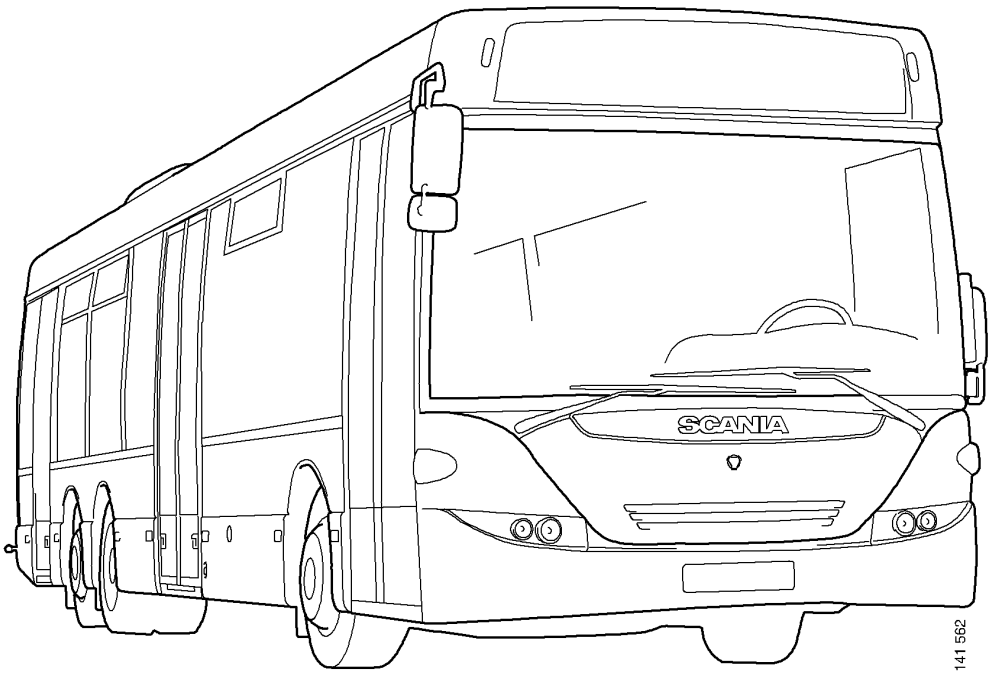
# 00:21-50

Issue 72 **en-GB**

# Preface to maintenance programme

## F, K and N series



# Changes since the previous issue

| | |
|---|---|
| **Other engine and fuel components, diesel and HVO operation** | **Renewing the filter, diesel and HVO operation**<br><br>Updated information: The Scania-generated maintenance plans are based on the use of clean fuel.<br><br>**Renewal of particulate filter (DPF), diesel operation and HVO operation.**<br><br>Table updated. |
| **Other engine and fuel components, operation with FAME EN 14214** | **Euro 6, XPI, prepared for operation with FAME EN 14214**<br><br>Particulate filter renewal: Table has been updated. |
| **Other engine and fuel components, ethanol** | **Euro 6, PDE, ethanol operation**<br><br>Particulate filter renewal: Table has been updated. |

# Preface

A Scania vehicle has been optimised for good transport economy. Regular maintenance is the key to service life for a Scania vehicle. It is also necessary to maintain a high level of safety in traffic and operations and avoid unplanned stops.

This document describes the periodic maintenance programme, with renewal intervals for components and systems.

Please read the preface before planning maintenance requirements with the customer.

Note the following:

- Which factors influence the vehicle maintenance requirements.
- How to customise the maintenance programme to different types of operation.
- Possible local adaptations to the maintenance programme
- The environment in which the vehicle is driven may require extra maintenance.

# Planning maintenance

The maintenance programme is the basis for planning the maintenance requirements of the vehicle. Since operating conditions may vary, it is important that the customer and the workshop agree maintenance requirements together, and customise the maintenance. Scania supplies a maintenance planning and costing service, MAC.

The maintenance programme includes a number of standard and a number of optional maintenance events which can be selected as an addition. These are described in more detail in the section Additions and adaptations.

## Maintenance requirements

The most important aspect when planning vehicle maintenance is the requirements of the vehicle. Start planning maintenance by identifying the following:

1. Vehicle specification and operation type.
2. Engine oil grade.
3. Engine emission class.
4. Fuel grade and sulphur content.
5. Transmission oil grade.
6. Other components which may have an effect on the interval.
7. Fluids or components with expiration dates.
8. The vehicle operation area and the environment in which the vehicle is driven.

Renewal intervals for engines, central gears and gearboxes in the periodic inspection forms are based on the oil grades that have been filled at the factory. These oil grades are reported in document 00:16-15, Fuel, lubricants and fluids.

It is necessary to make local adaptations to the inspection forms, if the option is to fill with approved oil grades, which give shorter change intervals. It may then be necessary to add an oil change at the S and/or M maintenance events.

The vehicle must be maintained according to the individual maintenance plan at least once per year. This applies regardless of operation type or engine oil grade.

With second-hand vehicle, start the maintenance plan with an L maintenance, in order to ensure that the entire vehicle is fully maintained.

Maintenance of the vehicle is not just covered by the maintenance programme, but also by checks performed by the driver.

Driver checks are described in the Driver's Manual.

# The Scania maintenance programme

The maintenance programme comprises a number of standard maintenance events. In addition, there is maintenance which can be added as an option depending on requirements.

## Standard maintenance

- Pre-delivery inspection (D): Carried out by Scania workshops on the vehicle bodywork prior to delivery to the customer.
- R maintenance (running-in maintenance): Carried out by Scania workshops no more than 6 weeks or 20,000 km after delivery to the customer, depending on which comes first.

  Includes the following:

  – Checking fluid levels
  – Checking attachments
  – Checking for damage

- S maintenance: Minimum normal maintenance.

  Depending on the vehicle configuration, S maintenance may contain the following, among other items:

  – Engine oil change
  – Transmission oil change
  – Filter renewal
  – Lubrication, cab and chassis

- M maintenance: More extensive maintenance.

  Depending on the vehicle configuration, M maintenance may contain the following, among other items:

  – Engine oil change
  – Transmission oil change
  – Filter renewal
  – Lubrication, chassis

- L maintenance: Includes all maintenance items.

  Depending on the vehicle configuration, L maintenance may contain the following, among other items:

  – Engine oil change
  – Transmission oil change
  – Filter renewal
  – Lubrication
  – Brake test

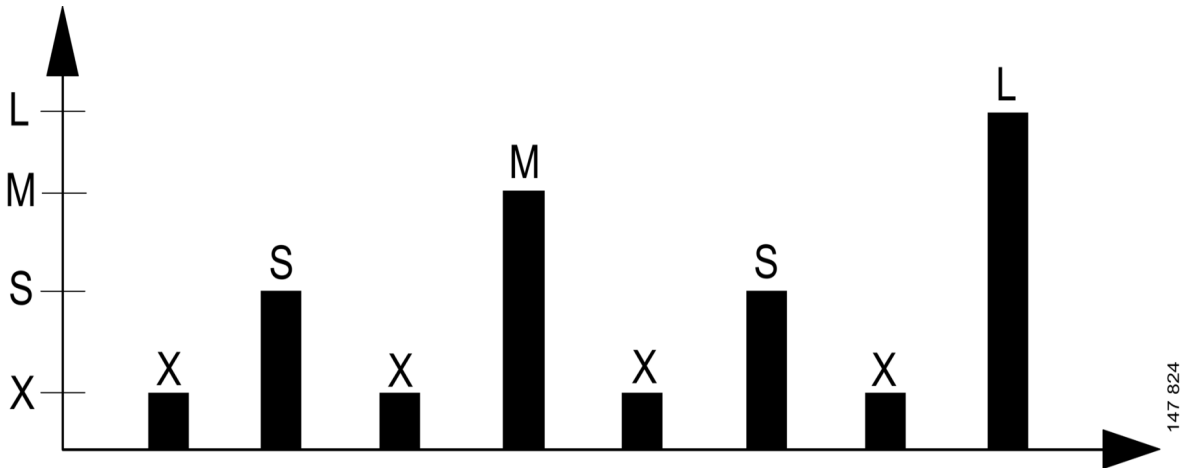
## Maintenance as option

- X maintenance: Consists mainly of an extra chassis lubrication; refer to the section X maintenance.
- XO maintenance: Consists primarily of the same maintenance items as X maintenance but with the addition of an engine oil change.
- Maintenance plus: Maintenance items that are part of the Ecolution by Scania environmental concept.
- Preventive renewals: Components which are renewed at planned intervals. For more information, refer to the Preventive renewals section.

# Maintenance sequence

Without X: S-M-S-L = 1 period

With X: X-S-X-M-X-S-X-L = 1 period




*The illustration shows a maintenance sequence where X maintenance is included.*

Maintenance instructions and forms are in Scania Multi, group 00-21, under the maintenance button in the menu.

# Operation types

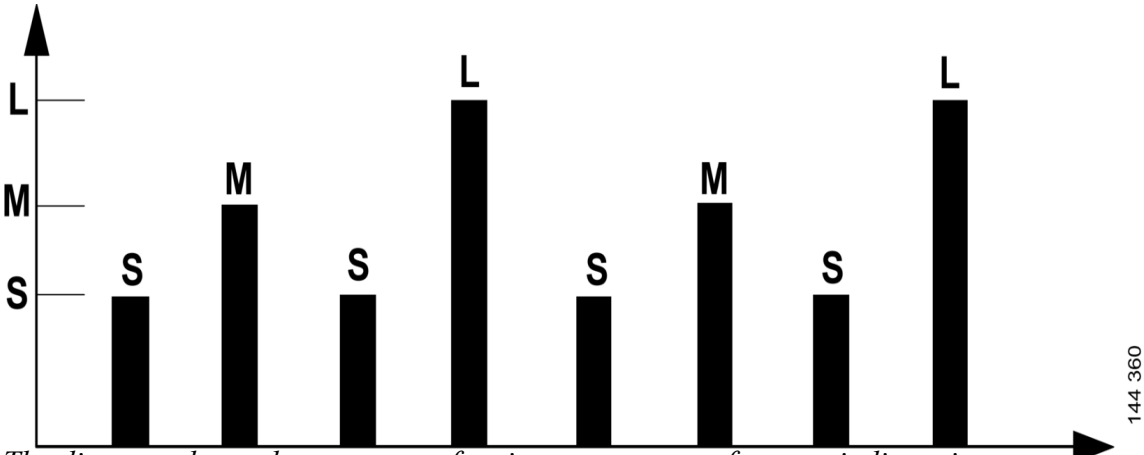
This section describes the different operation types designated for the maintenance programme.

The operation types are divided into the categories very long distance services, suburban and regular services, city services and city services for DC07 Euro 6. The division is based on factors such as road conditions, fuel consumption, number of starts and stops, gross weight, average speed and the type of application the vehicle has.

Note that the bar charts for each operation type give the maximum oil change interval for the operation type, and that the examples only apply to diesel vehicles. The oil change intervals vary depending on the oil grade, emission class and fuel. Choose the operation type that most closely resembles the operating conditions.

For information on oil change intervals using other fuel, refer to the intervals for components and systems section.

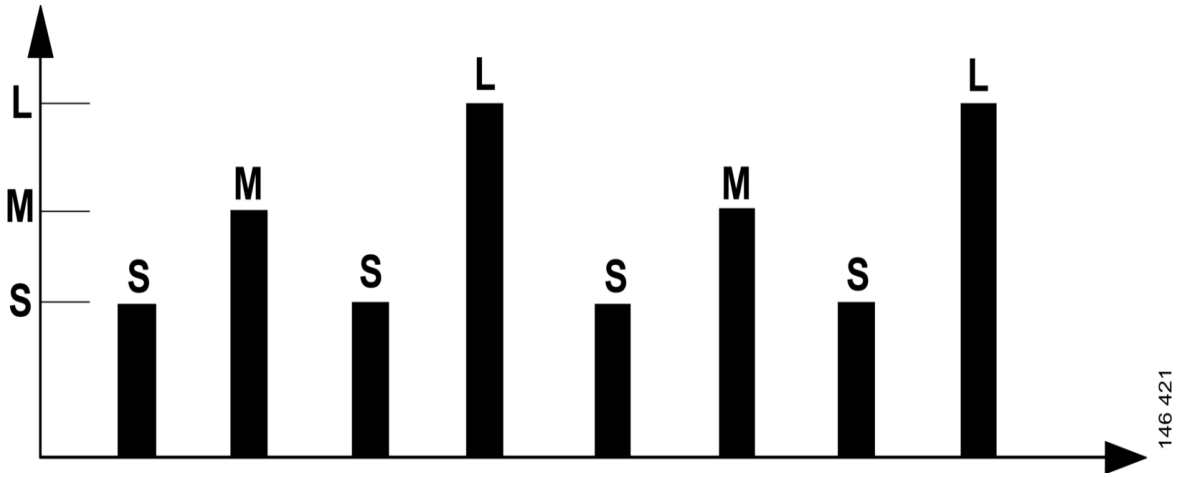
# Operation type 1 Long-distance services




*The diagram shows the sequence of maintenance events for a periodic maintenance programme.*

- Fuel consumption is less than 33 litres/100 km.
- Travel is uniform, i.e. fewer than 20 stops or major decelerations per 100 km.
- Idling operation is less than 25% of the total operating time.
- Transport example: Regular services between cities, long distance.
- Application example: Tourist bus.
- Be aware of the potential need for X or XO maintenance. Refer to the descriptions in this document regarding under what conditions X or XO maintenance may be required to supplement S, M or L maintenance.

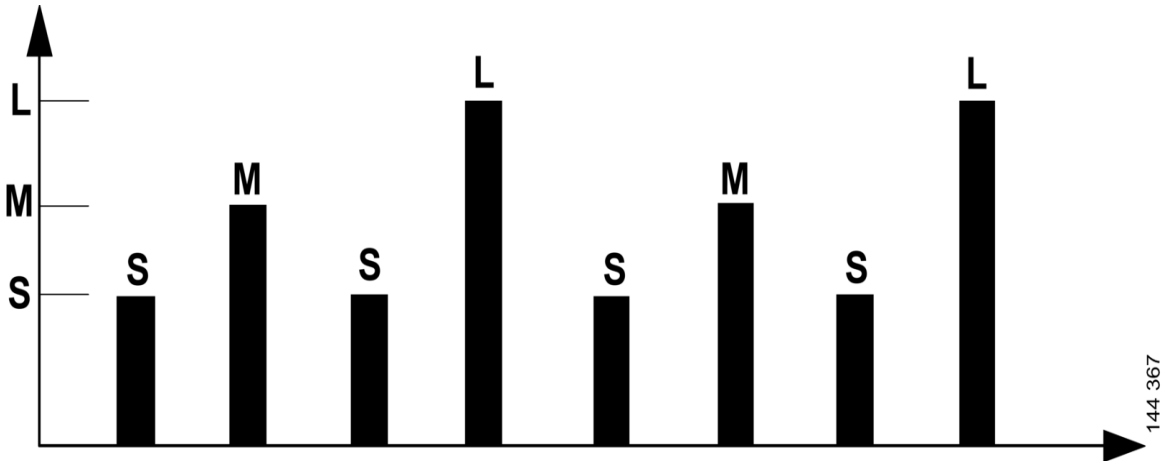
# Operation type 2 Suburban and regular services




*The diagram shows the sequence of maintenance events for a periodic maintenance programme.*

- Fuel consumption is less than 42 litres/100 km.
- Like operation type 1, but higher load on the powertrain and chassis due to frequent starts and stops.
- Services are light, i.e. fewer than 20-50 stops or major decelerations per 100 km. Usually, the roads are narrower with few stops and speed limitations due to sharp bends, traffic or other obstacles.
- Transport example: Suburban services, regular services between cities, short and medium distance, chartered services.
- Application example: Medium-range intercity.
- Be aware of the potential need for X or XO maintenance. Refer to the descriptions in this document regarding under what conditions X or XO maintenance may be required to supplement S, M or L maintenance.

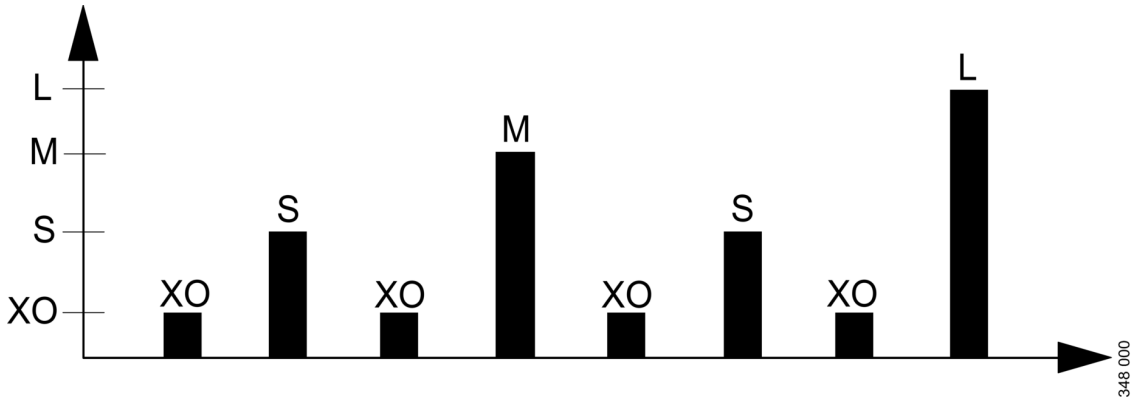
# Operation type 3 City services




*The diagram shows the sequence of maintenance events for a periodic maintenance programme.*

- Services are frequent, i.e. more than 50 stops or major decelerations per 100 km. Services with frequent starts and stops are usually found in cities.
- Idling operation is more than 25% of the total operating time.
- Transport example: Regular services in cities.
- Application example: City bus.
- Be aware of the potential need for X or XO maintenance. Refer to the descriptions in this document regarding under what conditions X or XO maintenance may be required to supplement S, M or L maintenance.

# Operation type 3 City services for DC07 Euro 6




See the operation type description in the previous section Operation type 3, City services.

DC07 has mandatory XO maintenance to keep maintenance costs as low as possible.

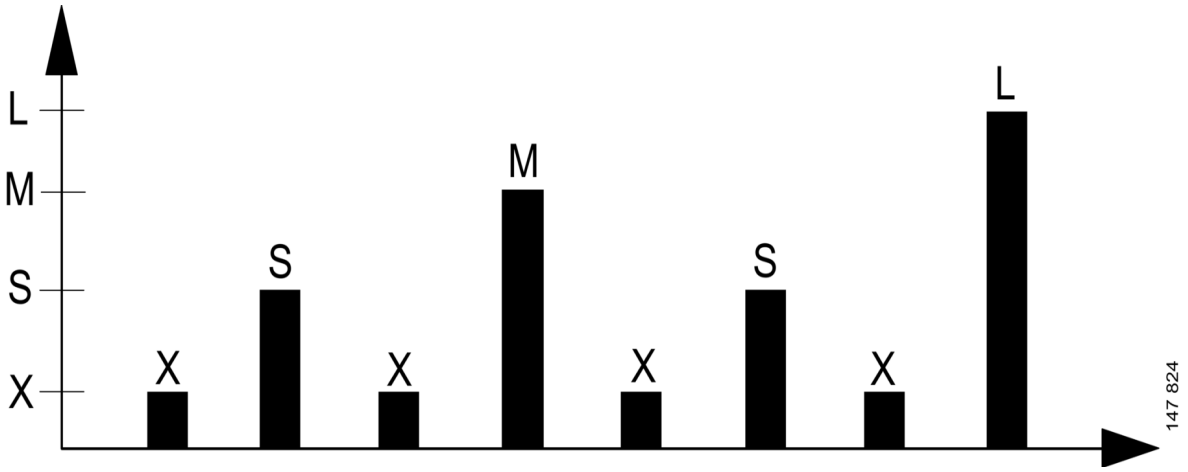
# Additions and adaptations

This section provides more information about maintenance in addition to the regular maintenance programme and adapted maintenance programmes for specific operations and vehicle types.

The following additions and programmes are listed:

- X maintenance
- XO maintenance
- Programme for ethanol-powered vehicles

# X maintenance




*The bars show examples of maintenance programme sequences that include X maintenance.*

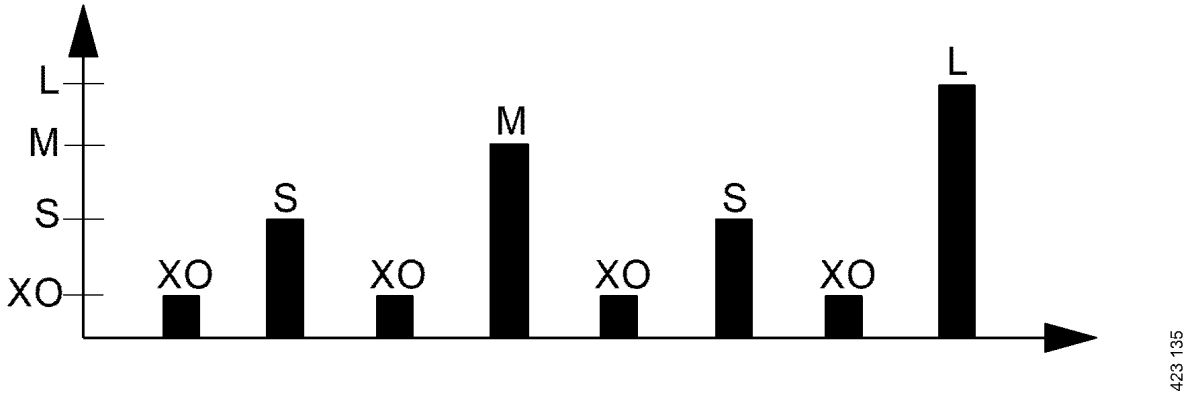
X maintenance mainly includes additional lubrication of the chassis.

The maintenance programme for the vehicle may be supplemented with X maintenance in certain circumstances. See the illustration after XO maintenance.

Examples of factors which may affect the need for X maintenance:

- Roads that are in poor condition. They are partly unsurfaced and do not allow the driver to maintain a uniform vehicle speed.
- Dusty conditions.
- Humid environments.
- The vehicle is washed frequently.
- Fuel grade.
- Salt.
- Extra lubrication and checks of e.g. body-work and extra equipment.
- Customer preference, e.g. if intermediate maintenance is needed to shorten the time between workshop visits.

# XO maintenance




*The bars show examples of maintenance programme sequences that include XO maintenance.*

X maintenance with oil change is called XO maintenance. In principle, XO maintenance comprises the same maintenance items as X maintenance, but with the addition of engine oil change and oil filter renewal as well as maintenance of the centrifugal oil cleaner.

Examples of factors which may affect the need for XO maintenance:

- Operations predominately comprise idling and power take-off operations rather than driving time.
- If the oil change intervals must be reduced due to operation with high-sulphur fuel.

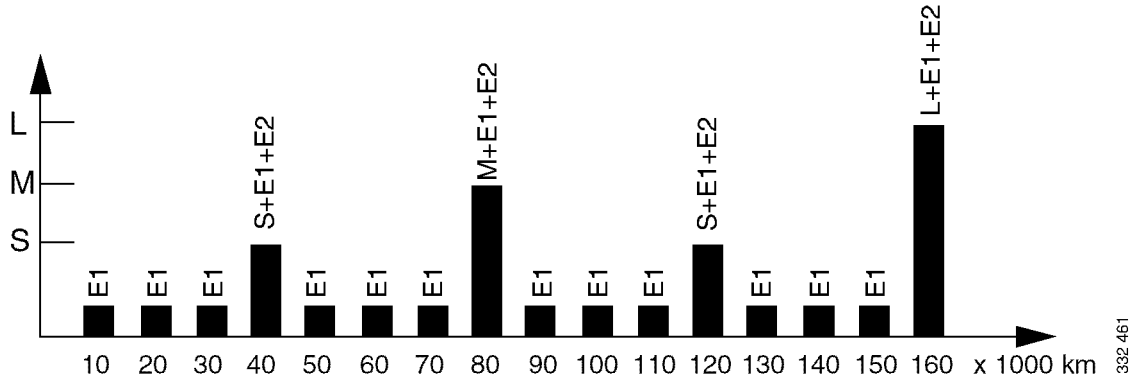
Transport example: Buses in city traffic.

# Programme for ethanol-powered vehicles

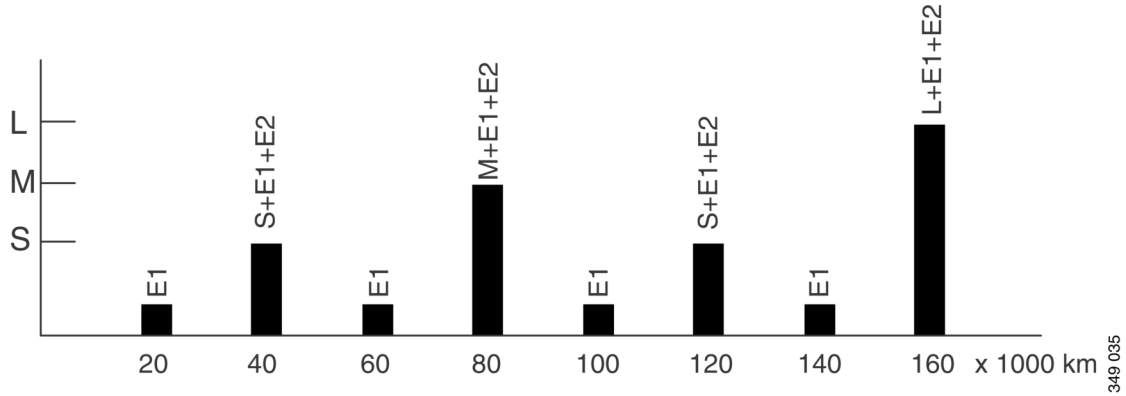
Oils, see 00:16-15 Fuels, lubricants and fluids.

Use the maintenance forms for bus together with maintenance forms E1 and E2 for ethanol-powered vehicles.

## With engine oil grade Scania Bioethanol




## With engine oil grade Scania Oil BEO-2



### E1 Ethanol maintenance 1

Includes the following:

- Engine oil change
- Oil filter renewal

### E2 Ethanol maintenance 2

Includes the following:

- Unit injector renewal
- Checking and adjusting valve clearance and unit injectors

# Fuel, lubricants and fluids

The quality of lubricants and fuel may have an effect on the change intervals. The recommended oil change interval given in the Intervals for components and systems section applies providing that lubricants and fuel meet Scania requirements.

For more information on the quality requirements for fuel, lubricants and fluids, refer to:

- Fuel, lubricants and fluids (00:16-15), Workshop Manual main group 00.

# Sulphur content in fuel

**IMPORTANT!**

If the vehicle has a diesel particulate filter (DPF) aftertreatment management system with EGR/SCR, the sulphur content in the fuel must not exceed 10 ppm.

| Exhaust gas aftertreatment | Emission class | Max. sulphur content in fuel for unaffected oil change intervals[1] | Note |
|---|---|---|---|
| EGR and SCR | Euro 6 | 10 ppm (0.001%) | More than 10 ppm is not permitted. A higher content causes engine damage. |
| EGR | Euro 5 (DC13) | | |
| EGR | Euro 5 (DC9/ DC09) | 50 ppm (0.005%) | More than 50 ppm is not permitted. A higher content causes engine damage. |
| | EEV | | |
| EGR | Euro 4 | 350 ppm (0.035%) | More than 350 ppm is not permitted. A higher content causes engine damage. |
| SCR | Euro 5, Euro 4 | 350 ppm (0.035%) | 351-1,000 ppm gives the oil change interval[1] divided by 1.5. |
| | | | 1,001-2,000 ppm gives the oil change interval[1] divided by 2. |
| | | | More than 2,000 ppm is not permitted. A higher content causes engine damage. |
| - | Euro 3, Euro 2 | 350 ppm (0.035%) | 351-1,000 ppm gives the oil change interval[1] divided by 1.5. |
| | | | 1,001-2,000 ppm gives the oil change interval[1] divided by 2. |
| | | | More than 2,000 ppm gives the oil change interval[1] divided by 4. |

1. Oil change interval according to the oil change table in the Engine oil section.

# Biodiesel

Scania currently approves 2 types of biodiesel: FAME in accordance with EN 14214 and HVO in accordance with EN 15940.

# FAME EN 14214

The following applies to operation with FAME EN 14214:

- The fuel filter and oil filter have change intervals according to the tables in the Intervals for components and systems section.
- XPI engines which are prepared for FAME EN 14214 and run with FAME EN 14214 must use fuel filters adapted for FAME EN 14214.
- The oil viscosity class must be xW-40[1].
- The engine oil level must be checked regularly. If the oil level exceeds the maximum level, the oil must be changed.

[1] for PDE and HPI engines.

## Exceptions

The following vehicles and engines must **not** use FAME EN 14214:

- Vehicles that have downtimes greater than 2 months.
- Buses with HPI engines.
- XPI engines that are not prepared for biodiesel.

## Technical information on the injection system

It is important to know which injection system the vehicle in question is fitted with. One way to find out is to enter the chassis serial number in Scania Multi.

1. Enter the chassis serial number in the Workshop Manual.
2. Look under the Technical Information tab and section 1 Engine.

## Switching between diesel and FAME EN 14214

Rules are in place for how switching between diesel EN 590 and FAME EN 14214 should take place. The rules must be followed to ensure that the vehicle operates properly after the switches. See Workshop Manual, 00:16-15, Fuels, lubricants and fluids. The following switches between diesel EN 590 and FAME EN 14214 are described:

- Switching from diesel EN 590 to FAME EN14214.
- Switching from FAME EN 14214 to diesel EN 590.

# HVO EN 15940

Hydrotreated Vegetable Oil (HVO) is a paraffinic diesel, produced by hydrotreatment, which is extracted from vegetable oils and fats.

Hydrotreated fuels are free of sulphur and aromatics.

For all industrial and marine engines, Scania approves up to 100% HVO EN 15940 as a fuel.

Scania approves HVO EN 15940 as a fuel in its Euro 3, Euro 4, Euro 5 and Euro 6 diesel engines for trucks and buses.

## Exceptions

See the table in 00:16-15 Fuel, lubricants and fluids under the HVO section for the chassis serial numbers approved for operation with HVO.

## Switching between different fuels

Scania recommends renewing the fuel filter with each change of fuel type. When changing between different fuels, see 00:16-15: Fuels, lubricants and fluids, under the HVO section, for the actions required in each instance.

## Properties of HVO EN 15940

- HVO must comply with EN 15940 requirements.
- HVO EN 15940 means no changes to the extent of maintenance, unlike diesel EN 590.
- During operation with HVO EN 15940, use the same maintenance programme as for vehicles that use EN 590 Diesel. The intervals for periodic maintenance can be found in the preface for each product.
- Examples of marketing names are BioMax, C.A.R.E, Neste MY or NEXBTL.
- HVO has similar thermal properties to diesel EN 590. The turbidity point is closer to -40°C, which means that it is fine to use HVO EN 15940 in colder climates.
- Auxiliary heater in buses: See the recommendations from the manufacturer for the auxiliary heater in question regarding HVO as a fuel.
- HVO has a lower energy content per unit of volume compared to diesel EN 590, which increases fuel consumption and reduces the output by 3-5%.
- HVO can be stored in the same conditions as diesel EN 590.
- HVO has lower density than EN 590 Diesel (780 kg/m³ compared to 800-840 kg/m³ for EN 590 Diesel).
- Scania recommends not mixing fuels from different markets. A fuel that is not mixed by a fuel manufacturer, may not have the same guaranteed quality compared to Scania standards. If there is a switch from e.g. FAME to HVO or fossil diesel, run the tank until it is empty before filling with the new fuel type.
- HVO has less environmental impact compared to fossil diesel.

# Intervals for components and systems

Below is a summary of the maintenance programme regarding oil changes and filter renewal. Detailed information is provided in the respective maintenance forms.

The engine types have specified oil grades with associated oil change intervals for the different operation types. The tables are grouped according to emission class and fuel.

Change intervals for each engine type are based on the specified fuel. In the tables, an interval in kilometres is given, and in some cases also a maximum calendar interval or operating time. The interval which occurs first applies.

For information about renewing the fuel filter; see the Renewing the filter tables for the relevant fuel.

## The sulphur content effect on the intervals

**IMPORTANT!**

The sulphur content of the fuel affects the oil change intervals. See the Sulphur content in fuel section.

## Technical information on the vehicle

Proceed as follows to check vehicle technical information:

1. Enter the chassis serial number in the Workshop Manual.
2. Look under the Technical Information tab to obtain more information about the vehicle. This contains information on engine type, fuel, injection system, etc.

# Engine oil

## Factory filling of the engines

Information about which oil the engines have been topped up with at the factory can be found in the document Fuel, lubricants and fluids (00:16-15).

## Diesel engines, also applies when operating with HVO EN 15940

**Note:**

For the engines which are approved for use with HVO EN 15940, see the table in Fuels, lubricants and fluids, under the HVO EN 15940 section.

**IMPORTANT!**

The sulphur content in diesel fuel must not exceed 50 ppm if the fuel is used together with engine oils with the quality designations:

- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4, API CK-4

The oil grades listed are associated with the technical limitations for permitted sulphur content. Local legal requirements may be lower than the technical requirements above of max. 50 ppm sulphur.

**IMPORTANT!**

If the vehicle has a diesel particulate filter (DPF) aftertreatment management system with EGR/SCR, the sulphur content in the fuel must not exceed 10 ppm.

## Euro 3, diesel

**IMPORTANT!**

The sulphur content in diesel fuel must not exceed 50 ppm if the fuel is used together with engine oils with the quality designations:

- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4, API CK-4

The oil grades listed are associated with the technical limitations for permitted sulphur content. Local legal requirements may be lower than the technical requirements above of max. 50 ppm sulphur.

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1.5 years | | |
| DC9 11 310<br>DC9 12 270<br>DC9 13 230<br>DC11 08 340<br>DC12 06 420<br>DC12 17 380<br>max. 10% FAME | Scania LDF-4<br>Scania LDF-3 | 90,000 | 60,000 | 45,000 |
| | Scania HD<br>ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 60,000 | 45,000 | 30,000 |
| DC09 114 250<br>DC09 115 310<br>DC13 106 460<br>DC13 107 410<br>DC13 108 360<br>max. 20% FAME | Scania LDF-4<br>Scania LDF-3 | 90,000 | 60,000 | 45,000 |
| | Scania HD | 60,000 | 45,000 | 30,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 30,000 | 30,000 | 20,000 |

## Euro 4, diesel

**IMPORTANT!**

The sulphur content in diesel fuel must not exceed 50 ppm if the fuel is used together with engine oils with the quality designations:

- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4, API CK-4

The oil grades listed are associated with the technical limitations for permitted sulphur content. Local legal requirements may be lower than the technical requirements above of max. 50 ppm sulphur.

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1.5 years | | |
| DC9 16 230<br>DC9 17 270<br>DC9 18 310<br>DC09 101 310<br>DC09 102 250<br>max. 20% FAME | Scania LDF-4<br>Scania LDF-3 | 90,000 | 60,000 | 45,000 |
| | Scania HD | 60,000 | 45,000 | 30,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 45,000 | 30,000 | 20,000 |
| DC09 137 320<br>max. 20% FAME | Scania LDF-4<br>Scania LDF-3 | 45,000 | 30,000 | 22,500 |
| | Scania HD | 30,000 | 22,500 | 15,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 22,500 | 15,000 | 10,000 |
| DC12 10 340<br>DT12 03 470<br>DT12 12 420<br>DT12 17 480 | Scania LDF-4<br>Scania LDF-3 | 90,000 | 60,000 | 45,000 |
| | Scania HD<br>ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 60,000 | 45,000 | 30,000 |

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1.5 years | | |
| DC13 102 440<br>DC13 103 400<br>DC13 104 360<br>max. 20 %<br>FAME | Scania LDF-4<br>Scania LDF-3 | 90,000 | 60,000 | 45,000 |
| | Scania HD | 60,000 | 45,000 | 30,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 45,000 | 30,000 | 20,000 |

## Euro 5/EEV, diesel

**IMPORTANT!**

The sulphur content in diesel fuel must not exceed 50 ppm if the fuel is used together with engine oils with the quality designations:

- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4, API CK-4

The oil grades listed are associated with the technical limitations for permitted sulphur content. Local legal requirements may be lower than the technical requirements above of max. 50 ppm sulphur.

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1.5 years | | |
| DC9 24 360<br>DC9 29 280<br>DC9 30 230<br>DC9 32 320<br>DC09 117 230<br>max. 20% FAME | Scania LDF-4<br>Scania LDF-3 | 90,000 | 60,000 | 45,000 |
| | Scania HD | 60,000 | 45,000 | 30,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 45,000 | 30,000 | 20,000 |
| DC09 109 250<br>DC09 110 310<br>DC13 112 440<br>DC13 113 400<br>DC13 114 360<br>DC13 120 400<br>max. 20% FAME | Scania LDF-4<br>Scania LDF-3 | 90,000 | 60,000 | 45,000 |
| | Scania HD | 60,000 | 45,000 | 30,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 45,000 | 30,000 | 20,000 |
| DC12 15 420<br>DC12 18 380<br>max. 10% FAME | Scania LDF-4<br>Scania LDF-3 | 90,000 | 60,000 | 45,000 |
| | Scania HD | 60,000 | 45,000 | 30,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 45,000 | 30,000 | 20,000 |

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1.5 years | | |
| DC13 05 400<br>DC13 06 360<br>DC13 07 480<br>DC13 10 440<br>max. 20% FAME | Scania LDF-3 | 75,000 | 60,000 | 45,000 |
| | Scania LDF-4<br>Scania HD | 45,000 | 45,000 | 30,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 30,000 | 30,000 | 20,000 |

## Euro 6, diesel

**IMPORTANT!**

If the vehicle has a diesel particulate filter (DPF) aftertreatment management system with EGR/SCR, the sulphur content in the fuel must not exceed 10 ppm.

**IMPORTANT!**

When changing the engine oil grade is required, replacing the particle filter should also be done at the same time.

The reason for this is that the particulate filter renewal interval should be correct.

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1.5 years | | |
| DC07 101 280 max. 20% FAME | Scania LDF-3<br>Scania LDF-4<br>ACEA E6, E8, E9, E11<br>API CI-4, CK-4 | - | 22,500 km[1]/1,500 h/6 months | |
| DC09 108 320<br>DC09 111 250<br>DC09 112 360<br>DC09 113 280<br>DC13 109 440<br>DC13 110 480<br>DC13 115 410<br>DC13 124 450<br>DC13 125 490<br>DC13 147 450<br>max. 20% FAME | Scania LDF-4<br>Scania LDF-3 | 90,000 | 60,000 | 45,000 |
| | ACEA E6, E8, E9, E11<br>API CJ-4, CK-4 | 45,000 | 30,000 | 20,000 |

1. The information applies at speeds around 15 km/h.

## Engines, operation with FAME EN 14214

For information about fuel filter change intervals, see the section Other engine and fuel components, FAME EN 14214.

### Euro 3, Operation with FAME EN14214, PDE

**IMPORTANT!**

Diesel fuel must not exceed 50 ppm if the fuel is used together with engine oils with the quality designations:

- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4, API CK-4

The oil grades listed are associated with the technical limitations for permitted sulphur content. However, local legal requirements may be lower than the above technical requirements for a maximum of 50 ppm sulphur in the fuel.

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1.5 years | | |
| DC9 11 310<br>DC9 12 270<br>DC9 13 230<br>DC11 08 340<br>DC12 06 420<br>DC12 17 380 | Scania LDF-4<br>Scania LDF-3 | 30,000[1] | 30,000[1] | 30,000[1] |
| | Scania HD<br>ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 30,000[1] | 30,000[1] | 15,000 |
| DC09 114 250<br>DC09 115 310 | Scania LDF-4<br>Scania LDF-3 | 30,000[1] | 30,000[1] | 30,000[1] |
| | Scania HD | 30,000[1] | 30,000[1] | 15,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 15,000 | 15,000 | 10,000 |

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1.5 years | | |
| DC13 106 460<br>DC13 107 410<br>DC13 108 360 | Scania LDF-4<br>Scania LDF-3 | 30,000[1] | 30,000[1] | 30,000[1] |
| | Scania HD | 30,000[1] | 30,000[1] | 15,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 15,000 | 15,000 | 10,000 |

1. For PDE engines with oil change intervals exceeding 20,000 km, Scania recommends an intermediate X maintenance event with associated fuel filter renewal.

## Euro 4, Operation with FAME EN 14214, PDE

**IMPORTANT!**

Diesel fuel must not exceed 50 ppm if the fuel is used together with engine oils with the quality designations:

- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4, API CK-4

The oil grades listed are associated with the technical limitations for permitted sulphur content. However, local legal requirements may be lower than the above technical requirements for a maximum of 50 ppm sulphur in the fuel.

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1.5 years | | |
| DC9 16 230<br>DC9 17 270<br>DC9 18 310<br>DC09 101 310<br>DC09 102 250 | Scania LDF-4<br>Scania LDF-3 | 30,000[1] | 30,000[1] | 30,000[1] |
| | Scania HD | 30,000[1] | 30,000[1] | 30,000[1] |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 30,000[1] | 30,000[1] | 15,000 |
| DC13 102 440<br>DC13 103 400 | Scania LDF-4<br>Scania LDF-3 | 30,000[1] | 30,000[1] | 30,000[1] |
| | Scania HD | 30,000[1] | 30,000[1] | 15,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 15,000 | 15,000 | 10,000 |

1. For PDE engines with oil change intervals exceeding 20,000 km, Scania recommends an intermediate X maintenance event with associated fuel filter renewal.

## Euro 5/EEV, Operation with FAME EN 14214, PDE

**IMPORTANT!**

Diesel fuel must not exceed 50 ppm if the fuel is used together with engine oils with the quality designations:

- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4, API CK-4

The oil grades listed are associated with the technical limitations for permitted sulphur content. However, local legal requirements may be lower than the above technical requirements for a maximum of 50 ppm sulphur in the fuel.

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1.5 years | | |
| DC09 109 250<br>DC09 110 310<br>DC13 112 440<br>DC13 113 400<br>DC13 114 360<br>DC13 120 400 | Scania LDF-4<br>Scania LDF-3 | 30,000[1] | 30,000[1] | 30,000[1] |
| | Scania HD | 30,000[1] | 30,000[1] | 15,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 15,000 | 15,000 | 10,000 |

1. For PDE engines with oil change intervals exceeding 20,000 km, Scania recommends an intermediate X maintenance event with associated fuel filter renewal.

## Euro 5/EEV, XPI prepared for FAME EN 14214

**IMPORTANT!**

Diesel fuel must not exceed 50 ppm if the fuel is used together with engine oils with the quality designations:

- Scania LDF-4
- ACEA E6, E8, E9, E11
- API CJ-4, API CK-4

The oil grades listed are associated with the technical limitations for permitted sulphur content. However, local legal requirements may be lower than the above technical requirements for a maximum of 50 ppm sulphur in the fuel.

### XPI engines prepared for FAME EN 14214, run on FAME EN 14214

**Note:**

Check that the engine is prepared for biodiesel operation in the Workshop Manual under the Technical information tab.

For information about fuel filter change intervals, see the section Other engine and fuel components, biodiesel.

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1.5 years | | |
| DC9 24 360<br>DC9 29 280<br>DC9 30 230<br>DC9 32 320<br>DC09 117 230 | Scania LDF-4<br>Scania LDF-3 | 55,000 [1] | 40,000[1] | 30,000 |
| | Scania HD | 45,000[1] | 30,000 | 15,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 20,000 | 15,000 | 10,000 |

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1.5 years | | |
| DC13 05 400<br>DC13 06 360<br>DC13 07 480<br>DC13 10 440 | Scania LDF-3 | 55,000[1] | 40,000[1] | 30,000 |
| | Scania LDF-4<br>Scania HD | 45,000[1] | 30,000 | 15,000 |
| | ACEA E4, E6, E7, E8, E9, E11<br>API CI-4, CJ-4, CK-4 | 20,000 | 15,000 | 10,000 |

1. For XPI engines with oil change intervals exceeding 30,000 km, Scania recommends an interim X inspection with associated fuel filter renewal.

## Euro 6, XPI approved for FAME EN 14214

**IMPORTANT!**

If the vehicle has a diesel particulate filter (DPF) aftertreatment management system with EGR/SCR, the sulphur content in the fuel must not exceed 10 ppm.

**IMPORTANT!**

When changing the engine oil grade is required, replacing the particle filter should also be done at the same time.

The reason for this is that the particulate filter renewal interval should be correct.

**IMPORTANT!**

Only applies to the engine types indicated in the table.

**XPI engines approved for FAME EN 14214, run on FAME EN 14214**

**IMPORTANT!**

Only applies to vehicles manufactured **from** the date specified next to each listed engine.

For information about fuel filter change intervals, see the section Other engine and fuel components, biodiesel.

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1.5 years | | |
| DC09 108, February 2014<br>DC09 112, February 2014<br>DC13 124, May 2014<br>DC13 125, May 2014 | Scania LDF-4<br>Scania LDF-3 | 55,000 [1] | 40,000[1] | 30,000 |
| | ACEA E6, E8, E9, E11<br>API CJ-4, CK-4 | 20,000 | 15,000 | 10,000 |

1. For XPI engines with oil change intervals exceeding 30,000 km, Scania recommends an interim X inspection with associated fuel filter renewal.

## Gas engines

### Euro 5 and EEV gas, engine oil changed and spark plug renewed at the same time, as per maintenance forms S, M, L

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km, operating time in hours or calendar time[1] | | |
| OC09 G04 270<br>OC09 G05 310 | Scania LDF-4 | 30,000 | 30,000 | 30,000 |
| | | 900 h | | |
| | | 1 year | | |
| | ACEA E6, E8, E9, E11<br>API CJ-4<br>API CK-4 | 30,000 | 20,000 | 20,000 |
| | | 450 h | | |
| | | 1 year | | |

1. Maintenance is carried out at the interval reached first.

### Euro 5 and EEV-gas, engine oil only

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km, operating time in hours or calendar time[1] | | |
| OC09 G04 270<br>OC09 G05 310 | Scania LDF-4 | 45,000 | 30,000 | 30,000 |
| | | 900 h | | |
| | | 1 year | | |
| | ACEA E6, E8, E9, E11<br>API CJ-4<br>API CK-4 | 30,000 | 20,000 | 20,000 |
| | | 450 h | | |
| | | 1 year | | |

1. Maintenance is carried out at the interval reached first.

## Euro 6 gas, engine oil and spark plugs are renewed at the same time, as per maintenance form S, M, L

**From chassis serial number 1 907 083 onwards:**

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km, operating time in hours or calendar time[1] | | |
| OC09 101 280<br>OC09 102 340<br>OC09 106 320 | Scania LDF-4 | 45,000 | 30,000 | 30,000 |
| | | 900 h | | |
| | | 1 year | | |
| | ACEA E6, E8, E9, E11<br>API CJ-4<br>API CK-4 | 30,000 | 20,000 | 20,000 |
| | | 450 h | | |
| | | 1 year | | |

1. Maintenance is carried out at the interval reached first.

**Up to and including chassis serial number 1 907 082**

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km, operating time in hours or calendar time[1] | | |
| OC09 101 280<br>OC09 102 340<br>OC09 106 320 | Scania LDF-4 | 30,000 | 30,000 | 30,000 |
| | | 900 h | | |
| | | 1 year | | |
| | ACEA E6, E8, E9, E11<br>API CJ-4<br>API CK-4 | 30,000 | 20,000 | 20,000 |
| | | 450 h | | |
| | | 1 year | | |

1. Maintenance is carried out at the interval reached first.

## Euro 6 gas, engine oil only

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km, operating time in hours or calendar time[1] | | |
| OC09 101 280<br>OC09 102 340<br>OC09 106 320 | Scania LDF-4 | 45,000 | 30,000 | 30,000 |
| | | 900 h | | |
| | | 1 year | | |
| | ACEA E6, E8, E9, E11<br>API CJ-4<br>API CK-4 | 30,000 | 20,000 | 20,000 |
| | | 450 h | | |
| | | 1 year | | |

1. Maintenance is carried out at the interval reached first.

## EEV, ethanol

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1 year | | |
| DC9E 02 270<br>*Note: Do not mix the oil grades Bioethanol and BEO-2* | Scania BEO-2 | - | 20,000 | 20,000 |
| | Scania Bioethanol | - | 10,000 | 10,000 |

## Euro 6, ethanol

| Engine type | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time 1 year | | |
| DC09 116 280 | Scania BEO-2 | 20,000 | 20,000 | 20,000 |

# Transmission

## Oil change intervals

| Component | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time | | |
| Manual gearbox GR801/R | STO 1:1 G | 240,000 or 3 years | 120,000 or 3 years | 90,000 or 3 years |
| | STO 2:0 G<br>STO MTF | | | |
| Manual gearbox GR/S/O/875/895 | STO 1:1 G | 240,000 or 3 years | 180,000 or 3 years | 90,000 or 3 years |
| | STO 2:0 G<br>STO MTF | 360,000 or 3 years | | |
| GRS895 in hybrid vehicles[1] | STO MTF | 360,000 or 3 years | 180,000 or 3 years | 90,000 or 3 years |
| Manual gearbox G701 ZF, Classic Line S6-1550[2] | ZF TE-ML 02 02E | 540,000 or 3 years | 360,000 or 3 years | 360,000 or 3 years |
| | ZF TE-ML 02 02B/02H | 160,000 or 1 year | 120,000 or 1 year | 120,000 or 1 year |
| Automatic gearbox ZF, Ecomat[3]<br><br>The ZF type designation begins with 6HP | ZF TE-ML at least 14C | - | 120,000 or 2 years | 120,000 or 2 years |
| | ZF TE-ML 14E[4] | - | 150,000 or 3 years | 150,000 or 3 years |
| Automatic gearbox ZF, Ecomat, in N buses with gas engine | ZF TE-ML 14E | - | - | 150,000 or 3 years |
| Automatic gearbox ZF, Ecolife<br><br>The ZF type designation begins with 6AP | ZF TE-ML 20F or 20G | - | 240,000 or 4 years | 240,000 or 4 years |

| Component | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time | | |
| Automatic gearbox ZF, Ecolife, with DC9 24 | ZF TE-ML 20F or 20G | - | 180,000 or 3 years | 180,000 or 3 years |
| Automatic gearbox Allison[5] | ATF TES 389 | - | 20,000 or 6 months | 20,000 or 6 months |
| | ATF TES 295 ATF TES 668 | - | 120,000 or 3 years | 120,000 or 3 years |
| Automatic gearbox, Voith DIWA.5 | See document H55.633544[6] | 60,000 or 2 years | 60,000 or 2 years | 60,000 or 2 years |
| | See document H55.633644[4] | 120,000 or 3 years | 120,000 or 3 years | 60,000 or 3 years |
| Central gears with filter | STO 1:0 | 240,000 or 3 years | 180,000 or 3 years | 90,000 or 3 years |
| | STO 2:0 A | 360,000 or 3 years | | |
| Central gear with hub reduction gear RP835 | STO 1:0 | - | 90,000 or 3 years | 90,000 or 3 years |
| | STO 2:0 A | | | |
| ZF portal axle[7] | ZF TE-ML 12B or 12E | - | - | 150,000 or 3 years |
| | ZF Ecofluid X SAE 80W-90 | | | 180,000 or 3 years |

1. Note that STO MTF is the only permitted oil grade in connection with hybrid operation.
2. For more information on oil change intervals and oil grades, see ZF's website, www.zf.com, ZF TE-ML 02.
3. On delivery from the factory, the gearbox is filled with oil according to ZF TE-ML 14E. The extended interval can be used if class 14 E oil has always been used. If an oil other than class 14 C has been used, 2 oil changes with class 14 E are required before the extended intervals can be applied. This is because it is not possible to drain the entire oil volume during the oil change.
4. This oil is recommended to maintain the function and service life of the gearbox.
5. If the gearbox has been filled with oil grade TES 389, then 2 oil changes with TES 295 or TES 668 must be made before the extended interval can be applied. For more information about oil change intervals, refer to www.allisontransmission.com. Select the region from the map, click on Service and select Fluid/Filter Change Intervals.
6. Download the document for oils with change intervals up to 60,000 km from Voith's website, www.voith.com. Also refer to other information about oil change intervals and oil grades.
7. The Scania designation and the corresponding designation for the ZF axle gear is as follows: ADA 1250 = ZF AV 132/80, ADA 1251 = ZF AV 132/90. The AV series does not have a differential lock and is described as follows in ZF information: without multi-disc self-locking differentials. ZF's list of lubricants can be downloaded from the ZF website, www.zf.com.

## Oil change intervals, Retarder

| Component | Oil grade[1] | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time | | |
| Retarder: type 1 | ATF oil which complies with Allison C4 or Dexron III | 180,000 or 3 years | 120,000 or 3 years | 90,000 or 3 years |
| | Engine oil SAE 5W-30 or SAE 10W-30 which complies with Allison C4 | | | |
| Retarder: type 2 | Engine oil 10W-30 or 15W-40 which complies with ACEA E7 | 240,000 or 3 years | 180,000 or 3 years | 90,000 or 3 years |
| | Engine oil 10W-30 or 10W-40 which complies with Allison C4 | | | |
| | STO Retarder/ATF oil compliant with Allison C4 or Dexron III | 360,000 or 3 years | 180,000 or 3 years | 90,000 or 3 years |

1. It is permitted to mix engine oil and STO Retarder oil. It is then the oil with the shortest change interval that determines when the oil should be changed. Note: It is not recommended to mix ATF oil (Automatic transmission fluid) with oil grade STO Retarder or engine oil.

## Renewing the clutch fluid, transmission

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven in km or calendar time | | |
| Clutch fluid[1] | 240,000 or 2 years | 120,000 or 2 years | 90,000 or 2 years |

1. Applies to both clutch with clutch pedal and Scania Opticruise.

# Other engine and fuel components, diesel and HVO operation

This section describes the intervals for the following components:

- Renewing the fuel filter and CCV filter.
- Renewing the particulate filter.
- Cleaning the V185 injection valve.
- Maintenance of the centrifugal oil cleaner.
- Renewing the reductant filter in the SCR system.

## Renewing the filter, diesel and HVO operation

**Note:**

HVO EN15940 is approved for certain engines. For more information, see 00:16-15. Fuels, lubricants and fluids, section HVO EN 159 40.

**Note:**

If the FAME content in the fuel is higher than 7%, the fuel filter interval may need to be adjusted.

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven in km/operating time in hours/calendar time in years | | |
| HPI fuel filter | 60,000 | 45,000 | 30,000 |
| Fuel filter for other engines. Also applies to engines approved for biodiesel operation but which are run on diesel (EN 590) and HVO (EN15940). | Same interval as the engine oil change interval, but a maximum of 1 year. In order for the fuel filters to withstand the long intervals that the engine oil allows, the fuel must be free of contaminants. If contaminated fuel is used, the local market must adjust the change intervals. The Scania-generated maintenance plans are based on the use of clean fuel. | | |
| CCV filter, DC07 | - | 22,500 km[1] or 3,000 hours | |

1. The information is applicable at speeds of approx. 15 km/h.

## Euro 6, diesel and HVO operation – Cleaning the V185 injection valve

**Note:**

The V185 injection valve is now cleaned at the same intervals as particulate filter renewal for Euro 6 D9/D13. See the table Change intervals for particulate filters. The cleaning applies only to DC09 111 and DC09 113 which are fitted with the V185 injection valve.

## Renewal of particulate filter (DPF), diesel operation and HVO operation.

**Note:**

Use the intervals table for particulate filter to obtain the correct change intervals for Euro 6 engines.

**Note:**

Renewing the particulate filter is not included in technical packages. Renewing the particulate filter needs to be added as an extra item in the contract.

**IMPORTANT!**

If the vehicle has a diesel particulate filter (DPF) aftertreatment management system with EGR/SCR, the sulphur content in the fuel must not exceed 10 ppm.

**IMPORTANT!**

When changing the engine oil grade is required, replacing the particle filter should also be done at the same time.

The reason for this is that the particulate filter renewal interval should be correct.

| Engine | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or operating time in hours | | |
| DC07 101 280 | Scania LDF-3 Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4 | - | 2,500 km[1], 1,500 hours or 6 months. | |
| DC09 108 320 DC09 111 250 DC09 112 360 DC09 113 280 | Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4 | 378,000 | 262,000 | 189,000 |
| | Scania LDF-3 | 193,000 | 134,000 | 96,000 |
| DC13 109 440 DC13 110 480 DC13 115 410 DC13 124 450 DC13 125 490 DC13 147 450 | Scania LDF-4 ACEA E6, E8, E9, E11 API CJ-4, CK-4 | 605,000 | 420,000 | 302,000 |
| | Scania LDF-3 | 308,000 | 214,000 | 154,000 |

1. The information applies at speeds around 15 km/h.

## Maintaining the centrifugal oil cleaner, diesel operation and HVO operation

| Engine type | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| Euro 6 engines | At every other oil change, i.e. at M and L maintenance events. | | |
| With lower emission class than corresponding to Euro 6, diesel operation | At each oil change, i.e. at each S, M and L maintenance event. | | |

## Renewing the reductant filter in the SCR system, diesel and HVO operation

| Engine | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven in km or calendar time | | |
| Prefilter and reductant filter for Euro 4/Euro 5 DC09, DC13 | 120,000 or 2 years | 120,000 or 2 years | 80,000 or 2 years |
| Euro 6 DC07 | - | - | 90,000 km[1] or 6,000 hours |
| Euro 6 DC09, DC13 | 400,000 or 5 years | 400,000 or 5 years | 250,000 or 5 years |

1. The information applies at speeds around 15 km/h.

# Other engine and fuel components, operation with FAME EN 14214

This section describes the intervals of components that differ during operation with FAME EN 14214 compared to diesel operation/HVO operation.

- Renewing the fuel filter.
- Renewing the particulate filter (Euro 6, XPI).

## Renewing the filter, operation with FAME EN 14214

**Note:**

Special intervals apply when switching between diesel EN 590 and FAME EN 14214. For more information, see section FAME EN 14214 in this document and Fuel, lubricants and fluids (00:16-15).

| Component | | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time | | |
| Biodiesel fuel filter. Engines approved or prepared for biodiesel operation. The engine runs on biodiesel (EN 14214)[1]. | PDE | 20,000 | 10,000 | 5,000 |
| | XPI | 30,000 | 30,000 | 30,000 |

1. More than 7% mixture biodiesel EN 14214.

# Euro 6, XPI, prepared for operation with FAME EN 14214

## Renewing the oxidation catalytic converter

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven km | | |
| Oxidation catalytic converter | 250,000 | | |

## Renewing the particulate filter

**Note:**

Renewing the particulate filter is not included in technical packages. Renewing the particulate filter therefore needs to be added as an extra item in the contract.

**IMPORTANT!**

When changing the engine oil grade is required, replacing the particle filter should also be done at the same time.

The reason for this is that the particulate filter renewal interval should be correct.

All maintenance forms (S, M and L) contain the check step “Check whether the particulate filter should be renewed” as it is difficult to ascertain the exact point when it should be renewed. SDP3 is used to check whether the particulate filter needs to be renewed.

| Engine | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven km | | |
| DC09 108, February 2014<br>DC09 112, February 2014 | Scania LDF-4<br>ACEA E6, E8, E9, E11<br>AP1 CJ-4, CK-4 | 248,000 | 172,000 | 124,000 |
| | Scania LDF-3 | 152,000 | 106,000 | 76,000 |
| DC13 124, May 2014<br>DC13 125, May 2014 | Scania LDF-4<br>ACEA E6, E8, E9, E11<br>AP1 CJ-4, CK-4 | 329,000 | 228,000 | 165,000 |
| | Scania LDF-3 | 216,000 | 150 000 | 108,000 |

# Other engine and fuel components, ethanol

This section describes the intervals for the following components:

- Renewing the fuel filter.
- Centrifugal oil cleaner maintenance.
- Unit injector renewal.
- Renewing the particulate filter (Euro 6, PDE).

## Renewal of fuel filter, ethanol operation

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| Fuel filter | Same as engine oil change interval. | | |

## Centrifugal oil cleaner maintenance, ethanol operation

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| Centrifugal oil cleaner, maintenance. | At each oil change, i.e. at each S, M and L maintenance event. | | |

## Renewal of unit injector, ethanol operation

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven km | | |
| Unit injector | 40,000 | | |

# Euro 6, PDE, ethanol operation

## Renewing the particulate filter

**Note:**

Renewing the particulate filter is not included in technical packages. Renewing the particulate filter therefore needs to be added as an extra item in the contract.

All maintenance forms (S, M and L) contain the check step “Check whether the particulate filter should be renewed” as it is difficult to ascertain the exact point when it should be renewed. SDP3 is used to check whether the particulate filter needs to be renewed.

| Engine | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven km | | |
| DC09 116 280 | Scania BEO-2 | 378,000 | 262,000 | 189,000 |

# Other engine and fuel components, gas

**Note:**

See important information about oil change intervals for gas engines in the section on oil change intervals for engines.

## Euro 5, gas operation

| Euro 5 spark plug renewal. | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven in km or calendar time | | |
| OC09 G04 270<br>OC09 G05 310 | 30,000 | 30,000 | 30,000 |

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven in km, operating time in hours or calendar time[1] | | |
| Renewing low pressure gas filter CNG | 120,000 km | | |
| | 3000 h | | |
| | 2 years | | |
| Renewing low pressure gas filter LNG | 240,000 km | | |
| | 4,000 h | | |
| | 2 years | | |
| Checking gas bottles and gas tank package | 1 year | | |

1. Maintenance is carried out at the interval reached first.

## Euro 6, gas operation

**Renewal of spark plug, from and including chassis serial number 1 907 083**

| Engine type | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven in km or calendar time | | |
| OC09 101 280<br>OC09 102 340<br>OC09 106 320 | 45,000 | 45,000 | 30,000 |

**Renewal of spark plugs, up to and including chassis serial number 1 907 082**

| Engine type | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven in km or calendar time | | |
| OC09 101 280<br>OC09 102 340<br>OC09 106 320 | 30,000 | 30,000 | 30,000 |

**Note:**

See important information about oil change intervals for gas engines in the section on oil change intervals for engines.

**Renewal of other components**

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven in km, operating time in hours or calendar time[1] | | |
| Renewing the dump valve | 120,000 | | |
| Renewing low pressure gas filter CNG | 120,000 km | | |
| | 3000 h | | |
| | 2 years | | |
| Renewing low pressure gas filter LNG | 240,000 km | | |
| | 4,000 h | | |
| | 2 years | | |
| Renewing the gas line above the articulation unit. Applies to articulated buses. | 3 years | | |
| Checking gas bottles and gas tank package. | 1 year | | |
| Renewing relief valves on gas tanks, LNG | 5 years | | |

1. Maintenance is carried out at the interval reached first.

## Checking the centrifugal oil cleaner, gas operation

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| Centrifugal oil cleaner, check for leakage. Applies to all Euro 5 and 6 engines with gas operation and centrifugal oil cleaner. | At every other oil change, i.e. at M and L maintenance events. | | |

# Other engine and fuel components, hybrid vehicles

## Intervals for hybrid vehicles

| Component | Oil grade | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|---|
| | | Distance driven in km or calendar time | | |
| Renewing the battery filter and diaphragm[1] | - | - | - | 3 years |
| Renewing drive belts[2] | - | - | - | 240,000 or 2 years |
| Oil change, renewal of oil filter and gasket in electric machine (GRS895). | STO EV | 150,000 or 3 years | | |

1. Applicable to all batteries, except RES2. For more information about the different batteries, see the instructions in 00:21-61/7, Hybrid section.
2. The renewal includes idler rollers, drive belt and belt tensioner.

# Engine air filter

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven in km or calendar time | | |
| Air filter cartridge[1] | 120,000 or 2 years | 120,000 or 2 years | 90,000 or 2 years |

1. Use the air filter indicator to determine whether the air filter needs renewing.

# Coolant

## Change intervals for cooling system components

### Coolant - applies to vehicles with a combustion engine

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven in km or calendar time | | |
| Coolant | ,600,000 or 4 year | | 450,000 or 3 years |
| Hydraulic fan system, filter | 240,000 | 120,000 | 90,000 |

# Frame

## Renewing the bush in the articulation unit

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven in km or calendar time | | |
| Articulation unit bush, renewal | Check once a year, renew if necessary. | | |

# Brake

## Checking the brake system

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Calendar time | | |
| Brake system, check[1] | 1 year | | |

1. The Scania workshop or an authority can carry out the check.

## Air dryer

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven in km or calendar time | | |
| Air dryer: Desiccant container | 360,000 or 2 years | 240,000 or 2 years | 180,000 or 2 years |

# Steering

## Renewing the power steering filter

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Distance driven in km or calendar time | | |
| Power steering, renewing the filter | 240,000 | 120,000 | 90,000 |

# Scania bus bodies

## Change intervals for components in the auxiliary heater

| Component | Operation type 1 Long-distance services | Operation type 2 Suburban and regular services | Operation type 3 City services |
|---|---|---|---|
| | Calendar time | | |
| Fuel filter; diesel/ethanol operation | 1 year | | |
| Fuel pump; FAME/ethanol operation | 2 years | | |
| Fuel pump; diesel/HVO operation | 5 years | | |
| Gas regulator; gas operation | 4 years | | |

# Preventive renewals

By carrying out preventive renewals the risk of unplanned stops for the vehicle is reduced. This is a way of thinking ahead to avoid unplanned downtime in advance. Preventive renewal is an optional complement to the vehicle's standard maintenance programme.

Preventive component renewal must be done with the aim of improving the customer’s total economy. This means that the aim of preventive renewal must always be profitability for the customer. As there are several factors working together, it is not always simple to assess profitability.

The following are basic factors in the assessment:

- Customer’s cost for unplanned stops.
- Consequential damage stemming from a failed component.
- The likelihood of a fault occurring.

The likelihood of a fault occurring is difficult to assess without knowing the vehicle's operating environment and the customer's expected usage and handling of the vehicle. The overall assessment is therefore best done through consultation with the customer. There is then a discussion of the above factors, which must be weighed against the increased maintenance cost. It is important to emphasise that preventive renewal does not guarantee that no breakdowns will occur. Preventive renewal reduces the likelihood of unplanned stops and thereby contributes to increased profitability for the customer.