                                    | gal               | 9 / 10.3                  |

|   |                               |   |                           |
|---|-------------------------------|---|---------------------------|
| Document Title:<br><b>Fuel system, tightening torques</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                           |                               |   |                           |

## Fuel system, tightening torques

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

|  |                             |
|--|-----------------------------|
| Bolt, yoke, unit injector.   |                             |
| First tightening:  |                             |
| step 1   | 20 Nm (14.8 lbf ft)         |
| step 2   | 60°                         |
| Bolt, yoke, unit injector <b>(new copper sleeve or new cylinder head)</b> .          |                             |
| First tightening:  |                             |
| step 1   | 20 Nm (14.8 lbf ft)         |
| step 2   | 180°                        |
| Loosen the bolt for the unit injector's attaching yoke before the second tightening. |                             |
| Second tightening:   |                             |
| step 1   | 20 Nm (14.8 lbf ft)         |
| step 2   | 60°                         |
| Lock nut for adjusting screw, unit injector  | 52 Nm (38.4 lbf ft)         |
| Banjo screw, fuel hose   |                             |
| M10  | 12 ±2 Nm (8.8 ±1.5 lbf ft)  |
| M12  | 20 ±3 Nm (14.8 ±2.2 lbf ft) |
| M14  | 35 ±5 Nm (25.8 ±3.7 lbf ft) |
| M16  | 40 ±5 Nm (29.5 ±3.7 lbf ft) |

|   |                               |   |                           |
|---|-------------------------------|---|---------------------------|
| Document Title:<br><b>Fuel tank, specifications</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                     |                               |   |                           |

## Fuel tank, specifications

Showing Selected Profile

| <b>Valid for serial numbers</b> |                        |                            |                           |
|---------------------------------|------------------------|----------------------------|---------------------------|
| <b>Model</b>                    | <b>Production site</b> | <b>Serial number start</b> | <b>Serial number stop</b> |
| PL4611 Volvo                    |                        |                            |                           |

| <b>Fuel tank</b> |                         |
|------------------|-------------------------|
| Volume           | 685 litres (181 US gal) |
| Weight           | 285 kg (628 lbs)        |

|  |                               |   |                           |
|--|-------------------------------|---|---------------------------|
| Document Title:<br><b>Fuel filler pump, specifications</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                            |                               |   |                           |

## Fuel filler pump, specifications

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

### Specifications

|               |   |
|---------------|---|
|               | <b>50 LPM + auto shut-off</b>           |
| Rated voltage | 24 V                                    |
| Output flow   | 50 liter/min (13.2 gal/min) at 3 m head |

|  |                                       |   |                           |
|--|---------------------------------------|---|---------------------------|
| Document Title:<br><b>Cooling specifications</b> | Function Group:<br><b>system, 030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                  |                                       |   |                           |

## Cooling system, specifications

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

### Specifications

| Item                           |                       | Unit    | Specifications       |
|--------------------------------|-----------------------|---------|----------------------|
| Radiator                       | Core size (W × H × D) | mm      | 607.5 × 1000 × 145.4 |
|                                |                       | in      | 23.9 × 39.4 × 5.7    |
| Charge air cooler              | Core size (W × H × D) | mm      | 299.8 × 1006 × 145.4 |
|                                |                       | inch    | 11.8 × 39.6 × 5.7    |
| Complete cooling system weight |                       | kg (lb) | 130 (287)            |

|  |                               |   |                           |
|--|-------------------------------|---|---------------------------|
| Document Title:<br><b>Coolant pump, thermostat, specifications</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                                    |                               |   |                           |

## Coolant pump, thermostat, specifications

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

|                                      |                              |
|--------------------------------------|------------------------------|
| Coolant pump, type                   | Belt-driven centrifugal pump |
| Thermostat, type                     | Piston thermostat            |
| Quantity                             | 1                            |
| Coolant thermostat begins to open at | 83 °C (181 °F)               |
| Coolant thermostat fully open at     | 95 °C (203 °F)               |
| Coolant thermostat stroke distance   | 8 mm (0.32 in)               |

|  |                               |   |                           |
|--|-------------------------------|---|---------------------------|
| Document Title:<br><b>Engine - Pump control, specification</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                                |                               |   |                           |

## Engine - Pump control, specification

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

### Except North America

| Mode          | Engine speed control switch |                                   |                   | Proportional solenoid valve current (mA) | Max pump input torque, kgf m (lbf ft) | Proportional solenoid valve 2nd pressure, MPa (psi) | Power, kW (HP) |           |
|---------------|-----------------------------|-----------------------------------|-------------------|--|---------------------------------------|---|----------------|-----------|
|               | Switch steps                | Engine speed (rpm) No-load / Load |                   |  |                                       |   |                |           |
| Power maximum | P                           | 9                                 | 1900 / above 1800 |  | 200 / variable                        | 120.2 (867.8)                                       | 0.23 (32.7)    | 222 (298) |
| Heavy         | H                           |                                   | 1800 / above 1700 |  | 230 / variable                        | 114.2 (824.5)                                       |                |           |
| General       | G1                          | 8                                 | 1700 / above 1600 |  | 270 / variable                        | 108.2 (781.2)                                       |                |           |
|               | G2                          | 7                                 | 1600 / above 1500 |  |                                       |   |                |           |
|               | G3                          | 6                                 | 1500 / above 1400 |  |                                       |   |                |           |
| Fine          | F1                          | 5                                 | 1400 / -          |  | 430                                   | 84.2 (607.9)  |                |           |
|               | F2                          | 4                                 | 1300 / -          |  |                                       |   |                |           |
|               | F3                          | 3                                 | 1200 / -          |  |                                       |   |                |           |
| Idle          | I1                          | 2                                 | 1000 / -          |  | 565                                   | -   | 2.73 (395.4)   |           |
|               | I2                          | 1                                 | 800 / -           |  |                                       |   |                |           |

### North America

| Mode    | Engine speed control switch |                                   |                   | Power shift valve current (mA) | Max pump input torque, kgf m (lbf ft) | Power shift valve 2nd pressure, MPa (psi) | Power, kW (HP) |           |
|---------|-----------------------------|-----------------------------------|-------------------|--------------------------------|---------------------------------------|---|----------------|-----------|
|         | Switch steps                | Engine speed (rpm) No-load / Load |                   |                                |                                       |   |                |           |
| Heavy   | H                           | 9                                 | 1900 / above 1800 |                                | 200 / variable                        | 120.2 (867.8)                             | 0.23 (32.7)    | 222 (298) |
| General | G1                          | 8                                 | 1800 / above 1700 |                                | 230 / variable                        | 114.2 (824.5)                             |                |           |
|         | G2                          | 7                                 | 1700 / above 1600 |                                | 270 / variable                        | 108.2 (781.2)                             |                |           |
|         | G3                          | 6                                 | 1600 / above 1500 |                                |                                       |   |                |           |
| Fine    | F1                          | 5                                 | 1400 / -          |                                | 430                                   | 84.2 (607.9)                              |                |           |
|         | F2                          | 4                                 | 1300 / -          |                                |                                       |   |                |           |
|         | F3                          | 3                                 | 1200 / -          |                                |                                       |   |                |           |
| Idle    | I1                          | 2                                 | 1000 / -          |                                | 565                                   | -   | 2.73 (395.4)   |           |
|         | I2                          | 1                                 | 800 / -           |                                |                                       |   |                |           |

|   |                               |   |                           |
|---|-------------------------------|---|---------------------------|
| Document Title:<br><b>Engine speed control switch, specifications</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                                       |                               |   |                           |

## Engine speed control switch, specifications

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

| Item         | Specification        |
|--------------|----------------------|
| Power supply | DC 24 V              |
| Duty         | 10 - 90% 5V          |
| Type         | PWM signal generator |

|   |                                       |   |                           |
|---|---------------------------------------|---|---------------------------|
| Document Title:<br><b>Electrical specifications</b> | Function Group:<br><b>system, 030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                     |                                       |   |                           |

## Electrical system, specifications

Showing Selected Profile

| <b>Valid for serial numbers</b> |                        |                            |                           |
|---------------------------------|------------------------|----------------------------|---------------------------|
| <b>Model</b>                    | <b>Production site</b> | <b>Serial number start</b> | <b>Serial number stop</b> |
| PL4611 Volvo                    |                        |                            |                           |

| <b>Electrical system</b> |      |
|--------------------------|------|
| System voltage           | 24 V |

|   |                               |   |                           |
|---|-------------------------------|---|---------------------------|
| Document Title:<br><b>Instrument control unit I-ECU, specifications</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>   |                               |   |                           |

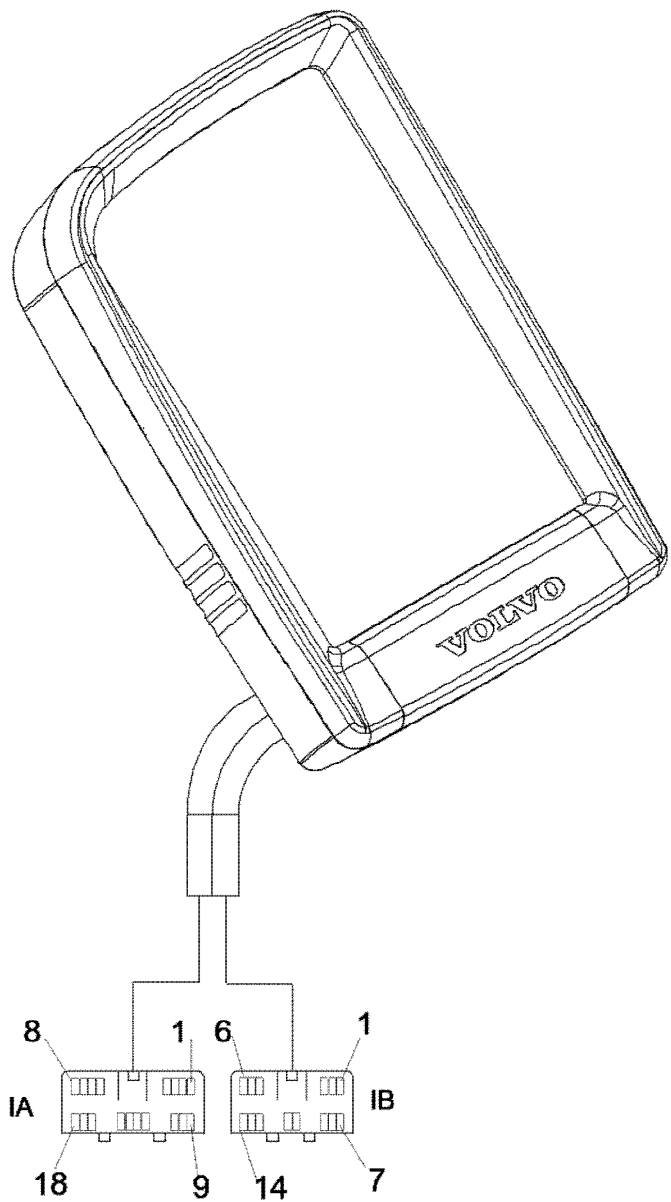
## Instrument control unit I-ECU, specifications

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

### Instrument control unit, I-ECU connector, specifications

| Items | Connectors  |
|-------|---|
| IA    | 18 pin<br>Terminal: AMP 174935-1<br>Housing: AMP 368509-1 |
| IB    | 14 pin<br>Terminal: AMP 174934-1<br>Housing: AMP 368508-1 |



V1043754

**Figure 1**  
I-ECU, connector

---

|    |               |
|----|---------------|
| IA | Connector, IA |
| IB | Connector, IB |

|   |                               |   |                           |
|---|-------------------------------|---|---------------------------|
| Document Title:<br><b>Engine control unit E-ECU, specifications</b> | Function Group:<br><b>030</b> | Information Type:<br><b>Service Information</b> | Date:<br><b>4/25/2026</b> |
| Profile:<br><b>PL4611 Volvo</b>                                     |                               |   |                           |

## Engine control unit E-ECU, specifications

Showing Selected Profile

| Valid for serial numbers |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| Model                    | Production site | Serial number start | Serial number stop |
| PL4611 Volvo             |                 |                     |                    |

### E-ECU pin, specifications

| No  | Description                            | No  | Description                         |
|-----|--|-----|-------------------------------------|
| A7  | Feed to sensor                         | B3  | Engine oil level, low               |
| A11 | Sensors ground                         | B4  | Engine oil level, high              |
| A12 | Injector cylinder 2                    | B7  | Preheating diagnostics coil         |
| A15 | Switch ground                          | B8  | Water in fuel, signal               |
| A16 | Injector cylinder 2A                   | B10 | Switch ground                       |
| A20 | Injector cylinder 1                    | B11 | Engine oil pressure, signal         |
| A22 | Boost pressure signal                  | B15 | Emergency switch (IVS)              |
| A24 | Injector cylinder 1A                   | B16 | Fuel pressure, signal               |
| A28 | Injector cylinder 3                    | B17 | Fee to sensor                       |
| A29 | Air cleaner indicator                  | B18 | Signal ground to sensor             |
| A31 | Oil temperature, signal                | B23 | Coolant level, signal               |
| A32 | Injector cylinder 3A                   | B25 | Preheating relay (coil)             |
| A33 | SAE J1587 A information bus            | B27 | Coolant temperature, engine, signal |
| A34 | SAE J1587 B information bus            | B28 | Crankcase pressure, signal          |
| A36 | Injector cylinder 6                    | B29 | Starter control                     |
| A37 | Engine crank speed , plus (-)          | B30 | Solenoid valve for on/off           |
| A38 | Engine crank speed , minus (-)         | B31 | Ambient air temperature             |
| A40 | Injector cylinder 6A                   | B51 | SAE J1939 H control bus             |
| A44 | Injector cylinder 5                    | B55 | SAE J1939 H control bus             |
| A45 | Engine camshaft speed, plus (+)        | B57 | Voltage feed (ECU supply)           |
| A46 | Engine camshaft speed, minus (-)       | B58 | ECU ground                          |
| A47 | Boost temperature, signal              | B59 | ECU ground                          |
| A48 | Injector cylinder 5A                   | B60 | Voltage feed (ECU supply)           |
| A52 | Injector cylinder 4                    | B61 | ECU ground                          |
| A56 | Injector cylinder 4A                   |     |                                     |
| A57 | ECU ground                             |     |                                     |
| A59 | Injector cylinder 1 - 3 (sv) - ground  |     |                                     |
| A60 | Injector cylinder 4 - 6 (sv) - ground  |     |                                     |
| A61 | Injector cylinder 4 - 6 (ncv) - ground |     |                                     |
| A62 | Injector cylinder 1 - 3 (ncv) - ground |     |                                     |

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